Complete Machining Solutions

Rotating Tool Lines

Milling • Hole Making • Tooling Systems

Metric Version Catalog 2019

INSERTS

TOOLS

GRADES

ENDMILLS & SOLID MILLS

FACE MILLS

PROFILING

PLUNGING

SLOTTING

THREAD MILLING

HOLE MAKING

TOOLING SYSTEMS

Member IMC Group

ISCAR

www.iscar.com

Quality Standard

ISCAR has been certified by the prestigious Standards Institution, as being in full compliance to ensure delivery of the finest quality goods. Quality control facilities include the metallurgical laboratory, raw metal testing, an online testing procedure and a machining center for tool performance testing and final product inspection. Only the finest products are packaged for entry into ISCAR's inventory.

TABLE OF CONTENTS

Complete Machining Solutions
MILLING TOOLS 1

Complete Machining Solutions
HOLE MAKING TOOLS 525

Complete Machining Solutions
TOOLING SYSTEMS 923

MATERIALS AND GRADES 1107

INDEX 1150

Complete Machining Solutions
MILLING TOOLS

Member IMC Group

ISCAR

TABLE OF CONTENTS

Indexable Endmills 2

MULTI-MASTER 36

Solid Carbide Endmills 79

Face Mills 177

Extended Flute Cutters 226

Profiling Tools 245

Fast Feed Milling Tools 278

Plunging Cutters 303

Slotting and Slitting Cutters 310

Cutters for Aluminum 375

Thread Milling Tools 387

Milling Inserts 429

INDEXABLE ENDMILLS

NANMILL
NANO ENDMILL

HM390 ETP-04
page 10

HELI3MILL
HM390 LINE

HM390 ETP/ETD
pages 11, 20, 27-28, 29

HELI4MILL
HM490 LINE

E90SO
page 9

LOGIQ8TANG
T890 MILLING LINE

T890HT
page 26

TORMILL

E90CN
pages 12-13

SUMOMILL
290 LINE

T290 ELN
pages 12, 19

HELIQUAD

E90X
page 13

HELIPLUS

HP E90AN
pages 14-15

HELITANG
T490 LINE

T490 ELN
pages 16-17, 25, 27, 29

BALLPLUS

HCE
page 21

HELIQUAD

E90SP
page 19

HELI2000

HM90 E90A
pages 22-24

HELI2000

HM90 E90AD
pages 28-29

HELIDO
490 LINE

H490 E90AX
pages 18, 26, 30

MILLSHRED
P290 LINE

P290 EPW
pages 30-31

HELIPLUS

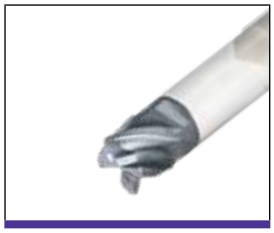
HP E90AT
page 31

HELIQUAD

E90XC
page 32

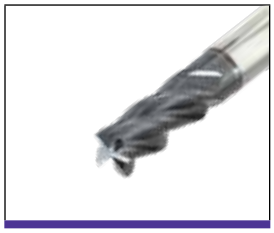
HELIMILL

E90AC
page 32



MULTI-MASTER

MULTI MASTER
page 37-38



SOLIDMILL

SOLID CARBIDE
pages 96-100

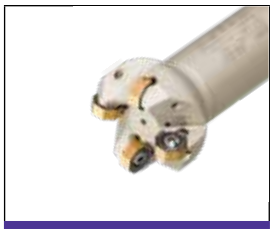
Endmills 30°, 45°, 60°

ISCARMILL

E30/T230
page 32

CHAMFMILL
CHAMFERING LINE

CH45-PN
page 33



HELIDO
845 LINE

SOE45
page 34

HELIQUAD

E45X
page 32

ISCARMILL

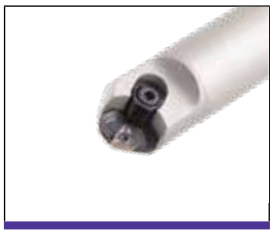
E45/T245
page 32

BALLPLUS

HCM
pages 250-253

ISCARMILL

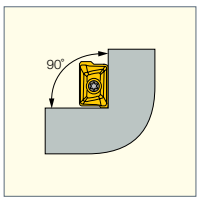
E60/T260
page 35

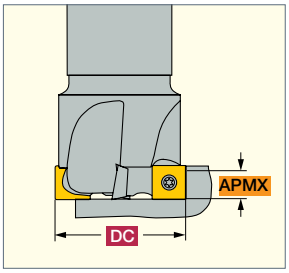


HELIIQMILL
390 LINE

HM390 E10-80-07
page 35

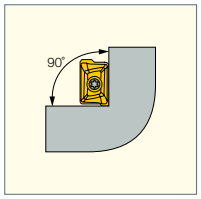
Endmills 90°
Selection Guide

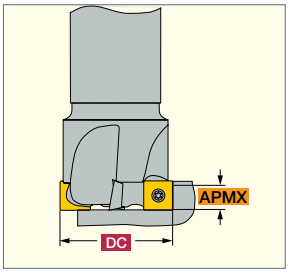


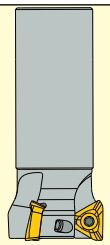
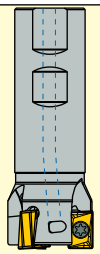
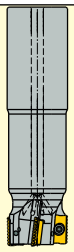
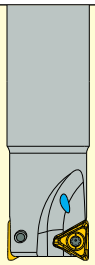
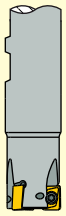
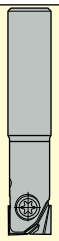


Tool	E90SO-04 E90SO-MM-04	E90CN-M E90CN	E90SP E90X	T290 ELN-05 T290 ELN-MM-05 T290 ELN-10	HP E90AN-07 HP E90AN-M-07 HP E90AN-MM-07	HM90 E90A-10 HM90 E90A-MM-10 HM90 E90A-M-10 HM90 E90AD-15 HM90 E90AD-M-15 HP E90AT-19	H690 EWN
DC \ APMX	3.5	4	5.8, 9.6	5, 10	7.7	10, 12.5, 18, 22	7
8			•	•			
10	•		•	•	•	•	
12	•		•	•	•	•	
14	•		•	•	•	•	
16	•	•	•	•	•	•	
17						•	
18			•			•	
19						•	
20	•	•	•	•	•	•	
21						•	
22						•	
25		•	•	•	•	•	
28					•	•	
30						•	
32			•	•	•	•	•
38							
40			•	•		•	•
50						•	
63							
80							
Inserts	SOMT/CT 0402 SOMT 0402-FF	CNMT 0703	SOMT 06... XOMT 06.. QOMT 06.. XPMT 10.. SPMT 10... QPMT 10..	T290 LNMT 05... T290 LNMT 1004	HP ANKT 0702	HM90 APKT 10 HM90 AD..15 HP AD..19	WNMU 0705
Pages	9	12-13	13, 19	12, 19	14-15	22-24, 28-29, 31	13

Endmills 90°
Selection Guide





Tool	 HM390 ETP-04 HM390 ETP-MM-04 HM390 ETP-05 HM390 ETP-MM-05 HM390 ETC-07 HM390 ETC-MM HM390 ETP-10 HM390 ETP-M HM390 ETP-C#-10 HM390 ETD-15 HM390 ETD-M HM390 ETD-19	 H490 E90AX-09 H490 E90AX-M H490 E90AX-MM H490 E90AX-12 H490 E90AX-17	 P290 EPW P290 EPW-M	 H690 E90AX-10	 T490 ELN-08 T490 ELN-M T490 ELN-MM..-08 T490 ELN-11 T490 ELN-13 T490 ELN-13-C# T490 ELN-16	 HCE HCE-MM
APMX / DC	**3, 3.5, 5, 8, 13, 16**	**8, 12, 16.3**	**12, 18**	**8**	**8, 9, 12.5, 16**	**8.1-14.7**
8	•					
10	•					
12	•					•
14	•					
16	•	•			•	•
17						
18	•	•			•	
19						
20	•	•	•	•	•	•
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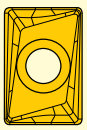
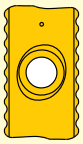
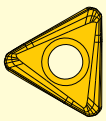
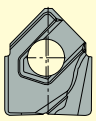
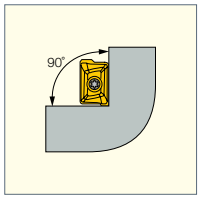
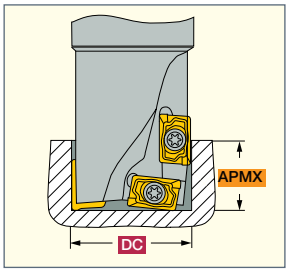
22	•	•			•	
25	•	•	•	•	•	•
28	•					
30						
32	•	•	•	•	•	
38						
40	•	•	•	•	•	
50	•	•			•	
63		•				
80		•				
Inserts	HM390 TPKR 0401 HM390 TPKT 0502 HM390 TCKT 0703 HM390 TPKT 1003 HM390 TDKT 1505 HM390 TDKT 1907	 H490 ANKX 09 H490 ANKX 1205 H490 AN.. -17	 P290 ACKT 1204 P290 ACKT 1806	 H690 TNKX 1005	T490 LN..0804 T490 LN..1106 T490 LN..1306 T490 LN..1607	 HTR HCC
Pages	10-11, 15-16, 20, 27-28, 29	18, 26, 30	30-31	25	16-17, 25, 27, 29	21

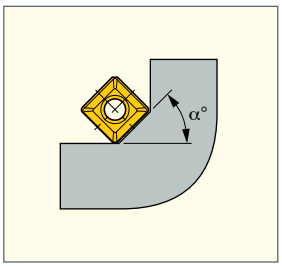
Center Cutting Endmills





Tool	T890HT ELN-R13	E90XC	E90AC
DC \ APMX	9.5	5.8-38	10-38
8			
10			
12		•	
14			
16		•	
17			
18			
19			
20		•	
21			
22			
25			•
28			
30			
32	•		•
38			•
40	•		
50			
63			
80			•
Inserts	T890 LN.T 1306	SOMT-HQ XOMT-HQ	APKT 10.. ADKT 1505
Pages	26	32	32

Endmills 30°, 45°, 60°
Selection Guide

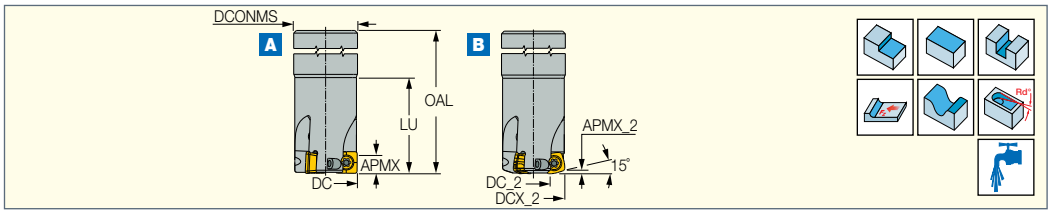


Tool	E30 / T230	CH45-PN06 CH45-MM-PN06	SOE 45 8/16	E45X	E45 / T245	HCM	E60 / T260	HM390 E10-80-07
APMX	2.5; 7	1.5	3.5-6	4	3.6-9.7	5 - 12	4.5; 12.3	0.35-1.97
	α=30°	α=45°	α=45°	α=45°	α=45°	α=45°	α=60°	α=10°-80°
DC	Number of Teeth (Effective)							
6				1				
8				1				
12	4	1			1; 4	2	4	
16	3	1			2	2		
20						2		
25			2			2	2	1
30					3			
32			3					
40			4					
Inserts	T290 LNMT 05... TPMT	PNMT 0602-TN	S845 SNMU/SNHU 1306 ONMU/ONHU 0505	SOMT 06... XOMT 06.. QOMT 06..	SCMT 12 SDMT 09 T290 LNMT 05... TPMT	HCD	T290 LNMT 05... TPMT	HM390 TCK/CT 0703
Pages	32	33	34	34	34	250-253	35	35

HELI4MILL HM490 LINE

E90SO-04

Endmills Carrying Inserts for Shouldering and Fast Feed Applications



Designation	DC	APMX	DC_2	DCX_2	APMX_2	LU	OAL	DCONMS	Shank(1)	CICT(2)	RMPX(3)	kg
E90SO D10-2-C10-04-C	10.00	3.50	3.90	10.17	0.50	18.0	70.00	10.00	C	2	6.0	0.04
E90SO D12-2-C12-04-C	12.00	3.50	5.90	12.17	0.50	18.0	70.00	12.00	C	2	3.0	0.05
E90SO D12-3-C12-04-C	12.00	3.50	5.90	12.17	0.50	18.0	70.00	12.00	C	3	3.0	0.05
E90SO D14-4-C14-04-C	14.00	3.50	7.90	14.17	0.50	20.0	80.00	14.00	C	4	2.0	0.08
E90SO D16-4-C16-04-C	16.00	3.50	9.90	16.17	0.50	20.0	90.00	16.00	C	4	2.0	0.12
E90SO D16-5-C16-04-C	16.00	3.50	9.90	16.17	0.50	20.0	90.00	16.00	C	5	2.0	0.12
E90SO D20-6-C20-04-C	20.00	3.50	13.90	20.17	0.50	25.0	110.00	20.00	C	6	1.0	0.23

• A - with SOMT/CT 0402 insert • B - with SOMT 0402-FF insert • Tightening torque 0.5 Nxm

(1) C-Cylindrical

(2) Number of inserts

(3) Maximum ramping angle - valid only with SOMT 040208 PNR-FF insert

For inserts, see pages: SOMT 0402-FF (483) • SOMT/CT 0402 (483)

Spare Parts

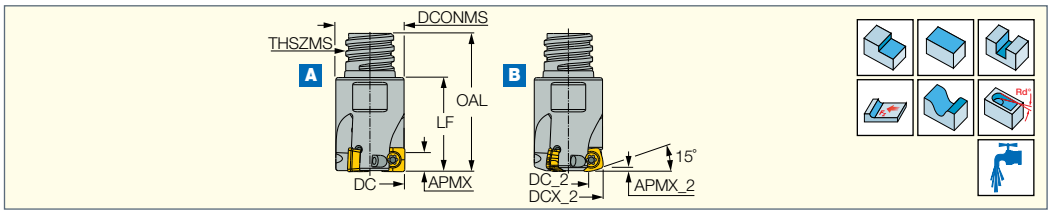
Designation		
E90SO-04	TS 18041I/HG	T-6IP/51

HELI4MILL HM490 LINE

MULTI-MASTER

E90SO-MM-04

Endmills with a MULTI-MASTER Connection Carrying Inserts for Shouldering and Fast Feed Applications



Designation	DC	APMX	DC_2	DCX_2	APMX_2	LF	OAL	CICT(1)	DCONMS	THSZMS	DRVS(2)	RMPX(3)	kg
E90SO D10-2-MMT06-04	10.00	3.50	3.90	10.17	0.50	15.00	21.30	2	9.70	T06	8.0	6.0	0.07
E90SO D12-3-MMT08-04	12.00	3.50	5.90	12.17	0.50	16.00	23.50	3	11.60	T08	10.0	3.0	0.15
E90SO D14-4-MMT08-04	14.00	3.50	7.90	14.17	0.50	16.00	23.50	4	13.60	T08	10.0	2.0	0.16
E90SO D16-5-MMT10-04	16.00	3.50	9.90	16.17	0.50	18.00	29.30	5	15.60	T10	13.0	2.0	0.03
E90SO D20-6-MMT12-04	20.00	3.50	13.90	20.17	0.50	20.00	38.80	6	19.60	T12	16.0	1.0	0.08

• A - with SOMT/CT 0402 insert • B - with SOMT 0402-FF insert • Tightening torque 0.5 Nxm

(1) Number of inserts

(2) Key flat size

(3) Maximum ramping angle - valid only with SOMT 040208 PNR-FF insert

For inserts, see pages: SOMT 0402-FF (483) • SOMT/CT 0402 (483)

For holders, see pages: MM CAB (1047) • MM CAB-T-T (77) • MM GRT (shanks) (72) • MM S-A (stepped shanks) (70) • MM S-A (straight shanks) (73) • MM S-A-C# (72) • MM S-A-HSK (76) • MM S-A-N (71) • MM S-A-SK (76) • MM S-B (85° conical shanks) (73) • MM S-D (89° conical shanks) (74) • MM S-ER (75) • MM S-ER-H (75) • MM TS-A (72)

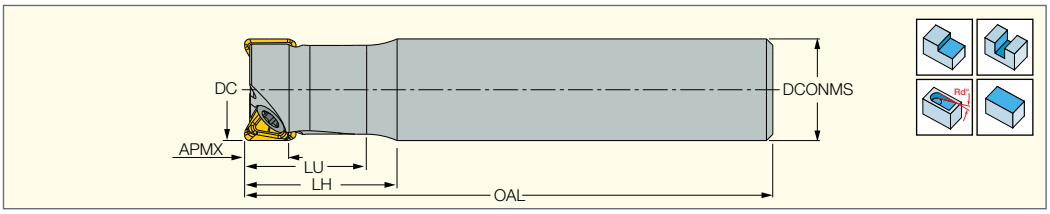
Spare Parts

Designation		
E90SO-MM-04	TS 18041I/HG	T-6IP/51

NANMILL
NANO ENDMILL

HM390 ETP-04

90° Small Diameter Endmills Carrying HM390 TPKR 0401 Triangular Inserts with 3 Helical Cutting Edges



Designation	DC	APMX	CICT(1)	OAL	LH	DCONMS	Shank(2)	RMPX(3)	kg
HM390 ETP D08-2-C08-04	8.00	3.00	2	60.00	12.0	8.00	C	3.0	0.02
HM390 ETP D10-3-C10-04	10.00	3.00	3	80.00	15.0	10.00	C	2.5	0.05

• Tightening torque 0.5 Nxm
(1) Number of inserts
(2) C-Cylindrical
(3) Maximum ramping angle

For inserts, see pages: HM390 TPKR 0401 (431)

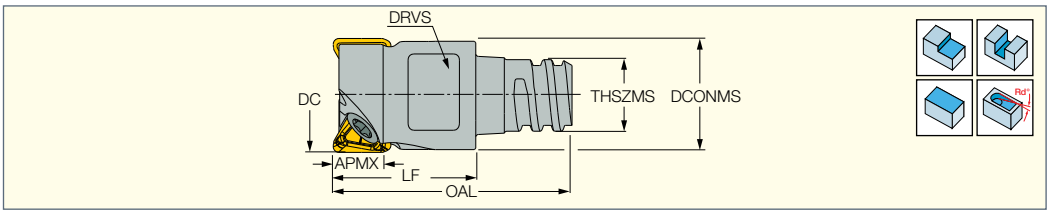
Spare Parts

Designation		
HM390 ETP D08-2-C08-04	SR M2X0.4-3 T6	T-6/5 MAGNET 3X3
HM390 ETP D10-3-C10-04	SR M2X0.4-3.5 T6	T-6/5 MAGNET 3X3

NANMILL
NANO ENDMILL
MULTI-MASTER

HM390 ETP-MM-04

90° Endmills with a MULTI-MASTER Threaded Adaptation Carrying HM390 TPKR 0401... Triangular Inserts



Designation	DC	APMX	CICT(1)	LF	DCONMS	THSZMS	OAL	DRVS(2)	RMPX(3)
HM390 ETP D08-2-MMT05-04	8.00	3.00	2	10.00	7.60	T05	16.75	6.0	3.0
HM390 ETP D10-3-MMT06-04	10.00	3.00	3	12.00	9.60	T06	18.30	8.0	2.5

• Insert tightening torque 0.5 N*m • For adaptation, see page 39 • For user guide, see pages 517-524
(1) Number of inserts
(2) Clamping wrench size
(3) Maximum ramping angle

For inserts, see pages: HM390 TPKR 0401 (431)
For holders, see pages: MM CAB (1047) • MM CAB-T-T (77) • MM GRT (shanks) (72) • MM S-A (stepped shanks) (70) • MM S-A (straight shanks) (73) • MM S-A-C# (72) • MM S-A-HSK (76) • MM S-A-N (71) • MM S-A-SK (76) • MM S-B (85° conical shanks) (73) • MM S-D (89° conical shanks) (74) • MM TS-A (72)

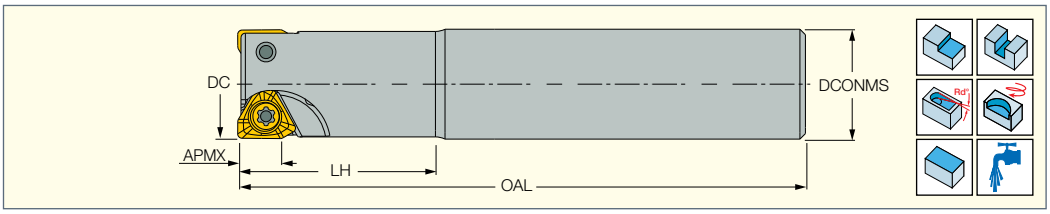
Spare Parts

Designation		
HM390 ETP D08-2-MMT05-04	SR M2X0.4-3 T6	T-6/5 MAGNET 3X3
HM390 ETP D10-3-MMT06-04	SR M2X0.4-3.5 T6	T-6/5 MAGNET 3X3

HELI3MILL HM390 LINE

HM390 ETP-05

90° Endmills Carrying HM390 TPKT 0502 Triangular Inserts with 3 Helical Cutting Edges



Designation	DC	APMX	CICT(1)	OAL	LH	DCONMS	Shank(2)	RMPX(3)	kg
HM390 ETP D10-02-C10-05-C	10.00	3.50	2	70.00	18.0	10.00	C	2.0	0.03
HM390 ETP D12-03-C12-05-C	12.00	3.50	3	70.00	18.0	12.00	C	1.5	0.06
HM390 ETP D14-03-C14-05-C	14.00	3.50	3	80.00	20.0	14.00	C	1.5	0.08
HM390 ETP D16-04-C16-05-C	16.00	3.50	4	90.00	20.0	16.00	C	1.5	0.12

• Tightening torque 0.5 N*m • For user guide, see pages 517-524
(1) Number of inserts
(2) C-Cylindrical
(3) Maximum ramping angle

For inserts, see pages: HM390 TPKT/CT 0502 (432)

Spare Parts

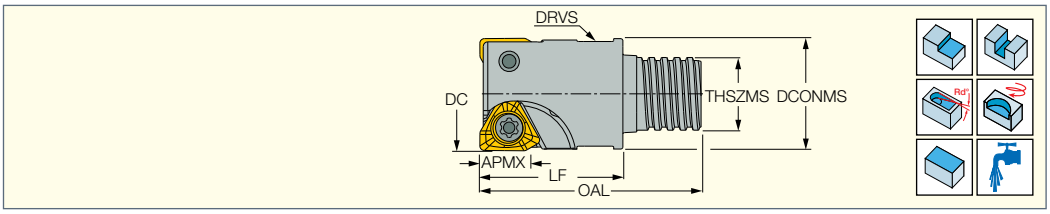
Designation		
HM390 ETP-05	TS 18041I/HG	T-6IP/51

HELI3MILL HM390 LINE

MULTI-MASTER

HM390 ETP-MM-05

90° Endmills with a MULTI-MASTER Threaded Adaptation Carrying HM390 TPKT 0502... Triangular Inserts



Designation	DC	APMX	CICT(1)	LF	DCONMS	THSZMS	OAL	DRVS(2)	RMPX(3)	kg
HM390 ETP D10-02-MMT06-05	10.00	3.50	2	15.00	9.60	T06	21.60	8.0	2.0	0.01
HM390 ETP D12-03-MMT08-05	12.00	3.50	3	16.00	11.60	T08	24.20	10.0	1.5	0.00
HM390 ETP D14-03-MMT08-05	14.00	3.50	3	16.00	13.60	T08	22.90	10.0	1.5	0.01
HM390 ETP D16-04-MMT10-05	16.00	3.50	4	18.00	15.60	T10	29.80	13.0	1.5	0.03

• Insert tightening torque 0.5 N*m • For adaptation, see page 39 • For user guide, see pages 517-524
(1) Number of inserts
(2) Clamping wrench size
(3) Maximum ramping angle

For inserts, see pages: HM390 TPKT/CT 0502 (432)
For holders, see pages: MM CAB (1047) • MM CAB-T-T (77) • MM GRT (shanks) (72) • MM S-A (stepped shanks) (70) • MM S-A (straight shanks) (73) • MM S-A-C# (72) • MM S-A-HSK (76) • MM S-A-N (71) • MM S-A-SK (76) • MM S-B (85° conical shanks) (73) • MM S-D (89° conical shanks) (74) • MM TS-A (72)

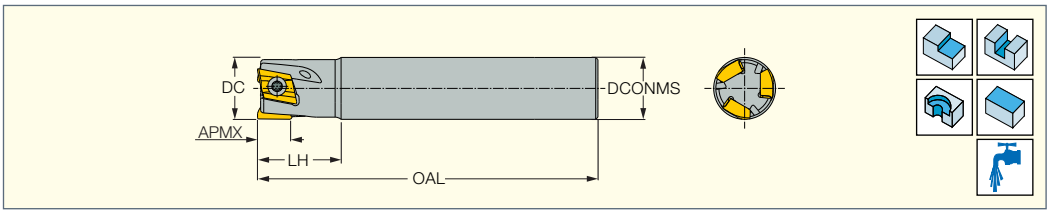
Spare Parts

Designation		
HM390 ETP-MM-05	TS 18041I/HG	T-6IP/51

SUMOMILL 290 LINE

T290 ELN-05

Endmills Carrying Tangentially Clamped Inserts



Designation	DC	CICT(1)	OAL	LH	APMX	DCONMS	Shank(2)	kg		
T290 ELN D08-01-C08-05	8.00	1	60.00	20.0	5.00	8.00	C	0.02	SR 10503833	T-7/51
T290 ELN D10-02-C10-05	10.00	2	80.00	20.0	5.00	10.00	C	0.04	SR 10503833-S	T-7/51
T290 ELN D12-02-C12-05	12.00	2	80.00	20.0	5.00	12.00	C	0.06	SR 10503833	T-7/51
T290 ELN D12-03-C12-05	12.00	3	80.00	20.0	5.00	12.00	C	0.07	SR 10503833	T-7/51
T290 ELN D14-03-C14-05	14.00	3	80.00	20.0	5.00	14.00	C	0.08	SR 10503833	T-7/51
T290 ELN D16-04-C16-05	16.00	4	80.00	22.0	5.00	16.00	C	0.10	SR 10503833	T-7/51
T290 ELN D16-05-C16-05	16.00	5	80.00	22.0	5.00	16.00	C	0.10	SR 10503833	T-7/51

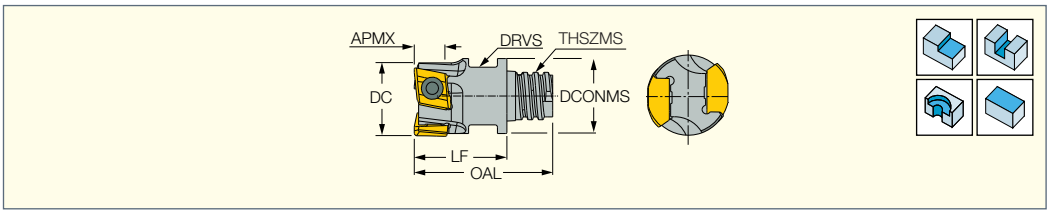
• For user guide, see pages 517-524
(1) Number of inserts
(2) C-Cylindrical

For inserts, see pages: T290 LNMT/LNHT 0502 (459)

SUMOMILL 290 LINE
MULTI-MASTER

T290 ELN-MM-05

Endmills with a MULTI-MASTER Adaptation Carrying Tangentially Clamped Inserts



Designation	DC	CICT(1)	APMX	DCONMS	THSZMS	LF	OAL	DRVS(2)	kg		
T290 ELN D10-02-MMT06-05	10.00	2	5.00	9.20	T06	13.40	20.00	8.0	0.01	SR 10503833-S	T-7/51
T290 ELN D12-03-MMT08-05	12.00	3	5.00	11.00	T08	16.00	24.00	10.0	0.01	SR 10503833	T-7/51
T290 ELN D14-03-MMT08-05	14.00	3	5.00	13.00	T08	16.06	24.00	10.0	0.01	SR 10503833	T-7/51
T290 ELN D16-04-MMT10-05	16.00	4	5.00	14.95	T10	19.25	31.00	13.0	0.03	SR 10503833	T-7/51

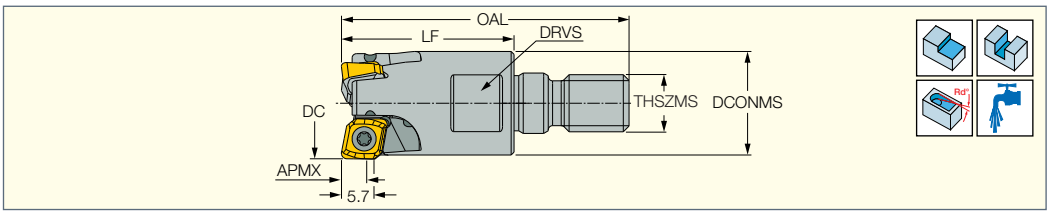
• Do not apply lubricant to the MULTI-MASTER threaded connection • For adaptation, see page 39 • For user guide, see pages 517-524
(1) Number of inserts
(2) Clamping wrench size

For inserts, see pages: T290 LNMT/LNHT 0502 (459)
For holders, see pages: MM CAB (1047) • MM CAB-T-T (77) • MM GRT (shanks) (72) • MM S-A (stepped shanks) (70) • MM S-A (straight shanks) (73) • MM S-A-C# (72) • MM S-A-HSK (76) • MM S-A-N (71) • MM S-A-SK (76) • MM S-B (85° conical shanks) (73) • MM S-D (89° conical shanks) (74) • MM TS-A (72)

TORMILL FLEXFIT 6 CUTTING CORNERS

E90CN-M

90° Endmills with a FLEXFIT Threaded Connection Carrying CNMT/HT 0703 Inserts



Designation	DC	CICT(1)	APMX(2)	LF	OAL	THSZMS	RMPX(3)	DCONMS	DRVS(4)	kg		
E90CN D16-2-M08-07-C	16.00	2	4.00	30.00	47.50	M08	5.0	13.00	13.0	0.03	SR 34-505/LHG	T-8/53
E90CN D20-3-M10-07-C	20.00	3	4.00	30.00	50.00	M10	3.5	18.00	16.0	0.05	SR 34-505/LHG	T-8/53
E90CN D25-4-M12-07-C	25.00	4	4.00	35.00	57.00	M12	2.5	21.00	17.0	0.09	SR 34-505/LHG	T-8/53

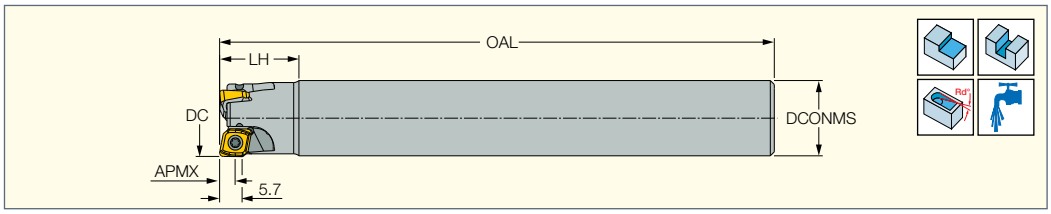
• For adaptation, see page 39 • For user guide, see pages 517-524
(1) Number of inserts
(2) Maximum recommended depth of cut for CNMT 070308-MM insert, APMX=2 mm for CNHT 070305 insert
(3) Maximum ramping angle
(4) Clamping wrench size

For inserts, see pages: CNHT/MT 07 (513)
For holders, see pages: BT-ODP (FLEXFIT) (1030) • C#-ODP (FLEXFIT) (1001) • CAB M-M (FLEXFIT) (1046) • DIN69871-ODP (308) • ER-ODP (1048) • HSK A-ODP (FLEXFIT) (309) • S M (1045) • S M-C-H (1045) • S M-CF (1046)

TORMILL 6 CUTTING CORNERS

E90CN

90° Endmills Carrying CNMT/HT 0703 Inserts



Designation	DC	CICT(1)	APMX(2)	LH	OAL	RMPX(3)	DCONMS	kg		
E90CN D16-2-L100-C15-07-C	16.00	2	4.00	20.0	100.00	5.0	15.00	0.11	SR 34-505/LHG	T-8/53
E90CN D20-3-L140-C19-07-C	20.00	3	4.00	20.0	140.00	3.5	19.00	0.27	SR 34-505/LHG	T-8/53
E90CN D25-4-L160-C24-07-C	25.00	4	4.00	20.0	160.00	2.5	24.00	0.48	SR 34-505/LHG	T-8/53

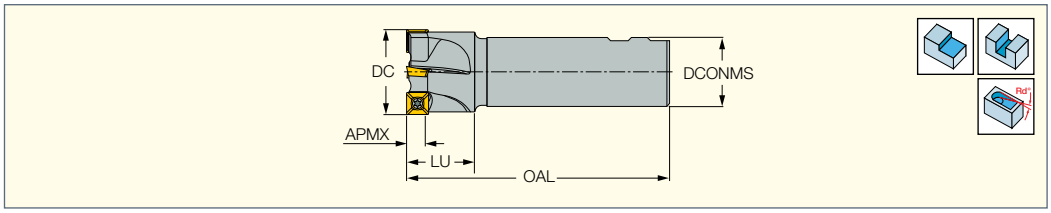
• For user guide, see pages 517-524
(1) Number of inserts
(2) Maximum recommended depth of cut for CNMT 070308-MM insert, for CNHT 070305 insert APMX=2 mm
(3) Maximum ramping angle

For inserts, see pages: CNHT/MT 07 (513)

HELIQUAD

E90X

Endmills Carrying Square Q/S/XOMT Inserts



Designation	DC	CICT(1)	APMX	LU	OAL	DCONMS	Shank(2)	RMPX(3)	kg		
E90X D08-C10-06	8.00	1	5.80	16.0	70.00	10.00	C	0.5	0.04	SR 34-508	T-7/51
E90X D10-C10-06	10.00	1	5.80	20.0	80.00	10.00	C	1.0	0.04	SR 34-508	T-7/51
E90X D12-C16-06	12.00	1	5.80	22.0	80.00	16.00	C	90.0	0.10	SR 34-508	T-7/51
E90X D14-C16-06	14.00	2	5.80	20.0	80.00	16.00	C	-	0.11	SR 34-508/L	T-7/51
E90X D14-W16-06	14.00	2	5.80	22.0	70.00	16.00	W	-	0.09	SR 34-508/L	T-7/51
E90X D16-C16-06	16.00	2	5.80	20.0	90.00	16.00	C	3.5	0.13	SR 34-508/L	T-7/51
E90X D20-C20-06	20.00	3	5.80	22.0	110.00	20.00	C	3.0	0.25	SR 34-508/L	T-7/51
E90X D25-C20-06	25.00	4	5.80	25.0	120.00	20.00	C	2.5	0.29	SR 34-508/L	T-7/51
E90X D32-W25-06	32.00	5	5.80	25.0	90.00	25.00	W	3.8	0.34	SR 34-508/L	T-7/51

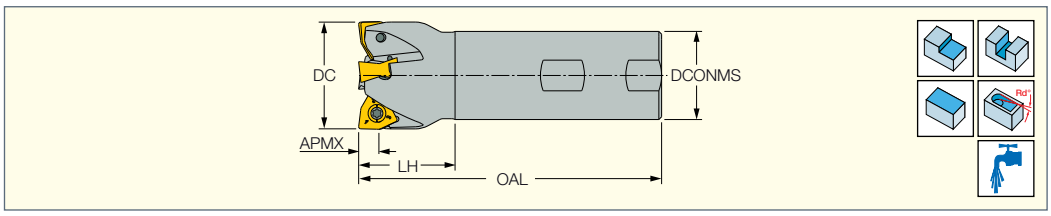
• For user guide, see pages 517-524
(1) Number of inserts
(2) C-Cylindrical, W-Weldon
(3) Maximum ramping angle

For inserts, see pages: QOMT-HQ (478) • SOMT-HQ (478) • XOMT-HQ (479)

HELIDO TRIGON LINE

H690 EWN

90° Endmills Carrying H690 WNMU 0705 Double-Sided Trigonal Inserts with 6 Helical Cutting Edges



Designation	DC	CICT(1)	APMX	OAL	LH	DCONMS	Shank(2)	RMPX(3)	kg			
H690 EWN D032-03-W32-R07	32.00	3	7.00	110.00	48.0	32.00	W	2.0	0.56	SR M4X0.7IP15	BLD IP15/S7	SW6-T-SH
H690 EWN D040-04-W32-R07	40.00	4	7.00	110.00	35.0	32.00	W	1.5	0.64	SR M4X0.7IP15	BLD IP15/S7	SW6-T-SH

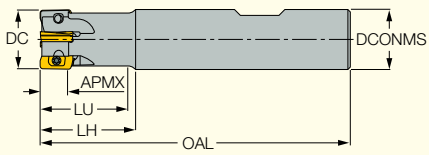
• For user guide, see pages 517-524
(1) Number of inserts
(2) W-Weldon
(3) Maximum ramping angle

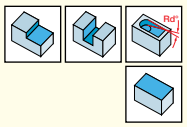
For inserts, see pages: H690 WNHU/WNMU 0705 (454)

HELIPLUS

HP E90AN-07

Endmills with HELIPLUS
HP ANKT 0702.. Inserts





Designation	DC	CICT(2)	LH	LU	OAL	APMX	DCONMS	Shank(3)	RMPX(4)	RMPX_2(5)	CSP(6)	kg		
HP E90AN-D10-1-C10-07-C	10.00	1	20.0	18.0	80.00	7.70	10.00	C	2.5	-	1	0.04	SR 34-533	T-6/51
HP E90AN-D12-2-C12-07-C	12.00	2	18.0	16.2	80.00	7.70	12.00	C	2.7	3.5	1	0.06	SR 34-533/L/HG	T-6/51
HP E90AN-D14-2-C14-07-C	14.00	2	18.0	16.5	80.00	7.70	14.00	C	3.2	4.2	1	0.08	SR 34-533/L/HG	T-6/51
HP E90AN-D16-3-C15-07-C-B (1)	16.00	3	26.0	24.5	150.00	7.70	15.00	C	3.2	6.0	1	0.17	SR 34-533/L/HG	T-6/51
HP E90AN-D16-3-C16-07-C	16.00	3	26.0	24.5	90.00	7.70	16.00	C	3.2	6.0	1	0.11	SR 34-533/L/HG	T-6/51
HP E90AN-D16-3-W16-07	16.00	3	21.0	18.5	85.00	7.70	16.00	W	3.2	6.0	0	0.12	SR 34-533/L/HG	T-6/51
HP E90AN-D16-4-C16-07-C	16.00	4	26.0	24.5	90.00	7.70	16.00	C	3.2	6.0	1	0.11	SR 34-533/L/HG	T-6/51
HP E90AN-D16-4-W16-07	16.00	4	20.0	18.5	85.00	7.70	16.00	W	3.2	6.0	0	0.12	SR 34-533/L/HG	T-6/51
HP E90AN-D20-4-C19-07-C-B (1)	20.00	4	22.0	20.5	160.00	7.70	19.00	C	2.4	4.5	1	0.31	SR 34-533/L/HG	T-6/51
HP E90AN-D20-4-C20-07-C	20.00	4	22.0	20.5	110.00	7.70	20.00	C	2.4	4.5	1	0.23	SR 34-533/L/HG	T-6/51
HP E90AN-D20-5-C20-07-C	20.00	5	22.0	20.5	110.00	7.70	20.00	C	2.4	4.5	1	0.23	SR 34-533/L/HG	T-6/51
HP E90AN-D20-5-W20-07	20.00	5	22.0	20.5	90.00	7.70	20.00	W	2.4	4.5	0	0.20	SR 34-533/L/HG	T-6/51
HP E90AN-D25-5-C20-07-C	25.00	5	24.0	-	120.00	7.70	20.00	C	2.0	3.0	1	0.28	SR 34-533/L/HG	T-6/51
HP E90AN-D25-7-C20-07-C	25.00	7	24.0	-	120.00	7.70	20.00	C	2.0	3.0	1	0.27	SR 34-533/L/HG	T-6/51
HP E90AN-D32-8-C25-07-C	32.00	8	30.0	-	130.00	7.70	25.00	C	1.4	2.5	1	0.48	SR 34-533/L/HG	T-6/51

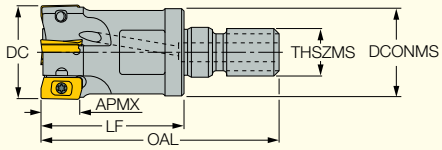
• Insert tightening torque: 62 Nxcm • For user guide see pages 517-524
(1) "B" suffix - cylindrical shank which may be shortened.
(2) Number of inserts
(3) C-Cylindrical, W-Weldon
(4) Maximum ramping angle
(5) Values only for HP ANKT 0702R12T-FF insert
(6) 0 - Without coolant supply, 1 - With coolant supply

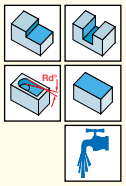
For inserts, see pages: HP ANCR 0702PNFR (430) • HP ANKT 0702...-FF (431) • HP ANKT/ANCT 0702..PN-R/PNTR (430) • HP ANKW 070204PNTR (430)

HELIPLUS FLEXFIT

HP E90AN-M-07

90° Endmills with a FLEXFIT
Threaded Adaptation
Carrying HELIPLUS HP
ANKT 0702.. Inserts





Designation	DC	CICT(1)	THSZMS	OAL	LF	APMX	DCONMS	RMPX(2)	RMPX_2(3)	kg		
HP E90AN-D25-5-M12	25.00	5	M12	57.00	35.00	7.70	21.00	2.0	3.0	0.09	SR 34-533/L/HG	T-6/51

• Insert tightening torque: 62 Nxcm • For adaptation, see page 39 • For user guide, see pages 517-524
(1) Number of inserts
(2) Maximum ramping angle
(3) Values only for HP ANKT 0702R12T-FF insert

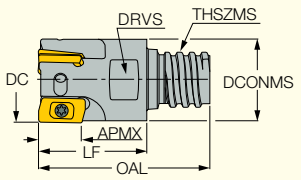
For inserts, see pages: HP ANCR 0702PNFR (430) • HP ANKT 0702...-FF (431) • HP ANKT/ANCT 0702..PN-R/PNTR (430) • HP ANKW 070204PNTR (430)
For holders, see pages: BT-ODP (FLEXFIT) (1030) • C#-ODP (FLEXFIT) (1001) • CAB M-M (FLEXFIT) (1046) • DIN69871-ODP (308) • ER-ODP (1048) • HSK A-ODP (FLEXFIT) (309) • S M (1045) • S M-C-H (1045) • S M-CF (1046)

HELIPLUS

MULTI-MASTER

HP E90AN-MM-07

90° Endmills with a MULTI-MASTER Threaded Adaptation Carrying HELIPLUS HP ANKT 0702.. Inserts



Designation	DC	CICT(1)	OAL	LF	APMX	THSZMS	DCONMS	DRVS(2)	RMPX(3)	RMPX_2(4)	kg		
HP E90AN-D12-2-MMT08	12.00	2	24.45	16.50	7.70	T08	10.60	10.0	2.7	3.5	0.01	SR 34-533/L/HG	T-6/51
HP E90AN-D16-3-MMT10	16.00	3	31.75	20.00	7.70	T10	14.95	13.0	3.2	6.0	0.03	SR 34-533/L/HG	T-6/51
HP E90AN-D16-4-MMT10	16.00	4	31.75	20.00	7.70	T10	14.95	13.0	3.2	6.0	0.03	SR 34-533/L/HG	T-6/51
HP E90AN-D20-5-MMT12	20.00	5	35.30	21.50	7.70	T12	18.40	16.0	2.4	4.5	0.05	SR 34-533/L/HG	T-6/51

• Do not apply lubricant to the MULTI-MASTER threaded connection • For adaptation, see page 39 • For user guide, see pages 517-524

(1) Number of inserts

(2) Clamping wrench size

(3) Maximum ramping angle

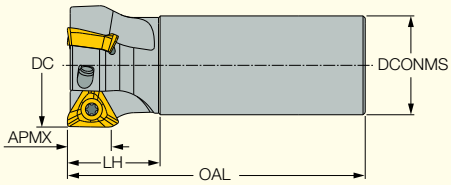
(4) Values only for HP ANKT 0702R12T-FF insert

For inserts, see pages: HP ANCR 0702PNFR (430) • HP ANKT 0702...-FF (431) • HP ANKT/ANCT 0702..PN-R/PNTR (430) • HP ANKW 070204PNTR (430)
For holders, see pages: MM CAB (1047) • MM GRT (shanks) (72) • MM S-A (stepped shanks) (70) • MM S-A (straight shanks) (73) • MM S-A-C# (72) • MM S-A-HSK (76) • MM S-A-N (71) • MM S-A-SK (76) • MM S-B (85° conical shanks) (73) • MM S-D (89° conical shanks) (74) • MM TS-A (72)

HELI3MILL HM390 LINE

HM390 ETC-07

90° Endmills Carrying HM390 TCKT 0703 Triangular Inserts with 3 Helical Cutting Edges



Designation	DC	APMX	CICT(1)	OAL	LH	DCONMS	Shank(2)	RMPX(3)	kg		
HM390 ETC D14-1-C16-07	14.00	5.00	1	80.00	21.0	16.00	C	1.9	0.10	SR M2.5X5-T7-60	T-7/51
HM390 ETC D14-1-W16-07	14.00	5.00	1	70.00	21.0	16.00	W	1.9	0.08	SR M2.5X5-T7-60	T-7/51
HM390 ETC D16-2-C15-07-B	16.00	5.00	2	150.00	26.0	15.00	C	1.9	0.17	SR M2.5X5-T7-60	T-7/51
HM390 ETC D16-2-C16-07	16.00	5.00	2	100.00	26.0	16.00	C	1.9	0.12	SR M2.5X5-T7-60	T-7/51
HM390 ETC D16-2-C16-07-B	16.00	5.00	2	150.00	40.0	16.00	C	1.9	0.19	SR M2.5X5-T7-60	T-7/51
HM390 ETC D16-2-W16-07	16.00	5.00	2	80.00	26.0	16.00	W	1.9	0.10	SR M2.5X5-T7-60	T-7/51
HM390 ETC D18-2-C16-07	18.00	5.00	2	100.00	30.0	16.00	C	1.4	0.13	SR M2.5X5-T7-60	T-7/51
HM390 ETC D18-2-C16-07-B	18.00	5.00	2	160.00	30.0	16.00	C	1.4	0.21	SR M2.5X5-T7-60	T-7/51
HM390 ETC D20-3-C16-07	20.00	5.00	3	55.00	20.0	16.00	C	1.4	0.07	SR M2.5X5-T7-60	T-7/51
HM390 ETC D20-3-C19-07-B	20.00	5.00	3	160.00	30.0	19.00	C	1.4	0.28	SR M2.5X5-T7-60	T-7/51
HM390 ETC D20-3-C20-07	20.00	5.00	3	110.00	30.0	20.00	C	1.4	0.21	SR M2.5X5-T7-60	T-7/51
HM390 ETC D20-3-C20-07-B	20.00	5.00	3	160.00	40.0	20.00	C	1.4	0.31	SR M2.5X5-T7-60	T-7/51
HM390 ETC D20-3-W20-07	20.00	5.00	3	85.00	30.0	20.00	W	1.4	0.16	SR M2.5X5-T7-60	T-7/51
HM390 ETC D22-3-C20-07	22.00	5.00	3	110.00	30.0	20.00	C	1.0	0.21	SR M2.5X5-T7-60	T-7/51
HM390 ETC D22-3-C20-07-B	22.00	5.00	3	180.00	30.0	20.00	C	1.0	0.37	SR M2.5X5-T7-60	T-7/51
HM390 ETC D25-4-C25-07	25.00	5.00	4	120.00	35.0	25.00	C	1.0	0.36	SR M2.5X6-T7-60	T-7/51
HM390 ETC D25-4-W25-07	25.00	5.00	4	95.00	35.0	25.00	W	1.0	0.28	SR M2.5X6-T7-60	T-7/51
HM390 ETC D28-4-C25-07-B	28.00	5.00	4	200.00	35.0	25.00	C	2.5	0.64	SR M2.5X6-T7-60	T-7/51
HM390 ETC D32-5-C32-07	32.00	5.00	5	130.00	45.0	32.00	C	0.8	0.68	SR M2.5X6-T7-60	T-7/51
HM390 ETC D32-5-W32-07	32.00	5.00	5	110.00	45.0	32.00	W	0.8	0.56	SR M2.5X6-T7-60	T-7/51

• Insert clamping screw must be lubricated every indexing. • Tightening torque 0.9 Nxm. • For user guide, see pages 517-524

(1) Number of inserts

(2) C-Cylindrical, W-Weldon

(3) Maximum ramping angle

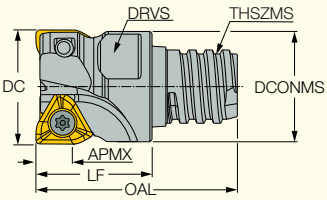
For inserts, see pages: HM390 TCKT/CT 0703 (432)

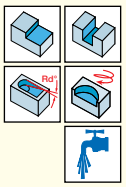
HELI3MILL HM390 LINE

MULTI-MASTER

HM390 ETC-MM

90° Endmills with a MULTI-MASTER Threaded Adaptation Carrying HM390 TCKT 0703 Triangular Inserts





Designation	DC	APMX	CICT(1)	LF	DCONMS	THSZMS	OAL	DRVS(2)	RMPX(3)	kg		
HM390 ETC D16-2-MMT10-07	16.00	5.00	2	16.00	15.20	T10	27.30	13.0	1.9	0.02	SR M2.5X5-T7-60	T-7/51
HM390 ETC D20-3-MMT12-07	20.00	5.00	3	20.00	18.30	T12	33.30	16.0	1.4	0.04	SR M2.5X5-T7-60	T-7/51
HM390 ETC D25-4-MMT15-07	25.00	5.00	4	25.00	23.90	T15	42.00	20.0	1.0	0.08	SR M2.5X6-T7-60	T-7/51

• Insert clamping screw must be lubricated every indexing. • Tightening torque 0.9 Nxm. • For adaptation, see page 39 • For user guide, see pages 517-524

(1) Number of inserts

(2) Clamping wrench size

(3) Maximum ramping angle

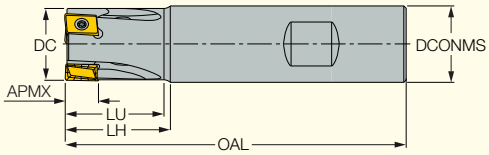
For inserts, see pages: HM390 TCKT/CT 0703 (432)

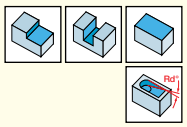
For holders, see pages: MM S-A (stepped shanks) (70) • MM S-A (straight shanks) (73) • MM S-A-C# (72) • MM S-A-HSK (76) • MM S-A-N (71) • MM S-A-SK (76) • MM S-B (85° conical shanks) (73) • MM S-D (89° conical shanks) (74) • MM TS-A (72)

HELITANG T490 LINE

T490 ELN-08

90° Endmills Carrying Tangentially Clamped Inserts with 4 Helical, 8 mm Long Cutting Edges





Designation	DC	CICT(1)	LH	LU	APMX	OAL	DCONMS	Shank(2)	CSP(3)	RMPX(4)	kg		
T490 ELN D16-2-C15-08B	16.00	2	41.0	40.0	8.00	150.00	15.00	C	1	2.0	0.18	SR 10502813-HGSM	IP-7/51
T490 ELN D16-2-C16-08	16.00	2	28.0	26.0	8.00	90.00	16.00	C	0	2.0	0.13	SR 10502813-HGSM	IP-7/51
T490 ELN D16-2-C16-08C	16.00	2	28.0	26.0	8.00	90.00	16.00	C	1	2.0	0.12	SR 10502813-HGSM	IP-7/51
T490 ELN D16-2-W16-08	16.00	2	28.0	26.0	8.00	85.00	16.00	W	0	2.0	0.12	SR 10502813-HGSM	IP-7/51
T490 ELN D16-2-W16-08C	16.00	2	28.0	26.0	8.00	85.00	16.00	W	1	2.0	0.11	SR 10502813-HGSM	IP-7/51
T490 ELN D18-2-C20-08C	18.00	2	28.0	26.0	8.00	90.00	20.00	C	1	1.8	0.18	SR 10502813-HGSM	IP-7/51
T490 ELN D20-2-C19-08B	20.00	2	41.0	40.0	8.00	160.00	19.00	C	1	1.7	0.31	SR 10502813-HG-M	IP-7/51
T490 ELN D20-2-C20-08C	20.00	2	28.0	26.0	8.00	110.00	20.00	C	1	1.7	0.23	SR 10502813-HG-M	IP-7/51
T490 ELN D20-2-W20-08C	20.00	2	28.0	26.0	8.00	90.00	20.00	W	1	1.7	0.19	SR 10502813-HG-M	IP-7/51
T490 ELN D20-3-C20-08	20.00	3	28.0	26.0	8.00	110.00	20.00	C	0	1.7	0.25	SR 10502813-HG-M	IP-7/51
T490 ELN D20-3-C20-08C	20.00	3	28.0	26.0	8.00	110.00	20.00	C	1	1.7	0.23	SR 10502813-HG-M	IP-7/51
T490 ELN D20-3-W20-08	20.00	3	28.0	26.0	8.00	90.00	20.00	W	0	1.7	0.20	SR 10502813-HG-M	IP-7/51
T490 ELN D20-3-W20-08C	20.00	3	28.0	26.0	8.00	90.00	20.00	W	1	1.7	0.18	SR 10502813-HG-M	IP-7/51
T490 ELN D22-3-C20-08C	22.00	3	28.0	30.0	8.00	110.00	20.00	C	1	-	0.24	SR 10502813-HG-M	IP-7/51
T490 ELN D25-3-C24-08B	25.00	3	41.0	40.0	8.00	200.00	24.00	C	1	-	0.61	SR 10502813-HG-M	IP-7/51
T490 ELN D25-3-C25-08C	25.00	3	28.0	26.0	8.00	120.00	25.00	C	1	-	0.39	SR 10502813-HG-M	IP-7/51
T490 ELN D25-3-W25-08C	25.00	3	28.0	26.0	8.00	95.00	25.00	W	1	-	0.30	SR 10502813-HG-M	IP-7/51
T490 ELN D25-4-C25-08	25.00	4	28.0	26.0	8.00	120.00	25.00	C	0	-	0.43	SR 10502813-HG-M	IP-7/51
T490 ELN D25-4-C25-08C	25.00	4	28.0	26.0	8.00	120.00	25.00	C	1	-	0.39	SR 10502813-HG-M	IP-7/51
T490 ELN D25-4-W25-08	25.00	4	28.0	26.0	8.00	95.00	25.00	W	0	-	0.33	SR 10502813-HG-M	IP-7/51
T490 ELN D25-4-W25-08C	25.00	4	28.0	26.0	8.00	95.00	25.00	W	1	-	0.30	SR 10502813-HG-M	IP-7/51
T490 ELN D32-3-C32-08C	32.00	3	32.0	30.0	8.00	130.00	32.00	C	1	-	0.72	SR 10502813-HG-M	IP-7/51
T490 ELN D32-3-W32-08C	32.00	3	32.0	30.0	8.00	110.00	32.00	W	1	-	0.60	SR 10502813-HG-M	IP-7/51
T490 ELN D32-4-C32-08B	32.00	4	32.0	30.0	8.00	200.00	32.00	C	1	-	1.14	SR 10502813-HG-M	IP-7/51
T490 ELN D32-5-C32-08C	32.00	5	32.0	30.0	8.00	130.00	32.00	C	1	-	0.73	SR 10502813-HG-M	IP-7/51
T490 ELN D32-5-W32-08C	32.00	5	32.0	30.0	8.00	110.00	32.00	W	1	-	0.60	SR 10502813-HG-M	IP-7/51
T490 ELN D40-4-C32-08C	40.00	4	-	30.0	8.00	130.00	32.00	C	1	-	0.81	SR 10502813-HG-M	IP-7/51
T490 ELN D40-6-C32-08C	40.00	6	-	30.0	8.00	130.00	32.00	C	1	-	0.82	SR 10502813-HG-M	IP-7/51
T490 ELN D40-6-W32-08C	40.00	6	-	30.0	8.00	110.00	32.00	W	1	-	0.69	SR 10502813-HG-M	IP-7/51

• "B" suffix with long cylindrical shank which may be shortened. • For user guide, see pages 517-524

(1) Number of inserts

(2) C-Cylindrical, W-Weldon

(3) 0 - Without coolant supply, 1 - With coolant supply

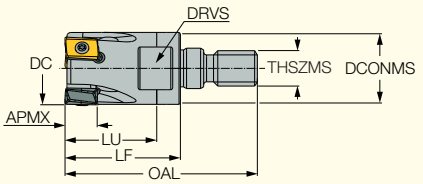
(4) Maximum ramping angle - valid only with T490 LNHT 080404PNR-RD inserts

For inserts, see pages: T490 LNAR (464) • T490 LNMT/LNHT 0804 (460)

HELITANG FLEXFIT T490 LINE

T490 ELN-M

90° Endmills with a FLEXFIT Threaded Adaptation Carrying Tangentially Clamped Inserts



Designation	DC	CICT(1)	APMX	DCONMS	LU	LF	OAL	THSZMS	DRVS(2)	RMPX(3)	Insert	kg			
T490 ELN D16-2-M10	16.00	2	8.00	18.00	22.0	30.00	50.00	M10	12.7	2.0	T490 LN.. 08	0.04	SR 10502813-HGSM	IP-7/51	
T490 ELN D20-3-M10	20.00	3	8.00	18.70	-	30.00	50.00	M10	15.0	1.7	T490 LN.. 08	0.06	SR 10502813-HG-M	IP-7/51	
T490 ELN D25-3-M12	25.00	3	8.00	21.00	-	28.00	50.00	M12	17.0	-	T490 LN.. 08	0.08	SR 10502813-HG-M	IP-7/51	
T490 ELN D25-4-M12	25.00	4	8.00	21.00	-	28.00	50.00	M12	17.0	-	T490 LN.. 08	0.08	SR 10502813-HG-M	IP-7/51	
T490 ELN D32-3-M16-13	32.00	3	12.50	29.00	-	45.00	70.00	M16	25.0	-	T490 LN.. 13	0.22	SR 34-535-X-HG	BLD T15/S7	SW6-T-SH
T490 ELN D32-5-M16	32.00	5	8.00	29.00	-	30.00	55.00	M16	25.0	-	T490 LN.. 08	0.16	SR 10502813-HG-M	IP-7/51	

• For adaptation, see page 39 • For user guide, see pages 517-524

(1) Number of inserts

(2) Clamping wrench size

(3) Maximum ramping angle - valid only with T490 LNHT 080404PNR-RD inserts

For inserts, see pages: T490 LNAR (464) • T490 LNMT 1306PNR-FF (463) • T490 LNMT 1306PNTR-FW (463) • T490 LNMT/LNHT 0804 (460) • T490 LNMT/LNHT 1306 (462)

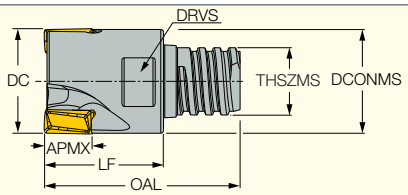
For holders, see pages: BT-ODP (FLEXFIT) (1030) • C#-ODP (FLEXFIT) (1001) • CAB M-M (FLEXFIT) (1046) • DIN69871-ODP (308) • ER-ODP (1048) • HSK A-ODP (FLEXFIT) (309) • S M (1045) • S M-C-H (1045) • S M-CF (1046)

HELITANG T490 LINE

MULTI-MASTER

T490 ELN-MM-08

90° Endmills with a MULTI-MASTER Threaded Adaptation Carrying Tangentially Clamped Inserts



Designation	DC	CICT(1)	APMX	DCONMS	LF	OAL	THSZMS	DRVS(2)	RMPX(3)	kg		
T490 ELN D16-2-MMT10	16.00	2	8.00	14.70	20.00	32.00	T10	13.0	2.0	0.03	SR 10502813-HGSM	IP-7/51
T490 ELN D20-2-MMT12	20.00	2	8.00	18.70	21.50	35.00	T12	16.0	1.7	0.05	SR 10502813-HG-M	IP-7/51
T490 ELN D20-3-MMT12	20.00	3	8.00	18.70	21.50	35.00	T12	16.0	1.7	0.05	SR 10502813-HG-M	IP-7/51

• Do not apply lubricant to the MULTI-MASTER threaded connection • For adaptation, see page 39 • For user guide, see pages 517-524

(1) Number of inserts

(2) Clamping wrench size

(3) Maximum ramping angle - valid only with T490 LNHT 080404PNR-RD inserts

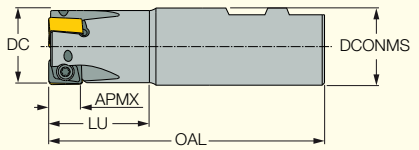
For inserts, see pages: T490 LNAR (464) • T490 LNMT/LNHT 0804 (460)

For holders, see pages: MM S-A (stepped shanks) (70) • MM S-A (straight shanks) (73) • MM S-A-C# (72) • MM S-A-HSK (76) • MM S-A-N (71) • MM S-A-SK (76) • MM S-B (85° conical shanks) (73) • MM S-D (89° conical shanks) (74) • MM TS-A (72)

HELIDO 490 LINE

H490 E90AX-09

90° Endmills Carrying H490 ANKX 09... Double-Sided Rectangular Inserts with 4 Helical Cutting Edges



Designation	DC	CICT(1)	APMX	OAL	LU	DCONMS	Shank(2)	kg			
H490 E90AX D16-2-C15-09-B	16.00	2	8.00	150.00	40.0	15.00	C	0.18	SR 10508082-HG	SW4-SD	BLD T08/M7
H490 E90AX D16-2-C16-09	16.00	2	8.00	90.00	26.0	16.00	C	0.12	SR 10508082-HG	SW4-SD	BLD T08/M7
H490 E90AX D16-2-W16-09	16.00	2	8.00	85.00	26.0	16.00	W	0.11	SR 10508082-HG	SW4-SD	BLD T08/M7
H490 E90AX D18-2-C16-09	18.00	2	8.00	90.00	25.0	16.00	C	0.12	SR 10508082-HG	SW4-SD	BLD T08/M7
H490 E90AX D20-2-C19-09-B	20.00	2	8.00	160.00	40.0	19.00	C	0.31	SR 10508082-HG	SW4-SD	BLD T08/M7
H490 E90AX D20-2-C20-09	20.00	2	8.00	110.00	26.0	20.00	C	0.23	SR 10508082-HG	SW4-SD	BLD T08/M7
H490 E90AX D20-2-W20-09	20.00	2	8.00	90.00	26.0	20.00	W	0.18	SR 10508082-HG	SW4-SD	BLD T08/M7
H490 E90AX D20-3-C20-09	20.00	3	8.00	110.00	26.0	20.00	C	0.23	SR 10508082-HG	SW4-SD	BLD T08/M7
H490 E90AX D20-3-W20-09	20.00	3	8.00	90.00	26.0	20.00	W	0.18	SR 10508082-HG	SW4-SD	BLD T08/M7
H490 E90AX D22-3-C20-09	22.00	3	8.00	115.00	25.0	20.00	C	0.25	SR 10508082-HG	SW4-SD	BLD T08/M7
H490 E90AX D25-3-C24-09-B	25.00	3	8.00	200.00	40.0	24.00	C	0.61	SR 10508082-HG	SW4-SD	BLD T08/M7
H490 E90AX D25-3-C25-09	25.00	3	8.00	120.00	26.0	25.00	C	0.39	SR 10508082-HG	SW4-SD	BLD T08/M7
H490 E90AX D25-3-W25-09	25.00	3	8.00	95.00	26.0	25.00	W	0.30	SR 10508082-HG	SW4-SD	BLD T08/M7
H490 E90AX D25-4-C25-09	25.00	4	8.00	120.00	26.0	25.00	C	0.39	SR 10508082-HG	SW4-SD	BLD T08/M7
H490 E90AX D25-4-W25-09	25.00	4	8.00	95.00	26.0	25.00	W	0.30	SR 10508082-HG	SW4-SD	BLD T08/M7
H490 E90AX D32-4-W32-09	32.00	4	8.00	110.00	30.0	32.00	W	0.60	SR 10508082-HG	SW4-SD	BLD T08/M7
H490 E90AX D32-5-C32-09	32.00	5	8.00	130.00	30.0	32.00	C	0.72	SR 10508082-HG	SW4-SD	BLD T08/M7
H490 E90AX D32-5-W32-09	32.00	5	8.00	110.00	30.0	32.00	W	0.60	SR 10508082-HG	SW4-SD	BLD T08/M7
H490 E90AX D40-6-C32-09	40.00	6	8.00	130.00	38.0	32.00	C	0.77	SR 10508082-HG	SW4-SD	BLD T08/M7

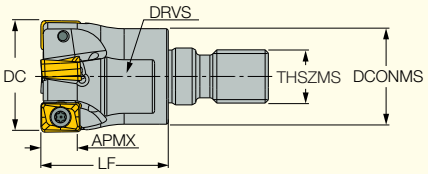
• For user guide, see pages 517-524 • "B" Suffix cylindrical shank which may be shortened
(1) Number of inserts
(2) C-Cylindrical, W-Weldon

For inserts, see pages: H490 ANKX 0904-FF (455) • H490 ANKX/ANCX-09 (454)

HELIDO 490 LINE FLEXFIT

H490 E90AX-M

90° Endmills with a FLEXFIT Threaded Connection Carrying H490 ANKX/ANCX 09...Double-Sided Rectangular Inserts



Designation	DC	CICT(1)	APMX	LF	DHUB	THSZMS	DRVS(2)	kg			
H490 E90AX D20-3-M10-09	20.00	3	8.00	30.00	18.70	M10	16.0	0.06	SR 10508082-HG	BLD T08/M7	SW4-SD
H490 E90AX D25-4-M12-09	25.00	4	8.00	28.00	21.00	M12	17.0	0.07	SR 10508082-HG	BLD T08/M7	SW4-SD
H490 E90AX D32-5-M16-09	32.00	5	8.00	30.00	29.00	M16	25.0	0.16	SR 10508082-HG	BLD T08/M7	SW4-SD

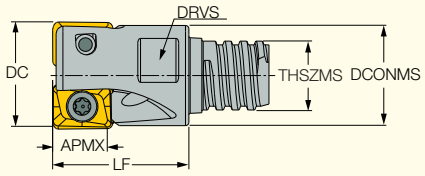
• For adaptation, see page 39 • For user guide, see pages 517-524
(1) Number of inserts
(2) Clamping wrench size

For inserts, see pages: H490 ANKX 0904-FF (455) • H490 ANKX/ANCX-09 (454)
For holders, see pages: BT-ODP (FLEXFIT) (1030) • C#-ODP (FLEXFIT) (1001) • CAB M-M (FLEXFIT) (1046) • DIN69871-ODP (308) • ER-ODP (1048) • HSK A-ODP (FLEXFIT) (309) • S M (1045) • S M-C-H (1045) • S M-CF (1046)

HELIDO 490 LINE MULTI-MASTER

H490 E90AX-MM

90° Endmills with a MULTI-MASTER Threaded Connection Carrying H490 ANKX/ANCX 090...Double-Sided Rectangular Inserts



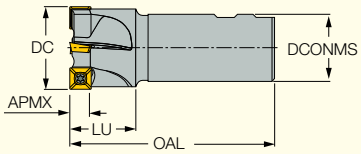
Designation	DC	CICT(1)	APMX	LF	DCONMS	THSZMS	DRVS(2)			
H490 E90AX D20-3-MMT12-09	20.00	3	8.00	24.00	18.70	T12	16.0	SR 10508082-HG	BLD T08/M7	SW4-SD

• Do not apply lubricant to the MULTI-MASTER threaded connection • For adaptation, see page 39 • For user guide, see pages 517-524
(1) Number of inserts
(2) Clamping wrench size

For inserts, see pages: H490 ANKX 0904-FF (455) • H490 ANKX/ANCX-09 (454)
For holders, see pages: MM S-A (stepped shanks) (70) • MM S-A (straight shanks) (73) • MM S-A-C# (72) • MM S-A-HSK (76) • MM S-A-SK (76) • MM S-B (85° conical shanks) (73) • MM S-D (89° conical shanks) (74)

HELiQUAD

E90SP
Endmills Carrying Square S/XPMT Inserts



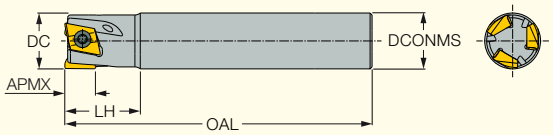
Designation	DC	CICT(1)	APMX	LU	OAL	DCONMS	Shank(2)	RMPX(3)	kg		
E90SP D25-C25-10	25.00	2	9.60	32.0	110.00	25.00	C	3.0	0.37	SR 14-544/S	T-15/51
E90SP D25-W25-10	25.00	2	9.60	32.0	95.00	25.00	W	3.0	0.30	SR 14-544/S	T-15/51
E90SP D32-C32-10	32.00	3	9.60	32.0	130.00	32.00	C	2.0	0.73	SR 14-544/S	T-15/51
E90SP D32-W25-10	32.00	3	9.60	32.0	95.00	25.00	W	2.0	0.35	SR 14-544/S	T-15/51
E90SP D40-C32-10	40.00	4	9.60	32.0	130.00	32.00	C	1.5	0.80	SR 14-544/S	T-15/51
E90SP D40-W32-10	40.00	4	9.60	32.0	100.00	32.00	W	1.5	0.60	SR 14-544/S	T-15/51

• For user guide, see pages 517-524
(1) Number of inserts
(2) C-Cylindrical, W-Weldon
(3) Maximum ramping angle

For inserts, see pages: QPMR 1004-HQ-M (479) • QPMT 100408PDTN (479) • SPMT-HQ (480) • XPMT-HQ (480)

SUMOMILL 290 LINE

T290 ELN-10
Endmills Carrying Tangentially Clamped Inserts



Designation	DC	CICT(1)	OAL	LH	APMX	DCONMS	Shank(2)	kg			
T290 ELN D20-02-C20-10	20.00	2	110.00	27.0	10.00	20.00	C	0.22	SR 10504970	BLD IP15/M7	SW6-T-SH
T290 ELN D20-03-C20-10	20.00	3	110.00	27.0	10.00	20.00	C	0.23	SR 10504970	BLD IP15/M7	SW6-T-SH
T290 ELN D20-03-W20-10	20.00	3	90.00	28.0	10.00	20.00	W	0.18	SR 10504970	BLD IP15/M7	SW6-T-SH
T290 ELN D25-03-C25-10-XL	25.00	3	150.00	30.0	10.00	25.00	C	0.51	SR 10504970	BLD IP15/M7	SW6-T-SH
T290 ELN D25-04-C25-10	25.00	4	120.00	28.0	10.00	25.00	C	0.40	SR 10504970	BLD IP15/M7	SW6-T-SH
T290 ELN D25-04-W25-10	25.00	4	95.00	30.0	10.00	25.00	W	0.30	SR 10504970	BLD IP15/M7	SW6-T-SH
T290 ELN D32-04-C32-10-XL	32.00	4	150.00	30.0	10.00	32.00	C	0.85	SR 10504970	BLD IP15/M7	SW6-T-SH
T290 ELN D32-05-C32-10	32.00	5	130.00	28.0	10.00	32.00	C	0.73	SR 10504970	BLD IP15/M7	SW6-T-SH
T290 ELN D32-05-W32-10	32.00	5	110.00	30.0	10.00	32.00	W	0.60	SR 10504970	BLD IP15/M7	SW6-T-SH
T290 ELN D40-05-C32-10-XL	40.00	5	150.00	30.0	10.00	32.00	C	0.88	SR 10504970	BLD IP15/M7	SW6-T-SH
T290 ELN D40-06-C32-10	40.00	6	130.00	30.0	10.00	32.00	C	0.75	SR 10504970	BLD IP15/M7	SW6-T-SH
T290 ELN D40-06-W32-10	40.00	6	110.00	30.0	10.00	32.00	W	0.63	SR 10504970	BLD IP15/M7	SW6-T-SH

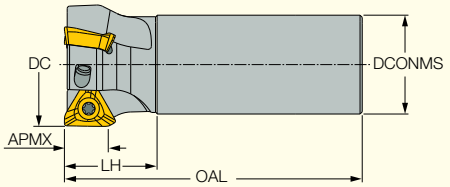
• For user guide, see pages 517-524
(1) Number of inserts
(2) C-Cylindrical, W-Weldon

For inserts, see pages: T290 LNMT/LNHT 1004 (459)

HELI3MILL HM390 LINE

HM390 ETP-10

90° Endmills Carrying HM390 TPKT 1003 Triangular Inserts with 3 Helical Cutting Edges



Designation	DC	APMX	CICT(1)	OAL	LH	DCONMS	Shank(2)	RMPX(3)	kg			
HM390 ETP D25-2-C25-10	25.00	8.00	2	120.00	25.0	25.00	C	2.9	0.38	SR 14-562/S	BLD T10/S7	SW6-SD
HM390 ETP D25-2-W25-10	25.00	8.00	2	95.00	25.0	25.00	W	2.9	0.30	SR 14-562/S	BLD T10/S7	SW6-SD
HM390 ETP D25-3-C24-10-B	25.00	8.00	3	200.00	25.0	24.00	C	2.9	0.60	SR 14-562/S	BLD T10/S7	SW6-SD
HM390 ETP D25-3-C25-10	25.00	8.00	3	120.00	25.0	25.00	C	2.9	0.38	SR 14-562/S	BLD T10/S7	SW6-SD
HM390 ETP D25-3-C25-10-B	25.00	8.00	3	200.00	40.0	25.00	C	2.9	0.66	SR 14-562/S	BLD T10/S7	SW6-SD
HM390 ETP D25-3-W25-10	25.00	8.00	3	95.00	25.0	25.00	W	2.9	0.30	SR 14-562/S	BLD T10/S7	SW6-SD
HM390 ETP D25-4-C25-10	25.00	8.00	4	120.00	25.0	25.00	C	2.9	0.38	SR 14-562/S	BLD T10/S7	SW6-SD
HM390 ETP D28-3-C25-10	28.00	8.00	3	120.00	25.0	25.00	C	2.5	0.40	SR 14-562/S	BLD T10/S7	SW6-SD
HM390 ETP D28-3-C25-10-B	28.00	8.00	3	200.00	25.0	25.00	C	2.5	0.67	SR 14-562/S	BLD T10/S7	SW6-SD
HM390 ETP D32-3-C31-10-B	32.00	8.00	3	250.00	30.0	31.00	C	2.1	1.33	SR 14-562/S	BLD T10/S7	SW6-SD
HM390 ETP D32-3-C32-10	32.00	8.00	3	130.00	30.0	32.00	C	2.1	0.71	SR 14-562/S	BLD T10/S7	SW6-SD
HM390 ETP D32-3-W32-10	32.00	8.00	3	110.00	30.0	32.00	W	2.1	0.58	SR 14-562/S	BLD T10/S7	SW6-SD
HM390 ETP D32-4-C32-10	32.00	8.00	4	130.00	30.0	32.00	C	2.1	0.70	SR 14-562/S	BLD T10/S7	SW6-SD
HM390 ETP D32-4-C32-10-B	32.00	8.00	4	200.00	40.0	32.00	C	2.1	1.11	SR 14-562/S	BLD T10/S7	SW6-SD
HM390 ETP D32-4-W32-10	32.00	8.00	4	110.00	30.0	32.00	W	2.1	0.58	SR 14-562/S	BLD T10/S7	SW6-SD
HM390 ETP D40-5-C32-10	40.00	8.00	5	130.00	30.0	32.00	C	1.6	0.76	SR 14-562/S	BLD T10/S7	SW6-SD
HM390 ETP D40-5-W32-10	40.00	8.00	5	110.00	30.0	32.00	W	1.6	0.64	SR 14-562/S	BLD T10/S7	SW6-SD
HM390 ETP D50-6-C32-10	50.00	8.00	6	130.00	38.0	32.00	C	1.2	0.86	SR 14-562/S	BLD T10/S7	SW6-SD

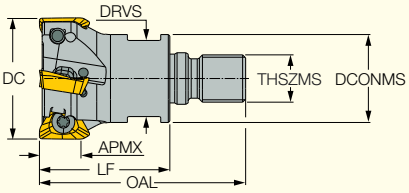
• For user guide, see pages 517-524
(1) Number of inserts
(2) C-Cylindrical, W-Weldon
(3) Maximum ramping angle

For inserts, see pages: HM390 TPKT/CT 1003 (432)

HELI3MILL HM390 LINE FLEXFIT

HM390 ETP-M

90° Endmills with a FLEXFIT Threaded Adaptation Carrying HM90 TPKT 1003... Inserts with 3 Helical Cutting Edges



Designation	DC	APMX	CICT(1)	LF	DCONMS	THSZMS	OAL	DRVS(2)	RMPX(3)	kg			
HM390 ETP D25-3-M12	25.00	8.00	3	35.00	21.00	M12	57.00	18.0	2.9	0.08	SR 14-562/S	BLD T10/S7	SW6-SD
HM390 ETP D32-4-M16	32.00	8.00	4	35.00	29.00	M16	60.00	25.0	2.1	0.16	SR 14-562/S	BLD T10/S7	SW6-SD

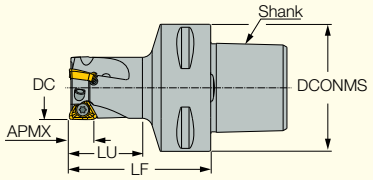
• For adaptation, see page 39 • For user guide, see pages 517-524
(1) Number of inserts
(2) Clamping wrench size
(3) Maximum ramping angle

For inserts, see pages: HM390 TPKT/CT 1003 (432)
For holders, see pages: BT-ODP (FLEXFIT) (1030) • C#-ODP (FLEXFIT) (1001) • CAB M-M (FLEXFIT) (1046) • DIN69871-ODP (308) • ER-ODP (1048) • HSK A-ODP (FLEXFIT) (309) • S M (1045) • S M-C-H (1045) • S M-CF (1046)

HELI3MILL HM390 LINE CAMFIX

HM390 ETP-C#-10

90° Endmills Carrying HM390 TPKT 1003 Triangular Inserts with 3 Helical Cutting Edges



Designation	DCONMS	DC	APMX	CICT(1)	LU	LF	RMPX(2)	Shank	kg			
HM390 ETP D25-3-L39-C3-10	32.00	25.00	8.00	3	39.0	55.00	2.9	CAMFIX	0.21	SR 14-562/S	BLD T10/S7	SW6-SD
HM390 ETP D36-4-L39-C3-10	32.00	36.00	8.00	4	39.0	55.00	1.7	CAMFIX	0.30	SR 14-562/S	BLD T10/S7	SW6-SD
HM390 ETP D66-7-L52-C6-10	63.00	66.00	8.00	7	52.0	75.00	0.8	CAMFIX	1.80	SR 14-562/S	BLD T10/S7	SW6-SD

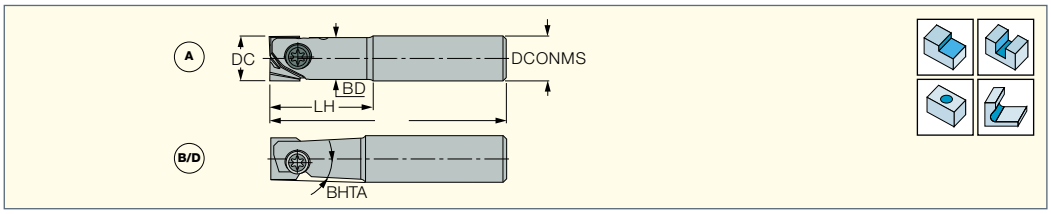
• For user guide, see pages 517-524
(1) Number of inserts
(2) Maximum ramping angle

For inserts, see pages: HM390 TPKT/CT 1003 (432)

BALLPLUS

HCE

Multifunction Endmills that Can Carry Several Insert Geometries

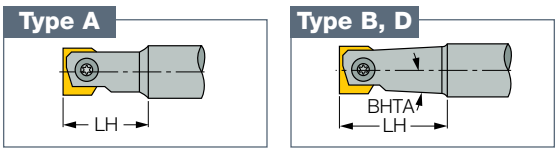


Designation	DC	LH	OAL	BD	DCONMS	Shank(1)	BHTA	Type	kg			
HCE D12-A-L120-C12	12.00	30.0	120.00	11.10	12.00	C	-	A	0.10	SR 34-540	BLD T15/S7	SW6-T
HCE D12-B-L160-C20	12.00	50.0	160.00	-	20.00	C	4.6	B	0.41	SR 34-540	BLD T15/S7	SW6-T
HCE D12-D-L160-C16	12.00	60.0	160.00	-	16.00	C	1.9	D	0.21	SR 34-540	BLD T15/S7	SW6-T
HCE D16-A-L130-C16	16.00	36.0	130.00	14.90	16.00	C	-	A	0.19	SR 105739	BLD T20/S7	SW6-T
HCE D16-B-L160-C25	16.00	60.0	160.00	-	25.00	C	4.3	B	0.60	SR 105739	BLD T20/S7	SW6-T
HCE D16-D-L160-C20	16.00	65.0	160.00	-	20.00	C	1.7	D	0.32	SR 105739	BLD T20/S7	SW6-T
HCE D20-A-L150-C20	20.00	60.0	150.00	18.80	20.00	C	-	A	0.33	SR 1052964	BLD T25/S7	SW6-T
HCE D20-D-L200-C25	20.00	90.0	200.00	-	25.00	C	1.6	D	0.62	SR 1052964	BLD T25/S7	SW6-T
HCE D25-A-L170-C25	25.00	70.0	170.00	23.00	25.00	C	-	A	0.57	SR 1051666	BLD T25/S7	SW6-T
HCE D25-D-L250-C32	25.00	125.0	250.00	-	32.00	C	1.6	D	1.20	SR 1051666	BLD T25/S7	SW6-T

• For undercutting, use HTR inserts only • The dimensions are for HCC inserts with RE=0.5 mm • For user guide, see pages 517-524

(1) C-Cylindrical

For inserts, see pages: HCC-QF (510)

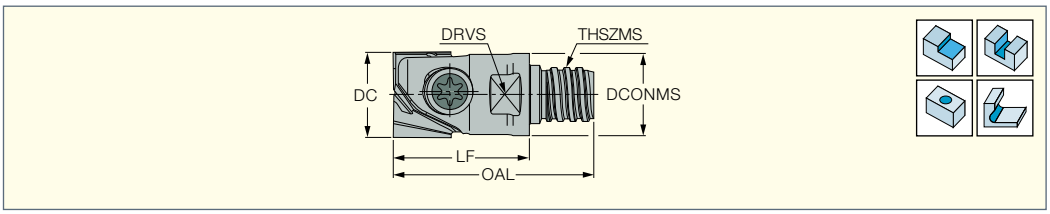


BALLPLUS

MULTI-MASTER

HCE-MM

Multifunction Endmills with a MULTI-MASTER Threaded Adaptation that Can Carry Several Insert Geometries



Designation	DC	OAL	LF	THSZMS	DCONMS	DRVS(1)	N·m	kg			
HCE D12/.50-MMT08	12.00	28.00	20.00	T08	11.50	10.0	15.0	0.01	SR 34-540	BLD T15/S7	SW6-T
HCE D16/.62-MMT10	16.00	36.75	25.00	T10	15.20	13.0	28.0	0.03	SR 105739	BLD T20/S7	SW6-T
HCE D20/.75-MMT12	20.00	48.80	35.00	T12	18.50	15.0	28.0	0.06	SR 1052964	BLD T25/S7	SW6-T

• For undercutting, use HTR inserts only • The dimensions are for HCC inserts with RE=0.5 mm • Do not apply lubricant to the MULTI-MASTER threaded connection
• For adaptation options, see page 39 • For user guide, see pages 517-524

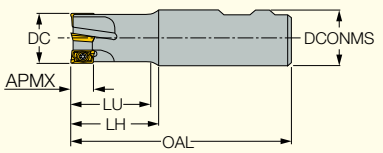
(1) Width across flats (wrench should be ordered separately)

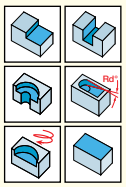
For inserts, see pages: HCC-QF (510)
For holders, see pages: MM CAB (1047) • MM GRT (shanks) (72) • MM S-A (stepped shanks) (70) • MM S-A (straight shanks) (73) • MM S-A-C# (72) • MM S-A-HSK (76) • MM S-A-N (71) • MM S-A-SK (76) • MM S-B (85° conical shanks) (73) • MM S-D (89° conical shanks) (74) • MM TS-A (72)

HELi2000

HM90 E90A-10

Endmills Carrying HM90
AP.. 1003... Inserts





Designation	DC	CICT(1)	APMX	OAL	LH	LU	RMPX(2)	DCONMS	Shank(3)	CSP(4)	Kg	RPMX(5)
HM90 E90A-D10-1-C10	10.00	1	10.00	80.00	20.0	13.8	5.0	10.00	C	0	0.04	131850
HM90 E90A-D10-1-C10-C	10.00	1	10.00	80.00	20.0	13.8	5.0	10.00	C	1	0.04	131850
HM90 E90A-D10-1-C16-LB	10.00	1	10.00	160.00	30.0	13.8	5.0	16.00	C	0	0.22	131850
HM90 E90A-D10-1-W16	10.00	1	10.00	80.00	20.0	10.6	5.0	16.00	W	0	0.10	131850
HM90 E90A-D12-1-C16	12.00	1	10.00	80.00	20.0	14.0	32.0	16.00	C	0	0.11	91850
HM90 E90A-D12-1-C16-C	12.00	1	10.00	80.00	20.0	14.0	32.0	16.00	C	1	0.10	91850
HM90 E90A-D12-1-C16-LB	12.00	1	10.00	160.00	30.0	16.0	32.0	16.00	C	0	0.23	91850
HM90 E90A-D12-1-W16	12.00	1	10.00	80.00	20.0	14.0	32.0	16.00	W	0	0.11	91850
HM90 E90A-D12-1-W16-C	12.00	1	10.00	80.00	20.0	14.0	32.0	16.00	W	1	0.10	91850
HM90 E90A-D14-1-C16	14.00	1	10.00	80.00	23.0	18.4	7.0	16.00	C	0	0.11	75350
HM90 E90A-D14-1-W16	14.00	1	10.00	80.00	23.0	18.4	7.0	16.00	W	0	0.11	75350
HM90 E90A-D16-2-C15-B	16.00	2	10.00	150.00	25.0	24.4	15.0	15.00	C	0	0.19	66200
HM90 E90A-D16-2-C15-B-C	16.00	2	10.00	150.00	25.0	24.4	15.0	15.00	C	1	0.17	66200
HM90 E90A-D16-2-C16	16.00	2	10.00	90.00	26.0	25.2	15.0	16.00	C	0	0.12	66200
HM90 E90A-D16-2-C16-B	16.00	2	10.00	150.00	40.0	38.2	15.0	16.00	C	0	0.22	66200
HM90 E90A-D16-2-C16-B-C	16.00	2	10.00	150.00	40.0	38.2	15.0	16.00	C	1	0.20	66200
HM90 E90A-D16-2-C16-C	16.00	2	10.00	90.00	26.0	25.2	15.0	16.00	C	1	0.11	66200
HM90 E90A-D16-2-C16-LB	16.00	2	10.00	180.00	40.0	38.1	15.0	16.00	C	0	0.26	66200
HM90 E90A-D16-2-W16	16.00	2	10.00	85.00	26.0	25.2	15.0	16.00	W	0	0.12	66200
HM90 E90A-D16-2-W16-C	16.00	2	10.00	85.00	26.0	25.2	15.0	16.00	W	1	0.11	66200
HM90 E90A-D17-2-C16	17.00	2	10.00	90.00	28.0	27.0	15.0	16.00	C	0	0.13	62900
HM90 E90A-D17-2-C16-L170	17.00	2	10.00	170.00	27.0	-	4.5	16.00	C	0	0.25	63000
HM90 E90A-D18-2-C16	18.00	2	10.00	90.00	26.0	-	7.5	16.00	C	0	0.13	59900
HM90 E90A-D18-2-C16-C	18.00	2	10.00	90.00	26.0	-	7.5	16.00	C	1	0.12	59900
HM90 E90A-D18-2-W20	18.00	2	10.00	90.00	30.0	26.4	7.5	20.00	W	0	0.18	59900
HM90 E90A-D18-2-W20-C	18.00	2	10.00	90.00	30.0	26.4	7.5	20.00	W	1	0.17	59900
HM90 E90A-D19-2-C20	19.00	2	10.00	90.00	26.0	25.0	7.5	20.00	C	0	0.19	57500
HM90 E90A-D20-2-C19-B	20.00	2	10.00	160.00	25.0	-	7.5	19.00	C	0	0.33	55150
HM90 E90A-D20-2-C19-B-C	20.00	2	10.00	160.00	25.0	-	7.5	19.00	C	1	0.30	55150
HM90 E90A-D20-2-C20	20.00	2	10.00	110.00	26.0	25.3	7.5	20.00	C	0	0.24	55150
HM90 E90A-D20-2-C20-B	20.00	2	10.00	160.00	40.0	38.0	7.5	20.00	C	0	0.36	55150
HM90 E90A-D20-2-C20-B-C	20.00	2	10.00	160.00	40.0	38.0	7.5	20.00	C	1	0.33	55150
HM90 E90A-D20-2-C20-C	20.00	2	10.00	110.00	26.0	25.3	7.5	20.00	C	1	0.22	55150
HM90 E90A-D20-2-C20-LB	20.00	2	10.00	200.00	40.0	38.0	7.5	20.00	C	0	0.46	55150
HM90 E90A-D20-2-C20-XL	20.00	2	10.00	130.00	60.0	59.0	7.5	20.00	C	0	0.27	55150
HM90 E90A-D20-2-W20	20.00	2	10.00	90.00	26.1	25.0	7.5	20.00	W	0	0.19	55150
HM90 E90A-D20-2-W20-C	20.00	2	10.00	90.00	26.1	25.0	7.5	20.00	W	1	0.18	55150
HM90 E90A-D20-2-W20-XL	20.00	2	10.00	130.00	60.0	59.0	7.5	20.00	W	0	0.27	55150
HM90 E90A-D20-3-C20	20.00	3	10.00	110.00	26.1	25.0	7.5	20.00	C	0	0.24	55150
HM90 E90A-D20-3-C20-C	20.00	3	10.00	110.00	26.1	25.0	7.5	20.00	C	1	0.22	55150
HM90 E90A-D20-3-W16	20.00	3	10.00	85.00	26.1	-	7.5	16.00	W	0	0.13	55150
HM90 E90A-D20-3-W16-C	20.00	3	10.00	85.00	26.1	-	7.5	16.00	W	1	0.12	55150
HM90 E90A-D20-3-W20	20.00	3	10.00	90.00	26.1	25.0	7.5	20.00	W	0	0.19	55150
HM90 E90A-D20-3-W20-C	20.00	3	10.00	90.00	26.1	25.0	7.5	20.00	W	1	0.18	55150
HM90 E90A-D21-2-C20-L270	21.00	2	10.00	270.00	26.0	-	2.8	20.00	C	0	0.64	53000
HM90 E90A-D21-3-C20	21.00	3	10.00	115.00	26.0	25.0	7.5	20.00	C	0	0.26	53300
HM90 E90A-D22-3-C20	22.00	3	10.00	115.00	26.0	-	7.5	20.00	C	0	0.26	51450
HM90 E90A-D22-3-C20-C	22.00	3	10.00	115.00	26.0	-	7.5	20.00	C	1	0.25	51450
HM90 E90A-D22-3-W25	22.00	3	10.00	95.00	26.0	21.0	7.5	25.00	W	0	0.31	51450
HM90 E90A-D22-3-W25-C	22.00	3	10.00	95.00	26.0	21.0	7.5	25.00	W	1	0.29	51450
HM90 E90A-D25-2-C25	25.00	2	10.00	120.00	26.1	25.0	2.5	25.00	C	0	0.42	47150
HM90 E90A-D25-2-W25	25.00	2	10.00	95.00	26.1	25.0	2.5	25.00	W	0	0.32	47150
HM90 E90A-D25-3-C24-B	25.00	3	10.00	200.00	25.0	-	2.5	24.00	C	0	0.67	47150
HM90 E90A-D25-3-C24-B-C	25.00	3	10.00	200.00	25.0	24.0	2.5	24.00	C	1	0.64	47150
HM90 E90A-D25-3-C25	25.00	3	10.00	120.00	26.1	25.0	2.5	25.00	C	0	0.42	47150
HM90 E90A-D25-3-C25-B	25.00	3	10.00	200.00	40.0	37.0	2.5	25.00	C	0	0.72	47150

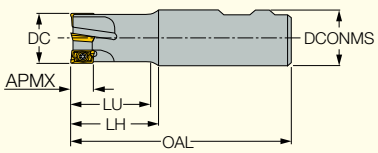
• For user guide, see pages 517-524
(1) Number of inserts
(2) Maximum ramping angle
(3) C-Cylindrical, W-Weldon
(4) 0 - Without coolant supply, 1 - With coolant supply
(5) Maximum RPM

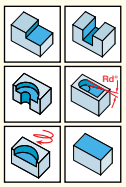
For inserts, see pages: APCR 1003PDFR-P (436) • APCT 1003PDR-HM (435) • APKR 1003PDR-HM (436) • APKT 1003..R (438) • APKT 1003..TR-RM (437) • APKT 1003PDR-HM (436) • APKT 1003PDTR-76 (437) • APKT 1003PDTR/L-RM (437) • APKT 1003R8T-FF (439) • APKW 100304 PDR (PCD) (435) • HM90 APCR 100304PDFR-P/DP (435) • HM90 APCT 1003 (434) • HM90 APKT 1003 (434) • HM90 APKT 1003PD-W (438) • HM90 APKW 1003PDR (438)

HELi2000

HM90 E90A-10 (continued)

Endmills Carrying HM90
AP.. 1003... Inserts





Designation	DC	CICT(1)	APMX	OAL	LH	LU	RMPX(2)	DCONMS	Shank(3)	CSP(4)	Kg	RPMX(5)
HM90 E90A-D25-3-C25-B-C	25.00	3	10.00	200.00	40.0	37.0	2.5	25.00	C	1	0.68	47150
HM90 E90A-D25-3-C25-C	25.00	3	10.00	120.00	26.1	25.0	2.5	25.00	C	1	0.39	47150
HM90 E90A-D25-3-W25	25.00	3	10.00	95.00	26.1	25.0	2.5	25.00	W	0	0.32	47150
HM90 E90A-D25-3-W25-C	25.00	3	10.00	95.00	26.1	25.0	2.5	25.00	W	1	0.30	47150
HM90 E90A-D25-3-W25-XL	25.00	3	10.00	140.00	80.0	79.0	2.5	25.00	W	0	0.47	47150
HM90 E90A-D25-4-C25	25.00	4	10.00	120.00	26.0	25.0	2.5	25.00	C	0	0.42	47150
HM90 E90A-D25-4-C25-C	25.00	4	10.00	120.00	26.0	25.0	2.5	25.00	C	1	0.39	47150
HM90 E90A-D25-4-W25	25.00	4	10.00	95.00	26.0	25.0	2.5	25.00	W	0	0.31	47150
HM90 E90A-D25-4-W25-C	25.00	4	10.00	95.00	26.0	25.0	2.5	25.00	W	1	0.30	47150
HM90 E90A-D28-4-C25	28.00	4	10.00	120.00	26.0	-	2.0	25.00	C	0	0.44	43650
HM90 E90A-D28-4-C25-C	28.00	4	10.00	120.00	26.0	-	2.0	25.00	C	1	0.41	43650
HM90 E90A-D28-4-W25	28.00	4	10.00	95.00	26.0	-	2.0	25.00	W	0	0.33	43650
HM90 E90A-D30-4-C32	30.00	4	10.00	130.00	40.0	35.4	2.0	32.00	C	0	0.72	36500
HM90 E90A-D30-4-W25	30.00	4	10.00	95.00	30.0	-	2.0	25.00	W	0	0.35	36500
HM90 E90A-D30-4-W25-C	30.00	4	10.00	95.00	30.0	-	2.0	25.00	W	1	0.33	36500
HM90 E90A-D32-3-C32	32.00	3	10.00	130.00	30.0	28.5	3.0	32.00	C	0	0.76	35350
HM90 E90A-D32-3-W32	32.00	3	10.00	110.00	30.0	28.5	3.0	32.00	W	0	0.63	35350
HM90 E90A-D32-4-C32	32.00	4	10.00	130.00	30.0	28.5	3.0	32.00	C	0	0.75	35350
HM90 E90A-D32-4-C32-B	32.00	4	10.00	200.00	40.0	37.2	3.0	32.00	C	0	1.18	35350
HM90 E90A-D32-4-C32-LB	32.00	4	10.00	250.00	40.0	37.2	3.0	32.00	C	0	1.50	35350
HM90 E90A-D32-4-W25	32.00	4	10.00	95.00	30.0	-	3.0	25.00	W	0	0.37	35350
HM90 E90A-D32-4-W32-XL	32.00	4	10.00	160.00	100.0	28.5	3.0	32.00	W	0	0.87	35350
HM90 E90A-D32-5-C32	32.00	5	10.00	130.00	30.0	28.5	3.0	32.00	C	0	0.75	35350
HM90 E90A-D32-5-C32-C	32.00	5	10.00	130.00	30.0	28.5	3.0	32.00	C	1	0.72	35350
HM90 E90A-D32-5-W25	32.00	5	10.00	95.00	30.0	-	3.0	25.00	W	0	0.37	35350
HM90 E90A-D32-5-W25-C	32.00	5	10.00	95.00	30.0	-	3.0	25.00	W	1	0.35	35350
HM90 E90A-D32-5-W32-C	32.00	5	10.00	110.00	30.0	28.5	3.0	32.00	W	1	0.60	35350
HM90 E90A-D40-5-C32	40.00	5	10.00	130.00	30.0	-	2.7	32.00	C	0	0.83	31600
HM90 E90A-D40-5-W32-C	40.00	5	10.00	110.00	30.0	-	2.7	32.00	W	1	0.68	31600
HM90 E90A-D50-7-C32	50.00	7	10.00	130.00	41.6	-	2.7	32.00	C	0	0.94	31600

• For user guide, see pages 517-524
(1) Number of inserts
(2) Maximum ramping angle
(3) C-Cylindrical, W-Weldon
(4) 0 - Without coolant supply, 1 - With coolant supply
(5) Maximum RPM

For inserts, see pages: APCR 1003PDFR-P (436) • APCT 1003PDR-HM (435) • APKR 1003PDR-HM (436) • APKT 1003..R (438) • APKT 1003..TR-RM (437) • APKT 1003PDR-HM (436) • APKT 1003PDTR-76 (437) • APKT 1003PDTR/L-RM (437) • APKT 1003R8T-FF (439) • APKW 100304 PDR (PCD) (435) • HM90 APCR 100304PDFR-P/DP (435) • HM90 APCT 1003 (434) • HM90 APKT 1003 (434) • HM90 APKT 1003PD-W (438) • HM90 APKW 1003PDR (438)

Spare Parts

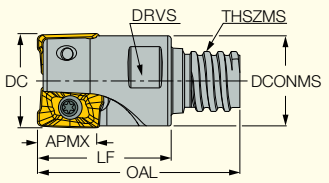
Designation		
HM90 E90A-10	SR 34-505/HG	T-8/53

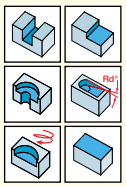
HELi2000

MULTI-MASTER

HM90 E90A-MM-10

90° Endmills with a MULTI-MASTER Threaded Adaptation Carrying HM90 AP.. 1003... Inserts





Designation	DC	CICT(1)	APMX	OAL	RMPX(2)	LF	THSZMS	DRVS(3)	DCONMS	kg		
HM90 E90A-D16-2-MMT10	16.00	2	10.00	34.75	15.0	23.00	T10	13.0	15.30	0.03	SR 34-505/HG	T-8/53
HM90 E90A-D20-2-MMT12	20.00	2	10.00	38.30	7.5	24.60	T12	16.0	19.20	0.05	SR 34-505/HG	T-8/53
HM90 E90A-D20-3-MMT12	20.00	3	10.00	38.30	7.5	24.60	T12	16.0	19.20	0.05	SR 34-505/HG	T-8/53

• Do not apply lubricant to the MULTI-MASTER threaded connection • For adaptation, see page 39 • For user guide, see pages 517-524

(1) Number of inserts

(2) Maximum ramping angle

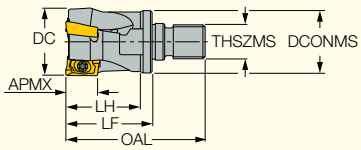
(3) Clamping wrench size

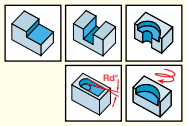
For inserts, see pages: APCR 1003PDFR-P (436) • APCT 1003PDR-HM (435) • APKR 1003PDR-HM (436) • APKT 1003..R (438) • APKT 1003..TR-RM (437) • APKT 1003PDR-HM (436) • APKT 1003PDTR-76 (437) • APKT 1003PDTR/L-RM (437) • APKT 1003R8T-FF (439) • APKW 100304 PDR (PCD) (435) • HM90 APCR 100304PDFR-P/DP (435) • HM90 APCT 1003 (434) • HM90 APKT 1003 (434) • HM90 APKT 1003PD-W (438) • HM90 APKW 1003PDR (438)
For holders, see pages: MM S-A (stepped shanks) (70) • MM S-A (straight shanks) (73) • MM S-A-C# (72) • MM S-A-HSK (76) • MM S-A-N (71) • MM S-A-SK (76) • MM S-B (85° conical shanks) (73) • MM S-D (89° conical shanks) (74) • MM TS-A (72)

FLEXFIT HELi2000

HM90 E90A-M-10

90° Endmills with a FLEXFIT Threaded Adaptation Carrying HM90 AP.. 1003... Inserts





Designation	DC	CICT(1)	DCONMS	THSZMS	LH	LF	OAL	APMX	RMPX(2)	CSP(3)	kg
HM90 E90A-D16-2-M08	16.00	2	14.75	M08	24.0	30.00	47.50	10.00	15.0	0	0.03
HM90 E90A-D20-3-M10	20.00	3	18.00	M10	30.0	30.00	50.00	10.00	7.5	1	0.05
HM90 E90A-D20-3-M12	20.00	3	21.00	M12	24.0	30.00	52.00	10.00	7.5	1	0.06
HM90 E90A-D25-3-M12	25.00	3	21.00	M12	35.0	35.00	57.00	10.00	2.5	1	0.08
HM90 E90A-D25-4-M12	25.00	4	21.00	M12	35.0	35.00	57.00	10.00	2.5	1	0.08
HM90 E90A-D32-4-M16	32.00	4	29.00	M16	35.0	35.00	60.00	10.00	3.0	1	0.16

• For adaptation, see page 39 • For user guide, see pages 517-524

(1) Number of inserts

(2) Maximum ramping angle

(3) 0 - Without coolant supply, 1 - With coolant supply

For inserts, see pages: APCR 1003PDFR-P (436) • APCT 1003PDR-HM (435) • APKR 1003PDR-HM (436) • APKT 1003..R (438) • APKT 1003..TR-RM (437) • APKT 1003PDR-HM (436) • APKT 1003PDTR-76 (437) • APKT 1003PDTR/L-RM (437) • APKT 1003R8T-FF (439) • APKW 100304 PDR (PCD) (435) • HM90 APCR 100304PDFR-P/DP (435) • HM90 APCT 1003 (434) • HM90 APKT 1003 (434) • HM90 APKT 1003PD-W (438) • HM90 APKW 1003PDR (438)
For holders, see pages: BT-ODP (FLEXFIT) (1030) • C#-ODP (FLEXFIT) (1001) • CAB M-M (FLEXFIT) (1046) • DIN69871-ODP (308) • ER-ODP (1048) • HSK A-ODP (FLEXFIT) (309) • S M (1045) • S M-C-H (1045) • S M-CF (1046)

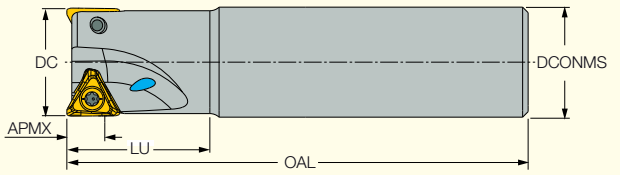
Spare Parts

Designation				
HM90 E90A-D16-2-M08	SR 34-505/HG	T-8/53		
HM90 E90A-D20-3-M10	SR 34-505/HG	T-8/53		
HM90 E90A-D20-3-M12	SR 34-505/HG	T-8/53		
HM90 E90A-D25-3-M12	SR 34-505/HG	T-8/53		
HM90 E90A-D25-4-M12	SR 34-505/HG		SW4-SD	BLD T08/M7
HM90 E90A-D32-4-M16	SR 34-505/HG	T-8/53		

HELIDO 690 LINE

H690 E90AX-10

90° Endmills Carrying H690 TNKX 1005..Triangular Inserts with 6 Helical Cutting Edges



Designation	DC	CICT(1)	APMX	OAL	LU	DCONMS	Shank(2)	RMPX(3)	kg			
H690 E90AX D20-2-C20-10	20.00	2	8.00	110.00	26.0	20.00	C	2.8	0.23	SR 10508082-HG	BLD T08/M7	SW4-SD
H690 E90AX D20-2-W20-10	20.00	2	8.00	90.00	26.0	20.00	W	2.8	0.18	SR 10508082-HG	BLD T08/M7	SW4-SD
H690 E90AX D20-3-C20-10	20.00	3	8.00	110.00	26.0	20.00	C	2.8	0.23	SR 10508082-HG	BLD T08/M7	SW4-SD
H690 E90AX D20-3-W20-10	20.00	3	8.00	90.00	26.0	20.00	W	2.8	0.18	SR 10508082-HG	BLD T08/M7	SW4-SD
H690 E90AX D25-3-C25-10	25.00	3	8.00	120.00	26.0	25.00	C	2.6	0.39	SR 10508082-HG	BLD T08/M7	SW4-SD
H690 E90AX D25-3-W25-10	25.00	3	8.00	95.00	26.0	25.00	W	2.6	0.29	SR 10508082-HG	BLD T08/M7	SW4-SD
H690 E90AX D25-4-C25-10	25.00	4	8.00	120.00	26.0	25.00	C	2.6	0.39	SR 10508082-HG	BLD T08/M7	SW4-SD
H690 E90AX D25-4-W25-10	25.00	4	8.00	95.00	26.0	25.00	W	2.6	0.30	SR 10508082-HG	BLD T08/M7	SW4-SD
H690 E90AX D32-4-C32-10	32.00	4	8.00	130.00	30.0	32.00	C	1.6	0.72	SR 10508082-HG	BLD T08/M7	SW4-SD
H690 E90AX D32-4-W32-10	32.00	4	8.00	110.00	30.0	32.00	W	1.6	0.60	SR 10508082-HG	BLD T08/M7	SW4-SD
H690 E90AX D32-5-C32-10	32.00	5	8.00	130.00	30.0	32.00	C	1.6	0.71	SR 10508082-HG	BLD T08/M7	SW4-SD
H690 E90AX D32-5-W32-10	32.00	5	8.00	110.00	30.0	32.00	W	1.6	0.59	SR 10508082-HG	BLD T08/M7	SW4-SD
H690 E90AX D40-5-C32-10	40.00	5	8.00	130.00	38.0	32.00	C	1.1	0.75	SR 10508082-HG	BLD T08/M7	SW4-SD
H690 E90AX D40-5-W32-10	40.00	5	8.00	110.00	38.0	32.00	W	1.1	0.63	SR 10508082-HG	BLD T08/M7	SW4-SD

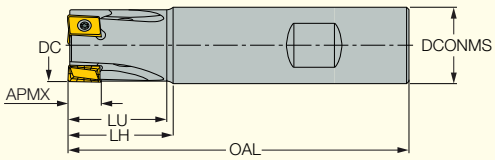
• For user guide, see pages 517-524
(1) Number of inserts
(2) C-Cylindrical, W-Weldon
(3) Maximum ramping angle

For inserts, see pages: H690 TNKX/TNCX 1005 (457)

HELITANG T490 LINE

T490 ELN-11

90° Endmills Carrying T490 LN#T 11... Tangentially Clamped Inserts



Designation	DC	CICT(4)	LH	LU	APMX	OAL	DCONMS	Shank(5)	RMPX(6)	kg			
T490 ELN D22-2-W25-11 (1)	22.00	2	35.0	33.0	9.00	95.00	25.00	W	-	0.29	SR 34-535-SN/L9.3	BLD T15/S7(a)	SW6-SD
T490 ELN D25-3-C24-11B (2)	25.00	3	35.0	33.0	9.00	200.00	24.00	C	1.7	0.64	SR 34-535/L9.5-SN	BLD T15/S7(a)	SW6-SD
T490 ELN D25-3-C25-11 (3)	25.00	3	35.0	33.0	9.00	120.00	25.00	C	1.7	0.40	SR 34-535/L9.5-SN	BLD T15/S7(a)	SW6-SD
T490 ELN D25-3-W25-11 (3)	25.00	3	35.0	33.0	9.00	95.00	25.00	W	1.7	0.30	SR 34-535/L9.5-SN	BLD T15/S7(a)	SW6-SD
T490 ELN D32-3-C32-11	32.00	3	40.0	38.0	9.00	130.00	32.00	C	1.5	0.73	SR 34-535-SN	BLD T15/S7(a)	SW6-SD
T490 ELN D32-3-C32-11B (2)	32.00	3	40.0	38.0	9.00	200.00	32.00	C	1.5	1.16	SR 34-535-SN	BLD T15/S7(a)	SW6-SD
T490 ELN D32-3-W32-11	32.00	3	40.0	38.0	9.00	110.00	32.00	W	1.5	0.60	SR 34-535-SN	BLD T15/S7(a)	SW6-SD
T490 ELN D32-4-C32-11	32.00	4	40.0	38.0	9.00	130.00	32.00	C	1.5	0.73	SR 34-535-SN	BLD T15/S7(a)	SW6-SD
T490 ELN D32-4-W32-11	32.00	4	40.0	38.0	9.00	110.00	32.00	W	1.5	0.60	SR 34-535-SN	BLD T15/S7(a)	SW6-SD
T490 ELN D40-4-C32-11	40.00	4	44.0	38.0	9.00	130.00	32.00	C	1.4	0.84	SR 34-535-SN	BLD T15/S7(a)	SW6-SD
T490 ELN D40-4-W32-11	40.00	4	44.0	38.0	9.00	115.00	32.00	W	1.4	0.75	SR 34-535-SN	BLD T15/S7(a)	SW6-SD
T490 ELN D40-5-C32-11	40.00	5	44.0	38.0	9.00	130.00	32.00	C	1.4	0.83	SR 34-535-SN	BLD T15/S7(a)	SW6-SD

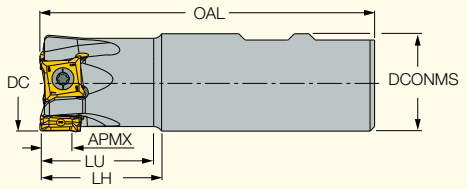
• Important: Maximum clamping torque 3.2 N*m
(1) **Recommended cutting conditions:** at ap=6 mm, fz=0.12 mm/t at ap=8 mm, fz=0.10 mm/t
(2) Long cylindrical shank
(3) **Recommended cutting conditions:** at ap=6 mm, fz=0.15 mm/t at ap=8 mm, fz=0.12 mm/t
(4) Number of inserts
(5) C-Cylindrical, W-Weldon
(6) Maximum ramping angle - valid only with T490 LNHT 1106PNTR-RD insert

(a) Recommended key handle for limiting torque to 3.2 N*m for this item is HSD 4-3.2NM (to be used with BLD 4 T15-4.8 blade)
For inserts, see pages: T490 LNMT/LNHT 1106 (461)

LOGIQ8TANG
T890 MILLING LINE

T890HT ELN-R13

90° Endmills Carrying T890 LN.T 1306... Tangentially Clamped Inserts with 8 Cutting Edges



Designation	DC	APMX	CICT(1)	DCONMS	Shank(2)	LU	LH	OAL	kg
T890HT ELN D32-3-C32-13	32.00	9.50	3	32.00	C	37.4	40.0	130.00	0.68
T890HT ELN D32-3-C32-13B	32.00	9.50	3	32.00	C	47.4	50.0	250.00	1.43
T890HT ELN D32-3-W32-13	32.00	9.50	3	32.00	W	37.4	40.0	110.00	0.56
T890HT ELN D40-4-C32-13	40.00	9.50	4	32.00	C	-	44.0	130.00	0.12
T890HT ELN D40-4-W32-13	40.00	9.50	4	32.00	W	-	40.0	115.00	0.69

(1) Number of inserts
(2) C-Cylindrical, W-Weldon

For inserts, see pages: T890 LNHT/LNAT 1306 (460)

Spare Parts

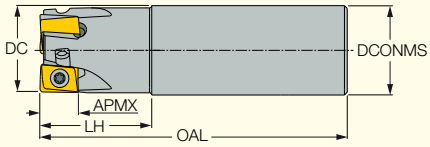
Designation			
T890HT ELN-R13	SR 10513105(a)	BLD IP20/M7	SW6-T-SH

(a) Recommended tightening torque: 8.0 N*m (71.0 lbf*in)

HELIDO
490 LINE

H490 E90AX-12

90° Endmills Carrying H490 ANKX 12...Double-Sided Rectangular Inserts with 4 Helical Cutting Edges



Designation	DC	CICT(1)	APMX	OAL	LH	DCONMS	Shank(2)	RMPX(3)	kg			
H490 E90AX D25-2-C25-12	25.00	2	12.00	110.00	35.0	25.00	C	1.5	0.36	SR 14-544/S	SW6-T	BLD T15/M7
H490 E90AX D25-2-W25-12	25.00	2	12.00	110.00	35.0	25.00	W	1.5	0.35	SR 14-544/S	SW6-T	BLD T15/M7
H490 E90AX D32-3-C32-12	32.00	3	12.00	110.00	40.0	32.00	C	4.0	0.60	SR 14-544	SW6-T	BLD T15/M7
H490 E90AX D32-3-W32-12	32.00	3	12.00	110.00	40.0	32.00	W	4.0	0.59	SR 14-544	SW6-T	BLD T15/M7
H490 E90AX D40-4-C32-12	40.00	4	12.00	130.00	40.0	32.00	C	1.5	0.83	SR 14-544	SW6-T	BLD T15/M7
H490 E90AX D40-4-W32-12	40.00	4	12.00	115.00	40.0	32.00	W	1.5	0.73	SR 14-544	SW6-T	BLD T15/M7

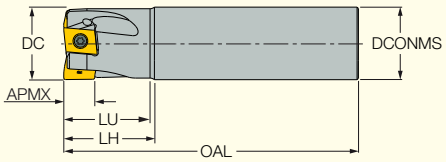
• For user guide, see pages 517-524
(1) Number of inserts
(2) C-Cylindrical, W-Weldon
(3) Maximum ramping angle - valid only when the H490 ANKX1205R 15T-FF insert is used

For inserts, see pages: H490 ANKX 1205-FF (455) • H490 ANKX/ANCX-12 (455)

HELITANG T490 LINE

T490 ELN-13

90° Endmills Carrying Tangentially Clamped Inserts with 4 Helical, 12.5 mm Long Cutting Edges



Designation	DC	CICT(3)	OAL	LH	LU	APMX	DCONMS	Shank(4)	RMPX(5)	kg			
T490 ELN D25-2-C25-13 (1)	25.00	2	120.00	35.0	33.0	12.50	25.00	C	-	0.39	SR M4.5-10507218	BLD T15/S7	SW6-T-SH
T490 ELN D25-2-W25-13 (1)	25.00	2	95.00	35.0	33.0	12.50	25.00	W	-	0.30	SR M4.5-10507218	BLD T15/S7	SW6-T-SH
T490 ELN D32-3-C32-13	32.00	3	130.00	40.0	38.0	12.50	32.00	C	2.8	0.72	SR 34-535-SN	BLD T15/S7	SW6-T-SH
T490 ELN D32-3-C32-13B (2)	32.00	3	250.00	50.0	48.0	12.50	32.00	C	2.8	1.44	SR 34-535-SN	BLD T15/S7	SW6-T-SH
T490 ELN D32-3-W32-13	32.00	3	110.00	40.0	38.0	12.50	32.00	W	2.8	0.59	SR 34-535-SN	BLD T15/S7	SW6-T-SH
T490 ELN D40-3-C40-13B (2)	40.00	3	250.00	50.0	48.0	12.50	40.00	C	2.0	2.25	SR 34-535-SN	BLD T15/S7	SW6-T-SH
T490 ELN D40-4-C32-13	40.00	4	130.00	40.0	-	12.50	32.00	C	2.0	0.81	SR 34-535-SN	BLD T15/S7	SW6-T-SH
T490 ELN D40-4-W32-13	40.00	4	115.00	40.0	-	12.50	32.00	W	2.0	0.72	SR 34-535-SN	BLD T15/S7	SW6-T-SH
T490 ELN D50-4-C32-13	50.00	4	130.00	36.5	-	12.50	32.00	C	1.5	0.96	SR 34-535-SN	BLD T15/S7	SW6-T-SH
T490 ELN D50-5-C32-13	50.00	5	130.00	36.5	-	12.50	32.00	C	1.5	0.96	SR 34-535-SN	BLD T15/S7	SW6-T-SH

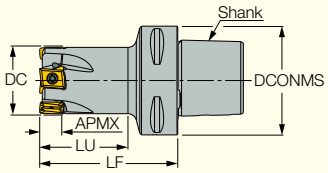
• For user guide, see pages 517-524
(1) **Cutting recommendations:** at ap=5, fz=0.15 at ap=10, fz=0.1
(2) "B" suffix for long cylindrical shank which may be shortened.
(3) Number of inserts
(4) C-Cylindrical, W-Weldon
(5) Maximum ramping angle - valid only when T490 LNHT 1306 PNTR-RD insert is used

For inserts, see pages: T490 LNAR (464) • T490 LNMT 1306PNR-FF (463) • T490 LNMT 1306PNTR-FW (463) • T490 LNMT/LNHT 1306 (462)

HELITANG CAMFIX T490 LINE

T490 ELN-C#-13

90° Endmills with CAMFIX Shanks Carrying Tangentially Clamped Inserts with 4 Helical, 12.5 mm Long Cutting Edges



Designation	DC	APMX	CICT(1)	LU	LF	RMPX(2)	DCONMS	Shank	kg			
T490 ELN D40-4-L80C6-R-13	40.00	12.50	4	51.0	80.00	2.0	63.00	CAMFIX	1.33	SR 34-535-SN	BLD T15/S7	SW6-T-SH

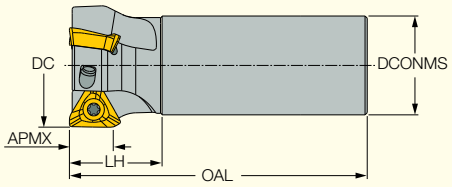
• For user guide, see pages 517-524
(1) Number of inserts
(2) Maximum ramping angle - valid only when T490 LNHT 1306 PNTR-RD insert is used

For inserts, see pages: T490 LNAR (464) • T490 LNMT 1306PNR-FF (463) • T490 LNMT 1306PNTR-FW (463) • T490 LNMT/LNHT 1306 (462)
For holders, see pages: HSK-C# (981)

HELI3MILL HM390 LINE

HM390 ETD-15

90° Endmills Carrying HM390 TDKT 1505 Triangular Inserts with 3 Helical Cutting Edges



Designation	DC	APMX	CICT(1)	OAL	LH	DCONMS	RMPX(2)	kg			
HM390 ETD D040-3-C32-15	40.00	13.00	3	130.00	40.0	32.00	2.1	0.71	SR 10511869	BLD IP20/S7	SW6-T
HM390 ETD D040-4-C32-15	40.00	13.00	4	130.00	30.0	32.00	2.1	0.73	SR 10511869	BLD IP20/S7	SW6-T
HM390 ETD D050-4-C32-15	50.00	13.00	4	130.00	40.0	32.00	1.6	0.84	SR 10505427	BLD IP20/S7	SW6-T

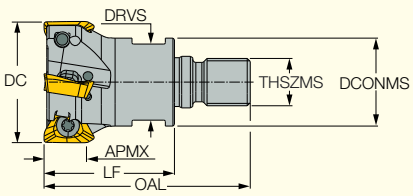
• For user guide, see pages 517-524
(1) Number of inserts
(2) Maximum ramping angle

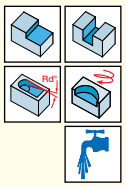
For inserts, see pages: HM390 TDKT/CT 1505 (433)

HELI3MILL FLEXFIT
HM390 LINE

HM390 ETD-M

90° Endmills with a FLEXFIT Threaded Adaptation Carrying HM390 TDKT 1505 Triangular Inserts





Designation	DC	APMX	CICT(1)	LF	DCONMS	THSZMS	OAL	DRVS(2)	RMPX(3)	kg			
HM390 ETD D040-4-M16	40.00	13.00	4	43.00	29.00	M16	68.00	25.0	2.1	0.22	SR 10511869	BLD IP20/S7	SW6-T

• For adaptation, see page 39 • For user guide, see pages 517-524

(1) Number of inserts

(2) Clamping wrench size

(3) Maximum ramping angle

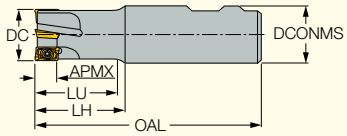
For inserts, see pages: HM390 TDKT/CT 1505 (433)

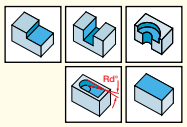
For holders, see pages: BT-ODP (FLEXFIT) (1030) • C#-ODP (FLEXFIT) (1001) • CAB M-M (FLEXFIT) (1046) • DIN69871-ODP (308) • HSK A-ODP (FLEXFIT) (309) • S M (1045) • S M-C-H (1045) • S M-CF (1046)

HELI2000

HM90 E90AD-15

90° Endmills Carrying HM90 ADKT-1505... Inserts





Designation	DC	CICT(1)	APMX	OAL	LH	LU	RMPX(2)	DCONMS	Shank(3)	CSP(4)	kg			
HM90 E90AD-D20-1-C20	20.00	1	14.30	110.00	35.0	34.0	3.0	20.00	C	0	0.24	SR 14-544/S	SW6-SD	BLD T15/M7
HM90 E90AD-D25-2-C24-B	25.00	2	14.30	200.00	30.0	-	11.5	24.00	C	0	0.67	SR 14-544/S	SW6-SD	BLD T15/M7
HM90 E90AD-D25-2-C25	25.00	2	14.30	110.00	35.0	34.0	11.5	25.00	C	0	0.37	SR 14-544/S	SW6-SD	BLD T15/M7
HM90 E90AD-D25-2-C25-B	25.00	2	14.30	200.00	50.0	49.0	11.5	25.00	C	0	0.71	SR 14-544/S	SW6-SD	BLD T15/M7
HM90 E90AD-D25-2-C25-C	25.00	2	14.30	110.00	35.0	34.0	11.5	25.00	C	1	0.34	SR 14-544/S	SW6-SD	BLD T15/M7
HM90 E90AD-D25-2-C25-XL	25.00	2	14.30	150.00	35.0	34.0	11.5	25.00	C	0	0.53	SR 14-544/S	SW6-SD	BLD T15/M7
HM90 E90AD-D25-2-W25	25.00	2	14.30	100.00	35.0	34.0	11.5	25.00	W	0	0.33	SR 14-544/S	SW6-SD	BLD T15/M7
HM90 E90AD-D25-2-W25-C	25.00	2	14.30	100.00	35.0	34.0	11.5	25.00	W	1	0.30	SR 14-544/S	SW6-SD	BLD T15/M7
HM90 E90AD-D25-2-W25-XL	25.00	2	14.30	150.00	70.0	69.0	11.5	25.00	W	0	0.51	SR 14-544/S	SW6-SD	BLD T15/M7
HM90 E90AD-D32-2-C32	32.00	2	14.30	120.00	40.0	38.0	5.3	32.00	C	0	0.68	SR 14-544/S	SW6-SD	BLD T15/M7
HM90 E90AD-D32-3-C31-B	32.00	3	14.30	250.00	30.0	-	5.3	31.00	C	0	1.41	SR 14-544/S	SW6-SD	BLD T15/M7
HM90 E90AD-D32-3-C32	32.00	3	14.30	120.00	40.0	38.0	5.3	32.00	C	0	0.67	SR 14-544/S	SW6-SD	BLD T15/M7
HM90 E90AD-D32-3-C32-B	32.00	3	14.30	250.00	50.0	48.0	5.3	32.00	C	0	1.48	SR 14-544/S	SW6-SD	BLD T15/M7
HM90 E90AD-D32-3-C32-C	32.00	3	14.30	120.00	40.0	38.0	5.3	32.00	C	1	0.63	SR 14-544/S	SW6-SD	BLD T15/M7
HM90 E90AD-D32-3-C32-XL	32.00	3	14.30	160.00	40.0	38.0	5.3	32.00	C	0	0.92	SR 14-544/S	SW6-SD	BLD T15/M7
HM90 E90AD-D32-3-W32	32.00	3	14.30	110.00	40.0	38.3	5.3	32.00	W	0	0.59	SR 14-544/S	SW6-SD	BLD T15/M7
HM90 E90AD-D32-3-W32-C	32.00	3	14.30	110.00	40.0	38.3	5.3	32.00	W	1	0.56	SR 14-544/S	SW6-SD	BLD T15/M7
HM90 E90AD-D32-3-W32-XL	32.00	3	14.30	160.00	40.0	38.3	5.3	32.00	W	0	0.91	SR 14-544/S	SW6-SD	BLD T15/M7
HM90 E90AD-D40-3-C40-B	40.00	3	14.30	250.00	50.0	48.0	4.0	40.00	C	0	2.34	SR 14-544/S	SW6-SD	BLD T15/M7
HM90 E90AD-D40-3-W40-XL	40.00	3	14.30	200.00	80.0	78.0	4.0	40.00	W	0	1.81	SR 14-544/S	SW6-SD	BLD T15/M7
HM90 E90AD-D40-4-C32	40.00	4	14.30	130.00	40.0	-	4.0	32.00	C	0	0.82	SR 14-544/S	SW6-SD	BLD T15/M7
HM90 E90AD-D40-4-W32	40.00	4	14.30	115.00	40.0	-	4.0	32.00	W	0	0.73	SR 14-544/S	SW6-SD	BLD T15/M7
HM90 E90AD-D40-4-W32-C	40.00	4	14.30	115.00	40.0	-	4.0	32.00	W	1	0.69	SR 14-544/S	SW6-SD	BLD T15/M7

• For user guide, see pages 517-524

(1) Number of inserts

(2) Maximum ramping angle

(3) C-Cylindrical, W-Weldon

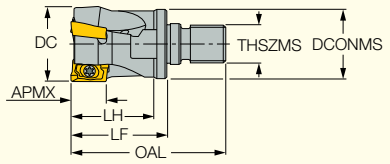
(4) 0 - Without coolant supply, 1 - With coolant supply

For inserts, see pages: ADCR 1505PDFR (441) • ADCT 1505PDFR-HM (442) • ADKR 1505PDR/L-HM (441) • ADKT 1505-FF (444) • ADKT 1505..R/L-HM (444) • ADKT 1505PD-W (445) • ADKT 1505PDR/L-HM (443) • ADKT 1505PDTR-76 (444) • ADKT 1505PDTR/L-RM (443) • ADKW (CBN) (442) • ADKW (PCD) (442) • ADMT 1505PDR-HS (443) • HM90 ADCR 1505PDFR-P (441) • HM90 ADCT 1505 (440) • HM90 ADCT 1505PDR-CF (440) • HM90 ADKT 1505PD-W (445) • HM90 ADKW 1505PDR (447)

HELi2000 FLEXFIT

HM90 E90AD-M-15

90° Endmills with a FLEXFIT Threaded Adaptation Carrying HM90 ADKT-1505... Inserts



Designation	DC	CICT(1)	APMX	DCONMS	THSZMS	LH	LF	OAL	RMPX(2)	kg			
HM90 E90AD-D25-2-M12	25.00	2	14.30	21.00	M12	30.8	35.00	57.00	11.5	0.08	SR 14-544/S	SW6-SD	BLD T15/M7
HM90 E90AD-D32-3-M16	32.00	3	14.30	29.00	M16	40.0	40.00	65.00	5.3	0.16	SR 14-544/S	SW6-SD	BLD T15/M7
HM90 E90AD-D40-4-M16	40.00	4	14.30	29.00	M16	40.0	40.00	65.00	4.0	0.21	SR 14-544/S	SW6-SD	BLD T15/M7

• For adaptation, see page 39 • For user guide, see pages 517-524

(1) Number of inserts

(2) Maximum ramping angle

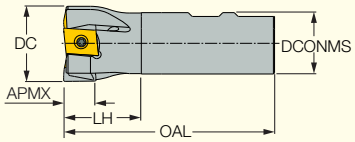
For inserts, see pages: ADCR 1505PDFR (441) • ADCT 1505PDFR-HM (442) • ADKR 1505PDR/L-HM (441) • ADKT 1505-FF (444) • ADKT 1505..R/L-HM (444) • ADKT 1505PD-W (445) • ADKT 1505PDR/L-HM (443) • ADKT 1505PDTR-76 (444) • ADKT 1505PDTR/L-RM (443) • ADKW (CBN) (442) • ADKW (PCD) (442) • ADMT 1505PDR-HS (443) • HM90 ADCR 1505PDFR-P (441) • HM90 ADCT 1505 (440) • HM90 ADCT 1505PDR-CF (440) • HM90 ADKT 1505PD-W (445) • HM90 ADKW 1505PDR (447)

For holders, see pages: BT-ODP (FLEXFIT) (1030) • C#-ODP (FLEXFIT) (1001) • CAB M-M (FLEXFIT) (1046) • DIN69871-ODP (308) • ER-ODP (1048) • HSK A-ODP (FLEXFIT) (309) • S M (1045) • S M-C-H (1045) • S M-CF (1046)

HELiTANG T490 LINE

T490 ELN-16

90° Endmills Carrying Tangentially Clamped Inserts with 4 Helical, 16 mm Long Cutting Edges



Designation	DC	CICT(1)	APMX	LH	OAL	DCONMS	Shank(2)	kg			
T490 ELN D32-2-C32-16	32.00	2	16.00	41.0	130.00	32.00	C	0.70	SR 14-591-S	BLD T20/M7	SW6-T
T490 ELN D32-2-W32-16	32.00	2	16.00	41.0	130.00	32.00	W	0.70	SR 14-591-S	BLD T20/M7	SW6-T
T490 ELN D40-3-C32-16	40.00	3	16.00	40.0	130.00	32.00	C	0.76	SR 14-591	BLD T20/M7	SW6-T
T490 ELN D40-3-W32-16	40.00	3	16.00	40.0	110.00	32.00	W	0.64	SR 14-591	BLD T20/M7	SW6-T

• For user guide, see pages 517-524

(1) Number of inserts

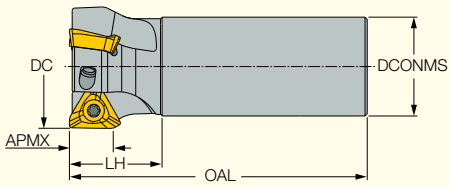
(2) C-Cylindrical, W-Weldon

For inserts, see pages: T490 LNAR (464) • T490 LNMT/LNHT 1607 (464)

HELi3MILL HM390 LINE

HM390 ETD-19

90° Endmills Carrying HM390 TDKT 1907 Triangular Inserts with 3 Helical Cutting Edges



Designation	DC	APMX	CICT(1)	OAL	LH	DCONMS	RMPX(2)	Shank(3)	kg			
HM390 ETD D040-2-C32-19	40.00	16.00	2	130.00	45.0	32.00	2.0	C	0.69	SR 14-591/L12	BLD T20/S7	SW6-T

• For user guide, see pages 517-524

(1) Number of inserts

(2) Maximum ramping angle

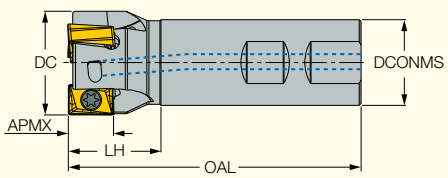
(3) C-Cylindrical

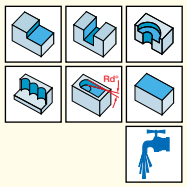
For inserts, see pages: HM390 TDKT 1907 (433)

HELIDO 490 LINE

H490 E90AX-17

90° Endmills Carrying H490 ANKX 17... Double-Sided Rectangular Inserts with 4 Helical Cutting Edges





Designation	DC	CICT(1)	APMX	OAL	LH	DCONMS	Shank(2)	RMPX(3)	kg			
H490 E90AX D32-2-C32-17	32.00	2	16.30	130.00	44.0	32.00	C	6.5	0.70	SR 14-591	SW6-T	BLD T20/M7
H490 E90AX D32-2-W32-17	32.00	2	16.30	95.00	30.0	32.00	W	6.5	0.50	SR 14-591	SW6-T	BLD T20/M7
H490 E90AX D40-3-C32-17	40.00	3	16.30	130.00	44.0	32.00	C	4.4	0.76	SR 14-591	SW6-T	BLD T20/M7
H490 E90AX D40-3-W32-17	40.00	3	16.30	110.00	35.0	32.00	W	4.4	0.64	SR 14-591	SW6-T	BLD T20/M7
H490 E90AX D50-4-C32-17	50.00	4	16.30	120.00	40.0	32.00	C	3.8	0.81	SR 14-591	SW6-T	BLD T20/M7

• Rampdown angle is valid only when the H490 ANKX1706R15T-FF insert is used and tool diameter is 1.5 mm larger. • For user guide, see pages 517-524

(1) Number of inserts

(2) C-Cylindrical, W-Weldon

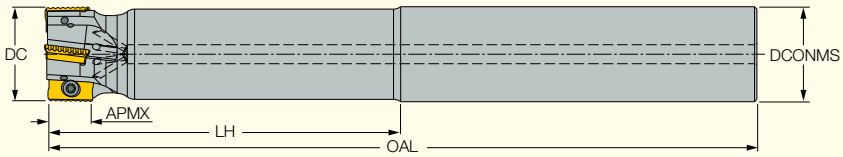
(3) Maximum ramping angle

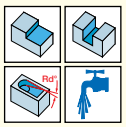
For inserts, see pages: H490 ANKX 1706-FF (457) • H490 ANKX/ANCX-17 (457)

MILLSHRED P290 LINE

P290 EPW

Long Reach Endmills Carrying 12 and 18 mm Long Edged Inserts





Designation	DC	APMX	CICT(1)	LH	OAL	DCONMS	Shank(2)	RMPX(3)	kg
P290 EPW D20-2-100-W20-12	20.00	12.00	2	40.0	100.00	20.00	W	2.0	0.20
P290 EPW D25-3-130-W25-12	25.00	12.00	3	70.0	130.00	25.00	W	1.4	0.39
P290 EPW D25-3-160-C25-12	25.00	12.00	3	90.0	160.00	25.00	C	1.4	0.47
P290 EPW D25-3-200-C25-12	25.00	12.00	3	120.0	200.00	25.00	C	1.4	0.62
P290 EPW D32-4-130-W25-12	32.00	12.00	4	-	130.00	25.00	W	1.0	0.46
P290 EPW D32-4-150-C25-12	32.00	12.00	4	-	150.00	25.00	C	1.0	0.54
P290 EPW D25-2-120-W25-18	25.00	18.00	2	60.0	120.00	25.00	W	2.5	0.36
P290 EPW D32-3-170-W32-18	32.00	18.00	3	100.0	170.00	32.00	W	2.0	0.84
P290 EPW D32-3-210-C32-18	32.00	18.00	3	130.0	210.00	32.00	C	2.0	1.06
P290 EPW D32-3-240-C32-18	32.00	18.00	3	160.0	240.00	32.00	C	2.0	1.22
P290 EPW D40-4-170-W32-18	40.00	18.00	4	-	170.00	32.00	W	1.5	0.95
P290 EPW D40-4-200-C32-18	40.00	18.00	4	-	200.00	32.00	C	1.5	1.13
P290 EPW D40-4-250-W40-18	40.00	18.00	4	150.0	250.00	40.00	W	1.5	2.08

• For user guide see pages 517-524

(1) Number of inserts

(2) C-Cylindrical, W-Weldon

(3) Maximum ramping angle

For inserts, see pages: P290 ACCT/KT (446) • P290 ACKT (446)

Spare Parts

Designation				
P290 EPW D20-2-100-W20-12	SR M3X0.5-L7.4 IP9(a)	IP-9/151		
P290 EPW D25-3-130-W25-12	SR M3X0.5-L7.4 IP9(a)	IP-9/151		
P290 EPW D25-3-160-C25-12	SR M3X0.5-L7.4 IP9(a)	IP-9/151		
P290 EPW D25-3-200-C25-12	SR M3X0.5-L7.4 IP9(a)	IP-9/151		
P290 EPW D32-4-130-W25-12	SR M3X0.5-L7.4 IP9(a)	IP-9/151		
P290 EPW D32-4-150-C25-12	SR M3X0.5-L7.4 IP9(a)	IP-9/151		
P290 EPW D25-2-120-W25-18	SR 14-544/S (b)		BLD T15/M7	SW6-T
P290 EPW D32-3-170-W32-18	SR 14-544/S (b)		BLD T15/M7	SW6-T
P290 EPW D32-3-210-C32-18	SR 14-544/S (b)		BLD T15/M7	SW6-T
P290 EPW D32-3-240-C32-18	SR 14-544/S (b)		BLD T15/M7	SW6-T
P290 EPW D40-4-170-W32-18	SR 14-544/S (b)		BLD T15/M7	SW6-T
P290 EPW D40-4-200-C32-18	SR 14-544/S (b)		BLD T15/M7	SW6-T
P290 EPW D40-4-250-W40-18	SR 14-544/S (b)		BLD T15/M7	SW6-T

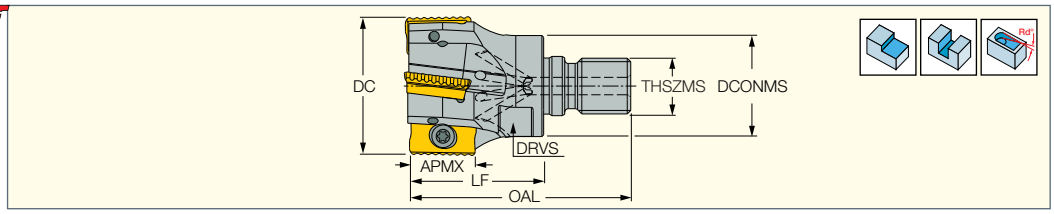
(a) Recommended tightening torque:2.0 N*m

(b) Recommended tightening torque:4.8 N*m

MILLSHRED FLEXFIT
P290 LINE

P290 EPW-M

Endmills with FLEXFIT Threaded Adaptation Carrying 12 and 18 mm Long Edged Inserts



Designation	DC	APMX	CICT(1)	LF	OAL	THSZMS	DCONMS	DRVS(2)	RMPX(3)	CSP(4)	kg
P290 EPW D20-2-M10-12	20.00	12.00	2	25.00	45.00	M10	18.00	15.0	2.0	0	0.04
P290 EPW D25-3-M12-12	25.00	12.00	3	30.00	52.00	M12	21.00	19.0	1.4	1	0.07
P290 EPW D32-4-M16-12	32.00	12.00	4	35.00	60.00	M16	29.00	25.0	1.0	1	0.16
P290 EPW D32-3-M16-18	32.00	18.00	3	40.00	65.00	M16	29.00	25.0	2.0	1	0.15
P290 EPW D40-4-M16-18	40.00	18.00	4	40.00	65.00	M16	29.00	25.0	1.5	1	0.20

• For adaptation, see page 39 • For user guide, see pages 517-524

(1) Number of inserts
(2) Clamping wrench size
(3) Maximum ramping angle
(4) 0 - Without coolant supply, 1 - With coolant supply

For inserts, see pages: P290 ACCT/KT (446) • P290 ACKT (446)
For holders, see pages: BT-ODP (FLEXFIT) (1030) • C#-ODP (FLEXFIT) (1001) • CAB M-M (FLEXFIT) (1046) • DIN69871-ODP (308) • ER-ODP (1048) • HSK A-ODP (FLEXFIT) (309) • S M (1045) • S M-C-H (1045) • S M-CF (1046)

Spare Parts

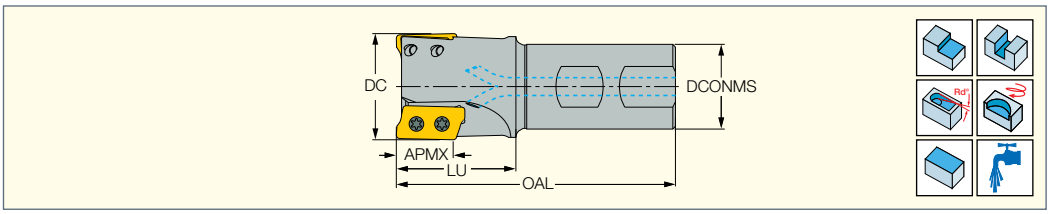
Designation				
P290 EPW D20-2-M10-12	SR M3X0.5-L7.4 IP9(a)	IP-9/151		
P290 EPW D25-3-M12-12	SR M3X0.5-L7.4 IP9(a)	IP-9/151		
P290 EPW D32-4-M16-12	SR M3X0.5-L7.4 IP9(a)	IP-9/151		
P290 EPW D32-3-M16-18	SR 14-544/S(b)		BLD T15/M7	SW6-T
P290 EPW D40-4-M16-18	SR 14-544/S(b)		BLD T15/M7	SW6-T

(a) Recommended tightening torque:2.0 N*m
(b) Recommended tightening torque:4.8 N*m

HELiPLUS

HP E90AT-19

90° Endmills Carrying HP AD.. 1906.. Inserts



Designation	DC	CICT(1)	APMX	OAL	LU	RMPX(2)	DCONMS	Shank(3)	kg			
HP E90AT-D25-2-W25-19	25.00	2	18.00	100.00	40.0	14.0	25.00	W	0.30	SR 14-571/L	SW6-SD	BLD T10/S7
HP E90AT-D32-3-W32-19	32.00	3	18.00	105.00	40.0	7.0	32.00	W	0.52	SR 14-571/L	SW6-SD	BLD T10/S7

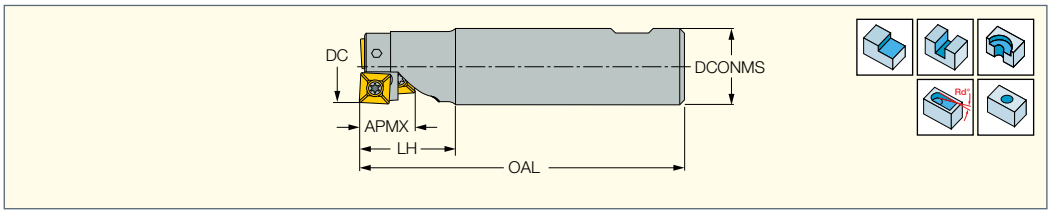
• First loosely attach the inner clamping screw, then the outer one. In the same order tighten them both. • For user guide, see pages 517-524

(1) Number of inserts
(2) Maximum ramping angle
(3) W-Weldon

For inserts, see pages: HP ADCR 1906 (449) • HP ADKT 1906 (449)

HELiQUAD

E90XC
Drilling Endmills Carrying Square S/XOMT Inserts



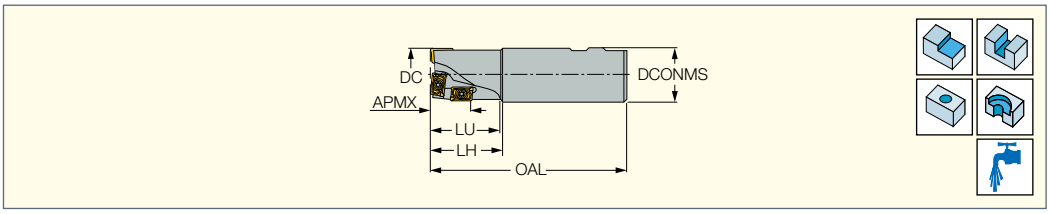
Designation	DC	CICT(1)	NOF(2)	APMX	LH	OAL	DCONMS	Shank(3)	CSP(4)	kg		
E90XC D12-06-C12-06	12.00	1	1	5.80	25.0	90.00	12.00	C	0	0.07	SR 34-508	T-7/51
E90XC D20-22-C20-06	20.00	5	1	22.00	37.0	120.00	20.00	C	1	0.24	SR 34-508/L	T-7/51

• Use the XOMT 06.... insert in central face location • For user guide, see pages 517-524
(1) Number of inserts
(2) Number of flutes
(3) C-Cylindrical
(4) 0 - Without coolant supply, 1 - With coolant supply

For inserts, see pages: SOMT-HQ (478) • XOMT-HQ (479)

HELiMILL

E90AC
Drilling Endmills Carrying APKT/ADKT Inserts



Designation	DC	CICT(1)	NOF(2)	APMX	LU	LH	OAL	DCONMS	Shank(3)	kg	Insert
E90AC D25-20W25	25.00	3	1	19.00	49.0	50.0	110.00	25.00	W	0.30	APKT 1003
E90AC D32-25W32	32.00	3	1	25.00	48.0	50.0	130.00	32.00	W	0.60	AD..1505
E90AC D38-25W32	38.00	5	2	26.00	-	50.0	130.00	32.00	W	0.70	AD..1505,XPMT 1004

• For user guide, see pages 517-524
(1) Number of inserts
(2) Number of flutes
(3) W-Weldon

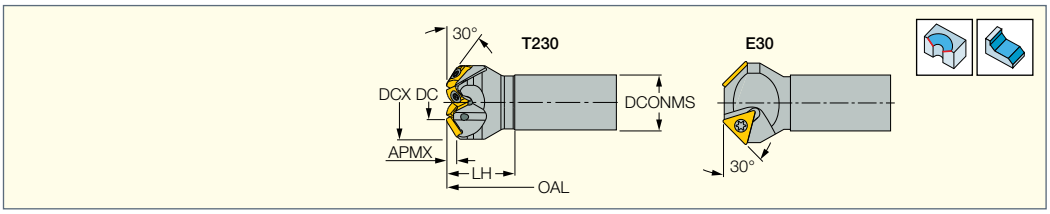
For inserts, see pages: ADCT 1505PDFR-HM (442) • ADKT 1505..R/L-HM (444) • ADKT 1505PDR/L-HM (443) • ADKT 1505PDTR-76 (444) • APKT 1003PDR-HM (436) • APKT 1003PDTR-76 (437) • XPMT-HQ (480)

Spare Parts

Designation				
E90AC D25-20W25	SR 34-505/HG	BLD T08/M7	SW4-SD	
E90AC D32-25W32	SR 14-544/S	BLD T15/M7	SW6-T	
E90AC D38-25W32	SR 14-544/S	BLD T15/M7	SW6-T	ZPN 4-520

ISCARMILL

E30 / T230
30° Chamfering Endmills



Designation	DC	DCX(1)	CICT(2)	APMX	OAL	LH	DCONMS	Shank(3)	CSP(4)	kg	MIID(5)		
T230 ELN D12-4-C16-05	12.00	21.50	4	2.50	90.00	20.0	16.00	C	1	0.13	T290 LNHT 0502	SR 10503833	T-7/51
T230 ELN D12-4-W16-05	12.00	21.50	4	2.50	90.00	20.0	16.00	W	1	0.13	T290 LNHT 0502	SR 10503833	T-7/51
E30 D16-W25	16.00	40.90	3	7.00	100.00	36.4	25.00	W	0	0.42	TPMT 1603	SR 14-541	T-15/51

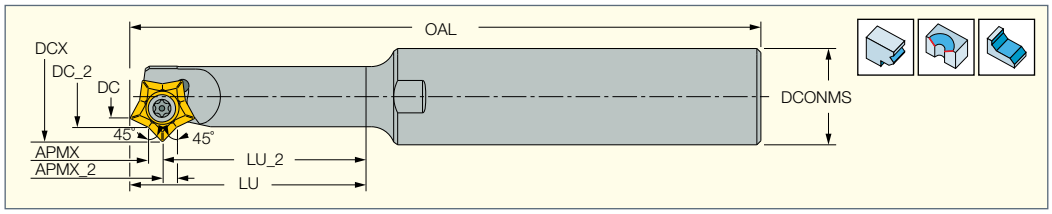
• For user guide see pages 517-524
(1) Cutting diameter maximum
(2) Number of inserts
(3) C - Cylindrical, W - Weldon
(4) 0 - Without coolant supply, 1 - With coolant supply
(5) Master insert identification

For inserts, see pages: T290 LNMT/LNHT 0502 (459) • TPMT (453)

CHAMFMILL
CHAMFERING LINE

CH45-PN06

Upper and Bottom Chamfering Endmills Carrying Pentagonal Inserts



Designation	DCX(1)	DC_2	DC	APMX	APMX_2	DCONMS	CICT(2)	LU	LU_2	OAL	DMIN(3)	kg
CH45-10-30-1-C12-PN06	11.70	8.45	6.60	1.50	1.50	12.00	1	29.4	25.4	100.00	10.00	0.00
CH45-17-60-2-C16-PN06	16.70	13.45	11.40	1.50	1.50	16.00	2	29.4	25.4	110.00	17.00	0.13
CH45-19-80-3-C16-PN06	18.70	15.45	13.40	1.50	1.50	16.00	3	29.4	25.4	130.00	19.00	0.16

(1) Cutting diameter maximum
(2) Number of inserts
(3) Minimum penetration diameter for back chamfering

For inserts, see pages: PNMT 0602-TN (515)

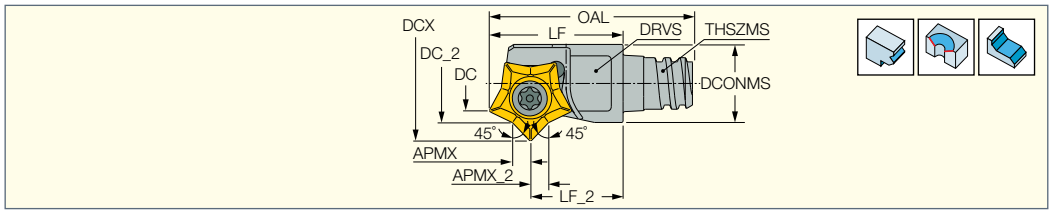
Spare Parts

Designation		
CH45-PN06	SR M2.5X5-T7-60	T-7/51

CHAMFMILL
CHAMFERING LINE
MULTI-MASTER

CH45-MM-PN06

Upper and Bottom Chamfering Endmills with MULTI-MASTER Threaded Adaptation



Designation	DCX(1)	DC_2	DC	APMX	APMX_2	LF	LF_2	OAL	DCONMS	THSZMS	CICT(2)	DRVS(3)	DMIN(4)	kg
CH45-10/.39-1-MMT05-PN06	11.70	8.45	6.60	1.50	1.50	13.00	9.00	19.75	7.60	T05	1	5.5	10.00	0.02
CH45-17/.67-2-MMT08-PN06	16.70	13.45	11.40	1.50	1.50	18.00	14.00	25.50	12.20	T08	2	10.0	17.00	0.02
CH45-19/.75-3-MMT10-PN06	18.70	15.45	13.40	1.50	1.50	20.00	16.00	31.30	15.30	T10	3	13.0	19.00	0.02

• Do not apply lubricant to the MULTI-MASTER threaded connection • 8 For adaptation options, see page 39 • For user guide, see pages 517-524
(1) Cutting diameter maximum
(2) Number of inserts
(3) Width across flats (wrench should be ordered separately)
(4) Minimum penetration diameter for back chamfering

For inserts, see pages: PNMT 0602-TN (515)
For holders, see pages: MM CAB (1047) • MM CAB-T-T (77) • MM GRT (shanks) (72) • MM S-A (stepped shanks) (70) • MM S-A (straight shanks) (73) • MM S-A-C# (72) • MM S-A-HSK (76) • MM S-A-N (71) • MM S-A-SK (76) • MM S-B (85° conical shanks) (73) • MM S-D (89° conical shanks) (74) • MM S-ER (75) • MM S-ER-H (75) • MM TS-A (72)

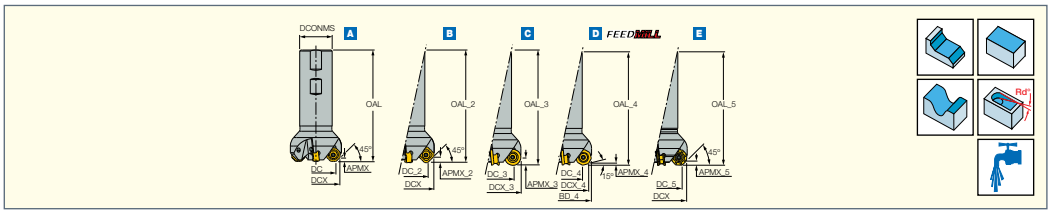
Spare Parts

Designation		
CH45-MM-PN06	SR M2.5X5-T7-60	T-7/51

HELIDO 800 LINE

SOE45 8/16

Multifunctional Endmills for Octagonal, Square and Round Insert Contours with Various Entry Angles



Designation	DC	DCX	DC_2	DC_3	DCX_3	DC_4	DCX_4	D9	DC_5	APMX	APMX_2	APMX_3	APMX_4	APMX_5
SOE45 8/16-D025-02-W20R	25.00	35.40	22.65	20.90	36.50	20.10	29.40	35.60	25.30	3.50	6.00	7.90	1.20	2.90
SOE45 8/16-D032-03-W25R	32.00	42.40	29.65	27.50	43.30	26.70	36.20	42.60	32.30	3.50	6.00	7.90	1.20	2.90
SOE45 8/16-D040-04-W32R	40.00	50.40	37.65	35.40	51.30	37.50	47.00	50.60	40.30	3.50	6.00	7.90	1.20	2.90

Designation	DCONMS	CICT(1)	OAL	OAL_2	OAL_3	OAL_4	OAL_5	RMPX(2)	kg
SOE45 8/16-D025-02-W20R	20.00	2	100.00	101.2	101.60	101.30	101.20	3.1	0.25
SOE45 8/16-D032-03-W25R	25.00	3	100.00	101.2	101.60	101.30	101.20	4.2	0.38
SOE45 8/16-D040-04-W32R	32.00	4	110.00	111.2	111.60	111.30	111.20	3.7	0.72

• A- with ONMU 0505... insert • B- with S845 SNMU 1305... insert • C- with RXMT 1607N insert • D- with OXMT 0507R08-FF insert • E- with OXMT 050705-R-HP insert • Use only Torx Plus keys • For user guide, see pages 517-524

(1) Number of inserts

(2) Valid only with RXMT 1607N insert

For inserts, see pages: ONHU 0505-W (432) • ONHU/ONMU-05 (432) • OXMT 0507 (433) • RXMT 1607 (448) • S845 SNHU 1305-W (429) • S845 SNMU/SNHU-13 (429)

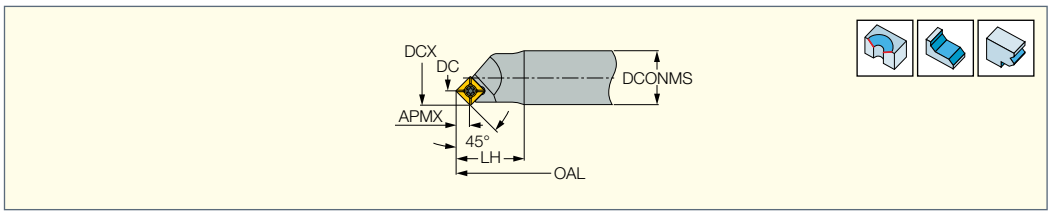
Spare Parts

Designation			
SOE45 8/16	SR 11800745	BLD IP15/S7	SW6-T-SH

HELIQUAD

E45X

45° Chamfering Endmills Carrying X/Q/SOMT 06 Inserts



Designation	DC	DCX(1)	CICT(2)	APMX	LH	OAL	DCONMS	Shank(3)	kg		
E45X D06-C12-06	6.00	14.10	1	4.00	25.0	80.00	12.00	C	0.06	SR 34-508	T-7/51
E45X D06-W12-06	6.00	14.10	1	4.00	19.0	70.00	12.00	W	0.05	SR 34-508	T-7/51
E45X D08-C16-06	8.00	16.10	1	4.00	25.0	100.00	16.00	C	0.14	SR 34-508	T-7/51
E45X D08-W16-06	8.00	16.10	1	4.00	23.0	80.00	16.00	W	0.11	SR 34-508	T-7/51

• For user guide, see pages 517-524

(1) Cutting diameter maximum

(2) Number of inserts

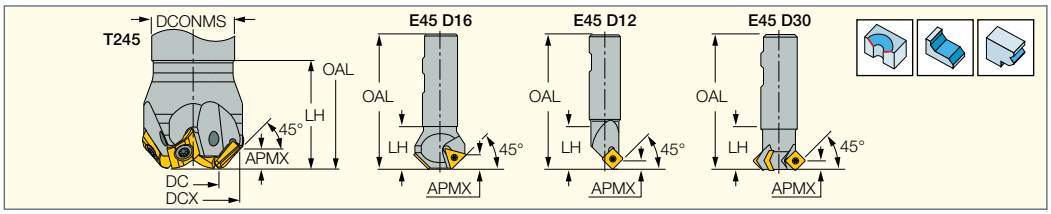
(3) C-Cylindrical, W-Weldon

For inserts, see pages: QOMT-HQ (478) • SOMT-HQ (478) • XOMT-HQ (479)

ISCARMILL

E45 / T245

45° Chamfering Endmills



Designation	DC	DCX(1)	CICT(2)	APMX	OAL	LH	DCONMS	Shank(3)	CSP(4)	kg	MIID(5)		
T245 ELN D12-4-C16-05	12.00	19.70	4	3.60	90.00	20.0	16.00	C	1	0.12	T290 LNHT 0502	SR 10503833	T-7/51
T245 ELN D12-4-W16-05	12.00	19.70	4	3.60	90.00	20.0	16.00	W	1	0.12	T290 LNHT 0502	SR 10503833	T-7/51
E45 D12-W20	12.00	23.20	1	5.60	100.00	30.0	20.00	W	0	0.20	SDMT 0903	SR 14-541	T-15/51
E45 D16-W25	16.00	35.90	2	9.70	100.00	33.0	25.00	W	0	0.35	TPMT 1603	SR 14-541	T-15/51
E45 D30-W25	30.00	46.10	3	7.80	100.00	35.0	25.00	W	0	0.37	SCMT 120408-19	SR 16-212	T-20/51
E45 D30-W32	30.00	46.10	3	7.80	110.00	35.0	32.00	W	0	0.61	SCMT 120408-19	SR 16-212	T-20/51

• For user guide see page 517-524

(1) Cutting diameter maximum

(2) Number of inserts

(3) W-Weldon C-Cylindrical

(4) 0 - Without coolant supply, 1 - With coolant supply

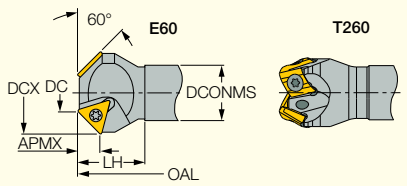
(5) Master insert identification

For inserts, see pages: SCMT-19 (496) • SDMT-AD-N (496) • T290 LNMT/LNHT 0502 (459) • TPMT (453)

ISCARMILL

E60 / T260

60° Chamfering Endmills



Designation	DC	DCX(1)	CICT(2)	APMX	OAL	LH	DCONMS	Shank(3)	CSP(4)	kg	MIID(5)		
T260 ELN D12-4-C12-05	12.00	17.50	4	4.50	80.00	20.0	12.00	C	1	0.06	T290 LNHT 0502	SR 10503833	T-7/51
T260 ELN D12-4-W12-05	12.00	17.50	4	4.50	80.00	20.0	12.00	W	1	0.06	T290 LNHT 0502	SR 10503833	T-7/51
E60 D25-W25	25.00	39.40	2	12.30	100.00	33.0	25.00	W	0	0.39	TPMT 1603	SR 14-541	T-15/51

• For user guide see page 517-524
(1) Cutting diameter maximum
(2) Number of inserts
(3) W-Weldon C-Cylindrical
(4) 0 - Without coolant supply, 1 - With coolant supply
(5) Master insert identification

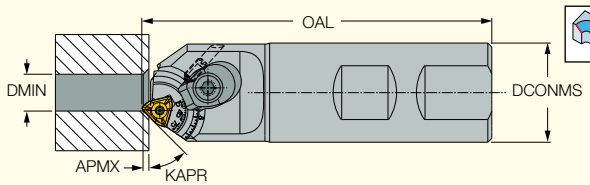
For inserts, see pages: T290 LNMT/LNHT 0502 (459) • TPMT (453)

HELI3MILL HM390 LINE

HM390 E10-80-07

Chamfering Endmill with an Adjustable Edge Angle

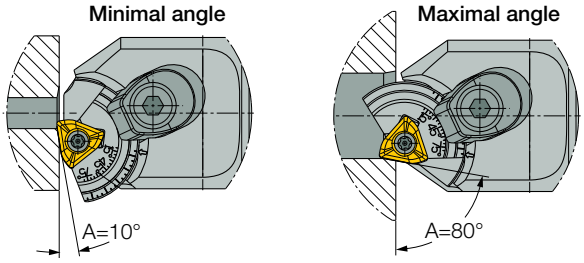
KAPR	DMIN	APMX	OAL
10°	5	0.35	87.15
20°	6.1	0.68	87.55
30°	7.3	1.00	87.90
40°	8.6	1.29	88.15
45°	9.3	1.41	88.20
50°	10	1.53	88.25
60°	11.3	1.73	88.20
70°	12.6	1.88	88.10
80°	13.9	1.97	87.85



Designation	CICT(1)	OAL	DCONMS	Shank(2)	kg	MIID(3)
HM390 E10-80 D05-1-W25-07	1	87.85	25.00	W	0.28	HM390 TCCT 0703PCR

• For user guide see page 517-524
(1) Number of inserts
(2) W-Weldon
(3) Master insert identification

For inserts, see pages: HM390 TCKT/CT 0703 (432)



Spare Parts

Designation						
HM390 E10-80 D05-1-W25-07	SR M4X10DIN912	T-7/51(a)	CR E10-80 HM390-07	CLAMP E10-80	SR M2.5X5-T7-60	HW 3.0

(a) For limiting torque, use optional BLD 4 T07-0.9NM blade & HSD 4-0.9NM handle.

MULTI-MASTER

Indexable Solid Carbide Milling Heads
Table of Contents

Type	Helix Angle	No. of Flutes	Diameter Range	Remarks	Page	
MM HC	10°	2	7.8-16		60	E
MM EA	45°	2, 3	8-20	High Speed Machining on Aluminum	69	
MM EA-CF	40°	3, 4	8-25	High Speed Machining on Aluminum-CHATTERFREE	69	
MM ECU	38°	3	7.7-19.7	DIN 6885	61	
MM EC-3	45°	3	8-12.7		61	
MM EC-4	30°, 45°	4	6-20		62	
MM EC-6 MM EC-D	30°, 45° 50°	6 6, 8, 10	8-12.7 8-20		63	
MM EC-8/10	30°, 45°	8,10	16-25		64	
MM EFS	45°	4	8-25	FINISHRED	66	
MM EFS-CF	38°	4	6-25	FINISHRED CHATTERFREE	67	
MM EC-CF MM EC-CF-1.5xD	38° 36°, 46.5°	4, 12 4, 7, 9	8-25	CHATTERFREE	64-66	
MM ERA	45°	3	8-25	Rough Machining on Aluminum	68	
MM ERS MM ERS-1.5xD	45° 40°-47°	4, 5, 6	8-25		67-68	
MM EBA	45°	2	8-25	For Machining Aluminum	60	
MM EPG	-	1	8	Engraving	45	
MM FM	-	6	12-25	Face Mill	51	

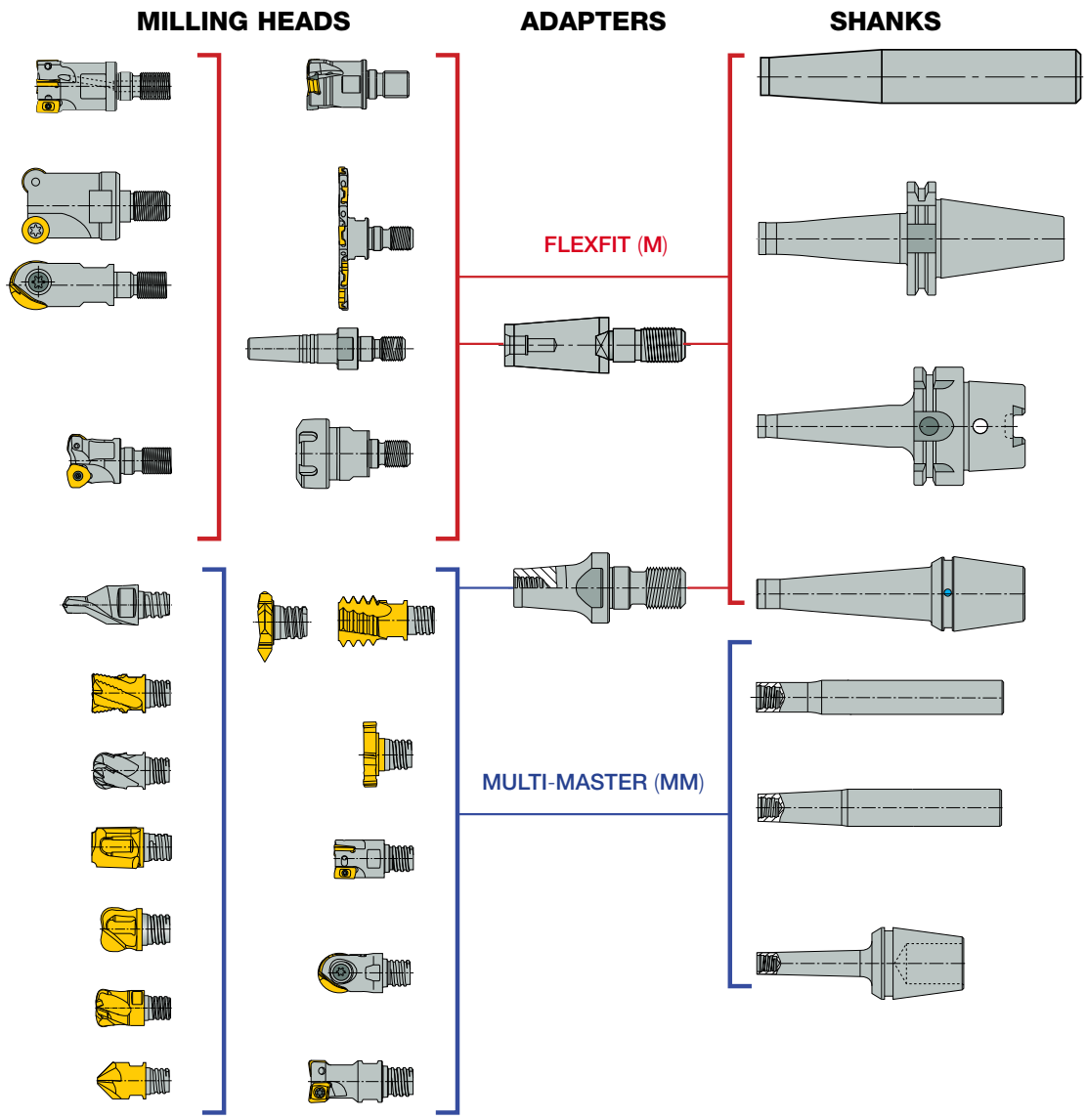
E = Economical

Indexable Solid Carbide Milling Heads
Table of Contents

Type	Helix Angle	No. of Flutes	Diameter Range	Remarks	Page	
MM EB MM EBC	30° 45°	2, 4 4	5-25 8-20		59	
MM HCR MM HRF	–	2	8-16	General Finishing	58	E
MM HBR	–	2	10-25.4		58	E
MM HT	–	2	10-20		56	E
MM HT-NWFR		2	12		57	
MM HT-NCSR	–	2	12		56	
MM FF	–	2	10-20		54	E
MM EFF	–	4,6	8-25.4		55	
MM ETR	30˚	6	8-16		57	
MM HR MM ER	–	2 4	8-20 8-12.7		44	E
MM HCD	–	2	8-20	for DIN 74 Screw	40	E
MM ECF	–	4, 6	10-25		41	
MM ECS	–	2	1.07-6.41	DIN 332	45	
MM HDF	–	2	9.8-15.7	Double Chamfering	41	
MM EDF	–	3	7.4-11.6		42	
MM TS MM GRIT	–	4,6 3,4,6	7.7-25 15.7, 17.7, 21.7, 27.7		46-48 49-50	
MM SS	–	4	21.7	Involute Spline	51	
MM GRIT-K/P-45A MM GRIT 28P-DR		3,4,6 6	17.7,21.7,27.7 27.7		42 43	
MM TS-DG		4	15.88, 19.05, 25.4		45	
MM TRD MT-MM	–	3,4 3-6	15.7, 21.7 10-20	55°-DIN ISO 228, B.S 84 60°-ISO 68, DIN13	51-52 52-53	

E = Economical

MULTI-MASTER and FLEXFIT Connection Options



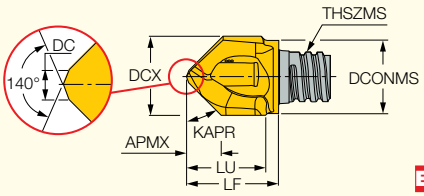
Features

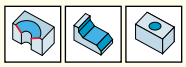
- Modular system reduces stock cost by using the same head with different shank options
- Enables machining with larger overhang
- Same head can be mounted on metric and inch combinations

MULTI-MASTER
INDEXABLE SOLID CARBIDE LINE

MM HCD

Interchangeable 2 Flute Solid Carbide Heads for Chamfering, Countersinking and Spot Drilling





ECONOMICAL SOLUTION

Designation	Dimensions										IC908
	DCX(4)	DCtol(5)	NOF(6)	LU	THSZMS	DCONMS	LF	APMX	DC	KAPR	
MM HCD080-090-2T05 (1)	8.00	z9	2	7.00	T05	7.60	9.75	3.15	1.00	45.0	•
MM HCD083-090-2T05 (1)	8.30	z9	2	7.50	T05	7.60	10.00	3.56	1.00	45.0	•
MM HCD.375-080-2T06	9.50	z9	2	9.00	T06	9.20	11.80	5.00	2.00	50.0	•
MM HCD.375-100-2T06 (2)	9.50	z9	2	9.00	T06	9.50	13.40	9.60	2.00	40.0	•
MM HCD100-060-2T06	10.00	h10	2	9.30	T06	9.50	11.75	7.60	1.50	60.0	•
MM HCD100-120-2T06	10.00	h10	2	9.50	T06	9.50	12.70	2.70	1.50	30.0	•
MM HCD100-090-2T06-N (1)	10.00	z9	2	10.10	T06	9.50	14.00	4.50	1.50	45.0	•
MM HCD104-090-2T06 (1)	10.40	z9	2	9.00	T06	9.50	11.75	4.60	1.50	45.0	•
MM HCD120-060-2T08	12.00	h10	2	11.00	T08	11.50	15.40	9.24	1.50	60.0	•
MM HCD120-120-2T08	12.00	h10	2	11.65	T08	11.50	15.20	3.50	1.50	30.0	•
MM HCD120-090-2T08 (1)	12.00	z9	2	12.00	T08	11.50	15.50	5.30	1.50	45.0	•
MM HCD124-090-2T08 (1)	12.40	z9	2	11.80	T08	11.50	15.50	5.50	1.50	45.0	•
MM HCD.500-080-2T08 (3)	12.70	z9	2	11.10	T08	12.20	15.50	6.80	1.50	50.0	•
MM HCD.500-100-2T08 (2)	12.70	z9	2	10.90	T08	11.50	14.70	4.90	1.50	40.0	•
MM HCD.625-080-2T10	15.90	z9	2	15.20	T10	15.00	18.80	8.80	2.00	50.0	•
MM HCD.625-100-2T10 (2)	15.90	z9	2	14.90	T10	15.10	19.00	6.20	2.00	40.0	•
MM HCD160-060-2T10	16.00	h10	2	16.20	T10	15.20	20.20	12.00	2.50	60.0	•
MM HCD160-120-2T10	16.00	h10	2	15.50	T10	15.20	19.90	4.40	1.50	30.0	•
MM HCD160-090-2T10-N	16.00	z9	2	15.70	T10	15.20	20.00	7.40	1.50	45.0	•
MM HCD165-090-2T10 (1)	16.50	z9	2	14.90	T10	15.20	18.80	7.10	1.50	45.0	•
MM HCD.750-080-2T12	19.05	z9	2	19.60	T12	18.45	24.70	11.00	2.00	50.0	•
MM HCD.750-100-2T12 (2)	19.05	z9	2	18.50	T12	18.30	23.60	7.50	1.50	40.0	•
MM HCD200-060-2T12	20.00	h10	2	18.20	T12	18.45	24.70	15.50	2.50	60.0	•
MM HCD200-120-2T12	20.00	h10	2	14.65	T12	18.45	21.15	5.50	1.50	30.0	•
MM HCD200-090-2T12 (1)	20.00	z9	2	18.20	T12	18.45	24.70	9.40	1.50	45.0	•

• For shanks, see pages 70-77 • Clamping keys (should be ordered separately), tightening torques and clamping instructions, see pages 77-78 • Do not apply lubricant to the threaded connection. • For user guide, see pages 39, 169-173

(1) May be used for F-type (fine) countersink according to DIN 74.

(2) May be used for 100° countersink according to ISO 5856, DIN EN 4072, ANSI B18.6.3-1972

(3) Countersink according to American National and British standard flat screws.

(4) Cutting diameter maximum

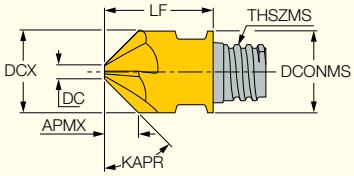
(5) DCX diameter tolerance

(6) Number of flutes

MULTI-MASTER
INDEXABLE SOLID CARBIDE LINE

MM ECF

Interchangeable Solid Carbide Heads for Chamfering and Countersinking



Designation	Dimensions								IC908
	KAPR	DCX(1)	NOF(2)	DC	APMX	THSZMS	DCONMS	LF	
MM ECF120-02/100-4T06	30.0	10.00	4	2.00	2.30	T06	10.00	13.00	•
MM ECF120-02/120-4T08	30.0	12.00	4	2.00	2.90	T08	12.00	16.50	•
MM ECF120-03/160-6T10	30.0	16.00	6	3.00	3.70	T10	16.00	20.50	•
MM ECF120-05/200-6T12	30.0	20.00	6	5.00	4.30	T12	18.45	25.50	•
MM ECF120-06/250-6T15	30.0	25.00	6	6.00	5.40	T15	25.00	25.00	•
MM ECF45-100-4T06	45.0	10.00	4	1.95	4.00	T06	10.00	13.00	•
MM ECF45-120-4T08	45.0	12.00	4	1.95	5.00	T08	12.00	16.50	•
MM ECF45-.500-4T08	45.0	12.70	4	1.95	5.00	T08	12.70	16.50	•
MM ECF45-160-6T10	45.0	16.00	6	3.00	6.50	T10	16.00	20.50	•
MM ECF45-200-6T12	45.0	20.00	6	5.00	7.50	T12	18.45	25.50	•
MM ECF45-250-6T15-M	45.0	25.00	6	5.00	10.00	T15	25.00	25.00	•
MM ECF60-100-4T06	60.0	10.00	4	1.60	7.30	T06	10.00	13.00	•
MM ECF60-02/100-4T06	60.0	10.00	4	2.00	6.90	T06	10.00	13.00	•
MM ECF60-03/120-4T08	60.0	12.00	4	3.00	7.80	T08	12.00	16.50	•
MM ECF60-04/160-6T10	60.0	16.00	6	4.00	10.00	T10	16.00	20.50	•
MM ECF60-05/200-6T12	60.0	20.00	6	5.00	13.00	T12	18.45	25.50	•
MM ECF60-08/250-6T15	60.0	25.00	6	8.00	14.00	T15	25.00	25.00	•

• For shanks, see pages 70-77 • For clamping keys (should be ordered separately), tightening torques and clamping instructions, see pages 77-78 • Do not apply lubricant to the threaded connection. • For user guide, see pages 39, 169-173

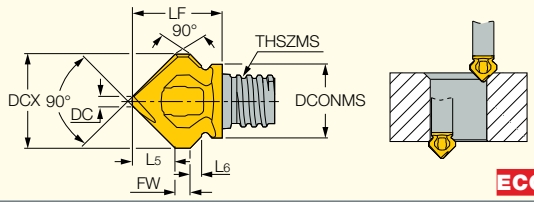
(1) Cutting diameter maximum

(2) Number of flutes

MULTI-MASTER
INDEXABLE SOLID CARBIDE LINE

MM HDF

Interchangeable 2 Flute Solid Carbide Heads for Upper and Bottom Chamfering



ECONOMICAL SOLUTION

Designation	Dimensions										IC908
	DCX(1)	NOF(2)	L5	L6	FW	DC	THSZMS	DCONMS	LF		
MM HDF100-090-2T05	9.80	2	4.30	0.90	2.50	1.20	T05	7.60	10.80	MM KEY 8X5*	•
MM HDF120-090-2T06	11.80	2	5.30	1.20	2.00	1.20	T06	9.30	11.20	MM KEY 10X7*	•
MM HDF160-090-2T08	15.70	2	7.10	2.20	2.00	1.50	T08	11.50	14.00	MM KEY 13X8*	•

• For shanks, see pages 70-77 • Clamping keys should be ordered separately • For tightening torques and clamping instructions, see page 77-78 • Do not apply lubricant to the threaded connection • For user guide, see pages 39, 169-173

(1) Cutting diameter maximum

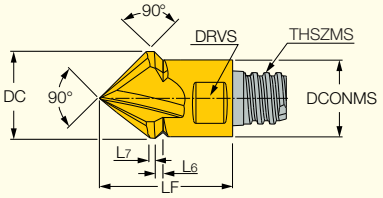
(2) Number of flutes

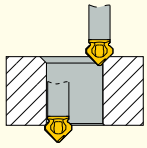
* Optional, should be ordered separately

MULTI-MASTER
INDEXABLE SOLID CARBIDE LINE

MM EDF

Interchangeable 3 Flute Solid Carbide Heads for Upper and Bottom Chamfering





Designation	Dimensions							IC908
	DC	DCONMS	NOF(1)	L6	L7	LF	THSZMS	
MM EDF074-090-58-3T04	7.40	5.80	3	0.90	1.00	10.00	T04	●
MM EDF094-090-76-3T05	9.40	7.60	3	0.90	1.00	12.50	T05	●
MM EDF116-090-95-3T06	11.60	9.60	3	1.00	1.00	16.50	T06	●

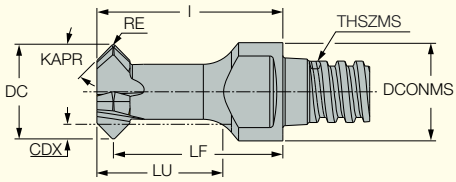
• Suitable for pecking applications. • For shanks, see pages 70-77 • For clamping keys (should be ordered separately), tightening torques and clamping instructions, see page 77-78 • Do not apply lubricant to the threaded connection. • For user guide, see pages 39, 169-173

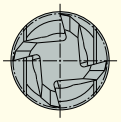
(1) Number of flutes

MULTI-MASTER
INDEXABLE SOLID CARBIDE LINE

MM TS-45

Interchangeable Solid Carbide Small Diameter 45° Chamfering Heads





Designation	Dimensions										IC908
	DC	KAPR	CDX(1)	RE	NOF(2)	l	THSZMS	DCONMS	LU	LF	
MM TS077-45-20A-4T05	7.70	45.0	1.20	0.20	4	15.20	T05	8.00	10.3	13.85	●

• For clamping keys (should be ordered separately), tightening torques and clamping instructions, see pages 77-78• Do not apply lubricant to the threaded connection

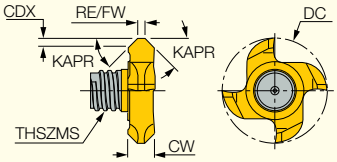
(1) Cutting depth maximum

(2) Number of flutes

MULTI-MASTER
INDEXABLE SOLID CARBIDE LINE

MM GRIT-K/P-45A

Interchangeable Solid Carbide Small Diameter 45° Chamfering Heads



Designation	Dimensions									IC528
	DC	KAPR	CDX(1)	RE	FW	CW	THSZMS	NOF(2)		
MM GRIT 18K-45A	17.70	45.0	1.40	0.10	-	3.40	T06	3	MM EGR 16-18*	●
MM GRIT 18P-45A	17.70	45.0	1.40	0.10	-	3.40	T06	3	MM EGR 16-18*	●
MM GRIT 22K-45A	21.70	45.0	1.70	-	1.50	5.50	T08	4	MM EGR 20-22*	●
MM GRIT 22P-45A	21.70	45.0	1.70	-	1.50	5.50	T08	4	MM EGR 20-22*	●
MM GRIT 28K-45A	27.70	45.0	4.00	-	0.50	9.80	T10	6	T-40/3 L*	●

• Use carbide shanks for groove milling heads. • Each MM GRT shank is supplied with MM EGR clamping key. • Keys for other milling heads must be ordered separately.
• MM GRT.. shanks serve mainly for MM GRIT.. slitting heads. • K-Type - For general steel machining. • P-Type - Positive geometry for soft and gummy materials.
• For user guide, see pages 39, 169-173

(1) Cutting depth maximum

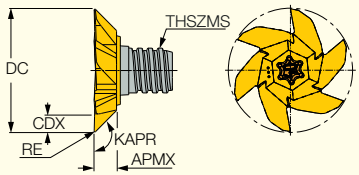
(2) Number of flutes

* Optional, should be ordered separately

MULTI-MASTER
INDEXABLE SOLID CARBIDE LINE

MM GRIT Dovetail

Interchangeable Solid Carbide Heads



Designation	Dimensions								IC528
	DC	KAPR	CDX(1)	APMX	RE	THSZMS	NOF(2)		
MM GRIT 28K-45D-6T10	27.70	135.0	4.00	5.00	0.20	T10	6	T-40/3 L*	•
MM GRIT 28K-60D-6T10	27.70	120.0	4.00	7.80	0.20	T10	6	T-40/3 L*	•
MM GRIT 28K-75D-6T10	27.70	105.0	2.20	10.10	0.20	T10	6	T-40/3 L*	•

• Use carbide shanks for groove milling heads • For user guide, see pages 39, 169-173

(1) Cutting depth maximum

(2) Number of flutes

* Optional, should be ordered separately

MM GRIT 28K-45D-6T10

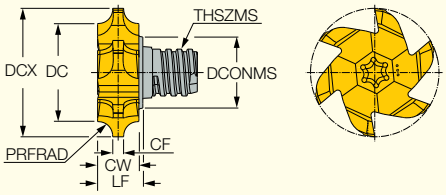
MM GRIT 28K-60D-6T10

MM GRIT 28K-75D-6T10

MULTI-MASTER
INDEXABLE SOLID CARBIDE LINE

MM GRIT 28P-DR

Interchangeable 6 Flute Solid Carbide, Double-Sided Corner Rounding Milling Heads



Designation	Dimensions									IC528
	PRFRAD	CF	DCX(1)	DC	LF	CW	NOF(2)	THSZMS	DCONMS	
MM GRIT 28P-2.7-DR1.0	1.00	2.70	27.70	24.80	6.00	5.60	6	T10	15.30	•
MM GRIT 28P-2.6-DR2.0	2.00	2.60	27.70	22.90	7.70	7.30	6	T10	15.30	•
MM GRIT 28P-2.3-DR3.0	3.00	2.30	27.70	21.10	9.70	8.90	6	T10	15.30	•
MM GRIT 28P-2.6-DR4.0	4.00	2.60	27.70	19.70	11.70	10.90	6	T10	15.30	•

• For shanks, see pages 70-77 • For clamping keys (should be ordered separately), tightening torques and clamping instructions, see pages 77-78 • Do not apply lubricant to the threaded connection. • For user guide, see pages 39, 169-173

(1) Cutting diameter maximum

(2) Number of flutes

Spare Parts

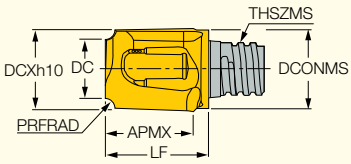
Designation	
MM GRIT 28P-DR	T-40/3 L*

* Optional, should be ordered separately

MULTI-MASTER
INDEXABLE SOLID CARBIDE LINE

MM HR

Interchangeable 2 Flute
Solid Carbide Corner
Rounding Milling Heads



ECONOMICAL SOLUTION

Designation	Dimensions									IC908
	DCX(1)	PRFRAD	Tm(2)	NOF(3)	DC	APMX	THSZMS	DCONMS	LF	
MM HR1.0/047-5.8-2T05	8.00	1.00	r0.5-3.0	2	5.80	7.50	T05	7.60	10.60	●
MM HR1.6/063-6.8-2T06	10.00	1.60	r0.5-3.0	2	6.80	9.50	T06	9.50	12.50	●
MM HR2.0/078-6.0-2T06	10.00	2.00	r0.5-3.0	2	6.00	9.50	T06	9.50	12.50	●
MM HR2.5/094-5.1-2T06	10.00	2.50	r0.5-3.0	2	5.10	9.50	T06	9.50	12.50	●
MM HR3.0/125-6.5-2T08	12.70	3.00	r0.5-4.0	2	6.50	12.00	T08	11.50	15.60	●
MM HR4.0/156-4.7-2T08	12.70	4.00	r0.5-4.0	2	4.70	12.00	T08	11.50	15.60	●
MM HR5.0/188-6.2-2T10	16.00	5.00	r0.5-5.0	2	6.20	15.00	T10	15.20	19.10	●
MM HR6.0/236-8.0-2T12	20.00	6.00	r0.5-6.0	2	8.00	7.00	T12	18.45	17.40	●

• For shanks, see pages 70-77 • For clamping keys (should be ordered separately), tightening torques and clamping instructions, see pages 77-78 • Do not apply lubricant to the threaded connection. • For user guide, see pages 39, 169-173

(1) Cutting diameter maximum

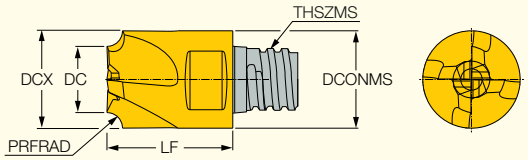
(2) Specially tailored radius range upon request.

(3) Number of flutes

MULTI-MASTER
INDEXABLE SOLID CARBIDE LINE

MM ER

Interchangeable 4 Flute
Solid Carbide Corner
Rounding Milling Heads



Designation	Dimensions								IC908
	PRFRAD	Tm(1)	DC	DCX(2)	DCONMS	NOF(3)	LF	THSZMS	
MM ER1.0/047-5.8-4T05	1.00	0.5-1.4	5.80	8.00	8.00	4	10.00	T05	●
MM ER1.6/063-6.8-4T06	1.60	0.5-2.5	6.80	10.00	10.00	4	13.00	T06	●
MM ER2.0/078-6.0-4T06	2.00	0.5-2.5	6.00	10.00	10.00	4	13.00	T06	●
MM ER2.5/094-5.1-4T06	2.50	0.5-2.5	5.10	10.00	10.00	4	13.00	T06	●
MM ER3.0/125-6.5-4T08	3.00	0.5-3.1	6.50	12.70	12.70	4	16.50	T08	●

• For shanks, see pages 70-77 • For clamping keys (should be ordered separately), tightening torques and clamping instructions, see pages 77-78 • Do not apply lubricant to the threaded connection. • For user guide, see pages 39, 169-173

(1) Specially tailored radius range upon request.

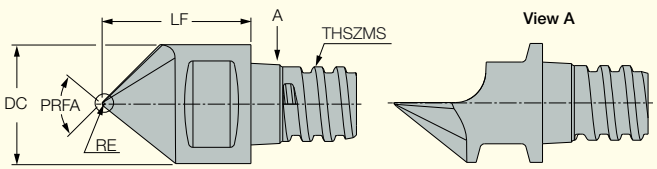
(2) Cutting diameter maximum

(3) Number of flutes

MULTI-MASTER
INDEXABLE SOLID CARBIDE LINE

MM EPG

Single-Flute MULTI-MASTER Engraving Tool Head



Designation	Dimensions						IC908
	DC	RE	CF(1)	PRFA	LF	THSZMS	
MM EPG080/30-1T05	8.00	0.20	-	30.00	10.00	T05	•
MM EPG080/45-1T05	8.00	0.20	-	45.00	10.00	T05	•
MM EPG080/60-1T05	8.00	0.20	-	60.00	10.00	T05	•
MM EPG080/90-1T05	8.00	0.20	-	90.00	10.00	T05	•
MM EPG080/60-F50-1T05	8.00	-	0.50	60.00	10.00	T05	•
MM EPG080/60-F75-1T05	8.00	-	0.75	60.00	10.00	T05	•
MM EPG080/90-F32-1T05	8.00	-	0.32	90.00	10.00	T05	•
MM EPG080/90-F50-1T05	8.00	-	0.50	90.00	10.00	T05	•

• For shanks, see pages 70-77 • For clamping keys (should be ordered separately), tightening torques and clamping instructions, see pages 77-78 • Do not apply lubricant to the threaded connection

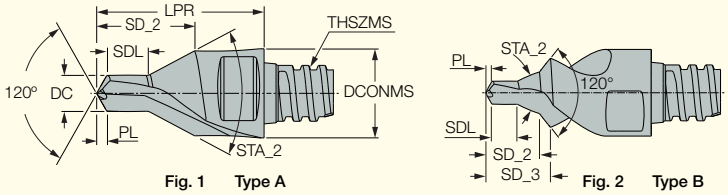
(1) Frontal corner flat

SOLIDDRILL

MULTI-MASTER

MM ECS

Interchangeable Solid Carbide Centering Drills (DIN 332)



Designation	Dimensions										IC908
	DC	DCONMS	THSZMS	LPR	SDL	SD_2	SD_3	PL	STA_2	Fig.	
MM ECS-A1.00X06-2T04	1.07	6.00	T04	10.00	1.32	4.14	-	0.28	60.0	1	•
MM ECS-A1.60X06-2T04	1.65	6.00	T04	10.00	1.97	4.45	-	0.43	60.0	1	•
MM ECS-A2.00X06-2T04	2.07	6.00	T04	10.00	2.36	6.37	-	0.54	60.0	1	•
MM ECS-A3.15X08-2T05	3.28	8.00	T05	15.00	3.75	8.76	-	0.85	60.0	1	•
MM ECS-A4.00X10-2T06	4.12	10.00	T06	19.00	4.83	11.05	-	1.07	60.0	1	•
MM ECS-A5.00X12-2T08	5.13	12.00	T08	23.00	5.88	13.23	-	1.32	60.0	1	•
MM ECS-A6.30X16-2T10	6.46	16.00	T10	28.00	7.25	17.18	-	1.65	60.0	1	•
MM ECS-B3.15X12-2T08	3.24	12.00	T08	23.00	3.55	7.40	8.94	0.83	60.0	2	•
MM ECS-B4.00X127-2T08	4.09	12.70	T08	23.00	4.53	9.50	10.71	1.07	60.0	2	•
MM ECS-B5.00X19-2T12	5.09	18.45	T12	25.50	5.56	11.70	14.17	1.33	60.0	2	•
MM ECS-B6.30X20-2T12	6.41	18.45	T12	25.50	6.95	14.50	16.58	1.68	60.0	2	•

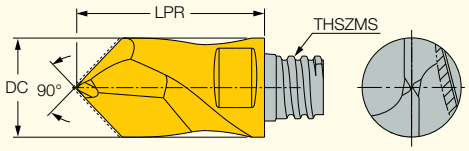
• For shanks, see pages 70-77 • For clamping keys (should be ordered separately), tightening torques and clamping instructions, see pages 77-78 • Do not apply lubricant to the threaded connection. • For user guide, see pages 39, 169-173

SOLIDDRILL

MULTI-MASTER

MM ECD

NC Spotting Drills for Accurately Locating a Hole without Using a Guide Bushing



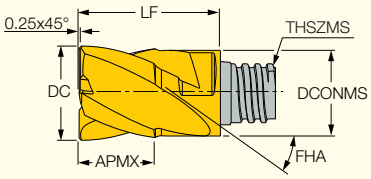
Designation	Dimensions DC	LPR	THSZMS	IC908
MM ECD-06X90-2T04	6.00	11.00	T04	●
MM ECD-08X90-2T05	8.00	15.00	T05	●
MM ECD-10X90-2T06	10.00	19.00	T06	●
MM ECD-12X90-2T08	12.00	23.00	T08	●
MM ECD-16X90-2T10	16.00	28.00	T10	●

• For shanks, see pages 70-77 • For clamping keys (should be ordered separately), tightening torques and clamping instructions, see pages 77-78 • Do not apply lubricant to the threaded connection

MULTI-MASTER
INDEXABLE SOLID CARBIDE LINE

MM EFCB

Interchangeable 4 Flute 30° Helix Solid Carbide Heads for Flat Counter Boring



Designation	Dimensions DC(1)	APMX	LF	DCONMS	THSZMS	NOF(2)	FHA	IC908	Recommended Machining Data f_z (mm/t)
MM EFCB110A08-4T06	11.00	8.40	16.50	10.00	T06	4	30.0	●	0.03-0.04
MM EFCB140A11-4T08	14.00	11.50	28.00	12.00	T08	4	30.0	●	0.04-0.05

• 0.06 mm maximum concavity on the tool's bottom • For shanks, see pages 70-77 • For clamping keys (should be ordered separately), tightening torques and clamping instructions, see pages 77-78 • Do not apply lubricant to the threaded connection. • For user guide, see pages 39, 169-173

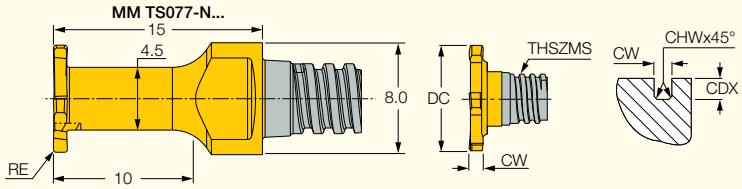
(1) e8 tolerance

(2) Number of flutes

MULTI-MASTER
INDEXABLE SOLID CARBIDE LINE

MM TS-N

Interchangeable Solid Carbide T-Slot Milling Heads



Designation	Dimensions DC	DCTOLL	CW	NOF(1)	THSZMS	CDX(2)	RE	CHW			Tough ↔ Hard IC328	IC928	IC908
MM TS077-N07A-4T05	7.70	-0.05	0.70	4	T05	1.20	0.20	-	MM KEY 6X4*				●
MM TS077-N08A-4T05	7.70	-0.05	0.80	4	T05	1.20	0.20	-	MM KEY 6X4*				●
MM TS077-N09A-4T05	7.70	-0.05	0.90	4	T05	1.20	0.20	-	MM KEY 6X4*				●
MM TS077-N10A-4T05	7.70	-0.05	1.00	4	T05	1.20	0.20	-	MM KEY 6X4*				●
MM TS077-N15A-4T05	7.70	-0.05	1.50	4	T05	1.20	0.20	-	MM KEY 6X4*				●
MM TS077-N20A-4T05	7.70	-0.05	2.00	4	T05	1.20	0.20	-	MM KEY 6X4*				●
MM TS105-N20D-06T04	10.50	-0.05	2.00	6	T04	2.00	0.40	-		T-15/3*		●	
MM TS.500-N062P-06T05	12.70	-0.05	1.58	6	T05	2.25	-	0.15		T-20/3*	●		
MM TS.500-N078P-06T05	12.70	-0.05	1.98	6	T05	2.25	-	0.15		T-20/3*	●		
MM TS135-N20P-06T05	13.50	-0.05	2.00	6	T05	2.65	-	0.20		T-20/3*	●		
MM TS135-N25P-06T05	13.50	-0.05	2.50	6	T05	2.65	-	0.20		T-20/3*	●		

• For shanks, see pages 70-77 • For tightening torques and clamping instructions, see page 77-78 • Do not apply lubricant to the threaded connection • For user guide, see pages 39, 169-173

(1) Number of flutes

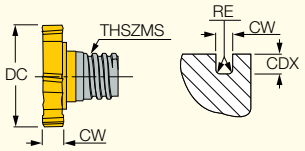
(2) Cutting depth maximum

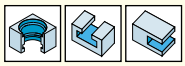
* Optional, should be ordered separately

MULTI-MASTER
INDEXABLE SOLID CARBIDE LINE

MM TS-H

Interchangeable Solid Carbide T-Slot Milling Heads with Various Corner Radii





Designation	Dimensions								IC328
	DC	DCTOLL	CW	CDX(1)	NOF(2)	RE	THSZMS		
MM TS135-H30D-06T05	13.50	-0.05	3.00	2.65	6	0.40	T05	T-20/3*	•
MM TS135-H40D-06T05	13.50	-0.05	4.00	2.65	6	0.40	T05	T-20/3*	•
MM TS165-H40A-06T05	16.50	-0.05	4.00	4.25	6	0.20	T05	T-20/3*	•
MM TS160-H20D-06T06	16.00	-0.05	2.00	3.00	6	0.40	T06	T-20/3*	•
MM TS160-H30D-06T06	16.00	-0.05	3.00	3.00	6	0.40	T06	T-25/3*	•
MM TS160-H40D-06T06	16.00	-0.05	4.00	3.00	6	0.40	T06	T-25/3*	•
MM TS165-H20D-06T06	16.50	-0.05	2.00	3.25	6	0.40	T06	T-20/3*	•
MM TS165-H30D-06T06	16.50	-0.05	3.00	3.25	6	0.40	T06	T-25/3*	•
MM TS165-H40D-06T06	16.50	-0.05	4.00	3.25	6	0.40	T06	T-25/3*	•
MM TS195-H60A-06T06	19.50	-0.05	6.00	4.45	6	0.20	T06	T-25/3*	•
MM TS225-H60A-06T06	22.50	-0.05	6.00	5.95	6	0.20	T06	T-25/3*	•
MM TS195-H40D-06T08	19.50	-0.05	4.00	3.45	6	0.40	T08	T-30/3 L*	•
MM TS195-H50D-06T08	19.50	-0.05	5.00	3.45	6	0.40	T08	T-30/3 L*	•
MM TS195-H60D-06T08	19.50	-0.05	6.00	3.45	6	0.40	T08	T-30/3 L*	•
MM TS225-H40D-06T08	22.50	-0.05	4.00	4.90	6	0.40	T08	T-40/3 L*	•
MM TS225-H50D-06T08	22.50	-0.05	5.00	4.95	6	0.40	T08	T-40/3 L*	•
MM TS225-H60D-06T08	22.50	-0.05	6.00	4.95	6	0.40	T08	T-40/3 L*	•
MM TS225-H80D-06T08	22.50	-0.05	8.00	4.95	6	0.40	T08	T-40/3 L*	•
MM TS250-H50D-06T08	25.00	-0.05	5.00	5.90	6	0.40	T08	T-50/3 L*	•
MM TS250-H60D-06T08	25.00	-0.05	6.00	5.90	6	0.40	T08	T-50/3 L*	•
MM TS250-H80D-06T08	25.00	-0.05	8.00	5.90	6	0.40	T08	T-50/3 L*	•
MM TS250-H50D-06T10	25.00	-0.05	5.00	4.30	6	0.40	T10	T-50/3 L*	•
MM TS250-H60D-06T10	25.00	-0.05	6.00	4.30	6	0.40	T10	T-50/3 L*	•
MM TS250-H80D-06T10	25.00	-0.05	8.00	4.30	6	0.40	T10	T-50/3 L*	•

• Inserts in 5 mm and wider feature chip splitting edges • For tightening torques and clamping instructions, see pages 77-78 • Do not apply lubricant to the threaded connection • For shanks, see pages • For user guide, see pages 39, 169-173

(1) Cutting depth maximum

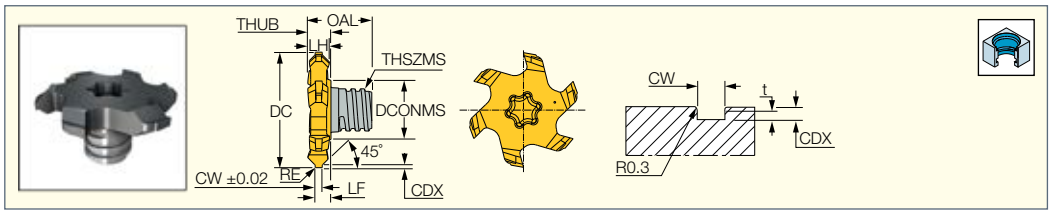
(2) Number of flutes

* Optional, should be ordered separately

MULTI-MASTER
INDEXABLE SOLID CARBIDE LINE

MM TS-C

Interchangeable Solid Carbide Circlip Groove Milling Heads According to DIN 471/472



Designation	DC	CW	CDX	NOF(1)	THSZMS	LF	t	RE	THUB	LH	DCONMS	OAL		IC928
	Dimensions													
MM TS127C118T035-6T05	12.70	1.18	0.35	6	T05	2.23	0.27	0.05	3.00	2.7	7.70	10.10	T-20/3*	●
MM TS127C118T040-6T05	12.70	1.18	0.40	6	T05	2.23	0.32	0.05	3.00	2.7	7.70	10.10	T-20/3*	●
MM TS127C118T050-6T05	12.70	1.18	0.50	6	T05	2.23	0.42	0.05	3.00	2.7	7.70	10.10	T-20/3*	●
MM TS127C138T050-6T05	12.70	1.38	0.50	6	T05	2.23	0.42	0.05	3.00	2.7	7.70	10.10	T-20/3*	●
MM TS225C138T060-6T08	22.50	1.38	0.60	6	T08	3.08	0.50	0.05	4.50	4.2	11.70	12.40	T-40/3 L*	●
MM TS225C138T070-6T08	22.50	1.38	0.70	6	T08	3.08	0.60	0.05	4.50	4.2	11.70	12.40	T-40/3 L*	●
MM TS225C138T085-6T08	22.50	1.38	0.85	6	T08	3.08	0.74	0.05	4.50	4.2	11.70	12.40	T-40/3 L*	●
MM TS225C168T070-6T08	22.50	1.68	0.70	6	T08	3.23	0.60	0.10	4.50	4.2	11.70	12.40	T-40/3 L*	●
MM TS225C168T085-6T08	22.50	1.68	0.85	6	T08	3.23	0.74	0.10	4.50	4.2	11.70	12.40	T-40/3 L*	●
MM TS225C168T100-6T08	22.50	1.68	1.00	6	T08	3.23	0.89	0.10	4.50	4.2	11.70	12.40	T-40/3 L*	●
MM TS225C193T100-6T08	22.50	1.93	1.00	6	T08	3.35	0.89	0.10	4.50	4.2	11.70	12.40	T-40/3 L*	●
MM TS225C193T125-6T08	22.50	1.93	1.25	6	T08	3.35	1.13	0.10	4.50	4.2	11.70	12.40	T-40/3 L*	●
MM TS225C223T150-6T08	22.50	2.23	1.50	6	T08	3.50	1.38	0.10	4.50	4.2	11.70	12.40	T-40/3 L*	●
MM TS225C273T150-6T08	22.50	2.73	1.50	6	T08	3.77	1.39	0.20	4.50	4.1	11.70	12.40	T-40/3 L*	●
MM TS225C273T175-6T08	22.50	2.73	1.75	6	T08	3.77	1.64	0.20	4.40	3.9	11.70	12.30	T-40/3 L*	●
MM TS225C325T175-6T08	22.50	3.25	1.75	6	T08	4.40	1.64	0.20	5.10	4.6	11.70	13.00		●

• For shanks, see pages 70-77 • For tightening torques and clamping instructions, see page 77-78 • Do not apply lubricant to the threaded connection • For user guide, see pages 39, 169-173

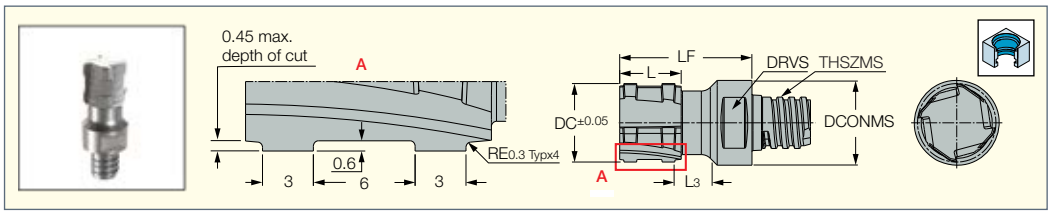
(1) Number of flutes

* Optional, should be ordered separately

MULTI-MASTER
INDEXABLE SOLID CARBIDE LINE

MM TS-DG

Double-Groove Internal Grooving Heads with Threaded Connection for Tube Sheets of Heat Exchangers



Designation	DC	DCONMS	PHD(1)	THSZMS	NOF(2)	LF	L3	L	DRVS(3)		IC908
	Dimensions										
MM TS155-04T10-8238	15.50	16.00	15.88	T10	4	34.00	18.10	14.10	10.0	MM KEY10X7*	●
MM TS185-04T12-8239	18.50	18.45	19.05	T12	4	34.50	18.30	14.50	13.0	MM KEY13X8*	●
MM TS245-04T15-8240	24.50	23.90	25.40	T15	4	37.40	11.00	14.40	20.0	MM KEY 20*	●

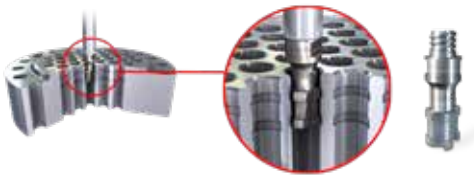
• For shanks, see pages 70-77 • For clamping keys (should be ordered separately), tightening torques and clamping instructions, see pages 77-78 • Do not apply lubricant to the threaded connection • For user guide, see pages 39, 169-173

(1) For minimum tube outer diameter

(2) Number of flutes

(3) Clamping wrench size

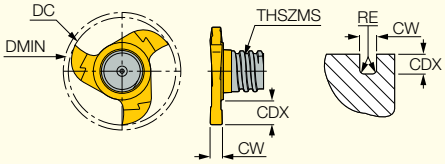
* Optional, should be ordered separately

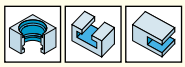


MULTI-MASTER
INDEXABLE SOLID CARBIDE LINE

MM GRIT-16K/P,18K/P

Interchangeable Solid Carbide Small Diameter Groove Milling Heads





Designation	Dimensions DC	CW	CDX(2)	NOF(3)	RE	DMIN(4)	THSZMS		IC528
MM GRIT 16K-1.50-0.10	15.70	1.50	2.80	3	0.10	16.00	T06	MM EGR 16-18*	●
MM GRIT 16P-1.50-0.10	15.70	1.50	2.80	3	0.10	16.00	T06	MM EGR 16-18*	●
MM GRIT 16K-1.57-0.20	15.70	1.57	2.80	3	0.20	16.00	T06	MM EGR 16-18*	●
MM GRIT 16K-2.00-0.20	15.70	2.00	2.80	3	0.20	16.00	T06	MM EGR 16-18*	●
MM GRIT 16P-2.20-1.10	15.70	2.20	2.80	3	1.10	16.00	T06	MM EGR 16-18*	●
MM GRIT 16K-2.39-0.20	15.70	2.39	2.80	3	0.20	16.00	T06	MM EGR 16-18*	●
MM GRIT 16K-2.50-0.20	15.70	2.50	2.80	3	0.20	16.00	T06	MM EGR 16-18*	●
MM GRIT 16K-3.00-0.20	15.70	3.00	2.80	3	0.20	16.00	T06	MM EGR 16-18*	●
MM GRIT 16P-3.00-0.20	15.70	3.00	2.80	3	0.20	16.00	T06	MM EGR 16-18*	●
MM GRIT 16K-3.17-0.20	15.70	3.17	2.80	3	0.20	16.00	T06	MM EGR 16-18*	●
MM GRIT 18K-1.20-0.05 (1)	17.70	1.20	3.80	3	0.05	18.00	T06	MM EGR 16-18*	●
MM GRIT 18P-1.20-0.60	17.70	1.20	3.80	3	0.60	18.00	T06	MM EGR 16-18*	●
MM GRIT 18K-1.40-0.05 (1)	17.70	1.40	3.80	3	0.05	18.00	T06	MM EGR 16-18*	●
MM GRIT 18K-1.50-0.10	17.70	1.50	3.80	3	0.10	18.00	T06	MM EGR 16-18*	●
MM GRIT 18K-1.57-0.20	17.70	1.57	3.80	3	0.20	18.00	T06	MM EGR 16-18*	●
MM GRIT 18K-1.70-0.05 (1)	17.70	1.70	3.80	3	0.05	18.00	T06	MM EGR 16-18*	●
MM GRIT 18K-2.00-0.20	17.70	2.00	3.80	3	0.20	18.00	T06	MM EGR 16-18*	●
MM GRIT 18P-2.00-1.00	17.70	2.00	3.80	3	1.00	18.00	T06	MM EGR 16-18*	●
MM GRIT 18P-2.20-1.10	17.70	2.20	3.80	3	1.10	18.00	T06	MM EGR 16-18*	●
MM GRIT 18K-2.39-0.20	17.70	2.39	3.80	3	0.20	18.00	T06	MM EGR 16-18*	●
MM GRIT 18K-2.50-0.20	17.70	2.50	3.80	3	0.20	18.00	T06	MM EGR 16-18*	●
MM GRIT 18K-3.00-0.20	17.70	3.00	3.80	3	0.20	18.00	T06	MM EGR 16-18*	●
MM GRIT 18P-3.00-1.50	17.70	3.00	3.80	3	1.50	18.00	T06	MM EGR 16-18*	●
MM GRIT 18K-3.17-0.20	17.70	3.17	3.80	3	0.20	18.00	T06	MM EGR 16-18*	●

• Recommended for O-rings and retaining rings • MM EGR clamping key is supplied with each MM GRT... shank • Modification options on request • Do not apply lubricant **to the threaded connection** • Tightening torque: 1000 N x cm • For clamping instructions, see pages 77-78 • For user guide, see pages 39, 169-173 • For shanks, see pages 70-77 • K - For general steel machining • P - Positive geometry for soft and gummy materials

(1) For circle clips according to DIN 471/472 and ANSI B27.7M

(2) Cutting depth maximum

(3) Number of flutes

(4) Minimum bore diameter

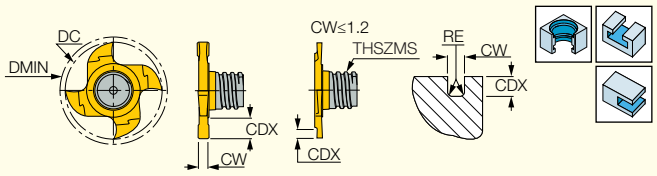
* Optional, should be ordered separately

K-Type - For general steel machining.
P-Type - Positive geometry for soft and gummy materials.

MULTI-MASTER
INDEXABLE SOLID CARBIDE LINE

MM GRIT-22K/P,28K/P

Interchangeable Solid Carbide Small Diameter Groove Milling Heads



Designation	Dimensions DC	CW	CDX(2)	NOF(3)	RE	DMIN(4)	THSZMS		IC528
MM GRIT 22K-0.76-0.00 (1)	21.70	0.76	1.50	4	0.00	22.00	T08	MM EGR 20-22*	•
MM GRIT 22K-0.86-0.00 (1)	21.70	0.86	1.70	4	0.00	22.00	T08	MM EGR 20-22*	•
MM GRIT 22K-0.96-0.00 (1)	21.70	0.96	1.90	4	0.00	22.00	T08	MM EGR 20-22*	•
MM GRIT 22K-1.00-0.05	21.70	1.00	2.00	4	0.05	22.00	T08	MM EGR 20-22*	•
MM GRIT 22P-1.00-0.05	21.70	1.00	2.00	4	0.05	22.00	T08	MM EGR 20-22*	•
MM GRIT 22K-1.20-0.05 (1)	21.70	1.20	4.50	4	0.05	22.00	T08	MM EGR 20-22*	•
MM GRIT 22K-1.40-0.05 (1)	21.70	1.40	4.50	4	0.05	22.00	T08	MM EGR 20-22*	•
MM GRIT 22K-1.57-0.00	21.70	1.57	4.50	4	0.00	22.00	T08	MM EGR 20-22*	•
MM GRIT 22K-1.70-0.10 (1)	21.70	1.70	4.50	4	0.10	22.00	T08	MM EGR 20-22*	•
MM GRIT 22P-1.70-0.10 (1)	21.70	1.70	4.50	4	0.10	22.00	T08	MM EGR 20-22*	•
MM GRIT 22K-1.95-0.20 (1)	21.70	1.95	4.50	4	0.20	22.00	T08	MM EGR 20-22*	•
MM GRIT 22K-2.00-0.20	21.70	2.00	4.50	4	0.20	22.00	T08	MM EGR 20-22*	•
MM GRIT 22P-2.00-0.20	21.70	2.00	4.50	4	0.20	22.00	T08	MM EGR 20-22*	•
MM GRIT 22K-2.25-0.20 (1)	21.70	2.25	4.50	4	0.20	22.00	T08	MM EGR 20-22*	•
MM GRIT 22K-2.39-0.20	21.70	2.39	4.50	4	0.20	22.00	T08	MM EGR 20-22*	•
MM GRIT 22K-2.50-0.20	21.70	2.50	4.50	4	0.20	22.00	T08	MM EGR 20-22*	•
MM GRIT 22P-2.50-0.20	21.70	2.50	4.50	4	0.20	22.00	T08	MM EGR 20-22*	•
MM GRIT 22K-2.75-0.20 (1)	21.70	2.75	4.50	4	0.20	22.00	T08	MM EGR 20-22*	•
MM GRIT 22K-3.00-0.20	21.70	3.00	4.50	4	0.20	22.00	T08	MM EGR 20-22*	•
MM GRIT 22P-3.00-0.20	21.70	3.00	4.50	4	0.20	22.00	T08	MM EGR 20-22*	•
MM GRIT 22K-3.17-0.20	21.70	3.17	4.50	4	0.20	22.00	T08	MM EGR 20-22*	•
MM GRIT 22K-3.25-0.20 (1)	21.70	3.25	4.50	4	0.20	22.00	T08	MM EGR 20-22*	•
MM GRIT 22P-3.81-0.20	21.70	3.81	4.50	4	0.20	22.00	T08	MM EGR 20-22*	•
MM GRIT 22K-4.00-0.20	21.70	4.00	4.50	4	0.20	22.00	T08	MM EGR 20-22*	•
MM GRIT 22P-3.98-0.20	21.70	3.98	4.50	4	0.20	22.00	T08	MM EGR 20-22*	•
MM GRIT 22P-4.00-0.20	21.70	4.00	4.50	4	0.20	22.00	T08	MM EGR 20-22*	•
MM GRIT 22P-4.00-2.00	21.70	4.00	4.50	4	2.00	22.00	T08	MM EGR 20-22*	•
MM GRIT 22K-4.25-0.20 (1)	21.70	4.25	4.50	4	0.20	22.00	T08	MM EGR 20-22*	•
MM GRIT 22K-4.25-1.20 (1)	21.70	4.25	4.50	4	1.20	22.00	T08	MM EGR 20-22*	•
MM GRIT 22K-4.75-0.20	21.70	4.75	4.50	4	0.20	22.00	T08	MM EGR 20-22*	•
MM GRIT 22K-5.25-0.20 (1)	21.70	5.25	4.50	4	0.20	22.00	T08	MM EGR 20-22*	•
MM GRIT 22K-6.00-3.00	21.70	6.00	4.50	4	3.00	22.00	T08	MM EGR 20-22*	•
MM GRIT 28K-2.50-0.2	27.70	2.50	6.00	6	0.20	28.00	T10	T-40/3 L*	•
MM GRIT 28K-5.25-0.2	27.70	5.25	6.00	6	0.20	28.00	T10	T-40/3 L*	•
MM GRIT 28P-7.0-3.5	27.70	7.00	5.70	6	3.50	28.00	T10	T-40/3 L*	•
MM GRIT 28K-10.0-0.2	27.70	10.00	6.00	6	0.20	28.00	T10	T-40/3 L*	•

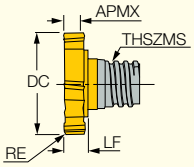
• Recommended for O-rings and retaining rings • MM EGR 20-22 clamping keys are supplied with each MM GRT... shank • Tightening torque for MM GRIT 22: 1500 Nxcm, for MM GRIT 28: 2800 Nxcm • K - for general steel & cast iron machining P - for soft and gummy materials • Modification options on request • Do not apply lubricant to the threaded connection • For clamping instructions, see pages 77-78 • For user guide, see pages 39, 169-173 • For shanks, see pages 70-77

(1) For circle clips according to DIN471/472 and ANSI B27.7M
(2) Cutting depth maximum
(3) Number of flutes
(4) Minimum bore diameter
* Optional, should be ordered separately
K-Type - For general steel and cast iron machining.
P-Type - Positive geometry for soft and gummy materials.

MULTI-MASTER
INDEXABLE SOLID CARBIDE LINE

MM FM

Interchangeable Solid Carbide Face Milling Heads with MULTI-MASTER Threaded Connections



Designation	Dimensions DC	APMX	RE	NOF(1)	THSZMS	LF		IC908	Recommended Machining Data f_z (mm/t)
MM FM120-36R0.2-06T05	12.00	3.60	0.20	6	T05	4.40	T-20/3*	●	0.04-0.10
MM FM160-48R0.4-06T06	16.00	4.80	0.40	6	T06	5.60	T-25/3*	●	0.05-0.10
MM FM200-60R0.4-06T08	20.00	6.00	0.40	6	T08	6.80	T-40/3 L*	●	0.05-0.10
MM FM250-75R0.4-06T10	25.00	7.50	0.40	6	T10	8.40	T-50/3 L*	●	0.05-0.10

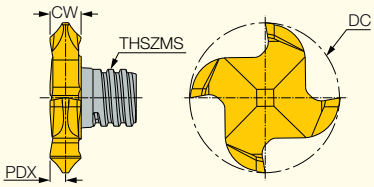
(1) Number of flutes

* Optional, should be ordered separately

MULTI-MASTER
INDEXABLE SOLID CARBIDE LINE

MM SS

Interchangeable Solid Carbide Heads for Milling Involute Spline Shafts According to DIN 5480



Designation	Dimensions Module	T range(1)	DC	PDX	CW	NOF(2)	THSZMS		IC528
MM SS22M100Z1720-4T08	1.00	17-20	21.70	2.8	5.50	4	T08	MM EGR 20-22*	●
MM SS22M100Z2125-4T08	1.00	21-25	21.70	2.3	4.50	4	T08	MM EGR 20-22*	●
MM SS22M150Z1720-4T08	1.50	17-20	21.70	2.7	5.40	4	T08	MM EGR 20-22*	●

• MM EGR 20-22 clamping keys are supplied with each MM GRT... shanks, in case of using other shanks; the keys should be ordered separately. • Tightening torque 1500 Nxcm • Do not apply lubricant to the threaded connection. • For clamping instructions, see pages 77-78 • For user guide, see pages 39, 169-173
• For shanks, see pages 70-77
(1) Teeth range
(2) Number of flutes

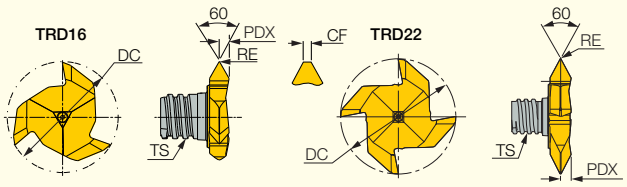
* Optional, should be ordered separately

SOLIDTHREAD

MULTI-MASTER
INDEXABLE SOLID CARBIDE LINE

MM TRD-M

Interchangeable Solid Carbide Milling Heads for 60° Partial Profile Thread Milling



Designation	Dimensions DC	NOF(1)	TPN(2)	TPX(3)	RE	CF	PDX	THSZMS	TDZ(4)	DMIN	Standard		IC528
MM TRD16-M60-05P-3T06	15.70	3	0.500	2.000	- (5)	0.05	1.2	T06	M20	19.05	ISO 68, DIN 13	MM EGR 16-18*	●
MM TRD16-M60-15P-3T06	15.70	3	1.500	2.000	0.05	-	1.2	T06	M22	19.05	ISO 68, DIN 13	MM EGR 16-18*	●
MM TRD22-M60-30P-4T08	21.70	4	3.000	4.500	0.20	-	2.8	T08	M36	31.00	ISO 68, DIN 13	MM EGR 20-22*	●

• For ISO metric thread (ISO 68, DIN13, ANSI B 1.13M-1983) • For shanks, see p ages 70-77 • For clamping instructions, see pages 77-78 • Do not apply lubricant to the threaded connection.
(1) Number of flutes
(2) Thread pitch minimum (mm)
(3) Thread pitch maximum (mm)
(4) Smallest possible thread
(5) Flat

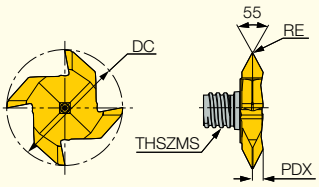
* Optional, should be ordered separately

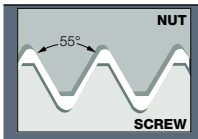
SOLIDTHREAD

MULTI-MASTER
INDEXABLE SOLID CARBIDE LINE

MM TRD-W

Interchangeable Solid Carbide Milling Heads for 55° Partial Profile Thread Milling





Designation	Dimensions											IC528
	DC	NOF(1)	RE	PDX	TPIX(2)	TPIN(3)	THSZMS	TDZ(4)	DMIN	Standard		
MM TRD22-W55-14P-4T08	21.70	4	0.20	2.4	14.00	11	T08	G3/4	24.20	DIN ISO 228, B.S. 84	MM EGR 20-22*	•

• For shanks, see pages 70-77 • For clamping instructions, see pages 77-78 • Do not apply lubricant to the threaded connection.

(1) Number of flutes
(2) Threads per inch maximum
(3) Threads per inch minimum
(4) Thread diameter size

* Optional, should be ordered separately

Identification Code

MT	10	D	6	0.75	ISO	MMT05/MMTT..*
MULTI-MASTER Thread Mill	Cutting Dia.	No. of Flutes	Cutting Length	Pitch	Thread Profile ISO UN G (55°)	Connection Size

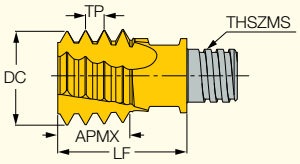
* For thread milling heads with 12 mm diameter and larger

SOLIDTHREAD

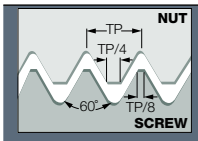
MULTI-MASTER
INDEXABLE SOLID CARBIDE LINE

MT-ISO-MM

Carbide Milling Heads with a Threaded Connection for Internal ISO Metric Thread



Application: General engineering



Designation	Dimensions								IC908
	TP(1)	M Coarse	M Fine	DC	NOF(2)	APMX	LF	THSZMS	
MT10D7.5 0.5ISO-MMT05	0.500	-	=>14	10.00	4	7.50	12.75	T05	•
MT 10D6 0.75ISO-MMT05	0.750	-	=>12	10.00	4	6.00	12.75	T05	•
MT 10D6 1.0ISO-MMT05	1.000	-	=>12	10.00	4	6.00	12.75	T05	•
MT 10D5 1.25ISO-MMT05	1.250	-	=>14	10.00	4	5.00	12.75	T05	•
MT 10D6 1.5ISO-MMT05	1.500	-	=>14	10.00	4	6.00	12.75	T05	•
MT12D9 0.5ISO-MMTT06	0.500	-	=>16	12.00	4	9.00	14.30	T06	•
MT12E9 0.75ISO-MMTT06	0.750	-	=>16	12.00	5	9.00	14.30	T06	•
MT12E9 1.0ISO-MMTT06	1.000	-	=>16	12.00	5	9.00	14.30	T06	•
MT12D9 1.25ISO-MMTT06	1.250	-	=>16	12.00	4	8.80	14.30	T06	•
MT12D9 1.5ISO-MMTT06	1.500	-	=>16	12.00	4	9.00	14.30	T06	•
MT12D9 1.75ISO-MMTT06	1.750	-	=>16	12.00	4	8.80	14.30	T06	•
MT12D10 2.0ISO-MMTT06	2.000	M16	=>17	12.00	4	10.00	14.30	T06	•
MT16F12 1.0ISO-MMTT08	1.000	-	=>22	16.00	6	12.00	19.00	T08	•
MT16F12 1.5ISO-MMTT08	1.500	-	=>20	16.00	6	12.00	19.00	T08	•
MT16E12 2.0ISO-MMTT08	2.000	-	=>19	16.00	5	12.00	19.00	T08	•
MT15E13 2.5ISO-MMTT08	2.500	M20	=>22	15.40	5	12.50	19.00	T08	•
MT16C12 3.0ISO-MMTT08	3.000	M24	=>25	16.00	3	12.00	19.00	T08	•
MT20F14 2.0ISO-MMTT10	2.000	-	=>27	20.00	6	14.00	21.00	T10	•
MT20D12 3.0ISO-MMTT10	3.000	-	=>27	20.00	4	12.00	21.00	T10	•
MT20D14 3.5ISO-MMTT10	3.500	-	=>30	20.00	4	14.00	21.00	T10	•

• For shanks, see pages 70-77 • For clamping keys (should be ordered separately), tightening torques and clamping instructions, see pages 77-78 • For thread milling heads with 12 mm diameter and larger use Torx clamping keys • Do not apply lubricant to the threaded connection

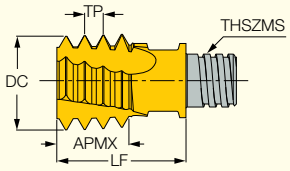
(1) Thread pitch
(2) Number of flutes

SOLIDTHREAD

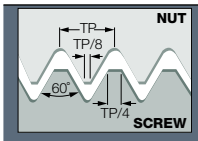
MULTI-MASTER
INDEXABLE SOLID CARBIDE LINE

MT-UN-MM

Carbide Milling Heads with a Threaded Connection for Internal UN Thread Profile



Application: General engineering



Designation	Dimensions										IC908
	TPI(1)	UNC	UNF	UNEF	DC	NOF(2)	APMX	LF	THSZMS	TP(3)	
MT 10D7 32UN-MMT05	32.0	-	-	-	10.00	4	6.40	12.75	T05	0.794	●
MT 10D6 28UN-MMT05	28.0	-	1/2	-	10.00	4	5.50	12.75	T05	0.907	●
MT 10D6 24UN-MMT05	24.0	-	-	9/16-5/8	10.00	4	5.30	12.75	T05	1.058	●
MT 10D6 20UN-MMT05	20.0	-	1/2	-	10.00	4	5.10	12.75	T05	1.270	●
MT 10D5 18UN-MMT05	18.0	-	9/16-5/8	1 1/8-1 5/8	10.00	4	5.60	12.75	T05	1.411	●
MT 10D7 16UN-MMT05	16.0	-	3/4	-	10.00	4	6.40	12.75	T05	1.588	●
MT12D9 24UN-MMTT06	24.0	-	-	5/8- 11/16	12.00	4	8.50	14.30	T06	1.058	●
MT12D9 20UN-MMTT06	20.0	-	-	3/4 - 1	12.00	4	8.90	14.30	T06	1.270	●
MT12D9 18UN-MMTT06	18.0	-	5/8	=>1 11/16	12.00	4	8.50	14.30	T06	1.411	●
MT12D10 16UN-MMTT06	16.0	-	3/4	-	12.00	4	8.00	14.30	T06	1.588	●
MT12D10 14UN-MMTT06	14.0	-	7/8	-	12.00	4	9.10	14.30	T06	1.814	●
MT16E12 18UN-MMTT08	18.0	-	5/8	=>1 11/16	16.00	5	11.30	19.00	T08	1.411	●
MT16E13 14UN-MMTT08	14.0	-	7/8	-	16.00	5	12.70	19.00	T08	1.814	●
MT16E13 12UN-MMTT08	12.0	-	1-1 1/2	-	16.00	5	12.70	19.00	T08	2.117	●
MT15D13 10UN-MMTT08	10.0	3/4	-	-	15.30	4	12.70	19.00	T08	2.540	●
MT16C11 9UN-MMTT08	9.0	7/8	-	-	16.00	3	11.30	19.00	T08	2.822	●
MT16C12 8UN-MMTT08	8.0	1.0	-	-	16.00	3	12.70	19.00	T08	3.175	●
MT20F13 12UN-MMTT10	12.0	-	=>1	-	20.00	6	12.70	21.00	T10	2.117	●
MT20D13 8UN-MMTT10	8.0	1			20.00	4	12.70	21.00	T10	3.175	●
MT20D15 7UN-MMTT10	7.0	-	1 1/8 - 1 1/4	-	20.00	4	14.50	21.00	T10	3.629	●

• For shanks, see pages 70-77 • For clamping keys (should be ordered separately), tightening torques and clamping instructions, see pages 77-78 • For thread milling heads with 12 mm diameter and larger use Torx clamping keys • Do not apply lubricant to the threaded connection

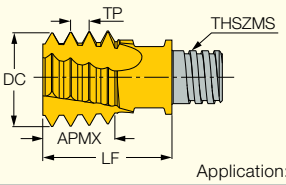
(1) Threads per inch
(2) Number of flutes
(3) Thread pitch

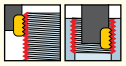
SOLIDTHREAD

MULTI-MASTER
INDEXABLE SOLID CARBIDE LINE

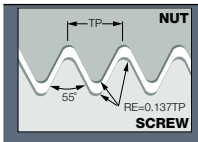
MT-W-MM

Carbide Milling Heads with a Threaded Connection for Internal and External 55° BSW Thread Profile





Application: General engineering fittings and pipe couplings



Designation	Dimensions								IC908
	TPI(1)	TDZ(2)	DC	NOF(3)	APMX	LF	THSZMS	TP(4)	
MT 10D6 19W-MMT05	19.0	G1/4-3/8	10.00	4	5.30	12.75	T05	1.337	●
MT16D12 14W-MMTT08	14.0	G1/2-7/8	16.00	4	12.70	19.00	T08	1.814	●
MT16D11 11W-MMTT08	11.0	G=>1	16.00	4	11.60	19.00	T08	2.309	●
MT20F15 14W-MMTT10	14.0	G3/4-7/8	20.00	6	14.60	21.00	T10	1.814	●
MT20F14 11W-MMTT10	11.0	G=>1	20.00	6	13.90	21.00	T10	2.309	●

• For shanks, see pages 70-77 • For clamping keys (should be ordered separately), tightening torques and clamping instructions, see pages 77-78 • For thread milling heads with 12 mm diameter and larger use Torx clamping keys • Do not apply lubricant to the threaded connection

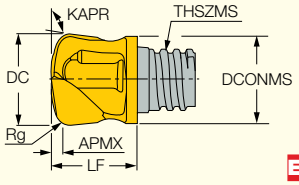
(1) Threads per inch
(2) Thread diameter size
(3) Number of flutes
(4) Thread pitch

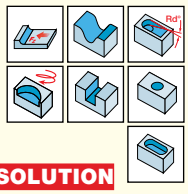
MULTI FEED MASTER

SOLID FEED MILL

MM FF

Interchangeable 2 Flute FEEDMILL Solid Carbide Heads for Milling at Very Fast Feeds and Small D.O.C.





ECONOMICAL SOLUTION

Designation	Dimensions DC	NOF(1)	APMX	Rg(2)	THSZMS	DCONMS	LF	KAPR	RMPX(3)	Tough ↔ Hard IC908	IC903	Recommended Machining Data f_z (mm/t)
MM FF100R1.5-L12-2T06	10.00	2	0.60	2.00	T06	9.60	12.50	97.0	7.0	•		0.30-0.60
MM FF120R2.0-2T08	12.00	2	0.68	2.50	T08	11.50	11.10	97.0	7.0	•	•	0.50-1.00
MM FF500R08-L59-2T08	12.70	2	0.68	2.50	T08	11.50	15.00	95.0	7.0	•		0.50-1.00
MM FF160R2.0-2T10	16.00	2	1.10	3.00	T10	15.20	13.50	97.0	7.0	•		0.55-1.10
MM FF200R2.0-2T12	20.00	2	1.50	3.40	T12	18.45	17.40	95.0	7.0	•		0.75-1.50

• For shanks, see pages 70-77 • For clamping keys (should be ordered separately), tightening torques and clamping instructions, see pages 77-78 • Do not apply lubricant to the threaded connection. • For user guide, see pages 39, 169-173

(1) Number of flutes

(2) Radius for programming

(3) Maximum ramping angle

Machining Example:

Shank: MM S-B-L140-C16-T08
Milling head: MM FF 120R2.0-2T08
Workpiece material: SAE 4340 HRc 28

Plunging
ap = 2 mm
Vc = 80 mm
F = 0.24 m/min

Milling
ap = 0.7 mm
ae = 8 mm
Vc = 150 m/min
Fz = 1 mm/tooth
Vf = 7960 mm/min

Machining Example:

Shank: MM S-A-L070-W20-T10
Milling head: MM FF160R2.0-2T10 908
Workpiece material: P20 HRc 52

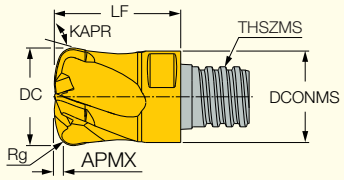
Milling
ap = 0.2 mm
ae = 6 mm
Vc = 150 m/min
Fz = 1.4 mm/tooth
Vf = 8355
T = 60 min

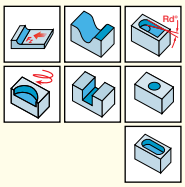
MULTI FEED MASTER

SOLID FEED MILL

MM EFF

4, 6 Flute Solid Carbide Heads for Milling at Very Fast Feeds and Small D.O.C.





Designation	Dimensions										Tough ↔ Hard		Recommended Machining Data
	DC	NOF[3]	APMX	THSZMS	DCONMS	LF	RMPX[4]	KAPR	Rg[5]	CSP[6]	IC908	IC903	f_z (mm/t)
MM EFF080T3R1.62-4T05	8.00	4	0.40	T05	7.50	10.00	5.0	97.0	1.62	0		•	0.12-0.48
MM EFF100T4R2.01-4T06	10.00	4	0.50	T06	9.50	13.00	5.0	97.0	2.01	0		•	0.16-0.57
MM EFF100T2R1.0-6T06H [1]	10.00	6	0.45	T06	9.50	10.00	3.0	97.0	1.00	1		•	0.16-0.47
MM EFF120T4R1.8-4T08H [1]	12.00	4	0.60	T08	11.50	16.50	5.0	97.0	1.80	1	•		0.16-0.67
MM EFF120T4R2.47-4T08	12.00	4	0.60	T08	11.50	16.50	5.0	97.0	2.47	0		•	0.16-0.67
MM EFF120T2R1.2-6T08H [1]	12.00	6	0.65	T08	11.50	12.50	3.0	97.0	1.20	1		•	0.16-0.54
MM EFF127T4R2.59-4T08	12.70	4	0.60	T08	12.20	16.50	5.0	97.0	2.59	0		•	0.16-0.67
MM EFF160T5R2.2-4T10H [1]	16.00	4	0.80	T10	15.40	20.50	5.0	97.0	2.20	1	•		0.20-0.75
MM EFF160T5R3.25-4T10	16.00	4	0.80	T10	15.40	20.50	5.0	97.0	3.25	0		•	0.20-0.75
MM EFF160T4R2.0-6T10H [1]	16.00	6	1.05	T10	15.40	16.00	3.0	97.0	2.00	1		•	0.20-0.65
MM EFF200T6R4.02-4T12	20.00	4	1.00	T12	18.45	25.50	5.0	97.0	4.02	0		•	0.20-0.90
MM EFF200T5R2.2-6T12H [1]	20.00	6	1.25	T12	18.45	20.00	3.0	97.0	2.20	1		•	0.20-0.80
MM EFF250A7R3.1-6T15 [2]	25.00	6	1.20	T15	23.90	25.00	5.0	97.0	3.10	0		•	0.25-1.00
MM EFF254A7R3.1-6T15 [2]	25.40	6	1.20	T15	23.90	25.00	5.0	97.0	3.10	0		•	0.25-1.00

• For shanks, see pages 70-77 • For clamping keys (should be ordered separately), tightening torques and clamping instructions, see pages 77-78 • Do not apply lubricant to the threaded connection. • For user guide, see pages 39, 169-173

[1] With a central coolant hole
[2] Cannot be used for plunging application
[3] Number of flutes
[4] Maximum ramping angle
[5] Radius for programming
[6] 0 - Without coolant supply, 1 - With coolant supply

Machining Recommendations

VDI 3323	Material Group[1]	Vc (m/min)	ap	ae	Fz (mm/t) vs. Tool Diameter (mm) 8	10	12	16	20	25
P	1	180	0.045xD	0.7xD	0.48	0.57	0.67	0.75	0.90	1.00
	2	160	0.045xD	0.7xD	0.48	0.57	0.67	0.75	0.90	1.00
	3	160	0.045xD	0.7xD	0.48	0.57	0.67	0.75	0.90	1.00
	4	160	0.045xD	0.7xD	0.48	0.57	0.67	0.75	0.90	1.00
	5	150	0.045xD	0.7xD	0.43	0.50	0.57	0.65	0.75	0.87
	6	150	0.045xD	0.7xD	0.33	0.40	0.48	0.57	0.67	0.78
	7	140	0.045xD	0.7xD	0.33	0.40	0.48	0.57	0.67	0.78
	8	140	0.045xD	0.7xD	0.30	0.35	0.43	0.52	0.60	0.70
	9	140	0.045xD	0.7xD	0.30	0.35	0.43	0.52	0.60	0.70
	10	130	0.04xD	0.6xD	0.28	0.33	0.38	0.48	0.57	0.67
	11	120	0.04xD	0.6xD	0.25	0.30	0.35	0.43	0.52	0.62
	12, 13	120	0.04xD	0.6xD	0.30	0.35	0.43	0.52	0.60	0.70
K	15-16	180	Apmax	0.7xD	0.45	0.52	0.60	0.70	0.80	0.90
	17-18	160	Apmax	0.7xD	0.38	0.45	0.52	0.60	0.70	0.80
H	38.1[2]	100	0.035xD	0.45xD	0.20	0.25	0.33	0.40	0.48	0.55
	38.2[3]	80	0.03xD	0.3xD	0.16	0.22	0.30	0.38	0.45	0.52
	39[4]	60	0.02xD	0.25xD	0.12	0.16	0.16	0.20	0.20	0.25

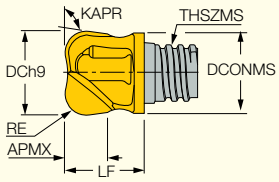
[1] ISCAR material group in accordance with VDI 3323 standard
[2] 45-49 HRc
[3] 50-55 HRc
[4] 56-63 HRc

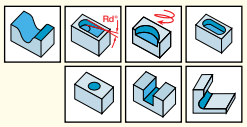
ap - Depth of cut
ae - Width of cut

MULTI-MASTER
INDEXABLE SOLID CARBIDE LINE

MM HT

Torodial 2 Flute Interchangeable Solid Carbide Heads





ECONOMICAL SOLUTION

Designation	Dimensions									Tough ↔ Hard	
	DC	NOF(1)	APMX	RE	Tm(2)	THSZMS	DCONMS	LF	KAPR	IC908	IC903
MM HT100C08R0.5-2T06	10.00	2	7.00	0.50	r0-1.0	T06	9.50	12.45	95.0	•	
MM HT100C08R1.0-2T06	10.00	2	7.00	1.00	r0-1.0	T06	9.50	12.45	95.0	•	
MM HT100N06R2.0-2T06	10.00	2	6.00	2.00	r0-3.0	T06	9.50	12.40	97.0	•	
MM HT100N07R0.5-2T06	10.00	2	6.90	0.50	r0-1.0	T06	9.50	11.20	95.0		•
MM HT100N07R1.0-2T06	10.00	2	6.90	1.00	r0-1.0	T06	9.50	11.20	95.0		•
MM HT100N07R2.0-2T06	10.00	2	6.90	2.00	r0-3.0	T06	9.50	11.20	95.0		•
MM HT100N07R3.0-2T06	10.00	2	6.90	3.00	r2.7-4.0	T06	9.50	11.20	95.0		•
MM HT120N06R3.0-2T06	12.00	2	5.40	3.00	r2.7-4.0	T06	9.10	9.10	97.0	•	
MM HT120N06R4.0-2T06	12.00	2	5.10	4.00	r2.7-4.0	T06	11.50	9.10	97.0	•	
MM HT120N06R1.6-2T08	12.00	2	5.70	1.60	r1.3-r2.7	T08	11.50	11.10	97.0	•	•
MM HT120N06R2.0-2T08	12.00	2	5.90	2.00	r1.3-2.7	T08	11.50	11.10	97.0	•	•
MM HT120N06R2.5-2T08	12.00	2	5.50	2.50	r1.3-4.0	T08	11.50	11.10	97.0	•	
MM HT120N06R3.0-2T08	12.00	2	5.50	3.00	r2.7-4.4	T08	11.50	11.10	97.0	•	•
MM HT120N06R4.0-2T08	12.00	2	5.60	4.00	r2.7-4.4	T08	11.50	11.10	97.0	•	
MM HT160N07R2.0-2T10	16.00	2	6.90	2.00	r1.5-4.0	T10	15.20	13.10	97.0	•	
MM HT160N07R3.0-2T10	16.00	2	7.20	3.00	r1.5-4.0	T10	15.20	13.40	97.0	•	
MM HT160N07R4.0-2T10	16.00	2	7.10	4.00	r1.5-4.0	T10	15.20	13.40	97.0	•	
MM HT160N08R5.0-2T10	16.00	2	8.00	5.00	r2.7-4.4	T10	15.20	20.20	97.0	•	•
MM HT200N11R3.0-2T12	20.00	2	10.80	3.00	r3.0-8.0	T12	18.45	17.00	97.0	•	
MM HT200N11R4.0-2T12	20.00	2	11.10	4.00	r3.0-8.0	T12	18.45	17.30	97.0	•	
MM HT200N11R5.0-2T12	20.00	2	11.10	5.00	r3.0-8.0	T12	18.45	17.30	97.0	•	
MM HT200N11R6.0-2T12	20.00	2	11.00	6.00	r3.0-8.0	T12	18.45	17.30	97.0	•	
MM HT200N11R8.0-2T12	20.00	2	10.90	8.00	r3.0-8.0	T12	18.45	17.30	97.0	•	

• For shanks, see pages 70-77 • For clamping keys (should be ordered separately), tightening torques and clamping instructions, see pages 77-78 • Do not apply lubricant to the threaded connection. • For user guide, see pages 39, 169-173

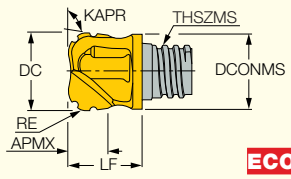
(1) Number of flutes

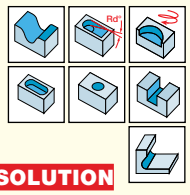
(2) Specially tailored radius range upon request

MULTI-MASTER
INDEXABLE SOLID CARBIDE LINE

MM HT-NCSR

2 Flute Chip Splitting Toroidal Solid Carbide Milling Heads





ECONOMICAL SOLUTION

Designation	Dimensions									
	DC	NOF(1)	APMX	RE	Tm(2)	THSZMS	DCONMS	LF	KAPR	IC908
MM HT120NCSR3.0-2T08	12.00	2	5.50	3.00	r2.7-4.4	T08	11.50	11.10	97.0	•

• For shanks, see pages 70-77 • For clamping keys (should be ordered separately), tightening torques and clamping instructions, see pages 77-78 • Do not apply lubricant to the threaded connection. • For user guide, see pages 39, 169-173

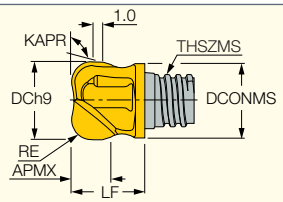
(1) Number of flutes

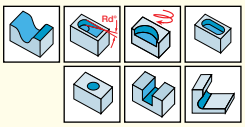
(2) Specially tailored radius range, available upon request.

MULTI-MASTER
INDEXABLE SOLID CARBIDE LINE

MM HT-NWFR

2 Flute Toroidal Solid Carbide Milling Heads with a Side Tangential Wiper





ECONOMICAL SOLUTION

Designation	Dimensions									IC908
	DC	NOF(1)	APMX	RE	Tm(2)	THSZMS	DCONMS	LF	KAPR	
MM HT120NWFR3.0-2T08	12.00	2	5.30	3.00	r2.7-4.4	T08	11.50	11.10	97.0	•

• For shanks, see pages 70-77 • For clamping keys (should be ordered separately), tightening torques and clamping instructions, see pages 77-78 • Do not apply lubricant to the threaded connection. • For user guide, see pages 39, 169-173

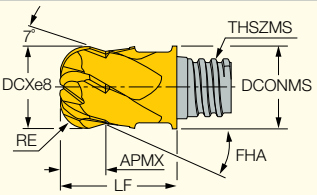
(1) Number of flutes

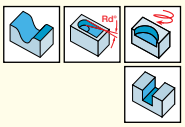
(2) Specially tailored radius range, available upon request.

MULTI-MASTER
INDEXABLE SOLID CARBIDE LINE

MM ETR

Interchangeable 6 Flute Torodial Solid Carbide Heads





Designation	Dimensions									Tough ↔ Hard	
	DCX(1)	NOF(2)	APMX	RE	THSZMS	DCONMS	L	FHA	RMPX(3)	IC908	IC903
MM ETR080A04R2.0-6T05	8.00	6	5.00	2.00	T05	7.70	10.00	30.0	9.0	•	
MM ETR080A4R05CF-6T05	8.00	6	4.00	0.50	T05	7.70	10.00	30.0	9.0		•
MM ETR080A4R10CF-6T05	8.00	6	4.00	1.00	T05	7.70	10.00	30.0	9.0		•
MM ETR100A05R3.0-6T06	10.00	6	7.00	3.00	T06	9.60	13.00	30.0	9.0	•	
MM ETR100A5R05CF-6T06	10.00	6	5.00	0.50	T06	9.60	13.00	30.0	9.0		•
MM ETR100A5R10CF-6T06	10.00	6	5.00	1.00	T06	9.60	13.00	30.0	9.0		•
MM ETR120A07R4.0-6T08	12.00	6	9.00	4.00	T08	11.70	16.50	30.0	9.0	•	
MM ETR120A7R05CF-6T08	12.00	6	7.00	0.50	T08	12.00	17.00	30.0	9.0		•
MM ETR120A7R10CF-6T08	12.00	6	7.00	1.00	T08	12.00	17.00	30.0	9.0		•
MM ETR160A09R5.0-6T10	16.00	6	12.00	5.00	T10	15.30	20.50	30.0	9.0	•	

• For shanks, see pages 70-77 • For clamping keys (should be ordered separately), tightening torques and clamping instructions, see pages 77-78 • Do not apply lubricant to the threaded connection. • For user guide, see pages 39, 169-173

(1) Cutting diameter maximum

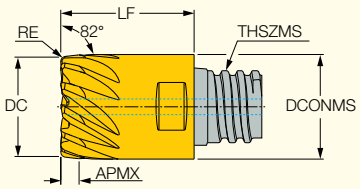
(2) Number of flutes

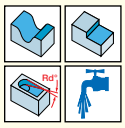
(3) Maximum ramping angle

MULTI-MASTER
INDEXABLE SOLID CARBIDE LINE

MM ET

Solid Carbide Tapered Heads with 20/30° Helix, Variable Pitch and Coolant Holes for Chatter Free Finishing Operations





Designation	Dimensions								IC908	Recommended Machining Data
	DC	RE	NOF(1)	APMX	THSZMS	DCONMS	LF	RMPX(2)		fz (mm/t)
MM ET11/8H4R10CF-8T08H	11.00	1.00	8	3.50	T08	12.00	16.50	3.0	•	0.04-0.10
MM ET15/8H4R10CF-12T10H	15.00	1.00	12	3.50	T10	16.00	20.50	3.0	•	0.05-0.11

• For shanks, see pages 70-77 • For clamping keys (should be ordered separately), tightening torques and clamping instructions, see pages 77-78 • Do not apply lubricant to the threaded connection. • For user guide, see pages 39, 169-173

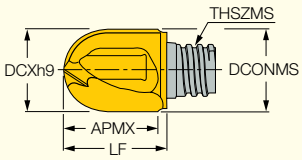
(1) Number of flutes

(2) Maximum ramping angle

MULTI-MASTER
INDEXABLE SOLID CARBIDE LINE

MM HCR

Interchangeable 2 Flute Solid Carbide Ball Nose Milling Heads



ECONOMICAL SOLUTION

Designation	Dimensions DCX(1)	NOF(2)	APMX	THSZMS	DCONMS	LF	IC908
MM HCR080-2T05	8.00	2	7.80	T05	7.60	9.95	•
MM HCR100-2T06	10.00	2	10.00	T06	9.50	12.35	•
MM HCR120-2T08	12.00	2	11.45	T08	11.50	15.30	•
MM HCR160-2T10	16.00	2	15.80	T10	15.20	19.10	•

• For shanks, see pages 70-77 • For clamping keys (should be ordered separately), tightening torques and clamping instructions, see pages.. • Do not apply lubricant to the threaded connection. • For user guide, see pages 39, 169-173

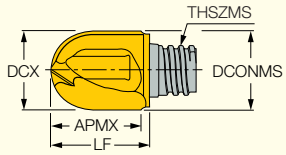
(1) Cutting diameter maximum

(2) Number of flutes

MULTI-MASTER
INDEXABLE SOLID CARBIDE LINE

MM HRF

Interchangeable 2 Flute Solid Carbide Ball Nose Finish Milling Heads



Designation	Dimensions DCX(1)	NOF(2)	APMX	THSZMS	DCONMS	LF	Tough ↔ Hard IC908	IC903
MM HRF080-2T05	8.00	2	7.60	T05	7.60	9.95		•
MM HRF100-2T06	10.00	2	10.20	T06	9.50	12.35	•	•
MM HRF120-2T08	12.00	2	11.50	T08	11.50	15.30		•
MM HRF160-2T10	16.00	2	15.80	T10	15.20	19.10		•

• For shanks, see pages 70-77 • For clamping keys (should be ordered separately), tightening torques and clamping instructions, see pages 77-78 • Do not apply lubricant to the threaded connection. • For user guide, see pages 39, 169-173

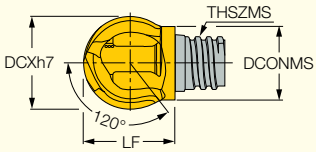
(1) Cutting diameter maximum

(2) Number of flutes

MULTI-MASTER
INDEXABLE SOLID CARBIDE LINE

MM HBR

Interchangeable 2 Flute High Precision Ball Nose Solid Carbide Milling Heads



ECONOMICAL SOLUTION

Designation	Dimensions DCX(1)	NOF(2)	THSZMS	DCONMS	LF		IC908
MM HBR080-2T04	8.00	2	T04	5.80	8.22	MM KEY 6X4*	•
MM HBR100-2T05	10.00	2	T05	7.60	10.00	MM KEY 6X4*	•
MM HBR120-2T06	12.00	2	T06	9.50	11.60	MM KEY 10X7*	•
MM HBR160-2T08	16.00	2	T08	12.20	15.40	MM KEY 13X8*	•
MM HBR200-2T10	20.00	2	T10	15.20	18.40	MM KEY 13X8*	•
MM HBR250-2T12	25.00	2	T12	18.30	23.20	MM KEY 16X9*	•

• For shanks, see pages .. • For tightening torques and clamping instructions, see page 77-78 • Do not apply lubricant to the threaded connection. • For user guide, see pages 39, 169-173

(1) Cutting diameter maximum

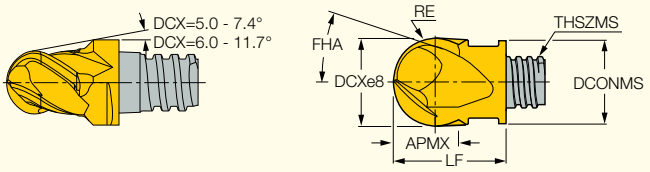
(2) Number of flutes

* Optional, should be ordered separately

MULTI-MASTER
INDEXABLE SOLID CARBIDE LINE

MM EB

Interchangeable Solid Carbide Ball Nose Milling Heads



Designation	Dimensions								IC908
	DCX(2)	NOF(3)	APMX	RE	THSZMS	DCONMS	LF	FHA	
MM EB050E07-4T05	5.00	4	7.00	2.49	T05	8.00	15.00	38.0	•
MM EB060E04-4T04	6.00	4	4.00	2.99	T04	5.80	7.60	37.0	•
MM EB060E05-4T05	6.00	4	5.00	2.99	T05	8.00	10.00	38.0	•
MM EB080A05-2T05	8.00	2	5.00	3.98	T05	7.70	10.00	30.0	•
MM EB080A05-4T05	8.00	4	5.00	3.98	T05	7.70	10.00	30.0	•
MM EB100A07-2T06	10.00	2	7.00	4.98	T06	9.60	13.00	30.0	•
MM EB100A07-4T06	10.00	4	7.00	4.98	T06	9.60	13.00	30.0	•
MM EB120A09-2T08	12.00	2	9.00	5.98	T08	11.70	16.50	30.0	•
MM EB120H09CF-3T08I (1)	12.00	3	9.00	5.98	T08	11.70	16.50	38.0	•
MM EB120A09-4T08	12.00	4	9.00	5.98	T08	11.70	16.50	30.0	•
MM EB160A09-2T10	16.00	2	9.00	7.98	T10	15.30	20.50	30.0	•
MM EB160A12-4T10	16.00	4	12.00	7.98	T10	15.30	20.50	30.0	•
MM EB200A15-4T12	20.00	4	15.00	9.97	T12	18.45	25.50	30.0	•
MM EB250A22-4T15	25.00	4	22.00	12.47	T15	23.90	37.00	30.0	•

• For shanks, see pages 70-77 • For clamping keys (should be ordered separately), tightening torques and clamping instructions, see pages 77-78 • Do not apply lubricant to the threaded connection. • For user guide, see pages 39, 169-173

(1) With coolant holes directed to each flute

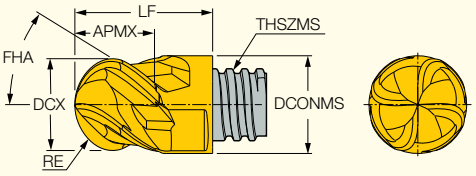
(2) Cutting diameter maximum

(3) Number of flutes

MULTI-MASTER
INDEXABLE SOLID CARBIDE LINE

MM EBC

Interchangeable Solid Carbide Ball Nose Milling Heads for High Productivity on Hard Materials



Designation	Dimensions									IC903
	DCX(1)	NOF(2)	APMX	RE	THSZMS	DCONMS	LF	FHA		
MM EBC080B05-4T05CF	8.00	4	5.40	3.98	T05	7.70	10.00	45.0	MM KEY 6X4*	•
MM EBC100B07-4T06CF	10.00	4	7.40	4.98	T06	9.60	13.00	45.0	MM KEY 8X5	•
MM EBC120B09-4T08CF	12.00	4	9.30	5.98	T08	11.70	16.50	45.0	MM KEY 10X7*	•
MM EBC160B12-4T10CF	16.00	4	12.40	7.98	T10	15.30	20.50	45.0	MM KEY 13X8*	•
MM EBC200B15-4T12CF	20.00	4	16.00	9.97	T12	18.45	25.50	45.0	MM KEY 16X9	•

• For shanks, see pages 70-77 • For clamping keys (should be ordered separately), tightening torques and clamping instructions, see pages 77-78 • Do not apply lubricant to the threaded connection. • For user guide, see pages 39, 169-173

(1) Cutting diameter maximum

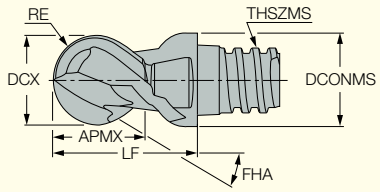
(2) Number of flutes

* Optional, should be ordered separately

MULTI-MASTER
INDEXABLE SOLID CARBIDE LINE

MM EBA

Interchangeable 2 Flute High Precision Solid Carbide Ball Nose Heads for Machining Aluminum



ALUMINUM

Designation	Dimensions									IC08
	DCX(1)	NOF(2)	APMX	RE	RETOL(3)	THSZMS	DCONMS	LF	FHA	
MM EBA080B05-2T05	8.00	2	5.00	3.98	0.010	T05	7.70	10.00	45.0	•
MM EBA100B07-2T06	10.00	2	7.00	4.98	0.010	T06	9.60	13.00	45.0	•
MM EBA120B09-2T08	12.00	2	9.00	5.98	0.012	T08	11.50	16.50	45.0	•
MM EBA160B12-2T10	16.00	2	12.00	7.98	0.012	T10	15.30	20.50	45.0	•
MM EBA200B15-2T12	20.00	2	15.00	9.97	0.012	T12	18.45	25.50	45.0	•
MM EBA250B22-2T15	25.00	2	22.00	12.50	0.012	T15	23.90	37.00	45.0	•

• For shanks, see pages 70-77 • For clamping keys (should be ordered separately), tightening torques and clamping instructions, see pages 77-78 • Do not apply lubricant to the threaded connection. • For user guide, see pages 39, 169-173

(1) Cutting diameter maximum

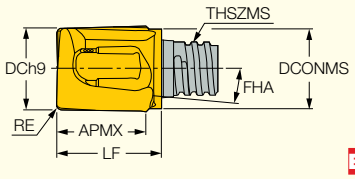
(2) Number of flutes

(3) Corner radius tolerance (+/-)

MULTI-MASTER
INDEXABLE SOLID CARBIDE LINE

MM HC

Interchangeable Solid Carbide Slot Drill Milling Heads with Two 10° Helix Flutes



ECONOMICAL SOLUTION

Designation	Dimensions									Tough ↔ Hard		Recommended Machining Data
	DC	NOF(1)	APMX	RE	Tm(2)	THSZMS	DCONMS	LF	FHA	IC908	IC903	f_z (mm/t)
MM HC078C08R0.2-2T05	7.80	2	7.70	0.20	r0-2.0	T05	7.60	10.00	10.0	•		0.03-0.09
MM HC080C08R0.4-2T05	8.00	2	7.70	0.40	r0-2.0	T05	7.60	10.00	10.0	•	•	0.03-0.09
MM HC080C08R1.0-2T05	8.00	2	7.70	1.00	r0-2.0	T05	7.60	10.00	10.0	•	•	0.03-0.09
MM HC080C08R2.0-2T05	8.00	2	7.70	2.00	r0-2.0	T05	7.60	10.00	10.0	•	•	0.03-0.09
MM HC098C10R0.3-2T06	9.80	2	9.00	0.30	r0-3.0	T06	9.50	12.35	10.0	•		0.03-0.10
MM HC100C10R0.4-2T06	10.00	2	9.00	0.40	r0-3.0	T06	9.50	12.35	10.0	•	•	0.03-0.10
MM HC100C10R1.0-2T06	10.00	2	9.00	1.00	r0-3.0	T06	9.50	12.35	10.0	•	•	0.03-0.10
MM HC100C10R2.0-2T06	10.00	2	9.00	2.00	r0-3.0	T06	9.50	12.35	10.0	•	•	0.03-0.10
MM HC117C13R0.3-2T08	11.70	2	10.00	0.30	r0-3.0	T08	11.50	14.20	10.0	•		0.04-0.11
MM HC120C13R0.4-2T08	12.00	2	10.00	0.40	r0-3.0	T08	11.50	14.20	10.0	•	•	0.04-0.11
MM HC120C13R1.0-2T08	12.00	2	10.00	1.00	r0-3.0	T08	11.50	14.20	10.0	•	•	0.04-0.11
MM HC120C13R2.0-2T08	12.00	2	10.00	2.00	r0-3.0	T08	11.50	14.20	10.0	•	•	0.04-0.11
MM HC140C11R0.4-2T08	14.00	2	11.60	0.40	r0-4.0	T08	11.50	15.05	10.0	•		0.04-0.12
MM HC157C16R0.3-2T10	15.70	2	15.00	0.30	r0-4.0	T10	15.20	19.05	10.0	•		0.05-0.13
MM HC160C16R0.4-2T10	16.00	2	14.90	0.40	r0-4.0	T10	15.20	19.05	10.0	•	•	0.05-0.13
MM HC160C16R0.8-2T10	16.00	2	14.90	0.80	r0-4.0	T10	15.15	19.05	10.0	•	•	0.05-0.13

• For shanks, see pages 70-77 • For clamping keys (should be ordered separately), tightening torques and clamping instructions, see pages 77-78 • Do not apply lubricant to the threaded connection. • For user guide, see pages 39, 169-173

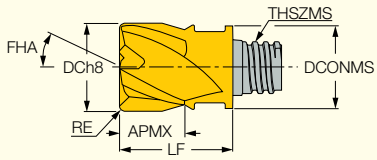
(1) Number of flutes

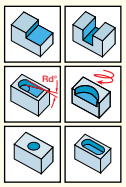
(2) Specially tailored radius range, available upon request.

MULTI-MASTER
INDEXABLE SOLID CARBIDE LINE

MM ECU

Interchangeable 3 Flute
Undersized Solid Carbide Heads
for Keyways (DIN 6885)





Designation	Dimensions DC	NOF[1]	APMX	RE	THSZMS	DCONMS	LF	FHA	IC908	Recommended Machining Data f_z (mm/t)
MM ECU077E04R020-3T05	7.70	3	4.00	0.20	T05	7.70	10.00	38.0	•	0.03-0.08
MM ECU097E05R030-3T06	9.70	3	5.00	0.30	T06	9.60	13.00	38.0	•	0.03-0.09
MM ECU117E07R030-3T08	11.70	3	7.00	0.30	T08	11.50	16.50	38.0	•	0.03-0.10
MM ECU157E08R030-3T10	15.70	3	8.00	0.30	T10	15.30	20.50	38.0	•	0.04-0.12
MM ECU197E12R040-3T12	19.70	3	12.00	0.40	T12	18.45	25.50	38.0	•	0.05-0.13

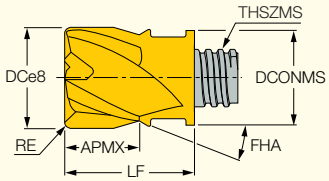
• For shanks, see pages 70-77 • For clamping keys (should be ordered separately), tightening torques and clamping instructions, see pages 77-78 • Do not apply lubricant to the threaded connection. • For user guide, see pages 39, 169-173

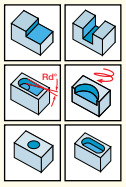
(1) Number of flutes

MULTI-MASTER
INDEXABLE SOLID CARBIDE LINE

MM EC-3

Interchangeable 3 Flute
Solid Carbide Endmill
Heads with 45° Helix





Designation	Dimensions DC	NOF[2]	APMX	RE	THSZMS	LF	FHA	DCONMS	IC908	Recommended Machining Data f_z (mm/t)
MM EC080B05R000-3T05	8.00	3	5.00	0.00	T05	10.00	45.0	7.70	•	0.03-0.09
MM EC100B07R000-3T06	10.00	3	7.00	0.00	T06	13.00	45.0	9.60	•	0.03-0.10
MM EC100B12R000-3T06	10.00	3	12.00	0.00	T06	19.00	45.0	9.60	•	0.03-0.10
MM EC120B09R000-3T08I [1]	12.00	3	9.00	0.00	T08	16.50	45.0	11.70	•	0.04-0.11
MM EC120B09R000-3T08	12.00	3	9.00	0.00	T08	16.50	45.0	11.70	•	0.04-0.11

• For shanks, see pages 70-77 • For clamping keys (should be ordered separately), tightening torques and clamping instructions, see pages 77-78 • Do not apply lubricant to the threaded connection. • For user guide, see pages 39, 169-173

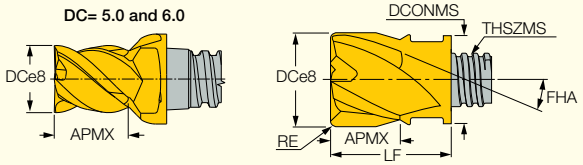
(1) With coolant holes directed to each flute

(2) Number of flutes

MULTI-MASTER
INDEXABLE SOLID CARBIDE LINE

MM EC-4

Interchangeable 4 Flute Solid Carbide Endmill Heads with 30° and 45° Helix and Various Corner Radii



Designation	Dimensions DC	RE	FHA	NOF[1]	APMX	THSZMS	DCONMS	LF	IC908	Recommended Machining Data f_z (mm/t)
MM EC050B07R000-4T05	5.00	0.00	45.0	4	7.00	T05	8.00	15.00	•	0.02-0.06
MM EC060B05R000-4T05	6.00	0.00	45.0	4	5.00	T05	8.00	10.00	•	0.03-0.07
MM EC060B04R0.5-4T04	6.00	0.50	45.0	4	4.00	T04	5.80	8.50	•	0.02-0.04
MM EC080B05R000-4T05	8.00	0.00	45.0	4	5.00	T05	7.70	10.00	•	0.03-0.09
MM EC080B09R000-4T05	8.00	0.00	45.0	4	9.00	T05	7.70	15.00	•	0.03-0.09
MM EC080A05R0.5-4T05	8.00	0.50	30.0	4	5.00	T05	7.70	10.00	•	0.03-0.09
MM EC080A09R0.5-4T05	8.00	0.50	30.0	4	9.00	T05	7.70	15.00	•	0.03-0.09
MM EC080B05R0.5-4T05	8.00	0.50	45.0	4	5.00	T05	7.70	10.00	•	0.03-0.09
MM EC080A05R1.0-4T05	8.00	1.00	30.0	4	5.00	T05	7.70	10.00	•	0.03-0.09
MM EC080B05R1.0-4T05	8.00	1.00	45.0	4	5.00	T05	7.70	10.00	•	0.03-0.09
MM EC080A05R1.5-4T05	8.00	1.50	30.0	4	5.00	T05	7.70	10.00	•	0.03-0.09
MM EC080B05R1.5-4T05	8.00	1.50	45.0	4	5.00	T05	7.70	10.00	•	0.03-0.09
MM EC100B07R000-4T06	10.00	0.00	45.0	4	7.00	T06	9.60	13.00	•	0.03-0.10
MM EC100B12R000-4T06	10.00	0.00	45.0	4	12.00	T06	9.60	19.00	•	0.03-0.10
MM EC100A07R0.5-4T06	10.00	0.50	30.0	4	7.00	T06	9.60	13.00	•	0.03-0.10
MM EC100B07R0.5-4T06	10.00	0.50	45.0	4	7.00	T06	9.60	13.00	•	0.03-0.10
MM EC100A07R1.0-4T06	10.00	1.00	30.0	4	7.00	T06	9.60	13.00	•	0.03-0.10
MM EC100B07R1.0-4T06	10.00	1.00	45.0	4	7.00	T06	9.60	13.00	•	0.03-0.10
MM EC120B09R000-4T08	12.00	0.00	45.0	4	9.00	T08	11.70	16.50	•	0.04-0.11
MM EC120B14R000-4T08	12.00	0.00	45.0	4	14.00	T08	11.70	23.00	•	0.04-0.11
MM EC120A09R0.5-4T08	12.00	0.50	30.0	4	9.00	T08	11.70	16.50	•	0.04-0.11
MM EC120B09R0.5-4T08	12.00	0.50	45.0	4	9.00	T08	11.70	16.50	•	0.04-0.11
MM EC120A09R1.0-4T08	12.00	1.00	30.0	4	9.00	T08	11.70	16.50	•	0.04-0.11
MM EC120B09R1.0-4T08	12.00	1.00	45.0	4	9.00	T08	11.70	16.50	•	0.04-0.11
MM EC160B12R000-4T10	16.00	0.00	45.0	4	12.00	T10	15.30	20.50	•	0.05-0.13
MM EC160A12R0.5-4T10	16.00	0.50	30.0	4	12.00	T10	15.30	20.50	•	0.05-0.13
MM EC160B12R0.5-4T10	16.00	0.50	45.0	4	12.00	T10	15.30	20.50	•	0.05-0.13
MM EC160A12R1.0-4T10	16.00	1.00	30.0	4	12.00	T10	15.30	20.50	•	0.05-0.13
MM EC160B12R1.0-4T10	16.00	1.00	45.0	4	12.00	T10	15.30	20.50	•	0.05-0.13
MM EC160A12R1.5-4T10	16.00	1.50	30.0	4	12.00	T10	15.30	20.50	•	0.05-0.13
MM EC160B12R1.5-4T10	16.00	1.50	45.0	4	12.00	T10	15.30	20.50	•	0.05-0.13
MM EC160A12R2.0-4T10	16.00	2.00	30.0	4	12.00	T10	15.30	20.50	•	0.05-0.13
MM EC160B12R2.0-4T10	16.00	2.00	45.0	4	12.00	T10	15.30	20.50	•	0.05-0.13
MM EC160A12R3.0-4T10	16.00	3.00	30.0	4	12.00	T10	15.30	20.50	•	0.05-0.13
MM EC160B12R3.0-4T10	16.00	3.00	45.0	4	12.00	T10	15.30	20.50	•	0.05-0.13
MM EC160A12R4.0-4T10	16.00	4.00	30.0	4	12.00	T10	15.30	20.50	•	0.05-0.13
MM EC160B12R4.0-4T10	16.00	4.00	45.0	4	12.00	T10	15.30	20.50	•	0.05-0.13
MM EC200B15R000-4T12	20.00	0.00	45.0	4	15.00	T12	18.45	25.50	•	0.05-0.13
MM EC200A15R0.5-4T12	20.00	0.50	30.0	4	15.00	T12	18.45	25.50	•	0.05-0.13
MM EC200A15R1.0-4T12	20.00	1.00	30.0	4	15.00	T12	18.45	25.50	•	0.05-0.13
MM EC200A15R2.0-4T12	20.00	2.00	30.0	4	15.00	T12	18.45	25.50	•	0.05-0.13
MM EC200A15R3.0-4T12	20.00	3.00	30.0	4	15.00	T12	18.45	25.50	•	0.05-0.13

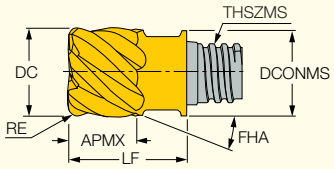
• For shanks, see pages 70-77 • For clamping keys (should be ordered separately), tightening torques and clamping instructions, see pages 77-78 • Do not apply lubricant to the threaded connection. • For user guide, see pages 39, 169-173

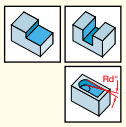
[1] Number of flutes

MULTI-MASTER
INDEXABLE SOLID CARBIDE LINE

MM EC-6

Interchangeable 6 Flute Solid Carbide Endmill Heads with 30° and 45° Helix and Various Corner Radii





Designation	Dimensions									IC908	Recommended Machining Data
	DC	NOF(1)	APMX	RE	THSZMS	DCONMS	LF	FHA	RMPX(2)		f_z (mm/t)
MM EC080A05R0.5-6T05	8.00	6	5.00	0.50	T05	7.70	10.00	30.0	6.0	•	0.03-0.09
MM EC080A05R1.0-6T05	8.00	6	5.00	1.00	T05	7.70	10.00	30.0	6.0	•	0.03-0.09
MM EC080A05R1.5-6T05	8.00	6	5.00	1.50	T05	7.70	10.00	30.0	6.0	•	0.03-0.09
MM EC080B05R0.5-6T05	8.00	6	5.00	0.50	T05	7.70	10.00	45.0	3.0	•	0.03-0.10
MM EC080B05R1.0-6T05	8.00	6	5.00	1.00	T05	7.70	10.00	45.0	3.0	•	0.03-0.09
MM EC080B05R1.5-6T05	8.00	6	5.00	1.50	T05	7.70	10.00	45.0	3.0	•	0.03-0.09
MM EC100A07R0.5-6T06	10.00	6	7.00	0.50	T06	9.60	13.00	30.0	6.0	•	0.03-0.10
MM EC100A07R1.0-6T06	10.00	6	7.00	1.00	T06	9.60	13.00	30.0	6.0	•	0.03-0.10
MM EC100A07R1.5-6T06	10.00	6	7.00	1.50	T06	9.60	13.00	30.0	6.0	•	0.03-0.10
MM EC100B07R0.5-6T06	10.00	6	7.00	0.50	T06	9.60	13.00	45.0	3.0	•	0.04-0.10
MM EC100B07R000-6T06	10.00	6	7.00	0.00	T06	9.60	13.00	45.0	3.0	•	0.03-0.10
MM EC100B07R1.0-6T06	10.00	6	7.00	1.00	T06	9.60	13.00	45.0	3.0	•	0.04-0.10
MM EC100B07R1.5-6T06	10.00	6	7.00	1.50	T06	9.60	13.00	45.0	3.0	•	0.03-0.10
MM EC100B12R1.5-6T06	10.00	6	12.00	1.50	T06	9.60	19.00	45.0	3.0	•	0.04-0.10
MM EC120A09R0.5-6T08	12.00	6	9.00	0.50	T08	11.70	16.50	30.0	6.0	•	0.04-0.11
MM EC120A09R1.0-6T08	12.00	6	9.00	1.00	T08	11.70	16.50	30.0	6.0	•	0.04-0.11
MM EC120B09R0.5-6T08	12.00	6	9.00	0.50	T08	11.70	16.50	45.0	3.0	•	0.04-0.10
MM EC120B09R000-6T08	12.00	6	9.00	0.00	T08	11.70	16.50	45.0	3.0	•	0.04-0.11
MM EC120B09R1.0-6T08	12.00	6	9.00	1.00	T08	11.70	16.50	45.0	3.0	•	0.04-0.10
MM EC120B09R1.5-6T08	12.00	6	9.00	1.50	T08	11.70	16.50	45.0	3.0	•	0.04-0.11

• For shanks, see pages 70-77 • For clamping keys (should be ordered separately), tightening torques and clamping instructions, see pages 77-78 • Do not apply lubricant to the threaded connection. • For user guide, see pages 39, 169-173

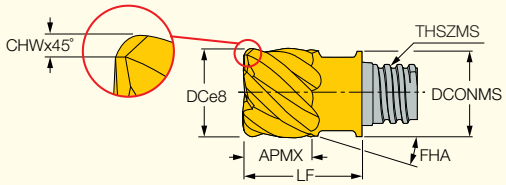
(1) Number of flutes

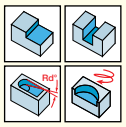
(2) Maximum ramping angle

MULTI-MASTER
INDEXABLE SOLID CARBIDE LINE

MM EC-D

Interchangeable 6, 8, 10 Flute Solid Carbide Endmill Heads with 50° Helix for Machining Hardened Steel





Designation	Dimensions									IC903	Recommended Machining Data
	DC	NOF(1)	APMX	CHW	THSZMS	DCONMS	LF	FHA	RMPX(2)		f_z (mm/t)
MM EC080D05C01-6T05	8.00	6	5.00	0.10	T05	7.70	10.00	50.0	2.0	•	0.03-0.10
MM EC100D07C01-6T06	10.00	6	7.00	0.10	T06	9.60	13.00	50.0	2.0	•	0.03-0.10
MM EC120D09C01-6T08	12.00	6	9.00	0.10	T08	11.70	16.50	50.0	3.0	•	0.04-0.11
MM EC160D12C02-8T10	16.00	8	12.00	0.20	T10	15.30	20.50	50.0	3.0	•	0.05-0.13
MM EC200D15C02-10T12	20.00	10	15.00	0.20	T12	18.45	25.50	50.0	3.0	•	0.05-0.13

• For shanks, see pages 70-77 • For clamping keys (should be ordered separately), tightening torques and clamping instructions, see pages 77-78 • Do not apply lubricant to the threaded connection. • For user guide, see pages 39, 169-173

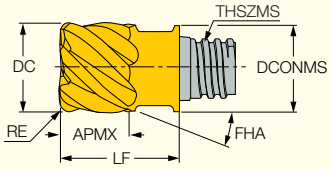
(1) Number of flutes

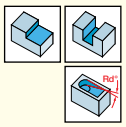
(2) Maximum ramping angle

MULTI-MASTER
INDEXABLE SOLID CARBIDE LINE

MM EC-8/10

Interchangeable 8, 10 Flute Solid Carbide Endmill Heads 30° and 45° Helix and Various Corner Radii





Designation	Dimensions DC	NOF(2)	APMX	RE	THSZMS	DCONMS	LF	FHA	RMPX(3)	IC908	Recommended Machining Data f_z (mm/t)
MM EC160A12R0.5-8T10	16.00	8	12.00	0.50	T10	15.30	20.50	30.0	5.0	●	0.05-0.13
MM EC160A12R0.5-8T10H (1)	16.00	8	12.00	0.50	T10	15.30	20.50	30.0	5.0	●	0.05-0.13
MM EC160A12R1.0-8T10	16.00	8	12.00	1.00	T10	15.30	20.50	30.0	5.0	●	0.05-0.13
MM EC160A12R1.6-8T10	16.00	8	12.00	1.60	T10	15.30	20.50	30.0	5.0	●	0.05-0.13
MM EC160A12R2.0-8T10	16.00	8	12.00	2.00	T10	15.30	20.50	30.0	5.0	●	0.05-0.13
MM EC160B12R0.5-8T10	16.00	8	12.00	0.50	T10	15.30	20.50	45.0	5.0	●	0.05-0.13
MM EC160B12R1.0-8T10	16.00	8	12.00	1.00	T10	15.30	20.50	45.0	5.0	●	0.05-0.13
MM EC160B12R1.6-8T10	16.00	8	12.00	1.60	T10	15.30	20.50	45.0	5.0	●	0.05-0.13
MM EC160B12R2.0-8T10	16.00	8	12.00	2.00	T10	15.30	20.50	45.0	5.0	●	0.05-0.13
MM EC200A15R1.0-10T12	20.00	10	15.00	1.00	T12	18.45	25.50	30.0	3.0	●	0.05-0.13
MM EC200A15R2.0-10T12	20.00	10	15.00	2.00	T12	18.45	25.50	30.0	3.0	●	0.05-0.13
MM EC250A22R0.8-10T15	25.00	10	22.00	0.80	T15	23.90	37.00	30.0	3.0	●	0.05-0.13

• For shanks, see pages 70-77 • For clamping keys (should be ordered separately), tightening torques and clamping instructions, see pages 77-78 • Do not apply lubricant to the threaded connection. • For user guide, see pages 39, 169-173

(1) With a central coolant hole

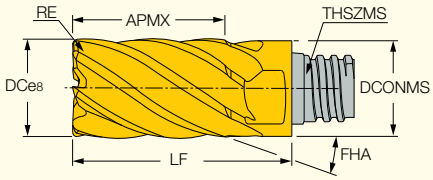
(2) Number of flutes

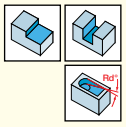
(3) Maximum ramping angle

MULTI-MASTER
INDEXABLE SOLID CARBIDE LINE

MM EC-CF-Z7/9-1.5xD

Interchangeable 7, 9 Flute Solid Carbide Endmill Heads 36° Helix with 1.5xD Flute Lengths





Designation	Dimensions DC	APMX	RE	NOF(1)	THSZMS	DCONMS	LF	FHA	RMPX(2)	IC908	Recommended Machining Data f_z (mm/t)
MM EC080H12R05CF-7T05	8.00	12.00	0.50	7	T05	7.70	18.00	36.0	3.0	●	0.03-0.10
MM EC100H15R05CF-7T06	10.00	15.00	0.50	7	T06	9.60	22.00	36.0	3.0	●	0.04-0.10
MM EC120H18R05CF-7T08	12.00	18.00	0.50	7	T08	11.70	27.00	36.0	3.0	●	0.04-0.10
MM EC160H24R08CF-9T10	16.00	24.00	0.80	9	T10	15.30	33.50	36.0	1.0	●	0.05-0.10
MM EC200H30R10CF-9T12	20.00	30.00	1.00	9	T12	18.45	41.00	36.0	1.0	●	0.05-0.10
MM EC250H37R10CF-9T15	25.00	37.00	1.00	9	T15	23.90	52.50	36.0	1.0	●	0.05-0.10

• For shanks, see pages 70-77 • For clamping keys (should be ordered separately), tightening torques and clamping instructions, see pages 77-78 • Do not apply lubricant to the threaded connection. • For user guide, see pages 39, 169-173

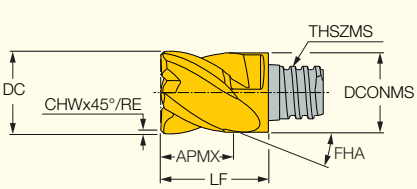
(1) Number of flutes

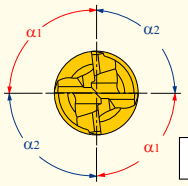
(2) Maximum ramping angle

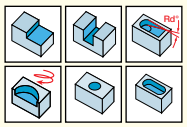
MULTI-MASTER
INDEXABLE SOLID CARBIDE LINE
CHATTERFREE
MULTI-MASTER LINE

MM EC-CF

Interchangeable Solid Carbide Endmill Heads for Chatter Free Roughing and Finishing Operations







α1≠α2

Designation	Dimensions DC	RE	NOF(2)	APMX	THSZMS	DCONMS	LF	FHA	CHW	IC908	Recommended Machining Data fz (mm/t)
MM EC080E05C3CF-4T05	8.00	-	4	5.00	T05	7.70	10.00	38.0	0.30	●	0.03-0.09
MM EC080E05R0CF-4T05	8.00	0.00	4	5.00	T05	7.70	10.00	38.0	-	●	0.03-0.09
MM EC080E05R05CF-4T05	8.00	0.50	4	5.00	T05	7.70	10.00	38.0	-	●	0.03-0.09
MM EC100E07C4CF-4T06	10.00	-	4	7.00	T06	9.60	13.00	38.0	0.40	●	0.03-0.10
MM EC100E07R00CF-4T06	10.00	0.00	4	7.00	T06	9.60	13.00	38.0	-	●	0.03-0.10
MM EC100E07R02CF-4T06	10.00	0.20	4	7.00	T06	9.60	13.00	38.0	-	●	0.03-0.10
MM EC100E07R04CF-4T06	10.00	0.40	4	7.00	T06	9.60	13.00	38.0	-	●	0.03-0.10
MM EC100E07R05CF-4T06	10.00	0.50	4	7.00	T06	9.60	13.00	38.0	-	●	0.03-0.10
MM EC100E07R25CF-4T06	10.00	2.50	4	7.00	T06	9.60	13.00	38.0	-	●	0.03-0.10
MM EC120E09C5CF-4T08	12.00	-	4	9.00	T08	11.70	16.50	38.0	0.50	●	0.04-0.11
MM EC120E09C5CF-4T08I (1)	12.00	-	4	9.00	T08	11.70	16.50	38.0	0.50	●	0.04-0.11
MM EC120E09R00CF-4T08	12.00	0.00	4	9.00	T08	11.70	16.50	38.0	-	●	0.04-0.11
MM EC120E09R02CF-4T08	12.00	0.20	4	9.00	T08	11.70	16.50	38.0	-	●	0.04-0.11
MM EC120E09R04CF-4T08	12.00	0.40	4	9.00	T08	11.70	16.50	38.0	-	●	0.04-0.11
MM EC120E09R05CF-4T08	12.00	0.50	4	9.00	T08	11.70	16.50	38.0	-	●	0.04-0.11
MM EC120E09R15CF-4T08	12.00	1.50	4	9.00	T08	11.70	16.50	38.0	-	●	0.04-0.11
MM EC160E12C6CF-4T10	16.00	-	4	12.00	T10	15.30	20.50	38.0	0.60	●	0.05-0.13
MM EC160E12R05CF-4T10	16.00	0.50	4	12.00	T10	15.30	20.50	38.0	-	●	0.05-0.13
MM EC200E15C6CF-4T12	20.00	-	4	15.00	T12	18.45	25.50	38.0	0.60	●	0.05-0.17
MM EC200E15R05CF-4T12	20.00	0.50	4	15.00	T12	18.45	25.50	38.0	-	●	0.05-0.17
MM EC250E28C6CF-12T15	25.00	-	12	28.00	T15	23.90	43.00	38.0	0.60	●	0.06-0.13
MM EC250E28C6CF-4T15	25.00	-	4	28.00	T15	23.90	43.00	38.0	0.60	●	0.06-0.17
MM EC250E22C6CF-4T15	25.00	-	4	22.00	T15	23.90	37.00	38.0	0.60	●	0.06-0.17
MM EC250E22R05CF-4T15	25.00	0.50	4	22.00	T15	23.90	37.00	38.0	-	●	0.06-0.17
MM EC250E22R10CF-4T15	25.00	1.00	4	22.00	T15	23.90	37.00	38.0	-	●	0.06-0.17
MM EC250E22R20CF-4T15	25.00	2.00	4	22.00	T15	23.90	37.00	38.0	-	●	0.06-0.17
MM EC250E22R30CF-4T15	25.00	3.00	4	22.00	T15	23.90	37.00	38.0	-	●	0.06-0.17

• For shanks, see pages 70-77 • For clamping keys (should be ordered separately), tightening torques and clamping instructions, see pages 77-78 • Do not apply lubricant to the threaded connection. • For user guide, see pages 39, 169-173

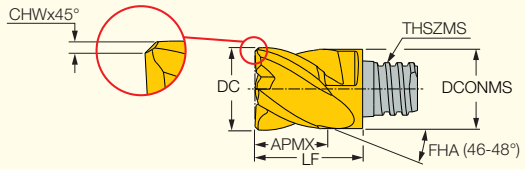
(1) With coolant holes directed to each flute

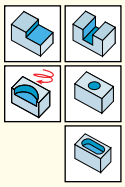
(2) Number of flutes

MULTI-MASTER
INDEXABLE SOLID CARBIDE LINE

MM EC-H-4-CF

Interchangeable Carbide Endmill Heads for Chatter Free Milling of Alloyed Steel





a1≠a2≠a3≠a4

Designation	Dimensions DC	NOF(1)	APMX	THSZMS	DCONMS	LF	CHW	IC908	Recommended Machining Data fz (mm/t)
MM EC080H05C3-4T05CF	8.00	4	5.00	T05	7.70	10.00	0.30	●	0.03-0.09
MM EC100H07C4-4T06CF	10.00	4	7.00	T06	9.60	13.00	0.40	●	0.03-0.10
MM EC120H09C5-4T08CF	12.00	4	9.00	T08	11.70	16.50	0.50	●	0.04-0.11
MM EC160H12C6-4T10CF	16.00	4	12.00	T10	15.30	20.50	0.60	●	0.05-0.13
MM EC200H15C6-4T12CF	20.00	4	15.00	T12	18.45	25.50	0.60	●	0.05-0.17

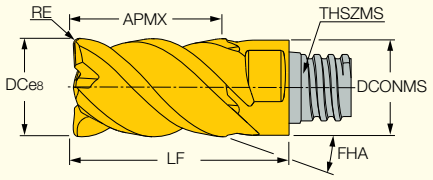
• For shanks, see pages 70-77 • For clamping keys (should be ordered separately), tightening torques and clamping instructions, see pages 77-78 • Do not apply lubricant to the threaded connection. • For user guide, see pages 39, 169-173

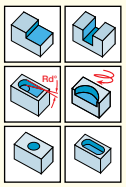
(1) Number of flutes

MULTI-MASTER
INDEXABLE SOLID CARBIDE LINE
CHATTERFREE
MULTI-MASTER LINE

MM EC-CF-Z4-1.5xD

Interchangeable Solid Carbide Endmill Heads with 1.5xD Flute Lengths for Chatter Free Roughing and Finishing





Designation	Dimensions DC	NOF(1)	APMX	RE	THSZMS	DCONMS	LF	FHA	IC908	Recommended Machining Data f_z (mm/t)
MM EC080H12R05CF-4T05	8.00	4	12.00	0.50	T05	7.70	18.00	46.5	•	0.03-0.09
MM EC100H15R05CF-4T06	10.00	4	15.00	0.50	T06	9.60	22.00	46.5	•	0.03-0.10
MM EC120H18R05CF-4T08	12.00	4	18.00	0.50	T08	11.70	27.00	46.5	•	0.04-0.11
MM EC160H24R05CF-4T10	16.00	4	24.00	0.50	T10	15.30	33.50	46.5	•	0.05-0.13
MM EC200H30R05CF-4T12	20.00	4	30.00	0.50	T12	18.45	41.00	46.5	•	0.05-0.17
MM EC250H37R05CF-4T15	25.00	4	37.00	0.50	T15	23.90	52.50	46.5	•	0.06-0.17

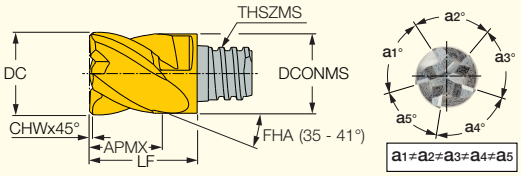
• For shanks, see pages 70-77 • For clamping keys (should be ordered separately), tightening torques and clamping instructions, see pages 77-78 • Do not apply lubricant to the threaded connection. • For user guide, see pages 39, 169-173

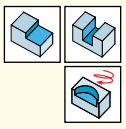
(1) Number of flutes

MULTI-MASTER
INDEXABLE SOLID CARBIDE LINE

MM EC-H-5-CF

Interchangeable Carbide Endmill Heads for Chatter Free Milling of High Temperature Alloys like Titanium and Inconel





Designation	Dimensions DC	NOF(1)	APMX	THSZMS	DCONMS	LF	RMPX(2)	CHW	IC308	Recommended Machining Data f_z (mm/t)
MM EC080H05C3-5T05CF	8.00	5	5.00	T05	7.70	10.00	5.0	0.30	•	0.03-0.09
MM EC100H07C4-5T06CF	10.00	5	7.00	T06	9.60	13.00	5.0	0.40	•	0.03-0.10
MM EC120H09C5-5T08CF	12.00	5	9.00	T08	11.70	16.50	4.0	0.50	•	0.04-0.11
MM EC160H12C6-5T10CF	16.00	5	12.00	T10	15.30	20.50	4.0	0.60	•	0.05-0.13
MM EC200H15C6-5T12CF	20.00	5	15.00	T12	18.45	25.50	3.0	0.60	•	0.05-0.17
MM EC250H22C6-5T15CF	25.00	5	22.00	T15	23.90	37.00	3.0	0.60	•	0.06-0.17

• For shanks, see pages 70-77 • For clamping keys (should be ordered separately), tightening torques and clamping instructions, see pages 77-78 • Do not apply lubricant to the threaded connection. • For user guide, see pages 39, 169-173

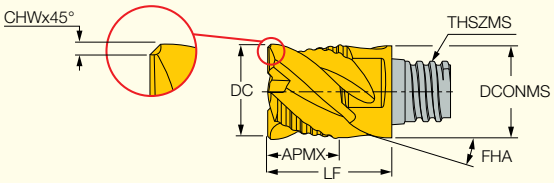
(1) Number of flutes

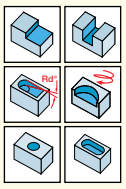
(2) Maximum ramping angle

MULTI-MASTER
INDEXABLE SOLID CARBIDE LINE
FINISHRED
MULTI-MASTER LINE

MM EFS

Combination of Roughing and Finishing Interchangeable Solid Carbide Endmill Heads





Designation	Dimensions DC	NOF(1)	APMX	THSZMS	DCONMS	LF	FHA	CHW	IC908	Recommended Machining Data f_z (mm/t)
MM EFS080B05-4T05	8.00	4	5.00	T05	7.70	10.00	45.0	0.30	•	0.03-0.08
MM EFS100B07-4T06	10.00	4	7.00	T06	9.60	13.00	45.0	0.30	•	0.03-0.09
MM EFS120B09-4T08	12.00	4	9.00	T08	11.70	16.50	45.0	0.40	•	0.04-0.10
MM EFS160B12-4T10	16.00	4	12.00	T10	15.30	20.50	45.0	0.60	•	0.05-0.11
MM EFS200B15-4T12	20.00	4	15.00	T12	18.45	25.50	45.0	0.60	•	0.05-0.11
MM EFS250B22-4T15	25.00	4	22.00	T15	23.90	37.00	45.0	0.60	•	0.06-0.11

• For shanks, see pages 70-77 • For clamping keys (should be ordered separately), tightening torques and clamping instructions, see pages 77-78 • Do not apply lubricant to the threaded connection. • For user guide, see pages 39, 169-173

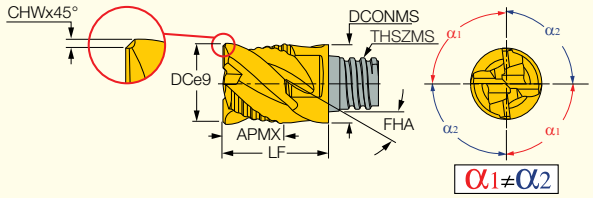
(1) Number of flutes

FINISHRED MULTI-MASTER LINE

CHATTERFREE MULTI-MASTER LINE

MM EFS-CF

4 Flute Solid Carbide Heads with 38° Helix and Variable Pitch for Chatter Free Roughing and Finishing Aplications



Designation	Dimensions DC	NOF(1)	APMX	CHW	THSZMS	DCONMS	LF	FHA	IC908	Recommended Machining Data f_z (mm/t)
MM EFS060E05-4T05 CF	6.00	4	5.00	0.25	T05	7.70	10.00	38.0	●	0.03-0.08
MM EFS080E05-4T05 CF	8.00	4	5.00	0.3	T05	7.70	10.00	38.0	●	0.03-0.08
MM EFS100E07-4T06 CF	10.00	4	7.00	0.4	T06	9.60	13.00	38.0	●	0.03-0.09
MM EFS120E09-4T08 CF	12.00	4	9.00	0.5	T08	11.70	16.50	38.0	●	0.04-0.10
MM EFS160E12-4T10 CF	16.00	4	12.00	0.6	T10	15.30	20.50	38.0	●	0.05-0.11
MM EFS200E15-4T12 CF	20.00	4	16.00	0.6	T12	18.45	25.50	38.0	●	0.05-0.11
MM EFS250E22-4T15 CF	25.00	4	22.00	0.6	T15	23.90	37.00	38.0	●	0.06-0.11

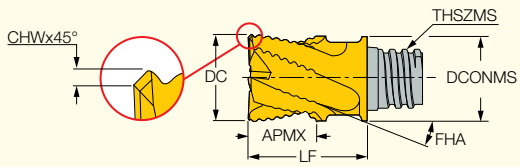
• For shanks, see pages 70-77 • For clamping keys (should be ordered separately), tightening torques and clamping instructions, see pages 77-78 • Do not apply lubricant to the threaded connection. • For user guide, see pages 39, 169-173

(1) Number of flutes

MULTI-MASTER INDEXABLE SOLID CARBIDE LINE

MM ERS

Interchangeable Solid Carbide Rough Milling Heads for High Metal Removal Rates



Designation	Dimensions DC	NOF(3)	APMX	THSZMS	DCONMS	LF	FHA	RMPX(4)	CHW	IC908	Recommended Machining Data f_z (mm/t)
MM ERS080B05-4T05	8.00	4	5.00	T05	7.70	10.00	45.0	90.0	0.25	●	0.03-0.08
MM ERS080B09-4T05	8.00	4	9.00	T05	7.70	15.00	45.0	90.0	0.25	●	0.03-0.08
MM ERS100B07-4T06	10.00	4	7.00	T06	9.60	13.00	45.0	90.0	0.30	●	0.03-0.09
MM ERS120B09-4T08	12.00	4	9.00	T08	11.70	16.50	45.0	90.0	0.35	●	0.04-0.10
MM ERS120B09-4T08H (1)	12.00	4	9.00	T08	11.70	16.50	45.0	90.0	0.35	●	0.04-0.10
MM ERS120B09-4T08I (2)	12.00	4	9.00	T08	11.70	16.50	45.0	90.0	0.35	●	0.04-0.11
MM ERS120B14-4T08	12.00	4	14.00	T08	11.70	23.00	45.0	90.0	0.35	●	0.04-0.10
MM ERS160B12-5T10	16.00	5	12.00	T10	15.30	20.50	45.0	7.0	0.40	●	0.04-0.10
MM ERS160B12-5T10H (1)	16.00	5	12.00	T10	15.30	20.50	45.0	7.0	0.40	●	0.04-0.10
MM ERS200B15-6T12	20.00	6	15.00	T12	18.45	25.50	45.0	3.0	0.40	●	0.05-0.11
MM ERS250B22-6T15	25.00	6	22.00	T15	23.90	37.00	45.0	3.0	0.50	●	0.05-0.11

• For shanks, see pages 70-77 • For clamping keys (should be ordered separately), tightening torques and clamping instructions, see pages 77-78 • Do not apply lubricant to the threaded connection. • For user guide, see pages 39, 169-173

(1) With a central coolant hole

(2) With coolant holes directed to each flute

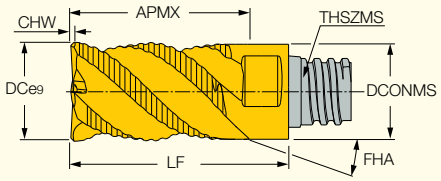
(3) Number of flutes

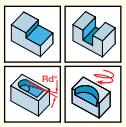
(4) Maximum ramping angle

MULTI-MASTER
INDEXABLE SOLID CARBIDE LINE

MM ERS-1.5xD

Interchangeable Solid Carbide Rough Milling Heads with 1.5xD Flute Lengths for High Metal Removal Rates





Designation	Dimensions									IC908	Recommended Machining Data
	DC	NOF(1)	APMX	CHW	THSZMS	DCONMS	LF	FHA	RMPX(2)		f_z (mm/t)
MM ERS080B12-4T05	8.00	4	12.00	0.25	T05	7.70	18.00	46.0	90.0	●	0.03-0.08
MM ERS100B15-4T06	10.00	4	15.00	0.30	T06	9.60	22.00	46.0	90.0	●	0.03-0.09
MM ERS120B18-4T08	12.00	4	18.00	0.35	T08	11.70	27.00	46.0	90.0	●	0.04-0.10
MM ERS160B24-5T10	16.00	5	24.00	0.40	T10	15.30	33.50	40.0	7.0	●	0.04-0.10
MM ERS200B30-6T12	20.00	6	30.00	0.40	T12	18.45	41.00	47.0	3.0	●	0.05-0.11
MM ERS250B37-6T15	25.00	6	37.00	0.50	T15	23.90	52.50	47.0	3.0	●	0.05-0.11

• For shanks, see pages 70-77 • For clamping keys (should be ordered separately), tightening torques and clamping instructions, see pages 77-78 • Do not apply lubricant to the threaded connection. • For user guide, see pages 39, 169-173

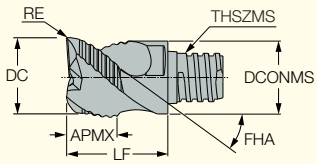
(1) Number of flutes

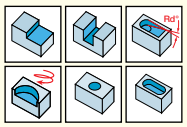
(2) Maximum ramping angle

MULTI-MASTER
INDEXABLE SOLID CARBIDE LINE

MM ERA

Interchangeable Solid Carbide Rough Milling Heads for Machining Aluminum at High Metal Removal Rates





ALUMINUM

Designation	Dimensions								IC08	Recommended Machining Data
	DC	NOF(1)	APMX	RE	THSZMS	DCONMS	LF	FHA		f_z (mm/t)
MM ERA080B05R0.2-3T05	8.00	3	5.00	0.20	T05	7.70	10.00	45.0	●	0.03-0.15
MM ERA100B06R0.2-3T06	10.00	3	6.00	0.20	T06	9.60	13.00	45.0	●	0.05-0.20
MM ERA120B08R0.2-3T08	12.00	3	8.00	0.20	T08	11.70	16.50	45.0	●	0.07-0.22
MM ERA160B10R0.2-3T10	16.00	3	10.00	0.20	T10	15.30	20.50	45.0	●	0.07-0.25
MM ERA200B12R0.2-3T12	20.00	3	12.00	0.20	T12	18.45	25.50	45.0	●	0.07-0.25
MM ERA250B19R0.2-3T15	25.00	3	19.00	0.20	T15	23.90	37.00	45.0	●	0.07-0.25

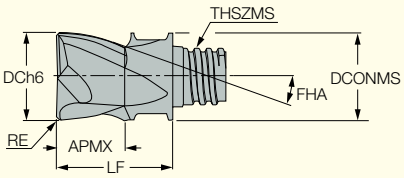
• For shanks, see pages 70-77 • For clamping keys (should be ordered separately), tightening torques and clamping instructions, see pages 77-78 • Do not apply lubricant to the threaded connection. • For user guide, see pages 39, 169-173

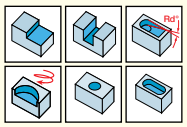
(1) Number of flutes

MULTI-MASTER
INDEXABLE SOLID CARBIDE LINE

MM EA

Interchangeable Solid Carbide Slot Drill Milling Heads for Machining Aluminum





ALUMINUM

Designation	Dimensions DC	NOF(1)	APMX	RE	THSZMS	DCONMS	LF	FHA	IC08	Recommended Machining Data f_z (mm/t)
MM EA080B05R0.5-2T05	8.00	2	5.00	0.50	T05	7.70	10.00	45.0	•	0.03-0.09
MM EA080B05R0.5-3T05	8.00	3	5.00	0.50	T05	7.70	10.00	45.0	•	0.03-0.09
MM EA100B07R0.5-2T06	10.00	2	7.00	0.50	T06	9.60	13.00	45.0	•	0.03-0.10
MM EA100B07R1.0-2T06	10.00	2	7.00	1.00	T06	9.60	13.00	45.0	•	0.03-0.10
MM EA100B06R0.5-3T06	10.00	3	6.00	0.50	T06	9.60	13.00	45.0	•	0.03-0.10
MM EA100B06R1.0-3T06	10.00	3	6.00	1.00	T06	9.60	13.00	45.0	•	0.03-0.10
MM EA120B09R0.5-2T08	12.00	2	9.00	0.50	T08	11.70	16.50	45.0	•	0.04-0.11
MM EA120B09R1.0-2T08	12.00	2	9.00	1.00	T08	11.70	16.50	45.0	•	0.04-0.11
MM EA120B08R0.5-3T08	12.00	3	8.00	0.50	T08	11.70	16.50	45.0	•	0.04-0.11
MM EA120B08R1.0-3T08	12.00	3	8.00	1.00	T08	11.70	16.50	45.0	•	0.04-0.11
MM EA120B08R3.0-3T08	12.00	3	8.00	3.00	T08	11.70	16.50	45.0	•	0.04-0.11
MM EA160B10R000-3T10	16.00	3	10.00	0.00	T10	15.30	20.50	45.0	•	0.05-0.13
MM EA160B10R1.0-3T10	16.00	3	10.00	1.00	T10	15.30	20.50	45.0	•	0.05-0.13
MM EA160B10R2.0-3T10	16.00	3	10.00	2.00	T10	15.30	20.50	45.0	•	0.05-0.13
MM EA160B10R3.0-3T10	16.00	3	10.00	3.00	T10	15.30	20.50	45.0	•	0.05-0.13
MM EA160B10R4.0-3T10	16.00	3	10.00	4.00	T10	15.30	20.50	45.0	•	0.05-0.13
MM EA200B12R0.5-3T12	20.00	3	12.00	0.50	T12	18.45	25.50	45.0	•	0.05-0.13
MM EA200B12R1.0-3T12	20.00	3	12.00	1.00	T12	18.45	25.50	45.0	•	0.05-0.13
MM EA200B12R2.0-3T12	20.00	3	12.00	2.00	T12	18.45	25.50	45.0	•	0.05-0.13
MM EA200B12R3.0-3T12	20.00	3	12.00	3.00	T12	18.45	25.50	45.0	•	0.05-0.13
MM EA200B12R4.0-3T12	20.00	3	12.00	4.00	T12	18.45	25.50	45.0	•	0.05-0.13

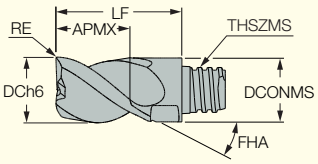
• For shanks, see pages 70-77 • For clamping keys (should be ordered separately), tightening torques and clamping instructions, see pages 77-78 • Do not apply lubricant to the threaded connection.

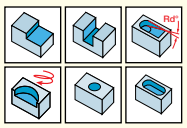
(1) Number of flutes

CHATTERFREE
MULTI-MASTER LINE

MM EA-CF

Interchangeable Solid Carbide Endmill Heads with Different Helix for Machining Aluminum





ALUMINUM

Designation	Dimensions DC	NOF(1)	APMX	RE	THSZMS	DCONMS	LF	FHA	IC08	Recommended Machining Data f_z (mm/t)
MM EA080H08R0CF-4T05	8.00	4	8.00	0.00	T05	7.70	15.00	40.0	•	0.03-0.09
MM EA100H10R0CF-4T06	10.00	4	10.00	0.00	T06	9.60	19.00	40.0	•	0.03-0.10
MM EA120H12R0.2CF-3T08	12.00	3	12.00	0.20	T08	11.70	23.00	40.0	•	0.04-0.11
MM EA120H12R0CF-4T08	12.00	4	12.00	0.00	T08	11.70	23.00	40.0	•	0.04-0.11
MM EA160H16R0.0CF-3T10	16.00	3	16.00	0.00	T10	15.30	28.00	40.0	•	0.05-0.13
MM EA160H16R0.2CF-3T10	16.00	3	16.00	0.20	T10	15.30	28.00	40.0	•	0.05-0.13
MM EA160H16R0.5CF-3T10	16.00	3	16.00	0.50	T10	15.30	28.00	40.0	•	0.05-0.13
MM EA160H16R2.5CF-3T10	16.00	3	16.00	2.50	T10	15.30	28.00	40.0	•	0.05-0.13
MM EA160H16R0CF-4T10	16.00	4	16.00	0.00	T10	15.30	26.00	40.0	•	0.05-0.12
MM EA200H20R0.0CF-3T12	20.00	3	20.00	0.00	T12	18.45	34.00	40.0	•	0.05-0.13
MM EA200H20R0.2CF-3T12	20.00	3	20.00	0.20	T12	18.45	34.00	40.0	•	0.05-0.13
MM EA200H20R0.5CF-3T12	20.00	3	20.00	0.50	T12	18.45	34.00	40.0	•	0.05-0.13
MM EA200H20R2.5CF-3T12	20.00	3	20.00	2.50	T12	18.45	34.00	40.0	•	0.05-0.13
MM EA250H19R0.5-3T15	25.00	3	19.00	0.50	T15	23.90	37.00	40.0	•	0.06-0.16
MM EA250H19R1.0-3T15	25.00	3	19.00	1.00	T15	23.90	37.00	40.0	•	0.06-0.16
MM EA250H19R3.0-3T15	25.00	3	19.00	3.00	T15	23.90	37.00	40.0	•	0.06-0.16

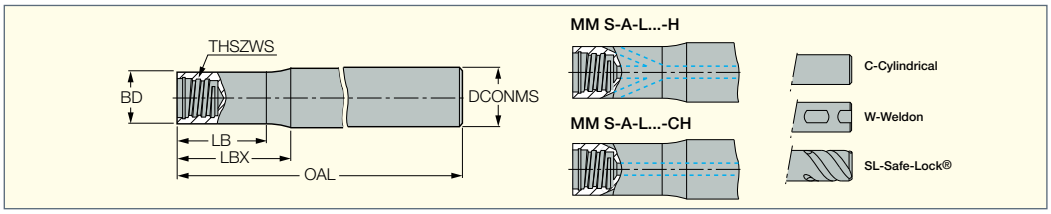
• For shanks, see pages 70-77 • For clamping keys (should be ordered separately), tightening torques and clamping instructions, see pages 77-78 • Do not apply lubricant to the threaded connection. • For user guide, see pages 39, 169-173

(1) Number of flutes

MULTI-MASTER

MM S-A (stepped shanks)

Stepped Cylindrical Shanks for Interchangeable Milling Heads



Designation	THSZWS	DCONMS	BD	LB	LBX	OAL	Shank(2)	Shank m.(3)	CSP(4)	RPMX(5)	Kg
MM S-A-L050-C08-T04	T04	8.00	5.80	9.90	14.0	50.00	C	S	0	60000	0.02
MM S-A-L060/20-C08-T04-C	T04	8.00	5.80	16.90	20.0	60.00	C	C	0	60000	0.00
MM S-A-L060-C08-T05	T05	8.00	7.60	12.50	15.0	60.00	C	S	0	60000	0.02
MM S-A-L065/24-SL08T05C (1)	T05	8.00	7.60	24.00	25.6	65.00	SL	C	0	60000	0.04
MM S-A-L070-C08-T05-C	T05	8.00	7.60	18.60	20.0	70.00	C	C	0	60000	0.04
MM S-A-L070-C08-T05-W	T05	8.00	7.60	18.90	20.0	70.00	C	W	0	60000	0.06
MM S-A-L090-C08-T05-C	T05	8.00	7.60	38.60	40.0	90.00	C	C	0	50160	0.06
MM S-A-L090-C08-T05-W	T05	8.00	7.60	38.60	40.0	90.00	C	W	0	36090	0.07
MM S-A-L110-C08-T05-C	T05	8.00	7.60	57.90	60.0	110.00	C	C	0	30600	0.07
MM S-A-L110-C08-T05-W	T05	8.00	7.60	58.90	60.0	110.00	C	W	0	21060	0.09
MM S-A-L070-C10-T06-C	T06	10.00	9.60	18.50	20.0	70.00	C	C	0	54900	0.08
MM S-A-L070-C10-T06-W-H	T06	10.00	9.60	18.90	20.0	70.00	C	W	1	60000	0.08
MM S-A-L075-C10-T06	T06	10.00	9.60	17.40	20.0	75.00	C	S	0	60000	0.05
MM S-A-L075-C10-T06-H	T06	10.00	9.60	18.80	20.0	75.00	C	S	1	53940	0.04
MM S-A-L075/12-C10-T06-CH	T06	10.00	9.60	10.60	12.0	75.00	C	S	1	53940	0.04
MM S-A-L075/30-SL10T06C (1)	T06	10.00	9.60	30.00	31.7	75.00	SL	C	0	53940	0.08
MM S-A-L090-C10-T06-C	T06	10.00	9.60	38.50	40.0	90.00	C	C	0	55170	0.06
MM S-A-L090/040C10T06C-H	T06	10.00	9.60	38.60	40.0	90.00	C	C	1	60000	0.08
MM S-A-L090-C10-T06-W	T06	10.00	9.60	17.20	20.0	90.00	C	W	0	41670	0.12
MM S-A-L090-C10-T06-W-H	T06	10.00	9.60	39.00	40.0	90.00	C	W	1	40860	0.10
MM S-A-L110-C10-T06-C	T06	10.00	9.60	57.90	60.0	110.00	C	C	0	34530	0.11
MM S-A-L110-C10-T06-W-H	T06	10.00	9.60	59.00	60.0	110.00	C	W	1	24840	0.12
MM S-A-L150-C10-T06-C	T06	10.00	9.60	98.50	100.0	150.00	C	C	0	16620	0.15
MM S-A-L070-C12-T08-C	T08	12.00	11.60	17.90	20.0	70.00	C	C	0	60000	0.10
MM S-A-L070-C12-T08-W-H	T08	12.00	11.60	18.70	20.0	70.00	C	W	1	60000	0.11
MM S-A-L085/36-SL12T08C (1)	T08	12.00	11.60	36.00	37.7	85.00	SL	C	0	60000	0.00
MM S-A-L090/14-C12-T08-CH	T08	12.00	11.60	13.00	14.0	90.00	C	S	1	43000	0.08
MM S-A-L090-C12-T08	T08	12.00	11.60	13.30	16.0	90.00	C	S	0	43000	0.08
MM S-A-L070/020C12T08C-CH	T08	12.00	11.60	18.00	20.0	70.00	C	C	1	43050	0.08
MM S-A-L090-C12-T08-C	T08	12.00	11.60	39.00	40.0	90.00	C	C	0	43050	0.12
MM S-A-L090-C12-T08-H	T08	12.00	11.60	38.70	40.0	90.00	C	S	1	41040	0.08
MM S-A-L090-C12-T08-W-H	T08	12.00	11.60	38.70	40.0	90.00	C	W	1	49800	0.15
MM S-A-L090/040C12T08C-CH	T08	12.00	11.50	38.00	40.0	90.00	C	C	1	49800	0.11
MM S-A-L090/42-C12-T08-CH	T08	12.00	11.60	41.00	42.0	90.00	C	S	1	41010	0.08
MM S-A-L110-C12-T08-W	T08	12.00	11.60	17.00	20.0	110.00	C	W	0	31350	0.20
MM S-A-L110-C12-T08-C	T08	12.00	11.60	57.00	60.0	110.00	C	C	0	41040	0.16
MM S-A-L110-C12-T08-W-H	T08	12.00	11.60	58.70	60.0	110.00	C	W	1	30210	0.18
MM S-A-L110/060C12T08C-CH	T08	12.00	11.50	58.00	60.0	110.00	C	C	1	30210	0.12
MM S-A-L130-C12-T08-C	T08	12.00	11.60	78.60	80.0	130.00	C	C	0	27960	0.19
MM S-A-L130-C12-T08-W-H	T08	12.00	11.60	78.70	80.0	130.00	C	W	1	20100	0.21
MM S-A-L130/080C12T08C-CH	T08	12.00	11.50	78.00	80.0	130.00	C	C	1	20100	0.17
MM S-A-L070-C16-T10-W-H	T10	16.00	15.30	18.20	20.0	70.00	C	W	1	60000	0.21
MM S-A-L090-C16-T10-C	T10	16.00	15.30	38.00	40.0	90.00	C	C	0	60000	0.21
MM S-A-L090-C16-T10-W-H	T10	16.00	15.30	38.20	40.0	90.00	C	W	1	57510	0.27
MM S-A-L090/040C16T10C-CH	T10	16.00	15.30	38.00	40.0	90.00	C	C	1	57510	0.17
MM S-A-L100-C16-T10	T10	16.00	15.30	16.30	20.0	100.00	C	S	0	39000	0.15
MM S-A-L100-C16-T10-H	T10	16.00	15.30	48.00	50.0	100.00	C	S	1	37140	0.13
MM S-A-L100/20-C16-T10-CH	T10	16.00	15.30	18.00	20.0	100.00	C	S	1	37140	0.12
MM S-A-L100/42-C16-T10-CH	T10	16.00	15.30	40.20	42.0	100.00	C	S	1	38040	0.14
MM S-A-L100/48-SL16T10C (1)	T10	16.00	15.30	48.00	50.3	100.00	SL	C	0	38040	0.06
MM S-A-L110-C16-T10-C	T10	16.00	15.30	58.00	60.0	110.00	C	C	0	47010	0.27
MM S-A-L110-C16-T10-W-H	T10	16.00	15.30	58.20	60.0	110.00	C	W	1	36030	0.33
MM S-A-L110/060C16T10C-H	T10	16.00	15.00	58.10	60.0	110.00	C	C	1	60000	0.00
MM S-A-L110/060C16T10C-CH	T10	16.00	15.30	58.00	60.0	110.00	C	C	1	36030	0.17
MM S-A-L130-C16-T10-C	T10	16.00	15.30	77.40	80.0	130.00	C	C	0	33510	0.32
MM S-A-L130-C16-T10-W-H	T10	16.00	15.30	78.20	80.0	130.00	C	W	1	24450	0.39
MM S-A-L130/080C16T10C-CH	T10	16.00	15.30	78.00	80.0	130.00	C	C	1	24450	0.32
MM S-A-L150-C16-T10-C	T10	16.00	15.30	97.40	100.0	150.00	C	C	0	24660	0.37
MM S-A-L150-C16-T10-W-H	T10	16.00	15.30	98.20	100.0	150.00	C	W	1	17610	0.45

• Do not apply lubricant to the threaded connection.

(1) With Safe-Lock® (by Haimer) pull-out prevention helical grooves

(2) C-Cylindrical, SL-Safe-Lock® (by Haimer)

(3) S-steel, C-carbide, W-tungsten

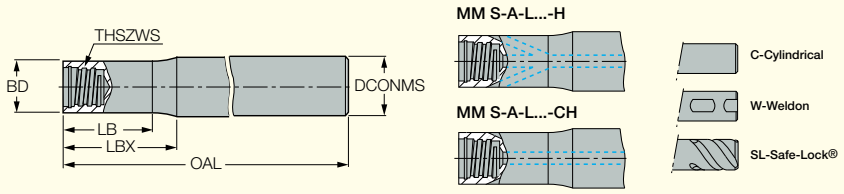
(4) 0 - Without coolant supply, 1 - With coolant supply

(5) The maximum RPM must be calculated. Divide the listed max. RPM by the number of flutes (on the milling head) being used.

MULTI-MASTER

MM S-A (stepped shanks) (continued)

Stepped Cylindrical Shanks for Interchangeable Milling Heads



Designation	THSZWS	DCONMS	BD	LB	LBX	OAL	Shank(2)	Shank m.(3)	CSP(4)	RPMX(5)	Kg
MM S-A-L090-C20-T12-C	T12	20.00	18.30	37.00	40.0	90.00	C	C	0	60000	0.32
MM S-A-L090-C20-T12-W-H	T12	20.00	18.30	36.90	40.0	90.00	C	W	1	60000	0.41
MM S-A-L090/040C20T12C-CH	T12	20.00	18.30	37.20	40.0	90.00	C	C	1	60000	0.30
MM S-A-L110/50-SL20T12C (1)	T12	20.00	18.30	50.00	53.3	110.00	SL	C	0	60000	0.08
MM S-A-L120-C20-T12	T12	20.00	18.30	20.30	25.0	120.00	C	S	0	36000	0.27
MM S-A-L120-C20-T12-H	T12	20.00	18.30	66.70	70.0	120.00	C	S	1	32160	0.25
MM S-A-L120/25-C20-T12-CH	T12	20.00	18.30	22.20	25.0	120.00	C	S	1	32160	0.12
MM S-A-L120/48-C20-T12-CH	T12	20.00	18.30	45.20	48.0	120.00	C	S	1	32160	0.20
MM S-A-L130-C20-T12-C	T12	20.00	18.30	77.20	80.0	130.00	C	C	0	42360	0.47
MM S-A-L130-C20-T12-W-H	T12	20.00	18.30	76.90	80.0	130.00	C	W	1	31650	0.59
MM S-A-L130/080C20T12C-CH	T12	20.00	18.30	77.20	80.0	130.00	C	C	1	42360	0.44
MM S-A-L170-C20-T12-C	T12	20.00	18.30	97.20	100.0	170.00	C	C	0	25170	0.63
MM S-A-L200-C20-T12-C	T12	20.00	18.30	116.50	120.0	200.00	C	C	0	17790	0.76
MM S-A-L200-C20-T12-W-H	T12	20.00	18.30	116.90	120.0	200.00	C	W	1	12540	0.92
MM S-A-L200/120C20T12C-CH	T12	20.00	18.30	117.20	120.0	200.00	C	C	1	17790	0.74
MM S-A-L120-C25-T15-C	T15	25.00	23.90	57.50	60.0	120.00	C	C	0	49400	0.64
MM S-A-L120-C25-T15-W-H	T15	25.00	23.90	58.00	60.0	120.00	C	W	1	41700	0.89
MM S-A-L125/63-SL25T15C (1)	T15	25.00	24.00	63.00	65.8	125.00	SL	C	0	41700	0.00
MM S-A-L135-C25-T15	T15	25.00	23.90	33.00	35.0	135.00	C	S	0	28290	0.47
MM S-A-L135/35-C25-T15-CH	T15	25.00	23.90	33.00	35.0	135.00	C	S	1	28230	0.42
MM S-A-L135/50-C25-T15-CH	T15	25.00	23.90	47.70	50.0	135.00	C	S	1	28230	0.40
MM S-A-L170-C25-T15-C	T15	25.00	23.90	98.00	100.0	170.00	C	C	0	27360	0.96
MM S-A-L175-C25-T15	T15	25.00	23.90	62.70	65.0	175.00	C	S	0	16890	0.10
MM S-A-L250-C25-T15-C	T15	25.00	23.90	148.00	150.0	250.00	C	C	0	12690	1.45
MM S-A-L135/64-SL32T21C (1)	T21	32.00	30.00	64.00	67.5	135.00	SL	C	0	12690	0.00

• Do not apply lubricant to the threaded connection.

(1) With Safe-Lock® (by Haimer) pull-out prevention helical grooves

(2) C-Cylindrical, SL-Safe-Lock® (by Haimer)

(3) S-steel, C-carbide, W-tungsten

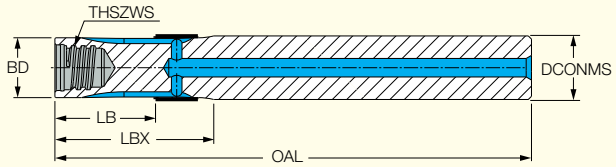
(4) 0 - Without coolant supply, 1 - With coolant supply

(5) The maximum RPM must be calculated. Divide the listed max. RPM by the number of flutes (on the milling head) being used.

MULTI-MASTER

MM S-A-N

Stepped Cylindrical Shanks with Parallel Directed Coolant for Interchangeable Milling Heads



Designation	THSZWS	DCONMS	BD	LB	LBX	OAL	kg
MM S-A-L075-C10-T06-N	T06	10.00	9.60	18.00	28.0	75.00	0.04
MM S-A-L090-C12-T08-N	T08	12.00	11.60	18.00	30.0	90.00	0.07
MM S-A-L100-C16-T10-N	T10	16.00	15.30	23.00	35.0	100.00	0.04

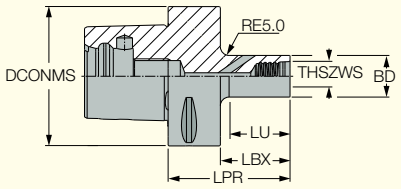
• Do not apply lubricant to the threaded connection

MULTI-MASTER

CAMFIX

MM S-A-C#

MULTI-MASTER Threaded Connection Shanks with a CAMFIX (ISO 26623-1) Exchangeable Adaptation



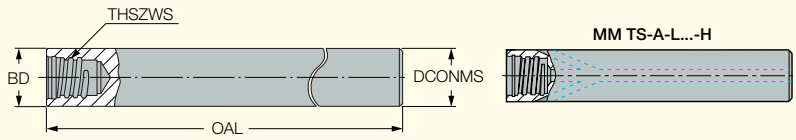
Designation	DCONMS	THSZWS	BD	LPR	LBX	LU
MM S-A-H035-C3-T05	32.00	T05	7.60	35.00	20.0	15.00
MM S-A-H035-C3-T06	32.00	T06	9.25	35.00	20.0	15.00
MM S-A-H040-C3-T08	32.00	T08	11.60	40.00	25.0	20.00
MM S-A-H040-C3-T10	32.00	T10	15.30	40.00	25.0	20.00
MM S-A-H045-C3-T12	32.00	T12	18.30	45.00	30.0	25.00
MM S-A-H045-C4-T06	40.00	T06	9.25	45.00	25.0	20.00
MM S-A-H045-C4-T08	40.00	T08	11.60	45.00	25.0	20.00
MM S-A-H050-C4-T10	40.00	T10	15.30	50.00	30.0	25.00
MM S-A-H055-C4-T12	40.00	T12	18.30	55.00	35.0	30.00
MM S-A-H055-C4-T15	40.00	T15	23.90	55.00	35.0	30.00
MM S-A-H060-C5-T10	50.00	T10	15.30	60.00	40.0	35.00
MM S-A-H060-C5-T12	50.00	T12	18.30	60.00	40.0	35.00
MM S-A-H060-C5-T15	50.00	T15	23.90	60.00	40.0	35.00
MM S-A-H065-C6-T12	63.00	T12	18.30	65.00	43.0	38.00
MM S-A-H065-C6-T15	63.00	T15	23.90	65.00	43.0	38.00
MM S-A-H070-C8-T15	80.00	T15	23.90	70.00	40.0	35.00

• Do not apply lubricant to the threaded connection • For adaptation options, see page 39

MULTI-MASTER

MM TS-A

Cylindrical Shanks for Interchangeable Milling Heads



Designation	THSZWS	DCONMS	BD	OAL	Shank m.(1)	RPMX(2)	CSP(3)	kg
MM TS-A-L070-C08-T04	T04	8.00	5.80	70.00	S	-	0	0.00
MM TS-A-L070-C08-T05	T05	8.00	7.70	70.00	S	60000	0	0.03
MM TS-A-L080-C10-T06	T06	10.00	10.00	80.00	S	47400	0	0.05
MM TS-A-L080-C10-T06-H	T06	10.00	10.00	80.00	S	46920	1	0.04
MM TS-A-L090-C12-T08	T08	12.00	12.00	90.00	S	43110	0	0.08
MM TS-A-L090-C12-T08-H	T08	12.00	12.00	90.00	S	42780	1	0.08
MM TS-A-L100-C16-T10	T10	16.00	16.00	100.00	S	39420	0	0.16
MM TS-A-L100-C16-T10-H	T10	16.00	16.00	100.00	S	39210	1	0.14

• Do not apply lubricant to the threaded connection

(1) S-steel, C-carbide

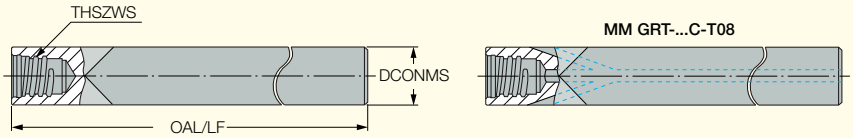
(2) The actual maximum RPM should be calculated by dividing the listed RPM max by the number of the head's flutes being used.

(3) 0 - Without coolant supply, 1 - With coolant supply

MULTI-MASTER

MM GRT (shanks)

Solid Carbide Cylindrical Shanks Carrying Slitting and Grooving Interchangeable Milling Heads



Designation	THSZWS	DCONMS	OAL	Shank m.(1)	CSP(2)	kg	
MM GRT-095-T06	T06	9.52	80.00	C	0	0.07	MM EGR 16-18
MM GRT-100-T06	T06	10.00	100.00	C	0	0.10	MM EGR 16-18
MM GRT-120C-T08	T08	12.00	100.00	C	1	0.12	MM EGR 20-22
MM GRT-127C-T08	T08	12.70	120.00	C	1	0.17	MM EGR 20-22

• MM GRT... shanks serve mainly for MM GRIT... slitting heads. When mounting other types of milling heads, do not exceed maximum specified depth of cut for the particular milling head. Since the shank diameter is not relieved, it may touch a wall on the workpiece being machined. • Use carbide shanks for groove milling heads and for applications requiring high rigidity and precision. Each slitting shank is supplied with MM EGR clamping key.

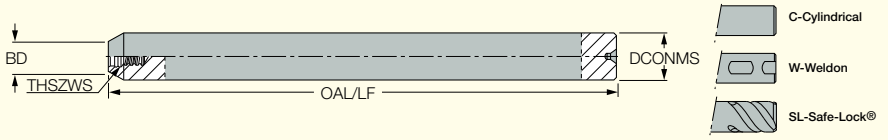
(1) C - Solid carbide

(2) 0 - Without coolant supply, 1 - With coolant supply

MULTI-MASTER

MM S-A (straight shanks)

Shanks for Interchangeable Milling Heads



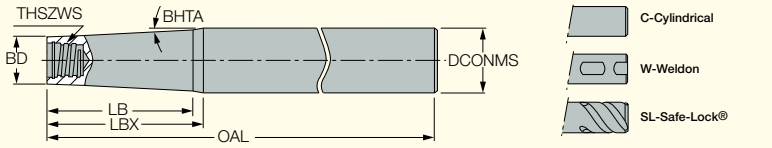
Designation	THSZWS	DCONMS	BD	OAL	Shank(3)	Shank m.(4)	RPMX(5)	kg
MM S-A-L055-W12-T05	T05	12.00	7.60	55.00	W	S	60000	0.05
MM S-A-L070-SL20T05 (1)	T05	20.00	7.60	70.00	SL	S	60000	0.00
MM S-A-L150-C12-T05-B (2)	T05	12.00	7.60	150.00	C	S	18270	0.13
MM S-A-L065-W16-T06	T06	16.00	9.60	65.00	W	S	60000	0.09
MM S-A-L080-SL25T06 (1)	T06	25.00	9.60	80.00	SL	S	60000	0.00
MM S-A-L200-C16-T06-B (2)	T06	16.00	9.60	200.00	C	S	11970	0.33
MM S-A-L065-W16-T08	T08	16.00	11.60	65.00	W	S	60000	0.10
MM S-A-L080-SL25T08 (1)	T08	25.00	11.60	80.00	SL	S	60000	0.00
MM S-A-L250-C20-T08-B (2)	T08	20.00	11.60	250.00	C	S	9330	0.60
MM S-A-L070-W20-T10	T10	20.00	15.30	70.00	W	S	60000	0.17
MM S-A-L080-SL32T10 (1)	T10	32.00	15.30	80.00	SL	S	60000	0.00
MM S-A-L250-C25-T10-B (2)	T10	25.00	15.30	250.00	C	S	11130	0.94
MM S-A-L075-W25-T12	T12	25.00	18.30	75.00	W	S	60000	0.28
MM S-A-L080-SL32T12 (1)	T12	32.00	18.30	80.00	SL	S	60000	0.00
MM S-A-L100-W32-T15	T15	32.00	23.90	100.00	W	S	60000	0.30
MM S-A-L100-SL40T15 (1)	T15	40.00	23.90	100.00	SL	S	60000	0.00
MM S-A-L100-SL40T21 (1)	T21	40.00	30.00	100.00	SL	S	60000	0.00

• Do not apply lubricant to the threaded connection.
(1) With Safe-Lock® (by Haimer) pull-out prevention helical grooves
(2) "B" suffix - cylindrical shank which may be shortened.
(3) C-Cylindrical, W-Weldon, SL-Safe-Lock® (by Haimer)
(4) S-steel
(5) The maximum RPM must be calculated. Divide the listed max. RPM by the number of flutes (on the milling head) being used.

MULTI-MASTER

MM S-B (85° conical shanks)

85° Conical Shanks for Interchangeable Milling Heads



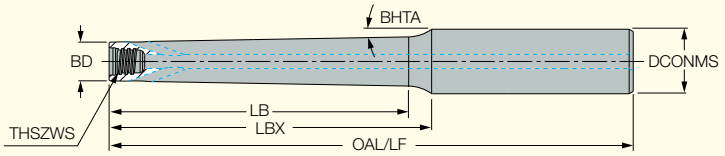
Designation	THSZWS	DCONMS	BD	BHTA	Shank(2)	LBX	OAL	Shank m.(3)	LB	RPMX(4)	kg
MM S-B-L080/24-C08-T04	T04	8.00	5.80	2.6	C	24.0	80.00	S	-	60000	0.00
MM S-B-L080-C12-T05	T05	12.00	7.60	5.0	C	25.0	80.00	S	-	60000	0.06
MM S-B-L085/32-SL16T05 (1)	T05	16.00	7.60	5.0	SL	27.0	85.00	S	32.00	41280	0.00
MM S-B-L125-C16-T06	T06	16.00	9.60	5.0	C	31.7	125.00	S	31.50	41280	0.19
MM S-B-L095/40-SL20T06 (1)	T06	20.00	9.60	5.0	SL	34.0	95.00	S	40.00	41280	0.19
MM S-B-L140-C20-T06-W	T06	20.00	9.65	5.0	C	60.3	140.50	W	-	51180	0.62
MM S-B-L140-C16-T08	T08	16.00	11.60	5.0	C	22.0	140.00	S	19.30	25590	0.22
MM S-B-L100/48-SL20T08 (1)	T08	20.00	11.60	5.0	SL	48.0	100.00	S	-	25590	0.00
MM S-B-L140-C20-T10	T10	20.00	15.30	5.0	C	27.0	140.00	S	-	31020	0.34
MM S-B-L170-C25-T10	T10	25.00	15.30	5.0	C	56.0	170.00	S	-	29490	0.16
MM S-B-L120/55-SL25T10 (1)	T10	25.00	15.30	5.0	SL	55.4	120.00	S	-	29490	0.40
MM S-B-L160-C25-T12	T12	25.00	18.30	5.0	C	40.0	160.00	S	-	28680	0.11
MM S-B-L190-C32-T12	T12	32.00	18.30	5.0	C	80.0	190.00	S	-	34890	0.56
MM S-B-L150/78-SL32T12 (1)	T12	32.00	18.30	5.0	SL	78.3	150.00	S	-	34890	0.00
MM S-B-L200-C32-T15	T15	32.00	23.90	5.0	C	50.0	200.00	S	-	14160	1.19
MM S-B-L180/92-SL40T15 (1)	T15	40.00	23.90	5.0	SL	92.0	180.00	S	-	14160	0.00
MM S-B-L250-W40-T15	T15	40.00	23.90	5.0	W	100.0	250.00	S	-	21840	2.12
MM S-B-L150/57-SL40T21 (1)	T21	40.00	30.00	5.0	SL	57.0	150.00	S	-	21840	0.00

• Do not apply lubricant to the threaded connection.
(1) With Safe-Lock® (by Haimer) pull-out prevention helical grooves
(2) C-Cylindrical, W-Weldon, SL-Safe-Lock® (by Haimer)
(3) S-steel, W-tungsten
(4) The maximum RPM must be calculated. Divide the listed max. RPM by the number of flutes (on the milling head) being used.

MULTI-MASTER

MM S-D (89° conical shanks)

89° Conical Shanks for Interchangeable Milling Heads



Designation	THSZWS	DCONMS	BD	LB	LBX	OAL	BHTA	Shank m.	CSP(1)	RPMX(2)	kg
MM S-D-L100-C12-T05	T05	12.00	7.60	29.60	35.0	100.00	1.0	S	0	52000	0.08
MM S-D-L110-C12-T05-C	T05	12.00	7.60	55.90	60.0	110.00	1.0	C	0	53430	0.13
MM S-D-L110-C12-T05-W-H	T05	12.00	7.60	55.70	60.0	110.00	1.0	W	1	38460	0.14
MM S-D-L130-C12-T05-C	T05	12.00	7.60	77.30	80.0	130.00	1.0	C	0	36420	0.15
MM S-D-L130-C12-T05-W-H	T05	12.00	7.60	76.40	80.0	130.00	1.0	W	1	26160	0.16
MM S-D-L150-C16-T05-C	T05	16.00	7.60	91.50	100.0	150.00	1.0	C	0	29700	0.00
MM S-D-L110-C12-T06-W-H	T06	12.00	9.60	58.80	60.0	110.00	1.0	W	1	36990	0.17
MM S-D-L130-C16-T06-W-H	T06	16.00	9.60	73.40	80.0	130.00	1.0	W	1	29490	0.28
MM S-D-L150-C16-T06-C	T06	16.00	9.60	95.40	100.0	150.00	1.0	C	0	30150	0.27
MM S-D-L150-C16-T06-W-H	T06	16.00	9.60	93.80	100.0	150.00	1.0	W	1	21660	0.33
MM S-D-L160-C16-T06	T06	16.00	9.60	46.80	55.0	160.00	1.0	S	0	23370	0.12
MM S-D-L170-C16-T06-C	T06	16.00	9.60	116.90	120.0	170.00	1.0	C	0	23400	0.11
MM S-D-L170-C16-T06-W	T06	16.00	9.60	46.30	55.0	170.00	1.0	W	0	21210	0.48
MM S-D-L130-C16-T08-C	T08	16.00	11.60	77.20	80.0	130.00	1.0	C	0	39870	0.28
MM S-D-L130-C16-T08-W-H	T08	16.00	11.60	76.40	80.0	130.00	1.0	W	1	29040	0.32
MM S-D-L150-C16-T08-C	T08	16.00	11.60	97.80	100.0	150.00	1.0	C	0	29970	0.33
MM S-D-L150-C16-T08-W-H	T08	16.00	11.60	98.30	100.0	150.00	1.0	W	1	21540	0.38
MM S-D-L170-C20-T08	T08	20.00	11.60	69.70	80.0	170.00	1.0	S	0	22680	0.30
MM S-D-L170-C20-T08-C	T08	20.00	11.60	112.00	120.0	170.00	1.0	C	0	26250	0.47
MM S-D-L170-C20-T08-W	T08	20.00	11.60	69.70	80.0	170.00	1.0	W	0	24900	0.65
MM S-D-L170-C20-T08-W-H	T08	20.00	11.60	113.10	120.0	170.00	1.0	W	1	18750	0.53
MM S-D-L150-C20-T10-C	T10	20.00	15.30	97.50	120.0	150.00	1.0	C	0	35610	0.10
MM S-D-L150-C20-T10-W-H	T10	20.00	15.30	96.80	100.0	150.00	1.0	W	1	25800	0.60
MM S-D-L170-C20-T10-C	T10	20.00	15.30	118.30	120.0	170.00	1.0	C	0	28140	0.61
MM S-D-L170-C20-T10-W-H	T10	20.00	15.30	118.00	120.0	170.00	1.0	W	1	20100	0.73
MM S-D-L190-C20-T10	T10	20.00	15.30	73.70	80.0	190.00	1.0	S	0	15780	0.42
MM S-D-L190-C20-T10-C	T10	20.00	15.30	-	140.0	190.00	1.0	C	0	22830	0.68
MM S-D-L190-C20-T10-W-H	T10	20.00	15.30	-	140.0	190.00	1.0	W	1	16170	0.83
MM S-D-L210-C20-T10-C	T10	20.00	15.30	-	160.0	210.00	1.0	C	0	18270	0.75
MM S-D-L210-C20-T10-W-H	T10	20.00	15.30	-	160.0	210.00	1.0	W	1	12870	0.93
MM S-D-L180-C25-T12-C	T12	25.00	18.30	115.70	120.0	180.00	1.0	C	0	29460	0.91
MM S-D-L180-C25-T12-W-H	T12	25.00	18.30	114.60	120.0	180.00	1.0	W	1	20940	1.15
MM S-D-L200-C25-T12-W-H	T12	25.00	18.30	146.60	150.0	200.00	1.0	W	1	16560	1.21
MM S-D-L210-C25-T12	T12	25.00	18.30	94.60	100.0	210.00	1.0	S	0	15540	0.66
MM S-D-L250-C25-T12-C	T12	25.00	18.30	135.60	140.0	250.00	1.0	C	0	16170	1.40
MM S-D-L250-C25-160T12W-H	T12	25.00	18.30	157.20	160.0	250.00	1.0	W	1	11310	1.76
MM S-D-L250-C25-T12-W-H	T12	25.00	18.30	135.60	140.0	250.00	1.0	W	1	11300	1.80
MM S-D-L250-C32-T15	T15	32.00	23.90	90.10	100.0	250.00	1.0	S	0	14160	1.00
MM S-D-L250-C32-T15-C	T15	32.00	23.90	143.30	150.0	250.00	1.0	C	0	20370	1.88
MM S-D-L300-C32-T15-C	T15	32.00	23.90	195.70	200.0	300.00	1.0	C	0	16000	2.62

• Shank material (Shank m.): S-steel, C-carbide, W-tungsten. • Do not apply lubricant to the threaded connection.

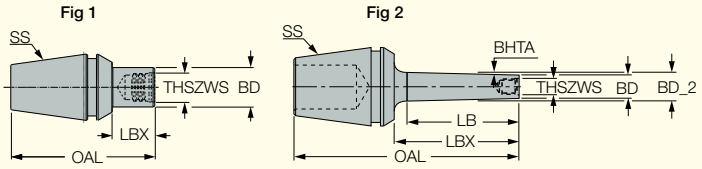
(1) 0 - Without coolant supply, 1 - With coolant supply

(2) The maximum RPM must be calculated. Divide the listed max. RPM by the number of flutes (on the milling head) being used.

MULTI-MASTER

MM S-ER

Shanks for MULTI-MASTER Solid Carbide Heads with an ER Collet Adaptation



Designation	SS	THSZWS	BHTA	BD	BD_2	LB	LBX	OAL	Fig.
MM S-A-H004-ER11-T04	ER11	T04	-	5.80	-	-	4.0	22.00	1.
MM S-A-H004-ER11-T05	ER11	T05	-	7.60	-	-	4.0	22.00	1.
MM S-A-H10.5-ER11-T05	ER11	T05	-	7.60	-	-	10.5	28.50	1.
MM S-A-H004-ER16-T05	ER16	T05	-	7.60	-	-	4.0	31.50	1.
MM S-A-H004-ER16-T06	ER16	T06	-	9.25	-	-	4.0	31.50	1.
MM S-A-H004-ER16-T08	ER16	T08	-	11.60	-	-	4.0	31.50	1.
MM S-A-H10.5-ER16-T05	ER16	T05	-	7.60	-	-	10.5	38.00	1.
MM S-A-H10.5-ER16-T06	ER16	T06	-	9.25	-	-	10.5	38.00	1.
MM S-A-H013-ER16-T08	ER16	T08	-	11.60	-	-	14.0	40.50	1.
MM S-A-H004-ER20-T05	ER20	T05	-	7.60	-	-	4.0	35.50	1.
MM S-A-H004-ER20-T06	ER20	T06	-	9.25	-	-	4.0	35.50	1.
MM S-A-H004-ER20-T08	ER20	T08	-	11.60	-	-	4.0	35.50	1.
MM S-A-H004-ER20-T10	ER20	T10	-	15.30	-	-	4.0	35.50	1.
MM S-A-H10.5-ER20-T05	ER20	T05	-	7.60	-	-	10.5	42.00	1.
MM S-A-H10.5-ER20-T06	ER20	T06	-	9.25	-	-	10.5	42.00	1.
MM S-A-H013-ER20-T08	ER20	T08	-	11.60	-	-	13.0	44.50	1.
MM S-A-H016-ER20-T10	ER20	T10	-	15.30	-	-	16.0	47.50	1.
MM S-A-H004-ER25-T05	ER25	T05	-	7.60	-	-	4.0	38.00	1.
MM S-A-H004-ER25-T06	ER25	T06	-	9.25	-	-	4.0	38.00	1.
MM S-A-H10.5-ER25-T06	ER25	T06	-	9.25	-	-	10.5	44.50	1.
MM S-A-H004-ER25-T08	ER25	T08	-	11.60	-	-	4.0	38.00	1.
MM S-A-H10.5-ER25-T08	ER25	T08	-	11.60	-	-	10.5	44.50	1.
MM S-A-H004-ER25-T10	ER25	T10	-	15.30	-	-	4.0	38.00	1.
MM S-A-H10.5-ER25-T10	ER25	T10	-	15.30	-	-	10.5	44.50	1.
MM S-A-H004-ER25-T12	ER25	T12	-	18.30	-	-	4.0	38.00	1.
MM S-A-H10.5-ER25-T12	ER25	T12	-	18.30	-	-	10.5	44.50	1.
MM S-A-H025-ER32-T06	ER32	T06	-	9.25	10.00	18.00	25.0	65.00	2.
MM S-B-H025-ER32-T06	ER32	T06	5.0	9.60	13.50	22.30	25.0	65.00	2.
MM S-B-H050-ER32-T06	ER32	T06	5.0	9.60	17.90	47.30	50.0	90.00	2.
MM S-B-H075-ER32-T06	ER32	T06	5.0	9.60	22.60	74.10	75.0	115.00	2.
MM S-D-H050-ER32-T06	ER32	T06	1.0	9.60	11.20	45.00	50.0	90.00	2.

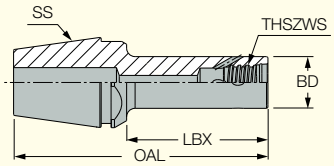
• Do not apply lubricant to the threaded connection. • For adaptation, see page 39 • When a rigid ER collet is assembled in an ER holder, the actual protruding length of the holder becomes shorter by 2.0 mm for ER20 and by 3.0 mm for ER25/ER32

For tools, see pages: CH45-MM-PN06 (33)

MULTI-MASTER

MM S-ER-H

Shanks for MULTI-MASTER Solid Carbide Heads with an ER Collet Adaptation and Coolant Holes



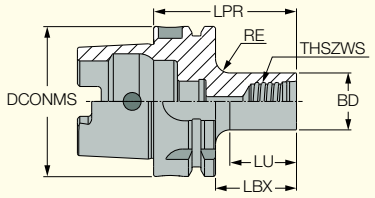
Designation	SS	THSZWS	BD	LBX	OAL	kg
MM S-A-H025-ER32-T05-H	ER32	T05	7.60	25.0	65.00	0.20
MM S-A-H040-ER32-T05-H	ER32	T05	7.60	40.0	80.00	0.23
MM S-A-H025-ER32-T06-H	ER32	T06	9.25	25.0	65.00	0.23
MM S-A-H040-ER32-T06-H	ER32	T06	9.25	40.0	80.00	0.22
MM S-A-H025-ER32-T08-H	ER32	T08	11.60	25.0	65.00	0.20
MM S-A-H050-ER32-T08-H	ER32	T08	11.60	50.0	90.00	0.23
MM S-A-H025-ER32-T10-H	ER32	T10	15.30	25.0	65.00	0.20
MM S-A-H050-ER32-T10-H	ER32	T10	15.20	50.0	90.00	0.25
MM S-A-H025-ER32-T12-H	ER32	T12	18.30	25.0	65.00	0.22
MM S-A-H050-ER32-T12-H	ER32	T12	18.30	50.0	90.00	0.22
MM S-A-H025-ER32-T15-H	ER32	T15	23.90	25.0	65.00	0.21
MM S-A-H050-ER32-T15-H	ER32	T15	23.90	50.0	90.00	0.25

• Do not apply lubricant to the threaded connection. • For adaptation, see page 39

MULTI-MASTER HSK

MM S-A-HSK

MULTI-MASTER Threaded Connection Shanks with an Integral HSK DIN 69893 Form A Tapered Adaptation



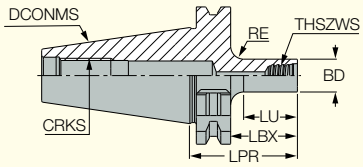
Designation	DCONMS	THSZWS	BD	LPR	LBX	LU	RE
MM S-A-H035-HSK A40-T05	40	T05	7.60	35.00	15.0	10.00	5.0
MM S-A-H040-HSK A40-T06	40	T06	9.25	40.00	20.0	15.00	5.0
MM S-A-H045-HSK A40-T08	40	T08	11.60	45.00	25.0	20.00	5.0
MM S-A-H050-HSK A40-T10	40	T10	15.30	50.00	30.0	25.00	5.0
MM S-A-H050-HSK A40-T12	40	T12	18.30	50.00	30.0	25.00	5.0
MM S-A-H050-HSK A63-T06	63	T06	9.25	50.00	24.0	18.00	6.0
MM S-A-H050-HSK A63-T08	63	T08	11.60	50.00	24.0	18.00	6.0
MM S-A-H055-HSK A63-T10	63	T10	15.30	55.00	29.0	23.00	6.0
MM S-A-H055-HSK A63-T12	63	T12	18.30	55.00	29.0	23.00	6.0
MM S-A-H060-HSK A63-T15	63	T15	23.90	60.00	34.0	28.00	6.0

• Do not apply lubricant to the threaded connection • For adaptation options, see page 39

MULTI-MASTER DIN69871

MM S-A-SK

DIN 69871 Integral Tapered Shanks for MULTI-MASTER Milling Heads



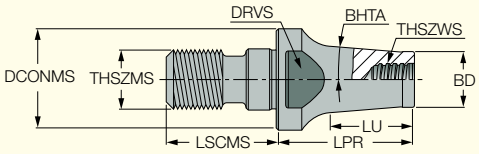
Designation	DCONMS	CRKS	THSZWS	BD	LPR	LBX	LU	RE
MM S-A-H040-SK 40-T06	40.00	M16	T06	9.25	40.00	21.0	15.00	6.0
MM S-A-H045-SK 40-T08	40.00	M16	T08	11.60	45.00	26.0	20.00	6.0
MM S-A-H050-SK 40-T10	40.00	M16	T10	15.30	50.00	31.0	25.00	6.0
MM S-A-H050-SK 40-T12	40.00	M16	T12	18.30	50.00	31.0	25.00	6.0
MM S-A-H050-SK 40-T15	40.00	M16	T15	23.90	50.00	31.0	25.00	6.0

• Do not apply lubricant to the threaded connection • For adaptation, see page 39

FLEXFIT MULTI-MASTER

MM CAB

Adapters for Connecting FLEXFIT Shanks and MULTI-MASTER Milling Heads



Designation	THSZWS	THSZMS	LPR	LU	BD	DCONMS	LSCMS	DRVS[1]	BHTA	kg
MM CAB T06M06-16/.63	T06	M06	16.00	11.60	9.30	9.70	14.50	8.0	1.5	0.01
MM CAB T06M08-16/.63	T06	M08	16.00	13.70	9.60	13.00	17.50	11.0	6.0	0.02
MM CAB T06M08-25/1.0	T06	M08	25.00	11.30	9.30	13.00	17.50	11.0	1.5	0.02
MM CAB T06M10-25/1.0	T06	M10	25.00	16.60	9.60	18.00	20.00	11.0	5.0	0.04
MM CAB T08M08-16/.63	T08	M08	16.00	5.40	11.70	13.00	17.50	11.0	11.4	0.03
MM CAB T08M08-25/1.0	T08	M08	25.00	19.50	11.70	13.00	17.50	11.0	1.5	0.03
MM CAB T08M10-20/.75	T08	M10	20.00	11.30	11.70	18.00	20.00	13.0	7.0	0.04
MM CAB T08M10-25/1.0	T08	M10	25.00	14.20	11.70	18.00	20.00	11.0	1.5	0.03
MM CAB T08M12-20/.75	T08	M12	20.00	9.30	11.70	21.00	22.00	13.0	7.0	0.05
MM CAB T08M12-25/1.0	T08	M12	25.00	12.50	11.70	21.00	22.00	13.0	1.5	0.04

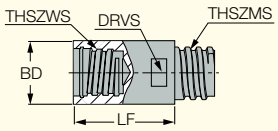
• Do not apply lubricant to the threaded connection. • For adaptation options, see page 39

[1] Clamping wrench size

MULTI-MASTER

MM CAB-T-T

MULTI-MASTER Shank Extensions



Designation	BD	THSZMS	THSZWS	LF	DRVS[1]	kg
MM CAB T05T05-25/1.0-C	7.60	T05	T05	25.40	6.0	0.02
MM CAB T06T06-25/1.0-C	9.30	T06	T06	25.40	8.0	0.02
MM CAB T08T08-25/1.0-C	11.50	T08	T08	25.40	10.0	0.02
MM CAB T10T10-38/1.5-C	15.20	T10	T10	38.10	13.0	0.08
MM CAB T12T12-38/1.5-C	18.45	T12	T12	38.10	16.0	0.11
MM CAB T15T15-45/1.77-C	23.90	T15	T15	45.00	20.0	0.21

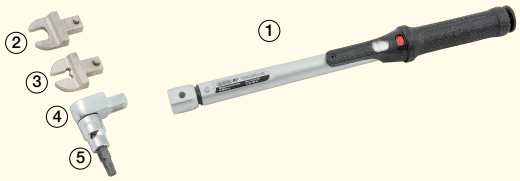
• Clamping key should be ordered separately • For adaptation, see page 39

[1] Clamping wrench size

Accessories

MM Adjustable Torque Keys

Adjustable Torque Handle and Keys for Secure and Accurate Tightening of MULTI-MASTER Milling Heads



Designation	Fig.	Ts[1]	Key	TQ[2]
TORQUE WRENCH 5-50NM 9X12	1.	-	-	-
MM WRENCH 6-05	2.	T05	-	7.0
MM WRENCH 8-06	2.	T06	-	10.0
MM WRENCH 10-08	2.	T08	-	15.0
MM WRENCH 13-10	2.	T10	-	28.0
MM WRENCH 16-12	2.	T12	-	28.0
MM WRENCH 20-15	2.	T15	-	40.0
MM WRENCH 4E-05	3.	T05	-	7.0
MM WRENCH 5E-06	3.	T06	-	10.0
MM WRENCH 7E-08	3.	T08	-	15.0
MM WRENCH 8E-10	3.	T10	-	28.0
MM WRENCH 9E-12	3.	T12	-	28.0
INSERT TOOL 3/8" 9X12MM	4.	-	-	-
BIT SOCKET T20 3/8" DRIVE	5.	-	Torx T20	-
BIT SOCKET T25 3/8" DRIVE	5.	-	Torx T25	-
BIT SOCKET T30 3/8" DRIVE	5.	-	Torx T30	-
BIT SOCKET T40 3/8" DRIVE	5.	-	Torx T40	-
BIT SOCKET T50 3/8" DRIVE	5.	-	Torx T50	-

• NOTE: For recommended clamping torque for each MULTI-MASTER connection size, see page 78

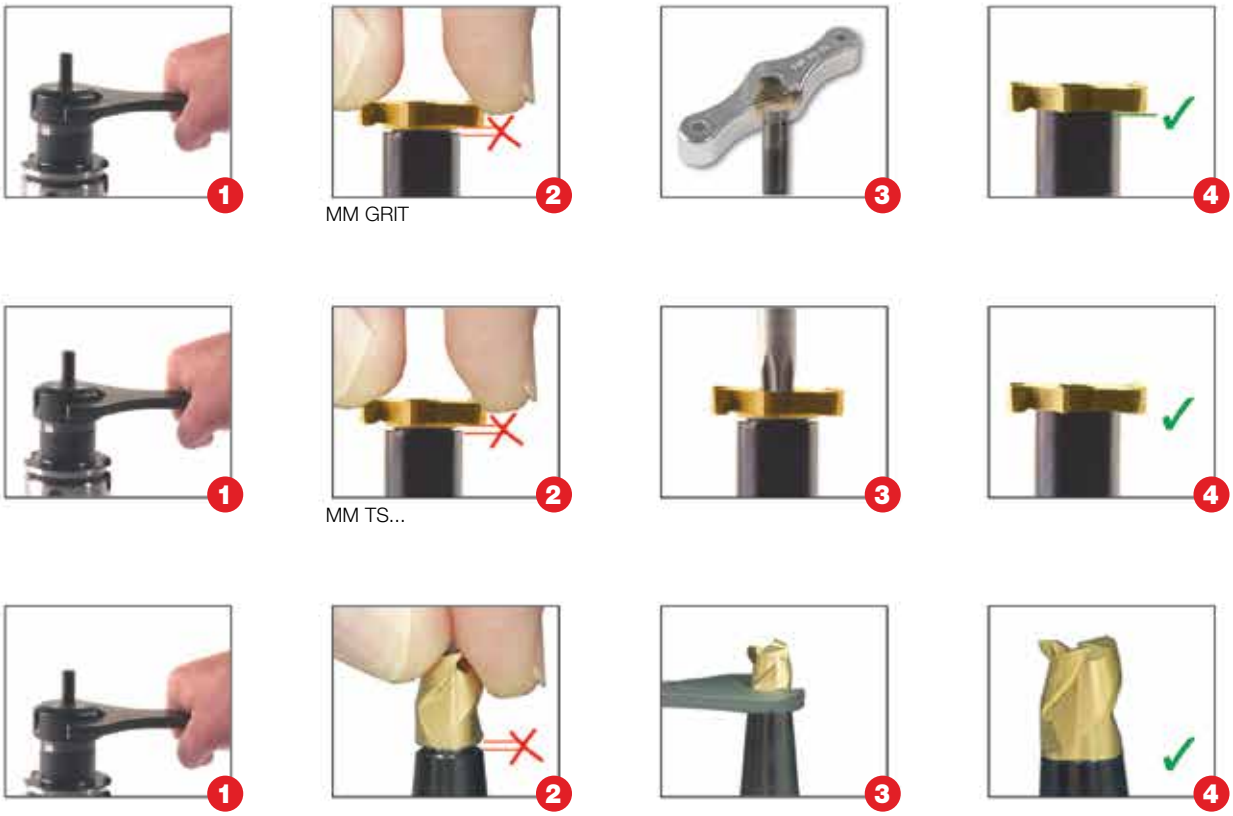
[1] MULTI-MASTER connection size

[2] Clamping torque Nxm

Adjustable Torque Handle with Interchangeable Wrenches for Clamping MULTI-MASTER Milling Heads

The adjustable torque handle, interchangeable wrenches and Torx bits are optional and should be ordered separately.

Clamping and Indexing Instructions



Do not apply lubricant to the threaded connection.

Thread Size	Key [1]	Tightening Torque (Nxcm)
T04	MM KEY 6x4	400
T05	MM KEY 6x4	700
T06	MM KEY 8x5	1000
T08	MM KEY 10x7	1500
T10	MM KEY 13x8	2800
T12	MM KEY 16x9	2800
T15	MM KEY 20	4000

[1] Order separately

SOLID CARBIDE ENDMILLS

WORKPIECE MATERIAL	ISO	Page
STEEL	P	80
STAINLESS STEEL	M	84
CAST IRON	K	87
ALUMINUM / NON FERROUS MATERIALS	N	90
SUPERALLOYS / TITANIUM	S	91
HARD STEELS	H	93

P (Steel Materials)

Tool Selection Priorities			
Tool	Rough	Semi-Finish	Finish/H.S.M
EC-H6/20	-	-	1
EC-E7/H7-CF	-	-	2
EFS-B44	5	6	-
EFS-E44-CF	4	5	-
ECR-B-MF	6	7	-
EC-E5L-CF	7	1	4
EC-E4L-CF	3	3	5
ECP-H4L-CF	2	4	-
EC-H4M-CF-E	1	2	3

ROUGHING

	Designation	Ø	H (Neck)	ap	Z	Corner Type	Coolant	Page
	EC-H4M-CF-E	6-20	-	2xD	4	CHx45	NO	101
	ECP-H4L-CFR	6-20	3XD	2xD	4	r	NO	103
	EC-E4L-CF	1-25	3XD	2xD	4	CHx45	NO	114
	EFS-E44	6-25	-	2xD	4	CHx45	NO	112
	EFS-B44	4-25	3xD	2xD	4	CHx45	NO	113
	ECR-B-MF	6-25	-	2xD	4/6	CHx45	NO	117
	EC-E5L-CF	6-20	-	2xD	5	CHx45	NO	114

P (Steel Materials)

FINISHING

	Designation	Ø	H (Neck)	ap	Z	Corner Type	Coolant	Page
	EC-E5L-CF	6-20	-	2xD	5	CHx45	NO	114
	EC-E7/H7-CF	2-20	-	2xD, 4xD	7	-	NO	105
	EC-H-CF	6-20	-	2xD	6-20	CHx45	NO	109
	ECXL-B-4/6	10-20	-	6xD	4/6	-	NO	144
	ECH-B-6	6-20	-	2xD	6	-	NO	143

TROCHOIDAL / DYNAMIC MILLING

	Designation	Ø	H (Neck)	ap	Z	Corner Type	Coolant	Page
	EC-E7/H7-CF	2-20	-	2xD, 4xD	7	-	NO	105
	EC-H-CF	6-20	-	2xD	6-20	CHx45	NO	109

HIGH FEED MILLING

	Designation	Ø	H (Neck)	ap	Z	Corner Type	Coolant	Page
	EFP-E4,5CF	6-20	-	2.5xD	4/5	r	NO	120
	EFF-S	1-20	3xD	MIN.	2/4	r	NO	120

CHAMFERING AND DEBURRING

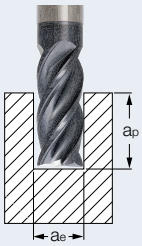
	Designation	Ø	H (Neck)	ap	Z	Corner Type	Coolant	Page
	ECF.../45	4-12	-	2.5xD	4	-	NO	167
	ECD-S2	3-12	2xD	0.5xD	2	-	NO	168

P (Steel Materials)	
Tool Type	**Features**
EC-H4M-CF-E (ECO Type)	• Rough and finish operations • General use • Low power machines • **CHATTERFREE**
ECP-H4L-CFR	• Rough operations • General use • Chip splitter **CHATTERFREE**
EC-E4L-CF	• Rough and finish operations • Used for machining alloyed steel and general use • Low power machines **CHATTERFREE**
EC-E5L-CF	• Rough and finish operations • Used for machining alloyed steel and general use • High material removal rates
ECR-B-MF	• Rough operations • Used in unstable components
EFS-E44	• Used for machining alloyed steel • Combination of **VIBRAFREE** and **FINISHROUGH**
EFS-B44	• Unique design • Used for machining titanium, stainless and alloyed steel • Fully effective • Semi-finish surface quality
EC-E7/H7-CF	• For high speed machining • Trochoidal milling • Finish operations up to 10% X **D**
EC-H-CF	• High speed machining • Multiflute solid endmill • Tools for Super-Finish • Up to 5% X **D**

P (Steel Materials)

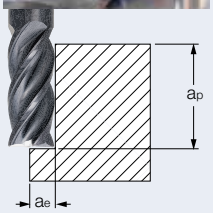
ROUGH: a_e = 40% - Full Cut , a_p = 2 x D

Material Group Parameters	Unalloyed Steel		Low Alloyed Steel		High Alloyed Steel		Martensitic Steels	Ferritic Steels
	1-4	5	6-7	8-9	10	11	12	13
Vc (IC900/608 (m/min)	160-180	140-150	120-160	130-150	130-150	70-90	80-100	60-90
Vc (IC300) (m/min)	130-160	110-120	100-130	100-120	100-120	60-80	60-90	50-80
Fz (Ø6-8) (mm/t)	0.025-0.035	0.025-0.035	0.02-0.03	0.02-0.03	0.02-0.03	0.02-0.03	0.02-0.035	0.02-0.035
Fz (Ø10-12) (mm/t)	0.03-0.045	0.03-0.045	0.03-0.045	0.03-0.045	0.03-0.045	0.03-0.045	0.03-0.04	0.03-0.04
Fz (Ø16-20) (mm/t)	0.04-0.055	0.04-0.055	0.04-0.055	0.04-0.055	0.04-0.055	0.04-0.055	0.035-0.045	0.035-0.045



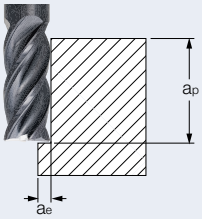
SEMI-FINISH: a_e = 10% - 40%, a_p = 2 x D

Material Group Parameters	Unalloyed Steel		Low Alloyed Steel		High Alloyed Steel		Martensitic Steels	Ferritic Steels
	1-4	5	6-7	8-9	10	11	12	13
Vc (IC900/608) (m/min)	200-220	150-170	160-180	150-170	150-160	90-110	100-130	90-120
Vc (IC300) (m/min)	160-190	120-130	130-150	120-130	120-130	80-90	90-110	80-100
Fz (Ø6-8) (mm/t)	0.03-0.06	0.03-0.06	0.02-0.05	0.02-0.05	0.02-0.05	0.02-0.05	0.025-0.04	0.025-0.04
Fz (Ø10-12) (mm/t)	0.06-0.07	0.06-0.07	0.04-0.065	0.04-0.065	0.04-0.065	0.04-0.065	0.035-0.045	0.035-0.045
Fz (Ø16-20) (mm/t)	0.07-0.08	0.07-0.08	0.045-0.07	0.045-0.07	0.045-0.07	0.045-0.07	0.04-0.05	0.04-0.05



FINISH: a_e = 5% - 10%, a_p = Max. cutting length

Material Group Parameters	Unalloyed Steel		Low Alloyed Steel		High Alloyed Steel		Martensitic Steels	Ferritic Steels
	1-4	5	6-7	8-9	10	11	12	13
Vc (IC900/608) (m/min)	220-280	170-180	180-220	170-180	160-180	110-120	130-160	120-150
Vc (IC300) (m/min)	190-220	130-140	150-180	130-140	130-140	90-100	110-130	100-120
Vc (IC902/903/702) (m/min)	230-290	180-200	190-230	180-230	170-190	120-130	140-170	130-160
Fz (Ø6-8) (mm/t)	0.05-0.07	0.05-0.07	0.05-0.07	0.05-0.07	0.05-0.07	0.05-0.07	0.03-0.045	0.03-0.045
Fz (Ø10-12) (mm/t)	0.07-0.08	0.07-0.08	0.07-0.08	0.07-0.08	0.07-0.08	0.07-0.08	0.04-0.05	0.04-0.05
Fz (Ø16-20) (mm/t)	0.08-0.1	0.08-0.1	0.08-0.1	0.08-0.1	0.08-0.1	0.08-0.1	0.045-0.06	0.045-0.06



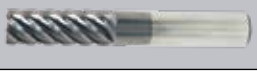
M (Stainless Steel)

Tool Selection Priorities			
Tool	Rough	Semi-Finish	Finish/H.S.M
EC-H-CF	-	-	1
EC-E7/H7-CF	-	-	2
EFS-B44	5	6	-
ECP-E4L	4	5	-
EC-H5M-CFR	-	3	3
EC-H4M-CFR	3	4	5
ECP-H4L-CFR	2	2	-
EC-H4M-CF-E	1	1	4

ROUGHING

	Designation	Ø	H (Neck)	ap	Z	Corner Type	Coolant	Page
	EC-H4M-CF-E	6-20	-	2xD	4	CHx45	NO	101
	ECP-H4L-CFR	6-20	3XD	2xD	4	r	NO	103
	EC-H5M-CFR	4-20	-	2xD	5	r	NO	104
	EC-H4M-CFR	6-25	-	2xD	4	r	NO	102
	EFS-B44	6-25	3xD	2xD	4	CHx45	NO	113
	ECP-E4L	5-20	3xD	2xD	4	CHx45	NO	118

FINISHING

	Designation	Ø	H (Neck)	ap	Z	Corner Type	Coolant	Page
	EC-E7/H7-CF	2-20	-	2xD, 4xD	7	-	NO	105
	EC-H-CF	6-20	-	2xD	6-20	CHx45	NO	109
	EC-H5M-CFR	4-20	-	2xD	5	r	NO	104
	ECXL-B-4/6	10-20	-	6xD	7	-	NO	144
	ECH-B-6	6-20	-	2xD	6	-	NO	143

TROCHOIDAL / DYNAMIC MILLING

	Designation	Ø	H (Neck)	ap	Z	Corner Type	Coolant	Page
	EC-E7/H7-CF	2-20	-	2xD, 4xD	7	-	NO	105
	EC-H-CF	6-20	-	2xD	6-20	CHx45	NO	109

M (Stainless Steel)

HIGH FEED MILLING

	Designation	Ø	H (Neck)	ap	Z	Corner Type	Coolant	Page
	EFP-E4,5CF	6-20	-	2.5xD	4/5	r	NO	120
	EFF-S	1-20	3xD	MIN.	2/4	r	NO	120

CHAMFERING AND DEBURRING

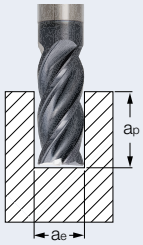
	Designation	Ø	H (Neck)	ap	Z	Corner Type	Coolant	Page
	ECF.../45	4-12	-	2.5xD	4	-	NO	167
	ECD-S2	3-12	2xD	0.5xD	2	-	NO	168

Tool Type	Features
EC-H4M-CF-E (ECO Type)	• Rough and fnish operations • General use • Low power machines • **CHATTERFREE**
ECP-H4L-CFR	• Rough operations • General use • Chip splitter **CHATTERFREE**
EC-H4M-CFR	• Rough and finish operations • Used for machining stainless steel • High material removal rates
EC-H5M-CFR	• Rough and finish operations • Used for machining stainless steel • High material removal rates
ECP-E4L	• Used for machining stainless steel and high temperature alloys • Chip Splitter
EFS-B44	• Unique design • Used for machining titanium, stainless and alloyed steel • Fully effective • Semi-finish surface quality
EC-E7/H7-CF	• For high speed machining • Trochoidal milling • Finish operations up to 10% X **D**
EC-H-CF	• High speed machining • Multiflute solid endmill • Tools for Super-Finish • Up to 5% X **D**

M (Stainless Steel)

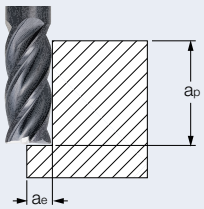
ROUGH: a_e = 40% - Full Cut , a_p = 2 x D

Material Group Parameters	Austenitic Steels
	14
Vc (IC900/608) (m/min)	60-80
Vc (IC300) (m/min)	50-70
Fz (Ø6-8) (mm/t)	0.02-0.035
Fz (Ø10-12) (mm/t)	0.03-0.04
Fz (Ø16-20) (mm/t)	0.035-0.045



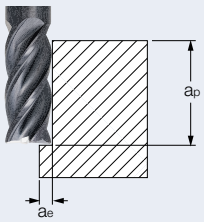
SEMI-FINISH: a_e = 10% - 40%, a_p = 2 x D

Material Group Parameters	Austenitic Steels
	14
Vc (IC900/608) (m/min)	80-100
Vc (IC300) (m/min)	70-90
Fz (Ø6-8) (mm/t)	0.025-0.04
Fz (Ø10-12) (mm/t)	0.035-0.045
Fz (Ø16-20) (mm/t)	0.04-0.05



FINISH / H.S.M: ae = 5% - 10%, ap = Max. cutting length

Material Group Parameters	Austenitic Steels
	14
Vc (IC900/608) (m/min)	100-120
Vc (IC300) (m/min)	90-100
Vc (IC902/903/702) (m/min)	110-130
Fz (Ø6-8) (mm/t)	0.03-0.045
Fz (Ø10-12) (mm/t)	0.04-0.05
Fz (Ø16-20) (mm/t)	0.045-0.06



K (Cast Iron)

Tool Selection Priorities			
Tool	Rough	Semi-Finish	Finish/H.S.M
EC-H-CF	-	-	1
EC-E7/H7-CF	-	-	2
EFS-B44	2	7	-
EFS-E44	5	6	-
ECR-B-MF	4	3	-
EC-E5L-CF	7	1	4
EC-E4L-CF	6	5	5
ECP-H4L-CFR	3	4	-
EC-H4M-CF-E	1	2	3

ROUGHING

	Designation	Ø	H (Neck)	ap	Z	Corner Type	Coolant	Page
	EC-H4M-CF-E	6-20	-	2xD	4	CHx45	NO	101
	ECP-H4L-CFR	6-20	3XD	2xD	4	r	NO	103
	EC-E4L-CF	1-25	3XD	2xD	4	CHx45	NO	114
	EFS-E44	6-25	-	2xD	4	CHx45	NO	112
	EFS-B44	4-25	3xD	2xD	4	CHx45	NO	113
	ECR-B-MF	6-20	-	2xD	4/6	CHx45	NO	117
	EC-E5L-CF	6-20	-	2xD	5	CHx45	NO	114

FINISHING

	Designation	Ø	H (Neck)	ap	Z	Corner Type	Coolant	Page
	EC-E5L-CF	6-20	-	2xD	5	CHx45	NO	114
	EC-E7/H7-CF	2-20	-	2xD, 4xD	7	-	NO	105
	EC-H-CF	6-20	-	2xD	6-20	CHx45	NO	109
	ECXL-B-4/6	10-20	-	6xD	4/6	-	NO	144
	ECH-B-6	6-20	-	2xD	6	-	NO	143

TROCHOIDAL / DYNAMIC MILLING

	Designation	Ø	H (Neck)	ap	Z	Corner Type	Coolant	Page
	EC-E7/H7-CF	2-20	-	2xD, 4xD	7	-	NO	105
	EC-H-CF	6-20	-	2xD	6-20	CHx45	NO	109

K (Cast Iron)

HIGH FEED MILLING

	Designation	Ø	H (Neck)	ap	Z	Corner Type	Coolant	Page
	EFP-E4,5CF	6-20	-	2.5xD	4/5	r	NO	120
	EFF-S	1-20	3xD	MIN.	2/4	r	NO	120

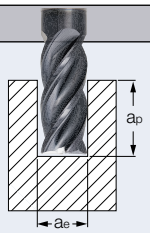
CHAMFERING AND DEBURRING

	Designation	Ø	H (Neck)	ap	Z	Corner Type	Coolant	Page
	ECF.../45	4-12	-	2.5xD	4	-	NO	167
	ECD-S2	3-12	2xD	0.5xD	2	-	NO	168

Tool Type	Features
EC-H4M-CF-E (ECO Type)	• Rough and finish operations • General use • Low power machines • **CHATTERFREE**
ECP-H4L-CFR	• Rough operations • General use • Chip splitter **CHATTERFREE**
EC-E4L-CF	• Rough and finish operations • Used for machining alloyed steel and general use • Low power machines no vibrations
EC-E5L-CF	• Rough and finish operations • Used for machining alloyed steel and general use • High material removal rates
ECR-B-MF	• Rough operations • Used on unstable components
EFS-E44	• Used for machining alloyed steel • Combination of **VIBRAFREE** and **FINISHROUGH**
EFS-B44	• Unique design • Used for machining titanium, stainless and alloyed steel • Fully effective • Semi-finish surface quality
EC-E7/H7-CF	• For high speed machining • Trochoidal milling • Finish operations up to 10% X **D**
EC-H-CF	• High speed machining • Multiflute solid endmill • Tools for Super-Finish • Up to 5% X **D**

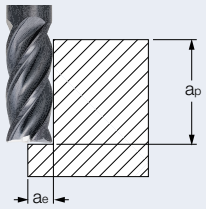
ROUGH: a_e = 40% - Full Cut , a_p = 2 x D

Material Group Parameters	Grey Cast Iron	Ductile Cast Iron	Malleable Cast Iron
	15-16	17-18	19-20
Vc (IC900/608) (m/min)	80-130	90-130	140-180
Vc (IC300) (m/min)	60-140	70-140	110-150
Fz (Ø6–8) (mm/t)	0.02-0.04	0.02-0.04	0.02-0.04
Fz (Ø10-12) (mm/t)	0.03-0.05	0.03-0.05	0.03-0.05
Fz (Ø16-20) (mm/t)	0.04-0.06	0.04-0.06	0.04-0.06

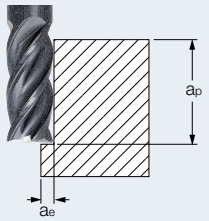


K (Cast Iron)

SEMI-FINISH: a_e = 10% - 40%, a_p = 2 x D			
Material Group Parameters	Grey Cast Iron	Ductile Cast Iron	Malleable Cast Iron
	15-16	17-18	19-20
Vc (IC900/608) (m/min)	130-180	130-200	180-220
Vc (IC300) (m/min)	140-180	140-180	150-180
Fz (Ø6–8) (mm/t)	0.03-0.05	0.03-0.05	0.03-0.05
Fz (Ø 10-12) (mm/t)	0.04-0.06	0.04-0.06	0.04-0.06
Fz (Ø16-20) (mm/t)	0.06-0.07	0.06-0.07	0.06-0.07



FINISH / H.S.M: a_e = 5% - 10%, a_p = Max. cutting length			
Material Group Parameters	Grey Cast Iron	Ductile Cast Iron	Malleable Cast Iron
	15-16	17-18	19-20
Vc (IC900/608) (m/min)	180-260	200-280	220-280
Vc (IC300) (m/min)	180-210	180-220	180-220
Vc (IC902/903/702) (m/min)	190-270	210-290	220-290
Fz (Ø6–8) (mm/t)	0.035-0.06	0.035-0.06	0.035-0.06
Fz (Ø10-12) (mm/t)	0.06-0.065	0.06-0.065	0.06-0.065
Fz (Ø16-20) (mm/t)	0.065-0.08	0.065-0.08	0.065-0.08



N (Non-Ferrous Metals)

Tool Selection Priorities			
Tool	Rough	Semi-Finish	Finish/H.S.M
ECR-B3-R	5	6	-
ECA-B-3	6	3	3
ECA-H4-CF	2	1	1
ECAP-H3-CF	3	4	-
ECA-H3-CF	4	5	4
ECA-H3-CF-C	1	2	2

ROUGHING

	Designation	Ø	H (Neck)	ap	Z	Corner Type	Coolant	Page
	ECA-H3-CF	1.5-25	3XD	2xD	3	r	NO	147
	ECA-H3-CF-C	6-25	5XD	2xD	3	r	YES	149
	ECAP-H3-CF	10-25	5XD	2xD	3	r	YES	150
	ECA-H4-CF	6-25	5XD	2xD	4	r	NO	149
	ECA-B-3	4-20	4xD	2xD	3	r	NO	153
	ECR-B3-R	6-20	-	1xD	3	r	NO	151

FINISHING

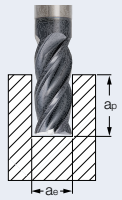
	Designation	Ø	H (Neck)	ap	Z	Corner Type	Coolant	Page
	ECA-H3-CF	1-25	3XD	2xD	3	r	NO	147
	ECA-H3-CF-C	6-25	5XD	2xD	3	r	YES	149
	ECA-H4-CF	6-25	5XD	2xD	4	r	NO	149
	ECA-B-3	4-20	4xD	2xD	3	r	NO	153

N (Non-Ferrous Metals)

Tool Type	Features
ECA-H3-CF	• Suitable for roughing and finishing operations • **CHATTERFREE** • Full slot up to 1.**5XD** and **2XD** * • Excellent solution for low power machines
ECA-H3-CF-C	• Suitable for roughing and finishing operations • **CHATTERFREE** • Full slot up to **2XD** • Internal coolant for better chip evacuation in deep cavity
ECAP-H3-CF	• Suitable for roughing • Chip splitter **CHATTERFREE** • Internal coolant for better chip evacuation in deep cavity
ECA-H4-CF	• Suitable for roughing and finishing operations • **CHATTERFREE** • Full slot up to **1XD**
ECA-B-3	• Suitable for roughing and finishing operations • Excellent surface finish
ECR-B3-R	• Suitable for roughing • Good cheap evacuation

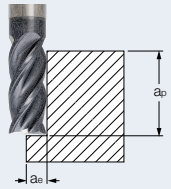
D2 x ROUGH: a_e = 40% - Full Cut , a_p = 1.5xD* /

Material Group Parameters	Alu Wrought alloy	Alu Cast Alloy	Copper Alloy	Electrolitic Copper	Non-Metallic
	21-22	23-25	26-27	28	29-30
Vc (IC08) (m/min)	700-760	400-550	500-520	350-360	350-360
Fz (Ø6–8) (mm/t)	0.02-0.04	0.02-0.04	0.02-0.04	0.02-0.04	0.02-0.04
Fz (Ø10-12) (mm/t)	0.03-0.05	0.03-0.05	0.03-0.05	0.03-0.05	0.03-0.05
Fz (Ø 16-20) (mm/t)	0.03-0.07	0.03-0.07	0.03-0.07	0.03-0.07	0.03-0.07



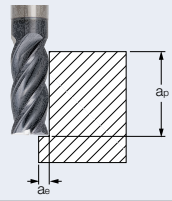
SEMI-FINISH: a_e = 10% - 40%, a_p = 2 x D

Material Group Parameters	Alu Wrought alloy	Alu Cast Alloy	Copper Alloy	Electrolitic Copper	Non-Metallic
	21-22	23-25	26-27	28	29-30
Vc (IC08) (m/min)	760-840	550-700	520-530	360-370	360-370
Fz (Ø6–8) (mm/t)	0.04-0.06	0.04-0.06	0.03-0.05	0.03-0.05	0.03-0.05
Fz (Ø 10-12) (mm/t)	0.06-0.08	0.06-0.08	0.045-0.055	0.045-0.055	0.045-0.055
Fz (Ø 16-20) (mm/t)	0.08-0.1	0.08-0.1	0.055-0.07	0.055-0.07	0.055-0.07



FINISH / H.S.M: ae = 5% - 10%, ap = Max. cutting length

Material Group Parameters	Alu Wrought alloy	Alu Cast Alloy	Copper Alloy	Electrolitic Copper	Non-Metallic
	21-22	23-25	26-27	28	29-30
Vc (IC08) (m/min)	840-900	700-900	530-550	370-380	370-380
Fz (Ø6–8)(mm/t)	0.045-0.07	0.045-0.07	0.035-0.06	0.035-0.06	0.035-0.06
Fz (Ø10-12) (mm/t)	0.07-0.1	0.07-0.1	0.06-0.07	0.06-0.07	0.06-0.07
Fz (Ø16-20) (mm/t)	0.1-0.15	0.1-015	0.065-0.08	0.065-0.08	0.065-0.08



S (High Heat Resistant Alloys)

Tool Selection Priorities

Tool	Rough	Semi-Finish	Finish/H.S.M
EC-H-CF	-	-	1
EC-E7/H7-CF	-	-	2
EFS-B44 (IC300)	1	1	-
ECK-H4M-CFR	3	3	-
ECR-B-MF	2	2	-
EC-H5M-CFR	7	4	3
EC-H4M-CFR	6	7	5
ECP-H4L-CFR	4	5	-
EC-H4M-CF-E	5	6	4

ROUGHING

	Designation	Ø	H (Neck)	ap	Z	Corner Type	Coolant	Page
	EC-H4M-CF-E	6-20	-	2xD	4	CHx45	NO	101
	ECP-H4L-CFR	6-20	3XD	2xD	4	r	NO	103
	EC-E4L-CF	1-25	3XD	2xD	4	CHx45	NO	114
	ECK-H4M-CFR	6-20	-	2xD	4	-	NO / YES	110
	EFS-B44	4-25	3xD	2xD	4	CHx45	NO	113
	ECR-B-MF	6-25	-	2xD	4/6	CHx45	NO	117
	EC-E5L-CF	6-20	-	2xD	5	CHx45	NO	114

FINISHING

	Designation	Ø	H (Neck)	ap	Z	Corner Type	Coolant	Page
	EC-E5L-CF	6-20	-	2xD	5	CHx45	NO	114
	EC-E7/H7-CF	2-20	-	2xD, 4xD	7	-	NO	105
	EC-H-CF	6-20	-	2xD	6-20	CHx45	NO	109
	ECXL-B-4/6	10-20	-	6xD	4/6	-	NO	144
	ECH-B-6	6-20	-	2xD	6	-	NO	143

S (High Heat Resistant Alloys)

TROCHOIDAL / DYNAMIC MILLING

	Designation	Ø	H (Neck)	ap	Z	Corner Type	Coolant	Page
	EC-E7/H7-CF	2-20	-	2xD, 4xD	7	-	NO	105
	EC-H-CF	6-20	-	2xD	6-20	CHx45	NO	109

HIGH FEED MILLING

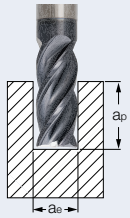
	Designation	Ø	H (Neck)	ap	Z	Corner Type	Coolant	Page
	EFP-E4,5CF	6-20	-	2.5xD	4/5	r	NO	120
	EFF-S	1-20	3xD	MIN.	2/4	r	NO	120

CHAMFERING AND DEBURRING

	Designation	Ø	H (Neck)	ap	Z	Corner Type	Coolant	Page
	ECF.../45	4-12	-	2.5xD	4	-	NO	167
	ECD-S2	3-12	2xD	0.5xD	2	-	NO	168

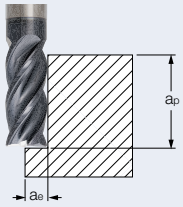
*ROUGH: ae = 40% - Full Cut , ap = 1.5 x D

Material Group Parameters	Nickel based Alloys	Titanium and Ti Alloys
	31-35	36-37
Vc (IC900/608) (m/min)	20-40	30-50
Vc (IC300) (m/min)	20-30	20-40
Fz (Ø6–8) (mm/t)	0.02-0.03	0.02-0.03
Fz (Ø 10-12) (mm/t)	0.03-0.04	0.03-0.04
Fz (Ø 16-20) (mm/t)	0.03-0.07	0.03-0.07



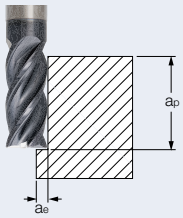
SEMI-FINISH: ae = 10% - 40%, ap = 2 x D

Material Group Parameters	Nickel based Alloys	Titanium and Ti Alloys
	31-35	36-37
Vc (IC900/608) (m/min)	40-50	50-60
Vc (IC300) (m/min)	30-45	40-50
Fz (Ø6–8) (mm/t)	0.03-0.04	0.03-0.04
Fz (Ø 10-12) (mm/t)	0.035-0.05	0.035-0.05
Fz (Ø 16-20) (mm/t)	0.05-0.08	0.05-0.08



FINISH / H.S.M: ae = 5% - 10%, ap = Max. cutting length

Material Group Parameters	Nickel based Alloys	Titanium and Ti Alloys
	31-35	36-37
Vc (IC900/608) (m/min)	50-70	60-70
Vc (IC300) (m/min)	45-60	50-60
Vc (IC902/903/702) (m/min)	55-80	65-80
Fz (Ø6–8) (mm/t)	0.035-0.05	0.035-0.05
Fz (Ø 10-12) (mm/t)	0.04-0.06	0.04-0.06
Fz (Ø 16-20) (mm/t)	0.06-0.085	0.06-0.085



H (Hard Materials)

Tool Selection Priorities

Tool	Rough	Semi-Finish	Finish/H.S.M
EC-H-CF	-	-	1
EC-E7/H7-CF	-	-	2
EFS-B44	2	3	-
ECR-B-MF	1	1	-
EC-E5L-CF	6	2	3
EC-E4L-CF	5	6	5
ECP-H4L-CFR	3	4	-
EC-H4M-CF-E	4	5	4

ROUGHING

	Designation	Ø	H (Neck)	ap	Z	Corner Type	Coolant	Page
	EC-H4M-CF-E	6-20	-	2xD	4	CHx45	NO	101
	ECP-H4L-CFR	6-20	3XD	2xD	4	r	NO	103
	EC-E4L-CF	1-25	3XD	2xD	4	CHx45	NO	114
	EFS-B44	4-25	3xD	2xD	4	CHx45	NO	113
	ECR-B-MF	6-25	-	2xD	4/6	CHx45	NO	117
	EC-E5L-CF	6-20	-	2xD	5	CHx45	NO	114

FINISHING

	Designation	Ø	H (Neck)	ap	Z	Corner Type	Coolant	Page
	EC-E5L-CF	6-20	-	2xD	5	CHx45	NO	114
	EC-E7/H7-CF	2-20	-	2xD, 4xD	7	-	NO	105
	EC-H-CF	6-20	-	2xD	6-20	CHx45	NO	109
	ECXL-B-4/6	10-20	-	6xD	4/6	-	NO	144
	ECH-B-6	6-20	-	2xD	6	-	NO	143

H (Hard Materials)

TROCHOIDAL / DYNAMIC MILLING

	Designation	Ø	H (Neck)	ap	Z	Corner Type	Coolant	Page
	EC-E7/H7-CF	2-20	-	2xD, 4xD	7	-	NO	105
	EC-H-CF	6-20	-	2xD	6-20	CHx45	NO	109

HIGH FEED MILLING

	Designation	Ø	H (Neck)	ap	Z	Corner Type	Coolant	Page
	EFP-E4,5CF	6-20	-	2.5xD	4/5	r	NO	120
	EFF-S	1-20	3xD	MIN.	2/4	r	NO	120

CHAMFERING AND DEBURRING

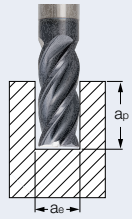
	Designation	Ø	H (Neck)	ap	Z	Corner Type	Coolant	Page
	ECF.../45	4-12	-	2.5xD	4	-	NO	167
	ECD-S2	3-12	2xD	0.5xD	2	-	NO	168

Tool Type	Features
EC-H4M-CF-E (ECO Type)	• Rough and finish operations • General use • Low power machines • **CHATTERFREE**
ECP-H4L-CFR	• Rough operations • General use • Chip splitter **CHATTERFREE**
EC-E4L-CF	• Rough and Finish operations • Used for machining alloyed steel and general use • Low power machines no vibrations
EC-E5L-CF	• Rough and Finish operations • Used for machining alloyed steel and general use • High material removal rates
ECR-B-MF	• Rough operations • Used on unstable components
EFS-B44	• Unique design • Used for machining titanium, stainless and alloyed steel • Fully effective • Semi-finish surface quality
EC-E7/H7-CF	• For high speed machining • Trochoidal milling • Finish operations up to 10% X **D**
EC-H-CF	• High speed machining • Multiflute solid endmill • Tools for Super-Finish • Up to 5% X **D**

H (Hard Materials)

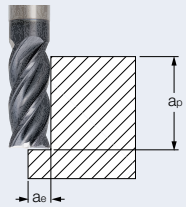
ROUGH: Ae = 40% - Full Cut , Ap = 2 x D

Material Group Parameters	Hardened Steel	Chilled Cast Iron	Cast Iron
	38-39	40	41
Vc (IC900/608) (m/min)	20-30	60-65	30-35
Vc (MC300) (m/min)	20-25	50-55	20-25
Fz (Ø6 – 8) (mm/z)	0.01-0.015	0.01-0.015	0.01-0.015
Fz (Ø 10 -12) (mm/z)	0.03-0.045	0.03-0.045	0.03-0.045
Fz (Ø 16 -20) (mm/z)	0.04-0.05	0.04-0.05	0.04-0.05



SEMI-FINISH: Ae = 10% - 40%, Ap = 2 x D

Material Group Parameters	Hardened Steel	Chilled Cast Iron	Cast Iron
	38-39	40	41
Vc (IC900/608) (m/min)	30-40	65-70	35-40
Vc (MC300) (m/min)	25-30	50-55	25-30
Fz (Ø6 – 8) (mm/z)	0.015-0.035	0.015-0.035	0.015-0.035
Fz (Ø 10 -12) (mm/z)	0.035-0.055	0.035-0.055	0.035-0.055
Fz (Ø 16 -20) (mm/z)	0.045-0.06	0.045-0.06	0.045-0.06



FINISH / H.S.M: Ae = 5% - 10%, Ap = Max. cutting length

Material Group Parameters	Hardened Steel	Chilled Cast Iron	Cast Iron
	38-39	40	41
Vc (IC900/608) (m/min)	40-50	70-80	40-50
Vc (MC300) (m/min)	30-40	55-60	30-40
Vc (IC902/903/702) (m/min)	45-60	75-90	45-60
Fz (Ø6 – 8) (mm/z)	0.02-0.04	0.02-0.04	0.02-0.04
Fz (Ø 10 -12) (mm/z)	0.04-0.06	0.04-0.06	0.04-0.06
Fz (Ø 16 -20) (mm/z)	0.05-0.07	0.05-0.07	0.05-0.07

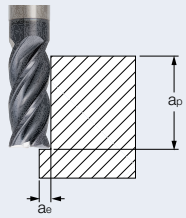


Table of Contents

Type	Helix Angle	Cutting Length	Workpiece Hardness HRc	No. of Flutes	Diameter Range		Page	
EFS-E44	38°	2D	<45	4	6-25		112	
ECK-H4M-CFR	Different helix with variable pitch	2D	Titanium	4	4-20		110	
ECK-H7/9-CFR	Different helix with variable pitch	2D	Titanium	7-9	6-20		111	
EFS-B44	45°	2D	<55	4	4-25		113	
EC-H4S-CF	Different helix with variable pitch	D	<55	4	6-20		101	
EC-H4/5M-CFR	Different helix with variable pitch	2D	<55	4,5	4-25		102, 104	
EC-H4M-CF-E	Different helix with variable pitch	2D	<55	4	6-20		101	
EC-H4L-CFR	Different helix with variable pitch	2D	<55	4	1-20		102	
ECP-H4L-CFR	Different helix with variable pitch	2D	<55	4	6-20		103	
EC-H4XL-CFR	Different helix with variable pitch	2D	<55	4	6-20		103	
EC-E7/H7-CF	Different helix with variable pitch	2D, 4D	<55	7	2-20		105	
EC-H-CF	Different helix with variable pitch	2D	<55	6-20	6-20		109	
EC-E4L-CF	38° helix with variable pitch	2D	<45	4	1-25		114	
EC-E5L-CF	38° helix with variable pitch	2.5D	<45	5	6-20		114	
EFP-E4,5CF	38° helix with variable pitch	2D	<55	4-5	6-20	High feed at small D.O.C.	120	
ECR-B-S	45°	1D	<55	4-7	5-20		115	
ECR-B-M/ ECR-B-M...R	45°	2D	<55	4-7	5-20		115	
ECR-B-L	45°	2D	<55	4-7	6-20		116	
ECR-B-X	45°	1.5D	<55	4-5	8-16		116	
ECR-B-MF	45°	2D	<65	4,6	6-25	Excellent for hardened steel	117	
ECP-E-L	38°	2D	<45	3,4	5-20	Recommended for stainless steel	117, 118	

(1) Provides high surface finish in rough machining conditions

Table of Contents

Type	Helix Angle	Cutting Length	Workpiece Hardness HRc	No. of Flutes	Diameter Range		Page
ERF-A/E-3,4,6	30°, 38°	2D	<55	3-6	4-25	Fine pitch steel alloys	118
ECR-T-M	20°	2D	<55	4	6-20		119
EBRF-T	20°	2D	<55	3,4	6-20		119
EFF-S	0°	0.05D	<65	4	1-20		120
ETR-A2	30°	1D	<45	2	2-10		121
EC-A2 (economical-short)	30°	1D	<45	2	2-20		121
EC-A-2	30°	2D	<45	2	2-20		122
EC-A2 (economical-medium)	30°	1-3D	<45	2	1-20		122
ECC-A-2	30°	2-3.5D	<45	2	2-20	Reinforced	123
EC-A2(economical-extra long)	30°	3-10D	<45	2	3-20		123
ECS/ECCS-E-3	38°	1-1.5D	<45	3	2-20		124
EC-A3/E3 (economical-short)	30°, 38°	1-3D	<45	3	0.5-18		124
EC-A3/E3 (economical-medium)	30°, 38°	1-4D	<45	3	2-20		125
EC-B3 (economical-short)	45°	1-2D	<45	3	1.5-20		125
EC-E-3	38°	1-2.5D	<45	3	1-20		126
ECC-E-3	38°	2-3.5D	<45	3	2-20	Reinforced	127
ECU-E-3	38°	2D	<45	3	2.8-19.7	Undersized for keyholes	127
ECU-E-3-R	38°	1.25D	<45	3	3.8-11.7	Undersized for keyholes with corner radii	128
EC-B3 (economical-medium)	45°	1.5D	<45	3	3-20		128
EC-B-3	45°	2-3.5D	<45	3	2-20		129
EC-B-3R	45°	2D	<45	3	6-20	Corner radii	130

Table of Contents

Type	Helix Angle	Cutting Length	Workpiece Hardness HRc	No. of Flutes	Diameter Range		Page	
EC-B-4	45°	2-3.5D	<45	4	2-20		131	
EC-B-4R	45°	2D	<45	4	6-20	Corner radii	132	
EC-A-4	30°	2-3.5D	<45	4	2-20		133	
EC-A-4R	30°	2.5D	<45	4	3-8	Corner radii	134	
EC-A4 (economical-medium)	30°	2-4D	<45	4	2-20		134	
ECC-A-4	30°	2-3.5D	<45	4	2-20	Reinforced	135	
EC-A4(economical-extra long)	30°	3-10D	<45	4	3-20		135	
EC-A2-M	30°	1-1.5D	<65	2	0.4-6		139-140	
EC-A2-R	30°	1.5D	<65	2	0.5-12		136-137	
EC-A2-H	30°	1.5D	<65	2	0.1-4.0		138	
EC-A2 (medium length)	30°	2D	<65	2	1-25		141	
EC-A4	30°	2-3D	<65	4	2-25		142	
EC-B4-R	45°	1.5D	<65	4	10-22		143	
ECH-B-6	45°	2D	<65	6	6-20	High temp. alloys	143	
ECL-B-4,6	45°	3-5D	<45	4,6	6-20		144	
ECXL-B-4,6	45°	4-6D	<45	4,6	10-20		144	
EC-D6	50°	2D	<65	6	6-20		145	
EC-B6-H	45°	2D	<65	6	6-20		146	
EC-B6	45°	4D	<65	6	6-25		145	
EPN-F	15°	2-4D	CFRP Composites	9-12	3-12		154	
EPNC	15°	2-4D	CFRP Composites	10	8-12		154	

Table of Contents

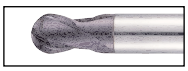
Type	Helix Angle	Cutting Length	Workpiece Hardness HRc	No. of Flutes	Diameter Range		Page	
EPND	15°	2-4D	CFRP Composites	6-10	1.6-12		155	
EPX	15°	2D	CFRP Composites	6-8	6-12		155	
ECA-H3-CF	39-41° variable helix	2D	Aluminum	3	1-25		147-148	
ECA-H3-CF-C	Different helix with variable pitch	2D	Aluminum	3	6-25		149	
ECA-H4-CF	Different helix with variable pitch	1.5-2D	Aluminum	4	6-25		149	
ECAP-H3-CF	Different helix with variable pitch	1.5-2D	Aluminum	3	10-25		150	
ERC-E-3	38°	2D	Aluminum	3	6-25		150	
ECR-B3-R	45°	1-3D	Aluminum	3	6-20		151	
ECR-B3-R-C	45°	D	Aluminum	3	8-25		151	
ECA-B-2	45	2-3D	Aluminum	2	4-20	High Speed Machining on aluminum	152	
ECA-B-3	45°	2-3D	Aluminum	3	4-20	High Speed Machining on aluminum	153	
ECA-F-2	55°	2-5D	Aluminum	2	4-25	High Speed Machining on aluminum	153	
EB-H-CF	Different helix with variable pitch	2D	<55	3-5	6-20		156	
EB-E4L-CF	38°	2D	<45	4	3-16		157	
EB-A-2	30°	1-2D	<45	2	2-20		157	
EB-A2 (stub cut length)	30°	1D	<70	2	1-25	Stub cut length	158	
EB-A2 (rib processing)	30°	1.5D	<65	2	0.4-6		163-164	
EB-A2-H (rib processing)	30°	0.8-1D	<65	2	0.1-4.0		162	
EB-A2 (long with neck)	30°	2-3D	<65	2	3-25	Long overhang length	164	
EB-A2 (extra long)	30°	2-3D	<65	2	2-20	Extra long overhang length	165	

Table of Contents

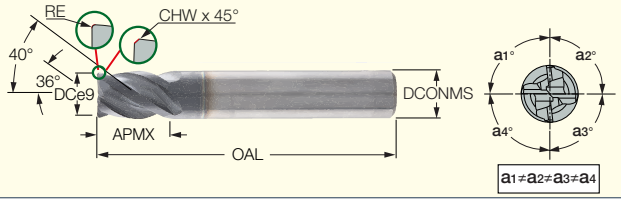
Type	Helix Angle	Cutting Length	Workpiece Hardness HRc	No. of Flutes	Diameter Range		Page	
EB-A2 (tapered flute & neck)	30°	2D	<65	2	1-12	Tapered neck	165	
EB-A2 (precision stub cut)	30°	1D	<65	2	1-25	Precision stub cut	166	
ESB-A2	30°	0.75D	<65	2	3-16	Long overhand length	167	
ESB-A4	30°	0.75D	<65	4	5-16		167	
EBM-A-2	30°	2-3D	<45	2	0.4-2	Miniature	166	
EB-A2 (economical)	30°	2-3D	<45	2	2-20		158	
EB-A2(economical-extra long)	30°	3.5-10D	<45	2	3-20		159	
EB-A-3	30°	1.25D	<45	3	1.6-12		159	
EB-A4 (economical-short)	30°	1-2D	<45	4	2-20		160	
EB-A-4 (short length)	30°	1-1.5D	<45	4	2-20		160	
EB-A-4 (medium length)	30°	2-2.5D	<45	4	3-20		161	
EBL-A-4	30°	2-3D	<45	4	4-16		161	
ECF../45		1.5-2.5D	<65	4	4-12		167	
ECD-S2	straight	-	-	2	3-12		168	

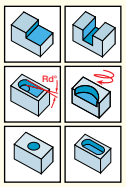
SOLIDMILL TEC LINE

CHATTERFREE SOLID MILL LINE

EC-H4S-CF

Short 4 Flute Endmills with Different Helix and Variable Pitch for Chatter Dampening





Designation	Dimensions DC	DCONMS	APMX	OAL	NOF(1)	RE	RMPX(2)	Shank(3)	CHW	Tough ↔ Hard IC900	IC608	Recommended Machining Data fz (mm/t)
EC-H4S 06-06C06CF-E50	6.00	6.00	6.00	50.00	4	-	5.0	C	0.25	●	●	0.03-0.08
EC-H4S 06-06C06CFR.2E50	6.00	6.00	6.00	50.00	4	0.20	5.0	C	-	●	●	0.03-0.08
EC-H4S 06-06W06CF-E50	6.00	6.00	6.00	50.00	4	-	5.0	W	0.25	●	●	0.03-0.08
EC-H4S 08-08C08CF-E63	8.00	8.00	8.00	63.00	4	-	5.0	C	0.30	●	●	0.03-0.08
EC-H4S 08-08C08CFR.4E63	8.00	8.00	8.00	63.00	4	0.40	5.0	C	-	●	●	0.03-0.08
EC-H4S 08-08W08CF-E63	8.00	8.00	8.00	63.00	4	-	5.0	W	0.30	●	●	0.03-0.08
EC-H4S 10-10C10CF-E66	10.00	10.00	10.00	66.00	4	-	5.0	C	0.40	●	●	0.03-0.10
EC-H4S 10-10C10CFR.5E66	10.00	10.00	10.00	66.00	4	0.50	5.0	C	-	●	●	0.03-0.10
EC-H4S 10-10W10CF-E66	10.00	10.00	10.00	66.00	4	-	5.0	W	0.40	●	●	0.03-0.10
EC-H4S 12-12C12CF-E73	12.00	12.00	12.00	73.00	4	-	5.0	C	0.50	●	●	0.04-0.10
EC-H4S 12-12C12CFR.6E73	12.00	12.00	12.00	73.00	4	0.60	5.0	C	-	●	●	0.04-0.10
EC-H4S 12-12W12CF-E73	12.00	12.00	12.00	73.00	4	-	5.0	W	0.50	●	●	0.04-0.10
EC-H4S 16-16C16CF-E82	16.00	16.00	16.00	82.00	4	-	5.0	C	0.60	●	●	0.05-0.11
EC-H4S 16-16W16CF-E82	16.00	16.00	16.00	82.00	4	-	5.0	W	0.60	●	●	0.05-0.11
EC-H4S 20-20C20CF-E92	20.00	20.00	20.00	92.00	4	-	5.0	C	0.60	●	●	0.05-0.11
EC-H4S 20-20W20CF-E92	20.00	20.00	20.00	92.00	4	-	5.0	W	0.60	●	●	0.05-0.11

• For user guide, see pages 169-176

(1) Number of flutes

(2) Maximum ramping angle

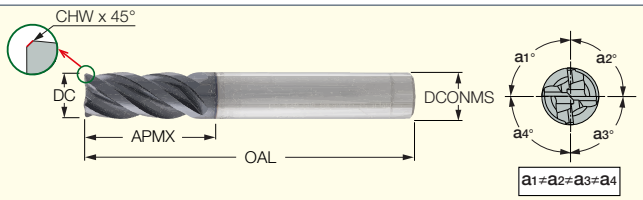
(3) C-Cylindrical, W-Weldon

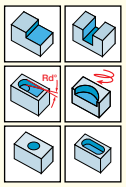
SOLIDMILL TEC LINE

CHATTERFREE SOLID MILL LINE

EC-H4M-CF-E

4 Flute Endmills with Different Helix and Variable Pitch for Chatter Dampening





Designation	Dimensions DC	DCONMS	APMX	OAL	NOF(1)	RMPX(2)	Shank(3)	CHW	IC900	Recommended Machining Data fz (mm/t)
EC-H4M 06-12C06CF-E57	6.00	6.00	12.00	57.00	4	5.0	C	0.25	●	0.03-0.07
EC-H4M 06-12W06CF-E57	6.00	6.00	12.00	57.00	4	5.0	W	0.25	●	0.03-0.07
EC-H4M 08-16C08CF-E63	8.00	8.00	16.00	63.00	4	5.0	C	0.30	●	0.03-0.09
EC-H4M 08-16W08CF-E63	8.00	8.00	16.00	63.00	4	5.0	W	0.30	●	0.03-0.09
EC-H4M 10-20C10CF-E72	10.00	10.00	20.00	72.00	4	5.0	C	0.40	●	0.03-0.09
EC-H4M 10-20W10CF-E72	10.00	10.00	20.00	72.00	4	5.0	W	0.40	●	0.03-0.09
EC-H4M 12-24C12CF-E83	12.00	12.00	24.00	83.00	4	5.0	C	0.50	●	0.04-0.10
EC-H4M 12-24W12CF-E83	12.00	12.00	24.00	83.00	4	5.0	W	0.50	●	0.04-0.10
EC-H4M 16-32C16CF-E92	16.00	16.00	32.00	92.00	4	5.0	C	0.60	●	0.05-0.11
EC-H4M 16-32W16CF-E92	16.00	16.00	32.00	92.00	4	5.0	W	0.60	●	0.05-0.11
EC-H4M 20-40C20CF-E104	20.00	20.00	40.00	104.00	4	5.0	C	0.60	●	0.05-0.11
EC-H4M 20-40W20CF-E104	20.00	20.00	40.00	104.00	4	5.0	W	0.60	●	0.05-0.11

• For user guide, see pages 169-176

(1) Number of flutes

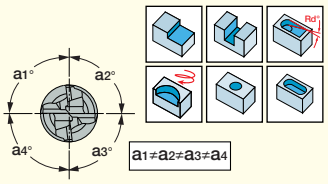
(2) Maximum ramping angle

(3) C-Cylindrical, W-Weldon

CHATTERFREE
SOLID MILL LINE

EC-H4M-CFR

4 Flute Endmills with Different Helix and Variable Pitch for Chatter Dampening with Assorted Radii



Designation	Dimensions DC	DCONMS	APMX	OAL	NOF(1)	RE	RMPX(2)	Shank(3)	IC900	Recommended Machining Data fz (mm/t)
EC-H4M 06-12C06CFR0.2-57	6.00	6.00	12.00	57.00	4	0.20	5.0	C	•	0.03-0.06
EC-H4M 06-12W06CFR0.2-57	6.00	6.00	12.00	57.00	4	0.20	5.0	W	•	0.03-0.06
EC-H4M 08-16C08CFR0.4-63	8.00	8.00	16.00	63.00	4	0.40	5.0	C	•	0.03-0.08
EC-H4M 08-16W08CFR0.4-63	8.00	8.00	16.00	63.00	4	0.40	5.0	W	•	0.03-0.08
EC-H4M 10-20C10CFR0.5-72	10.00	10.00	20.00	72.00	4	0.50	5.0	C	•	0.03-0.09
EC-H4M 10-20W10CFR0.5-72	10.00	10.00	20.00	72.00	4	0.50	5.0	W	•	0.03-0.09
EC-H4M 12-24C12CFR0.6-83	12.00	12.00	24.00	83.00	4	0.60	5.0	C	•	0.04-0.10
EC-H4M 12-24W12CFR0.6-83	12.00	12.00	24.00	83.00	4	0.60	5.0	W	•	0.04-0.10
EC-H4M 14-28C14CFR0.7-83	14.00	14.00	28.00	83.00	4	0.70	5.0	C	•	0.04-0.11
EC-H4M 14-28W14CFR0.7-83	14.00	14.00	28.00	83.00	4	0.70	5.0	W	•	0.04-0.11
EC-H4M 16-32C16CFR0.8-92	16.00	16.00	32.00	92.00	4	0.80	5.0	C	•	0.05-0.11
EC-H4M 16-32W16CFR0.8-92	16.00	16.00	32.00	92.00	4	0.80	5.0	W	•	0.05-0.11
EC-H4M 20-40C20CFR1.0-104	20.00	20.00	40.00	104.00	4	1.00	5.0	C	•	0.05-0.11
EC-H4M 20-40W20CFR1.0-104	20.00	20.00	40.00	104.00	4	1.00	5.0	W	•	0.05-0.11
EC-H4M 25-50C25CFR1.2-121	25.00	25.00	50.00	121.00	4	1.20	5.0	C	•	0.06-0.11
EC-H4M 25-50W25CFR1.2-121	25.00	25.00	50.00	121.00	4	1.20	5.0	W	•	0.06-0.11

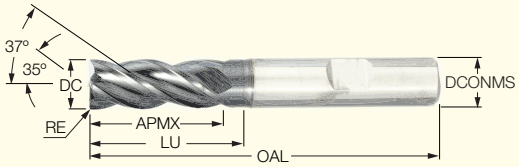
• For user guide, see pages 169-176
(1) Number of flutes
(2) Maximum ramping angle
(3) C-Cylindrical, W-Weldon

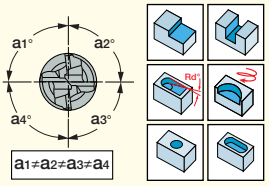
SOLIDMILL
PREMIUM LINE

CHATTERFREE
SOLID MILL LINE

EC-H4L-CFR (relieved neck)

4 Flute Endmills with 3xD Relieved Necks, Assorted Radii, Different Helix and Variable Pitch for Chatter Dampening





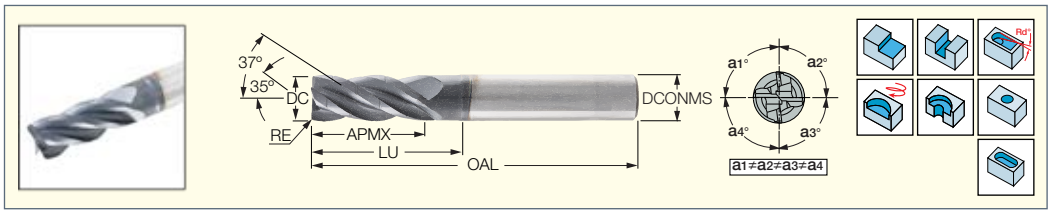
Designation	Dimensions DC	DCONMS	APMX	LU	OAL	NOF(1)	RE	RMPX(2)	Shank(3)	IC900	Recommended Machining Data fz (mm/t)
EC-H4L 01-02/3C4CFR.05-50	1.00	4.00	2.00	3.0	50.00	4	0.05	5.0	C	•	0.01-0.01
EC-H4L 02-04/6C4CFR.1-50	2.00	4.00	4.00	6.0	50.00	4	0.10	5.0	C	•	0.01-0.02
EC-H4L 03-06/9C6CFR.15-57	3.00	6.00	6.00	9.0	57.00	4	0.15	5.0	C	•	0.01-0.04
EC-H4L 04-08/12C6CFR.2-57	4.00	6.00	8.00	12.0	57.00	4	0.20	5.0	C	•	0.02-0.05
EC-H4L 05-10/15C6CFR.2-57	5.00	6.00	10.00	15.0	57.00	4	0.20	5.0	C	•	0.02-0.06
EC-H4L 06-12/20C6CFR.2-57	6.00	6.00	12.00	20.0	57.00	4	0.20	5.0	C	•	0.03-0.06
EC-H4L 06-12/20W6CFR.2-57	6.00	6.00	12.00	20.0	57.00	4	0.20	5.0	W	•	0.03-0.06
EC-H4L 08-16/26C8CFR.4-63	8.00	8.00	16.00	26.0	63.00	4	0.40	5.0	C	•	0.03-0.08
EC-H4L 08-16/26W8CFR.4-63	8.00	8.00	16.00	26.0	63.00	4	0.40	5.0	W	•	0.03-0.08
EC-H4L 10-20/32C10CFR.5	10.00	10.00	20.00	32.0	72.00	4	0.50	5.0	C	•	0.03-0.09
EC-H4L 10-20/32W10CFR.5	10.00	10.00	20.00	32.0	72.00	4	0.50	5.0	W	•	0.03-0.09
EC-H4L 12-24/38C12CFR.6	12.00	12.00	24.00	38.0	83.00	4	0.60	5.0	C	•	0.04-0.10
EC-H4L 12-24/38W12CFR.6	12.00	12.00	24.00	38.0	83.00	4	0.60	5.0	W	•	0.04-0.10
EC-H4L 16-32/50C16CFR.8	16.00	16.00	32.00	50.0	100.00	4	0.80	5.0	C	•	0.05-0.11
EC-H4L 16-32/50W16CFR.8	16.00	16.00	32.00	50.0	100.00	4	0.80	5.0	W	•	0.05-0.11
EC-H4L 20-40/60C20CFR1.0	20.00	20.00	40.00	60.0	110.00	4	1.00	5.0	C	•	0.05-0.11
EC-H4L 20-40/60W20CFR1.0	20.00	20.00	40.00	60.0	110.00	4	1.00	5.0	W	•	0.05-0.11

• For user guide, see pages 169-176
(1) Number of flutes
(2) Maximum ramping angle
(3) C-Cylindrical, W-Weldon

SOLIDSHRED
CHATTERFREE
SOLID MILL LINE

ECP-H4L-CFR

4 Flute Solid Carbide Endmills with Different Helix, Variable Pitch and Chip Splitting Cutting Edges for Roughing



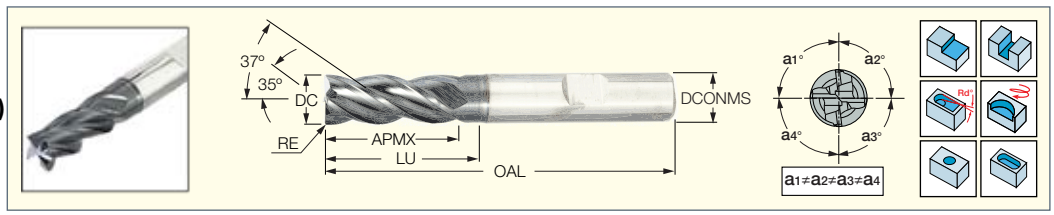
Designation	Dimensions DC	DCONMS	APMX	LU	OAL	NOF(1)	Shank(2)	RE	IC900	Recommended Machining Data fz (mm/t)
ECP-H4L 06-12/20C6CFR.2	6.00	6.00	12.00	20.0	57.00	4	C	0.20	•	0.03-0.06
ECP-H4L 06-12/20W6CFR.2	6.00	6.00	12.00	20.0	57.00	4	W	0.20	•	0.03-0.06
ECP-H4L 08-16/26C8CFR.4	8.00	8.00	16.00	26.0	63.00	4	C	0.40	•	0.03-0.08
ECP-H4L 08-16/26W8CFR.4	8.00	8.00	16.00	26.0	63.00	4	W	0.40	•	0.03-0.08
ECP-H4L 10-20/32C10CFR.5	10.00	10.00	20.00	32.0	72.00	4	C	0.50	•	0.03-0.09
ECP-H4L 10-20/32W10CFR.5	10.00	10.00	20.00	32.0	72.00	4	W	0.50	•	0.03-0.09
ECP-H4L 12-24/38C12CFR.6	12.00	12.00	24.00	38.0	83.00	4	C	0.60	•	0.04-0.10
ECP-H4L 12-24/38W12CFR.6	12.00	12.00	24.00	38.0	83.00	4	W	0.60	•	0.04-0.10
ECP-H4L 16-32/50C16CFR.8	16.00	16.00	32.00	50.0	100.00	4	C	0.80	•	0.05-0.11
ECP-H4L 16-32/50W16CFR.8	16.00	16.00	32.00	50.0	100.00	4	W	0.80	•	0.05-0.11
ECP-H4L 20-40/60C20CFR1.	20.00	20.00	40.00	60.0	110.00	4	C	1.00	•	0.05-0.11
ECP-H4L 20-40/60W20CFR1.0	20.00	20.00	40.00	60.0	110.00	4	W	1.00	•	0.05-0.11

(1) Number of flutes
(2) C-Cylindrical, W-Weldon

SOLIDMILL
PREMIUM LINE
CHATTERFREE
SOLID MILL LINE

EC-H4XL-CFR (relieved neck)

4 Flute Endmills with 4xD Relieved Necks, Assorted Radii, Different Helix and Variable Pitch for Chatter Dampening



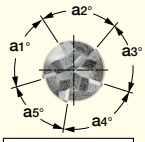
Designation	Dimensions DC	DCONMS	APMX	LU	OAL	NOF(1)	RE	RMPX(2)	Shank(3)	IC900	Recommended Machining Data fz (mm/t)
EC-H4XL 06-12/25C06CFR.2	6.00	6.00	12.00	25.0	61.00	4	0.20	5.0	C	•	0.03-0.06
EC-H4XL 06-12/25W06CFR.2	6.00	6.00	12.00	25.0	61.00	4	0.20	5.0	W	•	0.03-0.06
EC-H4XL 08-16/32C08CFR.4	8.00	8.00	16.00	32.0	68.00	4	0.40	5.0	C	•	0.03-0.08
EC-H4XL 08-16/32W08CFR.4	8.00	8.00	16.00	32.0	68.00	4	0.40	5.0	W	•	0.03-0.08
EC-H4XL 10-20/40C10CFR.5	10.00	10.00	20.00	40.0	80.00	4	0.50	5.0	C	•	0.03-0.09
EC-H4XL 10-20/40W10CFR.5	10.00	10.00	20.00	40.0	80.00	4	0.50	5.0	W	•	0.03-0.09
EC-H4XL 12-24/50C12CFR.6	12.00	12.00	24.00	50.0	95.00	4	0.60	5.0	C	•	0.04-0.10
EC-H4XL 12-24/50W12CFR.6	12.00	12.00	24.00	50.0	95.00	4	0.60	5.0	W	•	0.04-0.10
EC-H4XL 16-32/64C16CFR.8	16.00	16.00	32.00	64.0	115.00	4	0.80	5.0	C	•	0.05-0.11
EC-H4XL 16-32/64W16CFR.8	16.00	16.00	32.00	64.0	115.00	4	0.80	5.0	W	•	0.05-0.11
EC-H4XL 20-40/75C20CFR1.0	20.00	20.00	40.00	75.0	125.00	4	1.00	5.0	C	•	0.05-0.11
EC-H4XL 20-40/75W20CFR1.0	20.00	20.00	40.00	75.0	125.00	4	1.00	5.0	W	•	0.05-0.11

• For user guide, see pages 169-176
(1) Number of flutes
(2) Maximum ramping angle
(3) C-Cylindrical, W-Weldon

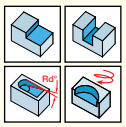
CHATTERFREE
SOLID MILL LINE

EC-H5M-CFR

5 Flute Endmills with Different Helix (36 - 38°) and Variable Pitch for Chatter Dampening with Assorted Radii



$a_1 \neq a_2 \neq a_3 \neq a_4 \neq a_5$



Designation	Dimensions								IC900	Recommended Machining Data
	DC	DCONMS	APMX	OAL	NOF(1)	RE	RMPX(2)	Shank(3)		f_z (mm/t)
EC-H5M 04-09C06CFR0.2-57	4.00	6.00	9.00	57.00	5	0.20	5.0	C	•	0.02-0.04
EC-H5M 05-11C06CFR0.2-57	5.00	6.00	11.00	57.00	5	0.20	5.0	C	•	0.02-0.04
EC-H5M 06-13C06CFR0.2-57	6.00	6.00	13.00	57.00	5	0.20	5.0	C	•	0.03-0.07
EC-H5M 06-13W06CFR0.2-57	6.00	6.00	13.00	57.00	5	0.20	5.0	W	•	0.03-0.07
EC-H5M 08-19C08CFR0.4-63	8.00	8.00	19.00	63.00	5	0.40	5.0	C	•	0.03-0.09
EC-H5M 08-19W08CFR0.4-63	8.00	8.00	19.00	63.00	5	0.40	5.0	W	•	0.03-0.09
EC-H5M 10-22C10CFR0.5-72	10.00	10.00	22.00	72.00	5	0.50	5.0	C	•	0.03-0.10
EC-H5M 10-22W10CFR0.5-72	10.00	10.00	22.00	72.00	5	0.50	5.0	W	•	0.03-0.10
EC-H5M 12-26C12CFR0.6-83	12.00	12.00	26.00	83.00	5	0.60	5.0	C	•	0.04-0.11
EC-H5M 12-26W12CFR0.6-83	12.00	12.00	26.00	83.00	5	0.60	5.0	W	•	0.04-0.11
EC-H5M 16-32C16CFR0.8-92	16.00	16.00	32.00	92.00	5	0.80	5.0	C	•	0.05-0.13
EC-H5M 16-32W16CFR0.8-92	16.00	16.00	32.00	92.00	5	0.80	5.0	W	•	0.05-0.13
EC-H5M 20-38C20CFR1-104	20.00	20.00	38.00	104.00	5	1.00	5.0	C	•	0.05-0.17
EC-H5M 20-38W20CFR1-104	20.00	20.00	38.00	104.00	5	1.00	5.0	W	•	0.05-0.17

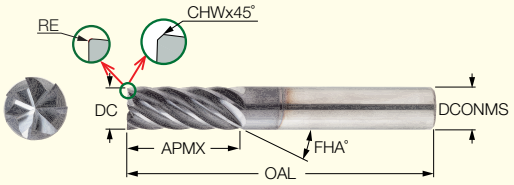
• For user guide, see pages 169-176
(1) Number of flutes
(2) Maximum ramping angle
(3) C-Cylindrical, W-Weldon

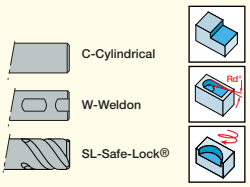
SOLIDMILL PREMIUM LINE

CHATTERFREE SOLID MILL LINE

EC-E7/H7-CF

7 Flute Endmills with Different Helix and Variable Pitch for Chatter Free High Speed Finish Milling





Designation	Dimensions DC	DCONMS	APMX	OAL	Shank(2)	NOF(3)	FHA	RE	CHW	RMPX(4)	IC902	Recommended Machining Data f_z (mm/t)
EC-E7 02-04C06CF-M57	2.00	6.00	4.00	57.00	C	7	38.0	-	0.05	3.0	•	0.01-0.02
EC-E7 03-06C06CF-M57	3.00	6.00	6.00	57.00	C	7	38.0	-	0.1	3.0	•	0.02-0.05
EC-E7 04-08C06CF-M57	4.00	6.00	8.00	57.00	C	7	38.0	-	0.1	3.0	•	0.02-0.05
EC-E7 05-10C06CF-M57	5.00	6.00	10.00	57.00	C	7	38.0	-	0.2	3.0	•	0.03-0.07
EC-H7 06-12C06CF-M57	6.00	6.00	12.00	57.00	C	7	37.0	0.00	-	3.0	•	0.03-0.07
EC-H7 06-12C06CFR.2M57	6.00	6.00	12.00	57.00	C	7	37.0	0.20	-	3.0	•	0.03-0.10
EC-H7 06-18C06CF-M65	6.00	6.00	18.00	65.00	C	7	37.0	-	0.2	3.0	•	0.03-0.07
EC-H7 06-24C06CF-70	6.00	6.00	24.00	70.00	C	7	37.0	-	0.2	3.0	•	0.03-0.07
EC-H7 06-36C06CF-90	6.00	6.00	36.00	90.00	C	7	37.0	-	0.2	3.0	•	0.03-0.07
EC-H7 08-16C08CF-M63	8.00	8.00	16.00	63.00	C	7	37.0	0.00	-	3.0	•	0.03-0.09
EC-H7 08-16C08CFR.4M63	8.00	8.00	16.00	63.00	C	7	37.0	0.40	-	3.0	•	0.04-0.12
EC-H7 08-24C08CF-M90	8.00	8.00	24.00	90.00	C	7	37.0	-	0.2	3.0	•	0.03-0.08
EC-H7 08-32C08CF-90	8.00	8.00	32.00	90.00	C	7	37.0	-	0.2	3.0	•	0.03-0.09
EC-H7 08-48C08CF-110	8.00	8.00	48.00	110.00	C	7	37.0	-	0.2	3.0	•	0.03-0.08
EC-H7 10-20C10CF-M72	10.00	10.00	20.00	72.00	C	7	37.0	0.00	-	3.0	•	0.03-0.10
EC-H7 10-20C10CFR.5M72	10.00	10.00	20.00	72.00	C	7	37.0	0.50	-	3.0	•	0.03-0.10
EC-H7 10-20W10CF-M72	10.00	10.00	20.00	72.00	W	7	37.0	0.00	-	3.0	•	0.03-0.10
EC-H7 10-30C10CF-M100	10.00	10.00	30.00	100.00	C	7	37.0	-	0.3	3.0	•	0.03-0.10
EC-H7 10-30C10CFR0.5-M85	10.00	10.00	30.00	85.00	C	7	37.0	0.50	-	3.0	•	0.03-0.10
EC-H7 10-30C10CFR1.6-M85	10.00	10.00	30.00	85.00	C	7	37.0	1.60	-	3.0	•	0.03-0.10
EC-H7 10-30C10CFR2.0-M85	10.00	10.00	30.00	85.00	C	7	37.0	2.00	-	3.0	•	0.03-0.10
EC-H7 10-30C10CFR2.5-M85	10.00	10.00	30.00	85.00	C	7	37.0	2.50	-	3.0	•	0.03-0.10
EC-H7 10-30C10CFR3.0-M85	10.00	10.00	30.00	85.00	C	7	37.0	3.00	-	3.0	•	0.03-0.10
EC-H7 10-40C10CF-100	10.00	10.00	40.00	100.00	C	7	37.0	-	0.3	3.0	•	0.03-0.10
EC-H7 10-40C10CFR0.5-M100	10.00	10.00	40.00	100.00	C	7	37.0	0.50	-	3.0	•	0.03-0.10
EC-H7 10-40C10CFR1.6-M100	10.00	10.00	40.00	100.00	C	7	37.0	1.60	-	3.0	•	0.03-0.10
EC-H7 10-40C10CFR2.0-M100	10.00	10.00	40.00	100.00	C	7	37.0	2.00	-	3.0	•	0.03-0.10
EC-H7 10-40C10CFR2.5-M100	10.00	10.00	40.00	100.00	C	7	37.0	2.50	-	3.0	•	0.03-0.10
EC-H7 10-40C10CFR3.0-M100	10.00	10.00	40.00	100.00	C	7	37.0	3.00	-	3.0	•	0.03-0.10
EC-H7 10-60C10CF-130	10.00	10.00	60.00	130.00	C	7	37.0	-	0.3	3.0	•	0.03-0.10
EC-H7 10-60C10CFR0.5-M130	10.00	10.00	60.00	130.00	C	7	37.0	0.50	-	3.0	•	0.03-0.10
EC-H7 10-60C10CFR1.0-M130	10.00	10.00	60.00	130.00	C	7	37.0	1.00	-	3.0	•	0.03-0.10
EC-H7 12-24C12CF-M83	12.00	12.00	24.00	83.00	C	7	37.0	0.00	-	3.0	•	0.04-0.11
EC-H7 12-24C12CFR.6M83	12.00	12.00	24.00	83.00	C	7	37.0	0.60	-	3.0	•	0.04-0.11
EC-H7 12-24C12CFR1.6-M83	12.00	12.00	24.00	83.00	C	7	37.0	1.60	-	3.0	•	0.04-0.11
EC-H7 12-24SL12CF-M83 (1)	12.00	12.00	24.00	83.00	SL	7	37.0	0.00	-	3.0	•	0.04-0.12
EC-H7 12-24SL12CFR.6M83 (1)	12.00	12.00	24.00	83.00	SL	7	37.0	0.60	-	3.0	•	0.04-0.12
EC-H7 12-24W12CF-M83	12.00	12.00	24.00	83.00	W	7	37.0	0.00	-	3.0	•	0.04-0.12
EC-H7 12-36C12CF-M110	12.00	12.00	36.00	110.00	C	7	37.0	-	0.3	3.0	•	0.04-0.12
EC-H7 12-36C12CFR0.6-M95	12.00	12.00	36.00	95.00	C	7	37.0	0.60	-	3.0	•	0.04-0.11
EC-H7 12-36C12CFR1.6-M95	12.00	12.00	36.00	95.00	C	7	37.0	1.60	-	3.0	•	0.04-0.11
EC-H7 12-36C12CFR2.0-M95	12.00	12.00	36.00	95.00	C	7	37.0	2.00	-	3.0	•	0.04-0.11
EC-H7 12-36C12CFR2.5-M95	12.00	12.00	36.00	95.00	C	7	37.0	2.50	-	3.0	•	0.04-0.11
EC-H7 12-36C12CFR3.0-M95	12.00	12.00	36.00	95.00	C	7	37.0	3.00	-	3.0	•	0.04-0.11
EC-H7 12-36SL12CF-M110 (1)	12.00	12.00	36.00	110.00	SL	7	37.0	-	-	3.0	•	0.04-0.12
EC-H7 12-48C12CF-110	12.00	12.00	48.00	110.00	C	7	37.0	-	0.3	3.0	•	0.04-0.11
EC-H7 12-48C12CFR0.6-M110	12.00	12.00	48.00	110.00	C	7	37.0	0.60	-	3.0	•	0.04-0.11
EC-H7 12-48C12CFR1.6-M110	12.00	12.00	48.00	110.00	C	7	37.0	1.60	-	3.0	•	0.04-0.11
EC-H7 12-48C12CFR2.0-M110	12.00	12.00	48.00	110.00	C	7	37.0	2.00	-	3.0	•	0.04-0.11
EC-H7 12-48C12CFR2.5-M110	12.00	12.00	48.00	110.00	C	7	37.0	2.50	-	3.0	•	0.04-0.11
EC-H7 12-48C12CFR3.0-M110	12.00	12.00	48.00	110.00	C	7	37.0	3.00	-	3.0	•	0.04-0.11
EC-H7 12-48SL12CF-110 (1)	12.00	12.00	48.00	110.00	SL	7	37.0	-	0.3	3.0	•	0.04-0.12
EC-H7 12-72C12CF-140	12.00	12.00	72.00	140.00	C	7	37.0	-	0.3	3.0	•	0.04-0.12
EC-H7 12-72C12CFR1.0-M140	12.00	12.00	72.00	140.00	C	7	37.0	1.00	-	3.0	•	0.04-0.11
EC-H7 12-72SL12CF-140 (1)	12.00	12.00	72.00	140.00	SL	7	37.0	-	0.3	3.0	•	0.04-0.12
EC-H7 16-32C16CF-M92	16.00	16.00	32.00	92.00	C	7	37.0	0.00	-	3.0	•	0.05-0.13

• Can machine at radial width of cut (AE) of up to 0.10xD • For user guide, see pages 169-176

(1) With Safe-Lock® (by Haimer) pull-out prevention helical grooves

(2) C-Cylindrical, W-Weldon, SL-Safe-Lock® (by Haimer)

(3) Number of flutes

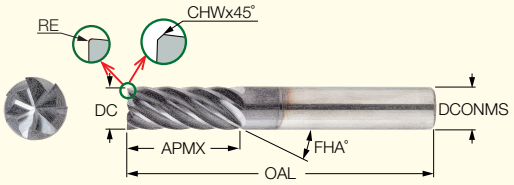
(4) Maximum ramping angle

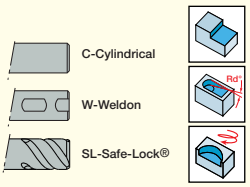
SOLIDMILL PREMIUM LINE

CHATTERFREE SOLID MILL LINE

EC-E7/H7-CF (continued)

7 Flute Endmills with Different Helix and Variable Pitch for Chatter Free High Speed Finish Milling





Designation	Dimensions										IC902	Recommended Machining Data
	DC	DCONMS	APMX	OAL	Shank(2)	NOF(3)	FHA	RE	CHW	RMPX(4)		f_z (mm/t)
EC-H7 16-32C16CFR.8M92	16.00	16.00	32.00	92.00	C	7	37.0	0.80	-	3.0	●	0.05-0.13
EC-H7 16-32SL16CF-M92 (1)	16.00	16.00	32.00	92.00	SL	7	37.0	-	-	3.0	●	0.04-0.12
EC-H7 16-32SL16CFR.8M92 (1)	16.00	16.00	32.00	92.00	SL	7	37.0	0.80	-	3.0	●	0.04-0.12
EC-H7 16-32W16CF-M92	16.00	16.00	32.00	92.00	W	7	37.0	0.00	-	3.0	●	0.05-0.13
EC-H7 16-48C16CF-M131	16.00	16.00	48.00	131.00	C	7	37.0	-	0.3	3.0	●	0.05-0.13
EC-H7 16-48C16CFR0.8-M110	16.00	16.00	48.00	110.00	C	7	37.0	0.80	-	3.0	●	0.05-0.13
EC-H7 16-48C16CFR1.6-M110	16.00	16.00	48.00	110.00	C	7	37.0	1.60	-	3.0	●	0.05-0.13
EC-H7 16-48C16CFR2.0-M110	16.00	16.00	48.00	110.00	C	7	37.0	2.00	-	3.0	●	0.05-0.13
EC-H7 16-48C16CFR2.5-M110	16.00	16.00	48.00	110.00	C	7	37.0	2.50	-	3.0	●	0.05-0.13
EC-H7 16-48C16CFR3.0-M110	16.00	16.00	48.00	110.00	C	7	37.0	3.00	-	3.0	●	0.05-0.13
EC-H7 16-48C16CFR4.0-M110	16.00	16.00	48.00	110.00	C	7	37.0	4.00	-	3.0	●	0.05-0.13
EC-H7 16-48SL16CF-M131 (1)	16.00	16.00	48.00	131.00	SL	7	37.0	-	0.3	3.0	●	0.04-0.12
EC-H7 16-64C16CF-131	16.00	16.00	64.00	131.00	C	7	37.0	-	0.3	3.0	●	0.05-0.13
EC-H7 16-64C16CFR0.8-M131	16.00	16.00	64.00	131.00	C	7	37.0	0.80	-	3.0	●	0.05-0.13
EC-H7 16-64C16CFR1.6-M131	16.00	16.00	64.00	131.00	C	7	37.0	1.60	-	3.0	●	0.05-0.13
EC-H7 16-64C16CFR2.0-M131	16.00	16.00	64.00	131.00	C	7	37.0	2.00	-	3.0	●	0.05-0.13
EC-H7 16-64C16CFR2.5-M131	16.00	16.00	64.00	131.00	C	7	37.0	2.50	-	3.0	●	0.05-0.13
EC-H7 16-64C16CFR3.0-M131	16.00	16.00	64.00	131.00	C	7	37.0	3.00	-	3.0	●	0.05-0.13
EC-H7 16-64C16CFR4.0-M131	16.00	16.00	64.00	131.00	C	7	37.0	4.00	-	3.0	●	0.05-0.13
EC-H7 16-64SL16CF-131 (1)	16.00	16.00	64.00	131.00	SL	7	37.0	-	0.3	3.0	●	0.04-0.12
EC-H7 16-96C16CF-175	16.00	16.00	96.00	175.00	C	7	37.0	-	0.3	3.0	●	0.05-0.13
EC-H7 16-96C16CFR1.0M175	16.00	16.00	96.00	175.00	C	7	37.0	1.00	-	3.0	●	0.05-0.13
EC-H7 16-96SL16CF-175 (1)	16.00	16.00	96.00	175.00	SL	7	37.0	-	0.3	3.0	●	0.04-0.12
EC-H7 20-40C20CF-M104	20.00	20.00	40.00	104.00	C	7	37.0	0.00	-	3.0	●	0.05-0.13
EC-H7 20-40C20CFR1M104	20.00	20.00	40.00	104.00	C	7	37.0	1.00	-	3.0	●	0.05-0.13
EC-H7 20-40SL20CF-M104 (1)	20.00	20.00	40.00	104.00	SL	7	37.0	0.00	-	3.0	●	0.04-0.12
EC-H7 20-40SL20CFR1M104 (1)	20.00	20.00	40.00	104.00	SL	7	37.0	1.00	-	3.0	●	0.05-0.15
EC-H7 20-40W20CF-M104	20.00	20.00	40.00	104.00	W	7	37.0	0.00	-	3.0	●	0.05-0.13
EC-H7 20-60C20CF-M140	20.00	20.00	60.00	140.00	C	7	37.0	-	0.4	3.0	●	0.05-0.13
EC-H7 20-60C20CFR1.0-M140	20.00	20.00	60.00	140.00	C	7	37.0	1.00	-	3.0	●	0.05-0.13
EC-H7 20-60C20CFR2.0-M140	20.00	20.00	60.00	140.00	C	7	37.0	2.00	-	3.0	●	0.05-0.13
EC-H7 20-60C20CFR2.5-M140	20.00	20.00	60.00	140.00	C	7	37.0	2.50	-	3.0	●	0.05-0.13
EC-H7 20-60C20CFR3.0-M140	20.00	20.00	60.00	140.00	C	7	37.0	3.00	-	3.0	●	0.05-0.13
EC-H7 20-60C20CFR4.0-M140	20.00	20.00	60.00	140.00	C	7	37.0	4.00	-	3.0	●	0.05-0.13
EC-H7 20-60SL20CF-M140 (1)	20.00	20.00	60.00	140.00	SL	7	37.0	-	0.4	3.0	●	0.05-0.15
EC-H7 20-80C20CF-140	20.00	20.00	80.00	140.00	C	7	37.0	-	0.4	3.0	●	0.05-0.13
EC-H7 20-80C20CFR1.0-M140	20.00	20.00	80.00	140.00	C	7	37.0	1.00	-	3.0	●	0.05-0.13

• Can machine at radial width of cut (AE) of up to 0.10xD • For user guide, see pages 169-176

(1) With Safe-Lock® (by Haimer) pull-out prevention helical grooves

(2) C-Cylindrical, W-Weldon, SL-Safe-Lock® (by Haimer)

(3) Number of flutes

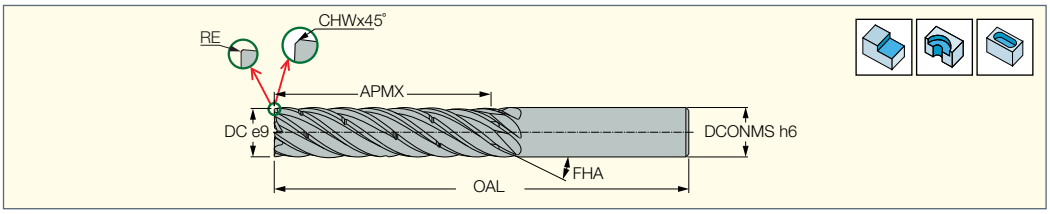
(4) Maximum ramping angle

SOLIDMILL TEC LINE

CHATTERFREE SOLID MILL LINE

ECP-H7-CF

7 Flute Solid Carbide Endmills with Different Helix, Variable Pitch and Chip Splitting Cutting Edges



Designation	Dimensions										IC902	Recommended Machining Data
	DC	DCONMS	APMX	OAL	NOF(1)	FHA	Shank(2)	RE	RETOL(3)	CHW		f_z (mm/t)
ECP-H7 06-18C06CF-M65	6.00	6.00	18.00	65.00	7	37.0	C	-	-	0.20	●	0.02-0.07
ECP-H7 06-24C06CF-70	6.00	6.00	24.00	70.00	7	37.0	C	-	-	0.20	●	0.02-0.07
ECP-H7 06-36C06CF-90	6.00	6.00	36.00	90.00	7	37.0	C	-	-	0.20	●	0.02-0.07
ECP-H7 08-24C08CF-M90	8.00	8.00	24.00	90.00	7	37.0	C	-	-	0.20	●	0.02-0.08
ECP-H7 08-32C08CF-90	8.00	8.00	32.00	90.00	7	37.0	C	-	-	0.20	●	0.02-0.09
ECP-H7 08-48C08CF-110	8.00	8.00	48.00	110.00	7	37.0	C	-	-	0.20	●	0.02-0.08
ECP-H7 10-30C10CF-M100	10.00	10.00	30.00	100.00	7	37.0	C	-	-	0.30	●	0.02-0.10
ECP-H7 10-30C10CFR0.5M85	10.00	10.00	30.00	85.00	7	37.0	C	0.50	0.050	-	●	0.02-0.10
ECP-H7 10-30C10CFR1.6M85	10.00	10.00	30.00	85.00	7	37.0	C	1.60	0.050	-	●	0.02-0.10
ECP-H7 10-30C10CFR2.0M85	10.00	10.00	30.00	85.00	7	37.0	C	2.00	0.080	-	●	0.02-0.10
ECP-H7 10-30C10CFR2.5M85	10.00	10.00	30.00	85.00	7	37.0	C	2.50	0.080	-	●	0.02-0.10
ECP-H7 10-30C10CFR3.0M85	10.00	10.00	30.00	85.00	7	37.0	C	3.00	0.080	-	●	0.02-0.10
ECP-H7 10-40C10CF-100	10.00	10.00	40.00	100.00	7	37.0	C	-	-	0.30	●	0.02-0.10
ECP-H7 10-40C10CFR0.5M100	10.00	10.00	40.00	100.00	7	37.0	C	0.50	0.050	-	●	0.02-0.10
ECP-H7 10-40C10CFR1.6M100	10.00	10.00	40.00	100.00	7	37.0	C	1.60	0.050	-	●	0.02-0.10
ECP-H7 10-40C10CFR2.0M100	10.00	10.00	40.00	100.00	7	37.0	C	2.00	0.080	-	●	0.02-0.10
ECP-H7 10-40C10CFR2.5M100	10.00	10.00	40.00	100.00	7	37.0	C	2.50	0.080	-	●	0.02-0.10
ECP-H7 10-40C10CFR3.0M100	10.00	10.00	40.00	100.00	7	37.0	C	3.00	0.080	-	●	0.02-0.10
ECP-H7 10-60C10CF-130	10.00	10.00	60.00	130.00	7	37.0	C	-	-	0.30	●	0.02-0.10
ECP-H7 10-60C10CFR0.5M130	10.00	10.00	60.00	130.00	7	37.0	C	0.50	0.050	-	●	0.04-0.12
ECP-H7 10-60C10CFR1.0M130	10.00	10.00	60.00	130.00	7	37.0	C	1.00	0.050	-	●	0.05-0.13
ECP-H7 12-36C12CF-M110	12.00	12.00	36.00	110.00	7	37.0	C	-	-	0.30	●	0.04-0.12
ECP-H7 12-36C12CFR0.6-M95	12.00	12.00	36.00	95.00	7	37.0	C	0.60	0.050	-	●	0.05-0.13
ECP-H7 12-36C12CFR1.6-M95	12.00	12.00	36.00	95.00	7	37.0	C	1.60	0.070	-	●	0.05-0.13
ECP-H7 12-36C12CFR2.0-M95	12.00	12.00	36.00	95.00	7	37.0	C	2.00	0.050	-	●	0.05-0.13
ECP-H7 12-36C12CFR2.5-M95	12.00	12.00	36.00	95.00	7	37.0	C	2.50	0.050	-	●	0.05-0.13
ECP-H7 12-36C12CFR3.0M95	12.00	12.00	36.00	95.00	7	37.0	C	3.00	0.070	-	●	0.05-0.13
ECP-H7 12-36C12CFR4.0M95	12.00	12.00	36.00	110.00	7	37.0	C	4.00	0.080	-	●	0.05-0.13
ECP-H7 12-48C12CF-110	12.00	12.00	48.00	110.00	7	37.0	C	-	-	0.30	●	0.04-0.11
ECP-H7 12-48C12CFR0.6M110	12.00	12.00	48.00	110.00	7	37.0	C	0.60	0.050	-	●	0.05-0.13
ECP-H7 12-48C12CFR1.6M110	12.00	12.00	48.00	110.00	7	37.0	C	1.60	0.070	-	●	0.05-0.13
ECP-H7 12-48C12CFR2.0M110	12.00	12.00	48.00	110.00	7	37.0	C	2.00	0.060	-	●	0.05-0.13
ECP-H7 12-48C12CFR2.5M110	12.00	12.00	48.00	110.00	7	37.0	C	2.50	0.050	-	●	0.05-0.13
ECP-H7 12-48C12CFR3.0M110	12.00	12.00	48.00	110.00	7	37.0	C	3.00	0.070	-	●	0.05-0.13
ECP-H7 12-48C12CFR4.0M110	12.00	12.00	48.00	110.00	7	37.0	C	4.00	0.080	-	●	0.05-0.13
ECP-H7 12-72C12CF-140	12.00	12.00	72.00	140.00	7	37.0	C	-	-	0.30	●	0.04-0.12
ECP-H7 12-72C12CFR1.0M140	12.00	12.00	72.00	140.00	7	37.0	C	1.00	0.050	-	●	0.05-0.13
ECP-H7 16-48C16CF-M131	16.00	16.00	48.00	131.00	7	37.0	C	-	-	0.30	●	0.05-0.13
ECP-H7 16-48C16CFR0.8M110	16.00	16.00	48.00	110.00	7	37.0	C	0.80	0.050	-	●	0.05-0.13
ECP-H7 16-48C16CFR1.6M110	16.00	16.00	48.00	110.00	7	37.0	C	1.60	0.050	-	●	0.05-0.13
ECP-H7 16-48C16CFR2.0M110	16.00	16.00	48.00	110.00	7	37.0	C	2.00	0.050	-	●	0.05-0.13
ECP-H7 16-48C16CFR2.5M110	16.00	16.00	48.00	110.00	7	37.0	C	2.50	0.050	-	●	0.05-0.13
ECP-H7 16-48C16CFR3.0M110	16.00	16.00	48.00	110.00	7	37.0	C	3.00	0.070	-	●	0.05-0.13
ECP-H7 16-48C16CFR4.0M110	16.00	16.00	48.00	110.00	7	37.0	C	4.00	0.070	-	●	0.05-0.13
ECP-H7 16-64C16CF-131	16.00	16.00	64.00	131.00	7	37.0	C	-	-	0.30	●	0.05-0.13
ECP-H7 16-64C16CFR0.8M131	16.00	16.00	64.00	131.00	7	37.0	C	0.80	0.050	-	●	0.05-0.13
ECP-H7 16-96C16CF-175	16.00	16.00	96.00	175.00	7	37.0	C	-	-	0.30	●	0.05-0.13
ECP-H7 16-96C16CFR1.0M175	16.00	16.00	96.00	175.00	7	37.0	C	1.00	0.050	-	●	0.05-0.13
ECP-H7 20-60C20CF-M140	20.00	20.00	60.00	140.00	7	37.0	C	-	-	0.40	●	0.07-0.20
ECP-H7 20-60C20CFR1.0M140	20.00	20.00	60.00	140.00	7	37.0	C	1.00	0.050	-	●	0.07-0.20
ECP-H7 20-60C20CFR2.0M140	20.00	20.00	60.00	140.00	7	37.0	C	2.00	0.050	-	●	0.07-0.20
ECP-H7 20-60C20CFR2.5M140	20.00	20.00	60.00	140.00	7	37.0	C	2.50	0.050	-	●	0.07-0.20
ECP-H7 20-60C20CFR3.0M140	20.00	20.00	60.00	140.00	7	37.0	C	3.00	0.050	-	●	0.07-0.20
ECP-H7 20-60C20CFR4.0M140	20.00	20.00	60.00	140.00	7	37.0	C	4.00	0.080	-	●	0.07-0.20
ECP-H7 20-80C20CF-140	20.00	20.00	80.00	140.00	7	37.0	C	-	-	0.40	●	0.05-0.20

(1) Number of flutes
(2) C-Cylindrical
(3) Corner radius tolerance (+/-)

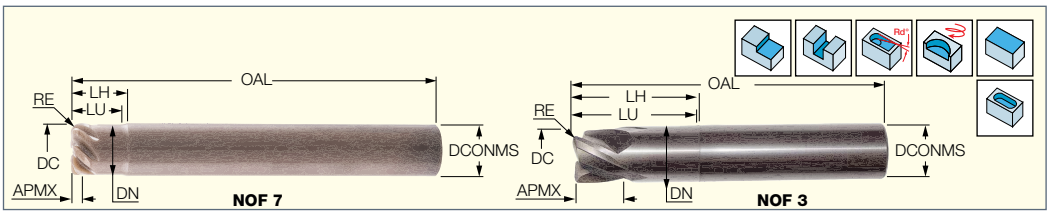
Table - Average Cutting Data for ECP-H7....

Workpiece material						Cutting speed Vc [m/min]	fz [mm/tooth]		Coolant
ISO class DIN/ISO 513	Description	ISCAR mat group*	Hardness HB	Typical materials					
				AISI/SAE/ASTM	DIN W.-Nr.		Starting	Range	
P	Non-alloy steel and cast steel, free cutting steel <0.25%C.	1	125	1020	1.1151	210-300	0.12	0.05-0.2	Dry
	Non-alloy steel and cast steel, free cutting steel >=0.25%C.	2	190	1040	1.0511	200-280	0.12	0.05-0.2	
	Non-alloy steel and cast steel, free cutting steel <0.55%C.	3	250	1040	1.1186	200-260	0.1	0.05-0.2	
	Non-alloy steel and cast steel, free cutting steel >=0.55%C.	4	220	1060	1.0601	180-250	0.1	0.05-0.2	
	Non-alloy steel and cast steel, free cutting steel >=0.55%C.	5	300	E 360	1.0070	180-240	0.1	0.05-0.2	
	Low alloy & cast steel (less than 5% of alloying elements).	6	200	5120	1.0841	170-240	0.1	0.05-0.2	
		7	275	4340	1.6565	160-230	0.1	0.05-0.2	
		8	300	6150	1.8159	150-230	0.1	0.05-0.2	
		9	350		1.4882	140-220	0.1	0.05-0.2	
	High alloyed steel, cast steel and tool steel.	10	200	H13	1.2344	120-210	0.08	0.05-0.2	
		11	325	T15	1.3243	110-170	0.08	0.05-0.2	
	Stainless steel and cast steel	12	200	420	1.4028	150-230	0.08	0.03-0.16	Dry / Wet
		13	240	430	1.4021	140-220	0.08	0.03-0.16	
M	Stainless steel and cast steel	14	180	304L	1.4306	100-160	0.06	0.03-0.16	Wet
K	Grey cast iron	15	180	CLASS25	0.6015	150-250	0.1	0.03-0.16	Dry
		16	260	CLASS45	0.6030	120-200	0.1	0.03-0.16	
	Nodular cast iron	17	160	80-55-06	0.7050	150-300	0.08	0.03-0.16	
		18	250	100/70/03	0.7070	100-250	0.08	0.03-0.16	
	Malleable cast iron.	19	130	32510	0.8135	150-300	0.08	0.03-0.16	
		20	230	90001	0.8170	100-220	0.08	0.03-0.16	
S	High temp. alloys Fe based.	31	200	330	1.4864	50-60	0.08	0.02-0.16	Wet
		32	280		1.4977	40-50	0.03	0.02-0.16	
	High temp. alloys. Ni or Co based.	33	250	Inconel 625	2.4856	35-50	0.04	0.02-0.16	
		34	350	Inconel 718	2.4668	25-35	0.03	0.02-0.16	
		35	320	Inconel X-750	2.4669	30-40	0.03	0.02-0.16	
	Titanium (pure)	36	HRc 30-32	AMS 5397	2.4674	65-110	0.1	0.02-0.16	
	Titanium Ti alloys.	37	HRc 30-32	AMS R56400	3.7165	35-70	0.08	0.02-0.16	
H	Hardened steel	38.1	HRc 45-49	4340		55-75	0.03	0.02-0.16	Dry
		38.2	HRc 50-55	P20	1.2330	55-75	---	---	

SOLIDMILL
CERAMIC ENDMILL

EC-E3/E7-CE (ceramic)

3 and 7 Flute Solid Ceramic Endmills with Relieved Necks for Machining Superalloys, Cast Iron and Graphite



Designation	Dimensions DC	APMX	LU	LH	DN	RE(1)	NOF(2)	DCONMS	RMPX(3)	OAL	Shank(4)	Tough ↔ Hard IS35	IS6	Recommended Machining Data f_z (mm/t)
EC-E3 06-06/15C06R.4N50CE	6.00	6.00	14.5	15.0	5.50	0.42	3	6.00	3.0	50.00	C	●		0.02-0.03
EC-E3 08-08/20C08R.5N57CE	8.00	8.00	19.5	20.0	7.50	0.56	3	8.00	3.0	57.00	C	●		0.02-0.03
EC-E3 10-10/25C10R.7N65CE	10.00	10.00	24.5	25.0	9.50	0.70	3	10.00	3.0	65.00	C	●		0.02-0.03
EC-E3 12-12/30C12R1.N72CE	12.00	12.00	29.5	30.0	11.50	1.10	3	12.00	3.0	72.00	C	●		0.02-0.03
EC-E3 16-16/35C16R2.N83CE	16.00	16.00	34.5	35.0	15.50	1.90	3	16.00	3.0	83.00	C	●		0.02-0.04
EC-E3 20-20/40C20R2.N93CE	20.00	20.00	39.5	40.0	19.50	2.50	3	20.00	3.0	93.00	C	●		0.02-0.04
EC-E7 08-02C08R1.0N63CE	8.00	0.40	8.0	9.5	7.50	1.00	7	8.00	3.0	63.00	C		●	0.02-0.03
EC-E7 10-02C10R1.5N72CE	10.00	0.70	10.0	11.5	9.50	1.50	7	10.00	3.0	72.00	C		●	0.02-0.03
EC-E7 12-02C12R1.5N83CE	12.00	1.30	10.0	12.0	11.50	1.50	7	12.00	3.0	83.00	C		●	0.02-0.03

• Recommended cutting speed on high temperature nickel-based superalloys: 257-1000 m/min • Maximum width of cut for the 3 flute cutters is 0.1xDC
• Maximum width of cut for the 7 flute cutters is DC • Only air coolant should be used
(1) Programming radius
(2) Number of flutes
(3) Maximum ramping angle
(4) C-Cylindrical

P	M	K	N(K)	S(M)	H(P/K)
		+	+	+	

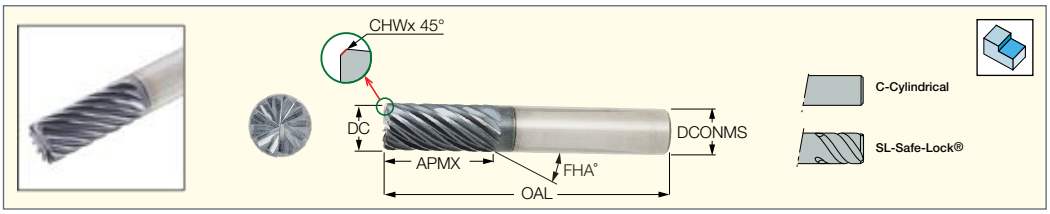
+ recommended

SOLIDMILL
PREMIUM LINE

CHATTERFREE
SOLID MILL LINE

EC-H-CF

6-20 Flute Endmills with Different Helix and Variable Pitch for CHATTERFREE High Speed Finish Milling



Designation	Dimensions DC	DCONMS	APMX	OAL	NOF(2)	FHA	Shank(3)	CHW	IC902	Recommended Machining Data f_z (mm/t)
EC-H6 06-12C06CF-H57	6.00	6.00	12.00	57.00	6	45.0	C	0.20	●	0.03-0.07
EC-H8 08-16C08CF-H63	8.00	8.00	16.00	63.00	8	45.0	C	0.20	●	0.03-0.09
EC-H10 10-20C10CF-H72	10.00	10.00	20.00	72.00	10	35.0	C	0.30	●	0.03-0.10
EC-H10 10-20SL10CF-H72 (1)	10.00	10.00	20.00	72.00	10	35.0	SL	0.30	●	0.03-0.10
EC-H12 12-24C12CF-H83	12.00	12.00	24.00	83.00	12	35.0	C	0.30	●	0.04-0.11
EC-H12 12-24SL12CF-H83 (1)	12.00	12.00	20.00	72.00	12	35.0	SL	0.30	●	0.04-0.11
EC-H16 16-32C16CF-H92	16.00	16.00	32.00	92.00	16	35.0	C	0.30	●	0.05-0.13
EC-H16 16-32SL16CF-H92 (1)	16.00	16.00	20.00	72.00	16	35.0	SL	0.30	●	0.05-0.13
EC-H20 20-40C20CFH104	20.00	20.00	40.00	104.00	20	30.0	C	0.40	●	0.05-0.13
EC-H20 20-40SL20CFH104 (1)	20.00	20.00	41.00	105.00	20	35.0	SL	0.40	●	0.05-0.13

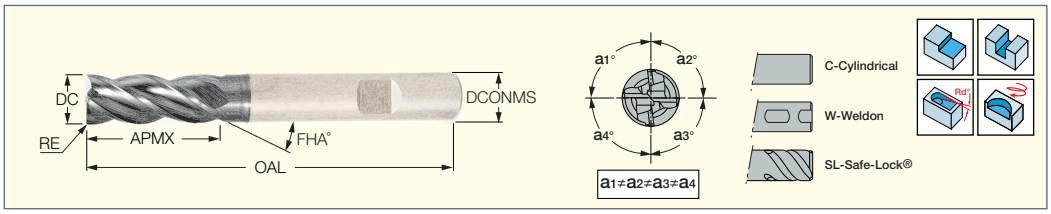
• Can machine at radial width of cut (ae) of up to 0.06xD • For user guide, see pages 169-176
(1) With Safe-Lock® (by Haimer) pull-out prevention helical grooves
(2) Number of flutes
(3) C-Cylindrical, SL-Safe-Lock® (by Haimer)

CHATTERFREE SOLID MILL LINE

Ti-TURBO SOLID MILL LINE

ECK-H4M-CFR

Endmills with Different Helix, Chamfered Edges and Variable Pitch for Chatter Dampening on Titanium



Designation	Dimensions DC	DCONMS	APMX	OAL	NOF(3)	RE	FHA	RMPX(4)	Shank(5)	CSP(6)	Tough ↔ Hard IC300	IC900	Recommended Machining Data f_z (mm/t)
ECK-H4M 04-08C06CFR0.2-57	4.00	6.00	8.00	57.00	4	0.20	36.0	5.0	C	0		•	0.02-0.05
ECK-H4M 05-10C06CFR0.2-57	5.00	6.00	10.00	57.00	4	0.20	36.0	5.0	C	0		•	0.02-0.05
ECK-H4M 06-12C06CFR.2-57C (1)	6.00	6.00	12.00	57.00	4	0.20	36.0	5.0	C	1	•		0.03-0.06
ECK-H4M 06-12C06CFR0.2-57	6.00	6.00	12.00	57.00	4	0.20	36.0	5.0	C	0		•	0.03-0.06
ECK-H4M 06-12W06CFR0.2-57	6.00	6.00	12.00	57.00	4	0.20	36.0	5.0	W	0		•	0.03-0.06
ECK-H4M 08-16C08CFR0.4-63	8.00	8.00	16.00	63.00	4	0.40	36.0	5.0	C	0		•	0.03-0.06
ECK-H4M 08-16W08CFR.4-63C (1)	8.00	8.00	16.00	63.00	4	0.40	36.0	5.0	W	1	•		0.03-0.06
ECK-H4M 08-16W08CFR0.4-63	8.00	8.00	16.00	63.00	4	0.40	36.0	5.0	W	0		•	0.03-0.06
ECK-H4 10-20SL10CFR.5-72C (2)	10.00	10.00	20.00	72.00	4	0.50	36.0	5.0	SL	1		•	0.03-0.07
ECK-H4 10-20SL10CFR0.5-72 (2)	10.00	10.00	20.00	72.00	4	0.50	36.0	5.0	SL	0		•	0.03-0.07
ECK-H4M 10-20C10CFR0.5-72	10.00	10.00	20.00	72.00	4	0.50	36.0	5.0	C	0		•	0.03-0.07
ECK-H4M 10-20W10CFR.5-72C (1)	10.00	10.00	20.00	72.00	4	0.50	36.0	5.0	W	1	•		0.03-0.07
ECK-H4M 10-20W10CFR0.5-72	10.00	10.00	20.00	72.00	4	0.50	36.0	5.0	W	0		•	0.03-0.07
ECK-H4 12-24SL12CFR0.6-83 (2)	12.00	12.00	24.00	83.00	4	0.60	36.0	5.0	SL	0		•	0.04-0.08
ECK-H4M 12-24C12CFR0.6-83	12.00	12.00	24.00	83.00	4	0.60	36.0	5.0	C	0		•	0.04-0.08
ECK-H4M 12-24W12CFR.6	12.00	12.00	24.00	83.00	4	0.60	36.0	5.0	W	0	•		0.04-0.08
ECK-H4M 12-24W12CFR.6-83C (1)	12.00	12.00	24.00	83.00	4	0.60	36.0	5.0	W	1	•		0.04-0.08
ECK-H4M 12-24W12CFR0.6-83	12.00	12.00	24.00	83.00	4	0.60	36.0	5.0	W	0		•	0.04-0.08
ECK-H4 16-32SL16CFR.8-92C (2)	16.00	16.00	32.00	92.00	4	0.80	36.0	5.0	SL	1		•	0.05-0.08
ECK-H4 16-32SL16CFR0.8-92 (2)	16.00	16.00	32.00	92.00	4	0.80	36.0	5.0	SL	0		•	0.05-0.08
ECK-H4M 16-32C16CFR0.8-92	16.00	16.00	32.00	92.00	4	0.80	36.0	5.0	C	0		•	0.05-0.08
ECK-H4M 16-32W16CFR.8-92C (1)	16.00	16.00	32.00	92.00	4	0.80	36.0	5.0	W	1	•		0.05-0.08
ECK-H4M 16-32W16CFR0.8-92	16.00	16.00	32.00	92.00	4	0.80	36.0	5.0	W	0		•	0.05-0.08
ECK-H4 20-40SL20CFR1.-104 (2)	20.00	20.00	40.00	104.00	4	1.00	36.0	5.0	SL	0		•	0.05-0.08
ECK-H4M 20-40C20CFR1.-104	20.00	20.00	40.00	104.00	4	1.00	36.0	5.0	C	0		•	0.05-0.08
ECK-H4M 20-40W20CFR1.-104	20.00	20.00	40.00	104.00	4	1.00	36.0	5.0	W	0		•	0.05-0.08

• For user guide, see pages 169-176

(1) With coolant channel

(2) With Safe-Lock® (by Haimer) pull-out prevention helical grooves

(3) Number of flutes

(4) Maximum ramping angle

(5) C-Cylindrical, W-Weldon, SL-Safe-Lock® (by Haimer)

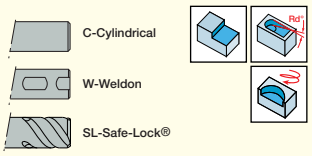
(6) 0 - Without coolant supply, 1 - With coolant supply

CHATTERFREE SOLID MILL LINE

Ti-TURBO SOLID MILL LINE

ECK-H7/9-CFR

7 and 9 Flute Endmills with Different Helix and Variable Pitch for Chatter Dampening on Titanium



Designation	Dimensions								IC900
	DC	DCONMS	APMX	OAL	NOF(2)	RE	RMPX(3)	Shank(4)	
ECK-H7 06-13C06CFR0.2T57	6.00	6.00	13.00	57.00	7	0.20	5.0	C	•
ECK-H7 06-13W06CFR0.2T57	6.00	6.00	13.00	57.00	7	0.20	5.0	W	•
ECK-H7 08-19C08CFR0.4T63	8.00	8.00	19.00	63.00	7	0.40	5.0	C	•
ECK-H7 08-19W08CFR0.4T63	8.00	8.00	19.00	63.00	7	0.40	5.0	W	•
ECK-H7 10-22C10CFR0.5T72	10.00	10.00	22.00	72.00	7	0.50	5.0	C	•
ECK-H7 10-22SL10CFR0.5T72 (1)	10.00	10.00	22.00	72.00	7	0.50	5.0	SL	•
ECK-H7 10-22W10CFR0.5T72	10.00	10.00	22.00	72.00	7	0.50	5.0	W	•
ECK-H7 12-26C12CFR0.6T83	12.00	12.00	26.00	83.00	7	0.60	5.0	C	•
ECK-H7 12-26SL12CFR0.6T83 (1)	12.00	12.00	26.00	83.00	7	0.60	5.0	SL	•
ECK-H7 12-26W12CFR0.6T83	12.00	12.00	26.00	83.00	7	0.60	5.0	W	•
ECK-H9 16-32C16CFR0.8T92	16.00	16.00	32.00	92.00	9	0.80	5.0	C	•
ECK-H9 16-32SL16CFR0.8T92 (1)	16.00	16.00	32.00	92.00	9	0.80	5.0	SL	•
ECK-H9 16-32W16CFR0.8T92	16.00	16.00	32.00	92.00	9	0.80	5.0	W	•
ECK-H9 20-38C20CFR1T104	20.00	20.00	38.00	104.00	9	1.00	5.0	C	•
ECK-H9 20-38SL20CFR1T104 (1)	20.00	20.00	38.00	104.00	9	1.00	5.0	SL	•
ECK-H9 20-38W20CFR1T104	20.00	20.00	38.00	104.00	9	1.00	5.0	W	•

• Can machine at radial width of cut (AE) of up to 0.10xD • For user guide, see pages 169-176

(1) With Safe-Lock® (by Haimer) pull-out prevention helical grooves

(2) Number of flutes

(3) Maximum ramping angle

(4) C-Cylindrical, W-Weldon, SL-Safe-Lock® (by Haimer)

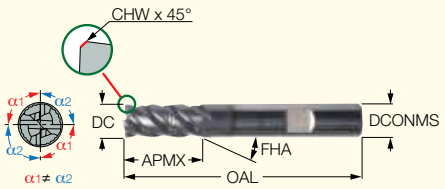
Feed Recommendations

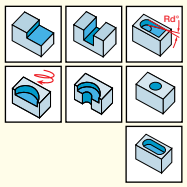
Designation	Finishing		High Speed Machining	
	fz (min) mm/t	fz (max) mm/t	fz (min) mm/t	fz (max) mm/t
ECK-H7 06-13C06CFR0.2T57	0.02	0.04	0.08	0.15
ECK-H7 06-13W06CFR0.2T57	0.02	0.04	0.08	0.15
ECK-H7 08-19C08CFR0.4T63	0.02	0.04	0.08	0.15
ECK-H7 08-19W08CFR0.4T63	0.02	0.04	0.08	0.15
ECK-H7 10-22C10CFR0.5T72	0.03	0.05	0.1	0.25
ECK-H7 10-22W10CFR0.5T72	0.03	0.05	0.1	0.25
ECK-H7 12-26C12CFR0.6T83	0.03	0.05	0.1	0.25
ECK-H7 12-26W12CFR0.6T83	0.03	0.05	0.1	0.25
ECK-H9 16-32C16CFR0.8T92	0.04	0.07	0.15	0.3
ECK-H9 16-32W16CFR0.8T92	0.04	0.07	0.15	0.3
ECK-H9 20-38C20CFR1T104	0.04	0.07	0.15	0.3
ECK-H9 20-38W20CFR1T104	0.04	0.07	0.15	0.3

FINISHRED

EFS-E44

Combination of Roughing and Finishing Solid Carbide Endmills with Variable Pitch for Chatter Free Milling





Designation	Dimensions									IC900	Recommended Machining Data
	DC	DCONMS	APMX	OAL	NOF(1)	FHA	RMPX(2)	Shank(3)	CHW		f_z (mm/t)
EFS-E44 06-14C06CF57	6.00	6.00	14.00	57.00	4	38.0	5.0	C	0.25	•	0.03-0.06
EFS-E44 06-14W06CF57	6.00	6.00	14.00	57.00	4	38.0	5.0	W	0.25	•	0.03-0.06
EFS-E44 08-18C08CF63	8.00	8.00	18.00	63.00	4	38.0	5.0	C	0.30	•	0.03-0.08
EFS-E44 08-18W08CF63	8.00	8.00	18.00	63.00	4	38.0	5.0	W	0.30	•	0.03-0.08
EFS-E44 10-22C10CF72	10.00	10.00	22.00	72.00	4	38.0	5.0	C	0.40	•	0.03-0.09
EFS-E44 10-22W10CF72	10.00	10.00	22.00	72.00	4	38.0	5.0	W	0.40	•	0.03-0.09
EFS-E44 12-26C12CF83	12.00	12.00	26.00	83.00	4	38.0	5.0	C	0.50	•	0.04-0.10
EFS-E44 12-26W12CF83	12.00	12.00	26.00	83.00	4	38.0	5.0	W	0.50	•	0.04-0.10
EFS-E44 14-30C14CF83	14.00	14.00	30.00	83.00	4	38.0	5.0	C	0.50	•	0.04-0.11
EFS-E44 14-30W14CF83	14.00	14.00	30.00	83.00	4	38.0	5.0	W	0.50	•	0.04-0.11
EFS-E44 16-34C16CF92	16.00	16.00	34.00	92.00	4	38.0	5.0	C	0.60	•	0.05-0.11
EFS-E44 16-34W16CF92	16.00	16.00	34.00	92.00	4	38.0	5.0	W	0.60	•	0.05-0.11
EFS-E44 20-42C20CF104	20.00	20.00	42.00	104.00	4	38.0	5.0	C	0.60	•	0.05-0.11
EFS-E44 20-42W20CF104	20.00	20.00	42.00	104.00	4	38.0	5.0	W	0.60	•	0.05-0.11
EFS-E44 25-52C25CF121	25.00	25.00	52.00	121.00	4	38.0	5.0	C	0.60	•	0.06-0.11
EFS-E44 25-52W25CF121	25.00	25.00	52.00	121.00	4	38.0	5.0	W	0.60	•	0.06-0.11

• For user guide, see pages 169-176

(1) Number of flutes

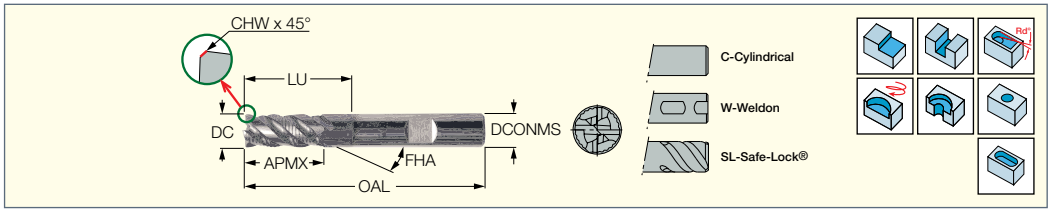
(2) Maximum ramping angle

(3) C-Cylindrical, W-Weldon

FINISHRED

EFS-B44

Combination of Roughing and Finishing Solid Carbide Endmills in a Single Tool



Designation	Dimensions											Tough ↔ Hard			Recommended Machining Data
	DC	DCONMS	APMX	LU	OAL	NOF(2)	FHA	RMPX(3)	Shank(4)	CSP(5)	CHW	IC300	IC900	IC608	f_z (mm/t)
EFS-B44 04-10C06-57	4.00	6.00	10.00	-	57.00	4	45.0	5.0	C	0	0.12		•		0.03-0.05
EFS-B44 05-12C06-57	5.00	6.00	12.00	-	57.00	4	45.0	5.0	C	0	0.18		•		0.03-0.06
EFS-B44 06-14/20C06-57	6.00	6.00	14.00	20.0	57.00	4	45.0	5.0	C	0	0.25		•		0.03-0.06
EFS-B44 06-14/20W06-57	6.00	6.00	14.00	20.0	57.00	4	45.0	5.0	W	0	0.25		•		0.03-0.06
EFS-B44 06-14C06-57	6.00	6.00	14.00	-	57.00	4	45.0	5.0	C	0	0.25	•	•	•	0.03-0.06
EFS-B44 06-14C06-57C	6.00	6.00	14.00	-	57.00	4	45.0	5.0	C	1	0.25	•			0.03-0.05
EFS-B44 06-14W06-57	6.00	6.00	14.00	-	57.00	4	45.0	5.0	W	0	0.25		•	•	0.03-0.06
EFS-B44 08-18/26C08-63	8.00	8.00	18.00	26.0	63.00	4	45.0	5.0	C	0	0.30		•		0.03-0.08
EFS-B44 08-18/26W08-63	8.00	8.00	18.00	26.0	63.00	4	45.0	5.0	W	0	0.30		•		0.03-0.08
EFS-B44 08-18C08-63	8.00	8.00	18.00	-	63.00	4	45.0	5.0	C	0	0.30	•	•	•	0.03-0.08
EFS-B44 08-18W08-63	8.00	8.00	18.00	-	63.00	4	45.0	5.0	W	0	0.30	•	•	•	0.03-0.08
EFS-B44 08-18W08-63C	8.00	8.00	18.00	-	63.00	4	45.0	5.0	W	1	0.30	•			0.03-0.06
EFS-B44 10-22/32C10-72	10.00	10.00	22.00	32.0	72.00	4	45.0	5.0	C	0	0.30		•		0.03-0.09
EFS-B44 10-22/32SL10-72 (1)	10.00	10.00	22.00	32.0	72.00	4	45.0	5.0	SL	0	0.00		•		0.03-0.09
EFS-B44 10-22/32W10-72	10.00	10.00	22.00	32.0	72.00	4	45.0	5.0	W	0	0.30		•		0.03-0.09
EFS-B44 10-22C10-72	10.00	10.00	22.00	-	72.00	4	45.0	5.0	C	0	0.30	•	•	•	0.03-0.09
EFS-B44 10-22SL10-72 (1)	10.00	10.00	22.00	-	72.00	4	45.0	5.0	SL	0	0.30		•		0.03-0.09
EFS-B44 10-22SL10-72C (1)	10.00	10.00	22.00	-	72.00	4	45.0	5.0	SL	1	0.30		•		0.04-0.07
EFS-B44 10-22W10-72	10.00	10.00	22.00	-	72.00	4	45.0	5.0	W	0	0.30		•	•	0.03-0.09
EFS-B44 10-22W10-72C	10.00	10.00	22.00	-	72.00	4	45.0	5.0	W	1	0.30	•			0.04-0.07
EFS-B44 12-26/38C12-83	12.00	12.00	26.00	38.0	83.00	4	45.0	5.0	C	0	0.40		•		0.04-0.10
EFS-B44 12-26/38SL12-83 (1)	12.00	12.00	26.00	38.0	83.00	4	45.0	5.0	SL	0	0.40		•		0.04-0.10
EFS-B44 12-26/38W12-83	12.00	12.00	26.00	38.0	83.00	4	45.0	5.0	W	0	0.40		•		0.04-0.10
EFS-B44 12-26C12-83	12.00	12.00	26.00	-	83.00	4	45.0	5.0	C	0	0.40		•	•	0.04-0.10
EFS-B44 12-26SL12-83 (1)	12.00	12.00	26.00	-	83.00	4	45.0	5.0	SL	0	0.40		•		0.04-0.10
EFS-B44 12-26SL12-83C (1)	12.00	12.00	26.00	-	83.00	4	45.0	5.0	SL	1	0.40		•		0.04-0.08
EFS-B44 12-26W12-83	12.00	12.00	26.00	-	83.00	4	45.0	5.0	W	0	0.40	•	•	•	0.04-0.10
EFS-B44 12-26W12-83C	12.00	12.00	26.00	-	83.00	4	45.0	5.0	W	1	0.40	•			0.04-0.08
EFS-B44 14-30C14-83	14.00	14.00	30.00	-	83.00	4	45.0	5.0	C	0	0.40	•	•	•	0.04-0.11
EFS-B44 14-30W14-83	14.00	14.00	30.00	-	83.00	4	45.0	5.0	W	0	0.40	•	•	•	0.04-0.11
EFS-B44 16-34/50C16-100	16.00	16.00	34.00	50.0	100.00	4	45.0	5.0	C	0	0.60		•		0.05-0.11
EFS-B44 16-34/50SL16-100 (1)	16.00	16.00	34.00	50.0	100.00	4	45.0	5.0	SL	0	0.60		•		0.05-0.11
EFS-B44 16-34/50W16-100	16.00	16.00	34.00	50.0	100.00	4	45.0	5.0	W	0	0.60		•		0.05-0.11
EFS-B44 16-34C16-92	16.00	16.00	34.00	-	92.00	4	45.0	5.0	C	0	0.60	•	•	•	0.05-0.11
EFS-B44 16-34SL16-92 (1)	16.00	16.00	34.00	-	92.00	4	45.0	5.0	SL	0	0.60		•		0.05-0.11
EFS-B44 16-34SL16-92C (1)	16.00	16.00	34.00	-	92.00	4	45.0	5.0	SL	1	0.60		•		0.05-0.08
EFS-B44 16-34W16-92	16.00	16.00	34.00	-	92.00	4	45.0	5.0	W	0	0.60	•	•	•	0.05-0.11
EFS-B44 16-34W16-92C	16.00	16.00	34.00	-	92.00	4	45.0	5.0	W	1	0.60	•			0.05-0.08
EFS-B44 20-42/62C20-125	20.00	20.00	42.00	62.0	125.00	4	45.0	5.0	C	0	0.60		•		0.05-0.11
EFS-B44 20-42/62SL20-125 (1)	20.00	20.00	42.00	62.0	125.00	4	45.0	5.0	SL	0	0.60		•		0.05-0.11
EFS-B44 20-42/62W20-125	20.00	20.00	42.00	62.0	125.00	4	45.0	5.0	W	0	0.60		•		0.05-0.11
EFS-B44 20-42C20-104	20.00	20.00	42.00	-	104.00	4	45.0	5.0	C	0	0.60	•	•	•	0.05-0.11
EFS-B44 20-42SL20-104 (1)	20.00	20.00	42.00	-	104.00	4	45.0	5.0	SL	0	0.60		•		0.05-0.11
EFS-B44 20-42W20-104	20.00	20.00	42.00	-	104.00	4	45.0	5.0	W	0	0.60	•	•	•	0.05-0.11
EFS-B44 25-52C25-121	25.00	25.00	52.00	-	121.00	4	45.0	5.0	C	0	0.60	•	•	•	0.06-0.11
EFS-B44 25-52SL25-121 (1)	25.00	25.00	52.00	-	121.00	4	45.0	5.0	SL	0	0.60		•		0.06-0.11
EFS-B44 25-52W25-121	25.00	25.00	52.00	-	121.00	4	45.0	5.0	W	0	0.60	•	•	•	0.06-0.11

• IC300 should be mainly used for machining exotic materials • For user guide, see pages 169-176

(1) With Safe-Lock® (by Haimer) pull-out prevention helical grooves

(2) Number of flutes

(3) Maximum ramping angle

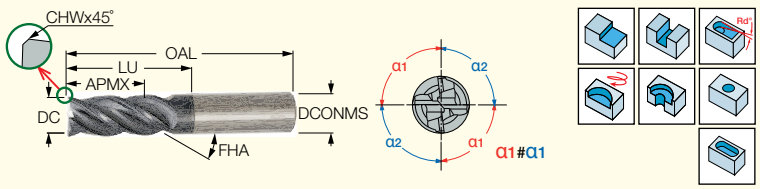
(4) C-Cylindrical, W-Weldon, SL-Safe-Lock® (by Haimer)

(5) 0 - Without coolant supply, 1 - With coolant supply

CHATTERFREE SOLID MILL LINE

EC-E4L-CF

4 Flute, 38° Helix Endmills with 3xD Relieved Necks and Variable Pitch for Chatter Dampening



Designation	Dimensions DC	DCONMS	APMX	LU	OAL	NOF(1)	FHA	RMPX(2)	Shank(3)	CHW	Tough ↔ Hard IC300	IC900	IC608	Recommended Machining Data f_z (mm/t)
EC-E4L 01-2/04C04CF50	1.00	4.00	2.20	4.0	50.00	4	38.0	5.0	C	0.04		●		0.02-0.05
EC-E4L 02-4/06C04CF50	2.00	4.00	4.30	6.1	50.00	4	38.0	5.0	C	0.08		●		0.02-0.05
EC-E4L 03-8/11C06CF57	3.00	6.00	8.00	11.0	57.00	4	38.0	5.0	C	0.10	●	●	●	0.02-0.05
EC-E4L 04-10/14C06CF57	4.00	6.00	10.00	14.0	57.00	4	38.0	5.0	C	0.15	●	●	●	0.02-0.05
EC-E4L 05-12/17C06CF57	5.00	6.00	12.00	17.0	57.00	4	38.0	5.0	C	0.18	●	●	●	0.02-0.06
EC-E4L 06-14/20C06CF57	6.00	6.00	14.00	20.0	57.00	4	38.0	5.0	C	0.25	●	●	●	0.03-0.07
EC-E4L 06-14/20W06CF57	6.00	6.00	14.00	20.0	57.00	4	38.0	5.0	W	0.25	●	●	●	0.03-0.07
EC-E4L 08-18/26C08CFS63	8.00	8.00	18.00	26.0	63.00	4	38.0	5.0	C	-		●		0.03-0.08
EC-E4L 08-18/26C08CF63	8.00	8.00	18.00	26.0	63.00	4	38.0	5.0	C	0.30	●	●	●	0.03-0.09
EC-E4L 08-18/26W08CF63	8.00	8.00	18.00	26.0	63.00	4	38.0	5.0	W	0.30	●	●	●	0.03-0.09
EC-E4L 10-22/32C10CFS72	10.00	10.00	22.00	32.0	72.00	4	38.0	5.0	C	-		●		0.03-0.09
EC-E4L 10-22/32C10CF72	10.00	10.00	22.00	32.0	72.00	4	38.0	5.0	C	0.40	●	●	●	0.03-0.10
EC-E4L 10-22/32W10CF72	10.00	10.00	22.00	32.0	72.00	4	38.0	5.0	W	0.40	●	●	●	0.03-0.10
EC-E4L 12-26/38C12CFS83	12.00	12.00	26.00	38.0	83.00	4	38.0	5.0	C	-		●		0.04-0.10
EC-E4L 12-26/38C12CF83	12.00	12.00	26.00	38.0	83.00	4	38.0	5.0	C	0.50	●	●	●	0.04-0.11
EC-E4L 12-26/38W12CF83	12.00	12.00	26.00	38.0	83.00	4	38.0	5.0	W	0.50	●	●	●	0.04-0.11
EC-E4L 16-34/50C16CF100	16.00	16.00	34.00	50.0	100.00	4	38.0	5.0	C	0.60	●	●	●	0.05-0.13
EC-E4L 16-34/50W16CF100	16.00	16.00	34.00	50.0	100.00	4	38.0	5.0	W	0.60	●	●	●	0.05-0.13
EC-E4L 20-42/60C20CF110	20.00	20.00	42.00	60.0	110.00	4	38.0	5.0	C	0.60	●	●	●	0.05-0.17
EC-E4L 20-42/60W20CF110	20.00	20.00	42.00	60.0	110.00	4	38.0	5.0	W	0.60		●	●	0.05-0.17
EC-E4L 25-50/65C25CF121	25.00	25.00	50.00	65.0	121.00	4	38.0	5.0	C	0.60		●		0.05-0.17
EC-E4L 25-50/65W25CF121	25.00	25.00	50.00	65.0	121.00	4	38.0	5.0	W	0.60		●		0.05-0.17

• IC300 should be mainly used for machining exotic materials • For user guide, see pages 169-176

(1) Number of flutes

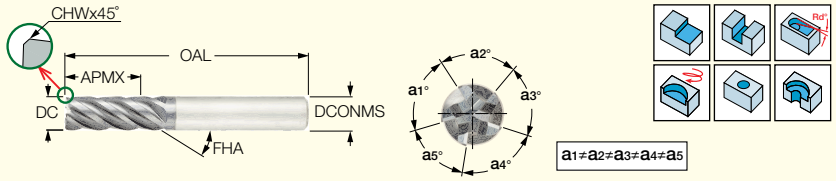
(2) Maximum ramping angle

(3) C-Cylindrical, W-Weldon

CHATTERFREE SOLID MILL LINE

EC-E5L-CF

5 Flute, 38° Helix Medium Length (1xD) Variable Pitch Endmills



Designation	Dimensions DC	DCONMS	APMX	OAL	NOF(1)	FHA	RMPX(2)	Shank(3)	CHW	IC900	Recommended Machining Data f_z (mm/t)
EC-E5L 06-15C06CF57	6.00	6.00	15.00	57.00	5	38.0	5.0	C	0.20	●	0.03-0.07
EC-E5L 06-15W06CF57	6.00	6.00	15.00	57.00	5	38.0	5.0	W	0.20	●	0.03-0.07
EC-E5L 08-20C08CF63	8.00	8.00	20.00	63.00	5	38.0	5.0	C	0.25	●	0.03-0.09
EC-E5L 08-20W08CF63	8.00	8.00	20.00	63.00	5	38.0	5.0	W	0.25	●	0.03-0.09
EC-E5L 10-25C10CF72	10.00	10.00	25.00	72.00	5	38.0	5.0	C	0.30	●	0.03-0.10
EC-E5L 10-25W10CF72	10.00	10.00	25.00	72.00	5	38.0	5.0	W	0.30	●	0.03-0.10
EC-E5L 12-30C12CF83	12.00	12.00	30.00	83.00	5	38.0	5.0	C	0.40	●	0.04-0.11
EC-E5L 12-30W12CF83	12.00	12.00	30.00	83.00	5	38.0	5.0	W	0.40	●	0.04-0.11
EC-E5L 16-40C16CF100	16.00	16.00	40.00	100.00	5	38.0	5.0	C	0.50	●	0.05-0.13
EC-E5L 16-40W16CF100	16.00	16.00	40.00	100.00	5	38.0	5.0	W	0.50	●	0.05-0.13
EC-E5L 20-50C20CF125	20.00	20.00	50.00	125.00	5	38.0	5.0	C	0.50	●	0.05-0.17
EC-E5L 20-50W20CF125	20.00	20.00	50.00	125.00	5	38.0	5.0	W	0.50	●	0.05-0.17

• For user guide, see pages 169-176

(1) Number of flutes

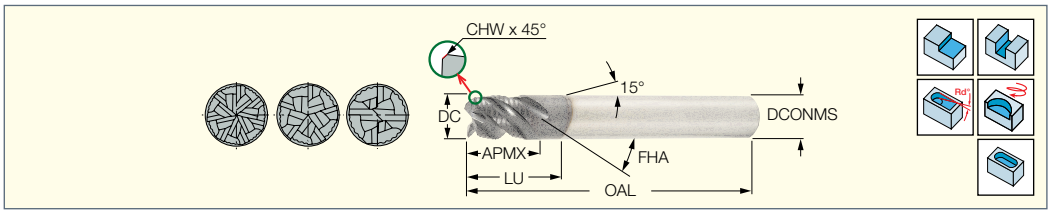
(2) Maximum ramping angle

(3) C-Cylindrical, W-Weldon

SOLIDSHRED

ECR-B-S

4-7 Flute, 45° Helix Short Length (1xD) Solid Carbide Roughing Endmills



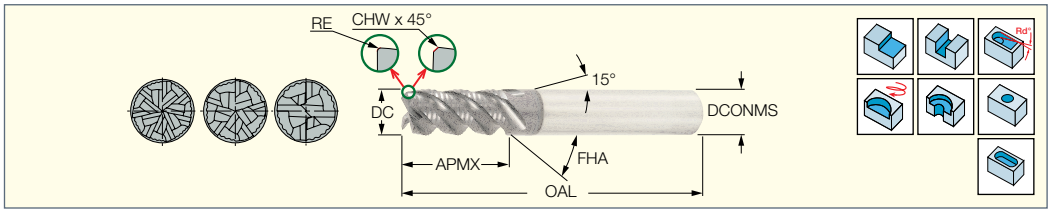
Designation	Dimensions										IC900	Recommended Machining Data
	DC	DCONMS	APMX	LU	OAL	NOF(2)	FHA	RMPX(3)	Shank(4)	CHW		f_z (mm/t)
ECR-B4S 05-05C06-57	5.00	6.00	5.00	10.0	57.00	4	45.0	5.0	C	0.20	•	0.02-0.05
ECR-B4S 05-05W06-57	5.00	6.00	5.00	10.0	57.00	4	45.0	5.0	W	0.20	•	0.02-0.05
ECR-B4S 06-06C06-57	6.00	6.00	6.00	-	57.00	4	45.0	5.0	C	0.25	•	0.03-0.06
ECR-B4S 06-06W06-57	6.00	6.00	6.00	-	57.00	4	45.0	5.0	W	0.25	•	0.03-0.06
ECR-B4S 07-07C08-63	7.00	8.00	7.00	-	63.00	4	45.0	5.0	C	0.25	•	0.03-0.07
ECR-B4S 08-08C08-63	8.00	8.00	8.00	-	63.00	4	45.0	5.0	C	0.25	•	0.03-0.08
ECR-B4S 08-08W08-63	8.00	8.00	8.00	-	63.00	4	45.0	5.0	W	0.25	•	0.03-0.08
ECR-B4S 10-10C10-72	10.00	10.00	10.00	-	72.00	4	45.0	5.0	C	0.30	•	0.03-0.09
ECR-B4S 10-10W10-72	10.00	10.00	10.00	-	72.00	4	45.0	5.0	W	0.30	•	0.03-0.09
ECR-B4S 12-12C12-83	12.00	12.00	12.00	-	83.00	4	45.0	5.0	C	0.35	•	0.04-0.10
ECR-B4S 12-12W12-83	12.00	12.00	12.00	-	83.00	4	45.0	5.0	W	0.35	•	0.04-0.10
ECR-B5S 16-16C16-92 (1)	16.00	16.00	16.00	-	92.00	5	45.0	5.0	C	0.40	•	0.05-0.11
ECR-B5S 16-16W16-92 (1)	16.00	16.00	16.00	-	92.00	5	45.0	5.0	W	0.40	•	0.05-0.11
ECR-B7S 20-20C20-104 (1)	20.00	20.00	20.00	-	104.00	7	45.0	5.0	C	0.40	•	0.05-0.11
ECR-B7S 20-20W20-104 (1)	20.00	20.00	20.00	-	104.00	7	45.0	5.0	W	0.40	•	0.05-0.11

• For user guide, see pages 169-176
(1) Cannot be used for plunging application
(2) Number of flutes
(3) Maximum ramping angle
(4) C-Cylindrical, W-Weldon

SOLIDSHRED

ECR-B-M/ECR-B-M...R

4-7 Flute, 45° Helix Medium Length (2xD) Solid Carbide Roughing Endmills



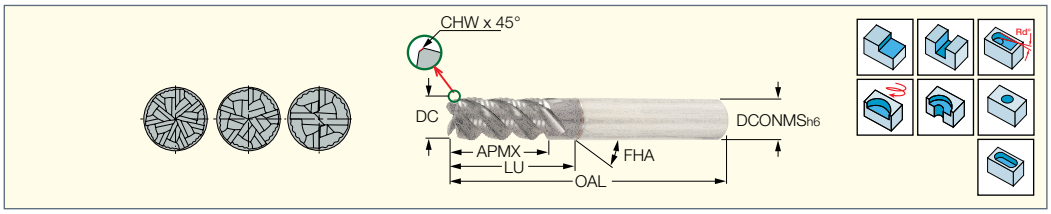
Designation	Dimensions										IC900	Recommended Machining Data
	DC	DCONMS	APMX	OAL	NOF(2)	FHA	RMPX(3)	Shank(4)	RE	CHW		f_z (mm/t)
ECR-B4M 05-10C06-57	5.00	6.00	10.00	57.00	4	45.0	5.0	C	-	0.20	•	0.02-0.05
ECR-B4M 05-10W06-57	5.00	6.00	10.00	57.00	4	45.0	5.0	W	-	0.20	•	0.02-0.05
ECR-B4M 06-12C06-57	6.00	6.00	12.00	57.00	4	45.0	5.0	C	-	0.25	•	0.03-0.06
ECR-B4M 06-12W06-57	6.00	6.00	12.00	57.00	4	45.0	5.0	W	-	0.25	•	0.03-0.06
ECR-B4M 08-16C08-63	8.00	8.00	16.00	63.00	4	45.0	5.0	C	-	0.25	•	0.03-0.08
ECR-B4M 08-16W08-63	8.00	8.00	16.00	63.00	4	45.0	5.0	W	-	0.25	•	0.03-0.08
ECR-B4M 10-20C10-72	10.00	10.00	20.00	72.00	4	45.0	5.0	C	-	0.30	•	0.03-0.09
ECR-B4M 10-20C10-72R1.0	10.00	10.00	20.00	72.00	4	45.0	5.0	C	1.00	-	•	0.03-0.09
ECR-B4M 10-20W10-72	10.00	10.00	20.00	72.00	4	45.0	5.0	W	-	0.30	•	0.03-0.09
ECR-B4M 12-24C12-83	12.00	12.00	24.00	83.00	4	45.0	5.0	C	-	0.35	•	0.04-0.10
ECR-B4M 12-24C12-83R1.2	12.00	12.00	24.00	83.00	4	45.0	5.0	C	1.20	-	•	0.04-0.10
ECR-B4M 12-24W12-83	12.00	12.00	24.00	83.00	4	45.0	5.0	W	-	0.35	•	0.04-0.10
ECR-B4M 12-24W12-83R1.2	12.00	12.00	24.00	83.00	4	45.0	5.0	W	1.20	-	•	0.04-0.10
ECR-B5M 16-32C16-92 (1)	16.00	16.00	32.00	92.00	5	45.0	5.0	C	-	0.40	•	0.05-0.11
ECR-B5M 16-32C16-92R1.6 (1)	16.00	16.00	32.00	92.00	5	45.0	5.0	C	1.60	-	•	0.05-0.11
ECR-B5M 16-32W16-92 (1)	16.00	16.00	32.00	92.00	5	45.0	5.0	W	-	0.40	•	0.05-0.11
ECR-B5M 16-32W16-92R1.6 (1)	16.00	16.00	32.00	92.00	5	45.0	5.0	W	1.60	-	•	0.05-0.11
ECR-B7M 20-40C20-104 (1)	20.00	20.00	40.00	104.00	7	45.0	5.0	C	-	0.40	•	0.05-0.11
ECR-B7M 20-40W20-104 (1)	20.00	20.00	40.00	104.00	7	45.0	5.0	W	-	0.40	•	0.05-0.11

• For user guide, see pages 169-176
(1) Cannot be used for plunging application
(2) Number of flutes
(3) Maximum ramping angle
(4) C-Cylindrical, W-Weldon

SOLIDSHRED

ECR-B-L

4-7 Flute, 45° Helix Solid Carbide Roughing Endmills with 3xD Relieved Necks



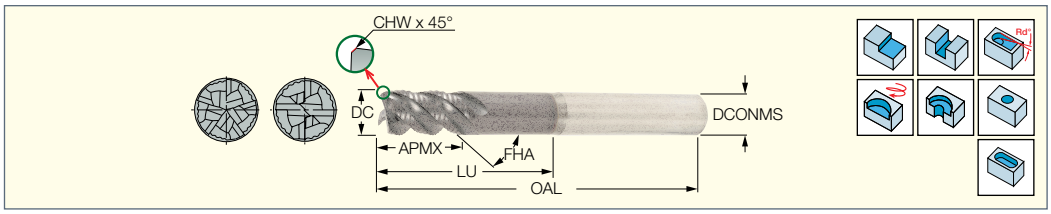
Designation	Dimensions DC	DCONMS	APMX	LU	OAL	NOF(2)	FHA	RMPX(3)	Shank(4)	CHW	Tough ↔ Hard IC300	IC900	Recommended Machining Data fz (mm/t)
ECR-B4L 06-12/18C06-57	6.00	6.00	12.00	18.0	57.00	4	45.0	5.0	C	0.25		•	0.03-0.06
ECR-B4L 06-12/18W06-57	6.00	6.00	12.00	18.0	57.00	4	45.0	5.0	W	0.25	•	•	0.03-0.06
ECR-B4L 08-16/24C08-63	8.00	8.00	16.00	24.0	63.00	4	45.0	5.0	C	0.25		•	0.03-0.08
ECR-B4L 08-16/24W08-63	8.00	8.00	16.00	24.0	63.00	4	45.0	5.0	W	0.25	•	•	0.03-0.08
ECR-B4L 10-20/30C10-72	10.00	10.00	20.00	30.0	72.00	4	45.0	5.0	C	0.30		•	0.03-0.09
ECR-B4L 10-20/30W10-72	10.00	10.00	20.00	30.0	72.00	4	45.0	5.0	W	0.30	•	•	0.03-0.09
ECR-B4L 12-24/36C12-83	12.00	12.00	24.00	36.0	83.00	4	45.0	5.0	C	0.35		•	0.04-0.10
ECR-B4L 12-24/36W12-83	12.00	12.00	24.00	36.0	83.00	4	45.0	5.0	W	0.35		•	0.04-0.10
ECR-B5L 16-32/48C16-100 (1)	16.00	16.00	32.00	48.0	100.00	5	45.0	5.0	C	0.40		•	0.05-0.11
ECR-B5L 16-32/48W16-100 (1)	16.00	16.00	32.00	48.0	100.00	5	45.0	5.0	W	0.40		•	0.05-0.11
ECR-B7L 20-40/60C20-110 (1)	20.00	20.00	40.00	60.0	110.00	7	45.0	5.0	C	0.40		•	0.05-0.11
ECR-B7L 20-40/60W20-110 (1)	20.00	20.00	40.00	60.0	110.00	7	45.0	5.0	W	0.40		•	0.05-0.11

• For user guide, see pages 169-176
(1) Cannot be used for plunging application
(2) Number of flutes
(3) Maximum ramping angle
(4) C-Cylindrical, W-Weldon

SOLIDSHRED

ECR-B-X

4-5 Flute, 45° Helix Solid Carbide Roughing Endmills with 4xD Relieved Necks



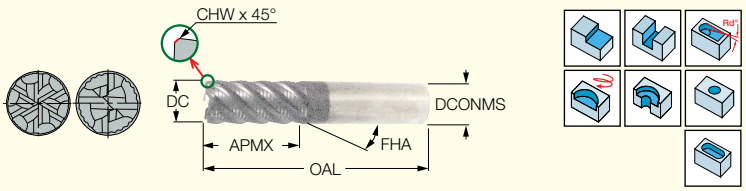
Designation	Dimensions DC	DCONMS	APMX	LU	OAL	NOF(2)	FHA	RMPX(3)	Shank(4)	CHW	IC900	Recommended Machining Data fz (mm/t)
ECR-B4X 08-12/32C08-68	8.00	8.00	12.00	32.0	68.00	4	45.0	5.0	C	0.25	•	0.03-0.08
ECR-B4X 08-12/32W08-68	8.00	8.00	12.00	32.0	68.00	4	45.0	5.0	W	0.25	•	0.03-0.08
ECR-B4X 10-15/40C10-80 90	10.00	10.00	15.00	40.0	80.00	4	45.0	5.0	C	0.30	•	0.03-0.09
ECR-B4X 10-15/40W10-80 90	10.00	10.00	15.00	40.0	80.00	4	45.0	5.0	W	0.30	•	0.03-0.09
ECR-B4X 12-18/48C12-100	12.00	12.00	18.00	48.0	100.00	4	45.0	5.0	C	0.35	•	0.04-0.10
ECR-B4X 12-18/48W12-100	12.00	12.00	18.00	48.0	100.00	4	45.0	5.0	W	0.35	•	0.05-0.11
ECR-B5X 16-24/64C16-115 (1)	16.00	16.00	24.00	64.0	115.00	5	45.0	5.0	C	0.40	•	0.05-0.11
ECR-B5X 16-24/64W16-115 (1)	16.00	16.00	24.00	64.0	115.00	5	45.0	5.0	W	0.40	•	0.05-0.11

• For user guide, see pages 169-176
(1) Cannot be used for plunging application
(2) Number of flutes
(3) Maximum ramping angle
(4) C-Cylindrical, W-Weldon

SOLIDSHRED

ECR-B-MF

4 and 6 Flute, 45° Helix
Medium Length Solid Carbide
Roughing Endmills for
Materials up to 65 HRc



Designation	Dimensions DC	DCONMS	APMX	OAL	NOF(2)	FHA	RMPX(3)	Shank(4)	CHW	IC900	Recommended Machining Data f_z (mm/t)
ECR-B4MF 06-14C06-57	6.00	6.00	14.00	57.00	4	45.0	5.0	C	0.25	•	0.03-0.06
ECR-B4MF 06-14W06-57	6.00	6.00	14.00	57.00	4	45.0	5.0	W	0.25	•	0.03-0.06
ECR-B4MF 08-18C08-63	8.00	8.00	18.00	63.00	4	45.0	5.0	C	0.30	•	0.03-0.08
ECR-B4MF 08-18W08-63	8.00	8.00	18.00	63.00	4	45.0	5.0	W	0.30	•	0.03-0.08
ECR-B4MF 10-22C10-72	10.00	10.00	22.00	72.00	4	45.0	5.0	C	0.30	•	0.03-0.09
ECR-B4MF 10-22W10-72	10.00	10.00	22.00	72.00	4	45.0	5.0	W	0.30	•	0.03-0.09
ECR-B4MF 12-26C12-83	12.00	12.00	26.00	83.00	4	45.0	5.0	C	0.40	•	0.04-0.10
ECR-B4MF 12-26W12-83	12.00	12.00	26.00	83.00	4	45.0	5.0	W	0.40	•	0.04-0.10
ECR-B4MF 14-30C14-83	14.00	14.00	30.00	83.00	4	45.0	5.0	C	0.40	•	0.04-0.11
ECR-B4MF 14-30W14-83	14.00	14.00	30.00	83.00	4	45.0	5.0	W	0.40	•	0.04-0.11
ECR-B6MF 16-34C16-92 (1)	16.00	16.00	34.00	92.00	6	45.0	5.0	C	0.50	•	0.05-0.11
ECR-B6MF 16-34W16-92 (1)	16.00	16.00	34.00	92.00	6	45.0	5.0	W	0.50	•	0.05-0.11
ECR-B6MF 20-42C20-104 (1)	20.00	20.00	42.00	104.00	6	45.0	5.0	C	0.70	•	0.05-0.11
ECR-B6MF 20-42W20-104 (1)	20.00	20.00	42.00	104.00	6	45.0	5.0	W	0.70	•	0.05-0.11
ECR-B6MF 25-52C25-121 (1)	25.00	25.00	52.00	121.00	6	45.0	5.0	C	0.90	•	0.06-0.11
ECR-B6MF 25-52W25-121 (1)	25.00	25.00	52.00	121.00	6	45.0	5.0	W	0.90	•	0.06-0.11

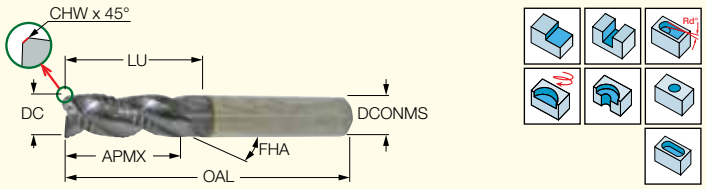
• The rougher's cutting edge profile has shallow serrations. • A very durable design which leaves only a small amount of material for the finishing cut. • For user guide, see pages 169-176

(1) Cannot be used for plunging application
(2) Number of flutes
(3) Maximum ramping angle
(4) C-Cylindrical, W-Weldon

SOLIDSHRED

ECP-E3L

3 Flute, 38° Helix Solid Carbide
Roughing Endmills with 3xD
Relieved Necks and Chip
Splitting Cutting Edges



Designation	Dimensions DC	DCONMS	APMX	LU	OAL	NOF(1)	RMPX(2)	FHA	Shank(3)	CHW	IC900	Recommended Machining Data f_z (mm/t)
ECP-E3L 05-12/17C06S57	5.00	6.00	12.00	17.0	57.00	3	5.0	38.0	C	0.20	•	0.02-0.05
ECP-E3L 05-12/17W06S57	5.00	6.00	12.00	17.0	57.00	3	5.0	38.0	W	0.20	•	0.02-0.05
ECP-E3L 06-14/20C06S57	6.00	6.00	14.00	20.0	57.00	3	5.0	38.0	C	0.30	•	0.03-0.06
ECP-E3L 06-14/20W06S57	6.00	6.00	14.00	20.0	57.00	3	5.0	38.0	W	0.30	•	0.03-0.06
ECP-E3L 08-18/26C08S63	8.00	8.00	18.00	26.0	63.00	3	5.0	38.0	C	0.40	•	0.03-0.08
ECP-E3L 08-18/26W08S63	8.00	8.00	18.00	26.0	63.00	3	5.0	38.0	W	0.40	•	0.03-0.08
ECP-E3L 10-22/32C10S72	10.00	10.00	22.00	32.0	72.00	3	5.0	38.0	C	0.40	•	0.03-0.09
ECP-E3L 10-22/32W10S72	10.00	10.00	22.00	32.0	72.00	3	5.0	38.0	W	0.40	•	0.03-0.09
ECP-E3L 12-26/38C12S83	12.00	12.00	26.00	38.0	83.00	3	5.0	38.0	C	0.40	•	0.04-0.10
ECP-E3L 12-26/38W12S83	12.00	12.00	26.00	38.0	83.00	3	5.0	38.0	W	0.40	•	0.04-0.10
ECP-E3L 14-30/44C14S100	14.00	14.00	30.00	44.0	100.00	3	5.0	38.0	C	0.50	•	0.05-0.11
ECP-E3L 14-30/44W14S100	14.00	14.00	30.00	44.0	100.00	3	5.0	38.0	W	0.50	•	0.05-0.11
ECP-E3L 16-34/50C16S100	16.00	16.00	34.00	50.0	100.00	3	5.0	38.0	C	0.50	•	0.05-0.11
ECP-E3L 16-34/50W16S100	16.00	16.00	34.00	50.0	100.00	3	5.0	38.0	W	0.50	•	0.05-0.11
ECP-E3L 20-42/62C20S125	20.00	20.00	42.00	62.0	125.00	3	5.0	38.0	C	0.50	•	0.05-0.11
ECP-E3L 20-42/62W20S125	20.00	20.00	42.00	62.0	125.00	3	5.0	38.0	W	0.50	•	0.05-0.11

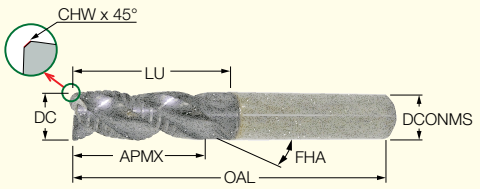
• Most recommended for machining stainless steel. • For user guide, see pages 169-176

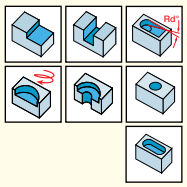
(1) Number of flutes
(2) Maximum ramping angle
(3) C-Cylindrical, W-Weldon

SOLIDSHRED

ECP-E4L

4 Flute, 38° Helix Solid Carbide Roughing Endmills with 3xD Relieved Necks and Chip Splitting Cutting Edges





Designation	Dimensions DC	DCONMS	APMX	LU	OAL	NOF(1)	FHA	Shank(2)	CHW	IC900	Recommended Machining Data f_z (mm/t)
ECP-E4L 05-12/17C06S57	5.00	6.00	12.00	17.0	57.00	4	38.0	C	0.20	•	0.02-0.05
ECP-E4L 05-12/17W06S57	5.00	6.00	12.00	17.0	57.00	4	38.0	W	0.20	•	0.02-0.05
ECP-E4L 06-14/20C06S57	6.00	6.00	14.00	20.0	57.00	4	38.0	C	0.30	•	0.03-0.06
ECP-E4L 06-14/20W06S57	6.00	6.00	14.00	20.0	57.00	4	38.0	W	0.30	•	0.03-0.06
ECP-E4L 08-18/26C08S63	8.00	8.00	18.00	26.0	63.00	4	38.0	C	0.40	•	0.03-0.08
ECP-E4L 08-18/26W08S63	8.00	8.00	18.00	26.0	63.00	4	38.0	W	0.40	•	0.03-0.08
ECP-E4L 10-22/32C10S72	10.00	10.00	22.00	32.0	72.00	4	38.0	C	0.40	•	0.03-0.09
ECP-E4L 10-22/32W10S72	10.00	10.00	22.00	32.0	72.00	4	38.0	W	0.40	•	0.03-0.09
ECP-E4L 12-26/38C12S83	12.00	12.00	26.00	38.0	83.00	4	38.0	C	0.40	•	0.04-0.10
ECP-E4L 12-26/38W12S83	12.00	12.00	26.00	38.0	83.00	4	38.0	W	0.40	•	0.04-0.10
ECP-E4L 14-30/44C14S100	14.00	14.00	30.00	44.0	100.00	4	38.0	C	0.50	•	0.04-0.11
ECP-E4L 14-30/44W14S100	14.00	14.00	30.00	44.0	100.00	4	38.0	W	0.50	•	0.04-0.11
ECP-E4L 16-34/50C16S100	16.00	16.00	34.00	50.0	100.00	4	38.0	C	0.50	•	0.05-0.12
ECP-E4L 16-34/50W16S100	16.00	16.00	34.00	50.0	100.00	4	38.0	W	0.50	•	0.05-0.12
ECP-E4L 20-42/62C20S125	20.00	20.00	42.00	62.0	125.00	4	38.0	C	0.50	•	0.05-0.15
ECP-E4L 20-42/62W20S125	20.00	20.00	42.00	62.0	125.00	4	38.0	W	0.50	•	0.05-0.15

• Most recommended for machining stainless steel. • For user guide, see pages 169-176

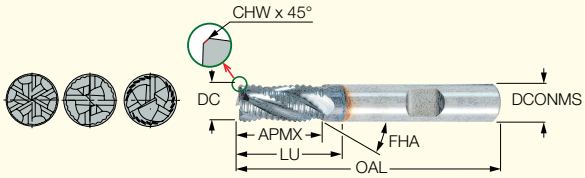
(1) Number of flutes

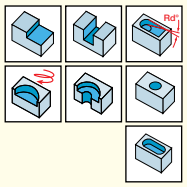
(2) C-Cylindrical, W-Weldon

SOLIDSHRED

ERF-A/E-3,4,6

3, 4, and 6 Flute, 30° and 38° Helix Solid Carbide Roughing Endmills with 3xD Relieved Neck for Alloy Steel





Designation	Dimensions DC	DCONMS	APMX	LU	OAL	NOF(2)	FHA	RMPX(3)	Shank(4)	CHW	IC900	Recommended Machining Data f_z (mm/t)
ERF040E08-3C06	4.00	6.00	8.00	13.0	57.00	3	38.0	5.0	C	0.25	•	0.02-0.05
ERF050E10-3C06	5.00	6.00	10.00	17.0	57.00	3	38.0	5.0	C	0.30	•	0.02-0.05
ERF060E13-3C06	6.00	6.00	13.00	21.0	57.00	3	38.0	5.0	C	0.30	•	0.03-0.06
ERF060E13-3W06	6.00	6.00	13.00	21.0	57.00	3	38.0	5.0	W	0.30	•	0.03-0.06
ERF070E20-3C08	7.00	8.00	20.00	26.0	63.00	3	38.0	5.0	C	0.30	•	0.03-0.07
ERF080E20-3C08	8.00	8.00	20.00	28.0	63.00	3	38.0	5.0	C	0.30	•	0.03-0.08
ERF080E20-3W08	8.00	8.00	20.00	28.0	63.00	3	38.0	5.0	W	0.30	•	0.03-0.08
ERF090A22-4C10	9.00	10.00	22.00	30.0	72.00	4	30.0	5.0	C	0.30	•	0.03-0.08
ERF100A22-4C10	10.00	10.00	22.00	30.0	72.00	4	30.0	5.0	C	0.30	•	0.03-0.09
ERF100A22-4W10	10.00	10.00	22.00	30.0	72.00	4	30.0	5.0	W	0.30	•	0.03-0.09
ERF110A25-4C12	11.00	12.00	25.00	31.0	83.00	4	30.0	5.0	C	0.30	•	0.03-0.09
ERF120A25-4C12	12.00	12.00	25.00	37.0	83.00	4	30.0	5.0	C	0.40	•	0.04-0.10
ERF120A25-4W12	12.00	12.00	25.00	37.0	83.00	4	30.0	5.0	W	0.40	•	0.04-0.10
ERF130A25-4C14	13.00	14.00	25.00	32.0	83.00	4	30.0	5.0	C	0.40	•	0.04-0.10
ERF140A25-4C14	14.00	14.00	25.00	37.0	83.00	4	30.0	5.0	C	0.50	•	0.04-0.11
ERF140A25-4W14	14.00	14.00	25.00	37.0	83.00	4	30.0	5.0	W	0.50	•	0.04-0.11
ERF160A32-4C16	16.00	16.00	32.00	44.0	92.00	4	30.0	5.0	C	0.50	•	0.05-0.11
ERF160A32-4W16	16.00	16.00	32.00	44.0	92.00	4	30.0	5.0	W	0.50	•	0.05-0.11
ERF180A32-4C18	18.00	18.00	32.00	44.0	92.00	4	30.0	5.0	C	0.50	•	0.05-0.11
ERF180A32-4W18	18.00	18.00	32.00	44.0	92.00	4	30.0	5.0	W	0.50	•	0.05-0.11
ERF200A38-4C20	20.00	20.00	38.00	55.0	104.00	4	30.0	5.0	C	0.60	•	0.05-0.11
ERF200A38-4W20	20.00	20.00	38.00	55.0	104.00	4	30.0	5.0	W	0.60	•	0.05-0.11
ERF250A45-6W25 (1)	25.00	25.00	45.00	64.0	121.00	6	30.0	5.0	W	0.60	•	0.06-0.11

• For user guide, see pages 169-176

(1) No center cutting • Cannot be used for plunging application

(2) Number of flutes

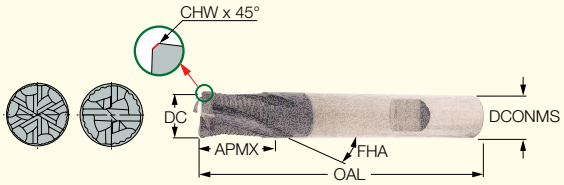
(3) Maximum ramping angle

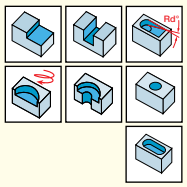
(4) C-Cylindrical, W-Weldon

SOLIDSHRED

ECR-T-M

4 Flute, 20° Helix Medium Length Solid Carbide Roughing Endmills for High Stock Removal Rates





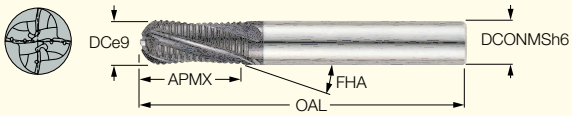
Designation	Dimensions									IC900	Recommended Machining Data
	DC	DCONMS	APMX	OAL	NOF(1)	FHA	RMPX(2)	Shank(3)	CHW		f_z (mm/t)
ECR-T4M 06-10-C06-57	6.00	6.00	10.00	57.00	4	20.0	5.0	C	0.30	•	0.03-0.06
ECR-T4M 06-10-W06-57	6.00	6.00	10.00	57.00	4	20.0	5.0	W	0.30	•	0.03-0.06
ECR-T4M 08-16-C08-63	8.00	8.00	16.00	63.00	4	20.0	5.0	C	0.40	•	0.03-0.08
ECR-T4M 08-16-W08-63	8.00	8.00	16.00	63.00	4	20.0	5.0	W	0.40	•	0.03-0.08
ECR-T4M 10-20-C10-72	10.00	10.00	20.00	72.00	4	20.0	5.0	C	0.40	•	0.03-0.09
ECR-T4M 10-20-W10-72	10.00	10.00	20.00	72.00	4	20.0	5.0	W	0.40	•	0.03-0.09
ECR-T4M 12-24-C12-83	12.00	12.00	24.00	83.00	4	20.0	5.0	C	0.40	•	0.04-0.10
ECR-T4M 12-24-W12-83	12.00	12.00	24.00	83.00	4	20.0	5.0	W	0.40	•	0.04-0.10
ECR-T4M 16-32-C16-92	16.00	16.00	32.00	92.00	4	20.0	5.0	C	0.50	•	0.05-0.11
ECR-T4M 16-32-W16-92	16.00	16.00	32.00	92.00	4	20.0	5.0	W	0.50	•	0.05-0.11
ECR-T4M 20-40-C20-104	20.00	20.00	40.00	104.00	4	20.0	5.0	C	0.50	•	0.05-0.11
ECR-T4M 20-40-W20-104	20.00	20.00	40.00	104.00	4	20.0	5.0	W	0.50	•	0.05-0.11

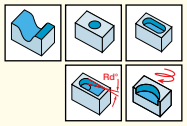
• For user guide, see pages 169-176
(1) Number of flutes
(2) Maximum ramping angle
(3) C-Cylindrical, W-Weldon

SOLIDSHRED

EBRF-T

3, 4 Flute, 20° Helix Long Solid Carbide Ball Nose Endmills for Roughing Materials up to 55 HRC





HARD MATERIALS

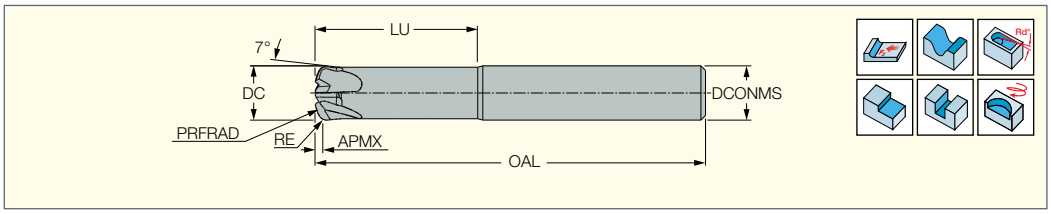
Designation	Dimensions							IC903
	DC	DCONMS	APMX	OAL	NOF(1)	FHA	Shank(2)	
EBRF-T3 06-16C06M57	6.00	6.00	16.00	57.00	3	20.0	C	•
EBRF-T3 08-16C08M63	8.00	8.00	16.00	63.00	3	20.0	C	•
EBRF-T4 10-22C10M72	10.00	10.00	22.00	72.00	4	20.0	C	•
EBRF-T4 12-26C12M83	12.00	12.00	26.00	83.00	4	20.0	C	•
EBRF-T4 14-26C14M83	14.00	14.00	26.00	83.00	4	20.0	C	•
EBRF-T4 16-32C16M92	16.00	16.00	32.00	92.00	4	20.0	C	•
EBRF-T4 20-38C20M104	20.00	20.00	38.00	104.00	4	20.0	C	•

• For user guide, see pages 169-176
(1) Number of flutes
(2) C-Cylindrical

SOLID FEED MILL

EFF-S

4 Flute Solid Carbide Endmills with Relieved Necks for Fast Feed High Productivity



Designation	Dimensions DC	DCONMS	OAL	NOF(1)	LU	RE(2)	PRFRAD	APMX	Shank(3)	Tough ↔ Hard IC903	IC902	Recommended Machining Data f_z (mm/t)
EFF-S2 01-04/03C6RP.15M50	1.00	6.00	50.00	2	3.0	0.15	0.1	0.06	C		•	0.02-0.05
EFF-S2 02-07/06C6RP0.3M50	2.00	6.00	50.00	2	6.0	0.30	0.2	0.12	C		•	0.10-0.14
EFF-S2 03-1/09C06RP0.5M50	3.00	6.00	50.00	2	9.0	0.50	0.4	0.20	C		•	0.10-0.20
EFF-S4-04 020/14C06M57	4.00	6.00	57.00	4	12.0	0.70	0.5	0.20	C		•	0.10-0.25
EFF-S4-05 022/17C06M57	5.00	6.00	57.00	4	15.0	0.90	0.6	0.30	C		•	0.10-0.30
EFF-S4-06 030/20C06R1.0M	6.00	6.00	57.00	4	20.0	1.23	5.3	0.30	C	•		0.10-0.30
EFF-S4-08 035/26C08R1.3M	8.00	8.00	63.00	4	26.0	1.62	7.0	0.40	C	•		0.10-0.40
EFF-S4-10 040/30C10R1.6M	10.00	10.00	72.00	4	30.0	2.01	8.8	0.50	C	•		0.15-0.50
EFF-S4-12 045/34C12R2.0M	12.00	12.00	83.00	4	34.0	2.47	10.6	0.60	C	•		0.15-0.50
EFF-S4-16 055/42C16R2.6M	16.00	16.00	92.00	4	42.0	3.25	14.0	0.80	C	•		0.20-0.60
EFF-S4-20 060/46C20R3.2M	20.00	20.00	104.00	4	46.0	4.02	17.7	1.00	C	•		0.20-0.70

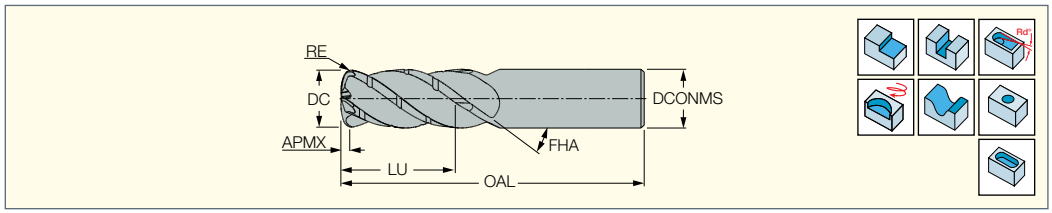
• For user guide, see pages 169-176
(1) Number of flutes
(2) Should be used for programming
(3) C-Cylindrical

CHATTERFREE SOLID MILL LINE

SOLID FEED MILL

EFP-E4,5CF

Solid Carbide Roughing Endmills with Chip Splitting Cutting Edges, Variable Pitch and Large Radius Frontal Edge



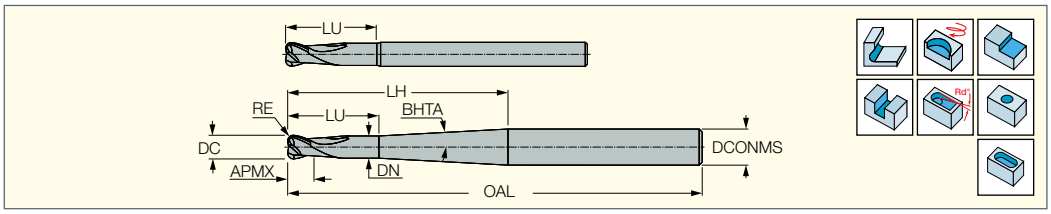
Designation	Dimensions DC	DCONMS	OAL	RE(2)	NOF(3)	FHA	APMX(4)	LU	RMPX(5)	Shank(6)	IC903	Recommended Machining Data f_z (mm/t)
EFP-E4CF 06-12C06R1.0M57	6.00	6.00	57.00	1.00	4	38.0	0.30	12.00	5.0	C	•	0.02-0.30
EFP-E4CF 08-16C08R1.4M63	8.00	8.00	63.00	1.40	4	38.0	0.40	16.00	5.0	C	•	0.03-0.40
EFP-E4CF 10-20C10R1.7M72	10.00	10.00	72.00	1.70	4	38.0	0.50	20.00	5.0	C	•	0.03-0.50
EFP-E5CF 10-24C10R1.7M72 (1)	10.00	10.00	72.00	1.70	5	38.0	0.50	24.00	5.0	C	•	0.03-0.50
EFP-E4CF 12-25C12R2.0M83	12.00	12.00	83.00	2.00	4	38.0	0.60	24.00	5.0	C	•	0.04-0.50
EFP-E4CF 16-32C16R2.7M92	16.00	16.00	92.00	2.70	4	38.0	0.80	32.00	5.0	C	•	0.05-0.60
EFP-E5CF 16-40C16R2.7M92 (1)	16.00	16.00	92.00	2.70	5	38.0	0.80	40.00	5.0	C	•	0.05-0.60
EFP-E4CF 20-40C20R3.4M104	20.00	20.00	104.00	3.40	4	38.0	1.00	40.00	5.0	C	•	0.05-0.70
EFP-E5CF 20-48C20R3.4M104 (1)	20.00	20.00	104.00	3.40	5	38.0	1.00	48.00	5.0	C	•	0.05-0.70

• For user guide, see pages 169-176
(1) Cannot be used for plunging application
(2) Used for programming
(3) Number of flutes
(4) Maximum D.O.C. for high feed milling (FEEDMILL)
(5) Maximum ramping angle
(6) C-Cylindrical

SOLIDMILL PREMIUM LINE

ETR-A2

2 Flute Toroidal Endmills



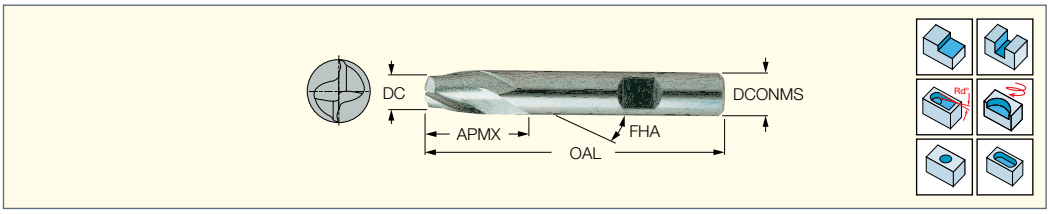
Designation	Dimensions DC	DCONMS	APMX	OAL	NOF(1)	LU	DN	LH	BHTA	RMPX(2)	RE	Shank(3)	IC900	Recommended Machining Data f_z (mm/t)
ETR-A2 02-2/08C06R.5M80	2.00	6.00	2.00	80.00	2	8.0	1.90	40.0	3.6	5.0	0.50	C	•	0.01-0.03
ETR-A2 03-2/12C06R.5M80	3.00	6.00	2.00	80.00	2	12.0	2.80	40.0	3.3	5.0	0.50	C	•	0.01-0.04
ETR-A2 04-3/16C06R1M80	4.00	6.00	3.00	80.00	2	16.0	3.70	40.0	2.8	5.0	1.00	C	•	0.02-0.05
ETR-A2 06-4/25C08R2M100	6.00	8.00	4.00	100.00	2	25.0	5.60	66.0	2	5.0	2.00	C	•	0.03-0.07
ETR-A2 08-4/32C08R2M100	8.00	8.00	4.00	100.00	2	32.0	7.60	-	-	5.0	2.00	C	•	0.03-0.09
ETR-A2 08-4/32C10R2M120	8.00	10.00	4.00	120.00	2	32.0	7.60	66.0	2	5.0	2.00	C	•	0.03-0.09
ETR-A2 10-6/40C10R3M120	10.00	10.00	6.00	120.00	2	40.0	9.60	-	-	5.0	3.00	C	•	0.03-0.10
ETR-A2 10-6/40C12R3M160	10.00	12.00	6.00	158.00	2	40.0	9.60	110.0	1	5.0	3.00	C	•	0.03-0.10

• For user guide, see pages 169-176
(1) Number of flutes
(2) Maximum ramping angle
(3) C-Cylindrical

SOLIDMILL TEC LINE

EC-A2 (economical-short)

Economical Type 2 Flute, 30° Helix Center Cutting Short Solid Carbide Endmills



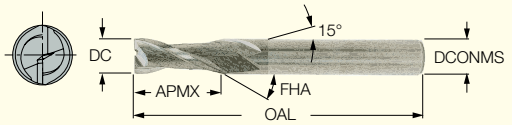
Designation	Dimensions DC	DCONMS	APMX	OAL	NOF(1)	FHA	RMPX(2)	Shank(3)	Tough ↔ Hard IC08	IC900	Recommended Machining Data f_z (mm/t)
EC-A2 02-03W06E50	2.00	6.00	3.00	50.00	2	30.0	5.0	W	•	•	0.01-0.03
EC-A2 03-04W06E50	3.00	6.00	4.00	50.00	2	30.0	5.0	W	•	•	0.01-0.04
EC-A2 04-05W06E54	4.00	6.00	5.00	54.00	2	30.0	5.0	W	•	•	0.02-0.05
EC-A2 045-05W06E54	4.50	6.00	5.00	54.00	2	30.0	5.0	W	•	•	0.02-0.05
EC-A2 05-06W06E54	5.00	6.00	6.00	54.00	2	30.0	5.0	W	•	•	0.02-0.06
EC-A2 06-07W06E54	6.00	6.00	7.00	54.00	2	30.0	5.0	W	•	•	0.03-0.07
EC-A2 07-08W08E58	7.00	8.00	8.00	58.00	2	30.0	5.0	W	•	•	0.03-0.08
EC-A2 08-09W08E58	8.00	8.00	9.00	58.00	2	30.0	5.0	W	•	•	0.03-0.09
EC-A2 09-10W10E66	9.00	10.00	10.00	66.00	2	30.0	5.0	W	•	•	0.03-0.09
EC-A2 10-11W10E66	10.00	10.00	11.00	66.00	2	30.0	5.0	W	•	•	0.03-0.10
EC-A2 12-12W12E73	12.00	12.00	12.00	73.00	2	30.0	5.0	W	•		0.04-0.11
EC-A2 14-14W14E75	14.00	14.00	14.00	75.00	2	30.0	5.0	W		•	0.04-0.12
EC-A2 16-16W16E82	16.00	16.00	16.00	82.00	2	30.0	5.0	W	•		0.05-0.13
EC-A2 18-18W18E84	18.00	18.00	18.00	84.00	2	30.0	5.0	W	•	•	0.05-0.13
EC-A2 20-20W20E92	20.00	20.00	20.00	92.00	2	30.0	5.0	W	•	•	0.05-0.13

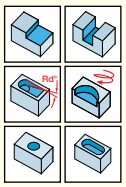
• For user guide, see pages 169-176
(1) Number of flutes
(2) Maximum ramping angle
(3) W-Weldon

SOLIDMILL PREMIUM LINE

EC-A-2

2 Flute, 30 and 45° Helix
Medium Length Solid Carbide
Slot / Drill Endmills





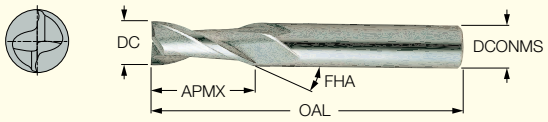
Designation	Dimensions DC	DCONMS	APMX	OAL	NOF(1)	FHA	RMPX(2)	Shank(3)	Tough ↔ Hard IC08	IC300	IC900	Recommended Machining Data f_z (mm/t)
EC020B07-2C03	2.00	3.00	7.00	38.00	2	45.0	5.0	C	•	•		0.01-0.03
EC020B07-2C06	2.00	6.00	7.00	57.00	2	45.0	5.0	C		•	•	0.01-0.03
EC025A07-2C03	2.50	3.00	7.00	38.00	2	30.0	5.0	C	•	•		0.01-0.03
EC030A10-2C03	3.00	3.00	10.00	38.00	2	30.0	5.0	C	•	•		0.01-0.04
EC030A10-2C06	3.00	6.00	10.00	57.00	2	30.0	5.0	C		•	•	0.01-0.04
EC035A12-2C04	3.50	4.00	12.00	50.00	2	30.0	5.0	C	•	•		0.01-0.04
EC040A12-2C04	4.00	4.00	12.00	50.00	2	30.0	5.0	C	•	•	•	0.02-0.05
EC040A12-2C06	4.00	6.00	12.00	57.00	2	30.0	5.0	C	•	•	•	0.02-0.05
EC045A14-2C06	4.50	6.00	14.00	57.00	2	30.0	5.0	C		•		0.02-0.05
EC050A14-2C05	5.00	5.00	14.00	50.00	2	30.0	5.0	C	•	•		0.02-0.06
EC050A14-2C06	5.00	6.00	14.00	57.00	2	30.0	5.0	C		•	•	0.02-0.06
EC055A16-2C06	5.50	6.00	16.00	57.00	2	30.0	5.0	C		•		0.02-0.06
EC060A16-2C06	6.00	6.00	16.00	57.00	2	30.0	5.0	C	•	•	•	0.03-0.07
EC060A16-2W06	6.00	6.00	16.00	57.00	2	30.0	5.0	W			•	0.03-0.07
EC065A20-2C07	6.50	7.00	20.00	60.00	2	30.0	5.0	C		•		0.03-0.07
EC070A20-2C07	7.00	7.00	20.00	60.00	2	30.0	5.0	C	•	•		0.03-0.08
EC080A20-2C08	8.00	8.00	20.00	63.00	2	30.0	5.0	C	•	•	•	0.03-0.09
EC080A20-2W08	8.00	8.00	20.00	63.00	2	30.0	5.0	W			•	0.03-0.09
EC085A22-2C10	8.50	10.00	22.00	72.00	2	30.0	5.0	C		•		0.03-0.09
EC100A22-2C10	10.00	10.00	22.00	72.00	2	30.0	5.0	C	•	•	•	0.03-0.10
EC120A25-2C12	12.00	12.00	25.00	83.00	2	30.0	5.0	C	•	•	•	0.04-0.11
EC140A25-2C14	14.00	14.00	25.00	83.00	2	30.0	5.0	C	•	•	•	0.04-0.12
EC160A32-2C16	16.00	16.00	32.00	92.00	2	30.0	5.0	C		•	•	0.05-0.13
EC180A32-2C18	18.00	18.00	32.00	92.00	2	30.0	5.0	C	•	•		0.05-0.13
EC200A38-2C20	20.00	20.00	38.00	104.00	2	30.0	5.0	C	•		•	0.05-0.13

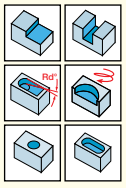
• For user guide, see pages 169-176
(1) Number of flutes
(2) Maximum ramping angle
3) C-Cylindrical, W-Weldon

SOLIDMILL TEC LINE

EC-A2 (economi-cal-medium)

Economical Type 2 Flute, 30°
Helix Center Cutting, Medium
Length Solid Carbide Endmills





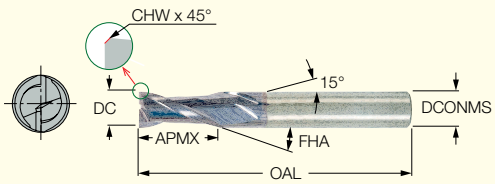
Designation	Dimensions DC	DCONMS	APMX	OAL	NOF(1)	FHA	RMPX(2)	Shank(3)	Tough ↔ Hard IC08	IC900	Recommended Machining Data f_z (mm/t)
EC-A2 01-03C04E50	1.00	4.00	3.00	50.00	2	30.0	5.0	C	•	•	0.00-0.01
EC-A2 015-045C04E50	1.50	4.00	4.50	50.00	2	30.0	5.0	C	•	•	0.00-0.02
EC-A2 02-08C02E32	2.00	2.00	8.00	32.00	2	30.0	5.0	C	•	•	0.01-0.03
EC-A2 025-08C025E32	2.50	2.50	8.00	32.00	2	30.0	5.0	C	•	•	0.01-0.03
EC-A2 03-12C03E38	3.00	3.00	12.00	38.00	2	30.0	5.0	C	•	•	0.01-0.04
EC-A2 035-12C035E32	3.50	3.50	12.00	32.00	2	30.0	5.0	C	•	•	0.01-0.04
EC-A2 04-12C04E50	4.00	4.00	12.00	50.00	2	30.0	5.0	C	•	•	0.02-0.05
EC-A2 045-14C045E50	4.50	4.50	14.00	50.00	2	30.0	5.0	C	•		0.02-0.05
EC-A2 05-14C05E50	5.00	5.00	14.00	50.00	2	30.0	5.0	C	•	•	0.02-0.06
EC-A2 055-16C055E50	5.50	5.50	16.00	50.00	2	30.0	5.0	C	•	•	0.02-0.06
EC-A2 06-16C06E50	6.00	6.00	16.00	50.00	2	30.0	5.0	C	•	•	0.03-0.07
EC-A2 07-20C07E60	7.00	7.00	20.00	60.00	2	30.0	5.0	C	•	•	0.03-0.08
EC-A2 08-20C08E63	8.00	8.00	20.00	63.00	2	30.0	5.0	C	•	•	0.03-0.09
EC-A2 09-20C09E60	9.00	9.00	20.00	60.00	2	30.0	5.0	C	•	•	0.03-0.09
EC-A2 10-22C10E72	10.00	10.00	22.00	72.00	2	30.0	5.0	C	•	•	0.03-0.10
EC-A2 12-22C12E70	12.00	12.00	22.00	70.00	2	30.0	5.0	C	•	•	0.04-0.11
EC-A2 14-25C14E75	14.00	14.00	25.00	75.00	2	30.0	5.0	C	•	•	0.04-0.12
EC-A2 16-25C16E75	16.00	16.00	25.00	75.00	2	30.0	5.0	C	•	•	0.05-0.13
EC-A2 20-32C20E100	20.00	20.00	32.00	100.00	2	30.0	5.0	C	•	•	0.05-0.13

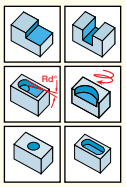
• For user guide, see pages 169-176
(1) Number of flutes
(2) Maximum ramping angle
(3) C-Cylindrical, W-Weldon

SOLIDMILL PREMIUM LINE

ECC-A-2

2 Flute, 30° Helix Medium Length Solid Carbide Slot / Drill Endmills with Chamfered Corners





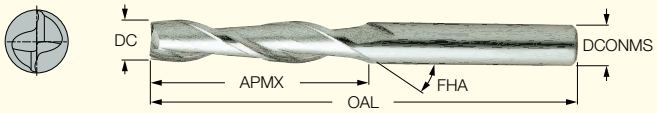
Designation	Dimensions DC	DCONMS	NOF(1)	APMX	OAL	RMPX(2)	Shank(3)	CHW	Tough ↔ Hard IC300	IC900	Recommended Machining Data f_z (mm/t)
ECC020B07-2C03	2.00	3.00	2	7.00	38.00	5.0	C	0.10		•	0.01-0.03
ECC025A07-2C03	2.50	3.00	2	7.00	38.00	5.0	C	0.10		•	0.01-0.03
ECC030A10-2C03	3.00	3.00	2	10.00	38.00	5.0	C	0.10	•	•	0.01-0.04
ECC035A12-2C04	3.50	4.00	2	12.00	50.00	5.0	C	0.10	•		0.01-0.04
ECC040A12-2C04	4.00	4.00	2	12.00	50.00	5.0	C	0.15	•	•	0.02-0.05
ECC050A14-2C05	5.00	5.00	2	14.00	50.00	5.0	C	0.15	•	•	0.02-0.06
ECC060A16-2C06	6.00	6.00	2	16.00	57.00	5.0	C	0.15	•	•	0.03-0.07
ECC060A16-2W06	6.00	6.00	2	16.00	57.00	5.0	W	0.15		•	0.03-0.07
ECC080A20-2C08	8.00	8.00	2	20.00	63.00	5.0	C	0.15	•	•	0.03-0.09
ECC100A22-2C10	10.00	10.00	2	22.00	72.00	5.0	C	0.25		•	0.03-0.10
ECC120A25-2C12	12.00	12.00	2	25.00	83.00	5.0	C	0.25		•	0.04-0.11
ECC160A32-2C16	16.00	16.00	2	32.00	92.00	5.0	C	0.25	•	•	0.05-0.13
ECC200A38-2C20	20.00	20.00	2	38.00	104.00	5.0	C	0.25		•	0.05-0.13

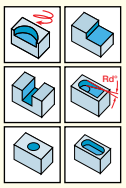
• For user guide, see pages 169-176
(1) Number of flutes
(2) Maximum ramping angle
(3) C-Cylindrical, W-Weldon

SOLIDMILL TEC LINE

EC-A2(economical-extra long)

Economical Type 2 Flute, 30° Helix, Center Cutting, Extra Long Solid Carbide Endmills





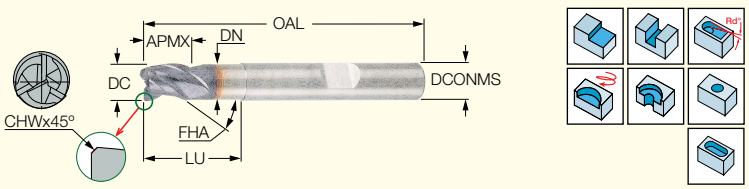
Designation	Dimensions DC	DCONMS	APMX	OAL	NOF(1)	FHA	RMPX(2)	Shank(3)	Tough ↔ Hard IC08	IC900	Recommended Machining Data f_z (mm/t)
EC-A2 03-30C03E75	3.00	3.00	30.00	75.00	2	30.0	5.0	C	•	•	0.01-0.04
EC-A2 04-30C04E75	4.00	4.00	30.00	75.00	2	30.0	5.0	C	•	•	0.02-0.05
EC-A2 05-40C05E100	5.00	5.00	40.00	100.00	2	30.0	5.0	C	•	•	0.02-0.06
EC-A2 06-50C06E150	6.00	6.00	50.00	150.00	2	30.0	5.0	C	•	•	0.03-0.07
EC-A2 08-50C08E150	8.00	8.00	50.00	150.00	2	30.0	5.0	C	•	•	0.03-0.09
EC-A2 10-60C10E150	10.00	10.00	60.00	150.00	2	30.0	5.0	C	•	•	0.03-0.10
EC-A2 12-75C12E150	12.00	12.00	75.00	150.00	2	30.0	5.0	C	•	•	0.04-0.11
EC-A2 14-65C14E150	14.00	14.00	65.00	150.00	2	30.0	5.0	C	•	•	0.04-0.12
EC-A2 16-65C16E150	16.00	16.00	65.00	150.00	2	30.0	5.0	C	•	•	0.05-0.13
EC-A2 18-65C18E150	18.00	18.00	65.00	150.00	2	30.0	5.0	C	•	•	0.05-0.13
EC-A2 20-65C20E150	20.00	20.00	65.00	150.00	2	30.0	5.0	C	•	•	0.05-0.13

• For user guide, see pages 169-176
(1) Number of flutes
(2) Maximum ramping angle
(3) C-Cylindrical

SOLIDMILL PREMIUM LINE

ECS/ECCS-E-3

3 Flute, 38° Helix Short Solid Carbide Slot / Drill Endmills with 3xD Relieved Necks and Chamfered Corners



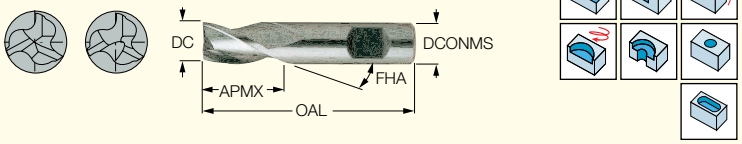
Designation	Dimensions												Tough ↔ Hard		Recommended Machining Data
	DC	DCONMS	APMX	LU	DN	OAL	LF	NOF(1)	FHA	RMPX(2)	Shank(3)	CHW	IC300	IC900	f_z (mm/t)
ECS020E03-3W06-57	2.00	6.00	3.00	8.0	1.90	57.00	39.00	3	38.0	5.0	W	-		•	0.01-0.03
ECS025E03-3W06-57	2.50	6.00	3.00	8.0	2.40	57.00	39.00	3	38.0	5.0	W	-		•	0.01-0.03
ECS030E04-3W06-57	3.00	6.00	4.00	9.0	2.90	57.00	39.00	3	38.0	5.0	W	-		•	0.01-0.04
ECS035E04-3W06-57	3.50	6.00	4.00	12.0	3.40	57.00	39.00	3	38.0	5.0	W	-		•	0.01-0.04
ECS040E05-3W06-57	4.00	6.00	5.00	13.0	3.90	57.00	39.00	3	38.0	5.0	W	-	•	•	0.02-0.05
ECS050E06-3W06-57	5.00	6.00	6.00	14.0	4.90	57.00	39.00	3	38.0	5.0	W	-		•	0.02-0.06
ECCS060E07-3W06-57	6.00	6.00	7.00	15.0	5.90	57.00	39.00	3	38.0	5.0	W	0.15		•	0.03-0.07
ECCS070E08-3W08-63	7.00	8.00	8.00	20.0	6.70	63.00	45.00	3	38.0	5.0	W	0.15		•	0.03-0.08
ECCS080E09-3W08-63	8.00	8.00	9.00	21.0	7.60	63.00	45.00	3	38.0	5.0	W	0.15		•	0.03-0.09
ECCS090E10-3W10-72	9.00	10.00	10.00	22.0	8.60	72.00	52.00	3	38.0	5.0	W	0.15		•	0.03-0.09
ECCS100E11-3W10-72	10.00	10.00	11.00	23.0	9.50	72.00	52.00	3	38.0	5.0	W	0.25		•	0.03-0.10
ECCS120E12-3W12-83	12.00	12.00	12.00	24.0	11.30	83.00	60.50	3	38.0	5.0	W	0.25		•	0.04-0.11
ECCS160E16-3W16-92	16.00	16.00	16.00	33.0	15.20	92.00	68.00	3	38.0	5.0	W	0.25		•	0.05-0.13

• For user guide, see pages 169-176
(1) Number of flutes
(2) Maximum ramping angle
(3) W-Weldon

SOLIDMILL TEC LINE

EC-A3/E3 (economical-short)

Economical Type 3 Flute, 30° and 38° Helix, Center Cutting, Short Length Solid Carbide Endmills



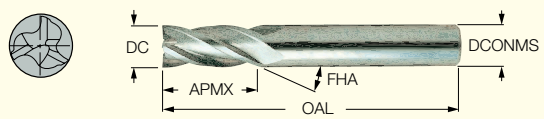
Designation	Dimensions								Tough ↔ Hard		Recommended Machining Data
	DC	DCONMS	APMX	OAL	NOF(1)	FHA	RMPX(2)	Shank(3)	IC08	IC900	f_z (mm/t)
EC-A3 005-015C03E38	0.50	3.00	1.50	38.00	3	30.0	5.0	C	•	•	0.00-0.01
EC-A3 006-015C03E38	0.60	3.00	1.50	38.00	3	30.0	5.0	C	•	•	0.00-0.01
EC-A3 008-02C03E38	0.80	3.00	2.00	38.00	3	30.0	5.0	C	•	•	0.00-0.01
EC-A3 01-02C03E38	1.00	3.00	2.00	38.00	3	30.0	5.0	C	•		0.00-0.01
EC-A3 012-02C03E38	1.20	3.00	2.00	38.00	3	30.0	5.0	C	•	•	0.00-0.01
EC-A3 015-02C03E38	1.50	3.00	2.00	38.00	3	30.0	5.0	C	•	•	0.00-0.02
EC-A3 018-02C03E38	1.80	3.00	2.00	38.00	3	30.0	5.0	C	•	•	0.01-0.03
EC-E3 02-04C06E35	2.00	6.00	4.00	35.00	3	38.0	5.0	C	•	•	0.01-0.03
EC-E3 025-05C06E36	2.50	6.00	5.00	36.00	3	38.0	5.0	C	•	•	0.01-0.03
EC-E3 03-05C06E36	3.00	6.00	5.00	36.00	3	38.0	5.0	C	•	•	0.01-0.04
EC-A3 035-06W06E37	3.50	6.00	6.00	37.00	3	30.0	5.0	W	•	•	0.01-0.04
EC-E3 04-07C06E39	4.00	6.00	7.00	39.00	3	38.0	5.0	C	•	•	0.02-0.05
EC-A3 045-08W06E38	4.50	6.00	8.00	38.00	3	30.0	5.0	W	•	•	0.02-0.05
EC-A3 05-08W06E39	5.00	6.00	8.00	39.00	3	30.0	5.0	W	•		0.02-0.06
EC-E3 05-08C06E39	5.00	6.00	8.00	39.00	3	30.0	5.0	C		•	0.02-0.06
EC-A3 055-08W06E39	5.50	6.00	8.00	39.00	3	30.0	5.0	W	•	•	0.02-0.06
EC-E3 06-08C06E39	6.00	6.00	8.00	39.00	3	38.0	5.0	C	•	•	0.03-0.07
EC-A3 0675-10W08E42	6.75	8.00	10.00	42.00	3	30.0	5.0	W	•	•	0.03-0.07
EC-A3 07-10W08E42	7.00	8.00	10.00	42.00	3	30.0	5.0	W	•	•	0.03-0.08
EC-E3 08-11C08E43	8.00	8.00	11.00	43.00	3	38.0	5.0	C	•	•	0.03-0.09
EC-A3 087-11W10E48	8.70	10.00	11.00	48.00	3	30.0	5.0	W	•	•	0.03-0.09
EC-A3 09-11W10E48	9.00	10.00	11.00	48.00	3	30.0	5.0	W	•	•	0.03-0.09
EC-A3 097-11W10E48	9.70	10.00	11.00	48.00	3	30.0	5.0	W	•	•	0.03-0.09
EC-E3 10-13C10E50	10.00	10.00	13.00	50.00	3	38.0	5.0	C	•	•	0.03-0.10
EC-E3 12-15C12E55	12.00	12.00	15.00	55.00	3	30.0	5.0	C	•	•	0.04-0.11
EC-A3 16-18W16E62	16.00	16.00	18.00	62.00	3	30.0	5.0	W	•	•	0.05-0.13
EC-A3 18-20W18E70	18.00	18.00	20.00	70.00	3	30.0	5.0	W	•	•	0.05-0.13

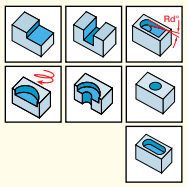
• For user guide, see pages 169-176
(1) Number of flutes
(2) Maximum ramping angle
(3) C-Cylindrical, W-Weldon

SOLIDMILL TEC LINE

EC-A3/E3 (economical-medium)

Economical Type 3 Flute, 30° and 38° Helix, Center Cutting, Medium Length Solid Carbide Endmills





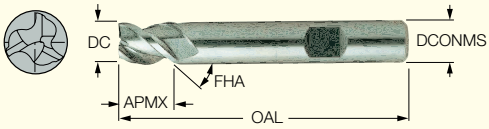
Designation	Dimensions DC	DCONMS	APMX	OAL	NOF(1)	FHA	RMPX(2)	Shank(3)	Tough ↔ Hard IC08	IC900	Recommended Machining Data f_z (mm/t)
EC-E3 02-08C02E32	2.00	2.00	8.00	32.00	3	38.0	5.0	C	•	•	0.01-0.03
EC-E3 025-08C025E32	2.50	2.50	8.00	32.00	3	38.0	5.0	C	•	•	0.01-0.03
EC-E3 03-12C03E38	3.00	3.00	12.00	38.00	3	38.0	5.0	C	•	•	0.01-0.04
EC-A3 035-12C035E32	3.50	3.50	12.00	32.00	3	30.0	5.0	C	•	•	0.01-0.04
EC-E3 04-12C04E50	4.00	4.00	12.00	50.00	3	38.0	5.0	C	•	•	0.02-0.05
EC-A3 045-14C045E50	4.50	4.50	14.00	50.00	3	30.0	5.0	C	•	•	0.02-0.05
EC-E3 05-14C05E50	5.00	5.00	14.00	50.00	3	38.0	5.0	C	•	•	0.02-0.06
EC-A3 055-16C055E50	5.50	5.50	16.00	50.00	3	30.0	5.0	C	•	•	0.02-0.06
EC-E3 06-16C06E50	6.00	6.00	16.00	50.00	3	38.0	5.0	C	•	•	0.03-0.07
EC-E3 07-20C07E60	7.00	7.00	20.00	60.00	3	30.0	5.0	C	•	•	0.03-0.08
EC-E3 08-20C08E63	8.00	8.00	20.00	63.00	3	38.0	5.0	C	•	•	0.03-0.09
EC-A3 09-20C09E60	9.00	9.00	20.00	60.00	3	30.0	5.0	C	•	•	0.03-0.09
EC-E3 10-22C10E72	10.00	10.00	22.00	72.00	3	38.0	5.0	C	•	•	0.03-0.10
EC-E3 12-22C12E73	12.00	12.00	22.00	73.00	3	38.0	5.0	C	•	•	0.04-0.11
EC-A3 14-25C14E75	14.00	14.00	25.00	75.00	3	30.0	5.0	C	•	•	0.04-0.12
EC-A3 16-25C16E75	16.00	16.00	25.00	75.00	3	30.0	5.0	C	•	•	0.05-0.13
EC-E3 20-32C20E104	20.00	20.00	32.00	104.00	3	38.0	5.0	C	•		0.05-0.13

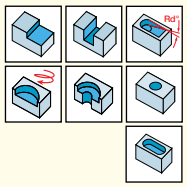
• For user guide, see pages 169-176
(1) Number of flutes
(2) Maximum ramping angle
(3) C-Cylindrical

SOLIDMILL TEC LINE

EC-B3 (economical-short)

Economical Type 3 Flute, 45° Helix, Center Cutting, Short Length Solid Carbide Endmills





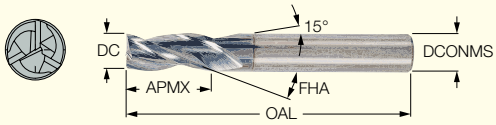
Designation	Dimensions DC	DCONMS	APMX	OAL	NOF(1)	FHA	RMPX(2)	Shank(3)	Tough ↔ Hard IC08	IC900	Recommended Machining Data f_z (mm/t)
EC-B3 015-03C03E38	1.50	3.00	3.00	38.00	3	45.0	5.0	C	•	•	0.00-0.02
EC-B3 02-03W06E50	2.00	6.00	3.00	50.00	3	45.0	5.0	W	•	•	0.01-0.03
EC-B3 03-04W06E50	3.00	6.00	4.00	50.00	3	45.0	5.0	W	•	•	0.01-0.04
EC-B3 035-04W06E50	3.50	6.00	4.00	50.00	3	45.0	5.0	W	•	•	0.01-0.04
EC-B3 04-05W06E54	4.00	6.00	5.00	54.00	3	45.0	5.0	W	•	•	0.02-0.05
EC-B3 045-05W06E54	4.50	6.00	5.00	54.00	3	45.0	5.0	W	•	•	0.02-0.05
EC-B3 05-06C06E57	5.00	6.00	6.00	57.00	3	45.0	5.0	C	•	•	0.02-0.06
EC-B3 06-07W06E54	6.00	6.00	7.00	54.00	3	45.0	5.0	W	•	•	0.03-0.07
EC-B3 07-08W08E58	7.00	8.00	8.00	58.00	3	45.0	5.0	W	•	•	0.03-0.08
EC-B3 08-09W08E58	8.00	8.00	9.00	58.00	3	45.0	5.0	W	•	•	0.03-0.09
EC-B3 09-10W10E66	9.00	10.00	10.00	66.00	3	45.0	5.0	W	•	•	0.03-0.09
EC-B3 10-11W10E66	10.00	10.00	11.00	66.00	3	45.0	5.0	W	•	•	0.03-0.10
EC-B3 12-12W12E73	12.00	12.00	12.00	73.00	3	45.0	5.0	W	•	•	0.04-0.11
EC-B3 14-14W14E75	14.00	14.00	14.00	75.00	3	45.0	5.0	W	•	•	0.04-0.12
EC-B3 16-16W16E82	16.00	16.00	16.00	82.00	3	45.0	5.0	W	•	•	0.05-0.13
EC-B3 18-18W18E84	18.00	18.00	18.00	84.00	3	45.0	5.0	W	•		0.05-0.13
EC-B3 20-20W20E92	20.00	20.00	20.00	92.00	3	45.0	5.0	W	•	•	0.05-0.13

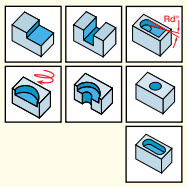
• For user guide, see pages 169-176
(1) Number of flutes
(2) Maximum ramping angle
(3) C-Cylindrical, W-Weldon

SOLIDMILL PREMIUM LINE

EC-E-3

3 Flute, 38° Helix Medium Length Solid Carbide Endmills





Designation	Dimensions								Tough ↔ Hard			Recommended Machining Data
	DC	DCONMS	APMX	OAL	NOF(1)	FHA	RMPX(2)	Shank(3)	IC08	IC300	IC900	f_z (mm/t)
EC010E025-3C03	1.00	3.00	2.50	38.00	3	38.0	5.0	C		•	•	0.01-0.01
EC015E04-3C04	1.50	4.00	4.00	50.00	3	38.0	5.0	C		•	•	0.01-0.02
EC025E07-3C03	2.50	3.00	7.00	38.00	3	38.0	5.0	C			•	0.01-0.03
EC030E10-3C03	3.00	3.00	10.00	38.00	3	38.0	5.0	C	•	•	•	0.01-0.04
EC030E10-3C06	3.00	6.00	10.00	57.00	3	38.0	5.0	C		•	•	0.01-0.04
EC035E12-3C04	3.50	4.00	12.00	50.00	3	38.0	5.0	C	•		•	0.01-0.04
EC040E12-3C04	4.00	4.00	12.00	50.00	3	38.0	5.0	C	•	•	•	0.02-0.05
EC040E12-3C06	4.00	6.00	12.00	57.00	3	38.0	5.0	C			•	0.02-0.05
EC045E14-3C06	4.50	6.00	14.00	57.00	3	38.0	5.0	C	•		•	0.02-0.05
EC050E14-3C05	5.00	5.00	14.00	50.00	3	38.0	5.0	C	•	•	•	0.02-0.06
EC050E14-3C06	5.00	6.00	14.00	57.00	3	38.0	5.0	C			•	0.02-0.06
EC050E14-3W06	5.00	6.00	14.00	57.00	3	38.0	5.0	W			•	0.02-0.06
EC060E16-3C06	6.00	6.00	16.00	57.00	3	38.0	5.0	C	•	•	•	0.03-0.07
EC060E16-3W06	6.00	6.00	16.00	57.00	3	38.0	5.0	W			•	0.03-0.07
EC070E20-3C07	7.00	7.00	20.00	60.00	3	38.0	5.0	C	•		•	0.03-0.08
EC080E20-3C08	8.00	8.00	20.00	63.00	3	38.0	5.0	C	•	•	•	0.03-0.09
EC080E20-3W08	8.00	8.00	20.00	63.00	3	38.0	5.0	W			•	0.03-0.09
EC100E22-3C10	10.00	10.00	22.00	72.00	3	38.0	5.0	C	•	•	•	0.03-0.10
EC100E22-3W10	10.00	10.00	22.00	72.00	3	38.0	5.0	W		•	•	0.03-0.10
EC120E25-3C12	12.00	12.00	25.00	83.00	3	38.0	5.0	C	•	•	•	0.04-0.11
EC120E25-3W12	12.00	12.00	25.00	83.00	3	38.0	5.0	W		•	•	0.04-0.11
EC140E25-3C14	14.00	14.00	25.00	83.00	3	38.0	5.0	C			•	0.04-0.12
EC140E25-3W14	14.00	14.00	25.00	83.00	3	38.0	5.0	W			•	0.04-0.12
EC160E32-3C16	16.00	16.00	32.00	92.00	3	38.0	5.0	C	•		•	0.05-0.13
EC160E32-3W16	16.00	16.00	32.00	92.00	3	38.0	5.0	W			•	0.05-0.13
EC180E32-3C18	18.00	18.00	32.00	92.00	3	38.0	5.0	C			•	0.05-0.13
EC180E32-3W18	18.00	18.00	32.00	92.00	3	38.0	5.0	W			•	0.05-0.13
EC200E38-3C20	20.00	20.00	38.00	104.00	3	38.0	5.0	C			•	0.05-0.13
EC200E38-3W20	20.00	20.00	38.00	104.00	3	38.0	5.0	W			•	0.05-0.13

• Multi-purpose endmill. • Suitable for deep slotting. • For user guide, see pages 169-176

(1) Number of flutes

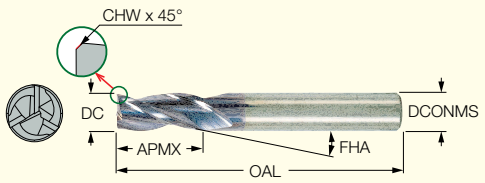
(2) Maximum ramping angle

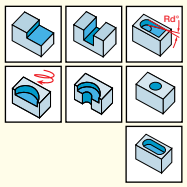
(3) C-Cylindrical, W-Weldon

SOLIDMILL PREMIUM LINE

ECC-E-3

3 Flute, 38 and 45° Helix Medium Length Slot / Drill Solid Carbide Endmills with Chamfered Corners





Designation	Dimensions									Tough ↔ Hard		Recommended Machining Data
	DC	DCONMS	APMX	OAL	NOF(1)	FHA	RMPX(2)	Shank(3)	CHW	IC300	IC900	f_z (mm/t)
ECC020B07-3C03	2.00	3.00	7.00	38.00	3	45.0	5.0	C	0.10	●		0.01-0.03
ECC025E07-3C03	2.50	3.00	7.00	38.00	3	38.0	5.0	C	0.10	●		0.01-0.03
ECC030E10-3C03	3.00	3.00	10.00	38.00	3	38.0	5.0	C	0.10	●	●	0.01-0.04
ECC035E12-3C04	3.50	4.00	12.00	50.00	3	38.0	5.0	C	0.10		●	0.01-0.04
ECC040E12-3C04	4.00	4.00	12.00	50.00	3	38.0	5.0	C	0.15	●	●	0.02-0.05
ECC050E14-3C05	5.00	5.00	14.00	50.00	3	38.0	5.0	C	0.15	●	●	0.02-0.06
ECC060E16-3C06	6.00	6.00	16.00	57.00	3	38.0	5.0	C	0.15	●	●	0.03-0.07
ECC060E16-3W06	6.00	6.00	16.00	57.00	3	38.0	5.0	W	0.15		●	0.03-0.07
ECC080E20-3C08	8.00	8.00	20.00	63.00	3	38.0	5.0	C	0.15	●	●	0.03-0.09
ECC080E20-3W08	8.00	8.00	20.00	63.00	3	38.0	5.0	W	0.15		●	0.03-0.09
ECC100E22-3C10	10.00	10.00	22.00	72.00	3	38.0	5.0	C	0.25	●	●	0.03-0.10
ECC100E22-3W10	10.00	10.00	22.00	72.00	3	38.0	5.0	W	0.25		●	0.03-0.10
ECC120E25-3C12	12.00	12.00	25.00	83.00	3	38.0	5.0	C	0.25	●	●	0.04-0.11
ECC120E25-3W12	12.00	12.00	25.00	83.00	3	38.0	5.0	W	0.25	●	●	0.04-0.11
ECC160E32-3C16	16.00	16.00	32.00	92.00	3	38.0	5.0	C	0.25		●	0.05-0.13
ECC160E32-3W16	16.00	16.00	32.00	92.00	3	38.0	5.0	W	0.25		●	0.05-0.13
ECC200E38-3C20	20.00	20.00	38.00	104.00	3	38.0	5.0	C	0.25		●	0.05-0.13
ECC200E38-3W20	20.00	20.00	38.00	104.00	3	38.0	5.0	W	0.25		●	0.05-0.13

• Multi-purpose endmill • Suitable for deep slotting • For user guide, see pages 169-176

(1) Number of flutes

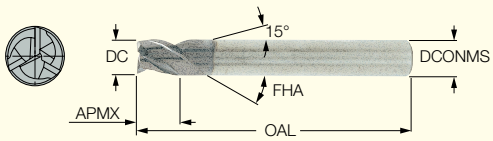
(2) Maximum ramping angle

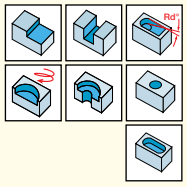
(3) C-Cylindrical, W-Weldon

SOLIDMILL PREMIUM LINE

ECU-E-3

3 Flute, 38° Helix Short Undersized Slot / Drill Solid Carbide Endmills





Designation	Dimensions								IC900	Recommended Machining Data
	DC	DCONMS	APMX	OAL	NOF(1)	FHA	RMPX(2)	Shank(3)		f_z (mm/t)
ECU028E04-3W06-57	2.80	6.00	4.00	57.00	3	38.0	5.0	W	●	0.01-0.04
ECU038E05-3W06-57	3.80	6.00	5.00	57.00	3	38.0	5.0	W	●	0.01-0.04
ECU048E06-3W06-57	4.80	6.00	6.00	57.00	3	38.0	5.0	W	●	0.02-0.05
ECU057E07-3W06-57	5.70	6.00	7.00	57.00	3	38.0	5.0	W	●	0.02-0.06
ECU067E08-3W08-63	6.70	8.00	8.00	63.00	3	38.0	5.0	W	●	0.03-0.07
ECU077E09-3W08-63	7.70	8.00	9.00	63.00	3	38.0	5.0	W	●	0.03-0.08
ECU097E11-3W10-72	9.70	10.00	11.00	72.00	3	38.0	5.0	W	●	0.03-0.09
ECU117E12-3W12-73	11.70	12.00	12.00	73.00	3	38.0	5.0	W	●	0.03-0.10
ECU137E16-3W14-83	13.70	14.00	14.00	83.00	3	38.0	5.0	W	●	0.04-0.11
ECU157E16-3W16-92	15.70	16.00	16.00	92.00	3	38.0	5.0	W	●	0.04-0.12
ECU177E18-3W18-92	17.70	18.00	18.00	92.00	3	38.0	5.0	W	●	0.05-0.13

• Undersized short design for keyholes • For user guide, see pages 169-176

(1) Number of flutes

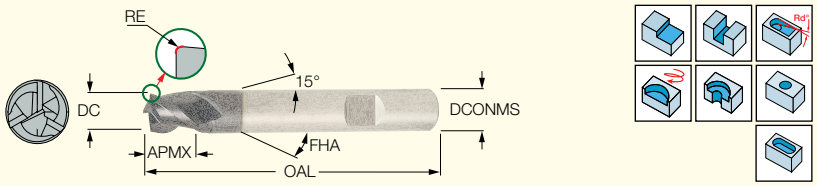
(2) Maximum ramping angle

(3) W-Weldon

SOLIDMILL PREMIUM LINE

ECU-E-3-R

3 Flute, 38° Helix Short Undersized Slot / Drill Solid Carbide Endmills with Various Radii According to DIN 6885



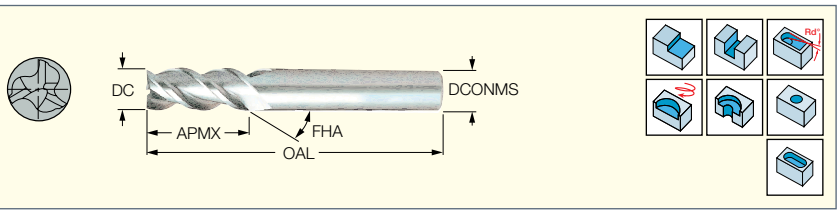
Designation	Dimensions									IC900	Recommended Machining Data
	DC	DCONMS	APMX	RE	OAL	NOF(1)	FHA	RMPX(2)	Shank(3)		f_z (mm/t)
ECU038E05-3W06R01L57	3.80	6.00	5.00	0.10	57.00	3	38.0	5.0	W	●	0.01-0.04
ECU048E06-3W06R02L57	4.80	6.00	6.00	0.20	57.00	3	38.0	5.0	W	●	0.02-0.05
ECU057E07-3W06R02L57	5.70	6.00	7.00	0.20	57.00	3	38.0	5.0	W	●	0.02-0.06
ECU077E09-3W08R02L63	7.70	8.00	9.00	0.20	63.00	3	38.0	5.0	W	●	0.03-0.08
ECU097E11-3W10R03L72	9.70	10.00	11.00	0.30	72.00	3	38.0	5.0	W	●	0.03-0.09
ECU117E12-3W12R03L83	11.70	12.00	12.00	0.30	83.00	3	38.0	5.0	W	●	0.03-0.10

• For user guide, see pages 169-176
(1) Number of flutes
(2) Maximum ramping angle
(3) W-Weldon

SOLIDMILL TEC LINE

EC-B3 (economical-medium)

Economical Type 3 Flute, 45° Helix, Center Cutting, Medium Length Solid Carbide Endmills



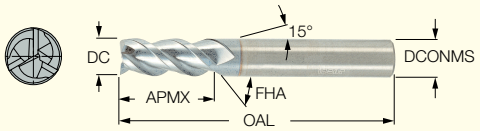
Designation	Dimensions								Tough ↔ Hard		Recommended Machining Data
	DC	DCONMS	APMX	OAL	NOF(1)	FHA	RMPX(2)	Shank(3)	IC08	IC900	f_z (mm/t)
EC-B3 03-08C06E50	3.00	6.00	8.00	50.00	3	45.0	5.0	C	●	●	0.01-0.04
EC-B3 04-11C06E50	4.00	6.00	11.00	50.00	3	45.0	5.0	C	●	●	0.02-0.05
EC-B3 05-13C06E50	5.00	6.00	13.00	50.00	3	45.0	5.0	C	●	●	0.02-0.06
EC-B3 06-13C06E50	6.00	6.00	13.00	50.00	3	45.0	5.0	C	●	●	0.03-0.07
EC-B3 08-19C08E63	8.00	8.00	19.00	63.00	3	45.0	5.0	C	●	●	0.03-0.09
EC-B3 10-22C10E72	10.00	10.00	22.00	72.00	3	45.0	5.0	C	●	●	0.03-0.10
EC-B3 12-26C12E73	12.00	12.00	26.00	73.00	3	45.0	5.0	C	●	●	0.04-0.11
EC-B3 14-26C14E75	14.00	14.00	26.00	75.00	3	45.0	5.0	C	●	●	0.04-0.12
EC-B3 16-25C16E75	16.00	16.00	25.00	75.00	3	45.0	5.0	C	●	●	0.05-0.13
EC-B3 20-32C20E100	20.00	20.00	32.00	100.00	3	45.0	5.0	C	●	●	0.05-0.13

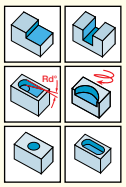
• For user guide, see pages 169-176
(1) Number of flutes
(2) Maximum ramping angle
(3) C-Cylindrical

SOLIDMILL PREMIUM LINE

EC-B-3

3 Flute, 45° Helix Medium Length Slot / Drill Solid Carbide Endmills





Designation	Dimensions								Tough ↔ Hard			Recommended Machining Data
	DC	DCONMS	APMX	OAL	NOF(1)	FHA	RMPX(2)	Shank(3)	IC08	IC300	IC900	f_z (mm/t)
EC020B07-3C03	2.00	3.00	7.00	38.00	3	45.0	5.0	C	●	●	●	0.01-0.03
EC020B07-3C06	2.00	6.00	7.00	57.00	3	45.0	5.0	C		●	●	0.01-0.03
EC025B07-3C03	2.50	3.00	7.00	38.00	3	45.0	5.0	C	●		●	0.01-0.03
EC030B10-3C03	3.00	3.00	10.00	38.00	3	45.0	5.0	C		●	●	0.01-0.04
EC030B10-3C06	3.00	6.00	10.00	57.00	3	45.0	5.0	C		●	●	0.01-0.04
EC040B12-3C04	4.00	4.00	12.00	50.00	3	45.0	5.0	C		●	●	0.02-0.05
EC040B12-3C06	4.00	6.00	12.00	57.00	3	45.0	5.0	C		●	●	0.02-0.05
EC050B14-3C05	5.00	5.00	14.00	50.00	3	45.0	5.0	C			●	0.02-0.06
EC050B14-3C06	5.00	6.00	14.00	57.00	3	45.0	5.0	C		●	●	0.02-0.06
EC060B16-3C06	6.00	6.00	16.00	57.00	3	45.0	5.0	C		●	●	0.03-0.07
EC060B16-3W06	6.00	6.00	16.00	57.00	3	45.0	5.0	W			●	0.03-0.07
EC070B16-3C07	7.00	7.00	16.00	60.00	3	45.0	5.0	C		●	●	0.03-0.08
EC080B20-3C08	8.00	8.00	20.00	63.00	3	45.0	5.0	C		●	●	0.03-0.09
EC080B20-3W08	8.00	8.00	20.00	63.00	3	45.0	5.0	W			●	0.03-0.09
EC090B20-3C09	9.00	9.00	20.00	67.00	3	45.0	5.0	C			●	0.03-0.09
EC100B22-3C10	10.00	10.00	22.00	72.00	3	45.0	5.0	C		●	●	0.03-0.10
EC100B22-3W10	10.00	10.00	22.00	72.00	3	45.0	5.0	W			●	0.03-0.10
EC120B25-3C12	12.00	12.00	25.00	83.00	3	45.0	5.0	C		●	●	0.04-0.11
EC120B25-3W12	12.00	12.00	25.00	83.00	3	45.0	5.0	W			●	0.04-0.11
EC140B25-3C14	14.00	14.00	25.00	83.00	3	45.0	5.0	C		●	●	0.04-0.12
EC140B25-3W14	14.00	14.00	25.00	83.00	3	45.0	5.0	W			●	0.04-0.12
EC160B32-3C16	16.00	16.00	32.00	92.00	3	45.0	5.0	C			●	0.05-0.13
EC160B32-3W16	16.00	16.00	32.00	92.00	3	45.0	5.0	W			●	0.05-0.13
EC180B32-3C18	18.00	18.00	32.00	92.00	3	45.0	5.0	C			●	0.05-0.13
EC180B32-3W18	18.00	18.00	32.00	92.00	3	45.0	5.0	W			●	0.05-0.13
EC200B38-3C20	20.00	20.00	38.00	104.00	3	45.0	5.0	C		●	●	0.05-0.13
EC200B38-3W20	20.00	20.00	38.00	104.00	3	45.0	5.0	W			●	0.05-0.13

• Excellent for deep slotting and shouldering. • For user guide, see pages 169-176

(1) Number of flutes

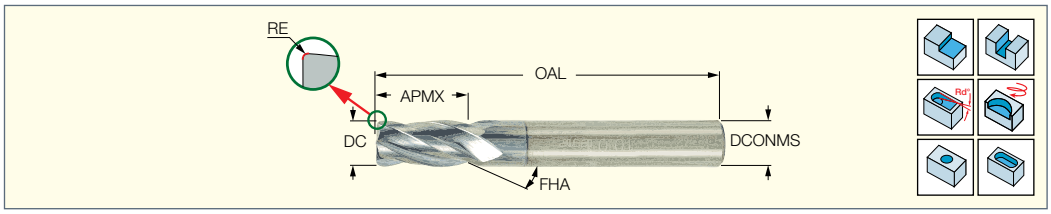
(2) Maximum ramping angle

(3) C-Cylindrical, W-Weldon

SOLIDMILL PREMIUM LINE

EC-B-3R

3 Flute, 45° Helix Medium Length Slot / Drill Solid Carbide Endmills with Various Radii



Designation	Dimensions									IC900	Recommended Machining Data
	DC	DCONMS	APMX	OAL	NOF(1)	FHA	RMPX(2)	Shank(3)	RE		f_z (mm/t)
EC060B13-3C06R0.5	6.00	6.00	13.00	57.00	3	45.0	5.0	C	0.50	•	0.03-0.07
EC060B13-3C06R1.0	6.00	6.00	13.00	57.00	3	45.0	5.0	C	1.00	•	0.03-0.07
EC080B20-3C08R0.5	8.00	8.00	20.00	63.00	3	45.0	5.0	C	0.50	•	0.03-0.09
EC080B20-3C08R1	8.00	8.00	20.00	63.00	3	45.0	5.0	C	1.00	•	0.03-0.09
EC080B20-3C08R1.5	8.00	8.00	20.00	63.00	3	45.0	5.0	C	1.50	•	0.03-0.09
EC080B20-3C08R2	8.00	8.00	20.00	63.00	3	45.0	5.0	C	2.00	•	0.03-0.09
EC100B22-3C10R0.5	10.00	10.00	22.00	72.00	3	45.0	5.0	C	0.50	•	0.03-0.10
EC100B22-3C10R1	10.00	10.00	22.00	72.00	3	45.0	5.0	C	1.00	•	0.03-0.10
EC100B22-3C10R1.5	10.00	10.00	22.00	72.00	3	45.0	5.0	C	1.50	•	0.03-0.10
EC100B22-3C10R2	10.00	10.00	22.00	72.00	3	45.0	5.0	C	2.00	•	0.03-0.10
EC100B22-3C10R3	10.00	10.00	22.00	72.00	3	45.0	5.0	C	3.00	•	0.03-0.10
EC120B25-3C12R0.5	12.00	12.00	25.00	83.00	3	45.0	5.0	C	0.50	•	0.04-0.11
EC120B25-3C12R1	12.00	12.00	25.00	83.00	3	45.0	5.0	C	1.00	•	0.04-0.11
EC120B25-3C12R1.5	12.00	12.00	25.00	83.00	3	45.0	5.0	C	1.50	•	0.04-0.11
EC120B25-3C12R2	12.00	12.00	25.00	83.00	3	45.0	5.0	C	2.00	•	0.04-0.11
EC120B25-3C12R3	12.00	12.00	25.00	83.00	3	45.0	5.0	C	3.00	•	0.04-0.11
EC160B32-3C16R0.5	16.00	16.00	32.00	92.00	3	45.0	5.0	C	0.50	•	0.05-0.13
EC160B32-3C16R1	16.00	16.00	32.00	92.00	3	45.0	5.0	C	1.00	•	0.05-0.13
EC160B32-3C16R2	16.00	16.00	32.00	92.00	3	45.0	5.0	C	2.00	•	0.05-0.13
EC160B32-3C16R3	16.00	16.00	32.00	92.00	3	45.0	5.0	C	3.00	•	0.05-0.13
EC200B38-3C20R0.5	20.00	20.00	38.00	104.00	3	45.0	5.0	C	0.50	•	0.05-0.13
EC200B38-3C20R1	20.00	20.00	38.00	104.00	3	45.0	5.0	C	1.00	•	0.05-0.13
EC200B38-3C20R2	20.00	20.00	38.00	104.00	3	45.0	5.0	C	2.00	•	0.05-0.13
EC200B38-3C20R3	20.00	20.00	38.00	104.00	3	45.0	5.0	C	3.00	•	0.05-0.13
EC200B38-3C20R4	20.00	20.00	38.00	104.00	3	45.0	5.0	C	4.00	•	0.05-0.13

• For user guide, see pages 169-176

(1) Number of flutes

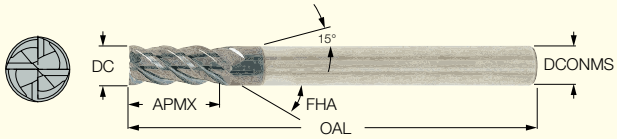
(2) Maximum ramping angle

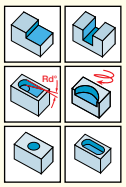
(3) C-Cylindrical

SOLIDMILL PREMIUM LINE

EC-B-4

4 Flute, 45° Helix Medium Length Solid Carbide Endmills





Designation	Dimensions								IC900	Recommended Machining Data
	DC	DCONMS	APMX	OAL	NOF[1]	FHA	RMPX[2]	Shank[3]		f_z (mm/t)
EC020B07-4C03	2.00	3.00	7.00	38.00	4	45.0	5.0	C	•	0.01-0.03
EC020B07-4C06	2.00	6.00	7.00	57.00	4	45.0	5.0	C	•	0.01-0.03
EC030B10-4C03	3.00	3.00	10.00	38.00	4	45.0	5.0	C	•	0.01-0.04
EC030B10-4C06	3.00	6.00	10.00	57.00	4	45.0	5.0	C	•	0.01-0.04
EC040B12-4C04	4.00	4.00	12.00	50.00	4	45.0	5.0	C	•	0.02-0.05
EC040B12-4C06	4.00	6.00	12.00	57.00	4	45.0	5.0	C	•	0.02-0.05
EC050B14-4C05	5.00	5.00	14.00	50.00	4	45.0	5.0	C	•	0.02-0.06
EC050B14-4C06	5.00	6.00	14.00	57.00	4	45.0	5.0	C	•	0.02-0.06
EC060B16-4C06	6.00	6.00	16.00	57.00	4	45.0	5.0	C	•	0.03-0.07
EC060B16-4W06	6.00	6.00	16.00	57.00	4	45.0	5.0	W	•	0.03-0.07
EC070B16-4C07	7.00	7.00	16.00	60.00	4	45.0	5.0	C	•	0.03-0.08
EC080B20-4C08	8.00	8.00	20.00	63.00	4	45.0	5.0	C	•	0.03-0.09
EC080B20-4W08	8.00	8.00	20.00	63.00	4	45.0	5.0	W	•	0.03-0.09
EC090B20-4C09	9.00	9.00	20.00	67.00	4	45.0	5.0	C	•	0.03-0.09
EC100B22-4C10	10.00	10.00	22.00	72.00	4	45.0	5.0	C	•	0.03-0.10
EC100B22-4W10	10.00	10.00	22.00	72.00	4	45.0	5.0	W	•	0.03-0.10
EC120B25-4C12	12.00	12.00	25.00	83.00	4	45.0	5.0	C	•	0.04-0.11
EC120B25-4W12	12.00	12.00	25.00	83.00	4	45.0	5.0	W	•	0.04-0.11
EC140B25-4C14	14.00	14.00	25.00	83.00	4	45.0	5.0	C	•	0.04-0.12
EC160B32-4C16	16.00	16.00	32.00	92.00	4	45.0	5.0	C	•	0.05-0.13
EC160B32-4W16	16.00	16.00	32.00	92.00	4	45.0	5.0	W	•	0.05-0.13
EC180B32-4C18	18.00	18.00	32.00	92.00	4	45.0	5.0	C	•	0.05-0.13
EC200B38-4C20	20.00	20.00	38.00	104.00	4	45.0	5.0	C	•	0.05-0.13
EC200B38-4W20	20.00	20.00	38.00	104.00	4	45.0	5.0	W	•	0.05-0.13

• For user guide, see pages 169-176

(1) Number of flutes

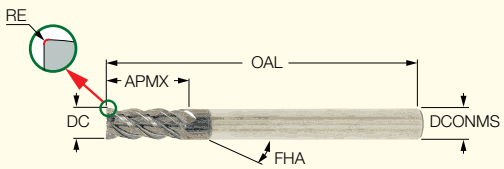
(2) Maximum ramping angle

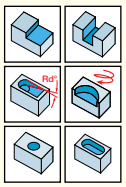
(3) C-Cylindrical, W-Weldon

SOLIDMILL PREMIUM LINE

EC-B-4R

4 Flute, 45° Helix Medium Length Solid Carbide Endmills with Various Radii





Designation	Dimensions									IC900	Recommended Machining Data
	DC	DCONMS	APMX	OAL	NOF(1)	FHA	RMPX(2)	Shank(3)	RE		f_z (mm/t)
EC060B16-4C06R0.5	6.00	6.00	16.00	57.00	4	45.0	5.0	C	0.50	•	0.03-0.07
EC060B16-4C06R1	6.00	6.00	16.00	57.00	4	45.0	5.0	C	1.00	•	0.03-0.07
EC080B20-4C08R0.5	8.00	8.00	20.00	63.00	4	45.0	5.0	C	0.50	•	0.03-0.09
EC080B20-4C08R1	8.00	8.00	20.00	63.00	4	45.0	5.0	C	1.00	•	0.03-0.09
EC080B20-4C08R1.5	8.00	8.00	20.00	63.00	4	45.0	5.0	C	1.50	•	0.03-0.09
EC080B20-4C08R2	8.00	8.00	20.00	63.00	4	45.0	5.0	C	2.00	•	0.03-0.09
EC100B22-4C10R0.5	10.00	10.00	22.00	72.00	4	45.0	5.0	C	0.50	•	0.03-0.10
EC100B22-4C10R1	10.00	10.00	22.00	72.00	4	45.0	5.0	C	1.00	•	0.03-0.10
EC100B22-4C10R1.5	10.00	10.00	22.00	72.00	4	45.0	5.0	C	1.50	•	0.03-0.10
EC100B22-4C10R2	10.00	10.00	22.00	72.00	4	45.0	5.0	C	2.00	•	0.03-0.10
EC100B22-4C10R3	10.00	10.00	22.00	72.00	4	45.0	5.0	C	3.00	•	0.03-0.10
EC120B25-4C12R0.5	12.00	12.00	25.00	83.00	4	45.0	5.0	C	0.50	•	0.04-0.11
EC120B25-4C12R1	12.00	12.00	25.00	83.00	4	45.0	5.0	C	1.00	•	0.04-0.11
EC120B25-4C12R1.5	12.00	12.00	25.00	83.00	4	45.0	5.0	C	1.50	•	0.04-0.11
EC120B25-4C12R2	12.00	12.00	25.00	83.00	4	45.0	5.0	C	2.00	•	0.04-0.11
EC120B25-4C12R3	12.00	12.00	25.00	83.00	4	45.0	5.0	C	3.00	•	0.04-0.11
EC160B32-4C16R0.5	16.00	16.00	32.00	92.00	4	45.0	5.0	C	0.50	•	0.05-0.13
EC160B32-4C16R1	16.00	16.00	32.00	92.00	4	45.0	5.0	C	1.00	•	0.05-0.13
EC160B32-4C16R1.5	16.00	16.00	32.00	92.00	4	45.0	5.0	C	1.50	•	0.05-0.13
EC160B32-4C16R2	16.00	16.00	32.00	92.00	4	45.0	5.0	C	2.00	•	0.05-0.13
EC160B32-4C16R2.5	16.00	16.00	32.00	92.00	4	45.0	5.0	C	2.50	•	0.05-0.13
EC160B32-4C16R3	16.00	16.00	32.00	92.00	4	45.0	5.0	C	3.00	•	0.05-0.13
EC200B38-4C20R0.5	20.00	20.00	38.00	104.00	4	45.0	5.0	C	0.50	•	0.05-0.13
EC200B38-4C20R1	20.00	20.00	38.00	104.00	4	45.0	5.0	C	1.00	•	0.05-0.13
EC200B38-4C20R1.5	20.00	20.00	38.00	104.00	4	45.0	5.0	C	1.50	•	0.05-0.13
EC200B38-4C20R2	20.00	20.00	38.00	104.00	4	45.0	5.0	C	2.00	•	0.05-0.13
EC200B38-4C20R2.5	20.00	20.00	38.00	104.00	4	45.0	5.0	C	2.50	•	0.05-0.13
EC200B38-4C20R3	20.00	20.00	38.00	104.00	4	45.0	5.0	C	3.00	•	0.05-0.13
EC200B38-4C20R4	20.00	20.00	38.00	104.00	4	45.0	5.0	C	4.00	•	0.05-0.13
EC200B38-4C20R5	20.00	20.00	38.00	104.00	4	45.0	5.0	C	5.00	•	0.05-0.13

• For user guide, see pages 169-176

(1) Number of flutes

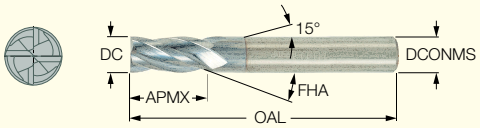
(2) Maximum ramping angle

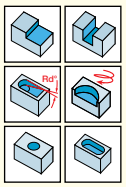
(3) C-Cylindrical

SOLIDMILL PREMIUM LINE

EC-A-4

4 Flute, 30° Helix Medium Length Solid Carbide Endmills





Designation	Dimensions								Tough ↔ Hard			Recommended Machining Data
	DC	DCONMS	APMX	OAL	NOF(1)	FHA	RMPX(2)	Shank(3)	IC08	IC300	IC900	f_z (mm/t)
EC020A07-4C03	2.00	3.00	7.00	38.00	4	30.0	5.0	C		•	•	0.01-0.03
EC025A07-4C03	2.50	3.00	7.00	38.00	4	30.0	5.0	C			•	0.01-0.03
EC030A10-4C03	3.00	3.00	10.00	38.00	4	30.0	5.0	C		•	•	0.01-0.04
EC030A10-4C06	3.00	6.00	10.00	57.00	4	30.0	5.0	C			•	0.01-0.04
EC035A12-4C04	3.50	4.00	12.00	50.00	4	30.0	5.0	C			•	0.01-0.04
EC040A12-4C04	4.00	4.00	12.00	50.00	4	30.0	5.0	C		•	•	0.02-0.05
EC040A12-4C06	4.00	6.00	12.00	57.00	4	30.0	5.0	C			•	0.02-0.05
EC045A14-4C06	4.50	6.00	14.00	57.00	4	30.0	5.0	C			•	0.02-0.05
EC050A14-4C05	5.00	5.00	14.00	50.00	4	30.0	5.0	C		•	•	0.02-0.06
EC050A14-4C06	5.00	6.00	14.00	57.00	4	30.0	5.0	C			•	0.02-0.06
EC060A16-4C06	6.00	6.00	16.00	57.00	4	30.0	5.0	C	•	•	•	0.03-0.07
EC060A16-4W06	6.00	6.00	16.00	57.00	4	30.0	5.0	W			•	0.03-0.07
EC070A20-4C07	7.00	7.00	20.00	60.00	4	30.0	5.0	C	•		•	0.03-0.08
EC075A20-4C08	7.50	8.00	20.00	63.00	4	30.0	5.0	C			•	0.03-0.08
EC080A20-4C08	8.00	8.00	20.00	63.00	4	30.0	5.0	C	•	•	•	0.03-0.09
EC080A20-4W08	8.00	8.00	20.00	63.00	4	30.0	5.0	W			•	0.03-0.09
EC100A22-4C10	10.00	10.00	22.00	72.00	4	30.0	5.0	C	•	•	•	0.03-0.10
EC100A22-4W10	10.00	10.00	22.00	72.00	4	30.0	5.0	W			•	0.03-0.10
EC120A25-4C12	12.00	12.00	25.00	83.00	4	30.0	5.0	C	•	•	•	0.04-0.11
EC120A25-4W12	12.00	12.00	25.00	83.00	4	30.0	5.0	W			•	0.04-0.11
EC140A25-4C14	14.00	14.00	25.00	83.00	4	30.0	5.0	C	•		•	0.04-0.12
EC140A32-4C14	14.00	14.00	32.00	83.00	4	30.0	5.0	C			•	0.04-0.12
EC160A32-4C16	16.00	16.00	32.00	92.00	4	30.0	5.0	C	•	•	•	0.05-0.13
EC160A32-4W16	16.00	16.00	32.00	92.00	4	30.0	5.0	W			•	0.05-0.13
EC160A40-4C16-92	16.00	16.00	40.00	92.00	4	30.0	5.0	C			•	0.05-0.13
EC180A32-4C18	18.00	18.00	32.00	92.00	4	30.0	5.0	C			•	0.05-0.13
EC200A38-4C20	20.00	20.00	38.00	104.00	4	30.0	5.0	C			•	0.05-0.13
EC200A38-4W20	20.00	20.00	38.00	104.00	4	30.0	5.0	W			•	0.05-0.13

• For user guide, see pages 169-176

(1) Number of flutes

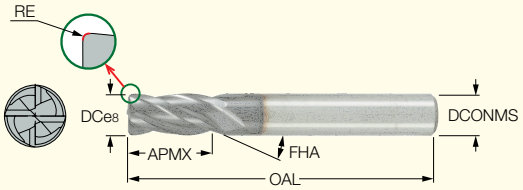
(2) Maximum ramping angle

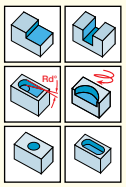
(3) C-Cylindrical, W-Weldon

SOLIDMILL PREMIUM LINE

EC-A-4R

4 Flute, 30° Helix Medium Length Solid Carbide Endmills with Various Radii





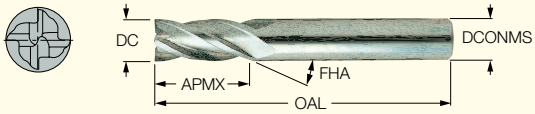
Designation	Dimensions									IC900	Recommended Machining Data
	DC	DCONMS	APMX	OAL	NOF(1)	FHA	RMPX(2)	Shank(3)	RE		f_z (mm/t)
EC020A10-4C05R0.4	2.00	5.00	10.00	50.00	4	30.0	5.0	C	0.40	•	0.01-0.04
EC030A10-4C03R0.6	3.00	3.00	10.00	38.00	4	30.0	5.0	C	0.60	•	0.01-0.04
EC030A10-4C03R0.8	3.00	3.00	10.00	38.00	4	30.0	5.0	C	0.80	•	0.01-0.04
EC030A10-4C04R0.4	3.00	4.00	10.00	50.00	4	30.0	5.0	C	0.40	•	0.01-0.04
EC035A12-4C04R0.4	3.50	4.00	12.00	50.00	4	30.0	5.0	C	0.40	•	0.01-0.04
EC040A07-4C04R0.4	4.00	4.00	7.00	50.00	4	30.0	5.0	C	0.40	•	0.02-0.05
EC040A10-4C04R1.0	4.00	4.00	10.00	50.00	4	30.0	5.0	C	1.00	•	0.02-0.05
EC040A12-4C04R0.4	4.00	4.00	12.00	50.00	4	30.0	5.0	C	0.40	•	0.02-0.05
EC040A12-4C04R0.8	4.00	4.00	12.00	50.00	4	30.0	5.0	C	0.80	•	0.02-0.05
EC050A14-4C05R0.5	5.00	5.00	14.00	50.00	4	30.0	5.0	C	0.50	•	0.02-0.06
EC050A20-4C05R0.8	5.00	5.00	20.00	50.00	4	30.0	5.0	C	0.80	•	0.02-0.06
EC060A16-4C06R0.4	6.00	6.00	16.00	57.00	4	30.0	5.0	C	0.40	•	0.03-0.07
EC060A16-4C06R0.8	6.00	6.00	16.00	57.00	4	30.0	5.0	C	0.80	•	0.03-0.07
EC080A20-4C08R0.8	8.00	8.00	20.00	63.00	4	30.0	5.0	C	0.80	•	0.03-0.09

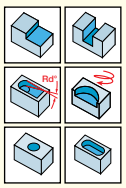
• For user guide, see pages 169-176
(1) Number of flutes
(2) Maximum ramping angle
(3) C-Cylindrical

SOLIDMILL TEC LINE

EC-A4 (economical-medium)

Economical Type 4 Flute, 30° Helix, Center Cutting, Medium Length Solid Carbide Endmills





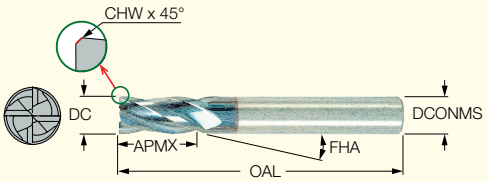
Designation	Dimensions								Tough ↔ Hard		Recommended Machining Data
	DC	DCONMS	APMX	OAL	NOF(1)	FHA	RMPX(2)	Shank(3)	IC08	IC900	f_z (mm/t)
EC-A4 02-08C02E32	2.00	2.00	8.00	32.00	4	30.0	5.0	C	•	•	0.01-0.03
EC-A4 025-08C025E32	2.50	2.50	8.00	32.00	4	30.0	5.0	C	•	•	0.01-0.03
EC-A4 03-12C03E38	3.00	3.00	12.00	38.00	4	30.0	5.0	C	•	•	0.01-0.04
EC-A4 035-12C035E32	3.50	3.50	12.00	32.00	4	30.0	5.0	C	•		0.01-0.04
EC-A4 04-12C04E50	4.00	4.00	12.00	50.00	4	30.0	5.0	C	•	•	0.02-0.05
EC-A4 05-14C05E50	5.00	5.00	14.00	50.00	4	30.0	5.0	C	•	•	0.02-0.06
EC-A4 055-16C055E50	5.50	5.50	16.00	50.00	4	30.0	5.0	C	•	•	0.02-0.06
EC-A4 06-16C06E50	6.00	6.00	16.00	50.00	4	30.0	5.0	C	•	•	0.03-0.07
EC-A4 07-20C07E60	7.00	7.00	20.00	60.00	4	30.0	5.0	C	•	•	0.03-0.08
EC-A4 08-20C08E63	8.00	8.00	20.00	63.00	4	30.0	5.0	C	•	•	0.03-0.09
EC-A4 09-20C09E60	9.00	9.00	20.00	60.00	4	30.0	5.0	C	•	•	0.03-0.09
EC-A4 10-22C10E72	10.00	10.00	22.00	72.00	4	30.0	5.0	C	•	•	0.03-0.10
EC-A4 12-22C12E73	12.00	12.00	22.00	73.00	4	30.0	5.0	C	•	•	0.04-0.11
EC-A4 14-25C14E83	14.00	14.00	25.00	83.00	4	30.0	5.0	C	•	•	0.04-0.12
EC-A4 16-25C16E82	16.00	16.00	25.00	82.00	4	30.0	5.0	C	•	•	0.05-0.13
EC-A4 20-32C20E104	20.00	20.00	32.00	104.00	4	30.0	5.0	C	•	•	0.05-0.13

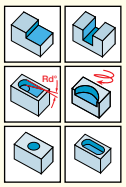
• For user guide, see pages 169-176
(1) Number of flutes
(2) Maximum ramping angle
(3) C-Cylindrical

SOLIDMILL PREMIUM LINE

ECC-A-4

4 Flute, 30° Helix Medium Length Solid Carbide Endmills with Chamfered Corners





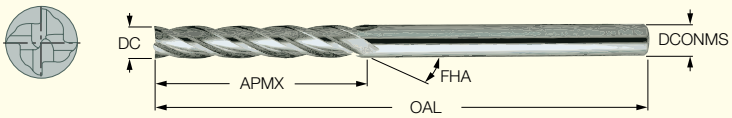
Designation	Dimensions									Tough ↔ Hard		Recommended Machining Data
	DC	DCONMS	APMX	OAL	NOF(1)	FHA	RMPX(2)	Shank(3)	CHW	IC300	IC900	f_z (mm/t)
ECC020B07-4C03	2.00	3.00	7.00	38.00	4	45.0	5.0	C	0.10		•	0.01-0.03
ECC025A07-4C03	2.50	3.00	7.00	38.00	4	30.0	5.0	C	0.10		•	0.01-0.03
ECC030A10-4C03	3.00	3.00	10.00	38.00	4	30.0	5.0	C	0.10		•	0.01-0.04
ECC035A12-4C04	3.50	4.00	12.00	50.00	4	30.0	5.0	C	0.10		•	0.01-0.04
ECC040A12-4C04	4.00	4.00	12.00	50.00	4	30.0	5.0	C	0.15	•	•	0.02-0.05
ECC050A14-4C05	5.00	5.00	14.00	50.00	4	30.0	5.0	C	0.15		•	0.02-0.06
ECC060A16-4C06	6.00	6.00	16.00	57.00	4	30.0	5.0	C	0.15		•	0.03-0.07
ECC080A20-4C08	8.00	8.00	20.00	63.00	4	30.0	5.0	C	0.15	•	•	0.03-0.09
ECC080A20-4W08	8.00	8.00	20.00	63.00	4	30.0	5.0	W	0.15		•	0.03-0.09
ECC100A22-4C10	10.00	10.00	22.00	72.00	4	30.0	5.0	C	0.25		•	0.03-0.10
ECC100A22-4W10	10.00	10.00	22.00	72.00	4	30.0	5.0	W	0.25		•	0.03-0.10
ECC120A25-4C12	12.00	12.00	25.00	83.00	4	30.0	5.0	C	0.25		•	0.04-0.11
ECC120A25-4W12	12.00	12.00	25.00	83.00	4	30.0	5.0	W	0.25		•	0.04-0.11
ECC160A32-4C16	16.00	16.00	32.00	92.00	4	30.0	5.0	C	0.25		•	0.05-0.13
ECC160A32-4W16	16.00	16.00	32.00	92.00	4	30.0	5.0	W	0.25		•	0.05-0.13
ECC200A38 4W20	20.00	20.00	38.00	104.00	4	30.0	5.0	W	0.25		•	0.05-0.13
ECC200A38-4C20	20.00	20.00	38.00	104.00	4	30.0	5.0	C	0.25		•	0.05-0.13

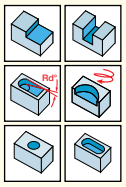
• For user guide, see pages 169-176
(1) Number of flutes
(2) Maximum ramping angle
(3) C-Cylindrical, W-Weldon

SOLIDMILL TEC LINE

EC-A4(economical-extra long)

Economical Type 4 Flute, 30° Helix, Center Cutting, Extra Long Solid Carbide Endmills





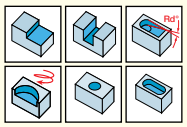
Designation	Dimensions								Tough ↔ Hard		Recommended Machining Data
	DC	DCONMS	APMX	OAL	NOF(1)	FHA	RMPX(2)	Shank(3)	IC08	IC900	f_z (mm/t)
EC-A4 03-30C03E75	3.00	3.00	30.00	75.00	4	30.0	5.0	C	•	•	0.01-0.04
EC-A4 04-30C04E75	4.00	4.00	30.00	75.00	4	30.0	5.0	C	•	•	0.02-0.05
EC-A4 05-40C05E100	5.00	5.00	40.00	100.00	4	30.0	5.0	C	•	•	0.02-0.06
EC-A4 06-50C06E150	6.00	6.00	50.00	150.00	4	30.0	5.0	C	•	•	0.03-0.07
EC-A4 08-50C08E150	8.00	8.00	50.00	150.00	4	30.0	5.0	C	•	•	0.03-0.09
EC-A4 10-60C10E150	10.00	10.00	60.00	150.00	4	30.0	5.0	C	•	•	0.03-0.10
EC-A4 12-75C12E150	12.00	12.00	75.00	150.00	4	30.0	5.0	C	•	•	0.04-0.11
EC-A4 14-65C14E150	14.00	14.00	65.00	150.00	4	30.0	5.0	C	•	•	0.04-0.12
EC-A4 16-65C16E150	16.00	16.00	65.00	150.00	4	30.0	5.0	C	•	•	0.05-0.13
EC-A4 18-65C18E150	18.00	18.00	65.00	150.00	4	30.0	5.0	C	•	•	0.05-0.13
EC-A4 20-65C20E150	20.00	20.00	65.00	150.00	4	30.0	5.0	C	•	•	0.05-0.13

• For user guide, see pages 169-176
(1) Number of flutes
(2) Maximum ramping angle
(3) C-Cylindrical

SOLIDMILL PREMIUM LINE

EC-A2-R (rib processing)

2 Flute, 30° Helix and Corner Radii Solid Carbide Endmills for Rib Processing on Hard Materials up to 65 HRC



HARD MATERIALS

Designation	Dimensions DC	DCONMS	APMX	RE	LU	OAL	DN	NOF(1)	FHA	Shank(2)	IC702	Recommended Machining Data f_z (mm/t)
EC-A2 005-007/1.5C4R05H45	0.50	4.00	0.70	0.05	1.5	45.00	0.45	2	30.0	C	•	0.0010-0.0020
EC-A2 005-007/2.5C4R05H45	0.50	4.00	0.70	0.05	2.5	45.00	0.45	2	30.0	C	•	0.0010-0.0020
EC-A2 005-007/4C4R05H45	0.50	4.00	0.70	0.05	4.0	45.00	0.45	2	30.0	C	•	0.0010-0.0020
EC-A2 006-009/2C4R.1H45	0.60	4.00	0.90	0.10	2.0	45.00	0.55	2	30.0	C	•	0.0010-0.0020
EC-A2 006-009/2C4R05H45	0.60	4.00	0.90	0.05	2.0	45.00	0.55	2	30.0	C	•	0.0010-0.0020
EC-A2 006-009/3C4R05H45	0.60	4.00	0.90	0.05	3.0	45.00	0.55	2	30.0	C	•	0.0010-0.0020
EC-A2 006-009/4C4R05H45	0.60	4.00	0.90	0.05	4.0	45.00	0.55	2	30.0	C	•	0.0010-0.0020
EC-A2 007-010/4C4R.1H45	0.70	4.00	1.00	0.10	4.0	45.00	0.65	2	30.0	C	•	0.0010-0.0030
EC-A2 008-012/2C4R.1H45	0.80	4.00	1.20	0.10	2.0	45.00	0.75	2	30.0	C	•	0.0010-0.0030
EC-A2 008-012/4C4R.1H45	0.80	4.00	1.20	0.10	4.0	45.00	0.75	2	30.0	C	•	0.0010-0.0030
EC-A2 008-012/6C4R.1H45	0.80	4.00	1.20	0.10	6.0	45.00	0.75	2	30.0	C	•	0.0010-0.0030
EC-A2 010-015/4C6R.1H50	1.00	6.00	1.50	0.10	4.0	50.00	0.95	2	30.0	C	•	0.0020-0.0060
EC-A2 010-015/4C6R.2H50	1.00	6.00	1.50	0.20	4.0	50.00	0.95	2	30.0	C	•	0.0020-0.0060
EC-A2 010-015/4C6R.3H50	1.00	6.00	1.50	0.30	4.0	50.00	0.95	2	30.0	C	•	0.0020-0.0060
EC-A2 010-015/6C6R.1H50	1.00	6.00	1.50	0.10	6.0	50.00	0.95	2	30.0	C	•	0.0020-0.0060
EC-A2 010-015/6C6R.2H50	1.00	6.00	1.50	0.20	6.0	50.00	0.95	2	30.0	C	•	0.0020-0.0060
EC-A2 010-015/6C6R.3H50	1.00	6.00	1.50	0.30	6.0	50.00	0.95	2	30.0	C	•	0.0020-0.0060
EC-A2 010-015/8C6R.2H50	1.00	6.00	1.50	0.20	8.0	50.00	0.95	2	30.0	C	•	0.0020-0.0060
EC-A2 010-015/8C6R.3H50	1.00	6.00	1.50	0.30	8.0	50.00	0.95	2	30.0	C	•	0.0020-0.0060
EC-A2 015-025/10C6R.2H50	1.50	6.00	2.50	0.20	10.0	50.00	1.45	2	30.0	C	•	0.0030-0.0080
EC-A2 015-025/12C6R.2H50	1.50	6.00	2.50	0.20	12.0	50.00	1.45	2	30.0	C	•	0.0030-0.0080
EC-A2 015-025/4C6R.2H50	1.50	6.00	2.50	0.20	4.0	50.00	1.45	2	30.0	C	•	0.0030-0.0080
EC-A2 015-025/4C6R.3H50	1.50	6.00	2.50	0.30	4.0	50.00	1.45	2	30.0	C	•	0.0030-0.0080
EC-A2 015-025/6C6R.2H50	1.50	6.00	2.50	0.20	6.0	50.00	1.45	2	30.0	C	•	0.0030-0.0080
EC-A2 015-025/6C6R.3H50	1.50	6.00	2.50	0.30	6.0	50.00	1.45	2	30.0	C	•	0.0030-0.0080
EC-A2 015-025/8C6R.2H50	1.50	6.00	2.50	0.20	8.0	50.00	1.45	2	30.0	C	•	0.0030-0.0080
EC-A2 015-025/8C6R.3H50	1.50	6.00	2.50	0.30	8.0	50.00	1.45	2	30.0	C	•	0.0030-0.0080
EC-A2 020-030/10C6R.2H55	2.00	6.00	3.00	0.20	10.0	55.00	1.95	2	30.0	C	•	0.0040-0.0100
EC-A2 020-030/10C6R.3H55	2.00	6.00	3.00	0.30	10.0	55.00	1.95	2	30.0	C	•	0.0040-0.0100
EC-A2 020-030/10C6R.5H55	2.00	6.00	3.00	0.50	10.0	55.00	1.95	2	30.0	C	•	0.0040-0.0100
EC-A2 020-030/12C6R.2H55	2.00	6.00	3.00	0.20	12.0	55.00	1.95	2	30.0	C	•	0.0040-0.0100
EC-A2 020-030/12C6R.3H55	2.00	6.00	3.00	0.30	12.0	55.00	1.95	2	30.0	C	•	0.0040-0.0100
EC-A2 020-030/12C6R.5H55	2.00	6.00	3.00	0.50	12.0	55.00	1.95	2	30.0	C	•	0.0040-0.0100
EC-A2 020-030/16C6R.3H55	2.00	6.00	3.00	0.30	16.0	55.00	1.95	2	30.0	C	•	0.0040-0.0100
EC-A2 020-030/6C6R.2H50	2.00	6.00	3.00	0.20	6.0	50.00	1.95	2	30.0	C	•	0.0040-0.0100
EC-A2 020-030/6C6R.3H50	2.00	6.00	3.00	0.30	6.0	50.00	1.95	2	30.0	C	•	0.0040-0.0100
EC-A2 020-030/6C6R.5H50	2.00	6.00	3.00	0.50	6.0	50.00	1.95	2	30.0	C	•	0.0040-0.0100
EC-A2 020-030/8C6R.2H50	2.00	6.00	3.00	0.20	8.0	50.00	1.95	2	30.0	C	•	0.0040-0.0100
EC-A2 020-030/8C6R.3H50	2.00	6.00	3.00	0.30	8.0	50.00	1.95	2	30.0	C	•	0.0040-0.0100
EC-A2 030-040/10C6R.2H55	3.00	6.00	4.00	0.20	10.0	55.00	2.85	2	30.0	C	•	0.0050-0.0150
EC-A2 030-040/10C6R.3H55	3.00	6.00	4.00	0.30	10.0	55.00	2.85	2	30.0	C	•	0.0050-0.0150
EC-A2 030-040/10C6R.5H55	3.00	6.00	4.00	0.50	10.0	55.00	2.85	2	30.0	C	•	0.0050-0.0150
EC-A2 030-040/12C6R.2H55	3.00	6.00	4.00	0.20	12.0	55.00	2.85	2	30.0	C	•	0.0050-0.0150
EC-A2 030-040/12C6R.3H55	3.00	6.00	4.00	0.30	12.0	55.00	2.85	2	30.0	C	•	0.0050-0.0150
EC-A2 030-040/12C6R.5H55	3.00	6.00	4.00	0.50	12.0	55.00	2.85	2	30.0	C	•	0.0050-0.0150
EC-A2 030-040/16C6R.2H55	3.00	6.00	4.00	0.20	16.0	55.00	2.85	2	30.0	C	•	0.0050-0.0150
EC-A2 030-040/16C6R.3H55	3.00	6.00	4.00	0.30	16.0	55.00	2.85	2	30.0	C	•	0.0050-0.0150
EC-A2 030-040/16C6R.5H55	3.00	6.00	4.00	0.50	16.0	55.00	2.85	2	30.0	C	•	0.0050-0.0150
EC-A2 030-040/20C6R.5H55	3.00	6.00	4.00	0.50	20.0	55.00	2.85	2	30.0	C	•	0.0050-0.0150
EC-A2 030-040/8C6R.2H55	3.00	6.00	4.00	0.20	8.0	55.00	2.85	2	30.0	C	•	0.0050-0.0150
EC-A2 030-040/8C6R.3H55	3.00	6.00	4.00	0.30	8.0	55.00	2.85	2	30.0	C	•	0.0050-0.0150
EC-A2 040-050/10C6R.3H55	4.00	6.00	5.00	0.30	10.0	55.00	3.85	2	30.0	C	•	0.0060-0.0200
EC-A2 040-050/12C6R.2H55	4.00	6.00	5.00	0.20	12.0	55.00	3.85	2	30.0	C	•	0.0060-0.0200
EC-A2 040-050/12C6R.3H55	4.00	6.00	5.00	0.30	12.0	55.00	3.85	2	30.0	C	•	0.0060-0.0200
EC-A2 040-050/12C6R.5H55	4.00	6.00	5.00	0.50	12.0	55.00	3.85	2	30.0	C	•	0.0060-0.0200
EC-A2 040-050/12C6R1.H55	4.00	6.00	5.00	1.00	12.0	55.00	3.85	2	30.0	C	•	0.0060-0.0200
EC-A2 040-050/16C6R.2H55	4.00	6.00	5.00	0.20	16.0	55.00	3.85	2	30.0	C	•	0.0060-0.0200
EC-A2 040-050/16C6R.3H55	4.00	6.00	5.00	0.30	16.0	55.00	3.85	2	30.0	C	•	0.0060-0.0200

• For user guide, see pages 169-176

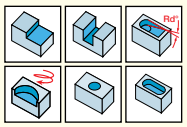
(1) Number of flutes

(2) C-Cylindrical

SOLIDMILL PREMIUM LINE

EC-A2-R (rib processing) (continued)

2 Flute, 30° Helix and Corner Radii Solid Carbide Endmills for Rib Processing on Hard Materials up to 65 HRC



HARD MATERIALS

Designation	Dimensions										IC702	Recommended Machining Data
	DC	DCONMS	APMX	RE	LU	OAL	DN	NOF(1)	FHA	Shank(2)		f_z (mm/t)
EC-A2 040-050/16C6R.5H55	4.00	6.00	5.00	0.50	16.0	55.00	3.85	2	30.0	C	•	0.0060-0.0200
EC-A2 040-050/16C6R1.H55	4.00	6.00	5.00	1.00	16.0	55.00	3.85	2	30.0	C	•	0.0060-0.0200
EC-A2 040-050/20C6R.2H55	4.00	6.00	5.00	0.20	20.0	55.00	3.85	2	30.0	C	•	0.0060-0.0200
EC-A2 040-050/20C6R.3H55	4.00	6.00	5.00	0.30	20.0	55.00	3.85	2	30.0	C	•	0.0060-0.0200
EC-A2 040-050/20C6R.5H55	4.00	6.00	5.00	0.50	20.0	55.00	3.85	2	30.0	C	•	0.0060-0.0200
EC-A2 060-070/20C6R.3H60	6.00	6.00	7.00	0.30	20.0	60.00	5.85	2	30.0	C	•	0.0080-0.0300
EC-A2 060-070/20C6R.5H60	6.00	6.00	7.00	0.50	20.0	60.00	5.85	2	30.0	C	•	0.0080-0.0300
EC-A2 060-070/20C6R1.H60	6.00	6.00	7.00	1.00	20.0	60.00	5.85	2	30.0	C	•	0.0080-0.0300
EC-A2 060-070/20C6R1.5H60	6.00	6.00	7.00	1.50	20.0	60.00	5.85	2	30.0	C	•	0.0080-0.0300
EC-A2 060-070/20C6R2.H60	6.00	6.00	7.00	2.00	20.0	60.00	5.85	2	30.0	C	•	0.0080-0.0300
EC-A2 080-090/25C8R.3H60	8.00	8.00	9.00	0.30	25.0	60.00	7.70	2	30.0	C	•	0.0100-0.0350
EC-A2 080-090/25C8R.5H60	8.00	8.00	9.00	0.50	25.0	60.00	7.70	2	30.0	C	•	0.0100-0.0350
EC-A2 080-090/25C8R1.H60	8.00	8.00	9.00	1.00	25.0	60.00	7.70	2	30.0	C	•	0.0100-0.0350
EC-A2 080-090/25C8R1.5H60	8.00	8.00	9.00	1.50	25.0	60.00	7.70	2	30.0	C	•	0.0100-0.0350
EC-A2 080-090/25C8R2.H60	8.00	8.00	9.00	2.00	25.0	60.00	7.70	2	30.0	C	•	0.0100-0.0350
EC-A2 100-090/32C10R.3H70	10.00	10.00	9.00	0.30	32.0	70.00	9.70	2	30.0	C	•	0.0100-0.0400
EC-A2 100-11/32C10R1.5H70	10.00	10.00	11.00	1.50	32.0	70.00	9.70	2	30.0	C	•	0.0100-0.0400
EC-A2 100-110/32C10R.5H70	10.00	10.00	11.00	0.50	32.0	70.00	9.70	2	30.0	C	•	0.0100-0.0400
EC-A2 100-110/32C10R1.H70	10.00	10.00	11.00	1.00	32.0	70.00	9.70	2	30.0	C	•	0.0100-0.0400
EC-A2 100-110/32C10R2.H70	10.00	10.00	11.00	2.00	32.0	70.00	9.70	2	30.0	C	•	0.0100-0.0400
EC-A2 120-12/38C12R1.5H80	12.00	12.00	12.00	1.50	38.0	80.00	11.70	2	30.0	C	•	0.0100-0.0500
EC-A2 120-120/38C12R.5H80	12.00	12.00	12.00	0.50	38.0	80.00	11.70	2	30.0	C	•	0.0100-0.0500
EC-A2 120-120/38C12R1.H80	12.00	12.00	12.00	1.00	38.0	80.00	11.70	2	30.0	C	•	0.0100-0.0500
EC-A2 120-120/38C12R2H80	12.00	12.00	12.00	2.00	38.0	80.00	11.70	2	30.0	C	•	0.0100-0.0500

• For user guide, see pages 169-176

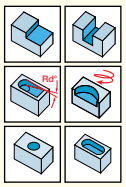
(1) Number of flutes

(2) C-Cylindrical

SOLIDMILL PREMIUM LINE

EC-A2-H (rib processing)

2 Flute, 30° Helix Solid Carbide Endmills for Rib Processing on Hard Materials up to 65 HRC



Designation	Dimensions										IC702	Recommended Machining Data
	DC	DCONMS	APMX	LU	OAL	DN	NOF(1)	FHA	RMPX(2)	Shank(3)		f_z (mm/t)
EC-A2 001-0015/003C4H45	0.10	4.00	0.15	0.3	45.00	0.09	2	30.0	0.0	C	•	0.0020-0.0025
EC-A2 001-0015/005C4H45	0.10	4.00	0.15	0.5	45.00	0.09	2	30.0	0.0	C	•	0.0030-0.0030
EC-A2 002-003/005C4H45	0.20	4.00	0.30	0.5	45.00	0.17	2	30.0	0.0	C	•	0.0030-0.0030
EC-A2 002-003/01C4H45	0.20	4.00	0.30	1.0	45.00	0.17	2	30.0	0.0	C	•	0.0030-0.0030
EC-A2 002-003/015C4H45	0.20	4.00	0.30	1.5	45.00	0.17	2	30.0	0.0	C	•	0.0030-0.0030
EC-A2 003-0045/01C4H45	0.30	4.00	0.45	1.0	45.00	0.27	2	30.0	0.0	C	•	0.0030-0.0040
EC-A2 003-0045/015C4H45	0.30	4.00	0.45	1.5	45.00	0.27	2	30.0	0.0	C	•	0.0030-0.0040
EC-A2 003-0045/02C4H45	0.30	4.00	0.45	2.0	45.00	0.27	2	30.0	0.0	C	•	0.0030-0.0040
EC-A2 003-0045/03C4H45	0.30	4.00	0.45	3.0	45.00	0.27	2	30.0	0.0	C	•	0.0030-0.0040
EC-A2 003-0045/04C4H45	0.30	4.00	0.45	4.0	45.00	0.27	2	30.0	0.0	C	•	0.0030-0.0040
EC-A2 004-006/01C4H45	0.40	4.00	0.60	1.0	45.00	0.37	2	30.0	0.0	C	•	0.0030-0.0050
EC-A2 004-006/02C4H45	0.40	4.00	0.60	2.0	45.00	0.37	2	30.0	3.0	C	•	0.0030-0.0050
EC-A2 005-007/02C4H45	0.50	4.00	0.70	2.0	45.00	0.45	2	30.0	3.0	C	•	0.0030-0.0050
EC-A2 005-007/04C4H45	0.50	4.00	0.70	4.0	45.00	0.45	2	30.0	3.0	C	•	0.0030-0.0050
EC-A2 005-007/06C4H45	0.50	4.00	0.70	6.0	45.00	0.45	2	30.0	3.0	C	•	0.0030-0.0050
EC-A2 006-009/02C4H45	0.60	4.00	0.90	2.0	45.00	0.55	2	30.0	3.0	C	•	0.0030-0.0070
EC-A2 008-012/04C4H45	0.80	4.00	1.20	4.0	45.00	0.75	2	30.0	3.0	C	•	0.0030-0.0080
EC-A2 008-012/06C4H45	0.80	4.00	1.20	6.0	45.00	0.75	2	30.0	3.0	C	•	0.0030-0.0090
EC-A2 010-015/04C4H45	1.00	4.00	1.50	4.0	45.00	0.97	2	30.0	3.0	C	•	0.0040-0.0120
EC-A2 010-015/06C4H45	1.00	4.00	1.50	6.0	45.00	0.97	2	30.0	3.0	C	•	0.0040-0.0120
EC-A2 010-015/08C4H45	1.00	4.00	1.50	8.0	45.00	0.95	2	30.0	3.0	C	•	0.0040-0.0120
EC-A2 010-015/10C4H45	1.00	4.00	1.50	10.0	45.00	0.95	2	30.0	3.0	C	•	0.0040-0.0120
EC-A2 010-015/12C4H45	1.00	4.00	1.50	12.0	45.00	0.93	2	30.0	3.0	C	•	0.0040-0.0120
EC-A2 010-015/20C4H55	1.00	4.00	1.50	20.0	55.00	0.93	2	30.0	3.0	C	•	0.0040-0.0120
EC-A2 012-018/06C4H45	1.20	4.00	1.80	6.0	45.00	1.17	2	30.0	3.0	C	•	0.0050-0.0150
EC-A2 015-023/06C4H45	1.50	4.00	2.30	6.0	45.00	1.47	2	30.0	3.0	C	•	0.0050-0.0150
EC-A2 015-023/08C4H45	1.50	4.00	2.30	8.0	45.00	1.45	2	30.0	3.0	C	•	0.0050-0.0150
EC-A2 015-023/10C4H45	1.50	4.00	2.30	10.0	45.00	1.45	2	30.0	3.0	C	•	0.0050-0.0150
EC-A2 015-023/12C4H45	1.50	4.00	2.30	12.0	45.00	1.41	2	30.0	3.0	C	•	0.0050-0.0150
EC-A2 015-023/16C4H50	1.50	4.00	2.30	16.0	50.00	1.41	2	30.0	3.0	C	•	0.0050-0.0150
EC-A2 015-023/20C4H55	1.50	4.00	2.30	20.0	55.00	1.41	2	30.0	3.0	C	•	0.0050-0.0150
EC-A2 020-030/06C4H45	2.00	4.00	3.00	6.0	45.00	1.97	2	30.0	3.0	C	•	0.0100-0.0200
EC-A2 020-030/08C4H45	2.00	4.00	3.00	8.0	45.00	1.95	2	30.0	3.0	C	•	0.0100-0.0200
EC-A2 020-030/10C4H45	2.00	4.00	3.00	10.0	45.00	1.95	2	30.0	3.0	C	•	0.0100-0.0200
EC-A2 020-030/12C4H45	2.00	4.00	3.00	12.0	45.00	1.93	2	30.0	3.0	C	•	0.0100-0.0200
EC-A2 020-030/14C4H50	2.00	4.00	3.00	14.0	50.00	1.93	2	30.0	3.0	C	•	0.0100-0.0200
EC-A2 020-030/16C4H50	2.00	4.00	3.00	16.0	50.00	1.91	2	30.0	3.0	C	•	0.0100-0.0200
EC-A2 020-030/20C4H55	2.00	4.00	3.00	20.0	55.00	1.89	2	30.0	3.0	C	•	0.0100-0.0200
EC-A2 020-030/25C4H60	2.00	4.00	3.00	25.0	60.00	1.89	2	30.0	3.0	C	•	0.0100-0.0200
EC-A2 020-030/30C4H70	2.00	4.00	3.00	30.0	70.00	1.89	2	30.0	3.0	C	•	0.0100-0.0200
EC-A2 030-045/12C6H45	3.00	6.00	4.50	12.0	45.00	2.85	2	30.0	3.0	C	•	0.0150-0.0300
EC-A2 030-045/16C6H55	3.00	6.00	4.50	16.0	55.00	2.85	2	30.0	3.0	C	•	0.0150-0.0300
EC-A2 030-045/20C6H60	3.00	6.00	4.50	20.0	60.00	2.85	2	30.0	3.0	C	•	0.0150-0.0300
EC-A2 030-045/25C6H65	3.00	6.00	4.50	25.0	65.00	2.85	2	30.0	3.0	C	•	0.0150-0.0300
EC-A2 030-045/30C6H70	3.00	6.00	4.50	30.0	70.00	2.85	2	30.0	3.0	C	•	0.0150-0.0300
EC-A2 030-045/35C6H80	3.00	6.00	4.50	35.0	80.00	2.85	2	30.0	3.0	C	•	0.0150-0.0300
EC-A2 030-045/40C6H90	3.00	6.00	4.50	40.0	90.00	2.85	2	30.0	3.0	C	•	0.0150-0.0300
EC-A2 040-060/12C6H50	4.00	6.00	6.00	12.0	50.00	3.80	2	30.0	3.0	C	•	0.0200-0.0500
EC-A2 040-060/16C6H60	4.00	6.00	6.00	16.0	60.00	3.80	2	30.0	3.0	C	•	0.0200-0.0500
EC-A2 040-060/20C6H60	4.00	6.00	6.00	20.0	60.00	3.80	2	30.0	3.0	C	•	0.0200-0.0500
EC-A2 040-060/25C6H70	4.00	6.00	6.00	25.0	70.00	3.80	2	30.0	3.0	C	•	0.0200-0.0500
EC-A2 040-060/30C6H70	4.00	6.00	6.00	30.0	70.00	3.80	2	30.0	3.0	C	•	0.0200-0.0500

• For user guide, see pages 169-176

(1) Number of flutes

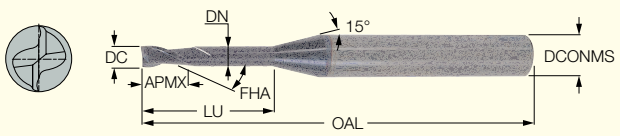
(2) Maximum ramping angle

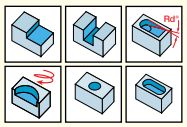
(3) C-Cylindrical

SOLIDMILL PREMIUM LINE

EC-A2-M (rib processing)

2 Flute, 30° Helix Solid Carbide Endmills for Rib Processing on Hard Materials up to 55 HRC





HARD MATERIALS

Designation	Dimensions										IC903	Recommended Machining Data
	DC	DCONMS	APMX	LU	OAL	DN	NOF(1)	FHA	RMPX(2)	Shank(3)		f_z (mm/t)
EC-A2 004-006/02C4M45	0.40	4.00	0.60	2.0	45.00	0.37	2	30.0	3.0	C	•	0.0010-0.0030
EC-A2 004-006/03C4M45	0.40	4.00	0.60	3.0	45.00	0.37	2	30.0	3.0	C	•	0.0010-0.0030
EC-A2 004-006/04C4M45	0.40	4.00	0.60	4.0	45.00	0.37	2	30.0	3.0	C	•	0.0010-0.0030
EC-A2 004-006/05C4M45	0.40	4.00	0.60	5.0	45.00	0.37	2	30.0	3.0	C	•	0.0010-0.0030
EC-A2 005-007/02C4M45	0.50	4.00	0.70	2.0	45.00	0.45	2	30.0	3.0	C	•	0.0010-0.0030
EC-A2 005-007/04C4M45	0.50	4.00	0.70	4.0	45.00	0.45	2	30.0	3.0	C	•	0.0010-0.0030
EC-A2 005-007/06C4M45	0.50	4.00	0.70	6.0	45.00	0.45	2	30.0	3.0	C	•	0.0010-0.0030
EC-A2 005-007/08C4M45	0.50	4.00	0.70	8.0	45.00	0.45	2	30.0	3.0	C	•	0.0010-0.0030
EC-A2 006-009/02C4M45	0.60	4.00	0.90	2.0	45.00	0.55	2	30.0	3.0	C	•	0.0010-0.0030
EC-A2 006-009/04C4M45	0.60	4.00	0.90	4.0	45.00	0.55	2	30.0	3.0	C	•	0.0010-0.0030
EC-A2 006-009/06C4M45	0.60	4.00	0.90	6.0	45.00	0.55	2	30.0	3.0	C	•	0.0010-0.0030
EC-A2 006-009/08C4M45	0.60	4.00	0.90	8.0	45.00	0.55	2	30.0	3.0	C	•	0.0010-0.0030
EC-A2 006-009/10C4M45	0.60	4.00	0.90	10.0	45.00	0.55	2	30.0	3.0	C	•	0.0010-0.0030
EC-A2 007-010/02C4M45	0.70	4.00	1.00	2.0	45.00	0.65	2	30.0	3.0	C	•	0.0010-0.0030
EC-A2 007-010/08C4M45	0.70	4.00	1.00	8.0	45.00	0.65	2	30.0	3.0	C	•	0.0010-0.0030
EC-A2 008-012/04C4M45	0.80	4.00	1.20	4.0	45.00	0.75	2	30.0	3.0	C	•	0.0020-0.0040
EC-A2 008-012/06C4M45	0.80	4.00	1.20	6.0	45.00	0.75	2	30.0	3.0	C	•	0.0020-0.0040
EC-A2 008-012/08C4M45	0.80	4.00	1.20	8.0	45.00	0.75	2	30.0	3.0	C	•	0.0020-0.0040
EC-A2 008-012/10C4M45	0.80	4.00	1.20	10.0	45.00	0.75	2	30.0	3.0	C	•	0.0020-0.0040
EC-A2 009-0135/06C4M45	0.90	4.00	1.35	6.0	45.00	0.85	2	30.0	3.0	C	•	0.0030-0.0050
EC-A2 009-0135/10C4M45	0.90	4.00	1.35	10.0	45.00	0.85	2	30.0	3.0	C	•	0.0030-0.0050
EC-A2 009-0135/15C4M50	0.90	4.00	1.35	15.0	50.00	0.85	2	30.0	3.0	C	•	0.0030-0.0050
EC-A2 010-015/04C4M45	1.00	4.00	1.50	4.0	45.00	0.97	2	30.0	3.0	C	•	0.0040-0.0060
EC-A2 010-015/06C4M45	1.00	4.00	1.50	6.0	45.00	0.97	2	30.0	3.0	C	•	0.0040-0.0060
EC-A2 010-015/08C4M45	1.00	4.00	1.50	8.0	45.00	0.95	2	30.0	3.0	C	•	0.0040-0.0060
EC-A2 010-015/10C4M45	1.00	4.00	1.50	10.0	45.00	0.95	2	30.0	3.0	C	•	0.0040-0.0060
EC-A2 010-015/12C4M45	1.00	4.00	1.50	12.0	45.00	0.93	2	30.0	3.0	C	•	0.0040-0.0060
EC-A2 010-015/16C4M50	1.00	4.00	1.50	16.0	50.00	0.93	2	30.0	3.0	C	•	0.0040-0.0060
EC-A2 010-015/20C4M55	1.00	4.00	1.50	20.0	55.00	0.93	2	30.0	3.0	C	•	0.0040-0.0060
EC-A2 012-018/06C4M45	1.20	4.00	1.80	6.0	45.00	1.17	2	30.0	3.0	C	•	0.0040-0.0075
EC-A2 012-018/08C4M45	1.20	4.00	1.80	8.0	45.00	1.15	2	30.0	3.0	C	•	0.0040-0.0075
EC-A2 012-018/10C4M45	1.20	4.00	1.80	10.0	45.00	1.15	2	30.0	3.0	C	•	0.0040-0.0075
EC-A2 012-018/16C4M50	1.20	4.00	1.80	16.0	50.00	1.13	2	30.0	3.0	C	•	0.0040-0.0075
EC-A2 014-021/06C4M45	1.40	4.00	2.10	6.0	45.00	1.35	2	30.0	3.0	C	•	0.0040-0.0080
EC-A2 014-021/08C4M45	1.40	4.00	2.10	8.0	45.00	1.35	2	30.0	3.0	C	•	0.0040-0.0080
EC-A2 014-021/10C4M45	1.40	4.00	2.10	10.0	45.00	1.35	2	30.0	3.0	C	•	0.0040-0.0080
EC-A2 015-023/06C4M45	1.50	4.00	2.30	6.0	45.00	1.47	2	30.0	3.0	C	•	0.0050-0.0100
EC-A2 015-023/08C4M45	1.50	4.00	2.30	8.0	45.00	1.45	2	30.0	3.0	C	•	0.0050-0.0100
EC-A2 015-023/10C4M45	1.50	4.00	2.30	10.0	45.00	1.45	2	30.0	3.0	C	•	0.0050-0.0100
EC-A2 015-023/12C4M45	1.50	4.00	2.30	12.0	45.00	1.41	2	30.0	3.0	C	•	0.0050-0.0100
EC-A2 015-023/14C4M50	1.50	4.00	2.30	14.0	50.00	1.41	2	30.0	3.0	C	•	0.0050-0.0100
EC-A2 015-023/16C4M50	1.50	4.00	2.30	16.0	50.00	1.41	2	30.0	3.0	C	•	0.0050-0.0100
EC-A2 015-023/20C4M55	1.50	4.00	2.30	20.0	55.00	1.41	2	30.0	3.0	C	•	0.0050-0.0100
EC-A2 016-024/06C4M45	1.60	4.00	2.40	6.0	45.00	1.57	2	30.0	3.0	C	•	0.0050-0.0100
EC-A2 016-024/08C4M45	1.60	4.00	2.40	8.0	45.00	1.55	2	30.0	3.0	C	•	0.0050-0.0100
EC-A2 016-024/10C4M45	1.60	4.00	2.40	10.0	45.00	1.55	2	30.0	3.0	C	•	0.0050-0.0100
EC-A2 016-024/18C4M55	1.60	4.00	2.40	18.0	55.00	1.53	2	30.0	3.0	C	•	0.0050-0.0100
EC-A2 016-024/26C4M60	1.60	4.00	2.40	26.0	60.00	1.53	2	30.0	3.0	C	•	0.0050-0.0100
EC-A2 018-027/06C4M45	1.80	4.00	2.70	6.0	45.00	1.77	2	30.0	3.0	C	•	0.0060-0.0100
EC-A2 018-027/08C4M45	1.80	4.00	2.70	8.0	45.00	1.75	2	30.0	3.0	C	•	0.0060-0.0100
EC-A2 018-027/10C4M45	1.80	4.00	2.70	10.0	45.00	1.75	2	30.0	3.0	C	•	0.0060-0.0100
EC-A2 018-027/12C4M45	1.80	4.00	2.70	12.0	45.00	1.73	2	30.0	3.0	C	•	0.0060-0.0100
EC-A2 018-027/14C4M50	1.80	4.00	2.70	14.0	50.00	1.73	2	30.0	3.0	C	•	0.0060-0.0100
EC-A2 020-030/06C4M45	2.00	4.00	3.00	6.0	45.00	1.97	2	30.0	3.0	C	•	0.0080-0.0150
EC-A2 020-030/08C4M45	2.00	4.00	3.00	8.0	45.00	1.95	2	30.0	3.0	C	•	0.0080-0.0150
EC-A2 020-030/10C4M45	2.00	4.00	3.00	10.0	45.00	1.95	2	30.0	3.0	C	•	0.0080-0.0150
EC-A2 020-030/12C4M45	2.00	4.00	3.00	12.0	45.00	1.93	2	30.0	3.0	C	•	0.0080-0.0150

• The DC tolerance is: 0 -0.15 mm • For user guide, see pages 169-176

(1) Number of flutes

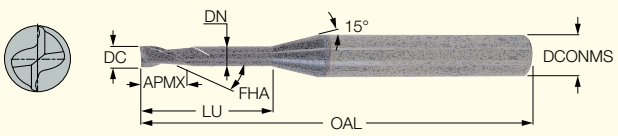
(2) Maximum ramping angle

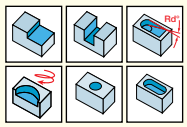
(3) C-Cylindrical

SOLIDMILL PREMIUM LINE

EC-A2-M (rib processing) (continued)

2 Flute, 30° Helix Solid Carbide Endmills for Rib Processing on Hard Materials up to 55 HRC





HARD MATERIALS

Designation	Dimensions DC	DCONMS	APMX	LU	OAL	DN	NOF(1)	FHA	RMPX(2)	Shank(3)	IC903	Recommended Machining Data f_z (mm/t)
EC-A2 020-030/14C4M50	2.00	4.00	3.00	14.0	50.00	1.93	2	30.0	3.0	C	•	0.0080-0.0150
EC-A2 020-030/16C4M50	2.00	4.00	3.00	16.0	50.00	1.91	2	30.0	3.0	C	•	0.0080-0.0150
EC-A2 020-030/18C4M55	2.00	4.00	3.00	18.0	55.00	1.91	2	30.0	3.0	C	•	0.0080-0.0150
EC-A2 020-030/20C4M55	2.00	4.00	3.00	20.0	55.00	1.89	2	30.0	3.0	C	•	0.0080-0.0150
EC-A2 020-030/25C4M60	2.00	4.00	3.00	25.0	60.00	1.89	2	30.0	3.0	C	•	0.0080-0.0150
EC-A2 020-030/30C4M70	2.00	4.00	3.00	30.0	70.00	1.89	2	30.0	3.0	C	•	0.0080-0.0150
EC-A2 025-037/08C4M45	2.50	4.00	3.70	8.0	45.00	2.40	2	30.0	3.0	C	•	0.0090-0.0180
EC-A2 025-037/10C4M45	2.50	4.00	3.70	10.0	45.00	2.40	2	30.0	3.0	C	•	0.0090-0.0180
EC-A2 025-037/12C4M45	2.50	4.00	3.70	12.0	45.00	2.40	2	30.0	3.0	C	•	0.0090-0.0180
EC-A2 025-037/14C4M50	2.50	4.00	3.70	14.0	50.00	2.40	2	30.0	3.0	C	•	0.0090-0.0180
EC-A2 025-037/16C4M55	2.50	4.00	3.70	16.0	55.00	2.40	2	30.0	3.0	C	•	0.0090-0.0180
EC-A2 025-037/18C4M55	2.50	4.00	3.70	18.0	55.00	2.40	2	30.0	3.0	C	•	0.0090-0.0180
EC-A2 025-037/20C4M60	2.50	4.00	3.70	20.0	60.00	2.40	2	30.0	3.0	C	•	0.0090-0.0180
EC-A2 025-037/25C4M70	2.50	4.00	3.70	25.0	70.00	2.40	2	30.0	3.0	C	•	0.0090-0.0180
EC-A2 025-037/30C4M80	2.50	4.00	3.70	30.0	80.00	2.40	2	30.0	3.0	C	•	0.0090-0.0180
EC-A2 030-045/08C6M45	3.00	6.00	4.50	8.0	45.00	2.85	2	30.0	3.0	C	•	0.0100-0.0180
EC-A2 030-045/10C6M45	3.00	6.00	4.50	10.0	45.00	2.85	2	30.0	3.0	C	•	0.0100-0.0180
EC-A2 030-045/12C6M45	3.00	6.00	4.50	12.0	45.00	2.85	2	30.0	3.0	C	•	0.0100-0.0180
EC-A2 030-045/14C6M50	3.00	6.00	4.50	14.0	50.00	2.85	2	30.0	3.0	C	•	0.0100-0.0180
EC-A2 030-045/16C6M55	3.00	6.00	4.50	16.0	55.00	2.85	2	30.0	3.0	C	•	0.0100-0.0180
EC-A2 030-045/18C6M55	3.00	6.00	4.50	18.0	55.00	2.85	2	30.0	3.0	C	•	0.0100-0.0180
EC-A2 030-045/20C6M60	3.00	6.00	4.50	20.0	60.00	2.85	2	30.0	3.0	C	•	0.0100-0.0180
EC-A2 030-045/25C6M65	3.00	6.00	4.50	25.0	65.00	2.85	2	30.0	3.0	C	•	0.0100-0.0180
EC-A2 030-045/30C6M70	3.00	6.00	4.50	30.0	70.00	2.85	2	30.0	3.0	C	•	0.0100-0.0180
EC-A2 030-045/35C6M80	3.00	6.00	4.50	35.0	80.00	2.85	2	30.0	3.0	C	•	0.0100-0.0180
EC-A2 030-045/40C6M90	3.00	6.00	4.50	40.0	90.00	2.85	2	30.0	3.0	C	•	0.0100-0.0180
EC-A2 040-060/12C6M50	4.00	6.00	6.00	12.0	50.00	3.80	2	30.0	3.0	C	•	0.0100-0.0200
EC-A2 040-060/16C6M60	4.00	6.00	6.00	16.0	60.00	3.80	2	30.0	3.0	C	•	0.0100-0.0200
EC-A2 040-060/20C6M60	4.00	6.00	6.00	20.0	60.00	3.80	2	30.0	3.0	C	•	0.0100-0.0200
EC-A2 040-060/25C6M70	4.00	6.00	6.00	25.0	70.00	3.80	2	30.0	3.0	C	•	0.0100-0.0200
EC-A2 040-060/30C6M70	4.00	6.00	6.00	30.0	70.00	3.80	2	30.0	3.0	C	•	0.0100-0.0200
EC-A2 040-060/35C6M80	4.00	6.00	6.00	35.0	80.00	3.80	2	30.0	3.0	C	•	0.0100-0.0200
EC-A2 040-060/40C6M90	4.00	6.00	6.00	40.0	90.00	3.80	2	30.0	3.0	C	•	0.0100-0.0200
EC-A2 040-060/45C6M90	4.00	6.00	6.00	45.0	90.00	3.80	2	30.0	3.0	C	•	0.0100-0.0200
EC-A2 040-060/50C6M100	4.00	6.00	6.00	50.0	100.00	3.80	2	30.0	3.0	C	•	0.0100-0.0200
EC-A2 050-075/16C6M60	5.00	6.00	7.50	16.0	60.00	4.80	2	30.0	3.0	C	•	0.0100-0.0250
EC-A2 050-075/20C6M60	5.00	6.00	7.50	20.0	60.00	4.80	2	30.0	3.0	C	•	0.0100-0.0250
EC-A2 050-075/25C6M70	5.00	6.00	7.50	25.0	70.00	4.80	2	30.0	3.0	C	•	0.0100-0.0250
EC-A2 050-075/30C6M80	5.00	6.00	7.50	30.0	80.00	4.80	2	30.0	3.0	C	•	0.0100-0.0250
EC-A2 050-075/35C6M80	5.00	6.00	7.50	35.0	80.00	4.80	2	30.0	3.0	C	•	0.0100-0.0250
EC-A2 050-075/40C6M80	5.00	6.00	7.50	40.0	80.00	4.80	2	30.0	3.0	C	•	0.0100-0.0250
EC-A2 050-075/50C6M110	5.00	6.00	7.50	50.0	110.00	4.80	2	30.0	3.0	C	•	0.0100-0.0250
EC-A2 060-090/20C6M80	6.00	6.00	9.00	20.0	80.00	5.70	2	30.0	3.0	C	•	0.0150-0.0300
EC-A2 060-090/30C6M90	6.00	6.00	9.00	30.0	90.00	5.70	2	30.0	3.0	C	•	0.0150-0.0300
EC-A2 060-090/40C6M100	6.00	6.00	9.00	40.0	100.00	5.60	2	30.0	3.0	C	•	0.0150-0.0300
EC-A2 060-090/50C6M110	6.00	6.00	9.00	50.0	110.00	5.60	2	30.0	3.0	C	•	0.0150-0.0300

• The DC tolerance is: 0-0.15 mm • For user guide, see pages 169-176

(1) Number of flutes

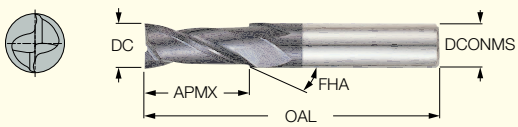
(2) Maximum ramping angle

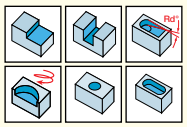
(3) C-Cylindrical

SOLIDMILL PREMIUM LINE

EC-A2 (medium length)

2 Flute, 30° Helix Medium Length Solid Carbide Endmills for Hard Materials up to 65 HRC





HARD MATERIALS

Designation	Dimensions DC	DCONMS	APMX	OAL	NOF(1)	FHA	RMPX(2)	Shank(3)	IC903	Recommended Machining Data f_z (mm/t)
EC-A2 010-025C06-40	1.00	6.00	2.50	40.00	2	30.0	5.0	C	•	0.00-0.01
EC-A2 015-040C06-40	1.50	6.00	4.00	40.00	2	30.0	5.0	C	•	0.00-0.02
EC-A2 020-060C06-40	2.00	6.00	6.00	40.00	2	30.0	5.0	C	•	0.01-0.03
EC-A2 025-080C06-40	2.50	6.00	8.00	40.00	2	30.0	5.0	C	•	0.01-0.03
EC-A2 030-080C06-45	3.00	6.00	8.00	45.00	2	30.0	5.0	C	•	0.01-0.04
EC-A2 035-10C06M45	3.50	6.00	10.00	45.00	2	30.0	5.0	C	•	0.01-0.04
EC-A2 040-11C06-45	4.00	6.00	11.00	45.00	2	30.0	5.0	C	•	0.02-0.05
EC-A2 045-11C06-45	4.50	6.00	11.00	45.00	2	30.0	5.0	C	•	0.02-0.05
EC-A2 050-13C06-50	5.00	6.00	13.00	50.00	2	30.0	5.0	C	•	0.02-0.06
EC-A2 055-13C06-50	5.50	6.00	13.00	50.00	2	30.0	5.0	C	•	0.02-0.06
EC-A2 060-13C06-50	6.00	6.00	13.00	50.00	2	30.0	5.0	C	•	0.03-0.07
EC-A2 065-16C08-60	6.50	8.00	16.00	60.00	2	30.0	5.0	C	•	0.03-0.07
EC-A2 070-16C08-60	7.00	8.00	16.00	60.00	2	30.0	5.0	C	•	0.03-0.08
EC-A2 075-16C08-60	7.50	8.00	16.00	60.00	2	30.0	5.0	C	•	0.03-0.08
EC-A2 080-19C08-60	8.00	8.00	19.00	60.00	2	30.0	5.0	C	•	0.03-0.09
EC-A2 085-19C10-70	8.50	10.00	19.00	70.00	2	30.0	5.0	C	•	0.03-0.09
EC-A2 090-19C10-70	9.00	10.00	19.00	70.00	2	30.0	5.0	C	•	0.03-0.09
EC-A2 095-19C10-70	9.50	10.00	19.00	70.00	2	30.0	5.0	C	•	0.03-0.09
EC-A2 100-22C10-70	10.00	10.00	22.00	70.00	2	30.0	5.0	C	•	0.03-0.10
EC-A2 110-22C12-75	11.00	12.00	22.00	75.00	2	30.0	5.0	C	•	0.03-0.10
EC-A2 115-22C12-75	11.50	12.00	22.00	75.00	2	30.0	5.0	C	•	0.03-0.10
EC-A2 120-26C12-75	12.00	12.00	26.00	75.00	2	30.0	5.0	C	•	0.04-0.11
EC-A2 130-26C12-85	13.00	12.00	26.00	85.00	2	30.0	5.0	C	•	0.04-0.11
EC-A2 140-26C14-85	14.00	14.00	26.00	85.00	2	30.0	5.0	C	•	0.04-0.12
EC-A2 150-26C16-90	15.00	16.00	26.00	90.00	2	30.0	5.0	C	•	0.04-0.12
EC-A2 160-32C16-100	16.00	16.00	32.00	100.00	2	30.0	5.0	C	•	0.05-0.13
EC-A2 170-32C16-100	17.00	16.00	32.00	100.00	2	30.0	5.0	C	•	0.05-0.13
EC-A2 180-32C18-100	18.00	18.00	32.00	100.00	2	30.0	5.0	C	•	0.05-0.13
EC-A2 200-38C20-105	20.00	20.00	38.00	105.00	2	30.0	5.0	C	•	0.05-0.13
EC-A2 220-38C20-105	22.00	20.00	38.00	105.00	2	30.0	5.0	C	•	0.05-0.13
EC-A2 250-45C25-120	25.00	25.00	45.00	120.00	2	30.0	5.0	C	•	0.05-0.13

• For user guide, see pages 169-176

(1) Number of flutes

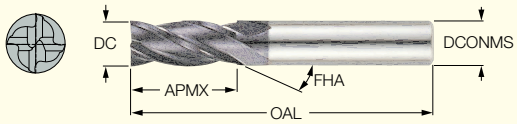
(2) Maximum ramping angle

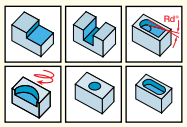
(3) C-Cylindrical

SOLIDMILL PREMIUM LINE

EC-A4

4 Flute, 30° Helix Medium Length Solid Carbide Endmills for Hard Materials up to 65 HRC





HARD MATERIALS

Designation	Dimensions DC	DCONMS	APMX	OAL	NOF(1)	FHA	RMPX(2)	Shank(3)	IC903	Recommended Machining Data f_z (mm/t)
EC-A4 020-060C06-50	2.00	6.00	6.00	50.00	4	30.0	5.0	C	•	0.01-0.03
EC-A4 025-080C06-50	2.50	6.00	8.00	50.00	4	30.0	5.0	C	•	0.01-0.03
EC-A4 030-080C06-50	3.00	6.00	8.00	50.00	4	30.0	5.0	C	•	0.01-0.04
EC-A4 035-10C06-50	3.50	6.00	10.00	50.00	4	30.0	5.0	C	•	0.01-0.04
EC-A4 040-11C06-50	4.00	6.00	11.00	50.00	4	30.0	5.0	C	•	0.02-0.05
EC-A4 045-11C06-50	4.50	6.00	11.00	50.00	4	30.0	5.0	C	•	0.02-0.05
EC-A4 050-13C06-50	5.00	6.00	13.00	50.00	4	30.0	5.0	C	•	0.02-0.06
EC-A4 055-13C06-50	5.50	6.00	13.00	50.00	4	30.0	5.0	C	•	0.02-0.06
EC-A4 060-13C06-50	6.00	6.00	13.00	50.00	4	30.0	5.0	C	•	0.03-0.07
EC-A4 065-16C08-63	6.50	8.00	16.00	63.00	4	30.0	5.0	C	•	0.03-0.07
EC-A4 070-16C08-63	7.00	8.00	16.00	63.00	4	30.0	5.0	C	•	0.03-0.08
EC-A4 075-16C08-63	7.50	8.00	16.00	63.00	4	30.0	5.0	C	•	0.03-0.08
EC-A4 080-19C08-63	8.00	8.00	19.00	63.00	4	30.0	5.0	C	•	0.03-0.09
EC-A4 085-19C10-72	8.50	10.00	19.00	72.00	4	30.0	5.0	C	•	0.03-0.09
EC-A4 090-19C10-72	9.00	10.00	19.00	72.00	4	30.0	5.0	C	•	0.03-0.09
EC-A4 095-19C10-70	9.50	10.00	19.00	70.00	4	30.0	5.0	C	•	0.03-0.09
EC-A4 100-22C10-72	10.00	10.00	22.00	72.00	4	30.0	5.0	C	•	0.03-0.10
EC-A4 105-22C12-75	10.50	12.00	22.00	75.00	4	30.0	5.0	C	•	0.03-0.10
EC-A4 110-22C12-75	11.00	12.00	22.00	75.00	4	30.0	5.0	C	•	0.03-0.10
EC-A4 115-22C12-75	11.50	12.00	22.00	75.00	4	30.0	5.0	C	•	0.03-0.10
EC-A4 120-26C12-73	12.00	12.00	26.00	73.00	4	30.0	5.0	C	•	0.04-0.11
EC-A4 130-26C12-85	13.00	12.00	26.00	85.00	4	30.0	5.0	C	•	0.04-0.11
EC-A4 140-26C12-85	14.00	12.00	26.00	85.00	4	30.0	5.0	C	•	0.04-0.12
EC-A4 140-26C14-83	14.00	14.00	26.00	83.00	4	30.0	5.0	C	•	0.04-0.12
EC-A4 140-26C16-85	14.00	16.00	26.00	85.00	4	30.0	5.0	C	•	0.04-0.12
EC-A4 150-26C16-92	15.00	16.00	26.00	92.00	4	30.0	5.0	C	•	0.04-0.12
EC-A4 160-32C16-92	16.00	16.00	32.00	92.00	4	30.0	5.0	C	•	0.05-0.13
EC-A4 170-32C16-100	17.00	16.00	32.00	100.00	4	30.0	5.0	C	•	0.05-0.13
EC-A4 180-32C18-100	18.00	18.00	32.00	100.00	4	30.0	5.0	C	•	0.05-0.13
EC-A4 190-32C20-100	19.00	20.00	32.00	100.00	4	30.0	5.0	C	•	0.05-0.13
EC-A4 200-38C20-104	20.00	20.00	38.00	104.00	4	30.0	5.0	C	•	0.05-0.13
EC-A4 220-38C20-105	22.00	20.00	38.00	105.00	4	30.0	5.0	C	•	0.05-0.13
EC-A4 240-45C25-120	24.00	25.00	45.00	120.00	4	30.0	5.0	C	•	0.05-0.13
EC-A4 250-45C25-120	25.00	25.00	45.00	120.00	4	30.0	5.0	C	•	0.05-0.13

• The DC tolerance is: 0 -0.03 mm • For user guide, see pages 169-176

(1) Number of flutes

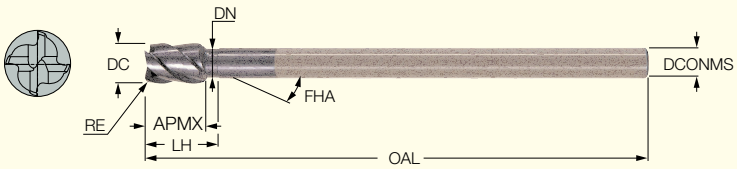
(2) Maximum ramping angle

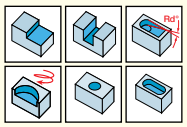
(3) C-Cylindrical

SOLIDMILL PREMIUM LINE

EC-B4-R

4 Flute, 45° Helix Extra-Long Solid Carbide Endmills with Various Corner Radii for Hardened Steel





HARD MATERIALS

Designation	Dimensions DC	DCONMS	RE	APMX	LH	DN	OAL	NOF(1)	FHA	RMPX(2)	Shank(3)	IC903	Recommended Machining Data f_z (mm/t)
EC-B4 10-15C08R.5M130	10.00	8.00	0.50	15.00	19.2	7.50	130.00	4	45.0	5.0	C	•	0.03-0.10
EC-B4 10-15C08R1M130	10.00	8.00	1.00	15.00	19.2	7.50	130.00	4	45.0	5.0	C	•	0.03-0.10
EC-B4 12-18C10R.5M150	12.00	10.00	0.50	18.00	22.2	9.50	150.00	4	45.0	5.0	C	•	0.04-0.11
EC-B4 14-21C12R.5M160	14.00	12.00	0.50	21.00	25.2	11.50	160.00	4	45.0	5.0	C	•	0.04-0.12
EC-B4 14-21C12R1M160	14.00	12.00	1.00	21.00	25.2	11.50	160.00	4	45.0	5.0	C	•	0.04-0.12
EC-B4 18-27C16R0.5M180	18.00	16.00	0.50	27.00	31.2	15.50	180.00	4	45.0	5.0	C	•	0.05-0.13
EC-B4 18-27C16R1M180	18.00	16.00	1.00	27.00	31.2	15.50	180.00	4	45.0	5.0	C	•	0.05-0.13
EC-B4 22-33C20R.5M200	22.00	20.00	0.50	33.00	37.2	19.50	200.00	4	45.0	5.0	C	•	0.05-0.13
EC-B4 22-33C20R1M200	22.00	20.00	1.00	33.00	37.2	19.50	200.00	4	45.0	5.0	C	•	0.05-0.13

• For user guide, see pages 169-176

(1) Number of flutes

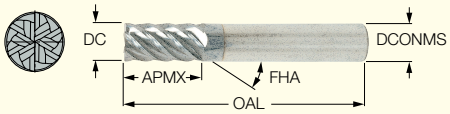
(2) Maximum ramping angle

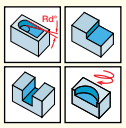
(3) C-Cylindrical

SOLIDMILL PREMIUM LINE

ECH-B-6

6 Flute, 45° Helix Medium Length Solid Carbide Endmills for Finishing of Hard Materials up to 65 HRC





HARD MATERIALS

Designation	Dimensions DC	DCONMS	APMX	OAL	NOF(1)	FHA	Shank(2)	Tough ↔ Hard IC900	IC903	Recommended Machining Data f_z (mm/t)
ECH060B16-6C06	6.00	6.00	16.00	57.00	6	45.0	C	•	•	0.03-0.07
ECH060B16-6W06	6.00	6.00	16.00	57.00	6	45.0	W	•		0.03-0.07
ECH080B20-6C08	8.00	8.00	20.00	63.00	6	45.0	C	•	•	0.03-0.09
ECH080B20-6W08	8.00	8.00	20.00	63.00	6	45.0	W	•		0.03-0.09
ECH100B22-6C10	10.00	10.00	22.00	72.00	6	45.0	C	•	•	0.03-0.10
ECH100B22-6W10	10.00	10.00	22.00	72.00	6	45.0	W	•		0.03-0.10
ECH120B25-6C12	12.00	12.00	25.00	83.00	6	45.0	C	•	•	0.04-0.11
ECH120B25-6W12	12.00	12.00	25.00	83.00	6	45.0	W	•		0.04-0.11
ECH160B32-6C16	16.00	16.00	32.00	92.00	6	45.0	C	•	•	0.05-0.13
ECH160B32-6W16	16.00	16.00	32.00	92.00	6	45.0	W	•		0.05-0.13
ECH200B38-6C20	20.00	20.00	38.00	104.00	6	45.0	C	•	•	0.05-0.13
ECH200B38-6W20	20.00	20.00	38.00	104.00	6	45.0	W	•		0.05-0.13

• Use IC903 for machining hardened steel up to 65 HRc • For user guide, see pages 169-176

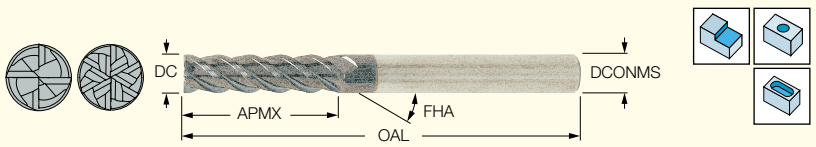
(1) Number of flutes

(2) C-Cylindrical, W-Weldon

SOLIDMILL PREMIUM LINE

ECL-B-4/6

4 & 6 Flute, 45° Helix Long Solid Carbide Endmills



Designation	Dimensions DC	DCONMS	APMX	OAL	NOF(2)	FHA	Shank(3)	IC900	Recommended Machining Data f_z (mm/t)
ECL060B24-4C06	6.00	6.00	24.00	65.00	4	45.0	C	●	0.03-0.07
ECL060B24-4W06	6.00	6.00	24.00	65.00	4	45.0	W	●	0.03-0.07
ECL080B32-4C08	8.00	8.00	32.00	79.00	4	45.0	C	●	0.03-0.09
ECL080B32-4W08	8.00	8.00	32.00	79.00	4	45.0	W	●	0.03-0.09
ECL100B40-4C10	10.00	10.00	40.00	100.00	4	45.0	C	●	0.03-0.10
ECL100B40-4W10	10.00	10.00	40.00	100.00	4	45.0	W	●	0.03-0.10
ECL120B48-4C12	12.00	12.00	48.00	100.00	4	45.0	C	●	0.04-0.11
ECL120B48-4W12	12.00	12.00	48.00	100.00	4	45.0	W	●	0.04-0.11
ECL140B50-4C14	14.00	14.00	50.00	100.00	4	45.0	C	●	0.04-0.12
ECL140B50-4W14	14.00	14.00	50.00	100.00	4	45.0	W	●	0.04-0.12
ECL160B56-6C16 (1)	16.00	16.00	56.00	115.00	6	45.0	C	●	0.05-0.13
ECL160B56-6W16 (1)	16.00	16.00	56.00	115.00	6	45.0	W	●	0.05-0.13
ECL200B60-6C20 (1)	20.00	20.00	60.00	125.00	6	45.0	C	●	0.05-0.13
ECL200B60-6W20 (1)	20.00	20.00	60.00	125.00	6	45.0	W	●	0.05-0.13

• Smooth cutting in extra long depth • For user guide, see pages 169-176

(1) Cannot be used for plunging application

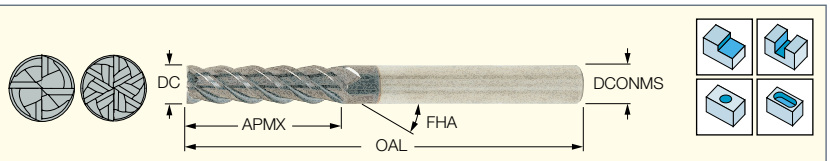
(2) Number of flutes

(3) C-Cylindrical, W-Weldon

SOLIDMILL PREMIUM LINE

ECXL-B-4/6

4 & 6 Flute, 45° Helix Extra Long Solid Carbide Endmills



Designation	Dimensions DC	DCONMS	APMX	OAL	NOF(2)	FHA	Shank(3)	IC900	Recommended Machining Data f_z (mm/t)
ECXL100B60-4C10	10.00	10.00	60.00	112.00	4	45.0	C	●	0.03-0.10
ECXL100B60-4W10	10.00	10.00	60.00	112.00	4	45.0	W	●	0.03-0.10
ECXL120B72-4C12	12.00	12.00	72.00	150.00	4	45.0	C	●	0.04-0.11
ECXL120B72-4W12	12.00	12.00	72.00	150.00	4	45.0	W	●	0.04-0.11
ECXL160B80-6C16 (1)	16.00	16.00	80.00	150.00	6	45.0	C	●	0.05-0.13
ECXL160B80-6W16 (1)	16.00	16.00	80.00	150.00	6	45.0	W	●	0.05-0.13
ECXL200B80-6C20 (1)	20.00	20.00	80.00	150.00	6	45.0	C	●	0.05-0.13

• Smooth cutting in extra long depth. • For user guide, see pages 169-176

(1) Cannot be used for plunging application

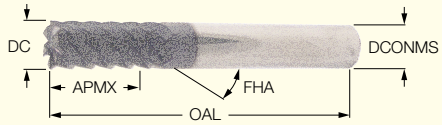
(2) Number of flutes

(3) C-Cylindrical, W-Weldon

SOLIDMILL PREMIUM LINE

EC-D6

6 Flute, 50° Helix Medium Length Solid Carbide Endmills for Finishing of Hard Materials up to 65 HRc



HARD MATERIALS

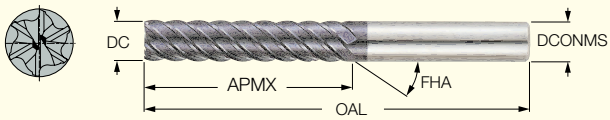
Designation	Dimensions DC	DCONMS	APMX	OAL	NOF(1)	FHA	Shank(2)	RMPX(3)	IC903	Recommended Machining Data f_z (mm/t)
EC-D6 06-13C06H57	6.00	6.00	13.00	57.00	6	50.0	C	5.0	•	0.03-0.07
EC-D6 08-20C08H63	8.00	8.00	20.00	63.00	6	50.0	C	5.0	•	0.03-0.09
EC-D6 10-22C10H72	10.00	10.00	22.00	72.00	6	50.0	C	5.0	•	0.03-0.10
EC-D6 12-25C12H83	12.00	12.00	25.00	83.00	6	50.0	C	5.0	•	0.04-0.11
EC-D6 12-25W12H83	12.00	12.00	25.00	83.00	6	50.0	W	5.0	•	0.04-0.11
EC-D6 14-30C14H83	14.00	14.00	30.00	83.00	6	50.0	C	5.0	•	0.04-0.12
EC-D6 16-32C16H92	16.00	16.00	32.00	92.00	6	50.0	C	5.0	•	0.05-0.13
EC-D6 20-38C20H104	20.00	20.00	38.00	104.00	6	50.0	C	5.0	•	0.05-0.13

• For user guide, see pages 169-176
(1) Number of flutes
(2) C-Cylindrical, W-Weldon
(3) Maximum ramping angle

SOLIDMILL PREMIUM LINE

EC-B6

6 Flute, 45° Helix Extra Long Solid Carbide Endmills for Finishing of Hard Materials up to 65 HRC



HARD MATERIALS

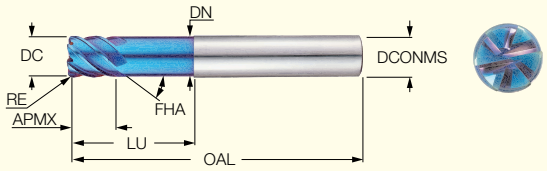
Designation	Dimensions DC	DCONMS	APMX	OAL	NOF(1)	FHA	Shank(2)	IC903	Recommended Machining Data f_z (mm/t)
EC-B6 060-026C06-70	6.00	6.00	26.00	70.00	6	45.0	C	•	0.03-0.07
EC-B6 080-036C08-90	8.00	8.00	36.00	90.00	6	45.0	C	•	0.03-0.09
EC-B6 100-46C10-100	10.00	10.00	46.00	100.00	6	45.0	C	•	0.03-0.10
EC-B6 120-56C12-110	12.00	12.00	56.00	110.00	6	45.0	C	•	0.04-0.11
EC-B6 160-66C16-130	16.00	16.00	66.00	130.00	6	45.0	C	•	0.05-0.13
EC-B6 200-76C20-140	20.00	20.00	76.00	140.00	6	45.0	C	•	0.05-0.13
EC-B6 250-92C25-180	25.00	25.00	92.00	180.00	6	45.0	C	•	0.05-0.13

• For user guide, see pages 169-176
(1) Number of flutes
(2) C-Cylindrical

SOLIDMILL PREMIUM LINE

EC-B6-H

6 Flute, 45° Helix Extra Long Solid Carbide Endmills for Finishing on Hard Materials up to 65 HRC



Designation	Dimensions										IC702	Recommended Machining Data
	DC	DCONMS	APMX	RE	DN	LU	OAL	NOF(1)	FHA	Shank(2)		f_z (mm/t)
EC-B6 06-06/14C06R.25H50	6.00	6.00	6.00	0.25	5.70	14.0	50.00	6	45.0	C	•	0.03-0.07
EC-B6 06-06/14C06R.5H50	6.00	6.00	6.00	0.50	5.70	14.0	50.00	6	45.0	C	•	0.03-0.07
EC-B6 06-13C06R.5H70	6.00	6.00	13.00	0.50	6.00	-	70.00	6	45.0	C	•	0.03-0.07
EC-B6 06-26C06R.5H70	6.00	6.00	26.00	0.50	6.00	-	70.00	6	45.0	C	•	0.03-0.07
EC-B6 08-08/24C08R.5H60	8.00	8.00	8.00	0.50	7.70	24.0	60.00	6	45.0	C	•	0.03-0.09
EC-B6 08-19C08R.5H90	8.00	8.00	19.00	0.50	8.00	-	90.00	6	45.0	C	•	0.03-0.09
EC-B6 08-36C08R.5H90	8.00	8.00	36.00	0.50	8.00	-	90.00	6	45.0	C	•	0.03-0.09
EC-B6 10-10/30C10R1H70	10.00	10.00	10.00	1.00	9.70	30.0	70.00	6	45.0	C	•	0.03-0.10
EC-B6 10-22C10R.5H100	10.00	10.00	22.00	0.50	10.00	-	100.00	6	45.0	C	•	0.03-0.10
EC-B6 10-22C10R1H100	10.00	10.00	22.00	1.00	10.00	-	100.00	6	45.0	C	•	0.03-0.10
EC-B6 10-46C10R1H100	10.00	10.00	46.00	1.00	10.00	-	100.00	6	45.0	C	•	0.03-0.10
EC-B6 12-12/30C12R1H75	12.00	12.00	12.00	1.00	11.70	30.0	75.00	6	45.0	C	•	0.04-0.11
EC-B6 12-26C12R.5H110	12.00	12.00	26.00	0.50	12.00	-	110.00	6	45.0	C	•	0.04-0.11
EC-B6 12-26C12R1H110	12.00	12.00	26.00	1.00	12.00	-	110.00	6	45.0	C	•	0.04-0.11
EC-B6 12-56C12R1H110	12.00	12.00	56.00	1.00	12.00	-	110.00	6	45.0	C	•	0.04-0.11
EC-B6 16-32C16R1.5H130	16.00	16.00	32.00	1.50	16.00	-	130.00	6	45.0	C	•	0.05-0.13
EC-B6 16-32C16R1H130	16.00	16.00	32.00	1.00	16.00	-	130.00	6	45.0	C	•	0.05-0.13
EC-B6 16-66C16R1.5H130	16.00	16.00	66.00	1.50	16.00	-	130.00	6	45.0	C	•	0.05-0.13
EC-B6 20-38C20R1H140	20.00	20.00	38.00	1.00	20.00	-	140.00	6	45.0	C	•	0.05-0.13
EC-B6 20-38C20R2H140	20.00	20.00	38.00	2.00	20.00	-	140.00	6	45.0	C	•	0.05-0.13
EC-B6 20-76C20R2H140	20.00	20.00	76.00	2.00	20.00	-	140.00	6	45.0	C	•	0.05-0.13

• For user guide, see pages 169-176

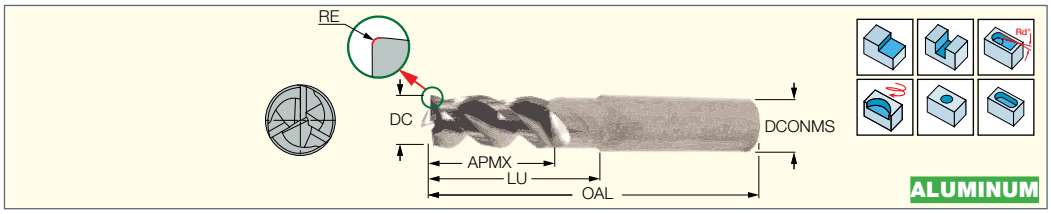
(1) Number of flutes

(2) C-Cylindrical

CHATTERFREE
SOLID MILL LINE

ECA-H3-CF

Solid Carbide Endmills with Different Helix, Variable Pitch and 3, 4 and 5xD Relieved Necks for Machining Aluminum



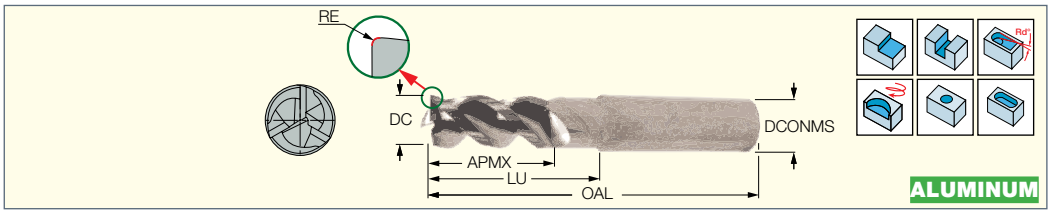
Designation	Dimensions DC	DCONMS	APMX	OAL	NOF(1)	LU	RMPX(2)	Shank(3)	RE	IC08	Recommended Machining Data f_z (mm/t)
ECA-H3 01-04C06CF-R.05	1.00	6.00	4.00	57.00	3	6.0	5.0	C	0.05	•	0.01-0.01
ECA-H3 015-04/06C06CF-R01	1.50	6.00	4.00	57.00	3	6.0	5.0	C	0.10	•	0.01-0.01
ECA-H3 02-05/08C06CF-R01	2.00	6.00	5.00	57.00	3	8.0	5.0	C	0.10	•	0.01-0.02
ECA-H3 025-05/08C06CF-R01	2.50	6.00	5.00	57.00	3	8.0	5.0	C	0.10	•	0.01-0.02
ECA-H3 03-07/12C06CF-R01	3.00	6.00	7.00	57.00	3	12.0	5.0	C	0.10	•	0.03-0.05
ECA-H3 04-10/16C06CF-R02	4.00	6.00	10.00	57.00	3	16.0	5.0	C	0.20	•	0.03-0.05
ECA-H3 05-12/20C06CF-R02	5.00	6.00	12.00	57.00	3	20.0	5.0	C	0.20	•	0.03-0.06
ECA-H3 06-09/18C06CF-R02	6.00	6.00	9.00	57.00	3	18.0	5.0	C	0.20	•	0.03-0.07
ECA-H3 06-09/18C06CF-R04	6.00	6.00	9.00	57.00	3	18.0	5.0	C	0.40	•	0.03-0.07
ECA-H3 06-09/18C06CF-R08	6.00	6.00	9.00	57.00	3	18.0	5.0	C	0.80	•	0.03-0.07
ECA-H3 06-09/30C06CF-R02	6.00	6.00	9.00	65.00	3	30.0	5.0	C	0.20	•	0.03-0.07
ECA-H3 06-09/30C06CF-R04	6.00	6.00	9.00	65.00	3	30.0	5.0	C	0.40	•	0.03-0.07
ECA-H3 06-09/30C06CF-R08	6.00	6.00	9.00	65.00	3	30.0	5.0	C	0.80	•	0.03-0.07
ECA-H3 06-14/24C06CF-R02	6.00	6.00	14.00	60.00	3	24.0	5.0	C	0.20	•	0.03-0.07
ECA-H3 08-12/24C08CF-R02	8.00	8.00	12.00	63.00	3	24.0	5.0	C	0.20	•	0.03-0.09
ECA-H3 08-12/24C08CF-R04	8.00	8.00	12.00	63.00	3	24.0	5.0	C	0.40	•	0.03-0.09
ECA-H3 08-12/24C08CF-R08	8.00	8.00	12.00	63.00	3	24.0	5.0	C	0.80	•	0.03-0.09
ECA-H3 08-12/24C08CF-R30	8.00	8.00	12.00	63.00	3	24.0	5.0	C	3.00	•	0.03-0.09
ECA-H3 08-12/40C08CF-R02	8.00	8.00	12.00	79.00	3	40.0	5.0	C	0.20	•	0.03-0.09
ECA-H3 08-12/40C08CF-R04	8.00	8.00	12.00	79.00	3	40.0	5.0	C	0.40	•	0.03-0.09
ECA-H3 08-12/40C08CF-R08	8.00	8.00	12.00	79.00	3	40.0	5.0	C	0.80	•	0.03-0.09
ECA-H3 08-18/32C08CF-R02	8.00	8.00	18.00	68.00	3	32.0	5.0	C	0.20	•	0.03-0.09
ECA-H3 10-15/30C10CF-R02	10.00	10.00	15.00	72.00	3	30.0	5.0	C	0.20	•	0.03-0.10
ECA-H3 10-15/30C10CF-R04	10.00	10.00	15.00	72.00	3	30.0	5.0	C	0.40	•	0.03-0.10
ECA-H3 10-15/30C10CF-R08	10.00	10.00	15.00	72.00	3	30.0	5.0	C	0.80	•	0.03-0.10
ECA-H3 10-15/30C10CF-R16	10.00	10.00	15.00	72.00	3	30.0	5.0	C	1.60	•	0.03-0.10
ECA-H3 10-15/30C10CF-R30	10.00	10.00	15.00	72.00	3	30.0	5.0	C	3.00	•	0.03-0.10
ECA-H3 10-15/50C10CF-R02	10.00	10.00	15.00	92.00	3	50.0	5.0	C	0.20	•	0.03-0.10
ECA-H3 10-15/50C10CF-R04	10.00	10.00	15.00	92.00	3	50.0	5.0	C	0.40	•	0.03-0.10
ECA-H3 10-15/50C10CF-R08	10.00	10.00	15.00	92.00	3	50.0	5.0	C	0.80	•	0.03-0.10
ECA-H3 10-15/50C10CF-R16	10.00	10.00	15.00	92.00	3	50.0	5.0	C	1.60	•	0.03-0.10
ECA-H3 10-15/50C10CF-R20	10.00	10.00	15.00	92.00	3	50.0	5.0	C	2.00	•	0.03-0.10
ECA-H3 10-15/50C10CF-R30	10.00	10.00	15.00	92.00	3	50.0	5.0	C	3.00	•	0.03-0.10
ECA-H3 10-22/40C10CF-R02	10.00	10.00	22.00	80.00	3	40.0	5.0	C	0.20	•	0.03-0.10
ECA-H3 10-22/40C10CF-R30	10.00	10.00	22.00	80.00	3	40.0	5.0	C	3.00	•	0.03-0.10
ECA-H3 12-18/36C12CF-R02	12.00	12.00	18.00	83.00	3	36.0	5.0	C	0.20	•	0.04-0.11
ECA-H3 12-18/36C12CF-R04	12.00	12.00	18.00	83.00	3	36.0	5.0	C	0.40	•	0.04-0.11
ECA-H3 12-18/36C12CF-R08	12.00	12.00	18.00	83.00	3	36.0	5.0	C	0.80	•	0.04-0.11
ECA-H3 12-18/36C12CF-R16	12.00	12.00	18.00	83.00	3	36.0	5.0	C	1.60	•	0.04-0.11
ECA-H3 12-18/36C12CF-R20	12.00	12.00	18.00	83.00	3	36.0	5.0	C	2.00	•	0.04-0.11
ECA-H3 12-18/36C12CF-R25	12.00	12.00	18.00	83.00	3	36.0	5.0	C	2.50	•	0.04-0.11
ECA-H3 12-18/36C12CF-R30	12.00	12.00	18.00	57.00	3	36.0	5.0	C	3.00	•	0.04-0.11
ECA-H3 12-18/60C12CF-R02	12.00	12.00	18.00	100.00	3	60.0	5.0	C	0.20	•	0.04-0.11
ECA-H3 12-18/60C12CF-R04	12.00	12.00	18.00	100.00	3	60.0	5.0	C	0.40	•	0.04-0.11
ECA-H3 12-18/60C12CF-R08	12.00	12.00	18.00	100.00	3	60.0	5.0	C	0.80	•	0.04-0.11
ECA-H3 12-18/60C12CF-R16	12.00	12.00	18.00	100.00	3	60.0	5.0	C	1.60	•	0.04-0.11
ECA-H3 12-18/60C12CF-R20	12.00	12.00	18.00	100.00	3	60.0	5.0	C	2.00	•	0.04-0.11
ECA-H3 12-18/60C12CF-R25	12.00	12.00	18.00	100.00	3	60.0	5.0	C	2.50	•	0.04-0.11
ECA-H3 12-18/60C12CF-R30	12.00	12.00	18.00	100.00	3	60.0	5.0	C	3.00	•	0.04-0.11
ECA-H3 12-26/48C12CF-R02	12.00	12.00	26.00	93.00	3	48.0	5.0	C	0.20	•	0.04-0.11
ECA-H3 16-24/48C16CF-R02	16.00	16.00	24.00	92.00	3	48.0	5.0	C	0.20	•	0.05-0.13
ECA-H3 16-24/48C16CF-R04	16.00	16.00	24.00	92.00	3	48.0	5.0	C	0.40	•	0.05-0.13
ECA-H3 16-24/48C16CF-R08	16.00	16.00	24.00	92.00	3	48.0	5.0	C	0.80	•	0.05-0.13
ECA-H3 16-24/48C16CF-R16	16.00	16.00	24.00	92.00	3	48.0	5.0	C	1.60	•	0.05-0.13
ECA-H3 16-24/48C16CF-R20	16.00	16.00	24.00	92.00	3	48.0	5.0	C	2.00	•	0.05-0.13
ECA-H3 16-24/48C16CF-R25	16.00	16.00	24.00	92.00	3	48.0	5.0	C	2.50	•	0.05-0.13
ECA-H3 16-24/48C16CF-R30	16.00	16.00	24.00	92.00	3	48.0	5.0	C	3.00	•	0.05-0.13
ECA-H3 16-24/48C16CF-R32	16.00	16.00	24.00	92.00	3	48.0	5.0	C	3.20	•	0.05-0.13

• For user guide, see pages 169-176
(1) Number of flutes
(2) Maximum ramping angle
(3) C-Cylindrical

CHATTERFREE
SOLID MILL LINE

ECA-H3-CF (continued)

Solid Carbide Endmills with Different Helix, Variable Pitch and 3, 4 and 5xD Relieved Necks for Machining Aluminum



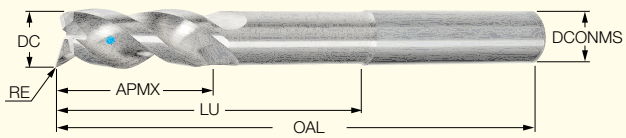
Designation	Dimensions									IC08	Recommended Machining Data
	DC	DCONMS	APMX	OAL	NOF(1)	LU	RMPX(2)	Shank(3)	RE		f_z (mm/t)
ECA-H3 16-24/48C16CF-R40	16.00	16.00	24.00	92.00	3	48.0	5.0	C	4.00	•	0.05-0.13
ECA-H3 16-24/48C16CF-R50	16.00	16.00	24.00	92.00	3	48.0	5.0	C	5.00	•	0.05-0.13
ECA-H3 16-24/80C16CF-R02	16.00	16.00	24.00	128.00	3	80.0	5.0	C	0.20	•	0.05-0.13
ECA-H3 16-24/80C16CF-R04	16.00	16.00	24.00	128.00	3	80.0	5.0	C	0.40	•	0.05-0.13
ECA-H3 16-24/80C16CF-R08	16.00	16.00	24.00	128.00	3	80.0	5.0	C	0.80	•	0.05-0.13
ECA-H3 16-24/80C16CF-R16	16.00	16.00	24.00	128.00	3	80.0	5.0	C	1.60	•	0.05-0.13
ECA-H3 16-24/80C16CF-R20	16.00	16.00	24.00	128.00	3	80.0	5.0	C	2.00	•	0.05-0.13
ECA-H3 16-24/80C16CF-R25	16.00	16.00	24.00	128.00	3	80.0	5.0	C	2.50	•	0.05-0.13
ECA-H3 16-24/80C16CF-R30	16.00	16.00	24.00	128.00	3	80.0	5.0	C	3.00	•	0.05-0.13
ECA-H3 16-24/80C16CF-R32	16.00	16.00	24.00	128.00	3	80.0	5.0	C	3.20	•	0.05-0.13
ECA-H3 16-24/80C16CF-R40	16.00	16.00	24.00	128.00	3	80.0	5.0	C	4.00	•	0.05-0.13
ECA-H3 16-24/80C16CF-R50	16.00	16.00	24.00	128.00	3	80.0	5.0	C	5.00	•	0.05-0.13
ECA-H3 16-34/64C16CF-R02	16.00	16.00	34.00	115.00	3	64.0	5.0	C	0.20	•	0.05-0.13
ECA-H3 20-30/100C20CF-R02	20.00	20.00	30.00	150.00	3	100.0	5.0	C	0.20	•	0.05-0.14
ECA-H3 20-30/100C20CF-R04	20.00	20.00	30.00	150.00	3	100.0	5.0	C	0.40	•	0.05-0.14
ECA-H3 20-30/100C20CF-R08	20.00	20.00	30.00	150.00	3	100.0	5.0	C	0.80	•	0.05-0.14
ECA-H3 20-30/100C20CF-R16	20.00	20.00	30.00	150.00	3	100.0	5.0	C	1.60	•	0.05-0.14
ECA-H3 20-30/100C20CF-R20	20.00	20.00	30.00	150.00	3	100.0	5.0	C	2.00	•	0.05-0.14
ECA-H3 20-30/100C20CF-R32	20.00	20.00	30.00	150.00	3	100.0	5.0	C	3.20	•	0.05-0.14
ECA-H3 20-30/100C20CF-R40	20.00	20.00	30.00	150.00	3	100.0	5.0	C	4.00	•	0.05-0.14
ECA-H3 20-30/100C20CF-R50	20.00	20.00	30.00	150.00	3	100.0	5.0	C	5.00	•	0.05-0.14
ECA-H3 20-30/60C20CF-R02	20.00	20.00	30.00	110.00	3	60.0	5.0	C	0.20	•	0.05-0.14
ECA-H3 20-30/60C20CF-R04	20.00	20.00	30.00	110.00	3	60.0	5.0	C	0.40	•	0.05-0.14
ECA-H3 20-30/60C20CF-R08	20.00	20.00	30.00	110.00	3	60.0	5.0	C	0.80	•	0.05-0.14
ECA-H3 20-30/60C20CF-R16	20.00	20.00	30.00	110.00	3	60.0	5.0	C	1.60	•	0.05-0.14
ECA-H3 20-30/60C20CF-R20	20.00	20.00	30.00	110.00	3	60.0	5.0	C	2.00	•	0.05-0.14
ECA-H3 20-30/60C20CF-R32	20.00	20.00	30.00	110.00	3	60.0	5.0	C	3.20	•	0.05-0.14
ECA-H3 20-30/60C20CF-R40	20.00	20.00	30.00	110.00	3	60.0	5.0	C	4.00	•	0.05-0.14
ECA-H3 20-30/60C20CF-R50	20.00	20.00	30.00	110.00	3	60.0	5.0	C	5.00	•	0.05-0.14
ECA-H3 20-42/80C20CF-R02	20.00	20.00	42.00	130.00	3	80.0	5.0	C	0.20	•	0.05-0.14
ECA-H3 25-38/125C25CF-R02	25.00	25.00	38.00	185.00	3	125.0	5.0	C	0.20	•	0.05-0.15
ECA-H3 25-38/125C25CF-R08	25.00	25.00	38.00	185.00	3	125.0	5.0	C	0.80	•	0.05-0.15
ECA-H3 25-38/125C25CF-R16	25.00	25.00	38.00	185.00	3	125.0	5.0	C	1.60	•	0.05-0.15
ECA-H3 25-38/125C25CF-R20	25.00	25.00	38.00	185.00	3	125.0	5.0	C	2.00	•	0.05-0.15
ECA-H3 25-38/125C25CF-R32	25.00	25.00	38.00	185.00	3	125.0	5.0	C	3.20	•	0.05-0.15
ECA-H3 25-38/125C25CF-R40	25.00	25.00	38.00	185.00	3	125.0	5.0	C	4.00	•	0.05-0.15
ECA-H3 25-38/125C25CF-R50	25.00	25.00	38.00	185.00	3	125.0	5.0	C	5.00	•	0.05-0.15
ECA-H3 25-38/75C25CF-R02	25.00	25.00	38.00	130.00	3	75.0	5.0	C	0.20	•	0.05-0.15
ECA-H3 25-38/75C25CF-R04	25.00	25.00	38.00	130.00	3	75.0	5.0	C	0.40	•	0.05-0.15
ECA-H3 25-38/75C25CF-R16	25.00	25.00	38.00	130.00	3	75.0	5.0	C	1.60	•	0.05-0.15
ECA-H3 25-38/75C25CF-R20	25.00	25.00	38.00	130.00	3	75.0	5.0	C	2.00	•	0.05-0.15
ECA-H3 25-38/75C25CF-R32	25.00	25.00	38.00	130.00	3	75.0	5.0	C	3.20	•	0.05-0.15
ECA-H3 25-38/75C25CF-R40	25.00	25.00	38.00	130.00	3	75.0	5.0	C	4.00	•	0.05-0.15
ECA-H3 25-38/75C25CF-R50	25.00	25.00	38.00	130.00	3	75.0	5.0	C	5.00	•	0.05-0.15
ECA-H3 25-52/100C25CF-R02	25.00	25.00	52.00	156.00	3	100.0	5.0	C	0.20	•	0.05-0.15

• For user guide, see pages 169-176
(1) Number of flutes
(2) Maximum ramping angle
(3) C-Cylindrical

CHATTERFREE
SOLID MILL LINE

ECA-H3-CF-C

Solid Carbide Endmills with Different Helix, Variable Pitch, Coolant Holes and Neck Relief for Machining Aluminum



ALUMINUM

Designation	Dimensions DC	APMX	LU	OAL	DCONMS	RE	NOF(1)	RMPX(2)	Shank(3)	IC08	Recommended Machining Data fz (mm/t)
ECA-H3 06-12/18C06CF-R02C	6.00	12.00	18.0	57.00	6.00	0.20	3	5.0	C	•	0.03-0.07
ECA-H3 06-12/30C06CF-R02C	6.00	12.00	30.0	64.00	6.00	0.20	3	5.0	C	•	0.03-0.07
ECA-H3 08-16/24C08CF-R02C	8.00	16.00	24.0	63.00	8.00	0.20	3	5.0	C	•	0.03-0.09
ECA-H3 08-16/40C08CF-R02C	8.00	16.00	40.0	78.00	8.00	0.20	3	5.0	C	•	0.03-0.09
ECA-H3 10-20/30C10CF-R02C	10.00	20.00	30.0	72.00	10.00	0.20	3	5.0	C	•	0.03-0.10
ECA-H3 10-20/50C10CF-R02C	10.00	20.00	50.0	100.00	10.00	0.20	3	5.0	C	•	0.03-0.10
ECA-H3 12-24/36C12CF-R02C	12.00	24.00	36.0	83.00	12.00	0.20	3	5.0	C	•	0.04-0.11
ECA-H3 12-24/60C12CF-R02C	12.00	24.00	60.0	100.00	12.00	0.20	3	5.0	C	•	0.04-0.11
ECA-H3 16-32/48C16CF-R02C	16.00	32.00	48.0	92.00	16.00	0.20	3	5.0	C	•	0.05-0.13
ECA-H3 16-32/80C16CF-R02C	16.00	32.00	80.0	127.00	16.00	0.20	3	5.0	C	•	0.05-0.13
ECA-H3 20-40/60C20CF-R02C	20.00	40.00	60.0	109.00	20.00	0.20	3	5.0	C	•	0.05-0.14
ECA-H320-40/100C20CF-R02C	20.00	40.00	100.0	149.00	20.00	0.20	3	5.0	C	•	0.05-0.14
ECA-H3 25-50/75C25CF-R02C	25.00	50.00	75.0	128.00	25.00	0.20	3	5.0	C	•	0.05-0.15
ECA-H325-50/125C25CF-R02C	25.00	50.00	125.0	183.00	25.00	0.20	3	5.0	C	•	0.05-0.15

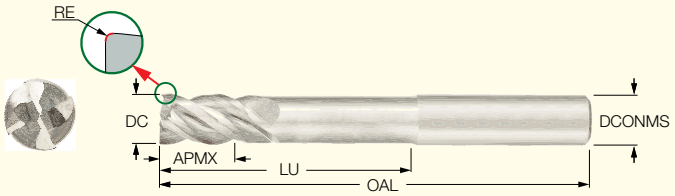
• For user guide, see pages 169-176
(1) Number of flutes
(2) Maximum ramping angle
(3) C-Cylindrical

SOLIDMILL
PREMIUM LINE

CHATTERFREE
SOLID MILL LINE

ECA-H4-CF

Solid Carbide Endmills with Different Helix and Long Neck Relief for Machining Aluminum



ALUMINUM

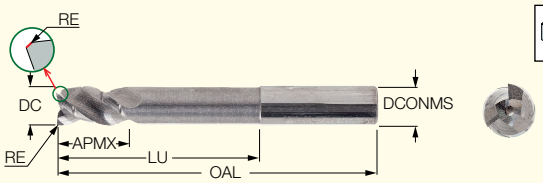
Designation	Dimensions DC	APMX	LU	OAL	DCONMS	RE	NOF(1)	RMPX(2)	Shank(3)	IC08	Recommended Machining Data fz (mm/t)
ECA-H4 06-09/30C06CFR02	6.00	9.00	30.0	65.00	6.00	0.20	4	5.0	C	•	0.03-0.07
ECA-H4 06-12/18C06CFR02	6.00	12.00	18.0	57.00	6.00	0.20	4	5.0	C	•	0.03-0.07
ECA-H4 08-12/40C08CFR02	8.00	12.00	40.0	79.00	8.00	0.20	4	5.0	C	•	0.03-0.09
ECA-H4 08-16/24C08CFR02	8.00	16.00	24.0	63.00	8.00	0.20	4	5.0	C	•	0.03-0.09
ECA-H4 10-15/50C10CFR02	10.00	15.00	50.0	92.00	10.00	0.20	4	5.0	C	•	0.04-0.10
ECA-H4 10-20/30C10CFR02	10.00	20.00	30.0	72.00	10.00	0.20	4	5.0	C	•	0.04-0.10
ECA-H4 12-18/60C12CFR02	12.00	18.00	60.0	100.00	12.00	0.20	4	5.0	C	•	0.04-0.11
ECA-H4 12-24/36C12CFR02	12.00	24.00	36.0	83.00	12.00	0.20	4	5.0	C	•	0.04-0.11
ECA-H4 16-24/80C16CFR02	16.00	24.00	80.0	128.00	16.00	0.20	4	5.0	C	•	0.05-0.13
ECA-H4 16-32/48C16CFR02	16.00	32.00	48.0	100.00	16.00	0.20	4	5.0	C	•	0.05-0.13
ECA-H4 20-30/100C20CFR02	20.00	30.00	100.0	150.00	20.00	0.20	4	5.0	C	•	0.05-0.14
ECA-H4 20-40/60C20CFR02	20.00	40.00	60.0	110.00	20.00	0.20	4	5.0	C	•	0.05-0.14
ECA-H4 25-38/125C25CFR02	25.00	38.00	125.0	185.00	25.00	0.20	4	5.0	C	•	0.08-0.14
ECA-H4 25-50/75C25CFR02	25.00	50.00	75.0	130.00	25.00	0.20	4	5.0	C	•	0.08-0.14

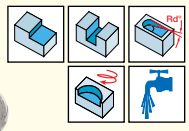
• For user guide, see pages 169-176
(1) Number of flutes
(2) Maximum ramping angle
(3) C-Cylindrical

CHATTERFREE SOLID MILL LINE

ECAP-H3-CF

Solid Carbide Endmills with Different Helix, Variable Pitch, Chip Splitters and Coolant Holes for Machining Aluminum





ALUMINUM

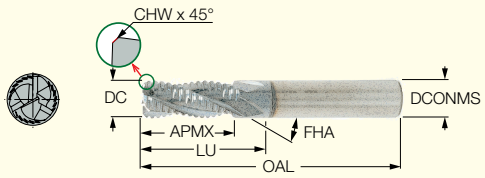
Designation	Dimensions DC	APMX	LU	OAL	DCONMS	RE	NOF(1)	RMPX(2)	Shank(3)	IC08	Recommended Machining Data fz (mm/t)
ECAP-H3 10-15/50C10CFR02C	10.00	15.00	50.0	92.00	10.00	0.20	3	5.0	C	•	0.03-0.10
ECAP-H3 10-22/40C10CFR02C	10.00	22.00	40.0	80.00	10.00	0.20	3	5.0	C	•	0.03-0.10
ECAP-H3 12-18/60C12CFR02C	12.00	18.00	60.0	100.00	12.00	0.20	3	5.0	C	•	0.04-0.11
ECAP-H3 12-26/48C12CFR02C	12.00	26.00	48.0	93.00	12.00	0.20	3	5.0	C	•	0.04-0.11
ECAP-H3 16-24/80C16CFR02C	16.00	24.00	80.0	128.00	16.00	0.20	3	5.0	C	•	0.05-0.13
ECAP-H3 16-34/64C16CFR02C	16.00	34.00	64.0	115.00	16.00	0.20	3	5.0	C	•	0.05-0.13
ECAP-H320-30/100C20CFR02C	20.00	30.00	100.0	150.00	20.00	0.20	3	5.0	C	•	0.05-0.14
ECAP-H3 20-42/80C20CFR02C	20.00	42.00	80.0	130.00	20.00	0.20	3	5.0	C	•	0.05-0.14
ECAP-H325-38/125C25CFR02C	25.00	38.00	125.0	185.00	25.00	0.20	3	5.0	C	•	0.05-0.14
ECAP-H325-52/100C25CFR02C	25.00	52.00	100.0	158.00	25.00	0.20	3	5.0	C	•	0.05-0.14

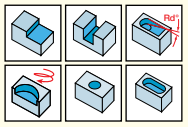
• For user guide, see pages 169-176
(1) Number of flutes
(2) Maximum ramping angle
(3) C-Cylindrical

SOLIDSHRED

ERC-E-3

3 Flute, 38° Helix Medium Length Solid Carbide Roughing Endmills with 3xD Relieved Necks for Machining Aluminum





ALUMINUM

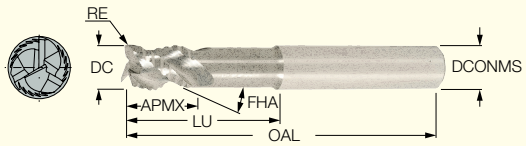
Designation	Dimensions DC	DCONMS	APMX	LU	OAL	NOF(1)	FHA	RMPX(2)	Shank(3)	CHW	Tough ↔ Hard IC08	IC300	Recommended Machining Data fz (mm/t)
ERC060E13-3C06	6.00	6.00	13.00	21.0	57.00	3	38.0	5.0	C	0.50	•		0.03-0.07
ERC060E13-3W06	6.00	6.00	13.00	21.0	57.00	3	38.0	5.0	W	0.50	•	•	0.03-0.07
ERC080E20-3C08	8.00	8.00	20.00	28.0	63.00	3	38.0	5.0	C	0.50	•		0.03-0.15
ERC080E20-3W08	8.00	8.00	20.00	28.0	63.00	3	38.0	5.0	W	0.50	•	•	0.03-0.15
ERC100E22-3C10	10.00	10.00	22.00	30.0	72.00	3	38.0	5.0	C	0.60	•		0.05-0.20
ERC100E22-3W10	10.00	10.00	22.00	30.0	72.00	3	38.0	5.0	W	0.60	•	•	0.05-0.20
ERC120E25-3C12	12.00	12.00	25.00	37.0	83.00	3	38.0	5.0	C	0.60	•		0.07-0.22
ERC120E25-3W12	12.00	12.00	25.00	37.0	83.00	3	38.0	5.0	W	0.60	•	•	0.07-0.22
ERC140E25-3W14	14.00	14.00	25.00	37.0	83.00	3	38.0	5.0	W	0.60		•	0.07-0.22
ERC160E32-3C16	16.00	16.00	32.00	44.0	92.00	3	38.0	5.0	C	0.60	•		0.07-0.25
ERC160E32-3W16	16.00	16.00	32.00	44.0	92.00	3	38.0	5.0	W	0.60	•	•	0.07-0.25
ERC180E32-3W18	18.00	18.00	32.00	44.0	92.00	3	38.0	5.0	W	0.60		•	0.07-0.25
ERC200E38-3C20	20.00	20.00	38.00	55.0	104.00	3	38.0	5.0	C	0.70	•		0.07-0.25
ERC200E38-3W20	20.00	20.00	38.00	55.0	104.00	3	38.0	5.0	W	0.70	•	•	0.07-0.25
ERC250E45-3C25	25.00	25.00	45.00	64.0	121.00	3	38.0	5.0	C	0.70	•		0.07-0.25
ERC250E45-3W25	25.00	25.00	45.00	64.0	121.00	3	38.0	5.0	W	0.70		•	0.07-0.25

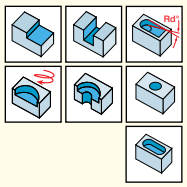
• For user guide, see pages 169-176
(1) Number of flutes
(2) Maximum ramping angle
(3) C-Cylindrical, W-Weldon

SOLIDSHRED

ECR-B3-R

3 Flute, 45° Helix Solid Carbide Roughing Endmills with 3xD Relieved Necks for High Stock Removal Rates of Aluminum





Designation	Dimensions										IC08	Recommended Machining Data
	DC	DCONMS	LU	OAL	NOF(1)	FHA	RMPX(2)	APMX	Shank(3)	RE		fz (mm/t)
ECR-B3 06-09/21C06R02A57	6.00	6.00	21.0	57.00	3	45.0	20.0	9.00	C	0.20	•	0.03-0.07
ECR-B3 06-09/21W06R02A57	6.00	6.00	21.0	57.00	3	45.0	20.0	9.00	W	0.20	•	0.03-0.07
ECR-B3 06-09/30C06R02A65	6.00	6.00	30.0	65.00	3	45.0	20.0	9.00	C	0.20	•	0.03-0.07
ECR-B3 06-09/30W06R02A65	6.00	6.00	30.0	65.00	3	45.0	20.0	9.00	W	0.20	•	0.03-0.07
ECR-B3 08-12/27C08R02A63	8.00	8.00	27.0	63.00	3	45.0	20.0	12.00	C	0.20	•	0.03-0.15
ECR-B3 08-12/27W08R02A63	8.00	8.00	27.0	63.00	3	45.0	20.0	12.00	W	0.20	•	0.03-0.15
ECR-B3 08-12/40C08R02A78	8.00	8.00	40.0	78.00	3	45.0	20.0	12.00	C	0.20	•	0.03-0.15
ECR-B3 08-12/40W08R02A78	8.00	8.00	40.0	78.00	3	45.0	20.0	12.00	W	0.20	•	0.03-0.15
ECR-B3 10-12/31C10R02A72	10.00	10.00	31.0	72.00	3	45.0	20.0	12.00	C	0.20	•	0.05-0.20
ECR-B3 10-12/31W10R02A72	10.00	10.00	31.0	72.00	3	45.0	20.0	12.00	W	0.20	•	0.05-0.20
ECR-B3 10-12/50C10R02A100	10.00	10.00	50.0	100.00	3	45.0	20.0	12.00	C	0.20	•	0.05-0.20
ECR-B3 10-12/50W10R02A100	10.00	10.00	50.0	100.00	3	45.0	20.0	12.00	W	0.20	•	0.05-0.20
ECR-B3 12-12/37C12R02A83	12.00	12.00	37.0	83.00	3	45.0	20.0	12.00	C	0.20	•	0.07-0.22
ECR-B3 12-12/37W12R02A83	12.00	12.00	37.0	83.00	3	45.0	20.0	12.00	W	0.20	•	0.07-0.22
ECR-B3 12-14/55C12R02A100	12.00	12.00	55.0	100.00	3	45.0	20.0	14.00	C	0.20	•	0.07-0.22
ECR-B3 12-14/55W12R02A100	12.00	12.00	55.0	100.00	3	45.0	20.0	14.00	W	0.20	•	0.07-0.22
ECR-B3 16-14/43C16R02A92	16.00	16.00	43.0	92.00	3	45.0	20.0	14.00	C	0.20	•	0.07-0.25
ECR-B3 16-14/43W16R02A92	16.00	16.00	43.0	92.00	3	45.0	20.0	14.00	W	0.20	•	0.07-0.25
ECR-B3 16-18/80C16R02A150	16.00	16.00	80.0	150.00	3	45.0	20.0	18.00	C	0.20	•	0.07-0.25
ECR-B3 16-18/80W16R02A150	16.00	16.00	80.0	150.00	3	45.0	20.0	18.00	W	0.20	•	0.07-0.25
ECR-B3 20-17/53C20R02A104	20.00	20.00	53.0	104.00	3	45.0	20.0	17.00	C	0.20	•	0.07-0.25
ECR-B3 20-17/53W20R02A104	20.00	20.00	53.0	104.00	3	45.0	20.0	17.00	W	0.20	•	0.07-0.25
ECR-B3 20-22/80C20R02A150	20.00	20.00	80.0	150.00	3	45.0	20.0	22.00	C	0.20	•	0.07-0.25
ECR-B3 20-22/80W20R02A150	20.00	20.00	80.0	150.00	3	45.0	20.0	22.00	W	0.20	•	0.07-0.25

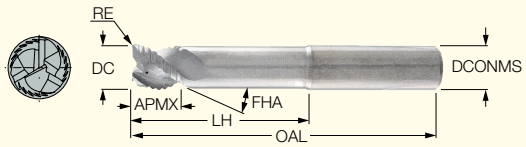
• For user guide, see pages 169-176
(1) Number of flutes
(2) Maximum ramping angle
(3) C-Cylindrical, W-Weldon

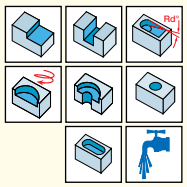
SOLIDMILL PREMIUM LINE

SOLIDSHRED

ECR-B3-R-C

3 Flute, 45° Helix Solid Carbide Roughing Endmills with 3xD Relieved Necks and Coolant Channels for Aluminum





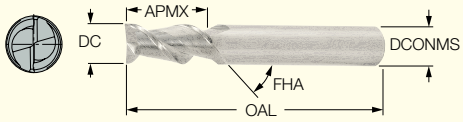
Designation	Dimensions										IC08	Recommended Machining Data
	DC	DCONMS	LH	OAL	NOF(1)	FHA	RMPX(2)	APMX	Shank(3)	RE		fz (mm/t)
ECR-B3 08-12/41C08R02A83C	8.00	8.00	41.0	83.00	3	45.0	20.0	12.00	C	0.20	•	0.05-0.15
ECR-B3 08-12/41C08R20A83C	8.00	8.00	41.0	83.00	3	45.0	20.0	12.00	C	2.00	•	0.05-0.15
ECR-B3 10-12/41C10R.2A83C	10.00	10.00	41.0	83.00	3	45.0	20.0	12.00	C	0.20	•	0.07-0.20
ECR-B3 10-12/41C10R20A83C	10.00	10.00	41.0	83.00	3	45.0	20.0	12.00	C	2.00	•	0.07-0.20
ECR-B3 12-12/41C12R.2A87C	12.00	12.00	41.0	87.00	3	45.0	20.0	12.00	C	0.20	•	0.10-0.22
ECR-B3 16-14/60C16R2A109C	16.00	16.00	60.0	109.00	3	45.0	20.0	14.00	C	2.00	•	0.10-0.25
ECR-B316-14/60C16R.2A109C	16.00	16.00	60.0	109.00	3	45.0	20.0	14.00	C	0.20	•	0.10-0.25
ECR-B316-14/60C16R40A109C	16.00	16.00	60.0	109.00	3	45.0	20.0	14.00	C	4.00	•	0.10-0.25
ECR-B320-17/60C20R40A111C	20.00	20.00	60.0	111.00	3	45.0	20.0	17.00	C	4.00	•	0.10-0.25
ECR-B320-30/100C25R4A150C	20.00	20.00	100.0	150.00	3	45.0	20.0	30.00	C	4.00	•	0.10-0.25
ECR-B325-25/74C25R40A130C	25.00	25.00	74.0	130.00	3	45.0	20.0	25.00	C	4.00	•	0.10-0.25

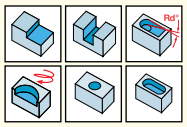
• For user guide, see pages 169-176
(1) Number of flutes
(2) Maximum ramping angle
(3) C-Cylindrical

SOLIDMILL PREMIUM LINE

ECA-B-2

2 Flute, 45° Helix Medium Length Solid Carbide Endmills for Machining Aluminum





ALUMINUM

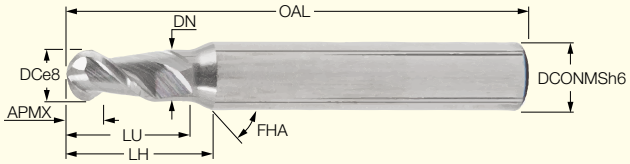
Designation	Dimensions DC	DCONMS	APMX	OAL	NOF(1)	FHA	RMPX(2)	Shank(3)	IC08	Recommended Machining Data fz (mm/t)
ECA040B12-2C06	4.00	6.00	12.00	57.00	2	45.0	5.0	C	•	0.02-0.05
ECA050B14-2C06	5.00	6.00	14.00	57.00	2	45.0	5.0	C	•	0.02-0.06
ECA060B16-2C06	6.00	6.00	16.00	57.00	2	45.0	5.0	C	•	0.03-0.07
ECA080B20-2C08	8.00	8.00	20.00	63.00	2	45.0	5.0	C	•	0.03-0.09
ECA100B22-2C10	10.00	10.00	22.00	72.00	2	45.0	5.0	C	•	0.03-0.10
ECA120B25-2C12	12.00	12.00	25.00	83.00	2	45.0	5.0	C	•	0.04-0.11
ECA160B32-2C16	16.00	16.00	32.00	92.00	2	45.0	5.0	C	•	0.05-0.13
ECA200B38-2C20	20.00	20.00	38.00	104.00	2	45.0	5.0	C	•	0.05-0.13

• For user guide, see pages 169-176
(1) Number of flutes
(2) Maximum ramping angle
(3) C-Cylindrical

SOLIDMILL PREMIUM LINE

EBA-B2

2 Flute High Precision Solid Carbide Ball Nose Endmills for Machining Aluminum



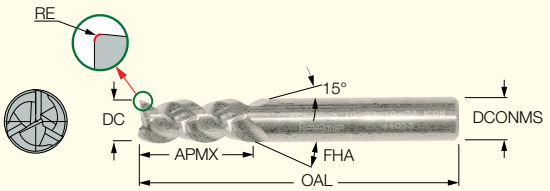
Designation	Dimensions DC	DCONMS	APMX	OAL	LU	LH	DN	NOF(1)	FHA	Shank(2)	IC08
EBA-B2 010-010/02C6-57	1.00	6.00	1.00	57.00	2.0	12.0	0.95	2	45.0	C	•
EBA-B2 020-020/04C6-57	2.00	6.00	2.00	57.00	4.0	12.0	1.80	2	45.0	C	•
EBA-B2 030-030/06C6-57	3.00	6.00	3.00	57.00	6.0	12.0	2.70	2	45.0	C	•
EBA-B2 040-040/08C6-57	4.00	6.00	4.00	57.00	8.0	12.0	3.70	2	45.0	C	•
EBA-B2 050-050/10C6-57	5.00	6.00	5.00	57.00	10.0	12.0	4.70	2	45.0	C	•
EBA-B2 060-060/12C6-57	6.00	6.00	6.00	57.00	12.0	13.0	5.50	2	45.0	C	•

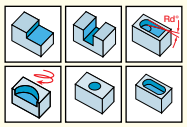
• For user guide, see pages 169-176
(1) Number of flutes
(2) C-Cylindrical

SOLIDMILL PREMIUM LINE

ECA-B-3

3 Flute, 45° Helix Medium Length Solid Carbide Endmills for Machining Aluminum





ALUMINUM

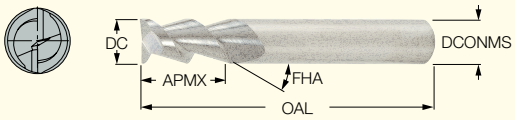
Designation	Dimensions DC	DCONMS	APMX	OAL	NOF(1)	FHA	RMPX(2)	Shank(3)	RE	IC08	Recommended Machining Data fz (mm/t)
ECA-B-3 04-12C06-57	4.00	6.00	12.00	57.00	3	45.0	5.0	C	0.10	•	0.02-0.05
ECA-B-3 04-12W06-57	4.00	6.00	12.00	57.00	3	45.0	5.0	W	0.10	•	0.02-0.05
ECA-B-3 05-14C06-57	5.00	6.00	14.00	57.00	3	45.0	5.0	C	0.20	•	0.02-0.06
ECA-B-3 05-14W06-57	5.00	6.00	14.00	57.00	3	45.0	5.0	W	0.20	•	0.02-0.06
ECA-B-3 06-16C06-57	6.00	6.00	16.00	57.00	3	45.0	5.0	C	0.20	•	0.03-0.07
ECA-B-3 06-16W06-57	6.00	6.00	16.00	57.00	3	45.0	5.0	W	0.20	•	0.03-0.07
ECA-B-3 08-20C08-63	8.00	8.00	20.00	63.00	3	45.0	5.0	C	0.20	•	0.03-0.09
ECA-B-3 08-20C08R3-63	8.00	8.00	20.00	63.00	3	45.0	5.0	C	3.00	•	0.03-0.09
ECA-B-3 08-20W08-63	8.00	8.00	20.00	63.00	3	45.0	5.0	W	0.20	•	0.03-0.09
ECA-B-3 10-22C10-72	10.00	10.00	22.00	72.00	3	45.0	5.0	C	0.20	•	0.03-0.10
ECA-B-3 10-22W10-72	10.00	10.00	22.00	72.00	3	45.0	5.0	W	0.20	•	0.03-0.10
ECA-B-3 10-25C10R3-72	10.00	10.00	25.00	72.00	3	45.0	5.0	C	3.00	•	0.03-0.10
ECA-B-3 10-25C10R4-72	10.00	10.00	25.00	72.00	3	45.0	5.0	C	4.00	•	0.03-0.10
ECA-B-3 12-25C12-83	12.00	12.00	25.00	83.00	3	45.0	5.0	C	0.20	•	0.04-0.11
ECA-B-3 12-25W12-83	12.00	12.00	25.00	83.00	3	45.0	5.0	W	0.20	•	0.04-0.11
ECA-B-3 12-30C12R3-83	12.00	12.00	30.00	83.00	3	45.0	5.0	C	3.00	•	0.04-0.11
ECA-B-3 12-30C12R4-83	12.00	12.00	30.00	83.00	3	45.0	5.0	C	4.00	•	0.04-0.11
ECA-B-3 14-30C14-83	14.00	14.00	30.00	83.00	3	45.0	5.0	C	0.20	•	0.04-0.12
ECA-B-3 14-30W14-83	14.00	14.00	30.00	83.00	3	45.0	5.0	W	0.20	•	0.04-0.12
ECA-B-3 16-32C16-92	16.00	16.00	32.00	92.00	3	45.0	5.0	C	0.20	•	0.05-0.13
ECA-B-3 16-32W16-92	16.00	16.00	32.00	92.00	3	45.0	5.0	W	0.20	•	0.05-0.13
ECA-B-3 20-38C20-104	20.00	20.00	38.00	104.00	3	45.0	5.0	C	0.20	•	0.05-0.13
ECA-B-3 20-38W20-104	20.00	20.00	38.00	104.00	3	45.0	5.0	W	0.20	•	0.05-0.13

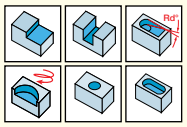
• For user guide, see pages 169-176
(1) Number of flutes
(2) Maximum ramping angle
(3) C-Cylindrical, W-Weldon

SOLIDMILL PREMIUM LINE

ECA-F-2

2 Flute, 55° Helix Medium Length Solid Carbide Endmills for Machining Aluminum





ALUMINUM

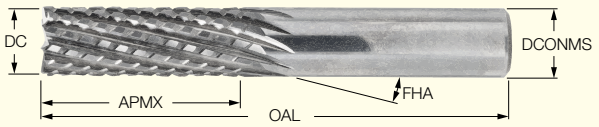
Designation	Dimensions DC	DCONMS	APMX	OAL	NOF(1)	FHA	RMPX(2)	Shank(3)	IC08	Recommended Machining Data fz (mm/t)
ECA040F11-2C04	4.00	4.00	11.00	50.00	2	55.0	5.0	C	•	0.02-0.05
ECA060F13-2C06	6.00	6.00	13.00	57.00	2	55.0	5.0	C	•	0.03-0.07
ECA080F20-2C08	8.00	8.00	20.00	63.00	2	55.0	5.0	C	•	0.03-0.09
ECA100F22-2C10	10.00	10.00	22.00	72.00	2	55.0	5.0	C	•	0.03-0.10
ECA120F25-2C12	12.00	12.00	25.00	83.00	2	55.0	5.0	C	•	0.04-0.11
ECA160F32-2C16	16.00	16.00	32.00	92.00	2	55.0	5.0	C	•	0.05-0.13
ECA200F38-2C20	20.00	20.00	38.00	104.00	2	55.0	5.0	C	•	0.05-0.13
ECA250F45-2C25	25.00	25.00	45.00	121.00	2	55.0	5.0	C	•	0.05-0.13

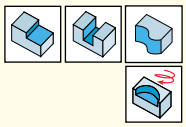
• For user guide, see pages 169-176
(1) Number of flutes
(2) Maximum ramping angle
(3) C-Cylindrical

SOLIDMILL PREMIUM LINE

EPN-F

Solid Endmills with a Special Edge Configuration for Machining Different Types of Composite Materials





Designation	Dimensions DC	DCONMS	APMX	OAL	NOF(2)	FHA	Shank(3)	IC02	Recommended Machining Data f_z (mm/t)
EPN-F10 03-12C03F55	3.00	3.00	12.00	55.00	10	15.0	C	•	0.01-0.02
EPN-F10 04-16C04F55	4.00	4.00	16.00	55.00	10	15.0	C	•	0.01-0.02
EPN-F10 06-19C06F57	6.00	6.00	19.00	57.00	10	15.0	C	•	0.02-0.03
EPNF060S15-3L/9C06F57 (1)	6.00	6.00	15.00	57.00	9	15.0	C	•	0.02-0.04
EPN-F12 08-25C08F63	8.00	8.00	25.00	63.00	12	15.0	C	•	0.02-0.03
EPNF080S25-3L/10C8F72 (1)	8.00	8.00	25.00	72.00	10	15.0	C	•	0.02-0.04
EPN-F12 10-25C10F72	10.00	10.00	25.00	72.00	12	15.0	C	•	0.02-0.03
EPNF100S25-3L/12C10F72 (1)	10.00	10.00	25.00	72.00	12	15.0	C	•	0.02-0.04
EPN-F12 12-25C12F83	12.00	12.00	25.00	83.00	12	15.0	C	•	0.02-0.03

• Coated tools available on request • For user guide, see pages 169-176

(1) Deep chip gullets for eliminating chip jamming.

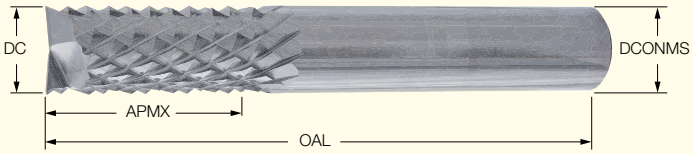
(2) Number of flutes

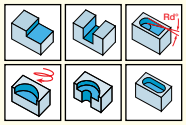
(3) C-Cylindrical

SOLIDMILL PREMIUM LINE

EPNC

Solid Carbide Endmill with Special Cutting Edges, for Machining Different Types of Composite Materials





Designation	Dimensions DC	DCONMS	APMX	OAL	NOF(1)	RMPX(2)	Shank(3)	IC02	Recommended Machining Data f_z (mm/t)
EPNC-C10 08-25C08F63	8.00	8.00	25.00	63.00	10	5.0	C	•	0.02-0.08
EPNC-C10 10-25C10F72	10.00	10.00	25.00	72.00	10	5.0	C	•	0.02-0.08
EPNC-C10 12-25C12F83	12.00	12.00	25.00	83.00	10	5.0	C	•	0.02-0.08

• For user guide, see pages 169-176

(1) Number of flutes

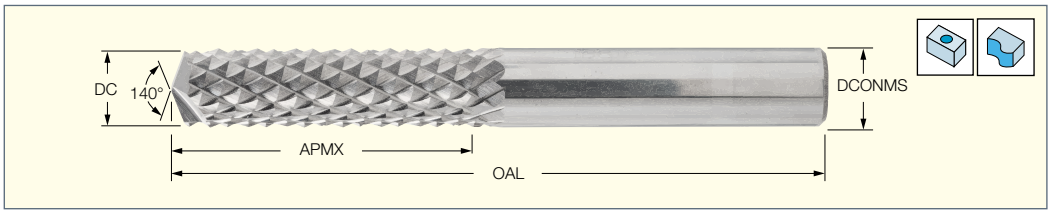
(2) Maximum ramping angle

(3) C-Cylindrical

SOLIDMILL PREMIUM LINE

EPND

Solid Carbide Endmill with Special Cutting Edges Also for Drill Mill Operation



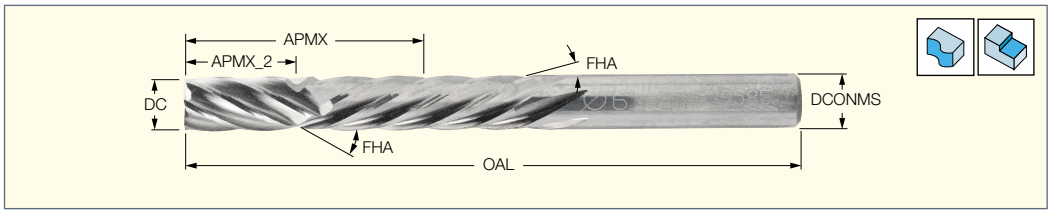
Designation	Dimensions DC	DCONMS	APMX	OAL	NOF(1)	Shank(2)	IC02	Recommended Machining Data f_z (mm/t)
EPND-C6 016-5C03F55	1.60	3.00	5.00	55.00	6	C	•	0.0050-0.0100
EPND-C6 024-10C03F55	2.40	3.00	10.00	55.00	6	C	•	0.0050-0.0100
EPND-C8 03-12C03F55	3.00	3.00	12.00	55.00	8	C	•	0.0050-0.0120
EPND-C8 04-16C04F60	4.00	4.00	16.00	60.00	8	C	•	0.0050-0.0120
EPND-C10 06-19C06F65	6.00	6.00	19.00	65.00	10	C	•	0.0200-0.0800
EPND-C10 08-25C08F63	8.00	8.00	25.00	63.00	10	C	•	0.0200-0.0800
EPND-C10 10-25C10F72	10.00	10.00	25.00	72.00	10	C	•	0.0200-0.0800
EPND-C10 12-25C12F83	12.00	12.00	25.00	83.00	10	C	•	0.0200-0.0800

• For user guide, see pages 169-176
(1) Number of flutes
(2) C-Cylindrical

SOLIDMILL PREMIUM LINE

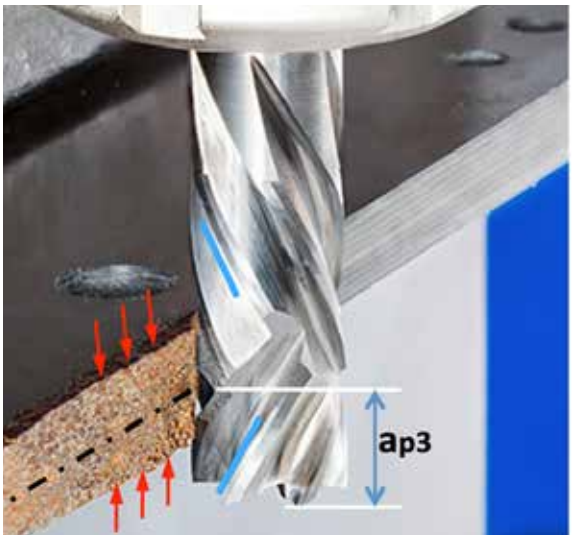
EPX

Solid Endmills with Right and Left-Hand Helix Flutes, Changing Direction at Mid Cutting Heights



Designation	Dimensions DC	DCONMS	APMX	APMX_2	OAL	NOF(1)	FHA	Shank(2)	IC02	Recommended Machining Data f_z (mm/t)
EPX-F6 06-12C06F57	6.00	6.00	12.00	5.30	57.00	6	30.0	C	•	0.02-0.06
EPX-F6 08-16C08F63	8.00	8.00	16.00	6.60	63.00	6	30.0	C	•	0.02-0.06
EPX-F6 10-20C10F72	10.00	10.00	20.00	8.70	72.00	6	30.0	C	•	0.02-0.06
EPX-F8 12-24C12F83	12.00	12.00	24.00	10.60	83.00	8	30.0	C	•	0.02-0.06

• Important: For best results, the intersection of the alternating flute directions (APMX_2) should be positioned in the middle of the workpiece height • Coated tools available on request • For user guide, see pages 169-176
(1) Number of flutes
(2) C-Cylindrical



SOLIDMILL PREMIUM LINE

CHATTERFREE SOLID MILL LINE

EB-H-CF

3/5 Flute Solid Carbide Ball Nose Endmills with Different Helix and Variable Pitch for Materials up to 65 HRC

Designation	Dimensions							IC902
	DC	DCONMS	APMX	OAL	NOF[1]	FHA	Shank[2]	
EB-H3 06-12C06CFH57	6.00	6.00	12.00	57.00	3	38.0	C	•
EB-H3 08-16C08CFH63	8.00	8.00	16.00	63.00	3	38.0	C	•
EB-H3 10-20C10CFH72	10.00	10.00	20.00	72.00	3	38.0	C	•
EB-H3 12-24C12CFH83	12.00	12.00	24.00	83.00	3	38.0	C	•
EB-H5 16-32C16CFH92	16.00	16.00	32.00	92.00	5	38.0	C	•
EB-H5 20-40C20CFH104	20.00	20.00	40.00	104.00	5	38.0	C	•

• For user guide, see pages 169-176

(1) Number of flutes

(2) C-Cylindrical

Effective Cutting Diameter as a Function of Depth of Cut

ap(mm) \ Tool D(mm)	6	8	10	12
0.2	2.1	2.5	2.8	3.1
0.3	2.6	3	3.4	3.7
0.5	3.3	3.9	4.3	4.8
0.7	3.8	4.5	5.1	5.6
1	4.5	5.3	6	6.6
2	5.6	6.9	8	8.9
3	6	7.7	9.1	10.4
4	-	8	9.8	11.3
5	-	-	10	11.8
6	-	-	-	12

Feed Recommendations

ISO Class DIN/ISO 513	Material Group	fz (mm/tooth) for D			
		6	8	10	12
P	1-4	0.055	0.062	0.07	0.08
	5	0.043	0.05	0.06	0.068
	6-7	0.04	0.048	0.057	0.062
	8-9	0.035	0.038	0.045	0.05
	10	0.03	0.032	0.038	0.042
	11	0.025	0.028	0.035	0.038
	12-13	0.03	0.032	0.038	0.042
K	15-16	0.058	0.065	0.073	0.085
	17-18	0.058	0.065	0.073	0.085
H	38.1	0.021	0.025	0.027	0.03
	38.2	0.008	0.009	0.01	0.013
	39	0.007	0.007	0.008	0.009

The table refers to rough and semi-finish milling applications
For semi-finish and finish applications, the table values should be reduced by 10-20%

Cutting Speed Recommendations (IC902)

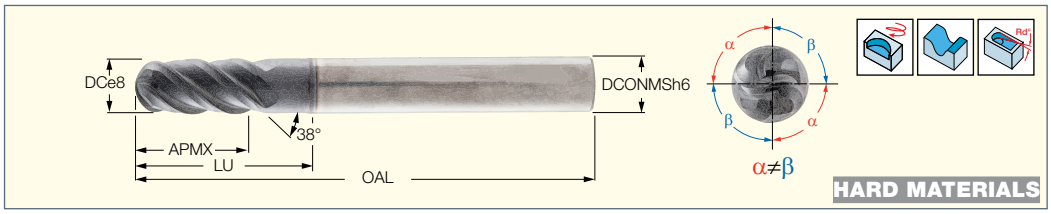
ISO Class DIN/ISO 513	Material Group	Vc (m/min)		
		Roughing	Semi-Finishing	Finishing
P	1	180	220	280
	2-4	150	170	200
	5	125	140	170
	6	130	150	190
	7-9	120	135	170
	10	115	130	165
	11	100	110	120
	12-13	110	110	150
K	15-16	160	180	220
	17-18	150	170	200
H	38.1	70	80	100
	38.2		40	50
	39		30	40

SOLIDMILL PREMIUM LINE

CHATTERFREE SOLID MILL LINE

EB-E4L-CF

4 Flute, 38° Helix Ball Nose Endmills with 3xD Relieved Necks and Variable Pitch for Chatter Dampening on Hard Materials



Designation	Dimensions							IC902
	DC	DCONMS	APMX	LU	OAL	RMPX(1)	Shank(2)	
EB-E4L 03-06/09C06CFH57	3.00	6.00	6.00	9.0	57.00	5.0	C	•
EB-E4L 04-08/12C06CFH57	4.00	6.00	8.00	12.0	57.00	5.0	C	•
EB-E4L 05-10/15C06CFH57	5.00	6.00	10.00	15.0	57.00	5.0	C	•
EB-E4L 06-12/18C06CFH57	6.00	6.00	12.00	18.0	57.00	5.0	C	•
EB-E4L 08-16/24C08CFH63	8.00	8.00	16.00	24.0	63.00	5.0	C	•
EB-E4L 10-20/30C10CFH72	10.00	10.00	20.00	30.0	72.00	5.0	C	•
EB-E4L 12-24/36C12CFH83	12.00	12.00	24.00	36.0	83.00	5.0	C	•
EB-E4L 16-32/48C16CFH92	16.00	16.00	32.00	48.0	92.00	5.0	C	•

• For user guide, see pages 169-176

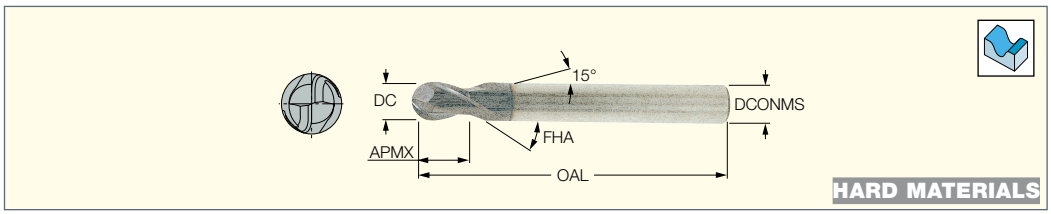
(1) Maximum ramping angle

(2) C-Cylindrical

SOLIDMILL PREMIUM LINE

EB-A-2

2 Flute, 30° Helix Short Solid Carbide Ball Nose Endmills



Designation	Dimensions							Tough ↔ Hard			
	DC	DCONMS	APMX	OAL	NOF(1)	FHA	Shank(2)	IC08	IC300	IC900	IC903
EB020A04-2C03	2.00	3.00	4.00	38.00	2	30.0	C		•	•	•
EB030A05-2C03	3.00	3.00	5.00	38.00	2	30.0	C		•	•	
EB030A05-2C06	3.00	6.00	5.00	57.00	2	30.0	C	•		•	•
EB040A07-2C04	4.00	4.00	7.00	50.00	2	30.0	C			•	
EB040A07-2C06	4.00	6.00	7.00	57.00	2	30.0	C	•		•	•
EB050A08-2C05	5.00	5.00	8.00	50.00	2	30.0	C			•	
EB050A08-2C06	5.00	6.00	8.00	57.00	2	30.0	C	•	•	•	•
EB060A08-2C06	6.00	6.00	8.00	57.00	2	30.0	C	•	•	•	•
EB080A11-2C08	8.00	8.00	11.00	63.00	2	30.0	C	•	•	•	•
EB100A13-2C10	10.00	10.00	13.00	72.00	2	30.0	C	•	•	•	•
EB120A14-2C12	12.00	12.00	14.00	83.00	2	30.0	C		•	•	•
EB160A16-2C16	16.00	16.00	16.00	92.00	2	30.0	C			•	•
EB200A20-2C20	20.00	20.00	20.00	104.00	2	30.0	C			•	

• Short and stable design for profiling (roughing). • For user guide, see pages 169-176

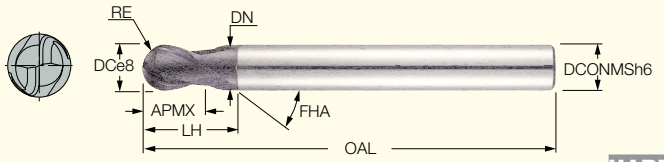
(1) Number of flutes

(2) C-Cylindrical

SOLIDMILL PREMIUM LINE

EB-A2 (stub cut length)

2 Flute, 30° Helix Stub Cut Length Ball Nose Solid Carbide Endmills for Materials up to 55-70 HRC



HARD MATERIALS

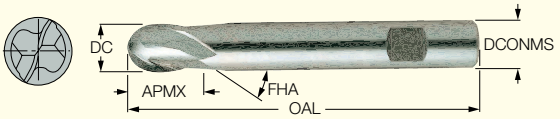
Designation	Dimensions										IC903
	DC	RE(1)	DCONMS	APMX	OAL	LH	DN	NOF(2)	FHA	Shank(3)	
EB-A2 01-01/02C04H50	1.00	0.50	4.00	1.00	50.00	2.2	0.95	2	30.0	C	•
EB-A2 012-012/02C04H50	1.20	0.60	4.00	1.20	50.00	2.6	1.10	2	30.0	C	•
EB-A2 015-015/03C04H50	1.50	0.75	4.00	1.50	50.00	3.0	1.40	2	30.0	C	•
EB-A2 02-02/04C06H50	2.00	1.00	6.00	2.00	50.00	4.0	1.90	2	30.0	C	•
EB-A2 03-03/06C06H60	3.00	1.50	6.00	3.00	60.00	6.0	2.90	2	30.0	C	•
EB-A2 04-04/08C06H70	4.00	2.00	6.00	4.00	70.00	8.0	3.90	2	30.0	C	•
EB-A2 05-05/10C06H80	5.00	2.50	6.00	5.00	80.00	10.0	4.90	2	30.0	C	•
EB-A2 06-06/12C06H90	6.00	3.00	6.00	6.00	90.00	12.0	5.90	2	30.0	C	•
EB-A2 07-07/14C08H90	7.00	3.50	8.00	7.00	90.00	14.0	6.90	2	30.0	C	•
EB-A2 08-08/16C08H100	8.00	4.00	8.00	8.00	100.00	16.0	7.90	2	30.0	C	•
EB-A2 10-10/20C10H100	10.00	5.00	10.00	10.00	100.00	20.0	9.90	2	30.0	C	•
EB-A2 12-12/24C12H110	12.00	6.00	12.00	12.00	110.00	24.0	11.90	2	30.0	C	•
EB-A2 16-16/32C16H140	16.00	8.00	16.00	16.00	140.00	32.0	15.80	2	30.0	C	•
EB-A2 20-20/40C20H160	20.00	10.00	20.00	20.00	160.00	40.0	19.80	2	30.0	C	•

• For user guide, see pages 169-176
(1) ±0.01 tolerance
(2) Number of flutes
(3) C-Cylindrical

SOLIDMILL TEC LINE

EB-A2 (economical)

Economical Type 2 Flute, 30° Helix Ball Nose Solid Carbide Endmills



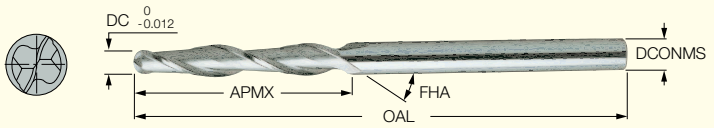
Designation	Dimensions							Tough ↔ Hard	
	DC	DCONMS	APMX	OAL	NOF(1)	FHA	Shank(2)	IC08	IC900
EB-A2 02-06C03E38	2.00	3.00	6.00	38.00	2	30.0	C	•	•
EB-A2 02-04C06E48	2.00	6.00	4.00	48.00	2	30.0	C	•	•
EB-A2 025-04C06E48	2.50	6.00	4.00	48.00	2	30.0	C	•	•
EB-A2 03-04C06E48	3.00	6.00	4.00	48.00	2	30.0	C	•	•
EB-A2 03-07W06E57	3.00	6.00	7.00	57.00	2	30.0	W	•	•
EB-A2 04-06C06E50	4.00	6.00	6.00	50.00	2	30.0	C	•	•
EB-A2 04-08W06E57	4.00	6.00	8.00	57.00	2	30.0	W	•	•
EB-A2 05-07C06E51	5.00	6.00	7.00	51.00	2	30.0	C	•	
EB-A2 05-10W06E57	5.00	6.00	10.00	57.00	2	30.0	W	•	•
EB-A2 06-07C06E51	6.00	6.00	7.00	51.00	2	30.0	C	•	•
EB-A2 06-10W06E57	6.00	6.00	10.00	57.00	2	30.0	W	•	•
EB-A2 08-09C08E59	8.00	8.00	9.00	59.00	2	30.0	C	•	•
EB-A2 08-16W08E63	8.00	8.00	16.00	63.00	2	30.0	W	•	•
EB-A2 10-10C10E60	10.00	10.00	10.00	60.00	2	30.0	C	•	•
EB-A2 10-19W10E72	10.00	10.00	19.00	72.00	2	30.0	W	•	•
EB-A2 12-14C12E71	12.00	12.00	14.00	71.00	2	30.0	C	•	•
EB-A2 12-22W12E83	12.00	12.00	22.00	83.00	2	30.0	W	•	•
EB-A2 14-14C14E71	14.00	14.00	14.00	71.00	2	30.0	C	•	•
EB-A2 16-16C16E76	16.00	16.00	16.00	76.00	2	30.0	C	•	•
EB-A2 16-26W16E92	16.00	16.00	26.00	92.00	2	30.0	W	•	•
EB-A2 18-18C18E76	18.00	18.00	18.00	76.00	2	30.0	C	•	•
EB-A2 18-26W18E92	18.00	18.00	26.00	92.00	2	30.0	W	•	
EB-A2 20-20C20E82	20.00	20.00	20.00	82.00	2	30.0	C	•	•
EB-A2 20-32W20E104	20.00	20.00	32.00	104.00	2	30.0	W	•	•

• For user guide, see pages 169-176
(1) Number of flutes
(2) C-Cylindrical, W-Weldon

SOLIDMILL TEC LINE

EB-A2(economical-extra long)

Economical Type 2 Flute, 30° Helix Ball Nose Extra Long Solid Carbide Endmills



Designation	Dimensions							Tough ↔ Hard	
	DC	DCONMS	APMX	OAL	NOF(1)	FHA	Shank(2)	IC08	IC900
EB-A2 03-30C03E75	3.00	3.00	30.00	75.00	2	30.0	C	•	•
EB-A2 04-30C04E75	4.00	4.00	30.00	75.00	2	30.0	C	•	•
EB-A2 05-40C05E100	5.00	5.00	40.00	100.00	2	30.0	C	•	•
EB-A2 06-50C06E150	6.00	6.00	50.00	150.00	2	30.0	C	•	•
EB-A2 08-50C08E150	8.00	8.00	50.00	150.00	2	30.0	C	•	•
EB-A2 10-60C10E150	10.00	10.00	60.00	150.00	2	30.0	C	•	•
EB-A2 12-75C12E150	12.00	12.00	75.00	150.00	2	30.0	C	•	•
EB-A2 16-75C16E150	16.00	16.00	75.00	150.00	2	30.0	C	•	•
EB-A2 20-75C20E150	20.00	20.00	75.00	150.00	2	30.0	C	•	•

• For user guide, see pages 169-176

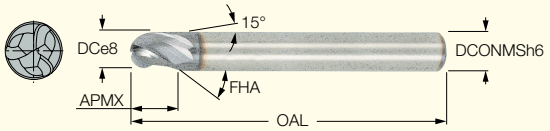
(1) Number of flutes

(2) C-Cylindrical

SOLIDMILL PREMIUM LINE

EB-A-3

3 Flute, 30° Helix Short Solid Carbide Ball Nose Endmills



Designation	Dimensions							IC900
	DC	DCONMS	APMX	OAL	NOF(1)	FHA	Shank(2)	
EB016A020-3C03	1.60	3.00	2.00	38.00	3	30.0	C	•
EB030A05-3C03	3.00	3.00	5.00	38.00	3	30.0	C	•
EB030A05-3C06	3.00	6.00	5.00	57.00	3	30.0	C	•
EB040A07-3C04	4.00	4.00	7.00	50.00	3	30.0	C	•
EB040A07-3C06	4.00	6.00	7.00	57.00	3	30.0	C	•
EB050A08-3C05	5.00	5.00	8.00	50.00	3	30.0	C	•
EB050A08-3C06	5.00	6.00	8.00	57.00	3	30.0	C	•
EB060A08-3C06	6.00	6.00	8.00	57.00	3	30.0	C	•
EB080A11-3C08	8.00	8.00	11.00	63.00	3	30.0	C	•
EB100A13-3C10	10.00	10.00	13.00	72.00	3	30.0	C	•
EB120A14-3C12	12.00	12.00	14.00	83.00	3	30.0	C	•

• Short and stable design for profiling (roughing). • For user guide, see pages 169-176

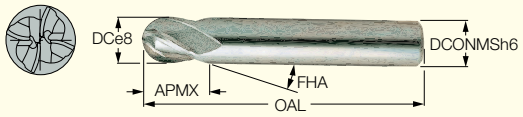
(1) Number of flutes

(2) C-Cylindrical

SOLIDMILL TEC LINE

EB-A4 (economical-short)

Economical Type 4 Flute,
30° Helix Ball Nose Short
Solid Carbide Endmills



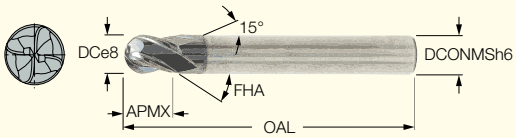
Designation	Dimensions							Tough ↔ Hard	
	DC	DCONMS	APMX	OAL	NOF(1)	FHA	Shank(2)	IC08	IC900
EB-A4 02-04C06E48	2.00	6.00	4.00	48.00	4	30.0	C		•
EB-A4 02-04C06E50	2.00	6.00	4.00	50.00	4	30.0	C	•	
EB-A4 03-04C06E48	3.00	6.00	4.00	48.00	4	30.0	C	•	•
EB-A4 04-06C06E50	4.00	6.00	6.00	50.00	4	30.0	C	•	•
EB-A4 05-07C06E51	5.00	6.00	7.00	51.00	4	30.0	C	•	•
EB-A4 06-07C06E50	6.00	6.00	7.00	50.00	4	30.0	C	•	
EB-A4 06-07C06E51	6.00	6.00	7.00	51.00	4	30.0	C		•
EB-A4 08-09C08E59	8.00	8.00	9.00	59.00	4	30.0	C	•	•
EB-A4 10-10C10E60	10.00	10.00	10.00	60.00	4	30.0	C	•	•
EB-A4 12-14C12E71	12.00	12.00	14.00	71.00	4	30.0	C	•	•
EB-A4 14-14C14E71	14.00	14.00	14.00	71.00	4	30.0	C	•	•
EB-A4 16-16C16E76	16.00	16.00	16.00	76.00	4	30.0	C	•	•
EB-A4 18-18C18E76	18.00	18.00	18.00	76.00	4	30.0	C	•	•
EB-A4 20-20C20E82	20.00	20.00	20.00	82.00	4	30.0	C	•	•

• For user guide, see pages 169-176
(1) Number of flutes
(2) C-Cylindrical

SOLIDMILL PREMIUM LINE

EB-A-4 (short length)

4 Flute, 30° Helix Short Solid
Carbide Ball Nose Endmills



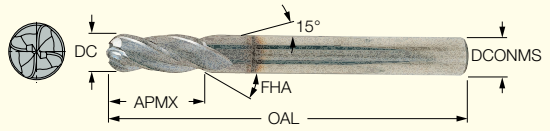
Designation	Dimensions							IC900
	DC	DCONMS	APMX	OAL	NOF(1)	FHA	Shank(2)	
EB020A03/06-4C03L38	2.00	3.00	3.00	38.00	4	30.0	C	•
EB030A05-4C03	3.00	3.00	5.00	38.00	4	30.0	C	•
EB030A05-4C06	3.00	6.00	5.00	57.00	4	30.0	C	•
EB040A07-4C04	4.00	4.00	7.00	50.00	4	30.0	C	•
EB040A07-4C06	4.00	6.00	7.00	50.00	4	30.0	C	•
EB050A08-4C06	5.00	6.00	8.00	57.00	4	30.0	C	•
EB060A08-4C06	6.00	6.00	8.00	57.00	4	30.0	C	•
EB080A11-4C08	8.00	8.00	11.00	63.00	4	30.0	C	•
EB100A13-4C10	10.00	10.00	13.00	72.00	4	30.0	C	•
EB120A14-4C12	12.00	12.00	14.00	83.00	4	30.0	C	•
EB140A14-4C14	14.00	14.00	14.00	83.00	4	30.0	C	•
EB160A16-4C16	16.00	16.00	16.00	92.00	4	30.0	C	•
EB200A20-4C20	20.00	20.00	20.00	104.00	4	30.0	C	•

• Short and stable design for profiling (finishing). • For user guide, see pages 169-176
(1) Number of flutes
(2) C-Cylindrical

SOLIDMILL PREMIUM LINE

EB-A-4 (medium length)

4 Flute, 30° Helix Medium Length
Solid Carbide Ball Nose Endmills



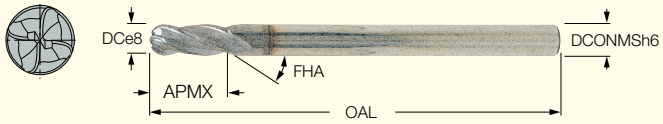
Designation	Dimensions							IC900
	DC	DCONMS	APMX	OAL	NOF(1)	FHA	Shank(2)	
EB030A08-4C04	3.00	4.00	8.00	50.00	4	30.0	C	•
EB040A12-4C04	4.00	4.00	12.00	50.00	4	30.0	C	•
EB050A14-4C05	5.00	5.00	14.00	50.00	4	30.0	C	•
EB060A16-4C06	6.00	6.00	16.00	57.00	4	30.0	C	•
EB080A20-4C08	8.00	8.00	20.00	63.00	4	30.0	C	•
EB090A11-4C09	9.00	9.00	11.00	67.00	4	30.0	C	•
EB100A22-4C10	10.00	10.00	22.00	72.00	4	30.0	C	•
EB120A25-4C12	12.00	12.00	25.00	83.00	4	30.0	C	•
EB160A32-4C16	16.00	16.00	32.00	92.00	4	30.0	C	•
EB200A38-4C20	20.00	20.00	38.00	104.00	4	30.0	C	•

• For user guide, see pages 169-176
(1) Number of flutes
(2) C-Cylindrical

SOLIDMILL PREMIUM LINE

EBL-A-4

4 Flute, 30° Helix Long Solid
Carbide Ball Nose Endmills



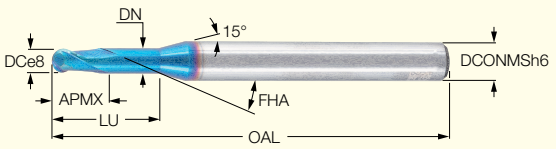
Designation	Dimensions							IC900
	DC	DCONMS	APMX	OAL	NOF(1)	FHA	Shank(2)	
EBL040A12-4C04	4.00	4.00	12.00	80.00	4	30.0	C	•
EBL060A16-4C06	6.00	6.00	16.00	100.00	4	30.0	C	•
EBL070A16-4C07	7.00	7.00	16.00	100.00	4	30.0	C	•
EBL080A20-4C08	8.00	8.00	20.00	100.00	4	30.0	C	•
EBL090A20-4C09	9.00	9.00	20.00	100.00	4	30.0	C	•
EBL100A22-4C10	10.00	10.00	22.00	100.00	4	30.0	C	•
EBL120A25-4C12	12.00	12.00	25.00	100.00	4	30.0	C	•
EBL160A32-4C16	16.00	16.00	32.00	125.00	4	30.0	C	•

• Profiling in deep cavities • For user guide, see pages 169-176
(1) Number of flutes
(2) C-Cylindrical

SOLIDMILL PREMIUM LINE

EB-A2-H (rib processing)

2 Flute, 30° Helix Rib Processing Solid Carbide Ball Nose Endmills for Materials up to 65 HRC



Designation	Dimensions DC	DCONMS	APMX	OAL	LU	DN	NOF(1)	FHA	Shank(2)	IC702	Recommended Machining Data f_z (mm/t)
EB-A2 001-001/003C4H45	0.10	4.00	0.10	45.00	0.3	0.09	2	30.0	C	•	0.0080-0.0100
EB-A2 001-001/005C4H45	0.10	4.00	0.10	45.00	0.5	0.09	2	30.0	C	•	0.0080-0.0100
EB-A2 002-002/005C4H45	0.20	4.00	0.20	45.00	0.5	0.17	2	30.0	C	•	0.0080-0.0120
EB-A2 002-002/01C4H45	0.20	4.00	0.20	45.00	1.0	0.17	2	30.0	C	•	0.0080-0.0120
EB-A2 002-002/015C4H45	0.20	4.00	0.20	45.00	1.5	0.17	2	30.0	C	•	0.0080-0.0120
EB-A2 003-003/01C4H45	0.30	4.00	0.30	45.00	1.0	0.27	2	30.0	C	•	0.0080-0.0120
EB-A2 003-003/02C4H45	0.30	4.00	0.30	45.00	2.0	0.27	2	30.0	C	•	0.0080-0.0120
EB-A2 003-003/03C4H45	0.30	4.00	0.30	45.00	3.0	0.27	2	30.0	C	•	0.0080-0.0120
EB-A2 004-004/03C4H45	0.40	4.00	0.40	45.00	3.0	0.37	2	30.0	C	•	0.0100-0.0150
EB-A2 005-004/02C4H45	0.50	4.00	0.40	45.00	2.0	0.45	2	30.0	C	•	0.0100-0.0150
EB-A2 005-004/04C4H45	0.50	4.00	0.40	45.00	4.0	0.45	2	30.0	C	•	0.0100-0.0150
EB-A2 005-004/08C4H45	0.50	4.00	0.40	45.00	8.0	0.45	2	30.0	C	•	0.0100-0.0150
EB-A2 006-005/02C4H45	0.60	4.00	0.50	45.00	2.0	0.55	2	30.0	C	•	0.0100-0.0150
EB-A2 006-005/04C4H45	0.60	4.00	0.50	45.00	4.0	0.55	2	30.0	C	•	0.0100-0.0150
EB-A2 006-005/08C4H45	0.60	4.00	0.50	45.00	8.0	0.55	2	30.0	C	•	0.0100-0.0150
EB-A2 008-006/02C4H45	0.80	4.00	0.60	45.00	2.0	0.75	2	30.0	C	•	0.0150-0.0250
EB-A2 008-006/04C4H45	0.80	4.00	0.60	45.00	4.0	0.75	2	30.0	C	•	0.0150-0.0250
EB-A2 008-006/06C4H45	0.80	4.00	0.60	45.00	6.0	0.75	2	30.0	C	•	0.0150-0.0250
EB-A2 008-006/10C4H45	0.80	4.00	0.60	45.00	10.0	0.75	2	30.0	C	•	0.0150-0.0250
EB-A2 010-008/03C4H45	1.00	4.00	0.80	45.00	3.0	0.95	2	30.0	C	•	0.0200-0.0350
EB-A2 010-008/04C4H45	1.00	4.00	0.80	45.00	4.0	0.95	2	30.0	C	•	0.0200-0.0350
EB-A2 010-008/05C4H45	1.00	4.00	0.80	45.00	5.0	0.95	2	30.0	C	•	0.0200-0.0350
EB-A2 010-008/06C4H45	1.00	4.00	0.80	45.00	6.0	0.95	2	30.0	C	•	0.0200-0.0350
EB-A2 010-008/08C4H45	1.00	4.00	0.80	45.00	8.0	0.95	2	30.0	C	•	0.0200-0.0350
EB-A2 010-008/10C4H45	1.00	4.00	0.80	45.00	10.0	0.95	2	30.0	C	•	0.0200-0.0350
EB-A2 010-008/12C4H45	1.00	4.00	0.80	45.00	12.0	0.95	2	30.0	C	•	0.0200-0.0350
EB-A2 010-008/16C4H50	1.00	4.00	0.80	50.00	16.0	0.95	2	30.0	C	•	0.0200-0.0350
EB-A2 010-008/20C4M55	1.00	4.00	0.80	55.00	20.0	0.95	2	30.0	C	•	0.0200-0.0350
EB-A2 012-010/08C4H45	1.20	4.00	1.00	45.00	8.0	1.15	2	30.0	C	•	0.0200-0.0450
EB-A2 015-012/06C4H45	1.50	4.00	1.20	45.00	6.0	1.45	2	30.0	C	•	0.0200-0.0450
EB-A2 015-012/08C4H45	1.50	4.00	1.20	45.00	8.0	1.45	2	30.0	C	•	0.0200-0.0450
EB-A2 015-012/10C4H45	1.50	4.00	1.20	45.00	10.0	1.45	2	30.0	C	•	0.0200-0.0450
EB-A2 015-012/12C4H45	1.50	4.00	1.20	45.00	12.0	1.45	2	30.0	C	•	0.0200-0.0450
EB-A2 015-012/16C4H50	1.50	4.00	1.20	50.00	16.0	1.45	2	30.0	C	•	0.0200-0.0450
EB-A2 015-012/20C4H55	1.50	4.00	1.20	55.00	20.0	1.45	2	30.0	C	•	0.0200-0.0450
EB-A2 020-016/04C4H45	2.00	4.00	1.60	45.00	4.0	1.95	2	30.0	C	•	0.0300-0.0700
EB-A2 020-016/06C4H45	2.00	4.00	1.60	45.00	6.0	1.95	2	30.0	C	•	0.0300-0.0700
EB-A2 020-016/10C4H45	2.00	4.00	1.60	45.00	10.0	1.95	2	30.0	C	•	0.0300-0.0700
EB-A2 020-016/12C4H50	2.00	4.00	1.60	50.00	12.0	1.95	2	30.0	C	•	0.0300-0.0700
EB-A2 020-016/14C4H50	2.00	4.00	1.60	50.00	14.0	1.95	2	30.0	C	•	0.0300-0.0700
EB-A2 020-016/16C4H50	2.00	4.00	1.60	50.00	16.0	1.95	2	30.0	C	•	0.0300-0.0700
EB-A2 020-016/20C4H55	2.00	4.00	1.60	55.00	20.0	1.95	2	30.0	C	•	0.0300-0.0700
EB-A2 020-016/25C4H60	2.00	4.00	1.60	60.00	25.0	1.95	2	30.0	C	•	0.0300-0.0700
EB-A2 020-016/30C4H70	2.00	4.00	1.60	70.00	30.0	1.95	2	30.0	C	•	0.0300-0.0700
EB-A2 030-024/12C6H50	3.00	6.00	2.40	50.00	12.0	2.85	2	30.0	C	•	0.0500-0.1000
EB-A2 030-024/16C6H55	3.00	6.00	2.40	55.00	16.0	2.85	2	30.0	C	•	0.0500-0.1000
EB-A2 030-024/20C6H60	3.00	6.00	2.40	60.00	20.0	2.85	2	30.0	C	•	0.0500-0.1000
EB-A2 030-024/25C6H65	3.00	6.00	2.40	65.00	25.0	2.85	2	30.0	C	•	0.0500-0.1000
EB-A2 030-024/30C6H70	3.00	6.00	2.40	70.00	30.0	2.85	2	30.0	C	•	0.0500-0.1000
EB-A2 030-024/35C6H80	3.00	6.00	2.40	80.00	35.0	2.85	2	30.0	C	•	0.0500-0.1000
EB-A2 040-032/16C6H60	4.00	6.00	3.20	60.00	16.0	3.85	2	30.0	C	•	0.0600-0.1500
EB-A2 040-032/20C6H65	4.00	6.00	3.20	65.00	20.0	3.85	2	30.0	C	•	0.0600-0.1500
EB-A2 040-032/25C6H70	4.00	6.00	3.20	70.00	25.0	3.85	2	30.0	C	•	0.0600-0.1500

• For user guide, see pages 169-176

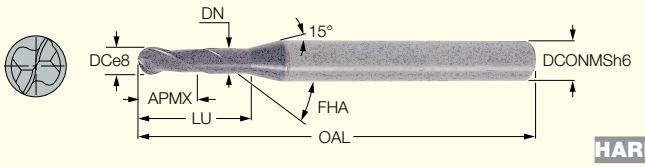
(1) Number of flutes

(2) C-Cylindrical

SOLIDMILL PREMIUM LINE

EB-A2 (rib processing)

2 Flute, 30° Helix Rib Processing Solid Carbide Ball Nose Endmills for Materials up to 55 HRc



HARD MATERIALS

Designation	Dimensions DC	DCONMS	APMX	OAL	LU	DN	NOF(1)	FHA	Shank(2)	IC903	Recommended Machining Data f_z (mm/t)
EB-A2 004-006/01C4M45	0.40	4.00	0.60	45.00	1.0	0.36	2	30.0	C	•	0.0030-0.0060
EB-A2 004-006/02C4M45	0.40	4.00	0.60	45.00	2.0	0.36	2	30.0	C	•	0.0030-0.0060
EB-A2 004-006/03C4M45	0.40	4.00	0.60	45.00	3.0	0.36	2	30.0	C	•	0.0030-0.0060
EB-A2 005-007/02C4M45	0.50	4.00	0.70	45.00	2.0	0.45	2	30.0	C	•	0.0030-0.0060
EB-A2 005-007/04C4M45	0.50	4.00	0.70	45.00	4.0	0.45	2	30.0	C	•	0.0030-0.0060
EB-A2 005-007/06C4M45	0.50	4.00	0.70	45.00	6.0	0.45	2	30.0	C	•	0.0030-0.0060
EB-A2 005-007/08C4M45	0.50	4.00	0.70	45.00	8.0	0.45	2	30.0	C	•	0.0030-0.0060
EB-A2 006-009/02C4M45	0.60	4.00	0.90	45.00	2.0	0.55	2	30.0	C	•	0.0040-0.0080
EB-A2 006-009/04C4M45	0.60	4.00	0.90	45.00	4.0	0.55	2	30.0	C	•	0.0040-0.0080
EB-A2 006-009/06C4M45	0.60	4.00	0.90	45.00	6.0	0.55	2	30.0	C	•	0.0040-0.0080
EB-A2 006-009/08C4M45	0.60	4.00	0.90	45.00	8.0	0.55	2	30.0	C	•	0.0040-0.0080
EB-A2 008-012/02C4M45	0.80	4.00	1.20	45.00	2.0	0.75	2	30.0	C	•	0.0040-0.0080
EB-A2 008-012/04C4M45	0.80	4.00	1.20	45.00	4.0	0.75	2	30.0	C	•	0.0040-0.0080
EB-A2 008-012/06C4M45	0.80	4.00	1.20	45.00	6.0	0.75	2	30.0	C	•	0.0040-0.0080
EB-A2 008-012/10C4M45	0.80	4.00	1.20	45.00	10.0	0.75	2	30.0	C	•	0.0040-0.0080
EB-A2 010-015/03C4M45	1.00	4.00	1.50	45.00	3.0	0.97	2	30.0	C	•	0.0050-0.0100
EB-A2 010-015/04C4M45	1.00	4.00	1.50	45.00	4.0	0.97	2	30.0	C	•	0.0050-0.0100
EB-A2 010-015/05C4M45	1.00	4.00	1.50	45.00	5.0	0.97	2	30.0	C	•	0.0050-0.0100
EB-A2 010-015/06C4M45	1.00	4.00	1.50	45.00	6.0	0.97	2	30.0	C	•	0.0050-0.0100
EB-A2 010-015/07C4M45	1.00	4.00	1.50	45.00	7.0	0.95	2	30.0	C	•	0.0050-0.0100
EB-A2 010-015/08C4M45	1.00	4.00	1.50	45.00	8.0	0.95	2	30.0	C	•	0.0050-0.0100
EB-A2 010-015/10C4M45	1.00	4.00	1.50	45.00	10.0	0.95	2	30.0	C	•	0.0050-0.0100
EB-A2 010-015/12C4M45	1.00	4.00	1.50	45.00	12.0	0.93	2	30.0	C	•	0.0050-0.0100
EB-A2 010-015/14C4M50	1.00	4.00	1.50	50.00	14.0	0.93	2	30.0	C	•	0.0050-0.0100
EB-A2 010-015/16C4M50	1.00	4.00	1.50	50.00	16.0	0.93	2	30.0	C	•	0.0050-0.0100
EB-A2 010-015/20C4M55	1.00	4.00	1.50	55.00	20.0	0.93	2	30.0	C	•	0.0050-0.0100
EB-A2 012-018/08C4M45	1.20	4.00	1.80	45.00	8.0	1.17	2	30.0	C	•	0.0060-0.0150
EB-A2 012-018/12C4M45	1.20	4.00	1.80	45.00	12.0	1.13	2	30.0	C	•	0.0060-0.0150
EB-A2 014-021/08C4M45	1.40	4.00	2.10	45.00	8.0	1.35	2	30.0	C	•	0.0060-0.0150
EB-A2 014-021/16C4M50	1.40	4.00	2.10	50.00	16.0	1.31	2	30.0	C	•	0.0060-0.0150
EB-A2 015-015/03C04M50	1.50	4.00	1.50	50.00	3.0	1.47	2	30.0	C	•	0.0070-0.0160
EB-A2 015-023/06C4M45	1.50	4.00	2.30	45.00	6.0	1.47	2	30.0	C	•	0.0070-0.0160
EB-A2 015-023/08C4M45	1.50	4.00	2.30	45.00	8.0	1.45	2	30.0	C	•	0.0070-0.0160
EB-A2 015-023/10C4M45	1.50	4.00	2.30	45.00	10.0	1.45	2	30.0	C	•	0.0070-0.0160
EB-A2 015-023/12C4M45	1.50	4.00	2.30	45.00	12.0	1.43	2	30.0	C	•	0.0070-0.0160
EB-A2 015-023/16C4M50	1.50	4.00	2.30	50.00	16.0	1.41	2	30.0	C	•	0.0070-0.0160
EB-A2 015-023/20C4M55	1.50	4.00	2.30	55.00	20.0	1.39	2	30.0	C	•	0.0070-0.0160
EB-A2 016-024/08C4M45	1.60	4.00	2.40	45.00	8.0	1.55	2	30.0	C	•	0.0080-0.0170
EB-A2 016-024/12C4M45	1.60	4.00	2.40	45.00	12.0	1.53	2	30.0	C	•	0.0080-0.0170
EB-A2 018-027/08C4M45	1.80	4.00	2.70	45.00	8.0	1.75	2	30.0	C	•	0.0080-0.0180
EB-A2 018-027/12C4M45	1.80	4.00	2.70	45.00	12.0	1.73	2	30.0	C	•	0.0080-0.0180
EB-A2 018-027/16C4M50	1.80	4.00	2.70	50.00	16.0	1.71	2	30.0	C	•	0.0080-0.0180
EB-A2 020-030/04C4M45	2.00	4.00	3.00	45.00	4.0	1.97	2	30.0	C	•	0.0100-0.0210
EB-A2 020-030/06C4M45	2.00	4.00	3.00	45.00	6.0	1.97	2	30.0	C	•	0.0100-0.0210
EB-A2 020-030/10C4M45	2.00	4.00	3.00	45.00	10.0	1.93	2	30.0	C	•	0.0100-0.0210
EB-A2 020-030/12C4M50	2.00	4.00	3.00	50.00	12.0	1.93	2	30.0	C	•	0.0100-0.0210
EB-A2 020-030/14C4M50	2.00	4.00	3.00	50.00	14.0	1.93	2	30.0	C	•	0.0100-0.0210
EB-A2 020-030/16C4M50	2.00	4.00	3.00	50.00	16.0	1.91	2	30.0	C	•	0.0100-0.0210
EB-A2 020-030/20C4M55	2.00	4.00	3.00	55.00	20.0	1.89	2	30.0	C	•	0.0100-0.0210
EB-A2 020-030/25C4M60	2.00	4.00	3.00	60.00	25.0	1.89	2	30.0	C	•	0.0100-0.0210
EB-A2 020-030/30C4M70	2.00	4.00	3.00	70.00	30.0	1.89	2	30.0	C	•	0.0100-0.0210
EB-A2 030-045/08C6M50	3.00	6.00	4.50	50.00	8.0	2.85	2	30.0	C	•	0.0120-0.0300
EB-A2 030-045/10C6M50	3.00	6.00	4.50	50.00	10.0	2.85	2	30.0	C	•	0.0120-0.0300
EB-A2 030-045/12C6M50	3.00	6.00	4.50	50.00	12.0	2.85	2	30.0	C	•	0.0120-0.0300
EB-A2 030-045/16C6M55	3.00	6.00	4.50	55.00	16.0	2.85	2	30.0	C	•	0.0120-0.0300
EB-A2 030-045/20C6M60	3.00	6.00	4.50	60.00	20.0	2.85	2	30.0	C	•	0.0120-0.0300
EB-A2 030-045/25C6M65	3.00	6.00	4.50	65.00	25.0	2.85	2	30.0	C	•	0.0120-0.0300
EB-A2 030-045/30C6M70	3.00	6.00	4.50	70.00	30.0	2.85	2	30.0	C	•	0.0120-0.0300

• For user guide, see pages 169-176

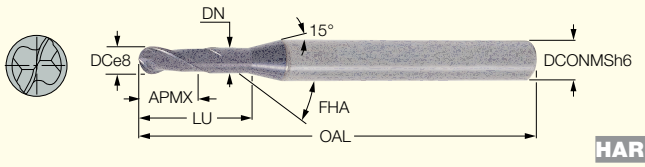
(1) Number of flutes

(2) C-Cylindrical

SOLIDMILL PREMIUM LINE

EB-A2 (rib processing) (continued)

2 Flute, 30° Helix Rib Processing Solid Carbide Ball Nose Endmills for Materials up to 55 HRc



HARD MATERIALS

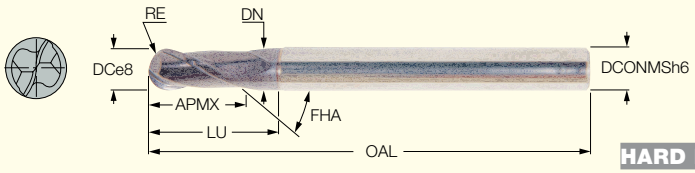
Designation	Dimensions DC	DCONMS	APMX	OAL	LU	DN	NOF(1)	FHA	Shank(2)	IC903	Recommended Machining Data f_z (mm/t)
EB-A2 030-045/35C6M80	3.00	6.00	4.50	80.00	35.0	2.85	2	30.0	C	•	0.0120-0.0300
EB-A2 040-060/10C6M60	4.00	6.00	6.00	60.00	10.0	3.80	2	30.0	C	•	0.0150-0.0350
EB-A2 040-060/12C6M60	4.00	6.00	6.00	60.00	12.0	3.80	2	30.0	C	•	0.0150-0.0350
EB-A2 040-060/16C6M60	4.00	6.00	6.00	60.00	16.0	3.80	2	30.0	C	•	0.0150-0.0350
EB-A2 040-060/20C6M65	4.00	6.00	6.00	65.00	20.0	3.80	2	30.0	C	•	0.0150-0.0350
EB-A2 040-060/25C6M70	4.00	6.00	6.00	70.00	25.0	3.80	2	30.0	C	•	0.0150-0.0350
EB-A2 040-060/30C6M70	4.00	6.00	6.00	70.00	30.0	3.80	2	30.0	C	•	0.0150-0.0350
EB-A2 040-060/35C6M80	4.00	6.00	6.00	80.00	35.0	3.80	2	30.0	C	•	0.0150-0.0350
EB-A2 040-060/45C6M90	4.00	6.00	6.00	90.00	45.0	3.80	2	30.0	C	•	0.0150-0.0350
EB-A2 050-075/20C6M60	5.00	6.00	7.50	60.00	20.0	4.80	2	30.0	C	•	0.0180-0.0440
EB-A2 050-075/25C6M70	5.00	6.00	7.50	70.00	25.0	4.80	2	30.0	C	•	0.0180-0.0440
EB-A2 050-075/30C6M80	5.00	6.00	7.50	80.00	30.0	4.80	2	30.0	C	•	0.0180-0.0440
EB-A2 050-075/35C6M80	5.00	6.00	7.50	80.00	35.0	4.80	2	30.0	C	•	0.0180-0.0440
EB-A2 060-090/20C6M80	6.00	6.00	9.00	80.00	20.0	5.80	2	30.0	C	•	0.0200-0.0500
EB-A2 060-090/30C6M90	6.00	6.00	9.00	90.00	30.0	5.80	2	30.0	C	•	0.0200-0.0500
EB-A2 060-090/40C6M100	6.00	6.00	9.00	100.00	40.0	5.80	2	30.0	C	•	0.0200-0.0500
EB-A2 060-090/50C6M110	6.00	6.00	9.00	110.00	50.0	5.80	2	30.0	C	•	0.0200-0.0500

• For user guide, see pages 169-176
(1) Number of flutes
(2) C-Cylindrical

SOLIDMILL PREMIUM LINE

EB-A2 (long with neck)

2 Flute, 30° Helix Long Solid Carbide Ball Nose Endmills with Relieved Necks for Materials up to 65 HRC



HARD MATERIALS

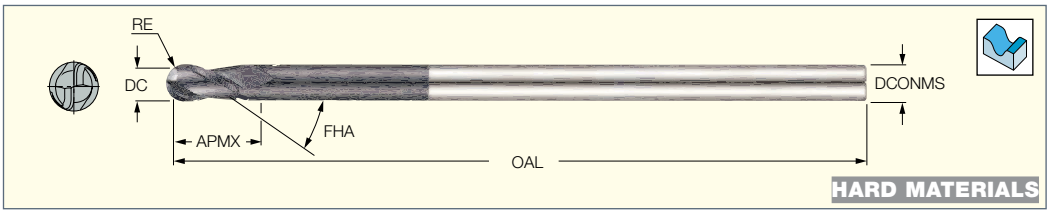
Designation	Dimensions DC	RE	DCONMS	APMX	OAL	LU	DN	NOF(1)	FHA	Shank(2)	IC903
EB-A2 03-08C06M70	3.00	1.50	6.00	8.00	70.00	-	-	2	30.0	C	•
EB-A2 04-08C06M70	4.00	2.00	6.00	8.00	70.00	-	-	2	30.0	C	•
EB-A2 05-12C06M80	5.00	2.50	6.00	12.00	80.00	-	-	2	30.0	C	•
EB-A2 06-12/22C06M80	6.00	3.00	6.00	12.00	80.00	22.0	5.80	2	30.0	C	•
EB-A2 07-14C08M90	7.00	3.50	8.00	14.00	90.00	-	-	2	30.0	C	•
EB-A2 08-14/27C08M90	8.00	4.00	8.00	14.00	90.00	27.0	7.80	2	30.0	C	•
EB-A2 10-18/31C10M100	10.00	5.00	10.00	18.00	100.00	31.0	9.80	2	30.0	C	•
EB-A2 12-22/35C12M110	12.00	6.00	12.00	22.00	110.00	35.0	11.80	2	30.0	C	•
EB-A2 14-26C12M120	14.00	7.00	12.00	26.00	120.00	-	-	2	30.0	C	•
EB-A2 16-30/50C16M140	16.00	8.00	16.00	30.00	140.00	50.0	15.80	2	30.0	C	•
EB-A2 18-34C16M140	18.00	9.00	16.00	34.00	140.00	-	-	2	30.0	C	•

• For user guide, see pages 169-176
(1) Number of flutes
(2) C-Cylindrical

SOLIDMILL PREMIUM LINE

EB-A2 (extra long)

2 Flute, 30° Helix Extra Long Solid Carbide Ball Nose Endmills for Materials up to 65 HRC



Designation	Dimensions								IC903
	DC	RE	DCONMS	APMX	OAL	NOF(1)	FHA	Shank(2)	
EB-A2 02-06C03M80	2.00	1.00	3.00	6.00	80.00	2	30.0	C	•
EB-A2 03-08C03M100	3.00	1.50	3.00	8.00	100.00	2	30.0	C	•
EB-A2 04-08C04M100	4.00	2.00	4.00	8.00	100.00	2	30.0	C	•
EB-A2 06-10C06M120	6.00	3.00	6.00	10.00	120.00	2	30.0	C	•
EB-A2 08-14C08M140	8.00	4.00	8.00	14.00	140.00	2	30.0	C	•
EB-A2 10-18C10M180	10.00	5.00	10.00	18.00	180.00	2	30.0	C	•
EB-A2 12-22C12M200	12.00	6.00	12.00	22.00	200.00	2	30.0	C	•
EB-A2 16-30C16M250	16.00	8.00	16.00	30.00	250.00	2	30.0	C	•
EB-A2 20-38C20M250	20.00	10.00	20.00	38.00	250.00	2	30.0	C	•

• The DC tolerance is: 0 - -0.020 mm • For user guide, see pages 169-176

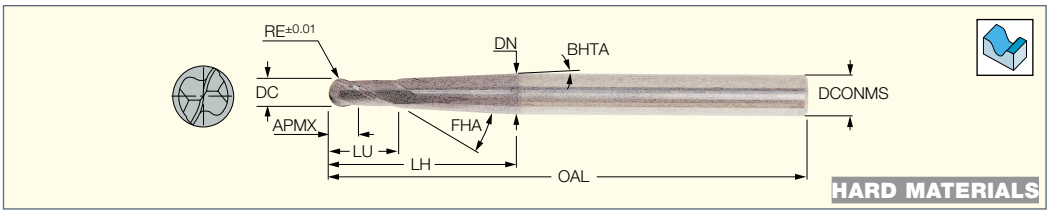
(1) Number of flutes

(2) C-Cylindrical

SOLIDMILL PREMIUM LINE

EB-A2 (tapered flute & neck)

2 Tapered Flutes, 30° Helix Solid Carbide Ball Nose Endmills with Relieved Necks for Materials up to 65 HRC



Designation	Dimensions												IC903
	DC	RE	DCONMS	APMX	LU	LH	DN	BHTA	OAL	NOF(1)	FHA	Shank(2)	
EB-A2 01-02/04/1.5C06M60	1.00	0.50	6.00	2.00	4.0	23.0	2.00	1.5	60.00	2	30.0	C	•
EB-A2 01-02/04/3.0C06M80	1.00	0.50	6.00	2.00	4.0	42.0	5.00	3.0	80.00	2	30.0	C	•
EB-A2 01-02/04/5.0C06M60	1.00	0.50	6.00	2.00	4.0	23.0	4.30	5.0	60.00	2	30.0	C	•
EB-A2 02-04/06/1.5C06M60	2.00	1.00	6.00	4.00	6.0	23.0	2.90	1.5	60.00	2	30.0	C	•
EB-A2 02-04/06/3.0C06M80	2.00	1.00	6.00	4.00	6.0	41.0	5.70	3.0	80.00	2	30.0	C	•
EB-A2 02-04/06/5.0C06M60	2.00	1.00	6.00	4.00	6.0	23.0	5.00	5.0	60.00	2	30.0	C	•
EB-A2 03-06/08/1.5C06M90	3.00	1.50	6.00	6.00	8.0	52.0	5.30	1.5	90.00	2	30.0	C	•
EB-A2 03-06/08/3.0C06M70	3.00	1.50	6.00	6.00	8.0	32.0	5.60	3.0	70.00	2	30.0	C	•
EB-A2 04-08/10/1.5C06M90	4.00	2.00	6.00	8.00	10.0	49.0	6.00	1.5	90.00	2	30.0	C	•
EB-A2 04-08/10/3.0C06M70	4.00	2.00	6.00	8.00	10.0	28.0	6.00	3.0	70.00	2	30.0	C	•
EB-A2 05-10/12/1.5C08M110	5.00	2.50	8.00	10.00	12.0	61.0	7.60	1.5	110.00	2	30.0	C	•
EB-A2 06-12/15/1.5C08M110	6.00	3.00	8.00	12.00	15.0	53.0	8.00	1.5	110.00	2	30.0	C	•
EB-A2 06-12/15/3.0C08M90	6.00	3.00	8.00	12.00	15.0	34.0	8.00	3.0	90.00	2	30.0	C	•
EB-A2 08-14/17/1.5C10M120	8.00	4.00	10.00	14.00	17.0	55.0	10.00	1.5	120.00	2	30.0	C	•
EB-A2 08-14/17/3.0C10M100	8.00	4.00	10.00	14.00	17.0	36.0	10.00	3.0	100.00	2	30.0	C	•
EB-A2 10-18/21/1.5C12M130	10.00	5.00	12.00	18.00	21.0	59.0	12.00	1.5	130.00	2	30.0	C	•
EB-A2 10-18/21/3.0C12M110	10.00	5.00	12.00	18.00	21.0	40.0	12.00	3.0	110.00	2	30.0	C	•

• For user guide, see pages 169-176

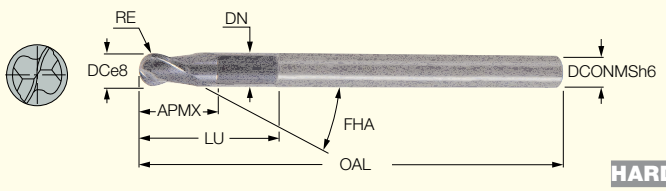
(1) Number of flutes

(2) C-Cylindrical

SOLIDMILL PREMIUM LINE

EB-A2 (precision stub cut)

2 Flute, 30° Helix Stub Cut Length High Precision Ball Nose Endmills with Relieved Necks for Materials up to 65 HRC



HARD MATERIALS

Designation	Dimensions										IC903
	DC	RE	DCONMS	APMX	LU	OAL	DN	NOF(1)	FHA	Shank(2)	
EB-A2 01-01/02C04M50	1.00	0.50	4.00	1.00	2.2	50.00	0.95	2	30.0	C	•
EB-A2 01-01/02C06M50	1.00	0.50	6.00	1.00	2.2	50.00	0.95	2	30.0	C	•
EB-A2 012-012/02C04M50	1.20	0.60	4.00	1.20	2.6	50.00	1.10	2	30.0	C	•
EB-A2 02-02/04C06M50	2.00	1.00	6.00	2.00	4.0	50.00	1.90	2	30.0	C	•
EB-A2 025-025/05C06M60	2.50	1.25	6.00	2.50	5.0	60.00	2.40	2	30.0	C	•
EB-A2 03-03/06C06M60	3.00	1.50	6.00	3.00	6.0	60.00	2.90	2	30.0	C	•
EB-A2 04-04/08C06M70	4.00	2.00	6.00	4.00	8.0	70.00	3.90	2	30.0	C	•
EB-A2 05-05/10C06M80	5.00	2.50	6.00	5.00	10.0	80.00	4.90	2	30.0	C	•
EB-A2 06-06/12C06M90	6.00	3.00	6.00	6.00	12.0	90.00	5.90	2	30.0	C	•
EB-A2 07-07/14C08M90	7.00	3.50	8.00	7.00	14.0	90.00	6.90	2	30.0	C	•
EB-A2 08-08/16C08M100	8.00	4.00	8.00	8.00	16.0	100.00	7.90	2	30.0	C	•
EB-A2 09-09/18C10M100	9.00	4.50	10.00	9.00	18.0	100.00	8.90	2	30.0	C	•
EB-A2 10-10/20C10M100	10.00	5.00	10.00	10.00	20.0	100.00	9.90	2	30.0	C	•
EB-A2 12-12/24C12M110	12.00	6.00	12.00	12.00	24.0	110.00	11.90	2	30.0	C	•
EB-A2 14-14/28C14M110	14.00	7.00	14.00	14.00	28.0	110.00	13.80	2	30.0	C	•
EB-A2 16-16/32C16M140	16.00	8.00	16.00	16.00	32.0	140.00	15.80	2	30.0	C	•
EB-A2 25-25/50C25M180	25.00	12.50	25.00	25.00	50.0	180.00	24.80	2	30.0	C	•

• For user guide, see pages 169-176
(1) Number of flutes
(2) C-Cylindrical

SOLIDMILL PREMIUM LINE

EBM-A-2

2 Flute, 30° Helix Medium Length Solid Carbide Miniature Ball Nose Endmills

Designation	Dimensions								Tough ↔ Hard	
	DC	RE	DCONMS	APMX	OAL	NOF(1)	FHA	Shank(2)	IC08	IC900
EBM004A008-2C03	0.40	0.20	3.00	0.80	38.00	2	30.0	C	•	•
EBM005A010-2C03	0.50	0.25	3.00	1.00	38.00	2	30.0	C	•	•
EBM006A012-2C03	0.60	0.30	3.00	1.20	38.00	2	30.0	C	•	•
EBM007A014-2C03	0.70	0.35	3.00	1.40	38.00	2	30.0	C	•	
EBM008A016-2C03	0.80	0.40	3.00	1.60	38.00	2	30.0	C	•	•
EBM010A025-2C04	1.00	0.50	4.00	2.50	50.00	2	30.0	C	•	•
EBM012A030-2C04	1.20	0.60	4.00	3.00	50.00	2	30.0	C	•	•
EBM016A040-2C04	1.60	0.80	4.00	4.00	50.00	2	30.0	C	•	•
EBM020A060-2C04	2.00	1.00	4.00	6.00	50.00	2	30.0	C	•	•

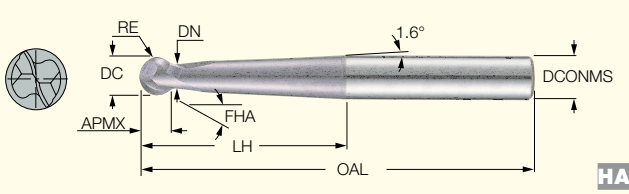
• Short and stable design for profiling (roughing). • For user guide, see pages 169-176
(1) Number of flutes
(2) C-Cylindrical

DC	Tolerance	
DC≤0.6	DC	0.000 -0.010
0.6<DC≤2	DC	0.000 -0.012

SOLIDMILL PREMIUM LINE

ESB-A2

2 Flute, 30° Helix Spherical Long Solid Carbide Ball Nose Endmills for Materials up to 65 HRc



HARD MATERIALS

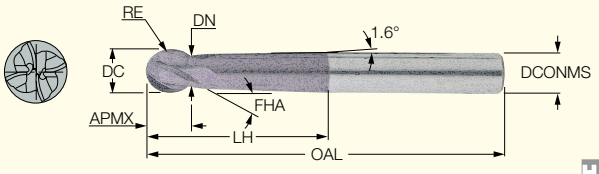
Designation	Dimensions										IC903
	DC	RE	DCONMS	APMX	LH	DN	OAL	NOF(1)	FHA	Shank(2)	
ESB-A2 03 02/30C06M80	3.00	1.50	6.00	2.30	30.0	2.50	80.00	2	30.0	C	•
ESB-A2 04 03/30C06M80	4.00	2.00	6.00	3.10	30.0	3.30	80.00	2	30.0	C	•
ESB-A2 05 03/38C06M80	5.00	2.50	6.00	3.90	38.0	4.10	80.00	2	30.0	C	•
ESB-A2 06 04/28C06M100	6.00	3.00	6.00	4.90	28.0	4.70	100.00	2	30.0	C	•
ESB-A2 08 06/33C08M100	8.00	4.00	8.00	6.30	33.0	6.50	100.00	2	30.0	C	•
ESB-A2 10 07/40C10M100	10.00	5.00	10.00	7.90	40.0	8.20	100.00	2	30.0	C	•
ESB-A2 16 12/59C16M150	16.00	8.00	16.00	12.40	59.0	13.40	150.00	2	30.0	C	•

• For user guide, see pages 169-176
(1) Number of flutes
(2) C-Cylindrical

SOLIDMILL PREMIUM LINE

ESB-A4

4 Flute, 30° Helix Spherical Long Solid Carbide Ball Nose Endmills for Materials up to 65 HRC



HARD MATERIALS

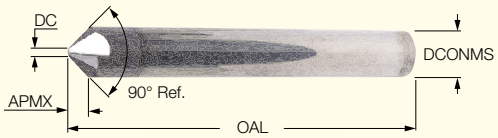
Designation	Dimensions										IC903
	DC	RE	DCONMS	APMX	LH	DN	OAL	NOF(1)	FHA	Shank(2)	
ESB-A4 05 3/38C06M80	5.00	2.50	6.00	3.90	38.0	4.10	80.00	4	30.0	C	•
ESB-A4 06 4/28C06M100	6.00	3.00	6.00	4.90	28.0	4.70	100.00	4	30.0	C	•
ESB-A4 08 6/33C08M100	8.00	4.00	8.00	6.30	33.0	6.30	100.00	4	30.0	C	•
ESB-A4 10 7/40C10M100	10.00	5.00	10.00	7.90	40.0	8.20	100.00	4	30.0	C	•
ESB-A4 12 9/49C12M100	12.00	6.00	12.00	9.50	49.0	9.80	100.00	4	30.0	C	•
ESB-A4 16 12/59C16M150	16.00	8.00	16.00	12.40	59.0	13.40	150.00	4	30.0	C	•

• For user guide, see pages 169-176
(1) Number of flutes
(2) C-Cylindrical

SOLIDMILL PREMIUM LINE

ECF../45

45° Chamfering and Countersinking Solid Carbide Endmills



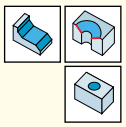
Designation	Dimensions						IC900
	DC	DCX(1)	APMX	OAL	NOF(2)	Shank(3)	
ECF D-1.5/45-4C04	1.00	4.00	1.50	50.00	4	C	•
ECF D-2/45-4C06	2.00	6.00	2.00	57.00	4	C	•
ECF D-3/45-4C08	2.00	8.00	3.00	63.00	4	C	•
ECF D-4/45-4C10	2.00	10.00	4.00	72.00	4	C	•
ECF D-5/45-4C12	2.00	12.00	5.00	83.00	4	C	•

• For user guide, see pages 169-176
(1) Cutting diameter maximum
(2) Number of flutes
(3) C-Cylindrical

SOLIDMILL PREMIUM LINE

ECD-S2

45° Chamfering and Spot Drilling Solid Carbide Tools



Designation	Dimensions						Tough ↔ Hard	
	DC	DCONMS	OAL	APMX	LU	Shank[1]	IC08	IC900
ECD-S2 030/90C03-38	3.00	3.00	38.00	1.37	6.00	C	•	•
ECD-S2 040/90C04-50	4.00	4.00	50.00	1.79	8.00	C	•	•
ECD-S2 050/90C05-50	5.00	5.00	50.00	2.24	10.00	C	•	•
ECD-S2 060/90C06-57	6.00	6.00	57.00	2.71	12.00	C	•	•
ECD-S2 080/90C08-63	8.00	8.00	63.00	3.63	16.00	C	•	•
ECD-S2 100/90C10-72	10.00	10.00	72.00	4.55	20.00	C	•	•
ECD-S2 120/90C12-73	12.00	12.00	73.00	5.47	24.00	C	•	•

• For user guide, see pages 169-176

(1) C-Cylindrical

Grade Priorities for Solid Carbide Endmills

Material Groups		ISO P		ISO M	ISO K	ISO N	ISO S	ISO H
		1 - 11	12 - 13	14	15 - 20	21 - 28	31 - 37	38 - 41
		Steel	Stainless Steel Ferritic & Martensitic	Stainless Steel Austenitic & Duplex (Ferritic-Austenitic)	Cast Iron	Nonferrous	High Temp Alloys	Hard Steel & Hardened Cast Iron
Solid & MULTI-MASTER Endmills	Harder	IC702	IC702	IC902	IS6*		IS6*	IC702
		IC902	IC902	IC903	IC902		IS902**	IC903
		IC903	IC903		**IC903**		IC903	
		IC608	IC608	**IC608**	IC608		**IC900 (908)**	IC608
Roughing / Semi-Finishing		**IC900 (908)**	**IC900 (908)**	IC900 (908)	**IC900 (908)**		**IC300 (308)**	**IC900 (908)**
	Tougher			**IC300 (308)**		**IC08**	IC08	
Coolant		N	Y	Y	N	Y	Y	N
Solid & MULTI-MASTER Endmills	Harder	**IC702**	**IC702**	IC902	IS6*		**IC902**	**IC702**
		IC902	**IC902**	IC608	IC902		**IC903**	**IC902**
		IC903	IC903	**IC300 (308)**	**IC903**		IC900 (908)	IC903
		IC608	IC608		IC608			IC608
		IC900 (908)	IC900 (908)	IC900 (908)	IC900 (908)			IC900 (908)
Finishing	Tougher					**IC08**	IC08	
Coolant		N	Y	Y	N	Y	Y	N

First choice

* SiAiON grade
** First choice for trochoidal milling

Machining Data for Solid Carbide and MULTI-MASTER Endmills

ISO	Material		Condition	Tensile Strength [N/mm2]	Hardness HB	Material No.
P	Non-alloy steel and cast steel, free cutting steel	< 0.25 %C	Annealed	420	125	1
		>= 0.25 %C	Annealed	650	190	2
		< 0.55 %C	Quenched and tempered	850	250	3
		>= 0.55 %C	Annealed	750	220	4
			Quenched and tempered	1000	300	5
	Low alloy steel and cast steel (less than 5% of alloying elements)		Annealed	600	200	6
			Quenched and tempered	930	275	7
				1000	300	8
				1200	350	9
	High alloyed steel, cast steel, and tool steel		Annealed	680	200	10
			Quenched and tempered	1100	325	11
	Stainless steel and cast steel		Ferritic/martensitic.	680	200	12
			Martensitic	820	240	13
M	Stainless steel		Austenitic	600	180	14
K	Grey cast iron (GG)		Ferritic/pearlitic		180	15
			Pearlitic		260	16
	Cast iron nodular (GGG)		Ferritic		160	17
			Pearlitic		250	18
	Malleable cast iron		Ferritic		130	19
			Pearlitic		230	20
N	Aluminum- wrought alloy		Not cureable		60	21
			Cured		100	22
	Aluminum-cast, alloyed	<=12% Si	Not cureable		75	23
			Cured		90	24
		>12% Si	High temperature		130	25
	Copper alloys	>1% Pb	Free cutting		110	26
			Brass		90	27
			Electrolitic copper		100	28
	Non-metallic		Duroplastics, fiber plastics			29
			Hard rubber			30
S	High temp. alloys	Fe based	Annealed		200	31
			Cured		280	32
		Ni or Co based	Annealed		250	33
			Cured		350	34
			Cast		320	35
	Titanium Ti alloys			RM 400		36
			Alpha+beta alloys cured	RM 1050		37
H	Hardened steel		Hardened		55 HRC	38
			Hardened		60 HRC	39
	Chilled cast iron		Cast		400	40
	Cast iron		Hardened		55 HRC	41

	Cutting Speed (m/min)			
No.	IC900 / IC608	IC903	IC300	IC08
1	260 - 280	260 - 280	210 - 220	180 - 200
2	200 - 230	200 - 230	160 - 180	140 - 160
3	160 - 220	160 - 220	130 - 180	110 - 150
4	160 - 220	160 - 220	130 - 180	110 - 150
5	140 - 180	140 - 180	110 - 140	100 - 130
6	160 - 220	160 - 220	130 - 180	110 - 150
7	120 - 180	120 - 180	100 - 140	80 - 130
8	130 - 180	130 - 180	100 - 140	90 - 130
9	140 - 180	140 - 180	110 - 140	100 - 130
10	130 - 180	130 - 180	100 - 140	90 - 130
11	70 - 120	70 - 120	60 - 100	50 - 80
12	80 - 160	80 - 160	60 - 130	60 - 110
13	60 - 150	60 - 150	50 - 120	40 - 100
14	60 - 120	60 - 120	50 - 100	40 - 80
15	80 - 260	80 - 250	60 - 210	60 - 180
16	130 - 240	130 - 240	100 - 190	90 - 170
17	150 - 280	150 - 270	120 - 220	100 - 200
18	90 - 280	90 - 270	70 - 220	60 - 200
19	150 - 280	150 - 270	120 - 220	100 - 200
20	140 - 240	140 - 240	110 - 190	100 - 170
21				800 - 900
22				700 - 800
23				800 - 900
24				750 - 850
25				400 - 450
26				500 - 550
27				500 - 550
28				350 - 380
29				
30				
31	20 - 40	20 - 40	20 - 30	10 - 20
32	20 - 40	20 - 30	20 - 20	10 - 20
33	20 - 50	20 - 30	20 - 20	20 - 50
34	20 - 70	20 - 30	20 - 20	20 - 50
35	30 - 70	30 - 80	20 - 60	20 - 50
36	30 - 70	30 - 80	20 - 60	20 - 30
37	30 - 70	30 - 80	20 - 60	20 - 30
38	30 - 50	30 - 60	20 - 40	40 - 60
39	30 - 40	30 - 40	20 - 30	20 - 30
40	60 - 80	70 - 90	50 - 60	65 - 75
41	30 - 50	30 - 60	20 - 40	40 - 45

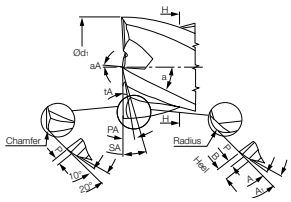
Machining Data for MULTI-MASTER Groove Milling Heads

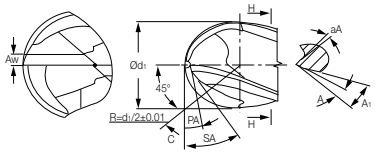
ISO	Material		Condition	Tensile Strength [N/mm2]	Hardness HB	Material No.
P	Non-alloy steel and cast steel, free cutting steel	< 0.25 %C	Annealed	420	125	1
		>= 0.25 %C	Annealed	650	190	2
		< 0.55 %C	Quenched and tempered	850	250	3
		>= 0.55 %C	Annealed	750	220	4
			Quenched and tempered	1000	300	5
	Low alloy steel and cast steel (less than 5% of alloying elements)		Annealed	600	200	6
			Quenched and tempered	930	275	7
				1000	300	8
				1200	350	9
	High alloyed steel, cast steel, and tool steel		Annealed	680	200	10
			Quenched and tempered	1100	325	11
	Stainless steel and cast steel		Ferritic/martensitic.	680	200	12
			Martensitic	820	240	13
M	Stainless steel		Austenitic	600	180	14
K	Grey cast iron (GG)		Ferritic/pearlitic		180	15
			Pearlitic		260	16
	Cast iron nodular (GGG)		Ferritic		160	17
			Pearlitic		250	18
	Malleable cast iron		Ferritic		130	19
			Pearlitic		230	20
N	Aluminum- wrought alloy		Not cureable		60	21
			Cured		100	22
	Aluminum-cast, alloyed	<=12% Si	Not cureable		75	23
			Cured		90	24
		>12% Si	High temperature		130	25
	Copper alloys	>1% Pb	Free cutting		110	26
			Brass		90	27
			Electrolitic copper		100	28
	Non-metallic		Duroplastics, fiber plastics			29
			Hard rubber			30
S	High temp. alloys	Fe based	Annealed		200	31
			Cured		280	32
		Ni or Co based	Annealed		250	33
			Cured		350	34
			Cast		320	35
	Titanium Ti alloys			RM 400		36
			Alpha+beta alloys cured	RM 1050		37
H	Hardened steel		Hardened		55 HRC	38
			Hardened		60 HRC	39
	Chilled cast iron		Cast		400	40
	Cast iron		Hardened		55 HRC	41

MM-TS			MM-GRIT K-TYPE			MM-GRIT P-TYPE		
Speed	Feed mm/t		Speed	Feed mm/t		Speed	Feed mm/t	
V m/min	Fz (min)	Fz (max)	V m/min	Fz (min)	Fz (max)	V m/min	Fz (min)	Fz (max)
110-140	0.08	0.20	110-160	0.05	0.15	-	-	-
100-120	0.08	0.18	100-150	0.05	0.15	-	-	-
70-100	0.08	0.15	80-100	0.05	0.15	-	-	-
70-100	0.08	0.15	80-100	0.05	0.15	-	-	-
60-80	0.08	0.15	60-80	0.05	0.15	-	-	-
100-120	0.08	0.15	110-150	0.05	0.15	-	-	-
90-120	0.08	0.15	100-120	0.05	0.15	-	-	-
80-110	0.08	0.15	70-110	0.05	0.15	-	-	-
70-100	0.05	0.12	70-100	0.05	0.15	-	-	-
60-80	0.05	0.18	60-80	0.05	0.15	-	-	-
55-70	0.08	0.15	55-70	0.05	0.15	-	-	-
100-130	0.06	0.12	100-130	0.03	0.15	100-130	0.03	0.10
100-120	0.08	0.15	100-130	0.03	0.15	100-130	0.03	0.10
80-120	0.05	0.10	90-120	0.03	0.12	90-120	0.03	0.10
160-220	0.10	0.20	160-220	0.03	0.12	-	-	-
120-200	0.10	0.15	120-200	0.03	0.12	-	-	-
100-140	0.10	0.20	-	-	-	-	-	-
80-100	0.10	0.15	-	-	-	-	-	-
180-250	0.10	0.20	180-250	0.03	0.15	-	-	-
160-220	0.10	0.15	160-220	0.03	0.15	-	-	-
800-1200	0.10	0.20	-	-	-	800-1200	0.05	0.15
800-1200	0.10	0.20	-	-	-	800-1200	0.05	0.15
-	-	-	-	-	-	600-1000	0.05	0.15
-	-	-	-	-	-	500-1000	0.05	0.15
-	-	-	-	-	-	200-400	0.05	0.15
-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-
-	-	-	30-40	0.02	0.12	-	-	-
25-35	0.05	0.12	25-40	0.02	0.12	-	-	-
25-35	0.05	0.12	25-40	-	-	-	0.01	0.12
25-35	0.05	0.12	25-40	-	-	-	0.01	0.12
40-60	0.05	0.12	25-40	-	-	-	0.01	0.12
40-60	0.05	0.12	40-60	-	-	-	0.05	0.12
40-60	0.05	0.10	40-60	-	-	-	0.05	0.10

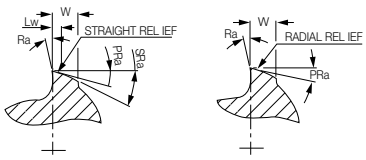
Regrinding Instructions for Solid Carbide Endmills

	d1 [µ m]	d1 [µ in]	**a	*Ra	*Pra/Rra	*SRa	**tA	*aA	*PA
Square End *									
2 Flute *	< 7	< .3	30	10	10	-	2	7	8
General Use	> 7	> .3	30	8	10	-	2	7	8
3 Flute *	< 7	< .3	38-45	9	10	-	2	5	7
General Use	> 7	> .3	38-45	7	10	-	2	5	7
4 Flute *	< 7	< .3	30-45	7	10	-	1.5	5	7
General Use	> 7	> .3	30-45	7	10	-	1.5	5	7
6 Flute ECH... *	< 7	< .3	45	8	10	-	1.5	6	7
General Use	> 7	> .3	45	7	9	-	1.5	5	7
6 Flute EC-D6 Hard Material*	-	-	50	-12	10	-	1	-2	7
Ball End									
2 Flute *	< 7	< .3	30	7	11	24	-	3	13
General Use	> 7	> .3	30	7	11	24	-	3	13
3 Flute *	< 7	< .3	30	7	11	24	-	3	11
General Use	> 7	> .3	30	7	11	24	-	3	11
4 Flute	< 7	< .3	30	7	11	24	-	3	13
General Use	> 7	> .3	30	7	11	24	-	3	13
Square End + Radius *									
3 Flute *	< 7	< .3	38-45	9	12	25	3	6	12
General Use	> 7	> .3	38-45	7	12	24	3	5	12
4 Flute *	< 7	< .3	30-45	8	12	26	3	5	12
General Use	> 7	> .3	30-45	7	12	24	4	5	12
6 Flute *	< 7	< .3	45	8	12	22	4	5	12
General Use	> 7	> .3	45	7	11	22	4	5	11
10 Flute * (MM) General Use	-	-	30	7	10	16	4	3	10
Roughers *									
ERF-A-3..6 *	< 7	< .3	30-38	9	8	-	2.5	6	7
General Use *	> 7	> .3	30-38	8	8	-	2.5	6	7
EBRF-T3...4 *	<7	< .3	20	6	8	-	-	3	12
General Use	> 7	> .3	20	6	8	-	-	3	12
ECR-B-4/5/7 *	<7	< .3	45	9	7.5	-	3	5	7
Stainless Steel/General Use	>7	> .3	45	8	8	-	3	5	7
ECR-T4... *	<7	< .3	20	9	7.5	-	2	5	7
PH /General Use	>7	> .3	20	8	7.5	-	2	5	7
ERC-E3 *	< 7	< .3	38	16	10	-	2	10	10
Aluminum	> 7	> .3	38	16	11	-	2	10	10
ECR-B3 3 Flute Aluminum*	-	-	45	16	11	-	4	10	10
Aluminum *									
ECA-B-2 *	< 7	< .3	45-55	16	11	25	5	10	11
2 Flute Aluminum	> 7	> .3	45-55	16	11	25	5	10	11
ECA-B-3 *	< 7	< .3	45	16	10	-	4	10	10
3 Flute Aluminum	> 7	> .3	45	16	10	-	4	10	10
Chip Splitters									
ECP-E3/4 *	< 7	< .3	38	8	8	-	3	6	7
Stainless Steel/General Use	> 7	> .3	38	8	8	-	3	6	7
FiniShred									
EFS-B44 *	< 7	< .3	45	3	7.5	-	1.5	2	7
General Use ***	> 7	> .3	45	3	7.5	-	1.5	2	7
ChatterFree									
EC-E4...CF *	< 7	< .3	38	4	3	9****	3	2	7
General Use	> 7	> .3	38	4	3	8****	3	2	7
ChatterFree									
EC-E5...CF *	< 7	< .3	38	7	8	-	3	2	7
General Use	> 7	> .3	38	6	8	-	3	2	7



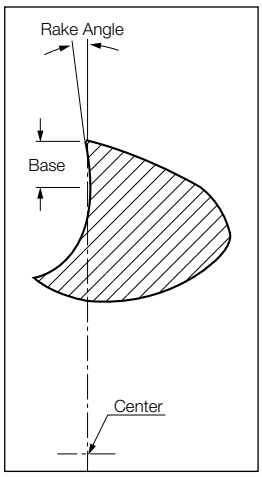


*SA	W	*A	*A1	Lw	Aw	P	B	Radius
17	0.18*d1	12.0	-	-	0.10*d1	-	-	-
17	0.175*d1	12.0	-	-	0.10*d1	-	-	-
17	0.175*d1	12.0	-	-	0.10*d1	-	-	-
17	0.16*d1	12.0	-	-	0.10*d1	-	-	-
16	0.17*d1	12.0	-	-	0.10*d1	-	-	-
16	0.16*d1	12.0	-	-	0.10*d1	-	-	-
17	0.14*d1	-	-	-	0.08*d1	-	-	-
17	0.13*d1	-	-	-	0.08*d1	-	-	-
-	0.19*d1	-	-	-	-	-	-	-
24	0.175*d1	12.0	24	0.06*d1	0.06*d1	0.06*d1	0.22*d1	-
24	0.165*d1	12.0	24	0.05*d1	0.05*d1	0.05*d1	0.17*d1	-
24	0.175*d1	11.0	24	0.06*d1	0.06*d1	0.08*d1	0.165*d1	-
24	0.165*d1	11.0	24	0.05*d1	0.05*d1	0.05*d1	0.170*d1	-
24	0.175*d1	12.0	24	0.06*d1	0.06*d1	0.06*d1	0.165*d1	-
24	0.165*d1	12.0	24	0.05*d1	0.05*d1	0.05*d1	0.170*d1	-
22	0.175*d1	12.0	23.5	0.06*d1	0.10*d1	0.08*d1	0.157*d1	-
22	0.165*d1	12.0	23	0.05*d1	0.10*d1	0.075*d1	0.148*d1	-
22	0.175*d1	12.0	24	0.06*d1	0.10*d1	0.08*d1	0.157*d1	-
22	0.165*d1	12.0	23	0.05*d1	0.10*d1	0.075*d1	0.148*d1	-
22	0.14*d1	12.0	22	0.06*d1	0.10*d1	0.08*d1	0.126*d1	-
22	0.13*d1	11.0	22	0.05*d1	0.10*d1	0.075*d1	0.117*d1	-
16	0.10*d1	10.0	16	0.04*d1	0.045*d1	0.04*d1	-	R
17	0.21*d1	-	-	-	0.10*d1	-	-	-
17	0.21*d1	-	-	-	0.08*d1	-	-	-
26	0.19*d1	12.0	26	0.06*d1	0.06*d1	0.06*d1	0.18*d1	-
25	0.22*d1	12.0	25	0.053*d1	0.053*d1	0.053*d1	0.25*d1	-
17	0.22*d1	13.0	-	-	0.10*d1	-	-	-
16	0.24/0.20/0.14*d1	12.0	-	-	0.08*d1	-	-	-
16	0.32*d1	12.0	-	-	0.09*d1	-	-	-
16	0.3*d1	11.0	-	-	0.09*d1	-	-	-
22	0.2*d1	-	-	-	0.10*d1	-	-	-
22	0.2*d1	-	-	-	0.09*d1	-	-	-
22	0.24*d1	10.0	-	-	0.10*d1	-	-	R0.2
24	0.17*d1	-	-	0.06*d1	0.10*d1	0.08*d1	0.153*d1	-
24	0.19*d1	-	-	0.05*d1	0.10*d1	0.075*d1	0.171*d1	-
22	0.26*d1	10.0	-	-	0.10*d1	-	-	R0.2
22	0.24*d1	10.0	-	-	0.10*d1	-	-	R0.2
17	0.27*d1	14.0	-	-	0.10*d1	-	-	-
17	0.27*d1	12.0	-	-	0.10*d1	-	-	-
16	0.27*d1	12.0	-	-	0.10*d1	-	-	-
16	0.27*d1	12.0	-	-	0.10*d1	-	-	-
17	0.17*d1/0.23*d1	13.0	-	0.008*d1/0.04*d1	0.075*d1	-	-	-
17	0.15*d1/0.23*d1	13.0	-	0.006*d1/0.04*d1	0.075*d1	-	-	-
16	0.17*d1/0.21*d1	12.0	-	-	0.085*d1	-	-	-
16	0.17*d1/0.21*d1	12.0	-	-	0.08*d1	-	-	-



Regrinding Instructions for Solid Carbide Endmills (continued)
Base Distance for Rake Angle Measurement

Tool Diameter Base Distance		Tool Diameter Base Distance	
mm	in	mm	in
0.5<d1≤0.7	.02<d1≤.03	0.03	.001181
0.7<d1≤0.8	.03<d1≤.032	0.04	.001574
0.8<d1≤1.0	.032<d1≤.04	0.05	.001968
1.0<d1≤1.2	.04<d1≤.05	0.065	.002559
1.2<d1≤1.4	.05<d1≤.055	0.075	.002952
1.4<d1≤1.6	.055<d1≤.063	0.085	.003346
1.6<d1≤2	.063<d1≤.08	0.1	.003937
2<d1≤4	.08<d1≤.158	0.2	.007874
4<d1≤6.35	.158<d1≤.25	0.3	.01181
6.35<d1≤8	.25<d1≤.315	0.4	.01574
8<d1≤13	.315<d1≤.512	0.5	.01968
13<d1≤21	.512<d1≤.827	0.6	.02362
21<d1≤27	.827<d1≤1.063	0.7	.02755
27<d1≤	1.063<d1	0.8	.03149



FACE MILLS

Face Mills 90°

HELiPLUS

HP F90AN
page 187

HELiTANG T490 LINE

T490 FLN
pages 189,194,200,205,209

HELiQUAD

F90SP
page 191

HELi2000

HM90 F90AP
page 193

TANGMILL TANGENTIAL LINE

F90LN-N11
page 196

HELiQUAD

F90SD
page 197

HELi3MILL HM390 LINE

HM390
pages 187,192,202,205

HELiDO 490 LINE

H690
pages 188,194,207

HELiDO 490 LINE

H490 F90A
pages 190,199,206

TANGMILL TANGENTIAL LINE

F90LN-N15
page 201

TANGMILL TANGENTIAL LINE

F86LNX-11
page 210

SUMOMILL 290 LINE

T290 FLN
pages 191, 200

HELi2000

HM90 F90A
page 203

ISCARMILL

F90
page 208

MILLSHRED P290 LINE

P290 FPW
page 208

HELiPLUS

HP F90AT
page 209

HELiDO 890 LINE

S890 FSN-13
page 198

LOGIQ8TANG T890 MILLING LINE

T890HT-R13
page 195

HELIDO 865 LINE

S865 FSN-13
page 211

HELIOCTO

HOF/HOE...R06
pages 212, 213

HELIOCTO

HOF...R07
page 213

16MILL

F45WG
page 215

16MILL

F45NM
page 216

ISCARMILL

F45E
page 220

ISCARMILL

F45ST
page 220

HELIDO 845 LINE

S845 F45SX
page 222

DOVEIQMILL 845 LINE

IQ845
pages 214, 221

HELIDO 800 LINE

SOF45
pages 218, 219

HELIDO 800 HD LINE

SOF45-R18
page 224

HELIDO 800 HD LINE

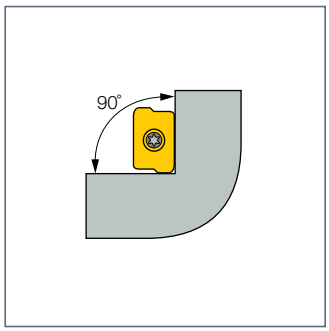
SOF45-26
page 223

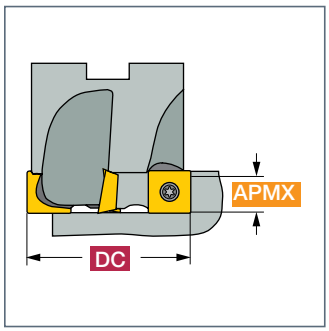
HELITANG T465 LINE

T465 FLN-22
page 212

ISCARMILL

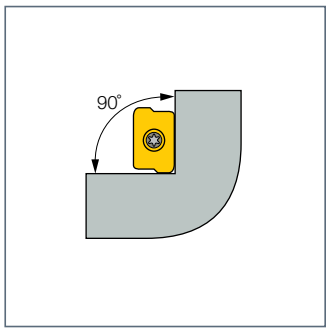
Face Mills 90°
Selection Guide

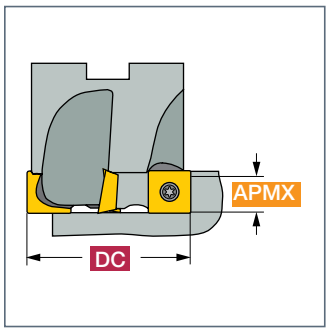




Tool	HM390 FTC-07	HP F90AN-07	H690 FWN	T490 FLN-08	H490 F90AX-09	T290 FLN-10	F90SP-10	HM390 FTP-10	HM90 F90AP-10
APMX	5	7.7	7	8	8	9	9.5	8	10
DC	Number of Teeth (Effective)								
25									
32	4; 5	6		3; 5	4; 5	5			3; 5
40	5; 6	8; 10		4; 6	5; 6	6	4	3; 5	5; 6
50			4; 5	5; 7; 10	6; 7	7	4; 6	4; 6	6; 7
52									
63			5; 6; 7	6; 9	8; 9		7	6; 7	7; 9
66									
80			7; 9	10				11	8
100			8, 11					13	9
125			10						
160									
200									
250									
315									
Inserts	HM390 TCKT 07..	HP AN.. 0702..	H690 WN.. 07..	T490 LN.. 08...	H490 AN.. 09...	T290 LNMT 10	XPMT 10.. SPMT 10... QPMT 10..	HM390 TPKT 1003...	HM90 AP..10 AP...10
Pages	187	187	188	189	190	191	191	192	193

Face Mills 90°
Selection Guide

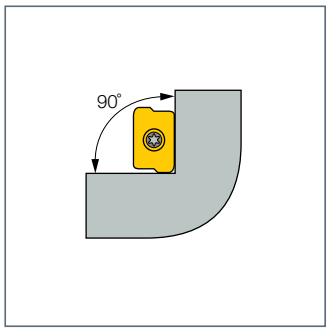


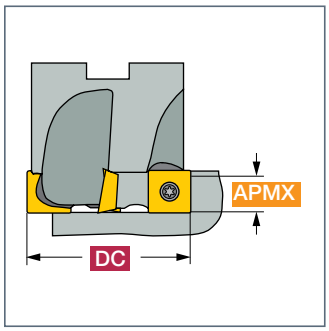


Tool	H690 F90AX-10	F90LN-N11	T490 FLN-11	S890 FSN-13	F90SD-12	H490 F90AX-12	T490 FLN-13	T290 FLN-15
APMX	8	10	10	10	12	12	12.5	14
DC	Number of Teeth (Effective)							
25								
32	4; 5							
40	5; 6	4; 6	4; 5	4		4	4; 5	4
50	6; 7	5; 7	5; 6	4; 5	5	3; 5	5; 6	5
52					4; 6			
63	8	6; 9	6, 9	5; 7		4; 6	6; 8	
66								
80		8; 11	7; 11	7; 9	5	5; 7	7; 10	
100		9; 14	8; 13	8; 11	6; 8	6; 9	8; 13	
125		10; 18		9; 14	7; 9		9; 17	
160				10	11	9	12	
200					13		15	
250								
315								
Inserts	H690 TNKX 1005	LN.. 11...	T490 LN.. 11...	S890 SN.. 13...	SDMT 12... SDMR 12... QDMT 12... QDCT 12...	H490 AN.. 12...	T490 LNMT 13..	T290 LN.. 15...
Pages	194	196	194	198	197	199	200	200

ISCARMILL

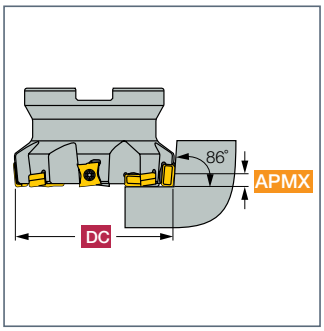
Face Mills 90°
Selection Guide

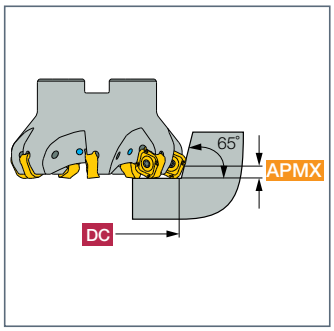




Tool	F90LN-N15	HM390 FTD-15	HM90 F90A-15	T490FLN-16	HM390 FTD-19	H490 F90AX-17	H690 F90AX-16	F90
APMX	14	13	14.3	16	16	16.3	13.5	18
DC	Number of Teeth (Effective)							
25								
32								
40		3; 4	3; 4			3		
50	5	3; 4; 5	3; 5	3; 4		3; 4	3; 4	
52								
63	5; 8	4; 5; 6	4, 6	6	5	4; 6	4; 5	
66								
80	7; 10	5; 6; 7	5; 7	5; 7		5; 7	5; 6	6
100	8; 12	6; 8	6; 8	6; 8		5; 8	6; 8	8
125	9; 15	7; 9	9	7; 10		7; 10	7; 9	8
160	10; 20	8; 10		12	10	8; 12	8; 10	10
200	12	9		12		10	11	12
250	15; 30					12		
315								
Inserts	LN.. 15...	HM390 TDKT 1505..	HM90 AD.. 15...	T490 LNMT 16...	HM390 TDKT 1907	H490 AN.. 17...	HM690 TNKX 1606	TPK...22
Pages	201	202	203	205	205	206	207	208

Endmills and Face Mills 86°, 65°
Selection Guide



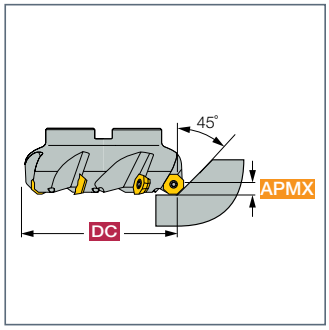


Tool	F86LNX-11	S865 FSN-13	T465 FLN-22
APMX	3-10	6	19
DC	86°	65°	65°
25			
32			
40			
50	6	4; 6	
52			
63	6	6; 8	
66			
80	8	7; 10	
100		8; 12	
125		10; 16	6; 8
160			7; 9
200			8; 10
250			10;12
315			12
Inserts	LN.. 11...	S865 SNMU 13...	T465 LNHT 22...
Pages	210	211	212

P290 FPW	HP F90AT-19	HP F90AT-22	T490 FLN-22ST
12, 18	18	21	21
Number of Teeth (Effective)		90°	
4			
4; 5			
5; 6	4	3; 4	
6			
8			
9			
			6
			7
			8
P290 ACCT P290 ACKT	HP AD.. 19...	HP AD.. 22...	T490 LNHT 2212
208	209	209	209

ISCARMILL

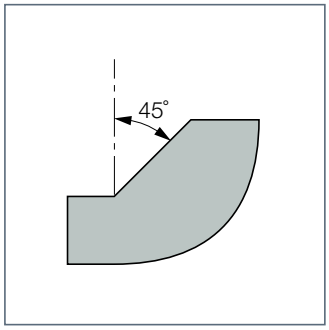
Endmills and Face Mills 45°
Selection Guide



Tool	HOE / HOF	IQ845	F45WG	F45NM	SOF45
APMX / DC	2.5/5.5	2.6/4.6	5.5	5.5	3.5; 6.0
	Number of Teeth (Effective)				
25		3; 4			
32	3	4; 5			
40	4	4, 5, 6, 7			4
50	3, 4	4; 5, 9			3; 4; 6
52					
63	4, 5	5; 7, 11		5	4; 6; 8
66					
80	5, 6	6; 8	10	6; 8	7; 10
100	6, 7	7; 10	14	7; 10	8; 12
125	8	9; 12	18	8; 12	10; 16
160	10	11; 15	22	10; 15	12
200	12	14		12	14
250	15	17		14	16
315	18	20			20
Inserts	OE.. 06.. OF.. 07... RF.. 19...	IQ845 SYHU 05,07...	ON.. 08...	ON.. 08...	ON.. 05... S845 SN.. 13...
Pages	212-213	214, 221	215	216	217-218

ISCARMILL

Face Mills 45°
Selection Guide

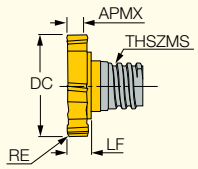


Tool	F45ST	F45E	S845 F45SX-16	SOF45-R18	SOF45-R26
APMX / DC	6.5	6.5	7.1	5; 8	7; 11
	Number of Teeth (Effective)				
25					
32					
40	3		4		
50	4	4	4; 5	4	
52					
63	5	5	5; 7	5	
66					
80	6	6	9	6; 7	4
100	6	6	7; 11	7; 9	5, 6
125	7	6	8; 14	8; 12	6, 8
160	7	8	10; 18	10; 15	8, 10
200			12	12; 18	10, 12
250			15	14; 21	12, 14
315				18; 24	14, 16
Inserts	SE.T 12...	SE.. 12...	S845 SX.. 16...	S845 SNMU 18/ ONMU 07	S845 SNMU 26/ ONMU 10
Pages	220	220	222	224	223

MULTI-MASTER
INDEXABLE SOLID CARBIDE LINE

MM FM

Interchangeable Solid Carbide Face Milling Heads with MULTI-MASTER Threaded Connections



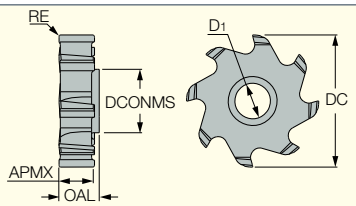
Designation	Dimensions DC	APMX	RE	NOF(1)	THSZMS	LF	IC908	Recommended Machining Data f_z (mm/t)
MM FM120-36R0.2-06T05	12.00	3.60	0.20	6	T05	4.40	●	0.04-0.10
MM FM160-48R0.4-06T06	16.00	4.80	0.40	6	T06	5.60	●	0.05-0.10
MM FM200-60R0.4-06T08	20.00	6.00	0.40	6	T08	6.80	●	0.05-0.10
MM FM250-75R0.4-06T10	25.00	7.50	0.40	6	T10	8.40	●	0.05-0.10

(1) Number of flutes

T-FACE
FACEMILL

SD FM

Interchangeable Solid Carbide Face Milling Heads



Designation	Dimensions DC	APMX	NOF(1)	RE	D_1	DCONMS	OAL	IC908	Recommended Machining Data f_z (mm/t)
SD FM D32-8-R0.4-SP15	31.25	8.00	8	0.40	8.40	15.00	8.00	●	0.04-0.15
SD FM D40-10-R0.4SP17	39.25	10.00	10	0.40	9.80	17.00	10.00	●	0.04-0.15
SD FM D50-12-R0.4SP19	49.25	12.00	12	0.40	9.80	19.00	14.00	●	0.04-0.15

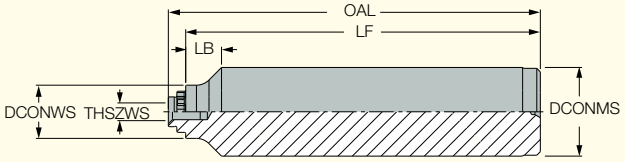
• For shanks, see pages • For user guide, see pages 518-524

(1) Number of flutes

T-FACE
FACEMILL

SD FM-S-A-SP

Stepped Cylindrical Shanks for Interchangeable Solid Carbide Face Milling Heads



Designation	DCONMS	DCONWS	THSZWS	LB	LF	OAL	Shank(1)	kg
SD FM-S-A-L100-C25-SP15	25.00	15.00	M5x0.5	10.10	100.00	104.90	C	0.37
SD FM-S-A-L120-W25-SP15	25.00	15.00	M5x0.5	10.10	120.00	124.90	W	0.44
SD FM-S-A-L125-W32-SP17	32.00	17.00	M6x0.5	12.50	125.00	131.00	W	0.75
SD FM-S-A-L140-C32 SP17	32.00	17.00	M6x0.5	12.50	140.00	146.00	C	0.85
SD FM-S-A-L140-C32-SP19	32.00	19.00	M6x0.5	10.00	140.00	148.50	C	1.41
SD FM-S-A-L130-W40-SP19	40.00	19.00	M6x0.5	14.00	130.00	138.50	W	1.21

• Apply lubricant to the clamping screw

(1) C-Cylindrical, W-Weldon

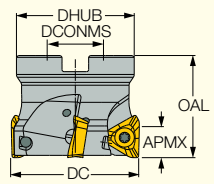
Spare Parts

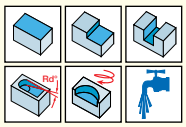
Designation			
SD FM-S-A-L100-C25-SP15	SR M5X0.5-SP15-IP20-HG	BLD IP20/S7	SW6-T-SH
SD FM-S-A-L120-W25-SP15	SR M5X0.5-SP15-IP20-HG	BLD IP20/S7	SW6-T-SH
SD FM-S-A-L125-W32-SP17	SR M6X0.5-SP17-IP20-HG	BLD IP20/S7	SW6-T-SH
SD FM-S-A-L140-C32 SP17	SR M6X0.5-SP17-IP20-HG	BLD IP20/S7	SW6-T-SH
SD FM-S-A-L140-C32-SP19	SR M6X0.5-SP17-IP20-HG	BLD IP20/S7	SW6-T-SH
SD FM-S-A-L130-W40-SP19	SR M6X0.5-SP17-IP20-HG	BLD IP20/S7	SW6-T-SH

HELI3MILL HM390 LINE

HM390 FTC-07

90° Face Mills Carrying HM390 TCKT 0703 Triangular Inserts with 3 Helical Cutting Edges





Designation	DC	CICT(1)	APMX	OAL	DHUB	DCONMS	Arbor(2)	RMPX(3)	kg			
HM390 FTC D032-04-16-07	32.00	4	5.00	35.00	30.40	16.00	A	0.8	0.11	SR M2.5X6-T7-60	T-7/51	SR M8X25DIN912
HM390 FTC D032-05-16-07	32.00	5	5.00	35.00	30.40	16.00	A	0.8	0.10	SR M2.5X6-T7-60	T-7/51	SR M8X25DIN912
HM390 FTC D040-05-16-07	40.00	5	5.00	35.00	38.00	16.00	A	0.6	0.20	SR M2.5X6-T7-60	T-7/51	SR M8X25DIN912
HM390 FTC D040-06-16-07	40.00	6	5.00	35.00	38.00	16.00	A	0.6	0.20	SR M2.5X6-T7-60	T-7/51	SR M8X25DIN912

• Insert clamping screw must be lubricated every indexing • Tightening torque 0.9 Nxm • For user guide see pages 518-524

(1) Number of inserts

(2) For adaptation options, see page 517

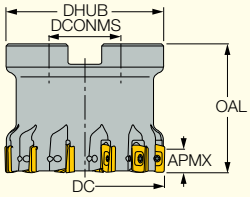
(3) Maximum ramping angle

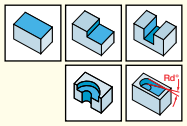
For inserts, see pages: HM390 TCKT/CT 0703 (432)

HELIPLUS

HP F90AN-07

90° Face Mills Carrying HP ANKT 0702.. Inserts





Designation	DC	CICT(1)	APMX	OAL	DHUB	DCONMS	RMPX(2)	Arbor(3)	RPMX(4)	kg
HP F90AN D32-06-16-07	32.00	6	7.70	35.00	30.40	16.00	1.4	A	26600	0.10
HP F90AN D40-08-22-07	40.00	8	7.70	40.00	38.00	22.00	1.0	B	23700	0.16
HP F90AN D40-10-22-07	40.00	10	7.70	40.00	38.00	22.00	1.0	B	23700	0.17

• Insert tightening torque: 0.62 Nxm • For user guide, see pages 518-524

(1) Number of inserts

(2) Maximum ramping angle

(3) For adaptation options, see page 517

(4) Maximum RPM

For inserts, see pages: HP ANCR 0702PNFR (430) • HP ANKT 0702...-FF (431) • HP ANKT/ANCT 0702..PN-R/PNTR (430) • HP ANKW 070204PNTR (430)

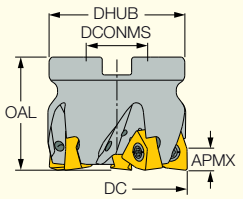
Spare Parts

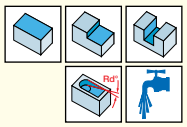
Designation			
HP F90AN D32-06-16-07	SR 34-533/L/HG	T-6/51	SR M8X20DIN912
HP F90AN D40-08-22-07	SR 34-533/L/HG	T-6/51	SR M10X25 DIN912
HP F90AN D40-10-22-07	SR 34-533/L/HG	T-6/51	SR M10X25 DIN912

HELIDO TRIGON LINE

H690 FWN

90° Face Mills Carrying H690 WNMU 0705 Double-Sided Trigonal Inserts with 6 Helical Cutting Edges





Designation	DC	CICT(1)	APMX	DHUB	DCONMS	OAL	Arbor(2)	RMPX(3)	kg
H690 FWN D050-04-22-R07	50.00	4	7.00	48.00	22.00	40.00	A	1.2	0.33
H690 FWN D050-05-22-R07	50.00	5	7.00	48.00	22.00	40.00	A	1.2	0.33
H690 FWN D063-05-22-R07	63.00	5	7.00	48.00	22.00	40.00	A	1.1	0.50
H690 FWN D063-06-27-R07	63.00	6	7.00	60.00	27.00	50.00	A	1.1	0.72
H690 FWN D063-07-22-R07	63.00	7	7.00	48.00	22.00	40.00	A	1.1	0.50
H690 FWN D080-07-27-R07	80.00	7	7.00	60.00	27.00	50.00	B	1.0	1.00
H690 FWN D080-09-27-R07	80.00	9	7.00	60.00	27.00	50.00	B	1.0	0.98
H690 FWN D100-08-32-R07	100.00	8	7.00	70.00	32.00	50.00	B	0.8	1.57
H690 FWN D100-11-32-R07	100.00	11	7.00	70.00	32.00	50.00	B	0.8	1.62
H690 FWN D125-10-40-R07	125.00	10	7.00	82.00	40.00	63.00	B	0.5	2.82

• For cutting speed recommendations, see pages 518-524
(1) Number of inserts
(2) For adaptation options, see page 517
(3) Maximum ramping angle

For inserts, see pages: H690 WNHU/WNMU 0705 (454)

Spare Parts

Designation				
H690 FWN D050-04-22-R07	SR M4X0.7IP15	BLD IP15/S7	SW6-T-SH	SR M10X25 DIN912
H690 FWN D050-05-22-R07	SR M4X0.7IP15	BLD IP15/S7	SW6-T-SH	SR M10X25 DIN912
H690 FWN D063-05-22-R07	SR M4X0.7IP15	BLD IP15/S7	SW6-T-SH	SR M10X25 DIN912
H690 FWN D063-06-27-R07	SR M4X0.7IP15	BLD IP15/S7	SW6-T-SH	
H690 FWN D063-07-22-R07	SR M4X0.7IP15	BLD IP15/S7	SW6-T-SH	SR M10X25 DIN912
H690 FWN D080-07-27-R07	SR M4X0.7IP15	BLD IP15/S7	SW6-T-SH	
H690 FWN D080-09-27-R07	SR M4X0.7IP15	BLD IP15/S7	SW6-T-SH	
H690 FWN D100-08-32-R07	SR M4X0.7IP15	BLD IP15/S7	SW6-T-SH	
H690 FWN D100-11-32-R07	SR M4X0.7IP15	BLD IP15/S7	SW6-T-SH	
H690 FWN D125-10-40-R07	SR M4X0.7IP15	BLD IP15/S7	SW6-T-SH	

Table - Examples of Cutting Speed for H690 FWN/EWN...07 Cutters

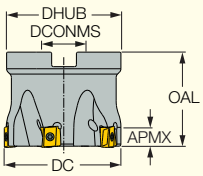
ISO Class DIN/ ISO 513	Workpiece Material					Cutting Speed Vc, SFM, for Grades					
	Description	ISCAR Mat. Group*	Typical Materials AISI/SAE/ ASTM	Typical Materials DIN W.-Nr.	Hardness, HB	IC808	IC5100	IC810	IC5400	IC830	IC330
P	Non-alloy steel	1	1020	1.044	130-180	180-250		150-220	150-220	130-200	120-180
P	Alloy steel	8	4340	1.6582	260-300	150-200		130-180	130-180	120-170	100-140
P	Alloy steel	9	4340	1.6582	HRC 35-42**	100-170		100-150	100-150	100-130	100-120
P	High alloy steel	10	H13	1.2344	200-220	100-170		100-150	100-150	100-130	100-120
P	Martensitic s.s.	12	420	1.4021	200	100-150				100-130	100-120
K	Grey cast iron	16	Class 40	0.6025 (GG25)	250	200-250	220-300	220-300		180-230	
K	Nodular cast iron	17	Class 65-45-12	0.7050 (GGG50)	200	160-220	180-250	180-250		150-200	

* ISCAR material group in accordance with VDI 3323 standard
** Quenched and tempered
• First choice for grades

HELITANG T490 LINE

T490 FLN-08

90° Face Mills with Tangentially Clamped Inserts



Designation	DC	CICT(3)	APMX	OAL	DHUB	DCONMS	Arbor(4)	CSP(5)	kg
T490 FLN D032-03-16-08	32.00	3	8.00	35.00	30.40	16.00	A	1	0.11
T490 FLN D032-05-16-08 (1)	32.00	5	8.00	35.00	30.40	16.00	A	1	0.11
T490 FLN D040-04-16-08	40.00	4	8.00	40.00	38.40	16.00	A	1	0.23
T490 FLN D040-06-16-08 (1)	40.00	6	8.00	40.00	38.40	16.00	A	1	0.23
T490 FLN D050-05-22-08	50.00	5	8.00	40.00	48.00	22.00	A	1	0.36
T490 FLN D050-07-22-08 (1)	50.00	7	8.00	40.00	48.00	22.00	A	1	0.37
T490 FLN D050-10-22-08 (2)	50.00	10	8.00	40.00	48.00	22.00	A	0	0.39
T490 FLN D063-06-27-08	63.00	6	8.00	40.00	60.00	27.00	A	1	0.60
T490 FLN D063-09-27-08 (1)	63.00	9	8.00	40.00	60.00	27.00	A	1	0.62
T490 FLN D080-10-27-08	80.00	10	8.00	50.00	60.00	27.00	B	0	0.84

• When machining slots, regular pitch cutters should be used • For user guide, see pages 518-524

(1) Fine pitch

(2) Extra fine pitch

(3) Number of inserts

(4) For adaptation options, see page 517

(5) 0 - Without coolant supply, 1 - With coolant supply

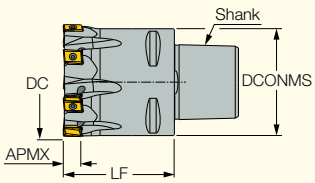
Spare Parts

Designation			
T490 FLN D032-03-16-08	SR 10502813-HG-M	IP-7/51	SR M8X20DIN912
T490 FLN D032-05-16-08	SR 10502813-HG-M	IP-7/51	SR M8X20DIN912
T490 FLN D040-04-16-08	SR 10502813-HG-M	IP-7/51	SR M8X30DIN912
T490 FLN D040-06-16-08	SR 10502813-HG-M	IP-7/51	SR M8X30DIN912
T490 FLN D050-05-22-08	SR 10502813-HG-M	IP-7/51	SR M10X25 DIN912
T490 FLN D050-07-22-08	SR 10502813-HG-M	IP-7/51	SR M10X25 DIN912
T490 FLN D050-10-22-08	SR 10502813-HG-M	IP-7/51	SR M10X20DIN912
T490 FLN D063-06-27-08	SR 10502813-HG-M	IP-7/51	SR DIN 912 M12X25
T490 FLN D063-09-27-08	SR 10502813-HG-M	IP-7/51	SR DIN 912 M12X25
T490 FLN D080-10-27-08	SR 10502813-HG-M	IP-7/51	

HELITANG CAMFIX T490 LINE

T490 FLN-C#-08

90° Face Mills with CAMFIX Shanks Carrying Tangentially Clamped Inserts



Designation	DC	DCONMS	APMX	LF	CICT(1)	Shank	kg		
T490 FLN D44-06-C4-08	44.00	40.00	8.00	45.00	6	CAMFIX	0.23	SR 10502813-HG-M	IP-7/51
T490 FLN D54-07-C5-08	54.00	50.00	8.00	52.00	7	CAMFIX	0.80	SR 10502813-HG-M	IP-7/51

• For user guide, see pages 518-524

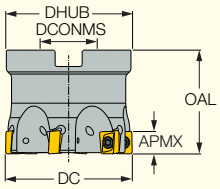
(1) Number of inserts

For inserts, see pages: T490 LNAR (464) • T490 LNMT/LNHT 0804 (460)

HELIDO 490 LINE

H490 F90AX-09

90° Face Mills Carrying H490 ANKX 09.. Double-Sided Rectangular Inserts with 4 Helical Cutting Edges



Designation	DC	CICT(1)	APMX	DHUB	DCONMS	OAL	Arbor(2)	kg
H490 F90AX D032-4-16-09	32.00	4	8.00	30.40	16.00	35.00	A	0.10
H490 F90AX D032-5-16-09	32.00	5	8.00	30.40	16.00	35.00	A	0.10
H490 F90AX D040-5-16-09	40.00	5	8.00	38.40	16.00	40.00	A	0.22
H490 F90AX D040-6-16-09	40.00	6	8.00	38.40	16.00	40.00	A	0.22
H490 F90AX D050-6-22-09	50.00	6	8.00	48.00	22.00	40.00	A	0.36
H490 F90AX D050-7-22-09	50.00	7	8.00	48.00	22.00	40.00	A	0.37
H490 F90AX D063-8-22-09	63.00	8	8.00	60.00	22.00	40.00	A	0.62
H490 F90AX D063-9-22-09	63.00	9	8.00	60.00	22.00	40.00	A	0.64

• For user guide, see pages 518-524
(1) Number of inserts
(2) For adaptation options, see page 517

For inserts, see pages: H490 ANKX 0904-FF (455) • H490 ANKX/ANCX-09 (454)

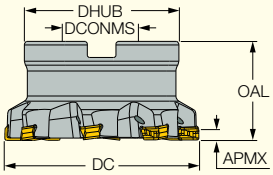
Spare Parts

Designation				
H490 F90AX D032-4-16-09	SR 10508082-HG	BLD T08/M7	SW4-SD	SR M8X20DIN912
H490 F90AX D032-5-16-09	SR 10508082-HG	BLD T08/M7	SW4-SD	SR M8X20DIN912
H490 F90AX D040-5-16-09	SR 10508082-HG	BLD T08/M7	SW4-SD	SR M8X30DIN912
H490 F90AX D040-6-16-09	SR 10508082-HG	BLD T08/M7	SW4-SD	SR M8X30DIN912
H490 F90AX D050-6-22-09	SR 10508082-HG	BLD T08/M7	SW4-SD	SR M10X25 DIN912
H490 F90AX D050-7-22-09	SR 10508082-HG	BLD T08/M7	SW4-SD	SR M10X25 DIN912
H490 F90AX D063-8-22-09	SR 10508082-HG	BLD T08/M7	SW4-SD	SR M10X25 DIN912
H490 F90AX D063-9-22-09	SR 10508082-HG	BLD T08/M7	SW4-SD	SR M10X25 DIN912

TANGFIN FINISH MILLING

HTF-R-LN10

Face Mills Carrying Tangentially Clamped Inserts with 4 Cutting Edges for Extra Fine Milling Applications



Designation	DC	APMX	CICT(1)	OAL	DHUB	DCONMS	Arbor(2)	CSP(3)	kg
HTF D050-05-22-R-LN10	50.00	0.25	5	40.00	48.00	22.00	A	1	0.31
HTF D063-06-22-R-LN10	63.00	0.30	6	40.00	48.00	22.00	A	1	0.43
HTF D080-07-27-R-LN10	80.00	0.35	7	50.00	60.00	27.00	B	1	0.81
HTF D100-08-32-R-LN10	100.00	0.40	8	50.00	78.00	32.00	B	1	1.44
HTF D125-09-40-R-LN10	125.00	0.45	9	63.00	92.00	40.00	B	1	2.55
HTF D160-10-40-R-LN10	160.00	0.50	10	63.00	95.00	40.00	C	0	3.75

• For best surface finish it is highly recommended to operate the cutter at maximal depth of cut • For user guide, see pages 518-524
(1) Number of inserts
(2) For adaptation see page 517
(3) 0 - Without coolant supply, 1 - With coolant supply

For inserts, see pages: HTP LN.. 1006 (512)

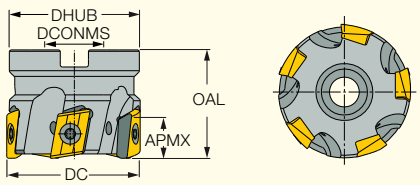
Spare Parts

Designation				
HTF D050-05-22-R-LN10	SR 34-550	BLD T10/S7	SW6-SD	SR M10X25 DIN912
HTF D063-06-22-R-LN10	SR 34-550	BLD T10/S7	SW6-SD	SR M10X25 DIN912
HTF D080-07-27-R-LN10	SR 34-550	BLD T10/S7	SW6-SD	
HTF D100-08-32-R-LN10	SR 34-550	BLD T10/S7	SW6-SD	
HTF D125-09-40-R-LN10	SR 34-550	BLD T10/S7	SW6-SD	
HTF D160-10-40-R-LN10	SR 34-550	BLD T10/S7	SW6-SD	

SUMOMILL 290 LINE

T290 FLN-10

90° Face Mills Carrying T290 LNMT 1004... Tangentially Clamped Inserts



Designation	DC	CICT(1)	APMX	OAL	DHUB	DCONMS	Arbor(2)	kg
T290 FLN D32-05-16-10	32.00	5	9.00	35.00	30.00	16.00	A	0.09
T290 FLN D40-06-16-10	40.00	6	9.00	35.00	34.00	16.00	A	0.16
T290 FLN D50-07-22-10	50.00	7	9.00	40.00	46.00	22.00	A	0.29

• For user guide, see pages 518-524
(1) Number of inserts
(2) For adaptation options, see page 517

For inserts, see pages: T290 LNMT/LNHT 1004 (459)

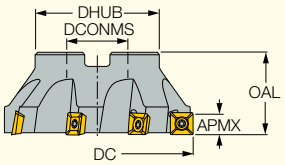
Spare Parts

Designation				
T290 FLN D32-05-16-10	SR 10504970	BLD IP15/M7	SW6-T-SH	SR M8X20DIN912
T290 FLN D40-06-16-10	SR 10504970	BLD IP15/M7	SW6-T-SH	SR M8X20DIN912
T290 FLN D50-07-22-10	SR 10504970	BLD IP15/M7	SW6-T-SH	SR M10X25 DIN912

HELIQUAD

F90SP-10

90° Face Mills Carrying S/X/ QPMT 1004... Inserts



Designation	DC(2)	CICT(3)	APMX	OAL	DHUB	DCONMS	RMPX(4)	Arbor(5)	kg
F90SP D 40-16-10	40.00	4	9.50	40.00	35.00	16.00	-	A	0.18
F90SP D 50-22-CP10	50.00	4	9.50	40.00	42.50	22.00	2.0	A	0.27
F90SP D 50-22-FP10 (1)	50.00	6	9.50	40.00	42.50	22.00	2.0	A	0.28
F90SP D 63-22-FP10 (1)	63.00	7	9.50	40.00	42.50	22.00	0.8	A	0.42

• For user guide, see pages 518-524
(1) Fine pitch
(2) D is 0.2 mm larger when QPMT inserts are used
(3) Number of inserts
(4) Maximum ramping angle
(5) For adaptation options, see page 517

For inserts, see pages: QPMR 1004-HQ-M (479) • QPMT 100408PDTN (479) • SPMT-HQ (480) • XPMT-HQ (480)

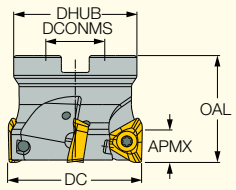
Spare Parts

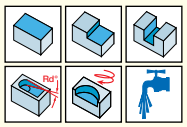
Designation				
F90SP D 40-16-10	SR 14-544/S	BLD T15/M7	SW6-T	SR M8X25DIN912
F90SP D 50-22-CP10	SR 14-544/S	BLD T15/M7	SW6-T	SR M10X25 DIN912
F90SP D 50-22-FP10	SR 14-544/S	BLD T15/M7	SW6-T	SR M10X25 DIN912
F90SP D 63-22-FP10	SR 14-544/S	BLD T15/M7	SW6-T	SR M10X25 DIN912

HELI3MILL HM390 LINE

HM390 FTP-10

90° Face Mills Carrying HM390 TPKT 1003 Triangular Inserts with 3 Helical Cutting Edges





Designation	DC	CICT(1)	APMX	OAL	DHUB	DCONMS	Arbor(2)	RMPX(3)	kg
HM390 FTP D040-3-16-10	40.00	3	8.00	40.00	38.40	16.00	A	1.6	0.21
HM390 FTP D040-5-16-10	40.00	5	8.00	40.00	38.40	16.00	A	1.6	0.23
HM390 FTP D050-4-22-10	50.00	4	8.00	40.00	48.00	22.00	A	1.2	0.33
HM390 FTP D050-6-22-10	50.00	6	8.00	40.00	48.00	22.00	A	1.2	0.34
HM390 FTP D063-6-22-10	63.00	6	8.00	50.00	59.00	22.00	A	0.9	0.69
HM390 FTP D063-6-27-10	63.00	6	8.00	45.00	61.00	27.00	A	0.9	0.63
HM390 FTP D063-7-22-10	63.00	7	8.00	45.00	61.00	22.00	A	0.9	0.69
HM390 FTP D063-7-27-10	63.00	7	8.00	45.00	61.00	27.00	A	0.9	0.68
HM390 FTP D080-11-27-10	80.00	11	8.00	50.00	60.00	27.00	A	0.8	0.98
HM390 FTP D100-13-27-10	100.00	13	8.00	50.00	60.00	27.00	A	0.8	1.38

• For user guide, see pages 518-524
(1) Number of inserts
(2) For adaptation see page 51745
(3) Maximum ramping angle

For inserts, see pages: HM390 TPKT/CT 1003 (432)

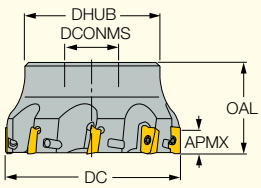
Spare Parts

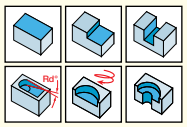
Designation				
HM390 FTP D040-3-16-10	SR 14-562/S	BLD T10/S7	SW6-SD	SR M8X25DIN912
HM390 FTP D040-5-16-10	SR 14-562/S	BLD T10/S7	SW6-SD	SR M8X25DIN912
HM390 FTP D050-4-22-10	SR 14-562/S	BLD T10/S7	SW6-SD	SR M10X25 DIN912
HM390 FTP D050-6-22-10	SR 14-562/S	BLD T10/S7	SW6-SD	SR M10X25 DIN912
HM390 FTP D063-6-22-10	SR 14-562/S	BLD T10/S7	SW6-SD	SR M10X25 DIN912
HM390 FTP D063-6-27-10	SR 14-562/S	BLD T10/S7	SW6-SD	SR M12X35DIN912
HM390 FTP D063-7-22-10	SR 14-562/S	BLD T10/S7	SW6-SD	SR M10X25 DIN912
HM390 FTP D063-7-27-10	SR 14-562/S	BLD T10/S7	SW6-SD	SR M12X35DIN912
HM390 FTP D080-11-27-10	SR 14-562/S	BLD T10/S7	SW6-SD	SR M12X35DIN912
HM390 FTP D100-13-27-10	SR 14-562/S	BLD T10/S7	SW6-SD	SR M12X35DIN912

HELI2000

HM90 F90AP-10

90° Face Mills Carrying HM90 APKT 1003... Inserts





Designation	DC	CICT(1)	APMX	OAL	DHUB	DCONMS	RMPX(2)	RPMX(3)	Arbor(4)	kg
HM90 F90AP D32-3-16	32.00	3	10.00	35.00	30.40	16.00	2.2	35355	A	0.10
HM90 F90AP D32-5-16	32.00	5	10.00	35.00	30.40	16.00	2.2	35355	A	0.10
HM90 F90AP D40-5-22	40.00	5	10.00	40.00	38.40	22.00	1.9	31623	A	0.19
HM90 F90AP D40-6-22	40.00	6	10.00	40.00	38.40	22.00	1.9	31623	A	0.18
HM90 F90AP D50-6-22	50.00	6	10.00	40.00	48.40	22.00	1.4	28284	A	0.34
HM90 F90AP D50-7-22	50.00	7	10.00	40.00	48.40	22.00	1.4	28284	A	0.35
HM90 F90AP D63-7-22	63.00	7	10.00	40.00	59.00	22.00	1.0	25198	B	0.52
HM90 F90AP D63-9-22	63.00	9	10.00	40.00	59.00	22.00	1.0	25198	B	0.52
HM90 F90AP D80-8-27	80.00	8	10.00	50.00	70.00	27.00	0.9	22361	B	0.94
HM90 F90AP D100-9-32	100.00	9	10.00	50.00	78.00	32.00	0.7	20100	B	1.51

• For user guide, see pages 518-524
(1) Number of inserts
(2) Maximum ramping angle
(3) Maximum RPM
(4) For adaptation options, see page 517

For inserts, see pages: APCR 1003PDFR-P (436) • APCT 1003PDR-HM (435) • APKR 1003PDR-HM (436) • APKT 1003..R (438) • APKT 1003..TR-RM (437) • APKT 1003PDR-HM (436) • APKT 1003PDTR-76 (437) • APKT 1003PDTR/L-RM (437) • APKT 1003R8T-FF (439) • APKW 100304 PDR (PCD) (435) • HM90 APCR 100304PDFR-P/DP (435) • HM90 APCT 1003 (434) • HM90 APKT 1003 (434) • HM90 APKT 1003PD-W (438) • HM90 APKW 1003PDR (438)

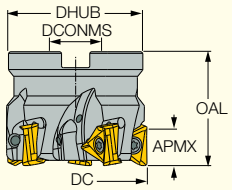
Spare Parts

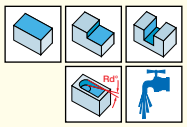
Designation				
HM90 F90AP D32-3-16	SR 34-505/HG	SW4-SD	BLD T08/M7	SR M8X20DIN912
HM90 F90AP D32-5-16	SR 34-505/HG	SW4-SD	BLD T08/M7	SR M8X20DIN912
HM90 F90AP D40-5-22	SR 34-505/HG	SW4-SD	BLD T08/M7	SR M10X25 DIN912
HM90 F90AP D40-6-22	SR 34-505/HG	SW4-SD	BLD T08/M7	SR M10X25 DIN912
HM90 F90AP D50-6-22	SR 34-505/HG	SW4-SD	BLD T08/M7	SR M10X25 DIN912
HM90 F90AP D50-7-22	SR 34-505/HG	SW4-SD	BLD T08/M7	
HM90 F90AP D63-7-22	SR 34-505/HG	SW4-SD	BLD T08/M7	
HM90 F90AP D63-9-22	SR 34-505/HG	SW4-SD	BLD T08/M7	
HM90 F90AP D80-8-27	SR 34-505/HG	SW4-SD	BLD T08/M7	
HM90 F90AP D100-9-32	SR 34-505/HG	SW4-SD	BLD T08/M7	

HELIDO 690 LINE

H690 F90AX-10

90° Face Mills Carrying H690 TNKX 1005.. Triangular Inserts with 6 Helical Cutting Edges





Designation	DC	CICT(1)	APMX	DHUB	DCONMS	OAL	Arbor(2)	RMPX(3)	kg
H690 F90AX D032-4-16-10	32.00	4	8.00	30.40	16.00	35.00	A	1.6	0.10
H690 F90AX D032-5-16-10	32.00	5	8.00	30.40	16.00	35.00	A	1.6	0.10
H690 F90AX D040-5-16-10	40.00	5	8.00	38.00	16.00	40.00	A	1.1	0.22
H690 F90AX D040-6-16-10	40.00	6	8.00	38.00	16.00	40.00	A	1.1	0.21
H690 F90AX D050-6-22-10	50.00	6	8.00	48.00	22.00	40.00	A	1.0	0.35
H690 F90AX D050-7-22-10	50.00	7	8.00	48.00	22.00	40.00	A	1.0	0.36
H690 F90AX D063-8-22-10	63.00	8	8.00	48.00	22.00	40.00	A	0.7	0.47

(1) Number of inserts
(2) For adaptation options, see page 517
(3) Maximum ramping angle

For inserts, see pages: H690 TNKX/TNCX 1005 (457)

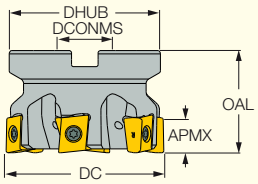
Spare Parts

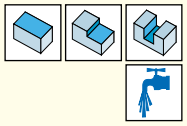
Designation				
H690 F90AX D032-4-16-10	SR 10508082-HG	BLD T08/M7	SW4-SD	SR M8X38-1515
H690 F90AX D032-5-16-10	SR 10508082-HG	BLD T08/M7	SW4-SD	SR M8X38-1515
H690 F90AX D040-5-16-10	SR 10508082-HG	BLD T08/M7	SW4-SD	SR M8X30DIN912
H690 F90AX D040-6-16-10	SR 10508082-HG	BLD T08/M7	SW4-SD	SR M8X30DIN912
H690 F90AX D050-6-22-10	SR 10508082-HG	BLD T08/M7	SW4-SD	SR M10X25 DIN912
H690 F90AX D050-7-22-10	SR 10508082-HG	BLD T08/M7	SW4-SD	SR M10X25 DIN912
H690 F90AX D063-8-22-10	SR 10508082-HG	BLD T08/M7	SW4-SD	SR M10X25 DIN912

HELITANG T490 LINE

T490 FLN-11

90° Face Mills Carrying T490 LN#T 11... Tangentially Clamped Inserts





Designation	DC	CICT(1)	APMX	OAL	DHUB	DCONMS	Arbor(2)	RMPX(3)	kg
T490 FLN D040-04-16-R-11	40.00	4	9.00	40.00	38.00	16.00	A	1.4	0.23
T490 FLN D040-05-16-R-11	40.00	5	9.00	40.00	38.00	16.00	A	1.4	0.22
T490 FLN D050-05-22-R-11	50.00	5	9.00	40.00	48.00	22.00	A	1.1	0.33
T490 FLN D050-06-22-R-11	50.00	6	9.00	40.00	48.00	22.00	A	1.1	0.33
T490 FLN D063-06-22-R-11	63.00	6	9.00	40.00	59.20	22.00	A	0.7	0.55
T490 FLN D063-09-22-R-11	63.00	9	9.00	40.00	59.20	22.00	A	0.7	0.55
T490 FLN D080-07-27-R-11	80.00	7	9.00	50.00	70.00	27.00	A	-	1.01
T490 FLN D080-11-27-R-11	80.00	11	9.00	50.00	70.00	27.00	A	-	1.04
T490 FLN D100-08-32-R-11	100.00	8	9.00	50.00	78.00	32.00	B	-	1.48
T490 FLN D100-13-32-R-11	100.00	13	9.00	50.00	78.00	32.00	B	-	1.55

• Important: Maximum clamping torque 3.2 N*m • For user guide, see pages 518-524
(1) Number of inserts
(2) For adaptation options, see page 517
(3) Maximum ramping angle - valid only with T490 LNHT 1106PNTR-RD insert

For inserts, see pages: T490 LNMT/LNHT 1106 (461)

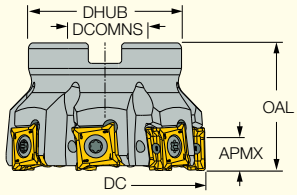
Spare Parts

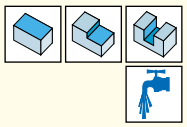
Designation				
T490 FLN D040-04-16-R-11	SR 34-535-SN	BLD T15/S7	SW6-SD	SR M8X30DIN912
T490 FLN D040-05-16-R-11	SR 34-535-SN	BLD T15/S7	SW6-SD	SR M8X30DIN912
T490 FLN D050-05-22-R-11	SR 34-535-SN	BLD T15/S7	SW6-SD	SR M10X25 DIN912
T490 FLN D050-06-22-R-11	SR 34-535-SN	BLD T15/S7	SW6-SD	SR M10X25 DIN912
T490 FLN D063-06-22-R-11	SR 34-535-SN	BLD T15/S7	SW6-SD	SR M10X25 DIN912
T490 FLN D063-09-22-R-11	SR 34-535-SN	BLD T15/S7	SW6-SD	SR M10X25 DIN912
T490 FLN D080-07-27-R-11	SR 34-535-SN	BLD T15/S7	SW6-SD	
T490 FLN D080-11-27-R-11	SR 34-535-SN	BLD T15/S7	SW6-SD	
T490 FLN D100-08-32-R-11	SR 34-535-SN	BLD T15/S7	SW6-SD	
T490 FLN D100-13-32-R-11	SR 34-535-SN	BLD T15/S7	SW6-SD	

LOGIQ 8 TANG
T890 MILLING LINE

T890HT FLN-R13

90° Face Mills Carrying T890 LN.T 1306... Tangentially Clamped Inserts with 8 Cutting Edges





Designation	DC	APMX	CICT(1)	DCONMS	DHUB	OAL	Arbor	kg
T890HT FLN D040-03-16-R13	40.00	9.50	3	16.00	38.00	40.00	A	0.22
T890HT FLN D040-04-16-R13	40.00	9.50	4	16.00	38.00	40.00	A	0.21
T890HT FLN D040-05-16-R13	40.00	9.50	5	16.00	38.00	40.00	A	0.21
T890HT FLN D050-04-22-R13	50.00	9.50	4	22.00	48.00	40.00	A	0.33
T890HT FLN D050-05-22-R13	50.00	9.50	5	22.00	48.00	40.00	A	0.33
T890HT FLN D050-06-22-R13	50.00	9.50	6	22.00	48.00	40.00	A	0.35
T890HT FLN D063-06-22-R13	63.00	9.50	6	22.00	48.00	40.00	A	0.48
T890HT FLN D063-07-22-R13	63.00	9.50	7	22.00	48.00	40.00	A	0.48
T890HT FLN D063-08-22-R13	63.00	9.50	8	22.00	48.00	40.00	A	0.50
T890HT FLN D080-06-27-R13	80.00	9.50	6	27.00	60.00	50.00	B	0.88
T890HT FLN D080-07-27-R13	80.00	9.50	7	27.00	60.00	50.00	B	0.89
T890HT FLN D080-09-27-R13	80.00	9.50	9	27.00	60.00	50.00	B	0.91
T890HT FLN D100-08-32-R13	100.00	9.50	8	32.00	78.00	50.00	B	1.49
T890HT FLN D100-12-32-R13	100.00	9.50	12	32.00	78.00	50.00	B	1.62
T890HT FLN D125-09-40-R13	125.00	9.50	9	40.00	92.00	63.00	B	2.83
T890HT FLN D125-15-40-R13	125.00	9.50	15	40.00	92.00	63.00	B	2.93
T890HT FLN D160-12-40-R13	160.00	9.50	12	40.00	95.00	63.00	C	3.24
T890HT FLN D160-20-40-R13	160.00	9.50	20	40.00	95.00	63.00	C	3.53

• For user guide, see pages 518-524

(1) Number of inserts

For inserts, see pages: T490 LNAR (464) • T490 LNMT/LNHT 0804 (460)

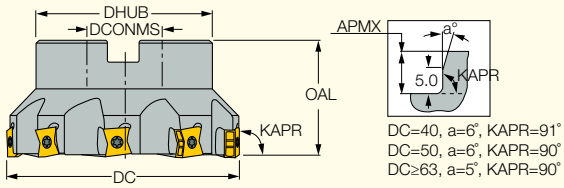
Spare Parts

Designation				
T890HT FLN D040-03-16-R13	SR 10513105-L10.5	BLD IP20/M7	SW6-T-SH	SR M8X30DIN912
T890HT FLN D040-04-16-R13	SR 10513105-L10.5	BLD IP20/M7	SW6-T-SH	SR M8X30DIN912
T890HT FLN D040-05-16-R13	SR 10513105-L10.5	BLD IP20/M7	SW6-T-SH	SR M8X30DIN912
T890HT FLN D050-04-22-R13	SR 10513105	BLD IP20/M7	SW6-T-SH	SR M10X25 DIN912
T890HT FLN D050-05-22-R13	SR 10513105	BLD IP20/M7	SW6-T-SH	SR M10X25 DIN912
T890HT FLN D050-06-22-R13	SR 10513105	BLD IP20/M7	SW6-T-SH	SR M10X25 DIN912
T890HT FLN D063-06-22-R13	SR 10513105	BLD IP20/M7	SW6-T-SH	SR M10X25 DIN912
T890HT FLN D063-07-22-R13	SR 10513105	BLD IP20/M7	SW6-T-SH	SR M10X25 DIN912
T890HT FLN D063-08-22-R13	SR 10513105	BLD IP20/M7	SW6-T-SH	SR M10X25 DIN912
T890HT FLN D080-06-27-R13	SR 10513105	BLD IP20/M7	SW6-T-SH	
T890HT FLN D080-07-27-R13	SR 10513105	BLD IP20/M7	SW6-T-SH	
T890HT FLN D080-09-27-R13	SR 10513105	BLD IP20/M7	SW6-T-SH	
T890HT FLN D100-08-32-R13	SR 10513105	BLD IP20/M7	SW6-T-SH	
T890HT FLN D100-12-32-R13	SR 10513105	BLD IP20/M7	SW6-T-SH	
T890HT FLN D125-09-40-R13	SR 10513105	BLD IP20/M7	SW6-T-SH	
T890HT FLN D125-15-40-R13	SR 10513105	BLD IP20/M7	SW6-T-SH	
T890HT FLN D160-12-40-R13	SR 10513105	BLD IP20/M7	SW6-T-SH	
T890HT FLN D160-20-40-R13	SR 10513105	BLD IP20/M7	SW6-T-SH	

TANGMILL
TANGENTIAL LINE

F90LN-N11

90° Face Mills Carrying LN..1106... Tangentially Clamped Inserts



Designation	DC	CICT(2)	APMX	OAL	DHUB	DCONMS	Arbor(3)	kg
F90LN D040-04-16-R/L-N11	40.00	4	10.00	40.00	38.40	16.00	A	0.22
F90LN D040-06-16-R/L-N11 (1)	40.00	6	10.00	40.00	38.40	16.00	A	0.21
F90LN D050-05-22-R/L-N11	50.00	5	10.00	40.00	47.00	22.00	A	0.32
F90LN D050-07-22-R/L-N11 (1)	50.00	7	10.00	40.00	47.00	22.00	A	0.33
F90LN D063-06-22-R/L-N11	63.00	6	10.00	40.00	59.20	22.00	B	0.47
F90LN D063-09-22-R/L-N11 (1)	63.00	9	10.00	40.00	59.20	22.00	B	0.50
F90LN D080-08-27-R/L-N11	80.00	8	10.00	50.00	70.00	27.00	B	0.98
F90LN D080-11-27-R/L-N11 (1)	80.00	11	10.00	50.00	70.00	27.00	B	1.02
F90LN D100-09-32-R/L-N11	100.00	9	10.00	50.00	77.00	32.00	B	1.41
F90LN D100-14-32-R-N11 (1)	100.00	14	10.00	50.00	77.00	32.00	B	1.48
F90LN D125-10-40-R/L-N11	125.00	10	10.00	63.00	95.00	40.00	B	2.67
F90LN D125-18-40-R-N11 (1)	125.00	18	10.00	63.00	95.00	40.00	B	2.88

• For user guide, see pages 518-524
(1) Fine pitch
(2) Number of inserts
(3) For adaptation options, see page 517

For inserts, see pages: LNAR 1106 (466) • LNAR 1106 (PCD) (467) • LNAR 1106PN-R-S-W (PCD) (467) • LNAT 1106-W (466) • LNAW-11 (CBN) (468) • LNHT 1106 PN-N HT (466) • LNHT 1106 PN-R HT (465) • LNKX/LNMT 1106 (465)

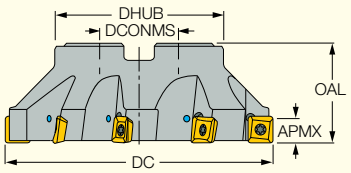
Spare Parts

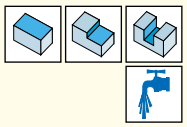
Designation				
F90LN D040-04-16-R/L-N11	SR 34-550	SW6-SD	BLD T10/S7	SR M8X30DIN912
F90LN D040-06-16-R/L-N11	SR 34-550	SW6-SD	BLD T10/S7	SR M8X30DIN912
F90LN D050-05-22-R/L-N11	SR 34-550	SW6-SD	BLD T10/S7	SR M10X25 DIN912
F90LN D050-07-22-R/L-N11	SR 34-550	SW6-SD	BLD T10/S7	SR M10X25 DIN912
F90LN D063-06-22-R/L-N11	SR 34-550	SW6-SD	BLD T10/S7	
F90LN D063-09-22-R/L-N11	SR 34-550	SW6-SD	BLD T10/S7	
F90LN D080-08-27-R/L-N11	SR 34-550	SW6-SD	BLD T10/S7	
F90LN D080-11-27-R/L-N11	SR 34-550	SW6-SD	BLD T10/S7	
F90LN D100-09-32-R/L-N11	SR 34-550	SW6-SD	BLD T10/S7	
F90LN D100-14-32-R-N11	SR 34-550	SW6-SD	BLD T10/S7	
F90LN D125-10-40-R/L-N11	SR 34-550	SW6-SD	BLD T10/S7	
F90LN D125-18-40-R-N11	SR 34-550	SW6-SD	BLD T10/S7	

HELiQUAD

F90SD-12

90° Face Mills Carrying S/ QDM# 12... Inserts





Designation	DC	CICT(1)	APMX	OAL	DHUB	DCONMS	Arbor(2)	kg
F90SD D050-05-22-12	50.00	5	11.80	40.00	48.00	22.00	A	0.28
F90SD D063-04-22-12	63.00	4	11.80	40.00	48.00	22.00	A	0.41
F90SD D063-06-22-12	63.00	6	11.80	40.00	48.00	22.00	A	0.43
F90SD D080-05-27-12	80.00	5	11.80	50.00	60.00	27.00	B	0.79
F90SD D100-06-32-12	100.00	6	11.80	50.00	78.00	32.00	B	1.44
F90SD D100-08-32-12	100.00	8	11.80	50.00	78.00	32.00	B	1.43
F90SD D125-07-40-12	125.00	7	11.80	50.00	92.00	40.00	B	2.13
F90SD D125-09-40-12	125.00	9	11.80	50.00	92.00	40.00	B	2.16
F90SD D160-11-40-12	160.00	11	11.80	50.00	95.00	40.00	C	2.95
F90SD D200-13-60-12	200.00	13	11.80	55.00	135.00	60.00	C	5.40

• For user guide, see pages 518-524

(1) Number of inserts

(2) For adaptation options, see page 517

For inserts, see pages: QDCT-PDN (481) • QDMT 1205..PDTN-M (482) • QDMT 1205PDN-RM (481) • SDMR-HQ (481) • SDMT-PDN-RM (480) • SDMT-PDR-HQ (486)

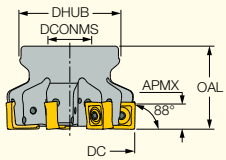
Spare Parts

Designation				
F90SD D050-05-22-12	SR M4X0.7-L9.6 IP15	BLD IP15/S7	SW6-T-SH	SR M10X25 DIN912
F90SD D063-04-22-12	SR M4X0.7-L9.6 IP15	BLD IP15/S7	SW6-T-SH	SR M10X25 DIN912
F90SD D063-06-22-12	SR M4X0.7-L9.6 IP15	BLD IP15/S7	SW6-T-SH	SR M10X25 DIN912
F90SD D080-05-27-12	SR M4X0.7-L9.6 IP15	BLD IP15/M7	SW6-T-SH	
F90SD D100-06-32-12	SR M4X0.7-L9.6 IP15	BLD IP15/M7	SW6-T-SH	
F90SD D100-08-32-12	SR M4X0.7-L9.6 IP15	BLD IP15/M7	SW6-T-SH	
F90SD D125-07-40-12	SR M4X0.7-L9.6 IP15	BLD IP15/M7	SW6-T-SH	
F90SD D125-09-40-12	SR M4X0.7-L9.6 IP15	BLD IP15/M7	SW6-T-SH	
F90SD D160-11-40-12	SR M4X0.7-L9.6 IP15	BLD IP15/L7	SW6-T-SH	
F90SD D200-13-60-12	SR M4X0.7-L9.6 IP15	BLD IP15/L7	SW6-T-SH	

HELIDO 890 LINE

S890 FSN-13

Face Mills Carrying Double-Sided Square Inserts with 8 Cutting Edges



Designation	DC	APMX	OAL	CICT(2)	DCONMS	DHUB	Arbor(3)	CSP(4)	kg
S890 FSN D040-04-16-R13	40.00	9.00	40.00	4	16.00	38.00	A	1	0.19
S890 FSN D050-04-22-R13	50.00	9.00	40.00	4	22.00	48.00	A	1	0.28
S890 FSN D050-05-22-R13 (1)	50.00	9.00	40.00	5	22.00	48.00	A	1	0.29
S890 FSN D063-05-22-R13	63.00	9.00	40.00	5	22.00	48.00	A	1	0.39
S890 FSN D063-07-22-R13 (1)	63.00	9.00	40.00	7	22.00	48.00	B	1	0.39
S890 FSN D080-07-27-R13	80.00	9.00	50.00	7	27.00	60.00	B	1	0.74
S890 FSN D080-09-27-R13 (1)	80.00	9.00	50.00	9	27.00	60.00	B	1	0.74
S890 FSN D100-08-32-R13	100.00	9.00	50.00	8	32.00	70.00	B	1	1.25
S890 FSN D100-11-32-R13 (1)	100.00	9.00	50.00	11	32.00	70.00	B	1	1.27
S890 FSN D125-09-40-R13	125.00	9.00	63.00	9	40.00	82.00	B	1	2.29
S890 FSN D125-14-40-R13 (1)	125.00	9.00	63.00	14	40.00	82.00	B	1	2.30
S890 FSN D160-10-40-R13	160.00	9.00	63.00	10	40.00	106.00	C	0	4.28

• Use only Torx Plus keys • For user guide, see pages 518-524

(1) Fine pitch

(2) Number of inserts

(3) For adaptation options, see page 517

(4) 0 - Without coolant supply, 1 - With coolant supply

For inserts, see pages: S890 SNMU 1305PN... (497)

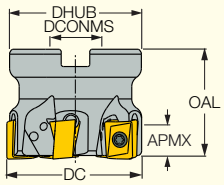
Spare Parts

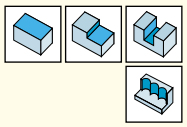
Designation				
S890 FSN D040-04-16-R13	SR 11800745	BLD IP15/S7	SW6-T-SH	SR M8X38-1515
S890 FSN D050-04-22-R13	SR 11800745	BLD IP15/S7	SW6-T-SH	SR M10X25 DIN912
S890 FSN D050-05-22-R13	SR 11800745	BLD IP15/S7	SW6-T-SH	SR M10X25 DIN912
S890 FSN D063-05-22-R13	SR 11800745	BLD IP15/S7	SW6-T-SH	SR M10X25 DIN912
S890 FSN D063-07-22-R13	SR 11800745	BLD IP15/S7	SW6-T-SH	SR M10X25 DIN912
S890 FSN D080-07-27-R13	SR 11800745	BLD IP15/S7	SW6-T-SH	
S890 FSN D080-09-27-R13	SR 11800745	BLD IP15/S7	SW6-T-SH	
S890 FSN D100-08-32-R13	SR 11800745	BLD IP15/S7	SW6-T-SH	
S890 FSN D100-11-32-R13	SR 11800745	BLD IP15/S7	SW6-T-SH	
S890 FSN D125-09-40-R13	SR 11800745	BLD IP15/S7	SW6-T-SH	
S890 FSN D125-14-40-R13	SR 11800745	BLD IP15/S7	SW6-T-SH	
S890 FSN D160-10-40-R13	SR 11800745	BLD IP15/S7	SW6-T-SH	

HELIDO 490 LINE

H490 F90AX-12

90° Face Mills Carrying H490 ANKX 12.. Double-Sided Rectangular Inserts with 4 Helical Cutting Edges





Designation	DC	CICT(1)	APMX	OAL	DHUB	DCONMS	Arbor(2)	RMPX(3)	CSP(4)	kg
H490 F90AX D040-4-16-12	40.00	4	12.00	40.00	38.00	16.00	A	1.5	1	0.20
H490 F90AX D050-3-22-12	50.00	3	12.00	40.00	48.00	22.00	A	1.5	1	0.33
H490 F90AX D050-5-22-12	50.00	5	12.00	40.00	48.00	22.00	A	1.5	1	0.32
H490 F90AX D063-4-27-12	63.00	4	12.00	50.00	59.20	27.00	A	1.5	1	0.68
H490 F90AX D063-6-27-12	63.00	6	12.00	50.00	59.20	27.00	A	1.5	1	0.65
H490 F90AX D080-5-27-12	80.00	5	12.00	50.00	63.00	27.00	B	-	1	0.83
H490 F90AX D080-7-27-12	80.00	7	12.00	50.00	63.00	27.00	B	-	1	0.85
H490 F90AX D100-6-32-12	100.00	6	12.00	50.00	80.00	32.00	B	-	1	1.41
H490 F90AX D100-9-32-12	100.00	9	12.00	50.00	80.00	32.00	B	-	1	1.47
H490 F90AX D160-9-40-12	160.00	9	12.00	63.00	105.00	40.00	C	-	0	3.87

• For user guide, see pages 518-524

(1) Number of inserts

(2) For adaptation options, see page 517

(3) Maximum ramping angle - valid only when the H490 ANKX1205R 15T-FF insert is used

(4) 0 - Without coolant supply, 1 - With coolant supply

For inserts, see pages: H490 ANKX 1205-FF (455) • H490 ANKX/ANCX-12 (455)

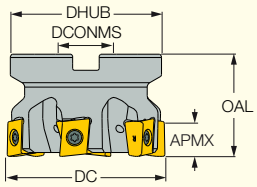
Spare Parts

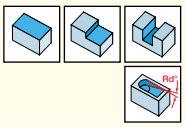
Designation				
H490 F90AX D040-4-16-12	SR 14-544	BLD T15/M7	SW6-T	SR M8X30DIN912
H490 F90AX D050-3-22-12	SR 14-544	BLD T15/M7	SW6-T	SR M10X30 DIN912
H490 F90AX D050-5-22-12	SR 14-544	BLD T15/M7	SW6-T	SR M10X30 DIN912
H490 F90AX D063-4-27-12	SR 14-544	BLD T15/M7	SW6-T	SR M12X35DIN912
H490 F90AX D063-6-27-12	SR 14-544	BLD T15/M7	SW6-T	SR M12X35DIN912
H490 F90AX D080-5-27-12	SR 14-544	BLD T15/M7	SW6-T	
H490 F90AX D080-7-27-12	SR 14-544	BLD T15/M7	SW6-T	
H490 F90AX D100-6-32-12	SR 14-544	BLD T15/M7	SW6-T	
H490 F90AX D100-9-32-12	SR 14-544	BLD T15/M7	SW6-T	
H490 F90AX D160-9-40-12	SR 14-544	BLD T15/M7	SW6-T	

HELITANG T490 LINE

T490 FLN-13

90° Face Mills Carrying Tangentially Clamped Inserts with 4 Helical 13 mm Long Cutting Edges





Designation	DC	CICT(1)	APMX	OAL	DHUB	DCONMS	Arbor(2)	RMPX(3)	CSP(4)	kg
T490 FLN D040-04-16-R-13	40.00	4	12.50	40.00	38.00	16.00	A	2.0	1	0.22
T490 FLN D040-05-16-R-13	40.00	5	12.50	40.00	38.00	16.00	A	2.0	1	0.22
T490 FLN D050-05-22-R-13	50.00	5	12.50	40.00	47.00	22.00	A	1.5	1	0.31
T490 FLN D050-06-22-R-13	50.00	6	12.50	40.00	47.00	22.00	A	1.5	1	0.31
T490 FLN D063-06-22-R-13	63.00	6	12.50	40.00	59.20	22.00	A	1.1	1	0.55
T490 FLN D063-08-22-R-13	63.00	8	12.50	40.00	59.20	22.00	A	1.1	1	0.56
T490 FLN D080-07-27-R-13	80.00	7	12.50	50.00	70.00	27.00	B	0.9	1	0.98
T490 FLN D080-10-27-R-13	80.00	10	12.50	50.00	70.00	27.00	B	0.9	1	1.00
T490 FLN D100-08-32-R-13	100.00	8	12.50	50.00	78.00	32.00	B	0.7	1	1.45
T490 FLN D100-13-32-R-13	100.00	13	12.50	50.00	78.00	32.00	B	0.7	1	1.49
T490 FLN D125-09-40-R-13	125.00	9	12.50	63.00	82.00	40.00	B	0.5	1	2.16
T490 FLN D125-17-40-R-13	125.00	17	12.50	63.00	82.00	40.00	B	0.5	1	2.30
T490 FLN D160-12-40-R-13	160.00	12	12.50	63.00	120.00	40.00	C	0.5	0	4.32
T490 FLN D200-15-60-R-13	200.00	15	12.50	63.00	135.00	60.00	C	0.5	0	5.84

• When machining slots, coarse pitch cutters should be used • For user guide, see pages 518-524

(1) Number of inserts

(2) For adaptation options, see page 517

(3) Maximum ramping angle - valid only when the T490 LNHT 1306 PNTR-RD insert is used. For the -FF insert, refer to -FF insert information

(4) 0 - Without coolant supply, 1 - With coolant supply

For inserts, see pages: T490 LNAR (464) • T490 LNMT 1306PNR-FF (463) • T490 LNMT 1306PNTR-FW (463) • T490 LNMT/LNHT 1306 (462)

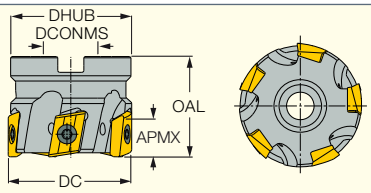
Spare Parts

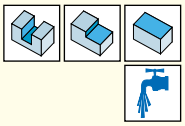
Designation				
T490 FLN D040-04-16-R-13	SR 34-535-SN	BLD T15/S7	SW6-T-SH	SR M8X30DIN912
T490 FLN D040-05-16-R-13	SR 34-535-SN	BLD T15/S7	SW6-T-SH	SR M8X30DIN912
T490 FLN D050-05-22-R-13	SR 34-535-SN	BLD T15/S7	SW6-T-SH	SR M10X25 DIN912
T490 FLN D050-06-22-R-13	SR 34-535-SN	BLD T15/S7	SW6-T-SH	SR M10X25 DIN912
T490 FLN D063-06-22-R-13	SR 34-535-SN	BLD T15/S7	SW6-T-SH	SR M10X25 DIN912
T490 FLN D063-08-22-R-13	SR 34-535-SN	BLD T15/S7	SW6-T-SH	SR M10X25 DIN912
T490 FLN D080-07-27-R-13	SR 34-535-SN	BLD T15/S7	SW6-T-SH	
T490 FLN D080-10-27-R-13	SR 34-535-SN	BLD T15/S7	SW6-T-SH	
T490 FLN D100-08-32-R-13	SR 34-535-SN	BLD T15/S7	SW6-T-SH	
T490 FLN D100-13-32-R-13	SR 34-535-SN	BLD T15/S7	SW6-T-SH	
T490 FLN D125-09-40-R-13	SR 34-535-SN	BLD T15/S7	SW6-T-SH	
T490 FLN D125-17-40-R-13	SR 34-535-SN	BLD T15/S7	SW6-T-SH	
T490 FLN D160-12-40-R-13	SR 34-535-SN	BLD T15/S7	SW6-T-SH	
T490 FLN D200-15-60-R-13	SR 34-535-SN	BLD T15/S7	SW6-T-SH	

SUMOMILL 290 LINE

T290 FLN-15

90° Face Mills Carrying T290 LNMT 1506... Tangentially Clamped Inserts





Designation	DC	CICT(1)	APMX	OAL	DHUB	DCONMS	Arbor(2)	kg				
T290 FLN D040-04-16-15	40.00	4	14.00	40.00	36.00	16.00	A	0.20	SR 10505427	BLD IP20/S7	SW6-T	SR M8X25DIN912
T290 FLN D050-05-22-15	50.00	5	14.00	40.00	48.00	22.00	A	0.33	SR 10505427	BLD IP20/S7	SW6-T	SR M10X25DIN7984

• For user guide, see pages 518-524

(1) Number of inserts

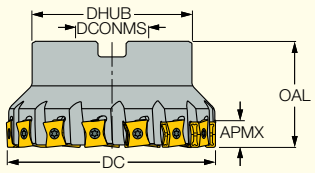
(2) For adaptation options, see page 517

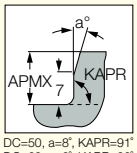
For inserts, see pages: T290 LNMT 1506 (459)

TANGMILL
TANGENTIAL LINE

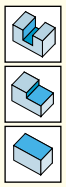
F90LN-N15

90° Face Mills Carrying LN..1506... Tangentially Clamped Inserts





DC=50, a=8°, KAPR=91°
DC=63, a=6°, KAPR=90°
DC≥100, a=4.5°, KAPR=90°



Designation	DC	CICT(1)	APMX	OAL	DHUB	DCONMS	Arbor(2)	kg
F90LN D050-05-22-R/L-N15	50.00	5	14.00	40.00	47.00	22.00	A	0.33
F90LN D063-05-22-R/L-N15	63.00	5	14.00	40.00	59.20	22.00	B	0.48
F90LN D063-08-22-R/L-N15	63.00	8	14.00	40.00	59.20	22.00	B	0.50
F90LN D080-07-27-R/L-N15	80.00	7	14.00	50.00	70.00	27.00	B	1.01
F90LN D080-10-27-R/L-N15	80.00	10	14.00	50.00	70.00	27.00	B	1.05
F90LN D100-08-32-R/L-N15	100.00	8	14.00	50.00	78.00	32.00	B	0.50
F90LN D100-12-32-R/L-N15	100.00	12	14.00	50.00	78.00	32.00	B	1.59
F90LN D125-09-40-R/L-N15	125.00	9	14.00	63.00	95.00	40.00	B	2.95
F90LN D125-15-40-R/L-N15	125.00	15	14.00	63.00	95.00	40.00	B	3.07
F90LN D160-10-40-R/L-N15	160.00	10	14.00	63.00	120.00	40.00	C	4.30
F90LN D160-20-40-R/L-N15	160.00	20	14.00	63.00	120.00	40.00	C	4.48
F90LN D200-12-60-R/L-N15	200.00	12	14.00	63.00	135.00	60.00	C	6.67
F90LN D250-15-60-R-N15	250.00	15	14.00	63.00	150.00	60.00	C	10.39
F90LN D250-30-60-R-N15	250.00	30	14.00	63.00	150.00	60.00	C	10.83

• Left-hand cutters are designated by a red groove • For user guide, see pages 518-524

(1) Number of inserts

(2) For adaptation options, see page 517

For inserts, see pages: LNAR 1506 (472) • LNAR 1506 PN-R-S (PCD) (473) • LNAT 1506-W (473) • LNAT 1506..PN-N MM (473) • LNAW-15 (CBN) (469) • LNHW 1506 PNTN (ceramic) (472) • LNKX 1506 1.5X45 PN-N (471) • LNKX 1506PN-N PL (470) • LNKX/LNMT 1506PNTN/PN-N MM (470) • LNMT 1506PN-R-TS (469) • LNMT/LNHT 1506...-N HT (472) • LNMT/LNHT 1506PN-R HT (471) • LNMW 1506 PNTN (470)

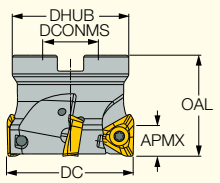
Spare Parts

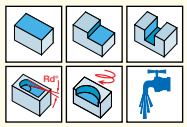
Designation				
F90LN D050-05-22-R/L-N15	SR 34-535	SW6-T	BLD T15/M7	SR M10X25 DIN912
F90LN D063-05-22-R/L-N15	SR 34-535	SW6-T-SH	BLD T15/M7	
F90LN D063-08-22-R/L-N15	SR 34-535	SW6-T-SH	BLD T15/M7	
F90LN D080-07-27-R/L-N15	SR 34-535	SW6-T-SH	BLD T15/M7	
F90LN D080-10-27-R/L-N15	SR 34-535	SW6-T-SH	BLD T15/M7	
F90LN D100-08-32-R/L-N15	SR 34-535	SW6-T-SH	BLD T15/M7	
F90LN D100-12-32-R/L-N15	SR 34-535	SW6-T-SH	BLD T15/M7	
F90LN D125-09-40-R/L-N15	SR 34-535	SW6-T-SH	BLD T15/M7	
F90LN D125-15-40-L-N15	SR 34-535	SW6-T	BLD T15/M7	
F90LN D125-15-40-R-N15	SR 34-535	SW6-T-SH	BLD T15/M7	
F90LN D160-10-40-R/L-N15	SR 34-535	SW6-T-SH	BLD T15/M7	
F90LN D160-20-40-L-N15	SR 34-535	SW6-T	BLD T15/M7	
F90LN D160-20-40-R-N15	SR 34-535	SW6-T-SH	BLD T15/M7	
F90LN D200-12-60-R/L-N15	SR 34-535	SW6-T-SH	BLD T15/M7	
F90LN D250-15-60-R-N15	SR 34-535	SW6-T-SH	BLD T15/M7	
F90LN D250-30-60-R-N15	SR 34-535	SW6-T	BLD T15/M7	

HELI3MILL HM390 LINE

HM390 FTD-15

90° Face Mills Carrying HM390 TDKT 1505 Triangular Inserts with 3 Helical Cutting Edges





Designation	DC	CICT(1)	APMX	OAL	DHUB	DCONMS	Arbor(2)	RMPX(3)	CSP(4)	kg
HM390 FTD D040-3-16-15	40.00	3	13.00	40.00	38.40	16.00	A	2.0	1	0.20
HM390 FTD D040-4-16-15	40.00	4	13.00	40.00	38.40	16.00	A	2.0	1	0.19
HM390 FTD D050-3-22-15	50.00	3	13.00	40.00	46.00	22.00	A	1.6	1	0.25
HM390 FTD D050-4-22-15	50.00	4	13.00	40.00	46.00	22.00	A	1.6	1	0.28
HM390 FTD D050-5-22-15	50.00	5	13.00	40.00	46.00	22.00	A	1.6	1	0.28
HM390 FTD D063-4-27-15	63.00	4	13.00	45.00	59.00	27.00	A	1.2	1	0.53
HM390 FTD D063-5-22-15	63.00	5	13.00	50.00	59.00	22.00	A	1.2	1	0.58
HM390 FTD D063-5-27-15	63.00	5	13.00	45.00	59.00	27.00	A	1.2	1	0.53
HM390 FTD D063-6-22-15	63.00	6	13.00	50.00	59.00	22.00	A	1.2	1	0.62
HM390 FTD D063-6-27-15	63.00	6	13.00	45.00	59.00	27.00	A	1.2	1	0.57
HM390 FTD D080-5-27-15	80.00	5	13.00	50.00	74.00	27.00	A	0.9	1	1.11
HM390 FTD D080-6-27-15	80.00	6	13.00	50.00	74.00	27.00	A	0.9	1	0.14
HM390 FTD D080-7-27-15	80.00	7	13.00	50.00	74.00	27.00	A	0.9	1	1.18
HM390 FTD D100-6-32-15	100.00	6	13.00	50.00	80.00	32.00	B	0.7	1	1.31
HM390 FTD D100-8-32-15	100.00	8	13.00	50.00	80.00	32.00	B	0.7	1	1.46
HM390 FTD D125-7-40-15	125.00	7	13.00	63.00	82.00	40.00	B	0.5	1	2.12
HM390 FTD D125-9-40-15	125.00	9	13.00	63.00	82.00	40.00	B	0.5	1	2.29
HM390 FTD D160-8-40-15	160.00	8	13.00	63.00	105.00	40.00	C	0.3	0	3.57
HM390 FTD D160-10-40-15	160.00	10	13.00	63.00	105.00	40.00	C	0.3	0	4.02
HM390 FTD D200-9-60-15	200.00	9	13.00	63.00	135.00	60.00	C	0.2	0	5.23

• For user guide, see pages 518-524

(1) Number of inserts

(2) For adaptation options, see page 517

(3) Maximum ramping angle

(4) 0 - Without coolant supply, 1 - With coolant supply

For inserts, see pages: HM390 TDKT/CT 1505 (433)

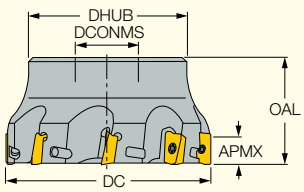
Spare Parts

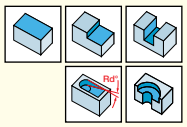
Designation				
HM390 FTD D040-3-16-15	SR 10511869	BLD IP20/S7	SW6-T	SR M8X37-1515
HM390 FTD D040-4-16-15	SR 10511869	BLD IP20/S7	SW6-T	SR M8X37-1515
HM390 FTD D050-3-22-15	SR 10505427	BLD IP20/S7	SW6-T	SR M10X30 DIN912
HM390 FTD D050-4-22-15	SR 10505427	BLD IP20/S7	SW6-T	SR M10X30 DIN912
HM390 FTD D050-5-22-15	SR 10511869	BLD IP20/S7	SW6-T	SR M10X30 DIN912
HM390 FTD D063-4-27-15	SR 10505427	BLD IP20/S7	SW6-T	SR M12X35DIN912
HM390 FTD D063-5-22-15	SR 10511869	BLD IP20/S7	SW6-T	SR M10X30 DIN912
HM390 FTD D063-5-27-15	SR 10505427	BLD IP20/S7	SW6-T	SR M12X35DIN912
HM390 FTD D063-6-22-15	SR 10511869	BLD IP20/S7	SW6-T	SR M10X30 DIN912
HM390 FTD D063-6-27-15	SR 10505427	BLD IP20/S7	SW6-T	SR M12X35DIN912
HM390 FTD D080-5-27-15	SR 10505427	BLD IP20/S7	SW6-T	SR M12X40DIN912
HM390 FTD D080-6-27-15	SR 10505427	BLD IP20/S7	SW6-T	SR M12X40DIN912
HM390 FTD D080-7-27-15	SR 10505427	BLD IP20/S7	SW6-T	SR M12X40DIN912
HM390 FTD D100-6-32-15	SR 10505427	BLD IP20/S7	SW6-T	
HM390 FTD D100-8-32-15	SR 10505427	BLD IP20/S7	SW6-T	
HM390 FTD D125-7-40-15	SR 10505427	BLD IP20/S7	SW6-T	
HM390 FTD D125-9-40-15	SR 10505427	BLD IP20/S7	SW6-T	
HM390 FTD D160-8-40-15	SR 10505427	BLD IP20/S7	SW6-T	
HM390 FTD D160-10-40-15	SR 10505427	BLD IP20/S7	SW6-T	
HM390 FTD D200-9-60-15	SR 10505427	BLD IP20/S7	SW6-T	

HELI2000

HM90 F90A-15

90° Face Mills Carrying HM90 ADKT 1505... Inserts





Designation	DC	CICT(1)	APMX	OAL	DHUB	DCONMS	RMPX(2)	Arbor(3)	kg
HM90 F90A D 40-3-16	40.00	3	14.30	40.00	38.60	16.00	4.0	A	0.20
HM90 F90A D 40-4-16	40.00	4	14.30	40.00	38.60	16.00	4.0	A	0.19
HM90 F90A D 50-3-22	50.00	3	14.30	40.00	48.00	22.00	2.6	A	0.32
HM90 F90A D 50-5-22	50.00	5	14.30	40.00	48.00	22.00	2.6	A	0.30
HM90 F90A D 63-4-22	63.00	4	14.30	40.00	59.20	22.00	2.0	A	0.55
HM90 F90A D 63-6-22	63.00	6	14.30	40.00	59.20	22.00	2.0	A	0.52
HM90 F90A D 80-5-27	80.00	5	14.30	50.00	70.00	27.00	0.8	B	0.91
HM90 F90A D 80-7-27	80.00	7	14.30	50.00	70.00	27.00	0.8	B	0.88
HM90 F90A D100-6-32	100.00	6	14.30	50.00	78.00	32.00	0.7	B	1.54
HM90 F90A D100-8-32	100.00	8	14.30	50.00	78.00	32.00	0.7	B	1.49
HM90 F90A D125-9-40	125.00	9	14.30	63.00	90.00	40.00	0.5	B	2.95

• Thinner insert ADM. 1503.. mounted on TSP-15R seat • For user guide, see page 518-524

(1) Number of inserts

(2) Maximum ramping angle

(3) For adaptation options, see page 517

For inserts, see pages: ADCR 1505PDFR (441) • ADCT 1505PDFR-HM (442) • ADKR 1505PDR/L-HM (441) • ADKT 1505-FF (444) • ADKT 1505..R/L-HM (444) • ADKT 1505PD-W (445) • ADKT 1505PDR/L-HM (443) • ADKT 1505PDTR-76 (444) • ADKT 1505PDTR/L-RM (443) • ADKW (CBN) (442) • ADKW (PCD) (442) • ADMT 1505PDR-HS (443) • HM90 ADCR 1505PDFR-P (441) • HM90 ADCT 1505 (440) • HM90 ADCT 1505PDR-CF (440) • HM90 ADKT 1505PD-W (445) • HM90 ADKW 1505PDR (447)

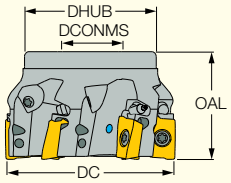
Spare Parts

Designation				
HM90 F90A D 40-3-16	SR 14-544/S	BLD T15/M7	SW6-T-SH	SR M8X25DIN912
HM90 F90A D 40-4-16	SR 14-544/S	BLD T15/M7	SW6-T-SH	SR M8X25DIN912
HM90 F90A D 50-3-22	SR 14-544/S	BLD T15/M7	SW6-T-SH	SR M10X25 DIN912
HM90 F90A D 50-5-22	SR 14-544/S	BLD T15/M7	SW6-T-SH	SR M10X25 DIN912
HM90 F90A D 63-4-22	SR 14-544	BLD T15/M7	SW6-T-SH	SR M10X25 DIN912
HM90 F90A D 63-6-22	SR 14-544	BLD T15/M7	SW6-T-SH	SR M10X25 DIN912
HM90 F90A D 80-5-27	SR 14-544	BLD T15/M7	SW6-T-SH	
HM90 F90A D 80-7-27	SR 14-544	BLD T15/M7	SW6-T-SH	
HM90 F90A D100-6-32	SR 14-544	BLD T15/M7	SW6-T-SH	
HM90 F90A D100-8-32	SR 14-544	BLD T15/M7	SW6-T-SH	
HM90 F90A D125-9-40	SR 14-544	BLD T15/M7	SW6-T-SH	

HELI2000

F90AD-SFR

Adjustable Face Mills (used mainly for PCD/CBN inserts)



Designation	DC	CICT(1)	OAL	DHUB	DCONMS	Arbor(2)	RPMX(3)	kg
F90AD D050-04-22-SFR	50.00	4	40.00	49.00	22.00	A	23000	0.31
F90AD D063-04-22-SFR	63.00	4	40.00	50.00	22.00	A	20600	0.43
F90AD D063-06-22-SFR	63.00	6	40.00	50.00	22.00	A	20600	0.49
F90AD D080-06-27-SFR	80.00	6	50.00	60.00	27.00	B	18200	0.89

• These tools may also be used for regular HELI2000 AD.. 1505... inserts, for applications that require precise frontal edge adjustment • Thinner insert ADM. 1503.. mounted on TSP-15R seat • For user guide, see page 518-524

(1) Number of inserts

(2) For adaptation options, see page 517

(3) Maximum RPM

For inserts, see pages: ADKW (CBN) (442) • ADKW (PCD) (442) • ADCR 1505PDFR (441) • ADCT 1505PDFR-HM (442) • ADKR 1505PDR/L-HM (441) • ADKT 1505-FF (444) • ADKT 1505..R/L-HM (444) • ADKT 1505PD-W (445) • ADKT 1505PDR/L-HM (443) • ADKT 1505PDTR-76 (444) • ADKT 1505PDTR/L-RM (443) • ADMT 1505PDR-HS (443) • HM90 ADCR 1505PDFR-P (441) • HM90 ADCT 1505 (440) • HM90 ADCT 1505PDR-CF (440) • HM90 ADKT 1505PD-W (445) • HM90 ADKW 1505PDR (447)

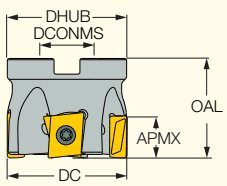
Spare Parts

Designation					
F90AD D050-04-22-SFR	SR 14-544/S	SR 11800782	BLD T15/S7	SW6-T-SH	SR M10X20DIN912
F90AD D063-04-22-SFR	SR 14-544/S	SR 11800782	BLD T15/S7	SW6-T-SH	SR M10X20DIN912
F90AD D063-06-22-SFR	SR 14-544/S	SR 11800782	BLD T15/S7	SW6-T-SH	SR M10X20DIN912
F90AD D080-06-27-SFR	SR 14-544/S	SR 11800782	BLD T15/S7	SW6-T-SH	

HELITANG T490 LINE

T490 FLN-16

90° Face Mills Carrying Tangentially Clamped Inserts with 4 Helical 16 mm Long Cutting Edges



Designation	DC	CICT(2)	APMX	OAL	DHUB	DCONMS	Arbor(3)	CSP(4)	kg
T490 FLN D050-03-22-16	50.00	3	16.00	40.00	48.00	22.00	A	1	0.30
T490 FLN D050-04-22-16 (1)	50.00	4	16.00	40.00	48.00	22.00	A	1	0.32
T490 FLN D063-06-27-16	63.00	6	16.00	45.00	60.00	27.00	A	1	0.62
T490 FLN D080-05-27-16	80.00	5	16.00	50.00	63.00	27.00	B	1	0.84
T490 FLN D080-07-27-16 (1)	80.00	7	16.00	50.00	63.00	27.00	B	1	0.91
T490 FLN D100-06-32-16	100.00	6	16.00	50.00	80.00	32.00	B	1	1.44
T490 FLN D100-08-32-16 (1)	100.00	8	16.00	50.00	80.00	32.00	B	1	1.50
T490 FLN D125-07-40-16	125.00	7	16.00	63.00	82.00	40.00	B	1	2.42
T490 FLN D125-10-40-16 (1)	125.00	10	16.00	63.00	82.00	40.00	B	1	2.46
T490 FLN D160-12-40-16 (1)	160.00	12	16.00	63.00	105.00	40.00	C	0	4.28
T490 FLN D200-12-60-16 (1)	200.00	12	16.00	63.00	135.00	60.00	C	0	5.40

• When machining slots, regular pitch cutters should be used. • For user guide, see pages 518-524

(1) Fine pitch

(2) Number of inserts

(3) For adaptation options, see page 517

(4) 0 - Without coolant supply, 1 - With coolant supply

For inserts, see pages: T490 LNAR (464) • T490 LNMT/LNHT 1607 (464)

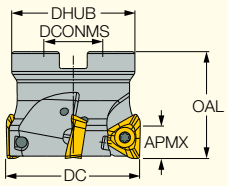
Spare Parts

Designation				
T490 FLN D050-03-22-16	SR 14-591	BLD T20/M7	SW6-T	SR M10X25DIN7984
T490 FLN D050-04-22-16	SR 14-591	BLD T20/M7	SW6-T	SR M10X25DIN7984
T490 FLN D063-06-27-16	SR 14-591	BLD T20/M7	SW6-T	SR M12X30DIN912
T490 FLN D080-05-27-16	SR 14-591	BLD T20/M7	SW6-T	
T490 FLN D080-07-27-16	SR 14-591	BLD T20/M7	SW6-T	
T490 FLN D100-06-32-16	SR 14-591	BLD T20/M7	SW6-T	
T490 FLN D100-08-32-16	SR 14-591	BLD T20/M7	SW6-T	
T490 FLN D125-07-40-16	SR 14-591	BLD T20/M7	SW6-T	
T490 FLN D125-10-40-16	SR 14-591	BLD T20/M7	SW6-T	
T490 FLN D160-12-40-16	SR 14-591	BLD T20/M7	SW6-T	
T490 FLN D200-12-60-16	SR 14-591	BLD T20/M7	SW6-T	

HELI3MILL HM390 LINE

HM390 FTD-19

90° Face Mills Carrying HM390 TDKT 1907 Triangular Inserts with 3 Helical Cutting Edges



Designation	DC	CICT(1)	APMX	OAL	DHUB	DCONMS	Arbor(2)	CSP(3)	RMPX(4)	kg
HM390 FTD D063-05-27-19	63.00	5	16.00	50.00	48.00	27.00	A	1	1.1	0.63
HM390 FTD D160-10-40-19	160.00	10	16.00	63.00	105.00	40.00	C	0	0.4	4.22

• For user guide, see pages 518-524

(1) Number of inserts

(2) For adaptation options, see page 517

(3) 0 - Without coolant supply, 1 - With coolant supply

(4) Maximum ramping angle

For inserts, see pages: HM390 TDKT 1907 (433)

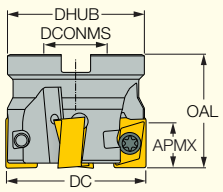
Spare Parts

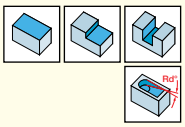
Designation				
HM390 FTD D063-05-27-19	SR 14-591/H	BLD T20/S7	SW6-T	SR DIN 912 M12X25
HM390 FTD D160-10-40-19	SR 14-591/H	BLD T20/M7	SW6-T	

HELIDO 490 LINE

H490 F90AX-17

90° Face Mills Carrying H490 ANKX 17.. Double-Sided Rectangular Inserts with 4 Helical Cutting Edges





Designation	DC	CICT(1)	APMX	OAL	DHUB	DCONMS	Arbor(2)	RMPX(3)	CSP(4)	kg
H490 F90AX D040-3-16-17	40.00	3	16.30	40.00	36.00	16.00	A	4.4	1	0.18
H490 F90AX D050-3-22-17	50.00	3	16.30	40.00	48.00	22.00	A	3.8	1	0.32
H490 F90AX D050-4-22-17	50.00	4	16.30	40.00	48.00	22.00	A	3.8	1	0.30
H490 F90AX D063-4-27-17	63.00	4	16.30	50.00	59.20	27.00	A	2.0	1	0.63
H490 F90AX D063-6-27-17	63.00	6	16.30	50.00	59.20	27.00	A	2.0	1	0.67
H490 F90AX D080-5-27-17	80.00	5	16.30	50.00	63.00	27.00	B	1.5	1	0.79
H490 F90AX D080-7-27-17	80.00	7	16.30	50.00	63.00	27.00	B	1.5	1	0.80
H490 F90AX D100-5-32-17	100.00	5	16.30	50.00	80.00	32.00	B	1.0	1	1.39
H490 F90AX D100-8-32-17	100.00	8	16.30	50.00	80.00	32.00	B	1.0	1	1.47
H490 F90AX D125-7-40-17	125.00	7	16.30	63.00	82.00	40.00	B	-	1	2.24
H490 F90AX D125-10-40-17	125.00	10	16.30	63.00	82.00	40.00	B	-	1	5.41
H490 F90AX D160-8-40-17	160.00	8	16.30	63.00	105.00	40.00	C	-	0	3.64
H490 F90AX D160-12-40-17	160.00	12	16.30	63.00	105.00	40.00	C	-	0	4.09
H490 F90AX D200-10-60-17	200.00	10	16.30	63.00	135.00	60.00	C	-	0	5.99
H490 F90AX D250-12-60-17	250.00	12	16.30	63.00	144.00	60.00	C	-	0	9.36

• Rampdown angle is valid only when H490 ANKX 1706R15T-FF insert is used (tool diameter is then 1.5 mm larger) • For user guide, see pages 518-524

(1) Number of inserts

(2) For adaptation options, see page 517

(3) Maximum ramping angle

(4) 0 - Without coolant supply, 1 - With coolant supply

For inserts, see pages: H490 ANKX 1706-FF (457) • H490 ANKX/ANCX-17 (457)

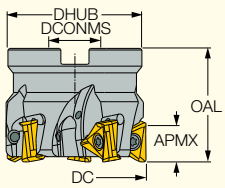
Spare Parts

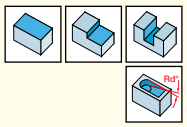
Designation				
H490 F90AX D040-3-16-17	SR 14-591	BLD T20/M7	SW6-T	SR M8X25DIN912
H490 F90AX D050-3-22-17	SR 14-591	BLD T20/M7	SW6-T	SR M10X25 DIN912
H490 F90AX D050-4-22-17	SR 14-591	BLD T20/M7	SW6-T	SR M10X25 DIN912
H490 F90AX D063-4-27-17	SR 14-591	BLD T20/M7	SW6-T	SR M12X30DIN912
H490 F90AX D063-6-27-17	SR 14-591	BLD T20/M7	SW6-T	SR M12X30DIN912
H490 F90AX D080-5-27-17	SR 14-591	BLD T20/M7	SW6-T	
H490 F90AX D080-7-27-17	SR 14-591	BLD T20/M7	SW6-T	
H490 F90AX D100-5-32-17	SR 14-591	BLD T20/M7	SW6-T	
H490 F90AX D100-8-32-17	SR 14-591	BLD T20/M7	SW6-T	
H490 F90AX D125-7-40-17	SR 14-591	BLD T20/M7	SW6-T	
H490 F90AX D125-10-40-17	SR 14-591	BLD T20/M7	SW6-T	
H490 F90AX D160-8-40-17	SR 14-591	BLD T20/M7	SW6-T	
H490 F90AX D160-12-40-17	SR 14-591	BLD T20/M7	SW6-T	
H490 F90AX D200-10-60-17	SR 14-591	BLD T20/M7	SW6-T	
H490 F90AX D250-12-60-17	SR 14-591	BLD T20/M7	SW6-T	

HELIDO 690 LINE

H690 F90AX-16

90° Face Mills Carrying H690 TNKX 1606.. Triangular Inserts with 6 Helical Cutting Edges





Designation	DC	CICT(1)	APMX	OAL	DHUB	DCONMS	Arbor(2)	RMPX(3)	CSP(4)	kg
H690 F90AX D050-3-22-16	50.00	3	13.50	40.00	48.00	22.00	A	3.0	1	0.31
H690 F90AX D050-4-22-16	50.00	4	13.50	40.00	48.00	22.00	A	3.0	1	0.30
H690 F90AX D063-4-27-16	63.00	4	13.50	50.00	59.00	27.00	A	2.0	1	0.63
H690 F90AX D063-5-27-16	63.00	5	13.50	50.00	59.00	27.00	A	2.0	1	0.64
H690 F90AX D080-5-27-16	80.00	5	13.50	50.00	76.00	27.00	A	1.0	1	1.20
H690 F90AX D080-6-27-16	80.00	6	13.50	50.00	76.00	27.00	A	1.0	1	1.21
H690 F90AX D100-6-32-16	100.00	6	13.50	50.00	80.00	32.00	B	1.0	1	1.29
H690 F90AX D100-8-32-16	100.00	8	13.50	50.00	80.00	32.00	B	1.0	1	1.41
H690 F90AX D125-7-40-16	125.00	7	13.50	63.00	82.00	40.00	B	0.5	1	2.14
H690 F90AX D125-9-40-16	125.00	9	13.50	63.00	82.00	40.00	B	0.5	1	2.29
H690 F90AX D160-8-40-16	160.00	8	13.50	63.00	105.00	40.00	C	-	0	3.03
H690 F90AX D160-10-40-16	160.00	10	13.50	63.00	105.00	40.00	C	-	0	3.46
H690 F90AX D200-11-60-16	200.00	11	13.50	63.00	135.00	60.00	C	-	0	5.09

• For cutting speed recommendations, see pages 518-524

(1) Number of inserts

(2) For adaptation options, see page 517

(3) Maximum ramping angle

(4) 0 - Without coolant supply, 1 - With coolant supply

For inserts, see pages: H690 TNKX 1606 (459)

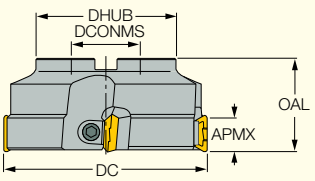
Spare Parts

Designation				
H690 F90AX D050-3-22-16	SR 14-591	BLD T20/M7	SW6-T	SR M10X40-1638
H690 F90AX D050-4-22-16	SR 14-591	BLD T20/M7	SW6-T	SR M10X40-1638
H690 F90AX D063-4-27-16	SR 14-591	BLD T20/M7	SW6-T	SR M12X30DIN912
H690 F90AX D063-5-27-16	SR 14-591	BLD T20/M7	SW6-T	SR M12X30DIN912
H690 F90AX D080-5-27-16	SR 14-591	BLD T20/M7	SW6-T	SR M12X35DIN912
H690 F90AX D080-6-27-16	SR 14-591	BLD T20/M7	SW6-T	SR M12X35DIN912
H690 F90AX D100-6-32-16	SR 14-591	BLD T20/M7	SW6-T	
H690 F90AX D100-8-32-16	SR 14-591	BLD T20/M7	SW6-T	
H690 F90AX D125-7-40-16	SR 14-591	BLD T20/M7	SW6-T	
H690 F90AX D125-9-40-16	SR 14-591	BLD T20/M7	SW6-T	
H690 F90AX D160-8-40-16	SR 14-591	BLD T20/M7	SW6-T	
H690 F90AX D160-10-40-16	SR 14-591	BLD T20/M7	SW6-T	
H690 F90AX D200-11-60-16	SR 14-591	BLD T20/M7	SW6-T	

ISCARMILL

F90

90° Face Mills Carrying TPKN/R Inserts



Designation	DC	CICT(1)	OAL	APMX	DHUB	DCONMS	Arbor(2)	kg
F90 D080-27	80.00	6	50.00	18.00	55.00	27.00	B	1.05
F90 D100-32	100.00	8	50.00	18.00	70.00	32.00	B	1.57
F90 D125-40	125.00	8	63.00	18.00	92.00	40.00	B	3.36
F90 D160-40	160.00	10	63.00	18.00	110.00	40.00	B	5.13
F90 D200-60	200.00	12	63.00	18.00	165.00	60.00	C	8.40

• For user guide, see pages 518-524
(1) Number of inserts
(2) For adaptation options, see page 517

For inserts, see pages: TPKN/TPKR (453)

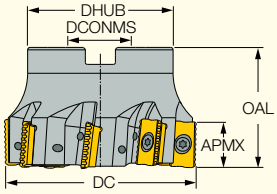
Spare Parts

Designation						
F90 D080-27	NTP 43-R	SR 35-342.3	HW 4P	LW 35-342 T	SR 35-343.4	HW 2.0
F90 D100-32	NTP 43-R	SR 35-342.3	HW 4P	LW 35-342 T	SR 35-403	HW 2.0
F90 D125-40	NTP 43-R	SR 35-342.3	HW 4P	LW 35-342 T	SR 35-343.4	HW 2.0
F90 D160-40	NTP 43-R	SR 35-342.3	HW 4P	LW 35-342 T	SR 35-343.4	HW 2.0
F90 D200-60	NTP 43-R	SR 35-342.3	HW 4P	LW 35-342 T	SR 35-343.4	HW 2.0

MILLSHRED P290 LINE

P290 FPW/FCT

90° Face Mills Carrying 12 and 18 mm Long Edged Inserts



Designation	DC	APMX	CICT(2)	OAL	DHUB	DCONMS	Arbor(3)	RMPX(4)	kg
P290 FPW D032-04-16-12	32.00	12.00	4	50.00	30.40	16.00	A	1.0	0.16
P290 FPW D040-05-16-12	40.00	12.00	5	35.00	38.00	16.00	A	0.7	0.17
P290 FPW D050-06-22-12	50.00	12.00	6	40.00	48.00	22.00	A	0.5	0.31
P290 FPW D040-04-16-18	40.00	18.00	4	40.00	35.00	16.00	A	1.5	0.15
P290 FPW D050-05-22-18	50.00	18.00	5	40.00	45.00	22.00	A	1.0	0.27
P290 FCT D050-05-22-18 (1)	50.00	18.00	5	40.00	45.00	22.00	A	1.0	0.27
P290 FPW D063-06-22-18	63.00	18.00	6	40.00	48.00	22.00	A	0.8	0.47
P290 FPW D080-08-27-18	80.00	18.00	8	50.00	60.00	27.00	B	0.5	1.02
P290 FPW D100-09-32-18	100.00	18.00	9	55.00	78.00	32.00	B	0.3	1.87

• For user guide, see pages 518-524
(1) To be used only with P290 ACCT 1806PDR-HL/TL straight-edged inserts
(2) Number of inserts
(3) For adaptation options, see page 517
(4) Maximum ramping angle

For inserts, see pages: P290 ACCT/KT (446) • P290 ACKT (446)

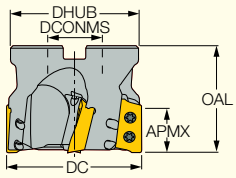
Spare Parts

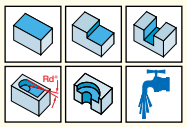
Designation					
P290 FPW D032-04-16-12	SR M3X0.5-L7.4 IP9	IP-9/151			SR M8X40-D11.5 DIN912
P290 FPW D040-05-16-12	SR M3X0.5-L7.4 IP9	IP-9/151			SR M8X25DIN912
P290 FPW D050-06-22-12	SR M3X0.5-L7.4 IP9	IP-9/151			SR M10X25 DIN912
P290 FPW D040-04-16-18	SR 14-544/S		BLD T15/M7	SW6-T	SR M8X30DIN912
P290 FPW D050-05-22-18	SR 14-544/S		BLD T15/M7	SW6-T	SR M10X25 DIN912
P290 FCT D050-05-22-18	SR 14-544/S		BLD T15/M7	SW6-T	SR M10X25 DIN912
P290 FPW D063-06-22-18	SR 14-544/S		BLD T15/M7	SW6-T	SR M10X25 DIN912
P290 FPW D080-08-27-18	SR 14-544/S		BLD T15/M7	SW6-T	SR M12X30DIN912
P290 FPW D100-09-32-18	SR 14-544/S		BLD T15/M7	SW6-T	SR M16X40DIN912

HELIPLUS

HP F90AT-19

90° Face Mills Carrying HP AD.. 1906... Long Edged Inserts





Designation	DC	CICT(1)	APMX	OAL	DHUB	DCONMS	RMPX(2)	Arbor(3)	kg
HP F90AT D50-4-22-19	50.00	4	18.00	50.00	46.50	22.00	5.0	A	0.33

- Insert clamping/unclamping procedure: First loosely attach the rear clamping screw, then the face screw. In the same order, tighten them both.
- For user guide, see pages 518-524

(1) Number of inserts
(2) Maximum ramping angle
(3) For adaptation options, see page 517

For inserts, see pages: HP ADCR 1906 (449) • HP ADKT 1906 (449)

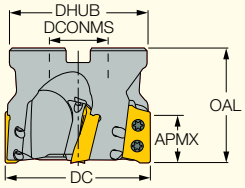
Spare Parts

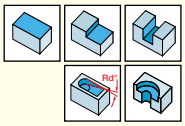
Designation				
HP F90AT D50-4-22-19	SR 14-571/L	BLD T10/S7	SW6-SD	SR M10X30 DIN912

HELIPLUS

HP F90AT-22

90° Face Mills Carrying HP AD.. 2207... Long Edged Inserts





Designation	DC	CICT(1)	APMX	OAL	DHUB	DCONMS	RMPX(2)	Arbor(3)	CSP(4)	kg
HP F90AT D50-3-22-22	50.00	3	21.00	50.00	48.00	22.00	5.0	A	1	0.36
HP F90AT D50-4-22-22	50.00	4	21.00	50.00	48.00	22.00	5.0	A	0	0.33

- Insert clamping/unclamping procedure: First loosely attach the rear clamping screw, then the face screw. In the same order, tighten them both.
- For user guide,see pages 518-524

(1) Number of inserts
(2) Maximum ramping angle
(3) For adaptation options, see page 517
(4) 0 - Without coolant supply, 1 - With coolant supply

For inserts, see pages: HP ADCR 2207 (450) • HP ADKT/ADCT 2207 (449)

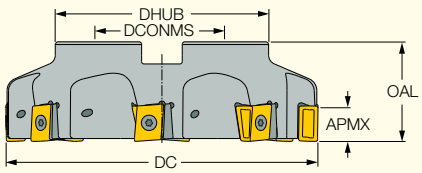
Spare Parts

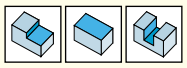
Designation				
HP F90AT-22	SR 14-544	BLD T15/M7	SW6-T-SH	SR M10X30 DIN912

HELITANG
T490 LINE

T490 FLN-22ST

90° Face Mills Carrying Tangentially Clamped Inserts with 4 Helical 21 mm Long Cutting Edges





Designation	DC	CICT(1)	APMX	OAL	DHUB	DCONMS	Arbor(2)	kg
T490 FLN D125-06-40R-22ST	125.00	6	21.00	63.00	82.00	40.00	A	2.85
T490 FLN D160-07-40R-22ST	160.00	7	21.00	63.00	120.00	40.00	C	4.31
T490 FLN D200-08-60R-22ST	200.00	8	21.00	63.00	135.00	60.00	C	7.02

- For user guide, see pages 518-524

(1) Number of inserts
(2) For adaptation options, see page 517

For inserts, see pages: T490 LNMT/LNHT 2212 (476)

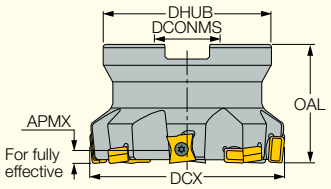
Spare Parts

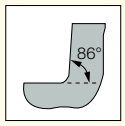
Designation						
T490 FLN-22ST	SR M5X0.5X12.5	TT90-22	BLD IP20/S7	SR 10507547	BLD IP25/S7	SW6-T

TANGMILL
TANGENTIAL LINE

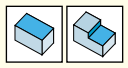
F86LNX-11

86° Face Mills Carrying all 8 Cutting Edges of LN..1106... Tangentially Clamped Inserts





Lead angle cutter



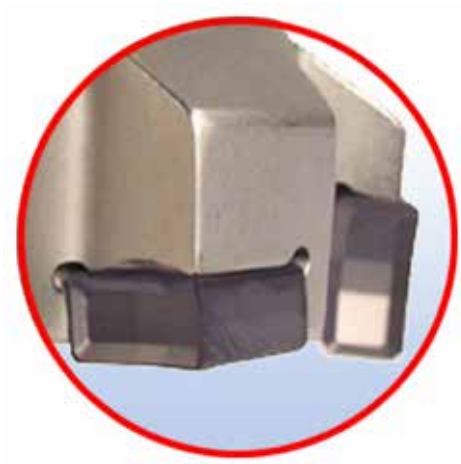
Designation	DCX(2)	CICT(3)	OAL	DHUB	DCONMS	Arbor(4)	kg				
F86LNX D050-06-22-R-N11 (1)	50.00	6	40.00	47.00	22.00	A	0.33	SR 34-550	BLD T10/S7	SW6-SD	SR M10X25 DIN912
F86LNX D063-06-22-R-N11	63.00	6	40.00	59.00	22.00	A	0.39	SR 34-550	BLD T10/S7	SW6-SD	SR M10X25 DIN912
F86LNX D080-08-27-R-N11	80.00	8	50.00	70.00	27.00	B	1.01	SR 34-550	BLD T10/S7	SW6-SD	

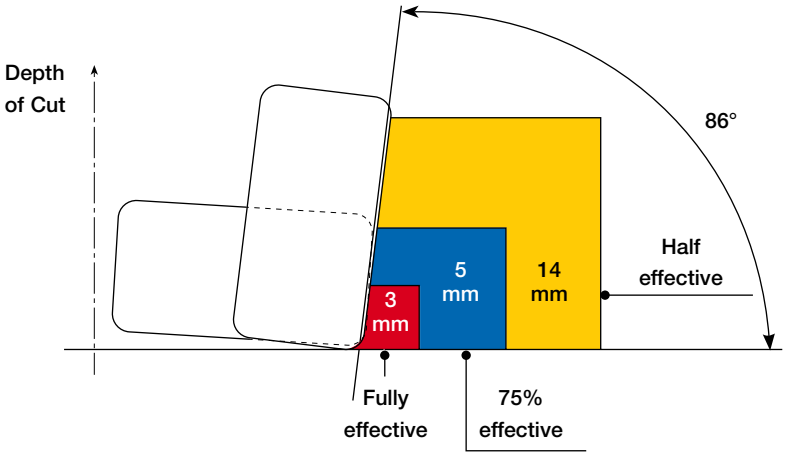
• For APMX>3 mm, Zeff is half the number indicated in the table • LNAR 1106 inserts should not be used on these cutters • F86LNX cutters enable using all 8 cutting edges of the LNKX/LNMT 1106.. inserts- 4 R.H. in the peripheral position and 4 L.H. in the frontal position • Feed should be limited to 0.25 mm/tooth

(1) Fine pitch
(2) Cutting diameter maximum
(3) Number of inserts
(4) For adaptation options, see page 517

For inserts, see pages: LNAT 1106-W (466) • LNKX/LNMT 1106 (465)

The cutters are fully effective only up to 3 mm depth of cut.
From 3 to 14 mm depth of cut, refer to the following sketch:

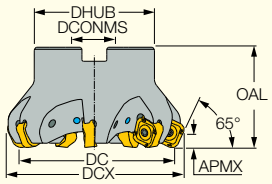




HELIDO 865 LINE

S865 FSN-13

65° Face Mills Carrying Inserts with 8 Cutting Edges



Designation	DC	DCX(2)	CICT(3)	OAL	DHUB	DCONMS	APMX(4)	Arbor(5)	kg
S865 FSN D050-04-22-R13	50.00	59.70	4	40.00	48.00	22.00	6.00	A	0.36
S865 FSN D050-06-22-R13 (1)	50.00	59.70	6	40.00	48.00	22.00	6.00	A	0.36
S865 FSN D063-06-22-R13	63.00	72.70	6	40.00	48.00	22.00	6.00	A	0.51
S865 FSN D063-08-22-R13 (1)	63.00	72.70	8	40.00	48.00	22.00	6.00	A	0.50
S865 FSN D080-07-27-R13	80.00	89.70	7	50.00	60.00	27.00	6.00	B	0.92
S865 FSN D080-10-27-R13 (1)	80.00	89.70	10	50.00	60.00	27.00	6.00	B	0.93
S865 FSN D100-08-32-R13	100.00	109.70	8	50.00	70.00	32.00	6.00	B	1.37
S865 FSN D100-12-32-R13 (1)	100.00	109.70	12	50.00	70.00	32.00	6.00	B	1.37
S865 FSN D125-10-40-R13	125.00	134.70	10	63.00	82.00	40.00	6.00	B	2.58
S865 FSN D125-16-40-R13 (1)	125.00	134.70	16	63.00	82.00	40.00	6.00	B	2.59

• For user guide, see pages 518-524

(1) Fine pitch

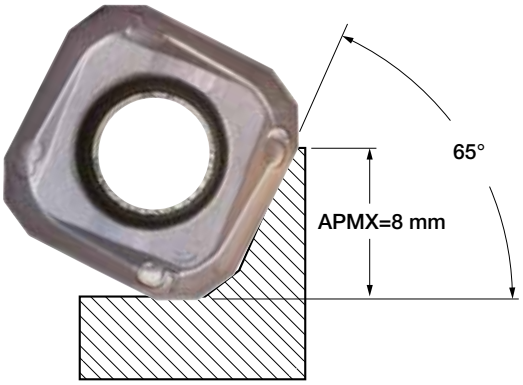
(2) Cutting diameter maximum

(3) Number of inserts

(4) Depth of cut on steel with coarse pitch cutters and on cast iron with fine pitch cutters may be increased to 8 mm.

(5) For adaptation options, see page 517

For inserts, see pages: S865 SNMU 1305ZNTR (486)



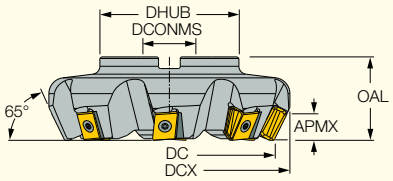
Spare Parts

Designation				
S865 FSN D050-04-22-R13	SR 11800745	BLD IP15/S7	SW6-T-SH	SR M10X20 DIN912
S865 FSN D050-06-22-R13	SR 11800745	BLD IP15/S7	SW6-T-SH	SR M10X20 DIN912
S865 FSN D063-06-22-R13	SR 11800745	BLD IP15/S7	SW6-T-SH	SR M10X20 DIN912
S865 FSN D063-08-22-R13	SR 11800745	BLD IP15/S7	SW6-T-SH	SR M10X20 DIN912
S865 FSN D080-07-27-R13	SR 11800745	BLD IP15/S7	SW6-T-SH	
S865 FSN D080-10-27-R13	SR 11800745	BLD IP15/S7	SW6-T-SH	
S865 FSN D100-08-32-R13	SR 11800745	BLD IP15/S7	SW6-T-SH	
S865 FSN D100-12-32-R13	SR 11800745	BLD IP15/S7	SW6-T-SH	
S865 FSN D125-10-40-R13	SR 11800745	BLD IP15/S7	SW6-T-SH	
S865 FSN D125-16-40-R13	SR 11800745	BLD IP15/S7	SW6-T-SH	

HELITANG T465 LINE

T465 FLN-22ST

65° Face Mills Carrying Tangentially Clamped Inserts with 4 Helical Cutting Edges



Right-hand shown

Designation	DC	DCX(1)	APMX	CICT(2)	OAL	DHUB	DCONMS	Arbor	kg
T465 FLN D125-06-40R-22ST	125.00	143.60	19.00	6	63.00	95.00	40.00	B	3.67
T465 FLN D125-08-40R-22ST	125.00	143.60	19.00	8	63.00	95.00	40.00	B	3.92
T465 FLN D160-07-40R-22ST	160.00	183.20	19.00	7	63.00	120.00	40.00	C	5.26
T465 FLN D160-09-40R-22ST	160.00	183.20	19.00	9	63.00	120.00	40.00	C	5.45
T465 FLN D200-08-60R-22ST	200.00	218.80	19.00	8	63.00	135.00	60.00	C	7.78
T465 FLN D200-10-60R-22ST	200.00	218.80	19.00	10	63.00	135.00	60.00	C	7.82
T465 FLN D250-10-60R-22ST	250.00	270.00	19.00	10	63.00	150.00	60.00	C	12.22
T465 FLN D250-12-60R-22ST	250.00	270.00	19.00	12	63.00	150.00	60.00	C	15.03
T465 FLN D315-12-60R-22ST	315.00	338.00	19.00	12	80.00	225.00	60.00	C	27.25

• For user guide and accessories, see pages 518-524
(1) Cutting diameter maximum
(2) Number of inserts

For inserts, see pages: T465 LNHT/LNMT 2212 (476)

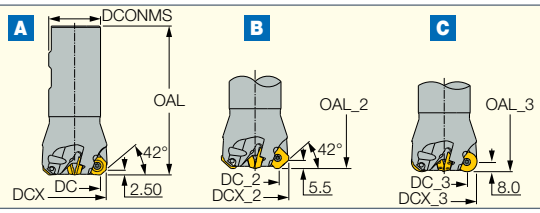
Spare Parts

Designation						
T465 FLN-22ST	TT65-22	SR M5X0.5X12.5	BLD IP20/S7	SR 10507547	BLD IP25/S7	SW6-T

HELIOCTO

HOE-R06

Endmills Carrying Octagonal, Square and Round Inserts



Designation	DC	DCX(1)	OAL	RMPX(2)	DC_2	DCX_2	OAL_2	RMPX_2	DC_3	DCX_3	OAL_3	RMPX_3	DCONMS	CICT(3)	kg
HOE D32-03-W32-R06	32.00	41.40	95.00	5.9	29.40	44.10	96.2	9.0	26.80	42.70	95.50	7.6	32.00	3	0.54
HOE D40-04-W40-R06	40.00	49.40	115.00	5.0	37.40	52.10	116.2	6.8	34.80	50.70	115.50	5.0	40.00	4	1.09
HOE D50-04-W40-R06	50.00	59.40	115.00	4.2	47.40	62.10	116.2	5.0	44.80	60.70	115.50	5.7	40.00	4	1.23

• A - with OEM. 060405... insert • B - with SECT/SEMT 1404... insert • C - with REM. 1505... round insert
(1) Cutting diameter maximum
(2) Maximum ramping angle
(3) Number of inserts

For inserts, see pages: OECR (488) • OEMT 060405 (488) • OEMW-AETN (489) • REMT-76 (505) • SECT/SEMT 1404 (495)

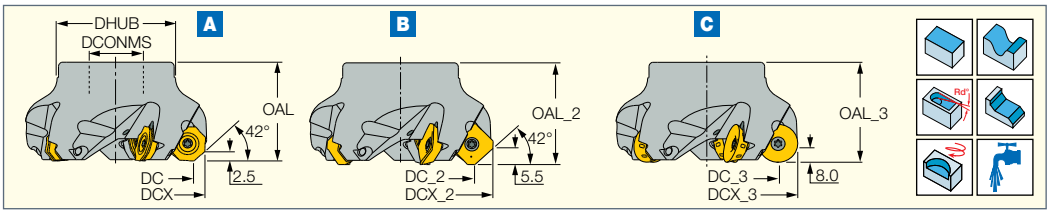
Spare Parts

Designation			
HOE D32-03-W32-R06	SR 14-544/S	BLD T15/S7	SW6-T-SH
HOE D40-04-W40-R06	SR 14-544/S	BLD T15/S7	SW6-T-SH
HOE D50-04-W40-R06	SR 14-544	BLD T15/S7	SW6-T-SH

HELIOCTO

HOF-R06

Face Mills Carrying Octagonal or Square or Round Inserts



Designation	DC	DCX(1)	OAL	RMPX(2)	DC_2	DCX_2	OAL_2	RMPX_2	DC_3	DCX_3	OAL_3	RMPX_3	CICT(3)	DHUB	DCONMS	Arbor(4)	kg
HOF D040-04-22-R06	40.00	49.40	40.00	5.0	37.40	52.10	41.2	6.8	34.80	50.70	40.50	5.0	4	48.00	22.00	A	0.33
HOF D050-04-22-R06	50.00	59.40	40.00	4.2	47.40	62.10	41.2	5.0	44.80	60.70	40.50	5.7	4	48.00	22.00	A	0.44
HOF D063-05-22-R06	63.00	72.40	40.00	3.2	60.40	75.10	41.2	4.0	57.80	73.70	40.50	4.0	5	52.00	22.00	A	0.58
HOF D080-06-27-R06	80.00	89.40	50.00	2.5	77.40	92.10	51.2	3.0	74.80	90.70	50.50	3.0	6	60.00	27.00	B	1.13
HOF D100-07-32-R06	100.00	109.40	50.00	1.9	97.40	112.10	51.2	2.3	94.80	110.70	50.50	2.2	7	70.00	32.00	B	1.65
HOF D125-08-40-R06	125.00	134.40	63.00	1.4	122.40	137.10	64.2	1.8	119.80	135.70	63.50	1.6	8	82.00	40.00	B	3.19

• A - with OEM. 060405... insert • B - with SECT/SEMT 1404... insert • C - with REM. 1505... round insert

(1) Cutting diameter maximum

(2) Maximum ramping angle

(3) Number of inserts

(4) For adaptation options, see page 517

For inserts, see pages: OECR (488) • OEMT 060405 (488) • OEMW-AETN (489) • REMT-76 (505) • SECT/SEMT 1404 (495)

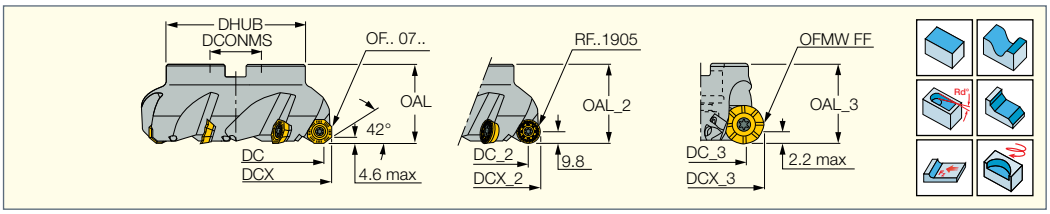
Spare Parts

Designation				
HOF D040-04-22-R06	SR 14-544/S	BLD T15/S7	SW6-T-SH	SR M10X25 DIN7984
HOF D050-04-22-R06	SR 14-544	BLD T15/S7	SW6-T-SH	SR M10X25 DIN912
HOF D063-05-22-R06	SR 14-544	BLD T15/S7	SW6-T-SH	SR M10X25 DIN912
HOF D080-06-27-R06	SR 14-544	BLD T15/M7	SW6-T-SH	
HOF D100-07-32-R06	SR 14-544	BLD T15/M7	SW6-T-SH	
HOF D125-08-40-R06	SR 14-544	BLD T15/M7	SW6-T-SH	

HELIOCTO

HOF-R07

Face Mills Carrying Octagonal Round and Fast Feed Segmented Radius Inserts



Designation	DC	DCX(1)	OAL	RMPX(2)	DCX_2	DC_2	OAL_2	RMPX_2(3)	DC_3	DCX_3	OAL_3	RMPX_3(4)	CICT(5)	DHUB	DCONMS	Arbor(6)	kg
HOF D050-03-22-R07	50.00	62.50	40.00	6.5	63.30	43.56	40.50	9.0	44.80	64.00	40.60	9.0	3	48.00	22.00	A	0.30
HOF D063-04-22-R07	63.00	75.50	40.00	5.0	76.30	56.56	40.50	6.0	57.80	77.00	40.60	6.0	4	48.00	22.00	A	0.48
HOF D080-05-27-R07	80.00	92.50	50.00	3.5	93.30	73.56	50.50	4.5	92.50	94.00	50.60	4.5	5	60.00	27.00	B	0.91
HOF D100-06-32-R07	100.00	112.50	50.00	2.5	113.30	93.56	50.50	3.0	94.80	114.00	50.60	3.0	6	70.00	32.00	B	1.33
HOF D125-08-40-R07	125.00	137.50	63.00	2.5	138.30	118.56	63.50	2.5	119.80	139.00	63.60	2.5	8	82.00	40.00	B	2.70
HOF D160-10-40-R07	160.00	172.50	63.00	1.9	173.30	153.56	63.50	1.9	154.80	174.00	63.60	-	10	92.00	40.00	C	3.83
HOF D200-12-60-R07	200.00	212.50	63.00	1.5	213.30	193.56	63.50	1.5	194.80	214.00	63.60	-	12	150.00	60.00	C	7.03
HOF D250-15-60-R07	250.00	262.50	63.00	1.2	263.30	243.56	63.50	1.2	244.80	264.00	63.60	-	15	150.00	60.00	C	10.08
HOF D315-18-60-R07	315.00	327.50	80.00	0.9	328.30	308.56	80.50	0.9	309.80	329.00	80.60	-	18	215.00	60.00	C	21.00

• Helical interpolation is applicable up to and including 100 mm diameter • ap change according to insert • For user guide, see pages 518-524

(1) Cutting diameter maximum

(2) Maximum ramping angle with OF..07.. inserts

(3) Dimensions with RF.. 1905 round inserts

(4) Dimensions with OFMW FF inserts

(5) Number of inserts

(6) For adaptation options, see page 517

For inserts, see pages: OFCR/OFCT-AEN/AETN (490) • OFCR/OFCT-RW/AER (wiper) (490) • OFMT 07 (489) • OFMW-AETN (489) • OFMW-FF (491) • RFMT 1905-76 (507)

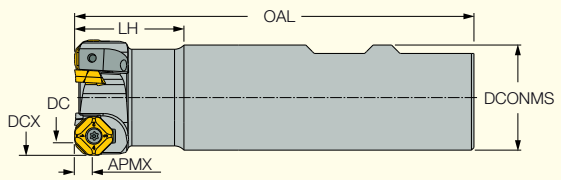
Spare Parts

Designation							
HOF D050-03-22-R07	SR 14-591/H	BLD T20/S7	SW6-T	THOF-07R	SR M2.5X8 DIN912 TUFLOK	HW 2.0	SR M10X25 DIN912
HOF D063-04-22-R07	SR 14-591/H	BLD T20/S7	SW6-T	THOF-07R	SR M2.5X10 DIN912 TUFLOK	HW 2.0	SR M10X25 DIN912
HOF D080-05-27-R07	SR 14-591/H	BLD T20/S7	SW6-T	THOF-07R	SR M2.5X8 DIN912 TUFLOK	HW 2.0	
HOF D100-06-32-R07	SR 14-591/H	BLD T20/M7	SW6-T	THOF-07R	SR M2.5X10 DIN912 TUFLOK	HW 2.0	
HOF D125-08-40-R07	SR 14-591/H	BLD T20/M7	SW6-T	THOF-07R	SR M2.5X10 DIN912 TUFLOK	HW 2.0	
HOF D160-10-40-R07	SR 14-591/H	BLD T20/L7	SW6-T	THOF-07R	SR M2.5X10 DIN912 TUFLOK	HW 2.0	
HOF D200-12-60-R07	SR 14-591/H	BLD T20/L7	SW6-T	THOF-07R	SR M2.5X10 DIN912 TUFLOK	HW 2.0	
HOF D250-15-60-R07	SR 14-591/H	BLD T20/L7	SW6-T	THOF-07R	SR M2.5X10 DIN912 TUFLOK	HW 2.0	
HOF D315-18-60-R07	SR 14-591/H	BLD T20/L7	SW6-T	THOF-07R	SR M2.5X10 DIN912 TUFLOK	HW 2.0	

DOVE IQ MILL 845 LINE

IQ845 ESY-R05

50° Endmills Carrying Square Inserts with 8 Cutting Edges



Designation	DC	DCX(1)	CICT(2)	APMX	OAL	LH	DCONMS	Shank(3)	kg		
IQ845 ESY D016-03-W20-R05	16.00	21.40	3	2.60	85.00	26.0	20.00	W	0.16	SR M2.5X6-T7-60	T-7/51
IQ845 ESY D020-03-W20-R05	20.00	25.50	3	2.60	90.00	26.0	20.00	W	0.19	SR M2.5X6-T7-60	T-7/51
IQ845 ESY D025-03-W25-R05	25.00	30.60	3	2.60	95.00	26.0	25.00	W	0.32	SR M2.5X6-T7-60	T-7/51
IQ845 ESY D025-04-W25-R05	25.00	30.60	4	2.60	95.00	26.0	25.00	W	0.31	SR M2.5X6-T7-60	T-7/51
IQ845 ESY D032-04-W32-R05	32.00	37.70	4	2.60	100.00	26.0	32.00	W	0.56	SR M2.5X6-T7-60	T-7/51
IQ845 ESY D032-05-W32-R05	32.00	37.70	5	2.60	100.00	26.0	32.00	W	0.56	SR M2.5X6-T7-60	T-7/51
IQ845 ESY D040-05-W40-R05	40.00	45.70	5	2.60	110.00	26.0	40.00	W	0.97	SR M2.5X6-T7-60	T-7/51
IQ845 ESY D040-06-W40-R05	40.00	45.70	6	2.60	110.00	26.0	40.00	W	1.05	SR M2.5X6-T7-60	T-7/51

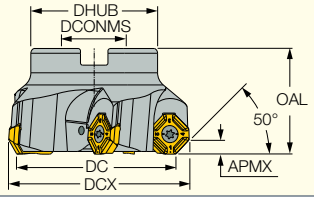
• For user guide, see pages 518-524
(1) Cutting diameter maximum
(2) Number of inserts
(3) W-Weldon

For inserts, see pages: IQ845 SYHU-05 (482)

DOVE IQ MILL 845 LINE

IQ845 FSY-R05

50° Face Mills Carrying Square Inserts with 8 Cutting Edges



Designation	DC	DCX(1)	CICT(2)	APMX	OAL	DHUB	DCONMS	Arbor(3)	kg			
IQ845 FSY D040-04-16-R05	40.00	45.70	4	2.60	40.00	38.00	16.00	A	0.28	SR M8X25DIN912	SR M2.5X6-T7-60	T-7/51
IQ845 FSY D040-07-16-R05	40.00	45.70	7	2.60	40.00	38.00	16.00	A	0.26	SR M8X25DIN912	SR M2.5X6-T7-60	T-7/51
IQ845 FSY D050-05-22-R05	50.00	55.80	5	2.60	40.00	48.00	22.00	A	0.44	SR M10X20DIN912	SR M2.5X6-T7-60	T-7/51
IQ845 FSY D050-09-22-R05	50.00	55.80	9	2.60	40.00	48.00	22.00	A	0.41	SR M10X20DIN912	SR M2.5X6-T7-60	T-7/51
IQ845 FSY D063-07-22-R05	63.00	68.80	7	2.60	40.00	48.00	22.00	B	0.57	SR M10X20DIN912	SR M2.5X6-T7-60	T-7/51
IQ845 FSY D063-11-22-R05	63.00	68.80	11	2.60	40.00	48.00	22.00	B	0.55	SR M10X20DIN912	SR M2.5X6-T7-60	T-7/51

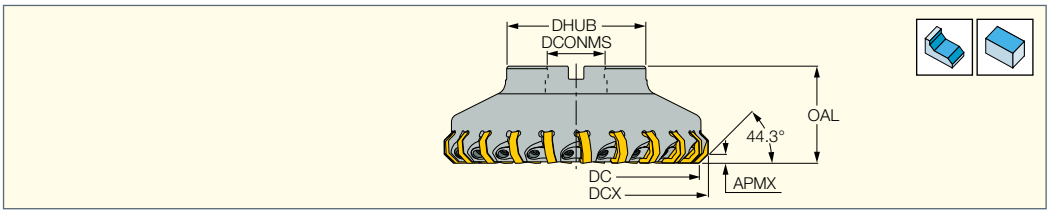
• For user guide, see pages 518-524
(1) Cutting diameter maximum
(2) Number of inserts
(3) For adaptation options, see page 517

For inserts, see pages: IQ845 SYHU-05 (482)

16MILL

F45WG

45° Face Mills Carrying Octagonal ONHU/MU 0806... Inserts with 16 Cutting Edges



Designation	DC	DCX(1)	CICT(2)	APMX	OAL	DHUB	DCONMS	Arbor(3)	kg
F45WG D080-10-27-FX-R08	80.00	92.00	10	5.50	50.00	60.00	27.00	B	1.11
F45WG D100-14-32-FX-R08	100.00	112.00	14	5.50	50.00	70.00	32.00	B	1.64
F45WG D125-18-40-FX-R08	125.00	137.00	18	5.50	63.00	82.00	40.00	B	3.00
F45WG D160-22-40-FX-R08	160.00	172.00	22	5.50	63.00	92.00	40.00	C	4.58

• Note: Recommended wedge clamping torque: 8.5-9.0 Nxm • For user guide, see page 518-524

(1) Cutting diameter maximum

(2) Number of inserts

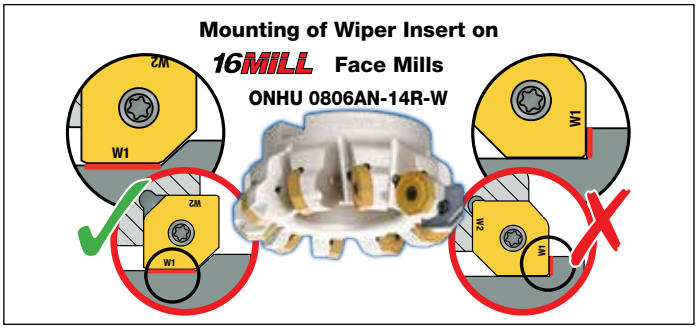
(3) For adaptation options, see page 517

For inserts, see pages: ONHQ-TN (498) • ONHU 0806-N-PL (499) • ONHU 0806AN-W (499) • ONHU/ONMU 080608 AN-N-HP (499) • ONHU/ONMU-08-TN-MM (498) • ONHU/ONMU-08-TN/HL (498)

Wiper Inserts

Wiper inserts are used on face mill cutters, providing improved surface finish and thus eliminating the use of other finishing cutters. **ONHU 0806AN-14R-W,** mounted on **F45WG** and **F45NM** milling cutters. This insert provides **4 right-hand** wiper edges.

Mounting instructions have been included in each insert package, in order to avoid incorrect clamping orientation. Only correct mounting will provide high surface finish!



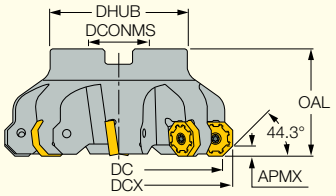
Spare Parts

Designation				
F45WG	SR 118-069	BLD IP20/S7	SW6-T	LW 35-475/M

16MILL

F45NM

45° Face Mills Carrying Octagonal ONHU/MU 0806... Inserts with 16 Cutting Edges



Designation	DC	DCX(1)	CICT(2)	APMX	OAL	DHUB	DCONMS	Arbor(3)	kg
F45NM D063-05-22-R08	63.00	75.00	5	5.50	40.00	48.00	22.00	A	0.46
F45NM D080-06-27-R08	80.00	92.00	6	5.50	50.00	60.00	27.00	B	0.95
F45NM D080-08-27-R08	80.00	92.00	8	5.50	50.00	60.00	27.00	B	0.92
F45NM D100-07-32-R08	100.00	112.00	7	5.50	50.00	70.00	32.00	B	1.40
F45NM D100-10-32-R08	100.00	112.00	10	5.50	50.00	70.00	32.00	B	1.39
F45NM D125-08-40-R08	125.00	137.00	8	5.50	63.00	82.00	40.00	B	2.68
F45NM D125-12-40-R08	125.00	137.00	12	5.50	63.00	82.00	40.00	B	2.63
F45NM D160-10-40-R08	160.00	172.00	10	5.50	63.00	92.00	40.00	C	4.10
F45NM D160-15-40-R08	160.00	172.00	15	5.50	63.00	92.00	40.00	C	4.17
F45NM D200-12-60-R08	200.00	212.00	12	5.50	63.00	150.00	60.00	C	7.12
F45NM D250-14-60-R08	250.00	262.00	14	5.50	63.00	137.00	60.00	C	8.95

• Wiper inserts are used on face mill cutters, providing improved surface finish, thus eliminating the use of other finishing cutters • For user guide, see page 518-524

(1) Cutting diameter maximum

(2) Number of inserts

(3) For adaptation options, see page 517

For inserts, see pages: ONHQ-TN (498) • ONHU 0806-N-PL (499) • ONHU 0806AN-W (499) • ONHU/ONMU 080608 AN-N-HP (499) • ONHU/ONMU-08-TN-MM (498) • ONHU/ONMU-08-TN/HL (498)

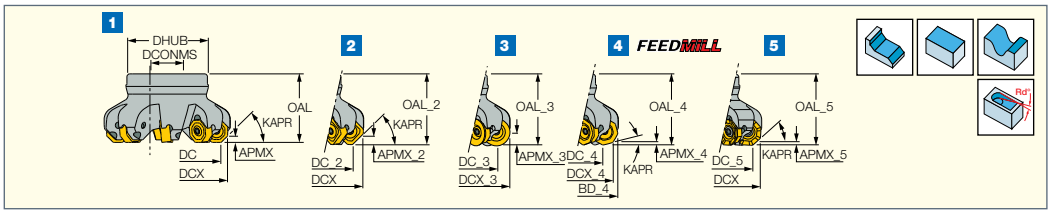
Spare Parts

Designation				
F45NM D063-05-22-R08	SR 14-591/H	BLD T20/S7	SW6-T	SR M10X25 DIN912
F45NM D080-06-27-R08	SR 14-591/H	BLD T20/S7	SW6-T	
F45NM D080-08-27-R08	SR 11800771	BLD IP15/S7	SW6-T-SH	
F45NM D100-07-32-R08	SR 14-591/H	BLD T20/S7	SW6-T	
F45NM D100-10-32-R08	SR 11800771	BLD IP15/S7	SW6-T-SH	
F45NM D125-08-40-R08	SR 14-591/H	BLD T20/S7	SW6-T	
F45NM D125-12-40-R08	SR 11800771	BLD IP15/S7	SW6-T-SH	
F45NM D160-10-40-R08	SR 14-591/H	BLD T20/L7	SW6-T	
F45NM D160-15-40-R08	SR 11800771	BLD IP15/M7	SW6-T-SH	
F45NM D200-12-60-R08	SR 14-591/H	BLD T20/L7	SW6-T	
F45NM D250-14-60-R08	SR 14-591/H	BLD T20/L7	SW6-T	

HELIDO 800 LINE

SOF45

Multifunction Face Mills for Octagonal, Square and Round Insert Contours with Various Entry Angles



Designation	DC	DCX(1)	DC_2	DC_3	DCX_3	DC_4	DCX_4	BD_4	DC_5	APMX	APMX_2	APMX_3	APMX_4	APMX_5
SOF45 8/16-D040-04-22R	40.00	50.40	37.65	35.40	51.20	34.50	44.00	50.50	40.30	3.50	6.00	7.90	1.20	2.90
SOF45 8/16-D050-03-22R	50.00	60.40	47.65	45.40	61.20	44.50	54.00	60.50	50.30	3.50	6.00	7.90	1.20	2.90
SOF45 8/16-D050-04-22R	50.00	60.40	47.65	45.40	61.20	44.50	54.00	60.50	50.30	3.50	6.00	7.90	1.20	2.90
SOF45 8/16-D050-06-22R	50.00	60.40	47.65	45.40	61.20	44.50	54.00	60.50	50.30	3.50	6.00	7.90	1.20	2.90
SOF45 D050-04-22-R13	52.35	62.70	50.00	47.75	63.55	46.95	56.35	62.90	52.65	3.50	6.00	7.90	1.20	2.90
SOF45 8/16-D063-04-22R	63.00	73.40	60.65	58.40	74.20	57.50	67.00	73.50	63.30	3.50	6.00	7.90	1.20	2.90
SOF45 8/16-D063-06-22R	63.00	73.40	60.65	58.40	74.20	57.50	67.00	73.50	63.30	3.50	6.00	7.90	1.20	2.90
SOF45 8/16-D063-08-22R	63.00	73.40	60.65	58.40	74.20	57.50	67.00	73.50	63.30	3.50	6.00	7.90	1.20	2.90
SOF45 D063-06-22-R13	65.35	75.70	63.00	60.75	76.55	59.95	69.35	75.90	63.65	3.50	6.00	7.90	1.20	2.90
SOF45 8/16-D080-07-27R	80.00	90.40	77.65	65.40	91.20	74.50	84.00	90.50	80.30	3.50	6.00	7.90	1.20	2.90
SOF45 8/16-D080-10-27R	80.00	90.40	77.65	65.40	91.20	74.50	84.00	90.50	80.30	3.50	6.00	7.90	1.20	2.90
SOF45 D080-07-27-R13	82.35	92.70	80.00	77.60	93.40	76.95	86.35	92.90	82.65	3.50	6.00	7.90	1.20	2.90
SOF45 8/16-D100-08-32R	100.00	110.40	97.65	95.40	111.20	94.50	104.00	110.50	100.30	3.50	6.00	7.90	1.20	2.90
SOF45 8/16-D100-12-32R	100.00	110.40	97.65	95.40	111.20	94.50	104.00	110.50	100.30	3.50	6.00	7.90	1.20	2.90
SOF45 D100-08-32-R13	102.35	112.70	100.00	97.75	113.55	96.95	106.35	112.90	102.65	3.50	6.00	7.90	1.20	2.90
SOF45 8/16-D125-10-40R	125.00	135.40	122.65	120.40	136.20	119.50	129.00	135.50	125.30	3.50	6.00	7.90	1.20	2.90
SOF45 8/16-D125-16-40R	125.00	135.40	122.65	120.40	136.20	119.50	129.00	135.50	125.30	3.50	6.00	7.90	1.20	2.90
SOF45 D125-10-40-R13	127.35	137.70	125.00	122.75	138.55	121.95	131.35	137.90	127.65	3.50	6.00	7.90	1.20	2.90
SOF45 8/16-D160-12-40R	160.00	170.40	157.65	155.40	171.20	154.50	164.00	171.50	160.30	3.50	6.00	7.90	1.20	2.90
SOF45 8/16-D200-14-60R	200.00	210.40	197.65	195.40	211.20	194.50	204.00	211.50	200.50	3.50	6.00	7.90	1.20	2.90
SOF45 8/16-D250-16-60R	250.00	260.40	247.65	245.40	261.20	244.50	254.00	261.50	250.30	3.50	6.00	7.90	1.20	2.90
SOF45 8/16-D315-20-60R	315.00	329.40	312.65	310.40	326.20	309.50	319.00	326.50	315.30	3.50	6.00	7.90	1.20	2.90

Designation	OAL	OAL_2	OAL_3	OAL_4	OAL_5	CICT(2)	DHUB	DCONMS	RMPX_3(3)	Arbor(4)	CSP(5)	kg
SOF45 8/16-D040-04-22R	40.00	41.2	41.60	41.30	41.20	4	45.00	22.00	3.7	A	1	0.29
SOF45 8/16-D050-03-22R	40.00	41.2	41.60	41.30	41.20	3	48.00	22.00	5.6	A	1	0.38
SOF45 8/16-D050-04-22R	40.00	41.2	41.60	41.30	41.20	4	48.00	22.00	5.6	A	1	0.39
SOF45 8/16-D050-06-22R	40.00	41.2	41.60	41.30	41.20	6	48.00	22.00	5.6	A	1	0.38
SOF45 D050-04-22-R13	38.80	40.0	40.40	40.10	40.20	4	48.00	22.00	5.4	A	1	0.38
SOF45 8/16-D063-04-22R	40.00	41.2	41.60	41.30	41.20	4	48.00	22.00	6.3	A	1	0.54
SOF45 8/16-D063-06-22R	40.00	41.2	41.60	41.30	41.20	6	48.00	22.00	6.3	B	0	0.47
SOF45 8/16-D063-08-22R	40.00	41.2	41.60	41.30	41.20	8	48.00	22.00	6.3	B	0	0.46
SOF45 D063-06-22-R13	38.80	40.0	40.40	40.10	40.20	6	48.00	22.00	5.7	B	1	0.50
SOF45 8/16-D080-07-27R	50.00	51.2	51.60	51.30	51.20	7	60.00	27.00	6.2	B	0	1.01
SOF45 8/16-D080-10-27R	50.00	51.2	51.60	51.30	51.20	10	60.00	27.00	6.2	B	0	0.96
SOF45 D080-07-27-R13	48.80	50.0	50.40	50.10	50.20	7	60.00	27.00	6.0	B	1	1.00
SOF45 8/16-D100-08-32R	50.00	51.2	51.60	51.30	51.20	8	70.00	32.00	4.7	B	0	1.39
SOF45 8/16-D100-12-32R	50.00	51.2	51.60	51.30	51.20	12	70.00	32.00	4.7	B	0	1.35
SOF45 D100-08-32-R13	48.80	50.0	50.40	50.10	50.00	8	70.00	32.00	4.6	B	1	1.47
SOF45 8/16-D125-10-40R	63.00	64.2	64.60	64.30	64.20	10	82.00	40.00	3.6	B	0	2.63
SOF45 8/16-D125-16-40R	63.00	64.2	64.60	64.30	64.20	16	82.00	40.00	3.6	B	0	2.53
SOF45 D125-10-40-R13	61.80	63.0	63.40	63.10	63.20	10	82.00	40.00	3.5	B	1	2.63
SOF45 8/16-D160-12-40R	63.00	64.2	64.60	64.30	64.20	12	92.00	40.00	2.6	C	0	3.35
SOF45 8/16-D200-14-60R	63.00	64.2	64.60	64.30	64.20	14	135.00	60.00	2.0	C	0	5.77
SOF45 8/16-D250-16-60R	63.00	64.2	64.60	64.30	64.20	16	137.00	60.00	1.5	C	0	7.98
SOF45 8/16-D315-20-60R	80.00	81.2	81.60	81.30	81.20	20	222.00	60.00	1.0	C	0	18.97

• 1- with ONMU 0505... insert • 2- with S845 SNMU 1305... insert • 3- with RXMT 1607N insert • 4- with OXMT 0507R08-FF insert • 5- with OXMT 050705-R-HP insert • Use only Torx Plus keys • For user guide, see pages 518-524

(1) Cutting diameter maximum

(2) Number of inserts

(3) Valid only with RXMT 1607N insert

(4) For adaptation options, see page 517

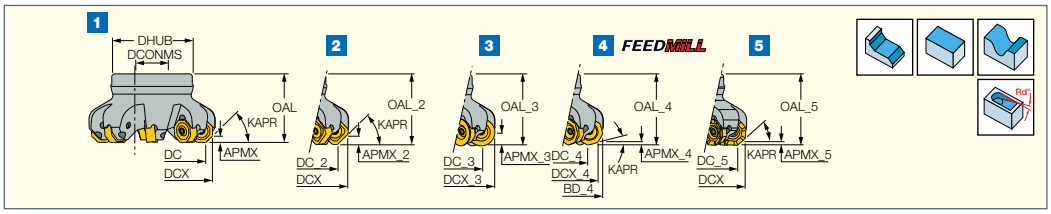
(5) 0 - Without coolant supply, 1 - With coolant supply (9) Master insert identification 4

For inserts, see pages: ONHU 0505-W (432) • ONHU/ONMU-05 (432) • OXMT 0507 (433) • RXMT 1607 (448) • S845 SNHU 1305-W (429) • S845 SNMU/SNHU-13 (429)

HELIDO 800 LINE

SOF45 (continued)

Multifunction Face Mills for Octagonal, Square and Round Insert Contours with Various Entry Angles



Designation	MIID[6]	MIID_2[7]	MIID_3[8]	MIID_4[9]	MIID_5[10]
SOF45 8/16-D040-04-22R	ONHU 050500-PL	S845 SNHU 1305ANR-M	RXMT 1607N	OXMT 0507R08-FF	OXMT 050705-R-HP
SOF45 8/16-D050-03-22R	ONHU 050500-PL	S845 SNHU 1305ANR-M	RXMT 1607N	OXMT 0507R08-FF	OXMT 050705-R-HP
SOF45 8/16-D050-04-22R	ONHU 050500-PL	S845 SNHU 1305ANR-M	RXMT 1607N	OXMT 0507R08-FF	OXMT 050705-R-HP
SOF45 8/16-D050-06-22R	ONHU 050500-PL	S845 SNHU 1305ANR-M	RXMT 1607N	OXMT 0507R08-FF	OXMT 050705-R-HP
SOF45 D050-04-22-R13	ONHU 050500-PL	S845 SNHU 1305ANR-M	RXMT 1607N	OXMT 0507R08-FF	OXMT 050705-R-HP
SOF45 8/16-D063-04-22R	ONHU 050500-PL	S845 SNHU 1305ANR-M	RXMT 1607N	OXMT 0507R08-FF	OXMT 050705-R-HP
SOF45 8/16-D063-06-22R	ONHU 050500-PL	S845 SNHU 1305ANR-M	RXMT 1607N	OXMT 0507R08-FF	OXMT 050705-R-HP
SOF45 8/16-D063-08-22R	ONHU 050500-PL	S845 SNHU 1305ANR-M	RXMT 1607N	OXMT 0507R08-FF	OXMT 050705-R-HP
SOF45 D063-06-22-R13	ONHU 050500-PL	S845 SNHU 1305ANR-M	RXMT 1607N	OXMT 0507R08-FF	OXMT 050705-R-HP
SOF45 8/16-D080-07-27R	ONHU 050500-PL	S845 SNHU 1305ANR-M	RXMT 1607N	OXMT 0507R08-FF	OXMT 050705-R-HP
SOF45 8/16-D080-10-27R	ONHU 050500-PL	S845 SNHU 1305ANR-M	RXMT 1607N	OXMT 0507R08-FF	OXMT 050705-R-HP
SOF45 D080-07-27-R13	ONHU 050500-PL	S845 SNHU 1305ANR-M	RXMT 1607N	OXMT 0507R08-FF	OXMT 050705-R-HP
SOF45 8/16-D100-08-32R	ONHU 050500-PL	S845 SNHU 1305ANR-M	RXMT 1607N	OXMT 0507R08-FF	OXMT 050705-R-HP
SOF45 8/16-D100-12-32R	ONHU 050500-PL	S845 SNHU 1305ANR-M	RXMT 1607N	OXMT 0507R08-FF	OXMT 050705-R-HP
SOF45 D100-08-32-R13	ONHU 050500-PL	S845 SNHU 1305ANR-M	RXMT 1607N	OXMT 0507R08-FF	OXMT 050705-R-HP
SOF45 8/16-D125-10-40R	ONHU 050500-PL	S845 SNHU 1305ANR-M	RXMT 1607N	OXMT 0507R08-FF	OXMT 050705-R-HP
SOF45 8/16-D125-16-40R	ONHU 050500-PL	S845 SNHU 1305ANR-M	RXMT 1607N	OXMT 0507R08-FF	OXMT 050705-R-HP
SOF45 D125-10-40-R13	ONHU 050500-PL	S845 SNHU 1305ANR-M	RXMT 1607N	OXMT 0507R08-FF	OXMT 050705-R-HP
SOF45 8/16-D160-12-40R	ONHU 050500-PL	S845 SNHU 1305ANR-M	RXMT 1607N	OXMT 0507R08-FF	OXMT 050705-R-HP
SOF45 8/16-D200-14-60R	ONHU 050500-PL	S845 SNHU 1305ANR-M	RXMT 1607N	OXMT 0507R08-FF	OXMT 050705-R-HP
SOF45 8/16-D250-16-60R	ONHU 050500-PL	S845 SNHU 1305ANR-M	RXMT 1607N	OXMT 0507R08-FF	OXMT 050705-R-HP
SOF45 8/16-D315-20-60R	ONHU 050500-PL	S845 SNHU 1305ANR-M	RXMT 1607N	OXMT 0507R08-FF	OXMT 050705-R-HP

• 1- with ONMU 0505... insert • 2- with S845 SNMU 1305... insert • 3- with RXMT 1607N insert • 4- with OXMT 0507R08-FF insert • 5- with OXMT 050705-R-HP insert • Use only Torx Plus keys • For user guide, see pages 518-524

(6) Master insert identification

(7) Master insert identification 2

(8) Master insert identification 3

(9) Master insert identification 4

For inserts, see pages: ONHU 0505-W (487) • ONHU/ONMU-05 (487) • OXMT 0507 (488) • RXMT 1607 (505) • S845 SNHU 1305-W (484) • S845 SNMU/SNHU-13 (483)

Spare Parts

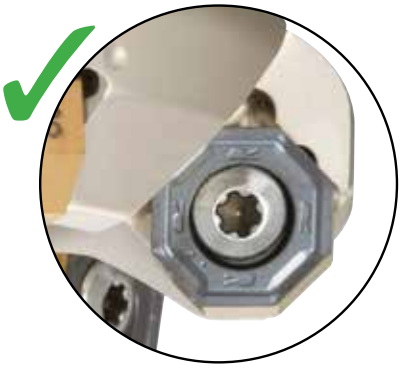
Designation				
SOF45 8/16-D040-04-22R	SR 11800745	BLD IP15/S7(a)	SW6-T-SH	SR M10X25 DIN912
SOF45 8/16-D050-03-22R	SR 11800745	BLD IP15/S7(a)	SW6-T-SH	SR M10X20DIN912
SOF45 8/16-D050-04-22R	SR 11800745	BLD IP15/S7(a)	SW6-T-SH	SR M10X20DIN912
SOF45 8/16-D050-06-22R	SR 11800745	BLD IP15/S7(a)	SW6-T-SH	SR M10X20DIN912
SOF45 D050-04-22-R13	SR 11800745	BLD IP15/S7(a)	SW6-T-SH	SR M10X20DIN912
SOF45 8/16-D063-04-22R	SR 11800745	BLD IP15/S7(a)	SW6-T-SH	SR M10X25 DIN912
SOF45 8/16-D063-06-22R	SR 11800745	BLD IP15/S7(a)	SW6-T-SH	
SOF45 8/16-D063-08-22R	SR 11800745	BLD IP15/S7(a)	SW6-T-SH	
SOF45 D063-06-22-R13	SR 11800745	BLD IP15/S7(a)	SW6-T-SH	
SOF45 8/16-D080-07-27R	SR 11800745	BLD IP15/S7(a)	SW6-T-SH	
SOF45 8/16-D080-10-27R	SR 11800745	BLD IP15/S7(a)	SW6-T-SH	
SOF45 D080-07-27-R13	SR 11800745	BLD IP15/S7(a)	SW6-T-SH	
SOF45 8/16-D100-08-32R	SR 11800745	BLD IP15/S7(a)	SW6-T-SH	
SOF45 8/16-D100-12-32R	SR 11800745	BLD IP15/S7(a)	SW6-T-SH	
SOF45 D100-08-32-R13	SR 11800745	BLD IP15/S7(a)	SW6-T-SH	
SOF45 8/16-D125-10-40R	SR 11800745	BLD IP15/S7(a)	SW6-T-SH	
SOF45 8/16-D125-16-40R	SR 11800745	BLD IP15/S7(a)	SW6-T-SH	
SOF45 D125-10-40-R13	SR 11800745	BLD IP15/S7(a)	SW6-T-SH	
SOF45 8/16-D160-12-40R	SR 11800745	BLD IP15/M7(a)	SW6-T-SH	
SOF45 8/16-D200-14-60R	SR 11800745	BLD IP15/M7(a)	SW6-T-SH	
SOF45 8/16-D250-16-60R	SR 11800745	BLD IP15/M7(a)	SW6-T-SH	
SOF45 8/16-D315-20-60R	SR 11800745	BLD IP15/M7(a)	SW6-T-SH	

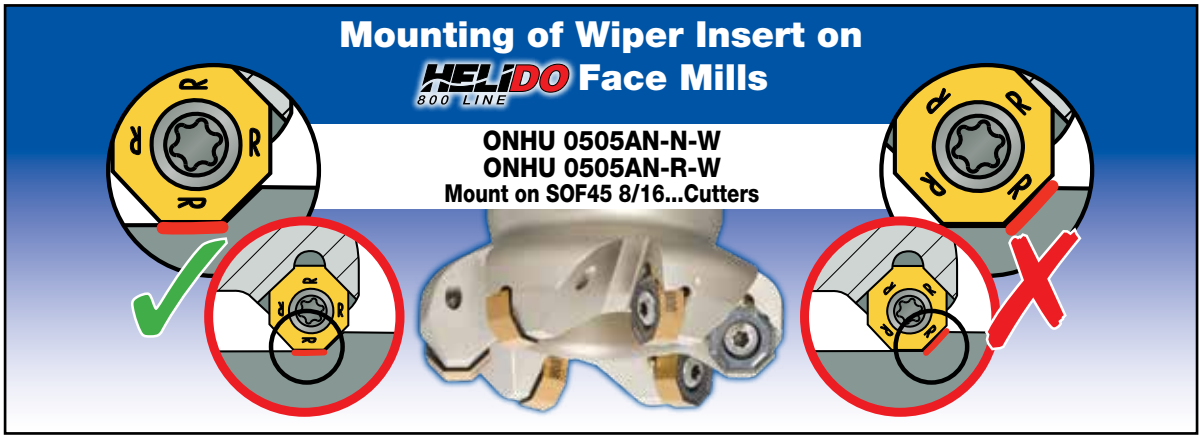
(a) IMPORTANT: Use only Torx Plus keys.

Wiper Inserts

Wiper inserts are used on face mill cutters, providing improved surface finish and thus eliminating the use of other finishing cutters.

- **ONHU 0505AN-R**-W mounted on standard **SOF45** milling cutters. This insert provides 8 right-hand wiper edges.
- **ONHU 0505AN-N**-W mounted on **SOF45** milling cutters
- This insert provides **4 right-hand** wiper edges to be used on standard tools and **4 left-hand** wiper edges to be used on **special left-hand SOF45** cutters.



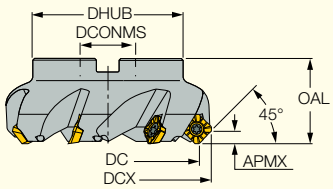


- **S845 SNHU 1305AN-N**-W mounted on **SOF45** milling cutters
- when the square **S845 SNMU/HU 1305AN**... inserts are used.
- This insert provides 2 right-hand and 2 left-hand wiper edges.

ISCARMILL

F45ST

45° Screw Clamped Face Mills
Carrying SEK/MT 12... Inserts



Designation	DC	DCX(1)	CICT(2)	APMX	OAL	DHUB	DCONMS	Arbor(3)	kg
F45ST D040-22	40.00	50.00	3	6.50	40.00	44.00	22.00	A	0.30
F45ST D050-22	50.00	62.70	4	6.50	40.00	41.80	22.00	A	0.35
F45ST D063-22	63.00	75.00	5	6.50	40.00	50.00	22.00	A	0.57
F45ST D080-27	80.00	90.90	6	6.50	50.00	63.00	27.00	B	1.08
F45ST D100-32	100.00	110.00	6	6.50	50.00	72.00	32.00	B	1.61
F45ST D125-40	125.00	135.00	7	6.50	62.50	75.00	40.00	B	2.70
F45ST D160-40	160.00	170.70	7	6.50	63.00	92.00	40.00	C	4.06

• SE..1204 inserts are mounted directly on the cutter • SE..12T3 optional thinner inserts are mounted on a seat - TSE 12T3-N • For user guide, see pages 518-524
(1) Cutting diameter maximum
(2) Number of inserts
(3) For adaptation options, see page 517

For inserts, see pages: SEHT-AFN (493) • SEHW-AFTN (492) • SEKT-AF-R (492) • SEKT-AFTN (493) • SEMT 12..AFTN-76 (493) • SEMT 1204AF-R-HS (492)

Spare Parts

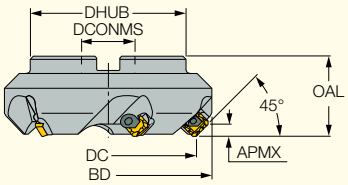
Designation								
F45ST D040-22	SR 14-536/S	BLD T20/M7	SW6-T	SR M10X25 DIN7984	HW 7.0			
F45ST D050-22	SR 34-523	BLD T15/M7	SW6-T	SR M10X25 DIN7984	HW 7.0	SR 14-601*	SR TC-606(a)*	HW 3.5(a)*
F45ST D063-22	SR 34-523	BLD T15/M7	SW6-T	SR M10X25 DIN7984	HW 7.0	SR 14-601*	SR TC-606(a)*	HW 3.5(a)*
F45ST D080-27	SR 34-523	BLD T15/M7	SW6-T			SR 14-601*	SR TC-606(a)*	HW 3.5(a)*
F45ST D100-32	SR 34-523	BLD T15/M7	SW6-T			SR 14-601*	SR TC-606(a)*	HW 3.5(a)*
F45ST D125-40	SR 34-523	BLD T15/M7	SW6-T			SR 14-601*	SR TC-606(a)*	HW 3.5(a)*
F45ST D160-40	SR 34-523	BLD T15/M7	SW6-T			SR 14-601*	SR TC-606(a)*	HW 3.5(a)*

* Optional, should be ordered separately
(a) Optional for insert SE..12T3
(b) Optional for insert SE..12T3

ISCARMILL

F45E

45° Face Mills Carrying
SEKN/R 12... Inserts



Designation	DC	BD	APMX	CICT(1)	OAL	DHUB	DCONMS	Arbor(2)	kg
F45E D 50-22	50.00	67.30	6.50	4	43.00	42.00	22.00	A	0.59
F45E D 63-22	63.00	81.20	6.50	5	40.00	42.50	22.00	A	0.81
F45E D 80-27	80.00	98.20	6.50	6	50.00	63.00	27.00	B	1.43
F45E D100-32	100.00	118.00	6.50	6	50.00	72.00	32.00	B	2.31
F45E D125-40	125.00	143.00	6.50	6	63.00	75.00	40.00	B	3.40
F45E D160-40	160.00	178.00	6.50	8	63.00	92.00	40.00	C	5.28

• For user guide, see pages 518-524
(1) Number of inserts
(2) For adaptation options, see page 517

For inserts, see pages: SEKN-AF.. (494) • SEKR-AF-N-42 (494) • SEKR-AF..-76 (494) • SEKR-AFTR-HS (495)

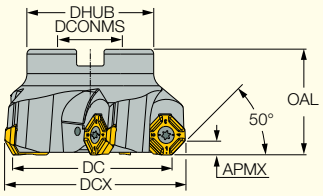
Spare Parts

Designation								
F45E D 50-22	NSE 42-R	SR 35-343.4	HW 2.0	LW 35-2620-S	SR 35-2011	HW 3P	SR M10X25DIN7984	HW 7.0
F45E D 63-22	NSE 42-R	SR 35-343.4	HW 2.0	LW 35-2620-S	SR 35-2011	HW 3P	SR M10X25DIN7984	HW 7.0
F45E D 80-27	NSE 42-R	SR 35-343.4	HW 2.0	LW 35-2620-S	SR 35-2011	HW 3P		
F45E D100-32	NSE 42-R	SR 35-343.4	HW 2.0	LW 35-2620-S	SR 35-2011	HW 3P		
F45E D125-40	NSE 42-R	SR 35-343.4	HW 2.0	LW 35-2620-S	SR 35-2011	HW 3P		
F45E D160-40	NSE 42-R	SR 35-343.4	HW 2.0	LW 35-2620-S	SR 35-2011	HW 3P		

DOVE IQ MILL 845 LINE

IQ845 FSY-R07

50° Face Mills Carrying Square Inserts with 8 Cutting Edges



Designation	DC	DCX(1)	CICT(2)	APMX	OAL	DHUB	DCONMS	Arbor(3)	CSP(4)	kg
IQ845 FSY D050-04-22-R07	50.00	59.40	4	4.60	40.00	48.00	22.00	A	1	0.39
IQ845 FSY D050-05-22-R07	50.00	59.40	5	4.60	40.00	48.00	22.00	A	1	0.38
IQ845 FSY D063-05-22-R07	63.00	72.40	5	4.60	40.00	48.00	22.00	A	1	0.51
IQ845 FSY D063-07-22-R07	63.00	72.40	7	4.60	40.00	48.00	22.00	A	1	0.47
IQ845 FSY D080-06-27-R07	80.00	89.40	6	4.60	50.00	60.00	27.00	B	1	1.00
IQ845 FSY D080-08-27-R07	80.00	89.40	8	4.60	50.00	60.00	27.00	B	1	0.95
IQ845 FSY D100-07-32-R07	100.00	109.40	7	4.60	50.00	70.00	32.00	B	1	1.36
IQ845 FSY D100-10-32-R07	100.00	109.40	10	4.60	50.00	70.00	32.00	B	1	1.34
IQ845 FSY D125-09-40-R07	125.00	134.40	9	4.60	63.00	82.00	40.00	B	1	2.52
IQ845 FSY D125-12-40-R07	125.00	134.40	12	4.60	63.00	82.00	40.00	B	1	2.49
IQ845 FSY D160-11-40-R07	160.00	169.40	11	4.60	63.00	92.00	40.00	C	0	3.31
IQ845 FSY D160-15-40-R07	160.00	169.40	15	4.60	63.00	92.00	40.00	C	0	3.28
IQ845 FSY D200-14-60-R07	200.00	209.40	14	4.60	63.00	135.00	60.00	C	0	5.80
IQ845 FSY D250-17-60-R07	250.00	259.40	17	4.60	63.00	135.00	60.00	C	0	8.18
IQ845 FSY D315-20-60-R07	315.00	324.40	20	4.60	80.00	220.00	60.00	C	0	16.87

• For user guide, see pages 518-524
(1) Cutting diameter maximum
(2) Number of inserts
(3) For adaptation options, see page 517
(4) 0 - Without coolant supply, 1 - With coolant supply

For inserts, see pages: IQ845 SYHU-07 (482)

Spare Parts

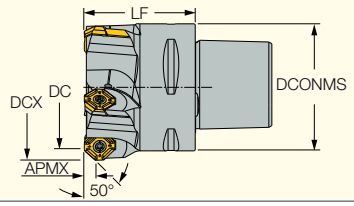
Designation				
IQ845 FSY D050-04-22-R07	SR M4X0.7IP15	BLD IP15/S7	SW6-T-SH	SR M10X20DIN912
IQ845 FSY D050-05-22-R07	SR M4X0.7IP15	BLD IP15/S7	SW6-T-SH	SR M10X20DIN912
IQ845 FSY D063-05-22-R07	SR M4X0.7IP15	BLD IP15/S7	SW6-T-SH	SR M10X25 DIN912
IQ845 FSY D063-07-22-R07	SR M4X0.7IP15	BLD IP15/S7	SW6-T-SH	SR M10X25 DIN912
IQ845 FSY D080-06-27-R07	SR M4X0.7IP15	BLD IP15/S7	SW6-T-SH	
IQ845 FSY D080-08-27-R07	SR M4X0.7IP15	BLD IP15/S7	SW6-T-SH	
IQ845 FSY D100-07-32-R07	SR M4X0.7IP15	BLD IP15/S7	SW6-T-SH	
IQ845 FSY D100-10-32-R07	SR M4X0.7IP15	BLD IP15/S7	SW6-T-SH	
IQ845 FSY D125-09-40-R07	SR M4X0.7IP15	BLD IP15/S7	SW6-T-SH	
IQ845 FSY D125-12-40-R07	SR M4X0.7IP15	BLD IP15/S7	SW6-T-SH	
IQ845 FSY D160-11-40-R07	SR M4X0.7IP15	BLD IP15/S7	SW6-T-SH	
IQ845 FSY D160-15-40-R07	SR M4X0.7IP15	BLD IP15/S7	SW6-T-SH	
IQ845 FSY D200-14-60-R07	SR M4X0.7IP15	BLD IP15/S7	SW6-T-SH	
IQ845 FSY D250-17-60-R07	SR M4X0.7IP15	BLD IP15/S7	SW6-T-SH	
IQ845 FSY D315-20-60-R07	SR M4X0.7IP15	BLD IP15/S7	SW6-T-SH	

DOVE IQ MILL 845 LINE

CAMFIX

IQ845 FSY-C#-R07

50° Face Mills Carrying Square Inserts with 8 Cutting Edges



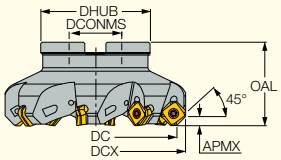
Designation	DC	DCX	CICT(1)	APMX	LF	DCONMS	kg			
IQ845 FSY D063-05-C6-R07	63.00	72.40	5	4.60	55.00	63	1.53	SR M4X0.7IP15	BLD IP15/S7	SW6-T-SH

• For user guide, see pages 518-524
(1) Cutting diameter maximum
For inserts, see pages: IQ845 SYHU-07 (482)

HELIDO 845 LINE

S845 F45SX-16

45° Face Mills Carrying Economical Inserts with 8 Helical Right-Hand Cutting Edges



Designation	DC	DCX(2)	CICT(3)	APMX	OAL	DHUB	DCONMS	Arbor(4)	CSP(5)	kg
S845 F45SX D040-04-16-R16 (1)	40.00	54.80	4	7.15	45.00	48.00	16.00	A	1	0.39
S845 F45SX D050-04-22-R16	50.00	64.80	4	7.15	45.00	48.00	22.00	A	1	0.46
S845 F45SX D050-05-22-R16 (1)	50.00	64.80	5	7.15	45.00	48.00	22.00	A	1	0.44
S845 F45SX D063-05-22-R16	63.00	77.80	5	7.15	45.00	60.00	22.00	B	1	0.72
S845 F45SX D063-07-22-R16 (1)	63.00	77.90	7	7.15	45.00	60.00	22.00	A	1	0.72
S845 F45SX D080-09-27-R16 (1)	80.00	93.10	9	7.15	50.00	63.00	27.00	B	1	1.01
S845 F45SX D100-11-32-R16 (1)	100.00	114.60	11	7.15	50.00	80.00	32.00	B	1	1.65
S845 F45SX D100-07-32-R16	100.00	114.80	7	7.15	50.00	80.00	32.00	B	1	1.62
S845 F45SX D125-08-40-R16	125.00	139.80	8	7.15	63.00	82.00	40.00	B	1	2.68
S845 F45SX D125-14-40-R16 (1)	125.00	139.80	14	7.15	63.00	82.00	40.00	B	1	2.72
S845 F45SX D160-10-40-R16	160.00	174.80	10	7.15	63.00	105.00	40.00	C	0	4.16
S845 F45SX D160-18-40-R16 (1)	160.00	174.80	18	7.15	63.00	105.00	40.00	C	0	4.30
S845 F45SX D200-12-60-R16	200.00	214.80	12	7.15	63.00	135.00	60.00	C	0	5.82
S845 F45SX D250-15-60-R16	250.00	264.80	15	7.15	63.00	144.00	60.00	C	0	8.58

• Wiper inserts are used on face mill cutters, providing improved surface finish, thus eliminating the use of other finishing cutters. • For user guide, see pages 518-524

(1) Fine pitch cutters, recommended for machining cast iron and for machining steel - up to 4 mm D.O.C.

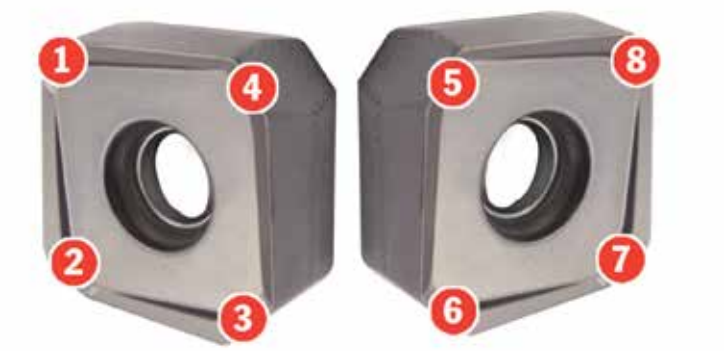
(2) Cutting diameter maximum

(3) Number of inserts

(4) For adaptation options, see page 517

(5) 0 - Without coolant supply, 1 - With coolant supply

For inserts, see pages: S845 SXHU 1606-W (484) • S845 SXMU/SXCU-16 (484)



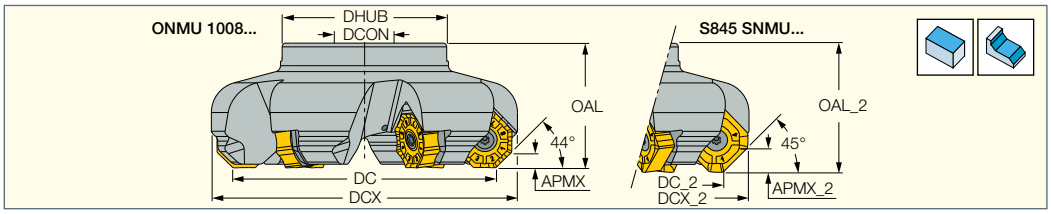
Spare Parts

Designation				
S845 F45SX D040-04-16-R16	SR 14-591	BLD T20/M7	SW6-T	SR M8X25DIN912
S845 F45SX D050-04-22-R16	SR 14-591	BLD T20/M7	SW6-T	SR M10X25DIN7984
S845 F45SX D050-05-22-R16	SR 14-591-M	BLD T20/M7	SW6-T	SR M10X25DIN7984
S845 F45SX D063-05-22-R16	SR 14-591	BLD T20/M7	SW6-T	SR M10X25DIN7984
S845 F45SX D063-07-22-R16	SR 14-591-M	BLD T20/M7	SW6-T	SR M10X25DIN7984
S845 F45SX D080-09-27-R16	SR 14-591-M	BLD T20/M7	SW6-T	
S845 F45SX D100-11-32-R16	SR 14-591-M	BLD T20/M7	SW6-T	
S845 F45SX D100-07-32-R16	SR 14-591	BLD T20/M7	SW6-T	
S845 F45SX D125-08-40-R16	SR 14-591	BLD T20/M7	SW6-T	
S845 F45SX D125-14-40-R16	SR 14-591-M	BLD T20/M7	SW6-T	
S845 F45SX D160-10-40-R16	SR 14-591	BLD T20/M7	SW6-T	
S845 F45SX D160-18-40-R16	SR 14-591-M	BLD T20/M7	SW6-T	
S845 F45SX D200-12-60-R16	SR 14-591	BLD T20/M7	SW6-T	
S845 F45SX D250-15-60-R16	SR 14-591	BLD T20/M7	SW6-T	

HELIDO 800 HD LINE

SOF45-26

Heavy Duty 45° Face Mills Carrying Square or Octagonal Double-Sided Inserts with 8/16 Cutting Edges



Designation	DC	DCX(1)	APMX	OAL	DC_2	APMX_2	OAL_2	CICT(2)	DHUB	DCONMS	Arbor(3)	CSP(4)	kg
SOF45 D080-04-32-R26	84.10	104.50	7.00	60.80	80.00	11.00	63.0	4	70.00	32.00	A	1	1.68
SOF45 D100-05-32-R26	104.10	124.50	7.00	60.80	100.00	11.00	63.0	5	70.00	32.00	B	1	2.25
SOF45 D125-06-40-R26	129.10	149.50	7.00	60.80	125.00	11.00	63.0	6	82.00	40.00	B	1	3.08
SOF45 D160-08-40-R26	164.10	184.50	7.00	60.80	160.00	11.00	63.0	8	92.00	40.00	C	0	4.05
SOF45 D200-10-60-R26	204.10	224.50	7.00	60.80	200.00	11.00	63.0	10	135.00	60.00	C	0	6.52
SOF45 D250-12-60-R26	254.10	274.50	7.00	60.80	250.00	11.00	63.0	12	135.00	60.00	C	0	9.48
SOF45 D315-14-60-R26	319.10	339.50	7.00	77.80	315.00	11.00	80.0	14	220.00	60.00	C	0	19.73

• For user guide, see pages 518-524
(1) Cutting diameter maximum
(2) Number of inserts
(3) For adaptation options, see page 517
(4) 0 - Without coolant supply, 1 - With coolant supply

For inserts, see pages: ONMU 1008 (492) • S845 SNMU 2608 (485)

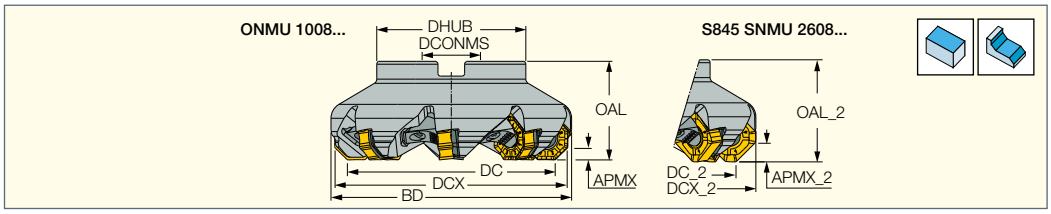
Spare Parts

Designation						
SOF45 D080-04-32-R26	SR 1/4-28XIP25	TSOF 26-N	SR M3.5X0.6-6.5 T10	BLD IP25/S7	SW6-T	SR M16-40C
SOF45 D100-05-32-R26	SR 1/4-28XIP25	TSOF 26-N	SR M3.5X0.6-6.5 T10	BLD IP25/S7	SW6-T	SR M16-40C
SOF45 D125-06-40-R26	SR 1/4-28XIP25	TSOF 26-N	SR M3.5X0.6-6.5 T10	BLD IP25/S7	SW6-T	
SOF45 D160-08-40-R26	SR 1/4-28XIP25	TSOF 26-N	SR M3.5X0.6-6.5 T10	BLD IP25/M7	SW6-T	
SOF45 D200-10-60-R26	SR 1/4-28XIP25	TSOF 26-N	SR M3.5X0.6-6.5 T10	BLD IP25/M7	SW6-T	
SOF45 D250-12-60-R26	SR 1/4-28XIP25	TSOF 26-N	SR M3.5X0.6-6.5 T10	BLD IP25/L7	SW6-T	
SOF45 D315-14-60-R26	SR 1/4-28XIP25	TSOF 26-N	SR M3.5X0.6-6.5 T10	BLD IP25/L7	SW6-T	

HELIDO 800 HD LINE

SOF45WG-R26

Heavy Duty 45° Face Mills, Carrying Wedge Clamped Square or Octagonal Double-Sided Inserts with 8/16 Cutting Edges



Designation	DC	BD	DCX	APMX	OAL	DC_2	DCX_2	APMX_2	OAL_2	DCONMS	DHUB	Arbor
SOF45WG D100-05-32-R26	104.10	123.50	118.80	7.00	60.80	100.00	123.50	11.00	63.00	32.00	78.00	B
SOF45WG D100-06-32-R26	104.10	123.50	118.80	7.00	60.80	100.00	123.50	11.00	63.00	32.00	78.00	B
SOF45WG D125-06-40-R26	129.10	148.50	143.80	7.00	60.80	125.00	148.50	11.00	63.00	40.00	92.00	B
SOF45WG D125-08-40-R26	129.10	148.50	143.80	7.00	60.80	125.00	148.50	11.00	63.00	40.00	92.00	B
SOF45WG D160-08-40-R26	164.10	183.80	178.80	7.00	60.80	160.00	183.80	11.00	63.00	40.00	95.00	C
SOF45WG D160-10-40-R26	164.10	183.80	178.80	7.00	60.80	160.00	183.80	11.00	63.00	40.00	95.00	C
SOF45WG D200-10-60-R26	204.10	223.50	218.80	7.00	60.80	200.00	223.50	11.00	63.00	60.00	180.00	C
SOF45WG D200-12-60-R26	204.10	223.50	218.80	7.00	60.80	200.00	223.50	11.00	63.00	60.00	180.00	C
SOF45WG D250-12-60-R26	254.10	273.30	268.80	7.00	60.80	250.00	273.30	11.00	63.00	60.00	180.00	C
SOF45WG D250-14-60-R26	254.10	273.30	268.80	7.00	60.80	250.00	273.30	11.00	63.00	60.00	180.00	C
SOF45WG D315-14-60-R26	319.10	338.50	333.80	7.00	77.80	315.00	338.50	11.00	80.00	60.00	230.00	C
SOF45WG D315-16-60-R26	319.10	338.50	333.80	7.00	77.80	315.00	338.50	11.00	80.00	60.00	230.00	C

• For user guide see pages 518-524

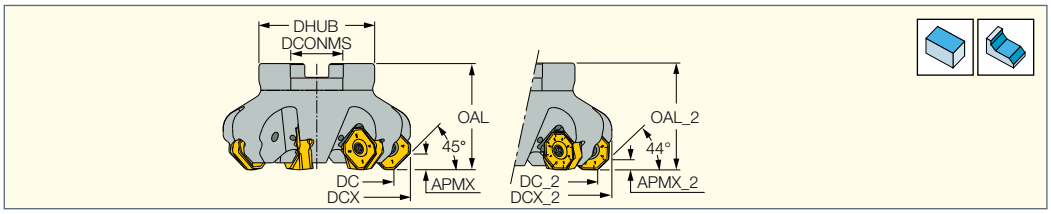
Spare Parts

Designation				
SOF45WG D100-05-32-R26	TSOF 26-N	SR M3.5X0.6-6.5 T10	BLD IP25/S7	SW6-T
SOF45WG D100-06-32-R26	TSOF 26-N	SR M3.5X0.6-6.5 T10	BLD IP25/S7	SW6-T
SOF45WG D125-06-40-R26	TSOF 26-N	SR M3.5X0.6-6.5 T10	BLD IP25/S7	SW6-T
SOF45WG D125-08-40-R26	TSOF 26-N	SR M3.5X0.6-6.5 T10	BLD IP25/S7	SW6-T
SOF45WG D160-08-40-R26	TSOF 26-N	SR M3.5X0.6-6.5 T10	BLD IP25/S7	SW6-T
SOF45WG D160-10-40-R26	TSOF 26-N	SR M3.5X0.6-6.5 T10	BLD IP25/S7	SW6-T
SOF45WG D200-10-60-R26	TSOF 26-N	SR M3.5X0.6-6.5 T10	BLD IP25/S7	SW6-T
SOF45WG D200-12-60-R26	TSOF 26-N	SR M3.5X0.6-6.5 T10	BLD IP25/S7	SW6-T
SOF45WG D250-12-60-R26	TSOF 26-N	SR M3.5X0.6-6.5 T10	BLD IP25/S7	SW6-T
SOF45WG D250-14-60-R26	TSOF 26-N	SR M3.5X0.6-6.5 T10	BLD IP25/S7	SW6-T
SOF45WG D315-14-60-R26	TSOF 26-N	SR M3.5X0.6-6.5 T10	BLD IP25/S7	SW6-T
SOF45WG D315-16-60-R26	TSOF 26-N	SR M3.5X0.6-6.5 T10	BLD IP25/S7	SW6-T

HELIDO 800 HD LINE

SOF45-R18

45° Face Mills Carrying Square or Octagonal Double-Sided Inserts with 8/16 Cutting Edges



Designation	DC	DCX(1)	APMX	OAL	DC_2	DCX_2	APMX_2	OAL_2	CICT(2)	DHUB	DCONMS	Arbor	CSP(3)	kg
SOF45 D050-04-22-R18	50.00	67.00	8.00	50.00	52.80	67.00	5.00	48.5	4	48.00	22.00	A	1	0.55
SOF45 D063-05-22-R18	63.00	80.00	8.00	50.00	65.80	80.00	5.00	48.5	5	52.00	22.00	A	1	0.80
SOF45 D063-05-27-R18	63.00	80.00	8.00	50.00	65.80	80.00	5.00	48.5	5	60.00	27.00	A	1	0.83
SOF45 D080-06-27-R18	80.00	97.00	8.00	55.00	82.80	97.00	5.00	53.5	6	60.00	27.00	A	1	1.29
SOF45 D080-07-27-R18	80.00	97.00	8.00	55.00	82.80	97.00	5.00	53.5	7	60.00	27.00	A	1	1.29
SOF45 D100-07-32-R18	100.00	117.00	8.00	55.00	102.80	117.00	5.00	53.5	7	78.00	32.00	B	1	1.95
SOF45 D100-09-32-R18	100.00	117.00	8.00	55.00	102.80	117.00	5.00	53.5	9	78.00	32.00	B	1	1.94
SOF45 D125-08-40-R18	125.00	142.00	8.00	63.00	127.80	142.00	5.00	61.5	8	92.00	40.00	B	1	3.38
SOF45 D125-12-40-R18	125.00	142.00	8.00	63.00	127.80	142.00	5.00	61.5	12	92.00	40.00	B	1	3.35
SOF45 D160-10-40-R18	160.00	177.00	8.00	63.00	162.80	177.00	5.00	61.5	10	95.00	40.00	C	0	4.20
SOF45 D160-15-40-R18	160.00	177.00	8.00	63.00	162.80	177.00	5.00	61.5	15	95.00	40.00	C	0	4.30
SOF45 D200-12-60-R18	200.00	217.00	8.00	63.00	202.80	217.00	5.00	61.5	12	160.00	60.00	C	0	6.88
SOF45 D200-18-60-R18	200.00	217.00	8.00	63.00	202.80	217.00	5.00	61.5	18	160.00	60.00	C	0	6.99
SOF45 D250-14-60-R18	250.00	267.00	8.00	63.00	252.80	267.00	5.00	61.5	14	160.00	60.00	C	0	10.50
SOF45 D250-21-60-R18	250.00	267.00	8.00	63.00	252.80	267.00	5.00	61.5	21	160.00	60.00	C	0	0.00
SOF45 D315-18-60-R18	315.00	332.00	8.00	80.00	317.80	332.00	5.00	78.5	18	230.00	60.00	C	0	22.36
SOF45 D315-24-60-R18	315.00	332.00	8.00	80.00	317.80	332.00	5.00	78.5	24	230.00	60.00	C	0	22.22

• For user guide, see pages 518-524

(1) Cutting diameter maximum

(2) Number of inserts

(3) 0 - Without coolant supply, 1 - With coolant supply

For inserts, see pages: ONHU 0706AN-R-W (491) • ONMU/ONHU 0706 (491) • S845 SNHU 1806AN-N-W (485) • S845 SNMU/SNHU 1806 (485)

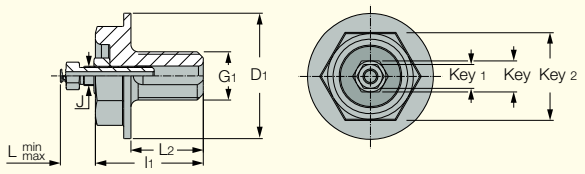
Spare Parts

Designation				
SOF45 D050-04-22-R18	SR M5X0.8 16 IP20	BLD IP20/S7	SW6-T	SR M10X25 DIN912
SOF45 D063-05-22-R18	SR M5X0.8 16 IP20	BLD IP20/S7	SW6-T	SR M10X25 DIN912
SOF45 D063-05-27-R18	SR M5X0.8 16 IP20	BLD IP20/S7	SW6-T	SR DIN 912 M12X25
SOF45 D080-06-27-R18	SR M5X0.8 16 IP20	BLD IP20/S7	SW6-T	SR DIN 912 M12X25
SOF45 D080-07-27-R18	SR M5X0.8 16 IP20	BLD IP20/S7	SW6-T	SR DIN 912 M12X25
SOF45 D100-07-32-R18	SR M5X0.8 16 IP20	BLD IP20/S7	SW6-T	
SOF45 D100-09-32-R18	SR M5X0.8 16 IP20	BLD IP20/S7	SW6-T	
SOF45 D125-08-40-R18	SR M5X0.8 16 IP20	BLD IP20/S7	SW6-T	
SOF45 D125-12-40-R18	SR M5X0.8 16 IP20	BLD IP20/S7	SW6-T	
SOF45 D160-10-40-R18	SR M5X0.8 16 IP20	BLD IP20/M7	SW6-T	
SOF45 D160-15-40-R18	SR M5X0.8 16 IP20	BLD IP20/M7	SW6-T	
SOF45 D200-12-60-R18	SR M5X0.8 16 IP20	BLD IP20/M7	SW6-T	
SOF45 D200-18-60-R18	SR M5X0.8 16 IP20	BLD IP20/M7	SW6-T	
SOF45 D250-14-60-R18	SR M5X0.8 16 IP20	BLD IP20/M7	SW6-T	
SOF45 D250-21-60-R18	SR M5X0.8 16 IP20	BLD IP20/M7	SW6-T	
SOF45 D315-18-60-R18	SR M5X0.8 16 IP20	BLD IP20/M7	SW6-T	
SOF45 D315-24-60-R18	SR M5X0.8 16 IP20	BLD IP20/M7	SW6-T	

Accessories

COOLANT SET

Clamping Screws with
Adjustable Protrusion Nozzles
for Shell-Type Face Mills



Designation	D_1	G_1	J	l_1	L_2	L min	L max	Key[1]	Key 1[2]	Key 2[3]
COOLANT SET SR M10X1.5-22	28.00	M10	M4	25.00	18.00	2.0	17.0	7.00	6.00	21.00
COOLANT SET SRM12X1.75-27	35.00	M12	M4	31.00	22.00	2.0	17.0	7.00	6.00	27.00
COOLANT SET SR M16X2-32	42.00	M16	M8	37.00	26.00	3.0	25.0	13.00	10.00	30.00
COOLANT SET SR M20X2.5-40	52.00	M20	M8	45.00	30.00	3.0	25.0	13.00	10.00	36.00

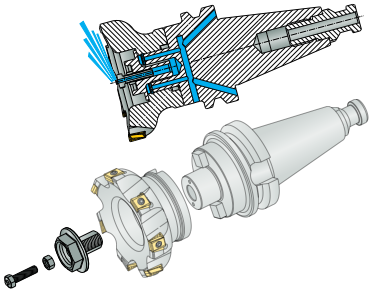
(1) For the nut
(2) For the nozzle
(3) For the screw

Clamping Screws with
Adjustable Protrusion Nozzles for Shell-Type Face Mills

The protrusion of the nozzle screw can be easily adjusted according to countersink depth, insert size or any other application requirements. The nozzle screw position can be secured by a locking nut.
Tests show that cutting fluid supplied through the axis of a tool and directed radially at the bottom of the tool dramatically improves both the cooling effect and chip evacuation.
The screws are offered as sets, comprising a nozzle screw, locking screw, a locking nut and washers.

The locking nut can be tightened by a standard open-ended wrench, or preferably by an offset ring wrench (ISO 10104, DIN 838 or DIN 897 standards).
If desired, the following ring wrenches can also be ordered from ISCAR:

- 7000783 Ring Wrench 10X13 mm for coolant set SR M20X2.5-40 and Coolant set SR M16X2-32
- 7000788 Ring Wrench 6X7 mm for coolant set SRM12X1.75-27 and coolant set SR M10X1.5-22.



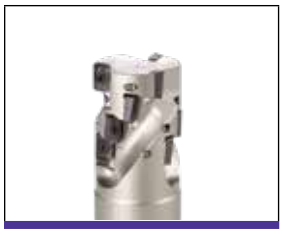
Assembly with a Lock Nut

Assembly without a Lock Nut

Spare Parts

Designation			
COOLANT SET SR M10X1.5-22	WA M4DIN433	NOZZLE M4	
COOLANT SET SRM12X1.75-27	WA M4DIN433	NOZZLE M4	
COOLANT SET SR M16X2-32	WA M8DIN433A2	NOZZLE M8	NUT M8 DIN 934 A2
COOLANT SET SR M20X2.5-40	WA M8DIN433A2	NOZZLE M8	NUT M8 DIN 934 A2

EXTENDED FLUTE CUTTERS



HELiPLUS

HELiDO 490 LINE

HP/H490 ANK
page 230

SUMOMILL 290 LINE

T290 SM
page 230

HELiTANG T490 LINE

T490 LNK/LNM
pages 231-234, 241-242

HELiSLOT

XNK-XN13
page 234

HELiMILL

APK
page 234

HELiQUAD

SPK
page 235

MILLSHRED P290 LINE

P290 ACK/SM
pages 235-237

HELiTANG T490 LINE

T490 SM
pages 238-239, 243

HELiDO 845 LINE

H490 SM
page 237

HELiSLOT

SM-XN13
page 241

XQUAD EXTENDED FLUTE

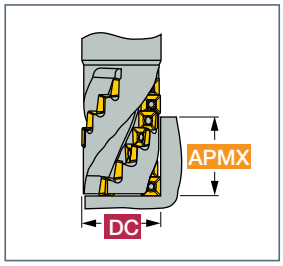
SDK-C/HP
pages 243-244

HELiMILL

SM
page 244

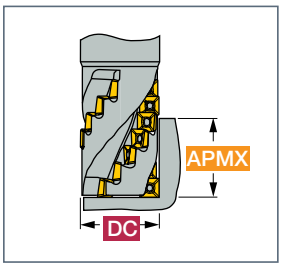
ISCARMILL

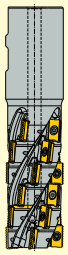
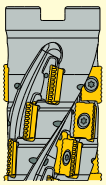
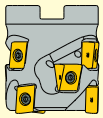
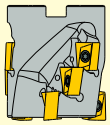
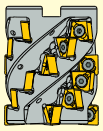
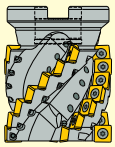
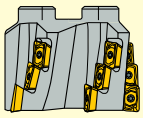
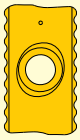
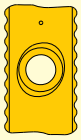
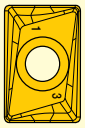
90° Extended Flute Mills
Selection Guide



Tool	HP ANK-07	T290 SM	T490 LNM-08	T490 LNK-11	T490 LNK-13	XNK-XN13	APK-FE	SPK
DC	APMX / Flutes							
20	28/2		15/2				29/1	
25			30/3				37/2	
32			36/3	34/2			46/2	
40			44/4	51/3	36/2; 48/3		55/3	43/3
50		43/3		51/4	47/3, 59/4	46/3		
Inserts	HP AN.. 07…	T290 LNMT1506	T490 LN.T 08…	T490 LN..T1106	T490 LN.. 13…	XNMU 13…	AP.. 10…	SOMT 10... XOMT 10.. QOMT 10..
Page	230	230	231	232	232	234	234	235

90° Extended Flute Mills
Selection Guide

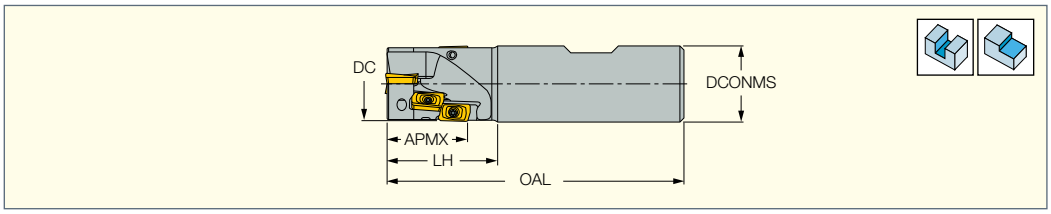


Tool	P290 ACK	P290 SM	T490 SM	H490 SM	SM-XN13	SDK-C/HP	SM
							
DC	APMX / Flutes						
25	24/3, 36/3						
32	36/3, 48/3, 60/3, 84/3	24/3	36/3				
40	53/3, 71/3, 90/3, 125/3	24/4; 36/4; 48/4	24/2; 36/3; 44/4; 51/3				
50	53/4, 105/4, 160/3	36/4; 53/4; 71/4	36/2; 36/3; 44/5; 47/4; 51/3; 59/4	35/3		48/3; 48/4	25/3
63	71/5	53/5; 71/5	36/4; 47/4; 59/4; 59/5; 68/5	46/3; 47/4; 58/3	69/3; 69/4	55/5; 56/4; 66/4; 98/4	38/4
80		71/6	58/5, 70/5	46/4	69/5	64/5; 66/5; 109/5	
100		36/6; 71/7	59/6			76/6; 130/6	
Inserts	 P290 AC...T	 P290 AC...T	T490 LN..	 H490 AN..	XNMU 13	SD.. 10 SD..12 QD..12	HM AD.. 15... AD.. 15...
Page	236	237	238	237	241	243	244

HELIPLUS

HP ANK-07

Extended Flute Endmills
Carrying HP ANK-07... Inserts



Designation	DC	APMX	NOF(1)	CICT(2)	LH	OAL	DCONMS	Shank(3)	kg		
HP ANK D20-28-02-W20-7	20.00	28.60	2	8	40.0	90.00	20.00	W	0.18	SR 34-533/L/HG	T-6/51

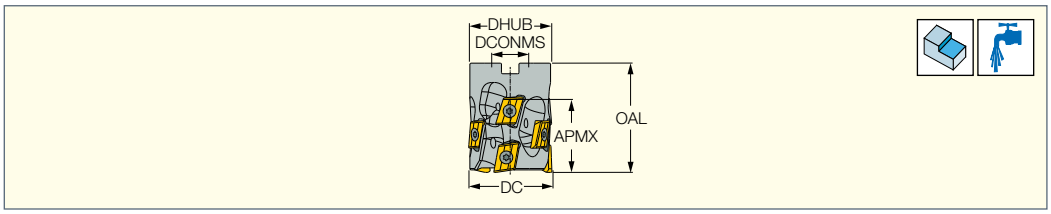
(1) Number of flutes
(2) Number of inserts
(3) W-Weldon

For inserts, see pages: HP ANCR 0702PNFR (430) • HP ANKT/ANCT 0702..PN-R/PNTR (430) • HP ANKW 070204PNTR (430)

SUMOMILL 290 LINE

T290 SM

Extended Flute Shell Mills
with T290 LNMT 1506...
Tangentially Clamped Inserts



Designation	DC	APMX	CICT(1)	NOF(2)	OAL	DHUB	DCONMS	Arbor(3)	kg				
T290 SM D050-45-3-22-15	50.00	43.00	9	3	65.00	48.00	22.00	A	0.57	SR M10X50 DIN 912	SR 10505427	SW6-T	BLD IP20/S7

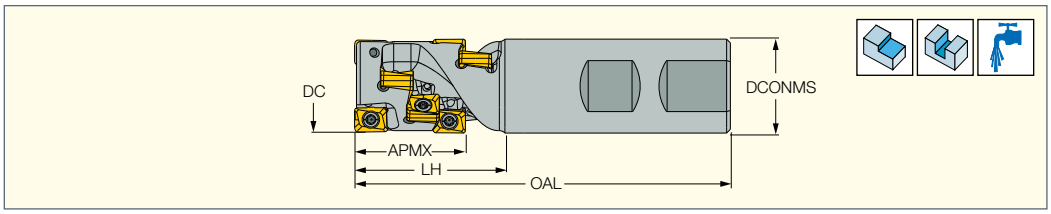
(1) Number of inserts
(2) Number of flutes
(3) For adaptation see page 517

For inserts, see pages: T290 LNMT 1506 (459)

HELIDO 490 LINE

H490 ANK-09C

Extended Flute Endmills Carrying
H490 ANKX 09... Double-
Sided Rectangular Inserts with
4 Helical Cutting Edges



Designation	DC	APMX	NOF(1)	CICT(2)	LH	OAL	DCONMS	Shank(3)	kg			
H490 ANK D25-35-2-W25-09C	25.00	35.00	2	10	38.0	100.00	25.00	W	0.30	SR 10508082-HG	BLD T08/M7	SW4-SD
H490 ANK D32-42-3-W32-09C	32.00	42.00	3	18	50.0	115.00	32.00	W	0.52	SR 10508082-HG	BLD T08/M7	SW4-SD

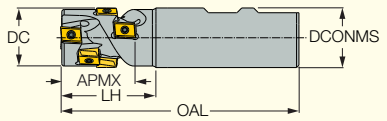
• ae(max)=0.25xDC
(1) Number of flutes
(2) Number of inserts
(3) W-Weldon

For inserts, see pages: H490 ANKX/ANCX-09 (454)

HELITANG T490 LINE

T490 LNM-08

Extended Flute Endmills
Carrying T490 LNMT/HT 08...
Tangentially Clamped Inserts

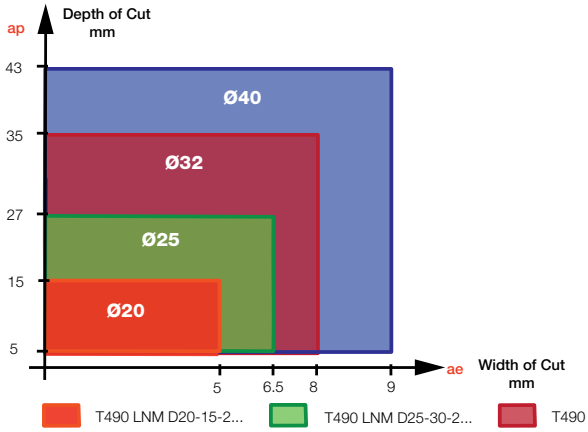


Designation	DC	APMX	NOF(1)	CICT(2)	LH	OAL	DCONMS	Shank(3)	kg		
T490 LNM D20-15-2-C20-08C	20.00	15.00	2	4	30.0	80.00	20.00	C	0.16	SR 10502813-HG-M	IP-7/51
T490 LNM D20-15-2-W20-08C	20.00	15.00	2	4	30.0	80.00	20.00	W	0.16	SR 10502813-HG-M	IP-7/51
T490 LNM D25-30-2-C25-08C	25.00	30.00	2	8	40.0	100.00	25.00	C	0.31	SR 10502813-HG-M	IP-7/51
T490 LNM D25-30-2-W25-08C	25.00	30.00	2	8	40.0	100.00	25.00	W	0.30	SR 10502813-HG-M	IP-7/51
T490 LNM D32-36-3-C32-08C	32.00	36.00	3	15	45.0	110.00	32.00	C	0.55	SR 10502813-HG-M	IP-7/51
T490 LNM D32-36-3-W32-08C	32.00	36.00	3	15	45.0	110.00	32.00	W	0.55	SR 10502813-HG-M	IP-7/51
T490 LNM D40-44-4-W32-08C	40.00	44.00	4	24	53.0	120.00	32.00	W	0.73	SR 10502813-HG-M	IP-7/51

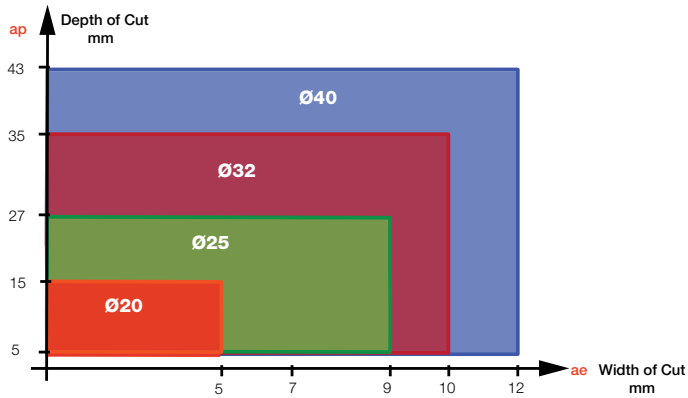
• ae max for regular inserts, up to 0.25xDC, ae max for -CS (chip splitting) inserts, up to 0.35xDC
(1) Number of flutes
(2) Number of inserts
(3) W-Weldon, C-Cylindrical

For inserts, see pages: T490 LNAR (464) • T490 LNMT/LNHT 0804 (460)

ap/ae Application Range with T490 LNMT 0804PNR Insert



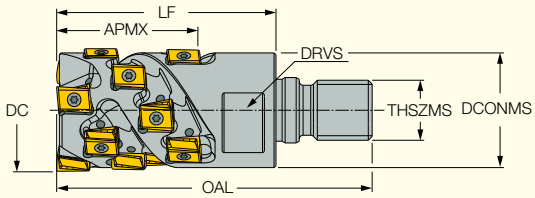
ap/ae Application Range with T490 LNMT080404-CS Chip Splitting Insert



HELITANG FLEXFIT T490 LINE

T490 LNM-M-08

Extended Flute Endmills
with a FLEXFIT Threaded
Adaptation Carrying
Tangentially Clamped Inserts



Designation	DC	APMX	NOF(1)	CICT(2)	LF	OAL	DHUB	THSZMS	DRVS(3)	kg		
T490 LNM D25-30-2-M12-08	25.00	30.00	2	8	52.00	74.00	21.00	M12	17.0	0.12	SR 10502813-HG-M	IP-7/51
T490 LNM D32-36-3-M16-08	32.00	36.00	3	15	57.00	82.00	30.00	M16	25.0	0.26	SR 10502813-HG-M	IP-7/51

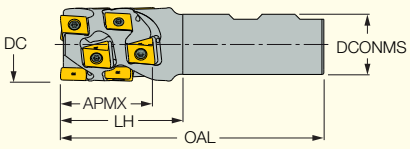
• ae max for regular inserts, up to 0.15xDC, ae max for -CS (chip splitting) inserts, up to 0.20xDC
• For adaptation options, see page 306
• For user guide see pages 518-524
(1) Number of flutes
(2) Number of inserts
(3) Clamping wrench size

For inserts, see pages: T490 LNAR (464) • T490 LNMT/LNHT 0804 (460)
For holders, see pages: BT-ODP (FLEXFIT) (1030) • C#-ODP (FLEXFIT) (1001) • CAB M-M (FLEXFIT) (1046) • DIN69871-ODP (308) • ER-ODP (1048) • HSK A-ODP (FLEXFIT) (309) • S M (1045) • S M-C-H (1045) • S M-CF (1046)

HELITANG T490 LINE

T490 LNK-11

Extended Flute Endmills
Carrying T490 LN#T 11...
Tangentially Clamped Inserts



Designation	DC	APMX	NOF(1)	CICT(2)	LH	OAL	DCONMS	Shank(3)	kg			
T490 LNK-D32-34-2-W32-11	32.00	34.00	2	8	45.0	105.00	32.00	W	0.49	SR 34-535/L10.5-SN	BLD T15/S7	SW6-SD
T490 LNK-D40-51-3-C32-11	40.00	51.00	3	18	60.0	120.00	32.00	C	0.66	SR 34-535/L10.5-SN	BLD T15/S7	SW6-SD
T490 LNK-D40-51-3-W32-11	40.00	51.00	3	18	60.0	120.00	32.00	W	0.66	SR 34-535/L10.5-SN	BLD T15/S7	SW6-SD
T490 LNK-D50-51-4-C40-11	50.00	51.00	4	24	60.0	130.00	40.00	C	1.18	SR 34-535-SN	BLD T15/S7	SW6-SD
T490 LNK-D50-51-4-W40-11	50.00	51.00	4	24	60.0	130.00	40.00	W	1.18	SR 34-535-SN	BLD T15/S7	SW6-SD

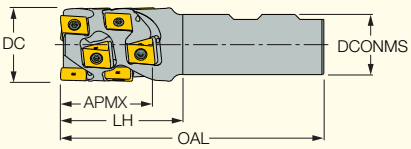
• Radial W.O.C. < 0.35xDC • Important: Maximum clamping torque 3.2 N*m
(1) Number of flutes
(2) Number of inserts
(3) C-Cylindrical, W-Weldon

For inserts, see pages: T490 LNMT/LNHT 1106 (461)

HELITANG T490 LINE

T490 LNK-13

Extended Flute Endmills
Carrying T490 LNMT/HT 13...
Tangentially Clamped Inserts



Designation	DC	APMX	NOF(1)	CICT(2)	LH	OAL	DCONMS	Shank(3)	kg			
T490 LNK-D40-36-2-W32-13	40.00	36.00	2	6	50.0	115.00	32.00	W	0.68	SR 34-535-SN	BLD T15/S7	SW6-T-SH
T490 LNK-D40-48-3-C32-13	40.00	48.00	3	12	65.0	140.00	32.00	C	0.80	SR 34-535-SN	BLD T15/S7	SW6-T-SH
T490 LNK-D40-48-3-W32-13	40.00	48.00	3	12	65.0	125.00	32.00	W	0.70	SR 34-535-SN	BLD T15/S7	SW6-T-SH
T490 LNK-D50-47-3-W40-13	50.00	47.00	3	12	65.0	135.00	40.00	W	1.24	SR 34-535-SN	BLD T15/S7	SW6-T-SH
T490 LNK-D50-59-4-W40-13	50.00	59.00	4	20	65.0	135.00	40.00	W	1.21	SR 34-535-SN	BLD T15/S7	SW6-T-SH

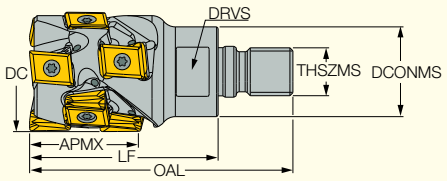
• ae max for regular inserts, up to 0.25xDC, ae max for -CS (chip splitting) inserts, up to 0.35xDC
(1) Number of flutes
(2) Number of inserts
(3) C-Cylindrical, W-Weldon

For inserts, see pages: T490 LNAR (464) • T490 LNMT 1306PNTR-FW (463) • T490 LNMT/LNHT 1306 (462)

HELITANG FLEXFIT T490 LINE

T490 LNK-M-13

Endmills with a FLEXFIT
Threaded Adaptation Carrying
Tangentially Clamped Inserts



Designation	DC	APMX	NOF(1)	CICT(2)	LF	OAL	DCONMS	THSZMS	DRVS(3)	kg			
T490 LNK-D40-36-3-M16-13	40.00	36.00	3	9	63.00	88.00	30.00	M16	25.0	0.37	SR 34-535-SN	BLD T15/S7	SW6-T-SH

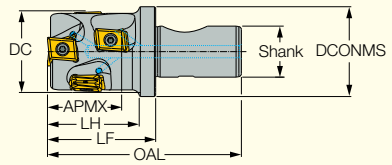
• ae max for regular inserts, up to 0.15xDC, ae max for -CS and - FW (chip splitting) inserts, up to 0.20xDC • For adaptation options, see page 306
• For user guide, see pages 518-524
(1) Number of flutes
(2) Number of inserts
(3) Clamping wrench size

For inserts, see pages: T490 LNAR (464) • T490 LNMT 1306PNTR-FW (463) • T490 LNMT/LNHT 1306 (462)
For holders, see pages: BT-ODP (FLEXFIT) (1030) • C#-ODP (FLEXFIT) (1001) • CAB M-M (FLEXFIT) (1046) • DIN69871-ODP (308) • HSK A-ODP (FLEXFIT) (309) • S M (1045) • S M-C-H (1045) • S M-CF (1046)

HELITANG T490 LINE

T490 LNK-13-CF

Extended Flute Endmills with CLICKFIT Shanks Carrying T490 LNMT/HT 1306... Tangentially Clamped Inserts



Designation	DC	APMX	NOF(1)	CICT(2)	LH	LF	OAL	DCONMS	Shank	kg			
T490 LNK-D40-48-3-CF4-13	40.00	48.00	3	12	58.00	68.00	110.00	44.00	CF4	0.58	SR 34-535-SN	BLD T15/S7	SW6-T-SH
T490 LNK-D50-59-4-CF4-13	50.00	59.00	4	20	-	73.00	115.00	44.00	CF4	0.82	SR 34-535-SN	BLD T15/S7	SW6-T-SH

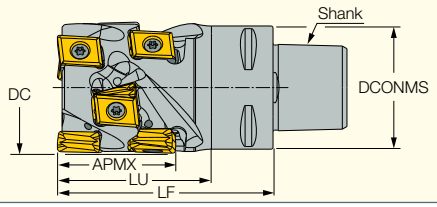
• ae max for regular inserts, up to 0.25xD, ae max for -CS (chip splitting) inserts, up to 0.35xD
(1) Number of flutes
(2) Number of inserts

For inserts, see pages: T490 LNAR (464) • T490 LNMT 1306PNTR-FW (463) • T490 LNMT/LNHT 1306 (462)

HELITANG CAMFIX T490 LINE

T490 LNK-13-C#

Extended Flute Endmills with CAMFIX Shanks Carrying T490 LNMT/HT 13... Tangentially Clamped Inserts



Designation	DC	APMX	NOF(1)	CICT(2)	LU	LF	DCONMS	Shank	kg			
T490 LNKD44-36-3-L70C4-13	44.00	36.00	3	9	50.0	70.00	40.00	CAMFIX	0.73	SR 34-535-SN	BLD T15/S7	SW6-T-SH
T490 LNKD50-47-3L100C6-13	50.00	47.00	3	12	76.0	100.00	63.00	CAMFIX	1.55	SR 34-535-SN	BLD T15/S7	SW6-T-SH

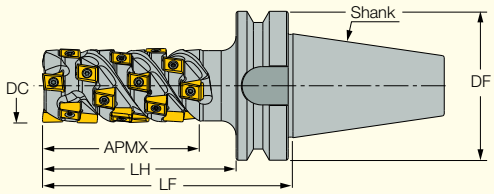
(1) Number of flutes
(2) Number of inserts

For inserts, see pages: T490 LNAR (464) • T490 LNMT 1306PNTR-FW (463) • T490 LNMT/LNHT 1306 (462)

HELITANG T490 LINE

T490 LNK-13-BT

Extended Flute Endmills with BT MAS-403 Tapered Shanks Carrying T490 LNMT/HT 13... Tangentially Clamped Inserts



Designation	DC	APMX	NOF(1)	CICT(2)	LH	LF	Shank	DF	kg			
T490LNK-D50-059-4-BT50-13	50.00	59.00	4	20	80.5	120.00	BT MAS-403	50.00	4.34	SR 34-535-SN	BLD T15/S7	SW6-T-SH
T490LNK-D50-082-3-BT50-13	50.00	82.00	3	21	107.0	145.00	BT MAS-403	50.00	4.57	SR 34-535-SN	BLD T15/S7	SW6-T-SH
T490LNK-D50-105-3-BT50-13	50.00	105.00	3	27	130.0	168.00	BT MAS-403	50.00	4.99	SR 34-535-SN	BLD T15/S7	SW6-T-SH
T490LNK-D63-082-4-BT50-13	63.00	82.00	4	28	107.0	145.00	BT MAS-403	50.00	5.35	SR 34-535-SN	BLD T15/S7	SW6-T-SH
T490LNK-D63-117-4-BT50-13	63.00	117.00	4	40	150.0	188.00	BT MAS-403	50.00	6.07	SR 34-535-SN	BLD T15/S7	SW6-T-SH
T490LNK-D80-082-4-BT50-13	80.00	82.00	4	28	135.0	173.00	BT MAS-403	50.00	7.65	SR 34-535-SN	BLD T15/S7	SW6-T-SH
T490LNK-D80-128-4-BT50-13	80.00	128.00	4	44	162.0	200.00	BT MAS-403	50.00	8.25	SR 34-535-SN	BLD T15/S7	SW6-T-SH

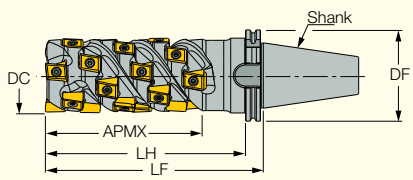
• ae max for regular inserts, up to 0.20xD, ae max for -CS (chip splitting) inserts, up to 0.25xD
(1) Number of flutes
(2) Number of inserts

For inserts, see pages: T490 LNAR (464) • T490 LNMT 1306PNTR-FW (463) • T490 LNMT/LNHT 1306 (462)

HELITANG T490 LINE

T490 LNK-13-INT

Extended Flute Endmills with DIN69871 Tapered Shanks Carrying T490 LNMT/HT 13... Tangentially Clamped Inserts



Designation	DC	APMX	NOF(1)	CICT(2)	LH	LF	Shank	DF	kg			
T490LNKD50-082-3-INT50-13	50.00	82.00	3	21	126.0	145.00	DIN 69871	97.50	3.85	SR 34-535-SN	BLD T15/S7	SW6-T-SH
T490LNKD63-081-4-INT50-13	63.00	81.00	4	28	107.0	126.10	DIN 69871	97.50	4.34	SR 34-535-SN	BLD T15/S7	SW6-T-SH
T490LNKD63-117-4-INT50-13	63.00	117.00	4	40	169.0	188.00	DIN 69871	97.50	5.46	SR 34-535-SN	BLD T15/S7	SW6-T-SH
T490LNKD80-082-4-INT50-13	80.00	82.00	4	28	154.0	173.00	DIN 69871	97.50	7.61	SR 34-535-SN	BLD T15/S7	SW6-T-SH
T490LNKD80-128-4-INT50-13	80.00	128.00	4	44	180.9	200.00	DIN 69871	97.50	7.92	SR 34-535-SN	BLD T15/S7	SW6-T-SH

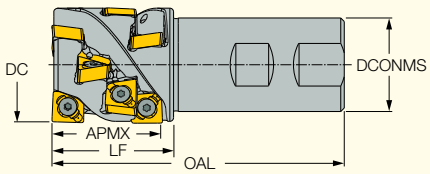
• ae max for regular inserts, up to 0.20xD, ae max for -CS (chip splitting) inserts, up to 0.25xD
(1) Number of flutes
(2) Number of inserts

For inserts, see pages: T490 LNAR (464) • T490 LNMT 1306PNTR-FW (463) • T490 LNMT/LNHT 1306 (462)

HELISLOT

XNK-XN13

Extended Flute Endmills Carrying XNMU 1306... Inserts



Designation	DC	APMX	LF	NOF(1)	CICT(2)	OAL	DCONMS	Shank(3)	kg			
XNK D050-46-3-W40 XN13	50.00	46.00	85.00	3	12	125.00	40.00	W	1.09	SR M4-L15-D4.5	BLD IP15/S7	SW6-T-SH

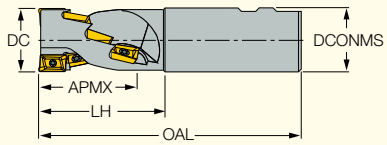
• Radial W.O.C. < 0.3xD
(1) Number of flutes
(2) Number of inserts
(3) W-Weldon

For inserts, see pages: XNMU 13 (497)

HELIMILL

APK-FE

Extended Flute Endmills Carrying APKT/R-10... Inserts



Designation	DC	APMX	NOF(1)	CICT(2)	LH	OAL	DCONMS	Shank(3)	RMPX(4)	kg		
APK D20-28-W20-FE	20.00	29.00	1	4	36.0	87.00	20.00	W	4.0	0.17	SR 34-505/HG	T-8/53
APK D25-36-W25-FE	25.00	37.00	2	8	47.0	105.00	25.00	W	4.0	0.31	SR 34-505/MHG	T-8/53
APK D32-45-W32-FE	32.00	46.00	2	12	55.0	115.00	32.00	W	1.4	0.57	SR 34-505/LHG	T-8/53
APK D40-50-W32-FE	40.00	55.00	3	18	65.0	130.00	32.00	W	1.3	0.80	SR 34-505/LHG	T-8/53

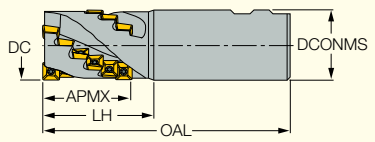
• Inserts with large corner radii can only be mounted in the face position of the cutter
(1) Number of flutes
(2) Number of inserts
(3) W-Weldon
(4) Maximum ramping angle

For inserts, see pages: APCR 1003PDFR-P (436) • APCT 1003PDR-HM (435) • APKR 1003PDR-HM (436) • APKT 1003..R (438) • APKT 1003..TR-RM (437) • APKT 1003PDR-HM (436) • APKT 1003PDTR-76 (437) • APKT 1003PDTR/L-RM (437) • HM90 APKW 1003PDR (438)

HELIQUAD

SPK

Extended Flute Endmills Carrying S/XPMT / QPMR 10... Inserts



Designation	DC	APMX	NOF(1)	CICT(2)	LH	OAL	DCONMS	Shank(3)	RMPX(4)	kg			
SPK D40-42-W32-10	40.00	43.00	3	15	55.0	125.00	32.00	W	1.5	0.70	SR 14-544/S	BLD T15/M7	SW6-SD

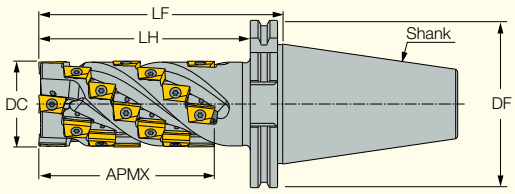
(1) Number of flutes
(2) Number of inserts
(3) W-Weldon
(4) Maximum ramping angle

For inserts, see pages: QPMT 100408PDTN (479) • SPMT-HQ (480) • XPMT-HQ (480)

HELITANG

FIN LNK-INT

Extended Flute Endmills with Tangentially Clamped Inserts and DIN69871 Shanks for Semi-Finishing Long Shoulders



Designation	DC	APMX	NOF(1)	CICT(2)	LH	LF	DF	Shank	kg			
FIN LNK D050-100-4-INT50	50.00	102.00	4	28	123.2	142.30	97.50	DIN 69871	3.73	SR 34-535	BLD T15/M7	SW6-T
FIN LNK D063-130-4-INT50	63.00	130.00	4	36	157.0	176.10	97.50	DIN 69871	5.21	SR 34-535	BLD T15/M7	SW6-T
FIN LNK D080-160-6-INT50	80.00	160.00	6	66	182.0	201.10	97.50	DIN 69871	7.84	SR 34-535	BLD T15/M7	SW6-T

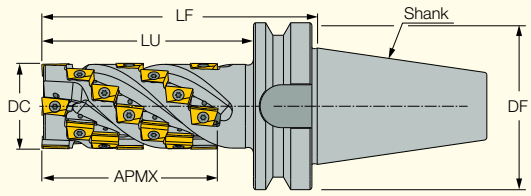
(1) Number of flutes
(2) Number of inserts

For inserts, see pages: FIN LNAT 1607PN-R (475)

HELITANG

FIN LNK-BT

Extended Flute Endmills with Tangentially Clamped Inserts and BT MAS-403 Shanks for Semi-Finishing Long Shoulders



Designation	DC	APMX	NOF(1)	CICT(2)	LU	LF	DF	Shank	kg			
FIN LNK D050-100-4-BT50	50.00	102.00	4	28	123.2	161.20	50.00	BT MAS-403	4.72	SR 34-535	BLD T15/M7	SW6-T

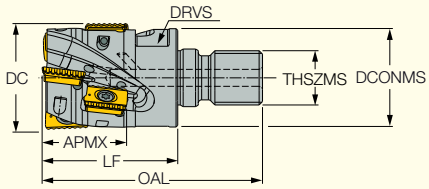
(1) Number of flutes
(2) Number of inserts

For inserts, see pages: FIN LNAT 1607PN-R (475)

MILLSHRED FLEXFIT
P290 LINE

P290 ACK-M

Extended Flute Endmills with FLEXFIT Threaded Adaptation Carrying 12 mm Long Edged Inserts



Designation	DC	APMX	NOF(1)	CICT(2)	LF	DCONMS	THSZMS	OAL	DRVS(3)	RMPX(4)	kg		
P290 ACK D32-3-24-M16-12	32.00	24.00	3	6	40.00	29.00	M16	65.00	25.0	1.0	0.17	SR M3X0.5-L7.4 IP9	IP-9/151

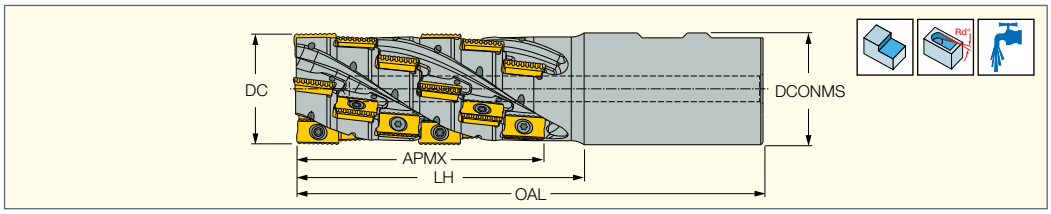
• Note: recommended ae up to 0.2xDC • For adaptation options, see page 306 • For user guide, see pages 518-524
(1) Number of flutes
(2) Number of inserts
(3) Clamping wrench size
(4) Maximum ramping angle

For inserts, see pages: P290 ACCT/KT (446) • P290 ACKT (446)
For holders, see pages: BT-ODP (FLEXFIT) (1030) • C#-ODP (FLEXFIT) (1001) • CAB M-M (FLEXFIT) (1046) • DIN69871-ODP (308) • HSK A-ODP (FLEXFIT) (309) • S M (1045) • S M-C-H (1045) • S M-CF (1046)

MILLSHRED P290 LINE

P290 ACK

Extended Flute Endmills Carrying 12 and 18 mm Long Edged Inserts



Designation	DC	APMX	NOF(2)	CICT(3)	LH	OAL	DCONMS	RMPX(4)	Shank(5)	kg
P290 ACK D25-3-24-W20-12	25.00	24.00	3	6	40.0	95.00	20.00	1.4	W	0.20
P290 ACK D25-3-36-W25-12	25.00	36.00	3	9	50.0	110.00	25.00	1.4	W	0.29
P290 ACK D32-3-36-W32-12	32.00	36.00	3	9	50.0	110.00	32.00	1.0	W	0.50
P290 ACK D32-3-48-W32-12	32.00	48.00	3	12	65.0	125.00	32.00	1.0	W	0.55
P290 ACK D32-3-60-W32-12	32.00	60.00	3	15	80.0	140.00	32.00	1.0	W	0.59
P290 ACK D32-3-84-W32-12	32.00	84.00	3	21	100.0	160.00	32.00	1.0	W	0.66
P290 ACK D32-3-36-W25-18 (1)	32.00	36.00	3	6	55.0	115.00	25.00	2.0	W	0.36
P290 ACK D40-3-53-W32-18	40.00	53.00	3	9	80.0	140.00	32.00	1.5	W	0.77
P290 ACK D40-3-71-W40-18	40.00	71.00	3	12	95.0	165.00	40.00	1.5	W	1.14
P290 ACK D40-3-90-W40-18	40.00	90.00	3	15	115.0	185.00	40.00	1.5	W	1.23
P290 ACK D40-3-125-W40-18	40.00	125.00	3	21	150.0	220.00	40.00	1.5	W	1.39
P290 ACK D50-4-53-W40-18	50.00	53.00	4	12	80.0	150.00	40.00	1.0	W	1.33
P290 ACK D50-4-105-W50-18	50.00	105.00	4	24	130.0	210.00	50.00	1.0	W	2.23
P290 ACK D50-3-160-W50-18	50.00	160.00	3	27	185.0	265.00	50.00	1.0	W	2.82
P290 ACK D63-5-71-W50-18	63.00	71.00	5	20	95.0	175.00	50.00	0.8	W	2.58

• Note: recommended ae up to 0.2xDC
(1) Do not use with P290 ACKT...-FWR insert
(2) Number of flutes
(3) Number of inserts
(4) Maximum ramping angle
(5) W-Weldon

For inserts, see pages: P290 ACCT/KT (446) • P290 ACKT (446)

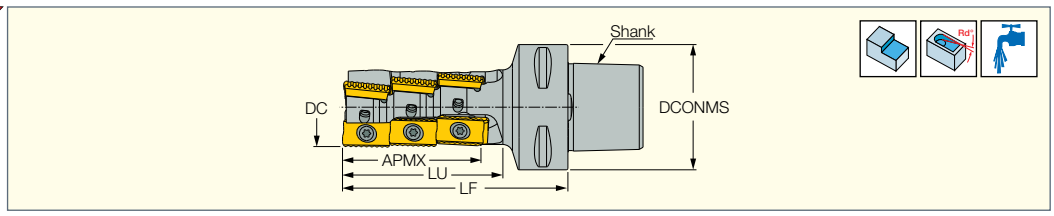
Spare Parts

Designation				
P290 ACK D25-3-24-W20-12	SR M3X0.5-L7.4 IP9	IP-9/151		
P290 ACK D25-3-36-W25-12	SR M3X0.5-L7.4 IP9	IP-9/151		
P290 ACK D32-3-36-W32-12	SR M3X0.5-L7.4 IP9	IP-9/151		
P290 ACK D32-3-48-W32-12	SR M3X0.5-L7.4 IP9	IP-9/151		
P290 ACK D32-3-60-W32-12	SR M3X0.5-L7.4 IP9	IP-9/151		
P290 ACK D32-3-84-W32-12	SR M3X0.5-L7.4 IP9	IP-9/151		
P290 ACK D32-3-36-W25-18	SR 14-544/S		BLD T15/M7	SW6-T
P290 ACK D40-3-53-W32-18	SR 14-544/S		BLD T15/M7	SW6-T
P290 ACK D40-3-71-W40-18	SR 14-544/S		BLD T15/M7	SW6-T
P290 ACK D40-3-90-W40-18	SR 14-544/S		BLD T15/M7	SW6-T
P290 ACK D40-3-125-W40-18	SR 14-544/S		BLD T15/M7	SW6-T
P290 ACK D50-4-53-W40-18	SR 14-544/S		BLD T15/M7	SW6-T
P290 ACK D50-4-105-W50-18	SR 14-544/S		BLD T15/M7	SW6-T
P290 ACK D50-3-160-W50-18	SR 14-544/S		BLD T15/M7	SW6-T
P290 ACK D63-5-71-W50-18	SR 14-544/S		BLD T15/M7	SW6-T

MILLSHRED P290 LINE CAMFIX

P290 ACK-C#-18

Extended Flute Endmills with CAMFIX Shanks Carrying 18 mm Long Edged Inserts



Designation	DC	APMX	NOF(1)	CICT(2)	LU	LF	RMPX(3)	DCONMS	Shank	kg			
P290 ACK D40-3-87-C6-18	40.00	87.00	3	15	106.0	134.60	1.5	63.00	CAMFIX	1.66	SR 14-544/S	BLD T15/M7	SW6-T
P290 ACK D63-5-87-C8-18	63.00	87.00	5	25	104.0	140.00	0.8	80.00	CAMFIX	4.00	SR 14-544/S	BLD T15/M7	SW6-T

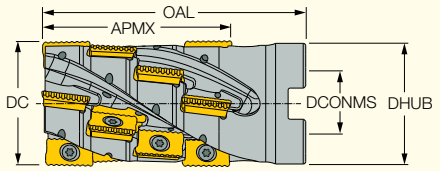
• Note: recommended ae up to 0.2xDC
(1) Number of flutes
(2) Number of inserts
(3) Maximum ramping angle

For inserts, see pages: P290 ACCT/KT (446) • P290 ACKT (446)

MILLSHRED P290 LINE

P290 SM

Extended Flute Shell Mills
Carrying 12 and 18 mm
Long Edged Inserts



Designation	DC	APMX	NOF(1)	CICT(2)	OAL	DHUB	DCONMS	RMPX(3)	Arbor(4)	kg
P290 SM D032-03-24-16-12	32.00	24.00	3	6	65.00	38.00	16.00	1.0	A	0.27
P290 SM D040-04-24-16-12	40.00	24.00	4	8	45.00	38.00	16.00	0.7	A	0.23
P290 SM D040-04-36-16-12	40.00	36.00	4	12	60.00	38.00	16.00	0.7	A	0.30
P290 SM D040-04-48-22-12	40.00	48.00	4	16	85.00	48.00	22.00	0.7	A	0.47
P290 SM D050-04-36-22-18	50.00	36.00	4	8	65.00	46.40	22.00	1.0	A	0.47
P290 SM D050-04-53-22-18	50.00	53.00	4	12	80.00	46.40	22.00	1.0	A	0.57
P290 SM D050-04-71-27-18	50.00	71.00	4	16	105.00	48.00	27.00	1.0	A	0.73
P290 SM D063-05-53-27-18	63.00	53.00	5	15	80.00	55.00	27.00	0.8	A	1.00
P290 SM D063-05-71-27-18	63.00	71.00	5	20	100.00	55.00	27.00	0.8	A	1.30
P290 SM D080-06-71-32-18	80.00	71.00	6	24	100.00	74.00	32.00	0.5	A	2.21
P290 SM D100-06-36-32-18	100.00	36.00	6	12	70.00	78.00	32.00	0.3	A	2.48
P290 SM D100-07-71-40-18	100.00	71.00	7	28	100.00	85.00	40.00	0.3	A	3.50

• Note: recommended ae up to 0.2xDC
(1) Number of flutes
(2) Number of inserts
(3) Maximum ramping angle
(4) For adaptation options, see page 517

For inserts, see pages: P290 ACCT/KT (446) • P290 ACKT (446)

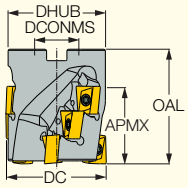
Spare Parts

Designation					
P290 SM D032-03-24-16-12	SR M3X0.5-L7.4 IP9	IP-9/151			SR M8X55-D11.5 DIN912
P290 SM D040-04-24-16-12	SR M3X0.5-L7.4 IP9	IP-9/151			SR M8X35 DIN912
P290 SM D040-04-36-16-12	SR M3X0.5-L7.4 IP9	IP-9/151			SR M8X45DIN912
P290 SM D040-04-48-22-12	SR M3X0.5-L7.4 IP9	IP-9/151			SR M10X70DIN912
P290 SM D050-04-36-22-18	SR 14-544/S		BLD T15/M7	SW6-T	SR M10X50 DIN 912
P290 SM D050-04-53-22-18	SR 14-544/S		BLD T15/M7	SW6-T	SR M10X60DIN912
P290 SM D050-04-71-27-18	SR 14-544/S		BLD T15/M7	SW6-T	SR M12X70DIN912
P290 SM D063-05-53-27-18	SR 14-544/S		BLD T15/M7	SW6-T	SR M12X70DIN912
P290 SM D063-05-71-27-18	SR 14-544/S		BLD T15/M7	SW6-T	SR M12X70DIN912
P290 SM D080-06-71-32-18	SR 14-544/S		BLD T15/M7	SW6-T	SR M16X80 DIN 912
P290 SM D100-06-36-32-18	SR 14-544/S		BLD T15/M7	SW6-T	SR M16X50 DIN912
P290 SM D100-07-71-40-18	SR 14-544/S		BLD T15/M7	SW6-T	SR M20X80DIN912

HELIDO 490 LINE

H490 SM-12

Extended Flute Shell Mills
Using H490 ANKX 12.. Double-Sided Rectangular Inserts with 4 Helical Cutting Edges



Designation	DC	CICT(1)	NOF(2)	APMX	OAL	DHUB	DCONMS	Arbor(3)	kg				
H490 SM D050-36-3-22-12	50.00	9	3	35.00	60.00	48.00	22.00	A	0.45	SR 14-544	BLD T15/M7	SW6-T	SR M10X40DIN912
H490 SM D063-48-4-27-12	63.00	16	4	47.00	70.00	60.00	27.00	A	0.89	SR 14-544	BLD T15/M7	SW6-T	SR M12X50DIN912

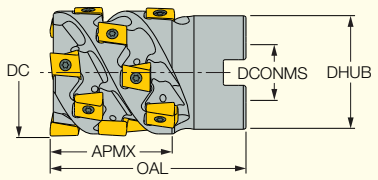
• ae(max)=0.25xDC for regular inserts, ae(max)=0.35xDC for -CS (chip splitting) inserts.
(1) Number of inserts
(2) Number of flutes
(3) For adaptation see page 517

For inserts, see pages: H490 ANKX/ANCX-12 (455)

HELITANG T490 LINE

T490 SM-08

Extended Flute Shell Mills
Carrying T490 LNMT/HT 0804...
Tangentially Clamped Inserts



Designation	DC	APMX	NOF(1)	CICT(2)	OAL	DHUB	DCONMS	Arbor(3)	kg			
T490 SM D032-36-3-16-08	32.00	36.00	3	15	58.00	38.00	16.00	A	0.23	SR 10502813-HG-M	IP-7/51	SR M8X45DIN912
T490 SM D040-44-4-16-08	40.00	44.00	4	24	65.00	38.00	16.00	A	0.38	SR 10502813-HG-M	IP-7/51	SR M8X55DIN912
T490 SM D050-44-5-22-08	50.00	44.00	5	30	65.00	47.00	22.00	A	0.61	SR 10502813-HG-M	IP-7/51	SR M10X50 DIN 912

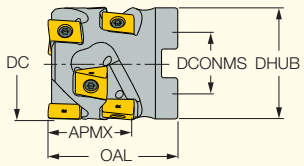
• ae max for regular inserts, up to 0.25xDC, ae max for -CS (chip splitting) inserts, up to 0.30xDC
(1) Number of flutes
(2) Number of inserts
(3) For adaptation options, see page 517

For inserts, see pages: T490 LNAR (464) • T490 LNMT/LNHT 0804 (460)

HELITANG T490 LINE

T490 SM-11

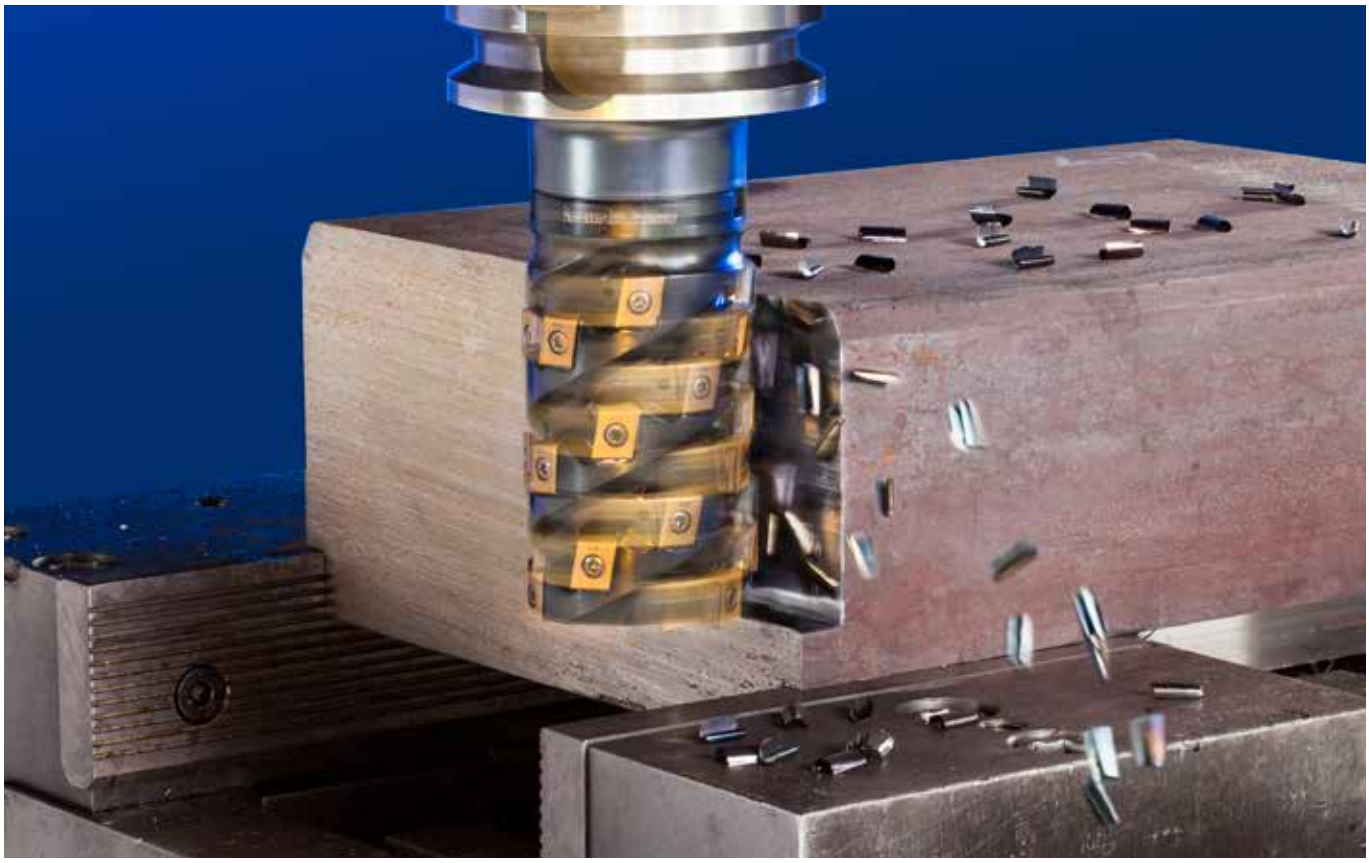
Extended Flute Shell Mills
Carrying T490 LN#T 11...
Tangentially Clamped Inserts



Designation	DC	APMX	NOF(1)	CICT(2)	OAL	DHUB	DCONMS	Arbor(3)	kg				
T490 SM-D40-51-3-22-11	40.00	51.00	3	18	72.00	38.00	22.00	A	0.31	SR 34-535/L10.5-SN	BLD T15/S7	SW6-SD	SR M10X60DIN912
T490 SM-D50-51-3-22-11	50.00	51.00	3	18	71.00	48.00	22.00	A	0.59	SR 34-535-SN	BLD T15/S7	SW6-SD	SR M10X60DIN912
T490 SM-D50-59-4-22-11	50.00	59.00	4	28	80.00	48.00	22.00	A	0.66	SR 34-535-SN	BLD T15/S7	SW6-SD	SR M10X70DIN912
T490 SM-D63-59-4-27-11	63.00	59.00	4	28	81.00	60.00	27.00	A	1.16	SR 34-535-SN	BLD T15/S7	SW6-SD	SR M12X70DIN912
T490 SM-D63-68-5-27-11	63.00	68.00	5	40	90.00	60.00	27.00	A	1.30	SR 34-535-SN	BLD T15/S7	SW6-SD	SR M12X80DIN912

• Radial W.O.C. < 0.35xDC • Important: Maximum clamping torque 3.2 N*m
(1) Number of flutes
(2) Number of inserts
(3) For adaptation see page 517

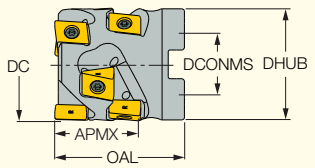
For inserts, see pages: T490 LNMT/LNHT 1106 (461)



HELITANG T490 LINE

T490 SM-13

Extended Flute Shell Mills
Carrying T490 LNMT/HT 1306...
Tangentially Clamped Inserts



Designation	DC	APMX	NOF(2)	CICT(3)	OAL	DHUB	DCONMS	Arbor(4)	kg
T490 SM-D40-24-2-22-13 (1)	40.00	24.00	2	4	50.00	38.00	22.00	A	0.24
T490 SM-D40-36-3-22-13	40.00	36.00	3	9	62.00	38.00	22.00	A	0.29
T490 SM-D50-36-2-27-13 (1)	50.00	36.00	2	6	56.00	48.00	27.00	A	0.38
T490 SM-D50-36-3-22-13 (1)	50.00	36.00	3	9	56.00	48.00	22.00	A	0.43
T490 SM-D50-36-3-27-13 (1)	50.00	35.90	3	9	56.00	48.00	27.00	A	0.39
T490 SM-D50-47-4-22-13	50.00	47.00	4	16	68.00	48.00	22.00	A	0.54
T490 SM-D50-47-4-27-13	50.00	47.00	4	16	68.00	48.00	27.00	A	0.49
T490 SM-D63-36-4-27-13	63.00	36.00	4	12	60.00	58.00	27.00	A	0.79
T490 SM-D63-59-5-27-13	63.00	59.00	5	25	80.00	58.00	27.00	A	1.09
T490 SM-D80-58-5-32-13	80.00	58.00	5	25	75.00	74.00	32.00	A	1.73
T490 SM-D80-70-5-32-13	80.00	70.00	5	30	111.00	74.00	32.00	A	2.65
T490 SM-D100-59-6-40-13	100.00	59.00	6	30	86.00	88.00	40.00	A	3.11

• ae max for regular inserts, up to 0.25xDC • ae max for -CS (chip splitting) inserts, up to 0.35xDC
(1) Can be applied for full slot applications
(2) Number of flutes
(3) Number of inserts
(4) For adaptation options, see page 517

For inserts, see pages: T490 LNAR (464) • T490 LNMT 1306PNTR-FW (463) • T490 LNMT/LNHT 1306 (462)

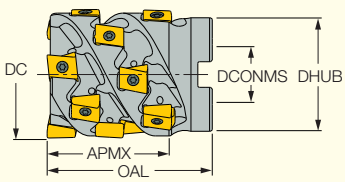
Spare Parts

Designation				
T490 SM-D40-24-2-22-13	SR 34-535/L10.5-SN	BLD T15/S7	SW6-T-SH	SR M10X40 DIN912
T490 SM-D40-36-3-22-13	SR 34-535/L10.5-SN	BLD T15/S7	SW6-T-SH	SR M10X50 DIN 912
T490 SM-D50-36-2-27-13	SR 34-535-SN	BLD T15/S7	SW6-T-SH	SR M12X45 DIN912
T490 SM-D50-36-3-22-13	SR 34-535-SN	BLD T15/S7	SW6-T-SH	SR M10X40 DIN912
T490 SM-D50-36-3-27-13	SR 34-535-SN	BLD T15/S7	SW6-T-SH	SR M12X45 DIN912
T490 SM-D50-47-4-22-13	SR 34-535-SN	BLD T15/S7	SW6-T-SH	SR M10X50 DIN 912
T490 SM-D50-47-4-27-13	SR 34-535-SN	BLD T15/S7	SW6-T-SH	SR M12X50 DIN912
T490 SM-D63-36-4-27-13	SR 34-535-SN	BLD T15/S7	SW6-T-SH	SR M12X50 DIN912
T490 SM-D63-59-5-27-13	SR 34-535-SN	BLD T15/S7	SW6-T-SH	SR M12X70 DIN912
T490 SM-D80-58-5-32-13	SR 34-535-SN	BLD T15/S7	SW6-T-SH	SR M16X55 DIN912
T490 SM-D80-70-5-32-13	SR 34-535-SN	BLD T15/S7	SW6-T-SH	SR M16X90 DIN912
T490 SM-D100-59-6-40-13	SR 34-535-SN	BLD T15/S7	SW6-T-SH	SR M20X60 DIN912

HELITANG T490 LINE

T490 SM-13FT

Basic Units for Modular
Extended Flute Shell Mills



Designation	DC	APMX	NOF(1)	CICT(2)	OAL	DHUB	DCONMS	Arbor(3)	kg
T490 SM-D50-47-2-27-13FT	50.00	47.00	2	8	66.50	58.00	27.00	A	0.59
T490 SM-D63-59-3-27-13FT	63.00	59.00	3	15	80.00	58.00	27.00	A	1.10
T490 SM-D80-70-4-32-13FT	80.00	70.00	4	24	95.00	74.00	32.00	A	2.23

• ae max for regular inserts, up to 0.25xDC • ae max for -CS (chip splitting) inserts, up to 0.35xDC
(1) Number of flutes
(2) Number of inserts
(3) For adaptation options, see page 517

For inserts, see pages: T490 LNAR (464) • T490 LNMT 1306PNTR-FW (463) • T490 LNMT/LNHT 1306 (462)

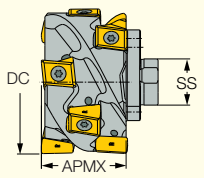
Spare Parts

Designation						
T490 SM-D50-47-2-27-13FT	SR 34-535-SN	BLD T15/S7	SW6-T-SH			SR M12X50DIN912
T490 SM-D63-59-3-27-13FT	SR 34-535-SN	BLD T15/S7	SW6-T-SH	SR M3X0.5X10DIN7991 10.9	PG D63	SR M12X60DIN912
T490 SM-D80-70-4-32-13FT	SR 34-535-SN	BLD T15/S7	SW6-T-SH	SR M3X0.5X10DIN7991 10.9	PG D63	SR M16X70DIN912

HELITANG T490 LINE

T490 CAP-13FT

Extension Units for Modular Extended Flute Shell Mills

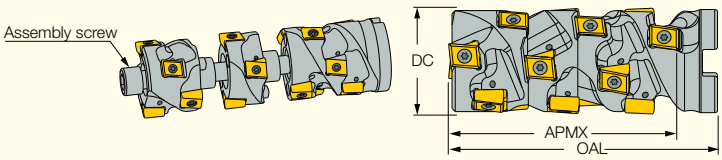


Designation	DC	APMX	NOF(1)	CICT(2)	SS	kg		
T490 CAP-D50-24-2-20-13FT	50.00	24.00	2	4	20	0.21	SR 34-535-SN	
T490 CAP-D50-36-2-20-13FT	50.00	36.00	2	6	20	0.32	SR 34-535-SN	
T490 CAP-D63-24-3-20-13FT	63.00	24.00	3	6	20	0.33	SR 34-535-SN	
T490 CAP-D63-24-4-20-13FT	63.00	24.00	4	8	20	0.34	SR 34-535-SN	SR M6X6 DIN916
T490 CAP-D63-36-3-20-13FT	63.00	36.00	3	9	20	0.51	SR 34-535-SN	
T490 CAP-D63-36-4-20-13FT	63.00	36.00	4	12	20	0.50	SR 34-535-SN	SR M6X6 DIN916
T490 CAP-D80-24-4-25-13FT	80.00	24.00	4	8	25	0.59	SR 34-535-SN	SR M6X8 DIN916
T490 CAP-D80-24-5-25-13FT	80.00	24.00	5	10	25	0.58	SR 34-535-SN	
T490 CAP-D80-36-4-25-13FT	80.00	36.00	4	12	25	0.88	SR 34-535-SN	SR M6X8 DIN916

(1) Number of flutes
(2) Number of inserts

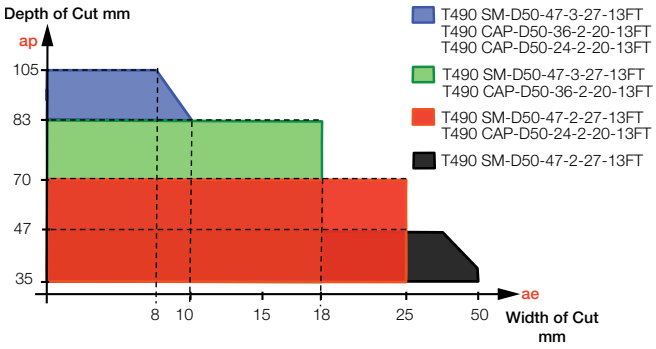
For inserts, see pages: T490 LNAR (464) • T490 LNMT 1306PNTR-FW (463) • T490 LNMT/LNHT 1306 (462)

Modular Extended Flute Assembly

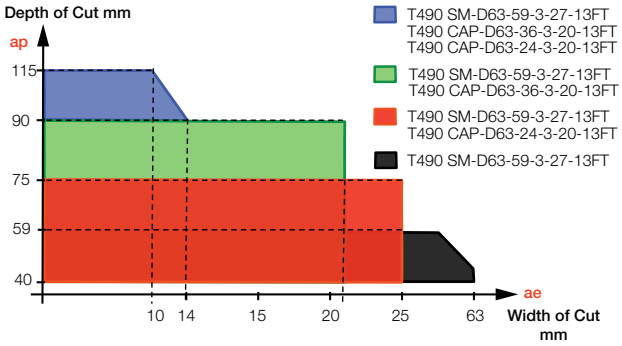


Shell Base Unit	Extension 1	Extension 2	DC	APMX	OAL	NOF	CICT	Assembly Screw
T490 SM-D50-47-2-27-13FT				47	66.5	2	8	SR M12x50 DIN912
	T490 CAP-D50-24-2-20-13FT		50	71	90		12	SR M12x70 DIN912
	T490 CAP-D50-36-2-20-13FT		50	83	102		14	SR M12x80 DIN912
	T490 CAP-D50-24-2-20-13FT	T490 CAP-D50-24-2-20-13FT	50	94	113		16	SR M12x100 DIN912
	T490 CAP-D50-24-2-20-13FT	T490 CAP-D50-36-2-20-13FT	50	106	125		18	SR M12x110 DIN912
T490 SM-D63-59-3-27-13FT				59	80	3	15	SR M12x60 DIN912
	T490 CAP-D63-24-3-20-13FT		63	82	103		21	SR M12x80 DIN912
	T490 CAP-D63-36-3-20-13FT		63	94	115		24	SR M12x100 DIN912
	T490 CAP-D63-24-3-20-13FT	T490 CAP-D63-24-3-20-13FT	63	106	127		27	SR M12x110 DIN912
	T490 CAP-D63-24-3-20-13FT	T490 CAP-D63-36-3-20-13FT	63	117	138		30	SR M12x120 DIN912

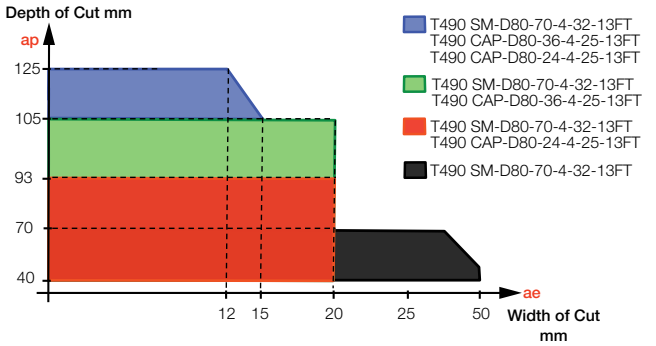
ap/ae Application Range for 50 mm Modular Extended Flute Cutters



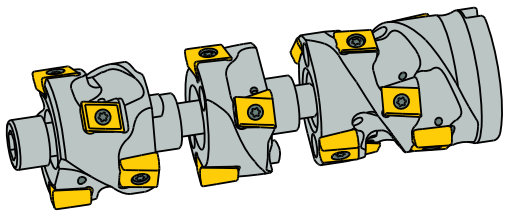
ap/ae Application Range for 63 mm Modular Extended Flute Cutters



ap/ae Application Range for 80 mm Modular Extended Flute Cutters



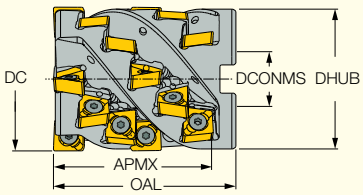
Workpiece: Alloy Steel



HELISLOT

SM-XN13

Extended Flute Shell Mills
Carrying XNMU 1306... Inserts



Designation	DC	APMX	NOF(1)	DCONMS	CICT(2)	OAL	DHUB	Arbor	kg				
SM D063-69-3-27R XN13	63.00	69.00	3	27.00	18	80.00	61.30	A	1.05	SR M4-L15-D4.5	BLD IP15/S7	SW6-T-SH	SR M12X70DIN912
SM D063-69-4-27R XN13	63.00	69.00	4	27.00	24	80.00	61.30	A	0.95	SR M4-L15-D4.5	BLD IP15/S7	SW6-T-SH	SR M12X70DIN912
SM D080-69-5-32R XN13	80.00	69.00	5	32.00	30	85.00	78.30	A	1.82	SR M4-L15-D4.5	BLD IP15/M7	SW6-T-SH	SR M16X70DIN912

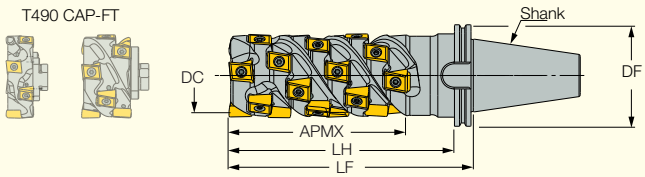
• Radial W.O.C. < 0.3xD
(1) Number of flutes
(2) Number of inserts

For inserts, see pages: XNMU 13 (497)

HELITANG T490 LINE

T490 LNK-INT50-FT

Basic Units of Modular Extended Flute Endmills with DIN69871 Tapered Shanks Carrying T490 LNMT/HT 1306 Inserts

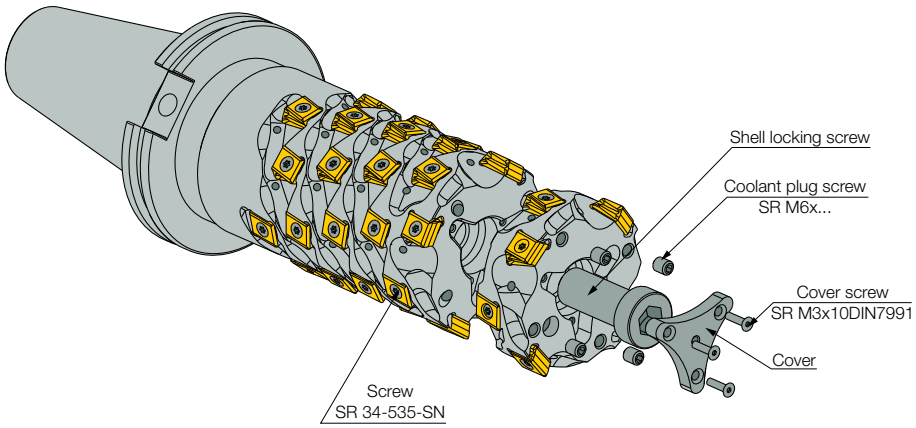


Designation	DC	APMX	NOF(1)	CICT(2)	LH	LF	DF	Shank	kg
T490LNKD63-082-4-INT50-FT	63.00	82.00	4	28	125.9	145.00	97.50	DIN69871	5.15
T490LNK-D80-82-5-INT50-FT	80.00	82.00	5	35	125.5	144.60	97.50	DIN69871	6.08
T490LNKD80-105-4-INT50-FT	80.00	105.00	4	36	154.1	173.20	97.50	DIN69871	7.04

• ae max for regular inserts, up to 0.10xD, ae max for -CS (chip splitting) inserts, up to 0.20xD • Remove coolant plug screws (SR M6X..DIN916) prior to attaching extension units
(1) Number of flutes
(2) Number of inserts

For inserts, see pages: T490 LNAR (464) • T490 LNMT 1306PNTR-FW (463) • T490 LNMT/LNHT 1306 (462)

Shell Base Unit	Extension	DC	APMX	OAL	NOF	CICT	Assembly Screw
T490 LNK-D63-082-4-INT50-FT		63	82	126	4	28	
	T490 CAP-24-4-20-13FT		106	150		36	SR M12x30 DIN912
	T490 CAP-36-4-20-13FT		118	162		40	SR M12X45DIN912 12.9
T490 LNK-D80-082-5-INT50-FT		80	82	125	5	45	
	T490 CAP-D80-24-25-13FT		106	149		55	SR M16x40 DIN912
			105	135		36	
T490 LNK-D80-105-4-INT50-FT	T490 CAP-D80-24-4-25-13FT	80	129	159	4	44	SR M16x40 DIN912
	T490 CAP-D80-36-4-25-13FT		141	171		48	SR M16x40 DIN912



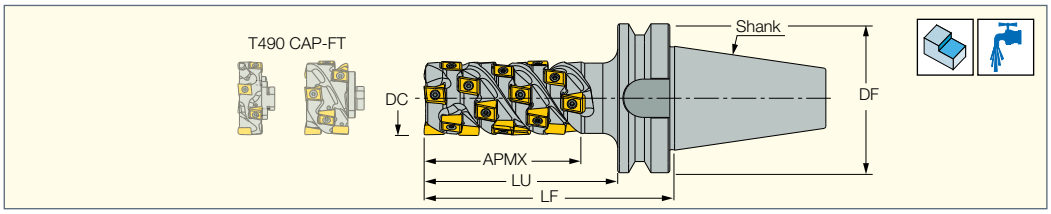
Spare Parts

Designation							
T490LNKD63-082-4-INT50-FT	SR 34-535-SN	BLD T15/S7	SW6-T-SH	SR M6X6 DIN916	SR M12X12 DIN912		
T490LNK-D80-82-5-INT50-FT	SR 34-535-SN	BLD T15/S7	SW6-T-SH			PG D63	SR M3X0.5X10DIN7991 10.9
T490LNKD80-105-4-INT50-FT	SR 34-535-SN	BLD T15/S7	SW6-T-SH	SR M6X8 DIN916		PG D63	SR M3X0.5X10DIN7991 10.9

HELITANG T490 LINE

T490 LNK-BT-FT

Basic Units of Modular Extended Flute Endmills with BT MAS-403 Tapered Shanks Carrying T490 LNMT/HT 1306 Inserts



Designation	DC	APMX	NOF(1)	CICT(2)	LH	LF	DF	Shank	kg
T490LNK-D63-082-4-BT50-FT	63.00	82.00	4	28	107.0	145.00	50.00	BT MAS-403	5.32
T490LNK-D80-105-4-BT50-FT	80.00	105.00	4	36	135.2	173.20	50.00	BT MAS-403	7.35

• ae max for regular inserts, up to 0.10xD, ae max for -CS (chip splitting) inserts, up to 0.20xD • Remove coolant plug screws (SR M6X..DIN916) prior to attaching extension units

(1) Number of flutes

(2) Number of inserts

For inserts, see pages: T490 LNAR (464) • T490 LNMT 1306PNTR-FW (463) • T490 LNMT/LNHT 1306 (462)

Shell Base Unit	Extension	DC	APMX	OAL	NOF	CICT	NOFAssembly Screw
T490 LNK-D63-082-4-BT50-FT		63	82	107	4	28	
	T490 CAP-D63-24-4-20-13FT		106	131		36	SR M12x30 DIN912
	T490 CAP-D63-36-4-20-13FT		118	143		40	SR M12X45DIN912 12.9
T490 LNK-D80-105-4-BT50-FT		80	105	135	4	36	
	T490 CAP-D80-24-4-25-13FT		129	159		44	SR M16x40 DIN912
	T490 CAP-D80-36-4-25-13FT		141	171		48	SR M16x40 DIN912

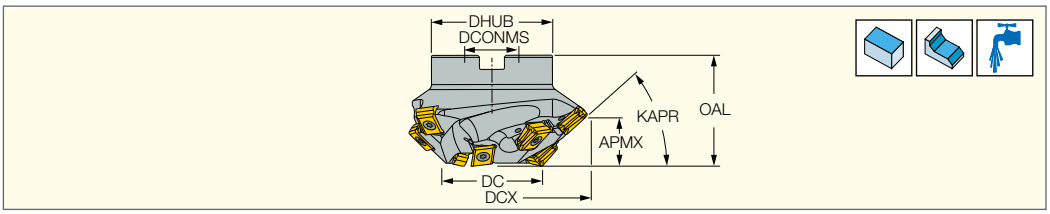
Spare Parts

Designation							
T490LNK-D63-082-4-BT50-FT	SR 34-535-SN	BLD T15/S7	SW6-T-SH	SR M6X6 DIN916	SR M12X12 DIN912		
T490LNK-D80-105-4-BT50-FT	SR 34-535-SN	BLD T15/S7	SW6-T-SH	SR M6X8 DIN916		PG D63	SR M3X0.5X10DIN7991 10.9

HELITANG

T4..-SM Conical Shell Mills

Conical Extended Flute Shell Mills Carrying T490 LNMT/LNHT 13... Tangentially Clamped Inserts



Designation	DC	KAPR	APMX	DCX(2)	NOF(3)	ZNP(4)	OAL	DHUB	DCONMS	Arbor(5)	kg
T422 SM-D050-12-3-32-13 (1)	50.00	22.5	12.20	110.10	3	9	60.00	78.00	32.00	A	1.92
T425 SM-D050-13-3-32-13	50.00	25.0	13.55	109.20	3	9	60.00	78.00	32.00	A	1.85
T430 SM-D050-16-3-32-13	50.00	30.0	16.00	107.20	3	9	60.00	78.00	32.00	A	1.81
T440 SM-D050-28-3-27-13	50.00	40.0	28.88	118.80	3	12	65.00	60.00	27.00	A	1.99
T445 SM-D050-23-3-27-13	50.00	45.0	23.50	98.20	3	9	55.00	60.00	27.00	A	1.17
T445 SM-D050-47-3-32-13	50.00	45.0	47.50	145.60	3	18	76.00	80.00	32.00	A	3.41
T450 SM-D050-25-3-27-13	50.00	50.0	26.12	94.30	3	9	55.00	60.00	27.00	A	1.13
T460 SM-D050-30-3-27-13	50.00	60.0	30.00	85.20	3	9	55.00	60.00	27.00	A	0.96
T470 SM-D050-33-3-27-13	50.00	70.0	33.20	74.30	3	9	60.00	58.00	27.00	A	0.86
T475 SM-D050-34-3-27-13	50.00	75.0	34.50	68.60	3	9	55.00	60.00	27.00	A	0.73
T475 SM-D050-56-3-32-13	50.00	75.0	57.70	81.00	3	15	83.50	78.00	32.00	A	1.52

• Note: RPM should be considered according to the recommended speed applied on the outer diameter obtained by the specific D.O.C. • For user guide, see pages 518-524

(1) On request

(2) Cutting diameter maximum

(3) Number of flutes

(4) Number of peripheral inserts

(5) For adaptation options, see page 517

For inserts, see pages: T490 LNAR (464) • T490 LNMT 1306PNTR-FW (463) • T490 LNMT/LNHT 1306 (462)

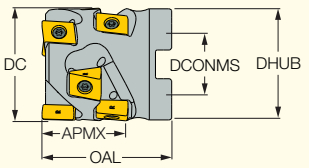
Spare Parts

Designation				
T422 SM-D050-12-3-32-13	SR 34-535-SN	BLD T15/S7	SW6-T-SH	SR M16X40 DIN912
T425 SM-D050-13-3-32-13	SR 34-535-SN	BLD T15/S7	SW6-T-SH	SR M16X40 DIN912
T430 SM-D050-16-3-32-13	SR 34-535-SN	BLD T15/S7	SW6-T-SH	SR M16X40 DIN912
T440 SM-D050-28-3-27-13	SR 34-535-SN	BLD T15/S7	SW6-T-SH	SR M12X45 DIN912
T445 SM-D050-23-3-27-13	SR 34-535-SN	BLD T15/S7	SW6-T-SH	SR M12X35DIN912
T445 SM-D050-47-3-32-13	SR 34-535-SN	BLD T15/S7	SW6-T-SH	SR M16X50 DIN912
T450 SM-D050-25-3-27-13	SR 34-535-SN	BLD T15/S7	SW6-T-SH	SR M12X35DIN912
T460 SM-D050-30-3-27-13	SR 34-535-SN	BLD T15/S7	SW6-T-SH	SR M12X35DIN912
T470 SM-D050-33-3-27-13	SR 34-535-SN	BLD T15/S7	SW6-T-SH	SR M12X50 DIN912
T475 SM-D050-34-3-27-13	SR 34-535-SN	BLD T15/S7	SW6-T-SH	SR M12X35DIN912
T475 SM-D050-56-3-32-13	SR 34-535-SN	BLD T15/S7	SW6-T-SH	SR M16X60 DIN912

HELITANG T490 LINE

T490 SM-16

Extended Flute Shell Mills
Carrying T490 LNMT/HT 1607...
Tangentially Clamped Inserts



Designation	DC	APMX	OAL	NOF(1)	CICT(2)	DHUB	DCONMS	Arbor(3)	kg			
T490 SM D63-47-3-27-16	63.00	47.00	68.00	3	9	58.00	27.00	A	0.93	SR 14-591	BLD T20/M7	SW6-T

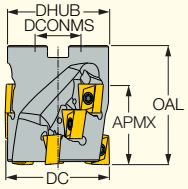
(1) Number of flutes
(2) Number of inserts
(3) For adaptation options, see page 517

For inserts, see pages: T490 LNAR (464) • T490 LNMT/LNHT 1607 (464)

HELIDO 490 LINE

H490 SM-17

Extended Flute Shell Mills
Carrying H490 ANKX 17..
Double-Sided Rectangular Inserts
with 4 Helical Cutting Edges



Designation	DC	APMX	NOF(1)	CICT(2)	OAL	DHUB	DCONMS	Arbor(3)	kg
H490 SM D063-48-3-27-17C	63.00	46.50	3	9	70.00	59.40	27.00	A	0.86
H490 SM D063-60-3-27-17C	63.00	58.50	3	12	85.00	59.40	27.00	A	1.13
H490 SM D080-48-4-32-17C	80.00	46.50	4	12	70.00	76.40	32.00	A	1.56

• ae(max)=0.25xD for regular inserts, ae(max)=0.35xD for -CS (chip splitting) inserts • Inserts with corner radii larger than 0.8 mm should only be used on the face of the cutter
(1) Number of flutes
(2) Number of inserts
(3) For adaptation options, see page 517

For inserts, see pages: H490 ANKX/ANCX-17 (457)

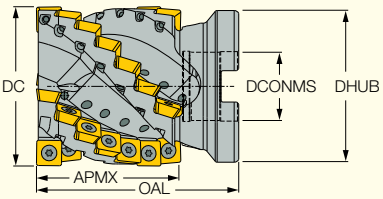
Spare Parts

Designation				
H490 SM D063-48-3-27-17C	SR 14-591	BLD T20/M7	SW6-T	SR M12X50DIN912
H490 SM D063-60-3-27-17C	SR 14-591	BLD T20/M7	SW6-T	SR M12X60DIN912
H490 SM D080-48-4-32-17C	SR 14-591	BLD T20/M7	SW6-T	SR M16X40DIN912

XQUAD EXTENDED FLUTE

SDK-10-C/HP

Extended Flute Shell Mills Carrying
SDHW/T 100408... Inserts



Designation	DC	APMX	NOF(2)	DCONMS	CICT(3)	OAL	DHUB	Arbor(4)	kg
SDK D050-48-03-22-10-C	50.00	48.00	3	22.00	18	75.00	48.00	A	0.54
SDK D050-48-03-27-10-C	50.00	48.00	3	27.00	18	80.00	49.00	A	0.57
SDK D050-48-04-27-10-C	50.00	48.00	4	27.00	24	80.00	49.00	A	0.56
SDK D050-48-04-27-10-HP (1)	50.00	48.00	4	27.00	24	80.00	49.00	A	0.57
SDK D063-56-04-27-10-C	63.00	56.00	4	27.00	28	80.00	60.00	A	0.90
SDK D080-64-05-32-10-C	80.00	64.00	5	32.00	40	85.00	78.00	A	1.61

(1) Designed with coolant nozzles for high pressure coolant
(2) Number of flutes
(3) Number of inserts
(4) For adaptation see page 517

For inserts, see pages: SDHW/T 100408 (486)

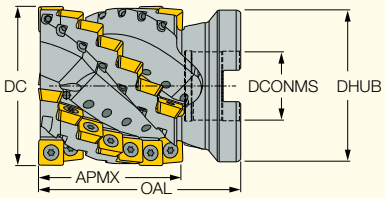
Spare Parts

Designation				
SDK D050-48-03-22-10-C	SR M3.5X0.6-L8.5 IP10	BLD IP10/S7	SW6-SD	SR M10X60DIN912
SDK D050-48-03-27-10-C	SR M3.5X0.6-L8.5 IP10	BLD IP10/S7	SW6-SD	SR M12X65 DIN912
SDK D050-48-04-27-10-C	SR M3.5X0.6-L8.5 IP10	BLD IP10/S7	SW6-SD	SR M12X65 DIN912
SDK D050-48-04-27-10-HP	SR M3.5X0.6-L8.5 IP10	BLD IP10/S7	SW6-SD	SR M12X65 DIN912
SDK D063-56-04-27-10-C	SR M3.5X0.6-L8.5 IP10	BLD IP10/S7	SW6-SD	SR M12X65 DIN912
SDK D080-64-05-32-10-C	SR M3.5X0.6-L8.5 IP10	BLD IP10/S7	SW6-SD	SR M16X65 DIN912

XQUAD EXTENDED FLUTE

SDK-12-C/HP

Extended Flute Shell Mills
Carrying SDHT 1205... Inserts



Designation	DC	APMX	NOF(2)	DCONMS	CICT(3)	OAL	DHUB	Arbor(4)	kg
SDK D63-55-05-27-12-C	63.00	55.00	5	27.00	25	80.00	60.00	A	0.94
SDK D63-55-05-27-12-HP (1)	63.00	55.00	5	27.00	25	80.00	60.00	A	0.94
SDK D63-66-04-27-12-C	63.00	66.00	4	27.00	24	93.00	60.00	A	1.07
SDK D63-98-04-27-12-C	63.00	98.00	4	27.00	36	125.00	60.00	A	1.38
SDK D80-66-05-32-12-C	80.00	66.00	5	32.00	30	95.00	77.60	A	2.06
SDK D80-109-05-32-12-C	80.00	109.00	5	32.00	50	143.00	77.60	A	3.06
SDK D100-76-06-40-12-C	100.00	76.00	6	40.00	42	110.00	92.00	A	3.97
SDK D100-130-06-40-12-C	100.00	130.00	6	40.00	72	165.00	92.00	A	5.87

(1) With coolant nozzles for high pressure coolant
(2) Number of flutes
(3) Number of inserts
(4) For adaptation see page 517

For inserts, see pages: SDHT/X 120508 (456)

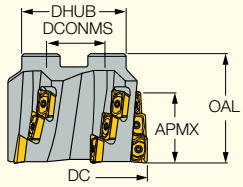
Spare Parts

Designation				
SDK D63-55-05-27-12-C	SR M4X0.7-L9.5 IP15-4623	BLD IP15/M7	SW6-T	SR M12X65 DIN912
SDK D63-55-05-27-12-HP	SR M4X0.7-L9.5 IP15-4623	BLD IP15/M7	SW6-T	SR M12X65 DIN912
SDK D63-66-04-27-12-C	SR M4X0.7-L9.5 IP15-4623	BLD IP15/M7	SW6-T	SR M12X80DIN912
SDK D63-98-04-27-12-C	SR M4X0.7-L9.5 IP15-4623	BLD IP15/M7	SW6-T	SR M12X110DIN912
SDK D80-66-05-32-12-C	SR M4X0.7-L9.5 IP15-4623	BLD IP15/M7	SW6-T	SR M16X70DIN912
SDK D80-109-05-32-12-C	SR M4X0.7-L9.5 IP15-4623	BLD IP15/M7	SW6-T	SR M16X120 DIN912
SDK D100-76-06-40-12-C	SR M4X0.7-L9.5 IP15-4623	BLD IP15/M7	SW6-T	SR M20X85 DIN912
SDK D100-130-06-40-12-C	SR M4X0.7-L9.5 IP15-4623	BLD IP15/M7	SW6-T	SR M20X140 DIN912

HELIMILL

SM

Extended Flute Shell Mills Carrying
HM90 ADKT 1505... Inserts



Designation	DC	APMX	NOF(1)	CICT(2)	OAL	DHUB	DCONMS	Arbor(3)	RMPX(4)	kg
SM D50-25-27-M	50.00	25.00	3	6	56.00	47.70	27.00	A	0.9	0.43
SM D63-38-27-M	63.00	38.00	4	12	60.00	55.00	27.00	A	0.7	0.67

(1) Number of flutes
(2) Number of inserts
(3) For adaptation options, see page 517
(4) Maximum ramping angle

For inserts, see pages: ADCR 1505PDFR (441) • ADCT 1505PDFR-HM (442) • ADKR 1505PDR/L-HM (441) • ADKT 1505..R/L-HM (444) • ADKT 1505PDR/L-HM (443) • ADKT 1505PDTR-76 (444) • ADKT 1505PDTR/L-RM (443) • ADMT 1505PDR-HS (443) • HM90 ADCT 1505 (440) • HM90 ADCT 1505PDR-CF (440) • HM90 ADKW 1505PDR (447)

Spare Parts

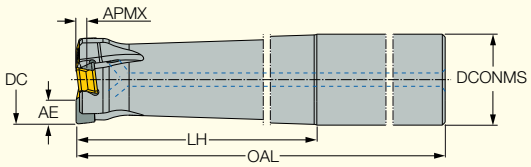
Designation				
SM D50-25-27-M	SR 14-544/S	BLD T15/M7	SW6-T	SR M12X50DIN912
SM D63-38-27-M	SR 14-544/S	BLD T15/M7	SW6-T	

PLUNGING CUTTERS

TANGPLUNGE
PLUNGING LINE

HTP-LN06

Side Plungers Carrying Tangentially Clamped Inserts with 4 Cutting Edges

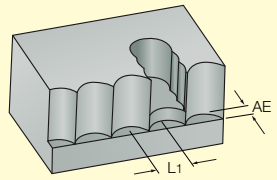


Designation	DC	AE	APMX	CICT(1)	LH	OAL	DCONMS	Shank(2)	kg		
HTP D016-2-L120-C16-LN06	16.00	4.5	2.50	2	32.0	120.00	16.00	C	0.17	SR 14-560-HG	T-8/53
HTP D020-3-L150-C20-LN06	20.00	5.0	2.50	3	40.0	150.00	20.00	C	0.33	SR 14-560-HG	T-8/53
HTP D025-3-L150-C25-LN06	25.00	5.0	2.50	3	50.0	150.00	25.00	C	0.51	SR 14-560-HG	T-8/53
HTP D025-4-L130-C25-LN06	25.00	5.0	2.50	4	50.0	130.00	25.00	C	0.44	SR 14-560-HG	T-8/53

• For user guide, see pages 307-309
(1) Number of inserts
(2) C-Cylindrical

For inserts, see pages: HTP LN.. 0604 (512)

Side Step as a Function of the Width of the Plunge



	Cutter Diameter (mm)		
	16	20	25
AE - Width of plunge (mm)	L1 max - Step (effective diameter)		
1	7.75	8.72	9.80
2	10.58	12.00	13.56
3	12.49	1428	16.25
4	13.86	16.00	18.33
5	14.83	17.32	20.00

The relationship between the maximal step L1 max and the width of plunge AE is given by the following formula:

$L1\ max = 2x \sqrt{DC \times AE - AE^2}$

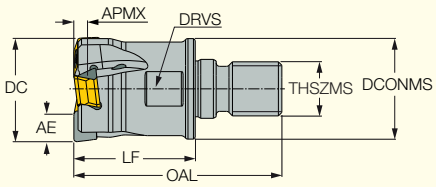
DC: cutter diameter

TANGPLUNGE
PLUNGING LINE

FLEXFIT

HTP-M-LN06

Side Plungers with FLEXFIT Threaded Connection Carrying Tangentially Clamped Inserts with 4 Cutting Edges



Designation	DC	AE	APMX	NOF(1)	LF	OAL	DCONMS	THSZMS	DRVS(2)	kg		
HTP D16/.62-2-M08-LN06	15.95	4.5	2.50	2	30.00	47.50	13.00	M08	10.0	0.03	SR 14-560-HG	T-8/53
HTP D20-3-M10-LN06	20.00	5.0	2.50	3	30.00	50.00	18.00	M10	15.0	0.06	SR 14-560-HG	T-8/53
HTP D25/1.00-3-M12-LN06	25.20	5.0	2.50	3	35.00	57.00	21.00	M12	17.0	0.10	SR 14-560-HG	T-8/53

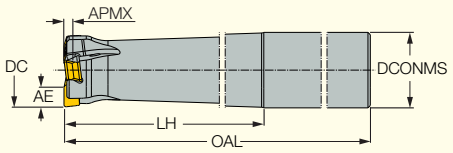
• For user guide, see pages 307-309
(1) Number of flutes
(2) Clamping wrench size

For inserts, see pages: HTP LN.. 0604 (512)
For holders, see pages: BT-ODP (FLEXFIT) (1030) • C#-ODP (FLEXFIT) (1001) • CAB M-M (FLEXFIT) (1046) • DIN69871-ODP (308) • ER-ODP (1048) • HSK A-ODP (FLEXFIT) (309) • S M (1045) • S M-C-H (1045) • S M-CF (1046)

TANGPLUNGE
PLUNGING LINE

HTP-LN10

Side Plungers Carrying Tangentially Clamped Inserts with 4 Cutting Edges



Designation	DC	AE	APMX	CICT(1)	LH	OAL	DCONMS	Shank(2)	kg			
HTP D025-2-L200-C25-LN10	25.00	7.0	3.00	2	120.0	200.00	25.00	C	0.64	SR 34-550	BLD T10/S7	SW6-SD
HTP D032-3-L190-C25-LN10	32.00	8.0	3.00	3	50.0	190.00	25.00	C	0.68	SR 34-550	BLD T10/S7	SW6-SD
HTP D032-3-L210-C32-LN10	32.00	8.0	3.00	3	120.0	210.00	32.00	C	1.09	SR 34-550	BLD T10/S7	SW6-SD
HTP D032-3-L210-W32-LN10	32.00	8.0	3.00	3	120.0	210.00	32.00	W	1.09	SR 34-550	BLD T10/S7	SW6-SD
HTP D040-4-L250-C32-LN10	40.00	8.0	3.00	4	50.0	250.00	32.00	C	1.49	SR 34-550	BLD T10/S7	SW6-SD

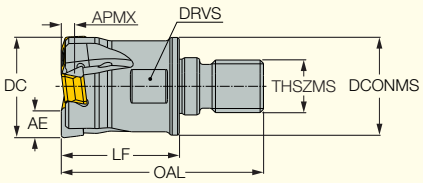
• For user guide, see pages 307-309
(1) Number of inserts
(2) C-Cylindrical, W-Weldon

For inserts, see pages: HTP LN.. 1006 (512)

TANGPLUNGE
PLUNGING LINE
FLEXFIT

HTP-M-LN10

Side Plungers with FLEXFIT Threaded Connection Carrying Tangentially Clamped Inserts with 4 Cutting Edges



Designation	DC	AE	APMX	CICT(1)	LF	OAL	DCONMS	THSZMS	DRVS(2)	kg			
HTP D025-2-M12-LN10	25.00	7.0	3.00	2	35.00	57.00	21.00	M12	17.0	0.09	SR 34-550	BLD T10/S7	SW6-SD
HTP D032-3-M16-LN10	32.00	8.0	3.00	3	35.00	60.00	29.00	M16	25.0	0.16	SR 34-550	BLD T10/S7	SW6-SD
HTP D035-3-M16-LN10	35.00	8.0	3.00	3	43.00	68.00	29.00	M16	25.0	0.22	SR 34-550	BLD T10/S7	SW6-SD
HTP D042-4-M16-LN10	42.00	8.0	3.00	4	43.00	68.00	29.00	M16	25.0	0.26	SR 34-550	BLD T10/S7	SW6-SD

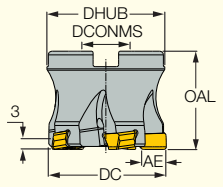
• For user guide, see pages 307-309
(1) Number of inserts
(2) Clamping wrench size

For inserts, see pages: HTP LN.. 1006 (512)
For holders, see pages: BT-ODP (FLEXFIT) (1030) • C#-ODP (FLEXFIT) (1001) • CAB M-M (FLEXFIT) (1046) • DIN69871-ODP (308) • ER-ODP (1048) • HSK A-ODP (FLEXFIT) (309) • S M (1045) • S M-C-H (1045) • S M-CF (1046)

TANGPLUNGE PLUNGING LINE

HTP-R-LN10

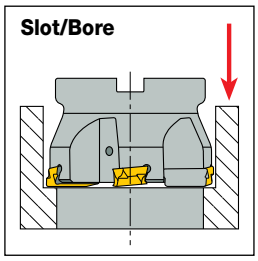
Shell Mill Plungers Carrying Tangentially Clamped Inserts with 4 Cutting Edges

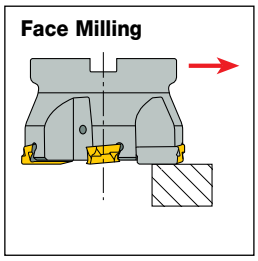


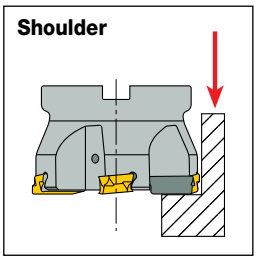
Designation	DC	AE	CICT(1)	OAL	DHUB	DCONMS	Arbor(2)	kg				
HTP D040-4-16-R-LN10	40.00	8.0	4	40.00	38.00	16.00	A	0.20	SR 34-550	BLD T10/S7	SW6-SD	SR M8X30DIN912
HTP D050-5-22-R-LN10	50.00	8.0	5	40.00	48.00	22.00	A	0.31	SR 34-550	BLD T10/S7	SW6-SD	SR M10X25C
HTP D052-5-22-R-LN10	52.00	8.0	5	40.00	48.00	22.00	A	0.34	SR 34-550	BLD T10/S7	SW6-SD	SR M10X25C

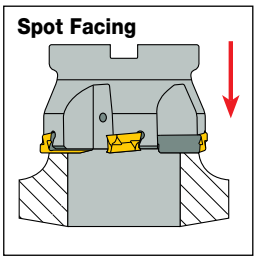
• For user guide, see pages 307-309
(1) Number of inserts
(2) For adaptation see page 517

For inserts, see pages: HTP LN.. 1006 (512)





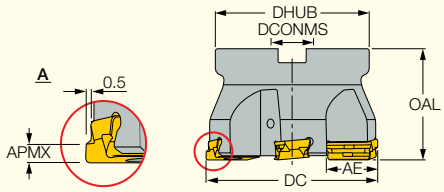




TANGPLUNGE PLUNGING LINE

HTP-R-LN16

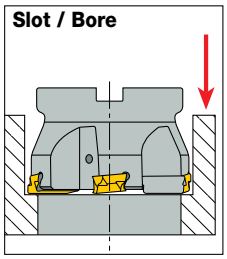
Shell Mill Plungers Carrying Tangentially Clamped Inserts with 4 Cutting Edges

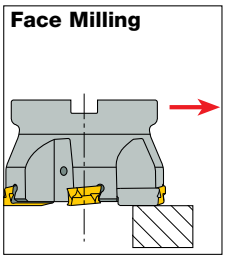


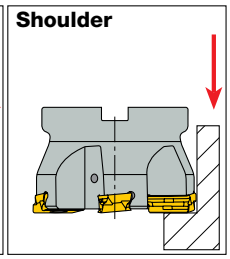
Designation	DC	AE	APMX	CICT(1)	OAL	DHUB	DCONMS	Arbor(2)	kg				
HTP D050-04-22-R-LN16	50.00	13.0	3.00	4	50.00	48.00	22.00	A	0.37	SR 34-535	BLD T15/S7	SW6-T-SH	SR PS 118-0271C
HTP D052-04-22-R-LN16	52.00	13.0	3.00	4	50.00	48.00	22.00	A	0.39	SR 34-535	BLD T15/S7	SW6-T-SH	SR PS 118-0271C
HTP D063-05-27-R-LN16	63.00	14.0	3.00	5	50.00	59.00	27.00	A	0.53	SR 34-535	BLD T15/S7	SW6-T-SH	SR M12X30C
HTP D066-05-27-R-LN16	66.00	14.0	3.00	5	50.00	62.00	27.00	A	0.60	SR 34-535	BLD T15/S7	SW6-T-SH	SR M12X30C
HTP D080-06-27-R-LN16	80.00	14.0	3.00	6	50.00	65.00	27.00	A	0.81	SR 34-535	BLD T15/S7	SW6-T-SH	SR M12X30C
HTP D080-06-32-R-LN16	80.00	14.0	3.00	6	50.00	72.00	32.00	A	0.90	SR 34-535	BLD T15/S7	SW6-T-SH	SR M16X40C
HTP D100-07-32-R-LN16	100.00	14.0	3.00	7	50.00	78.00	32.00	B	1.28	SR 34-535	BLD T15/S7	SW6-T-SH	

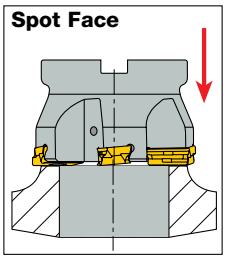
• For user guide, see pages 307-309
(1) Number of inserts
(2) For adaptation see page 517

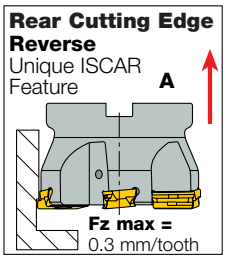
For inserts, see pages: HTP LN.. 1606 (513)





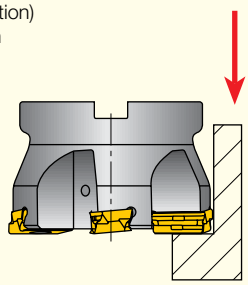


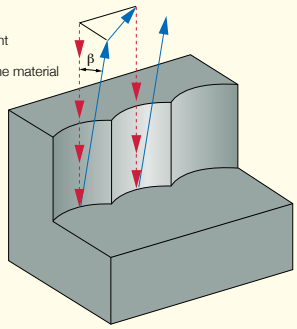




Recommended Cutting Conditions for Side Plunging

Plunging Cycle:
Step 1- Plunge in (axially-Z direction)
Step 2- Back stroke (rapid) at an angle b≥2°
Step 3- Move to the next cycle





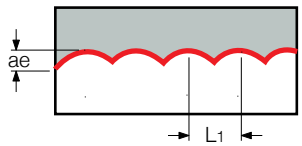
TANGPLUNGE - SIDE PLUNGING

ISO class DIN/ ISO 513	Description	ISCAR mat. group*	Typical Representative AISI/SAE/ASTM	Typical Representative DIN W.-Nr.	Hardness, HB	Insert HTP LN... type	Carbide grade for inserts	Cutting speed Vc, m/min	Feed Fz, mm/t	Coolant
P	Non-alloy steel	4	1060	1.1221	180-200	...ER	IC830/ IC928	80-130	0.12-0.15	Air blow
	Low alloy steel	8	4340	1.6582	260-300			80-120	0.1-0.15	
	Low alloy steel	9	3135	1.571	HRC 35-40**			80-120	0.08-0.15	
	High alloy steel	10	H13	1.2344	200-220			80-100	0.08-0.12	
	Martensitic s.s.	12	420	1.4021	200		IC830/ IC330/ IC328	80-100	0.08-0.12	Air blow/wet
M	Austenitic s.s.	14	304L	1.4306	200	...ER	IC830/ IC330/ IC328	60-80	0.08-0.1	Wet (emulsion)
K	Grey cast iron	16	Class 40	0.6025 (GG25)	250	...ER	IC810/ IC910	150-200	0.12-0.2	Air blow
	Nodular cast iron	17	Class 65-45-12	0.7050 (GGG50)	200			100-180	0.1-0.17	
S	Ni-based HTSA	34	Inconel 718	2.4668	350	...ER	IC328/ IC330	20-25	0.07-0.1	Wet (emulsion)
	Ti alloys	37	Ti6Al4V (Grade 5)	3.7164	HRC 34-36			35-40	0.07-0.1	
H	Hardened steel	38	4340	1.6582	HRC 45 max	...ETR	IC808/ IC908	70-100	0.08-0.1	Air blow

The table data refers to a cutter overhang of up to 4D (D-the diameter of a cutter)
* ISCAR material group in accordance with VDI 3323 standard
** Quenched and tempered

Table 1: L1 as a Function of the Width of Cut and Cutter Diameter

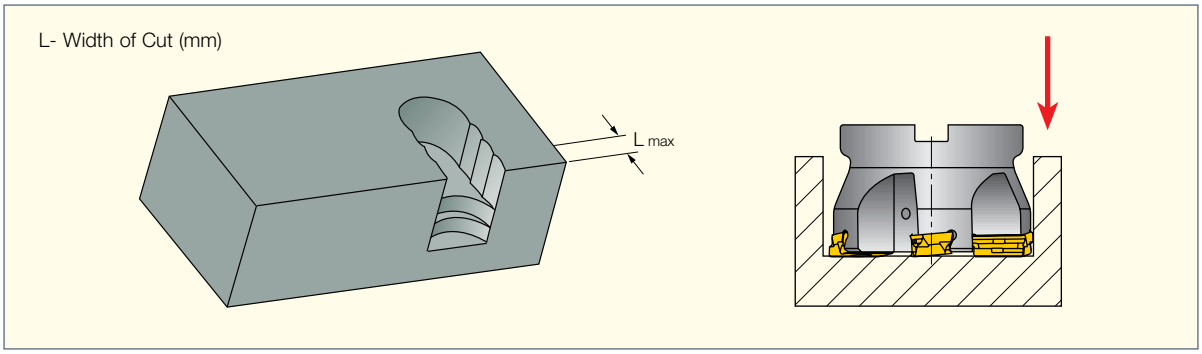
• $L1max = 2x\sqrt{Dxae-ae^2}$



L1- Side step over
ae- Width of plunge

ae - Width of Plunge (mm)	Cutter Diameter (mm) 50	52	63	66	80	100
	L1max - Step (effective diameter)					
1	14.0	14.3	15.75	16.1	17.8	19.9
3	23.8	24.3	26.8	27.5	30.4	34.1
5	30.0	30.6	34.0	34.9	38.7	43.6
6	32.5	33.2	37.0	37.9	42.1	47.5
7	34.7	35.5	39.6	40.6	45.2	51.0
8	36.6	37.5	41.9	43.0	48.0	54.3
9	38.5	39.3	43.10	45.3	50.5	57.2
10	40.0	41.0	46.0	47.3	52.9	60.0
11	41.4	42.5	47.8	49.2	55.1	62.6
12	42.7	43.8	49.5	50.9	57.1	65.0
13	43.8	45.0	51.0	52.5	59.0	67.3
14	-	-	52.4	53.9	60.8	69.4

Recommended Cutting Conditions for Slot Plunging



TANGPLUNGE - SLOT PLUNGING

Workpiece Material						Insert HTP LN... type	Carbide grade for inserts	Cutting speed Vc, m/min	Feed Fz, mm/t	Coolant
ISO class DIN/ISO 513	Description	ISCAR mat. group*	Typical Representative AISI/SAE/ ASTM	Typical Representative DIN W.-Nr.	Hardness, HB					
P	Non-alloy steel	4	1060	1.1221	180-200	...ER	IC830/ IC928	80-120	0.1-0.15	Air blow
	Low alloy steel	8	4340	1.6582	260-300			80-120	0.1-0.12	
	Low alloy steel	9	3135	1.571	HRC 35-40**			80-120	0.08-0.12	
	High alloy steel	10	H13	1.2344	200-220			80-100	0.08-0.1	
	Martensitic s.s.	12	420	1.4021	200		IC830/ IC330/IC328	80-100	0.08-0.1	Air blow/wet
M	Austenitic s.s.	14	304L	1.4306	200	...ER	IC830/ IC330/IC328	60-80	0.08-0.1	Wet (emulsion)
K	Grey cast iron	16	Class 40	0.6025 (GG25)	250	...ER	IC810/ IC910	150-200	0.12-0.18	Air blow
	Nodular cast iron	17	Class 65-45-12	0.7050 (GGG50)	200			100-180	0.1-0.15	
S	Ni-based HTSA	34	Inconel 718	2.4668	350	...ER	IC328/ IC330	20-25	0.07-0.09	Wet (emulsion)
	Ti alloys	37	Ti6Al4V (Grade 5)	3.7164	HRC 34-36			35-40	0.07-0.09	
H	Hardened steel	38	4340	1.6582	HRC 45 max	...ETR	IC808/IC908	70-100	0.08-0.09	Air blow

The table data refers to a cutter overhang of up to 4D (D-the diameter of a cutter)
* ISCAR material group in accordance with VDI 3323 standard
** Quenched and tempered

Recommended Cutting Conditions for Face Milling

TANGPLUNGE - FACE MILLING

Workpiece Material						Insert HTP LN... type	Carbide grade for inserts	Cutting speed Vc, m/min	Feed Fz, mm/t	Coolant
ISO class DIN/ISO 513	Description	ISCAR mat. group*	Typical Representative AISI/SAE/ASTM	Typical Representative DIN W.-Nr.	Hardness, HB					
P	Non-alloy steel	4	1060	1.1221	180-200	...ER	IC830/ IC928	80-120	0.1-0.2	Air blow
	Low alloy steel	8	4340	1.6582	260-300			80-120	0.1-0.18	
	Low alloy steel	9	3135	1.571	HRC 35-40**			80-120	0.1-0.15	
	High alloy steel	10	H13	1.2344	200-220			80-100	0.08-0.15	
	Martensitic s.s.	12	420	1.4021	200		IC830/ IC330/ IC328	80-100	0.08-0.15	Air blow/wet
M	Austenitic s.s.	14	304L	1.4306	200	...ER	IC830/ IC330/ IC328	60-80	0.08-0.1	Wet (emulsion)
K	Grey cast iron	16	Class 40	0.6025 (GG25)	250	...ER	IC810/ IC910	150-200	0.12-0.2	Air blow
	Nodular cast iron	17	Class 65-45-12	0.7050 (GGG50)	200			100-180	0.1-0.18	
S	Ni-based HTSA	34	Inconel 718	2.4668	350	...ER	IC328/ IC330	20-25	0.08-0.12	Wet (emulsion)
	Ti alloys	37	Ti6Al4V (Grade 5)	3.7164	HRC 34-36			35-40	0.08-0.12	
H	Hardened steel	38	4340	1.6582	HRC 45 max	...ETR	IC808/ IC908	70-100	0.08-0.1	Air blow

The table data refers to a cutter overhang of up to 4xD and the maximal width of cut Ae=0.7xD (D-the diameter of a cutter)
The maximal depth of cut Ap is 2.5 mm for hardened steel and 3 mm for other material groups
* ISCAR material group in accordance with VDI 3323 standard
** Quenched and tempered

PROFILING TOOLS

TABLE OF CONTENTS

Ball Nose Endmills 257

TORMILL - Toroidal Endmills and Face Mills.....265

TOR6MILL - Multifunction Cutters.....267

Round Cornered Cutters 273

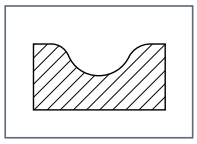
MILLSHRED 274

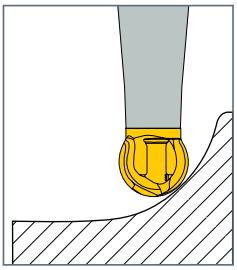
HELIDO ROUND H400 Line.....277

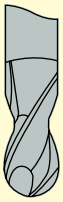
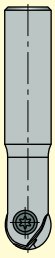
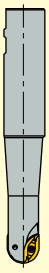
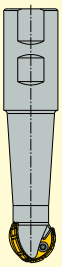
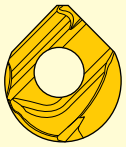
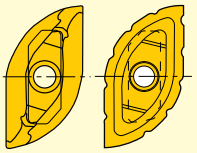
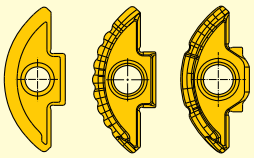
FLEXFIT Adaptation Systems.....304

PROFILING TOOLS

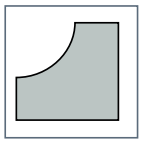
Ball Nose Selection Guide

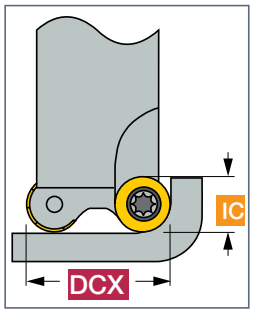




Tool / DCX	 EB...Solid Carbide	 HCM D.. HCM-M HCM-MM	 BCM	 BLP BLP -M
0.4-7	•			
8	•			
9	•			
10	•	•		
12	•	•	•	
16	•	•	•	•
20	•	•	•	•
25	•	•	•	•
30			•	•
32			•	•
40			•	•
50			•	•
Inserts		 HBF-QF HBR-QF HCR-QF / QP	 BCR D...-QT BCR D...-CS	 BLR D...-QT BLR D...-MFW BLR D...-QCS
Page	Solid Carbide 96 Multi-Master 37	257-260	263-264	260-261

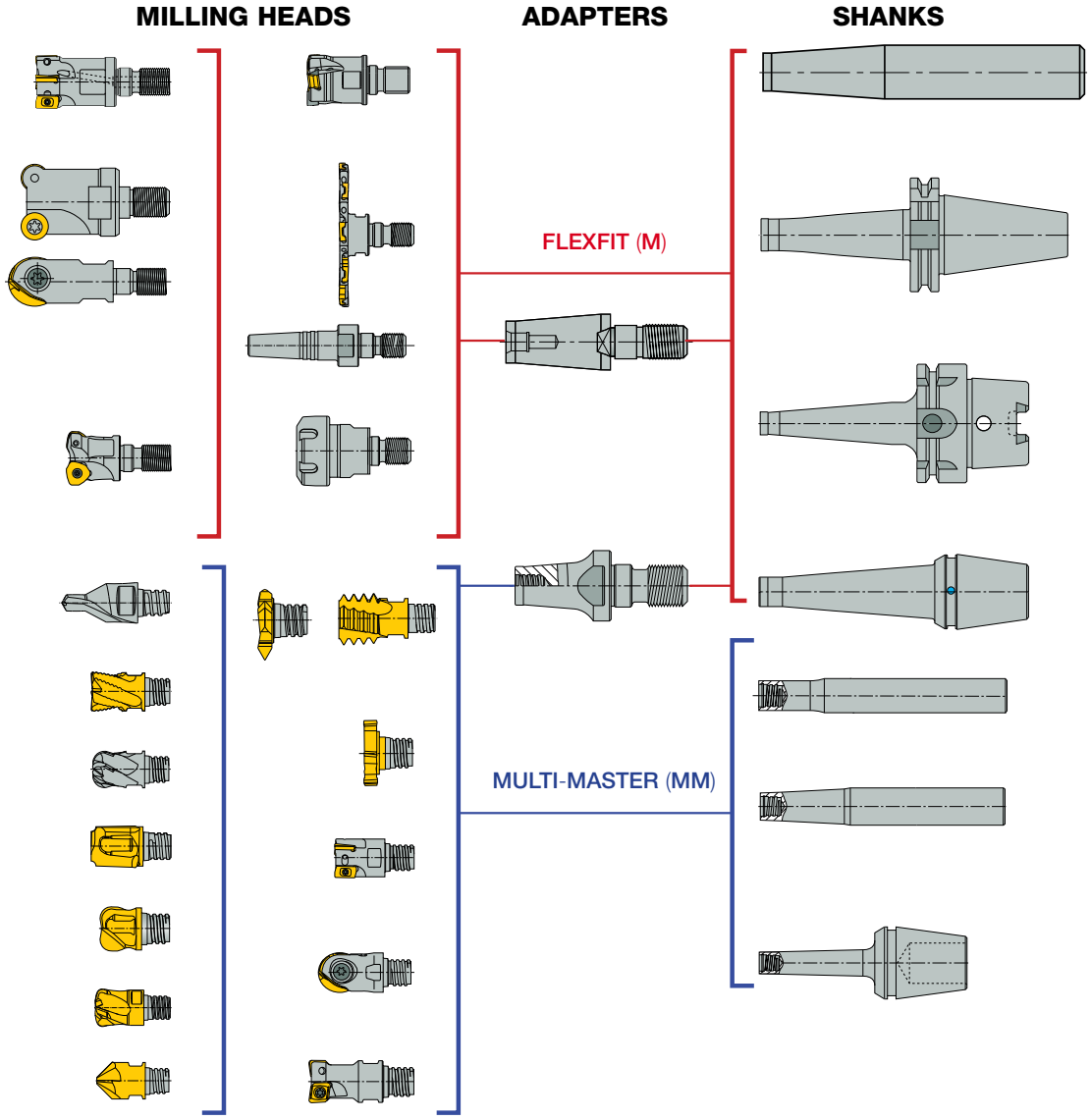
Endmills and Face Mills with Round Insert Selection Guide





Tool	Toroidal E93CN F93CN	TR6 ER TR6 FR	ER	H400 FR-10 H400 ER-10 ER-10	H400 ER-12 H400 FR-12 ERW/FRW-12	H606 ER-M H606 FR-12	H400 FR-16 FRW-16 ER-16	FRW-20
DCX \ IC		5-7	5-8	10	12	12	16	20
10			•					
12			•					
15			•					
16	•	•	•					
20	•	•	•	•				
25	•	•	•	•	•			
32		•		•	•	•	•	
35	•	•		•				
40		•		•	•	•	•	
42	•	•		•				
50		•		•	•	•	•	
52	•	•			•	•	•	
63		•			•	•	•	
66	•	•			•		•	
80	•	•			•	•	•	•
100							•	•
125							•	•
160								•
Inserts	CNHT ENHT	TR6 TNCU TR90 TXMT TRFF TXMT TR45 TXMT	RXCR... RXCW...	H400 RNHU 10... RXCW 10... RXCR 10... RXMT 10...	RCMT 12... RCCW 12... RCCT 12... R90MT 12... H400 RNHU 12...	H606 RXCU 1206	H400 RNHU 16... RCMW 16... RCCW 16...	RCCW 20... RCMW 20...
Page	265-266	267-272	273	273, 277-278	274-279	280-281	273, 276, 280	276

MULTI-MASTER and FLEXFIT Connection Options



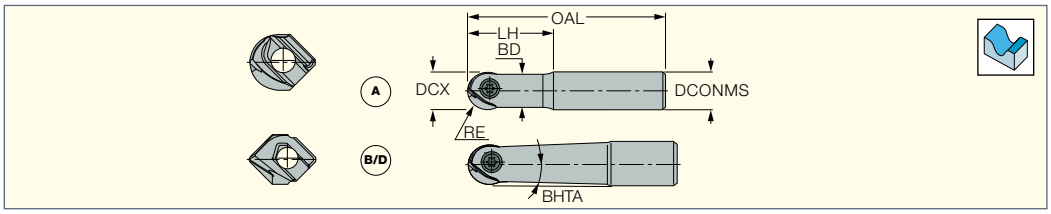
Features

- Modular system reduces stock cost by using the same head with different shank options
- Enables machining with larger overhang
- Same head can be mounted on metric and inch combinations

BALLPLUS

HCM D10

Ball Nose Multifunction
Endmills D=10 mm



Designation	DCX(1)	RE	LH(2)	OAL(3)	DCONMS	Shank(4)	BHTA	BD	Type	kg			
HCM D10-A-L090-C10	10.00	5.00	25.0	90.00	10.00	C	-	9.20	A	0.05	SR 10504694	BLD T15/S7	SW6-T-SH
HCM D10-B-L125-C16	10.00	5.00	40.0	125.00	16.00	C	6	-	B	0.16	SR 10504694	BLD T15/S7	SW6-T-SH
HCM D10-D-L150-C12	10.00	5.00	50.0	150.00	12.00	C	1.8	-	D	0.12	SR 10504694	BLD T15/S7	SW6-T-SH

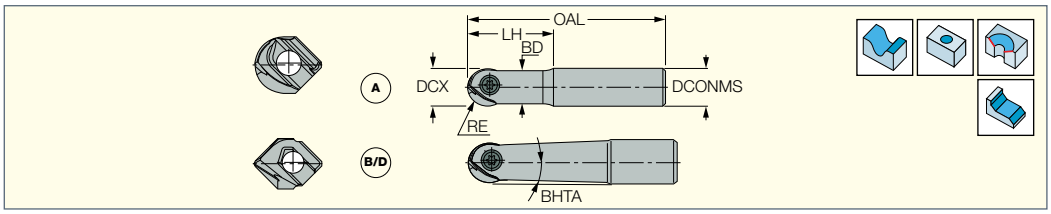
• The dimensions are for HBR inserts • For user guide, see pages 518-524
(1) Cutting diameter maximum
(2) Refers to HBR inserts
(3) Refers to HBR inserts
(4) C-Cylindrical

For inserts, see pages: HBF-QF (509) • HCR (509)

BALLPLUS

HCM D12

Ball Nose Multifunction
Endmills D=12 mm



Designation	DCX(1)	RE	LH(2)	OAL(3)	DCONMS	Shank(4)	BHTA	BD	Type	kg			
HCM D12-A-L120-C12	12.00	6.00	30.0	120.00	12.00	C	-	10.60	A	0.10	SR 34-540	BLD T15/S7	SW6-T
HCM D12-B-L160-C20	12.00	6.00	50.0	160.00	20.00	C	5	-	B	0.32	SR 34-540	BLD T15/S7	SW6-T
HCM D12-D-L160-C16	12.00	6.00	60.0	160.00	16.00	C	1	-	D	0.21	SR 34-540	BLD T15/S7	SW6-T

• The dimensions are for HBR inserts • For user guide, see pages 518-524
(1) Cutting diameter maximum
(2) Refers to HBR inserts
(3) Refers to HBR inserts
(4) C-Cylindrical

For inserts, see pages: HBF-QF (509) • HBR-QF (509) • HCD-QF (510) • HCR (509)

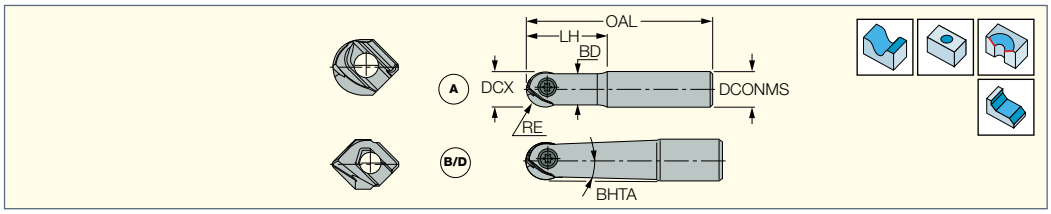
Parts for Assembly

Milling Head	Adapter	Shank	Assembly Dimensions						
			DCX	LH	OAL	BHTA	DCONMS	Shank	Inserts
HCM D12/.50-M8	--	S M08-L73-C16	12	51	99	4	16	C	HBR HBF HCR HCD
		S M08-L128-C16	12	106	154	4	16	C	
		S M08-L170-C20	12	93	196	4	20	C	
HCM D12/.50-M8	CAB M08M10	S M10-L80-C20	12	96	146	4	20	C	
		S M10-L130-C20	12	146	196	4	20	C	
		S M10-L200-C25	12	123	266	4	25	C	

BALLPLUS

HCM D16

Ball Nose Multifunction
Endmills D=16 mm



Designation	DCX(1)	LH(2)	OAL(3)	DCONMS	Shank(4)	BHTA	BD	kg	Type			
HCM D16-A-L130-C16	16.00	36.0	130.00	16.00	C	-	14.40	0.18	A	SR 10503579	BLD T20/S7	SW6-T
HCM D16-B-L160-C25	16.00	60.0	160.00	25.00	C	5	-	0.49	B	SR 10503579	BLD T20/S7	SW6-T
HCM D16-D-L160-C20	16.00	65.0	160.00	20.00	C	1	-	0.32	D	SR 10503579	BLD T20/S7	SW6-T

• The dimensions are for HBR inserts • For user guide, see pages 518-524

(1) Cutting diameter maximum
(2) Refers to HBR inserts
(3) Refers to HBR inserts
(4) C-Cylindrical

For inserts, see pages: HBF-QF (509) • HBR-QF (509) • HCD-QF (510) • HCR (509)

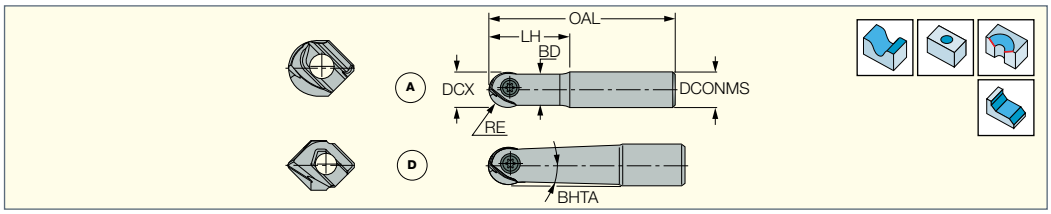
Parts for Assembly

Milling Head	Adapter	Shank	Assembly Dimensions						
			DCX	LH	OAL	BHTA	DCONMS	Shank	Inserts
HCM D16/.62-M8	––	S M8-L73-C16	16	55	103	–	16	C	HBR HBF HCR HCD
		S M8-L128-C16	16	110	158	–	16	C	
		S M8-L170-C20	16	97	200	0.96	20	C	
HCM D16/.62-M8	CAB M08M10	S M10-L80-C20	16	100	150	1.24	20	C	
		S M10-L130-C20	16	150	200	0.8	20	C	
		S M10-L200-C25	16	127	270	2.16	25	C	
HCM D16/.62-M10		S M10-L80-C20	16	60	110	2.5	20	C	
		S M10-L130-C20	16	110	160	2.5	20	C	
		S M10-L200-C25	16	87	230	3.26	25	C	
HCM D16/.62-M10	CAB M10M12	S M12-L86-C25	16	105	161	2.65	25	C	
		S M12-C32-L200	16	153	275	3.157	32	C	

BALLPLUS

HCM D20

Ball Nose Multifunction
Endmills D=20 mm



Designation	DCX(1)	LH(2)	OAL(3)	DCONMS	Shank(4)	BHTA	BD	kg	Type			
HCM D20-A-L150-C20	20.00	60.0	150.00	20.00	C	-	18.00	0.32	A	SR 1052964	BLD T25/S7	SW6-T
HCM D20-D-L200-C25	20.00	90.0	200.00	25.00	C	1	-	0.61	D	SR 1052964	BLD T25/S7	SW6-T

• The dimensions are for HBR inserts • For user guide, see pages 518-524

(1) Cutting diameter maximum
(2) Refers to HBR inserts
(3) Refers to HBR inserts
(4) C-Cylindrical

For inserts, see pages: HBF-QF (509) • HBR-QF (509) • HCD-QF (510) • HCR (509)

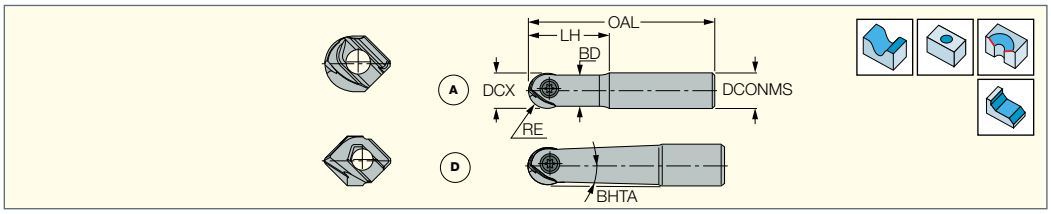
Parts for Assembly

Milling Head	Adapter	Shank	Assembly Dimensions						
			DCX	LH	OAL	BHTA	DCONMS	Shank	Inserts
HCM D20/.75-M10	––	S M10-L80-C20	20	67	117	–	20	C	HBR HBF HCR HCD
		S M10-L130-C20	20	117	167	–	20	C	
		S M10-L200-C25	20	94	237	1.7	25	C	
HCM D20/.75-M10	CAB M10M12	S M12-L86-C25	20	112	168	1.4	25	C	
		S M12-L200-C32	20	160	282	2.3	32	C	
HCM D20/.75-M12	––	S M12-L86-C25	20	67	123	3.0	25	C	
		S M12-L200-C32	20	115	237	3.3	32	C	

BALLPLUS

HCM D25

Ball Nose Multifunction
Endmills D=25 mm



Designation	DCX(1)	LH(2)	OAL(3)	DCONMS	Shank(4)	BHTA	BD	kg	Type			
HCM D25-A-L170-C25	25.00	70.0	170.00	25.00	C	-	22.00	0.55	A	SR 1051666	BLD T25/S7	SW6-T
HCM D25-D-L250-C32	25.00	125.0	250.00	32.00	C	1.8	-	1.20	D	SR 1051666	BLD T25/S7	SW6-T

• The dimensions are for HBR inserts • For user guide, see pages 518-524
(1) Cutting diameter maximum
(2) Refers to HBR inserts
(3) Refers to HBR inserts
(4) C-Cylindrical

For inserts, see pages: HBF-QF (509) • HBR-QF (509) • HCD-QF (510) • HCR (509)

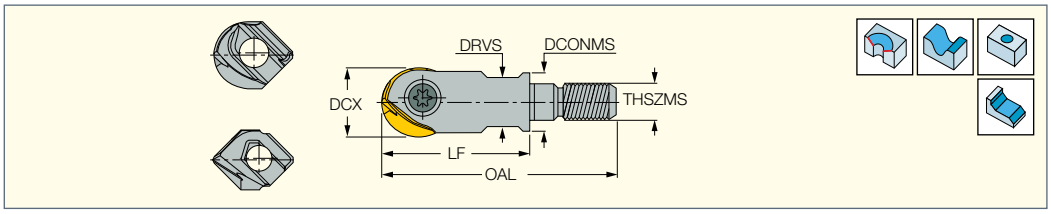
Parts for Assembly

Milling Head	Adapter	Shank	Assembly Dimensions						
			DCX	LH	OAL	BHTA	DCONMS	Shank	Inserts
HCM D25/1.0-M12	CAB M12M16	S M16-L95 C32	25	131	191	1.8	32	C	HBR HBF HCR HCD HCC HTR
		S M16-L230 C32	25	146	326	1.5	32	C	
HCM D25/1.0-M16	–	S M16-L95 C32	25	81	141	3.5	32	C	
		S M16-L230 C32	25	96	276	3.5	32	C	

BALLPLUS FLEXFIT

HCM-M

Ball Nose Multifunction
Endmills with FLEXFIT
Threaded Adaptation



Designation	DCX(1)	LF(2)	OAL(3)	DCONMS	DRVS(4)	THSZMS	kg			
HCM D12/.50-M08	12.00	26.00	43.50	14.40	11.0	M08	0.03	SR 34-540	BLD T15/S7	SW6-T
HCM D16/.62-M08	16.00	30.00	47.50	14.40	11.0	M08	0.03	SR 10503579	BLD T20/S7	SW6-T
HCM D16/.62-M10	16.00	35.00	55.00	18.00	15.0	M10	0.05	SR 10503579	BLD T20/S7	SW6-T
HCM D20/.75-M10	20.00	37.00	57.00	18.00	15.0	M10	0.06	SR 1052964	BLD T25/S7	SW6-T
HCM D20/.75-M12	20.00	37.00	59.00	22.50	17.0	M12	0.07	SR 1052964	BLD T25/S7	SW6-T
HCM D25/1.0-M12	25.00	46.00	68.00	21.00	19.0	M12	0.11	SR 1051666	BLD T25/S7	SW6-T
HCM D25/1.0-M16	25.00	46.00	71.00	29.00	25.0	M16	0.16	SR 1051666	BLD T25/S7	SW6-T

• The dimensions are for HBR inserts • For user guide, see pages 518-524
(1) Cutting diameter maximum
(2) Refers to HBR inserts
(3) Refers to HBR inserts
(4) Clamping wrench size

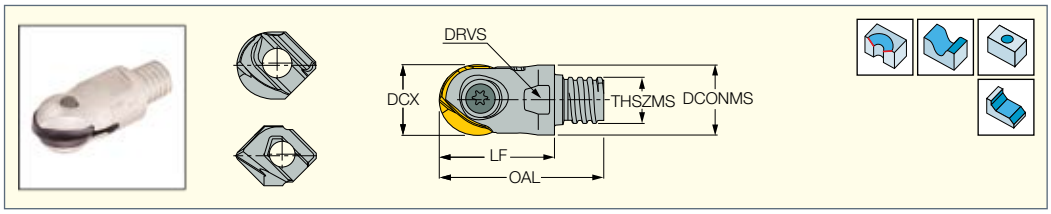
For inserts, see pages: HBF-QF (509) • HBR-QF (509) • HCD-QF (510) • HCR (509)
For holders, see pages: BT-ODP (FLEXFIT) (1030) • C#-ODP (FLEXFIT) (1001) • CAB M-M (FLEXFIT) (1046) • DIN69871-ODP (308) • ER-ODP (1048) • HSK A-ODP (FLEXFIT) (309) • S M (1045) • S M-C-H (1045) • S M-CF (1046)

BALLPLUS

MULTI-MASTER

HCM-MM

Ball Nose Multifunction Endmills with MULTI-MASTER Threaded Adaptation



Designation	DCX(1)	OAL(2)	LF(3)	DCONMS	THSZMS	DRVS(4)	N·m	kg			
HCM D12/.50-MMT08	12.00	28.00	20.00	11.50	T08	10.0	15.0	0.01	SR 34-540	BLD T15/S7	SW6-T
HCM D16/.62-MMT10	16.00	36.75	25.00	15.20	T10	13.0	28.0	0.03	SR 10503579	BLD T20/S7	SW6-T
HCM D20/.75-MMT12	20.00	48.80	35.00	18.50	T12	15.0	28.0	0.06	SR 1052964	BLD T25/S7	SW6-T
HCM D25/1.0-MMT15	25.00	63.00	46.00	24.00	T15	20.0	40.0	0.13	SR 1051666	BLD T25/S7	SW6-T

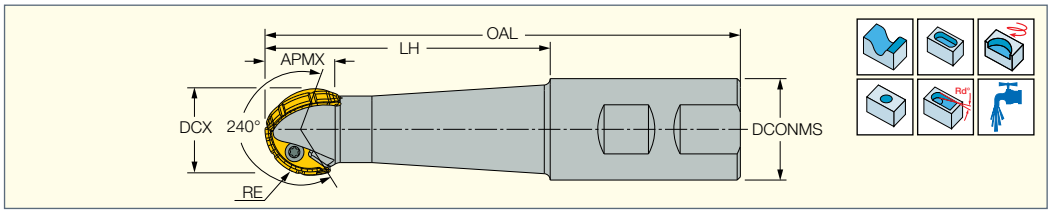
• The dimensions are for HBR inserts • Do not apply lubricant to the MULTI-MASTER threaded connection • For adaptation options, see page 256
• For user guide, see pages 518-524
(1) Cutting diameter maximum
(2) Refers to HBR inserts
(3) Refers to HBR inserts
(4) Width across flats (wrench should be ordered separately)

For inserts, see pages: HBF-QF (509) • HBR-QF (509) • HCD-QF (510) • HCR (509)
For holders, see pages: MM CAB (1047) • MM GRT (shanks) (72) • MM S-A (stepped shanks) (70) • MM S-A (straight shanks) (73) • MM S-A-C# (72) • MM S-A-HSK (76) • MM S-A-N (71) • MM S-A-SK (76) • MM S-B (85° conical shanks) (73) • MM S-D (89° conical shanks) (74) • MM S-ER (75) • MM S-ER-H (75) • MM TS-A (72)

DROPMILL
3 FLUTE BALL NOSE

BLP Endmills

Three Flute 240° Ball Nose Endmills Carrying Double-Sided Inserts



Designation	DCX(1)	RE	APMX	NOF(2)	OAL	LH	DCONMS	Shank(3)	kg	MIID(4)
BLP D16-40-100-C16	16.00	8.00	12.00	3	100.00	40.0	16.00	C	0.12	BLR D160-MFW
BLP D20-70-130-C20	20.00	10.00	15.00	3	130.00	70.0	20.00	C	0.24	BLR D200-MFW
BLP D25-90-170-W25	25.00	12.50	18.75	3	170.00	90.0	25.00	W	0.49	BLR D250-MFW
BLP D30-90-150-W32	30.00	15.00	22.50	3	150.00	90.0	32.00	W	0.60	BLR D320-QCS
BLP D32-80-160-W32	32.00	16.00	24.00	3	160.00	80.0	32.00	W	0.74	BLR D320-QCS
BLP D40-100-180-W40	40.00	20.00	30.00	3	180.00	100.0	40.00	W	1.25	BLR D400-QCS
BLP D50-140-210-W40	50.00	25.00	37.50	3	210.00	140.0	40.00	W	2.00	BLR D400-QCS
BLP D50-320-400-W50	50.00	25.00	37.50	3	400.00	320.0	50.00	W	4.62	BLR D500-QCS

• For user guide, see pages 518-524
(1) Cutting diameter maximum
(2) Number of flutes
(3) C-Cylindrical, W-Weldon
(4) Master insert identification

For inserts, see pages: BLR (511)

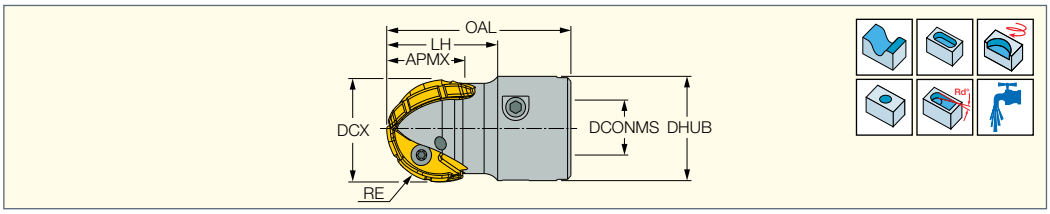
Spare Parts

Designation				
BLP D16-40-100-C16	SR M2.5X0.45-L6 IP7	IP-7/51		
BLP D20-70-130-C20	SR M3X0.5-L7.4 IP9	IP-9/151		
BLP D25-90-170-W25	SR M3.5X0.6-L8.5 IP10		BLD IP10/S7	SW6-SD
BLP D30-90-150-W32	SR M4X0.7-L11.5 IP15		BLD IP15/S7	SW6-T
BLP D32-80-160-W32	SR M4X0.7-L9.6 IP15		BLD IP15/S7	SW6-T
BLP D40-100-180-W40	SR M5-14 IP20		BLD IP20/S7	SW6-T
BLP D50-140-210-W40	SR M6X1-L18 IP25		BLD IP25/S7	SW6-T
BLP D50-320-400-W50	SR M6X1-L18 IP25		BLD IP25/S7	SW6-T

DROPMILL
3 FLUTE BALL NOSE

BLP Shell Mill

Three Flute Fully Effective 240° Ball Nose Cutters with Shell Hole Adaptation



Designation	DCX	RE	NOF(1)	APMX	LH	OAL	DHUB	DCONMS	kg	MIID(2)
BLP D50-22	50.00	25.00	3	37.50	50.0	83.00	47.00	22.00	0.61	BLR D500-MFW

• Use on face mill adapters with the supplied retention screw • For user guide, see pages 518-524

(1) Number of flutes

(2) Master insert identification

For inserts, see pages: BLR (511)

Spare Parts

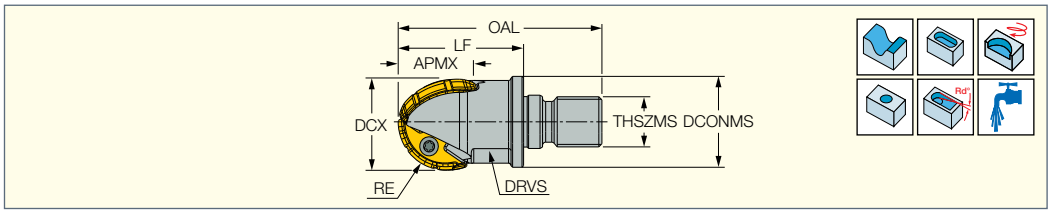
Designation						
BLP D50-22	SR M6X1-L18 IP25	BLD IP25/S7	SW6-T	SR M10X1X14-10700	SR M10X20-10600(a)	HW 5.0

(a) Retaining knob for adapters

DROPMILL FLEXFIT
3 FLUTE BALL NOSE

BLP-M

Three Flute Fully Effective 240° Ball Nose Endmills with FLEXFIT Threaded Adaptation



Designation	DCX(1)	RE	NOF(2)	APMX	LF	OAL	THSZMS	DCONMS	DRVS(3)	kg	MIID(4)
BLP D16-M08	16.00	8.00	3	12.00	23.00	40.50	M08	13.00	10.0	0.02	BLR D160-MFW
BLP D20-M08	20.00	10.00	3	15.00	28.00	45.50	M08	12.80	11.0	0.03	BLR D200-MFW
BLP D25-M12	25.00	12.50	3	18.75	35.00	57.00	M12	21.00	17.0	0.07	BLR D250-MFW
BLP D30-M12	30.00	15.00	3	22.50	40.00	62.00	M12	21.00	17.0	0.10	BLR D300-QCS
BLP D32-M12	32.00	16.00	3	24.00	40.00	62.00	M12	23.00	19.0	0.11	BLR D320-MFW
BLP D32-M16	32.00	16.00	3	24.00	40.00	65.00	M16	29.00	24.0	0.14	BLR D320-MFW
BLP D40-M16	40.00	20.00	3	30.00	53.00	78.00	M16	30.00	24.0	0.25	BLR D320-QCS

• For user guide, see pages 518-524

(1) Cutting diameter maximum

(2) Number of flutes

(3) Clamping wrench size

(4) Master insert identification

For inserts, see pages: BLR (511)

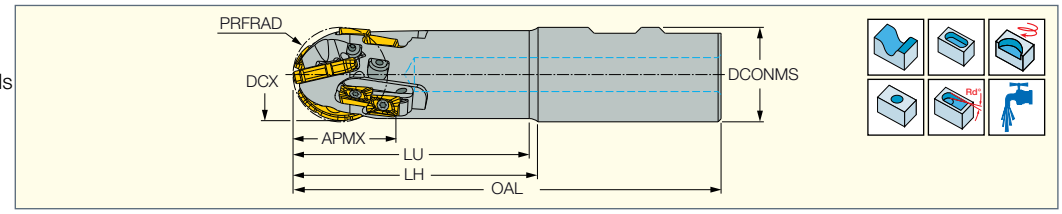
For holders, see pages: BT-ODP (FLEXFIT) (1030) • C#-ODP (FLEXFIT) (1001) • CAB M-M (FLEXFIT) (1046) • DIN69871-ODP (308) • ER-ODP (1048) • HSK A-ODP (FLEXFIT) (309) • S M (1045) • S M-C-H (1045) • S M-CF (1046)

Spare Parts

Designation				
BLP D16-M08	SR M2.5X0.45-L6 IP7	IP-7/51		
BLP D20-M08	SR M3X0.5-L7.4 IP9	IP-9/151		
BLP D25-M12	SR M3.5X0.6-L8.5 IP10		BLD IP10/S7	SW6-SD
BLP D30-M12	SR M4X0.7-L11.5 IP15		BLD IP15/S7	SW6-T
BLP D32-M12	SR M4X0.7-L9.6 IP15		BLD IP15/S7	SW6-T
BLP D32-M16	SR M4X0.7-L9.6 IP15		BLD IP15/S7	SW6-T
BLP D40-M16	SR M5-14 IP20		BLD IP20/S7	SW6-T

DROPMILL
3 FLUTE BALL NOSE

BLPK
Extended Flute Ball Nose Endmills



Designation	DCX(1)	RE	APMX	CICT(2)	OAL	LU	LH	DCONMS	Shank(3)	kg
BLPK D32-35-H80-W32	32.00	16.00	35.00	9 (4)	145.00	80.0	83.0	32.00	W	0.64
BLPK D40-47-H85-W40	40.00	20.00	47.00	12 (5)	170.00	85.0	90.0	40.00	W	1.22
BLPK D50-60-H90-W50	50.00	25.00	60.00	9 (6)	180.00	90.0	95.0	50.00	W	2.00

• For user guide, see pages 518-524
(1) Cutting diameter maximum
(2) Number of inserts
(3) W-Weldon
(4) 3 BLR D320 and 6 HM90 APKT 1003PDR inserts
(5) 3 BLR D400 and 9 HM90 APKT 1003PDR inserts
(6) 3 BLR D500 and 6 P290 ACKT/ACCT 1806 inserts

For inserts, see pages: BLR (511) • HM90 APKT 1003 (434) • P290 ACCT/KT (446) • P290 ACKT (446)

Table - Averaged Cutting Data for BLPK Extended Flute Ball Nose*

Workpiece Material										
ISO class DIN/ISO 513	Description	ISCAR mat. group**	Hardness, HB	Typical representstive		Carbide grade	W.O.C Ae [mm]	Cutting speed Vc [m/min]	Feed Fz [mm/tooth]	Coolant
				AISI/SAE/ASTM	DIN W.-Nr.					
P	Non-alloy steel	1-5	130-180	1020	1.0402	IC808	Up to 0.3D	100-200	0.08-0.15	Dry
						IC830		100-180	0.10-0.16	Dry/Wet
	Low alloy steel	6-8	260-300	4340	1.6582	IC808	Up to 0.25D	100-180	0.06-0.13	Dry
						IC830		80-150	0.08-0.15	Dry/Wet
		9	HRC 35-42***	3135	1.5710	IC808		80-160	0.06-0.12	Dry
						IC830		70-140	0.08-0.13	Dry/Wet
	High alloy steel	10-11	200-220	H13	1.2344	IC808		80-140	0.06-0.10	Dry
						IC830		70-120	0.08-0.12	Dry/Wet
	Ferritic/martensitic stainless steel	12-13	200	420	1.4021	IC808		80-160	0.06-0.12	Dry
						IC830		70-140	0.08-0.13	Dry/Wet
M	Austenitic stainless steel	14	200	304L	1.4306	IC330	Up to 0.2D	80-120	0.08-0.13	Wet
						IC830		90-140	0.08-0.12	
						IC808		100-160	0.06-0.10	
K	Grey cast iron	15-16	250	Class 40	0.6025 (GG25)	IC808	Up to 0.25D	160-200	0.12-0.20	Dry
	Nodular cast iron	17-18	200	Class 65-45-12	0.7050 (GGG50)	IC808		150-180	0.10-0.18	
S	High temperature alloys	33-35	340	Inconel 718	2.4668	IC808	Up to 0.2D	25-35	0.05-0.10	Wet
						IC830		25-40	0.05-0.12	
						IC330		20-30	0.06-0.12	
		36-37	HRC 30-32	AMS R56400	3.7165 (Ti6Al4V ELI)	IC808		40-60	0.05-0.10	
						IC830		35-55	0.06-0.12	
						IC330		35-50	0.06-0.13	
H	Hardened steel	38	HRC 45-49	HARDOX 450 plate		IC808	Up to 0.2D	60-70	0.05-0.08	Dry

* With respect to maximal depth of cut ap
** ISCAR material group in accordance with VDI 3323 standard
*** Quenched and tempered
For machining in unstable conditions, the recommended cutting data should be reduced by 20-30%

Spare Parts

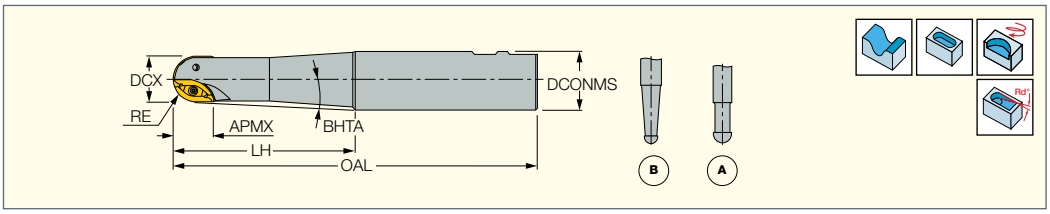
Designation						
BLPK D32-35-H80-W32	SR M4X0.7-L9.6 IP15(a)	BLD IP15/S7	SW6-T	SR 34-505/MHG(b)	T-8/53	
BLPK D40-47-H85-W40	SR M5-10.6 IP20(a)	BLD IP20/S7	SW6-T	SR 34-505/MHG(b)	T-8/53	
BLPK D50-60-H90-W50	SR 10503750-L12.4(a)	BLD T25/S7	SW6-T	SR 14-544/S(b)		BLD T15/M7

(a) For the round inserts
(b) For the straight inserts

DROPMILL

BCM

Ball Nose Endmills with Tangent Straight Edge Inserts for Finish Profiling



Designation	DCX(1)	RE	APMX	CICT(2)	OAL	LH	DCONMS	BHTA	Shank(3)	Type	CSP(4)	kg	MIID(5)
BCM D12-A-C12	12.00	6.00	11.40	2	120.00	30.0	12.00	-	C	A	0	0.10	BCR D120-QT
BCM D12-B-C16	12.00	6.00	11.40	2	160.00	60.0	16.00	2.0	C	B	0	0.22	BCR D120-QT
BCM D16-A-C16-C	16.00	8.00	13.00	2	130.00	36.0	16.00	-	C	A	1	0.16	BCR D160-QT
BCM D16-B-C20-C	16.00	8.00	13.00	2	160.00	60.0	20.00	2.2	C	B	1	0.30	BCR D160-QT
BCM D20-A-C20-C	20.00	10.00	17.00	2	160.00	65.0	20.00	-	C	A	1	0.29	BCR D200-QT
BCM D20-B-C25-C	20.00	10.00	17.00	2	200.00	90.0	25.00	1.5	C	B	1	0.55	BCR D200-QT
BCM D25-A-W25-C	25.00	12.50	20.00	2	170.00	70.0	25.00	-	W	A	1	0.51	BCR D250-QT
BCM D25-B-C32-C	25.00	12.50	20.00	2	220.00	95.0	32.00	2.4	C	B	1	1.05	BCR D250-QT
BCM D30-A-W32-C	30.00	15.00	26.00	2	160.00	67.0	32.00	-	W	A	1	0.73	BCR D300-QT
BCM D32-A-W32-C	32.00	16.00	27.00	2	160.00	65.0	32.00	-	W	A	1	0.76	BCR D320-CS
BCM D32-B-W40-C	32.00	16.00	27.00	2	250.00	125.0	40.00	2.1	W	B	1	1.75	BCR D320-CS
BCM D40-A-W32-C	40.00	20.00	36.00	2	160.00	88.0	32.00	-	W	A	1	0.92	BCR D400-CS
BCM D40-B-W40-C	40.00	20.00	36.00	2	250.00	125.0	40.00	-	W	B	1	1.95	BCR D400-CS
BCM D50-A-W50-C	50.00	25.00	43.00	2	212.00	132.0	50.00	-	W	A	1	2.42	BCR D500-CS

• For user guide, see pages 518-524
(1) Cutting diameter maximum
(2) Number of inserts
(3) C-Cylindrical, W-Weldon
(4) 0 - Without coolant supply, 1 - With coolant supply
(5) Master insert identification

For inserts, see pages: BCR (511)

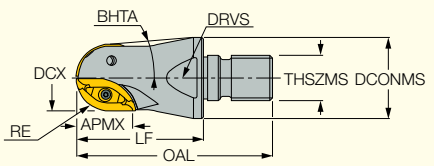
Spare Parts

Designation				
BCM D12-A-C12	SR 10503457			T-6/51
BCM D12-B-C16	SR 10503457			T-6/51
BCM D16-A-C16-C	SR 34-505/1 MHG 2.5X7.2			T-8/53
BCM D16-B-C20-C	SR 34-505/1 MHG 2.5X7.2			T-8/53
BCM D20-A-C20-C	SR 34-506/L			T-9/51
BCM D20-B-C25-C	SR 34-506/L			T-9/51
BCM D25-A-W25-C	SR 14-601	BLD T15/S7	SW6-T	
BCM D25-B-C32-C	SR 14-601	BLD T15/S7	SW6-T	
BCM D30-A-W32-C	SR 14-544	BLD T15/S7	SW6-T	
BCM D32-A-W32-C	SR 14-544	BLD T15/S7	SW6-T	
BCM D32-B-W40-C	SR 14-544	BLD T15/S7	SW6-T	
BCM D40-A-W32-C	SR 14-591/L	BLD T20/S7	SW6-T	
BCM D40-B-W40-C	SR 14-591/L	BLD T20/S7	SW6-T	
BCM D50-A-W50-C	SR 10503750	BLD T25/S7	SW6-T	

DROPMILL FLEXFIT

BCM-M

Ball Nose Endmills with FLEXFIT Threaded Adaptation Carrying Tangent Straight Edge Inserts for Finish Profiling



Designation	DCX(1)	RE	CICT(2)	APMX	LF	OAL	THSZMS	DCONMS	DRVS(3)	kg	MIID(4)
BCM D25-M12	25.00	12.50	2	20.00	46.00	68.00	M12	23.00	19.0	0.12	BCR D250-QT
BCM D25-M16	25.00	12.50	2	20.00	46.00	71.00	M16	29.00	25.0	0.16	BCR D250-QT
BCM D32-M16	32.00	16.00	2	26.00	53.00	78.00	M16	29.00	25.0	0.22	BCR D320-CS

• For user guide, see pages 518-524
(1) Cutting diameter maximum
(2) Number of inserts
(3) Clamping wrench size
(4) Master insert identification

For inserts, see pages: BCR (511)
For holders, see pages: BT-ODP (FLEXFIT) (1030) • C#-ODP (FLEXFIT) (1001) • CAB M-M (FLEXFIT) (1046) • DIN69871-ODP (308) • ER-ODP (1048) • HSK A-ODP (FLEXFIT) (309) • S M (1045) • S M-C-H (1045) • S M-CF (1046)

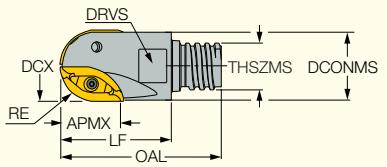
Spare Parts

Designation			
BCM D25-M12	SR 14-601	BLD T15/S7	SW6-T
BCM D25-M16	SR 14-601	BLD T15/S7	SW6-T
BCM D32-M16	SR 14-544	BLD T15/S7	SW6-T

DROPMILL MULTI-MASTER

BCM-MM

Ball Nose Endmills with MULTI-MASTER Threaded Adaptation Carrying Tangent Straight Edge Inserts for Finish Profiling



Designation	DCX(1)	RE	APMX	CICT(2)	LF	OAL	DRVS(3)	DCONMS	THSZMS	CSP(4)	kg	MIID(5)
BCM D12-MMT08	12.00	6.00	9.60	2	20.00	28.00	10.0	11.50	T08	0	0.01	BCR D120-QT
BCM D16-MMT10	16.00	8.00	12.70	2	25.00	36.80	13.0	15.20	T10	0	0.03	BCR D160-QT
BCM D20-MMT12	20.00	10.00	17.00	2	35.00	48.80	15.0	18.50	T12	0	0.06	BCR D200..
BCM D25-MMT15-C	25.00	12.50	20.00	2	40.00	57.00	19.0	24.00	T15	1	0.11	BCR D250-QT

• Do not apply lubricant to the MULTI-MASTER threaded connection • For adaptation options, see page 256 • For user guide, see pages 518-524
(1) Cutting diameter maximum
(2) Number of inserts
(3) Clamping wrench size
(4) 0 - Without coolant supply, 1 - With coolant supply
(5) Master insert identification

For inserts, see pages: BCR (511)
For holders, see pages: MM CAB (1047) • MM S-A (stepped shanks) (70) • MM S-A (straight shanks) (73) • MM S-A-C# (72) • MM S-A-HSK (76) • MM S-A-N (71) • MM S-A-SK (76) • MM S-B (85° conical shanks) (73) • MM S-D (89° conical shanks) (74) • MM TS-A (72)

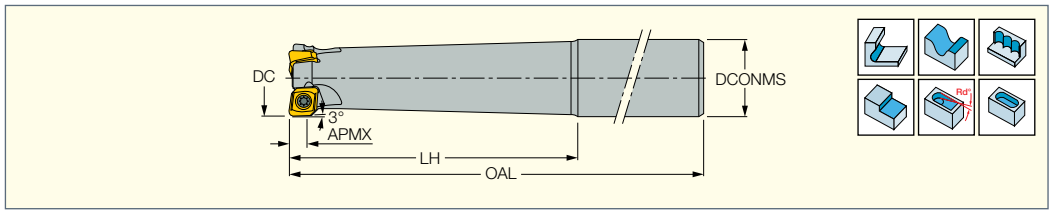
Spare Parts

Designation				
BCM D12-MMT08	SR 10503457	T-6/51		
BCM D16-MMT10	SR 34-505/1 MHG 2.5X7.2	T-8/53		
BCM D20-MMT12	SR 34-506/L	T-9/51		
BCM D25-MMT15-C	SR 14-601		BLD T15/S7	SW6-T

TORMILL

E93CN

Toroidal Bull Nose Endmills with CNHT...and ENHT... Inserts



Designation	DC(1)	APMX	CICT(2)	LH	OAL	RMPX(3)	DCONMS	Shank(4)	kg	MIID(5)		
E93CN D16-2-L100-C15-07	16.00	5.00	2	20.0	100.00	4.0	15.00	C	0.13	CNHT 070315	SR 34-505/LHG	T-8/53
E93CN D16-2-L110-C16-07	16.00	5.00	2	50.0	110.00	4.0	16.00	C	0.15	CNHT 070315	SR 34-505/LHG	T-8/53
E93CN D20-3-L140-C19-07	20.00	5.00	3	20.0	140.00	3.0	19.00	C	0.29	CNHT 070315	SR 34-505/LHG	T-8/53
E93CN D20-3-L160-C20-07	20.00	5.00	3	75.0	160.00	3.0	20.00	C	0.34	CNHT 070315	SR 34-505/LHG	T-8/53
E93CN D25-4-L160-C24-07	25.00	5.00	4	20.0	160.00	2.0	24.00	C	0.54	CNHT 070315	SR 34-505/LHG	T-8/53
E93CN D25-4-L180-C25-07	25.00	5.00	4	100.0	180.00	2.0	25.00	C	0.60	CNHT 070315	SR 34-505/LHG	T-8/53
E93CN D25-2-L180-C25-10	25.00	8.00	2	100.0	180.00	7.0	25.00	C	0.57	ENHT 100430	SR 34-506/L	T-9/51
E93CN D35-3-L200-C32-10	35.00	8.00	3	50.0	200.00	4.0	32.00	C	1.18	ENHT 100430	SR 34-506/L	T-9/51

(1) The specified diameter is for inserts with a 1.0 mm radius. For other radii options, see diameter change in the table below
(2) Number of inserts
(3) Maximum ramping angle
(4) C-Cylindrical
(5) Master insert identification

For inserts, see pages: CNHT/MT 07 (513) • ENHT (514)

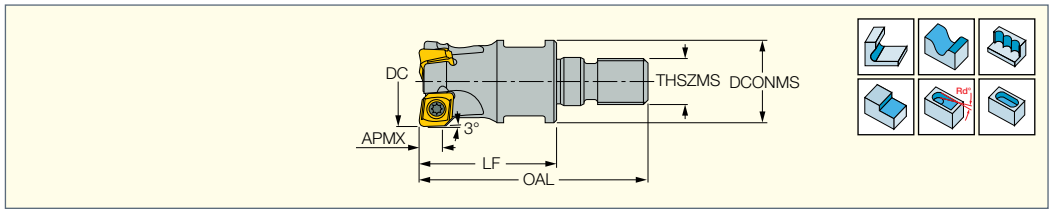
Diameter Change According to Insert Radius

R	0.8	1.0	1.5	2.0	2.5	3.0
ΔD	+0.03	0.0	-0.07	-0.14	-0.21	-0.28

TORMILL FLEXFIT

E93CN-M

Bull Nose Endmills with FLEXFIT Threaded Adaptation Carrying Toroidal Inserts



Designation	DC(1)	APMX	CICT(2)	LF	OAL	THSZMS	RMPX(3)	DCONMS	DRVS(4)	kg	MIID(5)		
E93CN D16-2-M08-07	16.00	5.00	2	30.00	47.50	M08	4.0	13.00	10.0	0.03	CNHT 070315	SR 34-505/LHG	T-8/53
E93CN D20-3-M10-07	20.00	5.00	3	30.00	50.00	M10	3.0	18.00	15.0	0.05	CNHT 070315	SR 34-505/LHG	T-8/53
E93CN D25-4-M12-07	25.00	5.00	4	35.00	57.00	M12	2.0	21.00	17.0	0.09	CNHT 070315	SR 34-505/LHG	T-8/53
E93CN D25-2-M12-10	25.00	7.00	2	35.00	57.00	M12	7.0	21.00	17.0	0.09	ENHT 100430	SR 34-506/L	T-9/51
E93CN D35-3-M16-10	35.00	8.50	3	43.00	68.00	M16	4.0	29.00	25.0	0.21	ENHT 100430	SR 34-506/L	T-9/51
E93CN D42-5-M16-10	42.00	8.50	5	43.00	68.00	M16	3.0	29.00	25.0	0.24	ENHT 100430	SR 34-506/L	T-9/51

(1) The specified diameter is for inserts with a 1.0 mm radius. For other radii options, see diameter change in the table below
(2) Number of inserts
(3) Maximum ramping angle
(4) Clamping wrench size
(5) Master insert identification

For inserts, see pages: CNHT/MT 07 (513) • ENHT (514)
For holders, see pages: BT-ODP (FLEXFIT) (1030) • C#-ODP (FLEXFIT) (1001) • CAB M-M (FLEXFIT) (1046) • DIN69871-ODP (308) • ER-ODP (1048) • HSK A-ODP (FLEXFIT) (309) • S M (1045) • S M-C-H (1045) • S M-CF (1046)

Diameter Change According to Insert Radius

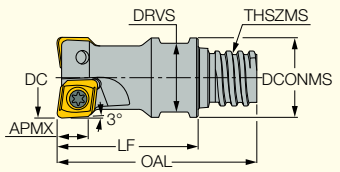
R	0.8	1.0	1.5	2.0	2.5	3.0
ΔD	+0.03	0.0	-0.07	-0.14	-0.21	-0.28

TORMILL

MULTI-MASTER

E93CN-MM

Bull Nose Endmills with MULTI-MASTER Threaded Adaptation Carrying Toroidal Inserts



Designation	DC(1)	APMX	CICT(2)	LF	OAL	RMPX(3)	THSZMS	DCONMS	DRVS(4)	kg	MIID(5)		
E93CN D16-2-MMT10-07	16.00	5.00	2	27.00	38.64	4.0	T10	15.00	13.0	0.03	CNHT 070315	SR 34-505/LHG	T-8/53
E93CN D20-3-MMT12-07	20.00	5.00	3	27.00	41.00	3.0	T12	19.00	16.0	0.05	CNHT 070315	SR 34-505/LHG	T-8/53

• Do not apply lubricant to the MULTI-MASTER threaded connection • For adaptation options, see page 256 • For user guide, see pages 518-524

(1) The specified diameter is for inserts with a 1.0 mm radius. For other radii options, see diameter change in the table below

(2) Number of inserts

(3) Maximum ramping angle

(4) Clamping wrench size

(5) Master insert identification

For inserts, see pages: CNHT/MT 07 (513)

For holders, see pages: MM S-A (stepped shanks) (70) • MM S-A (straight shanks) (73) • MM S-A-C# (72) • MM S-A-HSK (76) • MM S-A-N (71) • MM S-A-SK (76) • MM S-B (85° conical shanks) (73) • MM S-D (89° conical shanks) (74) • MM TS-A (72)

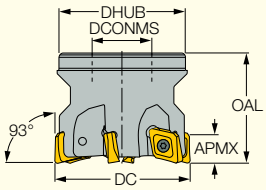
Diameter Change According to Insert Radius

R	0.8	1.0	1.5	2.0	2.5	3.0
ΔD	+0.03	0.0	-0.07	-0.14	-0.21	-0.28

TORMILL

F93CN

93° Face Mills with Toroidal Inserts



Designation	DC(1)	CICT(2)	APMX	OAL	DHUB	DCONMS	RMPX(3)	Arbor(4)	kg			
F93CN D52-6-22-R-10	52.00	6	8.00	40.00	47.00	22.00	2.5	A	0.28	SR 34-506/L	BLD T09/M7	SW6-SD
F93CN D66-7-22-R-10	66.00	7	8.00	40.00	52.00	22.00	1.8	A	0.51	SR 34-506/L	BLD T09/M7	SW6-SD
F93CN D80-8-27-R-10	80.00	8	8.00	50.00	60.00	27.00	1.5	B	0.81	SR 34-506/L	BLD T09/M7	SW6-SD

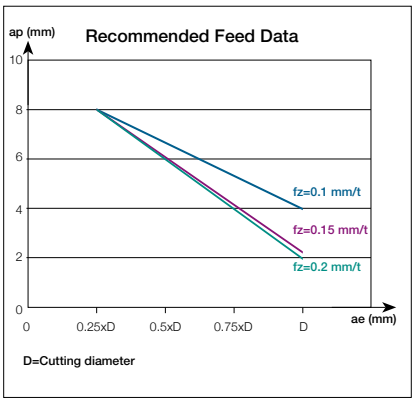
(1) The specified diameter is for inserts with a 1.0 mm radius. For other radii options, see diameter change in the table below

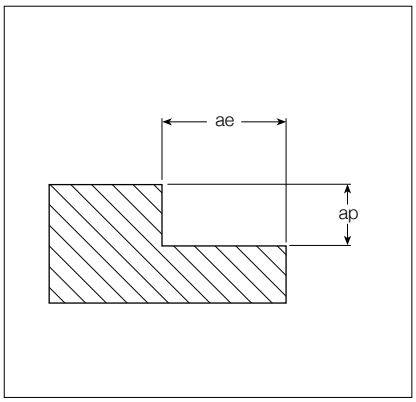
(2) Number of inserts

(3) Maximum ramping angle

(4) For adaptation options, see page 517

For inserts, see pages: ENHT (514)





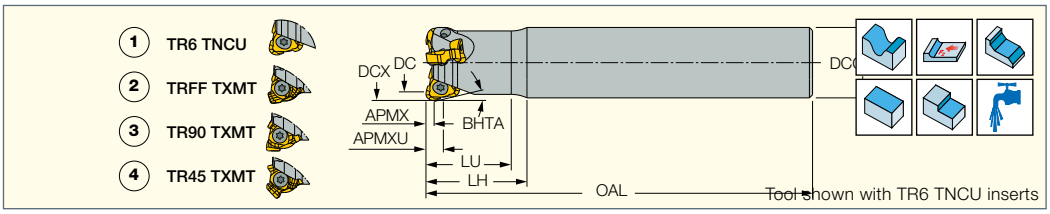
Diameter Change According to Insert Radius

R	0.8	1.0	1.5	2.0	2.5	3.0
ΔD	+0.03	0.0	-0.07	-0.14	-0.21	-0.28

TOR6MILL PROFILING

TR6 ER

Multifunction Endmills that can Carry Four Different Insert Geometries



Designation	DCX	DCX_2	DCX_3	DCX_4	DC	DC_2	DC_4	APMX	APMX_2	APMX_3	APMX_4	APMXU(1)	BHTA(2)	CICT(3)
TR6 ER D16-50-2-C16-07	16.00	16.00	16.00	-	14.00	12.10	-	1.00	0.60	2.50	-	2.00	21.0	2
TR6 ER D20-60-4-C20-07	20.00	20.00	20.00	-	18.00	16.10	-	1.00	0.60	2.50	-	2.00	21.0	4
TR6 ER D25-70-5-C25-07	25.00	25.00	25.00	-	23.00	21.10	-	1.00	0.60	2.50	-	2.00	21.0	5
TR6 ER D32-80-6-C32-07	32.00	32.00	32.00	-	30.00	28.10	-	1.00	0.60	2.50	-	2.00	21.0	6
TR6 ER D25-70-3-C25-10	25.00	25.00	25.00	26.80	20.00	19.00	20.60	2.50	0.80	4.00	3.00	4.20	20.5	3
TR6 ER D32-80-4-C32-10	32.00	32.00	32.00	33.80	27.00	26.00	27.60	2.50	0.80	4.00	3.00	4.20	20.5	4

Designation	LU	LU_2	LU_3	LU_4	LH	LH_2	LH_3	LH_4	OAL	OAL_2	OAL_3	OAL_4	DCONMS
TR6 ER D16-50-2-C16-07	46.5	46.7	46.8	-	50.0	50.2	50.3	-	100.00	100.20	100.30	-	16.00
TR6 ER D20-60-4-C20-07	56.5	56.7	56.8	-	60.0	60.2	60.3	-	120.00	120.20	120.30	-	20.00
TR6 ER D25-70-5-C25-07	65.5	65.7	65.8	-	70.0	70.2	70.3	-	140.00	140.20	140.30	-	25.00
TR6 ER D32-80-6-C32-07	75.5	75.7	75.8	-	80.0	80.2	80.3	-	160.00	160.20	160.30	-	32.00
TR6 ER D25-70-3-C25-10	65.0	65.2	64.9	65.1	70.0	70.2	69.9	70.1	140.00	140.15	139.91	140.12	25.00
TR6 ER D32-80-4-C32-10	75.0	75.2	74.9	75.1	80.0	80.2	79.9	80.1	160.00	160.15	159.91	160.12	32.00

Designation	Insert	MIID(4)	MIID_2(5)	MIID_3(6)	MIID_4(7)	kg
TR6 ER D16-50-2-C16-07	TR6 TNCU 070210	TR6 TNCU 070210	TRFF TXMT 0702	TR90 TXMT 070204	-	0.12
TR6 ER D20-60-4-C20-07	TR6 TNCU 070210	TR6 TNCU 070210	TRFF TXMT 0702	TR90 TXMT 070204	-	0.22
TR6 ER D25-70-5-C25-07	TR6 TNCU 070210	TR6 TNCU 070210	TRFF TXMT 0702	TR90 TXMT 070204	-	0.42
TR6 ER D32-80-6-C32-07	TR6 TNCU 070210	TR6 TNCU 070210	TRFF TXMT 0702	TR90 TXMT 070204	-	0.82
TR6 ER D25-70-3-C25-10	TR6 TNCU 100425	TR6 TNCU 100425	TRFF TXMT 1004	TR90 TXMT 100408	TR45 TXMT 1004	0.41
TR6 ER D32-80-4-C32-10	TR6 TNCU 100425	TR6 TNCU 100425	TRFF TXMT 1004	TR90 TXMT 100408	TR45 TXMT 1004	0.81

• Note: The data refers to master inserts , for other insert radii and geometries refer to the table below

(1) For undercutting with TR6 TNCU/TNMU inserts only

(2) For undercutting with TR6 TNCU/TNMU inserts only

(3) Number of inserts

(4) Master insert identification

(5) Master insert identification 2

(6) Master insert identification 3

(7) Master insert identification 4

For inserts, see pages: TR45 TXMT (515) • TR6 TNCU/MU (514) • TR90 TXMT (515) • TRFF TXMT (515)

Tool	Insert	DCX	DC	APMX	LU	LH	OAL	RMPX[1]	For undercutting APMX_2	For undercutting BHTA
TR6 ER D16-50-2-C16-07	TR6 TNCU 070205	16.00	15.00	0.50	46.40	49.90	99.90	-	1.60	17.0
	TR6 TNCU 070215		13.00	1.50	45.60	50.10	100.10	-	2.40	21.0
	TRFF TXMT 0702		12.10	0.60	46.70	50.20	100.20	1.1	-	-
	TR90 TXMT 070204		-	2.50	46.80	50.30	100.30	1.6	-	-
TR6 ER D20-60-4-C20-07	TR6 TNCU 070205	20.00	19.00	0.50	56.40	59.90	119.90	-	1.60	17.0
	TR6 TNCU 070215		17.00	1.50	56.60	60.10	120.10	-	2.40	21.0
	TRFF TXMT 0702		16.10	0.60	56.70	60.20	120.20	0.8	-	-
	TR90 TXMT 070204		-	2.50	56.80	60.30	120.30	1.2	-	-
TR6 ER D25-70-3-C25-10	TR6 TNCU 070205	25.00	24.00	0.50	65.40	69.90	139.90	-	1.60	17.0
	TR6 TNCU 070215		22.00	1.50	65.60	70.10	140.10	-	2.40	21.0
	TRFF TXMT 0702		21.10	0.60	65.70	70.20	140.20	0.6	-	-
	TR90 TXMT 070204		-	2.50	65.80	70.30	140.30	0.9	-	-
TR6 ER D32-80-6-C32-07	TR6 TNCU 070205	32.00	31.00	0.50	75.40	79.90	159.90	-	1.60	17.0
	TR6 TNCU 070215		29.00	1.50	75.60	80.10	160.10	-	2.40	21.0
	TRFF TXMT 0702		28.10	0.60	75.70	80.20	160.20	0.4	-	-
	TR90 TXMT 070204		-	2.50	75.80	80.30	160.30	0.7	-	-
TR6 ER D25-70-3-C25-10	TR6 TNCU 100405	25.00	24.00	0.50	64.52	69.52	139.52	-	1.80	17.5
	TR6 TNCU 100410		23.00	1.00	64.64	69.64	139.65	-	2.30	20.5
	TR6 TNCU/MU 100415		22.00	1.50	64.76	69.76	139.76	-	2.70	20.5
	TR6 TNCU 100420		21.00	2.00	64.88	69.88	139.88	-	3.50	20.5
	TR6 TNCU 100430		19.00	3.00	65.12	70.12	140.12	-	4.50	20.5
	TRFF TXMT 1004		19.00	0.80	65.15	70.15	140.15	1.7	-	-
	TR90 TXMT 100408		-	4.00	64.91	69.91	139.91	1.6	-	-
	TR45 TXMT 1004	26.80	20.60	3.00	65.12	70.12	140.12	1.4	-	-
TR6 ER D32-80-4-C32-10	TR6 TNCU 100405	32.00	31.00	0.50	75.52	79.52	159.52	-	1.80	17.5
	TR6 TNCU 100410		30.00	1.00	74.64	79.65	159.64	-	2.30	20.5
	TR6 TNCU/MU 100415		29.00	1.50	76.76	79.76	159.76	-	2.70	20.5
	TR6 TNCU 100420		28.00	2.00	74.88	79.88	159.88	-	3.50	20.5
	TR6 TNCU 100430		26.00	3.00	75.12	80.12	160.12	-	4.50	20.5
	TRFF TXMT 1004		26.00	0.80	75.15	80.15	160.15	1.2	-	-
	TR90 TXMT 100408		-	4.00	74.91	79.91	159.91	1.2	-	-
	TR45 TXMT 1004		33.80	27.60	3.00	75.12	80.12	160.12	1.0	-

[1] Maximum ramp down angle

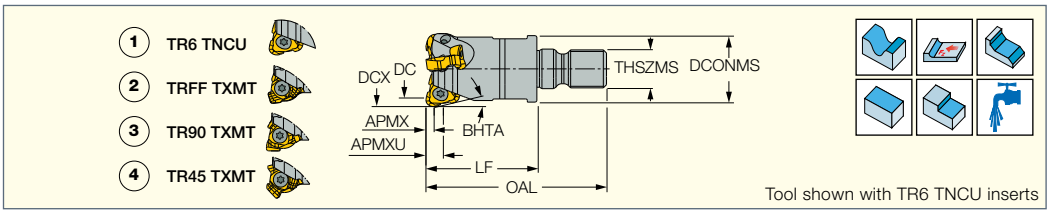
Spare Parts

Designation		
TR6 ER D16-50-2-C16-07	SR M2.5X0.45-L6 IP7	IP-7/51
TR6 ER D20-60-4-C20-07	SR M2.5X0.45-L6 IP7	IP-7/51
TR6 ER D25-70-5-C25-07	SR M2.5X0.45-L6 IP7	IP-7/51
TR6 ER D32-80-6-C32-07	SR M2.5X0.45-L6 IP7	IP-7/51
TR6 ER D25-70-3-C25-10	SR 10508600	T-9/51
TR6 ER D32-80-4-C32-10	SR 10508600	T-9/51

TOR6MILL PROFILING

TR6 ER-M

Multifunction Endmills with FLEXFIT Threaded Adaptation that can Carry Four Different Insert Geometries



Designation	DCX	DCX_2	DCX_3	DCX_4	DC	DC_2	DC_4	APMX	APMX_2	APMX_3	APMX_4	APMXU(1)	BHTA(2)	CICT(3)	LF	LF_2	LF_3	LF_4
TR6 ER D16/0.63-2-M08-07	16.00	16.00	16.00	-	14.00	12.10	-	1.00	0.60	2.50	-	2.00	21.0	2	24.70	24.90	25.00	-
TR6 ER D20/0.79-4-M10-07	20.00	20.00	20.00	-	18.00	16.10	-	1.00	0.60	2.50	-	2.00	21.0	4	24.70	24.90	25.00	-
TR6 ER D25/0.98-5-M12-07	25.00	25.00	25.00	-	23.00	21.10	-	1.00	0.60	2.50	-	2.00	21.0	5	29.70	29.90	30.00	-
TR6 ER D32/1.26-6-M16-07	32.00	32.00	32.00	-	30.00	28.10	-	1.00	0.60	2.50	-	2.00	21.0	6	34.70	34.90	35.00	-
TR6 ER D35/1.38-6-M16-07	35.00	35.00	35.00	-	33.00	31.10	-	1.00	0.60	2.50	-	2.00	21.0	6	34.70	34.90	35.00	-
TR6 ER D25/0.98-3-M12-10	25.00	25.00	25.00	26.80	20.00	20.60	20.60	2.50	0.80	4.00	3.00	4.20	20.5	3	35.00	25.15	25.12	25.12
TR6 ER D32/1.26-4-M16-10	32.00	32.00	32.00	33.80	27.00	27.60	27.60	2.50	0.80	4.00	3.00	4.20	20.5	4	35.00	35.15	35.12	35.12
TR6 ER D35/1.38-5-M16-10	35.00	35.00	35.00	36.80	30.00	30.60	30.60	2.50	0.80	4.00	3.00	4.20	20.5	5	35.00	35.15	35.12	35.12

Designation	OAL	OAL_2	OAL_3	OAL_4	DCONMS	THSZMS	MIID(4)	MIID_2(5)	MIID_3(6)	MIID_4(7)	kg	Insert
TR6 ER D16/0.63-2-M08-07	42.20	42.40	42.50	-	13.00	M08	TR6 TNCU 070210	TRFF TXMT 0702	TR90 TXMT 070204	-	0.03	TR6 TNCU 070210
TR6 ER D20/0.79-4-M10-07	44.70	44.90	45.00	-	18.00	M10	TR6 TNCU 070210	TRFF TXMT 0702	TR90 TXMT 070204	-	0.05	TR6 TNCU 070210
TR6 ER D25/0.98-5-M12-07	51.70	51.90	52.00	-	21.00	M12	TR6 TNCU 070210	TRFF TXMT 0702	TR90 TXMT 070204	-	0.08	TR6 TNCU 070210
TR6 ER D32/1.26-6-M16-07	59.70	59.90	60.00	-	29.00	M16	TR6 TNCU 070210	TRFF TXMT 0702	TR90 TXMT 070204	-	0.18	TR6 TNCU 070210
TR6 ER D35/1.38-6-M16-07	59.70	59.90	60.00	-	29.00	M16	TR6 TNCU 070210	TRFF TXMT 0702	TR90 TXMT 070204	-	0.19	TR6 TNCU 070210
TR6 ER D25/0.98-3-M12-10	47.00	47.15	46.91	47.12	21.00	M12	TR6 TNCU 100425	TRFF TXMT 1004	TR90 TXMT 100408	TR45 TXMT 1004	0.06	TR6 TNCU 100425
TR6 ER D32/1.26-4-M16-10	60.00	60.15	59.91	60.12	29.00	M16	TR6 TNCU 100425	TRFF TXMT 1004	TR90 TXMT 100408	TR45 TXMT 1004	0.17	TR6 TNCU 100425
TR6 ER D35/1.38-5-M16-10	60.00	60.15	59.91	60.12	29.00	M16	TR6 TNCU 100425	TRFF TXMT 1004	TR90 TXMT 100408	TR45 TXMT 1004	0.18	TR6 TNCU 100425

• Note: The data refers to master inserts, for other insert radii and geometries refer to the table below

(1) For undercutting with TR6 TNCU/TNMU inserts only

(2) For undercutting with TR6 TNCU/TNMU inserts only

(3) Number of inserts

(4) Master insert identification

(5) Master insert identification 2

(6) Master insert identification 3

(7) Master insert identification 4

For inserts, see pages: TR45 TXMT (515) • TR6 TNCU/MU (514) • TR90 TXMT (515) • TRFF TXMT (515)

For holders, see pages: BT-ODP (FLEXFIT) (1030) • C#-ODP (FLEXFIT) (1001) • CAB M-M (FLEXFIT) (1046) • DIN69871-ODP (308) • ER-ODP (1048) • HSK A-ODP (FLEXFIT) (309) • S M (1045) • S M-C-H (1045) • S M-CF (1046)

Tool	Insert	DCX	DC	APMX	LF	OAL	RMPX	For undercutting APMX_2	For undercutting BHTA
TR6 ER D16/0.63-2-M08-07	TR6 TNCU 070205	16.00	15.00	0.50	24.6	42.1	-	1.60	17.0
	TR6 TNCU 070215		13.00	1.50	24.8	42.3	-	2.40	21.0
	TRFF TXMT 0702		12.10	0.60	24.9	42.4	1.1	-	-
	TR90 TXMT 070204		-	2.50	25.0	42.5	1.6	-	-
TR6 ER D20/0.79-4-M10-07	TR6 TNCU 070205	20.00	19.00	0.50	24.6	44.6	-	1.60	17.0
	TR6 TNCU 070215		17.00	1.50	24.8	44.8	-	2.40	21.0
	TRFF TXMT 0702		16.10	0.60	24.9	44.9	0.8	-	-
	TR90 TXMT 070204		-	2.50	25.0	45.0	1.2	-	-
TR6 ER D25/0.98-5-M12-07	TR6 TNCU 070205	25.00	24.00	0.50	29.6	51.6	-	1.60	17.0
	TR6 TNCU 070215		22.00	1.50	29.8	51.8	-	2.40	21.0
	TRFF TXMT 0702		21.10	0.60	29.9	51.9	0.6	-	-
	TR90 TXMT 070204		-	2.50	30.0	52.0	0.9	-	-
TR6 ER D32/1.26-6-M16-07	TR6 TNCU 070205	32.00	31.00	0.50	34.6	59.6	-	1.60	17.0
	TR6 TNCU 070215		29.00	1.50	34.8	59.8	-	2.40	21.0
	TRFF TXMT 0702		28.10	0.60	34.9	59.9	0.4	-	-
	TR90 TXMT 070204		-	2.50	35.0	60.0	0.7	-	-
TR6 ER D35/1.38-6-M16-07	TR6 TNCU 070205	35.00	34.00	0.50	34.6	59.6	-	1.60	17.0
	TR6 TNCU 070215		32.00	1.50	34.8	59.8	-	2.40	21.0
	TRFF TXMT 0702		31.10	0.60	34.9	59.9	0.4	-	-
	TR90 TXMT 070204		-	2.50	35	60	0.4	-	-
TR6 ER D25/0.98-3-M12-10	TR6 TNCU 100405	25.00	24.00	0.50	24.52	46.52	-	1.80	17.5
	TR6 TNCU 100410		23.00	1.00	24.64	46.64	-	2.30	20.5
	TR6 TNCU/MU 100415		22.00	1.50	24.76	46.76	-	2.70	20.5
	TR6 TNCU 100420		21.00	2.00	24.88	46.88	-	3.50	20.5
	TR6 TNCU 100430		19.00	3.00	25.12	47.12	-	4.50	20.5
	TRFF TXMT 1004		20.60	0.80	25.15	47.15	1.7	-	-
	TR90 TXMT 100408		-	4.00	24.91	46.91	1.6	-	-
	TR45 TXMT 1004	26.80	20.60	3.00	25.12	47.12	1.4	-	-
TR6 ER D32/1.26-4-M16-10	TR6 TNCU 100405	32.00	31.00	0.50	34.52	59.52	-	1.80	17.5
	TR6 TNCU 100410		30.00	1.00	34.64	59.64	-	2.30	20.5
	TR6 TNCU/MU 100415		29.00	1.50	34.76	59.76	-	2.70	20.5
	TR6 TNCU 100420		28.00	2.00	34.88	59.88	-	3.50	20.5
	TR6 TNCU 100430		26.00	3.00	35.12	60.12	-	4.50	20.5
	TRFF TXMT 1004		27.60	0.80	35.15	60.15	1.2	-	-
	TR90 TXMT 100408		-	4.00	34.91	59.91	1.1	-	-
	TR45 TXMT 1004	33.80	27.60	3.00	35.12	60.12	0.9	-	-
TR6 ER D35/1.38-5-M16-10	TR6 TNCU 100405	35.00	34.00	0.50	34.52	59.52	-	1.80	17.5
	TR6 TNCU 100410		33.00	1.00	34.64	59.64	-	2.30	20.5
	TR6 TNCU/MU 100415		32.00	1.50	34.76	59.76	-	2.70	20.5
	TR6 TNCU 100420		31.00	2.00	34.88	59.88	-	3.50	20.5
	TR6 TNCU 100430		29.00	3.00	35.12	60.12	-	4.50	20.5
	TRFF TXMT 1004		30.60	0.80	35.15	60.15	1.2	-	-
	TR90 TXMT 100408		-	4.00	34.91	59.91	1.1	-	-
	TR45 TXMT 1004	36.80	30.60	3.00	35.12	60.12	0.9	-	-

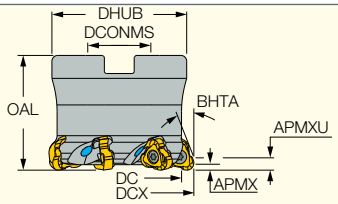
Spare Parts

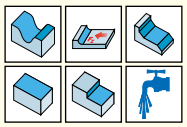
Designation		
TR6 ER D16/0.63-2-M08-07	SR M2.5X0.45-L6 IP7	IP-7/51
TR6 ER D20/0.79-4-M10-07	SR M2.5X0.45-L6 IP7	IP-7/51
TR6 ER D25/0.98-5-M12-07	SR M2.5X0.45-L6 IP7	IP-7/51
TR6 ER D32/1.26-6-M16-07	SR M2.5X0.45-L6 IP7	IP-7/51
TR6 ER D35/1.38-6-M16-07	SR M2.5X0.45-L6 IP7	IP-7/51
TR6 ER D25/0.98-3-M12-10	SR 10508600	T-9/51
TR6 ER D32/1.26-4-M16-10	SR 10508600	T-9/51
TR6 ER D35/1.38-5-M16-10	SR 10508600	T-9/51

TOR6MILL PROFILING

TR6 FR

Multifunction Face Mills that can Carry Four Different Insert Geometries





Tool shown with TR6 TNCU inserts

Designation	DCX	DCX_2	DCX_3	DCX_4	DC	DC_2	DC_4	APMX	APMX_2	APMX_3	APMX_4	APMXU(1)	BHTA(2)	CICT(3)	OAL	OAL_2	OAL_3	OAL_4
TR6 FR D40-06-16-10	40.00	40.00	40.00	41.80	35.00	34.00	35.60	2.50	0.80	4.00	3.00	4.20	20.5	6	37.00	37.15	36.91	37.12
TR6 FR D42-06-16-10	42.00	42.00	42.00	43.80	37.00	36.00	37.60	2.50	0.80	4.00	3.00	4.20	20.5	6	37.00	37.15	36.91	37.12
TR6 FR D50-07-22-10	50.00	50.00	50.00	51.80	45.00	44.00	45.60	2.50	0.80	4.00	3.00	4.20	20.5	7	40.00	40.15	39.91	40.12
TR6 FR D52-07-22-10	52.00	52.00	52.00	53.80	47.00	46.00	53.60	2.50	0.80	4.00	3.00	4.20	20.5	7	40.00	40.15	39.91	40.12
TR6 FR D63-08-22-10	63.00	63.00	63.00	64.80	58.00	57.00	56.60	2.50	0.80	4.00	3.00	4.20	20.5	8	40.00	40.15	39.91	40.12
TR6 FR D66-08-22-10	66.00	66.00	66.00	67.80	61.00	60.00	61.60	2.50	0.80	4.00	3.00	4.20	20.5	8	40.00	40.15	39.91	40.12
TR6 FR D80-10-27-10	80.00	80.00	80.00	81.80	75.00	74.00	75.60	2.50	0.80	4.00	3.00	4.20	20.5	10	50.00	50.15	49.91	50.12

Designation	DCONMS	DHUB	Arbor	MIID(4)	MIID_2(5)	MIID_3(6)	MIID_4(7)	kg
TR6 FR D40-06-16-10	16.00	32.00	A	TR6 TNCU 100425	TRFF TXMT 1004	TR90 TXMT 100408	TR45 TXMT 1004	0.14
TR6 FR D42-06-16-10	16.00	32.00	A	TR6 TNCU 100425	TRFF TXMT 1004	TR90 TXMT 100408	TR45 TXMT 1004	0.15
TR6 FR D50-07-22-10	22.00	47.00	A	TR6 TNCU 100425	TRFF TXMT 1004	TR90 TXMT 100408	TR45 TXMT 1004	0.29
TR6 FR D52-07-22-10	22.00	47.00	A	TR6 TNCU 100425	TRFF TXMT 1004	TR90 TXMT 100408	TR45 TXMT 1004	0.33
TR6 FR D63-08-22-10	22.00	48.00	A	TR6 TNCU 100425	TRFF TXMT 1004	TR90 TXMT 100408	TR45 TXMT 1004	0.42
TR6 FR D66-08-22-10	22.00	48.00	A	TR6 TNCU 100425	TRFF TXMT 1004	TR90 TXMT 100408	TR45 TXMT 1004	0.46
TR6 FR D80-10-27-10	27.00	60.00	A	TR6 TNCU 100425	TRFF TXMT 1004	TR90 TXMT 100408	TR45 TXMT 1004	0.91

• Note: The data refers to master inserts, for other insert radii and geometries refer to the table below

(1) For undercutting with TR6 TNCU/TNMU inserts only

(2) For undercutting with TR6 TNCU/TNMU inserts only

(3) Number of inserts

(4) Master insert identification

(5) Master insert identification 2

(6) Master insert identification 3

(7) Master insert identification 4

For inserts, see pages: TR45 TXMT (515) • TR6 TNCU/MU (514) • TR90 TXMT (515) • TRFF TXMT (515)

Tool	Insert	DCX	DC	APMX	OAL	RMPX	For undercutting APMX 2	For undercutting BHTA
TR6 FR D40-06-16-10	TR6 TNCU 100405	40.00	39.00	0.50	36.52	-	1.80	17.5
	TR6 TNCU 100410		38.00	1.00	36.64	-	2.30	20.5
	TR6 TNCU/MU 100415		37.00	1.50	36.76	-	2.70	20.5
	TR6 TNCU 100420		36.00	2.00	36.88	-	3.50	20.5
	TR6 TNCU 100430		34.00	3.00	37.12	-	4.50	20.5
	TRFF TXMT 1004		34.00	0.80	37.15	0.9	-	-
	TR90 TXMT 100408		-	4.00	36.91	0.9	-	-
	TR45 TXMT 1004	41.80	35.60	3.00	37.12	0.7	-	-
TR6 FR D42-06-16-10	TR6 TNCU 100405	42.00	41.00	0.50	36.52	-	1.80	17.5
	TR6 TNCU 100410		40.00	1.00	36.64	-	2.30	20.5
	TR6 TNCU/MU 100415		39.00	1.50	36.76	-	2.70	20.5
	TR6 TNCU 100420		38.00	2.00	36.88	-	3.50	20.5
	TR6 TNCU 100430		36.00	3.00	37.12	-	4.50	20.5
	TRFF TXMT 1004		36.00	0.80	37.15	0.90	-	-
	TR90 TXMT 100408		-	4.00	36.91	0.90	-	-
	TR45 TXMT 1004	43.80	37.60	3.00	37.12	0.70	-	-
TR6 FR D50-07-22-10	TR6 TNCU 100405	50.00	49.00	0.50	39.52	-	1.80	17.5
	TR6 TNCU 100410		48.00	1.00	39.64	-	2.30	20.5
	TR6 TNCU/MU 100415		47.00	1.50	39.76	-	2.70	20.5
	TR6 TNCU 100420		46.00	2.00	39.88	-	3.50	20.5
	TR6 TNCU 100430		44.00	3.00	40.12	-	4.50	20.5
	TRFF TXMT 1004		44.00	0.80	40.15	0.70	-	-
	TR90 TXMT 100408		-	4.00	39.91	0.70	-	-
	TR45 TXMT 1004	51.80	45.60	3.00	40.12	0.60	-	-
TR6 FR D52-07-22-10	TR6 TNCU 100405	52.00	51.00	0.50	39.52	-	1.80	17.5
	TR6 TNCU 100410		50.00	1.00	39.64	-	2.30	20.5
	TR6 TNCU/MU 100415		49.00	1.50	39.76	-	2.70	20.5
	TR6 TNCU 100420		48.00	2.00	39.88	-	3.50	20.5
	TR6 TNCU 100430		46.00	3.00	40.12	-	4.50	20.5
	TRFF TXMT 1004		46.00	0.80	40.15	0.70	-	-
	TR90 TXMT 100408		-	4.00	39.91	0.70	-	-
	TR45 TXMT 1004	53.80	53.80	3.00	40.12	0.60	-	-
TR6 FR D63-08-22-10	TR6 TNCU 100405	63.00	62.00	0.50	39.52	-	1.80	17.5
	TR6 TNCU 100410		61.00	1.00	39.64	-	2.30	20.5
	TR6 TNCU/MU 100415		60.00	1.50	39.76	-	2.70	20.5
	TR6 TNCU 100420		59.00	2.00	39.88	-	3.50	20.5
	TR6 TNCU 100430		57.00	3.00	40.12	-	4.50	20.5
	TRFF TXMT 1004		57.00	0.80	40.15	0.50	-	-
	TR90 TXMT 100408		-	4.00	39.91	0.50	-	-
	TR45 TXMT 1004	64.80	58.60	3.00	40.12	0.40	-	-
TR6 FR D66-08-22-10	TR6 TNCU 100405	66.00	65.00	0.50	39.52	-	1.80	17.5
	TR6 TNCU 100410		64.00	1.00	39.64	-	2.30	20.5
	TR6 TNCU/MU 100415		63.00	1.50	39.76	-	2.70	20.5
	TR6 TNCU 100420		62.00	2.00	39.88	-	3.50	20.5
	TR6 TNCU 100430		60.00	3.00	40.12	-	4.50	20.5
	TRFF TXMT 1004		60.00	0.80	40.15	0.50	-	-
	TR90 TXMT 100408		-	4.00	39.91	0.50	-	-
	TR45 TXMT 1004	67.80	61.60	3.00	40.12	0.40	-	-
TR6 FR D80-10-27-10	TR6 TNCU 100405	80.00	79.00	0.50	49.52	-	1.80	17.5
	TR6 TNCU 100410		78.00	1.00	49.64	-	2.30	20.5
	TR6 TNCU/MU 100415		77.00	1.50	49.76	-	2.70	20.5
	TR6 TNCU 100420		76.00	2.00	49.88	-	3.50	20.5
	TR6 TNCU 100430		74.00	3.00	50.12	-	4.50	20.5
	TRFF TXMT 1004		74.00	0.80	50.15	0.40	-	-
	TR90 TXMT 100408		-	4.00	49.91	0.40	-	-
	TR45 TXMT 1004	81.80	75.60	3.00	50.12	0.30	-	-

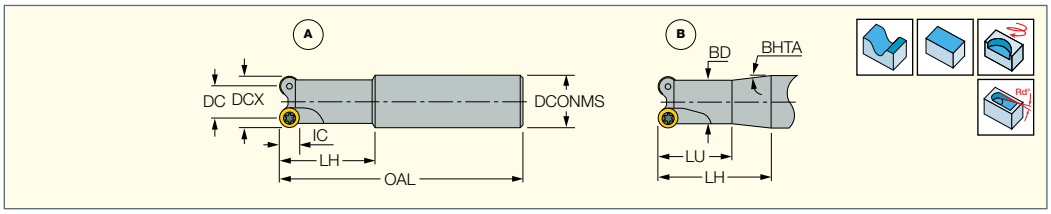
Spare Parts

Designation			
TR6 FR D40-06-16-10	SR 10508600	T-9/51	SR M8X25DIN912
TR6 FR D42-06-16-10	SR 10508600	T-9/51	SR M8X25DIN912
TR6 FR D50-07-22-10	SR 10508600	T-9/51	SR M10X25 DIN912
TR6 FR D52-07-22-10	SR 10508600	T-9/51	SR M10X25 DIN912
TR6 FR D63-08-22-10	SR 10508600	T-9/51	SR M10X25 DIN912
TR6 FR D66-08-22-10	SR 10508600	T-9/51	SR M10X25 DIN912
TR6 FR D80-10-27-10	SR 10508600	T-9/51	SR M12X30DIN912

ROUNDMILL

ER

Endmills with Round Inserts for Profiling and Milling of Round Corners



Designation	DCX(1)	DC	IC	BD	CICT(2)	LH	DCONMS	Shank(3)	RMPX(4)	BHTA	OAL	LU	Type	kg	MIID(5)
ER D07A12-3-C12-05	12.00	7.00	5.00	11.70	3	40.0	12.00	C	6.0	-	100.00	-	A	0.08	RXCR 05T1
ER D08A15-2-C20-07	15.00	8.00	7.00	13.50	2	40.0	20.00	C	15.0	5	140.00	40.0	B	0.26	RXCR 0702
ER D08A16-2-C16-08	16.00	8.00	8.00	13.50	2	40.0	16.00	C	27.0	-	120.00	-	A	0.16	RXCR 0802
ER D17A25-3-C32-08	25.00	17.00	8.00	22.50	3	60.0	32.00	C	5.4	-	160.00	-	A	0.80	RXCR 0802
ER D10A20-2-C20-10	20.00	10.00	10.00	17.90	2	60.0	20.00	C	13.0	-	160.00	-	A	0.34	RXCR 10T3
ER D15A25-2-C25-10	25.00	15.00	10.00	22.80	2	60.0	25.00	C	6.0	-	160.00	-	A	0.55	RXCR 10T3
ER D22A32-4-C25-10	32.00	22.00	10.00	29.90	4	40.0	25.00	C	4.0	-	160.00	-	A	0.62	RXCR 10T3
ER D24A40-3-C32-16	40.00	24.00	16.00	30.00	3	50.0	32.00	C	20.0	-	160.00	-	A	0.90	RCCW 1605

(1) Cutting diameter maximum
(2) Number of inserts
(3) C-Cylindrical
(4) Maximum ramping angle
(5) Master insert identification

For inserts, see pages: RXCR (504) • RXCW (504) • RXMT 10 (504)

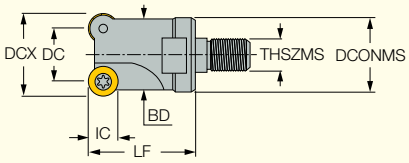
Spare Parts

Designation				
ER D07A12-3-C12-05	SR 34-533	T-6/51		
ER D08A15-2-C20-07	SR 14-560/S	T-8/53		
ER D08A16-2-C16-08	SR 14-560/S	T-8/53		
ER D17A25-3-C32-08	SR 14-560/S	T-8/53		
ER D10A20-2-C20-10	SR 14-562/S	T-10/51		
ER D15A25-2-C25-10	SR 14-562/S	T-10/51		
ER D22A32-4-C25-10	SR 14-562	T-10/51		
ER D24A40-3-C32-16	SR 14-536		BLD T20/M7	SW6-T

ROUNDMILL FLEXFIT

ER-M

Endmills with FLEXFIT Threaded Adaptation Carrying Round Inserts for Profiling and Milling of Round Corners



Designation	DCX(1)	DC	IC	BD	CICT(2)	DCONMS	LF	THSZMS	RMPX(3)	kg		
ER D05A10-2-M08-05	10.00	5.00	5.00	9.40	2	13.00	28.00	M08	28.0	0.02	SR 34-533	T-6/51
ER D10A15-4-M08-05	15.00	10.00	5.00	13.00	4	13.00	23.00	M08	13.0	0.03	SR 34-533	T-6/51
ER D15A20-5-M10-05	20.00	15.00	5.00	18.00	5	18.00	30.00	M10	4.3	0.06	SR 34-533	T-6/51
ER D08A15-3-M08-07	15.00	8.00	7.00	13.50	3	13.50	23.00	M08	15.0	0.03	SR 14-560/S	T-8/53
ER D13A20-4-M10-07	20.00	13.00	7.00	18.00	4	18.00	30.00	M10	5.0	0.06	SR 14-560/S	T-8/53
ER D08A16-2-M08-08	16.00	8.00	8.00	13.50	2	13.00	25.00	M08	27.0	0.02	SR 14-560/S	T-8/53
ER D12A20-2-M10-08	20.00	12.00	8.00	17.20	2	18.00	32.00	M10	6.5	0.05	SR 14-560/S	T-8/53
ER D10A20-2-M10-10	20.00	10.00	10.00	18.00	2	18.00	30.00	M10	28.0	0.05	SR 14-562/S	T-10/51
ER D15A25-2-M12-10	25.00	15.00	10.00	21.00	2	21.00	35.00	M12	12.0	0.09	SR 14-562/S	T-10/51
ER D15A25-3-M12-10	25.00	15.00	10.00	29.00	3	21.00	35.00	M12	12.0	0.09	SR 14-562/S	T-10/51
ER D22A32-4-M16-10	32.00	22.00	10.00	29.00	4	29.00	43.00	M16	7.3	0.20	SR 14-562	T-10/51
ER D25A35-4-M16-10	35.00	25.00	10.00	29.00	4	29.00	43.00	M16	5.5	0.22	SR 14-562	T-10/51
ER D32A42-5-M16-10	42.00	32.00	10.00	29.00	5	29.00	43.00	M16	4.5	0.25	SR 14-562	T-10/51

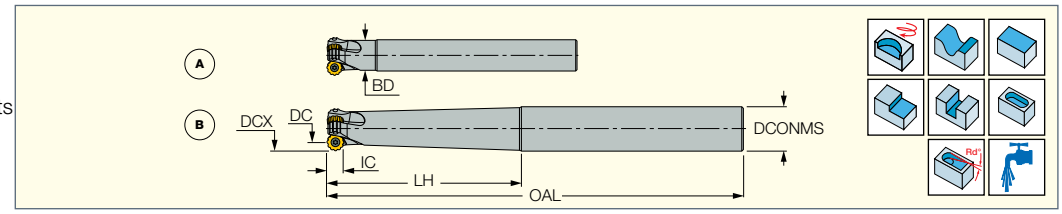
(1) Cutting diameter maximum
(2) Number of inserts
(3) Maximum ramping angle

For inserts, see pages: R90CW (505) • RXCR (504) • RXCW (504) • RXMT 10 (504)
For holders, see pages: BT-ODP (FLEXFIT) (1030) • C#-ODP (FLEXFIT) (1001) • CAB M-M (FLEXFIT) (1046) • DIN69871-ODP (308) • ER-ODP (1048) • HSK A-ODP (FLEXFIT) (309) • S M (1045) • S M-C-H (1045) • S M-CF (1046)

MILLSHRED ROUND LINE

ERW

Rough Profiling Endmills with Serrated or Regular Round Inserts



Designation	DCX(1)	DC	IC	CICT(2)	LH	OAL	DCONMS	Shank(3)	BD	RMPX(4)	Type
ERW D015A025-B-3-C25-10	25.00	15.00	10.00	3	50.0	150.00	25.00	C	-	3.0	B
ERW D022A032-A-4-C25-10	32.00	22.00	10.00	4	-	170.00	25.00	C	-	4.0	A
ERW D030A040-A-5-C32-10	40.00	30.00	10.00	5	-	200.00	32.00	C	-	3.0	A
ERW D013A025-B-2-C25-12	25.00	13.00	12.00	2	50.0	180.00	25.00	C	-	2.0	B
ERW D020A032-A-3-C25-12	32.00	20.00	12.00	3	40.0	200.00	25.00	C	24.00	7.0	A
ERW D020A032-B-3-C32-12	32.00	20.00	12.00	3	140.0	300.00	32.00	C	-	7.0	B
ERW D028A040-A-4-C32-12	40.00	28.00	12.00	4	50.0	250.00	32.00	C	31.00	5.0	A

• For user guide, see pages 518-524

(1) Cutting diameter maximum

(2) Number of inserts

(3) C-Cylindrical

(4) Maximum ramping angle

For inserts, see pages: RCMT/RCCT-MO (506) • RCMT/RCMW-FW (507) • RCMW/RCCW-MO (506)

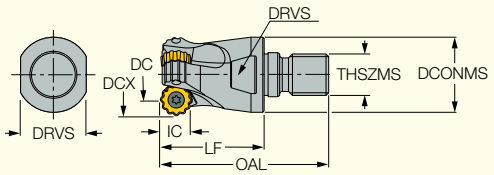
Spare Parts

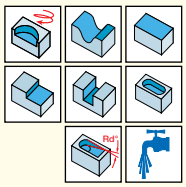
Designation				
ERW D015A025-B-3-C25-10	SR 34-506/L	T-9/51		
ERW D022A032-A-4-C25-10	SR 34-506/L	T-9/51		
ERW D030A040-A-5-C32-10	SR 34-506/L	T-9/51		
ERW D013A025-B-2-C25-12	SR 14-601		BLD T15/S7	SW6-T
ERW D020A032-A-3-C25-12	SR 14-601		BLD T15/S7	SW6-T
ERW D020A032-B-3-C32-12	SR 14-601		BLD T15/S7	SW6-T
ERW D028A040-A-4-C32-12	SR 14-601		BLD T15/S7	SW6-T

MILLSHRED FLEXFIT
ROUND LINE

ERW-M

Rough Profiling Tools with a FLEXFIT Adaptation





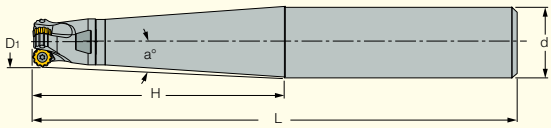
Designation	DCX(1)	DC	IC	APMX	CICT(2)	DCONMS	OAL	LF	DRVS(3)	THSZMS	RMPX(4)	kg
ERW D015A025-3-M12-10	25.00	15.00	10.00	5.00	3	21.00	52.00	30.00	17.0	M12	3.0	0.06
ERW D022A032-4-M16-10	32.00	22.00	10.00	5.00	4	29.00	55.00	30.00	25.0	M16	4.0	0.12
ERW D013A025-2-M12-12	25.00	13.00	12.00	6.00	2	21.00	57.00	35.00	17.0	M12	2.0	0.08
ERW D020A032-3-M16-12	32.00	20.00	12.00	6.00	3	29.00	65.00	40.00	25.0	M16	7.0	0.15
ERW D028A040-4-M16-12	40.00	28.00	12.00	6.00	4	29.00	65.00	40.00	25.0	M16	5.0	0.19

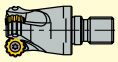
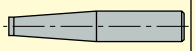
• For user guide, see pages ..
(1) Cutting diameter maximum
(2) Number of inserts
(3) Clamping wrench size
(4) Maximum ramping angle

For inserts, see pages: RCMT/RCCT-MO (506) • RCMT/RCMW-FW (507) • RCMW/RCCW-MO (506)
For holders, see pages: BT-ODP (FLEXFIT) (1030) • C#-ODP (FLEXFIT) (1001) • CAB M-M (FLEXFIT) (1046) • DIN69871-ODP (308) • ER-ODP (1048) • HSK A-ODP (FLEXFIT) (309) • S M (1045) • S M-C-H (1045) • S M-CF (1046)

ERW-M

Assembly of Button and Shredding Insert Endmills with FLEXFIT Connection



Milling Head	Adapter	Shank Assembly Dimensions						
		D1	H	L	a°	d	Rd°	Inserts
ERW D015A025-3-M12-10	S M12-L086-C25	25	60	116	-	25	3	RCMT 1004... RCCT 1004...
	S M12-L200-C32	25	108	230	1.9	32	3	
ERW D022A032-4-M16-10	S M16-L95-C32	32	65	125	-	32	4	
	S M16-L230-C32	32	80	260	-	32	4	
ERW D013A025-2-M12-12	S M12-L086-C25	25	70	126	-	25	2	RCMT 1206... RCCW 1206... RCCT 1206...
	S M12-L200-C32	25	118	240	1.8	32	2	
ERW D020A032-3-M16-12	S M16-L95-C32	32	75	85	-	32	7	
	S M16-L230-C32	32	90	220	-	32	7	
ERW D028A040-4-M16-12	S M16-L95-C32	40	75	85	-	32	5	
	S M16-L230-C32	40	90	220	-	32	5	

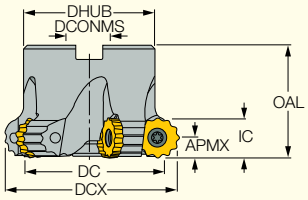
Spare Parts

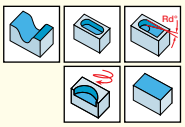
Designation				
ERW D015A025-3-M12-10	SR 34-506/L	T-9/51		
ERW D022A032-4-M16-10	SR 34-506/L	T-9/51		
ERW D013A025-2-M12-12	SR 14-601		BLD T15/S7	SW6-T
ERW D020A032-3-M16-12	SR 14-601		BLD T15/S7	SW6-T
ERW D028A040-4-M16-12	SR 14-601		BLD T15/S7	SW6-T

MILLSHRED ROUND LINE

FRW

Rough Profiling Face Mills with Serrated or Regular Round Inserts





Designation	DCX(1)	DC	IC	APMX	CICT(2)	OAL	DHUB	DCONMS	RMPX(3)	CSP(4)	Arbor(5)	kg	MIID(6)
FRW D030A040-05-16-10	40.00	30.00	10.00	5.00	5	35.00	35.00	16.00	3.0	1	A	0.16	RCCT 1004MO
FRW D028A040-04-16-12	40.00	28.00	12.00	6.00	4	40.00	35.00	16.00	6.5	1	A	0.15	RCCT 1206MO
FRW D038A050-05-22-12	50.00	38.00	12.00	6.00	5	45.00	45.00	22.00	5.0	1	A	0.29	RCCT 1206MO
FRW D040A052-05-22-12	52.00	40.00	12.00	6.00	5	45.00	45.00	22.00	5.0	1	A	0.31	RCCT 1206MO
FRW D051A063-06-22-12	63.00	51.00	12.00	6.00	6	45.00	48.00	22.00	4.0	1	A	0.46	RCCT 1206MO
FRW D054A066-06-27-12	66.00	54.00	12.00	6.00	6	50.00	50.00	27.00	4.0	1	A	0.54	RCCT 1206MO
FRW D068A080-07-27-12	80.00	68.00	12.00	6.00	7	50.00	58.50	27.00	3.0	0	B	0.71	RCCT 1206MO
FRW D034A050-04-22-16	50.00	34.00	16.00	8.00	4	54.00	42.00	22.00	11.0	1	A	0.26	RCMT 1607MO
FRW D036A052-04-22-16	52.00	36.00	16.00	8.00	4	50.00	42.00	22.00	10.0	1	A	0.26	RCMT 1607MO
FRW D047A063-05-22-16	63.00	47.00	16.00	8.00	5	45.00	48.00	22.00	7.0	1	A	0.40	RCMT 1607MO
FRW D050A066-05-22-16	66.00	50.00	16.00	8.00	5	45.00	48.00	22.00	6.0	1	A	0.42	RCMT 1607MO
FRW D050A066-05-27-16	66.00	50.00	16.00	8.00	5	50.00	50.00	27.00	6.0	1	A	0.46	RCMT 1607MO
FRW D064A080-06-27-16	80.00	64.00	16.00	8.00	6	50.00	58.50	27.00	5.0	0	B	0.65	RCMT 1607MO
FRW D084A100-07-32-16	100.00	84.00	16.00	8.00	7	50.00	70.00	32.00	4.0	0	B	1.11	RCMT 1607MO
FRW D109A125-07-40-16	125.00	109.00	16.00	8.00	7	63.00	90.00	40.00	3.0	0	B	2.33	RCMT 1607MO
FRW D060A080-05-27-20	80.00	60.00	20.00	10.00	5	50.00	58.50	27.00	7.0	0	B	0.61	RCMT 2009MO
FRW D080A100-06-32-20	100.00	80.00	20.00	10.00	6	50.00	70.00	32.00	5.0	0	B	0.98	RCMT 2009MO
FRW D105A125-07-40-20	125.00	105.00	20.00	10.00	7	63.00	82.00	40.00	4.0	0	B	1.98	RCMT 2009MO
FRW D140A160-08-40-20	160.00	140.00	20.00	10.00	8	63.00	116.00	40.00	3.0	0	C	3.55	RCMT 2009MO

• For user guide, see pages 518-524
(1) Cutting diameter maximum
(2) Number of inserts
(3) Maximum ramping angle
(4) 0 - Without coolant supply, 1 - With coolant supply
(5) For adaptation options, see page 517
(6) Master insert identification

For inserts, see pages: RCMT/RCCT-MO (506) • RCMT/RCMW-FW (507) • RCMW/RCCW-MO (506)

Spare Parts

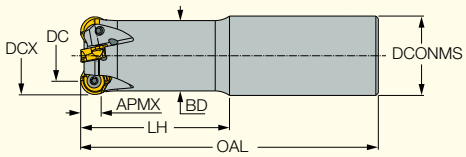
Designation					
FRW D030A040-05-16-10	SR 34-506/L			T-9/51	SR M8X25DIN912
FRW D028A040-04-16-12	SR 14-601	BLD T15/S7	SW6-T		SR M8X25DIN912
FRW D038A050-05-22-12	SR 14-601	BLD T15/S7	SW6-T		SR M10X25 DIN912
FRW D040A052-05-22-12	SR 14-601	BLD T15/M7	SW6-T		SR M10X25 DIN912
FRW D051A063-06-22-12	SR 14-601	BLD T15/M7	SW6-T		SR M10X25 DIN912
FRW D054A066-06-27-12	SR 14-601	BLD T15/M7	SW6-T		
FRW D068A080-07-27-12	SR 14-601	BLD T15/M7	SW6-T		
FRW D034A050-04-22-16	SR 14-536/M	BLD T20/M7	SW6-T		SR M10X30 DIN912
FRW D036A052-04-22-16	SR 14-536/M	BLD T20/M7	SW6-T		SR M10X30 DIN912
FRW D047A063-05-22-16	SR 14-536/M	BLD T20/M7	SW6-T		SR M10X25 DIN912
FRW D050A066-05-22-16	SR 14-536/M	BLD T20/M7	SW6-T		SR M10X25 DIN912
FRW D050A066-05-27-16	SR 14-536/M	BLD T20/M7	SW6-T		SR M12X30 DIN912
FRW D064A080-06-27-16	SR 14-536/M	BLD T20/M7	SW6-T		
FRW D084A100-07-32-16	SR 14-536/M	BLD T20/M7	SW6-T		
FRW D109A125-07-40-16	SR 14-536/M	BLD T20/L7	SW6-T		
FRW D060A080-05-27-20	SR 14-2120	BLD IP25/M7(a)	SW6-T		
FRW D080A100-06-32-20	SR 14-2120	BLD IP25/M7(a)	SW6-T		
FRW D105A125-07-40-20	SR 14-2120	BLD IP25/L7(a)	SW6-T		
FRW D140A160-08-40-20	SR 14-2120	BLD IP25/L7(a)	SW6-T		

(a) Torx Plus

HELIDO ROUND H400 LINE

H400 ER-10

Endmills Carrying Double-Sided Inserts with Four 5 mm Radius Cutting Edges

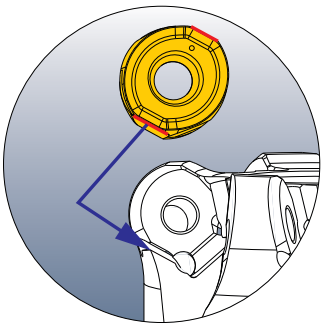


Designation	DCX(1)	DC	BD	CICT(2)	APMX	LH	OAL	DCONMS	Shank(3)	RMPX(4)	kg	MIID(5)
H400 ER D20-2-060-C20-10	20.00	10.00	17.50	2	7.50	60.0	160.00	20.00	C	-	0.33	H400 RNHU 1004-ML
H400 ER D25-3-060-C25-10	25.00	15.00	21.60	3	7.50	60.0	120.00	25.00	C	5.8	0.35	H400 RNHU 1004-ML
H400 ER D32-5-060-C32-10	32.00	22.00	29.60	5	7.50	60.0	120.00	32.00	C	3.8	0.59	H400 RNHU 1004-ML

(1) Cutting diameter maximum
(2) Number of inserts
(3) C-Cylindrical
(4) Maximum ramping angle
(5) Master insert identification

For inserts, see pages: H400 RNHU (508)

Insert Clamping Orientation



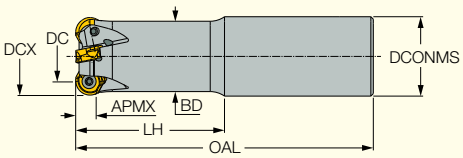
Spare Parts

Designation		
H400 ER-10	SR 10508600	T-9/51

HELIDO ROUND H400 LINE

H400 ER-12

Endmills Carrying Double-Sided Inserts with Four 6 mm Radius Cutting Edges



Designation	DCX(1)	DC	BD	CICT(2)	APMX	LH	OAL	DCONMS	Shank(3)	RMPX(4)	kg	MIID(5)
H400 ER D25-2-060-C25-12	25.00	13.00	21.60	2	8.70	60.0	120.00	25.00	C	5.6	0.34	H400 RNHU 1205-AX
H400 ER D32-4-060-C32-12	32.00	20.00	28.40	4	8.70	60.0	120.00	32.00	C	5.6	0.58	H400 RNHU 1205-AX
H400 ER D40-5-060-C32-12	40.00	28.00	31.50	5	8.70	60.0	150.00	32.00	C	3.7	0.80	H400 RNHU 1205-AX

(1) Cutting diameter maximum
(2) Number of inserts
(3) C-Cylindrical
(4) Maximum ramping angle
(5) Master insert identification

For inserts, see pages: H400 RNHU (508)

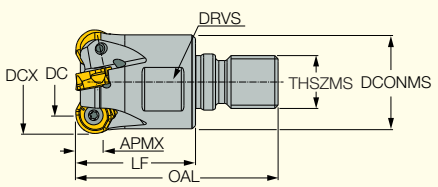
Spare Parts

Designation		
H400 ER-12	SR 14-571	T-10/51

HELIDO FLEXFIT
ROUND H400 LINE

H400 ER-M

Endmills with FLEXFIT Threaded Connection Carrying Double-Sided Inserts with Four Radius Cutting Edges



Designation	DCX(1)	DC	DCONMS	CICT(2)	APMX	LF	OAL	DRVS(3)	RMPX(4)	THSZMS	kg	MIID(5)
H400 ER D20-2-M10-10	20.00	10.00	16.60	2	7.50	25.00	45.00	15.0	-	M10	0.04	H400 RNHU 1004-ML
H400 ER D25-3-M12-10	25.00	15.00	21.00	3	7.50	28.00	50.00	19.0	5.8	M12	0.07	H400 RNHU 1004-ML
H400 ER D32-5-M16-10	32.00	22.00	29.60	5	7.50	35.00	60.00	25.0	3.8	M16	0.17	H400 RNHU 1004-ML
H400 ER D25-2-M12-12	25.00	13.00	21.60	2	8.70	28.00	50.00	19.0	5.6	M12	0.07	H400 RNHU 1205-AX
H400 ER D32-4-M16-12	32.00	20.00	28.40	4	8.70	35.00	60.00	25.0	5.6	M16	0.15	H400 RNHU 1205-AX
H400 ER D40-5-M16-12	40.00	28.00	29.00	5	8.70	35.00	60.00	25.0	3.7	M16	0.19	H400 RNHU 1205-AX

(1) Cutting diameter maximum
(2) Number of inserts
(3) Clamping wrench size
(4) Maximum ramping angle
(5) Master insert identification

For inserts, see pages: H400 RNHU (508)
For holders, see pages: BT-ODP (FLEXFIT) (1030) • C#-ODP (FLEXFIT) (1001) • CAB M-M (FLEXFIT) (1046) • DIN69871-ODP (308) • ER-ODP (1048) • HSK A-ODP (FLEXFIT) (309) • S M (1045) • S M-C-H (1045) • S M-CF (1046)

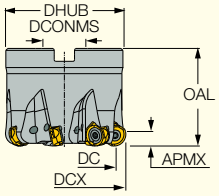
Spare Parts

Designation		
H400 ER D20-2-M10-10	SR 10508600	T-9/51
H400 ER D25-3-M12-10	SR 10508600	T-9/51
H400 ER D32-5-M16-10	SR 10508600	T-9/51
H400 ER D25-2-M12-12	SR 14-571	T-10/51
H400 ER D32-4-M16-12	SR 14-571	T-10/51
H400 ER D40-5-M16-12	SR 14-571	T-10/51

HELIDO
ROUND H400 LINE

H400 FR-10

Face Mills Carrying Double-Sided Inserts with Four 5 mm Radius Cutting Edges



Designation	DCX(1)	DC	CICT(2)	APMX	OAL	DHUB	DCONMS	RMPX(3)	Arbor(4)	kg	MIID(5)
H400 FR D040-06-16-10	40.00	30.00	6	7.50	35.00	37.60	16.00	2.6	A	0.18	H400 RNHU 1004-ML
H400 FR D050-07-22-10	50.00	40.00	7	7.50	40.00	47.00	22.00	1.9	A	0.33	H400 RNHU 1004-ML

(1) Cutting diameter maximum
(2) Number of inserts
(3) Maximum ramping angle
(4) For adaptation options, see page 517
(5) Master insert identification

For inserts, see pages: H400 RNHU (508)

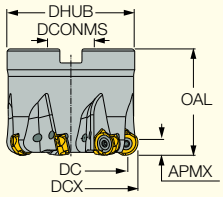
Spare Parts

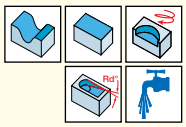
Designation			
H400 FR D040-06-16-10	SR 10508600	T-9/51	SR M8X25DIN912
H400 FR D050-07-22-10	SR 10508600	T-9/51	SR M10X25 DIN912

HELIDO
ROUND H400 LINE

H400 FR-12

Face Mills Carrying Double-Sided Inserts with Four 6 mm Radius Cutting Edges



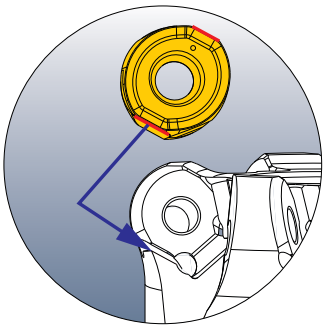


Designation	DCX(1)	DC	CICT(2)	APMX	OAL	DHUB	DCONMS	RMPX(3)	Arbor(4)	kg	MIID(5)
H400 FR D040-05-16-12	40.00	28.00	5	8.70	40.00	38.00	16.00	3.7	A	0.20	H400 RNHU 1205-AX
H400 FR D050-06-22-12	50.00	38.00	6	8.70	50.00	45.00	22.00	2.6	A	0.39	H400 RNHU 1205-AX
H400 FR D052-06-22-12	52.00	40.00	6	8.70	50.00	45.00	22.00	2.5	A	0.42	H400 RNHU 1205-AX
H400 FR D063-07-22-12	63.00	51.00	7	8.70	50.00	60.00	22.00	1.9	A	0.79	H400 RNHU 1205-AX
H400 FR D066-07-27-12	66.00	54.00	7	8.70	50.00	61.00	27.00	1.8	A	0.78	H400 RNHU 1205-AX
H400 FR D080-08-27-12	80.00	68.00	8	8.70	50.00	62.00	27.00	1.5	A	1.03	H400 RNHU 1205-AX

(1) Cutting diameter maximum
(2) Number of inserts
(3) Maximum ramping angle
(4) For adaptation options, see page 517
(5) Master insert identification

For inserts, see pages: H400 RNHU (508)

Insert Clamping Orientation



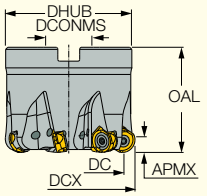
Spare Parts

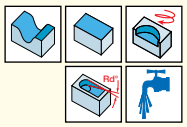
Designation			
H400 FR D040-05-16-12	SR 14-571	T-10/51	SR M8X25DIN912
H400 FR D050-06-22-12	SR 14-571	T-10/51	SR M10X25 DIN912
H400 FR D052-06-22-12	SR 14-571	T-10/51	SR M10X25 DIN912
H400 FR D063-07-22-12	SR 14-571	T-10/51	SR M10X25 DIN912
H400 FR D066-07-27-12	SR 14-571	T-10/51	SR M12X30 DIN912
H400 FR D080-08-27-12	SR 14-571	T-10/51	SR M12X30 DIN912

HELIDO ROUND H400 LINE

H400 FR-16

Face Mills Carrying Double-Sided Inserts with Four 8 mm Radius Cutting Edges



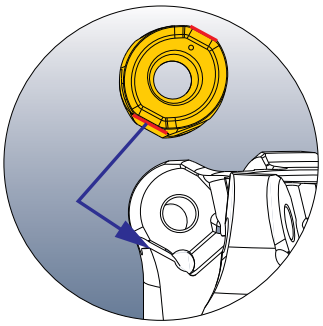


Designation	DCX(1)	DC	CICT(2)	APMX	OAL	DHUB	DCONMS	RMPX(3)	Arbor(4)	kg	MIID(5)
H400 FR D050-05-22-16	50.00	34.00	5	12.00	50.00	47.00	22.00	3.3	A	0.41	H400 RNHU 1606-AX
H400 FR D063-06-22-16	63.00	47.00	6	12.00	50.00	48.00	22.00	2.5	A	0.74	H400 RNHU 1606-AX
H400 FR D066-06-27-16	66.00	50.00	6	12.00	50.00	60.60	27.00	2.3	A	0.79	H400 RNHU 1606-AX
H400 FR D080-07-27-16	80.00	64.00	7	12.00	50.00	63.60	27.00	1.8	A	1.09	H400 RNHU 1606-AX
H400 FR D100-09-32-16	100.00	84.00	9	12.00	49.60	84.00	32.00	1.3	A	0.00	H400 RNHU 1606-AX
H400 FR D125-11-40-16	125.00	109.00	11	12.00	55.00	84.00	40.00	1.0	A	3.02	H400 RNHU 1606-AX

(1) Cutting diameter maximum
(2) Number of inserts
(3) Maximum ramping angle
(4) For adaptation options, see page 517
(5) Master insert identification

For inserts, see pages: H400 RNHU (508)

Insert Clamping Orientation



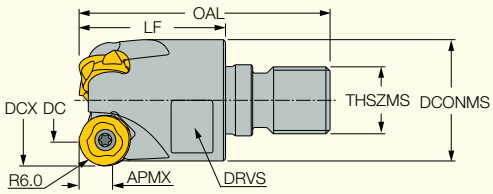
Spare Parts

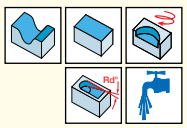
Designation				
H400 FR D050-05-22-16	SR 14-591/H	BLD T20/M7	SW6-T	SR M10X25 DIN912
H400 FR D063-06-22-16	SR 14-591/H	BLD T20/M7	SW6-T	SR M10X25 DIN912
H400 FR D066-06-27-16	SR 14-591/H	BLD T20/M7	SW6-T	SR M12X30 DIN912
H400 FR D080-07-27-16	SR 14-591/H	BLD T20/M7	SW6-T	SR M12X30 DIN912
H400 FR D100-09-32-16	SR 14-591/H	BLD T20/M7	SW6-T	
H400 FR D125-11-40-16	SR 14-591/H	BLD T20/M7	SW6-T	

HELIDO ROUND H606 LINE

H606 ER-M

Endmills with FLEXFIT Threaded Connection Carrying Double-Sided Inserts with Six 6 mm Radius Cutting Edges





Designation	DCX(1)	DC	DCONMS	CICT(2)	APMX	LF	OAL	DRVS(3)	RMPX(4)	THSZMS	kg		
H606 ER D032-03-M16-12	32.00	20.00	29.00	3	6.00	35.00	60.00	25.0	2.5	M16	0.15	SR 14-571	T-10/51

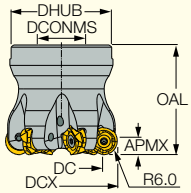
(1) Cutting diameter maximum
(2) Number of inserts
(3) Clamping wrench size
(4) Maximum ramping angle

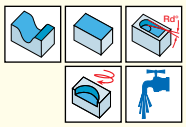
For inserts, see pages: H606 RXCU 1206 (508)
For holders, see pages: BT-ODP (FLEXFIT) (1030) • C#-ODP (FLEXFIT) (1001) • CAB M-M (FLEXFIT) (1046) • DIN69871-ODP (308) • HSK A-ODP (FLEXFIT) (309) • S M (1045) • S M-C-H (1045) • S M-CF (1046)

HELIDO
ROUND H606 LINE

H606 FR-12

Face Mills Carrying Double-Sided Inserts with Six 6 mm Radius Cutting Edges





Designation	DCX(1)	DC	CICT(2)	APMX	OAL	DHUB	DCONMS	RMPX(3)	Arbor(4)	kg
H606 FR D040-04-16-12	40.00	28.00	4	6.00	45.00	38.00	16.00	2.0	A	0.22
H606 FR D050-06-22-12	50.00	38.00	6	6.00	50.00	47.00	22.00	1.3	A	0.38
H606 FR D052-06-22-12	52.00	40.00	6	6.00	50.00	47.00	22.00	1.3	A	0.39
H606 FR D063-07-22-12	63.00	51.00	7	6.00	50.00	48.00	22.00	1.0	A	0.52
H606 FR D080-08-27-12	80.00	68.00	8	6.00	50.00	58.00	27.00	0.7	A	0.83

(1) Cutting diameter maximum
(2) Number of inserts
(3) Maximum ramping angle
(4) For adaptation options, see page 517

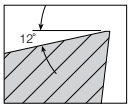
For inserts, see pages: H606 RXCU 1206 (508)

Spare Parts

Designation			
H606 FR D040-04-16-12	SR 14-571	T-10/51	SR PS 118-0416
H606 FR D050-06-22-12	SR 14-571	T-10/51	SR M10X25 DIN912
H606 FR D052-06-22-12	SR 14-571	T-10/51	SR M10X25 DIN912
H606 FR D063-07-22-12	SR 14-571	T-10/51	SR M10X25 DIN912
H606 FR D080-08-27-12	SR 14-571	T-10/51	SR M12X30 DIN912

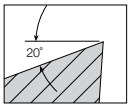
Machining Recommendations

- Excellent tool stability
- Chips split into small pieces
- Optimal chip flow with easy evacuation, even from deep cavities
- High tooth load capability, up to 8 mm depth-of-cut, which will significantly reduce machining time
- Small cutting forces, therefore the required machining power is low
- 4 indexing options when using the **SHREDMILL** insert and 8 indexing options when using the round one
- Available are several chipformers and rake configurations, designed for a large variety of workpiece materials



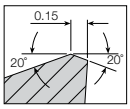
RCMT 1607-FW

Material Group	Hardness (HB)	Typical Materials	Depth Ap (mm)	Vc (m/min)	Fz (mm/tooth)	Recommended
Low carbon steel	125-180	C15, ST37, 1.0401	4	150	0.3	✓✓
Low alloy steel	170-220	CK45,1.1231,16MnCr5	4	150	0.3	✓✓
High alloy steel	200-260	X20Cr13,1.4923	4	150	0.3	✓✓
Tool & die steel	280-370	1.2379,1.2311	3	150	0.3	✓✓
Stainless steel	150-270	1.4404,316,321	-	-	-	-
Grey cast iron	200-250	GG25,GRADE220	5	150-180	0.3	✓
S.G. iron	180-250	GGG60,SNG600/3	5	110-150	0.3	✓
Titanium	450-500	TiAl4Mo4Sn4Si0.5	4	50	0.2	✓
Aluminum	75-130	G-AlSi12	-	-	-	-
Hardened die steel	38-42 HRc	1.2344,1.2379	3	120	0.2	✓
Hardened die steel	48-52 HRc	1.2762,1.1545	-	-	-	-



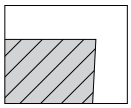
RCMT 1607-FW-F20

Material Group	Hardness (HB)	Typical Materials	Depth Ap (mm)	Vc (m/min)	Fz (mm/tooth)	Recommended
Low carbon steel	125-180	C15,ST37,1.0401	3	150	0.3	✓
Low alloy steel	170-220	CK45,1.1231,16MnCr5	-	-	-	-
High alloy steel	200-260	X20Cr13,1.4923	-	-	-	-
Tool & die steel	280-370	1.2379,1.2311	-	-	-	-
Stainless steel	150-270	1.4306,304, 1.4404,316	6	100	0.1	✓✓
Grey cast iron	200-250	GG25,GRADE220	-	-	-	-
S.G. iron	180-250	GGG60,SNG600/3	-	-	-	-
Titanium	450-500	TiAl4Mo4Sn4Si0.5	-	-	-	-
Aluminum	75-130	G-AlSi12	6	850	0.4	✓✓
Hardened die steel	38-42 HRc	1.2344,1.2379	-	-	-	✓
Hardened die steel	48-52 HRc	1.2762,1.1545	-	-	-	-



RCMT 1607 FW-T20

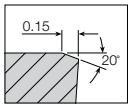
Material Group	Hardness (HB)	Typical Materials	Depth Ap (mm)	Vc (m/min)	Fz (mm/tooth)	Recommended
Low carbon steel	125-180	C15,ST37,1.0401	3	150	0.3	✓
Low alloy steel	170-220	CK45,1.1231,16MnCr5	3	150	0.3	✓
High alloy steel	200-260	X20Cr13,1.4923	-	-	-	-
Tool & die steel	280-370	1.2379,1.2311	-	-	-	-
Stainless steel	150-270	1.4031, 420	6	120	0.2	✓✓
Grey cast iron	200-250	GG25,GRADE220	-	-	-	-
S.G. iron	180-250	GGG60,SNG600/3	-	-	-	-
Titanium	450-500	TiAl4Mo4Sn4Si0.5	-	-	-	-
Aluminum	75-130	G-AlSi12	-	-	-	-
Hardened die steel	38-42 HRc	1.2344,1.2379	-	-	-	-
Hardened die steel	48-52 HRc	1.2762,1.1545	-	-	-	-



RCCW 1607-FW

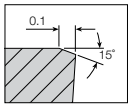
Material Group	Hardness (HB)	Typical Materials	Depth Ap (mm)	Vc (m/min)	Fz (mm/tooth)	Recommended
Low carbon steel	125-180	C15,ST37,1.0401	4	150	0.3	✓
Low alloy steel	170-220	CK45,1.1231,16MnCr5	4	150	0.3	✓✓
High alloy steel	200-260	X20Cr13,1.4923	4	150	0.3	✓✓
Tool & die steel	280-370	1.2379,1.2311	4	150	0.3	✓✓
Stainless steel	150-270	1.4404,316,321	-	-	-	-
Grey cast iron	200-250	GG25,GRADE220	-	-	-	-
S.G. iron	180-250	GGG60,SNG600/3	-	-	-	-
Titanium	450-500	TiAl4Mo4Sn4Si0.5	-	-	-	-
Aluminum	75-130	G-AlSi12	-	-	-	-
Hardened die steel	38-42 HRc	1.2344,1.2379	4	120	0.2	✓
Hardened die steel	48-52 HRc	1.2762,1.1545	-	-	-	-

Machining Recommendations



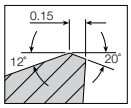
RCMW 1607-T-FW

Material Group	Hardness (HB)	Typical Materials	Depth Ap (mm)	Vc (m/min)	Fz (mm/tooth)	Recommended
Low carbon steel	125-180	C15,ST37,1.0401	-	-	-	-
Low alloy steel	170-220	CK45,1.1231,16MnCr5	4	150	0.3	✓
High alloy steel	200-260	X20Cr13,1.4923	4	150	0.3	✓✓
Tool & die steel	280-370	1.2379,1.2311	3	150	0.3	✓✓
Stainless steel	150-270	1.4404,316,321	-	-	-	-
Grey cast iron	200-250	GG25,GRADE220	5	150-180	0.3	✓✓
S.G. iron	180-250	GGG60,SNG600/3	5	110-150	0.3	✓✓
Titanium	450-500	TiAl4Mo4Sn4Si0.5	-	-	-	-
Alumnum	75-130	G-AlSi12	-	-	-	-
Hardened die steel	38-42 HRc	1.2344,1.2379	-	-	-	-
Hardened die steel	48-52 HRc	1.2762,1.1545	-	-	-	-



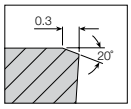
RCMW 1607-T-FPW

Material Group	Hardness (HB)	Typical Materials	Depth Ap (mm)	Vc (m/min)	Fz (mm/tooth)	Recommended
Low carbon steel	125-180	C15,ST37,1.0401	4	150	0.3	✓
Low alloy steel	170-220	CK45,1.1231,16MnCr5	4	150	0.3	✓✓
High alloy steel	200-260	X20Cr13,1.4923	4	150	0.3	✓✓
Tool & die steel	280-370	1.2379,1.2311	4	150	0.3	✓✓
Stainless steel	150-270	1.4404,316,321	-	-	-	-
Grey cast iron	200-250	GG25,GRADE220	-	-	-	-
S.G. iron	180-250	GGG60,SNG600/3	-	-	-	-
Titanium	450-500	TiAl4Mo4Sn4Si0.5	-	-	-	-
Aluminum	75-130	G-AlSi12	-	-	-	-
Hardened die steel	38-42 HRc	1.2344,1.2379	4	120	0.25	✓✓
Hardened die steel	48-52 HRc	1.2762,1.1545	4	80	0.1	✓✓



RCMT 1607MO

Material Group	Hardness (HB)	Typical Materials	Depth Ap (mm)	Vc (m/min)	Fz (mm/tooth)	Recommended
Low carbon steel	125-180	C15,ST37,1.0401	4	180	0.3	✓
Low alloy steel	170-220	CK45,1.1231,16MnCr5	4	180	0.3	✓✓
High alloy steel	200-260	X20Cr13,1.4923	4	180	0.3	✓✓
Tool & die steel	280-370	1.2379,1.2311	-	-	-	-
Stainless steel	150-270	1.4031, 420	6	120	0.3	✓✓
Grey cast iron	200-250	GG25,GRADE220	-	-	-	-
S.G. iron	180-250	GGG60,SNG600/3	-	-	-	-
Titanium	450-500	TiAl4Mo4Sn4Si0.5	-	-	-	-
Aluminum	75-130	G-AlSi12	-	-	-	-
Hardened die steel	38-42 HRc	1.2344,1.2379	-	-	-	-
Hardened die steel	48-52 HRc	1.2762,1.1545	-	-	-	-



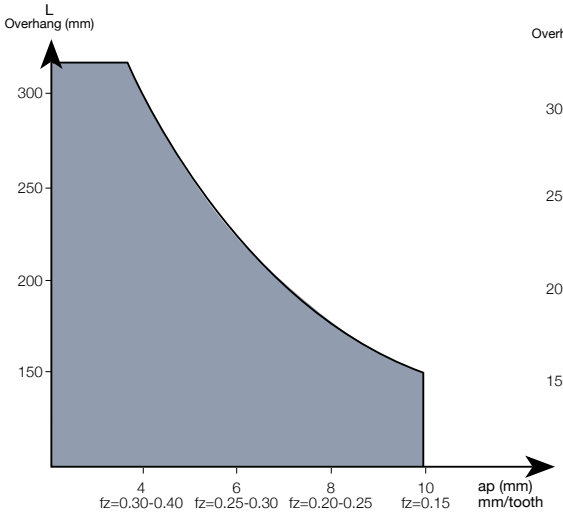
RCMW 1607MO

Material Group	Hardness (HB)	Typical Materials	Depth Ap (mm)	Vc (m/min)	Fz (mm/tooth)	Recommended
Low carbon steel	125-180	C15,ST37,1.0401	-	-	-	-
Low alloy steel	170-220	CK45,1.1231,16MnCr5	2	180	0.7	✓✓
High alloy steel	200-260	X20Cr13,1.4923	2	180	0.7	✓✓
Tool & die steel	280-370	1.2379,1.2311	2	150	0.5	✓✓
Stainless steel	150-270	1.4404,316,321	-	-	-	-
Grey cast iron	200-250	GG25,GRADE220	2	300	0.7	✓✓
S.G. iron	180-250	GGG60,SNG600/3	2	220	0.5	✓✓
Titanium	450-500	TiAl4Mo4Sn4Si0.5	-	-	-	-
Aluminum	75-130	G-AlSi12	-	-	-	-
Hardened die steel	38-42 HRc	1.2344,1.2379	2	150	0.4	✓
Hardened die steel	48-52 HRc	1.2762,1.1545	-	-	-	-

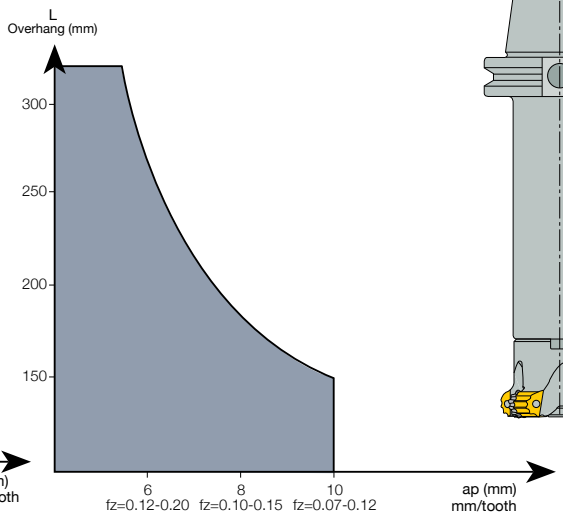
✓✓ Most Recommended
✓ Second option

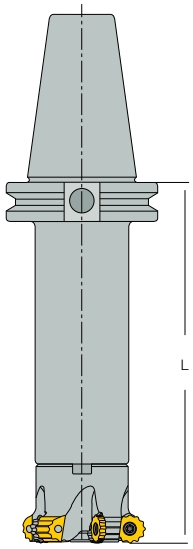
Feed Limit Recommendations as a Function of Overhang and Depth of Cut

Carbon and Alloy Steel

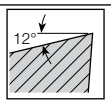
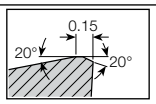
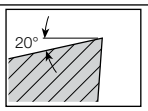
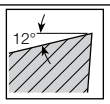
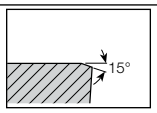


Stainless Steel





Insert Selection Guide

Insert Designation	RCMT...FW	RCMT...FW-T20	RCMT...FW-F20	RCCT...MO	RCCW...MO
RC...1206					
Workpiece / Geometry	 Positive rake face	 Positive rake face with T-Land	 Positive rake face sharp edge	 Positive rake face	 Flat top face with a T-Land
Alloy steel	VV	V	V	V	VV
Mold steel	VV	V	V	V	VV
Grey cast iron	V				VV
Stainless steel		VV(1)	VV(2)	VV	
Aluminum			VV	V	
High temp. alloys	V		V	VV	
Hardened mold steel (45 HRc max)	V				V

Applications							
	Helical Interpolation	Shouldering	Contour Milling	Ramping Down	Plunging	Profiling	Pocket Milling

(1) Recommended for martensitic stainless steel
(2) Recommended for austenitic stainless steel

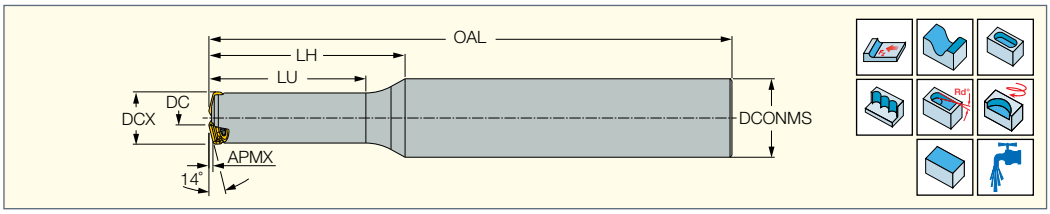
V Least recommended
VV Second option
VVV Most recommended

FAST FEED MILLING TOOLS

NAN3FEED NANO FEED MILL

FFT3 EFM-02

Small Diameter Endmills Carrying Single-Sided Triangular Inserts for Fast Feed Milling



Designation	DCX(1)	DC	APMX	AE(2)	CICT(3)	LU	LH	OAL	DCONMS	Shank(4)	RMPX(5)	MIID(6)	TQ(7)	kg
FFT3 EFM D08-2-060-C10-02	8.00	2.20	0.60	2.9	2	17.0	20.0	60.00	10.00	C	10.8	FFT3 TXMT 0201205T	0.5	0.03
FFT3 EFM D08-2-080-C12-02	8.00	2.20	0.60	2.9	2	26.0	30.0	80.00	12.00	C	10.8	FFT3 TXMT 0201205T	0.5	0.05
FFT3 EFM D10-3-070-C10-02	10.00	4.20	0.60	2.9	3	19.5	20.0	70.00	10.00	C	4.7	FFT3 TXMT 0201205T	0.5	0.04
FFT3 EFM D10-3-090-C12-02	10.00	4.20	0.60	2.9	3	30.0	33.0	90.00	12.00	C	4.7	FFT3 TXMT 0201205T	0.5	0.06

• Radius for programming 1.1 mm • To generate a straight surface without cusps, the width of cut must not exceed DC

(1) Cutting diameter maximum
(2) Maximum plunging width
(3) Number of inserts
(4) C-Cylindrical
(5) Maximum ramping angle
(6) Master insert identification
(7) Recommended tightening torque (N*m) for insert screw

For inserts, see pages: FFT3 TXMT 02 (431)

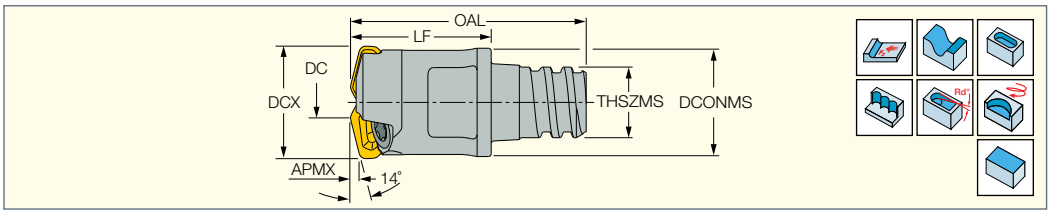
Spare Parts

Designation		
FFT3 EFM-02	SR M2X0.4-2.9 T6-HG	T-6/5 MAGNET 3X3

NAN3FEED NANO FEED MILL

FFT3 EFM-MM 02

Small Diameter Endmills with a MULTI-MASTER Threaded Adaptation Carrying Triangular Inserts for Fast Feed Milling



Designation	DCX(1)	DC	APMX	AE(2)	CICT(3)	LF	DCONMS	THSZMS	OAL	DRVS(4)	RMPX(5)	kg	MIID(6)	TQ(7)
FFT3 EFMD08/.31-2MMT05-02	8.00	2.20	0.60	2.9	2	10.00	7.60	T05	16.75	5.5	10.8	0.01	FFT3 TXMT 0201205T	0.5
FFT3 EFMD10/.39-3MMT06-02	10.00	4.20	0.60	2.9	3	10.00	9.70	T06	16.30	8.0	4.7	0.01	FFT3 TXMT 0201205T	0.5

• For adaptation, see page 256 • For user guide, see pages 518-524 • Radius for programing 1.1 mm • To generate a straight surface without cusps, the width of cut must not exceed DC

(1) Cutting diameter maximum
(2) Maximum plunging width
(3) Number of inserts
(4) Key flat size
(5) Maximum ramping angle
(6) Master insert identification
(7) Recommended tightening torque (N*m) for insert screw

For inserts, see pages: FFT3 TXMT 02 (431)
For holders, see pages: MM CAB (1047) • MM CAB-T-T (77) • MM GRT (shanks) (72) • MM S-A (stepped shanks) (70) • MM S-A (straight shanks) (73) • MM S-A-C# (72) • MM S-A-HSK (76) • MM S-A-N (71) • MM S-A-SK (76) • MM S-B (85° conical shanks) (73) • MM S-D (89° conical shanks) (74) • MM S-ER (75) • MM S-ER-H (75) • MM TS-A (72)

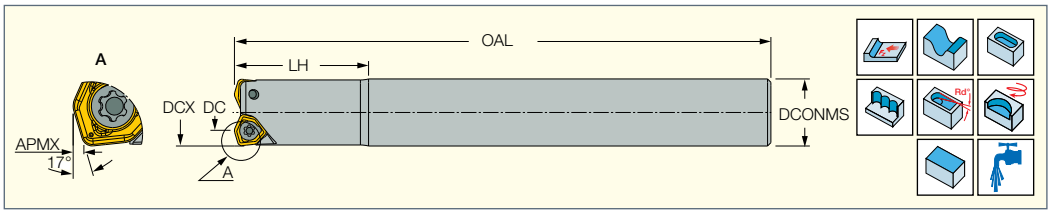
Spare Parts

Designation		
FFT3 EFM-MM 02	SR M2X0.4-2.9 T6-HG	T-6/5 MAGNET 3X3

MICRO3FEED
MF 300 ENDMILL

FFT3 EFM-03

Endmills Carrying Single-Sided Small Trigon Inserts for Fast Feed Milling



Designation	DCX(1)	DC	APMX	AE(2)	CICT(3)	LH	OAL	DCONMS	Shank(4)	RMPX(5)	kg	MIID(6)	TQ(7)
FFT3 EFM D10-2-080-C10-03	10.00	5.60	0.60	2.2	2	20.0	80.00	10.00	C	6.9	0.11	FFT3 WXMT 030206T	0.5
FFT3 EFM D12-3-120-C12-03	12.00	7.60	0.60	2.2	3	25.0	120.00	12.00	C	4.7	0.14	FFT3 WXMT 030206T	0.5
FFT3 EFM D16-4-140-C16-03	16.00	11.60	0.60	2.2	4	35.0	140.00	16.00	C	2.9	0.18	FFT3 WXMT 030206T	0.5

• Radius for programming 1.1 mm • To generate a straight surface without cusps, the width of cut must not exceed DC

(1) Cutting diameter maximum
(2) Maximum plunging width
(3) Number of inserts
(4) C-Cylindrical
(5) Maximum ramping angle
(6) Master insert identification
(7) Recommended tightening torque (N*m) for insert screw

For inserts, see pages: FFT3 WXMT 03 (501)

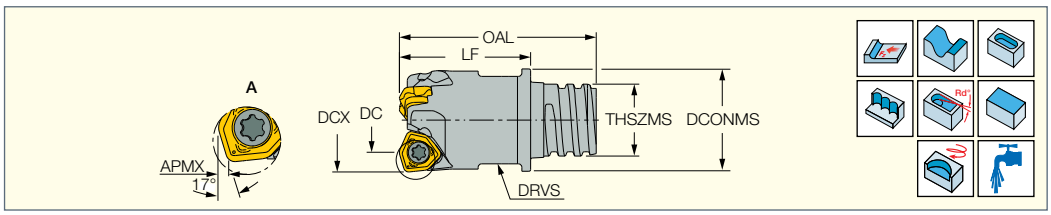
Spare Parts

Designation		
FFT3 EFM-03	TS 18041I/HG	T-6IP/51

MICRO3FEED
MF 300 ENDMILL

FFT3 EFM-MM 03

Endmills with a MULTI-MASTER Threaded Adaptation Carrying Single-Sided Small Trigon Inserts for Fast Feed Milling



Designation	DCX(1)	DC	APMX	AE(2)	CICT(3)	LF	DCONMS	THSZMS	OAL	DRVS(4)	RMPX(5)	kg	MIID(6)	TQ(7)
FFT3 EFMD10/.39-2MMT06-03	10.00	5.60	0.60	2.2	2	10.00	9.70	T06	16.30	8.0	6.9	0.02	FFT3 WXMT 030206T	0.5
FFT3 EFMD12/.47-3MMT08-03	12.00	7.60	0.60	2.2	3	15.00	11.70	T08	22.50	10.0	4.7	0.03	FFT3 WXMT 030206T	0.5
FFT3 EFMD16/.63-4MMT10-03	16.00	11.60	0.60	2.2	4	20.00	15.30	T10	31.30	13.0	2.9	0.05	FFT3 WXMT 030206T	0.5

• Radius for programming 1.1 mm • To generate a straight surface without cusps, the width of cut must not exceed DC

(1) Cutting diameter maximum
(2) Maximum plunging width
(3) Number of inserts
(4) Key flat size
(5) Maximum ramping angle
(6) Master insert identification
(7) Recommended tightening torque (N*m) for insert screw

For inserts, see pages: FFT3 WXMT 03 (501)
For holders, see pages: MM CAB (1047) • MM CAB-T-T (77) • MM GRT (shanks) (72) • MM S-A (stepped shanks) (70) • MM S-A (straight shanks) (73) • MM S-A-C# (72) • MM S-A-HSK (76) • MM S-A-N (71) • MM S-A-SK (76) • MM S-B (85° conical shanks) (73) • MM S-D (89° conical shanks) (74) • MM S-ER (75) • MM S-ER-H (75) • MM TS-A (72)

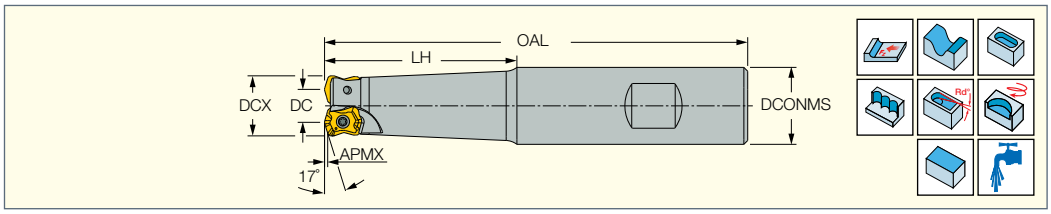
Spare Parts

Designation		
FFT3 EFM-MM 03	TS 18041I/HG	T-6IP/51

LOGIQ4FEED HIGH FEED MILLING

FFX4 ED

Endmills Carrying Small Double-Sided "Bone Shape" Inserts with 4 Cutting Edges for Fast Feed Milling



Designation	DCX(1)	DC	APMX	AE(2)	CICT(3)	LH	KAPR	OAL	DCONMS	RMPX(4)	Shank(5)	kg	MIID(6)	TQ(7)
FFX4 ED12-1-030-C12-04	12.00	4.60	0.80	3.7	1	30.0	17.0	90.00	12.00	3.6	C	0.07	FFX4 XNMU 040310	0.9
FFX4 ED16-2-030-C16-04	16.00	8.60	0.80	3.7	2	30.0	17.0	120.00	16.00	4.3	C	0.16	FFX4 XNMU 040310	0.9
FFX4 ED16-2-050-W20-04	16.00	8.60	0.80	3.7	2	50.0	17.0	110.00	20.00	4.3	W	0.20	FFX4 XNMU 040310	0.9
FFX4 ED20-3-050-C20-04	20.00	12.60	0.80	3.7	3	50.0	17.0	140.00	20.00	2.7	C	0.29	FFX4 XNMU 040310	0.9
FFX4 ED20-3-060-W20-04	20.00	12.60	0.80	3.7	3	60.0	17.0	120.00	20.00	2.7	W	0.24	FFX4 XNMU 040310	0.9
FFX4 ED25-4-060-C25-04	25.00	17.60	0.80	3.7	4	60.0	17.0	150.00	25.00	1.8	C	0.50	FFX4 XNMU 040310	0.9
FFX4 ED25-4-080-W25-04	25.00	17.60	0.80	3.7	4	80.0	17.0	140.00	25.00	1.8	W	0.45	FFX4 XNMU 040310	0.9
FFX4 ED32-5-080-W32-04	32.00	24.60	0.80	3.7	5	80.0	17.0	150.00	32.00	1.2	W	0.80	FFX4 XNMU 040310	0.9
FFX4 ED32-5-120-C32-04	32.00	24.60	0.80	3.7	5	120.0	17.0	205.00	32.00	1.2	C	1.02	FFX4 XNMU 040310	0.9

• Radius for programming 1.8 mm • To generate a straight surface without cusps, the width of cut must not exceed DC

(1) Cutting diameter maximum
(2) Maximum plunging width
(3) Number of inserts
(4) Maximum ramping angle
(5) C-Cylindrical, W-Weldon
(6) Master insert identification
(7) Recommended tightening torque (N*m) for insert screw

For inserts, see pages: FFX4 XNMU (503)

Spare Parts

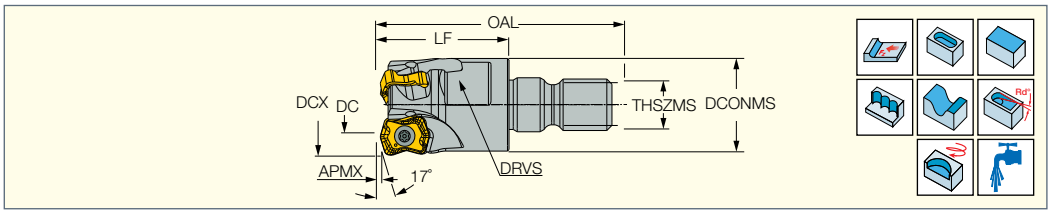
Designation		
FFX4 ED	SR M2.5X6-T7-60	T-7/51

LOGIQ4FEED HIGH FEED MILLING

FLEXFIT

FFX4 ED-M

Endmills with FLEXFIT Adaptation Carrying Small "Bone Shape" Inserts with 4 Cutting Edges for Fast Feed Milling



Designation	DCX(1)	DC	CICT(2)	APMX	AE(3)	THSZMS	LF	OAL	RMPX(4)	DCONMS	DRVS(5)	kg	MIID(6)	TQ(7)
FFX4 ED20/.78-3-M10-04	20.00	12.60	3	0.80	3.7	M10	25.00	45.00	2.7	18.00	15.0	0.04	FFX4 XNMU 040310T	0.9
FFX4 ED25/.98-4-M12-04	25.00	17.60	4	0.80	3.7	M12	30.00	52.00	1.8	21.00	19.0	0.08	FFX4 XNMU 040310T	0.9
FFX4 ED32/1.26-5-M16-04	32.00	24.60	5	0.80	3.7	M16	35.00	60.00	1.2	29.00	27.0	0.18	FFX4 XNMU 040310T	0.9
FFX4 ED35/1.38-5-M16-04	35.00	27.60	5	0.80	3.7	M16	35.00	60.00	1.1	29.00	25.0	0.20	FFX4 XNMU 040310T	0.9

• Radius for programming 1.8 mm • To generate a straight surface without cusps, the width of cut must not exceed DC

(1) Cutting diameter maximum
(2) Number of inserts
(3) Maximum plunging width
(4) Maximum ramping angle
(5) Key flat size
(6) Master insert identification
(7) Recommended tightening torque (N*m) for insert screw

For inserts, see pages: FFX4 XNMU (503)
For holders, see pages: BT-ODP (FLEXFIT) (1030) • C#-ODP (FLEXFIT) (1001) • CAB M-M (FLEXFIT) (1046) • DIN69871-ODP (308) • ER-ODP (1048) • HSK A-ODP (FLEXFIT) (309) • S M (1045) • S M-C-H (1045) • S M-CF (1046)

Spare Parts

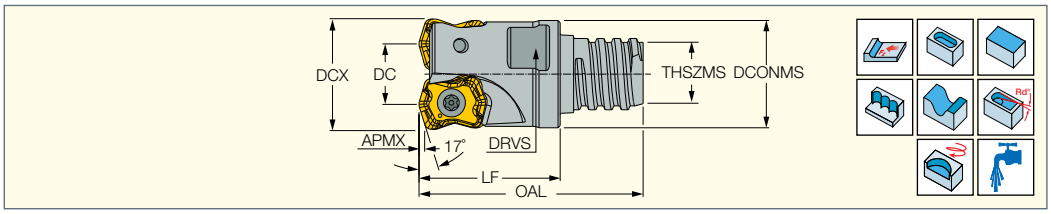
Designation		
FFX4 ED-M	SR M2.5X6-T7-60	T-7/51

LOGIQ4FEED HIGH FEED MILLING

MULTI-MASTER

FFX4 ED-MM

Endmills with MULTI-MASTER Adaptation Carrying Small "Bone Shape" Inserts with 4 Cutting Edges for Fast Feed Milling



Designation	DCX(1)	DC	CICT(2)	APMX	AE(3)	THSZMS	LF	OAL	RMPX(4)	DCONMS	DRVS(5)	kg	MIID(6)	TQ(7)
FFX4 ED16/.63-2-MMT10-04	16.00	8.60	2	0.80	3.7	T10	20.00	31.75	4.3	15.20	13.0	0.02	FFX4 XNMU 040310T	0.9

• Radius for programming 1.8 mm • To generate a straight surface without cusps, the width of cut must not exceed DC

(1) Cutting diameter maximum
(2) Number of inserts
(3) Maximum plunging width
(4) Maximum ramping angle
(5) Key flat size
(6) Master insert identification
(7) Recommended tightening torque (N*m) for insert screw

For inserts, see pages: FFX4 XNMU (503)
For holders, see pages: MM CAB (1047) • MM CAB-T-T (77) • MM GRT (shanks) (72) • MM S-A (stepped shanks) (70) • MM S-A (straight shanks) (73) • MM S-A-C# (72) • MM S-A-HSK (76) • MM S-A-N (71) • MM S-A-SK (76) • MM S-B (85° conical shanks) (73) • MM S-D (89° conical shanks) (74) • MM S-ER (75) • MM S-ER-H (75) • MM TS-A (72)

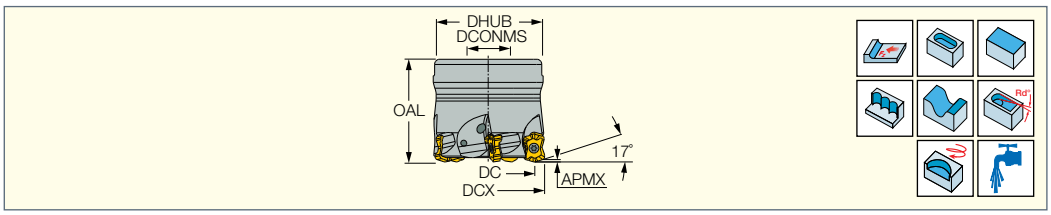
Spare Parts

Designation		
FFX4 ED-MM	SR M2.5X6-T7-60	T-7/51

LOGIQ4FEED HIGH FEED MILLING

FFX4 FD

Face Mills Carrying Small "Bone Shape" Inserts with 4 Cutting Edges for Fast Feed Milling



Designation	DCX(1)	DC	CICT(2)	APMX	AE(3)	OAL	DCONMS	DHUB	RMPX(4)	kg	MIID(5)	TQ(6)
FFX4 FD032-5-16-04	32.00	24.60	5	0.80	3.7	40.00	16.00	38.00	1.2	0.12	FFX4 XNMU 040310T	0.9
FFX4 FD040-6-16-04	40.00	32.60	6	0.80	3.7	40.00	16.00	38.00	0.9	0.23	FFX4 XNMU 040310T	0.9

• Radius for programming 1.8 mm • To generate a straight surface without cusps, the width of cut must not exceed DC

(1) Cutting diameter maximum
(2) Number of inserts
(3) Maximum plunging width
(4) Maximum ramping angle
(5) Master insert identification
(6) Recommended tightening torque (N*m) for insert screw

For inserts, see pages: FFX4 XNMU (503)

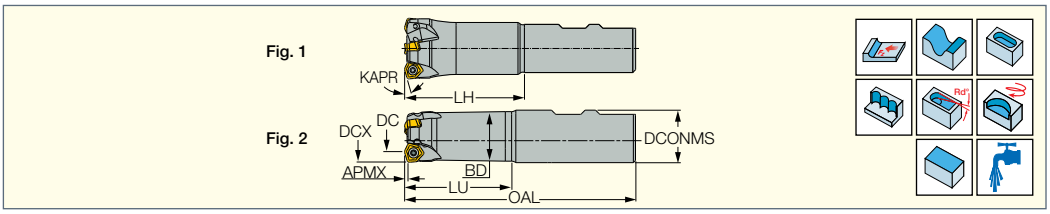
Spare Parts

Designation			
FFX4 FD032-5-16-04	SR M2.5X6-T7-60	T-7/51	SR M8X25-D11.5
FFX4 FD040-6-16-04	SR M2.5X6-T7-60	T-7/51	SR M8X25DIN912

HELI6FEED UPFEED LINE

FF EWX

Fast Feed Endmills Carrying Double-Sided Inserts with 6 Cutting Edges



Designation	DCX(1)	DC	APMX	CICT(2)	BD	LU	LH	OAL	DCONMS	Shank(3)	RMPX(4)	KAPR	Fig.	kg	MIID(5)	TQ(6)
FF EWX D16-2-030-C16-04	16.00	8.60	0.80	2	14.90	30.0	-	113.00	16.00	C	5.0	17.0	2	0.15	H600 WXCU 040310T	0.9
FF EWX D16-2-030-W16-04	16.00	8.60	0.80	2	14.90	30.0	-	81.00	16.00	W	5.0	17.0	2	0.10	H600 WXCU 040310T	0.9
FF EWX D16-2-050-W20-04	16.00	8.60	0.80	2	14.90	50.0	-	109.00	20.00	W	5.0	17.0	2	0.19	H600 WXCU 040310T	0.9
FF EWX D16-2-070-C20-04	16.00	8.60	0.80	2	14.90	70.0	-	159.00	20.00	C	5.0	17.0	2	0.28	H600 WXCU 040310T	0.9
FF EWX D16-2-080-W20-04	16.00	8.60	0.80	2	14.90	80.0	-	139.00	20.00	W	5.0	17.0	2	0.22	H600 WXCU 040310T	0.9
FF EWX D20-3-040-W20-04	20.00	12.60	0.80	3	18.90	40.0	-	93.00	20.00	W	4.8	17.0	2	0.19	H600 WXCU 040310T	0.9
FF EWX D20-3-050-C20-04	20.00	12.60	0.80	3	18.90	50.0	-	133.00	20.00	C	4.8	17.0	2	0.28	H600 WXCU 040310T	0.9
FF EWX D20-3-060-W20-04	20.00	12.60	0.80	3	18.90	60.0	-	113.00	20.00	W	4.8	17.0	2	0.23	H600 WXCU 040310T	0.9
FF EWX D20-3-100-C20-04	20.00	12.60	0.80	3	18.90	100.0	-	183.00	20.00	C	4.8	17.0	2	0.38	H600 WXCU 040310T	0.9
FF EWX D20-3-100-W20-04	20.00	12.60	0.80	3	18.90	100.0	-	153.00	20.00	W	4.8	17.0	2	0.31	H600 WXCU 040310T	0.9
FF EWX D25-3-050-W25-05	25.00	15.00	1.00	3	23.60	50.0	53.0	110.00	25.00	W	5.0	17.0	2	0.34	H600 WXCU 05T312T	2.0
FF EWX D25-3-060-C25-05	25.00	15.00	1.00	3	23.60	60.0	63.0	145.00	25.00	C	5.0	17.0	2	0.47	H600 WXCU 05T312T	2.0
FF EWX D25-3-080-W25-05	25.00	15.00	1.00	3	23.60	80.0	83.0	140.00	25.00	W	5.0	17.0	2	0.44	H600 WXCU 05T312T	2.0
FF EWX D25-3-120-C25-05	25.00	15.00	1.00	3	23.60	120.0	123.0	205.00	25.00	C	5.0	17.0	2	0.66	H600 WXCU 05T312T	2.0
FF EWX D25-3-120-W25-05	25.00	15.00	1.00	3	23.60	120.0	123.0	180.00	25.00	W	5.0	17.0	2	0.56	H600 WXCU 05T312T	2.0
FF EWX D32-4-040-C25-05	32.00	22.00	1.00	4	27.00	-	40.0	180.00	25.00	C	4.0	17.0	1	0.63	H600 WXCU 05T312T	2.0
FF EWX D32-4-060-W25-05	32.00	22.00	1.00	4	27.00	60.0	63.0	120.00	25.00	W	4.0	17.0	1	0.43	H600 WXCU 05T312T	2.0
FF EWX D32-4-060-W32-05	32.00	22.00	1.00	4	27.00	-	63.0	125.00	32.00	W	4.0	17.0	2	0.64	H600 WXCU 05T312T	2.0
FF EWX D32-4-070-C32-05	32.00	22.00	1.00	4	30.60	70.0	73.0	155.00	32.00	C	4.0	17.0	2	0.81	H600 WXCU 05T312T	2.0
FF EWX D32-4-100-W25-05	32.00	22.00	1.00	4	27.00	-	100.0	160.00	25.00	W	4.0	17.0	1	0.60	H600 WXCU 05T312T	2.0
FF EWX D32-4-100-W32-05	32.00	22.00	1.00	4	30.60	100.0	103.0	165.00	32.00	W	4.0	17.0	2	0.84	H600 WXCU 05T312T	2.0
FF EWX D32-4-120-C32-05	32.00	22.00	1.00	4	30.60	120.0	123.0	205.00	32.00	C	4.0	17.0	2	1.06	H600 WXCU 05T312T	2.0
FF EWX D32-4-150-W32-05	32.00	22.00	1.00	4	30.60	150.0	153.0	215.00	32.00	W	4.0	17.0	2	1.08	H600 WXCU 05T312T	2.0
FF EWX D40-5-L50-C32-05	40.00	30.00	1.00	5	34.00	-	50.0	250.00	32.00	C	2.8	17.0	1	1.40	H600 WXCU 05T312T	2.0
FF EWX D40-5-S50-C32-05	40.00	30.00	1.00	5	34.00	-	50.0	150.00	32.00	C	2.8	17.0	1	0.85	H600 WXCU 05T312T	2.0
FF EWX D40-5-060-W32-05	40.00	30.00	1.00	5	34.00	-	60.0	125.00	32.00	W	2.8	17.0	1	0.72	H600 WXCU 05T312T	2.0
FF EWX D40-5-200-W40-05	40.00	30.00	1.00	5	38.60	200.0	203.0	275.00	40.00	W	2.8	17.0	2	2.08	H600 WXCU 05T312T	2.0
FF EWX D32-3-060-W32-07	32.00	19.00	1.50	3	30.70	60.0	63.0	125.00	32.00	W	6.3	17.0	2	0.60	H600 WXCU 070515T	4.8
FF EWX D32-3-070-C32-07	32.00	19.00	1.50	3	30.70	70.0	73.0	155.00	32.00	C	6.3	17.0	2	0.76	H600 WXCU 070515T	4.8
FF EWX D32-3-100-W32-07	32.00	19.00	1.50	3	30.70	100.0	103.0	165.00	32.00	W	6.3	17.0	2	0.78	H600 WXCU 070515T	4.8
FF EWX D32-3-120-C32-07	32.00	19.00	1.50	3	30.70	120.0	123.0	205.00	32.00	C	6.3	17.0	2	0.99	H600 WXCU 070515T	4.8
FF EWX D40-4-S50-C32-07	40.00	27.00	1.50	4	-	50.0	52.2	150.00	32.00	C	4.2	17.0	1	0.84	H600 WXCU 070515T	4.8

- For machining recommendations and radius for programming, see table on page 502
- To generate a straight surface without cusps, the width of cut must not exceed DC
- For user guide, see pages 518-524

(1) Cutting diameter maximum
(2) Number of inserts
(3) C-Cylindrical, W-Weldon
(4) Maximum ramping angle
(5) Master insert identification
(6) Recommended tightening torque (N*m) for insert screw

For inserts, see pages: H600 WXCU (502)

Spare Parts

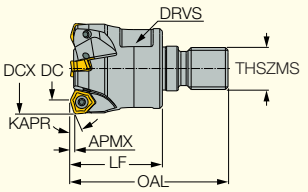
Designation				
FF EWX D...-04	SR M2.5X6-T7-60	T-7/51		
FF EWX D...-05	SR 10508600	T-9/51		
FF EWX D...-07	SR 34-535-SN		BLD T15/S7	SW6-T-SH

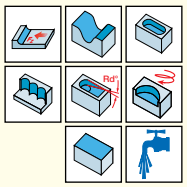
HELI6FEED UPFEED LINE

FLEXFIT

FF EWX-M

Fast Feed Endmills with FLEXFIT Threaded Connection Carrying Double-Sided Inserts with 6 Cutting Edges





Designation	DCX(1)	DC	APMX	CICT(2)	LF	OAL	THSZMS	RMPX(3)	DRVS(4)	KAPR	kg	MIID(5)	TQ(6)
FF EWX D20-3-M10-04	20.00	12.60	0.80	3	25.00	45.00	M10	4.8	15.0	17.0	0.05	H600 WXCU 040310HP	0.9
FF EWX D25-4-M12-04	25.00	17.60	0.80	4	30.00	52.00	M12	3.3	19.0	17.0	0.09	H600 WXCU 040310HP	0.9
FF EWX D25-3-M12-05	25.00	15.00	1.00	3	30.00	52.00	M12	5.0	19.0	17.0	0.09	H600 WXCU 05T312T	2.0
FF EWX D32-4-M16-05	32.00	22.00	1.00	4	35.00	60.00	M16	4.0	25.0	17.0	0.17	H600 WXCU 05T312T	2.0
FF EWX D35-4-M16-05	35.00	25.00	1.00	4	35.00	60.00	M16	3.5	25.0	17.0	0.19	H600 WXCU 05T312T	2.0
FF EWX D40-5-M16-05	40.00	30.00	1.00	5	40.00	65.00	M16	2.8	25.0	17.0	0.26	H600 WXCU 05T312T	2.0
FF EWX D32-3-M16-07	32.00	19.00	1.50	3	35.00	60.00	M16	6.3	25.0	17.0	0.16	H600 WXCU 070515HP	4.8
FF EWX D40-4-M16-07	40.00	27.00	1.50	4	40.00	65.00	M16	4.2	25.0	17.0	0.24	H600 WXCU 070515HP	4.8

• For machining recommendations and radius for programming, see table on page 502 • To generate a straight surface without cusps, the width of cut must not exceed DC
• For user guide, see pages 518-524
(1) Cutting diameter maximum
(2) Number of inserts
(3) Maximum ramping angle
(4) Clamping wrench size
(5) Master insert identification
(6) Recommended tightening torque (N*m) for insert screw

For inserts, see pages: H600 WXCU (502)
For holders, see pages: BT-ODP (FLEXFIT) (1030) • C#-ODP (FLEXFIT) (1001) • CAB M-M (FLEXFIT) (1046) • DIN69871-ODP (308) • ER-ODP (1048) • HSK A-ODP (FLEXFIT) (309) • S M (1045) • S M-C-H (1045) • S M-CF (1046)

Spare Parts

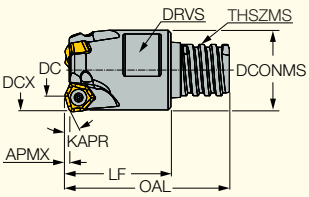
Designation				
FF EWX D20-3-M10-04	SR M2.5X6-T7-60	T-7/51		
FF EWX D25-4-M12-04	SR M2.5X6-T7-60	T-7/51		
FF EWX D25-3-M12-05	SR 10508600	T-9/51		
FF EWX D32-4-M16-05	SR 10508600	T-9/51		
FF EWX D35-4-M16-05	SR 10508600	T-9/51		
FF EWX D40-5-M16-05	SR 10508600	T-9/51		
FF EWX D32-3-M16-07	SR 34-535-SN		BLD T15/S7	SW6-T-SH
FF EWX D40-4-M16-07	SR 34-535-SN		BLD T15/S7	SW6-T-SH

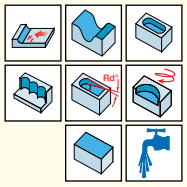
HELI6FEED UPFEED LINE

MULTI-MASTER

FF EWX-MM

Fast Feed Endmills with MULTI-MASTER Threaded Connection Carrying Double-Sided Inserts with 6 Cutting Edges





Designation	DCX(1)	DC	APMX	CICT(2)	THSZMS	LF	OAL	DHUB	DRVS(3)	TQ(4)	RMPX(5)	KAPR	kg	MIID(6)		
FF EWX D16-2-MMT10-04	16.00	8.60	0.80	2	T10	19.50	31.25	15.20	12.0	0.9	5.0	17.0	0.02	H600 WXCU 040310HP	SR M2.5X6-T7-60	T-7/51
FF EWX D20-3-MMT12-04	20.00	12.60	0.80	3	T12	25.00	38.80	18.80	15.0	0.9	4.8	17.0	0.05	H600 WXCU 040310HP	SR M2.5X6-T7-60	T-7/51
FF EWX D25-4-MMT15-04	25.00	17.60	0.80	4	T15	30.00	47.00	23.90	19.0	0.9	3.3	17.0	0.10	H600 WXCU 040310HP	SR M2.5X6-T7-60	T-7/51
FF EWX D25-3-MMT15-05	25.00	15.00	1.00	3	T15	30.00	47.00	23.90	19.0	2.0	5.0	17.0	0.09	H600 WXCU 05T312T	SR 10508600	T-9/51

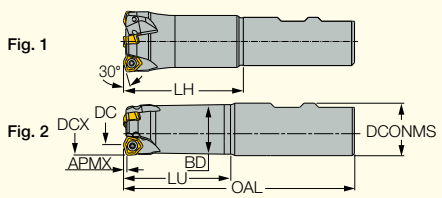
• For machining recommendations and radius for programming, see table on page 502 • Do not apply lubricant to the MULTI-MASTER threaded connection. • To generate a straight surface without cusps, the width of cut must not exceed DC • For adaptation options, see page 256 • For user guide, see pages 518-524
(1) Cutting diameter maximum
(2) Number of inserts
(3) Width across flats (wrench should be ordered separately)
(4) Recommended tightening torque (N*m) for insert screw
(5) Maximum ramping angle
(6) Master insert identification

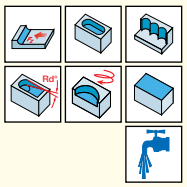
For inserts, see pages: H600 WXCU (502)
For holders, see pages: MM CAB (1047) • MM S-A (stepped shanks) (70) • MM S-A (straight shanks) (73) • MM S-A-C# (72) • MM S-A-HSK (76) • MM S-A-N (71) • MM S-A-SK (76) • MM S-B (85° conical shanks) (73) • MM S-D (89° conical shanks) (74) • MM S-ER (75) • MM S-ER-H (75) • MM TS-A (72)

HELI6FEED UPFEED LINE

MF EWX

Moderate Feed Endmills
Carrying Double-Sided Inserts
with 6 Cutting Edges





Designation	DCX(1)	DC	APMX	CICT(2)	LU	LH	OAL	DCONMS	Shank(3)	BD	RMPX(4)	Fig.	kg	MIID(5)	TQ(6)
MF EWX D16-2-040-W20-04	16.00	9.00	1.50	2	40.0	47.0	99.00	20.00	W	14.90	3.8	2	0.16	H600 WXCU 040310T	0.9
MF EWX D20-3-050-C20-04	20.00	13.00	1.50	3	50.0	52.7	134.00	20.00	C	18.90	2.4	2	0.24	H600 WXCU 040310T	0.9
MF EWX D20-3-050-W20-04	20.00	13.00	1.50	3	50.0	52.7	104.00	20.00	W	18.90	2.4	2	0.18	H600 WXCU 040310T	0.9
MF EWX D25-3-060-W25-05	25.00	15.50	2.00	3	60.0	63.0	120.00	25.00	W	23.60	3.0	2	0.33	H600 WXCU 05T312T	2.0
MF EWX D32-4-080-W32-05	32.00	22.50	2.00	4	80.0	83.0	145.00	32.00	W	30.60	1.9	2	0.70	H600 WXCU 05T312T	2.0
MF EWX D32-3-080-C32-07	32.00	19.70	2.70	3	80.0	83.0	165.00	32.00	C	30.70	3.0	2	0.80	H600 WXCU 070515T	4.8
MF EWX D32-3-080-W32-07	32.00	19.70	2.70	3	80.0	83.0	145.00	32.00	W	30.70	3.0	2	0.70	H600 WXCU 070515T	4.8
MF EWX D40-4-090-C32-07	40.00	27.70	2.70	4	90.0	92.0	190.00	32.00	C	36.80	2.0	1	1.16	H600 WXCU 070515T	4.8

• For machining recommendations and radius for programming, see table on page 502 • To generate a straight surface without cusps, the width of cut must not exceed DC
• For user guide, see pages 518-524
(1) Cutting diameter maximum
(2) Number of inserts
(3) C-Cylindrical, W-Weldon
(4) Maximum ramping angle
(5) Master insert identification
(6) Recommended tightening torque (N*m) for insert screw

For inserts, see pages: H600 WXCU (502)

Spare Parts

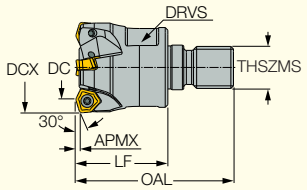
Designation				
MF EWX D16-2-040-W20-04	SR M2.5X6-T7-60	T-7/51		
MF EWX D20-3-050-C20-04	SR M2.5X6-T7-60	T-7/51		
MF EWX D20-3-050-W20-04	SR M2.5X6-T7-60	T-7/51		
MF EWX D25-3-060-W25-05	SR 10508600	T-9/51		
MF EWX D32-4-080-W32-05	SR 10508600	T-9/51		
MF EWX D32-3-080-C32-07	SR 34-535-SN		BLD T15/S7	SW6-T-SH
MF EWX D32-3-080-W32-07	SR 34-535-SN		BLD T15/S7	SW6-T-SH
MF EWX D40-4-090-C32-07	SR 34-535-SN		BLD T15/S7	SW6-T-SH

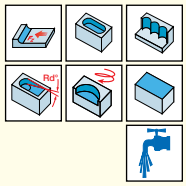
HELI6FEED UPFEED LINE

FLEXFIT

MF EWX-M

Moderate Feed Endmills with
FLEXFIT Threaded Connection
Carrying Double-Sided Inserts
with 6 Cutting Edges





Designation	DCX(1)	DC	APMX	CICT(2)	LF	OAL	THSZMS	DRVS(3)	RMPX(4)	kg	MIID(5)	TQ(6)
MF EWX D20-3-M10-04	20.00	13.00	1.50	3	28.00	48.00	M10	14.0	2.4	0.05	H600 WXCU 040310T	0.9
MF EWX D25-4-M12-04	25.00	18.00	1.50	4	32.00	54.00	M12	17.0	1.7	0.09	H600 WXCU 040310T	0.9
MF EWX D25-3-M12-05	25.00	15.50	2.00	3	30.00	52.00	M12	17.0	3.0	0.07	H600 WXCU 05T312T	2.0
MF EWX D32-4-M16-05	32.00	22.50	2.00	4	35.00	60.00	M16	24.0	1.9	0.16	H600 WXCU 05T312T	2.0
MF EWX D32-3-M16-07	32.00	19.70	2.70	3	35.00	60.00	M16	24.0	3.0	0.15	H600 WXCU 070515HP	4.8

• For machining recommendations and radius for programming, see table on page 502 • To generate a straight surface without cusps, the width of cut must not exceed DC
• For user guide, see pages 518-524
(1) Cutting diameter maximum
(2) Number of inserts
(3) Clamping wrench size
(4) Maximum ramping angle
(5) Master insert identification
(6) Recommended tightening torque (N*m) for insert screw

For inserts, see pages: H600 WXCU (502)
For holders, see pages: BT-ODP (FLEXFIT) (1030) • C#-ODP (FLEXFIT) (1001) • CAB M-M (FLEXFIT) (1046) • DIN69871-ODP (308) • ER-ODP (1048) • HSK A-ODP (FLEXFIT) (309) • S M (1045) • S M-C-H (1045) • S M-CF (1046)

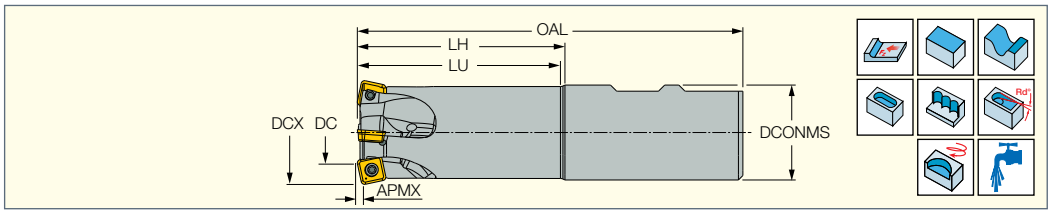
Spare Parts

Designation				
MF EWX D20-3-M10-04	SR M2.5X6-T7-60	T-7/51		
MF EWX D25-4-M12-04	SR M2.5X6-T7-60	T-7/51		
MF EWX D25-3-M12-05	SR 10508600	T-9/51		
MF EWX D32-4-M16-05	SR 10508600	T-9/51		
MF EWX D32-3-M16-07	SR 34-535-SN		BLD T15/S7	SW6-T-SH

MILL4FEED

FFQ4 D-W-09

Fast Feed Endmills Carrying Single-Sided Inserts with 4 Cutting Edges



Designation	DC	DCX(1)	APMX	AE(2)	CICT(3)	LU	LH	DCONMS	OAL	RMPX(4)	kg	MIID(5)	TQ(6)		
FFQ4 D022-2-044-W20-09	7.70	22.00	1.20	7.1	2	-	44.0	20.00	94.00	8.2	0.19	FFQ4 SOMT 090412T	2.0	SR M3X0.5-L7.4 IP9	IP-9/151
FFQ4 D025-3-050-W25-09	10.70	25.00	1.20	7.1	3	-	50.0	25.00	110.00	5.5	0.25	FFQ4 SOMT 090412T	2.0	SR M3X0.5-L7.4 IP9	IP-9/151
FFQ4 D032-4-064-W25-09	17.70	32.00	1.20	7.1	4	-	64.0	25.00	120.00	3.2	0.50	FFQ4 SOMT 090412T	2.0	SR M3X0.5-L7.4 IP9	IP-9/151
FFQ4 D035-5-070-W32-09	20.70	35.00	1.20	7.1	5	68.5	70.0	32.00	130.00	2.7	0.70	FFQ4 SOMT 090412T	2.0	SR M3X0.5-L7.4 IP9	IP-9/151

• Radius for programming 2.5 mm • For user guide, see pages 518-524 • To generate a straight surface without cusps, the width of cut must not exceed DC • For slot milling or machining with high tool overhang, the maximum depth of cut should be reduced by 50%.

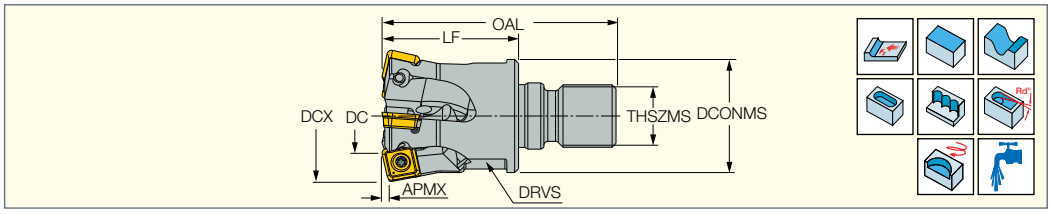
(1) Cutting diameter maximum
(2) Maximum plunging width
(3) Number of inserts
(4) Maximum ramping angle
(5) Master insert identification
(6) Recommended tightening torque (N*m) for insert screw

For inserts, see pages: FFQ4 SOMT 0904 (500)

MILL4FEED

FFQ4 D-M-09

Fast Feed Endmills with FLEXFIT Threaded Adaptation Carrying Single-Sided Inserts with 4 Cutting Edges



Designation	DC	DCX(1)	APMX	AE(2)	CICT(3)	LF	OAL	DCONMS	THSZMS	RMPX(4)	DRVS(5)	kg	MIID(6)	TQ(7)
FFQ4 D022-02-M10-09	7.70	22.00	1.20	7.1	2	25.00	45.00	18.00	M10	8.2	15.0	0.04	FFQ4 SOMT 090412T	2.0
FFQ4 D025-02-M12-09	10.70	25.00	1.20	7.1	2	30.00	52.00	21.00	M12	5.5	17.0	0.05	FFQ4 SOMT 090412T	2.0
FFQ4 D025-03-M12-09	10.70	25.00	1.20	7.1	3	30.00	52.00	21.00	M12	5.5	17.0	0.07	FFQ4 SOMT 090412T	2.0
FFQ4 D032-03-M16-09	17.70	32.00	1.20	7.1	3	35.00	60.00	29.00	M16	3.2	25.0	0.14	FFQ4 SOMT 090412T	2.0
FFQ4 D032-04-M16-09	17.70	32.00	1.20	7.1	4	35.00	60.00	29.00	M16	3.2	25.0	0.14	FFQ4 SOMT 090412T	2.0
FFQ4 D035-05-M16-09	20.70	35.00	1.20	7.1	5	35.00	60.00	29.00	M16	2.7	25.0	0.16	FFQ4 SOMT 090412T	2.0
FFQ4 D040-05-M16-09	25.70	40.00	1.20	7.1	5	35.00	60.00	29.00	M16	2.0	25.0	0.18	FFQ4 SOMT 090412T	2.0

• Radius for programming 2.5 mm • For user guide, see pages 518-524 • To generate a straight surface without cusps, the width of cut must not exceed DC • For slot milling or machining with high tool overhang, the maximum depth of cut should be reduced by 50%.

(1) Cutting diameter maximum
(2) Maximum plunging width
(3) Number of inserts
(4) Maximum ramping angle
(5) Key flat size
(6) Master insert identification
(7) Recommended tightening torque (N*m) for insert screw

For inserts, see pages: FFQ4 SOMT 0904 (500)
For holders, see pages: BT-ODP (FLEXFIT) (1030) • C#-ODP (FLEXFIT) (1001) • CAB M-M (FLEXFIT) (1046) • DIN69871-ODP (308) • ER-ODP (1048) • HSK A-ODP (FLEXFIT) (309) • S M (1045) • S M-C-H (1045) • S M-CF (1046)

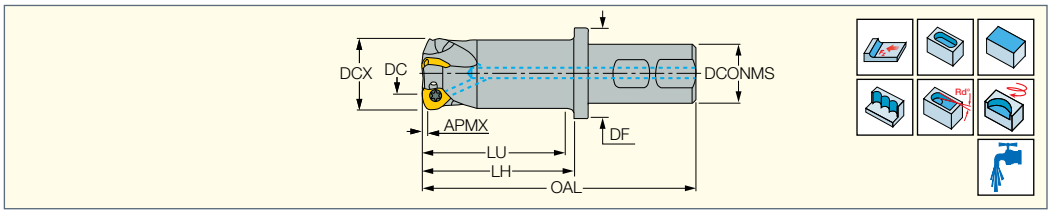
Spare Parts

Designation		
FFQ4 D-M-09	SR M3X0.5-L7.4 IP9	IP-9/151

FEEDMILL

FF EW

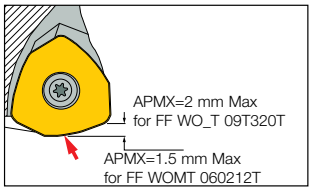
Fast Feed Endmills with
FF WOMT... Inserts



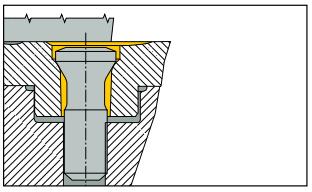
Designation	DCX(1)	APMX	DC	CICT(2)	LH	LU	OAL	DF	DCONMS	Shank(3)	RMPX(4)	TQ(5)	kg	MIID(6)
FF EW D25-050-W25-06-C	25.00	1.30	11.00	2	53.0	-	118.00	-	25.00	W	5.0	2.0	0.37	FF WOMT0602
FF EW D25-080-C25-06-C	25.00	1.30	11.00	2	83.0	-	180.00	-	25.00	C	5.0	2.0	0.58	FF WOMT0602
FF EW D25-080-W25-06-C	25.00	1.30	11.00	2	83.0	-	148.00	-	25.00	W	5.0	2.0	0.46	FF WOMT0602
FF EW D25-120-C24-06-C	25.00	1.30	11.00	2	121.4	-	220.00	-	24.00	C	5.0	2.0	0.68	FF WOMT0602
FF EW D32-060-W25-06-C	32.00	1.30	18.00	3	63.0	-	128.00	30.40	25.00	W	4.0	2.0	0.52	FF WOMT0602
FF EW D32-100-C32-06-C	32.00	1.30	18.00	3	103.0	-	230.00	-	32.00	C	4.0	2.0	1.28	FF WOMT0602
FF EW D32-100-W25-06-C	32.00	1.30	18.00	3	103.0	-	168.00	30.40	25.00	W	4.0	2.0	0.73	FF WOMT0602
FF EW D40-150-W32-09-C	40.00	2.00	19.20	3	150.0	147.0	217.50	50.00	32.00	W	5.0	5.0	1.56	FF WOMT09T3
FF EW D40-200-W32-09-C	40.00	2.00	19.20	3	200.0	197.0	267.50	50.00	32.00	W	5.0	5.0	2.00	FF WOMT09T3

• For user guide, see pages 518-524
(1) Cutting diameter maximum
(2) Number of inserts
(3) C-Cylindrical, W-Weldon
(4) Maximum ramping angle
(5) Insert tightening torque
(6) Master insert identification

For inserts, see pages: FF WOMT/WOCT (501)



Cutting forces are directed axially towards the spindle, enabling cutting at very high feeds with high stability and no vibrations.



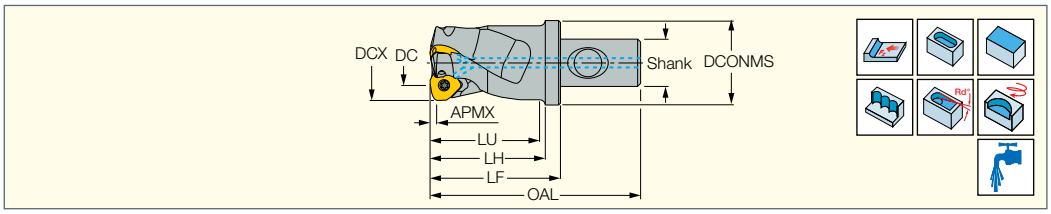
A cylinder at the bottom of the insert provides very rigid clamping, absorbing most of the forces usually exerted on the clamping screw.

Spare Parts

Designation				
FF EW D25-050-W25-06-C	SR 34-506/M	T-9/51		
FF EW D25-080-C25-06-C	SR 34-506/M	T-9/51		
FF EW D25-080-W25-06-C	SR 34-506/M	T-9/51		
FF EW D25-120-C24-06-C	SR 34-506/M	T-9/51		
FF EW D32-060-W25-06-C	SR 34-506/M	T-9/51		
FF EW D32-100-C32-06-C	SR 34-506/M	T-9/51		
FF EW D32-100-W25-06-C	SR 34-506/M	T-9/51		
FF EW D40-150-W32-09-C	SR 34-535		BLD T15/S7	SW6-T
FF EW D40-200-W32-09-C	SR 34-535		BLD T15/S7	SW6-T

FEEDMILL CLICKFIT

FF EW-CF
Fast Feed Endmills with
CLICKFIT Shanks



Designation	DCX(1)	APMX	DC	CICT(2)	LU	LH	LF	OAL	DCONMS	RMPX(3)	Shank	TQ(4)	kg	MIID(5)
FF EW D32-060-CF4-06-C	32.00	1.30	18.00	3	60.0	64.00	72.00	114.00	44.00	4.0	CF4	2.0	0.54	FF WOMT0602
FF EW D32-100-CF4-06-C	32.00	1.30	18.00	3	100.0	104.00	112.00	154.00	44.00	4.0	CF4	2.0	0.74	FF WOMT0602

• For user guide, see pages 518-524
(1) Cutting diameter maximum
(2) Number of inserts
(3) Maximum ramping angle
(4) Insert tightening torque
(5) Master insert identification

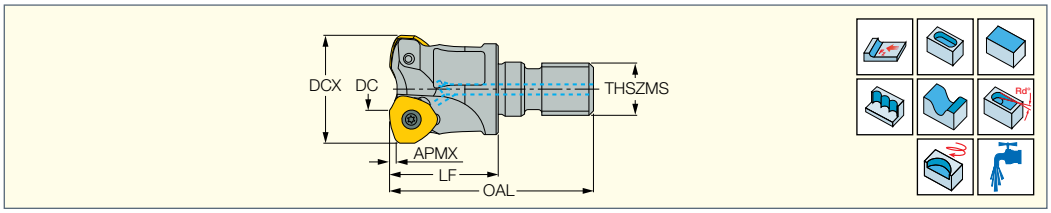
For inserts, see pages: FF WOMT/WOCT (501)

Spare Parts

Designation		
FF EW-CF	SR 34-506/M	T-9/51

FEEDMILL FLEXFIT

FF EW-M
Fast Feed Endmills with
FLEXFIT Threaded Adaptation



Designation	DCX(1)	DC	CICT(2)	APMX	THSZMS	LF	OAL	RMPX(3)	TQ(4)	kg	MIID(5)
FF EW D25-M12-06-C	25.00	11.00	2	1.30	M12	25.00	47.00	5.0	2.0	0.06	FF WOMT0602
FF EW D32-M16-06-C	32.00	18.00	3	1.30	M16	35.00	60.00	4.0	2.0	0.16	FF WOMT0602
FF EW D40-M16-06-C	40.00	26.00	4	1.30	M16	40.00	65.00	2.5	2.0	0.23	FF WOMT0602

• For user guide, see pages 518-524
(1) Cutting diameter maximum
(2) Number of inserts
(3) Maximum ramping angle
(4) Insert tightening torque
(5) Master insert identification

For inserts, see pages: FF WOMT/WOCT (501)
For holders, see pages: BT-ODP (FLEXFIT) (1030) • C#-ODP (FLEXFIT) (1001) • CAB M-M (FLEXFIT) (1046) • DIN69871-ODP (308) • ER-ODP (1048) • HSK A-ODP (FLEXFIT) (309) • S M (1045) • S M-C-H (1045) • S M-CF (1046)

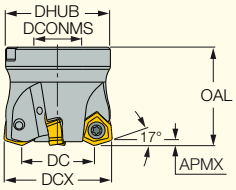
Spare Parts

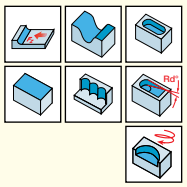
Designation		
FF EW-M	SR 34-506/M	T-9/51

HELI6FEED UPFEED LINE

FF FWX

Fast Feed Face Mills Carrying Double-Sided Inserts with 6 Cutting Edges





Designation	DC	DCX(1)	APMX	CICT(2)	OAL	DHUB	DCONMS	Arbor(3)	RMPX(4)	CSP(5)	kg	MIID(6)	TQ(7)
FF FWX D040-05-16-05	30.10	40.00	1.00	5	35.00	38.00	16.00	A	2.8	1	0.20	H600 WXCU 05T312T	2.0
FF FWX D050-06-22-05	40.10	50.00	1.00	6	40.00	48.00	22.00	A	2.0	1	0.36	H600 WXCU 05T312T	2.0
FF FWX D052-06-22-05	42.10	52.00	1.00	6	40.00	48.00	22.00	A	1.9	1	0.37	H600 WXCU 05T312T	2.0
FF FWX D040-04-16-07	27.00	40.00	1.50	4	35.00	38.00	16.00	A	4.2	1	0.18	H600 WXCU 070515HP	4.8
FF FWX D050-05-22-07	37.00	50.00	1.50	5	40.00	48.00	22.00	A	2.9	1	0.33	H600 WXCU 070515HP	4.8
FF FWX D052-05-22-07	39.00	52.00	1.50	5	40.00	48.00	22.00	A	2.8	1	0.33	H600 WXCU 070515HP	4.8
FF FWX D063-06-22-07	50.00	63.00	1.50	6	40.00	61.00	22.00	A	2.1	1	0.58	H600 WXCU 070515HP	4.8
FF FWX D080-07-32-07	67.00	80.00	1.50	7	55.00	76.00	32.00	A	1.6	1	1.38	H600 WXCU 070515HP	4.8
FF FWX D100-08-32-07	87.00	100.00	1.50	8	50.00	78.00	32.00	B	1.2	1	1.47	H600 WXCU 070515HP	4.8
FF FWX D050-04-22-08	34.00	50.00	2.00	4	45.00	48.00	22.00	A	4.8	1	0.34	H600 WXCU 080612T	9.0
FF FWX D052-04-22-08	36.00	52.00	2.00	4	45.00	48.00	22.00	A	4.5	1	0.37	H600 WXCU 080612T	9.0
FF FWX D063-05-22-08	47.00	63.00	2.00	5	45.00	61.00	22.00	A	3.3	1	0.61	H600 WXCU 080612T	9.0
FF FWX D063-05-27-08	47.00	63.00	2.00	5	50.00	61.00	27.00	A	3.3	1	0.65	H600 WXCU 080612T	9.0
FF FWX D066-05-22-08	50.00	66.00	2.00	5	45.00	61.00	22.00	A	3.1	1	0.68	H600 WXCU 080612T	9.0
FF FWX D066-05-27-08	50.00	66.00	2.00	5	50.00	61.00	27.00	A	3.1	1	0.72	H600 WXCU 080612T	9.0
FF FWX D080-06-32-08	64.00	80.00	2.00	6	55.00	76.00	32.00	A	2.3	1	1.24	H600 WXCU 080612T	9.0
FF FWX D100-07-32-08	84.00	100.00	2.00	7	50.00	78.00	32.00	B	1.7	1	1.42	H600 WXCU 080612T	9.0
FF FWX D125-09-40-08	109.00	125.00	2.00	9	55.00	90.00	40.00	B	1.3	1	2.37	H600 WXCU 080612T	9.0
FF FWX D160-11-40-08	144.00	160.00	2.00	11	55.00	95.00	40.00	C	1.0	0	3.47	H600 WXCU 080612T	9.0

- For machining recommendations and radius for programming, see table on page 502
- To generate a straight surface without cusps, the width of cut must not exceed DC
- For user guide, see pages 518-524

(1) Cutting diameter maximum
(2) Number of inserts
(3) For adaptation options, see page 517
(4) Maximum ramping angle
(5) 0 - Without coolant supply, 1 - With coolant supply
(6) Master insert identification
(7) Recommended tightening torque (N*m) for insert screw

For inserts, see pages: H600 WXCU (502)

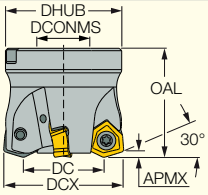
Spare Parts

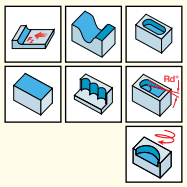
Designation					
FF FWX D040-05-16-05	SR 10508600	T-9/51			SR M8X25DIN912
FF FWX D050-06-22-05	SR 10508600	T-9/51			SR M10X25 DIN912
FF FWX D052-06-22-05	SR 10508600	T-9/51			SR M10X25 DIN912
FF FWX D040-04-16-07	SR 34-535-SN		BLD T15/S7	SW6-T-SH	SR M8X25-D11.5
FF FWX D050-05-22-07	SR 34-535-SN		BLD T15/S7	SW6-T-SH	SR M10X25 DIN912
FF FWX D052-05-22-07	SR 34-535-SN		BLD T15/S7	SW6-T-SH	SR M10X25 DIN912
FF FWX D063-06-22-07	SR 34-535-SN		BLD T15/S7	SW6-T-SH	SR M10X25 DIN912
FF FWX D080-07-32-07	SR 34-535-SN		BLD T15/S7	SW6-T-SH	SR M16X30 DIN912
FF FWX D100-08-32-07	SR 34-535-SN		BLD T15/M7	SW6-T-SH	
FF FWX D050-04-22-08	SR 14-591/H		BLD T20/S7	SW6-T	SR M10X25 DIN912
FF FWX D052-04-22-08	SR 14-591/H		BLD T20/S7	SW6-T	SR M10X25 DIN912
FF FWX D063-05-22-08	SR 14-591/H		BLD T20/S7	SW6-T	SR M10X25 DIN912
FF FWX D063-05-27-08	SR 14-591/H		BLD T20/S7	SW6-T	SR M12X30 DIN912
FF FWX D066-05-22-08	SR 14-591/H		BLD T20/S7	SW6-T	SR M10X25 DIN912
FF FWX D066-05-27-08	SR 14-591/H		BLD T20/S7	SW6-T	SR M12X30 DIN912
FF FWX D080-06-32-08	SR 14-591/H		BLD T20/S7	SW6-T	SR M16X30 DIN912
FF FWX D100-07-32-08	SR 14-591/H		BLD T20/M7	SW6-T	
FF FWX D125-09-40-08	SR 14-591/H		BLD T20/L7	SW6-T	
FF FWX D160-11-40-08	SR 14-591/H		BLD T20/L7	SW6-T	

HELI6FEED
UPFEED LINE

MF FWX

Moderate Feed Face Mills
Carrying Double-Sided Inserts
with 6 Cutting Edges





Designation	DC	DCX(1)	APMX	CICT(2)	OAL	DHUB	DCONMS	Arbor(3)	RMPX(4)	CSP(5)	kg	MIID(6)	TQ(7)
MF FWX D040-05-16-05	30.60	40.00	2.00	5	35.00	38.00	16.00	A	1.4	1	0.17	H600 WXCU 05T312T	2.0
MF FWX D050-06-22-05	40.50	50.00	2.00	6	40.00	48.00	22.00	A	1.0	1	0.30	H600 WXCU 05T312T	2.0
MF FWX D052-06-22-05	42.50	52.00	2.00	6	40.00	48.00	22.00	A	1.0	1	0.32	H600 WXCU 05T312T	2.0
MF FWX D063-08-22-05	53.50	63.00	2.00	8	40.00	48.00	22.00	A	0.8	1	0.41	H600 WXCU 05T312T	2.0
MF FWX D040-04-16-07	27.70	40.00	2.70	4	35.00	38.00	16.00	A	2.0	1	0.17	H600 WXCU 070515HP	4.8
MF FWX D050-05-22-07	37.70	50.00	2.70	5	40.00	48.00	22.00	A	1.4	1	0.31	H600 WXCU 070515HP	4.8
MF FWX D052-05-22-07	39.70	52.00	2.70	5	40.00	48.00	22.00	A	1.3	1	0.32	H600 WXCU 070515HP	4.8
MF FWX D063-06-22-07	50.70	63.00	2.70	6	40.00	48.00	22.00	A	1.0	1	0.42	H600 WXCU 070515HP	4.8
MF FWX D080-07-32-07	67.70	80.00	2.70	7	55.00	76.00	32.00	A	0.8	1	1.21	H600 WXCU 070515HP	4.8
MF FWX D100-08-32-07	87.70	100.00	2.70	8	50.00	78.00	32.00	B	0.6	1	1.46	H600 WXCU 070515HP	4.8
MF FWX D050-04-22-08	34.70	50.00	3.50	4	45.00	48.00	22.00	A	2.5	1	0.32	H600 WXCU 080612T	9.0
MF FWX D063-05-27-08	47.70	63.00	3.50	5	50.00	61.00	27.00	A	1.7	1	0.63	H600 WXCU 080612T	9.0
MF FWX D066-05-27-08	50.70	66.00	3.50	5	50.00	61.00	27.00	A	1.7	1	0.64	H600 WXCU 080612T	9.0
MF FWX D080-06-32-08	64.70	80.00	3.50	6	55.00	76.00	32.00	A	1.2	1	1.13	H600 WXCU 080612T	9.0
MF FWX D100-07-32-08	84.70	100.00	3.50	7	50.00	78.00	32.00	B	0.9	1	1.37	H600 WXCU 080612T	9.0
MF FWX D125-09-40-08	109.70	125.00	3.50	9	55.00	90.00	40.00	B	0.7	1	2.36	H600 WXCU 080612T	9.0
MF FWX D160-11-40-08	144.70	160.00	3.50	11	55.00	95.00	40.00	C	0.5	0	3.63	H600 WXCU 080612T	9.0

- For machining recommendations and radius for programming, see table on page 502
- To generate a straight surface without cusps, the width of cut must not exceed DC
- For user guide, see pages 518-524

(1) Cutting diameter maximum
(2) Number of inserts
(3) For adaptation options, see page 517
(4) Maximum ramping angle
(5) 0 - Without coolant supply, 1 - With coolant supply
(6) Master insert identification
(7) Recommended tightening torque (N*m) for insert screw

For inserts, see pages: H600 WXCU (502)

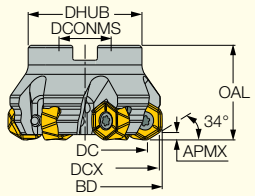
Spare Parts

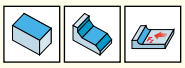
Designation					
MF FWX D040-05-16-05	SR 10508600	T-9/51			SR M8X25DIN912
MF FWX D050-06-22-05	SR 10508600	T-9/51			SR M10X25 DIN912
MF FWX D052-06-22-05	SR 10508600	T-9/51			SR M10X25 DIN912
MF FWX D063-08-22-05	SR 10508600	T-9/51			SR M10X25 DIN912
MF FWX D040-04-16-07	SR 34-535-SN		BLD T15/S7	SW6-T-SH	SR M8X25-D11.5
MF FWX D050-05-22-07	SR 34-535-SN		BLD T15/S7	SW6-T-SH	SR M10X25 DIN912
MF FWX D052-05-22-07	SR 34-535-SN		BLD T15/S7	SW6-T-SH	SR M10X25 DIN912
MF FWX D063-06-22-07	SR 34-535-SN		BLD T15/S7	SW6-T-SH	SR M10X25 DIN912
MF FWX D080-07-32-07	SR 34-535-SN		BLD T15/S7	SW6-T-SH	SR M16X30 DIN912
MF FWX D100-08-32-07	SR 34-535-SN		BLD T15/M7	SW6-T-SH	
MF FWX D050-04-22-08	SR 14-591/H		BLD T20/S7	SW6-T	SR M10X25 DIN912
MF FWX D063-05-27-08	SR 14-591/H		BLD T20/S7	SW6-T	SR M12X30 DIN912
MF FWX D066-05-27-08	SR 14-591/H		BLD T20/S7	SW6-T	SR M12X30 DIN912
MF FWX D080-06-32-08	SR 14-591/H		BLD T20/S7	SW6-T	SR M16X30 DIN912
MF FWX D100-07-32-08	SR 14-591/H		BLD T20/M7	SW6-T	
MF FWX D125-09-40-08	SR 14-591/H		BLD T20/L7	SW6-T	
MF FWX D160-11-40-08	SR 14-591/H		BLD T20/L7	SW6-T	

HELI 12 FEED
UPFEED LINE

MF FHX-R06

34° Face Mills Carrying Hexagonal Inserts with 12 Cutting Edges





Designation	DCX(1)	BD	DC	CICT(2)	APMX	OAL	DHUB	DCONMS	Arbor(3)	CSP(4)	kg	MIID(5)	TQ(6)
MF FHX D063-06-22-R06	63.00	65.40	53.40	6	3.00	40.00	48.00	22.00	A	1	0.46	H1200 HXCU 0606-HPR	9.0
MF FHX D080-07-27-R06	80.00	82.40	70.40	7	3.00	50.00	60.00	27.00	A	1	0.98	H1200 HXCU 0606-HPR	9.0
MF FHX D080-07-32-R06	80.00	82.40	70.40	7	3.00	50.00	66.00	32.00	A	1	0.86	H1200 HXCU 0606-HPR	9.0
MF FHX D100-09-32-R06	100.00	102.40	90.40	9	3.00	50.00	78.00	32.00	B	1	1.57	H1200 HXCU 0606-HPR	9.0
MF FHX D125-11-40-R06	125.00	127.40	115.40	11	3.00	50.00	92.00	40.00	B	1	2.44	H1200 HXCU 0606-HPR	9.0
MF FHX D160-13-40-R06	160.00	162.40	150.40	13	3.00	55.00	95.00	40.00	C	0	3.48	H1200 HXCU 0606-HPR	9.0

• Radius for programming according to D1 diameter is 5.4 mm • When machining next to shoulders, maximum width of cut should be 0.3xD • To generate a straight surface without cusps, the width of cut must not exceed DC • For cutting speed recommendations, see pages 518-524

(1) Cutting diameter maximum
(2) Number of inserts
(3) For adaptation options, see page 517
(4) 0 - Without coolant supply, 1 - With coolant supply
(5) Master insert identification
(6) Recommended tightening torque (N*m) for insert screw

For inserts, see pages: H1200 HXCU 0606 (503)

Spare Parts

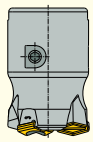
Designation				
MF FHX D063-06-22-R06	SR 14-591/H	BLD T20/S7	SW6-T	SR M10X25 DIN912
MF FHX D080-07-27-R06	SR 14-591/H	BLD T20/S7	SW6-T	SR M12X30 DIN912
MF FHX D080-07-32-R06	SR 14-591/H	BLD T20/S7	SW6-T	SR M16X30 DIN912
MF FHX D100-09-32-R06	SR 14-591/H	BLD T20/M7	SW6-T	
MF FHX D125-11-40-R06	SR 14-591/H	BLD T20/M7	SW6-T	
MF FHX D160-13-40-R06	SR 14-591/H	BLD T20/M7	SW6-T	

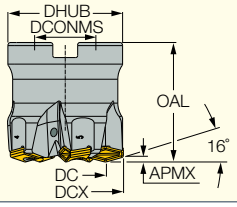
TANG 4 FEED
HI-FEED MILLING

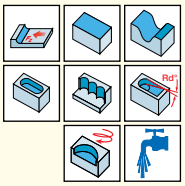
FFV-D-R-VN07

Fast Feed Shell Mill Carrying Tangentially Clamped Inserts with 4 Cutting Edges

FFV D040-03-16-R-VN07







Designation	DCX(2)	DC	APMX	AE(3)	CICT(4)	OAL	DCONMS	DHUB	RMPX(5)	Arbor	kg	MIID(6)	TQ(7)
FFV D040-03-16-R-VN07 (1)	40.00	25.00	1.50	7.5	3	60.00	16.00	25.00	3.0	Special	0.36	FF VNMT 0706ZN-ER	4.8
FFV D050-05-22-R-VN07	50.00	35.00	1.50	7.5	5	50.00	22.00	48.00	3.2	A	0.47	FF VNMT 0706ZN-ER	4.8
FFV D063-06-22-R-VN07	63.00	48.00	1.50	7.5	6	40.00	22.00	48.00	2.2	A	1.17	FF VNMT 0706ZN-ER	4.8
FFV D080-07-27-R-VN07	80.00	65.00	1.50	7.5	7	50.00	27.00	60.00	1.5	A	0.81	FF VNMT 0706ZN-ER	4.8
FFV D100-08-32-R-VN07	100.00	85.00	1.50	7.5	8	50.00	32.00	78.00	1.2	B	1.61	FF VNMT 0706ZN-ER	4.8

• Radius for programming 2.8 mm • To generate a straight surface without cusps, the width of cut must not exceed DC

(1) Use with the supplied retention screw this screw was designed to be used instead of the standard cutter's frontal screw
(2) Cutting diameter maximum
(3) Maximum plunging width
(4) Number of inserts
(5) Maximum ramping angle
(6) Master insert identification
(7) Recommended tightening torque (N*m) for insert screw

For inserts, see pages: FF VNMT 0706 (503)

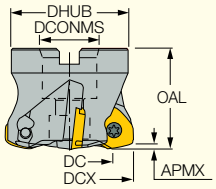
Spare Parts

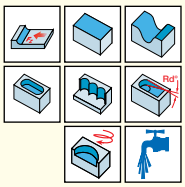
Designation						
FFV D040-03-16-R-VN07	SR M4X0.7-L11.5 IP15	BLD IP15/S7	SW6-T-SH	SR M8X17-13685		HW 4.0
FFV D050-05-22-R-VN07	SR M4X0.7-L11.5 IP15	BLD IP15/S7	SW6-T-SH		SR PS 118-0271C	
FFV D063-06-22-R-VN07	SR M4X0.7-L11.5 IP15	BLD IP15/S7	SW6-T-SH	SR M10X25 DIN912		
FFV D080-07-27-R-VN07	SR M4X0.7-L11.5 IP15	BLD IP15/S7	SW6-T-SH			
FFV D100-08-32-R-VN07	SR M4X0.7-L11.5 IP15	BLD IP15/S7	SW6-T-SH			

FEEDMILL

FF FW

Fast Feed Face Mills





Designation	DCX(1)	DC	APMX	CICT(2)	OAL	DHUB	DCONMS	RMPX(3)	Arbor(4)	kg	MIID(5)
FF FW D40-16-06-C	40.00	26.00	1.30	4	35.00	38.00	16.00	2.5	A	0.17	FF WOMT0602
FF FW D50-22-06-C	50.00	36.00	1.30	5	40.00	48.00	22.00	2.0	A	0.31	FF WOMT0602
FF FW D52-22-06-C	52.00	38.00	1.30	5	40.00	48.00	22.00	1.9	A	0.34	FF WOMT0602
FF FW D50-22-09-C	50.00	29.20	2.00	4	50.00	47.00	22.00	4.0	A	0.34	FF WOMT09T3
FF FW D52-22-09-C	52.00	31.20	2.00	4	40.00	47.00	22.00	4.0	A	0.27	FF WOMT09T3
FF FW D63-22-09-C	63.00	42.20	2.00	5	40.00	58.00	22.00	3.0	A	0.47	FF WOMT09T3
FF FW D63-27-09-C	63.00	42.20	2.00	5	50.00	61.00	27.00	3.0	A	0.57	FF WOMT09T3
FF FW D66-22-09-C	66.00	45.20	2.00	5	40.00	61.00	22.00	2.8	A	0.56	FF WOMT09T3
FF FW D66-27-09-C	66.00	45.20	2.00	5	50.00	61.00	27.00	2.8	A	0.64	FF WOMT09T3
FF FW D80-32-09-C	80.00	59.20	2.00	5	50.00	75.00	32.00	2.0	A	0.97	FF WOMT09T3
FF FW D100-32-09-C	100.00	79.20	2.00	6	50.00	78.00	32.00	1.5	B	1.32	FF WOMT09T3

(1) Cutting diameter maximum
(2) Number of inserts
(3) Maximum ramping angle
(4) For adaptation options, see page 517
(5) Master insert identification

For inserts, see pages: FF WOMT/WOCT (501)

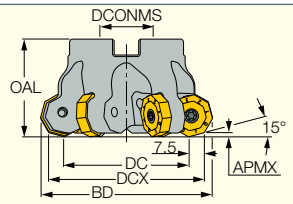
Spare Parts

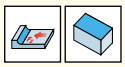
Designation					
FF FW D40-16-06-C	SR 34-506/M			T-9/51	SR M8X25DIN912
FF FW D50-22-06-C	SR 34-506/M			T-9/51	SR M10X25 DIN912
FF FW D52-22-06-C	SR 34-506/M			T-9/51	SR M10X25 DIN912
FF FW D50-22-09-C	SR 34-535	BLD T15/S7	SW6-T		SR PS 118-0273
FF FW D52-22-09-C	SR 34-535	BLD T15/S7	SW6-T		SR M10X25 DIN912
FF FW D63-22-09-C	SR 34-535	BLD T15/S7	SW6-T		SR M10X25 DIN912
FF FW D63-27-09-C	SR 34-535	BLD T15/S7	SW6-T		SR M12X30 DIN912
FF FW D66-22-09-C	SR 34-535	BLD T15/S7	SW6-T		SR M10X25 DIN912
FF FW D66-27-09-C	SR 34-535	BLD T15/S7	SW6-T		SR M12X30 DIN912
FF FW D80-32-09-C	SR 34-535	BLD T15/S7	SW6-T		SR M16X30 DIN912
FF FW D100-32-09-C	SR 34-535	BLD T15/M7	SW6-T		

16FEEDMILL

FF NM

Fast Feed Face Mills Carrying Octagonal ONHU/MU 0806...
Inserts with 16 Cutting Edges



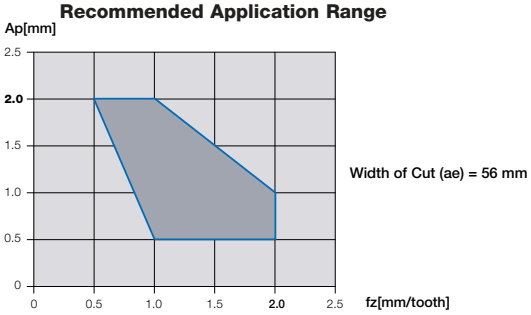


Designation	DCX(1)	DC	CICT(2)	APMX	OAL	Rg(3)	DCONMS	Arbor(4)	kg	MIID(5)			
FF NM D080-06-27-R08	80.00	64.50	6	2.00	50.00	8.00	27.00	A	0.84	ONHU 080608-TN	SR 14-591/H	BLD T20/S7	SW6-T

(1) Cutting diameter maximum
(2) Number of inserts
(3) Radius for programming
(4) For adaptation options, see page 517
(5) Master insert identification

For inserts, see pages: ONHU/ONMU-08-TN-MM (498) • ONHU/ONMU-08-TN/HL (498)

Recommended Application Range



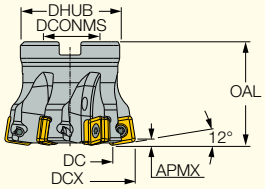
Cutting Data Recommendation

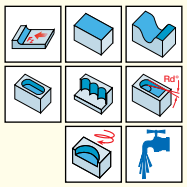
Material	Vc [m/min]
Steel AISI 4340/34CrNiMO6	120-150
Nodular cast iron GGG 50	170

MILL4FEED

FFQ4 D-09

Fast Feed Face Mills
Carrying Single-Sided Inserts
with 4 Cutting Edges





Designation	DC	DCX(1)	APMX	AE(2)	CICT(3)	OAL	DCONMS	DHUB	RMPX(4)	kg	MIID(5)	TQ(6)
FFQ4 D40-05-16-09	25.70	40.00	1.20	7.1	5	35.00	16.00	38.00	2.0	0.17	FFQ4 SOMT 090412T	2.0
FFQ4 D50-07-22-09	35.70	50.00	1.20	7.1	7	40.00	22.00	48.00	1.5	0.32	FFQ4 SOMT 090412T	2.0
FFQ4 D52-07-22-09	37.70	52.00	1.20	7.1	7	40.00	22.00	48.00	1.4	0.34	FFQ4 SOMT 090412T	2.0
FFQ4 D63-08-22-09	48.70	63.00	1.20	7.1	8	45.00	22.00	48.00	1.1	0.49	FFQ4 SOMT 090412T	2.0

• Radius for programming 2.5 mm • For user guide, see pages 518-524 • To generate a straight surface without cusps, the width of cut must not exceed DC • For slot milling or machining with high tool overhang, the maximum depth of cut should be reduced by 50%.

(1) Cutting diameter maximum
(2) Maximum plunging width
(3) Number of inserts
(4) Maximum ramping angle
(5) Master insert identification
(6) Recommended tightening torque (N*m) for insert screw

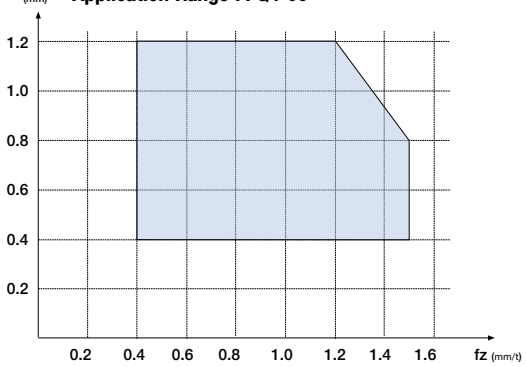
For inserts, see pages: FFQ4 SOMT 0904 (500)

Recommended Machining Conditions for FFQ4-09 Fast Feed Mills

Workpiece Material						Insert type	Carbide grade	D.O.C. ap [mm]		Cutting speed Vc, [m/min]	Feed fz [mm/tooth]		Coolant
ISO class DIN/ISO 513	Description	ISCAR mat. group*	Hardness, HB	Typical materials AISI/SAE/ ASTM	Typical materials DIN W.-Nr.			Recom-mended	Range		Recom-mended	Range	
P	Non-alloy steel	1-5	130-180	1020	1.0402	T / RM-T	IC808	1.0	0.4-1.2	150-220	1.2	0.5-1.5	Dry
							IC830			140-200	1.3	0.5-1.5	Dry/Wet
	Low alloy steel	6-8	260-300	4340	1.6582		IC808			140-200	1.2	0.5-1.5	Dry
							IC830			120-180	1.3	0.5-1.5	Dry/Wet
		9	HRC 35-42**	3135	1.5710		IC808			130-180	1.2	0.5-1.4	Dry
							IC830			120-160	1.2	0.5-1.4	Dry/Wet
	High alloy steel	10-11	200-220	H13	1.2344		IC808			120-170	1.2	0.5-1.4	Dry
							IC830			100-150	1.3	0.5-1.4	Dry/Wet
	Ferritic/martensitic stainless steel	12-13	200	420	1.4021		IC808			110-160	1.2	0.5-1.4	Dry
							IC830			100-150	1.3	0.5-1.4	Dry/Wet
M	Austenitic stainless steel	14	200	304L	1.4306	HP	IC830	1.0	0.4-1.2	80-140	1.0	0.5-1.2	Wet
							IC808			100-160	1.0	0.5-1.2	
							IC5820			100-160	1.0	0.5-1.3	
							IC882			80-130	1.0	0.5-1.4	
K	Gray cast iron	15-16	250	Class 40	0.6025 (GG25)	T / RM-T	IC810	1.0	0.4-1.2	150-220	1.2	0.5-1.5	Dry
	Nodular cast iron	17-18	200	Class 65-45-12	0.7050 (GGG50)		IC810			120-200	1.2	0.5-1.5	
S	High temperature alloys	33-35	340	Inconel 718	2.4668	HP	IC882	1.0	0.4-1.2	20-30	0.6	0.4-1.0	Wet
							IC5820			23-35	0.6	0.5-1.0	
							IC830			23-35	0.6	0.5-1.0	
							IC808			25-40	0.6	0.4-1.0	
		36-37	HRC 35-40	AMS R56400	3.7165 (Ti6Al4V ELI)		IC882			20-30	0.6	0.5-1.0	
							IC5820			20-30	0.6	0.4-1.0	
							IC830			20-45	0.6	0.5-1.0	
							IC808			20-30	0.6	0.5-1.0	
H	Hardened steel	38	HRC 45-49	HARDOX 450 plate		T / RM-T	IC808	1.0	0.4-1.2	50-75	0.5	0.4-0.5	Dry

* ISCAR material group in accordance with VDI 3323 standard ** Quenched and tempered
For machining in unstable conditions, the recommended cutting data should be reduced by 20-30%

Application Range FFQ4-09



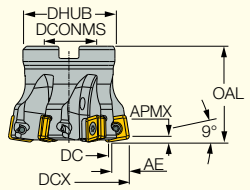
Spare Parts

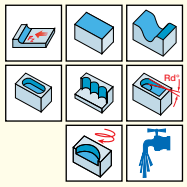
Designation			
FFQ4 D40-05-16-09	SR M3X0.5-L7.4 IP9	IP-9/151	SR M8X25DIN912
FFQ4 D50-07-22-09	SR M3X0.5-L7.4 IP9	IP-9/151	SR M10X25 DIN912
FFQ4 D52-07-22-09	SR M3X0.5-L7.4 IP9	IP-9/151	SR M10X25 DIN912
FFQ4 D63-08-22-09	SR M3X0.5-L7.4 IP9	IP-9/151	SR M10X30 DIN912

MILL4FEED

FFQ4 D-12

Fast Feed Face Mills
Carrying Single-Sided Inserts
with 4 Cutting Edges





Designation	DC	DCX(1)	APMX	AE(2)	CICT(3)	OAL	DHUB	DCONMS	Arbor	RMPX(4)	kg	MIID(5)	TQ(6)
FFQ4 D040-3-16-12	18.00	40.00	1.50	10.0	3	45.00	38.00	16.00	A	4.3	0.23	FFQ4 SOMT 120516HP	4.8
FFQ4 D040-4-16-12	18.00	40.00	1.50	10.0	4	45.00	38.00	16.00	A	4.3	0.22	FFQ4 SOMT 120516HP	4.8
FFQ4 D050-4-22-12	28.00	50.00	1.50	10.0	4	50.00	48.00	22.00	A	2.7	0.38	FFQ4 SOMT 120516HP	4.8
FFQ4 D050-5-22-12	28.00	50.00	1.50	10.0	5	50.00	48.00	22.00	A	2.7	0.37	FFQ4 SOMT 120516HP	4.8
FFQ4 D052-5-22-12	29.00	52.00	1.50	10.0	5	50.00	48.00	22.00	A	2.5	0.39	FFQ4 SOMT 120516HP	4.8
FFQ4 D063-6-22-12	41.00	63.00	1.50	10.0	6	50.00	48.00	22.00	A	1.8	0.50	FFQ4 SOMT 120516HP	4.8
FFQ4 D066-6-27-12	43.00	66.00	1.50	10.0	6	50.00	60.00	27.00	A	1.6	0.65	FFQ4 SOMT 120516HP	4.8
FFQ4 D080-7-27-12	58.00	80.00	1.50	10.0	7	50.00	60.00	27.00	A	1.2	0.84	FFQ4 SOMT 120516HP	4.8
FFQ4 D100-8-32-12	78.00	100.00	1.50	10.0	8	50.00	78.00	32.00	B	0.9	1.30	FFQ4 SOMT 120516HP	4.8

• Radius for programming 3.1 mm • For user guide, see pages 518-524 • To generate a straight surface without cusps, the width of cut must not exceed DC • For slot milling or machining with high tool overhang, the maximum depth of cut should be reduced by 50%.

(1) Cutting diameter maximum
(2) Maximum plunging width
(3) Number of inserts
(4) Maximum ramping angle
(5) Master insert identification
(6) Recommended tightening torque (N*m) for insert screw

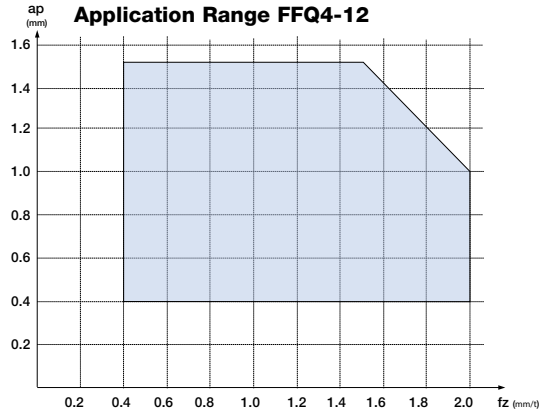
For inserts, see pages: FFQ4 SOMT 1205 (500)

Recommended Machining Conditions for FFQ4-12 Fast Feed Face Mills

Workpiece Material						Insert type	Carbide grade	D.O.C. ap [mm]		Cutting speed Vc, [m/min]	Feed fz [mm/tooth]		Coolant
ISO class DIN/ISO 513	Description	ISCAR mat. group*	Hardness, HB	Typical representstive AISI/SAE/ASTM	Typical representstive DIN W.-Nr.			Recom-mended	Range		Recom-mended	Range	
P	Non-alloy steel	1-5	130-180	1020	1.0402	T/ RM-T	IC808	1.5	0.5-1.5	150-220	1.5	0.5-2.0	Dry
							IC830			140-200	1.6	0.5-2.0	Dry/Wet
	Low alloy steel	6-8	260-300	4340	1.6582		IC808			140-200	1.5	0.5-2.0	Dry
							IC830			120-180	1.6	0.5-2.0	Dry/Wet
		9	HRC 35-42**	3135	1.5710		IC808			130-180	1.5	0.5-1.8	Dry
							IC830			120-160	1.5	0.5-1.8	Dry/Wet
	High alloy steel	10-11	200-220	H13	1.2344		IC808			120-170	1.3	0.5-1.8	Dry
							IC830			100-150	1.4	0.5-1.8	Dry/Wet
	Ferritic/martensitic stainless steel	12-13	200	420	1.4021		IC808			110-160	1.3	0.5-1.8	Dry
							IC830			100-150	1.4	0.5-1.8	Dry/Wet
M	Austenitic stainless steel	14	200	304L	1.4306	HP/ RM-HP	IC830	1.5	0.5-1.5	80-140	1.0	0.5-1.5	Wet
							IC808			100-160	1.0	0.5-1.5	
							IC5820			100-160	1.0	0.5-1.6	
							IC882			80-130	1.0	0.5-1.8	
K	Gray cast iron	15-16	250	Class 40	0.6025 (GG25)	T20 / T	IC810	1.5	0.5-1.5	150-220	1.5	0.5-2.0	Dry
	Nodular cast iron	17-18	200	Class 65-45-12	0.7050 (GGG50)		IC810			120-200	1.5	0.5-2.0	
S	High temperature alloys	33-35	340	Inconel 718	2.4668	HP/ RM-HP	IC830	1.5	0.5-1.5	23-35	0.7	0.5-1.0	Wet
							IC808			25-40	0.7	0.4-1.0	
							IC5820			23-35	0.7	0.5-1.0	
							IC882			20-30	0.7	0.5-1.0	
		36-37	HRC 35-40	AMS R56400	3.7165 (Ti6Al4V)		IC830			20-45	0.7	0.5-1.0	
							IC808			20-30	0.7	0.4-1.0	
							IC5820			20-30	0.7	0.5-1.0	
							IC882			20-30	0.9	0.5-1.0	
H	Hardened steel	38	HRC 45-49	HARDOX 450 plate		RM-T/T	IC808	1	0.5-1.5	50-75	0.5	0.4-0.5	Dry

* ISCAR material group in accordance with VDI 3323 standard
** Quenched and tempered
For machining in unstable conditions, the recommended cutting data should be reduced by 20-30%.

Application Range FFQ4-12



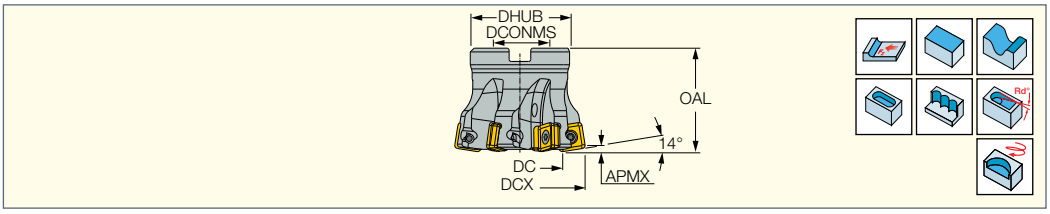
Spare Parts

Designation					
FFQ4 D040-3-16-12	SR M4X0.7-L9.6 IP15	SW6-T	BLD IP15/S7		SR PS 118-0416
FFQ4 D040-4-16-12	SR M4X0.7-L9.6 IP15	SW6-T	BLD IP15/S7		SR PS 118-0416
FFQ4 D050-4-22-12	SR M4X0.7-L9.6 IP15	SW6-T	BLD IP15/S7	SR M10X35 DIN912	
FFQ4 D050-5-22-12	SR M4X0.7-L9.6 IP15	SW6-T	BLD IP15/S7	SR M10X35 DIN912	
FFQ4 D052-5-22-12	SR M4X0.7-L9.6 IP15	SW6-T	BLD IP15/S7	SR M10X35 DIN912	
FFQ4 D063-6-22-12	SR M4X0.7-L9.6 IP15	SW6-T	BLD IP15/S7	SR M10X35 DIN912	
FFQ4 D066-6-27-12	SR M4X0.7-L9.6 IP15	SW6-T	BLD IP15/S7	SR M12X30 DIN912	
FFQ4 D080-7-27-12	SR M4X0.7-L9.6 IP15	SW6-T	BLD IP15/S7	SR M12X30 DIN912	
FFQ4 D100-8-32-12	SR M4X0.7-L9.6 IP15	SW6-T	BLD IP15/S7		

MILL4FEED

FFQ4 D-17

Fast Feed Face Mills
Carrying Single-Sided Inserts
with 4 Cutting Edges



Designation	DCX(1)	DC	APMX	AE(2)	CICT(3)	OAL	DCONMS	DHUB	RMPX(4)	CSP(5)	kg	MIID(6)	TQ(7)
FFQ4 D080-06-27-17	80.00	50.80	3.00	14.6	6	50.00	27.00	60.00	1.2	1	0.78	FFQ4 SOMT 170625T	9.0
FFQ4 D100-07-32-17	100.00	70.80	3.00	14.6	7	50.00	32.00	78.00	0.8	1	1.18	FFQ4 SOMT 170625T	9.0
FFQ4 D125-08-40-17	125.00	95.80	3.00	14.6	8	63.00	40.00	92.00	0.6	1	2.48	FFQ4 SOMT 170625T	9.0
FFQ4 D160-10-40-17	160.00	130.80	3.00	14.6	10	63.00	40.00	95.00	0.2	0	2.90	FFQ4 SOMT 170625T	9.0

• Radius for programming 5.5 mm • For user guide, see pages 518-524 • To generate a straight surface without cusps, the width of cut must not exceed DC • For slot milling or machining with high tool overhang, the maximum depth of cut should be reduced by 50%

(1) Cutting diameter maximum
(2) Maximum plunging width
(3) Number of inserts
(4) Maximum ramping angle
(5) 0 - Without coolant supply, 1 - With coolant supply
(6) Master insert identification
(7) Recommended tightening torque (N*m) for insert screw

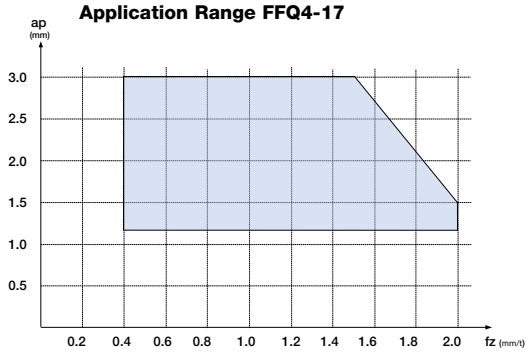
For inserts, see pages: FFQ4 SOMT 1706 (500)

Recommended Machining Conditions for FFQ4-17 Fast Feed Mills

ISO class DIN/ISO 513	Workpiece material: Description	ISCAR mat. group*	Hardness, HB	Typical material: AISI/SAE/ASTM	Typical material: DIN W.-Nr.	Insert type	Carbide grade	D.O.C. ap [mm]	Cutting speed Vc [m/min]	Feed fz [mm/tooth]	Coolant
P	Non-alloy	1-5	130-180	1020	1.0402	T / RM-T	IC808	1.2-3.0	150-220	0.5-2.0	Dry
							IC830		140-200	0.5-2.0	Dry/Wet
	Low alloy steel	6-8	260-300	4340	1.6582		IC808		140-200	0.5-1.8	Dry
							IC830		120-180	0.5-1.8	Dry/Wet
		9	HRC 35-42**	3135	1.5710		IC808		130-180	0.5-1.5	Dry
							IC830		120-160	0.5-1.5	Dry/Wet
	High alloy	10-11	200-220	H13	1.2344		IC808		120-170	0.5-1.5	Dry
							IC830		100-150	0.5-1.5	Dry/Wet
	Ferritic/martensitic stainless steel	12-13	200	420	1.4021		IC808		110-160	0.5-1.5	Dry
							IC830		100-150	0.5-1.5	Dry/Wet
M	Austenitic stainless steel	14	200	304L	1.4306	HP	IC830	1.2-3.0	80-140	0.5-1.2	Wet
							IC808		100-160	0.5-1.2	
							IC882		80-160	0.5-1.2	
K	Grey cast iron	15-16	250	Class 40	0.6025 (GG25)	T	IC810	1.2-3.0	150-220	0.5-2.0	Dry
	Nodular cast iron	17-18	200	Class 65-45-12	0.7050 (GGG50)		IC810		120-200	0.5-2.0	
S	High temperature alloys	33-35	340	Inconel 718	2.4668	HP	IC830	1.2-3.0	25-35	0.4-0.8	Wet
							IC808		25-40	0.4-0.8	
							IC882		23-30	0.4-0.8	
		36-37	HRC 30-32	AMS R56400	3.717 (Ti6Al4V ELI)		IC830		25-45	0.4-0.9	
							IC808		20-40	0.4-0.9	
							IC882		20-40	0.4-0.9	
H	Hardened steel	38	HRC 45-49	HARDOX 450 plate		T / RM-T	IC808	1.2-3.0	50-75	0.4-0.6	Dry

* ISCAR material group in accordance with VDI 3323 standard
** Quenched and tempered
For machining in unstable conditions, the recommended cutting data should be reduced by 20-30%

Application Range FFQ4-17



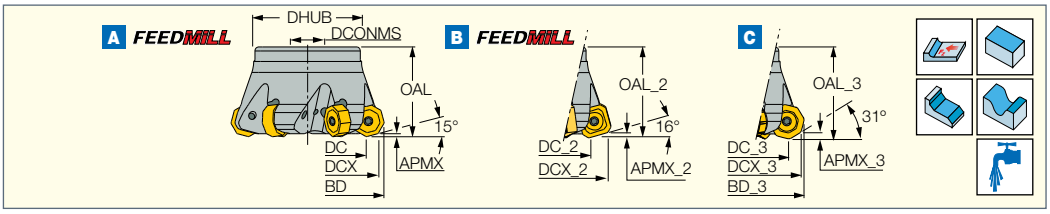
Spare Parts

Designation				
FFQ4 D080-06-27-17	SR M5-14 IP20	SW6-T	BLD IP20/S7	SR M12X30 DIN912
FFQ4 D100-07-32-17	SR M5-14 IP20	SW6-T	BLD IP20/S7	
FFQ4 D125-08-40-17	SR M5-14 IP20	SW6-T	BLD IP20/S7	
FFQ4 D160-10-40-17	SR M5-14 IP20	SW6-T	BLD IP20/S7	

HELIDO 800 LINE

FF SOF

Multifunction Fast Feed Milling Cutter for Octagonal and Square Insert Contours with Various Entry Angles



Designation	DC	DCX	BD	APMX	OAL	DC_2	DCX_2	APMX_2	OAL_2	DC_3	DCX_3	BD_3	APMX_3	OAL_3	CICT(1)	DHUB
FF SOF 8/16-D063-06-22R	52.60	63.00	68.40	1.20	40.00	49.50	69.20	2.20	40.40	56.60	66.80	70.40	2.70	40.90	6	65.60
FF SOF 8/16 D080-07-27R	69.60	80.00	85.40	1.20	40.00	66.50	86.20	2.20	40.40	73.60	83.80	87.40	2.70	40.90	7	82.60
FF SOF 8/16 D100-08-32R	89.60	100.00	105.40	1.20	50.00	86.50	106.20	2.20	50.40	93.60	103.80	107.40	2.70	50.90	8	102.60

Designation	DCONMS	Arbor(2)	K9	MIID(3)				
FF SOF 8/16-D063-06-22R	22.00	B	0.48	ONHU 050500-N-HP	SR 11800745	BLD IP15/S7	SW6-T-SH	SR M10X25 DIN912
FF SOF 8/16 D080-07-27R	27.00	B	1.04	ONHU 050500-N-HP	SR 11800745	BLD IP15/S7	SW6-T-SH	SR M12X30DIN912
FF SOF 8/16 D100-08-32R	32.00	B	1.47	ONHU 050500-N-HP	SR 11800745	BLD IP15/S7	SW6-T-SH	

• A- with ONMU 0505... insert • B- with S845 SNMU 1305... insert • C- with OXMT 0507R08-FF insert • Use only Torx Plus keys • For user guide, see pages 518-524

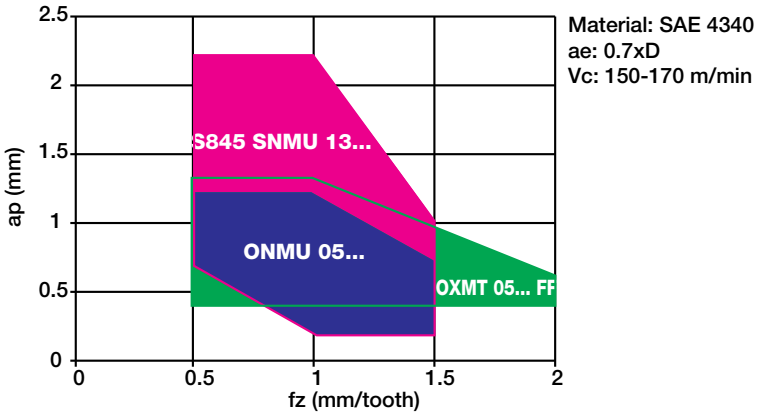
(1) Number of inserts

(2) For adaptation options, see page 517

(3) Master insert identification

For inserts, see pages: ONHU/ONMU-05 (487) • OXMT 0507 (488) • S845 SNMU/SNHU-13 (483)

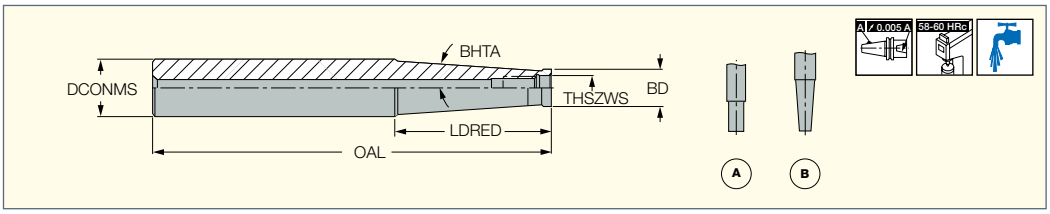
Application Range According to Insert Type



Straight Shank

FLEXFIT

S M
Shanks for Tools with FLEXFIT Threaded Connection



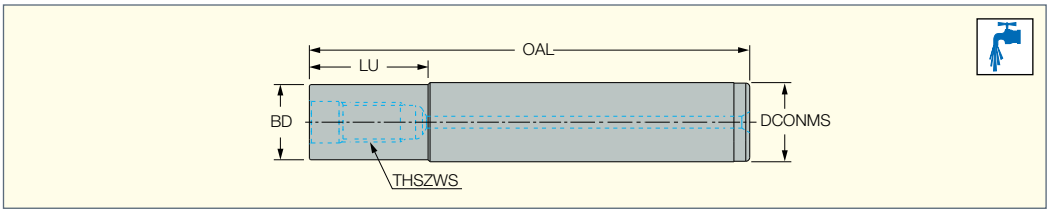
Designation	OAL	LDRED	DCONMS	Shank	BD	BHTA	THSZWS	Type	kg
S M06-L60 C10	60.00	20.0	10.00	C	9.70	-	M06	A	0.03
S M06-L105-C12	105.00	60.0	12.00	C	9.70	1.2	M06	B	0.06
S M06-L125-C16	125.00	60.0	16.00	C	9.70	3.3	M06	B	0.13
S M08-L73 C16	73.00	25.0	16.00	C	13.00	-	M08	A	0.09
S M08-L128-C16	128.00	80.0	16.00	C	13.00	0.9	M08	B	0.15
S M08-L170-C20	170.00	66.8	20.00	C	13.00	3.3	M08	B	0.33
S M10-L80 C20	80.00	30.0	20.00	C	18.00	-	M10	A	0.16
S M10-L130-C20	130.00	80.0	20.00	C	18.00	0.6	M10	B	0.25
S M10-L200-C25	200.00	57.2	25.00	C	19.00	3.3	M10	B	0.65
S M12-L86-C25	86.00	30.0	25.00	C	21.00	5.1	M12	A	0.27
S M12-L200-C32	200.00	78.0	32.00	C	21.00	4.4	M12	B	1.02
S M16-L95-C32	95.00	35.0	32.00	C	29.00	1.7	M16	A	0.50
S M16-L230-C32	230.00	50.0	32.00	C	29.00	1.8	M16	B	1.27

• For adaptation options, see page 306

FLEXFIT

Straight Shank

S M-C-H
Carbide Shanks with Coolant Channels for Tools with FLEXFIT Threaded Connection



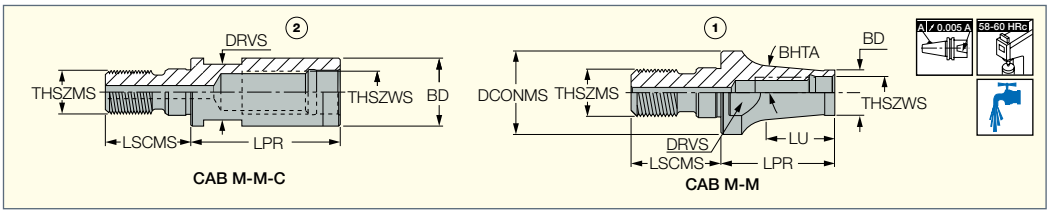
Designation	DCONMS	THSZWS	OAL	LU	BD	kg
S M08-L150-C16-C-H	16.00	M08	150.00	80.0	15.30	0.39
S M08-L200-C16-C-H	16.00	M08	200.00	140.0	15.30	0.59
S M08-L250-C16-C-H	16.00	M08	250.00	180.0	15.30	0.84
S M10-L150-C20-C-H	20.00	M10	150.00	80.0	18.50	0.73
S M10-L200-C20-C-H	20.00	M10	200.00	140.0	18.50	0.91
S M10-L250-C20-C-H	20.00	M10	250.00	180.0	18.50	1.04
S M12-L200-C25-C-H	25.00	M12	200.00	100.0	24.00	1.41
S M12-L250-C25-C-H	25.00	M12	250.00	180.0	24.00	1.78
S M12-L300-C25-C-H	25.00	M12	300.00	180.0	24.00	2.04
S M16-L200-C32-C-H	32.00	M16	200.00	100.0	29.00	2.11
S M16-L250-C32-C-H	32.00	M16	250.00	180.0	29.00	2.36
S M16-L300-C32-C-H	32.00	M16	300.00	180.0	29.00	2.81

• For adaptation options, see page 306

FLEXFIT

CAB M-M (FLEXFIT)

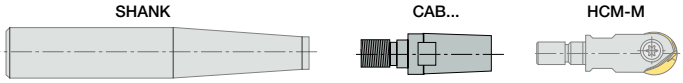
Reducers and Extensions with Coolant Holes for the Modular FLEXFIT System



Designation	THSZWS	THSZMS	BD	LPR	LU	DCONMS	LSCMS	DRVS(1)	Fig.	BHTA	kg
CAB M06M08	M06	M08	9.70	30.00	24.80	13.00	17.50	9.5	1.	5.7	0.02
CAB M08M08-C	M08	M08	13.00	30.00	-	-	17.50	9.6	2.	-	0.02
CAB M08M10	M08	M10	13.00	40.00	33.40	18.00	20.20	15.0	1.	5.2	0.07
CAB M10M10-C	M10	M10	18.00	35.00	-	-	20.00	15.0	2.	-	0.06
CAB M10M12	M10	M12	18.00	45.00	36.40	21.00	22.00	17.0	1.	2.5	0.09
CAB M12M12-C	M12	M12	21.00	40.00	-	-	22.00	17.0	2.	-	0.08
CAB M12M16	M12	M16	21.00	50.00	42.50	29.00	25.00	25.0	1.	6.3	0.18
CAB M16M16-C	M16	M16	29.00	40.00	-	-	25.00	25.0	2.	-	0.16

• For adaptation options, see page 306

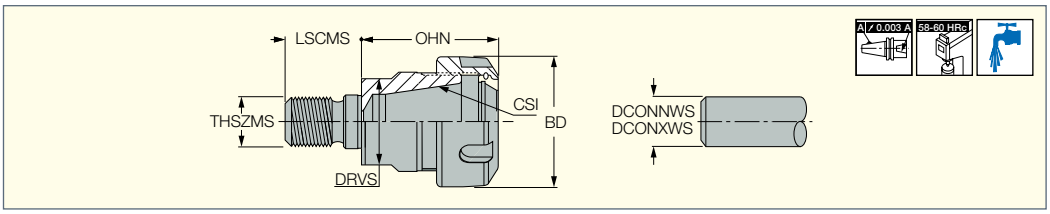
(1) Clamping wrench size



FLEXFIT

CDP ER-M

DIN 6499 ER Collet Chucks with Threaded FLEXFIT Adaptations



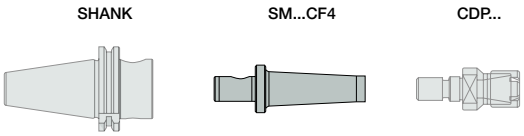
Designation	CSI	THSZMS	DCONNWS(1)	DCONXWS	OHN(2)	LSCMS	BD	DRVS(3)	kg
CDP ER11 M10 M	ER11	M10	0.5	7.0	27.0	20.00	16.00	15.0	0.03
CDP ER11 M12 M	ER11	M12	0.5	7.0	27.0	22.00	16.00	17.0	0.04
CDP ER16 M10 M	ER16	M10	0.5	10.0	38.1	20.00	22.00	17.0	0.05
CDP ER16 M12 M	ER16	M12	0.5	10.0	37.1	22.00	22.00	17.0	0.06
CDP ER16 M16	ER16	M16	0.5	10.0	36.6	25.00	28.00	25.0	0.10
CDP ER20 M16	ER20	M16	1.0	13.0	45.5	25.00	34.00	25.0	0.19
CDP ER25 M16	ER25	M16	1.0	16.0	44.5	25.00	42.00	28.0	0.15

• For adaptation options, see page 306

(1) Minimum diameter

(2) Minimum overhang

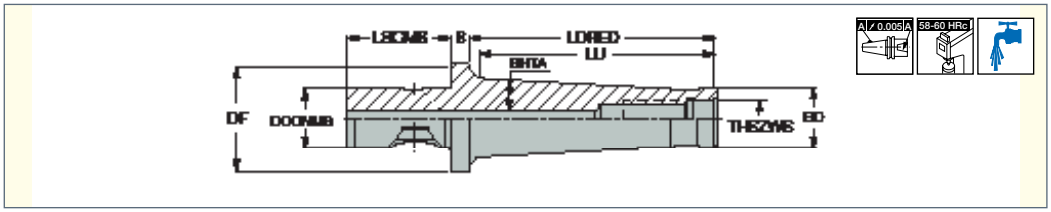
(3) Key flat size



CLICKFIT FLEXFIT

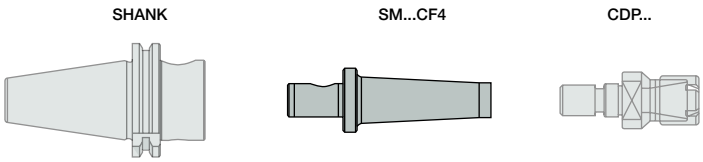
S M-CF

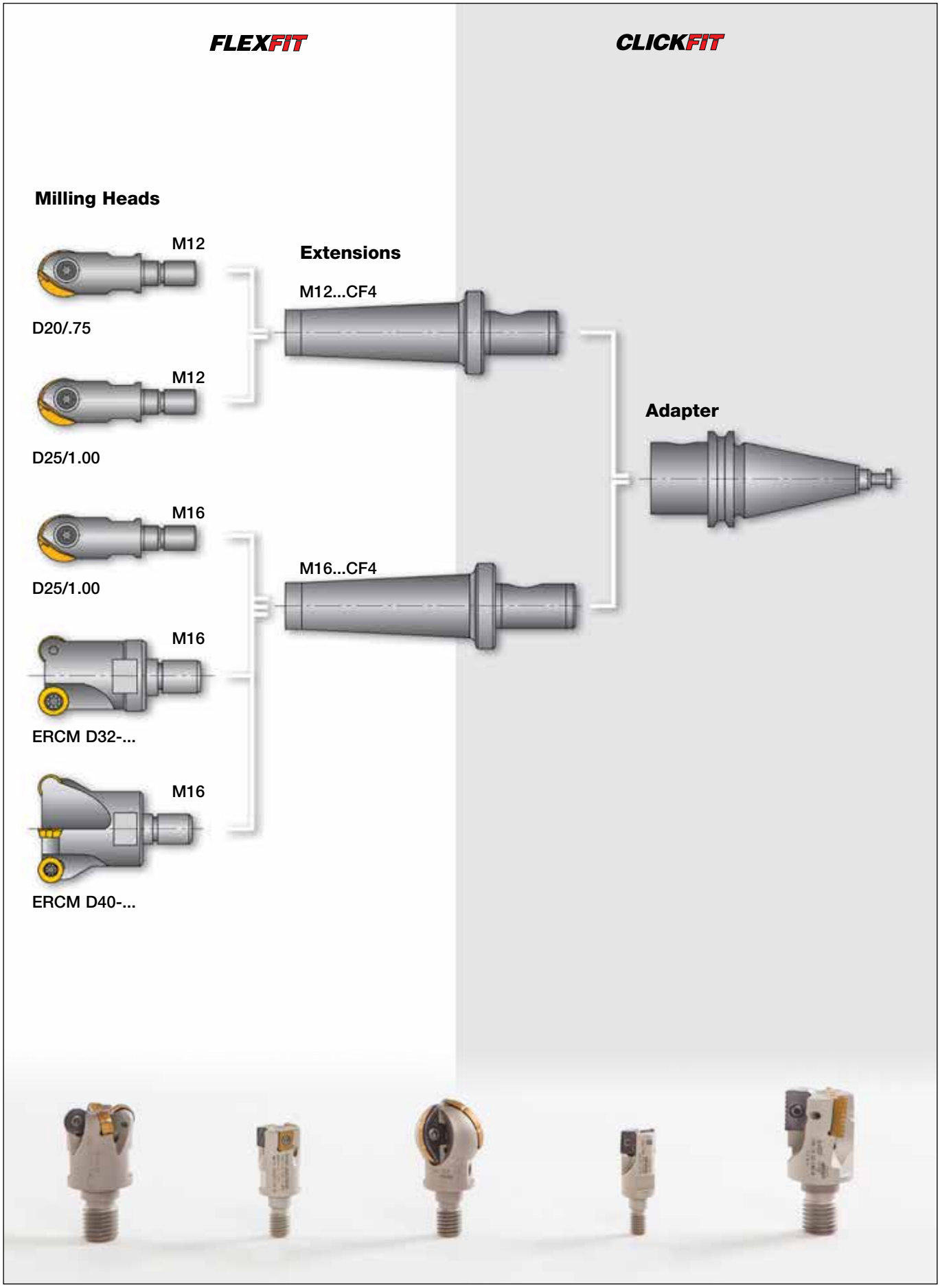
CLICKFIT to FLEXFIT Adapters



Designation	THSZWS	BD	LDRED	LU	DF	LSCMS	BHTA	kg	DCONMS
S M12-L85/3.30-CF4	M12	21.00	85.0	81.30	44.00	42.00	4.4	0.23	25.00
S M12-L140/5.50-CF4	M12	21.00	140.0	139.10	44.00	42.00	4.4	0.98	25.00
S M16-L130/5.11-CF4	M16	29.00	130.0	126.80	44.00	42.00	2.6	0.23	25.00
S M16-L170/6.70-CF4	M16	29.00	170.0	168.60	44.00	42.00	2.0	1.30	25.00

• For adaptation options, see pages 306

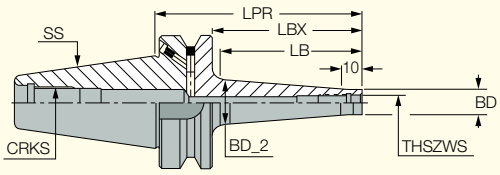


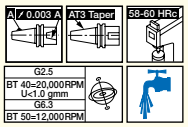

FLEXFIT
CLICKFIT
Milling Heads
M12
D20/.75
M12
D25/1.00
M16
D25/1.00
M16
ERCM D32-...
M16
ERCM D40-...
Extensions
M12...CF4
M16...CF4
Adapter

BT MAS FLEXFIT

BT-ODP (FLEXFIT)

FLEXFIT Threaded Adaptation with Integral BT MAS-403 Tapered Shanks (ADB type)





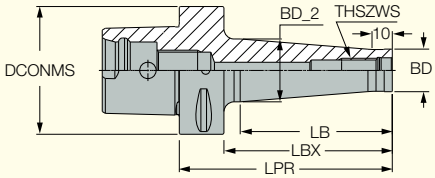
Designation	SS	THSZWS	BD	BD_2	LPR	LBX	LB	CRKS	kg
BT40 ODP 6X 66	40	M06	9.80	13.00	66.00	39.0	30.00	M16	0.98
BT40 ODP 6X106	40	M06	9.80	23.00	106.00	79.0	70.00	M16	0.14
BT40 ODP 8X 66	40	M08	13.00	15.00	66.00	30.0	30.00	M16	0.99
BT40 ODP 8X106	40	M08	13.00	23.00	106.00	79.0	70.00	M16	1.09
BT40 ODP10X 66	40	M10	18.00	20.00	66.00	30.0	30.00	M16	1.03
BT40 ODP10X106	40	M10	18.00	28.00	106.00	79.0	70.00	M16	1.24
BT40 ODP12X 66	40	M12	21.00	24.00	66.00	39.0	30.00	M16	1.05
BT40 ODP12X106	40	M12	21.00	31.00	106.00	79.0	70.00	M16	1.23
BT40 ODP16X 66	40	M16	29.00	28.60	66.00	39.0	35.00	M16	1.06
BT40 ODP16X106	40	M16	29.00	34.00	106.00	79.0	70.00	M16	1.32
BT50 ODP 12X 94	50	M12	23.00	30.00	94.00	56.0	50.00	M24	3.85
BT50 ODP 12X144	50	M12	23.00	40.00	144.00	106.0	100.00	M24	4.25
BT50 ODP 12X194	50	M12	23.00	40.00	194.00	156.0	150.00	M24	4.57
BT50 ODP 12X244	50	M12	23.00	46.00	244.00	206.0	200.00	M24	5.12
BT50 ODP 16X 94	50	M16	29.00	34.00	94.00	56.0	50.00	M24	3.75
BT50 ODP 16X144	50	M16	29.00	40.00	144.00	106.0	100.00	M24	4.19
BT50 ODP 16X194	50	M16	29.00	55.00	194.00	156.0	150.00	M24	5.24
BT50 ODP 16X244	50	M16	29.00	60.00	244.00	206.0	200.00	M24	5.60

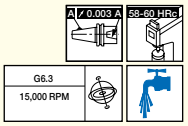
• The coolant passages in the B-type flange are blocked with screws which can be removed when required.

FLEXFIT CAMFIX

C#-ODP (FLEXFIT)

FLEXFIT Threaded Connection Shanks with CAMFIX (ISO 26623-1) Exchangeable Tapered Shanks





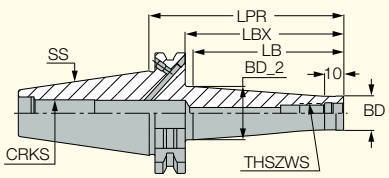
Designation	DCONMS	THSZWS	BD	BD_2	LPR	LBX	LB	kg		
C3 ODP 12X53	32.00	M12	21.00	26.00	53.00	38.0	23.00	0.00		
C4 ODP 10X53	40.00	M10	18.00	23.00	53.00	33.0	23.00	0.33	COOLING TUBE C4*	WRENCH COOL TUBE C4*
C4 ODP 12X53	40.00	M12	21.00	26.00	53.00	33.0	23.00	0.33	COOLING TUBE C4*	WRENCH COOL TUBE C4*
C4 ODP 16X53	40.00	M16	29.00	34.00	53.00	33.0	23.00	0.40	COOLING TUBE C4*	WRENCH COOL TUBE C4*
C5 ODP 10X103	50.00	M10	18.00	28.00	103.00	83.0	75.00	0.10	COOLING TUBE C5*	WRENCH COOL TUBE C5*
C5 ODP 10X53	50.00	M10	18.00	19.50	53.00	33.0	25.00	0.49	COOLING TUBE C5*	WRENCH COOL TUBE C5*
C5 ODP 12X103	50.00	M12	21.00	31.00	103.00	83.0	75.00	0.72	COOLING TUBE C5*	WRENCH COOL TUBE C5*
C5 ODP 12X53	50.00	M12	21.00	23.50	53.00	33.0	25.00	0.50	COOLING TUBE C5*	WRENCH COOL TUBE C5*
C5 ODP 16X103	50.00	M16	29.00	36.00	103.00	83.0	75.00	0.85	COOLING TUBE C5*	WRENCH COOL TUBE C5*
C5 ODP 16X53	50.00	M16	29.00	34.00	53.00	33.0	25.00	0.57	COOLING TUBE C5*	WRENCH COOL TUBE C5*
C6 ODP 10X105	63.00	M10	18.00	28.00	105.00	83.0	75.00	1.00	COOLING TUBE C6*	WRENCH COOL TUBE C6*
C6 ODP 10X130	63.00	M10	18.00	32.00	130.00	108.0	100.00	1.20	COOLING TUBE C6*	WRENCH COOL TUBE C6*
C6 ODP 10X55	63.00	M10	18.00	19.50	55.00	33.0	25.00	0.82	COOLING TUBE C6*	WRENCH COOL TUBE C6*
C6 ODP 12X105	63.00	M12	21.00	31.00	105.00	83.0	75.00	1.07	COOLING TUBE C6*	WRENCH COOL TUBE C6*
C6 ODP 12X130	63.00	M12	21.00	36.00	130.00	108.0	100.00	1.26	COOLING TUBE C6*	WRENCH COOL TUBE C6*
C6 ODP 12X55	63.00	M12	21.00	23.50	55.00	33.0	25.00	0.84	COOLING TUBE C6*	WRENCH COOL TUBE C6*
C6 ODP 16X105	63.00	M16	29.00	34.00	105.00	83.0	75.00	1.20	COOLING TUBE C6*	WRENCH COOL TUBE C6*
C6 ODP 16X130	63.00	M16	29.00	41.00	130.00	108.0	100.00	1.49	COOLING TUBE C6*	WRENCH COOL TUBE C6*
C6 ODP 16X55	63.00	M16	29.00	34.00	55.00	33.0	25.00	0.89	COOLING TUBE C6*	WRENCH COOL TUBE C6*

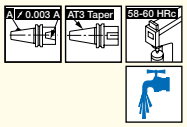
• For adaptation options, see pages 306

DIN69871 FLEXFIT

DIN69871-ODP

FLEXFIT Threaded Connection Shanks with Integral DIN69871 Form ADB Taper Adaptation





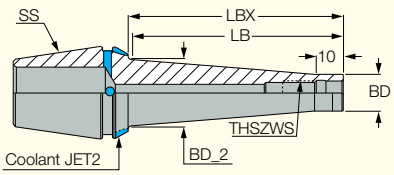
Designation	SS	THSZWS	BD	BD_2	LPR	LBX	LB	CRKS	kg
DIN69871 40 ODP 6X58	40	M06	9.80	13.00	58.00	38.9	30.00	M16	0.82
DIN69871 40 ODP 6X98	40	M06	9.80	23.00	98.00	78.9	70.00	M16	0.91
DIN69871 40 ODP 8X58	40	M08	13.10	15.00	58.00	38.9	30.00	M16	0.82
DIN69871 40 ODP 8X98	40	M08	13.10	23.00	98.00	78.9	70.00	M16	0.92
DIN69871 40 ODP10X58	40	M10	18.00	20.00	58.00	38.9	30.00	M16	0.84
DIN69871 40 ODP10X98	40	M10	18.00	28.00	98.00	78.9	70.00	M16	1.00
DIN69871 40 ODP12X58	40	M12	21.00	24.00	58.00	38.9	30.00	M16	0.88
DIN69871 40 ODP12X98	40	M12	21.00	31.00	98.00	78.9	70.00	M16	1.07
DIN69871 40 ODP16X58	40	M16	29.00	28.60	58.00	38.9	35.00	M16	0.91
DIN69871 40 ODP16X98	40	M16	29.00	34.00	98.00	78.9	70.00	M16	1.15
DIN69871 50 ODP12X 78	50	M12	23.00	30.00	78.00	58.9	50.00	M24	2.74
DIN69871 50 ODP12X128	50	M12	23.00	40.00	128.00	108.9	100.00	M24	3.14
DIN69871 50 ODP12X178	50	M12	23.00	40.00	178.00	158.9	150.00	M24	3.38
DIN69871 50 ODP12X228	50	M12	23.00	46.00	228.00	208.9	200.00	M24	4.14
DIN69871 50 ODP16X 78	50	M16	29.00	34.00	78.00	58.9	50.00	M24	2.95
DIN69871 50 ODP16X128	50	M16	29.00	40.00	128.00	108.9	100.00	M24	3.20
DIN69871 50 ODP16X178	50	M16	29.00	55.00	178.00	158.9	150.00	M24	4.08
DIN69871 50 ODP16X228	50	M16	29.00	55.00	228.00	208.9	200.00	M24	4.64

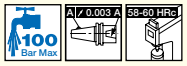
• For user guide, see pages 518-524

ER Collet FLEXFIT

ER-ODP

FLEXFIT Threaded Adaptation with Integral ER Collet for ER Collet Chucks



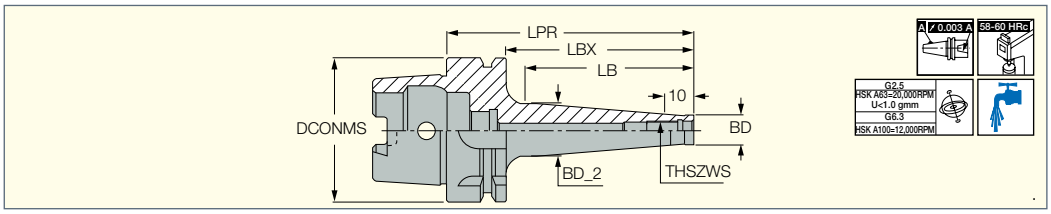


Designation	SS	THSZWS	LBX	BD	BD_2	LB	kg
ER25 ODP M10X25	ER25	M10	25.00	18.00	17.60	23.00	0.11
ER25 ODP M12X10	ER25	M12	10.00	20.00	20.00	-	0.00
ER32 ODP M 6X25	ER32	M06	25.00	9.80	14.00	22.00	0.15
ER32 ODP M 6X50	ER32	M06	50.00	9.80	20.00	48.00	0.19
ER32 ODP M 6X75	ER32	M06	75.00	9.80	23.00	74.00	0.24
ER32 ODP M 8X25	ER32	M08	25.00	13.10	15.00	22.00	0.15
ER32 ODP M 8X50	ER32	M08	50.00	13.10	23.00	49.00	0.21
ER32 ODP M 8X75	ER32	M08	75.00	13.10	23.00	74.00	0.26
ER32 ODP M10X25	ER32	M10	25.00	18.00	20.00	23.00	0.17
ER32 ODP M10X50	ER32	M10	50.00	18.00	24.00	49.00	0.24
ER32 ODP M12X10	ER32	M12	10.00	21.00	20.60	-	0.00
ER32 ODP M12X25	ER32	M12	25.00	21.00	24.00	24.00	0.18
ER32 ODP M12X50	ER32	M12	50.00	21.00	24.00	49.00	0.26

FLEXFIT HSK

HSK A-ODP (FLEXFIT)

FLEXFIT Threaded Adaptation
with HSK DIN69893/A
Tapered Shanks



Designation	DCONMS	THSZWS	BD	BD_2	LPR	LBX	LB	kg		
HSK A32 ODP12X42	32.00	M12	21.00	20.60	42.00	22.0	-	0.00		
HSK A40 ODP12X30	40.00	M12	21.00	20.60	30.00	10.0	-	0.21		
HSK A50 ODP12X48	50.00	M12	21.00	20.60	48.00	22.0	-	0.00		
HSK A63 ODP6X109	63.00	M06	9.80	23.00	109.00	83.0	75.00	0.74	COOLING TUBE HSK A63*	WRENCH COOL TUBE HSK63*
HSK A63 ODP6X59	63.00	M06	9.80	11.50	59.00	33.0	25.00	0.66	COOLING TUBE HSK A63*	WRENCH COOL TUBE HSK63*
HSK A63 ODP8X109	63.00	M08	13.10	23.00	109.00	83.0	75.00	0.77	COOLING TUBE HSK A63*	WRENCH COOL TUBE HSK63*
HSK A63 ODP8X59	63.00	M08	13.10	15.00	59.00	33.0	25.00	0.68	COOLING TUBE HSK A63*	WRENCH COOL TUBE HSK63*
HSK A63 ODP10X109	63.00	M10	18.00	28.00	109.00	83.0	75.00	0.87	COOLING TUBE HSK A63*	WRENCH COOL TUBE HSK63*
HSK A63 ODP10X59	63.00	M10	18.00	20.00	59.00	33.0	25.00	0.70	COOLING TUBE HSK A63*	WRENCH COOL TUBE HSK63*
HSK A63 ODP12X109	63.00	M12	21.00	31.00	109.00	83.0	75.00	0.93	COOLING TUBE HSK A63*	WRENCH COOL TUBE HSK63*
HSK A63 ODP12X59	63.00	M12	21.00	24.00	59.00	33.0	25.00	0.71	COOLING TUBE HSK A63*	WRENCH COOL TUBE HSK63*
HSK A63 ODP16X109	63.00	M16	29.00	34.00	109.00	83.0	75.00	1.05	COOLING TUBE HSK A63*	WRENCH COOL TUBE HSK63*
HSK A63 ODP16X59	63.00	M16	29.00	34.60	59.00	33.0	25.00	0.79	COOLING TUBE HSK A63*	WRENCH COOL TUBE HSK63*
HSK A100 ODP12X137	100.00	M12	23.00	30.00	137.00	108.0	100.00	2.58	COOLING TUBE HSK A100	WRENCH COOL TUBE HSK100
HSK A100 ODP12X187	100.00	M12	23.00	40.00	187.00	158.0	150.00	2.86	COOLING TUBE HSK A100*	WRENCH COOL TUBE HSK100*
HSK A100 ODP12X237	100.00	M12	23.00	46.00	237.00	208.0	200.00	3.40	COOLING TUBE HSK A100*	WRENCH COOL TUBE HSK100*
HSK A100 ODP12X87	100.00	M12	23.00	30.00	87.00	58.0	50.00	2.23	COOLING TUBE HSK A100*	WRENCH COOL TUBE HSK100*
HSK A100 ODP16X137	100.00	M16	29.00	41.50	137.00	108.0	100.00	2.68	COOLING TUBE HSK A100*	WRENCH COOL TUBE HSK100*
HSK A100 ODP16X187	100.00	M16	29.00	55.00	187.00	158.0	150.00	3.58	COOLING TUBE HSK A100*	WRENCH COOL TUBE HSK100*
HSK A100 ODP16X237	100.00	M16	29.00	55.00	237.00	208.0	200.00	4.07	COOLING TUBE HSK A100*	WRENCH COOL TUBE HSK100*
HSK A100 ODP16X87	100.00	M16	29.00	31.50	87.00	58.0	50.00	2.20	COOLING TUBE HSK A100*	WRENCH COOL TUBE HSK100*

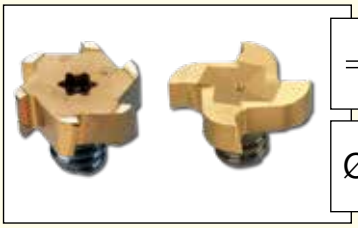
• A cooling tube must be used with all coolant through HSK spindles (should be ordered separately).

* Optional, should be ordered separately

SLOTTING & SLITTING CUTTERS

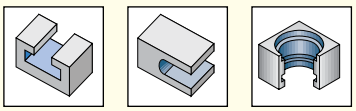
Application Range

MM TS/GRIT- pages 314-317



0.70-10.0

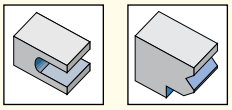
Ø 7.7-27.7



MM GRIT Dovetail - page 318

5.0-10.1

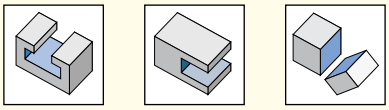
Ø 27.7



DGSM-M/MM-JHP - page 323

2.0-3.0

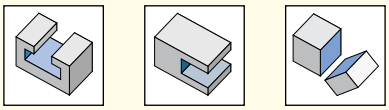
Ø 16.0-22.0



TGSF-M/MM-JHP - pages 353-354

2.0-3.0

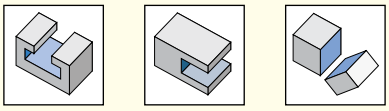
Ø 50.0



SGSF/A-M/MM-JHP - pages 359-360

2.0-3.0

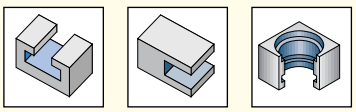
Ø 32.0-40.0



SD-SP- page 319

1.0-12.0

Ø 31.7-49.7

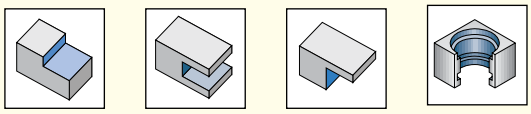


Application Range

TRIB - pages 321-322

1.2-6.5

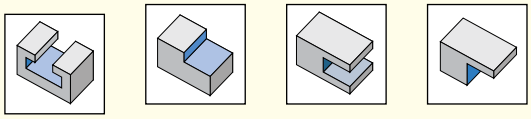
Ø 32.2-80



ETS T-Slot - pages 324-330

3.0-22

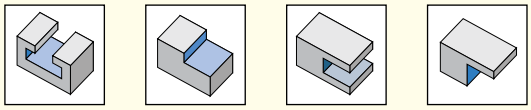
Ø 21-63



FDN - pages 334-340

3-25

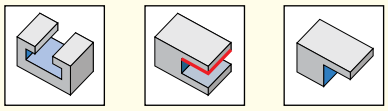
Ø 50-250



FST - page 349

9.0

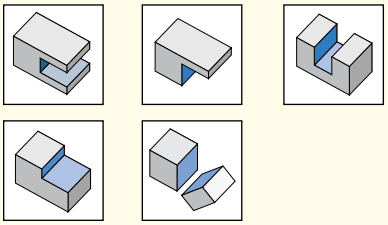
Ø 100-125



SDN - pages 341-349

3-25

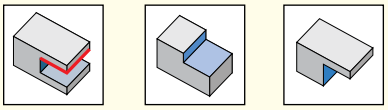
Ø 63-250



SSB...R/L- page 350

12-24

Ø 100-200

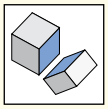


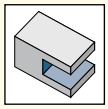
Application Range

TGSF - page 352

1.6-4

Ø 50-160





SGSA - page 360

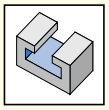
2.7-4

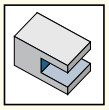
Ø 32-100

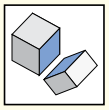
SGSF - page 358

1.3-6.5

Ø 32-425







GM-DG - page 362

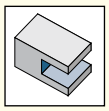
2.7-4.35

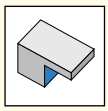
Ø 100-200

SGSF with Drive Flange

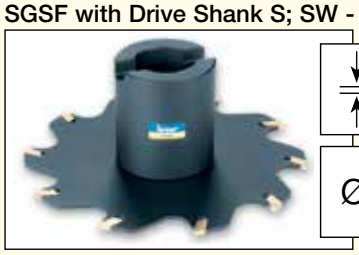
2.4-6.4

Ø 50-425



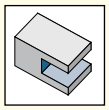


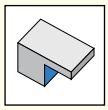
SGSF with Drive Shank S; SW -

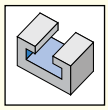


1.5-6.4

Ø 50-125



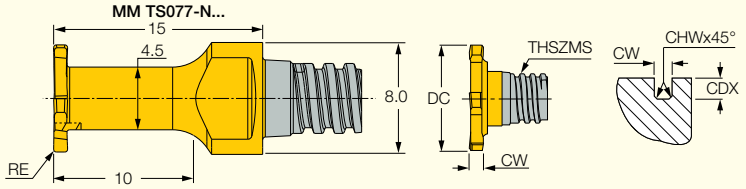




MULTI-MASTER
INDEXABLE SOLID CARBIDE LINE

MM TS-N

Interchangeable Solid Carbide T-Slot Milling Heads



Designation	Dimensions										Tough ↔ Hard		
	DC	DCTOLL	CW	NOF(1)	THSZMS	CDX(2)	RE	CHW			IC328	IC928	IC908
MM TS077-N07A-4T05	7.70	-0.05	0.70	4	T05	1.20	0.20	-	MM KEY 6X4*				●
MM TS077-N08A-4T05	7.70	-0.05	0.80	4	T05	1.20	0.20	-	MM KEY 6X4*				●
MM TS077-N09A-4T05	7.70	-0.05	0.90	4	T05	1.20	0.20	-	MM KEY 6X4*				●
MM TS077-N10A-4T05	7.70	-0.05	1.00	4	T05	1.20	0.20	-	MM KEY 6X4*				●
MM TS077-N15A-4T05	7.70	-0.05	1.50	4	T05	1.20	0.20	-	MM KEY 6X4*				●
MM TS077-N20A-4T05	7.70	-0.05	2.00	4	T05	1.20	0.20	-	MM KEY 6X4*				●
MM TS105-N20D-06T04	10.50	-0.05	2.00	6	T04	2.00	0.40	-		T-15/3*		●	
MM TS.500-N062P-06T05	12.70	-0.05	1.58	6	T05	2.25	-	0.15		T-20/3*	●		
MM TS.500-N078P-06T05	12.70	-0.05	1.98	6	T05	2.25	-	0.15		T-20/3*	●		
MM TS135-N20P-06T05	13.50	-0.05	2.00	6	T05	2.65	-	0.20		T-20/3*	●		
MM TS135-N25P-06T05	13.50	-0.05	2.50	6	T05	2.65	-	0.20		T-20/3*	●		

• For shanks, see pages 70-77 • For tightening torques and clamping instructions, see page 77-78 • Do not apply lubricant to the threaded connection • For user guide, see pages 366-374

(1) Number of flutes

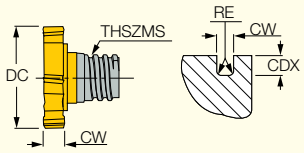
(2) Cutting depth maximum

* Optional, should be ordered separately

MULTI-MASTER
INDEXABLE SOLID CARBIDE LINE

MM TS-H

Interchangeable Solid Carbide T-Slot Milling Heads with Various Corner Radii



Designation	Dimensions								IC328
	DC	DCTOLL	CW	CDX(1)	NOF(2)	RE	THSZMS		
MM TS135-H30D-06T05	13.50	-0.05	3.00	2.65	6	0.40	T05	T-20/3*	●
MM TS135-H40D-06T05	13.50	-0.05	4.00	2.65	6	0.40	T05	T-20/3*	●
MM TS165-H40A-06T05	16.50	-0.05	4.00	4.25	6	0.20	T05	T-20/3*	●
MM TS160-H20D-06T06	16.00	-0.05	2.00	3.00	6	0.40	T06	T-20/3*	●
MM TS160-H30D-06T06	16.00	-0.05	3.00	3.00	6	0.40	T06	T-25/3*	●
MM TS160-H40D-06T06	16.00	-0.05	4.00	3.00	6	0.40	T06	T-25/3*	●
MM TS165-H20D-06T06	16.50	-0.05	2.00	3.25	6	0.40	T06	T-20/3*	●
MM TS165-H30D-06T06	16.50	-0.05	3.00	3.25	6	0.40	T06	T-25/3*	●
MM TS165-H40D-06T06	16.50	-0.05	4.00	3.25	6	0.40	T06	T-25/3*	●
MM TS195-H60A-06T06	19.50	-0.05	6.00	4.45	6	0.20	T06	T-25/3*	●
MM TS225-H60A-06T06	22.50	-0.05	6.00	5.95	6	0.20	T06	T-25/3*	●
MM TS195-H40D-06T08	19.50	-0.05	4.00	3.45	6	0.40	T08	T-30/3 L*	●
MM TS195-H50D-06T08	19.50	-0.05	5.00	3.45	6	0.40	T08	T-30/3 L*	●
MM TS195-H60D-06T08	19.50	-0.05	6.00	3.45	6	0.40	T08	T-30/3 L*	●
MM TS225-H40D-06T08	22.50	-0.05	4.00	4.90	6	0.40	T08	T-40/3 L*	●
MM TS225-H50D-06T08	22.50	-0.05	5.00	4.95	6	0.40	T08	T-40/3 L*	●
MM TS225-H60D-06T08	22.50	-0.05	6.00	4.95	6	0.40	T08	T-40/3 L*	●
MM TS225-H80D-06T08	22.50	-0.05	8.00	4.95	6	0.40	T08	T-40/3 L*	●
MM TS250-H50D-06T08	25.00	-0.05	5.00	5.90	6	0.40	T08	T-50/3 L*	●
MM TS250-H60D-06T08	25.00	-0.05	6.00	5.90	6	0.40	T08	T-50/3 L*	●
MM TS250-H80D-06T08	25.00	-0.05	8.00	5.90	6	0.40	T08	T-50/3 L*	●
MM TS250-H50D-06T10	25.00	-0.05	5.00	4.30	6	0.40	T10	T-50/3 L*	●
MM TS250-H60D-06T10	25.00	-0.05	6.00	4.30	6	0.40	T10	T-50/3 L*	●
MM TS250-H80D-06T10	25.00	-0.05	8.00	4.30	6	0.40	T10	T-50/3 L*	●

• Inserts in 5 mm and wider feature chip splitting edges • For tightening torques and clamping instructions, see page 77-78
• Do not apply lubricant to the threaded connection • For shanks, see pages 70-77 • For user guide, see pages 366-374

(1) Cutting depth maximum

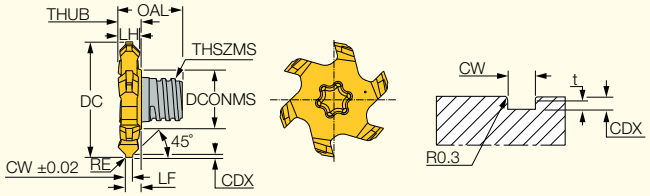
(2) Number of flutes

* Optional, should be ordered separately

MULTI-MASTER
INDEXABLE SOLID CARBIDE LINE

MM TS-C

Interchangeable Solid Carbide Circlip Groove Milling Heads According to DIN 471/472



Designation	Dimensions													IC928
	DC	CW	CDX	NOF(1)	THSZMS	LF	t	RE	THUB	LH	DCONMS	OAL		
MM TS127C118T035-6T05	12.70	1.18	0.35	6	T05	2.23	0.27	0.05	3.00	2.7	7.70	10.10	T-20/3*	●
MM TS127C118T040-6T05	12.70	1.18	0.40	6	T05	2.23	0.32	0.05	3.00	2.7	7.70	10.10	T-20/3*	●
MM TS127C118T050-6T05	12.70	1.18	0.50	6	T05	2.23	0.42	0.05	3.00	2.7	7.70	10.10	T-20/3*	●
MM TS127C138T050-6T05	12.70	1.38	0.50	6	T05	2.23	0.42	0.05	3.00	2.7	7.70	10.10	T-20/3*	●
MM TS225C138T060-6T08	22.50	1.38	0.60	6	T08	3.08	0.50	0.05	4.50	4.2	11.70	12.40	T-40/3 L*	●
MM TS225C138T070-6T08	22.50	1.38	0.70	6	T08	3.08	0.60	0.05	4.50	4.2	11.70	12.40	T-40/3 L*	●
MM TS225C138T085-6T08	22.50	1.38	0.85	6	T08	3.08	0.74	0.05	4.50	4.2	11.70	12.40	T-40/3 L*	●
MM TS225C168T070-6T08	22.50	1.68	0.70	6	T08	3.23	0.60	0.10	4.50	4.2	11.70	12.40	T-40/3 L*	●
MM TS225C168T085-6T08	22.50	1.68	0.85	6	T08	3.23	0.74	0.10	4.50	4.2	11.70	12.40	T-40/3 L*	●
MM TS225C168T100-6T08	22.50	1.68	1.00	6	T08	3.23	0.89	0.10	4.50	4.2	11.70	12.40	T-40/3 L*	●
MM TS225C193T100-6T08	22.50	1.93	1.00	6	T08	3.35	0.89	0.10	4.50	4.2	11.70	12.40	T-40/3 L*	●
MM TS225C193T125-6T08	22.50	1.93	1.25	6	T08	3.35	1.13	0.10	4.50	4.2	11.70	12.40	T-40/3 L*	●
MM TS225C223T150-6T08	22.50	2.23	1.50	6	T08	3.50	1.38	0.10	4.50	4.2	11.70	12.40	T-40/3 L*	●
MM TS225C273T150-6T08	22.50	2.73	1.50	6	T08	3.77	1.39	0.20	4.50	4.1	11.70	12.40	T-40/3 L*	●
MM TS225C273T175-6T08	22.50	2.73	1.75	6	T08	3.77	1.64	0.20	4.40	3.9	11.70	12.30	T-40/3 L*	●
MM TS225C325T175-6T08	22.50	3.25	1.75	6	T08	4.40	1.64	0.20	5.10	4.6	11.70	13.00		●

• For shanks, see pages 70-77 • For tightening torques and clamping instructions, see page 77-78 • Do not apply lubricant to the threaded connection • For user guide, see pages 366-374

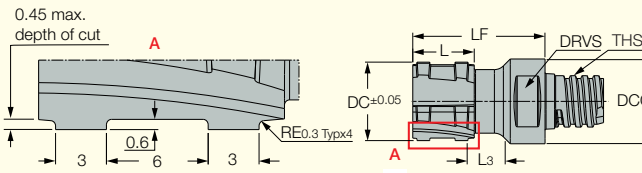
(1) Number of flutes

* Optional, should be ordered separately

MULTI-MASTER
INDEXABLE SOLID CARBIDE LINE

MM TS-DG

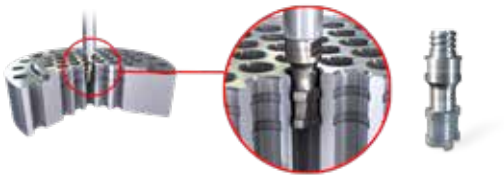
Double-Groove Internal Grooving Heads with Threaded Connection for Tube Sheets of Heat Exchangers



Designation	Dimensions										IC908
	DC	DCONMS	PHD(1)	THSZMS	NOF(2)	LF	L3	L	DRVS(3)		
MM TS155-04T10-8238	15.50	16.00	15.88	T10	4	34.00	18.10	14.10	10.0	MM KEY 10X7*	●
MM TS185-04T12-8239	18.50	18.45	19.05	T12	4	34.50	18.30	14.50	13.0	MM KEY 13X8*	●
MM TS245-04T15-8240	24.50	23.90	25.40	T15	4	37.40	11.00	14.40	20.0	MM KEY 20*	●

• For shanks, see pages 70-77 • For clamping keys (should be ordered separately), tightening torques and clamping instructions, see pages 77-78
• Do not apply lubricant to the threaded connection • For user guide, see pages 366-374

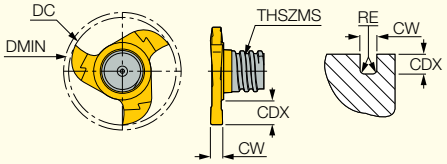
(1) For minimum tube outer diameter
(2) Number of flutes
(3) Clamping wrench size
* Optional, should be ordered separately

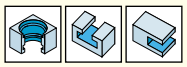


MULTI-MASTER
INDEXABLE SOLID CARBIDE LINE

MM GRIT-16K/P,18K/P

Interchangeable Solid Carbide Small Diameter Groove Milling Heads





Designation	Dimensions								IC528
	DC	CW	CDX(2)	NOF(3)	RE	DMIN(4)	THSZMS		
MM GRIT 16K-1.50-0.10	15.70	1.50	2.80	3	0.10	16.00	T06	MM EGR 16-18*	●
MM GRIT 16P-1.50-0.10	15.70	1.50	2.80	3	0.10	16.00	T06	MM EGR 16-18*	●
MM GRIT 16K-1.57-0.20	15.70	1.57	2.80	3	0.20	16.00	T06	MM EGR 16-18*	●
MM GRIT 16K-2.00-0.20	15.70	2.00	2.80	3	0.20	16.00	T06	MM EGR 16-18*	●
MM GRIT 16P-2.20-1.10	15.70	2.20	2.80	3	1.10	16.00	T06	MM EGR 16-18*	●
MM GRIT 16K-2.39-0.20	15.70	2.39	2.80	3	0.20	16.00	T06	MM EGR 16-18*	●
MM GRIT 16K-2.50-0.20	15.70	2.50	2.80	3	0.20	16.00	T06	MM EGR 16-18*	●
MM GRIT 16K-3.00-0.20	15.70	3.00	2.80	3	0.20	16.00	T06	MM EGR 16-18*	●
MM GRIT 16P-3.00-0.20	15.70	3.00	2.80	3	0.20	16.00	T06	MM EGR 16-18*	●
MM GRIT 16K-3.17-0.20	15.70	3.17	2.80	3	0.20	16.00	T06	MM EGR 16-18*	●
MM GRIT 18K-1.20-0.05 (1)	17.70	1.20	3.80	3	0.05	18.00	T06	MM EGR 16-18*	●
MM GRIT 18P-1.20-0.60	17.70	1.20	3.80	3	0.60	18.00	T06	MM EGR 16-18*	●
MM GRIT 18K-1.40-0.05 (1)	17.70	1.40	3.80	3	0.05	18.00	T06	MM EGR 16-18*	●
MM GRIT 18K-1.50-0.10	17.70	1.50	3.80	3	0.10	18.00	T06	MM EGR 16-18*	●
MM GRIT 18K-1.57-0.20	17.70	1.57	3.80	3	0.20	18.00	T06	MM EGR 16-18*	●
MM GRIT 18K-1.70-0.05 (1)	17.70	1.70	3.80	3	0.05	18.00	T06	MM EGR 16-18*	●
MM GRIT 18K-2.00-0.20	17.70	2.00	3.80	3	0.20	18.00	T06	MM EGR 16-18*	●
MM GRIT 18P-2.00-1.00	17.70	2.00	3.80	3	1.00	18.00	T06	MM EGR 16-18*	●
MM GRIT 18P-2.20-1.10	17.70	2.20	3.80	3	1.10	18.00	T06	MM EGR 16-18*	●
MM GRIT 18K-2.39-0.20	17.70	2.39	3.80	3	0.20	18.00	T06	MM EGR 16-18*	●
MM GRIT 18K-2.50-0.20	17.70	2.50	3.80	3	0.20	18.00	T06	MM EGR 16-18*	●
MM GRIT 18K-3.00-0.20	17.70	3.00	3.80	3	0.20	18.00	T06	MM EGR 16-18*	●
MM GRIT 18P-3.00-1.50	17.70	3.00	3.80	3	1.50	18.00	T06	MM EGR 16-18*	●
MM GRIT 18K-3.17-0.20	17.70	3.17	3.80	3	0.20	18.00	T06	MM EGR 16-18*	●

• Recommended for O-rings and retaining rings • MM EGR clamping key is supplied with each MM GRT... shank • Modification options on request • Do not apply lubricant to the threaded connection • Tightening torque: 1000 N x cm • For clamping instructions, see page 77-78 • For user guide, see pages 366-374 • For shanks, see pages 70-77 • K - For general steel machining • P - Positive geometry for soft and gummy materials

(1) For circle clips according to DIN 471/472 and ANSI B27.7M

(2) Cutting depth maximum

(3) Number of flutes

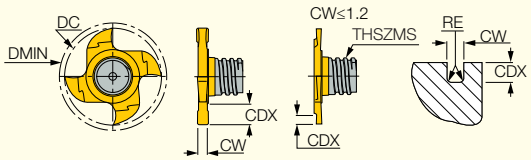
(4) Minimum bore diameter

* Optional, should be ordered separately

MULTI-MASTER
INDEXABLE SOLID CARBIDE LINE

MM GRIT-22K/P,28K/P

Interchangeable Solid Carbide Small Diameter Groove Milling Heads



Designation	Dimensions								IC528
	DC	CW	CDX(2)	NOF(3)	RE	DMIN(4)	THSZMS		
MM GRIT 22K-0.76-0.00 (1)	21.70	0.76	1.50	4	0.00	22.00	T08	MM EGR 20-22*	●
MM GRIT 22K-0.86-0.00 (1)	21.70	0.86	1.70	4	0.00	22.00	T08	MM EGR 20-22*	●
MM GRIT 22K-0.96-0.00 (1)	21.70	0.96	1.90	4	0.00	22.00	T08	MM EGR 20-22*	●
MM GRIT 22K-1.00-0.05	21.70	1.00	2.00	4	0.05	22.00	T08	MM EGR 20-22*	●
MM GRIT 22P-1.00-0.05	21.70	1.00	2.00	4	0.05	22.00	T08	MM EGR 20-22*	●
MM GRIT 22K-1.20-0.05 (1)	21.70	1.20	4.50	4	0.05	22.00	T08	MM EGR 20-22*	●
MM GRIT 22K-1.40-0.05 (1)	21.70	1.40	4.50	4	0.05	22.00	T08	MM EGR 20-22*	●
MM GRIT 22K-1.57-0.00	21.70	1.57	4.50	4	0.00	22.00	T08	MM EGR 20-22*	●
MM GRIT 22K-1.70-0.10 (1)	21.70	1.70	4.50	4	0.10	22.00	T08	MM EGR 20-22*	●
MM GRIT 22P-1.70-0.10 (1)	21.70	1.70	4.50	4	0.10	22.00	T08	MM EGR 20-22*	●
MM GRIT 22K-1.95-0.20 (1)	21.70	1.95	4.50	4	0.20	22.00	T08	MM EGR 20-22*	●
MM GRIT 22K-2.00-0.20	21.70	2.00	4.50	4	0.20	22.00	T08	MM EGR 20-22*	●
MM GRIT 22P-2.00-0.20	21.70	2.00	4.50	4	0.20	22.00	T08	MM EGR 20-22*	●
MM GRIT 22K-2.25-0.20 (1)	21.70	2.25	4.50	4	0.20	22.00	T08	MM EGR 20-22*	●
MM GRIT 22K-2.39-0.20	21.70	2.39	4.50	4	0.20	22.00	T08	MM EGR 20-22*	●
MM GRIT 22K-2.50-0.20	21.70	2.50	4.50	4	0.20	22.00	T08	MM EGR 20-22*	●
MM GRIT 22P-2.50-0.20	21.70	2.50	4.50	4	0.20	22.00	T08	MM EGR 20-22*	●
MM GRIT 22K-2.75-0.20 (1)	21.70	2.75	4.50	4	0.20	22.00	T08	MM EGR 20-22*	●
MM GRIT 22K-3.00-0.20	21.70	3.00	4.50	4	0.20	22.00	T08	MM EGR 20-22*	●
MM GRIT 22P-3.00-0.20	21.70	3.00	4.50	4	0.20	22.00	T08	MM EGR 20-22*	●
MM GRIT 22K-3.17-0.20	21.70	3.17	4.50	4	0.20	22.00	T08	MM EGR 20-22*	●
MM GRIT 22K-3.25-0.20 (1)	21.70	3.25	4.50	4	0.20	22.00	T08	MM EGR 20-22*	●
MM GRIT 22P-3.81-0.20	21.70	3.81	4.50	4	0.20	22.00	T08	MM EGR 20-22*	●
MM GRIT 22K-4.00-0.20	21.70	4.00	4.50	4	0.20	22.00	T08	MM EGR 20-22*	●
MM GRIT 22P-3.98-0.20	21.70	3.98	4.50	4	0.20	22.00	T08	MM EGR 20-22*	●
MM GRIT 22P-4.00-0.20	21.70	4.00	4.50	4	0.20	22.00	T08	MM EGR 20-22*	●
MM GRIT 22P-4.00-2.00	21.70	4.00	4.50	4	2.00	22.00	T08	MM EGR 20-22*	●
MM GRIT 22K-4.25-0.20 (1)	21.70	4.25	4.50	4	0.20	22.00	T08	MM EGR 20-22*	●
MM GRIT 22K-4.25-1.20 (1)	21.70	4.25	4.50	4	1.20	22.00	T08	MM EGR 20-22*	●
MM GRIT 22K-4.75-0.20	21.70	4.75	4.50	4	0.20	22.00	T08	MM EGR 20-22*	●
MM GRIT 22K-5.25-0.20 (1)	21.70	5.25	4.50	4	0.20	22.00	T08	MM EGR 20-22*	●
MM GRIT 22K-6.00-3.00	21.70	6.00	4.50	4	3.00	22.00	T08	MM EGR 20-22*	●
MM GRIT 28K-2.50-0.2	27.70	2.50	6.00	6	0.20	28.00	T10	T-40/3 L*	●
MM GRIT 28K-5.25-0.2	27.70	5.25	6.00	6	0.20	28.00	T10	T-40/3 L*	●
MM GRIT 28P-7.0-3.5	27.70	7.00	5.70	6	3.50	28.00	T10	T-40/3 L*	●
MM GRIT 28K-10.0-0.2	27.70	10.00	6.00	6	0.20	28.00	T10	T-40/3 L*	●

• Recommended for O-rings and retaining rings • MM EGR 20-22 clamping keys are supplied with each MM GRT... shank • Tightening torque for MM GRIT 22: 1500 Nxcm, for MM GRIT 28: 2800 Nxcm • K - for general steel & cast iron machining P - for soft and gummy materials • Modification options on request
• Do not apply lubricant to the threaded connection • For clamping instructions, see page 77-78 • For user guide, see pages 366-374 • For shanks, see pages 70-77

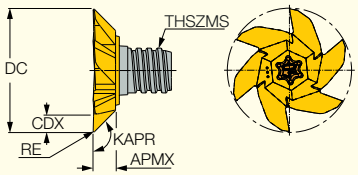
(1) For circle clips according to DIN471/472 and ANSI B27.7M
(2) Cutting depth maximum
(3) Number of flutes
(4) Minimum bore diameter

* Optional, should be ordered separately

MULTI-MASTER
INDEXABLE SOLID CARBIDE LINE

MM GRIT Dovetail

Interchangeable Solid Carbide Heads



Designation	Dimensions								IC528
	DC	KAPR	CDX(1)	APMX	RE	THSZMS	NOF(2)		
MM GRIT 28K-45D-6T10	27.70	135.0	4.00	5.00	0.20	T10	6	T-40/3 L*	●
MM GRIT 28K-60D-6T10	27.70	120.0	4.00	7.80	0.20	T10	6	T-40/3 L*	●
MM GRIT 28K-75D-6T10	27.70	105.0	2.20	10.10	0.20	T10	6	T-40/3 L*	●

• Use carbide shanks for groove milling heads • For user guide, see pages 366-374

(1) Cutting depth maximum

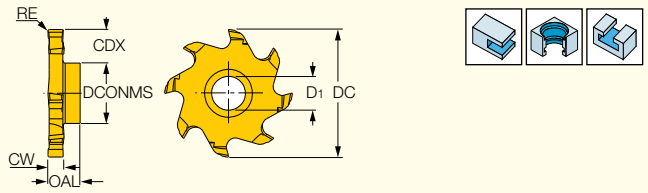
(2) Number of flutes

* Optional, should be ordered separately

T-SLOT

SD-SP

Interchangeable Solid Carbide
T-Slot Milling Heads



Designation	Dimensions								IC908
	DC	CW	CDX(2)	NOF(3)	RE	D1	DCONMS	OAL	
SD D32-2.0-R0.2-SP11	31.70	2.00	10.00	8	0.20	7.20	11.00	6.75	•
SD D32-3.0-R0.4-SP11	31.70	3.00	10.00	8	0.40	7.20	11.00	6.75	•
SD D32-1.0-R0.2-SP15	31.70	1.00	8.00	8	0.20	8.40	15.00	8.00	•
SD D32-1.5-R0.2-SP15	31.70	1.50	8.00	8	0.20	8.40	15.00	8.00	•
SD D32-2.0-R0.2-SP15	31.70	2.00	8.00	8	0.20	8.40	15.00	8.00	•
SD D32-2.5-R0.4-SP15	31.70	2.50	8.00	8	0.40	8.40	15.00	8.00	•
SD D32-3.0-R0.4-SP15	31.70	3.00	8.00	8	0.40	8.40	15.00	8.00	•
SD D32-3.5-R0.4-SP15	31.70	3.50	8.00	8	0.40	8.40	15.00	8.00	•
SD D32-4.0-R0.4-SP15	31.70	4.00	8.00	8	0.40	8.40	15.00	8.00	•
SD D32-4.0-R1.6-SP15	31.70	4.00	8.00	8	1.60	8.40	15.00	8.00	•
SD D32-4.5-R0.4-SP15	31.70	4.50	8.00	8	0.40	8.40	15.00	8.00	•
SD D32-5.0-R0.4-SP15	31.70	5.00	8.00	8	0.40	8.40	15.00	8.00	•
SD D32-5.0-R1.6-SP15	31.70	5.00	8.00	8	1.60	8.40	15.00	8.00	•
SD D32-5.5-R0.4-SP15	31.70	5.50	8.00	8	0.40	8.40	15.00	8.00	•
SD D32-6.0-R0.4-SP15	31.70	6.00	8.00	8	0.40	8.40	15.00	8.00	•
SD D32-6.0-R1.6-SP15	31.70	6.00	8.00	8	1.60	8.40	15.00	8.00	•
SD D32-6.5-R0.4-SP15	31.70	6.50	8.00	8	0.40	8.40	15.00	8.00	•
SD D32-7.0-R0.4-SP15	31.25	7.00	7.75	8	0.40	8.40	15.00	8.00	•
SD D32-7.0-R1.6-SP15	31.25	7.00	7.75	8	1.60	8.40	15.00	8.00	•
SD D32-7.5-R0.4-SP15	31.25	7.50	7.75	8	0.40	8.40	15.00	8.00	•
SD D32-8.0-R0.4-SP15	31.25	8.00	7.75	8	0.40	8.40	15.00	8.00	•
SD D32-8.0-R1.6-SP15	31.25	8.00	7.75	8	1.60	8.40	15.00	8.00	•
SD D32-8.5-R0.4-SP15	31.25	8.50	7.75	8	0.40	8.40	15.00	8.00	•
SD D40-1.0-R0.2SP13	39.70	1.00	13.00	10	0.20	7.50	13.00	7.30	•
SD D40-2.0-R0.2SP13	39.70	2.00	13.00	10	0.20	7.50	13.00	7.30	•
SD D40-3.0-R0.4SP13	39.70	3.00	13.00	10	0.40	7.50	13.00	7.30	•
SD D40-4.0-R0.4SP13 (1)	39.70	4.00	13.00	10	0.40	7.50	13.00	7.30	•
SD D40-4.0-R0.4SP17	39.70	4.00	11.00	10	0.40	7.50	17.00	10.00	•
SD D40-5.0-R0.4SP17	39.70	5.00	11.00	10	0.40	9.80	17.00	10.00	•
SD D40-6.0-R0.4SP17	39.70	6.00	11.00	10	0.40	9.80	17.00	10.00	•
SD D40-7.0-R0.4SP17	39.70	7.00	11.00	10	0.40	9.80	17.00	10.00	•
SD D40-8.0-R0.4SP17	39.70	8.00	11.00	10	0.40	9.80	17.00	10.00	•
SD D40-9.0-R0.4SP17	39.70	9.00	11.00	10	0.40	9.80	17.00	10.00	•
SD D40-10-R0.4SP17	39.70	10.00	11.00	10	0.40	9.80	17.00	10.00	•
SD D50-4.0-R0.4-SP19	49.70	4.00	15.00	12	0.40	9.80	19.00	14.00	•
SD D50-5.0-R0.4-SP19	49.70	5.00	15.00	12	0.40	9.80	19.00	14.00	•
SD D50-6.0-R0.4-SP19	49.70	6.00	15.00	12	0.40	9.80	19.00	14.00	•
SD D50-7.0-R0.4-SP19	49.70	7.00	15.00	12	0.40	9.80	19.00	14.00	•
SD D50-8.0-R0.4-SP19	49.70	8.00	15.00	12	0.40	9.80	19.00	14.00	•
SD D50-9.0-R0.4-SP19	49.70	9.00	15.00	12	0.40	9.80	19.00	14.00	•
SD D50-10-R0.4-SP19	49.70	10.00	15.00	12	0.40	9.80	19.00	14.00	•
SD D50-12-R0.4-SP19	49.70	12.00	15.00	12	0.40	9.80	19.00	14.00	•

• For shanks, see pages 320 • For user guide, see pages 366-374

(1) **Maximum feed:** 0.1 mm/tooth

(2) Cutting depth maximum

(3) Number of flutes

Cutting Data for SD-SP Milling Heads

ISO class DIN/ISO 513	Description	ISCAR mat. group*	Workpiece material			Cutting speed Vc, m/min	Feed for SP11	Feed for SP13	Feed for SP15	Feed for SP17	Feed for SP19
			Typical representstive		Hardness, HB		Fz, mm/tooth	Fz, mm/tooth	Fz, mm/tooth	Fz, mm/tooth	Fz, mm/tooth
			AISI/SAE/ASTM	DIN W.-Nr.							
P	Non-alloy steel	1	1020	1.040	130-180	130-200	0.06-0.12	0.06-0.12	0.07-0.15	0.07-0.15	0.07-0.15
	Low alloy steel	8	4340	1.658	260-300	120-170	0.06-0.12	0.06-0.12	0.07-0.15	0.07-0.15	0.07-0.15
	Low alloy steel	9	3135	1.571	HRC 35-40*	80-120	0.02-0.06	0.02-0.06	0.03-0.12	0.04-0.12	0.04-0.13
	High alloy steel	10	H13	1.234	200-220	100-140	0.04-0.07	0.04-0.07	0.04-0.12	0.04-0.12	0.05-0.13
M	Martensitic s.s.	12	420	1.402	200	100-140	0.03-0.06	0.03-0.06	0.04-0.12	0.04-0.12	0.04-0.13
	Austenitic s.s.	14	304L	1.431	200	80-120	0.02-0.06	0.02-0.06	0.03-0.10	0.03-0.12	0.03-0.12
K	Grey cast iron	16	Class 40	0.6025 (GG25)	250	160-200	0.05-0.12	0.05-0.12	0.05-0.20	0.06-0.20	0.06-0.20
	Nodular cast iron	17	Class 65-45-12	0.7050 (GGG50)	200	140-180	0.05-0.11	0.05-0.11	0.05-0.18	0.06-0.18	0.06-0.20
S	High temperature alloys	34	Inconel 718	2.467	HRC 36-40	20-30	0.02-0.12	0.02-0.12	0.02-0.12	0.02-0.12	0.02-0.13
		37	AMS R56400	3.7165 (Ti6Al4V)	HRC 40-45	35-45	0.02-0.06	0.02-0.06	0.02-0.12	0.02-0.12	0.02-0.13

* ISCAR material group in accordance with VDI 3323 standard

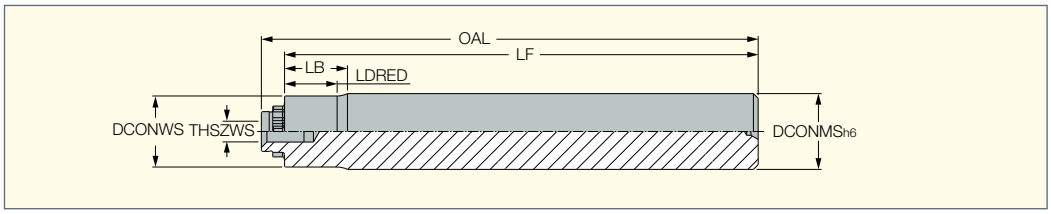
** Quenched and tempered

When machining in unstable conditions, the table values should be reduced by 20-30%.

T-SLOT

SD S-A-SP

Stepped Cylindrical Shanks for Interchangeable Solid Carbide Milling Heads



Designation	DCONMS	DCONWS	THSZWS	LDRED	LB	LF	OAL	Shank m.(1)	kg
SD S-A-L90-C12-SP11	12.00	11.00	M4x0.5	10.50	12.7	90.00	94.00	S	0.08
SD S-A-L100-C16 SP13	16.00	13.00	M4x0.5	13.00	16.6	100.00	104.00	S	0.15
SD S-A-L100-C16-SP15	16.00	15.00	M5x0.5	16.00	18.2	100.00	105.00	S	0.16
SD S-A-L130-C16-SP15	16.00	15.00	M5x0.5	16.00	18.2	130.00	135.00	S	0.20
SD S-A-L130-C16-SP15-C	16.00	15.00	M5x0.5	16.00	18.2	130.00	135.00	C	0.36
SD S-A-L150-C16-SP15-C	16.00	15.00	M5x0.5	16.00	18.2	150.00	155.00	C	0.41
SD S-A-L140-C20 SP17	20.00	17.00	M6x0.5	20.20	23.8	140.00	146.00	S	0.33
SD S-A-L150-C25-SP19	25.00	19.00	M6x0.5	20.00	27.9	150.00	158.50	S	0.55

• Apply lubricant to the clamping screw

(1) S-steel C-solid carbide

Spare Parts

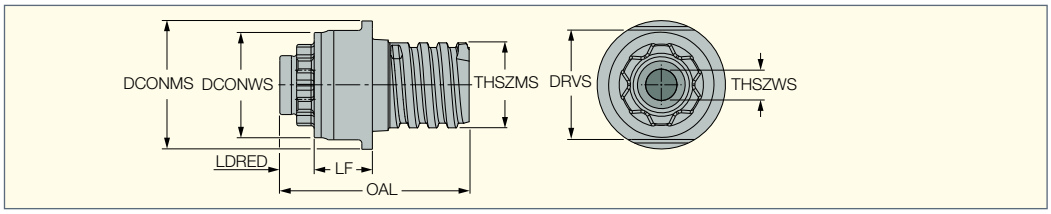
Designation			
SD S-A-L90-C12-SP11	SR M4X0.5-SP11 HG	BLD T15/S7	SW6-T-SH
SD S-A-L100-C16 SP13	SR M4X0.5-SP13-IP15-HG	BLD IP15/S7	SW6-T-SH
SD S-A-L100-C16-SP15	SR M5X0.5-SP15-IP20-HG	BLD IP20/S7	SW6-T-SH
SD S-A-L130-C16-SP15	SR M5X0.5-SP15-IP20-HG	BLD IP20/S7	SW6-T-SH
SD S-A-L130-C16-SP15-C	SR M5X0.5-SP15-IP20-HG	BLD IP20/S7	SW6-T-SH
SD S-A-L150-C16-SP15-C	SR M5X0.5-SP15-IP20-HG	BLD IP20/S7	SW6-T-SH
SD S-A-L140-C20 SP17	SR M6X0.5-SP17-IP20-HG	BLD IP20/S7	SW6-T-SH
SD S-A-L150-C25-SP19	SR M6X0.5-SP17-IP20-HG	BLD IP20/S7	SW6-T-SH

T-SLOT

MULTI-MASTER

SD CAB

Adapters for Connecting SD Solid Carbide T-Slot Milling Heads and MULTI-MASTER Shanks



Designation	THSZWS	THSZMS	LF	LDRED	OAL	DCONWS	DCONMS	DRVS(1)	kg
SD CAB T10-14/0.55-SP11	M4x0.5	T10	14.00	3.9	29.15	11.00	15.20	13.0	0.02
SD CAB T12-14/0.55-SP13	M4x0.5	T12	14.00	4.3	31.65	13.00	18.30	16.0	0.04
SD CAB T12-14/0.55-SP15	M5x0.5	T12	14.00	4.9	32.70	15.00	18.30	16.0	0.04
SD CAB T15-14/0.55-SP17	M6x0.5	T15	14.00	6.0	37.00	17.00	23.90	20.0	0.07
SD CAB T15-14/0.55-SP19	M6x0.5	T15	14.00	8.5	39.50	19.00	23.90	20.0	0.07

• Note: Apply lubricant to the MULTI-MASTER threaded connection and to the slotting head clamping screw

(1) Clamping wrench size

Spare Parts

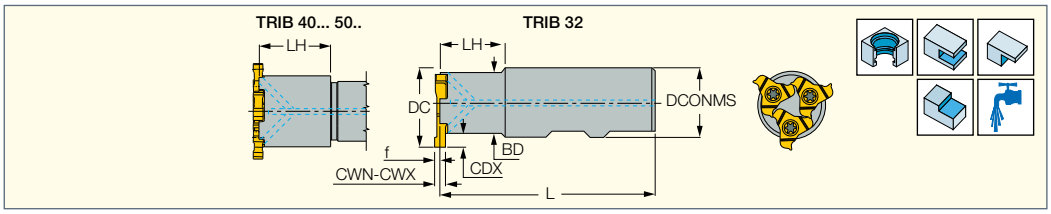
Designation				
SD CAB T10-14/0.55-SP11	SR M4X0.5-SP11 HG	BLD T15/S7	SW6-T-SH	MM KEY 13X8*
SD CAB T12-14/0.55-SP13	SR M4X0.5-SP13-IP15-HG	BLD IP15/S7	SW6-T-SH	
SD CAB T12-14/0.55-SP15	SR M5X0.5-SP15-IP20-HG	BLD IP20/S7	SW6-T-SH	
SD CAB T15-14/0.55-SP17	SR M6X0.5-SP17-IP20-HG	BLD IP20/S7	SW6-T-SH	
SD CAB T15-14/0.55-SP19	SR M6X0.5-SP17-IP20-HG	BLD IP20/S7	SW6-T-SH	

* Optional, should be ordered separately

CHAMSLIT

TRIB

Slitting Shanks Carrying Triple-Edged Precision Ground Inserts



Designation	DC	CWN(2)	CWX(3)	CDX(4)	CICT(5)	BD	LH	L	DCONMS	Shank(6)	kg
TRIB 32-25W-3Z (1)	32.20	1.20	4.00	4.80	3	21.70	52.3	110.00	25.00	W	0.35
TRIB 32-25W-3Z-B (1)	32.20	4.01	6.50	4.80	3	21.70	52.3	110.00	25.00	W	0.34
TRIB 40-25W-4Z	40.00	1.20	4.00	4.80	4	29.70	30.0	110.00	25.00	W	0.44
TRIB 40-25W-4Z-B	40.00	4.01	6.50	4.80	4	29.70	30.0	110.00	25.00	W	0.44
TRIB 50-32W-6Z	50.00	1.20	4.00	4.80	6	39.70	30.0	110.00	32.00	W	0.75

• W, Tmax, f, Refer to insert data • For inserts with W=4.01-6.50 mm, order tools with -B suffix (deeper pockets). For example: TRIB 50-32W-6Z-B

(1) Minimum bore diameter = 33 mm

(2) Minimum cutting width

(3) Maximum cutting width

(4) Refer to insert data

(5) Number of inserts

(6) W-Weldon

For inserts, see pages: TRI (476)

Dimensions Related to Inserts

Insert	T_{max}	TRIB ...Z f	TRIB ...Z-B f
TRI 16RK-1.2-0.05	4.6	0.5	
TRI 16RK-1.4-0.1	4.8	0.5	
TRI 16RK-1.5-0.1	4.8	0.5	
TRI 16RK-1.7-0.1	4.8	0.5	
TRI 16RK-1.95-0.15	4.8	0.5	
TRI 16RK-2.0-0.2	4.8	0.5	
TRI 16RK-2.25-0.15	4.8	0.75	
TRI 16RK-2.75-0.15	4.8	1.39	
TRI 16RK-3.0-0.2	4.8	1.39	
TRI 16RK-3.25-0.15	4.8	1.39	
TRI 16RK-4.0-0.2	4.8	2.43	
TRI 16RK-4.25-0.15	4.8		0.95
TRI 16RK-5.0-0.2	4.8		2.15
TRI 16RK-5.25-0.15	4.8		2.15
TRI 16RK-6.0-0.2	4.8		3.15

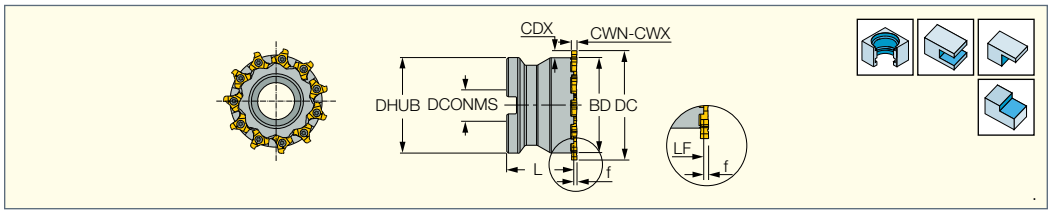
Spare Parts

Designation			
TRIB 32-25W-3Z	SR 16-236 08223	BLD T15/S7	SW6-T
TRIB 32-25W-3Z-B	SR 16-236	BLD T15/S7	SW6-T
TRIB 40-25W-4Z	SR 16-236 08223	BLD T15/S7	SW6-T
TRIB 40-25W-4Z-B	SR 16-236	BLD T15/S7	SW6-T
TRIB 50-32W-6Z	SR 16-236 08223	BLD T15/S7	SW6-T

CHAMSLIT

TRIB-SM

Grooving Shell Mills with Triple-Edged Precision Ground Inserts



Designation	DC	CWN(1)	CWX(2)	CDX(3)	CICT(4)	BD	DHUB	DCONMS	L	Arbor(5)	kg	OAL	LF
TRIB 50-22SM 6Z	50.00	1.20	4.00	4.80	6	39.70	39.70	22.00	39.00	B	0.24	39.50	39.50
TRIB 50-22SM 6Z-B	50.00	4.00	6.50	4.80	6	39.70	39.70	22.00	39.00	B	0.24	41.15	41.15
TRIB 63-22SM 8Z	63.00	1.20	4.00	4.80	8	52.70	40.00	22.00	39.00	B	0.40	39.50	39.50
TRIB 63-22SM 8Z-B	63.00	4.01	6.50	4.80	8	52.70	40.00	22.00	39.00	B	0.39	41.15	41.15
TRIB 80-27SM 11Z	80.00	1.20	4.00	4.80	11	69.70	69.70	27.00	49.00	B	0.92	49.50	49.50
TRIB 80-27SM 11Z-B	80.00	4.01	6.50	4.80	11	69.70	69.70	27.00	49.00	B	0.91	51.15	51.15

• W, Tmax, f, Refer to insert data • For inserts with W=4.01-6.50 mm, order tools with -B suffix (deeper pockets) for example: TRIB 63-22SM-8Z-B

(1) Minimum cutting width
(2) Maximum cutting width
(3) Cutting depth maximum
(4) Number of inserts
(5) For adaptation options, see page 517

For inserts, see pages: TRI (476)

Dimensions Related to Inserts

Insert	Tmax	TRIB ...Z f	TRIB ...Z-B f
TRI 16RK-1.2-0.05	4.6	0.5	
TRI 16RK-1.4-0.1	4.8	0.5	
TRI 16RK-1.5-0.1	4.8	0.5	
TRI 16RK-1.7-0.1	4.8	0.5	
TRI 16RK-1.95-0.15	4.8	0.5	
TRI 16RK-2.0-0.2	4.8	0.5	
TRI 16RK-2.25-0.15	4.8	0.75	
TRI 16RK-2.75-0.15	4.8	1.39	
TRI 16RK-3.0-0.2	4.8	1.39	
TRI 16RK-3.25-0.15	4.8	1.39	
TRI 16RK-4.0-0.2	4.8	2.43	
TRI 16RK-4.25-0.15	4.8		0.95
TRI 16RK-5.0-0.2	4.8		2.15
TRI 16RK-5.25-0.15	4.8		2.15
TRI 16RK-6.0-0.2	4.8		3.15

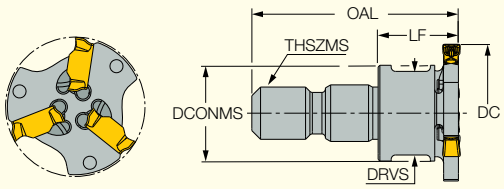
Spare Parts

Designation			
TRIB 50-22SM 6Z	SR 16-236 08223	BLD T15/S7	SW6-T
TRIB 50-22SM 6Z-B	SR 16-236	BLD T15/S7	SW6-T
TRIB 63-22SM 8Z	SR 16-236 08223	BLD T15/S7	SW6-T
TRIB 63-22SM 8Z-B	SR 16-236	BLD T15/S7	SW6-T
TRIB 80-27SM 11Z	SR 16-236 08223	BLD T15/S7	SW6-T
TRIB 80-27SM 11Z-B	SR 16-236	BLD T15/S7	SW6-T

MINSLIT SMALL DIA SLIT FLEXFIT

DGSM-M-JHP

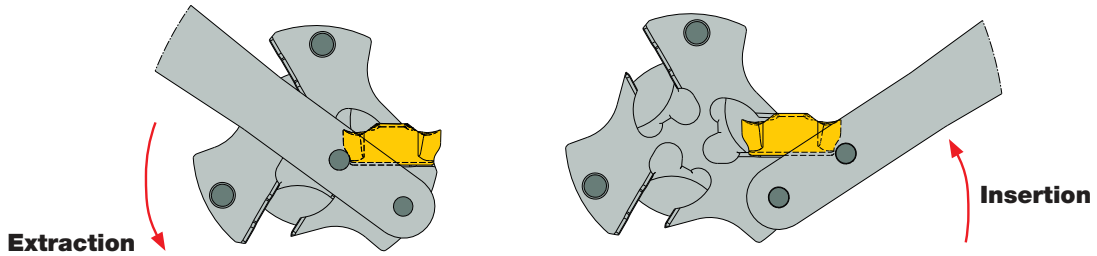
Groove milling and Slitting Small Diameter Cutters with FLEXFIT Threaded Adaptation



Designation	DC	CW	CDX	CICT(1)	DCONMS	THSZMS	LF	OAL	DRVS(2)	
DGSM 16-2-M06-3Z-JHP	16.00	2.00	3.70	3	10.00	M06	9.65	24.15	8.0	MM KEY 8X5
DGSM 16-3-M06-3Z-JHP	16.00	3.00	3.70	3	10.00	M06	8.30	22.50	8.0	MM KEY 8X5
DGSM 18-2-M06-3Z-JHP	18.00	2.00	4.70	3	10.00	M06	9.65	24.15	8.0	MM KEY 8X5
DGSM 18-3-M06-3Z-JHP	18.00	3.00	4.70	3	10.00	M06	9.80	24.00	8.0	MM KEY 8X5
DGSM 22-2-M08-4Z-JHP	22.00	2.00	5.70	4	12.00	M08	8.65	26.15	10.0	MM KEY 8X5
DGSM 22-3-M08-4Z-JHP	22.00	3.00	5.70	4	12.00	M08	9.30	26.50	10.0	MM KEY 8X5

(1) Number of inserts
(2) Key flat size

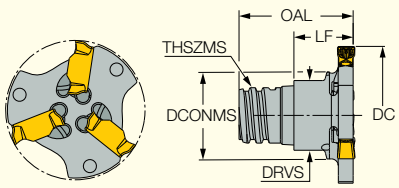
For inserts, see pages: DGM-V (323)
For holders, see pages: BT-ODP (FLEXFIT) (1030) • C#-ODP (FLEXFIT) (1001) • CAB M-M (FLEXFIT) (1046) • DIN69871-ODP (308) • ER-ODP (1048) • HSK A-ODP (FLEXFIT) (309) • S M (1045) • S M-C-H (1045) • S M-CF (1046)



MINSLIT SMALL DIA SLIT MULTI-MASTER

DGSM-MM-JHP

Groove Milling and Slitting Small Diameter Cutters with MULTI-MASTER Threaded Adaptation



Designation	DC	CW	CDX	CICT(1)	DCONMS	THSZMS	LF	OAL	DRVS(2)	
DGSM 16-2-MMT06-3Z-JHP	16.00	2.00	3.70	3	10.00	T06	9.65	15.95	8.0	MM KEY 8X5
DGSM 16-3-MMT06-3Z-JHP	16.00	3.00	3.70	3	10.00	T06	9.70	14.30	8.0	MM KEY 8X5
DGSM 18-2-MMT06-3Z-JHP	18.00	2.00	4.70	3	10.00	T06	9.65	15.95	8.0	MM KEY 8X5
DGSM 18-3-MMT06-3Z-JHP	18.00	3.00	4.70	3	10.00	T06	9.90	16.25	8.0	MM KEY 8X5
DGSM 22-2-MMT08-4Z-JHP	22.00	2.00	5.70	4	12.00	T08	8.50	15.80	10.0	MM KEY 8X5
DGSM 22-3-MMT08-4Z-JHP	22.00	3.00	5.70	4	12.00	T08	9.15	16.40	10.0	MM KEY 8X5

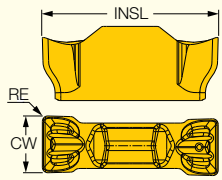
(1) Number of inserts
(2) Key flat size

For inserts, see pages: DGM-V (323)
For holders, see pages: MM CAB (1047) • MM CAB-T-T (77) • MM GRT (shanks) (72) • MM S-A (stepped shanks) (70) • MM S-A (straight shanks) (73) • MM S-A-C# (72) • MM S-A-HSK (76) • MM S-A-N (71) • MM S-A-SK (76) • MM S-B (85° conical shanks) (73) • MM S-D (89° conical shanks) (74) • MM S-ER (75) • MM S-ER-H (75) • MM TS-A (72)

MINSLIT SMALL DIA SLIT

DGM-V

Miniature Double-Sided Inserts with Ridged Positive Chipformer for Slitting and Grooving of Wide Range of Materials



Designation	Dimensions CW	RE	INSL	IC1008	Recommended Machining Data f groove (mm/t)
DGM 2002V	2.00	0.20	6.20	●	0.03-0.10
DGM 3002V	3.00	0.20	6.20	●	0.04-0.15

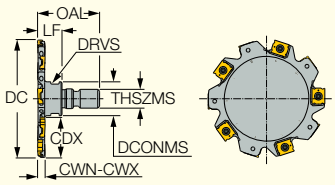
For tools, see pages: DGSM-M-JHP (323) • DGSM-MM-JHP (323)

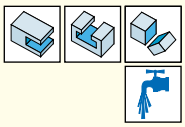
MINI-TANGSLOT

FLEXFIT

ETS-LN08-M

Grooving and Slitting Cutters with FLEXFIT Threaded Adaptation





Designation	DC	CWN(1)	CWX(2)	CDX(3)	NOF(4)	ZEFP	DCONMS	THSZMS	LF	OAL	DRVS(5)
ETS D032-03-LN08-M08	32.00	3.00 (6)	3.00 (6)	9.30	4	2	13.00	M08	13.00	30.50	10.0
ETS D032-04-LN08-M08	32.00	4.00 (7)	4.50 (10)	9.30	4	2	13.00	M08	13.00	30.50	10.0
ETS D032-05-LN08-M10	32.00	5.00 (8)	5.50 (11)	7.00	4	2	18.00	M10	13.00	33.00	16.0
ETS D032-06-LN08-M10	32.00	6.00 (9)	6.50 (12)	7.00	4	2	18.00	M10	13.00	33.00	16.0
ETS D040-03-LN08-M08	40.00	3.00 (6)	3.00 (6)	13.00	6	3	13.00	M08	13.00	30.50	10.0
ETS D040-04-LN08-M08	40.00	4.00 (7)	4.50 (10)	13.00	6	3	13.00	M08	13.00	30.50	10.0
ETS D040-05-LN08-M10	40.00	5.00 (8)	5.50 (11)	11.00	6	3	18.00	M10	13.00	33.00	16.0
ETS D040-06-LN08-M10	40.00	6.00 (9)	6.50 (12)	11.00	6	3	18.00	M10	13.00	33.00	16.0
ETS D050-03-LN08-M10	50.00	3.00 (6)	3.00 (6)	15.50	8	4	18.00	M10	13.00	33.00	16.0
ETS D050-04-LN08-M10	50.00	4.00 (7)	4.50 (10)	15.50	8	4	18.00	M10	13.00	33.00	16.0
ETS D050-05-LN08-M12	50.00	5.00 (8)	5.50 (11)	14.50	8	4	21.00	M12	13.00	35.00	17.0
ETS D050-06-LN08-M12	50.00	6.00 (9)	6.50 (12)	14.50	8	4	21.00	M12	13.00	35.00	17.0
ETS D063-03-LN08-M10	63.00	3.00 (6)	3.00 (6)	22.00	10	5	18.00	M10	13.00	33.00	16.0
ETS D063-04-LN08-M10	63.00	4.00 (7)	4.50 (10)	22.00	10	5	18.00	M10	13.00	33.00	16.0
ETS D063-05-LN08-M12	63.00	5.00 (8)	5.50 (11)	21.00	10	5	21.00	M12	13.00	35.00	17.0
ETS D063-06-LN08-M12	63.00	6.00 (9)	6.50 (12)	21.00	10	5	21.00	M12	13.00	35.00	17.0

• For user guide, see pages 366-374

(1) Minimum cutting width

(2) Maximum cutting width

(3) Cutting depth maximum

(4) Number of flutes

(5) Clamping wrench size

(6) Use LNET 0818.. insert with SR 114-018-L2.50 screw

(7) Use LNET 0826.. insert with SR 114-018-L3.40 screw

(8) Use LNET 0830.. insert with SR 114-018-L4.40 screw

(9) Use LNET 0835.. insert with SR 114-018-L5.30 screw

(10) Use LNET 0828.. insert with SR 114-018-L3.40 screw

(11) Use LNET 0832.. insert with SR 114-018-L4.40 screw

(12) Use LNET 0837.. insert with SR 114-018-L5.30

For inserts, see pages: LNET 08 (477)

For holders, see pages: BT-ODP (FLEXFIT) (1030) • C#-ODP (FLEXFIT) (1001) • CAB M-M (FLEXFIT) (1046) • DIN69871-ODP (308) • ER-ODP (1048) • HSK A-ODP (FLEXFIT) (309) • S M (1045) • S M-C-H (1045) • S M-CF (1046)

Cutter Designation	CWN-CWX	Inserts
ETS D...-03-..-LN08	3	LNET 081804-TN-N
ETS D...-04-..-LN08	4	LNET 082604-TN-N
	4.5	LNET 082804-TN-N
ETS D...-05-..-LN08	5	LNET 0830-TN-N
	5.5	LNET 0832-TN-N
ETS D...-06-..-LN08	6	LNET 0835-TN-N
	6.5	LNET 0837-TN-N

Spare Parts

Designation				
ETS D032-03-LN08-M08	SR 114-018-L2.50	T-6/3-L	T-6/5	
ETS D032-04-LN08-M08	SR 114-018-L3.40	T-6/3-L	T-6/5	
ETS D032-05-LN08-M10	SR 114-018-L4.40	T-6/3-L	T-6/5	MM KEY 16X9*
ETS D032-06-LN08-M10	SR 114-018-L5.30	T-6/3-L	T-6/5	MM KEY 16X9*
ETS D040-03-LN08-M08	SR 114-018-L2.50	T-6/3-L	T-6/5	
ETS D040-04-LN08-M08	SR 114-018-L3.40	T-6/3-L	T-6/5	
ETS D040-05-LN08-M10	SR 114-018-L4.40	T-6/3-L	T-6/5	MM KEY 16X9*
ETS D040-06-LN08-M10	SR 114-018-L5.30	T-6/3-L	T-6/5	MM KEY 16X9*
ETS D050-03-LN08-M10	SR 114-018-L2.50	T-6/3-L	T-6/5	
ETS D050-04-LN08-M10	SR 114-018-L3.40	T-6/3-L	T-6/5	
ETS D050-05-LN08-M12	SR 114-018-L4.40	T-6/3-L	T-6/5	WRENCH ER11*
ETS D050-06-LN08-M12	SR 114-018-L5.30	T-6/3-L	T-6/5	WRENCH ER11*
ETS D063-03-LN08-M10	SR 114-018-L2.50	T-6/3-L	T-6/5	
ETS D063-04-LN08-M10	SR 114-018-L3.40	T-6/3-L	T-6/5	
ETS D063-05-LN08-M12	SR 114-018-L4.40	T-6/3-L	T-6/5	WRENCH ER11*
ETS D063-06-LN08-M12	SR 114-018-L5.30	T-6/3-L	T-6/5	WRENCH ER11*

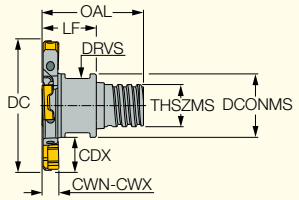
* Optional, should be ordered separately

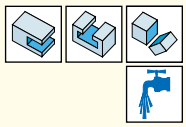
MINI-TANGSLOT

MULTI-MASTER

ETS-LN08-MM

Grooving and Slitting Cutters
with MULTI-MASTER
Threaded Adaptation





Designation	DC	CWN(1)	CWX(2)	CDX(3)	NOF(4)	ZEFP	DCONMS	THSZMS	LF	OAL	DRVS(5)
ETS D32/1.26-4-LN08-MMT10	32.00	4.00 (6)	4.50 (7)	8.20	4	2	15.20	T10	13.00	24.30	13.0
ETS D40/1.57-4-LN08-MMT12	40.00	4.00 (6)	4.50 (7)	10.40	6	3	18.20	T12	13.00	26.30	16.0

• For user guide, see pages 366-374
(1) Minimum cutting width
(2) Maximum cutting width
(3) Cutting depth maximum
(4) Number of flutes
(5) Key flat size
(6) Use LNET 0826.. insert with SR 114-018-L3.40 screw
(7) Use LNET 0828.. insert with SR 114-018-L3.40 screw

For inserts, see pages: LNET 08 (477)
For holders, see pages: MM CAB (1047) • MM S-A (stepped shanks) (70) • MM S-A (straight shanks) (73) • MM S-A-C# (72) • MM S-A-HSK (76) • MM S-A-N (71) • MM S-A-SK (76) • MM S-B (85° conical shanks) (73) • MM S-D (89° conical shanks) (74) • MM S-ER (75) • MM S-ER-H (75) • MM TS-A (72)

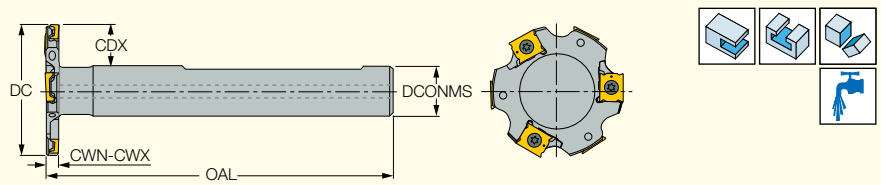
Spare Parts

Designation			
ETS-LN08-MM	SR 114-018-L3.40	T-6/5	T-6/3-L

MINI-TANGSLOT

ETS-LN08

Grooving and Slitting Cutters



Designation	DC	CWN(2)	CWX(3)	CDX(4)	NOF(5)	ZEFP	DCONMS	Shank(6)	OAL	kg
ETS D032-03-W16-LN08	32.00	3.00 (7)	3.00 (7)	7.90	4	2	16.00	W	90.00	0.14
ETS D032-04-W16-LN08	32.00	4.00 (8)	4.50 (12)	7.90	4	2	16.00	W	90.00	0.14
ETS D032-05-W16-LN08	32.00	5.00 (9)	5.50 (13)	7.90	4	2	16.00	W	90.00	0.14
ETS D032-06-W16-LN08	32.00	6.00 (10)	6.50 (14)	7.90	4	2	16.00	W	90.00	0.14
ETS D032-07-W16-LN08 (1)	32.00	7.00 (11)	8.00 (15)	7.90	4	2	16.00	W	90.00	0.14
ETS D040-03-W16-LN08	40.00	3.00 (7)	3.00 (7)	11.90	6	3	16.00	W	104.00	0.16
ETS D040-04-W16-LN08	40.00	4.00 (8)	4.50 (12)	11.90	6	3	16.00	W	104.00	0.16
ETS D040-05-W16-LN08	40.00	5.00 (9)	5.50 (13)	11.90	6	3	16.00	W	104.00	0.16
ETS D040-06-W16-LN08	40.00	6.00 (10)	6.50 (14)	11.90	6	3	16.00	W	104.00	0.17
ETS D040-07-W16-LN08 (1)	40.00	7.00 (11)	8.00 (15)	11.70	6	3	16.00	W	104.00	0.17
ETS D050-03-W20-LN08	50.00	3.00 (7)	3.00 (7)	14.90	8	4	20.00	W	110.00	0.26
ETS D050-04-W20-LN08	50.00	4.00 (8)	4.50 (12)	14.90	8	4	20.00	W	110.00	0.27
ETS D050-05-W20-LN08	50.00	5.00 (9)	5.50 (13)	14.90	8	4	20.00	W	110.00	0.28
ETS D050-06-W20-LN08	50.00	6.00 (10)	6.50 (14)	14.90	8	4	20.00	W	110.00	0.28
ETS D050-07-W20-LN08 (1)	50.00	7.00 (11)	8.00 (15)	14.70	8	4	20.00	W	110.00	0.29
ETS D063-03-W20-LN08	63.00	3.00 (7)	3.00 (7)	21.40	10	5	20.00	W	110.00	0.28
ETS D063-04-W20-LN08	63.00	4.00 (8)	4.50 (12)	21.40	10	5	20.00	W	110.00	0.29
ETS D063-05-W20-LN08	63.00	5.00 (9)	5.50 (13)	21.40	10	5	20.00	W	110.00	0.31
ETS D063-06-W20-LN08	63.00	6.00 (10)	6.50 (14)	21.40	10	5	20.00	W	110.00	0.32
ETS D063-07-W20-LN08 (1)	63.00	7.00 (11)	8.00 (15)	21.20	10	5	20.00	W	110.00	0.34

• Adjustable overhang design • For user guide, see pages 366-374

(1) For ap=7.5 use LNET 084204-TN-N insert with SR 114-018-L5.30-HG screw
(2) Minimum cutting width
(3) Maximum cutting width
(4) Cutting depth maximum
(5) Number of flutes
(6) W-Weldon
(7) Use LNET 0818.. insert with SR 114-018-L2.50 screw
(8) Use LNET 0826.. insert with SR 114-018-L3.40 screw
(9) Use LNET 0830.. insert with SR 114-018-L4.40 screw
(10) Use LNET 0835.. insert with SR 114-018-L5.30 screw
(11) Use LNET 0840.. insert with SR 114-018-L5.30-HG
(12) Use LNET 0828.. insert with SR 114-018-L3.40 screw
(13) Use LNET 0832.. insert with SR 114-018-L4.40 screw
(14) Use LNET 0837.. insert with SR 114-018-L5.30
(15) Use LNET 0845.. insert with SR 114-018-L5.30-HG

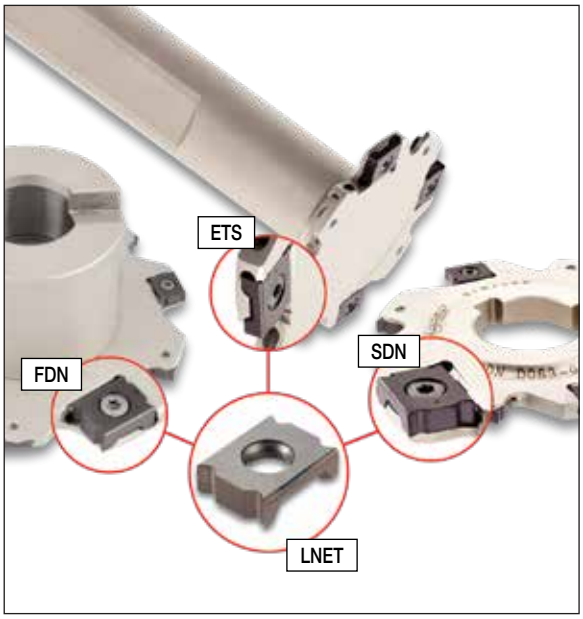
For inserts, see pages: LNET 08 (477)

Spare Parts

Designation			
ETS D032-03-W16-LN08	SR 114-018-L2.50	T-6/3-L	T-6/5
ETS D032-04-W16-LN08	SR 114-018-L3.40	T-6/3-L	T-6/5
ETS D032-05-W16-LN08	SR 114-018-L4.40	T-6/3-L	T-6/5
ETS D032-06-W16-LN08	SR 114-018-L5.30	T-6/3-L	T-6/5
ETS D032-07-W16-LN08	SR 114-018-L5.30-HG	T-6/3-L	T-6/5
ETS D040-03-W16-LN08	SR 114-018-L2.50	T-6/3-L	T-6/5
ETS D040-04-W16-LN08	SR 114-018-L3.40	T-6/3-L	T-6/5
ETS D040-05-W16-LN08	SR 114-018-L4.40	T-6/3-L	T-6/5
ETS D040-06-W16-LN08	SR 114-018-L5.30	T-6/3-L	T-6/5
ETS D040-07-W16-LN08	SR 114-018-L5.30-HG	T-6/3-L	T-6/5
ETS D050-03-W20-LN08	SR 114-018-L2.50	T-6/3-L	T-6/5
ETS D050-04-W20-LN08	SR 114-018-L3.40	T-6/3-L	T-6/5
ETS D050-05-W20-LN08	SR 114-018-L4.40	T-6/3-L	T-6/5
ETS D050-06-W20-LN08	SR 114-018-L5.30	T-6/3-L	T-6/5
ETS D050-07-W20-LN08	SR 114-018-L5.30-HG	T-6/3-L	T-6/5
ETS D063-03-W20-LN08	SR 114-018-L2.50	T-6/3-L	T-6/5
ETS D063-04-W20-LN08	SR 114-018-L3.40	T-6/3-L	T-6/5
ETS D063-05-W20-LN08	SR 114-018-L4.40	T-6/3-L	T-6/5
ETS D063-06-W20-LN08	SR 114-018-L5.30	T-6/3-L	T-6/5
ETS D063-07-W20-LN08	SR 114-018-L5.30-HG	T-6/3-L	T-6/5

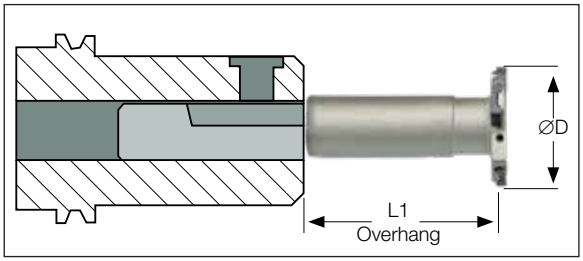
Cutter Designation	CWN-CWX	Insert
...D...-03-..-LN08	3	LNET 081804-TN-N
...D...-04-..-LN08	4	LNET 082604-TN-N
	4.5	LNET 082804-TN-N
...D...-05-..-LN08	5	LNET 083004-TN-N
	5.5	LNET 083204-TN-N
...D...-06-..-LN 08	6	LNET 083504-TN-N
	6.5	LNET 083704-TN-N
...D...-07..-LN08	7	LNET 084004-TN-N
	7.5	LNET 084204-TN-N
	8.0	LNET 084504-TN-N

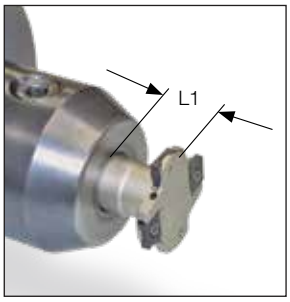
1

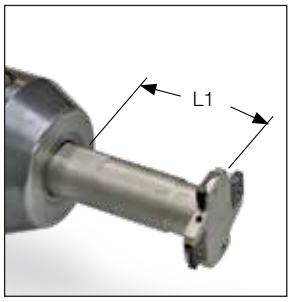


2 Setting the Overhang

ETS..- T-type Slotting Cutters			
Designation	D	L_1 Overhang	
		Min	Max
ETS D32	32	20	49
ETS D40	40	34	63
ETS D50	50	27	66
ETS D63	63	27	66





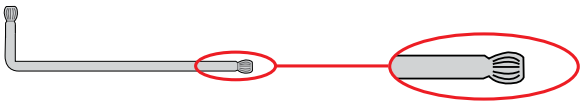


3 Lubrication - Important!

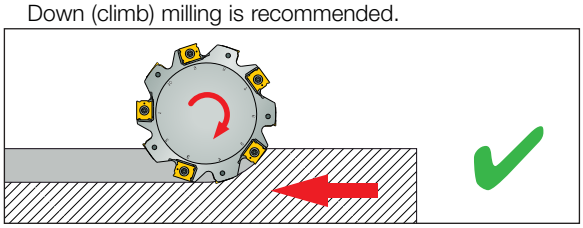
For every indexing, lubricate screws before mounting.
Grease should cover the screw's thread and cone head.

4 Indexing

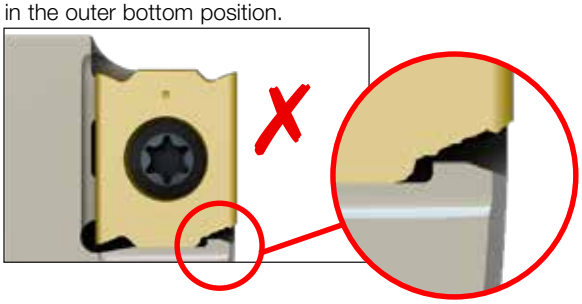
L -type key is added to the cutter package.
It has a ball shape on the end of its longer side.



Feed Direction:
Down (climb) milling is recommended.



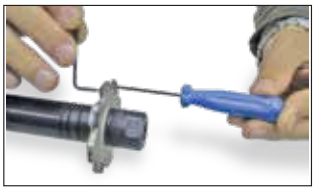
Do not clamp insert with a broken corner in the outer bottom position.



5 Tightening Torque

60-70 N x cm

6 Tightening



Use the short side for tightening and initial release

Use the long side for quick driving and release

Important note:
To avoid indexing problems, insert clamping screws and replace keys on a regular basis according to their wear.

7 Width of cut -

for ap=3 - 6.5mm - use the following table

ap	Insert	Screw	Key
3.00	LNET 081804-TN-N	SR 114-018-L2.50	T-6/5 T-6/5-L
4.00	LNET 082604-TN-N	SR 114-018-L3.40	
4.50	LNET 082804-TN-N		
5.00	LNET 083004-TN-N	SR 114-018-L4.40	
5.50	LNET 083204-TN-N	SR 114-018-L4.40	
6.00	LNET 083504-TN-N	SR 114-018-L5.30	
6.50	LNET 083704-TN-N		

8 Recommended Cutting Speed

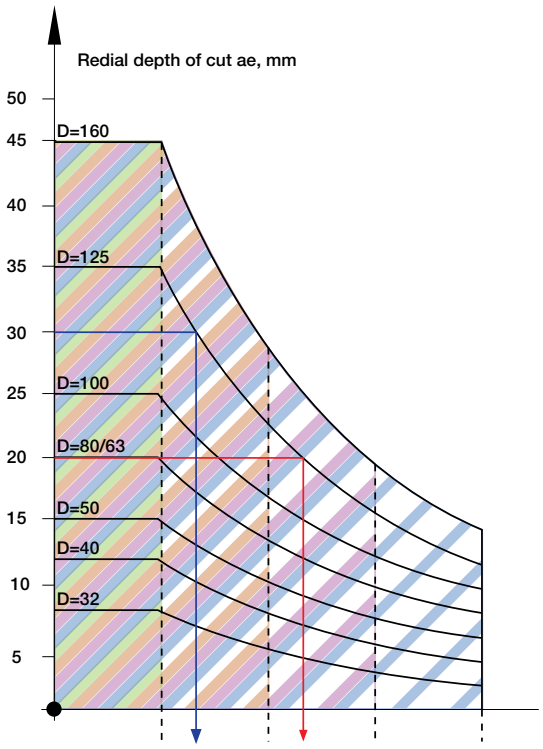
ISO class DIN/ISO 513	Description	Workpiece Material: Typical Example AISI/SAE/ASTM	DIN W.-Nr.	Hardness, HB	ISCAR mat. group**	Cutting speed Vc, m/min	Insert	Grade	Coolant
P	Non-alloy steel	1020	1.0402	130-180	1	130-200	LN....08	IC928	Air blow
	Alloy steel	4340	1.6582	260-300	8	120-170	LN....08	IC928	
	Alloy steel	3135	1.5710	HRC 35-40*	9	100-120	LN....08	IC928	
	High alloy steel	H13	1.2344	200-220	10	100-150	LN....08	IC928	
	Martensitic s.s.	420	1.4021	200	12	100-140	LN....08	IC928	
M	Austenitic s.s.	304L	1.4306	200	14	70-120	LN....08	IC928	Wet (emulsion)
	Austenitic s.s.	316L	1.4404	140	14	80-120	LN....08	IC928	
K	Grey cast iron	Class 40	0.6025 (GG25)	250	16	180-230	LN....08	IC910	Air blow
	Nodular cast iron	Class 65-45-12	0.7050 (GGG50)	200	17	150-200	LN....08	IC910	
S	High temp. alloys	AMS R56400	3.7165 (Ti6Al4V)	HRC 40-45	37	35-45	LN....08	IC928	Wet (emulsion)

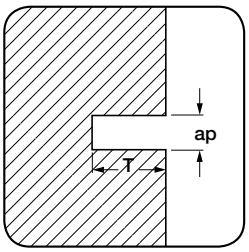
* Quenched and tempered

** ISCAR material group in accordance with VDI 3323 standard

9 MINI-TANGSLOT

Recommended feed per tooth for MINI-TANGSLOT cutters carrying LN..08... inserts for 3 mm≤ap<7 mm





Example

Material - Alloy steel DIN 40NiCrMo6, W.-Nr.16565

D = 125 mm
ae = 30 mm
ap = 4 mm
fz = 0.2x0.75*
= 0.15 mm/tooth

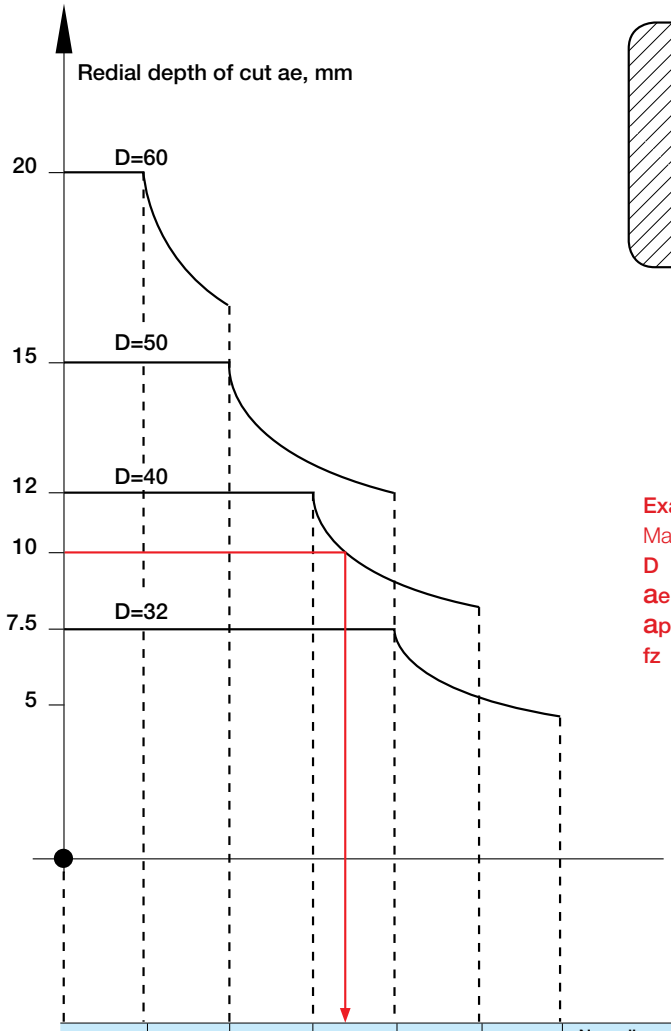
D = 125 mm
ae = 20 mm
ap = 6 mm
fz = 0.25x1=0.25 mm/tooth

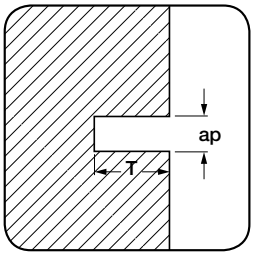
fz= fz0xK

ap mm	K
from 3 to 4	0.60
from 4 up to 5	0.75
over 5 to 7	1

Basic feed fz0, mm/tooth				Description	AISI / SAE / ASTM (DIN W.-Nr.)	ISCAR Mat. Group	DIN/ ISO
				Workpiece Material			
0.17	0.22	0.27	0.32	Non-alloy steel	1020 (DIN 1.0402)	1	P
0.15	0.2	0.25	0.3	Alloy steel	4340 (DIN 1.6582)	8	
0.1	0.13	0.15	0.2	Alloy steel	3135 (DIN 1.5710)	9	
0.1	0.13	0.16	0.22	High alloy steel	H13 (DIN 1.2344)	10	
0.13	0.16	0.2	0.25	Martensitic s.s.	420 (DIN 1.4021)	12	M
0.1	0.13	0.16	0.22	Austenitic s.s.	316L (DIN 1.4404)	14	
0.2	0.25	0.3	0.35	Grey cast iron	Class 40 (DIN 0.6025) (GG25)	16	K
0.15	0.2	0.25	0.3	Nodular cast iron	Class 65-45-12 (DIN 0.7050) (GGG50)	17	
0.1	0.13	0.16	0.22	High temp. alloys	AMS R56400 (DIN 3.7165)	37	S

10 Recommended feed per tooth for MINI-TANGSLOT cutters carrying LN..08... inserts for ap=7-8 mm





Example
Material - Alloy steel DIN 40NiCrMo6, W.-Nr.16565
D = 40 mm
ae = 10 mm
ap = 8 mm
fz = 0.09x0.8=0.072 mm/tooth

Basic feed fz0 mm/tooth						Description	AISI / SAE / ASTM / DIN	ISCAR mat. group	DIN/ ISO
						Workpiece material			
0.045	0.060	0.090	0.105	0.120	0.135	Non-alloy steel	1020 (DIN 1.0402)	1	P
0.045	0.060	0.075	0.090	0.105	0.120	Alloy steel	4340 (DIN 1.6582)	8	P
0.030	0.045	0.052	0.060	0.068	0.075	Alloy steel	3135 (DIN 1.5710)	9	P
0.030	0.045	0.052	0.060	0.075	0.090	High alloy steel	H13 (DIN 1.2344)	10	P
0.030	0.052	0.068	0.082	0.090	0.105	Martensitic s.s.	420 (DIN 1.4021)	12	M
0.030	0.045	0.052	0.068	0.075	0.090	Austenitic s.s.	316L (DIN 1.4404)	14	M
0.068	0.090	0.105	0.120	0.135	0.150	Grey cast iron	Class 40 (DIN 0.6025) (GG25)	16	K
0.045	0.075	0.090	0.105	0.120	0.135	Nodular cast iron	Class 65-45-12 (DIN 0.7050) (GGG50)	17	K
0.030	0.045	0.052	0.060	0.075	0.090	High temp. alloys	AMS R56400 (DIN 3.7165)	37	S

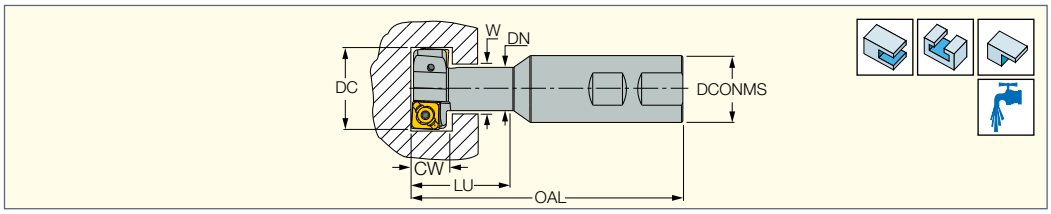
fz= fz0×K

ap mm	K
from 7 up to 7.5	1
over 7.5 up to 8	0.80

HELISLOT

ETS-XN13

T-Slot Endmills Carrying XNMU 1306 Square Inserts with 4 Right- and 4 Left-Hand Cutting Edges



Designation	DC	NOF(1)	ZEFP	DN	CWN(2)	CW	LU	OAL	DCONMS	Shank(3)	kg
ETS D40-18-W32-XN13	40.00	2	1	21.00	22.00	18.00	47.0	120.00	32.00	W	0.55
ETS D48-22-W32-XN13	48.00	4	2	27.00	28.00	22.00	58.0	130.00	32.00	W	0.70

• For user guide, see pages 366-374
(1) Number of flutes
(2) Minimum cutting width
(3) W-Weldon

For inserts, see pages: XNMU 13 (497)

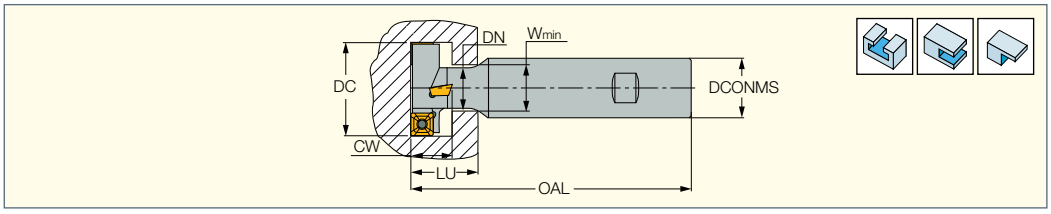
Spare Parts

Designation			
ETS-XN13	SR M4-L15-D4.5	BLD IP15/S7	SW6-T-SH

ISCARMILL

ETS

T-Slot Endmills



Designation	DC	NOF(1)	ZEFP	DN	W min	CW	LU	OAL	DCONMS	Shank(2)	kg	MIID(3)
ETS D21-9-W16-06	21.10	2	1	10.80	12.00	8.85	26.9	90.00	16.00	W	0.11	XOMT 060204-HQ
ETS D25-11-W16-06	24.80	4	2	12.80	14.00	10.80	23.7	90.00	16.00	W	0.12	XOMT 060204-HQ
ETS D25-11-W25-06	24.80	4	2	12.80	14.00	10.80	24.4	120.00	25.00	W	0.36	XOMT 060204-HQ
ETS D32-14-W32-10	31.70	2	1	16.70	18.00	13.85	40.0	120.00	32.00	W	0.54	XPMT 100408-HQ
ETS D32-14-W16-10	31.70	4	2	16.00	18.00	13.85	52.0 (4)	90.00	16.00	W	0.14	XPMT 100408-HQ
ETS D32-16-W32-A10	31.70	4	2	16.80	18.00	15.85	39.0	110.00	32.00	W	0.48	ADKT 1505PDTR
ETS D40-18-W32-10	39.70	4	2	20.70	22.00	17.85	50.0	130.00	32.00	W	0.62	XPMT 100408-HQ
ETS D48-22-W32-15	48.50	4	2	26.00	27.00	21.85	51.3	130.00	32.00	W	0.73	ADKT 1505PDTR

• For user guide, see pages 366-374
(1) Number of flutes
(2) W-Weldon
(3) Master insert identification
(4) **Adjustable overhang design:** LUmin=19, LUmax=52

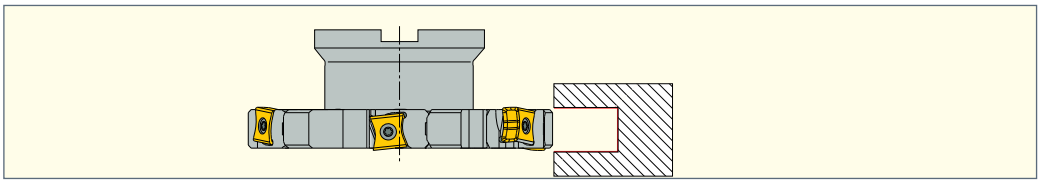
For inserts, see pages: ADKR 1505PDR/L-HM (441) • ADKT 1505..R/L-HM (444) • ADKT 1505PDR/L-HM (443) • ADKT 1505PDTR/L-RM (443) • APKT 1003PDTR/L-RM (437) • QOMT-HQ (478) • XOMT-HQ (479) • XPMT-HQ (480)

Spare Parts

Designation		
ETS D21-9-W16-06	SR 34-508/L	T-7/51
ETS D25-11-W16-06	SR 34-508/L	T-7/51
ETS D25-11-W25-06	SR 34-508/L	T-7/51
ETS D32-14-W32-10	SR 14-544/S	T-15/51
ETS D32-14-W16-10	SR 14-506	T-15/51
ETS D32-16-W32-A10	SR 34-505/LHG	T-8/53
ETS D40-18-W32-10	SR 14-544/S	T-15/51
ETS D48-22-W32-15	SR 14-544/S	T-15/51

ISCARMILL

FDN
Full Slot Flange Type



Tool Diameter							Width of Cutter																								Type of Insert
63	80	100	125	160	200	250	3	4	4.5	5	5.5	6	6.5	7	8	8.5	9	10	10.5	12	13	14	14.6	16	18	18.9	20	25	25.6	
●	●	●					✓																								LNET 081804
●	●	●						✓																							LNET 082604
●	●	●							✓																						LNET 082804
●	●	●								✓																					LNET 083004
●	●	●									✓																				LNET 083204
●	●	●										✓																			LNET 083504
●	●	●											✓																		LNET 083704
	●	●	●											✓																	LNET 1240
				●											✓																LNET 1245
				●												✓															LNET 1248
	●	●	●	●	●	●												✓													LNET 1255
	●	●	●	●	●	●													✓												LNET 1257
		●	●	●	●	●																									LNET 12...
	●	●													✓																XOMT 0602.. QOMT 060208
		●	●															✓													
			●	●	●															✓											XPMT 1004... QPMT 1004...
			●																✓(1)												QPMT 1004...
			●	●	●																			✓							QPMT 1004... XPMT 1004...
				●															✓(1)												QPMT 1004...
				○																	✓			✓							QDMT 1205... QDCT 1205
				○	○																				✓						
					○	○																					✓				
			●	●	●	●																									LNKX 1506

● Without seat

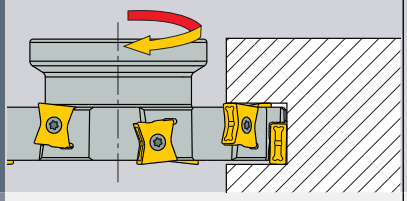
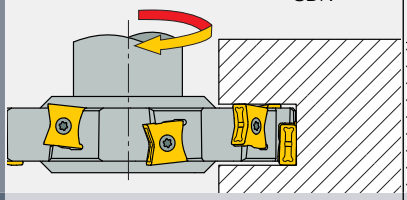
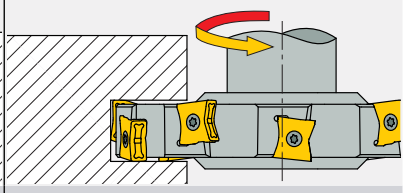
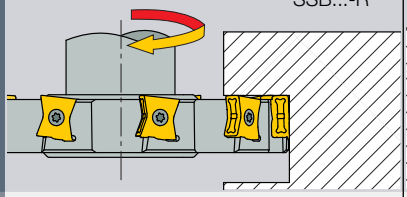
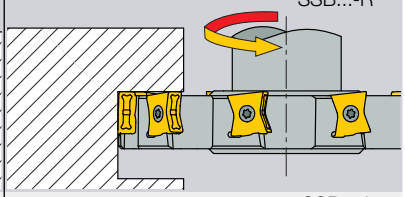
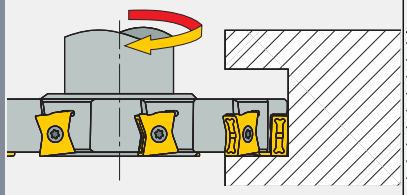
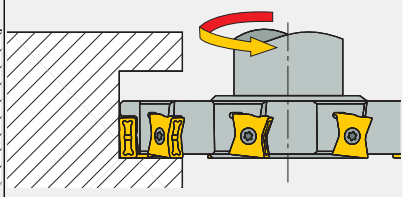
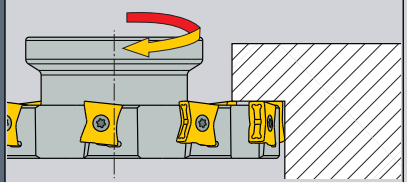
○ With seat

● With adjustable cartridges

(1) Fully effective with adjustable cartridges

Face and Slot Milling Cutters

Cutter Types for Right- and Left-Hand, Top and Bottom Milling

	Right-Hand Spindle Rotation	Left-Hand Spindle Rotation
Full Side - Flange Type **(Pages 334-340)**	FDN...-R 	
Full Side - Disk Type **(Pages 342-349)**	SDN 	SDN 
Half Side - Top Disk Type **(Page 350)**	SSB...-R 	SSB...-R 
Half Side - Bottom Disk Type **(Page 350)**	SSB...-L 	SSB...-L 
Half Side - Top Flange Type **(Page 349)**	FST...-R 	

Ordering Examples

Integral Pocket Cutter

FDN D125-10-27-**LN12**
Cutter diameter: 125 mm
Slot width: 10.00 mm

Adjustable Cutter with Cartridges

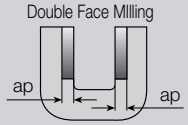
FDN D100-0810-32-**CALN12**
Cutter diameter: 100 mm
Slot width range: 8.00-10.5 mm

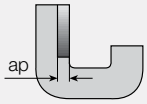
Pre-adjusted specific width
(the cutter will be set to 9.52 mm).

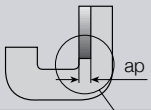
FDN D125-09.52-40-**CALN12**
Cutter diameter: 125 mm
Slot width: 9.52 mm (The cutter can be adjusted to a width of 8.0-10.5 mm)

Single or Double-Face Milling Configuration Guide for FDN/SDN/SSB/FST/FSB... CALN15 Cutters

Designation	Number of Cutting Edges[1]	Bottom Flatness ap≤7 H (mm)	Bottom Flatness ap=14 H (mm)	Application	Half Side Tools Axial Depth of Cut ap (mm)
LNKX 1506...	4R+4L	Flat	0.65	Double Face Milling	Stock=0-14
LNMT 1506...	4R+4L	Flat	0.65		Stock=0-14
LNAT 1506...	4R+4L	Flat	0.4-0.65		Stock=0-14[2]
LNHT 1506...-N[3]	2R+2L	Flat	Flat		Stock=0-14
LNKX 1506...	4R	Flat	0.65	Half Side Milling	Stock=0-14
LNMT 1506...	4R	Flat	0.65		Stock=0-14
LNAT 1506...	4R	Flat	0.4-0.65		Stock=0-14[2]
LNHT 1506...-R[4]	4R	Flat	Flat		Stock=0-14[2]
LNKX 1506...	4L	Flat	0.65	Half Side Milling	Stock=0-14
LNMT 1506...	4L	Flat	0.65		Stock=0-14
LNAT 1506...	4L	Flat	0.4-0.65		Stock=0-14[2]
LNHT 1506...-N[3]	4L	Flat	Flat		Stock=0-14[2]

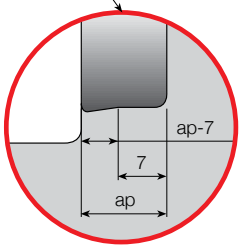






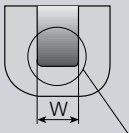
[1] Use of 8 cutting edges (4R+4L) is possible only when ap≤7 mm, otherwise 4 cutting edges (2R+2L) can be used.

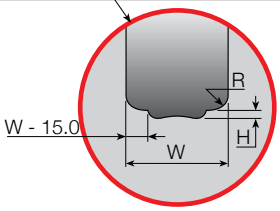
[2] Max ap for radius inserts
LNAT 150616..=12.80
LNAT 150625..=12.25
LNAT 150632..=11.60
LNAT 150640..=14.00



Configuration Guide for Full Slot FDN/SDN... CALN15 Cutters

Designation	Number of Cutting Edges	Bottom Slot Flatness H (mm)	Insert Radius R (mm)	Application	Half Side Tools Axial Depth of Cut W (mm)
LNKX 1506...	2R+2L	0.65	0.8		W=18.9-25.6
LNMT 1506...	2R+2L	0.65	0.8		W=18.9-25.6
LNAT 150616PN-N-HM	2R+2L	0.55	1.6		W=18.9-25.6
LNAT 150625PN-N-NM	2R+2L	0.45	2.5		W=18.9-24.5
LNAT 150632PN-N-NM	2R+2L	0.40	3.2		W=18.9-23.2
LNAT 150640PN-N-NM	2R+2L	0.65	4.0		W=18.9-25.6
LNHT 1506...-N[3]	2R+2L	Flat	0.8		W=18.9-25.6

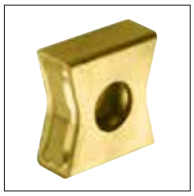




[3] LNHT 1506...-N
R.H./L.H

Page 472

LNKX 1506...
LNMT 1506...
R.H./L.H.



Page 470, 472

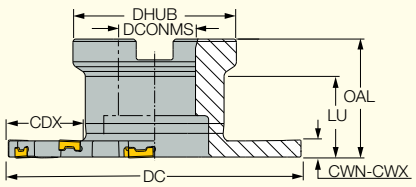
[4] LNHT 1506...-R
R.H. only

Page 471

MINI-TANGSLOT

FDN-LN08

Full Slot Shell Mill Cutters
Carrying LNET 08...
Tangentially Mounted Inserts



Designation	DC	CWN(1)	CWX(2)	CDX(3)	CICT(4)	ZEFP	DHUB	DCONMS	LU	OAL	Arbor(5)	kg	MIID(6)
FDN D063-03-16-LN08	63.00	3.00 (7)	3.00 (7)	14.50	8	4	38.40	16.00	25.0	35.00	A	0.22	LNET 081804-TN-N
FDN D063-04-16-LN08	63.00	4.00 (8)	4.50 (11)	14.50	8	4	38.40	16.00	25.0	35.00	A	0.23	LNET 082604-TN-N
FDN D063-05-16-LN08	63.00	5.00 (9)	5.50 (12)	14.50	8	4	38.40	16.00	25.0	35.00	A	0.25	LNET 083004-TN-N
FDN D063-06-16-LN08	63.00	6.00 (10)	6.50 (13)	14.50	8	4	38.40	16.00	25.0	35.00	A	0.26	LNET 083504-TN-N
FDN D080-03-22-LN08	80.00	3.00 (7)	3.00 (7)	22.50	10	5	45.00	22.00	28.0	40.00	A	0.28	LNET 081804-TN-N
FDN D080-04-22-LN08	80.00	4.00 (8)	4.50 (11)	22.50	10	5	45.00	22.00	28.0	40.00	A	0.31	LNET 082604-TN-N
FDN D080-05-22-LN08	80.00	5.00 (9)	5.50 (12)	22.50	10	5	45.00	22.00	28.0	40.00	A	0.33	LNET 083004-TN-N
FDN D080-06-22-LN08	80.00	6.00 (10)	6.50 (13)	22.50	10	5	45.00	22.00	28.0	40.00	A	0.36	LNET 083504-TN-N
FDN D100-03-27-LN08	100.00	3.00 (7)	3.00 (7)	26.00	12	6	55.00	27.00	28.5	40.00	B	0.43	LNET 081804-TN-N
FDN D100-04-27-LN08	100.00	4.00 (8)	4.50 (11)	26.00	12	6	55.00	27.00	28.5	40.00	B	0.47	LNET 082604-TN-N
FDN D100-05-27-LN08	100.00	5.00 (9)	5.50 (12)	26.00	12	6	55.00	27.00	28.5	40.00	B	0.50	LNET 083004-TN-N
FDN D100-06-27-LN08	100.00	6.00 (10)	6.50 (13)	26.00	12	6	55.00	27.00	28.5	40.00	B	0.54	LNET 083504-TN-N

(1) Minimum cutting width
(2) Maximum cutting width
(3) Cutting depth maximum
(4) Number of inserts
(5) For adaptation options, see page 517
(6) Master insert identification
(7) Use LNET 0818.. insert with SR 114-018-L2.50 screw
(8) Use LNET 0826.. insert with SR 114-018-L3.40 screw
(9) Use LNET 0830.. insert with SR 114-018-L4.40 screw
(10) Use LNET 0835.. insert with SR 114-018-L5.30 screw
(11) Use LNET 0828.. insert with SR 114-018-L3.40 screw
(12) Use LNET 0832.. insert with SR 114-018-L4.40 screw
(13) Use LNET 0837.. insert with SR 114-018-L5.30 screw
For inserts, see pages: LNET 08 (477)

Cutter Designation	CWN-CWX	Inserts
FDN D...-03-...LN08	3	LNET 081804-TN-N
FDN D...-04-...LN08	4	LNET 082604-TN-N
	4.5	LNET 082804-TN-N
FDN D...-05-...LN08	5	LNET 083004-TN-N
	5.5	LNET 083204-TN-N
FDN D...-06-...LN08	6	LNET 083504-TN-N
	6.5	LNET 083704-TN-N

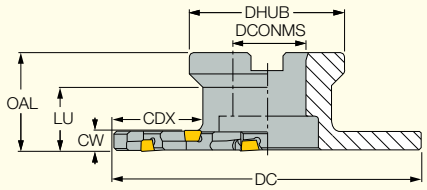
Spare Parts

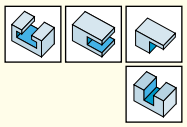
Designation				
FDN D063-03-16-LN08	SR 114-018-L2.50	T-6/5	T-6/3-L	SR M8X25DIN912
FDN D063-04-16-LN08	SR 114-018-L3.40	T-6/5	T-6/3-L	SR M8X25DIN912
FDN D063-05-16-LN08	SR 114-018-L4.40	T-6/5	T-6/3-L	SR M8X25DIN912
FDN D063-06-16-LN08	SR 114-018-L5.30	T-6/5	T-6/3-L	SR M8X25DIN912
FDN D080-03-22-LN08	SR 114-018-L2.50	T-6/5	T-6/3-L	SR M10X25 DIN912
FDN D080-04-22-LN08	SR 114-018-L3.40	T-6/5	T-6/3-L	SR M10X25 DIN912
FDN D080-05-22-LN08	SR 114-018-L4.40	T-6/5	T-6/3-L	SR M10X25 DIN912
FDN D080-06-22-LN08	SR 114-018-L5.30	T-6/5	T-6/3-L	SR M10X25 DIN912
FDN D100-03-27-LN08	SR 114-018-L2.50	T-6/5	T-6/3-L	
FDN D100-04-27-LN08	SR 114-018-L3.40	T-6/5	T-6/3-L	
FDN D100-05-27-LN08	SR 114-018-L4.40	T-6/5	T-6/3-L	
FDN D100-06-27-LN08	SR 114-018-L5.30	T-6/5	T-6/3-L	

TANGSLOT

FDN-LN12

Full Slot Cutters Carrying LNET 12... Tangentially Mounted Inserts





Designation	DC	CICT(4)	ZEFP	DCONMS	DHUB	CDX	LU	OAL	Arbor(5)	kg	CW	Inserts
FDN D080-07-22-LN12(1)	80.00	8	4	22.00	45.00	22.00	28.20	40.00	A	0.40	7.0 8.0 8.5	LNET 1240.. LNET 1245... LNET 1248..
FDN D080-10-22-LN12(2)	80.00	8	4	22.00	45.00	22.00	28.20	40.00	A	0.40	10.0 10.5 12.0	LNET 1255.. LNET 1257.. LNET 1265...
FDN D100-07-27-LN12(1)	100.00	10	5	27.00	55.00	25.00	28.50	40.00	B	0.44	7.0 8.0 8.5	LNET 1240.. LNET 1245.. LNET 1248...
FDN D100-10-27-LN12(2)	100.00	10	5	27.00	55.00	25.00	28.50	40.00	B	0.61	10.0 10.5 12.0	LNET 1255.. LNET 1257.. LNET 1265...
FDN D125-07-32-LN12(1)	125.00	12	6	32.00	65.00	34.50	32.00	45.00	B	0.60	7.0 8.0 8.5	LNET 1240.. LNET 1245.. LNET 1248...
FDN D125-10-32-LN12(2)	125.00	12	6	32.00	65.00	34.50	32.00	45.00	B	1.30	10.0 10.5 12.0	LNET 1255.. LNET 1257.. LNET 1265...
FDN D160-10-40-LN12(2)	160.00	16	8	40.00	80.00	44.00	33.50	50.00	B	1.76	10.0 10.5 12.0	LNET 1255.. LNET 1257.. LNET 1265...
FDN D200-08-40-LN12(3)	200.00	20	10	40.00	92.00	51.50	49.50	50.00	C	2.63	8.0 8.5 9.0 10.0	LNET 1245.. LNET 1248.. LNET 1250... LNET 1255..
FDN D200-10-40-LN12(2)	200.00	20	10	40.00	92.00	51.50	49.50	50.00	C	2.95	10.0 10.5 12.0	LNET 1255.. LNET 1257.. LNET 1265...
FDN D250-10-60-LN12(2)	250.00	26	13	40.00	132.00	56.50	62.50	63.00	C	5.91	10.0 10.5 12.0	LNET 1255.. LNET 1257.. LNET 1265...

- Slot width depends on the selected insert width • Each tool is supplied with screws for the thinnest specified insert
- Verify use of correct screw for the insert being used • For user guide, see pages 366-374

(1) For ap=7.0 use screw SR 14-500-L5.9 • For ap=8.0 use screw SR 14-500-L6.5 • For ap=8.5 use screw SR 14-500-L7.0
(2) For ap=10.0 and 10.5 use screw SR 14-500-L8.5 • For ap=12.0 use screw SR 14-500-L10.0
(3) For ap=8.0 and 8.5 use screw SR 14-500-L7.0 • For ap=9.0 use screw SR 14-500-L8.0 • For ap=10.0 use screw SR 14-500-L8.5
(4) Number of inserts
(5) For adaptation options, see page 517

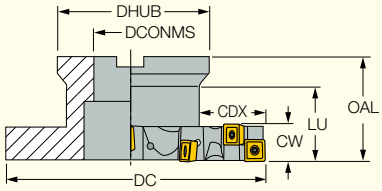
For inserts, see pages: LNET 12-TN (423) • LNET 12-TN-MM (424)

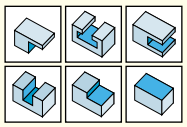
Spare Parts

Designation			
FDN D080-07-22-LN12	SR 14-500-L5.9	RATCHET WRENCH KEY	T-15/51-BE
FDN D080-10-22-LN12	SR 14-500-L8.5	RATCHET WRENCH KEY	T-15/51-BE
FDN D100-07-27-LN12	SR 14-500-L5.9	RATCHET WRENCH KEY	T-15/51-BE
FDN D100-10-27-LN12	SR 14-500-L8.5	RATCHET WRENCH KEY	T-15/51-BE
FDN D125-07-32-LN12	SR 14-500-L5.9	RATCHET WRENCH KEY	T-15/51-BE
FDN D125-10-32-LN12	SR 14-500-L8.5	RATCHET WRENCH KEY	T-15/51-BE
FDN D160-10-40-LN12	SR 14-500-L8.5	RATCHET WRENCH KEY	T-15/51-BE
FDN D200-08-40-LN12	SR 14-500-L7.0	RATCHET WRENCH KEY	T-15/51-BE
FDN D200-10-40-LN12	SR 14-500-L8.5	RATCHET WRENCH KEY	T-15/51-BE
FDN D250-10-60-LN12	SR 14-500-L8.5	RATCHET WRENCH KEY	T-15/51-BE

HELiQUAD

FDN
Full Slot Flange-Type
Slotting Cutters





Designation	DC	CW	CDX(1)	CICT(2)	ZEFP	DHUB	DCONMS	LU	OAL	Arbor(3)	kg	MIID(4)
FDN D080-08-22-R06	80.00	8.00	22.70	14	7	45.00	22.00	28.1	40.00	A	0.34	XOMT 060204-HQ
FDN D100-08-27-R06	100.00	8.00	26.40	16	8	55.00	27.00	28.8	40.00	B	0.53	XOMT 060204-HQ
FDN D100-10-27-R06	100.00	10.00	26.50	16	8	55.00	27.00	29.5	40.00	B	0.59	XOMT 060204-HQ
FDN D125-10-32-R06	125.00	10.00	35.50	20	10	65.00	32.00	32.0	45.00	B	0.94	XOMT 060204-HQ
FDN D125-12-32-R10	125.00	12.00	35.50	14	7	65.00	32.00	32.0	45.00	B	1.00	XPMT 100408-HQ
FDN D125-16-32-R10	125.00	16.00	34.00	14	7	65.00	32.00	37.0	50.00	B	1.25	XPMT 100408-HQ
FDN D160-12-40-R10	160.00	12.00	46.90	16	8	80.00	40.00	33.5	50.00	B	1.77	XPMT 100408-HQ
FDN D160-16-40-R10	160.00	16.00	46.50	16	8	80.00	40.00	43.5	60.00	B	2.13	XPMT 100408-HQ
FDN D160-16-40-R12	160.00	16.00	46.90	14	7	80.00	40.00	43.5	60.00	B	2.08	QDMT 1205PDN-RM
FDN D200-18-40-R12	200.00	18.00	54.00	16	8	92.00	40.00	50.0	50.00	C	3.19	QDMT 1205PDN-RM
FDN D200-20-40-R12	200.00	20.00	62.00	16	8	92.00	40.00	41.0	63.00	E	3.57	QDMT 1205PDN-RM
FDN D250-20-60-R12	250.00	20.00	60.00	18	9	130.00	60.00	50.0	63.00	C	7.13	QDMT 1205PDN-RM

• For user guide, see pages 366-374
(1) Cutting depth maximum
(2) Number of inserts
(3) For adaptation options, see pages 517
(4) Master insert identification

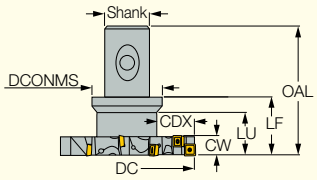
For inserts, see pages: QDCT-PDN (481) • QDMT 1205..PDTN-M (482) • QDMT 1205PDN-RM (481) • QOMT-HQ (478) • QPMT 100408PDTN (479) • XOMT-HQ (479) • XPMT-HQ (480)

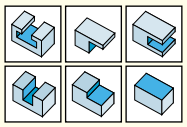
Spare Parts

Designation					
FDN D080-08-22-R06	SR 34-514	T-7/51			
FDN D100-08-27-R06	SR 34-514	T-7/51			
FDN D100-10-27-R06	SR 34-514	T-7/51			
FDN D125-10-32-R06	SR 34-514	T-7/51			
FDN D125-12-32-R10	SR 14-544/S	T-15/51			
FDN D125-16-32-R10	SR 14-544/S	T-15/51			
FDN D160-12-40-R10	SR 14-544/S	T-15/51			
FDN D160-16-40-R10	SR 14-544/S	T-15/51			
FDN D160-16-40-R12	SR 14-544		BLD T15/M7	SW6-T	PN 3-4
FDN D200-18-40-R12	SR 34-510		BLD T15/L7	SW6-T	PN 3-4
FDN D200-20-40-R12	SR 34-510		BLD T15/L7	SW6-T	PN 3-4
FDN D250-20-60-R12	SR 34-510		BLD T15/L7	SW6-T	PN 3-4

HELiQUAD CLICKFIT

FDN-CF4
Full Slot Flange-Type Slotting
Cutters with CLICKFIT Adaptation





Designation	DC	CICT(1)	CW	CDX(2)	OAL	LF	LU	DCONMS	Shank	kg		
FDN D050-08-CF4-06	50.00	8	8.00	13.90	90.00	48.00	32.0	44.00	CF4	0.44	SR 34-514	T-7/51
FDN D063-08-CF4-06	63.00	10	8.00	18.90	90.00	48.00	33.0	44.00	CF4	0.51	SR 34-514	T-7/51

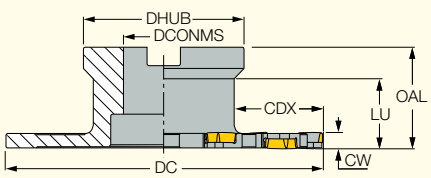
• For user guide, see pages 366-374
(1) Number of inserts
(2) Cutting depth maximum

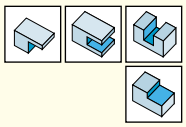
For inserts, see pages: QOMT-HQ (478) • XOMT-HQ (479)

TANGSLOT

FDN-CALN12

Full Slot Adjustable Slotting Cutters with Cartridges Carrying LNET 12 Inserts





Designation	DC	CICT[4]	ZEFP	DCONMS	DHUB	CDX	LUmin	LUmax	OALmin	OALmax	kg	Inserts	Width of Range [ap]
FDN D100-0608-27R-CALN12[1]	100.00	6	3	27.00	55.00	26.00	28.4	29.5	40.0	41.1	0.48	LNET 1235...	6.0-6.5
												LNET 1240...	6.5-7.2
												LNET 1245...	7.0-8.2
FDN D100-0810-27R-CALN12[2]	100.00	6	3	27.00	55.00	26.00	30.2	31.5	42.0	43.2	0.54	LNET 1248...	8.0-8.7
												LNET 1250...	8.4-9.2
												LNET 1255...	8.9-10.5
FDN D100-1014-27R-CALN12[3]	100.00	6	3	27.00	55.00	26.00	32.0	34.0	44.5	46.5	0.47	LNET 1265...	10.5-12.2
												LNET 1277...	11.9-14.6
FDN D125-0608-32R-CALN12[1]	125.00	8	4	32.00	65.00	34.00	30.2	31.3	45.0	46.1	0.80	LNET 1235...	6.0-6.5
												LNET 1240...	6.5-7.2
												LNET 1245...	7.0-8.2
FDN D125-0810-32R-CALN12[2]	125.00	8	4	32.00	65.00	34.00	32.0	33.3	47.0	48.2	1.36	LNET 1248...	8.0-8.7
												LNET 1250...	8.4-9.2
												LNET 1255...	8.9-10.5
FDN D125-1014-32R-CALN12[3]	125.00	8	4	32.00	65.00	34.00	33.7	35.8	49.5	51.5	1.47	LNET 1265...	10.5-12.2
												LNET 1277...	11.9-14.6
FDN D160-0608-40R-CALN12[1]	160.00	12	6	40.00	80.00	44.00	29.6	30.7	45.0	46.1	1.29	LNET 1235...	6.0-6.5
												LNET 1240...	6.5-7.2
												LNET 1245...	7.0-8.2
FDN D160-0810-40R-CALN12[2]	160.00	12	6	40.00	80.00	44.00	29.5	30.7	45.0	46.2	1.46	LNET 1248...	8.0-8.7
												LNET 1250...	8.4-9.2
												LNET 1255...	8.9-10.5
FDN D160-1014-40R-CALN12[3]	160.00	12	6	40.00	80.00	44.00	31.2	33.2	47.5	49.5	2.15	LNET 1265...	10.5-12.2
												LNET 1277...	11.9-14.6

• Slot width depends on the selected insert width; verify use of correct screw for the insert being used • For adaptation options, see page 517 • For cartridges see page 351

(1) For ap=6.0 use screw SR 14-500-L4.9 • For ap=6.5 use screw SR 14-500-L5.3 • For ap=7.0 use screw=SR 14-500-L5.9

(2) For ap=8.0 use screw SR 14-500-L6.7 • For ap=8.4 use screw SR 14-500-L7.0 • For ap=8.9 use screw SR 14-500-L7.5

(3) For ap=10.5 use screw SR 14-500-L9.0 • For ap=11.9 use screw SR 14-500-L9.0

(4) Number of inserts

For inserts, see pages: LNET 12-TN (477) • LNET 12-TN-MM (478)

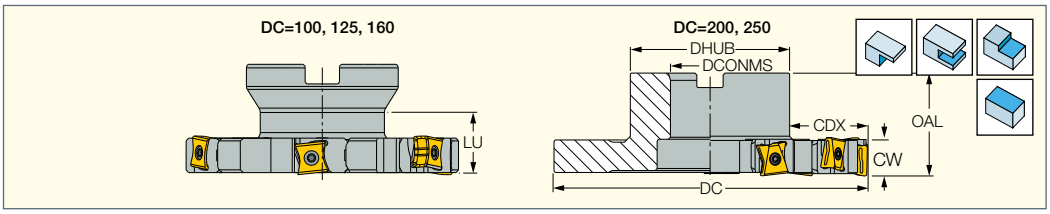
Spare Parts

Designation		
FDN D100-0608-27R-CALN12	CA 0608-R-LNET12	CA 0608-L-LNET12
FDN D100-0810-27R-CALN12	CA 0810-R-LNET12	CA 0810-L-LNET12
FDN D100-1014-27R-CALN12	CA 1014-R-LNET12	CA 1014-L-LNET12
FDN D125-0608-32R-CALN12	CA 0608-R-LNET12	CA 0608-L-LNET12
FDN D125-0810-32R-CALN12	CA 0810-R-LNET12	CA 0810-L-LNET12
FDN D125-1014-32R-CALN12	CA 1014-R-LNET12	CA 1014-L-LNET12
FDN D160-0608-40R-CALN12	CA 0608-R-LNET12	CA 0608-L-LNET12
FDN D160-0810-40R-CALN12	CA 0810-R-LNET12	CA 0810-L-LNET12
FDN D160-1014-40R-CALN12	CA 1014-R-LNET12	CA 1014-L-LNET12

TANGMILL
TANGENTIAL LINE

FDN-CALN11

Full Slot Flange Type Slotting Cutters with Cartridges Carrying Tangentially Mounted LN.. 1106.. Inserts



Designation	CWN(1)	CWX(2)	CDX(3)	OAL	LU	DC	DHUB	DCONMS	CICT(4)	ZEFP	Arbor(5)	kg
FDN D100-1419-27R-CALN11	14.00	19.50	27.00	40.00	23.4	100.00	55.00	27.00	6	3	B	0.83
FDN D125-1419-32R-CALN11	14.00	19.50	34.00	40.00	28.2	125.00	65.00	32.00	8	4	B	1.18
FDN D160-1419-40R-CALN11	14.00	19.50	44.00	50.00	28.9	160.00	80.00	40.00	10	5	B	2.14
FDN D200-1419-40R-CALN11	14.00	19.50	54.00	50.00	-	200.00	92.00	40.00	14	7	C	3.39
FDN D250-1419-60R-CALN11	14.00	19.50	58.00	50.00	-	250.00	132.00	60.00	16	8	C	5.85

• The cutter will be set to the minimum width range, unless a specific width is requested by the user • Half of the inserts are used on right-hand cartridges and half on left-hand cartridges • For cartridge details, see page 351

(1) Minimum cutting width
(2) Maximum cutting width
(3) Cutting depth maximum
(4) Number of inserts
(5) For adaptation, see page 517

For inserts, see pages: LNAR 1106 (466) • LNHT 1106 PN-N HT (466) • LNHT 1106 PN-R HT (465) • LNKX/LNMT 1106 (465)

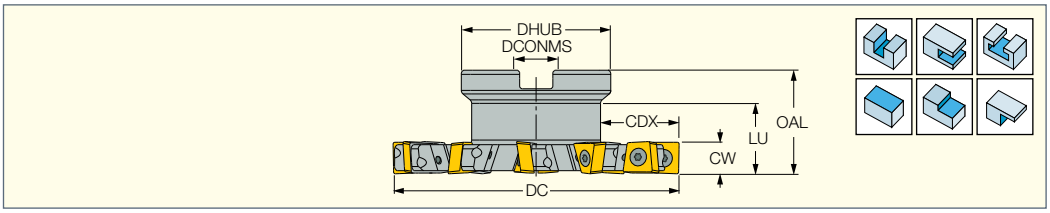
Spare Parts

Designation		
FDN-CALN11	CA90 1419-R-LN11	CA90 1419-L-LN11

HELISLOT

FDN-XN13

Full Slot Flange Type Slotting Cutters Carrying XNMU 1306 Square Inserts with 4 Right- and 4 Left-Hand Cutting Edges



Designation	DC	CW	CICT(1)	ZEFP	CDX(2)	DHUB	DCONMS	LU	OAL	Arbor(3)	kg
FDN D100-14-27-XN13	100.00	14.00	10	10	26.00	55.00	27.00	26.5	40.00	B	0.61
FDN D125-14-32-XN13	125.00	14.00	12	12	33.00	65.00	32.00	30.5	45.00	B	1.04
FDN D125-16-32-XN13	125.00	16.00	12	6	33.00	65.00	32.00	30.5	45.00	B	1.13
FDN D160-18-40-XN13	160.00	18.00	14	7	45.00	80.00	40.00	44.0	60.00	B	2.24
FDN D200-20-40-XN13	200.00	20.00	16	8	53.00	92.00	40.00	-	63.00	C	3.81

• For user guide, see pages 366-374

(1) Number of inserts
(2) Cutting depth maximum
(3) For adaptation options, see page 517

For inserts, see pages: XNMU 13 (497)

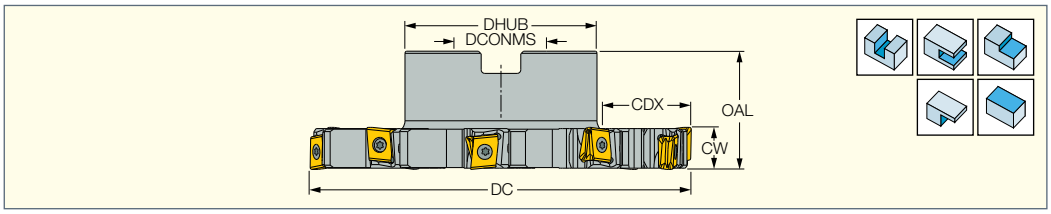
Spare Parts

Designation			
FDN-XN13	SR M4-L15-D4.5	BLD IP15/S7	SW6-T-SH

HELITANG
T490 LINE

FDN-CALN13

Full Slot Adjustable Slotting Cutters with Cartridges Carrying T490 LNHT 1306PNTR/L Inserts (17.5-23.0 mm width range)



Designation	CWN(1)	CWX(2)	CDX(3)	DC	DHUB	DCONMS	CICT(4)	ZEFP	OAL	Arbor(5)	kg
FDN D125-1723-32R-CALN13	17.50	23.00	30.00	126.00	65.00	32.00	8	4	39.25	B	1.43
FDN D160-1723-40R-CALN13	17.50	23.00	39.00	161.00	80.00	40.00	10	5	49.25	B	2.61
FDN D200-1723-40R-CALN13	17.50	23.00	53.00	201.00	92.00	40.00	14	7	49.25	C	3.82
FDN D250-1723-60R-CALN13	17.50	23.00	59.00	251.00	132.00	60.00	16	8	49.25	C	6.55

• Half of the inserts are used on right-hand cartridges and half on left-hand cartridges • For cartridge details, see page 352 • The cutter will be set to the minimum width range unless a specific width is requested by the user

(1) Minimum cutting width
(2) Maximum cutting width
(3) Cutting depth maximum
(4) Number of inserts
(5) For adaptation options, see page 517

For inserts, see pages: T490 LNMT 1306PNTR-FW (463) • T490 LNMT/LNHT 1306 (462)

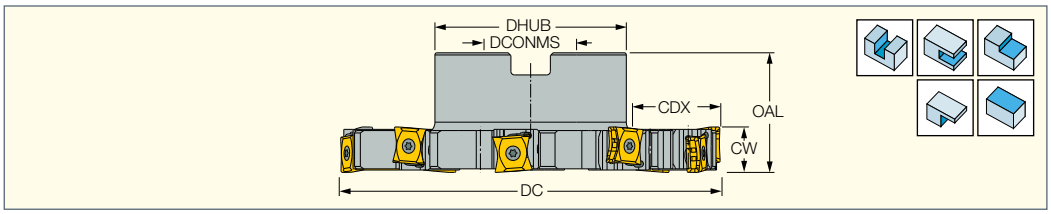
Spare Parts

Designation		
FDN-CALN13	CA90 1723-L-T490-13	CA90 1723-R-T490-13

TANGMILL
TANGENTIAL LINE

FDN-CAPM15

Full Slot Adjustable Slotting Cutters with Cartridges Carrying LNAT 1506...-PM Inserts (18.9-25.6 mm width range)



Designation	CWN(1)	CWX(2)	CDX(3)	DC	DHUB	DCONMS	CICT(4)	ZEFP	OAL	Arbor(5)	kg
FDN D125-1925-32R-CAPM15	18.90	25.60	29.00	125.00	65.00	32.00	8	4	40.00	B	1.42
FDN D160-1925-40R-CAPM15	18.90	25.60	39.00	160.00	80.00	40.00	10	5	50.00	B	2.59
FDN D200-1925-40R-CAPM15	18.90	25.60	53.00	200.00	92.00	40.00	14	7	50.00	C	3.79
FDN D250-1925-60R-CAPM15	18.90	25.60	58.00	250.00	132.00	60.00	16	8	50.00	C	6.55

• Use A type cartridges for inserts with 0.8-1.6 mm radii, B type cartridges for inserts with 2.5-3.2 mm radii and C type cartridges for inserts with 4.0 mm radius
• For cartridge details, see page 351

(1) Minimum cutting width • The cutter will be set to the minimum width range, unless a specific width is requested by the user
(2) Maximum cutting width
(3) Cutting depth maximum
(4) Number of inserts
(5) For adaptation options, see page 517

For inserts, see pages: LNAT 1506-PM (474)

Spare Parts

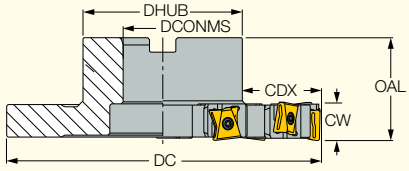
Designation						
FDN-CAPM15	CA90 1928-L-PM15-A	CA90 1928-R-PM15-A	CA90 1928-L-PM15-B*	CA90 1928-R-PM15-B*	CA90 1928-L-PM15-C*	CA90 1928-R-PM15-C*

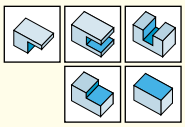
* Optional, should be ordered separately

TANGMILL
TANGENTIAL LINE

FDN-CALN15

Full Slot Adjustable Slotting Cutters with Cartridges Carrying LN.. 1506... Inserts (18.9-25.6 mm width range)





Designation	CWN(1)	CWX(2)	CDX(3)	CICT(4)	ZEFP	DC	DHUB	DCONMS	Arbor(5)	LF	kg
FDN D125-1925-32R-CALN15	18.90	25.60	30.00	8	4	125.00	65.00	32.00	B	999.00	1.43
FDN D160-1925-40R-CALN15	18.90	25.60	40.00	10	5	160.00	80.00	40.00	B	999.00	2.61
FDN D200-1925-40R-CALN15	18.90	25.60	54.00	14	7	200.00	92.00	40.00	C	999.00	0.38
FDN D250-1925-60R-CALN15	18.90	25.60	59.00	16	8	250.00	132.00	60.00	C	999.00	6.56

• Each cutter body can be changed into full slot, bottom or top milling configuration by mounting the cartridges accordingly • For cartridge details, see page 351

(1) Minimum cutting width • The cutter will be set to the minimum width range, unless a specific width is requested by the user

(2) Maximum cutting width

(3) Cutting depth maximum

(4) Number of inserts

(5) For adaptation options, see page 517

For inserts, see pages: LNKX 1506PN-N PL (470) • LNKX/LNMT 1506PNTN/PN-N MM (470) • LNMT/LNHT 1506...-N HT (472) • LNMW 1506 PNTN (470)

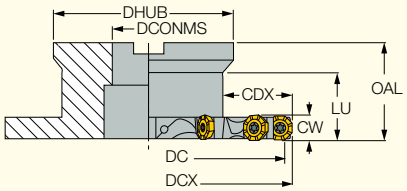
Spare Parts

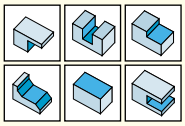
Designation		
FDN-CALN15	CA90 1928-R-LN15	CA90 1928-L-LN15

ISCARMILL

FDN-CM

Flange Type Full Width Slotting Cutters Carrying Round and Octagonal Inserts





Designation	CICT(2)	ZEFP		DCX	DC	CW	CDX	DCONMS	DHUB	LU	OAL	Arbor(3)	kg
				Dimensions									
FDN CM-D080-12-22-FE(1)	6	6	●	80.51	68.60	12.15	23.25						
			●	80.00	72.77	11.70	23.00	22	45	28.2	40	A	0.35
			●	81.20	68.50	12.85	23.60						
FDN CM-D100-12-27-FE(1)	8	8	●	100.51	88.60	12.15	26.75						
			●	100.00	92.77	11.70	26.50	27	55	28.5	40	B	0.57
			●	101.20	88.50	12.85	27.10						
FDN CM-D125-12-32-FE(1)	10	10	●	125.51	113.60	12.15	35.25						
			●	125.00	117.77	11.70	35.00	32	65	32.0	45	B	0.94
			●	126.20	113.50	12.85	35.60						

● R90MT 1205 ● O45MT 050505 ● R90MT 43

(1) Fully effective cutter

(2) Number of inserts

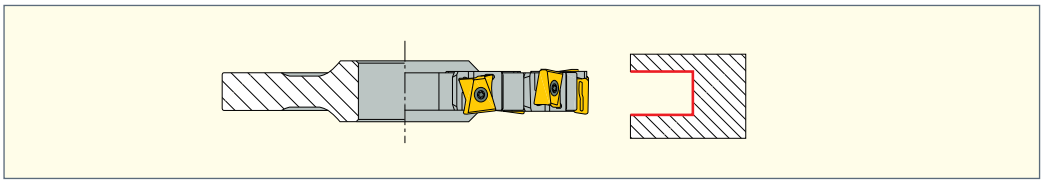
(3) For adaptation options, see page 517

Spare Parts

Designation			
FDN-CM	SR 14-544/S	BLD T15/M7	SW6-T

TANGMILL
TANGENTIAL LINE

SDN
Full Slot Disk Type



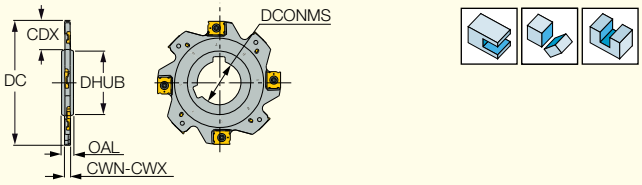
Tool Diameter							Width of Cutter																								Type of Insert	
63	80	100	125	160	200	250	3	4	4.5	5	5.5	6	6.5	7	8	8.5	9	10	10.5	12	13	14	14.6	16	18	18.9	19.5	20	25	25.6		
●	●	●	●				✓																								LNET 081804	
●	●	●	●	●				✓																							LNET 082604	
●	●	●	●	●					✓																						LNET 082804	
●	●	●	●							✓																					LNET 083004	
●	●	●	●								✓																				LNET 083204	
●	●	●	●									✓																			LNET 083504	
●	●	●	●											✓																	LNET 083704	
	●	●	●	●	●	●						✓																			LNET 1235	
	●	●	●											✓																	LNET 1240	
					●	●									✓																LNET 1245	
					●	●										✓															LNET 1248	
	●	●	●	●	●	●											✓														LNET 1250	
	●	●	●	●	●	●												✓													LNET 1255	
	●	●	●	●	●	●													✓												LNET 1257	
	●	●	●	●	●	●														✓											LNET 1265	
		●	●	●	●	●																✓	✓								LNET 1277	
		●	●	●	●	●																									LNET 12...CA	
	●	●													✓																XOMT 0602... QOMT 060208	
		●	●															✓														
			●																	✓											XPMT 1004... QPMT 1004...	
			●																✓												QPMT 1004...	
				●																✓				✓							QPMT 1004... XPMT 1004...	
				●																				✓	✓			✓			QDMT 1205...	
					●																			✓	✓			✓			QDCT 1205	
		●	●	●	●	●																									LNKX 1106 CA	
			●	●	●	●																									LNKX 1506 CA	

● Without seat
● With seat
● With adjustable cartridges

MINI-TANGSLOT

SDN-LN08

Disk Type Grooving and Slitting Cutters



Designation	DC	CWN(1)	CWX(2)	CDX(3)	CICT(4)	ZEFP	DHUB	DCONMS	THUB
SDN D063-03-22-LN08	63.00	3.00 (5)	3.00 (5)	14.80	8	4	32.00	22.00	6.0
SDN D063-04-22-LN08	63.00	4.00 (6)	4.50 (9)	14.80	8	4	32.00	22.00	6.0
SDN D063-05-22-LN08	63.00	5.00 (7)	5.50 (10)	14.80	8	4	32.00	22.00	7.0
SDN D063-06-22-LN08	63.00	6.00 (8)	6.50 (11)	14.80	8	4	32.00	22.00	7.0
SDN D080-04-22-LN08	80.00	4.00 (6)	4.50 (9)	22.00	10	5	34.00	22.00	6.0
SDN D080-05-22-LN08	80.00	5.00 (7)	5.50 (10)	22.00	10	5	34.00	22.00	7.0
SDN D080-06-22-LN08	80.00	6.00 (8)	6.50 (11)	22.00	10	5	34.00	22.00	7.0
SDN D100-03-27-LN08	100.00	3.00 (5)	3.00 (5)	27.00	12	6	42.00	27.00	8.0
SDN D100-04-27-LN08	100.00	4.00 (6)	4.50 (9)	27.00	12	6	42.00	27.00	8.0
SDN D100-05-27-LN08	100.00	5.00 (7)	5.50 (10)	26.50	12	6	42.00	27.00	10.0
SDN D125-03-32-LN08	125.00	3.00 (5)	3.00 (5)	36.50	16	8	48.00	32.00	8.0
SDN D125-04-32-LN08	125.00	4.00 (6)	4.50 (9)	36.00	16	8	48.00	32.00	8.0
SDN D125-05-32-LN08	125.00	5.00 (7)	5.50 (10)	36.00	16	8	48.00	32.00	10.0
SDN D160-04-40-LN08	160.00	4.00 (6)	4.50 (9)	48.60	20	10	56.00	40.00	10.0

• For user guide, see pages 366-374

(1) Minimum cutting width

(2) Maximum cutting width

(3) Cutting depth maximum

(4) Number of inserts

(5) Use LNET 0818.. insert with SR 114-018-L2.50 screw

(6) Use LNET 0826.. insert with SR 114-018-L3.40 screw

(7) Use LNET 0830.. insert with SR 114-018-L4.40 screw

(8) Use LNET 0835.. insert with SR 114-018-L5.30 screw

(9) Use LNET 0828.. insert with SR 114-018-L3.40 screw

(10) Use LNET 0832.. insert with SR 114-018-L4.40 screw

(11) Use LNET 0837.. insert with SR 114-018-L5.30 screw

For inserts, see pages: LNET 08 (477)

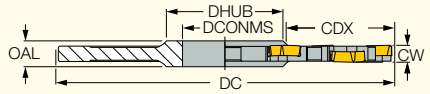
SDN-LN08

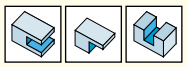
Cutter Designation	CWN-CWX	Insert			
SDN D...-03...-LN08	3.0	LNET 081804-TN-N	SR 114-018-L2.50	T-6/3-L	T-6/51
SDN D...-04...-LN08	4.0	LNET 082604-TN-N	SR 114-018-L3.40	T-6/3-L	T-6/51
	4.5	LNET 082804-TN-N	SR 114-018-L3.40	T-6/3-L	T-6/51
SDN D...-05...-LN08	5.0	LNET 083004-TN-N	SR 114-018-L4.40	T-6/3-L	T-6/51
	5.5	LNET 083204-TN-N	SR 114-018-L4.40	T-6/3-L	T-6/51
SDN D...-06...-LN08	6.0	LNET 083504-TN-N	SR 114-018-L5.30	T-6/3-L	T-6/51
	6.5	LNET 083704-TN-N	SR 114-018-L5.30	T-6/3-L	T-6/51

TANGSLOT

SDN-LN12

Full Slot Disk Type Slotting Cutters Carrying LNET 12 Tangentially Mounted Inserts





Designation	CICT(4)	ZEFP	DC	DCONMS	CDX	DHUB	CW	kg	OAL	Inserts
SDN D080-07-27-LN12(1)	8	4	80.00	27.00	17.00	41.0	12.0	0.78	7.0	LNET 1240..
									8.0	LNET 1245..
									8.5	LNET 1248..
SDN D080-10-27-LN12(2)	8	4	80.00	27.00	17.00	41.0	12.0	0.21	10.0	LNET 1255..
									10.5	LNET 1257..
									12.0	LNET 1265..
SDN D100-07-32-LN12(1)	10	5	100.00	32.00	24.00	47.0	12.0	0.51	7.0	LNET 1240..
									8.0	LNET 1245..
									8.5	LNET 1248..
SDN D100-10-32-LN12(2)	10	5	100.00	32.00	24.00	47.0	12.0	0.50	10.0	LNET 1255..
									10.5	LNET 1257..
									12.0	LNET 1265..
SDN D125-07-40-LN12(1)	12	6	125.00	40.00	31.00	55.0	14.0	0.49	7.0	LNET 1240..
									8.0	LNET 1245..
									8.5	LNET 1248..
SDN D125-10-40-LN12(2)	12	6	125.00	40.00	31.00	55.0	14.0	0.60	10.0	LNET 1255..
									10.5	LNET 1257..
									12.0	LNET 1265..
SDN D160-10-40-LN12(2)	16	8	160.00	40.00	50.00	55.0	14.0	1.10	10.0	LNET 1255..
									10.5	LNET 1257..
									12.0	LNET 1265..
SDN D200-08-50-LN12(3)	20	10	200.00	50.00	62.50	70.0	12.0	1.75	8.0	LNET 1245..
									8.5	LNET 1248..
									9.0	LNET 1250..
									10.0	LNET 1255..
SDN D200-10-50-LN12(2)	20	10	200.00	50.00	62.50	69.0	14.0	1.90	10.0	LNET 1255..
									10.5	LNET 1257..
									12.0	LNET 1265..
SDN D250-08-50-LN12(3)	26	13	250.00	60.00	84.00	87.0	12.0	3.06	8.0	LNET 1245..
									8.5	LNET 1248..
									9.0	LNET 1250..
									10.0	LNET 1255..
SDN D250-08-60-LN12(3)	26	13	250.00	60.00	80.30	84.0	12.0	2.22	8.0	LNET 1245..
									8.5	LNET 1248..
									9.0	LNET 1250..
									10.0	LNET 1255..
SDN D250-10-50-LN12(2)	26	13	250.00	60.00	87.00	84.0	14.0	2.13	10.0	LNET 1255..
									10.5	LNET 1257..
									12.0	LNET 1265..
SDN D250-10-60-LN12(2)	26	13	250.00	60.00	80.00	84.0	14.0	2.83	10.0	LNET 1255..
									10.5	LNET 1257..
									12.0	LNET 1265..

• Each tool is supplied with screws for the thinnest specified insert; verify use of the correct screw for the insert being used • For more than one insert option, slot width depends on the selected insert width • Gang-mill assembly SDN and left-hand SSB cutters feature two keyways • To reduce vibration, it is recommended to assemble gang-mills with alternating keyway position. • For user guide, see pages 366-374

(1) For ap=7.0 use screw SR 14-500-L5.9 • For ap=8.0 use screw SR 14-500-L6.5 • For ap=8.5 use screw SR 14-500-L7.0

(2) For ap=10.0 and 10.5 use screw SR 14-500-L8.5 • For ap=12.0 use screw SR 14-500-L10.0

(3) For ap=8.0 and 8.5 use screw SR 14-500-L7.0 • For ap=9.0 use screw SR 14-500-L8.0 • For ap=10.0 use screw SR 14-500-L8.5

(4) Number of inserts

For inserts, see pages: LNET 12-TN (423) • LNET 12-TN-MM (424)

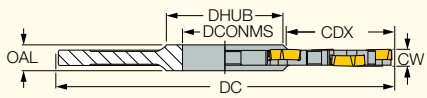
Designation	Insert			(1)
SDN-LN12	LNET 1240...	SR 14-500-L5.9	T-15/51-BE	ratchet wrench key
	LNET 1245 D=80-125	SR 14-500-L6.5	T-15/51-BE	
	LNET 1245 D=160-250	SR 14-500-L7.0	T-15/51-BE	
	LNET 1248...	SR 14-500-L7.0	T-15/51-BE	
	LNET 1250...	SR 14-500-L8.0	T-15/51-BE	
	LNET 1255...	SR 14-500-L8.5	T-15/51-BE	
	LNET 1257...	SR 14-500-L8.5	T-15/51-BE	
	LNET 1265...	SR 14-500-L10	T-15/51-BE	

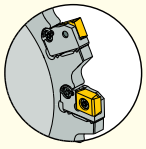
(1) Should be ordered separately, not supplied with the tool

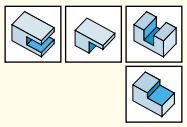
TANGSLOT

SDN-CALN12

Full Slot Disk Type Slotting Cutters with Cartridges Carrying LNET 12... Tangentially Mounted Inserts







Designation	DC	CICT(4)	ZEFP	DCONMS	DHUB	CDX	OAL	kg	Inserts	Width of Range [CW]
SDN D100-0608-27-CALN12(1)	100.00	6	3	27.00	42.0	25.00	16.0	0.63	LNET 1235... LNET 1240... LNET 1245...	6.0-6.5 6.5-7.2 7.0-8.2
SDN D100-0810-27-CALN12(2)	100.00	6	3	27.00	42.0	25.00	18.0	0.82	LNET 1248... LNET 1250... LNET 1255...	8.0-8.7 8.4-9.2 8.9-10.5
SDN D100-1014-27-CALN12(3)	100.00	6	3	27.00	42.0	25.00	20.0	0.48	LNET 1265... LNET 1277...	10.5-12.2 11.9-14.6
SDN D125-0608-40-CALN12(1)	125.00	8	4	40.00	55.0	32.00	12.0	0.48	LNET 1235... LNET 1240... LNET 1245...	6.0-6.5 6.5-7.2 7.0-8.2
SDN D125-0810-40-CALN12(2)	125.00	8	4	40.00	55.0	32.00	14.0	0.95	LNET 1248... LNET 1250... LNET 1255...	8.0-8.7 8.4-9.2 8.9-10.5
SDN D125-1014-40-CALN12(3)	125.00	8	4	40.00	55.0	32.00	18.0	0.48	LNET 1265... LNET 1277...	10.5-12.2 11.9-14.6
SDN D160-0608-40-CALN12(1)	160.00	12	6	40.00	55.0	50.00	12.0	1.11	LNET 1235... LNET 1240... LNET 1245...	6.0-6.5 6.5-7.2 7.0-8.2
SDN D160-0810-40-CALN12(2)	160.00	12	6	40.00	55.0	50.00	14.0	0.48	LNET 1248... LNET 1250... LNET 1255...	8.0-8.7 8.4-9.2 8.9-10.5
SDN D160-1014-40-CALN12(3)	160.00	12	6	40.00	55.0	50.00	18.0	1.61	LNET 1265... LNET 1277...	10.5-12.2 11.9-14.6
SDN D200-0608-50-CALN12(1)	200.00	16	8	50.00	70.0	63.00	12.0	1.50	LNET 1235... LNET 1240... LNET 1245...	6.0-6.5 6.5-7.2 7.0-8.2
SDN D200-0810-50-CALN12(2)	200.00	16	8	50.00	70.0	63.00	14.0	1.70	LNET 1248... LNET 1250... LNET 1255...	8.0-8.7 8.4-9.2 8.9-10.5

• For user guide, see pages 366-374 • For cartridge details, see page 351

(1) For ap=6.0 use screw SR 14-500-L4.9 • For ap=6.5 use screw SR 14-500-L5.3 • For ap=7.0 use screw SR 14-500-L5.9

(2) For ap=8.0 use screw SR 14-500-L6.7 • For ap=8.4 use screw SR 14-500-L7.0 • For ap=8.9 use screw SR 14-500-L7.5

(3) For ap=10.5 use screw SR 14-500-L9.0 • For ap=11.9 use screw SR 14-500-L9.0

(4) Number of inserts

For inserts, see pages: LNET 12-TN (423) • LNET 12-TN-MM (424)

Spare Parts

Designation						
SDN-CALN12	LNET 1235...	SR 14-500-L4.9	CA 0608 R/L-LNET12	T-15/51-BE	SR 14-500-L4.5	ratchet wrench key
	LNET 1240...	SR 14-500-L5.3	CA 0608 R/L-LNET12	T-15/51-BE	SR 14-500-L4.5	
	LNET 1245...	SR 14-500-L5.9	CA 0608 R/L-LNET12	T-15/51-BE	SR 14-500-L4.5	
	LNET 1248...	SR 14-500-L6.7	CA 0810 R/L-LNET12	T-15/51-BE	SR 14-500-L6.1	
	LNET 1250...	SR 14-500-L7.0	CA 0810 R/L-LNET12	T-15/51-BE	SR 14-500-L6.1	
	LNET 1255...	SR 14-500-L7.5	CA 0810 R/L-LNET12	T-15/51-BE	SR 14-500-L6.1	
	LNET 1265..	SR 14-500-L10	CA 1014 R/L-LNET12	T-15/51-BE	SR 14-500-L8.5	
	LNET 1277..	SR 14-500-L10	CA 1014 R/L-LNET12	T-15/51-BE	SR 14-500-L8.5	

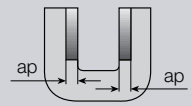
Inserts

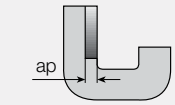
LNHT 1106...**HT** inserts should be used if a straight groove or shoulder are needed.
When using the other inserts, the machined surface is grooved due to the butterfly insert shape.

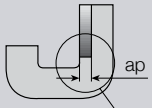
Side Wall Flatness Depending on the Inserts Being Used

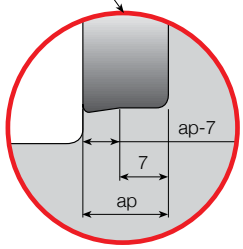
Designation	Number of Cutting Edges	Side Flatness ap5 H (mm)	Side Flatness ap=10 H (mm)	Application	Half Side Tools Axial Depth of Cut ap (mm)
LNKX 1106...	4R+4L	Flat	0.45	Double Face MIlling	Stock=0-10
LNMT 1106...	4R+4L	Flat	0.45		Stock=0-10
LNHT 1106 - N(1)	2R+2L	Flat	Flat		Stock=0-10
LNKX 1106...	4R	Flat	0.45	Half side Milling	Stock=0-10
LNMT 1106...	4R	Flat	0.45		Stock=0-10
LNHT 1106 - R(2)	4R	Flat	Flat		Stock=0-10
LNKX 1106...	4L	Flat	0.45	Half side milling	Stock=0-10
LNMT 1106...	4L	Flat	0.45		Stock=0-10
LNHT 1106 - N(1)	2L	Flat	Flat		Stock=0-10

(1) Use of 8 cutting edges (4R+4L) is possible only when ap≤5 mm, otherwise 4 cutting edges (2R+2L) can be used



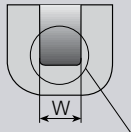


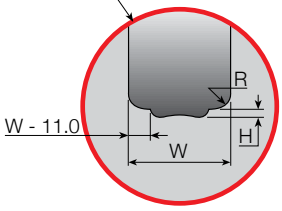




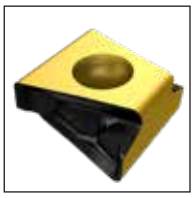
Configuration Guide for Full Slot FDN/SDN... CALN11 Cutters

Designation	Number of Cutting Edges	Bottom Slot Flatness H (mm)	Insert Radius R (mm)	Application	Half Side Tools Axial Depth of Cut W (mm)
LNHT 1106... LNKX 1106...	2R+2L	0.45	0.8		W=14-19.5
LNMT 1106...	2R+2L	0.45	0.8		W=14-19.5
LNHT 1106 - N(1)	2R+2L	Flat	0.8		W=14-19.5

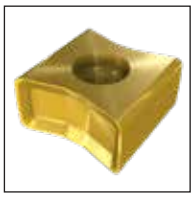




(1) LNHT 1106... - N
R.H./L.H.



LNKX 1106...
LNMT 1106...
R.H./L.H.

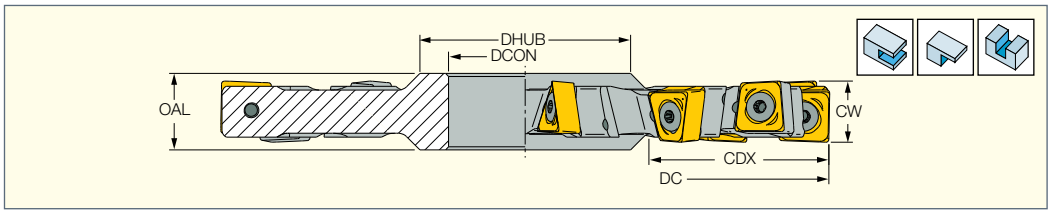


(2) LNHT 1106... - R
R.H. only

HELISLOT

SDN-XN13

Full Slot Disk Type Slotting Cutters Carrying XNMU 1306 Square Inserts with 4 Right- and 4 Left-Hand Cutting Edges



Designation	DC	CICT(1)	ZEFP	CW	CDX(2)	DHUB	DCONMS	OAL	kg			
SDN D100-14-32-XN13	100.00	10	10	14.00	23.00	47.00	32.00	18.0	0.42	SR M4-L15-D4.5	BLD IP15/S7	SW6-T-SH
SDN D125-14-40-XN13	125.00	12	12	14.00	33.00	55.00	40.00	18.0	0.66	SR M4-L15-D4.5	BLD IP15/S7	SW6-T-SH
SDN D125-16-40-XN13	125.00	12	6	16.00	33.00	55.00	40.00	20.0	0.79	SR M4-L15-D4.5	BLD IP15/S7	SW6-T-SH
SDN D160-16-40-XN13	160.00	14	7	16.00	50.50	55.00	40.00	20.0	1.44	SR M4-L15-D4.5	BLD IP15/S7	SW6-T-SH
SDN D200-20-50-XN13	200.00	16	8	20.00	59.00	69.00	50.00	26.0	2.61	SR M4-L15-D4.5	BLD IP15/S7	SW6-T-SH

• For user guide, see pages 366-374

(1) Number of inserts

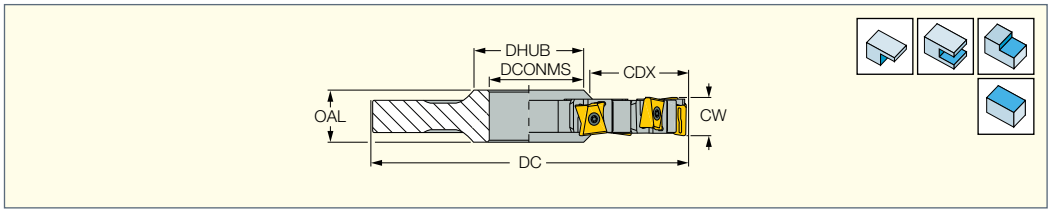
(2) Cutting depth maximum

For inserts, see pages: XNMU 13 (497)

TANGMILL
TANGENTIAL LINE

SDN-CALN11

Full Slot Disk Type Slotting Cutters with Cartridges Carrying Tangentially Mounted LN.. 1106.. Inserts



Designation	CWN(1)	CWX(2)	CDX(3)	DC	DHUB	DCONMS	CICT(4)	ZEFP	OAL	kg
SDN D100-1419-27-CALN11	14.00	19.50	26.80	100.00	42.00	27.00	6	3	20.0	0.58
SDN D125-1419-40-CALN11	14.00	19.50	31.50	125.00	56.00	40.00	8	4	20.0	0.90
SDN D160-1419-40-CALN11	14.00	19.50	48.00	160.00	56.00	40.00	10	5	22.0	1.51
SDN D200-1419-50-CALN11	14.00	19.50	61.00	200.00	70.00	50.00	14	7	22.0	2.38
SDN D250-1419-60-CALN11	14.00	19.50	78.00	250.00	85.00	60.00	16	8	26.0	3.88

• Each cutter body can be changed into full slot, bottom or top milling configuration by mounting the cartridges accordingly • Half of the inserts are used on right-hand cartridges and half on left-hand cartridges • Gang-mill assembly SDN and left-hand SSB cutters feature two keyways • To reduce vibration, it is recommended to assemble gang-mills with alternating keyway position. • For cartridge details, see page 351

(1) Minimum cutting width • The cutter will be set to the minimum width range, unless a specific width is requested by the user

(2) Maximum cutting width

(3) Cutting depth maximum

(4) Number of inserts

For inserts, see pages: LNAR 1106 (466) • LNHT 1106 PN-N HT (466) • LNHT 1106 PN-R HT (465) • LNKX/LNMT 1106 (465)

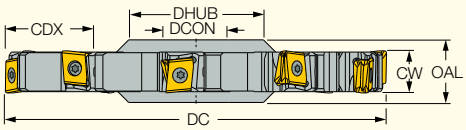
Spare Parts

Designation		
SDN-CALN11	CA90 1419-R-LN11	CA90 1419-L-LN11

HELITANG T490 LINE

SDN-CALN13

Full Slot Adjustable Slotting Cutters with Cartridges Carrying T490 LNHT 1306PNTR/L Inserts (17.5-23.0 mm width range)

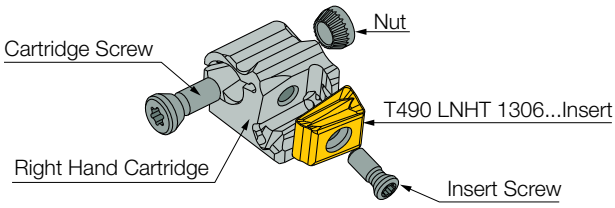


Designation	DC	OAL	CWN(1)	CWX(2)	CDX(3)	CICT(4)	ZEFP	DHUB	DCON	kg
SDN D125-1723-40-CALN13	126.00	26.0	17.50	23.00	32.00	8	4	56.00	40.00	1.13
SDN D160-1723-40-CALN13	161.00	26.0	17.50	23.00	49.50	10	5	56.00	40.00	1.90
SDN D200-1723-50-CALN13	201.00	26.0	17.50	23.00	61.00	14	7	70.00	50.00	3.01
SDN D250-1723-50-CALN13	251.00	26.0	17.50	23.00	86.00	16	8	70.00	50.00	4.82
SDN D250-1723-60-CALN13	251.00	26.0	17.50	23.00	78.00	16	8	85.00	60.00	4.83

• Each cutter body can be changed into full slot, bottom or top milling configuration by mounting the cartridges accordingly • Half of the inserts are used on right-hand cartridges and half on left-hand cartridges • Gang-mill assembly SDN and left-hand SSB cutters feature two keyways • To reduce vibration, it is recommended to assemble gang-mills with alternating keyway position. • For cartridge details, see page 352

(1) Minimum cutting width • The cutter will be set to the minimum width range, unless a specific width is requested by the user
(2) Maximum cutting width
(3) Cutting depth maximum
(4) Number of inserts

For inserts, see pages: T490 LNMT/LNHT 1306 (462)



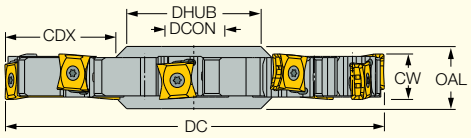
Spare Parts

Designation		
SDN-CALN13	CA90 1723-L-T490-13	CA90 1723-R-T490-13

TANGMILL TANGENTIAL LINE

SDN-CAPM15

Full Slot Adjustable Slotting Cutters with Cartridges Carrying LNAT 1506...-PM Inserts (18.9-25.6 mm width range)



Designation	DC	OAL	CWN(1)	CWX(2)	CDX(3)	CICT(4)	ZEFP	DHUB	DCON	kg
SDN D125-1925-40-CAPM15	125.00	26.0	18.90	25.60	32.50	8	4	56.00	40.00	1.30
SDN D160-1925-40-CAPM15	160.00	26.0	18.90	25.60	48.50	10	5	56.00	40.00	1.90
SDN D200-1925-50-CAPM15	200.00	26.0	18.90	25.60	61.50	14	7	70.00	50.00	3.30
SDN D250-1925-60-CAPM15	250.00	26.0	18.90	25.60	79.00	16	8	85.00	60.00	4.81

• Each cutter can be changed into full slot, bottom or top milling configuration • Use A type cartridges for inserts with 0.8-1.6 mm radii, B type cartridges for inserts with 2.5-3.2 mm radii and C type cartridges for insertswith 4.0 mm radius • Each cutter features two keyways. • To reduce vibration, it is recommended to assemble gang-mills with alternating keyway position. • For cartridge details, see page 351

(1) Minimum cutting width • The cutter will be set to the minimum width range, unless a specific width is requested by the user
(2) Maximum cutting width
(3) Cutting depth maximum
(4) Number of inserts

For inserts, see pages: LNAT 1506-PM (474)

Spare Parts

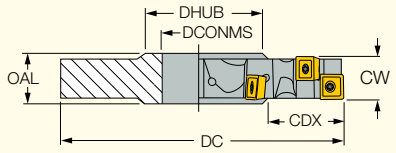
Designation						
SDN-CAPM15	CA90 1928-L-PM15-A	CA90 1928-R-PM15-A	CA90 1928-L-PM15-B*	CA90 1928-R-PM15-B*	CA90 1928-L-PM15-C*	CA90 1928-R-PM15-C*

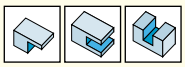
* Optional, should be ordered separately

HELiQUAD

SDN

Full Slot Disk Type Slotting Cutters





Designation	DC	CW	CICT(1)	ZEFP	CDX(2)	DHUB	DCONMS	OAL
SDN D080-08-27-06	80.00	8.00	12	6	17.00	41.00	27.00	12.0
SDN D100-08-32-06	100.00	8.00	14	7	24.00	47.00	32.00	12.0
SDN D100-10-32-06	100.00	10.00	14	7	24.00	47.00	32.00	14.0
SDN D125-12-40-10	125.00	12.00	12	6	33.00	55.00	40.00	16.0
SDN D160-12-40-10	160.00	12.00	14	7	50.00	55.00	40.00	16.0
SDN D160-16-40-10	160.00	16.00	14	7	50.00	55.00	40.00	20.0
SDN D160-16-40-12	160.00	16.00	12	6	50.00	55.00	40.00	20.0
SDN D200-18-50-12	200.00	18.00	14	7	50.00	69.00	50.00	24.0
SDN D200-20-50-12	200.00	20.00	14	7	63.00	69.00	50.00	26.0

• For user guide, see pages 366-374

(1) Number of inserts

(2) Cutting depth maximum

For inserts, see pages: ADCR 1505PDFR (441) • ADKR 1505PDR/L-HM (441) • ADKT 1505PDR/L-HM (443) • ADMT 1505PDR-HS (443) • HM90 ADCR 1505PDFR-P (441) • HM90 ADCT 1505 (440) • QDCT-PDN (481) • QDMT 1205..PDTN-M (482) • QDMT 1205PDN-RM (481) • QOMT-HQ (478) • QPMT 100408PDTN (479) • XOMT-HQ (479) • XPMT-HQ (480)

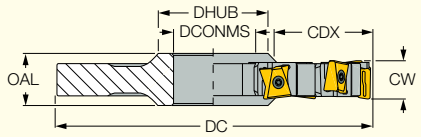
Spare Parts

Designation					
SDN D080-08-27-06	SR 34-514	T-7/51			
SDN D100-08-32-06	SR 34-514	T-7/51			
SDN D100-10-32-06	SR 34-514	T-7/51			
SDN D125-12-40-10	SR 14-544/S	T-15/51			
SDN D160-12-40-10	SR 14-544/S	T-15/51			
SDN D160-16-40-10	SR 14-544/S	T-15/51			
SDN D160-16-40-12	SR 34-510		PN 3-4	BLD T15/M7	SW6-T
SDN D200-18-50-12	SR 34-510		PN 3-4	BLD T15/M7	SW6-T
SDN D200-20-50-12	SR 34-510		PN 3-4	BLD T15/M7	SW6-T

TANGMILL
TANGENTIAL LINE

SDN-CALN15

Full Slot Disk Type Slotting Cutters with Cartridges Carrying Tangentially Mounted LN.. 1506.. Inserts



Designation	CWN(1)	CWX(2)	CDX(3)	CICT(4)	ZEFP	DC	DHUB	DCONMS	OAL	kg
SDN D125-1925-40-CALN15	18.90	25.60	32.50	8	4	125.00	56.00	40.00	26.0	1.14
SDN D160-1925-40-CALN15	18.90	25.60	48.50	10	5	160.00	56.00	40.00	26.0	1.91
SDN D200-1925-50-CALN15	18.90	25.60	61.50	14	7	200.00	70.00	50.00	26.0	3.03
SDN D250-1925-60-CALN15	18.90	25.60	79.00	16	8	250.00	85.00	60.00	26.0	4.80

• Each cutter body can be changed into full slot, bottom or top milling configuration by mounting the cartridges accordingly • Half of the inserts are used on right-hand cartridges and half on left-hand cartridges • Gang-mill assembly SDN and left-hand SSB cutters feature two keyways. • To reduce vibration, it is recommended to assemble gang-mills with alternating keyway position. • For cartridge details, see page 351

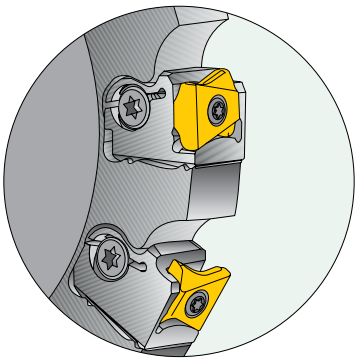
(1) Minimum cutting width • The cutter will be set to the minimum width range, unless a specific width is requested by the user

(2) Maximum cutting width

(3) Cutting depth maximum

(4) Number of inserts

For inserts, see pages: LNKX 1506PN-N PL (470) • LNKX/LNMT 1506PNTN/PN-N MM (470) • LNMT/LNHT 1506...-N HT (472) • LNMW 1506 PNTN (470)



SDN-CALN

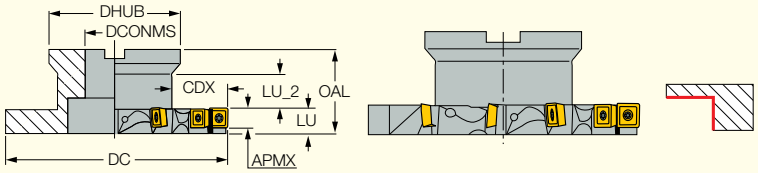
Spare Parts

Designation		
SDN-CALN15	CA90 1928-R-LN15	CA90 1928-L-LN15

ISCARMILL

FST

Top-Side Cutting, Flanged Type Slotting Cutters



Designation	DC	APMX	CICT(1)	CDX(2)	DHUB	DCONMS	LU_2	LU	OAL	Arbor(3)		
FST D100-12-27-R10	100.00	9.00	11	25.00	55.00	27.00	17.5	12.00	40.00	B	SR 14-544/S	T-15/51
FST D125-12-32-R10	125.00	9.00	13	34.00	65.00	32.00	20.0	12.00	45.00	B	SR 14-544/S	T-15/51

(1) Number of inserts

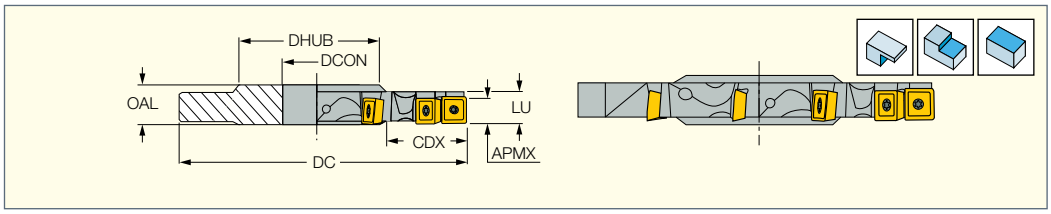
(2) Cutting depth maximum

(3) For adaptation options, see page 517

For inserts, see pages: ADKR 1505PDR/L-HM (441) • ADKT 1505..R/L-HM (444) • ADKT 1505PDR/L-HM (443) • ADKT 1505PDTR/L-RM (443) • QDCT-PDN (481) • QDMT 1205..PDTN-M (482) • QDMT 1205PDN-RM (481) • QPMT 100408PDTN (479) • XPMT-HQ (480)

ISCARMILL

SSB
Single-Side Cutting, Disk Type Slotting Cutters



Designation	APMX	DC	CICT(1)	CDX(2)	DHUB	DCONMS	LU	OAL		
SSB D100-12-32-R/L10	9.00	100.00	9	26.00	47.00	32.00	12.00	16.0	SR 14-544/S	T-15/51
SSB D125-12-40-R/L10	9.00	125.00	11	35.00	55.00	40.00	12.00	16.0	SR 14-544/S	T-15/51
SSB D160-16-40-R/L10	9.00	160.00	13	52.00	55.00	40.00	16.00	20.0	SR 14-544/S	T-15/51

(1) Number of inserts
(2) Cutting depth maximum

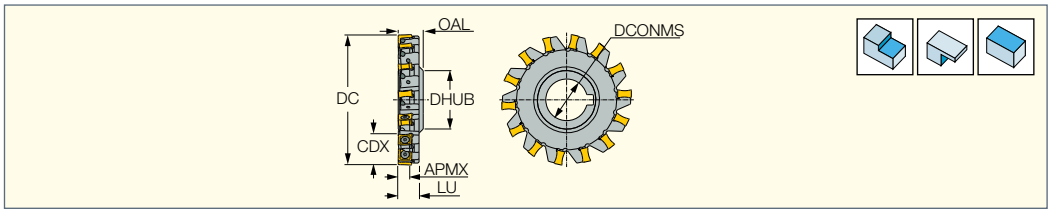
For inserts, see pages: QDCT-PDN (481) • QDMT 1205..PDTN-M (482) • QDMT 1205PDN-RM (481) • QPMT 100408PDTN (479) • SPMT-HQ (480) • XPMT-HQ (480)

Tool Diameter						Width of Cutter											Type of Insert
80	100	125	160	200	250	8	10	12	14	16	17.5	18	20	22	24	25	
	●	●						✓									QPMT 1004 XPMT 1004 SPMT 1004(1) (1)For R.H. tools only
			●							✓							
●	●	●	●											✓			LNKX 1506 LNMT 1506 LNHT 1506...HT
				●											✓		

● Without seat

HELIDO 890 LINE

S890 SSB-13
Half Side / Face Disk Milling Cutters Carrying HELIDO S890 SNMU 1305 Inserts



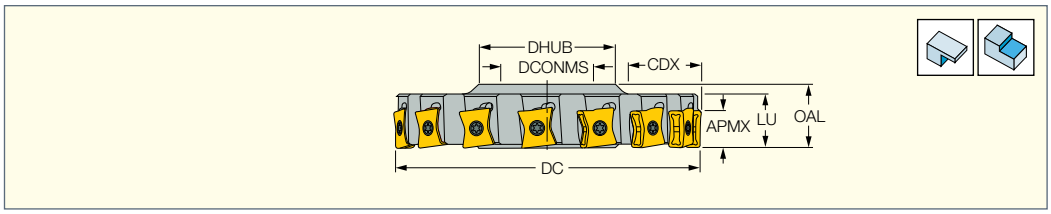
Designation	DC	APMX	NOF(1)	CDX(2)	DHUB	DCONMS	LU	OAL	kg			
S890 SSB D125-20-40-R/L13	125.00	9.00	14	33.00	56.00	40.00	20.00	24.0	1.20	SR 11800745	BLD IP15/S7	SW6-T-SH

(1) Number of flutes
(2) Cutting depth maximum

For inserts, see pages: S890 SNMU 1305PN... (497)

TANGMILL TANGENTIAL LINE

SSB-LN15-R/L
Single-Side Cutting, Disk Type Slotting Cutters

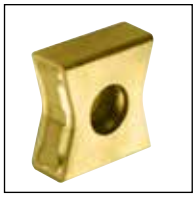


Designation	DC	CICT(1)	CDX(2)	APMX	DHUB	DCONMS	LU	OAL	kg			
SSB D080-22-27-LN15-R/L	80.00	10	18.00	14.00	42.00	27.00	22.00	24.0	0.56	SR 34-535	BLD T15/M7	SW6-T-SH
SSB D100-22-32-LN15-R/L	100.00	12	26.00	14.00	48.00	32.00	22.00	26.0	0.95	SR 34-535	BLD T15/M7	SW6-T-SH
SSB D125-22-40-LN15-R/L	125.00	15	35.00	14.00	56.00	40.00	22.00	26.0	1.51	SR 34-535	BLD T15/M7	SW6-T-SH
SSB D160-22-40-LN15-R/L	160.00	20	52.00	14.00	56.00	40.00	22.00	26.0	2.64	SR 34-535	BLD T15/M7	SW6-T-SH
SSB D200-24-50-LN15-R/L	200.00	25	65.00	14.00	70.00	50.00	24.00	28.0	4.66	SR 34-535	BLD T15/M7	SW6-T-SH

• Note: Left-hand cutters are designated by a yellow groove
(1) Number of inserts
(2) Cutting depth maximum

For inserts, see pages: LNAT 1506-W (473) • LNAT 1506..PN-N MM (473) • LNAW-15 (CBN) (469) • LNHW 1506 PNTN (ceramic) (472) • LNKX 1506 1.5X45 PN-N (471) • LNKX 1506PN-N PL (470) • LNKX/LNMT 1506PNTN/PN-N MM (470) • LNMT/LNHT 1506...-N HT (472) • LNMT/LNHT 1506PN-R HT (471) • LNMW 1506 PNTN (470)

LNMT 1506PTNT-HT R.H./L.H.

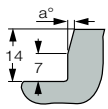


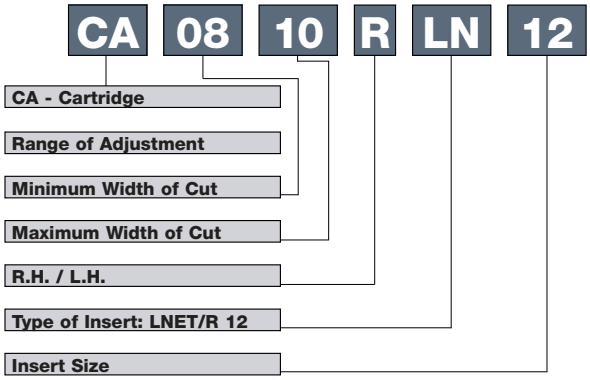
LNKX 1506... LNMT 1506... R.H./L.H.

LNMT 1506PN-R-HT R.H. only

Gang-Mill Assembly
SDN and left-hand SSB cutters feature two keyways. It is recommended to assemble gang-mills with alternating keyway position. This practice reduces vibration.

90º lead angle cutter
For DC=80 lead angle cutter a=6º
For DC≥100 lead angle cutter a=4.5º

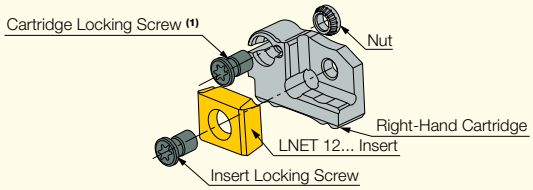




TANGSLOT

CA-R/L-LNET 12 cartridges

Adjustable Cartridge for FDN/ SDN-CALN 12 Full Slot Adjustable Slotting Cutters



Cartridge	Cartridge Locking Screw	Nut	Width of Cut Min.	Insert Max.	Insert Designation	Clamping Screw
CA 0608-R/L-LNET 12	SR 14-500-L4.5	NUT M4-2.2	6.00	6.50	LNET 1235...	SR 14-500/L4.9
			6.50	7.20	LNET 1240...	SR 14-500/L5.3
			7.00	8.20	LNET 1245..	SR 14-500/L5.9
CA 0810-R/L-LNET 12	SR 14-500-L6.1	NUT M4-2.2	8.00	8.70	LNET 1248..	SR 14-500/L6.7
			8.40	9.20	LNET 1250..	SR 14-500/L7.0
			8.90	10.5	LNET 1255..	SR 14-500/L7.5
CA 1014-R/L-LNET 12	SR 14-500-L8.5	NUT M4-2.2	10.5	12.2	LNET 1265..	SR 14-500/L9.0
			11.9	14.6	LNET 1277..	

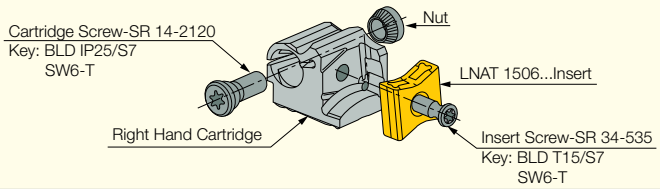
Each insert size should be ordered with its appropriate screw. When changing insert size, a new screw has to be ordered
Keys:Torx T-15/51-BE Ratchet wrench key

(1) Tightening torque: 4.5 ÷ 5Nxm

TANGMILL TANGENTIAL LINE

CA90 1928-R/L-PM15

Adjustable Cartridge for SDN and FDN-CAPM15 Slotting Cutters



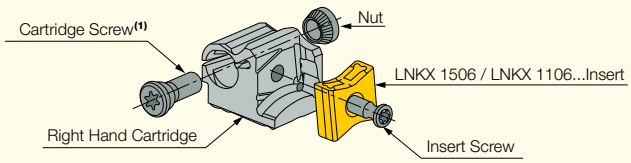
Designation	ap min	ap max			
CA90 1928-R/L-PM15-A (1)	18.90	25.60	SR 34-535	NUT M5-4.5	SR 14-2120
CA90 1928-R/L-PM15-B (2)	18.90	25.60	SR 34-535	NUT M5-4.5	SR 14-2120
CA90 1928-R/L-PM15-C (3)	18.90	25.60	SR 34-535	NUT M5-4.5	SR 14-2120

(1) For inserts with 0.8-1.6 mm radii
(2) For inserts with 2.5-3.2 mm radii
(3) For inserts with 4.0 mm radius

TANGMILL TANGENTIAL LINE

CA90-R/L-LN11/15 cartridges

Adjustable Cartridge for SDN and FDN-CALN11/CALN15

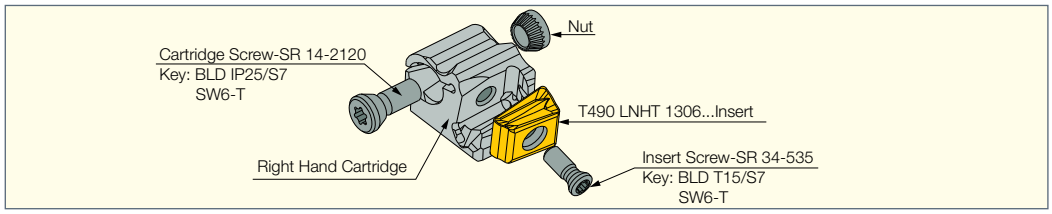


Designation	ap min	ap max			
CA90 1419-R/L-LN11	14.00	19.50	SR 34-550	SR 14-2120/L11.2	NUT M5-4.5
CA90 1928-R/L-LN15	18.90	25.60	SR 34-535	SR 14-2120	NUT M5-4.5

HELITANG T490 LINE

CA90 1723-R/L-T490-13

Adjustable Cartridge for SDN and FDN-CALN13

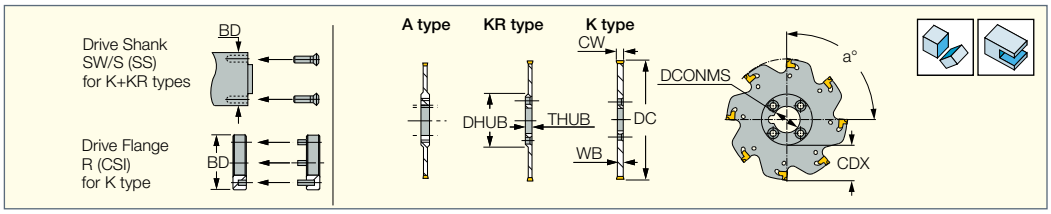


Designation	ap min	ap max			
CA90 1723-R/L-T490-13	17.50	23.00	SR 34-535-SN	SR 14-2120	NUT M5-4.5

TANGSLIT

TGSF

Slitting Cutters Carrying TANG-GRIP Inserts



Designation	DC	CICT(2)	CWN(3)	CWX(4)	WB	BD	DCONMS	CDX(5)	RPMX(6)	a°(7)	MIID(8)	
TGSF 50-3-8K	50.00	4	3.00	3.05	2.50	-	8.00	10.00	6300	90	TAG N3C	ETG 3-4-SH*
TGSF 50-1.6-8KR	50.00	5	1.60	1.65	1.30	28.00	8.00	10.00	1600	90	TAG N1.6C	ETG 2-SH-T*
TGSF 50-2-8KR	50.00	5	2.00	2.05	1.65	28.00	8.00	10.00	1600	90	TAG N2C	ETG 2-SH-T*
TGSF 63-3-10K	63.00	5	3.00	3.05	2.50	-	10.00	14.50	5000	90	TAG N3C	ETG 3-4-SH*
TGSF 63-4-10K	63.00	5	4.00	4.05	3.30	-	10.00	14.50	5000	90	TAG N4C	ETG 3-4-SH*
TGSF 63-1.6-10KR	63.00	6	1.60	1.65	1.30	32.00	10.00	15.00	1200	90	TAG N1.6C	ETG 1.4/1.6*
TGSF 63-2-10KR	63.00	6	2.00	2.05	1.65	32.00	10.00	14.50	1260	90	TAG N2C	ETG 2*
TGSF 76-1.6-22A	76.00	8	1.60	1.65	1.30	39.00	22.00	18.00	1050	90	TAG N1.6C	ETG 1.4/1.6*
TGSF 80-3-22K	80.00	7	3.00	3.05	2.50	-	22.00	19.00	3900	90	TAG N3C	ETG 3-4-SH*
TGSF 80-4-22K	80.00	7	4.00	4.05	3.30	-	22.00	19.00	3900	90	TAG N4C	ETG 3-4-SH*
TGSF 80-2-22KR	80.00	8	2.00	2.05	1.65	40.00	22.00	19.00	1000	90	TAG N2C	ETG 2*
TGSF 100-3-22K (1)	100.00	8	3.00	3.05	2.50	-	22.00	29.00	4770	90	TAG N3C	ETG 3-4-SH*
TGSF 100-4-22K (1)	100.00	8	4.00	4.05	3.30	-	22.00	29.00	4770	90	TAG N4C	ETG 3-4-SH*
TGSF 100-1.6-22A	100.00	10	1.60	1.65	1.30	39.00	22.00	30.00	800	90	TAG N1.6C	ETG 1.4/1.6*
TGSF 100-2-22KR	100.00	11	2.00	2.05	1.65	40.00	22.00	29.00	800	90	TAG N2C	ETG 2*
TGSF 125-3-32K	125.00	10	3.00	3.05	2.50	-	32.00	34.00	3820	90	TAG N3C	ETG 3-4-SH*
TGSF 125-4-32K	125.00	10	4.00	4.05	3.30	-	32.00	34.00	3820	90	TAG N4C	ETG 3-4-SH*
TGSF 125-1.6-27A	125.00	12	1.60	1.65	1.30	64.00	27.00	30.00	640	90	TAG N1.6C	ETG 1.4/1.6*
TGSF 125-2-32KR	125.00	13	2.00	2.05	1.65	55.00	32.00	34.00	640	90	TAG N2C	ETG 2*
TGSF 160-3-32K	160.00	12	3.00	3.05	2.50	-	32.00	52.00	2980	90	TAG N3C	ETG 3-4-SH*
TGSF 160-4-40K	160.00	12	4.00	4.05	3.30	-	40.00	39.00	2980	90	TAG N4C	ETG 3-4-SH*

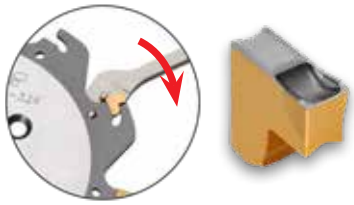
• ETG extractor should be ordered separately • For drive flange set dimensions, refer to Drive Flange R

(1) CDX=26 and BD=46 when used with drive flange
(2) Number of inserts
(3) Minimum cutting width
(4) Maximum cutting width
(5) Cutting depth maximum
(6) Maximum RPM
(7) Angle between the key slots
(8) Master insert identification

* Optional, should be ordered separately

For inserts, see pages: TAG N-A (355) • TAG N-C/W/M (354) • TAG N-J/JS/JT (355)
For holders, see pages: BT-SEMC (1025) • C#-SEMC (1000) • DIN2080-SEMC (1036) • DIN69871-SEMC (952) • HSK A-SEMC (981) • R (drive flange set) (359) • SMH MB (839) • SW/S (359)

Insert Insertion

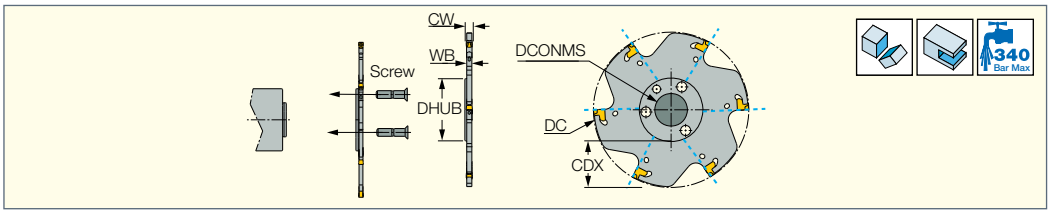


Insert Extraction

TANGSLIT JETCUT

TGSF-JHP

Slitting Cutters with Coolant Channels Carrying TANG-GRIP Inserts



Designation	CW	DC	CICT(1)	WB	DHUB	DCONMS	CDX	RPMX(2)	MIID(3)	
TGSF 63-3-10K-JHP	3.00	63.00	6	2.50	32.00	10.00	14.00	5000	TAG N3C	ETG 3-4-SH*
TGSF 80-3-22K-JHP	3.00	80.00	6	2.50	40.00	22.00	19.00	3900	TAG N3C	ETG 3-4-SH*
TGSF 100-3-22K-JHP	3.00	100.00	6	2.50	40.00	22.00	29.00	3820	TAG N3C	ETG 3-4-SH*
TGSF 125-3-32K-JHP	3.00	125.00	8	2.50	55.00	32.00	34.00	3820	TAG N3C	ETG 3-4-SH*
TGSF 63-4-10K-JHP	4.00	63.00	6	3.30	32.00	10.00	14.00	5000	TAG N4C	ETG 3-4-SH*
TGSF 80-4-22K-JHP	4.00	80.00	6	3.30	40.00	22.00	19.00	3900	TAG N4C	ETG 3-4-SH*
TGSF 100-4-22K-JHP	4.00	100.00	6	3.30	40.00	22.00	29.00	3820	TAG N4C	ETG 3-4-SH*
TGSF 125-4-32K-JHP	4.00	125.00	8	3.30	55.00	32.00	34.00	3820	TAG N4C	ETG 3-4-SH*

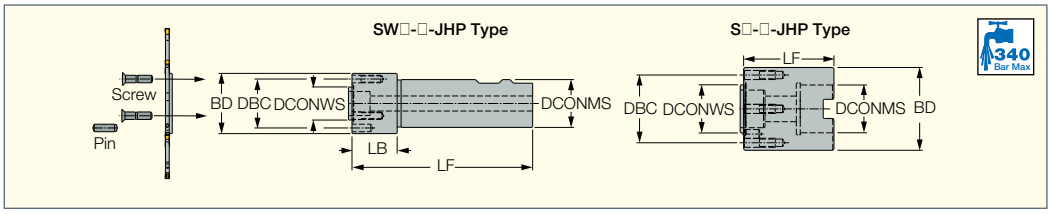
• ETG extractor should be ordered separately
(1) Number of inserts
(2) Maximum RPM
(3) Master insert identification

* Optional, should be ordered separately
For inserts, see pages: TAG N-A (355) • TAG N-C/W/M (354)
For holders, see pages: SW/S-JHP (353)

TANGSLIT

SW/S-JHP

Drive Shanks with Coolant Channels for TANG-GRIP Slitting Cutters



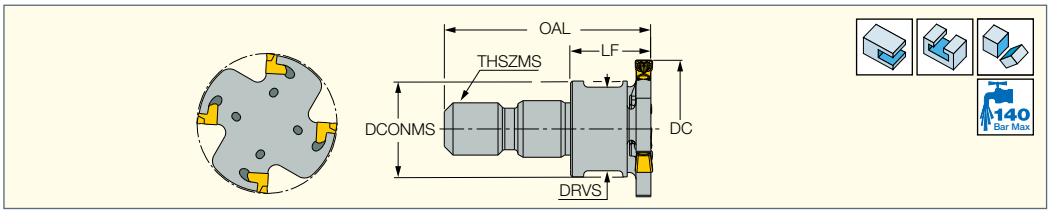
Designation	DCONMS	BD	DBC	DCONWS	LB	LF	kg			
SW 25-32-JHP	25.00	32.00	25.40	10.00	25.00	110.00	0.43	SR 76-961		T-15/5
SW 32-40-JHP	32.00	40.00	32.50	22.00	30.00	120.00	0.77	SR 76-963		T-15/5
S 32-55-JHP	32.00	55.00	45.00	32.00	-	60.00	0.83	SR 76-943	SR M16X40-JHP	T-20/5

For tools, see pages: TGSF-JHP (353)

TANGSLIT FLEXFIT

TGSF-M-JHP

Grooving and Slitting Small Diameter Cutters with FLEXFIT Threaded Adaptation



Designation	DC	CW	CDX	CICT(1)	DCONMS	THSZMS	LF	OAL	DRVS(2)	MIID(3)	
TGSF 50-2-M12 5Z-JHP	50.00	2.00	13.00	5	21.00	M12	10.80	24.00	17.0	TAG 2	ETG 2*
TGSF 50-3-M12 5Z-JHP	50.00	3.00	13.00	5	21.00	M12	10.70	24.70	17.0	TAG 3	ETG 3-4-SH*

(1) Number of inserts
(2) Key flat size
(3) Master insert identification

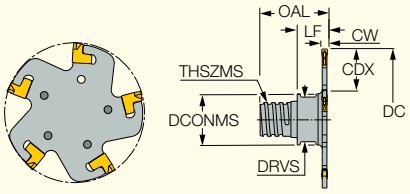
* Optional, should be ordered separately
For inserts, see pages: TAG N-A (355) • TAG N-C/W/M (354) • TAG N-J/JS/JT (355)
For holders, see pages: BT-ODP (FLEXFIT) (1030) • C#-ODP (FLEXFIT) (1001) • CAB M-M (FLEXFIT) (1046) • DIN69871-ODP (308) • ER-ODP (1048) • HSK A-ODP (FLEXFIT) (309) • S M (1045) • S M-C-H (1045) • S M-CF (1046)

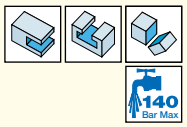
TANGSLIT

MULTI-MASTER

TGSF-MM-JHP

Grooving and Slitting Small Diameter Cutters with MULTI-MASTER Threaded Adaptation





Designation	DC	CW	CDX	CICT(1)	DCONMS	THSZMS	LF	OAL	DRVS(2)	MIID(3)	
TGSF 50-2-MMT12-5Z-JHP	50.00	2.00	14.00	5	19.00	T12	10.70	24.00	16.0	TAG 2	ETG 2*
TGSF 50-3-MMT12-5Z-JHP	50.00	3.00	14.00	5	19.00	T12	11.50	24.70	16.0	TAG 3	ETG 3-4-SH*

(1) Number of inserts
(2) Key flat size
(3) Master insert identification

* Optional, should be ordered separately

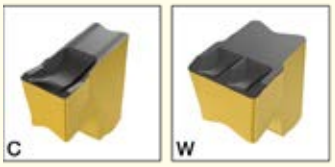
For inserts, see pages: TAG N-A (355) • TAG N-C/W/M (354) • TAG N-J/JS/JT (355)

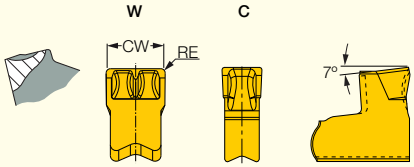
For holders, see pages: MM CAB (1047) • MM CAB-T-T (77) • MM GRT (shanks) (72) • MM S-A (stepped shanks) (70) • MM S-A (straight shanks) (73) • MM S-A-C# (72) • MM S-A-HSK (76) • MM S-A-N (71) • MM S-A-SK (76) • MM S-B (85° conical shanks) (73) • MM S-D (89° conical shanks) (74) • MM S-ER (75) • MM S-ER-H (75) • MM TS-A (72)

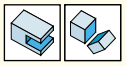
TANGGRIP
PARTING LINE

TAG N-C/W/M

Single-Ended Inserts for Parting, Grooving and Slitting Bars, Hard Materials and Tough Applications







Designation	Dimensions CW	CWTOL(3)	RE	Tough ↔ Hard IC830	IC928	IC1030	IC5400	IC1010	IC808	IC908	IC30N	IC20	IC807	Recommended Machining Data f groove (mm/rev)
TAG N1.4C	1.40	0.05	0.16										•	0.04-0.10
TAG N1.6C	1.60	0.05	0.16	•					•					0.04-0.14
TAG N2C	2.00	0.05	0.20	•		•	•	•	•		•	•		0.05-0.16
TAG N2.4C	2.40	0.04	0.16	•					•					0.06-0.18
TAG N3CB (1)	3.00	0.05	0.35	•					•					0.12-0.30
TAG N3C	3.05	0.05	0.20	•	•	•	•	•	•	•	•	•	•	0.10-0.25
TAG N3M (2)	3.05	0.05	0.20	•						•				0.06-0.18
TAG N3W	3.05	0.05	0.20	•						•				0.10-0.25
TAG N4C	4.00	0.05	0.24	•	•	•	•	•	•	•		•	•	0.10-0.30
TAG N4CB (1)	4.00	0.05	0.40	•						•				0.10-0.33
TAG N4M (2)	4.00	0.05	0.24	•						•				0.06-0.20
TAG N4W	4.00	0.05	0.24	•						•				0.10-0.30

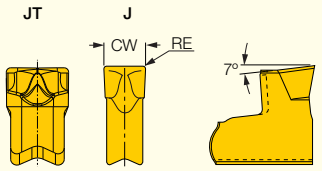
• Feed values for grade IC20 should be decreased by 50% • For cutting speed recommendations and user guide, see pages 518-524
(1) Larger corner radii for interrupted cut and high feed applications
(2) Similar to C-type, but with a modified edge; improved chip control at medium feeds
(3) Cutting width tolerance (+/-)

For tools, see pages: • TGSF (352) • TGSF-JHP (353) • TGSF-M-JHP (353) • TGSF-MM-JHP (354)

TANGGRIP PARTING LINE

TAG N-J/JS/JT

Single-Ended Inserts for Parting, Grooving and Slitting Soft Materials



Designation	Dimensions CW	RE	CWTOL(1)	RETOL(2)	Tough ↔ Hard IC830	IC928	IC1030	IC5400	IC1010	IC808	IC908	IC20	IC807	Recommended Machining Data f groove (mm/rev)
TAG N1.4J	1.40	0.16	0.04	0.050	●					●			●	0.03-0.10
TAG N1.6J	1.60	0.16	0.04	0.050	●					●				0.03-0.12
TAG N2J	2.00	0.20	0.04	0.050	●		●	●	●	●		●		0.04-0.12
TAG N2JT	2.00	0.20	0.04	0.050	●	●		●		●	●			0.04-0.10
TAG N3J	3.05	0.20	0.04	0.050	●	●	●	●	●	●	●	●	●	0.04-0.16
TAG N3JT	3.05	0.20	0.04	0.050	●			●		●	●			0.05-0.18
TAG N3.2JT	3.25	0.20	0.04	0.050						●				0.05-0.18
TAG N4J	4.00	0.24	0.04	0.050	●	●	●	●	●	●	●		●	0.04-0.18
TAG N4JT	4.05	0.24	0.04	0.050	●			●		●	●			0.06-0.20

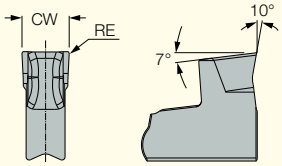
• JT chipformer has the basic positive configuration of the J-type and a reinforced negative frontal edge; most suitable for soft materials at low to medium feeds.
• For cutting speed recommendations and user guide, see pages 518-524
(2) Cutting width tolerance (+/-)
(3) Corner radius tolerance (+/-)

For tools, see pages: • TGSF (352) • TGSF-JHP (353) • TGSF-M-JHP (353) • TGSF-MM-JHP (354)

TANGGRIP PARTING LINE

TAG N-A

Single-Ended Inserts for Parting, Grooving and Slitting Aluminum



Designation	Dimensions CW	RE	CWTOL(1)	RETOL(2)	IC20	Recommended Machining Data f groove (mm/rev)
TAG N2A	2.00	0.20	0.00	0.050	●	0.02-0.10
TAG N3A	3.05	0.20	0.00	0.050	●	0.03-0.14
TAG N4A	4.05	0.24	0.00	0.050	●	0.03-0.16

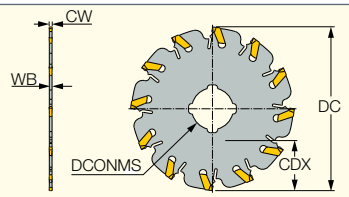
• For cutting speed recommendations and user guide, see pages 518-524
(1) Cutting width tolerance (+/-)
(2) Corner radius tolerance (+/-)

For tools, see pages: • TGSF (352) • TGSF-JHP (353) • TGSF-M-JHP (353) • TGSF-MM-JHP (354)

SLIMSLIT NARROW SLITTING

SGST

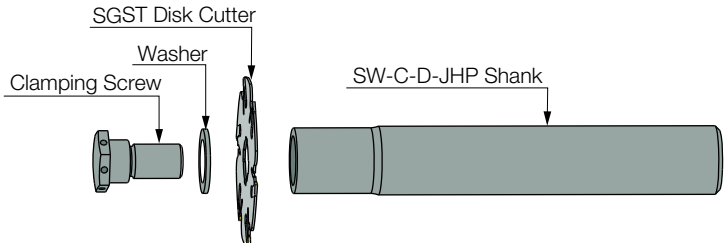
Thin Slitting Cutters Carrying SLIMGRIP Inserts



Designation	DC	CW	CICT(1)	WB	DCONMS	CDX	RPMX(2)	MIID(3)	
SGST 32-8-0.8-4Z	32.00	0.80	4	0.69	8.00	8.00	2490	GFT 0.8J-0.1	ESG-SLM*
SGST 32-8-1.0-4Z	32.00	1.00	4	0.90	8.00	8.00	2490	GFT 1.0J-0.1	ESG-SLM*
SGST 32-8-1.2-4Z	32.00	1.20	4	1.06	8.00	8.00	2490	GFT 1.2J-0.14	ESG-SLM*
SGST 40-10-0.8-6Z	40.00	0.80	6	0.69	10.00	12.00	1990	GFT 0.8J-0.1	ESG-SLM*
SGST 40-10-1.0-6Z	40.00	1.00	6	0.90	10.00	12.00	1990	GFT 1.0J-0.1	ESG-SLM*
SGST 40-10-1.2-6Z	40.00	1.20	6	1.06	10.00	12.00	1990	GFT 1.2J-0.14	ESG-SLM*
SGST 50-13-0.8-9Z	50.00	0.80	9	0.69	13.00	12.50	1590	GFT 0.8J-0.1	ESG-SLM*
SGST 50-13-1.0-9Z	50.00	1.00	9	0.90	13.00	12.50	1590	GFT 1.0J-0.1	ESG-SLM*
SGST 50-13-1.2-9Z	50.00	1.20	9	1.06	13.00	12.50	1590	GFT 1.2J-0.14	ESG-SLM*
SGST 63-16-1.0-12Z	63.00	1.00	12	0.90	16.00	19.00	1260	GFT 1.0J-0.1	ESG-SLM*
SGST 63-16-1.2-12Z	63.00	1.20	12	1.06	16.00	19.00	1260	GFT 1.2J-0.14	ESG-SLM*

(1) Number of inserts
(2) Maximum RPM
(3) Master insert identification

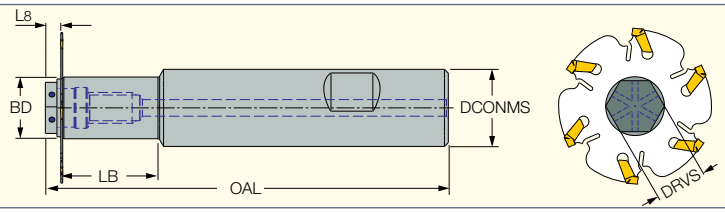
* Optional, should be ordered separately
For inserts, see pages: GFT-J (357)
For holders, see pages: SW-C-D-JHP (356)



SLIMSLIT NARROW SLITTING

SW-C-D-JHP

Shanks for SGST Slim Slot Milling Disk Cutters



Designation	DCONMS	BD	LB	OAL	L8	DRVS(1)			
SW 16C-D32-JHP	16.00	15.00	25.00	104.00	4.00	13.0	SCREW CLAMP-D32-JHP	MM KEY 13X8*	WASHER 8X14.5-D32
SW 20C-D40-JHP	20.00	16.00	25.00	104.00	4.00	13.0	SCREW CLAMP-D40-JHP	MM KEY 13X8*	WASHER 10X15-D40
SW 25C-D50-JHP	25.00	-	-	115.00	5.00	20.0	SCREW CLAMP-D50-JHP	MM KEY 20*	WASHER 13X24-D50
SW 25C-D63-JHP	25.00	-	-	115.00	5.00	20.0	SCREW CLAMP-D63-JHP	MM KEY 20*	WASHER 16X24-D63

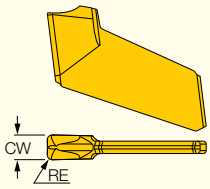
(1) Clamping wrench size

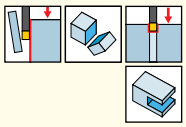
* Optional, should be ordered separately
For tools, see pages: SGST (356)

SLIMGRIP NARROW INSERTS

GFT-J

Thin Parting, Grooving & Slitting Single-Ended Inserts for Soft Materials





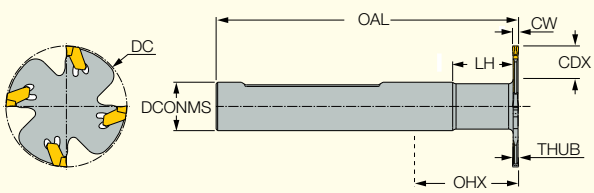
Designation	Dimensions CW	Dimensions RE	Tough ↔ Hard IC1028	IC1008	Recommended Machining Data f groove (mm/rev)
GFT 0.8J-0.1	0.80	0.10	●	●	0.03-0.08
GFT 1.0J-0.1	1.00	0.10	●	●	0.03-0.10
GFT 1.2J-0.14	1.20	0.14	●	●	0.03-0.10
GFT 1.6J-0.16	1.60	0.16	●	●	0.03-0.12

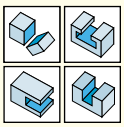
For tools, see pages: SGST (356)

SELFGRIP

SGSF-W

Grooving and Slitting Cutters with Integral Weldon Shanks





Designation	CWN(2)	CWX(3)	DC	DCONMS	CDX(4)	NOF(5)	THUB	LH(6)	OHX(7)	OAL	MIID(8)	
SGSF 32-1.6-W16	1.50	1.79	32.00	16.00	7.00	3	1.32	20.0	49.0	100.00	GSFN 1.6	ESG 1.4-2
SGSF 32-2-W16 (1)	1.80	2.69	32.00	16.00	7.00	3	1.62	20.0	49.0	100.00	GSFN 2	ESG 1.4-2
SGSF 40-1.6-W16	1.50	1.79	40.00	16.00	11.00	4	1.32	34.0	63.0	100.00	GSFN 1.6	ESG 1.4-2
SGSF 40-2-W16 (1)	1.80	2.69	40.00	16.00	11.00	4	1.62	34.0	63.0	100.00	GSFN 2	ESG 1.4-2

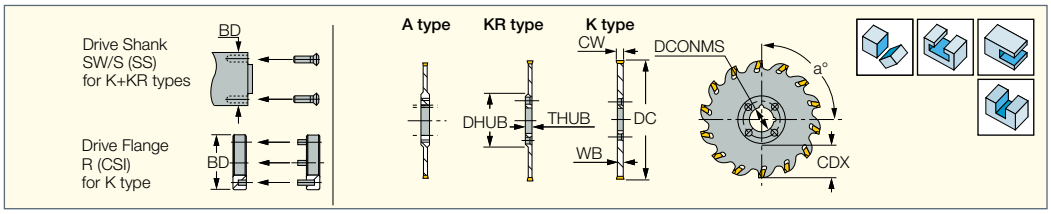
• For user guide, see pages 366-374
(1) Standard GSFN 2.4 mm inserts are not suitable for this tool; for suitable tool, see specific pocket size.
(2) Minimum cutting width
(3) Maximum cutting width
(4) Cutting depth maximum
(5) Number of flutes
(6) Minimum overhang range
(7) Maximum overhang range
(8) Master insert identification

For inserts, see pages: GSFN (361) • GSFU (361)

SELF-GRIP

SGSF

Slitting Cutters Carrying Self-Clamped Inserts



Designation	DC	CWN(4)	CWX(5)	CDX(6)	CICT(7)	WB	THUB	DHUB	DCONMS	RPMX(8)	a°	MIID(9)	
SGSF 76-1.4-22A	76.00	1.34	1.34	18.00	8	1.10	2.4	39.00	22.00	1050	112.5	GSFU 1.4	ESG 1.4-2
SGSF 100-1.4-22A	100.00	1.34	1.34	25.00	10	1.10	2.4	49.00	22.00	800	90	GSFU 1.4	ESG 1.4-2
SGSF 125-1.4-27A	125.00	1.34	1.34	25.00	12	1.10	2.4	74.00	27.00	640	75	GSFU 1.4	ESG 1.4-2
SGSF 50-1.6-8KR	50.00	1.50	1.79	10.00	5	1.24	2.4	28.00	8.00	1600	-	GSFN 1.6	ESG 1.4-2
SGSF 63-1.6-10KR	63.00	1.50	1.79	14.00	6	1.24	2.4	32.00	10.00	1260	-	GSFN 1.6	ESG 1.4-2
SGSF 76-1.6-22A	76.00	1.50	1.79	18.00	8	1.24	2.4	39.00	22.00	1050	112.5	GSFN 1.6	ESG 1.4-2
SGSF 100-1.6-22A	100.00	1.50	1.79	30.00	10	1.24	2.4	39.00	22.00	800	90	GSFN 1.6	ESG 1.4-2
SGSF 125-1.6-27A	125.00	1.50	1.79	29.00	12	1.24	2.4	60.00	27.00	640	75	GSFN 1.6	ESG 1.4-2
SGSF 50-2-8KR (1)	50.00	1.80	2.69	10.00	5	1.60	2.4	28.00	8.00	1600	-	GSFN 2	ESG 1.4-2
SGSF 63-2-10KR (1)	63.00	1.80	2.69	15.00	6	1.60	2.4	32.00	10.00	1260	-	GSFN 2	ESG 1.4-2
SGSF 76-2-22A (1)	76.00	1.80	2.69	18.00	8	1.60	2.4	39.00	22.00	1050	112.5	GSFN 2	ESG 1.4-2
SGSF 80-2-22KR (1)	80.00	1.80	2.69	20.00	8	1.60	2.4	40.00	22.00	1000	-	GSFN 2	ESG 1.4-2
SGSF 100-2-22A (1)	100.00	1.80	2.69	30.00	10	1.60	2.4	39.00	22.00	800	90	GSFN 2	ESG 1.4-2
SGSF 100-2-22KR (1)	100.00	1.80	2.69	29.00	10	1.60	2.4	40.00	22.00	800	-	GSFN 2	ESG 1.4-2
SGSF 125-2-27A (1)	125.00	1.80	2.69	32.00	12	1.60	2.4	60.00	27.00	640	75	GSFN 2	ESG 1.4-2
SGSF 125-2-32KR (1)	125.00	1.80	2.69	34.00	12	1.60	2.4	55.00	32.00	640	-	GSFN 2	ESG 1.4-2
SGSF 80-2.4-22A	80.00	2.38	2.42	20.00	6	1.90	2.4	39.00	22.00	1000	90	GSFN 2.4	ESG 11
SGSF 100-2.4-22K	100.00	2.38	2.42	26.00	6	1.90	2.4	46.00	22.00	800	90	GSFN 2.4	ESG 11
SGSF 125-2.4-32K	125.00	2.38	2.42	34.00	8	1.90	2.4	55.00	32.00	640	-	GSFN 2.4	ESG 11
SGSF 160-2.4-32K	160.00	2.38	2.42	52.00	10	1.90	2.4	55.00	32.00	500	90	GSFN 2.4	ESG 11
SGSF 50-3-8K	50.00	2.70	3.53	10.00	4	2.40	2.4	28.00	8.00	1600	-	GSFN 3	ESG 11
SGSF 63-3-10K	63.00	2.70	3.53	15.00	5	2.40	2.4	32.00	10.00	1260	-	GSFN 3	ESG 11
SGSF 80-3-22K (2)	80.00	2.70	3.53	19.00	6	2.40	2.4	40.00	22.00	1000	-	GSFN 3	ESG 11
SGSF 100-3-22K (3)	100.00	2.70	3.53	29.00	6	2.40	2.4	40.00	22.00	800	90	GSFN 3	ESG 11
SGSF 125-3-27K	125.00	2.70	3.53	34.00	8	2.40	2.4	0.00	27.00	640	-	GSFN 3	ESG 11
SGSF 125-3-32K	125.00	2.70	3.53	34.00	8	2.40	2.4	55.00	32.00	640	-	GSFN 3	ESG 11
SGSF 160-3-32K	160.00	2.70	3.53	52.00	10	2.40	2.4	55.00	32.00	500	90	GSFN 3	ESG 11
SGSF 160-3-40K	160.00	2.70	3.53	39.00	10	2.40	2.4	80.00	40.00	500	90	GSFN 3	ESG 11
SGSF 200-3-40K	200.00	2.70	3.54	59.00	14	2.40	2.4	80.00	40.00	400	90	GSFN 3	ESG 11
SGSF 250-3-40K	250.00	2.70	3.53	84.00	18	2.40	2.4	80.00	40.00	320	90	GSFN 3	ESG 11
SGSF 50-4-8K	50.00	3.54	4.52	10.00	4	3.20	3.2	28.00	8.00	1600	-	GSFN 4	ESG 11
SGSF 63-4-10K	63.00	3.54	4.52	15.00	5	3.20	3.2	32.00	10.00	1260	-	GSFN 4	ESG 11
SGSF 80-4-22K (2)	80.00	3.54	4.52	19.00	6	3.20	3.2	40.00	22.00	1000	-	GSFN 4	ESG 11
SGSF 100-4-22K (3)	100.00	3.54	4.52	26.00	6	3.20	3.2	40.00	22.00	800	90	GSFN 4	ESG 11
SGSF 125-4-32K	125.00	3.54	4.52	34.00	8	3.20	3.2	55.00	32.00	640	-	GSFN 4	ESG 11
SGSF 160-4-40K	160.00	3.54	4.52	39.00	10	3.20	3.2	80.00	40.00	500	90	GSFN 4	ESG 11
SGSF 200-4-40K	200.00	3.54	4.52	59.00	14	3.20	3.2	80.00	40.00	400	90	GSFN 4	ESG 11
SGSF 250-4-40K	250.00	3.54	4.52	84.00	18	3.20	3.2	80.00	40.00	320	90	GSFN 4	ESG 11
SGSF 350-4M-50K-38Z	350.00	3.54	4.52	119.00	38	3.20	3.2	110.00	50.00	230	90	GSFN 4	ESG 11
SGSF 425-4M-50K-38Z	425.00	3.54	4.52	140.00	38	3.20	3.2	110.00	50.00	190	90	GSFN 4	ESG 11
SGSF 80-5-22K (2)	80.00	4.53	5.50	19.00	6	4.00	4.0	40.00	22.00	1000	90	GSFN 5	ESG 11
SGSF 100-5-22K (3)	100.00	4.53	5.50	29.00	6	4.00	5.0	40.00	22.00	800	90	GSFN 5	ESG 11
SGSF 125-5-32K	125.00	4.53	5.50	34.00	8	4.00	4.0	55.00	32.00	640	-	GSFN 5	ESG 11
SGSF 160-5-40K	160.00	4.53	5.50	39.00	10	4.00	4.0	80.00	40.00	500	90	GSFN 5	ESG 11
SGSF 200-5-40K	200.00	4.53	5.50	59.00	14	4.00	4.0	80.00	40.00	400	90	GSFN 5	ESG 11
SGSF 250-5-40K	250.00	4.53	5.50	84.00	18	4.00	4.0	80.00	40.00	320	90	GSFN 5	ESG 11
SGSF 125-6-32K	125.00	5.51	6.50	34.00	8	5.20	5.2	55.00	32.00	640	-	GSFN 6C	ESG 1
SGSF 160-6-40K	160.00	5.51	6.50	39.00	10	5.20	5.2	80.00	40.00	500	90	GSFN 6C	ESG 1
SGSF 200-6-40K	200.00	5.51	6.50	59.00	14	5.20	5.2	80.00	40.00	400	90	GSFN 6C	ESG 1
SGSF 250-6-40K	250.00	5.51	6.50	84.00	18	5.20	5.2	80.00	40.00	320	90	GSFN 6C	ESG 1
SGSF 315-6-40K	315.00	5.51	6.50	117.00	22	5.20	5.2	80.00	40.00	250	90	GSFN 6C	
SGSF 350-6-50K	350.00	5.51	6.50	119.00	26	5.20	5.2	110.00	50.00	230	90	GSFN 6	

- Only the K and KR type cutters feature 4 driving holes around the central hole; they can be driven by the R drive shanks
- Refer to SW/S drive shanks and R driving flange set • Maximum RPM may not be exceeded • For user guide, see pages 366-374

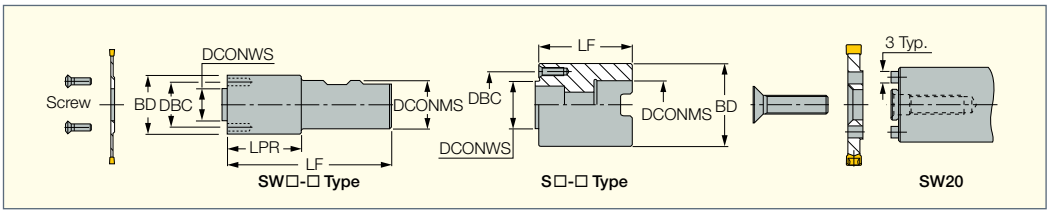
(1) Standard GSFN 2.4 mm (.095") inserts are not suitable for this tool. For suitable tool, see specific pocket size
(2) CDX=16, DHUB=46 when used with drive flange
(3) CDX=26, DHUB=46 when used with drive flange
(4) Minimum cutting width
(5) Maximum cutting width
(6) Cutting depth maximum
(7) Number of inserts
(8) Maximum RPM
(9) Master insert identification

For inserts, see pages: GSFN (361) • GSFU (361)
For holders, see pages: BT-SEMC (1025) • C#-SEMC (1000) • DIN2080-SEMC (1036) • DIN69871-SEMC (952) • HSK A-SEMC (981) • R (drive flange set) (359) • SMH MB (839) • STUB MB (840) • SW/S (359)

SELF-GRIP

SW/S

Drive Shanks for
SELF-GRIP Slitting Cutters



Designation	DCONMS	BD	DBC	DCONWS	LPR	LF	kg
SW 20	20.00	20.00	14.40	8.00	-	100.00	0.24
SW 25-23	25.00	23.00	13.60	6.00	25.0	110.00	0.00
SW 25-28	25.00	28.00	18.00	8.00	25.0	110.00	0.43
SW 25-32	25.00	32.00	22.00	10.00	25.0	110.00	0.51
SW 32-40	32.00	40.00	32.00	22.00	30.0	120.00	1.06
S 32-55	32.00	55.00	45.00	32.00	-	60.00	0.84
S 40-80	40.00	80.00	63.00	40.00	-	60.00	1.78

For tools, see pages: GM-DG (362) • SGSA (360) • SGSF (358) • TGSF (352)

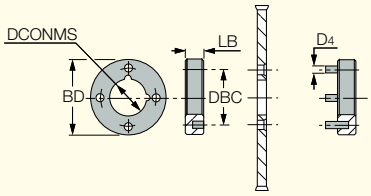
Spare Parts

Designation					
SW 20	SR M5X20 DIN7991		HW 3.0		
SW 25-23	SR 34-510	T-15/5			
SW 25-28	SR 76-961	T-15/5			
SW 25-32	SR 76-961	T-15/5			
SW 32-40	SR 76-963	T-15/5			
S 32-55	SR 76-943			BLD T20/M7	SW6-T
S 40-80	SR 76-944		HW 6.0		

SELF-GRIP

R (drive flange set)

Drive Flange Set for
SELF-GRIP Slitting Cutters



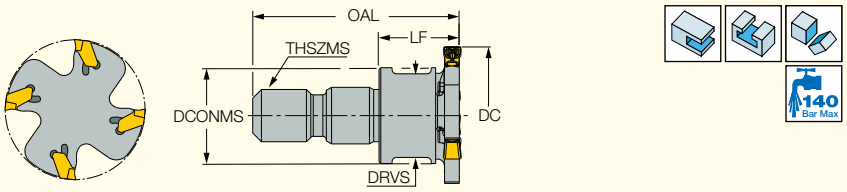
Designation	DCONMS	BD	DBC	D_4	LB	
R 22-46	22.00	46.00	32.00	5.00	10.00	PIN D5X15.6
R 32-55	32.00	55.00	45.00	6.00	10.00	PIN D6X15.6
R 40-80	40.00	80.00	63.00	11.00	12.00	PIN D11X16.5
R 50-110	50.00	110.00	80.00	14.00	14.00	PIN D14X19.9

For tools, see pages: GM-DG (362) • SGSA (360) • SGSF (358) • TGSF (352)

SELF-GRIP FLEXFIT

SGSF/A-M-JHP

Grooving and Slitting Small
Diameter Cutters with FLEXFIT
Threaded Adaptation



Designation	DC	CW	CDX	CICT[1]	DCONMS	THSZMS	LF	OAL	DRVS[2]	MIID[3]	
SGSF 32-2-M08-3Z-JHP	32.00	2.00	7.80	3	13.00	M08	12.00	29.50	9.6	GSFN 2...	ESG 1.4-2*
SGSA 32-3-M08-4Z-JHP	32.00	3.00	7.80	4	13.00	M08	12.00	29.50	9.6	GSAN 3...	ESG 1.4-2*
SGSF 40-2-M10-4Z-JHP	40.00	2.00	11.80	4	18.00	M10	12.00	29.50	15.0	GSFN 2...	ESG 1.4-2*
SGSA 40-3-M10-6Z-JHP	40.00	3.00	11.80	6	18.00	M10	12.00	29.50	15.0	GSAN 3...	ESG 1.4-2*

(1) Number of inserts
(2) Key flat size
(3) Master insert identification

* Optional, should be ordered separately

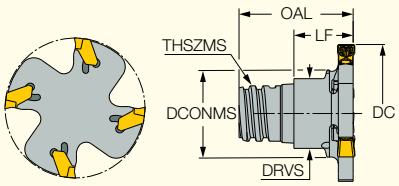
For inserts, see pages: GSFN (361)
For holders, see pages: BT-ODP (FLEXFIT) (1030) • C#-ODP (FLEXFIT) (1001) • CAB M-M (FLEXFIT) (1046) • DIN69871-ODP (308) • ER-ODP (1048) • HSK A-ODP (FLEXFIT) (309) • S M (1045) • S M-C-H (1045) • S M-CF (1046)

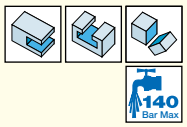
SELF-GRIP

MULTI-MASTER

SGSF/A-MM-JHP

Grooving and Slitting Small Diameter Cutters with MULTI-MASTER Threaded Adaptation





Designation	DC	CW	CDX	CICT(1)	DCONMS	THSZMS	LF	OAL	DRVS(2)	MIID(3)	
SGSF 32-2-MMT08-3Z-JHP	32.00	2.00	9.00	3	11.70	T08	10.60	18.10	10.0	GSFN 2...	ESG 1.4-2*
SGSA 32-3-MMT08-4Z-JHP	32.00	3.00	9.00	4	11.70	T08	11.40	18.90	10.0	GSAN 3...	ESG 2*
SGSF 40-2-MMT10-4Z-JHP	40.00	2.00	11.30	4	15.30	T10	10.60	21.90	13.0	GSFN 2...	ESG 1.4-2*
SGSA 40-3-MMT10-6Z-JHP	40.00	3.00	11.30	6	15.30	T10	11.40	22.70	13.0	GSAN 3...	ESG 1.4-2*

(1) Number of inserts
(2) Key flat size
(3) Master insert identification

* Optional, should be ordered separately

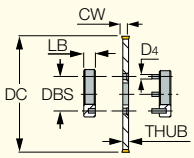
For inserts, see pages: GSFN (361)

For holders, see pages: MM CAB (1047) • MM CAB-T-T (77) • MM GRT (shanks) (72) • MM S-A (stepped shanks) (70) • MM S-A (straight shanks) (73) • MM S-A-C# (72) • MM S-A-HSK (76) • MM S-A-N (71) • MM S-A-SK (76) • MM S-B (85° conical shanks) (73) • MM S-D (89° conical shanks) (74) • MM S-ER (75) • MM S-ER-H (75) • MM TS-A (72)

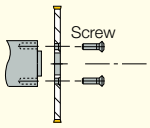
SELF-GRIP

SGSA

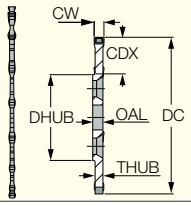
Slitting Cutters Carrying GSAN Self-Clamped Inserts

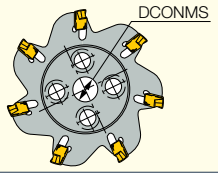


Flange Drive R



Shank Drive





Designation	CWN(1)	CWX(2)	DC	CICT(3)	DHUB	DCONMS	OAL	THUB	CDX(4)	RPMX(5)	MIID(6)	
SGSA 32-3	2.70	3.53	32.00	4	18.20	8.00	4.0	2.40	5.50	2400	GSAN 3	ESG 1.4-2
SGSA 40-3-6K	2.70	3.53	40.00	5	21.00	6.00	3.2	2.40	8.00	2000	GSAN 3	ESG 1.4-2
SGSA 50-3-8K	2.70	3.53	50.00	7	27.00	8.00	3.2	2.40	10.50	1600	GSAN 3	ESG 1.4-2
SGSA 80-3-22K-10Z-FP	2.70	3.53	80.00	10	-	22.00	2.4	2.40	16.00	995	GSAN 3	ESG 1.4-2
SGSA 100-3-22K-12Z-FP	2.70	3.53	100.00	12	-	22.00	2.4	2.40	20.00	795	GSAN 3	ESG 1.4-2
SGSA 125-3-32K-16Z-FP	2.70	3.53	125.00	16	-	32.00	2.4	2.40	25.00	635	GSAN 3	ESG 1.4-2
SGSA 32-4	3.54	4.52	32.00	4	18.20	8.00	4.0	3.20	5.50	2400	GSAN 4	ESG 1.4-2
SGSA 40-4-6K	3.54	4.52	40.00	5	21.00	6.00	3.2	3.20	8.00	2000	GSAN 4	ESG 1.4-2
SGSA 50-4-8K	3.54	4.52	50.00	7	-	8.00	3.2	3.20	10.50	1600	GSAN 4	ESG 1.4-2
SGSA 80-4-22K-10Z-FP	3.54	4.52	80.00	10	-	22.00	3.2	3.20	16.00	995	GSAN 4	ESG 1.4-2
SGSA 100-4-22K-12Z-FP	3.54	4.52	100.00	12	-	22.00	3.2	3.20	20.00	795	GSAN 4	ESG 1.4-2

• For LB,DBS,D4 refer to SW/S drive shanks and R drive flange set • Maximum RPM may not be exceeded • For user guide, see pages 366-374
(1) Minimum cutting width
(2) Maximum cutting width
(3) Number of inserts
(4) Cutting depth maximum
(5) Maximum RPM
(6) Master insert identification

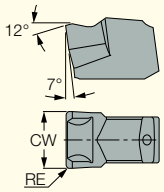
For inserts, see pages: GSAN (360)

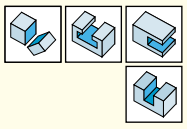
For holders, see pages: R (drive flange set) (359) • SW/S (359)

SELF-GRIP

GSAN

SELF-GRIP Slitting Inserts



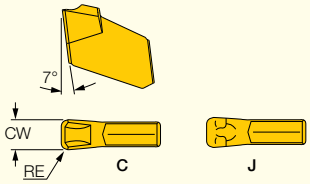


Designation	Dimensions CW	Dimensions RE	Tough ↔ Hard IC328	IC908
GSAN 3	3.00	0.20	•	•
GSAN 4	4.00	0.24	•	

For tools, see pages: SGSA (360)

SELF-GRIP

GSFN
SELF-GRIP Slitting Inserts



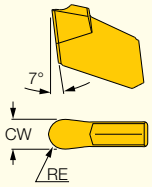
Designation	Dimensions CW	Dimensions RE	Tough ↔ Hard IC328	IC928	IC250	IC308	IC908	IC20
GSFN 1.6	1.60	0.16	●	●	●		●	●
GSFN 2	2.00	0.20	●	●	●		●	●
GSFN 2.4J	2.39	0.20	●	●			●	
GSFN 2.4	2.41	0.20	●	●			●	●
GSFN 3J	3.00	0.25	●	●			●	●
GSFN 3	3.02	0.20	●	●	●	●	●	●
GSFN 3.2	3.20	0.22	●	●	●		●	●
GSFN 4J	4.02	0.30		●			●	
GSFN 4	4.04	0.30	●	●			●	●
GSFN 4.8J	4.78	0.25	●				●	
GSFN 4.8	4.80	0.25	●				●	●
GSFN 4.8-1.52	4.80	1.52	●					
GSFN 5	4.98	0.26	●	●			●	●
GSFN 5.2-1.5	5.22	1.50	●					
GSFN 5.98	5.98	0.20	●					
GSFN 6C	6.35	0.50	●	●	●		●	
GSFN 6	6.37	0.50	●					●

• Tolerance:W±0.05

For tools, see pages: SGSF (358) • SGSF-W (357) • SGSF/A-M-JHP (359) • SGSF/A-MM-JHP (360)

SELF-GRIP

GSFU
Slitting and Grooving
Full Radius Inserts



Designation	Dimensions CW	Dimensions RE	Tough ↔ Hard IC328	IC250	IC20
GSFU 1.4	1.34	0.67	●		
GSFU 1.6	1.61	0.80	●		
GSFU 1.7	1.73	0.85		●	●
GSFU 2.2	2.16	1.11	●	●	●
GSFU 3	3.02	1.50	●	●	●

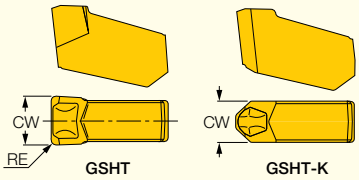
• Tolerance:W±0.05

For tools, see pages: SGSF (358) • SGSF-W (357)

SELFGRIP

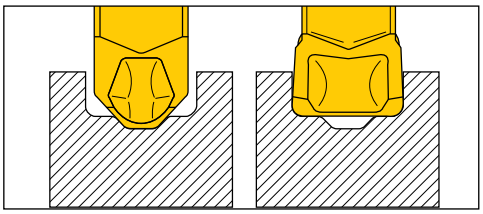
GSHT

Slitting Inserts for Specially Tailored Heavy Duty Slitting Cutters



Designation	Dimensions CW	Dimensions RE	Tough ↔ Hard IC328	IC928	IC908
GSHT 6K (1)	5.40	0.00	●		●
GSHT 6	6.35	0.50	●		●
GSHT 7	7.00	0.50		●	
GSHT 8	8.00	0.50		●	

(1) To be used in combination with GSHT regular inserts (6-8 mm) for half-effective cutter configuration

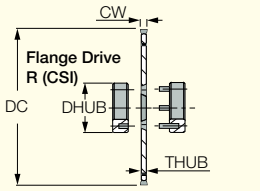


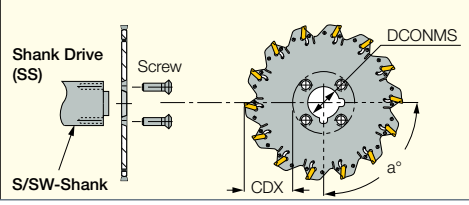
Inserts for **heavy duty** applications for use on **specially tailored** cutters, diameter range:
425-810 mm.
Chamfered inserts, GSHT-6K, can be used in a half-effective configuration to reduce overload, eliminate chatter, and improve chip flow.

CUTGRIP

GM-DG

Slitting Cutters Carrying Self-Clamped Inserts





Designation	CWN(2)	CWX(3)	DC	CICT(4)	DCONMS	THUB	CDX	RPMX(5)	a°	SS	CSI	Inserts
GM D100-3DG-22K	2.70	3.35	100.00	6	22.00	2.40	29.00	800	90	SW 32-40	R 22-46	Single-ended:
GM D125-3DG-32K(1)	2.70	3.35	125.00	8	32.00	2.40	34.00	640	-	S 32-55	R 32-55	GIM 3C/3/3J/3.2, GIMY..
GM D160-3DG-32K	2.70	3.35	160.00	10	32.00	2.40	39.00	500	90	S 32-55	R 32-55	Double ended:
GM D200-3DG-40K	2.70	3.35	200.00	14	40.00	2.40	59.00	400	90	S 40-80	R 40-80	for Tmax=12.5mm
GM D100-4DG-22K	3.36	4.35	100.00	6	22.00	3.20	29.00	800	90	SW 32-40	R 22-46	Single-ended:
GM D125-4DG-32K(1)	3.36	4.35	125.00	8	32.00	3.20	34.00	640	-	S 32-55	R 32-55	GIM 4C/4/4J, GIMY..
GM D200-4DG-40K	3.36	4.35	200.00	14	40.00	3.20	59.00	400	90	S 40-80	R 40-80	Double ended: for Tmax=12.5mm

• DHUB refers to SW/S drive shanks and R drive flange set • Maximum RPM may not be exceeded • For user guide, see pages 366-374

(1) Only one key slot
(2) Minimum cutting width
(3) Maximum cutting width
(4) Number of inserts
(5) Maximum RPM

For inserts, see pages: GIM-C (363) • GIM-J (363) • GIM-W (363)
For holders, see pages: BT-SEMC (1025) • C#-SEMC (1000) • DIN2080-SEMC (1036) • DIN69871-SEMC (952) • HSK A-SEMC (981) • R (drive flange set) (359) • SMH MB (839) • STUB MB (840) • SW/S (359)

Spare Parts

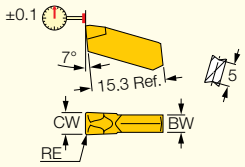
Designation	
GM-DG	EDG 44A*

* Optional, should be ordered separately

CUTGRIP

GIM-J

Utility Single-Sided Inserts for Parting and Grooving Soft Materials, Tubes and Small Diameters



Designation	Dimensions CW	RE	CWTOL(1)	BW	Tough ↔ Hard IC656	IC328	IC830	IC354	IC908	IC20	Recommended Machining Data f groove (mm/rev)
GIM 2.2J	2.20	0.17	0.05	1.70		•	•	•	•	•	0.06-0.13
GIM 3J	3.00	0.25	0.05	2.40	•	•	•	•	•	•	0.08-0.15
GIM 4J	4.00	0.25	0.05	3.20		•	•	•	•	•	0.08-0.18

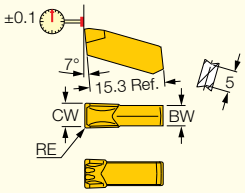
• For cutting speed recommendations and user guide, see pages 518-524
(1) Cutting width tolerance (+/-)

For tools, see pages: • GM-DG (362)

CUTGRIP

GIM-C

Parting and Grooving Single-Sided Inserts for Parting Bars, Hard Materials and Tough Applications



Designation	Dimensions CW	RE	CWTOL(1)	BW	Tough ↔ Hard IC328	IC830	IC354	IC908	IC20	Recommended Machining Data f groove (mm/rev)
GIM 3C	3.00	0.22	0.05	2.40	•	•	•	•	•	0.15-0.25
GIM 4C	4.00	0.25	0.05	3.40				•		0.15-0.25
GIM 5C	5.00	0.40	0.05	4.00	•	•	•	•	•	0.15-0.30
GIM 6C	6.00	0.40	0.05	4.80	•		•	•	•	0.15-0.30

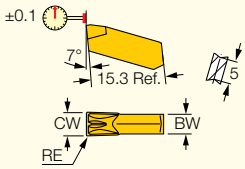
• For cutting speed recommendations and user guide, see pages 518-524
(1) Cutting width tolerance (+/-)

For tools, see pages: • GM-DG (362)

CUTGRIP

GIM-W

Single-Sided Inserts with Central Ridged Chipformer and Reinforced Edge for Parting and Grooving Alloy Steel



Designation	Dimensions CW	RE	CWTOL(1)	BW	Tough ↔ Hard IC656	IC328	IC830	IC354	IC908	IC20	Recommended Machining Data f groove (mm/rev)
GIM 2.4	2.40	0.18	0.05	2.40				•	•	•	0.10-0.18
GIM 3	3.00	0.22	0.05	2.40		•	•	•	•	•	0.10-0.18
GIM 3.2	3.20	0.22	0.05	2.40	•	•	•	•	•	•	0.10-0.20
GIM 4	4.00	0.25	0.05	3.20	•	•	•	•	•	•	0.15-0.20

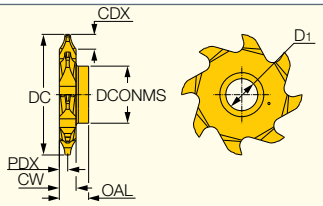
• For cutting speed recommendations and user guide, see pages 518-524
(1) Cutting width tolerance (+/-)

For tools, see pages: • GM-DG (362)

T-SLOT T-GEAR GEAR MILLING

SD-M-N-SP

Interchangeable Solid Carbide Heads for Involute Gear Profile Milling According to DIN 3972 Basic Profile ||



Designation	Dimensions										IC908
	Module	T range(1)	DC	PDX	CW	CDX	CEDC(2)	DCONMS	D1	OAL	
SD D32-M1.00-NO1-SP15	1.00	12-13	32.00	2.2	4.40	2.50	8	15.00	8.40	7.70	•
SD D32-M1.00-NO2-SP15	1.00	14-16	32.00	2.2	4.40	2.50	8	15.00	8.40	7.70	•
SD D32-M1.25-NO3-SP15	1.25	17-20	32.00	2.2	4.40	3.00	8	15.00	8.40	7.70	•
SD D32-M1.25-NO4-SP15	1.25	21-25	32.00	2.2	4.40	3.00	8	15.00	8.40	7.70	•
SD D32-M1.50-NO5-SP15	1.50	26-34	32.00	2.2	4.40	3.50	8	15.00	8.40	7.70	•
SD D32-M1.50-NO6-SP15	1.50	35-54	32.00	2.2	4.40	3.50	8	15.00	8.40	7.70	•
SD D32-M1.75-NO7-SP15	1.75	55-134	32.00	2.7	5.40	4.25	8	15.00	8.40	7.70	•
SD D32-M1.75-NO8-SP15	1.75	>134	32.00	2.7	5.40	4.25	8	15.00	8.40	7.70	•
SD D32-M2.00-NO4-SP15	2.00	21-25	32.00	3.2	6.40	4.50	8	15.00	8.40	7.70	•
SD D32-M2.00-NO5-SP15	2.00	26-34	32.00	3.2	6.40	4.50	8	15.00	8.40	7.70	•
SD D32-M2.25-NO6-SP15	2.25	35-54	32.00	3.2	6.40	5.00	8	15.00	8.40	7.70	•
SD D32-M2.25-NO7-SP15	2.25	55-134	32.00	3.2	6.40	5.00	8	15.00	8.40	7.70	•

• Tightening torque 4 Nxm • For user guide, see pages 366-374 • For shanks, see page 320

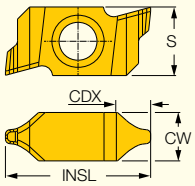
(1) Gear teeth range

(2) Number of cutting edges

MODUGEAR INDEXABLE GEAR MILLING

LNET 18-M

Indexable Inserts for Involute Gear Profile Milling According to DIN 3972 Basic Profile ||



Designation	Dimensions						IC908
	Module	T range(1)	CW	CDX	INSL	S	
LNET 18-M1.50-NO3-C-CL10	1.50	17-20	6.00	4.00	18.00	8.50	•

• Other gear profiles within module 1.0-1.75 mm range can be provided on request

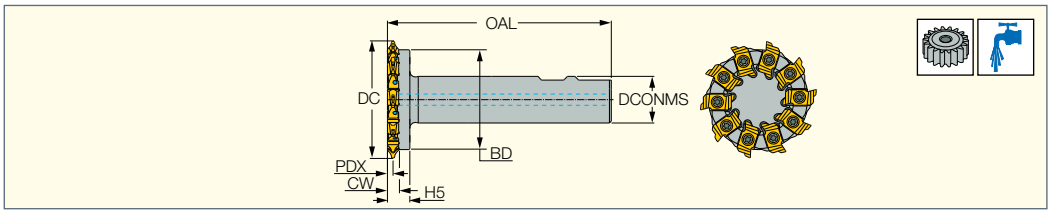
(1) Gear teeth range

For tools, see pages: ETS Gear Mill (365)

MODUGEAR
INDEXABLE GEAR MILLING

ETS Gear Mill

Tools for Milling Gear
Profile Carrying Tangentially
Clamped Inserts



Designation	DC	PDX	CW	BD	CICT(1)	H_5	DCONMS	OAL	MIID(2)
ETS D63-M1-1.75-W25-C	63.00	3.0	6.00	53.50	10	12.00	25.00	120.00	LNET 18

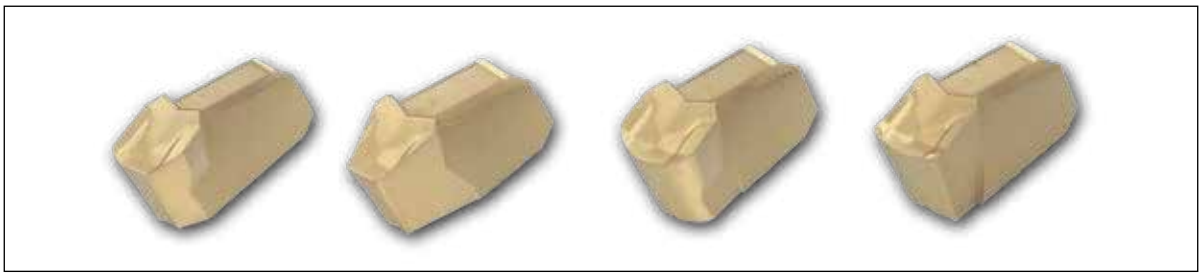
• Other cutter diameters with alternative connection options (shank or arbor-type) can be provided on request
(1) Number of inserts
(2) Master insert identification

For inserts, see pages: LNET 18-M (364)

Spare Parts

Designation			
ETS Gear Mill	SR 14-500-L11.5	BLD T15/S7	SW6-T

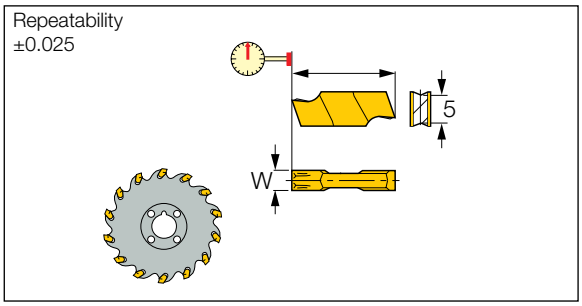
Specially Tailored Inserts for Grooving



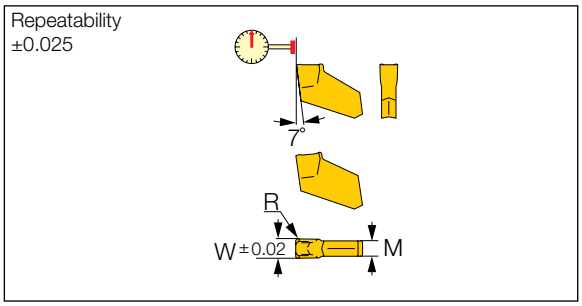
Possible Insert Width for Each Cutter's Seat Size

W±0.02 Range	Seat GSFN	M
1.50-1.79	1.6	1.1
1.80-2.69	2	1.6
2.70-3.53	3	2.4
3.54-4.52	4	3.2
4.53-5.50	5	4.1
5.51-6.50	6	5.2

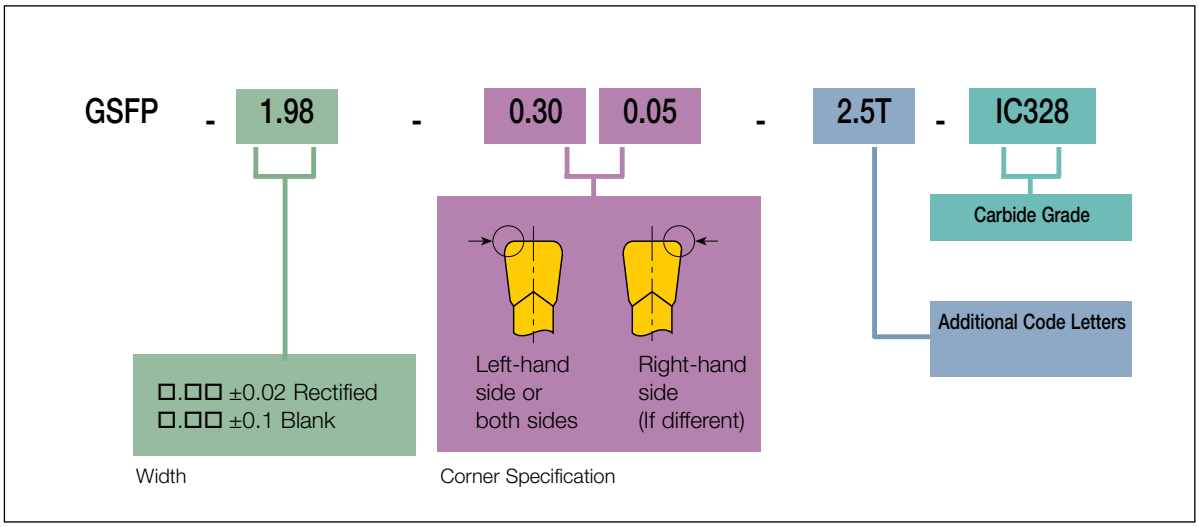
GIPI



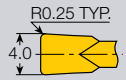
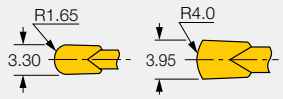
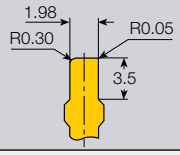
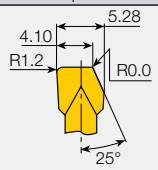
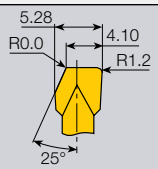
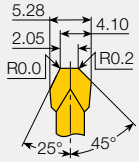
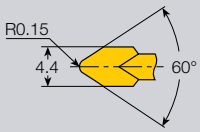
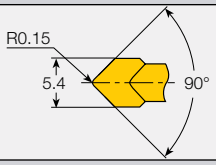
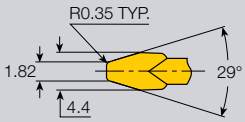
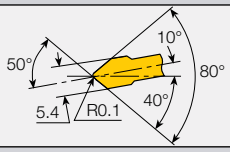
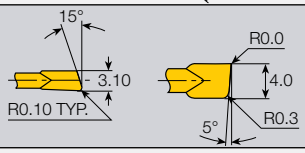
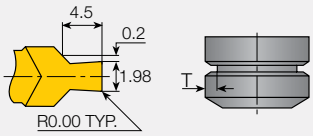
GSFP



Designation for Specially Tailored Inserts



Specially Tailored Inserts for Grooving

Examples	Designation	
	E1 GSFP-4.00-0.25	
	E2 GSFP-3.95-4.00	
	E3 GSFP-1.98-0.3-0.05-3.5T	
	E4A GSFP-5.28-1.20-0.00-25A4.10	A–Chamfer Preceding digits: Chamfer angle to center line A–Followed by digits - representing the nominal width location of chamfer
	E4B GSFP-5.28-25A4.10-0.00-1.20	
	E5 GSFP-5.28A4.10-0.00-0.20-45A2.05	
	E7 GIP-4.4-MT-0.15	MT – Metric thread 60° MT□ – With corner radius □ WT – Whitworth thread 55° WT□ – With corner radius □
	E8 GSFP-5.4-90V0.15	V – V shape inclusive angle (Blank width 5.4 not rectified)
	E9 GSFP-4.40-29V1.82K-0.35	K – Frontal straight width of trapezoid (Width 4.40 rectified)
	E10 GIP-5.4-80V0.10-10RS	V shape 80º at 10º slant angle (Blank width 5.4 not recitifed)
	E13 GSFP-4.00-0.00-0.30-5LA	LA – Lead angle - Left-hand RA – Lead angle - Right-hand
	E14 GIP-1.98-0.00-4.50T0.20B GFP-1.98-0.00-4.50T0.20B	T – Depth of groove (nominal) B – Break corners width of chamfers, 45º **Note:** Blank width > 2B+W

When ordering inserts, include carbide grade with designation.

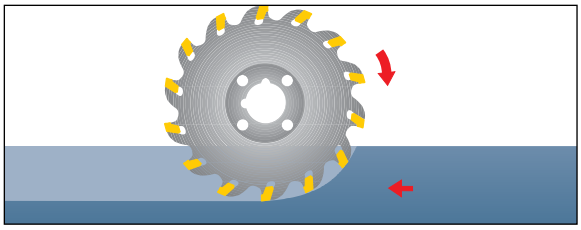
Machining Data for MULTI-MASTER Groove Milling Heads

ISO	Material		Condition	Tensile Strength [N/mm²]	Hardness HB	Material No.
P	Non-alloy steel and cast steel, free cutting steel	< 0.25 %C	Annealed	420	125	1
		>= 0.25 %C	Annealed	650	190	2
		< 0.55 %C	Quenched and tempered	850	250	3
		>= 0.55 %C	Annealed	750	220	4
			Quenched and tempered	1000	300	5
	Low alloy steel and cast steel (less than 5% of alloying elements)		Annealed	600	200	6
			Quenched and tempered	930	275	7
				1000	300	8
				1200	350	9
	High alloyed steel, cast steel, and tool steel		Annealed	680	200	10
			Quenched and tempered	1100	325	11
	Stainless steel and cast steel		Ferritic/martensitic	680	200	12
			Martensitic	820	240	13
M	Stainless steel		Austenitic	600	180	14
K	Grey cast iron (GG)		Ferritic/pearlitic		180	15
			Pearlitic		260	16
	Cast iron nodular (GGG)		Ferritic		160	17
			Pearlitic		250	18
	Malleable cast iron		Ferritic		130	19
			Pearlitic		230	20
N	Aluminum-wrought alloy		Not cureable		60	21
			Cured		100	22
	Aluminum-cast, alloyed	<=12% Si	Not cureable		75	23
			Cured		90	24
		>12% Si	High temperature		130	25
	Copper alloys	>1% Pb	Free cutting		110	26
			Brass		90	27
			Electrolitic copper		100	28
	Non-metallic		Duroplastics, fiber plastics			29
			Hard rubber			30
S	High temp. alloys	Fe based	Annealed		200	31
			Cured		280	32
		Ni or Co based	Annealed		250	33
			Cured		350	34
			Cast		320	35
	Titanium Ti alloys			RM 400		36
			Alpha+beta alloys cured	RM 1050		37
H	Hardened steel		Hardened		55 HRC	38
			Hardened		60 HRC	39
	Chilled cast iron		Cast		400	40
	Cast iron		Hardened		55 HRC	41

Material No.	MM-TS			MM-GRIT K-TYPE			MM-GRIT P-TYPE		
	Speed	Fee		Speed	Feed mm/t		Speed	Feed mm/t	
	V m/min	Fz (min)	Fz (max)	V m/min	Fz (min)	Fz (max)	V m/min	Fz (min)	Fz (max)
1	110-140	0.08	0.20	110-160	0.05	0.15	-	-	-
2	100-120	0.08	0.18	100-150	0.05	0.15	-	-	-
3	70-100	0.08	0.15	80-100	0.05	0.15	-	-	-
4	70-100	0.08	0.15	80-100	0.05	0.15	-	-	-
5	60-80	0.08	0.15	60-80	0.05	0.15	-	-	-
6	100-120	0.08	0.15	110-150	0.05	0.15	-	-	-
7	90-120	0.08	0.15	100-120	0.05	0.15	-	-	-
8	80-110	0.08	0.15	70-110	0.05	0.15	-	-	-
9	70-100	0.05	0.12	70-100	0.05	0.15	-	-	-
10	60-80	0.05	0.18	60-80	0.05	0.15	-	-	-
11	55-70	0.08	0.15	55-70	0.05	0.15	-	-	-
12	100-130	0.06	0.12	100-130	0.03	0.15	100-130	0.03	0.10
13	100-120	0.08	0.15	100-130	0.03	0.15	100-130	0.03	0.10
14	80-120	0.05	0.10	90-120	0.03	0.12	90-120	0.03	0.10
15	160-220	0.10	0.20	160-220	0.03	0.12	-	-	-
16	120-200	0.10	0.15	120-200	0.03	0.12	-	-	-
17	100-140	0.10	0.20	-	-	-	-	-	-
18	80-100	0.10	0.15	-	-	-	-	-	-
19	180-250	0.10	0.20	180-250	0.03	0.15	-	-	-
20	160-220	0.10	0.15	160-220	0.03	0.15	-	-	-
21	800-1200	0.10	0.20	-	-	-	800-1200	0.05	0.15
22	800-1200	0.10	0.20	-	-	-	800-1200	0.05	0.15
23	-	-	-	-	-	-	600-1000	0.05	0.15
24	-	-	-	-	-	-	500-1000	0.05	0.15
25	-	-	-	-	-	-	200-400	0.05	0.15
26	-	-	-	-	-	-	-	-	-
27	-	-	-	-	-	-	-	-	-
28	-	-	-	-	-	-	-	-	-
29	-	-	-	-	-	-	-	-	-
30	-	-	-	-	-	-	-	-	-
31	-	-	-	30-40	0.02	0.12	-	-	-
32	25-35	0.05	0.12	25-40	0.02	0.12	-	-	-
33	25-35	0.05	0.12	25-40	-	-	-	0.01	0.12
34	25-35	0.05	0.12	25-40	-	-	-	0.01	0.12
35	40-60	0.05	0.12	25-40	-	-	-	0.01	0.12
36	40-60	0.05	0.12	40-60	-	-	-	0.05	0.12
37	40-60	0.05	0.10	40-60	-	-	-	0.05	0.10
38									
39									
40									
41									

Feed Direction

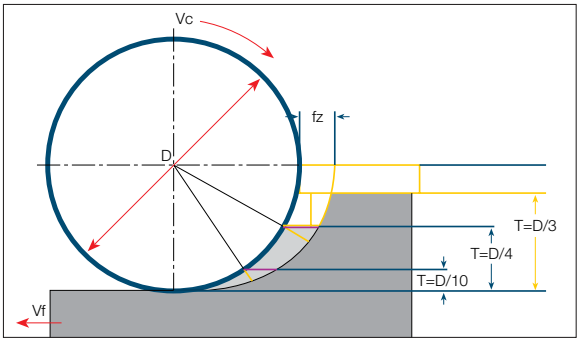
Down (climb) milling is recommended.
Up milling or plunging are possible.
(In down milling or plunging, backlash should be eliminated.)



Defining Actual Feed

Chip thickness decreases as the depth of cut decreases. Therefore, recommended feed (fz) can be increased as shown in the table.

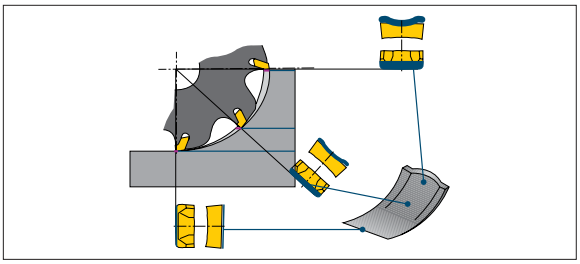
T/D Increase		1/6	1/8	1/10	1/20
recommended feed by	15%	30%	45%	100%	



Chip Thickness as a Function of D.O.C. to Diameter Ratio

Chip Formation in Slot Milling

Chip shape is a function of the depth of cut.
Down milling starts with large chip section, and exits with reduced chip selection.
Down milling is recommended for improved tool life under stable conditions.



Stacked Cutters[1]

Milling Wider Slots with Two Stacked Cutters

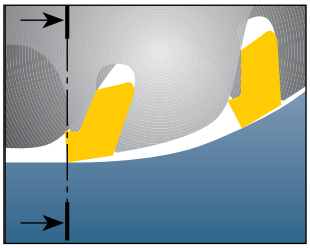
1. In accordance with the required width of cut (**W1+W2**), choose the recommended **SGSF** cutter combination (**A**, **B**, or **C**) from the table on the next page.
2. The diameters and coupling holes must fit properly.
3. All cutters (with the exception of ø125 mm type) have two key slots enabling staggered stacking.
4. Maximum value of shim ΔS (see table below) refers to maximum size of **ΔS1+ΔS2** defined for a complete overlap of radii. When a projection is allowed at the bottom of the groove, **ΔS1** and **ΔS2** may be increased theoretically up to the corner size of the insert.
5. Pins of the driving flange set should be lengthened to ensure contact length of at least 8 mm into one flange and 3 mm into the other.
6. When coupling cutters **W**=6.35, a shim (**S**) of 0.16 mm minimum thickness must be used.
7. The tolerance of effective widths is up to±0.2 mm. Due to the accumulation of tolerances, a step of 0.1 mm may occur at the groove bottom.

Insert Width and Possible Modification

See sketches on next page

W	A	R	ΔA max	ΔS max
2.40	2.40	0.16	0.33	–
3.00	2.40	0.20	0.24	0.10
3.18	2.40	0.22	0.24	0.17
4.05	3.20	0.24	0.32	0.19
4.78	4.00	0.28	0.40	0.11
5.00	4.00	0.28	0.40	0.22
5.20	4.00	1.50	0.40	–
6.35	5.20	0.50	–[1]	0.13

ΔA max - Maximum possible side ground for each cutter
ΔS max - Maximum possible shim width for each cutter
W, **W1**, **W2** - Normal width of insert



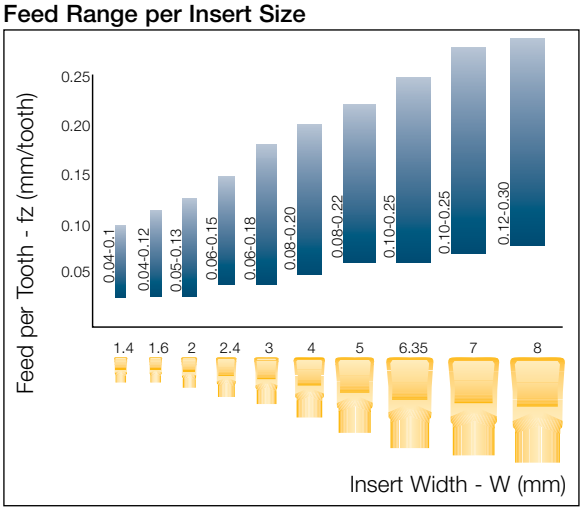
Milling Wider Slots with Stacked, Double Cutters

[1] Only cutters with 160-250 diameter sizes can be stacked.

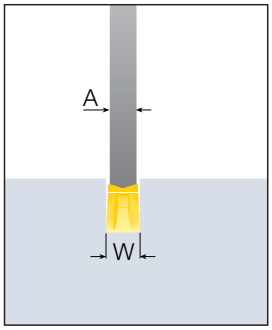
Stacked Cutters[1]

Requires modification of cutter.
Note: Tables on this page and the next apply only to standard **SELF-GRIP** inserts which appear in this catalog. The number of options increases with the use of specially tailored inserts.

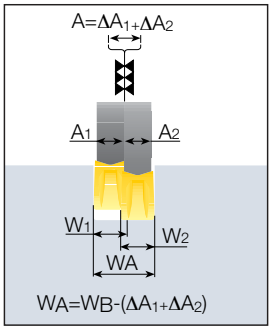
Feed Range per Insert Size



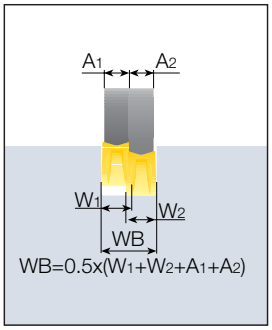
The recommended values refer to C-type chipformer, for J-type reduce feed by 30%.



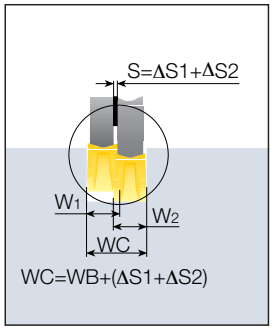
Single cutter, standard



A - Double cutters with modified body thicknesses stacked for smaller widths



B - Unmodified, stacked double cutters of nominal width

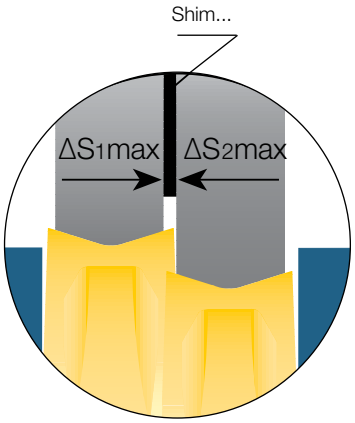


C - Stacked, double cutters with spacer for larger widths

Table 1: Effective Width of Cut

W_1	W_2	WA			WB	Wc[1]
2.40	2.40	4.14	-	4.48	–	–
3.00	2.40	4.53	-	5.04	–	–
3.00	3.00	4.92	-	5.39	5.40	5.43-5.60
3.18	2.40	4.62	-	5.18	5.19	–
3.18	3.00	5.01	-	5.48	5.49	5.52-5.76
3.18	3.18	5.10	-	5.57	5.58	5.61-5.92
4.05	2.40	5.38	-	6.02	6.03	–
4.05	3.00	5.77	-	6.32	6.33	6.36-6.62
4.05	3.18	5.86	-	6.41	6.42	6.45-6.78
4.05	4.05	6.61	-	7.24	7.25	7.28-7.63
4.78	2.40	6.06	-	6.74	–	–
4.78	3.00	6.45	-	7.08	7.09	7.12-7.30
4.78	3.18	6.54	-	7.17	7.18	7.21-7.46
4.78	4.05	7.30	-	8.01	8.02	8.05-8.32
4.78	4.78	7.98	-	8.77	8.78	8.81-9.00
5.00	2.40	6.17	-	6.89	6.90	6.93-7.12
5.00	3.00	6.56	-	7.19	7.20	7.23-7.52
5.00	3.18	6.65	-	7.28	7.29	7.32-7.68
5.00	4.05	7.41	-	8.12	8.13	8.16-8.54
5.00	4.78	8.09	-	8.88	8.89	8.92-9.22
5.00	5.00	8.2	-	8.99	9.00	9.03-9.44
5.20	5.00	8.3	-	8.42	–	–
6.35	3.00	–	–		8.64-8.71	
6.35	3.18	–	–		8.73-8.87	
6.35	4.05	–	–		9.56-9.72	
6.35	4.78	–	–		10.33-10.41	
6.35	5.00	–	–		10.44-10.63	
6.35	6.35	–	–		11.71-11.81	

[1] Only cutters with 160-250 diameter sizes can be stacked.



1. The higher values in the width-of-cut range shown provide complete overlap of corner radii.
   ΔA max - Maximum possible side ground for each cutter
   ΔS max - Maximum possible shim width for each cutter
   W, **W1**, **W2** - Normal width of insert

Machining Data for Slitting with SELF-GRIP and TANGSLIT Cutters

ISO	Material		Condition	Tensile Strength [N/mm²]	Hardness HB	Material No.(1)
P	Non-alloy steel and cast steel, free cutting steel	< 0.25 %C	Annealed	420	125	1
		>= 0.25 %C	Annealed	650	190	2
		< 0.55 %C	Quenched and tempered	850	250	3
		>= 0.55 %C	Annealed	750	220	4
			Quenched and tempered	1000	300	5
	Low alloy steel and cast steel (less than 5% of alloying elements)		Annealed	600	200	6
			Quenched and tempered	930	275	7
				1000	300	8
				1200	350	9
	High alloyed steel, cast steel, and tool steel		Annealed	680	200	10
			Quenched and tempered	1100	325	11
	Stainless steel and cast steel		Ferritic/martensitic	680	200	12
			Martensitic	820	240	13
M	Stainless steel		Austenitic	600	180	14
K	Grey cast iron (GG)		Ferritic/pearlitic		180	15
			Pearlitic		260	16
	Cast iron nodular (GGG)		Ferritic		160	17
			Pearlitic		250	18
	Malleable cast iron		Ferritic		130	19
			Pearlitic		230	20
N	Aluminum-wrought alloy		Not cureable		60	21
			Cured		100	22
	Aluminum-cast, alloyed	<=12% Si	Not cureable		75	23
			Cured		90	24
		>12% Si	High temperature		130	25
	Copper alloys	>1% Pb	Free cutting		110	26
			Brass		90	27
			Electrolitic copper		100	28
	Non-metallic		Duroplastics, fiber plastics			29
			Hard rubber			30
S	High temp. alloys	Fe based	Annealed		200	31
			Cured		280	32
		Ni or Co based	Annealed		250	33
			Cured		350	34
			Cast		320	35
	Titanium Ti alloys			RM 400		36
			Alpha+beta alloys cured	RM 1050		37
H	Hardened steel		Hardened		55 HRC	38
			Hardened		60 HRC	39
	Chilled cast iron		Cast		400	40
	Cast iron		Hardened		55 HRC	41

- For machining aluminum, use IC20; maximum cutting speed corresponds to the maximum RPM indicated on the cutter
  A - First choice B - Second choice
- Recommendations are for normal machining conditions
- If excessive wear occurs, select insert with higher hardness
- If chipping or breakage occurs, select insert with more toughness

(1) For workpiece materials list, see pages 1114-1149

Recommended Cutting Speed (m/min)

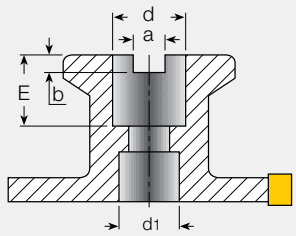
Material No.[1]	Coated			Uncoated
	IC328	IC928 / IC830	IC908 / IC808	IC20
1	A 80-150	A 80-160	B 120-220	
2	A 80-130	A 80-180	B 120-200	
3	A 80-130	A 80-180	B 120-200	
4	A 60-110	A 70-150	B 100-170	
5	A 60-100	A 70-160	B 100-180	
6	A 80-140	A 70-160	B 120-190	
7	A 60-120	A 70-140	B 100-180	
8	A 60-120	A 70-140	B 100-180	
9	A 60-110	A 70-110	B 80-120	
10	A 60-80	A 70-90	B 80-120	
11	A 50-70	A 50-80	B 60-100	
12	50-110	60-140	70-180	
13	50-100	60-120	60-160	
14	50-100	60-120	60-160	
15			115-140	95-110
16			90-120	70-100
17			90-140	70-110
18			70-100	55-80
19			115-140	95-110
20			90-120	70-100
21				250max
22				250max
23				250max
24				250max
25				250max
26				250max
27				250max
28				250max
29				
30				
31			40-50	30-40
32			30-40	20-30
33			30-40	20-30
34			30-40	20-30
35			20-30	15-25
36			30-40	15-25
37			30-40	20-30
38			25-50	
39			30-40	
40			50-60	10-20
41			30-50	

[1] For workpiece materials list, see pages 1114-1149

Slot Milling Cutters

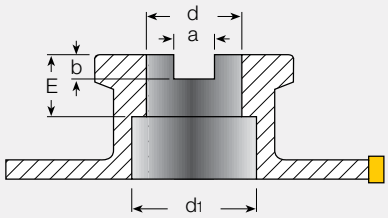
Arbor Hole Styles and Dimensions

Style A



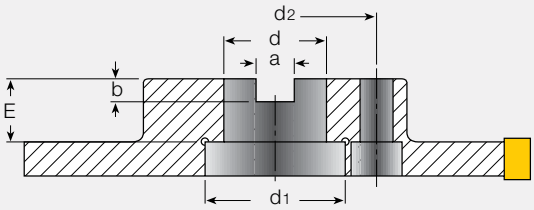
d [DCONMS]	E	d_1	a	b
16	18	14	8.4	5.6
22	20	18	10.4	6.5
27	22	20	12.4	7.0
32	25	27	14.4	8.1

Style B



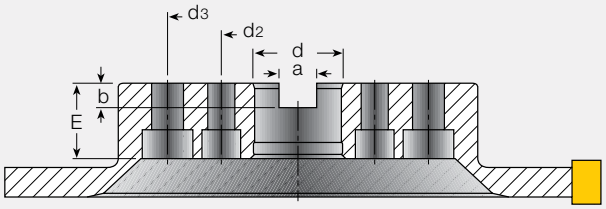
d [DCONMS]	E	d_1	a	b
22	20	29	10.9	6.5
27	28	36	12.4	7.0
32	30	43	14.4	8.0
40	33	53	16.4	8.0

Style C



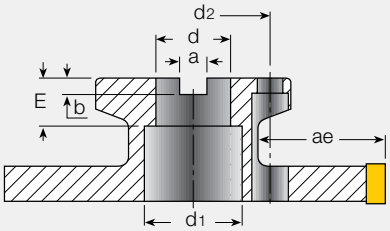
d [DCONMS]	E	d_1	d_2	a	b
40	33	55	66.7	16.4	9.0
60	45	90	101.6	25.7	14.0

Style D



d [DCONMS]	E	d_1	d_3	a	b
60	45	101.6	177.8	25.7	14.0

Style E



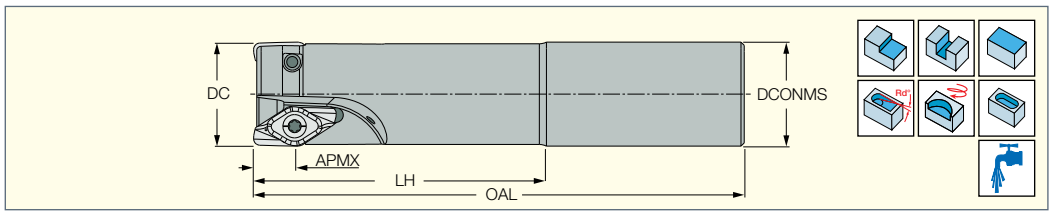
d [DCONMS]	E	d_1	d_3	a	b
40	33	55	66.7	16.4	9.0
60	45	63	101.6	25.7	14.0

CUTTERS FOR ALUMINUM

HELIALU

HSM90S EAL-14

Long Reach Endmills Carrying HSM90S APCR 1405... Inserts for Machining Aluminum



Designation	DC	APMX	CICT(1)	LH	OAL	DCONMS	RPMX(2)	RMPX(3)	kg			
HSM90S EAL-D32-2-C32-14	32.00	10.00	2	80.0	200.00	32.00	37500	10.0	1.02	SR M5X0.8IP20-1S	BLD IP20/M7	SW6-T-SH

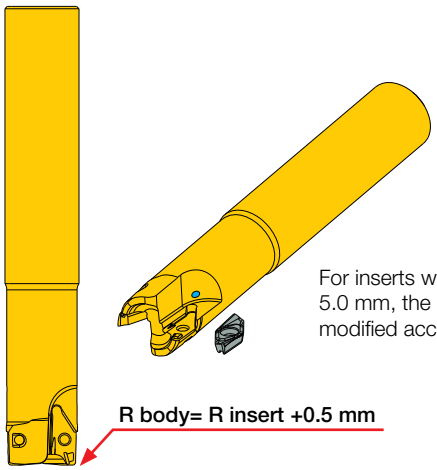
• Important: When machining at very high cutting speeds and the insert needs replacing, it is also recommended to replace the screw • Insert tightening torque: 6 (Nxm)

(1) Number of inserts

(2) Maximum RPM

(3) Maximum ramping angle

For inserts, see pages: HSM90S APCR 1405 (450)



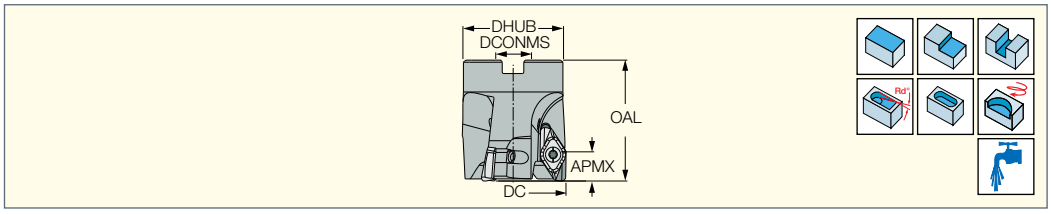
For inserts with a corner radius larger than 5.0 mm, the corner of the pocket must be modified according to the drawing.

R body= R insert +0.5 mm

HELIALU

HSM90S FAL-14

90° Face Mills Carrying Super Positive and Polished Rake Inserts for Machining Aluminum at High Rotation Speeds



Designation	DC	CICT(1)	APMX	OAL	DHUB	DCONMS	Arbor(2)	RMPX(3)	RPMX(4)	kg
HSM90S FAL-D050-2-22-14	50.00	2	10.00	57.00	47.00	22.00	A	8.0	38000	0.43
HSM90S FAL-D050-3-22-14	50.00	3	10.00	57.00	47.00	22.00	A	8.0	38000	0.42
HSM90S FAL-D050-4-22-14	50.00	4	10.00	57.00	47.00	22.00	A	7.0	33000	0.43

• Important: When machining at very high cutting speeds and the insert needs replacing, it is also recommended to replace the screw • Insert tightening torque: 6 (Nxm)

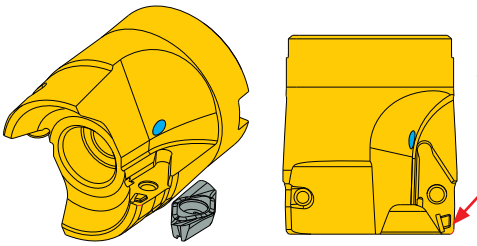
(1) Number of inserts

(2) For adaptation options, see page 517

(3) Maximum ramping angle

(4) Maximum RPM

For inserts, see pages: HSM90S APCR 1405 (450)



For inserts with a corner radius larger than 5.0 mm, the corner of the pocket must be modified according to the drawing.

R body= R insert +0.5 mm

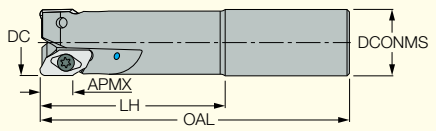
Spare Parts

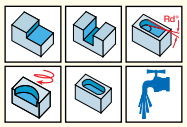
Designation				
HSM90S FAL-14	SR M5X0.8IP20-1	BLD IP20/M7	SW6-T-SH	SR M10X40DIN912

HELiALU

HM90 EAL-16

Long Reach Endmills Carrying HM90 APCR 1605 Inserts for Machining Aluminum





Designation	DC	CICT(1)	APMX(2)	LH	OAL	DCONMS	Shank(3)	RPMX(4)	RMPX(5)	kg
HM90 EAL-D25-C24L180-16	25.00	1	15.80	-	180.00	24.00	C	7000	25.9	0.56
HM90 EAL-D25-C25L125-16	25.00	1	15.80	69.0	125.00	25.00	C	7000	25.9	0.38
HM90 EAL-D25-C25L200-16	25.00	1	15.80	65.0	200.00	25.00	C	7000	25.9	0.62
HM90 EAL-D32-C32L150-16	32.00	2	15.80	90.0	150.00	32.00	C	45643	22.4	0.74
HM90 EAL-D32-C32L200-16	32.00	2	15.80	80.0	200.00	32.00	C	45643	22.4	1.02
HM90 EAL-D40-C32L220-16	40.00	2	15.80	45.0	220.00	32.00	C	36809	16.9	1.28

• Insert tightening torque: 600 Nxcm • HM90 APCR 1605..R-P inserts with corner radii 3.2 and 4.0 mm require pocket modification, corners larger than 4.5 mm should be used only on BR tools. • For user guide, see pages 518-524

(1) Number of inserts

(2) D.O.C. changes according to insert radius. ap 15.8 is the value for HM90 APCR 160520R-P

(3) C-Cylindrical

(4) Maximum RPM

(5) Maximum ramping angle

For inserts, see pages: HM90 APCR 1605..R-P (451)

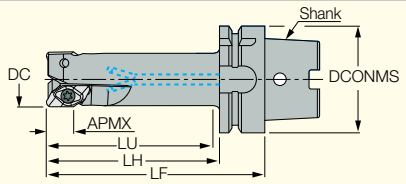
Spare Parts

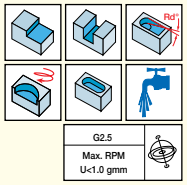
Designation			
HM90 EAL-D25-C24L180-16	SR 14-592SM	BLD T20/S7	SW6-T
HM90 EAL-D25-C25L125-16	SR 14-592SM	BLD T20/S7	SW6-T
HM90 EAL-D25-C25L200-16	SR 14-592SM	BLD T20/S7	SW6-T
HM90 EAL-D32-C32L150-16	SR 14-0180	BLD T20/S7	SW6-T
HM90 EAL-D32-C32L200-16	SR 14-0180	BLD T20/M7	SW6-T
HM90 EAL-D40-C32L220-16	SR 14-0180	BLD T20/M7	SW6-T

HELiALU HSK

HM90 EAL-HSK63A-16

Long Reach Endmills with Integral HSK Adaptation Carrying HM90 APCR 1605... Inserts for Machining Aluminum





Designation	DC	APMX(1)	LU	LH	LF	ZEFP	RPMX(2)	RMPX(3)	DCONMS	Shank	kg
HM90 EAL32-L100-HSK63A-16	32.00	15.80	97.0	100.00	126.00	2	45600	22.0	63.00	HSK A 63	1.06

• Insert tightening torque: 600 Nxcm • HM90 APCR 1605..R-P inserts with corner radii 3.2 and 4.0 mm require pocket modification, corners larger than 4.5 mm should be used only on BR tools • A cooling tube must be used with all internal coolant HSK spindles (should be ordered separately) • For user guide, see pages 518-524

(1) D.O.C. changes according to insert radius, ap 15.8 is the value for HM90 APCR 160520R-P.

(2) Maximum RPM

(3) Maximum ramping angle

For inserts, see pages: HM90 APCR 1605..R-P (451)

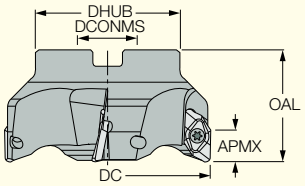
Spare Parts

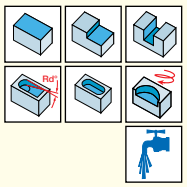
Designation			
HM90 EAL-HSK63A-16	SR 14-0180	BLD T20/M7	SW6-T

HELiALU

HM90 FAL-16

Face Mills Carrying HM90 APCR 1605... Inserts for Machining Aluminum





Designation	DC	CICT(1)	APMX(2)	OAL	DHUB	DCONMS	RPMX(3)	RMPX(4)	Arbor(5)	kg
HM90 FAL-D050-22-16	50.00	3	15.80	45.00	47.00	22.00	30500	10.0	A	0.26
HM90 FAL-D063-27-16	63.00	3	15.80	50.00	58.00	27.00	22990	7.0	A	0.55
HM90 FAL-D080-27-16	80.00	3	15.80	50.00	60.00	27.00	18125	6.0	A	0.89
HM90 FAL-D100-32-16	100.00	4	15.80	55.00	70.00	32.00	14500	4.0	B	1.44
HM90 FAL-D125-40-16	125.00	5	15.80	63.00	84.00	40.00	11600	3.0	B	2.36

• Insert tightening torque: 600 Nxcm • HM90 APCR 1605..R-P inserts with corner radii 3.2 and 4.0 mm require pocket modification, corners larger than 4.5 mm should be used only on BR tools • For user guide, see pages 518-524

(1) Number of inserts

(2) D.O.C. changes according to insert radius. ap 15.8 is the value for HM90 APCR 160520R-P

(3) Maximum RPM

(4) Maximum ramping angle

(5) For adaptation options, see page 517

For inserts, see pages: HM90 APCR 1605..R-P (451)

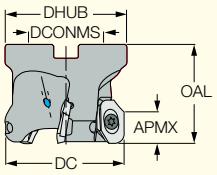
Spare Parts

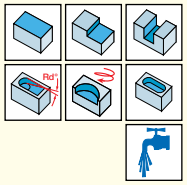
Designation				
HM90 FAL-D050-22-16	SR 14-0180	BLD T20/M7	SW6-T	SR M10X25 DIN912
HM90 FAL-D063-27-16	SR 14-0180	BLD T20/M7	SW6-T	SR DIN 912 M12X25
HM90 FAL-D080-27-16	SR 14-0180	BLD T20/M7	SW6-T	SR DIN 912 M12X25
HM90 FAL-D100-32-16	SR 14-0180	BLD T20/M7	SW6-T	SR M4X5 DIN916
HM90 FAL-D125-40-16	SR 14-0180	BLD T20/M7	SW6-T	SR M4X5 DIN916

HELiALU

HM90 FAL-16BR

Face Mills Carrying HM90 APCR 1605... Inserts with Corner Radii Equal or Larger Than 5 mm for Machining Aluminum





Designation	DC	CICT(1)	APMX	OAL	DHUB	DCONMS	RPMX(2)	RMPX(3)	Arbor(4)	kg
HM90 FAL-D050-22-16BR	50.00	3	15.50	45.00	49.00	22.00	30500	11.0	A	0.28

• Note: HM90 APCR 1605..R-P inserts with corner radii smaller than 5 mm should not be used on BR tools • Insert tightening torque: 6Nxm

(1) Number of inserts

(2) Maximum RPM

(3) Maximum ramping angle

(4) For adaptation options, see page 517

For inserts, see pages: HM90 APCR 1605..R-P (451)

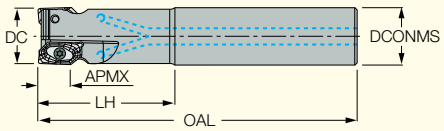
Spare Parts

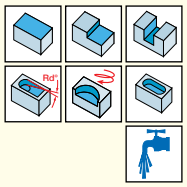
Designation				
HM90 FAL-16BR	SR 14-0180	BLD T20/M7	SW6-T	SR M10X25 DIN912

HELiALU

HM90 EAL-15

Long Reach Endmills Carrying HM90 AXCR 1505... Inserts for Machining Aluminum





Designation	DC	CICT(1)	APMX	LH	OAL	DCONMS	Shank(2)	RPMX(3)	RMPX(4)	kg		
HM90 EAL-D25-C25-L140-15	25.00	2	13.50	60.0	140.00	25.00	C	37500	21.0	0.44	SR 14-562	T-10/51
HM90 EAL-D32-C32-L150-15	32.00	3	13.50	70.0	150.00	32.00	C	31250	13.0	0.75	SR 14-562	T-10/51
HM90 EAL-D40-C32-L160-15	40.00	3	13.50	70.0	160.00	32.00	C	26040	9.0	0.99	SR 14-562	T-10/51

• Insert tightening torque: 350 Nxcm

(1) Number of inserts

(2) C-Cylindrical

(3) Maximum RPM

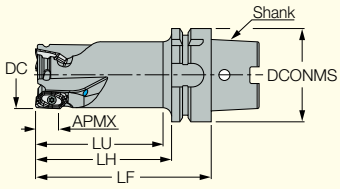
(4) Maximum ramping angle

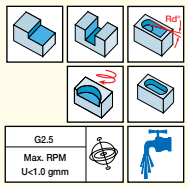
For inserts, see pages: HM90 AXCR 1505 (450)

HELIALU HSK

HM90 EAL-HSK63A-15

Long Reach Endmills with Integral HSK Adaptation Carrying HM90 AXCR 1505... Inserts for Machining Aluminum





Designation	DC	LDRED	ZEFP	APMX	LH	LF	RPMX(1)	RMPX(2)	DCONMS	Shank	kg		
HM90 EAL25-L75-HSK63A-15	25.00	70.0	2	15.00	75.00	101.00	31250	21.0	63.00	HSK 63A	0.82	SR 14-562	T-10/51
HM90 EAL32-L65-HSK63A-15	32.00	60.0	3	15.00	65.00	91.00	31250	13.0	63.00	HSK 63A	0.90	SR 14-562	T-10/51
HM90 EAL32-L100-HSK63A-15	32.00	95.0	3	15.00	100.00	126.00	31250	13.0	63.00	HSK 63A	1.08	SR 14-562	T-10/51
HM90 EAL40-L80-HSK63A-15	40.00	75.0	3	15.00	80.00	106.00	26040	9.0	63.00	HSK 63A	1.17	SR 14-562	T-10/51
HM90 EAL40-L120-HSK63A-15	40.00	115.0	3	15.00	120.00	146.00	26040	9.0	63.00	HSK 63A	1.52	SR 14-562	T-10/51

- 32 and 40 mm diameter tools feature balancing adjustment screws
- A cooling tube must be used with all internal coolant HSK spindles (should be ordered separately)
- Insert tightening torque: 3.2 Nxm

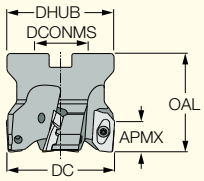
(1) Maximum RPM
(2) Maximum ramping angle

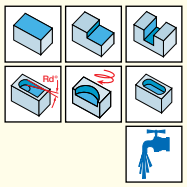
For inserts, see pages: HM90 AXCR 1505 (450)

HELIALU

HM90 FAL-15

Face Mills Carrying HM90 AXCR 1505.. Inserts for Machining Aluminum





Designation	DC	CICT(1)	APMX	OAL	DHUB	DCONMS	Arbor(2)	RPMX(3)	RMPX(4)	kg
HM90 FAL-D050-4-22-15	50.00	4	13.50	45.00	49.00	22.00	A	23000	6.5	0.30

(1) Number of inserts
(2) For adaptation options, see page 517
(3) Maximum RPM
(4) Maximum ramping angle

For inserts, see pages: HM90 AXCR 1505 (450)

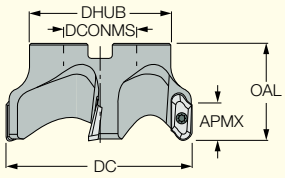
Spare Parts

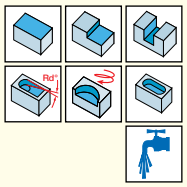
Designation				
HM90 FAL-15	SR 14-562	BLD T10/S7	SW6-SD	SR M10X25 DIN912

HELIALU

HM90 FAL-22

Face Mills Carrying HM90 APCR 2206... Inserts for Machining Aluminum





Designation	DC	APMX	CICT(1)	OAL	DHUB	DCONMS	Arbor(2)	RMPX(3)	RPMX(4)	kg
HM90 FAL-D063-27-22	63.00	20.50	3	50.00	62.00	27.00	A	7.0	16000	0.48
HM90 FAL-D080-27-22	80.00	20.50	3	50.00	70.00	27.00	A	5.0	14000	0.81

- D.O.C. changes according to insert radius
- ap 20.5 is the value for HM90 APCR220650
- Insert tightening torque: 6 Nxm

(1) Number of inserts
(2) For adaptation options, see page 517
(3) Maximum ramping angle
(4) Maximum RPM

For inserts, see pages: HM90 APCR 2206..R-P (452) • HM90 APCR 220605-CS (452)

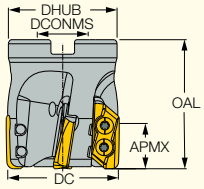
Spare Parts

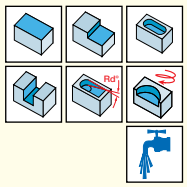
Designation				
HM90 FAL-22	SR 14-0180	BLD T20/M7	SW6-T	SR DIN 912 M12X25

HELIALU

HSM90S FAL-22

90° Face Mills Carrying Super Positive and Polished Rake Inserts for Machining Aluminum at High Rotation Speeds





Designation	DC	APMX	CICT(1)	DCONMS	DHUB	OAL	Arbor(2)	RMPX(3)	RPMX(4)	kg
HSM90S FAL-D050-3-22-22	50.00	22.00	3	22.00	48.00	57.00	A	7.0	31000	0.40
HSM90S FAL-D050-4-22-22	50.00	22.00	4	22.00	48.00	57.00	A	7.0	31000	0.41

• Important: When machining at very high cutting speeds and the insert needs replacing, it is also recommended to replace the screws • Insert tightening torque: 9 (Nxm)

(1) Number of inserts

(2) For adaptation options, see page 517

(3) Maximum ramping angle

(4) Maximum RPM

For inserts, see pages: HSM90S APCR 2207 (452)

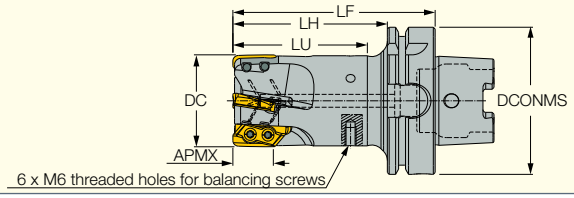
Spare Parts

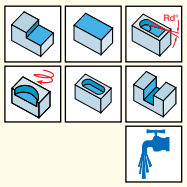
Designation				
HSM90S FAL-22	SR M5x0.8 20IP-13343	BLD IP20/M7	SW6-T-SH	SR M10X40DIN912

HELI2000 HSK

HSM90SFD-HSK A63/80-22

90° Endmills with Integral HSK Adaptation Carrying Super Positive Inserts for Machining Aluminum at High Rotation Speeds





Designation	DC	LU	LH	LF	CICT(1)	DCONMS	Shank	RMPX(2)	RPMX(3)	kg
HSM90SFD50-3-63A/80MQL-22	50.00	73.1	84.0	110.00	3	80.00	HSK A63/80	7.0	31000	0.50
HSM90SFD50-4-63A/80MQL-22	50.00	73.1	84.0	110.00	4	80.00	HSK A63/80	7.0	31000	0.50

• A cooling tube must be used with all internal coolant HSK spindles (should be ordered separately) • Important: When machining at very high cutting speeds and the insert needs replacing, it is also recommended to replace the screws • Insert tightening torque: 9 (Nxm)

(1) Number of inserts

(2) Maximum ramping angle

(3) Maximum RPM

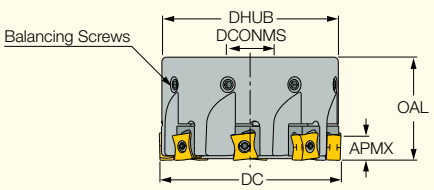
Spare Parts

Designation				
HSM90SFD-HSK A63/80-22	SR M5x0.8 20IP-13343	BLD IP20/M7	SW6-T-SH	COOLING TUBE HSK A63

ALUTANG

F90LN-FR CA11

Adjustable 90° Face Mills (used mainly for PCD/CBN inserts)



Designation	DC	CICT(1)	OAL	APMX(2)	DHUB	DCONMS	Arbor(3)	RPMX(4)	kg
F90LN D050-03-16SFR CA11	50.00	3	40.00	5.00	38.00	16.00	A	24700	0.40
F90LN D050-04-16SFR CA11	50.00	4	40.00	5.00	38.00	16.00	A	24700	0.39
F90LN D063-04-22AFR CA11	63.00	4	45.00	5.00	60.40	22.00	B	22000	0.29
F90LN D063-06-22AFR CA11	63.00	6	45.00	5.00	60.40	22.00	B	22000	0.30
F90LN D080-05-27AFR CA11	80.00	5	45.00	5.00	77.00	27.00	B	19000	0.48
F90LN D080-08-27AFR CA11	80.00	8	45.00	5.00	77.00	27.00	B	19000	0.49
F90LN D100-06-32AFR CA11	100.00	6	55.00	5.00	97.00	32.00	B	15500	0.89
F90LN D100-10-32AFR CA11	100.00	10	55.00	5.00	97.00	32.00	B	15500	0.95
F90LN D125-08-40AFR CA11	125.00	8	63.00	5.00	122.00	40.00	B	13800	1.72
F90LN D125-12-40AFR CA11	125.00	12	63.00	5.00	122.00	40.00	B	13800	1.75
F90LN D160-14-40AFR CA11	160.00	14	63.00	5.00	157.00	40.00	C	12200	3.02

• The tool bodies are made from aluminum (AFR) and the 50 mm tools are made from steel (SFR)

(1) Number of inserts

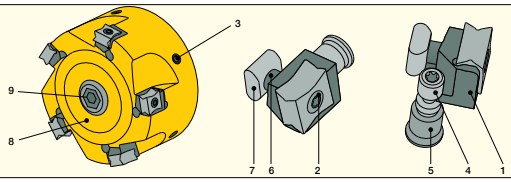
(2) Please refer to PCD and CBN specific insert D.O.C. recomendations

(3) For adaptation options, see page 517

(4) Maximum RPM

For inserts, see pages: LNAR 1106 (466) • LNAR 1106 (PCD) (467) • LNAR 1106PN-R-S-W (PCD) (467) • LNAT 1106-W (466) • LNAW-11 (CBN) (468) • LNHT 1106 PN-N HT (466) • LNHT 1106 PN-R HT (465) • LNKX/LNMT 1106 (465)

F90LN-FR CA11



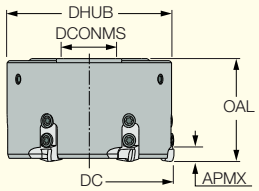
Spare Parts	Designation	Part Number
Cartridge	CA 90 AL-R-LN11	1
Insert clamping screw	SR 34-550	2
Blade key	BLD T10/S7	
Handle	SW6-SD	
Balancing screw	SR M6X10 DIN 913 TUFLOK	3
Balancing screw key	HW 3.0	
Pocket axial adjustment screw	SR 11800875	4
Bushing for pocket axial adjustment screw	SR TC-604	5
Cartridge screw bushing	SR TC-873	6
Cartridge clamping nut	NUT 11800872	7

Tool	Coolant Cover #8	Coolant Cover Screw #9
F90LN D050-03-16SFR CA11	COVER CC5 D050-CA11	SR M10-35C
F90LN D050-04-16SFR CA11	COVER CC5 D050-CA11	SR M10-35C
F90LN D063-04-22AFR CA11	COVER D063-CA11	SR M10-35C
F90LN D063-06-22AFR CA11	COVER D063-CA11	SR M10-35C
F90LN D080-05-27AFR CA11	COVER D080-CA11	SR M12-35C
F90LN D080-08-27AFR CA11	COVER D080-CA11	SR M12-35C
F90LN D100-06-32AFR CA11	COVER D100-CA11	SR M16-40C
F90LN D100-10-32AFR CA11	COVER D100-CA11	SR M16-40C
F90LN D125-08-40AFR CA11	COVER D125-CA11	SR M20-40C
F90LN D125-12-40AFR CA11	COVER D125-CA11	SR M20-40C
F90LN D160-14-40AFR CA11	COVER D160-CA11	SR M20-40C

ALUFRAISE

SPM-D-CA

Face Mills with Adjustable Cartridges for High Speed Machining of Aluminum Alloys, Cast Iron and Carbon Fiber



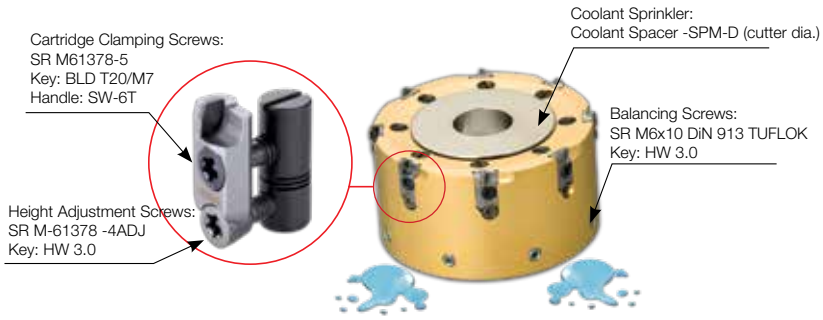
Designation	DC	CICT(1)	APMX	OAL	DHUB	DCONMS	RPMX(2)	kg
SPM D050-04-22R-CA	52.50	4	2.50	50.00	50.00	22.00	44000	0.23
SPM D063-05-22R-CA	65.50	5	2.50	50.00	63.00	22.00	43000	0.40
SPM D063-08-22R-CA	65.50	8	2.50	50.00	63.00	22.00	43000	0.41
SPM D080-06-27R-CA	82.00	6	2.50	50.00	80.00	27.00	31000	0.65
SPM D080-10-27R-CA	82.00	10	2.50	50.00	80.00	27.00	31000	0.66
SPM D100-08-32R-CA	102.50	8	2.50	56.00	100.00	32.00	31000	1.15
SPM D100-14-32R-CA	102.50	14	2.50	56.00	100.00	32.00	31000	0.92
SPM D125-10-40R-CA	127.50	10	2.50	63.00	125.00	40.00	29500	2.02
SPM D125-18-40R-CA	127.50	18	2.50	63.00	125.00	40.00	29500	2.00
SPM D160-12-40R-CA	162.00	12	2.50	50.00	160.00	40.00	24500	2.69
SPM D160-24-40R-CA	162.00	24	2.50	50.00	160.00	40.00	24500	2.72

(1) Number of inserts
(2) Maximum RPM

For inserts, see pages: CA-SPM (383)

Features

- Lightweight body
- Very few parts to assemble
- User-friendly assembly and adjustment system
- Easy axial edge positioning for up to 0.002 mm accuracy
- Convenient balancing procedure
- **Very durable, without threaded screws in the cutter body**
- Several cartridge configurations available for various materials and applications



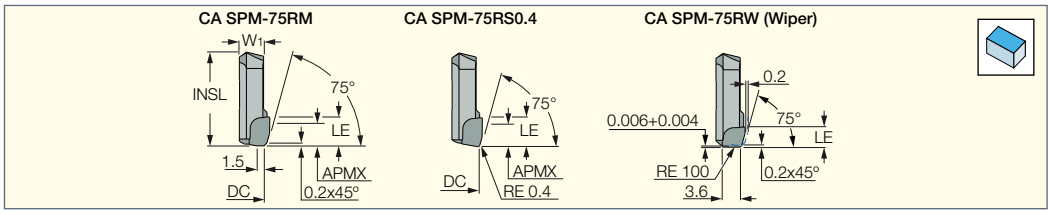
Spare Parts

Designation										
SPM D050-04-22R-CA	SR M5-61378	BLD T20/M7	SW6-T			SR M4-61378-ADJ	SR M6X10 DIN913 TL180	PIN SPM-61385	HW 3.0	
SPM D063-05-22R-CA	SR M5-61378	BLD T20/M7	SW6-T			SR M4-61378-ADJ	SR M6X10 DIN913 TL180	PIN SPM-61385	HW 3.0	
SPM D063-08-22R-CA	SR M5-61378	BLD T20/M7	SW6-T			SR M4-61378-ADJ	SR M6X10 DIN913 TL180	PIN SPM-61385	HW 3.0	
SPM D080-06-27R-CA	SR M5-61378	BLD T20/M7	SW6-T			SR M4-61378-ADJ	SR M6X10 DIN913 TL180	PIN SPM-61385	HW 3.0	
SPM D080-10-27R-CA	SR M5-61378	BLD T20/M7	SW6-T			SR M4-61378-ADJ	SR M6X10 DIN913 TL180	PIN SPM-61385	HW 3.0	
SPM D100-08-32R-CA	SR M5-61378	BLD T20/M7	SW6-T			SR M4-61378-ADJ	SR M6X10 DIN913 TL180	PIN SPM-61385	HW 3.0	
SPM D100-14-32R-CA	SR M5-61378	BLD T20/M7	SW6-T			SR M4-61378-ADJ	SR M6X10 DIN913 TL180	PIN SPM-61385	HW 3.0	
SPM D125-10-40R-CA	SR M5-61378	BLD T20/M7	SW6-T	SR M20X40-824624		SR M4-61378-ADJ	SR M6X10 DIN913 TL180	PIN SPM-61385	HW 3.0	
SPM D125-18-40R-CA	SR M5-61378	BLD T20/M7	SW6-T	SR M20X40-824624		SR M4-61378-ADJ	SR M6X10 DIN913 TL180	PIN SPM-61385	HW 3.0	
SPM D160-12-40R-CA	SR M5-61378	BLD T20/M7	SW6-T		COOLANT SPACER-SPM-D160	SR M4-61378-ADJ	SR M6X10 DIN913 TL180	PIN SPM-61385	HW 3.0	HW 14.0
SPM D160-24-40R-CA	SR M5-61378	BLD T20/M7	SW6-T		COOLANT SPACER-SPM-D160	SR M4-61378-ADJ	SR M6X10 DIN913 TL180	PIN SPM-61385	HW 3.0	HW 14.0

ALUFRAISE

CA-SPM

Cartridges for SPM-D-CA Face Mills



Designation	Dimensions						ID5
	OAL	CW	LE	APMX	Ra µ min	Ra µ max	
CA-SPM-75RM	19.20	5.00	6.00	2.50	0.40	0.80	●
CA-SPM-75RS0.4	19.20	5.00	6.00	2.50	1.00	3.20	●
CA-SPM-75RW [1]	19.20	5.00	4.20	-	0.15	0.40	●

[1] The wiper cartridge should protrude axially by 0.006 - 0.01 mm and it is 0.2 mm shorter in the radial direction

For tools, see pages: SPM-D-CA (382)

TOOLS FOR ALUMINUM

Following is a Reference List of Additional Inserts for Machining Aluminum Using General Use Milling Cutters

	Insert for Aluminum Designation	Insert Page	Milling Cutters Designation	Tool Page
	HP ANCR	430	HP E90AN HP F90AN HP ANK	14-15 187 230
	HM90 ADCR 1505 PDFR-P ADCR 1505PDFR-P	441	E90AC HM90 F90A HM90 E90AD SM	32 203 28, 29 244
	HM90 APCR 100304 P/DP APCR 1003PDFR-P	435 436	APK HM90 F90AP HM90 E90A	234 193 22-24
	HP ADCR 1906 HP ADCR 220704 PDFR-P	449 450	HP E90AT HP F90AT	31 209
	LNAR 1106 PN-N-P LNAR 110604 PN-R-S	466 467	F90LN-R/L-N11	196 201
	LNAR 1505 PN-N-P LNAR 1505 PN-R-S	472 473	F90LN-R/L-N15	
	T490 LNAR 1306 PN-R-P T490 LNAR 1306 PN-R	464	T490 ELN T490 FLN T490 LNK T490 SM	27 189, 194, 200, 205 232-234 238-239
	OECR 060405AER-P	488	HOF	213
	OFCR 07T3-AEN OFCR 07T3-AEN-P OFCR 07T3-RW-P	490		
	SEHT 1204AFN SEHT 1204AFN-P	493	F45ST	220
	SDMR 1205 PDR-HQ-M	481	F90SD SDK	197 243, 244

TOOLS FOR ALUMINUM

	Insert for Aluminum Designation	Insert Page	Milling Cutters Designation	Tool Page
	RCMT ...-FW-F20 RCCT 1206 MO	506	ERW, FRW	267-269

MULTI-MASTER and Solid Carbide Endmills for Machining Aluminum

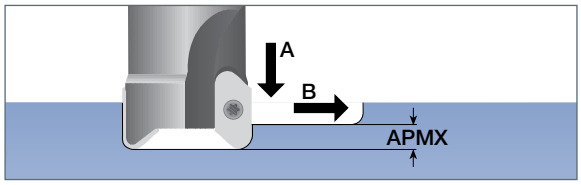
	MM EA MM EA-CF MM EBA	69 69 60	MM S... MM TS-A MM GRT TS CAB MM CAB MM S-ER...	70-77

Solid Carbide Endmills for Aluminum

	ECA-H3-CF ECA-B-2 ECA-B-3 ECA-F-2	139 152 153 153
	ERC-E-3 ECR-B3-R	150 151

E90AL - Details of Application

Milling and Plunging, Stroke Pattern



Maximum Plunging Capability

Inserts	APMX
HM90 AXCR 1505	4mm
HM90 APCR 1605...R-P (02R-40R)	7.7mm
HM90 APCR 1605...R-P (50R-64R)	6.0mm
HM90 APCR 2206...R-P (05R-50R)	5.8mm
HM90 APCR 2206...R-P (64R)	4.7mm

Note 1
The drilling and plunging strokes have to be at the same depth as the slotting stroke, otherwise the hole fills with chips that impair the next stroke.

Note 2
In order to shorten swarf during plunging and drilling, it is recommended to use peck feeding.

Note 3
The maximum recommended speed is 7,000 rpm. Higher speeds are possible after dynamic balancing to G2.5.
Ordering example for balanced tools:
E90AL D40-C40-L200-22-DB

Insert and Screw Set (5+5) for High Speed Machining Applications

In order to maintain high machining reliability, we strongly recommend that when replacing the worn out insert, the clamping screw is replaced as well.
Packages are available that contain 5 **HM90 APCR** 1605..**R**-P **IC28** or **HM90 AXCR** 1505..**R**-P **IC28** inserts and 5 matching screws.
These packages contain inserts with a weight tolerance of 0.02 gm.
This tight tolerance ensures maintenance of the dynamic balance of the tool after insert indexing.

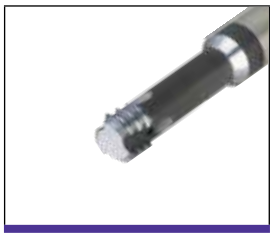
HSM90 SET APCR-P

Set Designation		5 Included Inserts		5 Included Screws
HSM90 Set APCR 160502RP IC28	=	HM90 APCR 160502R-P IC28	+	SR 14-0180
HSM90 Set APCR 160504RP IC28		HM90 APCR 160504R-P IC28		SR 14-0180
HSM90 Set APCR 160505RP IC28		HM90 APCR 160505R-P IC28		SR 14-0180
HSM90 Set APCR 160508RP IC28		HM90 APCR 160508R-P IC28		SR 14-0180
HSM90 Set APCR 160516RP IC28		HM90 APCR 160516R-P IC28		SR 14-0180
HSM90 Set APCR 160520RP IC08		HM90 APCR 160520R-P IC08		SR 14-0180
HSM90 Set APCR 160520RP IC28		HM90 APCR 160520R-P IC28		SR 14-0180
HSM90 Set APCR 160525RP IC28		HM90 APCR 160525R-P IC28		SR 14-0180
HSM90 Set APCR 160530RP IC28		HM90 APCR 160530R-P IC28		SR 14-0180
HSM90 Set APCR 160532RP IC28		HM90 APCR 160532R-P IC28		SR 14-0180
HSM90 Set APCR 160540RP IC28		HM90 APCR 160540R-P IC28		SR 14-0180
HSM90 Set APCR 160550RP IC28		HM90 APCR 160550R-P IC28		SR 14-0180
HSM90 Set APCR 160560RP IC28		HM90 APCR 160560R-P IC28		SR 14-0180
HSM90 Set APCR 160564RP IC28		HM90 APCR 160564R-P IC28		SR 14-0180

HSM90 SET AXCR-P

Set Designation		5 Included Inserts		5 Included Screws
HSM90 Set AXCR 150504RP IC28	=	HM90 AXCR 150504R-P IC28	+	SR 14-562
HSM90 Set AXCR 150508RP IC28		HM90 AXCR 150508R-P IC28		SR 14-562
HSM90 Set AXCR 150520RP IC28		HM90 AXCR 150520R-P IC28		SR 14-562
HSM90 Set AXCR 150530RP IC28		HM90 AXCR 150530R-P IC28		SR 14-562
HSM90 Set AXCR 150532RP IC28		HM90 AXCR 150532R-P IC28		SR 14-562

THREAD MILLING TOOLS



SOLIDTHREAD

MTECS, MTECSH
pages 392-393,
396-397,399

SOLIDTHREAD

MTEC, MTECB, MTECZ, MTECQ
pages 389-391,
394-395,398-401

SOLIDTHREAD

MTECI
page 402

SOLIDTHREAD

MTECD
page 393

MULTI-MASTER

MT-...-MM
pages 404-405

MULTI-MASTER

MM TRD
page 403

T-SLOT

SD TRD
pages 403-404

MILLTHREAD

MTE
pages 406-407

MILLTHREAD

MTSRH
page 409

MILLTHREAD

MTF-MULTI
(shell mill)
page 408

MILLTHREAD

MTSRH
(shell mill)
page 409

MILLTHREAD

MTFLE
(shell mill)
page 408

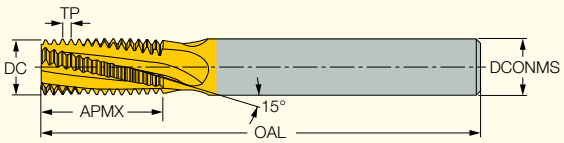
ISCAR THREAD - Solid Carbide Endmills Designation Code Key

MTEC□		06	04	C	14	1.0	ISO	IC908
Mill Thread Endmill Carbide	**S**-Short **B**-Coolant Bore	Shank Dia.	Cutting Dia.	No. of Flutes C = 3 flutes D = 4 flutes E = 5 flutes F = 6 flutes	(ap) Length of Thread	Thread Pitch	Thread Standard	Carbide Grade

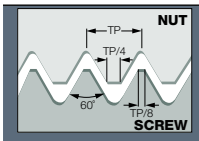
SOLIDTHREAD

MTEC-ISO

Solid Carbide Internal Threading Endmills for ISO Thread Profile



Application: General engineering



Designation	TP(1)	M Coarse	M Fine	DCONMS	DC	NOF(2)	APMX	OAL	Shank(3)	IC908
	Dimensions									
MTEC 06022C5 0.5ISO	0.500	M3	≥4	6.00	2.20	3	5.30	58.00	C	•
MTEC 06038C10 0.5ISO	0.500	-	≥5	6.00	3.80	3	10.30	58.00	C	•
MTEC 06031C7 0.7ISO	0.700	M4	≥5	6.00	3.10	3	7.40	58.00	C	•
MTEC 06045C10 0.75ISO	0.750	-	≥6	6.00	4.50	3	10.00	58.00	C	•
MTEC 06036C9 0.8ISO	0.800	M5	≥6	6.00	3.60	3	9.20	58.00	C	•
MTEC 0604C10 1.0ISO	1.000	M6	≥7	6.00	4.00	3	10.50	58.00	C	•
MTEC 0604C14 1.0ISO	1.000	M6	≥7	6.00	4.00	3	14.50	58.00	C	•
MTEC 0606C12 1.0ISO	1.000	-	≥9	6.00	6.00	3	12.50	58.00	C	•
MTEC 0808D16 1.0ISO	1.000	-	≥10	8.00	8.00	4	16.50	64.00	C	•
MTEC 0605C14 1.25ISO	1.250	M8	≥10	6.00	5.00	3	14.40	58.00	C	•
MTEC 0605C19 1.25ISO	1.250	M8	≥10	6.00	5.00	3	19.40	58.00	C	•
MTEC 0807C17 1.5ISO	1.500	M10	≥12	8.00	7.00	3	17.30	64.00	C	•
MTEC 0807C24 1.5ISO	1.500	M10	≥12	8.00	7.00	3	24.80	76.00	C	•
MTEC 1010D21 1.5ISO	1.500	-	≥14	10.00	10.00	4	21.80	73.00	C	•
MTEC 1616F33 1.5ISO	1.500	-	≥20	16.00	16.00	6	33.80	100.00	C	•
MTEC 0808C20 1.75ISO	1.750	M12	≥14	8.00	8.00	3	20.10	64.00	C	•
MTEC 0808C28 1.75ISO	1.750	M12	≥14	8.00	8.00	3	28.90	76.00	C	•
MTEC 1010C27 2.0ISO	2.000	M14	≥15	10.00	10.00	3	27.00	73.00	C	•
MTEC 1010C39 2.0ISO	2.000	M14	≥15	10.00	10.00	3	39.00	100.00	C	•
MTEC 1212D27 2.0ISO	2.000	-	≥18	12.00	12.00	4	27.00	84.00	C	•
MTEC 2020F41 2.0ISO	2.000	-	≥26	20.00	20.00	6	41.00	105.00	C	•
MTEC 1414D33 2.5ISO	2.500	M20	≥22	14.00	14.00	4	33.80	84.00	C	•
MTEC 1414D48 2.5ISO	2.500	M20	≥22	14.00	14.00	4	48.80	107.00	C	•
MTEC 1616C40 3.0ISO	3.000	M24	≥25	16.00	16.00	3	40.50	100.00	C	•
MTEC 1616C58 3.0ISO	3.000	M24	≥25	16.00	16.00	3	58.50	120.00	C	•
MTEC 2020D43 3.0ISO	3.000	M27	≥28	20.00	20.00	4	43.50	105.00	C	•

• For user guide, see pages 422-428

(1) Thread pitch

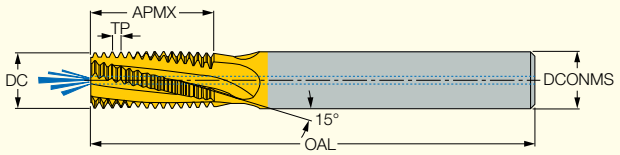
(2) Number of flutes

(3) C-Cylindrical

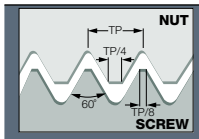
SOLIDTHREAD

MTECB-ISO

Solid Carbide Internal Threading Endmills with Coolant Holes for ISO Thread Profile



Application: General engineering



Designation	Dimensions									IC908
	TP(1)	M Coarse	M Fine	DCONMS	DC	NOF(2)	APMX	OAL	Shank(3)	
MTECB 06038C10 0.5ISO	0.500	-	≥5	6.00	3.80	3	10.30	58.00	C	•
MTECB 06031C7 0.7ISO	0.700	M4	≥5	6.00	3.10	3	7.40	58.00	C	•
MTECB 06045C10 0.75ISO	0.750	-	≥6	6.00	4.50	3	10.10	58.00	C	•
MTECB 1010D24 0.75ISO	0.750	-	≥12	10.00	10.00	4	24.40	73.00	C	•
MTECB 06038C9 0.8ISO	0.800	M5	≥6	6.00	3.80	3	9.20	58.00	C	•
MTECB 06046C10 1.0ISO	1.000	M6	≥7	6.00	4.60	3	10.50	58.00	C	•
MTECB 06046C14 1.0ISO	1.000	M6	≥6	6.00	4.60	3	14.50	58.00	C	•
MTECB 0606C12 1.0ISO	1.000	-	≥9	6.00	6.00	3	12.50	58.00	C	•
MTECB 0808D16 1.0ISO	1.000	-	≥10	8.00	8.00	4	16.50	64.00	C	•
MTECB 1010D24 1.0ISO	1.000	-	≥12	10.00	10.00	4	24.50	73.00	C	•
MTECB 0606C14 1.25ISO	1.250	M8	≥10	6.00	6.00	3	14.40	58.00	C	•
MTECB 0606C19 1.25ISO	1.250	M8	≥10	6.00	6.00	3	19.40	58.00	C	•
MTECB 1212D26 1.5ISO	1.500		≥16	12.00	12.00	4	26.30	84.00	C	•
MTECB 08078C17 1.5ISO	1.500	M10	≥12	8.00	7.80	3	17.00	64.00	C	•
MTECB 08078C24 1.5ISO	1.500	M10	≥12	8.00	7.80	3	24.80	76.00	C	•
MTECB 1010D21 1.5ISO	1.500	-	≥14	10.00	10.00	4	21.80	73.00	C	•
MTECB 1616F33 1.5ISO	1.500	-	≥20	16.00	16.00	6	33.80	105.00	C	•
MTECB 1009C20 1.75ISO	1.750	M12	≥12	10.00	9.00	3	20.10	73.00	C	•
MTECB 1009C28 1.75ISO	1.750	M12	≥12	10.00	9.00	3	28.90	73.00	C	•
MTECB 1010C27 2.0ISO	2.000	M14	≥15	10.00	10.00	3	27.00	73.00	C	•
MTECB 12118D27 2.0ISO	2.000	M16	≥17	12.00	11.80	4	27.00	84.00	C	•
MTECB 12118D39 2.0ISO	2.000	M16	≥17	12.00	11.80	4	39.00	105.00	C	•
MTECB 1615E33 2.5ISO	2.500	M20	≥22	16.00	15.00	5	33.80	105.00	C	•
MTECB 1615E48 2.5ISO	2.500	M20	≥22	16.00	15.00	5	48.80	105.00	C	•
MTECB 2018D58 3.0ISO	3.000	M24	≥25	20.00	18.00	4	58.50	120.00	C	•
MTECB 2020D43 3.0ISO	3.000	M27	≥27	20.00	20.00	4	43.50	105.00	C	•

• With internal coolant hole • For user guide, see pages 422-428

(1) Thread pitch

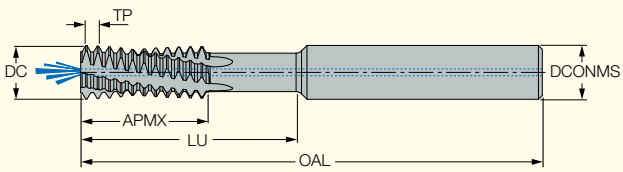
(2) Number of flutes

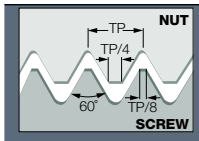
(3) C-Cylindrical

SOLIDTHREAD

MTECQ-ISO

Solid Carbide Threading Endmills with Internal Coolant Holes and a Reduced Diameter Neck for Deep Internal ISO Profile





Designation	Dimensions									IC908
	TP(1)	TDZ	DCONMS	DC	NOF(2)	APMX	LU	OAL	Shank(3)	
MTECQ 1010D32 1.0ISO	1.000	≥12	10.00	10.00	4	18.00	32.0	73.00	C	•
MTECQ 1212D38 1.0ISO	1.000	≥14	12.00	12.00	4	21.00	38.0	84.00	C	•
MTECQ 1010D30 1.5ISO	1.500	≥13	10.00	10.00	4	18.00	30.0	73.00	C	•
MTECQ 2020F60 1.5ISO	1.500	≥24	20.00	20.00	6	36.00	60.0	105.00	C	•
MTECQ 1212D42 2.0ISO	2.000	≥16	12.00	12.00	4	24.00	42.0	84.00	C	•
MTECQ 2020F56 2.0ISO	2.000	≥24	20.00	20.00	6	34.00	56.0	105.00	C	•
MTECQ 2020E54 3.0ISO	3.000	≥24	20.00	20.00	5	33.00	54.0	105.00	C	•
MTECQ 2020D45 3.5ISO	3.500	≥26	20.00	20.00	4	28.00	45.5	105.00	C	•

• For user guide, see pages 422-428

(1) Thread pitch

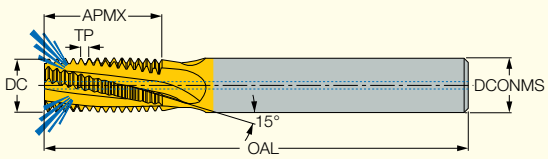
(2) Number of flutes

(3) C-Cylindrical

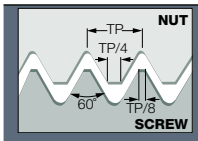
SOLIDTHREAD

MTECZ-ISO

Solid Carbide Internal Threading Endmills with Coolant Holes Located in the Flutes



Application: General engineering



Designation	Dimensions									IC908
	TP(1)	M Coarse	M Fine	DCONMS	DC	NOF(2)	APMX	OAL	Shank(3)	
MTECZ 06048C10 1.0ISO	1.000	M6	≥7	6.00	4.80	3	10.50	58.00	C	•
MTECZ 0808D16 1.0ISO	1.000	-	≥10	8.00	8.00	4	16.50	64.00	C	•
MTECZ 0606C14 1.25ISO	1.250	M8	≥10	6.00	6.00	3	14.40	58.00	C	•
MTECZ 0606C19 1.25ISO	1.250	M8	≥10	6.00	6.00	3	19.40	58.00	C	•
MTECZ 08078C17 1.5ISO	1.500	M10	≥12	8.00	7.80	3	17.00	64.00	C	•
MTECZ 1010D21 1.5ISO	1.500	-	≥14	10.00	10.00	4	21.80	73.00	C	•
MTECZ 1212D26 1.5ISO	1.500	-	≥16	12.00	12.00	4	26.30	84.00	C	•
MTECZ 1616E33 1.5ISO	1.500	-	≥20	16.00	16.00	5	33.80	101.00	C	•
MTECZ 1009C20 1.75ISO	1.750	M12	≥12	10.00	9.00	3	20.10	73.00	C	•
MTECZ 1009C28 1.75ISO	1.750	M12	≥12	10.00	9.00	3	28.90	73.00	C	•
MTECZ 1010C27 2.0ISO	2.000	M14	≥15	10.00	10.00	3	27.00	73.00	C	•
MTECZ 12118D27 2.0ISO	2.000	M16	≥17	12.00	11.80	4	27.00	84.00	C	•

• With internal coolant hole • For user guide, see pages 422-428

(1) Thread pitch

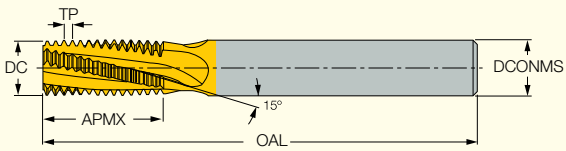
(2) Number of flutes

(3) C-Cylindrical

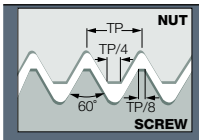
SOLIDTHREAD

MTEC E-ISO

Solid Carbide External Threading Endmills for ISO Thread Profile



Application: General engineering



Designation	Dimensions							IC908
	TP(1)	DCONMS	DC	NOF(2)	APMX	OAL	Shank(3)	
MTEC E 1010D16 1.0ISO	1.000	10.00	10.00	4	16.50	73.00	C	•
MTEC E 1010D16 1.25ISO	1.250	10.00	10.00	4	16.90	73.00	C	•
MTEC E 1010D15 1.5ISO	1.500	10.00	10.00	4	15.80	73.00	C	•
MTEC E 1212D20 1.5ISO	1.500	12.00	12.00	4	20.30	84.00	C	•
MTEC E 1212D20 1.75ISO	1.750	12.00	12.00	4	20.10	84.00	C	•
MTEC E 1010C17 2.0ISO	2.000	10.00	10.00	3	17.00	73.00	C	•
MTEC E 1212D21 2.0ISO	2.000	12.00	12.00	4	21.00	84.00	C	•

• For user guide, see pages 422-428

(1) Thread pitch

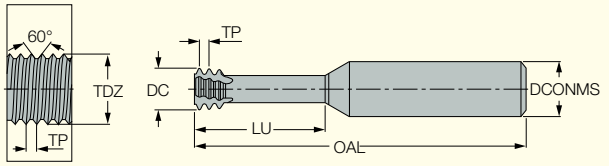
(2) Number of flutes

(3) C-Cylindrical

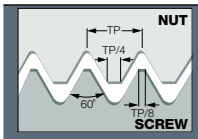
SOLIDTHREAD

MTECS-ISO

Small Diameter Solid Carbide Threading Endmills for Internal ISO Profile



Application: General engineering



Designation	Dimensions								IC908
	TP[2]	DC	TDZ	DCONMS	NOF[3]	LU	OAL	Shank[4]	
MTECS 03007C2 0.25ISO	0.250	0.72	M1	3.00	3	2.5	39.00	C	•
MTECS 03009C3 0.25ISO	0.250	0.90	M1.2	3.00	3	3.0	39.00	C	•
MTECS 03011C4 0.3ISO [1]	0.300	1.05	M1.4	3.00	3	4.0	39.00	C	•
MTECS 03012C5 0.35ISO [1]	0.350	1.20	M1.6	3.00	3	4.8	39.00	C	•
MTECS 03016C6 0.4ISO [1]	0.400	1.53	M2	3.00	3	6.0	39.00	C	•
MTECS 06016C4 0.4ISO	0.400	1.53	M2	6.00	3	4.5	58.00	C	•
MTECS 03017C7 0.45ISO [1]	0.450	1.65	M2.2	3.00	3	7.0	39.00	C	•
MTECS 06017C5 0.45ISO	0.450	1.65	M2.2	6.00	3	5.0	58.00	C	•
MTECS 0602C5 0.45ISO	0.450	1.95	M2.5	6.00	3	5.5	58.00	C	•
MTECS 0602C5 0.45ISO-L	0.450	1.95	M2.5	6.00	3	5.5	105.00	C	•
MTECS 0602C7 0.45ISO	0.450	1.95	M2.5	6.00	3	7.5	58.00	C	•
MTECS 06024C6 0.5ISO	0.500	2.37	M3	6.00	3	6.5	58.00	C	•
MTECS 06024C9 0.5ISO	0.500	2.37	M3	6.00	3	9.5	58.00	C	•
MTECS 06024C9 0.5ISO-L	0.500	2.37	M3	6.00	3	9.5	105.00	C	•
MTECS 03024C12 0.5ISO	0.500	2.40	M3	3.00	3	12.5	39.00	C	•
MTECS 03024C15 0.5ISO	0.500	2.40	M3	3.00	3	15.5	39.00	C	•
MTECS 06054D20 0.5ISO	0.500	5.35	M6	6.00	4	20.0	58.00	C	•
MTECS 06028C10 0.6ISO	0.600	2.75	M3.5	6.00	3	10.5	58.00	C	•
MTECS 06028C7 0.6ISO	0.600	2.75	M3.5	6.00	3	7.5	58.00	C	•
MTECS 06031C12 0.7ISO	0.700	3.10	M4	6.00	3	12.5	58.00	C	•
MTECS 06031C120.7ISO-L	0.700	3.10	M4	6.00	3	12.5	105.00	C	•
MTECS 06031C16 0.7ISO	0.700	3.10	M4	6.00	3	16.7	58.00	C	•
MTECS 06031C9 0.7ISO	0.700	3.10	M4	6.00	3	9.0	58.00	C	•
MTECS 0808D25 0.75ISO	0.750	8.00	M10	8.00	4	25.0	64.00	C	•
MTECS 06038C12 0.8ISO	0.800	3.80	M5	6.00	3	12.5	58.00	C	•
MTECS 06038C16 0.8ISO	0.800	3.80	M5	6.00	3	16.0	58.00	C	•
MTECS 06038C160.8ISO-L	0.800	3.80	M5	6.00	3	16.0	105.00	C	•
MTECS 0604C20 0.8ISO	0.800	4.00	M5	6.00	3	20.8	58.00	C	•
MTECS 06047C14 1.0ISO	1.000	4.65	M6	6.00	3	14.0	58.00	C	•
MTECS 06047C20 1.0ISO	1.000	4.65	M6	6.00	3	20.0	58.00	C	•
MTECS 06047C201.0ISO-L	1.000	4.65	M6	6.00	3	20.0	105.00	C	•
MTECS 06048C25 1.0ISO	1.000	4.80	M6	6.00	3	25.0	58.00	C	•
MTECS 0606C18 1.25ISO	1.250	6.00	M8	6.00	3	18.0	58.00	C	•
MTECS 0606C24 1.25ISO	1.250	6.00	M8	6.00	3	24.0	58.00	C	•
MTECS0606C24 1.25ISO-L	1.250	6.00	M8	6.00	3	24.6	100.00	C	•
MTECS 08078C23 1.5ISO	1.500	7.80	M10	8.00	3	23.0	64.00	C	•
MTECS 08078C31 1.5ISO	1.500	7.80	M10	8.00	3	31.5	64.00	C	•
MTECS 1009C26 1.75ISO	1.750	9.00	M12	10.00	3	26.0	73.00	C	•
MTECS 1009C37 1.75ISO	1.750	9.00	M12	10.00	3	37.8	73.00	C	•
MTECS 12118D35 2.0ISO	2.000	11.80	M16	12.00	4	35.0	84.00	C	•
MTECS 12118D50 2.0ISO	2.000	11.80	M16	12.00	4	50.0	100.00	C	•
MTECS 1615E43 2.5ISO	2.500	15.00	M20	16.00	5	43.0	100.00	C	•

• For user guide, see pages 422-428

(1) Specially designed for the production of dental implants

(2) Thread pitch

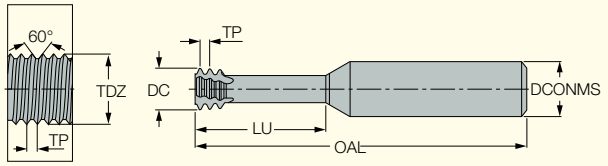
(3) Number of flutes

(4) C-Cylindrical

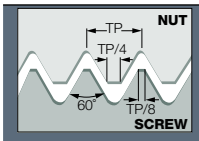
SOLIDTHREAD

MTECSH-ISO

Small Diameter Short Left-Hand Cut Solid Carbide Internal ISO Profile Threading Endmills for Hardened Steel



Left-hand tools (CNC code M04) • Application: General engineering



Designation	Dimensions								IC903
	TP[1]	TDZ	DCONMS	DC	NOF[2]	LU	OAL	Shank[3]	
MTECSH 03011C4 0.3ISO	0.300	M1.4	3.00	1.05	3	4.0	39.00	C	•
MTECSH 03012C5 0.35ISO	0.350	M1.6, M1.8	3.00	1.20	3	4.8	39.00	C	•
MTECSH 03016C6 0.4ISO	0.400	M2	3.00	1.55	3	6.0	39.00	C	•
MTECSH 06016C4 0.4ISO	0.400	M2	6.00	1.55	3	4.5	58.00	C	•
MTECSH 06017C5 0.45ISO	0.450	M2.2	6.00	1.65	3	5.0	58.00	C	•
MTECSH 0602C5 0.45ISO	0.450	M2.5	6.00	1.95	3	5.5	58.00	C	•
MTECSH 0602C7 0.45ISO	0.450	M2.5	6.00	1.95	3	7.5	58.00	C	•
MTECSH 06024C6 0.5ISO	0.500	M3	6.00	2.35	3	6.5	58.00	C	•
MTECSH 06024C9 0.5ISO	0.500	M3	6.00	2.35	3	9.5	58.00	C	•
MTECSH 06028C7 0.6ISO	0.600	M3.5	6.00	2.75	3	7.5	58.00	C	•
MTECSH06028C10 0.6ISO	0.600	M3.5	6.00	2.75	3	10.0	58.00	C	•
MTECSH 06031C9 0.7ISO	0.700	M4	6.00	3.10	3	9.0	58.00	C	•
MTECSH 06031C12 0.7ISO	0.700	M4	6.00	3.10	3	12.5	58.00	C	•
MTECSH 06038C12 0.8ISO	0.800	M5	6.00	3.80	3	12.5	58.00	C	•
MTECSH 06038C16 0.8ISO	0.800	M5	6.00	3.80	3	16.0	58.00	C	•
MTECSH 06047C14 1.0ISO	1.000	M6	6.00	4.65	3	14.0	58.00	C	•
MTECSH 06047C20 1.0ISO	1.000	M6	6.00	4.65	3	20.0	58.00	C	•
MTECSH 0606C18 1.25ISO	1.250	M8	6.00	5.95	3	18.0	58.00	C	•
MTECSH 0606C24 1.25ISO	1.250	M8	6.00	5.95	3	24.0	58.00	C	•
MTECSH 08078C23 1.5ISO	1.500	M10	8.00	7.80	3	23.0	64.00	C	•
MTECSH 1009C26 1.75ISO	1.750	M12	10.00	9.00	3	26.0	73.00	C	•
MTECSH 12118D35 2.0ISO	2.000	M16	12.00	11.80	4	35.0	84.00	C	•

• For user guide, see pages 422-428

(1) Thread pitch

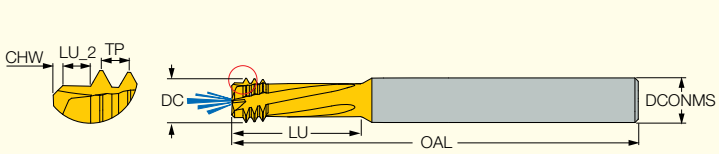
(2) Number of flutes

(3) C-Cylindrical

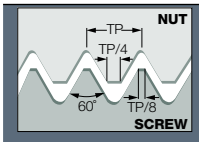
SOLIDTHREAD

MTECD-ISO

Small Diameter Short Left-Hand Cut Solid Carbide Endmills for Internal ISO Profile Drilling, Threading and Chamfering



Left-hand tools (CNC code M04) • Application: General engineering • Coolant holes only in 1.0-2.0 pitch tools



Designation	Dimensions											IC908
	TP[1]	TDZ	DCONMS	DC	NOF[2]	LU	OAL	CHW	LU_2	Shank[3]	CSP[4]	
MTECD 06032C11 0.7ISO	0.700	M4	6.00	3.15	3	11.6	58.00	0.2	0.7	C	0	•
MTECD 0604C14 0.8ISO	0.800	M5	6.00	4.00	3	14.4	58.00	0.3	0.8	C	0	•
MTECD 08047C14 1.0ISO	1.000	M6-M9	8.00	4.70	3	14.0	64.00	0.4	1.0	C	1	•
MTECD 08061D18 1.25ISO	1.250	M8-M12	8.00	6.10	4	18.0	64.00	0.5	1.3	C	1	•
MTECD 08078D23 1.5ISO	1.500	M10-M15	8.00	7.80	4	23.0	64.00	0.6	1.5	C	1	•
MTECD 1009D26 1.75ISO	1.750	M12	10.00	9.00	4	26.0	73.00	0.6	1.8	C	1	•
MTECD 12118D35 2.0ISO	2.000	M16-M23	12.00	11.80	4	35.0	84.00	0.6	2.0	C	1	•

• Thread hole, thread and chamfer are made by circular interpolation • For user guide, see pages 422-428

(1) Thread pitch

(2) Number of flutes

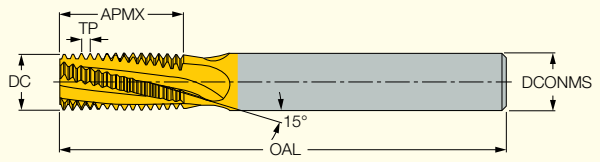
(3) C-Cylindrical

(4) 0 - Without coolant supply, 1 - With coolant supply

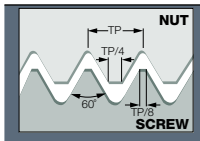
SOLIDTHREAD

MTEC-UN

Solid Carbide Threading Endmills for Internal UN Thread Profile



Application: General engineering



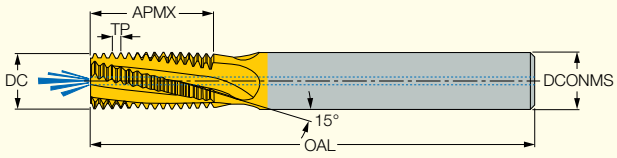
Designation	TPI[1]	UNC	UNF	UNEF	DCONMS	DC	NOF[2]	APMX	OAL	Shank[3]	TP[4]	IC908
	Dimensions											
MTEC 06025C6 40UN	40.0	5	-	-	6.00	2.50	3	6.00	58.00	C	0.635	•
MTEC 06032C6 32UN	32.0	8	10	12	6.00	3.20	3	6.80	58.00	C	0.794	•
MTEC 0604C11 28UN	28.0	-	7/16,1/2	-	6.00	4.00	3	11.30	58.00	C	0.907	•
MTEC 0606C14 28UN	28.0	-	-	7/16,1/2	6.00	6.00	3	14.50	58.00	C	0.907	•
MTEC 0605C14 24UN	24.0	-	5/16	-	6.00	5.00	3	14.30	58.00	C	1.058	•
MTEC 0807C21 24UN	24.0	-	3/8	9/16,5/8	8.00	7.00	3	20.00	64.00	C	1.058	•
MTEC 06045C12 20UN	20.0	1/4	-	-	6.00	4.50	3	12.10	58.00	C	1.270	•
MTEC 0807C21 20UN	20.0	-	7/16,1/2	-	8.00	7.00	3	20.00	64.00	C	1.270	•
MTEC 1212E27 20UN	20.0	-	-	3/4,1	12.00	12.00	5	27.30	84.00	C	1.270	•
MTEC 0605C14 18UN	18.0	5/16	-	-	6.00	5.00	3	14.80	58.00	C	1.411	•
MTEC 1010D26 18UN	18.0	-	9/16,5/8	1-1/8,1-5/8	10.00	10.00	4	26.10	73.00	C	1.411	•
MTEC 0606C16 16UN	16.0	3/8	-	-	6.00	6.00	3	16.70	58.00	C	1.588	•
MTEC 1212D31 16UN	16.0	-	3/4	-	12.00	12.00	4	30.00	84.00	C	1.588	•
MTEC 1615E37 14UN	14.0	-	7/8	-	16.00	15.00	5	37.20	100.00	C	1.814	•
MTEC 0808C22 13UN	13.0	1/2	-	-	8.00	8.00	3	22.50	64.00	C	1.954	•
MTEC 1010C26 12UN	12.0	9/16	-	-	10.00	10.00	3	26.50	73.00	C	2.117	•
MTEC 1616E41 12UN	12.0	-	1,1-1/2	-	16.00	16.00	5	41.30	100.00	C	2.117	•
MTEC 1010C28 11UN	11.0	5/8	-	-	10.00	10.00	3	28.90	73.00	C	2.309	•
MTEC 1212C34 10UN	10.0	3/4	-	-	12.00	12.00	3	34.30	84.00	C	2.540	•
MTEC 1615C38 9UN	9.0	7/8	-	-	16.00	15.00	3	38.10	100.00	C	2.822	•
MTEC 1616C42 8UN	8.0	1.0	-	-	16.00	16.00	3	42.90	100.00	C	3.175	•

• For user guide, see pages 422-428
(1) Threads per inch
(2) Number of flutes
(3) C-Cylindrical
(4) Thread pitch

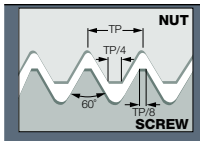
SOLIDTHREAD

MTECB-UN

Solid Carbide Threading Endmills with Coolant Holes for Internal UN Thread Profile



Application: General engineering



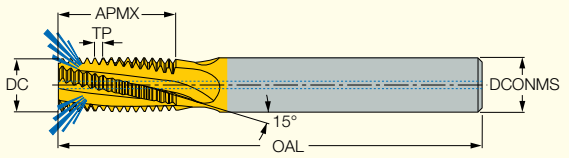
Designation	TPI[1]	UNC	UNF	UNEF	DCONMS	DC	NOF[2]	APMX	OAL	Shank[3]	TP[4]	IC908
	Dimensions											
MTECB 06032C6 32UN	32.0	8	10	12	6.00	3.20	3	6.80	58.00	C	0.794	•
MTECB 0606C14 32UN	32.0	-	-	7/16-1/2	6.00	6.00	3	16.00	58.00	C	0.794	•
MTECB 0808D18 32UN	32.0	-	-	3/8	8.00	8.00	4	18.70	64.00	C	0.794	•
MTECB 0605C11 28UN	28.0	-	1/4	-	6.00	5.00	3	11.30	58.00	C	0.907	•
MTECB 08066C14 24UN	24.0	-	5/16	-	8.00	6.60	3	14.30	64.00	C	1.058	•
MTECB 0808D21 24UN	24.0	-	-	9/16-5/8	8.00	8.00	4	20.60	64.00	C	1.058	•
MTECB 0808C21 20UN	20.0	-	7/16	-	8.00	8.00	3	21.00	64.00	C	1.270	•
MTECB 1010D22 20UN	20.0	-	1/2	-	10.00	10.00	4	22.30	73.00	C	1.270	•
MTECB 06056C14 18UN	18.0	5/16	-	-	6.00	5.60	3	14.80	58.00	C	1.411	•
MTECB 12113D26 18UN	18.0	-	9/16-5/8	1-1/8_1-5/8	12.00	11.30	4	26.10	84.00	C	1.411	•
MTECB 08067C16 16UN	16.0	3/8	-	-	8.00	6.70	3	16.70	64.00	C	1.588	•
MTECB 1212D31 16UN	16.0	-	3/4	-	12.00	12.00	4	31.00	84.00	C	1.588	•
MTECB 1616E37 14UN	14.0	-	7/8	-	16.00	16.00	5	37.20	105.00	C	1.814	•
MTECB 10092C22 13UN	13.0	1/2	-	-	10.00	9.20	3	22.50	73.00	C	1.954	•
MTECB 12114C28 11UN	11.0	5/8	-	-	12.00	11.40	3	28.90	84.00	C	2.309	•
MTECB 16144D34 10UN	10.0	3/4	-	-	16.00	14.40	4	34.30	105.00	C	2.540	•
MTECB 20195D42 8UN	8.0	1	-	-	20.00	19.50	4	42.90	105.00	C	3.175	•

• For user guide, see pages 422-428
(1) Threads per inch
(2) Number of flutes
(3) C-Cylindrical
(4) Thread pitch

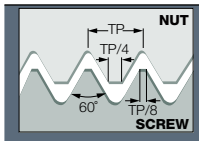
SOLIDTHREAD

MTECZ-UN

Solid Carbide Threading Endmills with Coolant Holes Located in the Flutes for Internal UN Thread Profile



Application: General engineering



Designation	Dimensions											IC908
	TPI(1)	UNC	UNF	UNEF	DCONMS	DC	NOF(2)	APMX	OAL	Shank(3)	TP(4)	
MTECZ 1010D22 20UN	20.0	-	1/2	-	10.00	10.00	4	22.30	73.00	C	1.270	●
MTECZ 12113D26 18UN	18.0	-	9/16-5/8	1_1/8-1_5/8	12.00	11.30	4	26.10	84.00	C	1.411	●
MTECZ 08067C16 16UN	16.0	3/8	-	-	8.00	6.70	3	16.70	64.00	C	1.588	●
MTECZ 10092C22 13UN	13.0	1/2	-	-	10.00	9.20	3	22.50	73.00	C	1.954	●
MTECZ 16144D34 10UN	10.0	3/4	-	-	16.00	14.40	4	34.30	101.00	C	2.540	●

• With internal coolant hole • For user guide, see pages 422-428

(1) Threads per inch

(2) Number of flutes

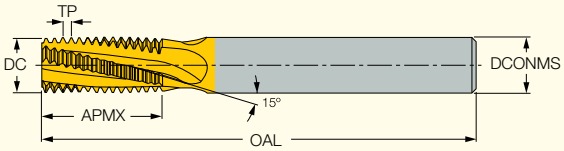
(3) C-Cylindrical

(4) Thread pitch

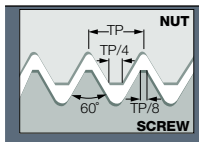
SOLIDTHREAD

MTEC E-UN

Solid Carbide Threading Endmills with UN Form for External Threading



Application: General engineering



Designation	Dimensions							IC908
	TPI(1)	DCONMS	DC	NOF(2)	APMX	OAL	Shank(3)	
MTEC E 1010D16 24UN	24.0	10.00	10.00	4	16.40	73.00	C	●
MTEC E 1212E21 20UN	20.0	12.00	12.00	5	21.00	84.00	C	●
MTEC E 1212D20 12UN	12.0	12.00	12.00	4	20.10	84.00	C	●

• For user guide, see pages 422-428

(1) Threads per inch

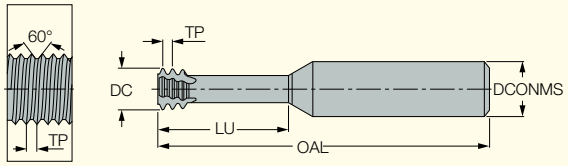
(2) Number of flutes

(3) C-Cylindrical

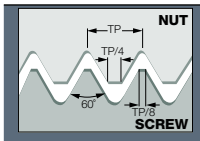
SOLIDTHREAD

MTECS-UN

Small Diameter Solid
Carbide UN Profile Threading
Endmills for Steel



Application: General engineering



Designation	Dimensions										IC908
	TPI[2]	UNC	UNF	DCONMS	DC	NOF[3]	LU	OAL	Shank[4]	TP[5]	
MTECS 03012C8 80UN	80.0	-	0	3.00	1.15	3	8.0	39.00	C	0.318	•
MTECS 03015C6 72UN [1]	72.0	-	1	3.00	1.45	3	6.0	39.00	C	0.353	•
MTECS 03016C6 56UN	56.0	2	3	3.00	1.65	3	6.6	39.00	C	0.454	•
MTECS 03016C9 56UN	56.0	2	3	3.00	1.65	3	9.2	39.00	C	0.454	•
MTECS 03016C11 56UN	56.0	2	3	3.00	1.65	3	11.4	39.00	C	0.454	•
MTECS 06016C4 56UN	56.0	2	3	6.00	1.65	3	4.4	58.00	C	0.454	•
MTECS 06016C6 56UN	56.0	2	3	6.00	1.65	3	6.6	58.00	C	0.454	•
MTECS 06019C5 48UN	48.0	3	4	6.00	1.90	3	5.2	58.00	C	0.529	•
MTECS 03021C8 40UN	40.0	4	-	3.00	2.10	3	8.0	39.00	C	0.635	•
MTECS 03021C12 40UN	40.0	4	-	3.00	2.10	3	12.0	39.00	C	0.635	•
MTECS 06021C8 40UN	40.0	4	-	6.00	2.10	3	8.0	58.00	C	0.635	•
MTECS 06024C9 40UN	40.0	5	6	6.00	2.45	3	9.6	58.00	C	0.635	•
MTECS 06021C6 40UN	40.0	4	-	6.00	2.10	3	6.3	58.00	C	0.635	•
MTECS 06033C9 36UN	36.0	-	8	6.00	3.30	3	9.0	58.00	C	0.706	•
MTECS 06025C7 32UN	32.0	6	-	6.00	2.55	3	7.1	58.00	C	0.794	•
MTECS 06025C10 32UN	32.0	6	-	6.00	2.55	3	10.5	58.00	C	0.794	•
MTECS 06025C10 32UN-L	32.0	6	-	6.00	2.55	3	10.5	105.00	C	0.794	•
MTECS 06032C9 32UN	32.0	8	10	6.00	3.20	3	9.5	58.00	C	0.794	•
MTECS 06032C12 32UN	32.0	8	10	6.00	3.20	3	12.5	58.00	C	0.794	•
MTECS 06032C12 32UN-L	32.0	8	10	6.00	3.20	3	12.5	105.00	C	0.794	•
MTECS 06037C10 32UN	32.0	-	10	6.00	3.70	3	10.5	58.00	C	0.794	•
MTECS 06037C15 32UN	32.0	-	10	6.00	3.70	3	15.0	58.00	C	0.794	•
MTECS 06037C15 32UN-L	32.0	-	10	6.00	3.70	3	15.0	101.00	C	0.794	•
MTECS 06042C11 28UN	28.0	-	12	6.00	4.20	3	11.0	58.00	C	0.907	•
MTECS 0605C14 28UN	28.0	-	1/4	6.00	5.00	3	14.5	58.00	C	0.907	•
MTECS 0605C19 28UN	28.0	-	1/4	6.00	5.00	3	19.0	58.00	C	0.907	•
MTECS 0605C19 28UN-L	28.0	-	1/4	6.00	5.00	3	19.0	105.00	C	0.907	•
MTECS 06035C10 24UN	24.0	10,12	-	6.00	3.50	3	10.6	58.00	C	1.058	•
MTECS 06035C15 24UN	24.0	10,12	-	6.00	3.50	3	15.5	58.00	C	1.058	•
MTECS 08066C17 24UN	24.0	-	5/16	8.00	6.60	3	17.0	64.00	C	1.058	•
MTECS 08066C24 24UN	24.0	-	5/16	8.00	6.60	3	24.0	64.00	C	1.058	•
MTECS 06047C14 20UN	20.0	1/4	-	6.00	4.75	3	14.0	58.00	C	1.270	•
MTECS 06047C19 20UN	20.0	1/4	-	6.00	4.75	3	19.0	58.00	C	1.270	•
MTECS 06047C19 20UN-L	20.0	1/4	-	6.00	4.75	3	19.0	100.00	C	1.270	•
MTECS 0808C25 20UN	20.0	-	7/16	8.00	8.00	3	25.0	64.00	C	1.270	•
MTECS 0808C34 20UN	20.0	-	7/16	8.00	8.00	3	34.6	64.00	C	1.270	•
MTECS 0606C17 18UN	18.0	5/16	-	6.00	6.00	3	17.0	58.00	C	1.411	•
MTECS 0606C23 18UN	18.0	5/16	-	6.00	6.00	3	23.0	58.00	C	1.411	•
MTECS 1212D35 18UN	18.0	-	5/8	12.00	12.00	4	35.0	84.00	C	1.411	•
MTECS 08067C22 16UN	16.0	3/8	-	8.00	6.70	3	22.0	64.00	C	1.588	•
MTECS 08067C30 16UN	16.0	3/8	-	8.00	6.70	3	30.2	64.00	C	1.588	•
MTECS 08077C25 14UN	14.0	7/16	-	8.00	7.70	3	25.0	64.00	C	1.814	•
MTECS 08077C35 14UN	14.0	7/16	-	8.00	7.70	3	35.2	64.00	C	1.814	•
MTECS 10092C27 13UN	13.0	1/2	-	10.00	9.20	3	27.5	73.00	C	1.954	•
MTECS 12114C34 11UN	11.0	5/8	-	12.00	11.40	3	34.5	84.00	C	2.309	•
MTECS 12114C50 11UN	11.0	5/8	-	12.00	11.40	3	50.0	101.00	C	2.309	•

• For user guide, see pages 422-428

(1) Specially designed for the production of dental implants

(2) Threads per inch

(3) Number of flutes

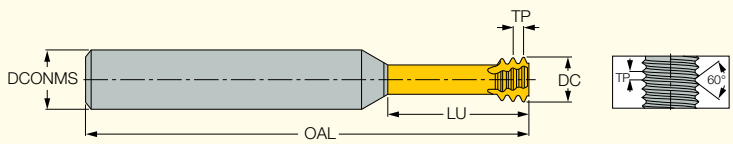
(4) C-Cylindrical

(5) Thread pitch

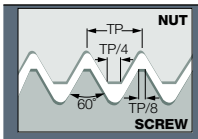
SOLIDTHREAD

MTECSH-UN

Small Diameter Short Left-Hand Cut Solid Carbide UN Profile Threading Endmills for Hardened Steel



Left-hand tools (CNC code M04) • Application: General engineering



Designation	TPI[1]	UNC	UNF	DCONMS	DC	NOF[2]	OAL	LU	Shank[3]	TP[4]	IC903
	Dimensions										
MTECSH 03015C6 72UN	72.0	-	1	3.00	1.45	3	39.00	6.0	C	0.353	•
MTECSH 06012C4 80UN	80.0	-	0	6.00	1.15	3	58.00	4.0	C	0.318	•
MTECSH 06016C6 56UN	56.0	2	3	6.00	1.65	3	58.00	6.6	C	0.454	•
MTECSH 06019C5 48UN	48.0	3	4	6.00	1.90	3	58.00	5.2	C	0.529	•
MTECSH 06021C6 40UN	40.0	4	-	6.00	2.10	3	58.00	6.3	C	0.635	•
MTECSH 06024C7 40UN	40.0	5	6	6.00	2.45	3	58.00	7.0	C	0.635	•
MTECSH 06021C8 40UN	40.0	4	-	6.00	2.10	3	58.00	8.0	C	0.635	•
MTECSH 06024C9 40UN	40.0	5	6	6.00	2.45	3	58.00	9.6	C	0.635	•
MTECSH 06025C10 32UN	32.0	6	-	6.00	2.55	3	58.00	10.5	C	0.794	•
MTECSH 06032C9 32UN	32.0	8	-	6.00	3.20	3	58.00	9.5	C	0.794	•
MTECSH 06037C10 32UN	32.0	-	10	6.00	3.70	3	58.00	10.5	C	0.794	•
MTECSH 06032C12 32UN	32.0	8	-	6.00	3.20	3	58.00	12.5	C	0.794	•
MTECSH 06037C15 32UN	32.0	-	10	6.00	3.70	3	58.00	15.0	C	0.794	•
MTECSH 06042C11 28UN	28.0	-	12	6.00	4.20	3	58.00	11.0	C	0.907	•
MTECSH 0605C14 28UN	28.0	-	1/4	6.00	5.00	3	58.00	14.5	C	0.907	•
MTECSH 0605C19 28UN	28.0	-	1/4	6.00	5.00	3	58.00	19.0	C	0.907	•
MTECSH 06035C10 24UN	24.0	10,12	-	6.00	3.50	3	58.00	10.6	C	1.058	•
MTECSH 08066C17 24UN	24.0	-	5/16	8.00	6.60	3	64.00	17.0	C	1.058	•
MTECSH 08066C24 24UN	24.0	-	5/16	8.00	6.60	3	64.00	24.0	C	1.058	•
MTECSH 06047C14 20UN	20.0	1/4	-	6.00	4.75	3	58.00	14.0	C	1.270	•
MTECSH 06047C19 20UN	20.0	1/4	-	6.00	4.75	3	58.00	19.0	C	1.270	•
MTECSH 0808C25 20UN	20.0	-	7/16	8.00	8.00	3	64.00	25.0	C	1.270	•
MTECSH 0606C17 18UN	18.0	5/16	-	6.00	6.00	3	58.00	17.0	C	1.411	•
MTECSH 0606C23 18UN	18.0	5/16	-	6.00	6.00	3	58.00	23.0	C	1.411	•
MTECSH 08067C22 16UN	16.0	3/8	-	8.00	6.70	3	64.00	22.0	C	1.588	•
MTECSH 08077C25 14UN	14.0	7/16	-	8.00	7.70	3	64.00	25.0	C	1.814	•
MTECSH 10092C27 13UN	13.0	1/2	-	10.00	9.20	3	73.00	27.5	C	1.954	•
MTECSH 12114C34 11UN	11.0	5/8	-	12.00	11.40	3	84.00	34.5	C	2.309	•

• For user guide, see pages 422-428
(1) Threads per inch
(2) Number of flutes
(3) C-Cylindrical
(4) Thread pitch

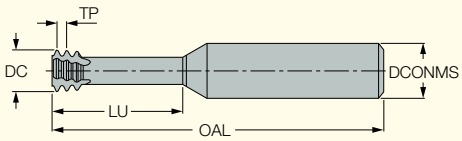
Cutting Data for Hardened Steel

ISO	Material	Hardness HRc	Cutting Speed m/min	Feed (mm/tooth) for Cutting Diameter (mm)								
				1.5	2	3	4	5	6	7	8	9
H	Hardened Steels	45-50	60-70	0.04	0.04	0.05	0.05	0.06	0.06	0.07	0.07	0.08
		51-55	50-60	0.03	0.03	0.04	0.04	0.05	0.05	0.06	0.06	0.07
		56-62	40-50	0.02	0.02	0.03	0.03	0.04	0.04	0.05	0.05	0.06

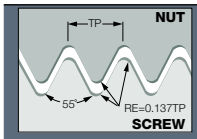
SOLIDTHREAD

MTECS-W

Short Solid Carbide Threading Endmills for Internal or External BSP and BSF Thread Profiles



Application: General engineering fittings and pipe couplings



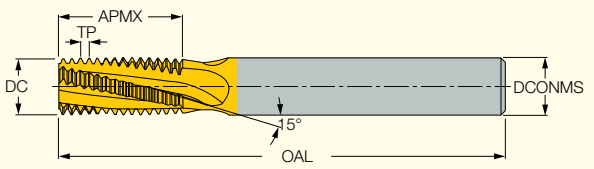
Designation	TPI[1]	TDZ	DCONMS	DC	NOF[2]	OAL	Shank[3]	LU	IC908
	Dimensions								
MTECS 08078C19 28W	28.0	G 1/8	8.00	7.80	3	64.00	C	19.5	•
MTECS 1010D30 19W	19.0	G 1/4-3/8	10.00	10.00	4	73.00	C	30.0	•
MTECS 1212D37 14W	14.0	G 1/2-7/8	12.00	12.00	4	84.00	C	37.0	•
MTECS 1616D44 11W	11.0	G>1	16.00	16.00	4	105.00	C	44.0	•

• For user guide, see pages 422-428
(1) Threads per inch
(2) Number of flutes
(3) C-Cylindrical

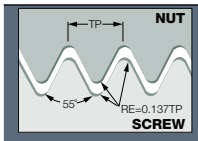
SOLIDTHREAD

MTEC-W

Solid Carbide Threading Endmills for Internal or External BSP Thread Profile



Application: General engineering fittings and pipe couplings



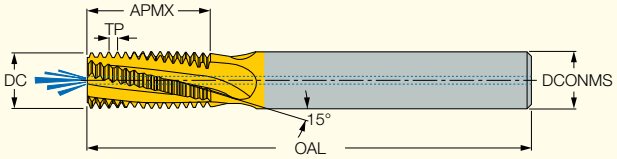
Designation	Dimensions								IC908
	TPI[1]	TDZ	DCONMS	DC	NOF[2]	APMX	OAL	Shank[3]	
MTEC 0606C9 28W	28.0	G1/8	6.00	6.00	3	9.50	58.00	C	•
MTEC 0808C14 19W	19.0	G1/4,G3/8	8.00	8.00	3	14.00	64.00	C	•
MTEC 1212D19 14W	14.0	G1/2,G7/8	12.00	12.00	4	19.30	84.00	C	•
MTEC 1212D26 14W	14.0	G1/2,G7/8	12.00	12.00	4	26.30	84.00	C	•
MTEC 1212C24 11W	11.0	G1,-G1-1/2	12.00	12.00	3	24.20	84.00	C	•
MTEC 1616D38 11W	11.0	G1,G3	16.00	16.00	4	38.10	101.00	C	•

• For user guide, see pages 422-428
(1) Threads per inch
(2) Number of flutes
(3) C-Cylindrical

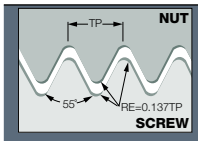
SOLIDTHREAD

MTECB-W

Solid Carbide Internal or External Threading Endmills with Coolant Holes for BSP Thread Profile



Application: General engineering fittings and pipe couplings



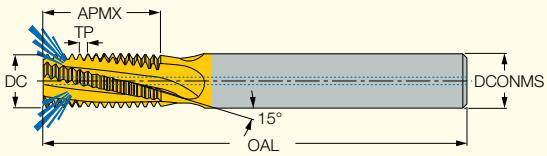
Designation	Dimensions								IC908
	TPI[1]	TDZ	DCONMS	DC	NOF[2]	APMX	OAL	Shank[3]	
MTECB 08078C14 28W	28.0	G1/8	8.00	7.80	3	14.10	64.00	C	•
MTECB 1010D16 19W	19.0	G1/4-3/8	10.00	10.00	4	16.70	73.00	C	•
MTECB 1616E26 14W	14.0	G1/2-7/8	16.00	16.00	5	26.30	105.00	C	•
MTECB 1616D38 11W	11.0	G≥1	16.00	16.00	4	38.10	105.00	C	•
MTECB 2020E47 11W	11.0	G≥1	20.00	20.00	5	47.30	105.00	C	•

• For user guide, see pages 422-428
(1) Threads per inch
(2) Number of flutes
(3) C-Cylindrical

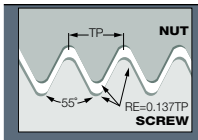
SOLIDTHREAD

MTECZ-BSF/BSP

Solid Carbide Threading Endmills with Coolant Holes Located in the Flutes for Internal or External BSF/BSP Thread



Application: General engineering fittings and pipe couplings



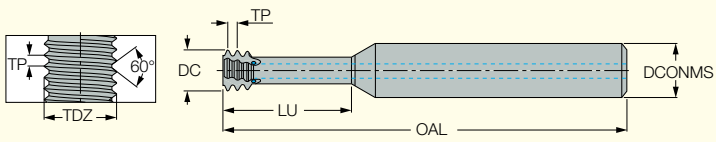
Designation	Dimensions								IC908
	TPI[1]	TDZ	DCONMS	DC	NOF[2]	APMX	OAL	Shank[3]	
MTECZ 08078C14 28W	28.0	G1/8	8.00	7.80	3	14.10	64.00	C	•
MTECZ 1010D16 19W	19.0	G1/4-3/8	10.00	10.00	4	16.70	73.00	C	•
MTECZ 1616E26 14W	14.0	G1/2-7/8	16.00	16.00	5	26.30	101.00	C	•
MTECZ 1616D38 11W	11.0	G>1	16.00	16.00	4	38.10	101.00	C	•

• With internal coolant hole • For user guide, see pages 422-428
(1) Threads per inch
(2) Number of flutes
(3) C-Cylindrical

SOLIDTHREAD

MTECS-MJ

Small Diameter Short Solid Carbide MJ-Type Profile Threading Endmills



Aerospace and automotive industries, for applications requiring high fatigue strength

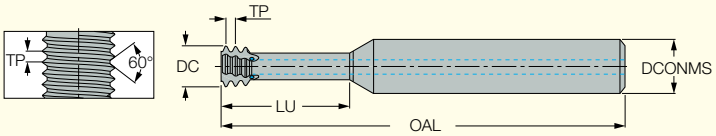
Designation	Dimensions									IC908
	TP[2]	TDZ	DCONMS	DC	NOF[3]	LU	OAL	Shank[4]	CSP[5]	
MTECS 06032C10 0.7MJ [1]	0.700	MJ4	6.00	3.20	3	10.0	58.00	C	0	•
MTECS 06039C12 0.8MJ [1]	0.800	MJ5	6.00	3.90	3	12.5	58.00	C	0	•
MTECS 06048C15 1.0MJ [1]	1.000	MJ6	6.00	4.80	3	15.0	58.00	C	0	•
MTECS 08061C20 1.25MJ	1.250	MJ8	8.00	6.10	3	20.0	64.00	C	1	•
MTECS 0808C25 1.5MJ	1.500	MJ10	8.00	8.00	3	25.0	64.00	C	1	•
MTECS 10092C30 1.75MJ	1.750	MJ12	10.00	9.20	3	30.0	73.00	C	1	•
MTECS 1010C35 2.0MJ	2.000	MJ14, MJ16	10.00	10.00	3	35.0	73.00	C	1	•

• For user guide, see pages 422-428
(1) Without coolant holes
(2) Thread pitch
(3) Number of flutes
(4) C-Cylindrical
(5) 0 - Without coolant supply, 1 - With coolant supply

SOLIDTHREAD

MTECS-UNJ

Small Diameter Short Solid Carbide UNJ-Type Profile Threading Endmills



Aerospace and automotive industries, for applications requiring high fatigue strength

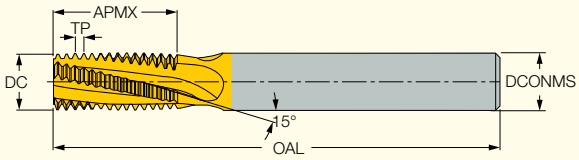
Designation	Dimensions									IC908
	TPI[2]	UNJC	UNJF	DCONMS	DC	NOF[3]	LU	OAL	Shank[4]	
MTECS 06033C10 32UNJ [1]	32.0	8	10	6.00	3.30	3	10.5	58.00	C	•
MTECS 08051C16 28UNJ	28.0	-	1/4	8.00	5.10	3	16.0	64.00	C	•
MTECS 08067C20 24UNJ	24.0	-	5/16, 3/8	8.00	6.70	3	20.0	64.00	C	•
MTECS 06049C16 20UNJ [1]	20.0	1/4	-	6.00	4.90	3	16.0	58.00	C	•
MTECS 0808C28 20UNJ	20.0	-	7/16	8.00	8.00	3	28.0	64.00	C	•
MTECS 08061C20 18UNJ	18.0	5/16	9/16	8.00	6.15	3	20.0	64.00	C	•
MTECS 08069C24 16UNJ	16.0	3/8	-	8.00	6.90	3	24.0	64.00	C	•
MTECS 08079C25 14UNJ	14.0	7/16	-	8.00	7.90	3	25.0	64.00	C	•
MTECS 10094C27 13UNJ	13.0	1/2	-	10.00	9.40	3	27.5	73.00	C	•

• For user guide, see pages 422-428
(1) Without coolant holes
(2) Threads per inch
(3) Number of flutes
(4) C-Cylindrical

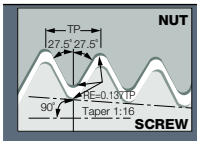
SOLIDTHREAD

MTEC-BSPT

Solid Carbide Threading Endmills for External or Internal BSPT Thread Profile



Application: General engineering fittings and pipe couplings



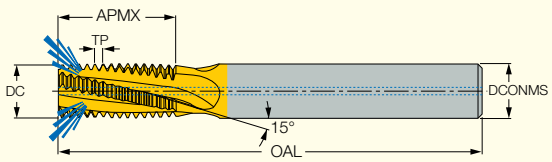
Designation	Dimensions								IC908
	TPI[1]	TDZ	DCONMS	DC	NOF[2]	APMX	OAL	Shank[3]	
MTEC 0606C9 28BSPT	28.0	RC1/8	6.00	5.40	3	8.16	57.00	C	•
MTEC 0808C14 19BSPT	19.0	RC1/4,RC3/8	8.00	7.16	3	12.03	64.00	C	•
MTEC 1212D19 14BSPT	14.0	RC1/2,RC7/8	12.00	10.88	4	16.33	84.00	C	•
MTEC 1616D28 11BSPT	11.0	RC1,RC2	16.00	14.17	4	25.40	101.00	C	•

• For user guide, see pages 422-428
(1) Threads per inch
(2) Number of flutes
(3) C-Cylindrical

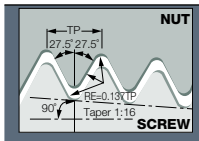
SOLIDTHREAD

MTECZ-BSPT

Solid Carbide Threading Endmills with Coolant Holes Located in the Flutes, for Internal or External BSPT Thread Profile



Application: General engineering fittings and pipe couplings



Designation	Dimensions								IC908
	TPI[1]	BSPT	DCONMS	DC	NOF[2]	APMX	OAL	Shank[3]	TP[4]	
MTECZ 08078C14 28BSPT	28.0	RC1/8	8.00	7.80	3	14.10	64.00	C	0.907	●
MTECZ 1010D16 19BSPT	19.0	RC1/4-3/8	10.00	10.00	4	16.70	73.00	C	1.337	●
MTECZ 1616D28 11BSPT	11.0	RC1-2	16.00	16.00	4	28.90	101.00	C	2.309	●

• With internal coolant hole • For user guide, see pages 422-428

(1) Threads per inch

(2) Number of flutes

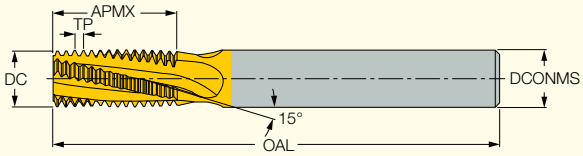
(3) C-Cylindrical

(4) Thread pitch

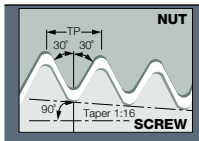
SOLIDTHREAD

MTEC-NPT

Solid Carbide Threading Endmills for External or Internal NPT Thread Profile



Application: Steam, gas and water pipes



Designation	Dimensions								IC908
	TPI[1]	TDZ	DCONMS	DC	NOF[2]	APMX	OAL	Shank[3]	
MTEC 0606C9 27NPT	27.0	1/16,1/8	6.00	5.36	3	9.90	58.00	C	●
MTEC 0808C14 18NPT	18.0	1/4,3/8	8.00	7.12	3	14.80	64.00	C	●
MTEC 1212D20 14NPT	14.0	1/2,3/4	12.00	10.77	4	20.90	84.00	C	●
MTEC 1616D27 11.5NPT	11.5	1,2	16.00	14.24	4	27.60	101.00	C	●
MTEC 2020D39 8NPT	8.0	≥2-1/2	20.00	20.00	4	39.70	105.00	C	●

• For user guide, see pages 422-428

(1) Threads per inch

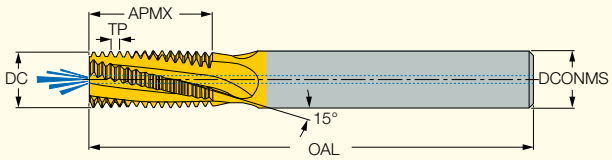
(2) Number of flutes

(3) C-Cylindrical

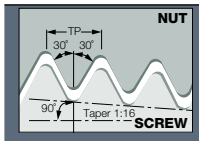
SOLIDTHREAD

MTECB-NPT

Solid Carbide Threading Endmills with Coolant Holes for External or Internal NPT Thread Profile



Application: Steam, gas and water pipes



Designation	Dimensions								IC908
	TPI[1]	TDZ	DCONMS	DC	NOF[2]	APMX	OAL	Shank[3]	
MTECB 08076C10 27NPT	27.0	1/8	8.00	7.60	3	10.80	64.00	C	●
MTECB 1010D16 18NPT	18.0	1/4,3/8	10.00	10.00	4	16.20	73.00	C	●
MTECB 16155D22 14NPT	14.0	1/2,3/4	16.00	15.50	4	22.70	105.00	C	●

• For user guide, see pages 422-428

(1) Threads per inch

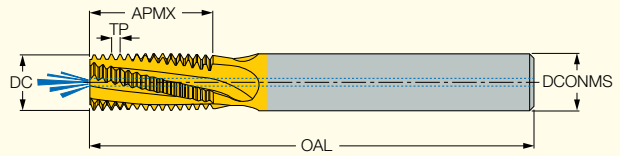
(2) Number of flutes

(3) C-Cylindrical

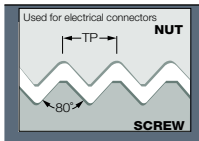
SOLIDTHREAD

MTECB-PG

Solid Carbide Threading Endmills with Coolant Holes, for External and Internal PG Full Profile (DIN 40430)



Application: Electrical connectors



Designation	Dimensions									IC908
	TPI(1)	THOD	DCONMS	DC	NOF(2)	APMX	OAL	Shank(3)	TP(4)	
MTECB 1212D20 18PG	18.0	Pg 9, 11, 13.5, 16	12.00	12.00	4	20.50	84.00	C	1.411	●
MTECB 1212D23 16PG	16.0	Pg 21, 29,36, 42, 48	12.00	12.00	4	23.00	84.00	C	1.588	●

• With internal coolant hole • For user guide, see pages 422-428

(1) Threads per inch

(2) Number of flutes

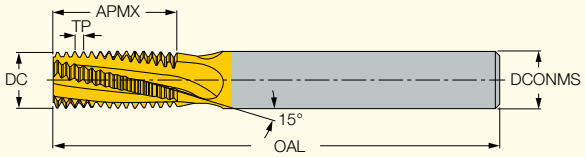
(3) C-Cylindrical

(4) Thread pitch

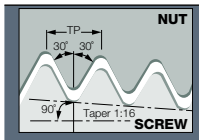
SOLIDTHREAD

MTEC-NPTF

Solid Carbide Threading Endmills for External or Internal NPTF Thread Profile



Application: Steam, gas and water pipes



Designation	Dimensions								IC908
	TPI(1)	TDZ	DCONMS	DC	NOF(2)	APMX	OAL	Shank(3)	
MTEC 0606C9 27NPTF	27.0	1/16,1/8	6.00	6.00	3	9.90	58.00	C	●
MTEC 0808C14 18NPTF	18.0	1/4,3/8	8.00	8.00	3	14.80	64.00	C	●
MTEC 1212D20 14NPTF	14.0	1/2,3/4	12.00	12.00	4	20.90	84.00	C	●

• For user guide, see pages 422-428

(1) Threads per inch

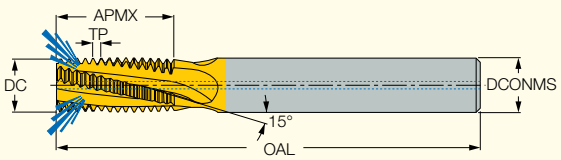
(2) Number of flutes

(3) C-Cylindrical

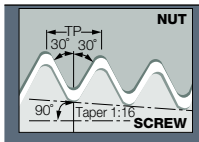
SOLIDTHREAD

MTECZ-NPTF

Solid Carbide Threading Endmills with Coolant Holes Located in the Flutes for Internal or External NPTF Thread Profile



Application: General engineering fittings and pipe couplings



Designation	Dimensions								IC908
	TPI(1)	TDZ	DCONMS	DC	NOF(2)	APMX	OAL	Shank(3)	
MTECZ 08076C10 27NPTF	27.0	1/8	8.00	7.60	3	10.80	64.00	C	●
MTECZ 1010D16 18NPTF	18.0	1/4-3/8	10.00	10.00	4	16.20	73.00	C	●

• For user guide, see pages 422-428

(1) Threads per inch

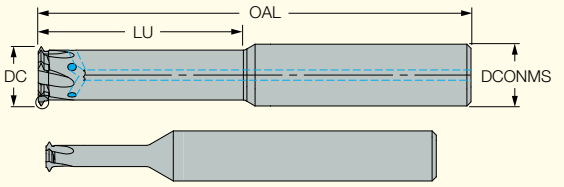
(2) Number of flutes

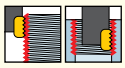
(3) C-Cylindrical

SOLIDTHREAD

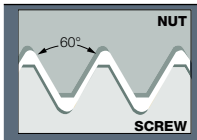
MTECI-A60

60° Partial Profile Solid Carbide Thread Mills for Internal and External Threads





Application: General engineering



Designation	Dimensions																Tough ↔ Hard	
	TPN(1)	TPX(2)	TPN_ DF2(3)	TPX_ DF2(4)	TPIN(5)	TPIX(6)	TPIN_ DF2(7)	TPIX_ DF2(8)	Th	DCONMS	DC	NOF(9)	LU	OAL	Shank(10)	CSP(11)	IC908	IC902
MTECI 03019C5 A60	0.350	0.600	0.350	0.600	40.00	72.00	40.00	72.00	(a)	3.00	1.90	3	5.2	39.00	C	0		●
MTECI 03024C7 A60	0.500	0.800	0.500	0.800	32.00	48.00	32.00	48.00	(a)	3.00	2.40	3	7.1	38.00	C	0		●
MTECI 06032C9 A60	0.500	1.000	0.500	1.000	24.00	48.00	24.00	48.00	(a)	6.00	3.20	3	9.5	57.00	C	0		●
MTECI 0604C12 A60	0.500	1.000	0.500	1.000	24.00	48.00	24.00	48.00	(a)	6.00	4.00	3	12.5	58.00	C	0		●
MTECI 0605D20 A60	0.500	0.800	0.400	0.800	28.00	56.00	32.00	64.00	≥6	6.00	5.00	4	20.0	58.00	C	1	●	
MTECI 0808D28 A60	0.500	0.800	0.400	0.800	28.00	56.00	32.00	64.00	≥9	8.00	8.00	4	28.0	64.00	C	1	●	
MTECI 0808D30 A60	1.000	1.750	0.800	1.500	14.00	28.00	16.00	32.00	≥10	8.00	8.00	4	30.0	64.00	C	1	●	
MTECI 1010D35 A60	1.000	1.750	0.800	1.500	14.00	28.00	16.00	32.00	≥12	10.00	10.00	4	35.0	73.00	C	1	●	
MTECI 1212E39 A60	1.000	1.750	0.800	1.500	14.00	28.00	16.00	32.00	≥14	12.00	12.00	5	39.0	84.00	C	1	●	
MTECI 1212E40 A60	2.000	3.000	1.750	2.500	8.00	13.00	10.00	15.00	≥16	12.00	12.00	5	40.0	84.00	C	1	●	
MTECI 1614E45 A60	2.000	3.000	1.750	2.500	8.00	13.00	10.00	15.00	≥18	16.00	14.00	5	45.0	101.00	C	1	●	
MTECI 1616E50 A60	2.000	3.000	1.750	2.500	8.00	13.00	10.00	15.00	≥20	16.00	16.00	5	50.0	101.00	C	1	●	

• (a)See table below • For user guide, see pages 422-428

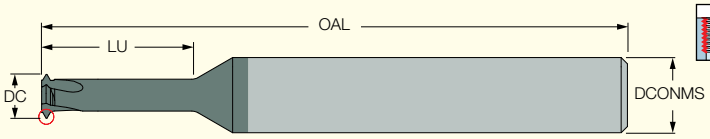
(1) Internal thread pitch minimum
(2) Internal thread pitch maximum
(3) External thread pitch minimum
(4) External thread pitch maximum
(5) Internal threads per inch minimum
(6) Internal threads per inch maximum
(7) External threads per inch minimum
(8) External threads per inch maximum
(9) Number of flutes
(10) C-Cylindrical
(11) 0 - Without coolant supply, 1 - With coolant supply

Designation	Possible Thread Sizes		
	M Coarse	M Fine	UN, UNC, UNS,UNF, UNEF
MTECI 03019C5 A60	M2.5x0.45	M2.5x0.35, M3x0.35,	3-48UNC, 3-56UNF, 4-40UNC, 4-48UNF
MTECI 06032C9 A60	M4x0.7 M4.5x0.75	M4x0.5	8-32UNC, 8-36UNF, 10-24UNC, 10-28UNS, 10-32UNF
MTECI 0604C12 A60	M5x0.8 M6x1.0	M5x0.5, M5.5x0.5, M5x0.75	10-36UNS, 10-40UNS, 10-48UNS, 12-24UNC, 12-28UNF

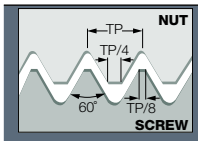
SOLIDTHREAD

MTECI-ISO

Small Diameter Single Point Internal ISO Profile Solid Carbide Thread Mills



Application: General engineering



Designation	Dimensions									IC902
	TP(1)	M Coarse	M Fine	DCONMS	DC	NOF(2)	LU	OAL	Shank(3)	
MTECI 03009C4 0.25ISO	0.250	M1.2X0.25	M1.4X0.25, M1.6X0.25	3.00	0.90	3	4.3	39.00	C	●
MTECI 03007C3 0.25ISO	0.250	M1X0.25	-	3.00	0.72	3	3.6	39.00	C	●
MTECI 03011C5 0.3ISO	0.300	M1.4X0.3	-	3.00	1.05	3	5.0	39.00	C	●
MTECI 03012C6 0.35ISO	0.350	M1.6X0.35	M2X0.35, M2.2X0.35	3.00	1.20	3	5.7	39.00	C	●
MTECI 03016C7 0.4ISO	0.400	M2X0.4	-	3.00	1.55	3	7.1	39.00	C	●
MTECI 03024C10 0.5ISO	0.500	M3X0.5	M3.5X0.5, M4X0.5	3.00	2.37	3	10.6	39.00	C	●

• For user guide, see pages 422-428

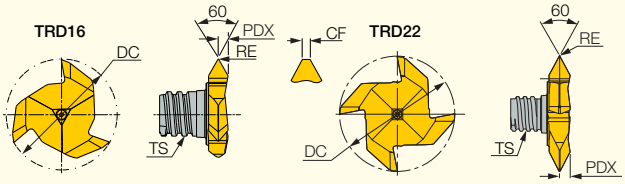
(1) Thread pitch
(2) Number of flutes
(3) C-Cylindrical

SOLIDTHREAD

MULTI-MASTER
INDEXABLE SOLID CARBIDE LINE

MM TRD-M

Interchangeable Solid Carbide Milling Heads for 60° Partial Profile Thread Milling



Designation	Dimensions												IC528
	DC	NOF(1)	TPN(2)	TPX(3)	RE	CF	PDX	THSZMS	TDZ(4)	DMIN	Standard		
MM TRD16-M60-05P-3T06	15.70	3	0.500	2.000	- (5)	0.05	1.2	T06	M20	19.05	ISO 68, DIN 13	MM EGR 16-18*	●
MM TRD16-M60-15P-3T06	15.70	3	1.500	2.000	0.05	-	1.2	T06	M22	19.05	ISO 68, DIN 13	MM EGR 16-18*	●
MM TRD22-M60-30P-4T08	21.70	4	3.000	4.500	0.20	-	2.8	T08	M36	31.00	ISO 68, DIN 13	MM EGR 20-22*	●

• For ISO metric thread (ISO 68, DIN13, ANSI B 1.13M-1983) • For shanks, see pages 70-77 • For clamping instructions, see page 77-78 • Do not apply lubricant to the threaded connection.

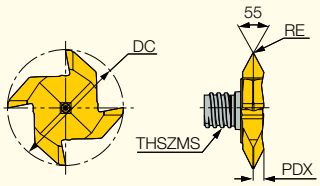
(1) Number of flutes
(2) Thread pitch minimum (mm)
(3) Thread pitch maximum (mm)
(4) Smallest possible thread
(5) Flat

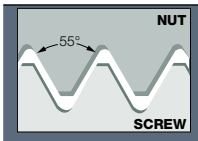
SOLIDTHREAD

MULTI-MASTER
INDEXABLE SOLID CARBIDE LINE

MM TRD-W

Interchangeable Solid Carbide Milling Heads for 55° Partial Profile Thread Milling





Designation	Dimensions											IC528
	DC	NOF(1)	RE	PDX	TPIX(2)	TPIN(3)	THSZMS	TDZ	DMIN	Standard		
MM TRD22-W55-14P-4T08	21.70	4	0.20	2.4	14.00	11	T08	G3/4	24.20	DIN ISO 228, B.S. 84	MM EGR 20-22*	●

• For shanks, see pages 70-77 • For clamping instructions, see page 77-78 • Do not apply lubricant to the threaded connection.

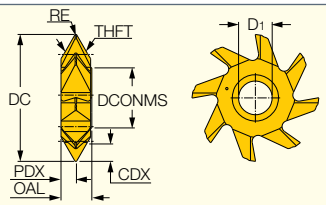
(1) Number of flutes
(2) Threads per inch maximum
(3) Threads per inch minimum

SOLIDTHREAD

T-SLOT

SD TRD-M-SP

Interchangeable Solid Carbide Heads for 60° Partial Profile Thread Milling



Designation	Dimensions															IC908
	DC	DMIN	DIOUT(1)	THFT(2)	TPN(3)	TPX(4)	TPIN(5)	TPIX(6)	PDX	RE	D1	CDX	OAL	ZEFP	DCONMS	
SD TRD32-M60-6P-SP15	31.70	42.00	36.00	VP60	4.000	6.000	4.00	6.00	3.7	0.30	8.40	4.70	7.70	8	15.00	●
SD TRD40-M60-8P-SP17	39.70	57.00	64.00	VP60	6.000	8.000	3.00	4.00	4.5	0.40	9.80	6.20	9.50	10	17.00	●

• For shanks, see pages 70-77.. For user guide, see pages 422-428

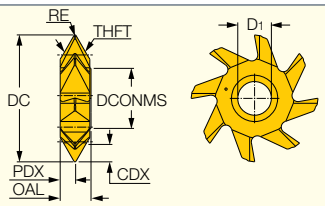
(1) Minimum diameter for external threading
(2) VP60=60° partial thread form
(3) Thread pitch minimum (mm)
(4) Thread pitch maximum (mm)
(5) Threads per inch minimum
(6) Threads per inch maximum

SOLIDTHREAD

T-SLOT

SD TRD-W-SP

Interchangeable Solid Carbide Heads for 55° Partial Profile Thread Milling



Designation	Dimensions													IC908
	DC	DMIN	DIOUT(1)	THFT(2)	TPIN(3)	TPIX(4)	PDX	D1	CDX	OAL	ZEFP	RE	DCONMS	
SD TRD32-W55-4T-SP15	31.70	46.00	35.00	VP55	4.00	6.00	3.7	8.40	4.70	7.70	8	0.50	15.00	●
SD TRD40-W55-3T-SP17	39.70	57.00	57.00	VP55	3.00	4.00	4.5	9.80	6.20	9.50	10	0.80	17.00	●

• For shanks, see pages 70-77.. For user guide, see pages 422-428

(1) Minimum diameter for external threading

(2) VP55=55° partial thread forms

(3) Threads per inch minimum

(4) Threads per inch maximum

Identification Code

MT	10	D	6	0.75	ISO	MMT05/MMTT..*
MULTI-MASTER Thread Mill	Cutting Dia.	No. of Flutes	Cutting Length	Pitch	Thread Profile ISO UN G (55°)	Connection Size

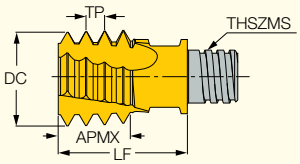
* For thread milling heads with 12 mm diameter and larger

SOLIDTHREAD

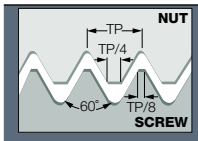
MULTI-MASTER
INDEXABLE SOLID CARBIDE LINE

MT-ISO-MM

Carbide Milling Heads with a Threaded Connection for Internal ISO Metric Thread



Application: General engineering



Designation	Dimensions								IC908
	TP(1)	M Coarse	M Fine	DC	NOF(2)	APMX	LF	THSZMS	
MT10D7.5 0.5ISO-MMT05	0.500	-	≥14	10.00	4	7.50	12.75	T05	●
MT 10D6 0.75ISO-MMT05	0.750	-	≥12	10.00	4	6.00	12.75	T05	●
MT 10D6 1.0ISO-MMT05	1.000	-	≥12	10.00	4	6.00	12.75	T05	●
MT 10D5 1.25ISO-MMT05	1.250	-	≥14	10.00	4	5.00	12.75	T05	●
MT 10D6 1.5ISO-MMT05	1.500	-	≥14	10.00	4	6.00	12.75	T05	●
MT12D9 0.5ISO-MMTT06	0.500	-	≥16	12.00	4	9.00	14.30	T06	●
MT12E9 0.75ISO-MMTT06	0.750	-	≥16	12.00	5	9.00	14.30	T06	●
MT12E9 1.0ISO-MMTT06	1.000	-	≥16	12.00	5	9.00	14.30	T06	●
MT12D9 1.25ISO-MMTT06	1.250	-	≥16	12.00	4	8.80	14.30	T06	●
MT12D9 1.5ISO-MMTT06	1.500	-	≥16	12.00	4	9.00	14.30	T06	●
MT12D9 1.75ISO-MMTT06	1.750	-	≥16	12.00	4	8.80	14.30	T06	●
MT12D10 2.0ISO-MMTT06	2.000	M16	≥17	12.00	4	10.00	14.30	T06	●
MT16F12 1.0ISO-MMTT08	1.000	-	≥22	16.00	6	12.00	19.00	T08	●
MT16F12 1.5ISO-MMTT08	1.500	-	≥20	16.00	6	12.00	19.00	T08	●
MT16E12 2.0ISO-MMTT08	2.000	-	≥19	16.00	5	12.00	19.00	T08	●
MT15E13 2.5ISO-MMTT08	2.500	M20	≥22	15.40	5	12.50	19.00	T08	●
MT16C12 3.0ISO-MMTT08	3.000	M24	≥25	16.00	3	12.00	19.00	T08	●
MT20F14 2.0ISO-MMTT10	2.000	-	≥27	20.00	6	14.00	21.00	T10	●
MT20D12 3.0ISO-MMTT10	3.000	-	≥27	20.00	4	12.00	21.00	T10	●
MT20D14 3.5ISO-MMTT10	3.500	-	≥30	20.00	4	14.00	21.00	T10	●

• For shanks, see pages 70-77 • For clamping keys (should be ordered separately), tightening torques and clamping instructions, see pages 77-78

• For thread milling heads with 12 mm diameter and larger use Torx clamping keys • Do not apply lubricant to the threaded connection

(1) Thread pitch

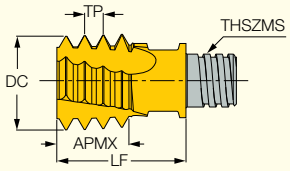
(2) Number of flutes

SOLIDTHREAD

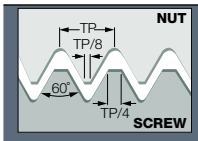
MULTI-MASTER
INDEXABLE SOLID CARBIDE LINE

MT-UN-MM

Carbide Milling Heads with a Threaded Connection for Internal UN Thread Profile



Application: General engineering



Designation	Dimensions										IC908
	TPI(1)	UNC	UNF	UNEF	DC	NOF(2)	APMX	LF	THSZMS	TP(3)	
MT 10D7 32UN-MMT05	32.0	-	-	-	10.00	4	6.40	12.75	T05	0.794	●
MT 10D6 28UN-MMT05	28.0	-	1/2	-	10.00	4	5.50	12.75	T05	0.907	●
MT 10D6 24UN-MMT05	24.0	-	-	9/16-5/8	10.00	4	5.30	12.75	T05	1.058	●
MT 10D6 20UN-MMT05	20.0	-	1/2	-	10.00	4	5.10	12.75	T05	1.270	●
MT 10D5 18UN-MMT05	18.0	-	9/16-5/8	1 1/8-1 5/8	10.00	4	5.60	12.75	T05	1.411	●
MT 10D7 16UN-MMT05	16.0	-	3/4	-	10.00	4	6.40	12.75	T05	1.588	●
MT12D9 24UN-MMTT06	24.0	-	-	5/8- 11/16	12.00	4	8.50	14.30	T06	1.058	●
MT12D9 20UN-MMTT06	20.0	-	-	3/4 - 1	12.00	4	8.90	14.30	T06	1.270	●
MT12D9 18UN-MMTT06	18.0	-	5/8	≥1 11/16	12.00	4	8.50	14.30	T06	1.411	●
MT12D10 16UN-MMTT06	16.0	-	3/4	-	12.00	4	8.00	14.30	T06	1.588	●
MT12D10 14UN-MMTT06	14.0	-	7/8	-	12.00	4	9.10	14.30	T06	1.814	●
MT16E12 18UN-MMTT08	18.0	-	5/8	≥1 11/16	16.00	5	11.30	19.00	T08	1.411	●
MT16E13 14UN-MMTT08	14.0	-	7/8	-	16.00	5	12.70	19.00	T08	1.814	●
MT16E13 12UN-MMTT08	12.0	-	1-1 1/2	-	16.00	5	12.70	19.00	T08	2.117	●
MT15D13 10UN-MMTT08	10.0	3/4	-	-	15.30	4	12.70	19.00	T08	2.540	●
MT16C11 9UN-MMTT08	9.0	7/8	-	-	16.00	3	11.30	19.00	T08	2.822	●
MT16C12 8UN-MMTT08	8.0	1.0	-	-	16.00	3	12.70	19.00	T08	3.175	●
MT20F13 12UN-MMTT10	12.0	-	≥1	-	20.00	6	12.70	21.00	T10	2.117	●
MT20D13 8UN-MMTT10	8.0	1			20.00	4	12.70	21.00	T10	3.175	●
MT20D15 7UN-MMTT10	7.0	-	1 1/8 - 1 1/4	-	20.00	4	14.50	21.00	T10	3.629	●

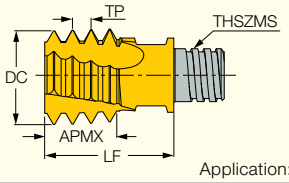
• For shanks, see pages 70-77 • For clamping keys (should be ordered separately), tightening torques and clamping instructions, see pages 77-78
• For thread milling heads with 12 mm diameter and larger use Torx clamping keys • Do not apply lubricant to the threaded connection
(1) Threads per inch
(2) Number of flutes
(3) Thread pitch

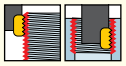
SOLIDTHREAD

MULTI-MASTER
INDEXABLE SOLID CARBIDE LINE

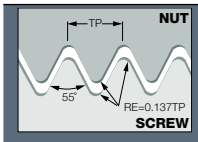
MT-W-MM

Carbide Milling Heads with a Threaded Connection for Internal and External 55° BSW Thread Profile





Application: General engineering fittings and pipe couplings



Designation	Dimensions								IC908
	TPI(1)	TDZ	DC	NOF(2)	APMX	LF	THSZMS	TP(3)	
MT 10D6 19W-MMT05	19.0	G1/4-3/8	10.00	4	5.30	12.75	T05	1.337	●
MT16D12 14W-MMTT08	14.0	G1/2-7/8	16.00	4	12.70	19.00	T08	1.814	●
MT16D11 11W-MMTT08	11.0	G≥1	16.00	4	11.60	19.00	T08	2.309	●
MT20F15 14W-MMTT10	14.0	G3/4-7/8	20.00	6	14.60	21.00	T10	1.814	●
MT20F14 11W-MMTT10	11.0	G≥1	20.00	6	13.90	21.00	T10	2.309	●

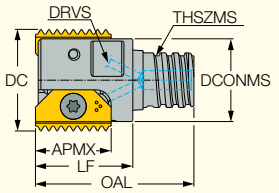
• For shanks, see pages 70-77 • For clamping keys (should be ordered separately), tightening torques and clamping instructions, see pages 77-78
• For thread milling heads with 12 mm diameter and larger use Torx clamping keys • Do not apply lubricant to the threaded connection
(1) Threads per inch
(2) Number of flutes
(3) Thread pitch

MILLTHREAD

MULTI-MASTER

MTE-MM

Indexable Threading Endmills with a MULTI-MASTER Shank Connection



Designation	DC	APMX	CICT(1)	LF	THSZMS	DCONMS	OAL	DRVS(2)	TQ(3)	kg
MTE D13.7-1-MMT06-14	13.70	14.00	1	17.00	T06	9.60	23.30	8.0	1.2	0.03
MTE D15.8-1-MMT08-14	15.80	14.00	1	17.00	T08	11.70	24.50	10.0	1.2	0.02
MTE D20/D0.79-2-MMT10-14	20.00	14.00	2	18.00	T10	15.30	29.30	13.0	1.2	0.03
MTE D20/D0.79-3-MMT10-14	20.00	14.00	3	24.00	T10	15.30	35.30	13.0	1.2	0.02
MTE D21/D0.82-1-MMT10-21	21.00	21.00	1	25.00	T10	15.30	36.30	13.0	4.8	0.12
MTE D30.4/D1.2-2-MMT15-21	30.40	21.00	2	25.00	T15	23.90	42.00	20.0	4.8	0.13
MTE D30.4/D1.2-3-MMT15-21	30.40	21.00	3	34.00	T15	23.90	51.00	20.0	4.8	0.13
MTE D27-1-MMT12-30	27.00	30.00	1	38.20	T12	18.30	52.00	16.0	9.0	0.10

• Minimum bore should be one-third larger than DC • For user guide, see pages 422-428

(1) Number of inserts

(2) Key flat size

For inserts, see pages: MT LNH#-ACME (Internal) (417) • MT LNH#-ISO (Internal) (410) • MT LNH#-NPS (415) • MT LNH#-NPSF (416) • MT LNH#-UN (Internal) (412) • MT LNH#-W (413) • MT LNHT-ABUT (416) • MT LNHT-BSPT (415) • MT LNHT-NPT (414) • MT LNHT-NPTF (414) • MT LNHU-ISO (External) (411) • MT LNHU-PG (417) • MT LNHU-UN (External) (413)

For holders, see pages: MM CAB (1047) • MM GRT (shanks) (72) • MM S-A (stepped shanks) (70) • MM S-A (straight shanks) (73) • MM S-A-C# (72) • MM S-A-HSK (76) • MM S-A-N (71) • MM S-A-SK (76) • MM S-B (85° conical shanks) (73) • MM S-D (89° conical shanks) (74) • MM TS-A (72)

Spare Parts

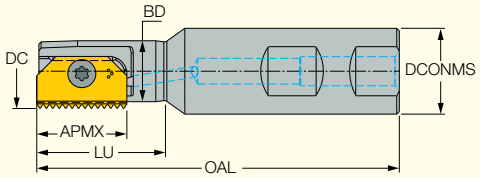
Designation				
MTE D13.7-1-MMT06-14	SR M2.6-L6.7-S11	BLD T08/M7	SW4-SD	MM KEY 8X5*
MTE D15.8-1-MMT08-14	SR M2.6-L6.7-S11	BLD T08/M7	SW4-SD	MM KEY 10X7*
MTE D20/D0.79-2-MMT10-14	SR M2.6-L6.7-S11	BLD T08/M7	SW4-SD	MM KEY 13X8*
MTE D20/D0.79-3-MMT10-14	SR M2.6-L6.7-S11	BLD T08/M7	SW4-SD	MM KEY 13X8*
MTE D21/D0.82-1-MMT10-21	SR M4-IP15-MT	BLD IP15/S7	SW6-SD	MM KEY 13X8*
MTE D30.4/D1.2-2-MMT15-21	SR M4-IP15-MT	BLD IP15/S7	SW6-SD	MM KEY 20*
MTE D30.4/D1.2-3-MMT15-21	SR M4-IP15-MT	BLD IP15/S7	SW6-SD	MM KEY 20*
MTE D27-1-MMT12-30	SR M5-IP25-MT-S	BLD IP25/S7	SW6-T	MM KEY 16X9*

* Optional, should be ordered separately

MILLTHREAD

MTE D

Indexable Threading Endmills



Designation	APMX	DC	NOF(4)	DCONMS	BD	LU	OAL	Shank(5)	TQ(6)	kg			
MTE D09.5-1-W20-12 (1)	12.00	9.50	1	20.00	7.50	15.5	85.00	W	1.2	0.16	SR M2.5-T8-MT	BLD T08/M7	SW4-SD
MTE D09.9-1-W20-12	12.00	9.90	1	20.00	7.50	16.0	85.00	W	1.2	0.16	SR M2.5-T8-MT	BLD T08/M7	SW4-SD
MTE D12.2-1-W20-14	14.00	12.20	1	20.00	8.75	20.0	75.00	W	1.2	0.15	SR M2.6-L6.7-S11	BLD T08/M7	SW4-SD
MTE D14.5-1-W20-14	14.00	14.50	1	20.00	10.80	27.1	85.00	W	1.2	0.16	SR M2.6-L6.7-S11	BLD T08/M7	SW4-SD
MTE D17.0-1-W20-14	14.00	17.00	1	20.00	12.80	30.0	85.00	W	1.2	0.23	SR M2.6-L6.7-S11	BLD T08/M7	SW4-SD
MTE D18-1-W20-21 (2)	21.00	18.50	1	20.00	14.20	30.0	85.00	W	4.8	0.20	SR M4-IP15-MT	BLD IP15/S7	SW6-SD
MTE D21-1-W20-21	21.00	21.00	1	20.00	15.90	40.0	94.00	W	4.8	0.23	SR M4-IP15-MT	BLD IP15/S7	SW6-SD
MTE D25-1-W20-21	21.00	25.00	1	20.00	20.00	63.0	115.00	W	4.8	0.24	SR M4-IP15-MT	BLD IP15/S7	SW6-SD
MTE D29-1-W25-30 (3)	30.00	29.00	1	25.00	22.20	50.0	110.00	W	9.0	0.32	SR M5-IP25-MT	BLD IP25/S7	SW6-T
MTE D31-1-W25-30	30.00	31.00	1	25.00	25.00	92.0	150.00	W	9.0	0.60	SR M5-IP25-MT	BLD IP25/S7	SW6-T
MTE D38-1-W32-30	30.00	38.00	1	32.00	32.00	88.0	150.00	W	9.0	0.90	SR M5-IP25-MT	BLD IP25/S7	SW6-T
MTE D48-1-W40-40	40.00	48.00	1	40.00	35.00	78.0	153.00	W	9.0	1.30	SR M5-IP25-MT	BLD IP25/S7	SW6-T
MTE D48-1-W40-40-B	40.00	48.00	1	40.00	36.50	138.0	210.00	W	9.0	1.50	SR M5-IP25-MT	BLD IP25/S7	SW6-T

• Minimum bore should be one-third larger than D • All endmills are equipped with a bore for internal coolant • For user guide, see pages 422-428

(1) **Not suitable for inserts:** MT LNHT 1202 18NPTF, MT LNHT 1202 18NPT, MT LNHT 1202 19BSPT, MT LNHT 1202 I1.75ISO

(2) **Not suitable for inserts:**MT LNHT 2104 11.5NPT, 11.5NPTF, 8ABUT and MT LNHU 2104 I3.50ISO, I7UN

(3) Not suitable for MT LNHT 3005 4ABUT inserts

(4) Number of flutes

(5) W-Weldon

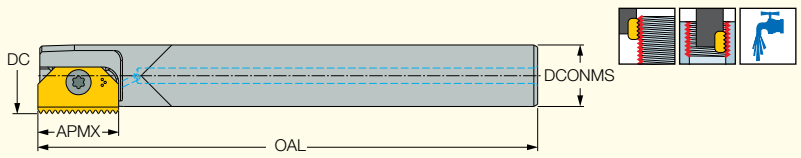
(6) Recommended clamping torque

For inserts, see pages: MT LNH#-ACME (Internal) (417) • MT LNH#-ISO (Internal) (410) • MT LNH#-NPS (415) • MT LNH#-NPSF (416) • MT LNH#-UN (Internal) (412) • MT LNH#-W (413) • MT LNHT-ABUT (416) • MT LNHT-BSPT (415) • MT LNHT-NPT (414) • MT LNHT-NPTF (414) • MT LNHU-ISO (External) (411) • MT LNHU-PG (417) • MT LNHU-UN (External) (413)

MILLTHREAD

MTE D-C

Indexable Threading Endmills
with Cylindrical Carbide Shanks



Designation	APMX	DC	DCONMS	OAL	Shank(1)	TQ(2)	kg			
MTE D09.9-1-C08C-12	12.00	9.90	8.00	127.00	C	1.2	0.10	SR M2.5-T8-MT	BLD T08/M7	SW4-SD
MTE D13.7-1-C10C-14	14.00	13.70	10.00	110.00	C	1.2	0.10	SR M2.6-L6.7-S11	BLD T08/M7	SW4-SD
MTE D13.7-1-C10C-14-B	14.00	13.70	10.00	153.50	C	1.2	0.12	SR M2.6-L6.7-S11	BLD T08/M7	SW4-SD
MTE D15.2-1-C12C-14	14.00	15.20	12.00	182.30	C	1.2	0.12	SR M2.6-L6.7-S11	BLD T08/M7	SW4-SD
MTE D21-1-C16C-21	21.00	21.00	16.00	130.00	C	4.8	0.01	SR M4-IP15-MT	BLD IP15/S7	SW6-SD
MTE D21-1-C16C-21-B	21.00	21.00	16.00	206.30	C	4.8	0.60	SR M4-IP15-MT	BLD IP15/S7	SW6-SD
MTE D27-1-C20C-30	30.00	27.00	20.00	263.00	C	9.0	1.09	SR M5-IP25-MT-S	BLD IP25/S7	SW6-T

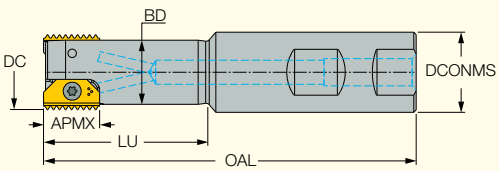
• For holders with long overhang, reduce the cutting speed and feed rate, between 20 to 40% (depending on workpiece, material, pitch and overhang)
• For user guide, see pages 422-428
(1) C-Cylindrical
(2) Recommended clamping torque

For inserts, see pages: MT LNH#-ACME (Internal) (417) • MT LNH#-ISO (Internal) (410) • MT LNH#-NPS (415) • MT LNH#-NPSF (416) • MT LNH#-UN (Internal) (412) • MT LNH#-W (413) • MT LNHT-ABUT (416) • MT LNHT-BSPT (415) • MT LNHT-NPT (414) • MT LNHT-NPTF (414) • MT LNHU-ISO (External) (411) • MT LNHU-PG (417) • MT LNHU-UN (External) (413)

MILLTHREAD

MTE D(Double Insert)

Double Insert Threading
Endmills with Weldon Shanks



Designation	APMX	DC	DCONMS	BD	LU	OAL	Shank(1)	TQ(2)	kg			
MTE D20.0-2-W20-14	14.00	20.00	20.00	16.00	41.0	93.00	W	1.2	0.20	SR M2.6-L6.7-S11	BLD T08/M7	SW4-SD
MTE D30-2-W25-21	21.00	30.00	25.00	-	-	108.00	W	4.8	0.40	SR M4-IP15-MT	BLD IP15/S7	SW6-SD
MTE D40-2-W32-30	30.00	40.00	32.00	30.00	70.0	130.00	W	9.0	0.70	SR M5-IP25-MT	BLD IP25/S7	SW6-T
MTE D50-2-W40-40	40.00	50.00	40.00	38.00	78.0	153.00	W	9.0	0.80	SR M5-IP25-MT	BLD IP25/S7	SW6-T

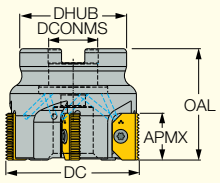
• Minimum bore should be one-third larger than D • All endmills are equipped with a bore for internal coolant • For user guide, see pages 422-428
(1) W-Weldon
(2) Recommended clamping torque

For inserts, see pages: MT LNH#-ACME (Internal) (417) • MT LNH#-ISO (Internal) (410) • MT LNH#-NPS (415) • MT LNH#-NPSF (416) • MT LNH#-UN (Internal) (412) • MT LNH#-W (413) • MT LNHT-ABUT (416) • MT LNHT-BSPT (415) • MT LNHT-NPT (414) • MT LNHT-NPTF (414) • MT LNHU-ISO (External) (411) • MT LNHU-PG (417) • MT LNHU-UN (External) (413)

MILLTHREAD

MTF D(Shell Mill)

Thread Milling
Multi-Insert Shell Mills



Designation	DC	APMX	CICT(1)	DF	DCONMS	OAL	TQ(2)	kg
MTF D063-5-22-21	63.00	21.00	5	40.00	22.00	50.00	4.8	0.70
MTF D063-4-22-30	63.00	30.00	4	48.00	22.00	50.00	9.0	0.56
MTF D080-4-27-30	80.00	30.00	4	60.00	27.00	50.00	9.0	0.10
MTF D080-4-27-40	80.00	40.00	4	60.00	27.00	65.00	9.0	1.04
MTF D100-4-32-30	100.00	30.00	4	78.00	32.00	50.00	9.0	1.89
MTF D100-8-32-30	100.00	30.00	8	78.00	32.00	50.00	9.0	0.15
MTF D100-4-32-40	100.00	40.00	4	78.00	32.00	65.00	9.0	0.20

• For user guide, see pages 422-428
(1) Number of inserts
(2) Recommended clamping torque

For inserts, see pages: MT LNH#-ACME (Internal) (417) • MT LNH#-ISO (Internal) (410) • MT LNH#-NPS (415) • MT LNH#-NPSF (416) • MT LNH#-UN (Internal) (412) • MT LNH#-W (413) • MT LNHT-ABUT (416) • MT LNHT-BSPT (415) • MT LNHT-NPT (414) • MT LNHT-NPTF (414) • MT LNHU-ISO (External) (411) • MT LNHU-PG (417) • MT LNHU-UN (External) (413)

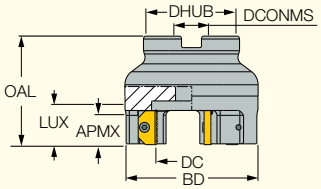
Spare Parts

Designation				
MTF D063-5-22-21	SR M4-IP15-MT	SR M10X25 DIN912	BLD IP15/S7	SW6-SD
MTF D063-4-22-30	SR M5-IP25-MT	SR M10X25 DIN912	BLD IP25/S7	SW6-T
MTF D080-4-27-30	SR M5-IP25-MT	SR DIN 912 M12X25	BLD IP25/S7	SW6-T
MTF D080-4-27-40	SR M5-IP25-MT	SR DIN 912 M12X25	BLD IP25/S7	SW6-T
MTF D100-4-32-30	SR M5-IP25-MT	SR M16X30 DIN912	BLD IP25/S7	SW6-T
MTF D100-8-32-30	SR M5-IP25-MT	SR M16X30 DIN912	BLD IP25/S7	SW6-T
MTF D100-4-32-40	SR M5-IP25-MT	SR M16X30 DIN912	BLD IP25/S7	SW6-T

MILLTHREAD

MTFLE

External Multi-Tooth
Threading Shell Mills



Designation	DC	BD	DHUB	DCONMS	OAL	LUX	APMX	CICT(1)	TQ(2)	kg
MTFLE D20-3-22-21	20.00	58.20	48.00	22.00	63.00	27.0	21.00	3	4.8	0.70
MTFLE D20-4-22-21	20.00	58.20	48.00	22.00	63.00	27.0	21.00	4	4.8	0.70
MTFLE D30-3-22-21	30.00	68.20	48.00	22.00	63.00	27.0	21.00	3	4.8	0.90
MTFLE D45-4-27-21	45.00	83.20	60.00	27.00	67.00	27.0	21.00	4	4.8	1.40

• For user guide, see pages 422-428
(1) Number of inserts
(2) Recommended clamping torque
For inserts, see pages: MT LNH#-NPS (415) • MT LNH#-NPSF (416) • MT LNH#-W (413) • MT LNHT-ABUT (416) • MT LNHT-BSPT (415) • MT LNHT-NPT (414) • MT LNHT-NPTF (414) • MT LNHU-ISO (External) (411) • MT LNHU-PG (417) • MT LNHU-UN (External) (413)

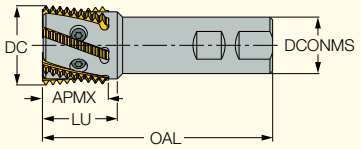
Spare Parts

Designation				
MTFLE D20-3-22-21	SR M10X25 DIN912	BLD IP15/S7	SW6-SD	SR M4-IP15-MT
MTFLE D20-4-22-21	SR M10X25 DIN912	BLD IP15/S7	SW6-SD	SR M4-IP15-MT
MTFLE D30-3-22-21	SR M10X25 DIN912	BLD IP15/S7	SW6-SD	SR M4-IP15-MT
MTFLE D45-4-27-21	SR DIN 912 M12X25	BLD IP15/S7	SW6-SD	SR M4-IP15-MT

MILLTHREAD

MTSRH (endmills)

Endmills with Coolant Holes for Helical Threading Inserts

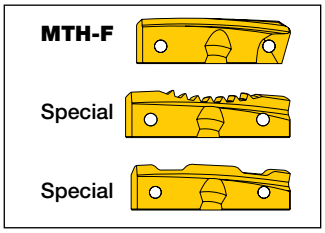


Designation	DC	APMX	DCONMS	OAL	LU	NOF(1)	Shank(2)	kg	MIID(3)		
MTSRH 23-2	23.00	27.00	25.00	110.00	50.0	2	W	0.30	MTH 23 E 1.0 ISO	S23	K21
MTSRH 32-5	32.00	32.00	32.00	130.00	60.0	5	W	0.65	MTH 32 E 1.5 ISO	S32	K22
MTSRH 45-6	45.00	37.00	32.00	130.00	-	6	W	0.88	MTH 45 E 1.5 ISO	S45X	K40

• Note: ISCAR can provide special contour inserts on request
(1) Number of flutes
(2) W-Weldon
(3) Master insert identification

For inserts, see pages: MTH-BSPT (int. & ext.) (420) • MTH-F (421) • MTH-ISO (external) (418) • MTH-ISO (internal) (418) • MTH-NPT (int. & ext.) (420) • MTH-NPTF (int. & ext.) (421) • MTH-UN (external) (419) • MTH-UN (internal) (419) • MTH-W (int. & ext.) (420)

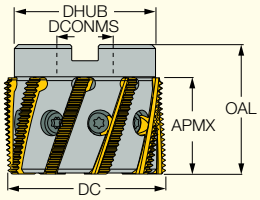
MTSRH with **MTH-F** Finishing Inserts



MILLTHREAD

MTSRH (helical shell mill)

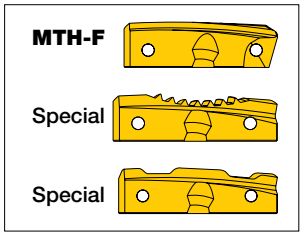
Shell Mills with Coolant Holes for Helical Threading Inserts



Designation	DC	APMX	DHUB	DCONMS	OAL	NOF(1)	kg	MIID(2)		
MTSRH 32-5M	32.00	32.00	26.00	16.00	52.00	5	0.15	MTH 32 E 1.5 ISO	S32S	K22
MTSRH 45-6M	45.00	37.00	38.00	22.00	60.00	6	0.30	MTH 45 E 1.5 ISO	S45S	K40
MTSRH 63-9	63.00	38.00	51.70	22.00	50.00	9	0.66	MTH 63 11 W	S63	K40

• Note: ISCAR can provide special contour inserts on request • For user guide, see pages 422-428
(1) Number of flutes
(2) Master insert identification

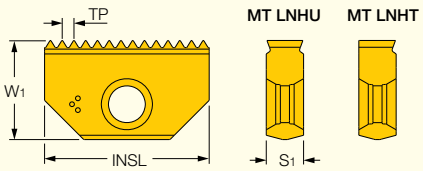
For inserts, see pages: MTH-BSPT (int. & ext.) (420) • MTH-F (421) • MTH-ISO (external) (418) • MTH-ISO (internal) (418) • MTH-NPT (int. & ext.) (420) • MTH-NPTF (int. & ext.) (421) • MTH-UN (external) (419) • MTH-UN (internal) (419) • MTH-W (int. & ext.) (420)

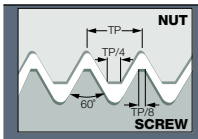


MILLTHREAD

MT LNH#-ISO (Internal)

Thread Milling Inserts for Internal ISO Metric Profile





Designation	Dimensions TP[1]	INSL	W_1	S_1	IC908
MT LNHT 1202 I0.50ISO	0.500	12.00	6.50	2.90	•
MT LNHU 1403 I0.50ISO	0.500	14.00	7.90	3.20	•
MT LNHT 1202 I0.75ISO	0.750	12.00	6.50	2.90	•
MT LNHU 1403 I0.75ISO	0.750	14.00	7.90	3.20	•
MT LNHT 1202 I1.00ISO	1.000	12.00	6.50	2.90	•
MT LNHU 1403 I1.00ISO	1.000	14.00	7.90	3.20	•
MT LNHU 2104 I1.00ISO	1.000	21.00	12.60	4.80	•
MT LNHT 1202 I1.25ISO	1.250	12.00	6.50	2.90	•
MT LNHU 1403 I1.25ISO	1.250	14.00	7.90	3.20	•
MT LNHT 1202 I1.50ISO	1.500	12.00	6.50	2.90	•
MT LNHU 1403 I1.50ISO	1.500	14.00	7.90	3.20	•
MT LNHU 2104 I1.50ISO	1.500	21.00	12.60	4.80	•
MT LNHU 3005 I1.50ISO	1.500	30.00	16.70	5.60	•
MT LNHU 4006 I1.50ISO	1.500	40.00	20.80	6.40	•
MT LNHT 1202 I1.75ISO	1.750	12.00	6.50	2.90	•
MT LNHU 1403 I1.75ISO	1.750	14.00	7.90	3.20	•
MT LNHU 2104 I1.75ISO	1.750	21.00	12.60	4.80	•
MT LNHU 1403 I2.00ISO	2.000	14.00	7.90	3.20	•
MT LNHU 2104 I2.00ISO	2.000	21.00	12.60	4.80	•
MT LNHU 3005 I2.00ISO	2.000	30.00	16.70	5.60	•
MT LNHU 4006 I2.00ISO	2.000	40.00	20.80	6.40	•
MT LNHU 1403 I2.50ISO	2.500	14.00	7.90	3.20	•
MT LNHU 2104 I2.50ISO	2.500	21.00	12.60	4.80	•
MT LNHU 2104 I3.00ISO	3.000	21.00	12.60	4.80	•
MT LNHU 3005 I3.00ISO	3.000	30.00	16.70	5.60	•
MT LNHU 4006 I3.00ISO	3.000	40.00	20.80	6.40	•
MT LNHU 2104 I3.50ISO	3.500	21.00	12.60	4.80	•
MT LNHU 3005 I3.50ISO	3.500	30.00	16.70	5.60	•
MT LNHU 4006 I3.50ISO	3.500	40.00	20.80	6.40	•
MT LNHU 3005 I4.00ISO	4.000	30.00	16.70	5.60	•
MT LNHU 4006 I4.00ISO	4.000	40.00	20.80	6.40	•
MT LNHU 3005 I4.50ISO	4.500	30.00	16.70	5.60	•
MT LNHU 4006 I4.50ISO	4.500	40.00	20.80	6.40	•
MT LNHU 3005 I5.00ISO	5.000	30.00	16.70	5.60	•
MT LNHU 4006 I5.00ISO	5.000	40.00	20.80	6.40	•
MT LNHU 4006 I5.50ISO	5.500	40.00	20.80	6.40	•
MT LNHU 4006 I6.00ISO	6.000	40.00	20.80	6.40	•

• For cutting speed recommendations, see pages 422-423

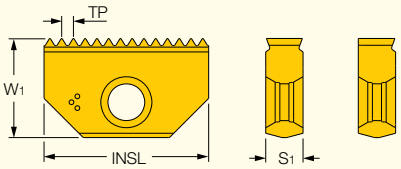
[1] Thread pitch

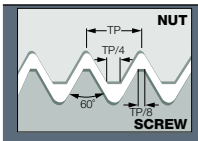
For tools, see pages: MTE D (406) • MTE D(Double Insert) (407) • MTE D-C (407) • MTE-MM (406) • MTF D(Shell Mill) (408)

MILLTHREAD

MT LNHU-ISO (External)

Thread Milling Inserts for
External ISO Metric Profile





Designation	Dimensions TP(1)	INSL	W1	S1	IC908
MT LNHU 1403 E0.75ISO	0.750	14.00	7.90	3.20	•
MT LNHU 1403 E1.00ISO	1.000	14.00	7.90	3.20	•
MT LNHU 2104 E1.00ISO	1.000	21.00	12.60	4.80	•
MT LNHU 1403 E1.25ISO	1.250	14.00	7.90	3.20	•
MT LNHU 1403 E1.50ISO	1.500	14.00	7.90	3.20	•
MT LNHU 2104 E1.50ISO	1.500	21.00	12.60	4.80	•
MT LNHU 3005 E1.50ISO	1.500	30.00	16.70	5.60	•
MT LNHU 4006 E1.50ISO	1.500	40.00	20.80	6.40	•
MT LNHU 1403 E1.75ISO	1.750	14.00	7.90	3.20	•
MT LNHU 1403 E2.00ISO	2.000	14.00	7.90	3.20	•
MT LNHU 2104 E2.00ISO	2.000	21.00	12.60	4.80	•
MT LNHU 3005 E2.00ISO	2.000	30.00	16.70	5.60	•
MT LNHU 4006 E2.00ISO	2.000	40.00	20.80	6.40	•
MT LNHU 1403 E2.50ISO	2.500	14.00	7.90	3.20	•
MT LNHU 2104 E2.50ISO	2.500	21.00	12.80	4.80	•
MT LNHU 2104 E3.00ISO	3.000	21.00	12.80	4.80	•
MT LNHU 3005 E3.00ISO	3.000	30.00	16.70	5.60	•
MT LNHU 4006 E3.00ISO	3.000	40.00	20.80	6.40	•
MT LNHU 3005 E3.50ISO	3.500	30.00	16.70	5.60	•
MT LNHU 3005 E4.00ISO	4.000	30.00	16.70	5.60	•
MT LNHU 4006 E4.00ISO	4.000	40.00	20.80	6.40	•
MT LNHU 4006 E5.00ISO	5.000	40.00	20.80	6.40	•
MT LNHU 4006 E6.00ISO	6.000	40.00	20.80	6.40	•

• For cutting speed recommendations, see pages 422-423

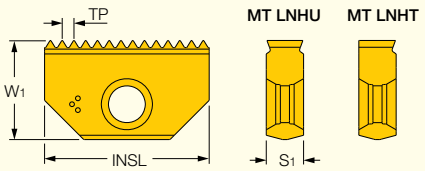
(1) Thread pitch

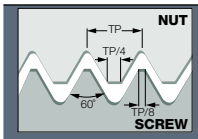
For tools, see pages: MTE D (406) • MTE D(Double Insert) (407) • MTE D-C (407) • MTE-MM (406) • MTF D(Shell Mill) (408) • MTFLE (408)

MILLTHREAD

MT LNH#-UN (Internal)

Thread Milling Inserts for American (UN, UNC, UNF, UNEF, UNS) Full Profile Threads for General Applications





Designation	Dimensions					IC908
	TPI(1)	INSL	W1	S1	TP(2)	
MT LNHT 1202 I32UN	32.0	12.00	6.50	2.90	0.794	•
MT LNHT 1202 I28UN	28.0	12.00	6.50	2.90	0.907	•
MT LNHT 1202 I24UN	24.0	12.00	6.50	2.90	1.058	•
MT LNHT 1202 I20UN	20.0	12.00	6.50	2.90	1.270	•
MT LNHT 1202 I18UN	18.0	12.00	6.50	2.90	1.411	•
MT LNHT 1202 I16UN	16.0	12.00	6.50	2.90	1.588	•
MT LNHU 1403 I32UN	32.0	14.00	7.90	3.20	0.794	•
MT LNHU 1403 I28UN	28.0	14.00	7.90	3.20	0.907	•
MT LNHU 1403 I27UN	27.0	14.00	7.90	3.20	0.941	•
MT LNHU 1403 I24UN	24.0	14.00	7.90	3.20	1.058	•
MT LNHU 1403 I20UN	20.0	14.00	7.90	3.20	1.270	•
MT LNHU 1403 I18UN	18.0	14.00	7.90	3.20	1.411	•
MT LNHU 1403 I16UN	16.0	14.00	7.90	3.20	1.588	•
MT LNHU 1403 I14UN	14.0	14.00	7.90	3.20	1.814	•
MT LNHU 1403 I12UN	12.0	14.00	7.90	3.20	2.117	•
MT LNHU 1403 I11UN	11.0	14.00	7.90	3.20	2.309	•
MT LNHU 1403 I10UN	10.0	14.00	7.90	3.20	2.540	•
MT LNHU 2104 I24UN	24.0	21.00	12.60	4.80	1.058	•
MT LNHU 2104 I20UN	20.0	21.00	12.60	4.80	1.270	•
MT LNHU 2104 I18UN	18.0	21.00	12.60	4.80	1.411	•
MT LNHU 2104 I16UN	16.0	21.00	12.60	4.80	1.588	•
MT LNHU 2104 I14UN	14.0	21.00	12.60	4.80	1.814	•
MT LNHU 2104 I12UN	12.0	21.00	12.60	4.80	2.117	•
MT LNHU 2104 I10UN	10.0	21.00	12.60	4.80	2.540	•
MT LNHU 2104 I8UN	8.0	21.00	12.60	4.80	3.175	•
MT LNHU 2104 I7UN	7.0	21.00	12.60	4.80	3.629	•
MT LNHU 3005 I20UN	20.0	30.00	16.70	5.60	1.270	•
MT LNHU 3005 I18UN	18.0	30.00	16.70	5.60	1.411	•
MT LNHU 3005 I16UN	16.0	30.00	16.70	5.60	1.588	•
MT LNHU 3005 I14UN	14.0	30.00	16.70	5.60	1.814	•
MT LNHU 3005 I12UN	12.0	30.00	16.70	5.60	2.117	•
MT LNHU 3005 I10UN	10.0	30.00	16.70	5.60	2.540	•
MT LNHU 3005 I8UN	8.0	30.00	16.70	5.60	3.175	•
MT LNHU 3005 I6UN	6.0	30.00	16.70	5.60	4.233	•
MT LNHU 3005 I5UN	5.0	30.00	16.70	5.60	5.080	•
MT LNHU 4006 I16UN	16.0	40.00	20.80	6.40	1.588	•
MT LNHU 4006 I14UN	14.0	40.00	20.80	6.40	1.814	•
MT LNHU 4006 I12UN	12.0	40.00	20.80	6.40	2.117	•
MT LNHU 4006 I8UN	8.0	40.00	20.80	6.40	3.175	•
MT LNHU 4006 I6UN	6.0	40.00	20.80	6.40	4.233	•
MT LNHU 4006 I4.5UN	4.5	40.00	20.80	6.40	5.644	•
MT LNHU 4006 I4UN	4.0	40.00	20.80	6.40	6.350	•

• For cutting speed recommendations, see pages 422-423

(1) Threads per inch

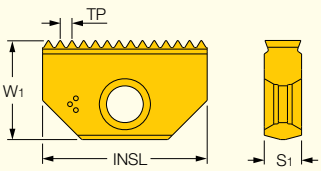
(2) Thread pitch

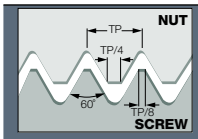
For tools, see pages: MTE D (406) • MTE D(Double Insert) (407) • MTE D-C (407) • MTE-MM (406) • MTF D(Shell Mill) (408)

MILLTHREAD

MT LNHU-UN (External)

External (UN, UNC,UNF,UNEF, UNS) Full Profile Thread Milling Inserts for General Industries





Designation	Dimensions TPI(1)	INSL	W1	S1	IC908
MT LNHU 1403 E32UN	32.0	14.00	7.90	3.20	•
MT LNHU 1403 E28UN	28.0	14.00	7.90	3.20	•
MT LNHU 1403 E24UN	24.0	14.00	7.90	3.20	•
MT LNHU 1403 E20UN	20.0	14.00	7.90	3.20	•
MT LNHU 1403 E18UN	18.0	14.00	7.90	3.20	•
MT LNHU 1403 E16UN	16.0	14.00	7.90	3.20	•
MT LNHU 1403 E14UN	14.0	14.00	7.90	3.20	•
MT LNHU 1403 E12UN	12.0	14.00	7.90	3.20	•
MT LNHU 2104 E24UN	24.0	21.00	12.60	4.80	•
MT LNHU 2104 E20UN	20.0	21.00	12.60	4.80	•
MT LNHU 2104 E18UN	18.0	21.00	12.60	4.80	•
MT LNHU 2104 E16UN	16.0	21.00	12.60	4.80	•
MT LNHU 2104 E14UN	14.0	21.00	12.60	4.80	•
MT LNHU 2104 E12UN	12.0	21.00	12.60	4.80	•
MT LNHU 2104 E10UN	10.0	21.00	12.60	4.80	•
MT LNHU 3005 E20UN	20.0	30.00	16.70	5.60	•
MT LNHU 3005 E18UN	18.0	30.00	16.70	5.60	•
MT LNHU 3005 E16UN	16.0	30.00	16.70	5.60	•
MT LNHU 3005 E14UN	14.0	30.00	16.70	5.60	•
MT LNHU 3005 E12UN	12.0	30.00	16.70	5.60	•
MT LNHU 3005 E10UN	10.0	30.00	16.70	5.60	•
MT LNHU 3005 E8UN	8.0	30.00	16.70	5.60	•
MT LNHU 3005 E6UN	6.0	30.00	16.70	5.60	•
MT LNHU 4006 E16UN	16.0	40.00	20.80	6.40	•
MT LNHU 4006 E14UN	14.0	40.00	20.80	6.40	•
MT LNHU 4006 E12UN	12.0	40.00	20.80	6.40	•
MT LNHU 4006 E10UN	10.0	40.00	20.80	6.40	•
MT LNHU 4006 E8UN	8.0	40.00	20.80	6.40	•
MT LNHU 4006 E6UN	6.0	40.00	20.80	6.40	•

• For cutting speed recommendations, see pages 422-423

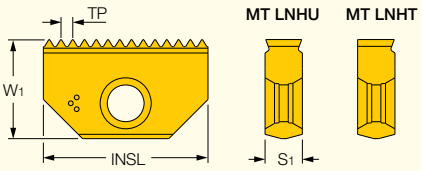
(1) Threads per inch

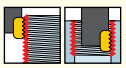
For tools, see pages: MTE D (406) • MTE D(Double Insert) (407) • MTE D-C (407) • MTE-MM (406) • MTF D(Shell Mill) (408) • MTFLE (408)

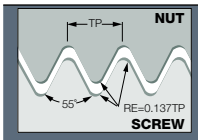
MILLTHREAD

MT LNH#-W

External & Internal Whitworth (BSW, BSF, BSP) Full Profile Thread Milling Inserts for Fittings and Pipe Couplings







Designation	Dimensions TPI(1)	INSL	W1	S1	TP(2)	IC908
MT LNHT 1202 19W	19.0	12.00	6.50	2.90	1.337	•
MT LNHU 1403 24W	24.0	14.00	7.90	3.20	1.058	•
MT LNHU 1403 20W	20.0	14.00	7.90	3.20	1.270	•
MT LNHU 1403 19W	19.0	14.00	7.90	3.20	1.337	•
MT LNHU 1403 16W	16.0	14.00	7.90	3.20	1.588	•
MT LNHU 1403 14W	14.0	14.00	7.90	3.20	1.814	•
MT LNHU 2104 20W	20.0	21.00	12.60	4.80	1.270	•
MT LNHU 2104 19W	19.0	21.00	12.60	4.80	1.337	•
MT LNHU 2104 16W	16.0	21.00	12.60	4.80	1.588	•
MT LNHU 2104 14W	14.0	21.00	12.60	4.80	1.814	•
MT LNHU 2104 11W	11.0	21.00	12.60	4.80	2.309	•
MT LNHU 3005 16W	16.0	30.00	16.70	5.60	1.588	•
MT LNHU 3005 14W	14.0	30.00	16.70	5.60	1.814	•
MT LNHU 3005 11W	11.0	30.00	16.70	5.60	2.309	•
MT LNHU 4006 11W	11.0	40.00	20.80	6.40	2.309	•
MT LNHU 4006 8W	8.0	40.00	20.80	6.40	3.175	•

• For cutting speed recommendations, see pages 422-423

(1) Threads per inch

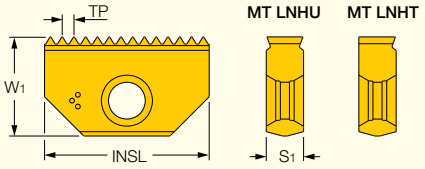
(2) Thread pitch

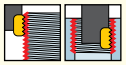
For tools, see pages: MTE D (406) • MTE D(Double Insert) (407) • MTE D-C (407) • MTE-MM (406) • MTF D(Shell Mill) (408) • MTFLE (408)

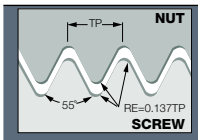
MILLTHREAD

MT LNH#-W

External & Internal Whitworth (BSW, BSF, BSP) Full Profile Thread Milling Inserts for Fittings and Pipe Couplings







Designation	Dimensions					IC908
	TPI(1)	INSL	W1	S1	TP(2)	
MT LNHT 1202 19W	19.0	12.00	6.50	2.90	1.337	•
MT LNHU 1403 24W	24.0	14.00	7.90	3.20	1.058	•
MT LNHU 1403 20W	20.0	14.00	7.90	3.20	1.270	•
MT LNHU 1403 19W	19.0	14.00	7.90	3.20	1.337	•
MT LNHU 1403 16W	16.0	14.00	7.90	3.20	1.588	•
MT LNHU 1403 14W	14.0	14.00	7.90	3.20	1.814	•
MT LNHU 2104 20W	20.0	21.00	12.60	4.80	1.270	•
MT LNHU 2104 19W	19.0	21.00	12.60	4.80	1.337	•
MT LNHU 2104 16W	16.0	21.00	12.60	4.80	1.588	•
MT LNHU 2104 14W	14.0	21.00	12.60	4.80	1.814	•
MT LNHU 2104 11W	11.0	21.00	12.60	4.80	2.309	•
MT LNHU 3005 16W	16.0	30.00	16.70	5.60	1.588	•
MT LNHU 3005 14W	14.0	30.00	16.70	5.60	1.814	•
MT LNHU 3005 11W	11.0	30.00	16.70	5.60	2.309	•
MT LNHU 4006 11W	11.0	40.00	20.80	6.40	2.309	•
MT LNHU 4006 8W	8.0	40.00	20.80	6.40	3.175	•

• For cutting speed recommendations, see pages 422-423

(1) Threads per inch

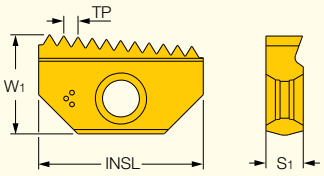
(2) Thread pitch

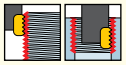
For tools, see pages: MTE D (406) • MTE D(Double Insert) (407) • MTE D-C (407) • MTE-MM (406) • MTF D(Shell Mill) (408) • MTFLE (408)

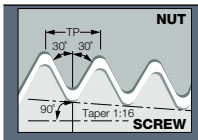
MILLTHREAD

MT LNHT-NPT

External and Internal NPT Full Profile Thread Milling Inserts for Steam, Gas and Water Pipes







Designation	Dimensions					IC908
	TPI(1)	INSL	W1	S1	TP(2)	
MT LNHT 1202 18NPT	18.0	12.00	6.50	2.90	1.411	•
MT LNHT 1403 18NPT	18.0	14.00	7.90	3.20	1.411	•
MT LNHT 1403 14NPT	14.0	14.00	7.90	3.20	1.814	•
MT LNHT 2104 14NPT	14.0	21.00	12.60	4.80	1.814	•
MT LNHT 2104 11.5NPT	11.5	21.00	12.60	4.80	2.209	•
MT LNHT 3005 11.5NPT	11.5	30.00	16.70	5.60	2.209	•
MT LNHT 3005 8NPT	8.0	30.00	16.70	5.60	3.175	•
MT LNHT 4006 11.5NPT	11.5	40.00	20.80	6.40	2.209	•
MT LNHT 4006 8NPT	8.0	40.00	20.80	6.40	3.175	•

• For cutting speed recommendations, see pages 422-423

(1) Threads per inch

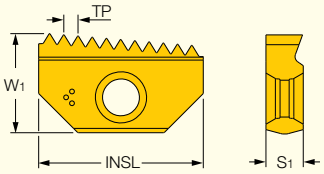
(2) Thread pitch

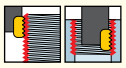
For tools, see pages: MTE D (406) • MTE D(Double Insert) (407) • MTE D-C (407) • MTE-MM (406) • MTF D(Shell Mill) (408) • MTFLE (408)

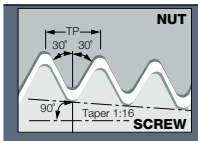
MILLTHREAD

MT LNHT-NPTF

External and Internal NPTF Full Profile Thread Milling Inserts for Steam, Gas and Water Pipes







Designation	Dimensions TPI(1)	INSL	W1	S1	TP(2)	IC908
MT LNHT 1202 18NPTF	18.0	12.00	6.50	2.90	1.411	●
MT LNHT 1403 18NPTF	18.0	14.00	7.90	3.20	1.411	●
MT LNHT 1403 14NPTF	14.0	14.00	7.90	3.20	1.814	●
MT LNHT 2104 14NPTF	14.0	21.00	12.60	4.80	1.814	●
MT LNHT 2104 11.5NPTF	11.5	21.00	12.60	4.80	2.209	●
MT LNHT 3005 11.5NPTF	11.5	30.00	16.70	5.60	2.209	●
MT LNHT 3005 8NPTF	8.0	30.00	16.70	5.60	3.175	●
MT LNHT 4006 11.5NPTF	11.5	40.00	20.80	6.40	2.209	●
MT LNHT 4006 8NPTF	8.0	40.00	20.80	6.40	3.175	●

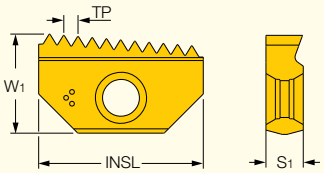
• For cutting speed recommendations, see pages 422-423
(1) Threads per inch
(2) Thread pitch

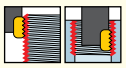
For tools, see pages: MTE D (406) • MTE D(Double Insert) (407) • MTE D-C (407) • MTE-MM (406) • MTF D(Shell Mill) (408) • MTFLE (408)

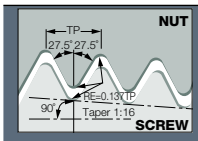
MILLTHREAD

MT LNHT-BSPT

External and Internal Thread Milling Inserts for BSPT Full Profile







Designation	Dimensions TPI(1)	INSL	W1	S1	TP(2)	IC908
MT LNHT 1202 19BSPT	19.0	12.00	6.50	2.90	1.337	●
MT LNHT 1403 19BSPT	19.0	14.00	7.90	3.20	1.337	●
MT LNHT 1403 14BSPT	14.0	14.00	7.90	3.20	1.814	●
MT LNHT 2104 14BSPT	14.0	21.00	12.60	4.80	1.814	●
MT LNHT 2104 11BSPT	11.0	21.00	12.60	4.80	2.309	●
MT LNHT 3005 11BSPT	11.0	30.00	16.70	5.60	2.309	●
MT LNHT 4006 11BSPT	11.0	40.00	20.80	6.40	2.309	●

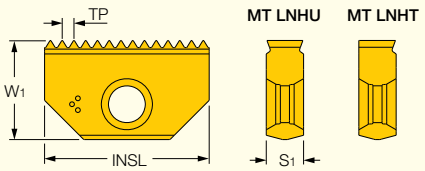
• For cutting speed recommendations, see pages 422-423
(1) Threads per inch
(2) Thread pitch

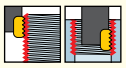
For tools, see pages: MTE D (406) • MTE D(Double Insert) (407) • MTE D-C (407) • MTE-MM (406) • MTF D(Shell Mill) (408) • MTFLE (408)

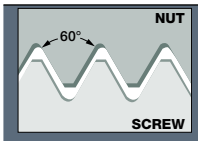
MILLTHREAD

MT LNH#-NPS

External and Internal NPS Full Profile Thread Milling Inserts for Mechanical Joining and Pipe Fittings







Designation	Dimensions TPI(1)	INSL	W1	S1	TP(2)	IC908
MT LNHT 1202 18NPS	18.0	12.00	6.30	2.90	1.411	●
MT LNHU 1403 18NPS	18.0	14.00	7.50	3.10	1.411	●
MT LNHU 1403 14NPS	14.0	14.00	7.50	3.10	1.814	●
MT LNHU 2104 14NPS	14.0	21.00	12.00	4.70	1.814	●
MT LNHU 2104 11.5NPS	11.5	21.00	12.00	4.70	2.209	●
MT LNHU 3005 11.5NPS	11.5	30.00	16.70	5.60	2.209	●
MT LNHU 3005 8NPS	8.0	30.00	16.70	5.60	3.175	●
MT LNHU 4006 11.5NPS	11.5	40.00	20.00	6.30	2.209	●
MT LNHU 4006 8NPS	8.0	40.00	20.00	6.30	3.175	●

• The same insert for external & internal thread. • For cutting speed recommendations, see pages 422-423

(1) Threads per inch

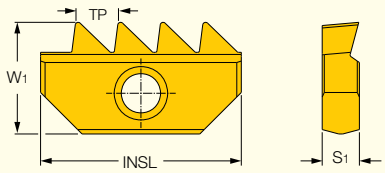
(2) Thread pitch

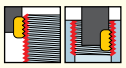
For tools, see pages: MTE D (406) • MTE D(Double Insert) (407) • MTE D-C (407) • MTE-MM (406) • MTF D(Shell Mill) (408) • MTFLE (408)

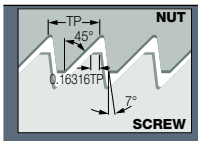
MILLTHREAD

MT LNHT-ABUT

External & Internal Single-Sided American Buttress Thread Milling Inserts







Designation	Dimensions TPI(2)	INSL	W1	S1	TP(3)	IC908
MT LNHT 2104 16ABUT	16.0	21.00	12.00	4.70	1.588	●
MT LNHT 2104 12ABUT	12.0	21.00	12.00	4.70	2.117	●
MT LNHT 2104 10ABUT	10.0	21.00	12.00	4.70	2.540	●
MT LNHT 2104 8ABUT	8.0	21.00	12.00	4.70	3.175	●
MT LNHT 3005 16ABUT	16.0	30.00	16.70	5.60	1.588	●
MT LNHT 3005 12ABUT	12.0	30.00	16.70	5.60	2.117	●
MT LNHT 3005 10ABUT	10.0	30.00	16.70	5.60	2.540	●
MT LNHT 3005 8ABUT	8.0	30.00	16.70	5.60	3.175	●
MT LNHT 3005 6ABUT	6.0	30.00	16.70	5.60	4.233	●
MT LNHT 3005 4ABUT (1)	4.0	30.00	16.70	5.60	6.350	●
MT LNHT 4006 4ABUT	4.0	40.00	20.00	6.30	6.350	●

• For cutting speed recommendations, see pages 422-423

(1) Due to deep thread profile, the tool should be modified

(2) Threads per inch

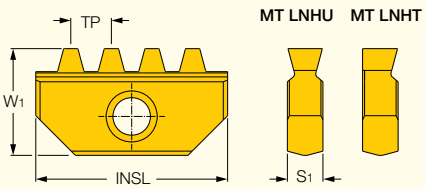
(3) Thread pitch

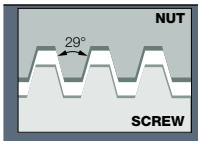
For tools, see pages: MTE D (406) • MTE D(Double Insert) (407) • MTE D-C (407) • MTE-MM (406) • MTF D(Shell Mill) (408) • MTFLE (408)

MILLTHREAD

MT LNH#-ACME (Internal)

Internal ACME Profile Thread Milling Inserts for Feed Screws





Designation	Dimensions					IC908
	TPI(1)	INSL	W1	S1	TP(2)	
MT LNHU 2104 I12ACME	12.0	21.00	12.00	4.70	2.117	●
MT LNHU 2104 I10ACME	10.0	21.00	12.00	4.70	2.540	●
MT LNHU 3005 I12ACME	12.0	30.00	16.70	5.60	2.117	●
MT LNHU 3005 I10ACME	10.0	30.00	16.70	5.60	2.540	●
MT LNHU 3005 I8ACME	8.0	30.00	16.70	5.60	3.175	●
MT LNHU 3005 I6ACME	6.0	30.00	16.70	5.60	4.233	●
MT LNHU 3005 I5ACME	5.0	30.00	16.70	5.60	5.080	●
MT LNHU 3005 I4ACME	4.0	30.00	16.70	5.60	6.350	●
MT LNHU 4006 I4ACME	4.0	40.00	20.00	6.30	6.350	●
MT LNHT 4006 I3.5ACME	3.5	40.00	20.00	6.30	7.257	●
MT LNHT 4006 I3ACME	3.0	40.00	20.00	6.30	8.467	●

• For cutting speed recommendations, see pages 422-423

(1) Threads per inch

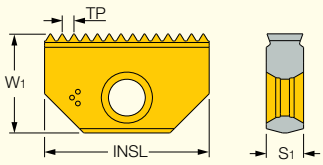
(2) Thread pitch

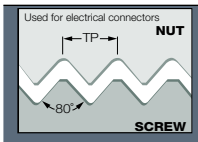
For tools, see pages: MTE D (406) • MTE D(Double Insert) (407) • MTE D-C (407) • MTE-MM (406) • MTF D(Shell Mill) (408)

MILLTHREAD

MT LNHU-PG

External and Internal PG Full Profile Thread Milling Inserts (DIN 40430) for Electrical Connectors





Designation	Dimensions						IC908
	TPI(1)	INSL	W1	S1	PG	TP(2)	
MT LNHU 1403 18PG	18.0	14.00	7.90	3.20	PG9,11,13.5,16	1.411	●
MT LNHU 2104 18PG	18.0	21.00	12.60	4.80	PG16	1.411	●
MT LNHU 2104 16PG	16.0	21.00	12.60	4.80	PG21,29,36,42,48	1.588	●
MT LNHU 3005 16PG	16.0	30.00	16.70	5.60	PG36,42,48	1.588	●

• For cutting speed recommendations, see pages 422-423

(1) Threads per inch

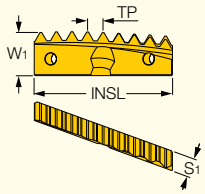
(2) Thread pitch

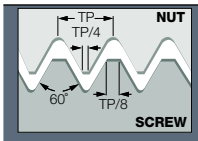
For tools, see pages: MTE D (406) • MTE D(Double Insert) (407) • MTE D-C (407) • MTE-MM (406) • MTF D(Shell Mill) (408) • MTFLE (408)

MILLTHREAD

MTH-ISO (external)

Helical Thread Milling Inserts for ISO Metric External Threads





Designation	Dimensions TP(1)	INSL	W1	S1	IC908
MTH 23 E 1.0 ISO	1.000	27.00	8.00	3.50	●
MTH 23 E 1.5 ISO	1.500	27.00	8.00	3.50	●
MTH 32 E 1.5 ISO	1.500	32.00	9.00	4.00	●
MTH 45 E 1.5 ISO	1.500	37.00	11.90	5.00	●
MTH 23 E 2.0 ISO	2.000	27.00	8.00	3.50	●
MTH 32 E 2.0 ISO	2.000	32.00	9.00	4.00	●
MTH 45 E 2.0 ISO	2.000	37.00	11.90	5.00	●
MTH 23 E 3.0 ISO	3.000	27.00	8.00	3.50	●
MTH 32 E 3.0 ISO	3.000	32.00	9.00	4.00	●
MTH 32 E 4.0 ISO	4.000	32.00	9.00	4.00	●

• For cutting speed recommendations, see pages 422-423

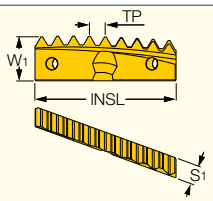
(1) Thread pitch

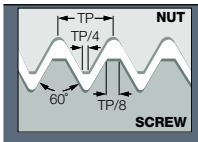
For tools, see pages: MTSRH (endmills) (409) • MTSRH (helical shell mill) (409)

MILLTHREAD

MTH-ISO (internal)

Helical Thread Milling Inserts for ISO Metric Internal Threads





Designation	Dimensions TP(1)	INSL	W1	S1	THID	IC908
MTH 23 I 1.0 ISO	1.000	27.00	8.00	3.50	≥M26	●
MTH 32 I 1.0 ISO	1.000	32.00	9.00	4.00	≥M34	●
MTH 23 I 1.5 ISO	1.500	27.00	8.00	3.50	≥M27	●
MTH 32 I 1.5 ISO	1.500	32.00	9.00	4.00	≥M35	●
MTH 45 I 1.5 ISO	1.500	37.00	11.90	5.00	≥M50	●
MTH 63 I 1.5 ISO	1.500	38.00	11.90	5.00	≥M70	●
MTH 23 I 2.0 ISO	2.000	27.00	8.00	3.50	≥M28	●
MTH 32 I 2.0 ISO	2.000	32.00	9.00	4.00	≥M36	●
MTH 45 I 2.0 ISO	2.000	37.00	11.90	5.00	≥M50	●
MTH 63 I 2.0 ISO	2.000	38.00	11.90	5.00	≥M70	●
MTH 23 I 3.0 ISO	3.000	27.00	8.00	3.50	≥M30	●
MTH 32 I 3.0 ISO	3.000	32.00	9.00	4.00	≥M38	●
MTH 45 I 3.0 ISO	3.000	37.00	11.90	5.00	≥M56	●
MTH 63 I 3.0 ISO	3.000	38.00	11.90	5.00	≥M75	●
MTH 23 I 3.5 ISO	3.500	27.00	8.00	3.50	≥M33	●
MTH 32 I 3.5 ISO	3.500	32.00	9.00	4.00	-	●
MTH 45 I 3.5 ISO	3.500	37.00	11.90	5.00	-	●
MTH 23 I 4.0 ISO	4.000	27.00	8.00	3.50	≥M36	●
MTH 32 I 4.0 ISO	4.000	32.00	9.00	4.00	≥M40	●
MTH 45 I 4.0 ISO	4.000	37.00	11.90	5.00	≥M56	●
MTH 63 I 4.0 ISO	4.000	38.00	11.90	5.00	≥M75	●
MTH 32 I 4.5 ISO	4.500	32.00	9.00	4.00	≥M44	●
MTH 45 I 4.5 ISO	4.500	37.00	11.90	5.00	-	●
MTH 32 I 5.0 ISO	5.000	32.00	9.00	4.00	≥M48	●
MTH 45 I 5.0 ISO	5.000	37.00	11.90	5.00	-	●
MTH 45 I 5.5 ISO	5.500	37.00	11.90	5.00	≥M56	●
MTH 45 I 6.0 ISO	6.000	37.00	11.90	5.00	≥M64	●
MTH 63 I 6.0 ISO	6.000	38.00	11.90	5.00	≥M78	●

• For cutting speed recommendations, see pages 422-423

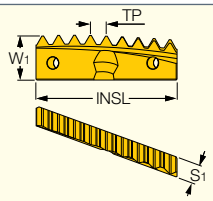
(1) Thread pitch

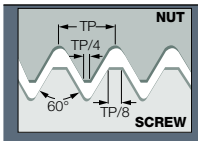
For tools, see pages: MTSRH (endmills) (409) • MTSRH (helical shell mill) (409)

MILLTHREAD

MTH-UN (external)

Helical Thread Milling Inserts for American Full Profile External Threads for General Applications





Designation	Dimensions				IC908
	TPI[1]	INSL	W1	S1	
MTH 23 E 20 UN	20.0	27.00	8.00	3.50	•
MTH 23 E 18 UN	18.0	27.00	8.00	3.50	•
MTH 23 E 16 UN	16.0	27.00	8.00	3.50	•
MTH 23 E 14 UN	14.0	27.00	8.00	3.50	•
MTH 23 E 12 UN	12.0	27.00	8.00	3.50	•
MTH 23 E 10 UN	10.0	27.00	8.00	3.50	•
MTH 23 E 8 UN	8.0	27.00	8.00	3.50	•
MTH 23 E 7 UN	7.0	27.00	8.00	3.50	•
MTH 32 E 24 UN	24.0	32.00	9.00	4.00	•
MTH 32 E 20 UN	20.0	32.00	9.00	4.00	•
MTH 32 E 18 UN	18.0	32.00	9.00	4.00	•
MTH 32 E 16 UN	16.0	32.00	9.00	4.00	•
MTH 32 E 12 UN	12.0	32.00	9.00	4.00	•
MTH 32 E 8 UN	8.0	32.00	9.00	4.00	•
MTH 32 E 6 UN	6.0	32.00	9.00	4.00	•

• Used for UN, UNC, UNF, UNEF and UNS thread profiles • For cutting speed recommendations, see pages 422-423

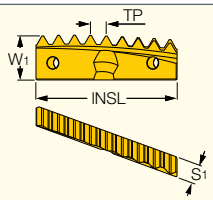
[1] Threads per inch

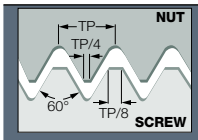
For tools, see pages: MTSRH (endmills) (409) • MTSRH (helical shell mill) (409)

MILLTHREAD

MTH-UN (internal)

Helical Thread Milling Inserts for American Full Profile Internal Threads for General Applications





Designation	Dimensions						IC908
	TPI[1]	INSL	W1	S1	THID	TP[2]	
MTH 23 I 32 UN	32.0	27.00	8.00	3.50	≥1"	0.794	•
MTH 23 I 24 UN	24.0	27.00	8.00	3.50	≥1"	1.058	•
MTH 23 I 20 UN	20.0	27.00	8.00	3.50	≥1"	1.270	•
MTH 23 I 18 UN	18.0	27.00	8.00	3.50	≥1_1/16"	1.411	•
MTH 23 I 16 UN	16.0	27.00	8.00	3.50	≥1_1/16"	1.588	•
MTH 23 I 14 UN	14.0	27.00	8.00	3.50	≥1_1/8"	1.814	•
MTH 23 I 12 UN	12.0	27.00	8.00	3.50	≥1_1/8"	2.117	•
MTH 23 I 10 UN	10.0	27.00	8.00	3.50	≥1_1/8"	2.540	•
MTH 23 I 8 UN	8.0	27.00	8.00	3.50	≥1_3/16"	3.175	•
MTH 23 I 7 UN	7.0	27.00	8.00	3.50	≥1_1/4"	3.629	•
MTH 32 I 20 UN	20.0	32.00	9.00	4.00	≥1_3/8"	1.270	•
MTH 32 I 18 UN	18.0	32.00	9.00	4.00	≥1_3/8"	1.411	•
MTH 32 I 16 UN	16.0	32.00	9.00	4.00	≥1_3/8"	1.588	•
MTH 32 I 12 UN	12.0	32.00	9.00	4.00	≥1_7/16"	2.117	•
MTH 32 I 8 UN	8.0	32.00	9.00	4.00	≥1_1/2"	3.175	•
MTH 32 I 6 UN	6.0	32.00	9.00	4.00	≥1_5/8"	4.233	•
MTH 32 I 5 UN	5.0	32.00	9.00	4.00	≥1_3/4"	5.080	•
MTH 45 I 16 UN	16.0	37.00	11.90	5.00	≥2"	1.588	•
MTH 45 I 12 UN	12.0	37.00	11.90	5.00	≥2"	2.117	•
MTH 45 I 8 UN	8.0	37.00	11.90	5.00	≥2_1/4"	3.175	•
MTH 45 I 6 UN	6.0	37.00	11.90	5.00	≥2_1/4"	4.233	•
MTH 45 I 4.5 UN	4.5	37.00	11.90	5.00	≥2_1/4"	5.644	•
MTH 45 I 4 UN	4.0	37.00	11.90	5.00	≥2_1/2"	6.350	•
MTH 63 I 16 UN	16.0	38.00	11.90	5.00	≥2_3/4"	1.588	•
MTH 63 I 12 UN	12.0	38.00	11.90	5.00	≥2_3/4"	2.117	•
MTH 63 I 8 UN	8.0	38.00	11.90	5.00	≥3"	3.175	•
MTH 63 I 6 UN	6.0	38.00	11.90	5.00	≥3"	4.233	•
MTH 63 I 4 UN	4.0	38.00	11.90	5.00	≥3"	6.350	•

• Used for UN, UNC, UNF, UNEF and UNS thread profiles • For cutting speed recommendations, see pages 422-423

[1] Threads per inch

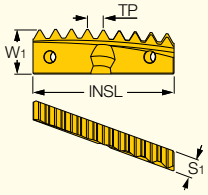
[2] Thread pitch

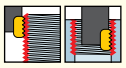
For tools, see pages: MTSRH (endmills) (409) • MTSRH (helical shell mill) (409)

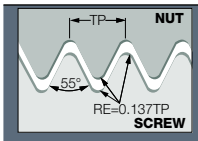
MILLTHREAD

MTH-W (int. & ext.)

External & Internal Whitworth (BSW, BSF, BSP) Helical Thread Milling Inserts for Fittings and Pipe Couplings







Designation	TPI(1)	INSL	W1	S1	THID	THOD	TP(2)	IC908
	Dimensions							
MTH 23 14 W	14.0	27.00	8.00	3.50	≥G7/8"	>G1/2"	1.814	●
MTH 23 11 W	11.0	27.00	8.00	3.50	≥G1"	>G1"	2.309	●
MTH 32 14 W	14.0	32.00	9.00	4.00	-	≥G1/2"	1.814	●
MTH 32 11 W	11.0	32.00	9.00	4.00	≥G1_1/8"	>G1"	2.309	●
MTH 45 11 W	11.0	37.00	11.90	5.00	≥G1_3/4"	>G1"	2.309	●
MTH 63 11 W	11.0	38.00	11.90	5.00	≥G2_1/2"	>G1"	2.309	●

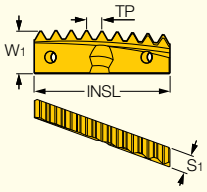
• For cutting speed recommendations, see pages 422-423
(1) Threads per inch
(2) Thread pitch

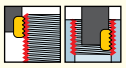
For tools, see pages: MTSRH (endmills) (409) • MTSRH (helical shell mill) (409)

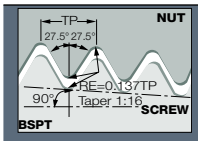
MILLTHREAD

MTH-BSPT (int. & ext.)

Helical External & Internal Thread Milling Inserts for BSPT Thread for Steam, Gas and Water Pipes







Designation	TPI(1)	INSL	W1	S1	THID	THOD	TP(2)	IC908
	Dimensions							
MTH 23 11 BSPT	11.0	27.00	8.00	3.50	>1" BSPT	>1" BSPT	2.309	●
MTH 32 11 BSPT	11.0	32.00	9.00	4.00	>1_1/8" BSPT	>1" BSPT	2.309	●
MTH 45 11 BSPT	11.0	37.00	11.90	5.00	>1_3/4" BSPT	>1" BSPT	2.309	●
MTH 63 11 BSPT	11.0	38.00	11.90	5.00	>2_1/2 BSPT	>1" BSPT	2.309	●

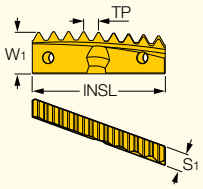
• For cutting speed recommendations, see pages 422-423
(1) Threads per inch
(2) Thread pitch

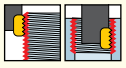
For tools, see pages: MTSRH (endmills) (409) • MTSRH (helical shell mill) (409)

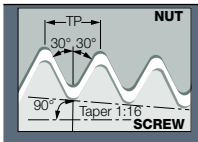
MILLTHREAD

MTH-NPT (int. & ext.)

External & Internal NPT Helical Thread Milling Inserts for Steam, Gas and Water Pipes







Designation	TPI(1)	INSL	W1	S1	THID	THOD	TP(2)	IC908
	Dimensions							
MTH 23 11.5 NPT	11.5	27.00	8.00	3.50	1-2" NPT	1-2" NPT	2.209	●
MTH 32 11.5 NPT	11.5	32.00	9.00	4.00	1_1/4"-2" NPT	1-2" NPT	2.209	●
MTH 45 11.5 NPT	11.5	37.00	11.90	5.00	2" NPT	1-2" NPT	2.209	●
MTH 45 8 NPT	8.0	37.00	11.90	5.00	2_1/2"-3" NPT	-	3.175	●
MTH 63 11.5 NPT	11.5	38.00	11.90	5.00	-	1-2" NPT	2.209	●
MTH 63 8 NPT	8.0	38.00	11.90	5.00	2_1/2"-3" NPT	-	3.175	●

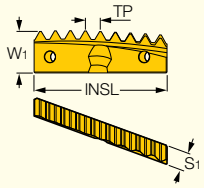
• For cutting speed recommendations, see pages 422-423
(1) Threads per inch
(2) Thread pitch

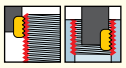
For tools, see pages: MTSRH (endmills) (409) • MTSRH (helical shell mill) (409)

MILLTHREAD

MTH-NPTF (int. & ext.)

External & Internal NPTF Helical Thread Milling Inserts for Steam, Gas and Water Pipes





Designation	Dimensions							IC908
	TPI(1)	INSL	W_1	S_1	THID	THOD	TP(2)	
MTH 23 11.5 NPTF	11.5	27.00	8.00	3.50	1"-2" NPTF	1"-2" NPTF	2.209	●
MTH 32 11.5 NPTF	11.5	32.00	9.00	4.00	1_1/4"-2" NPTF	1"-2" NPTF	2.209	●

• For cutting speed recommendations, see pages 422-423

(1) Threads per inch

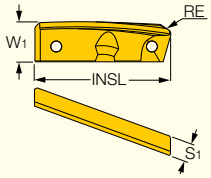
(2) Thread pitch

For tools, see pages: MTSRH (endmills) (409) • MTSRH (helical shell mill) (409)

ISCARMILL

MTH-F

Helical Long Edge Finishing Inserts



Designation	Dimensions				IC908
	L	CW	S	RE	
MTH 23F R0.2	27.00	8.00	3.50	0.20	●
MTH 23F R0.5	27.00	8.00	3.50	0.50	●
MTH 23F R1.0	27.00	8.00	3.50	1.00	●
MTH 32F R0.2	32.00	9.00	4.00	0.20	●
MTH 32F R0.5	32.00	9.00	4.00	0.50	●
MTH 32F R1.0	32.00	9.00	4.00	1.00	●
MTH 45F R0.2	37.00	11.90	5.00	0.20	●
MTH 45F R0.5	37.00	11.90	5.00	0.50	●
MTH 45F R1.0	37.00	11.90	5.00	1.00	●
MTH 45F R1.5	37.00	11.90	5.00	1.50	●
MTH 45F R2.0	37.00	11.90	5.00	2.00	●
MTH 63F R0.2	38.00	11.90	5.00	0.20	●
MTH 63F R0.5	38.00	11.90	5.00	0.50	●
MTH 63F R1.0	38.00	11.90	5.00	1.00	●
MTH 63F R1.5	38.00	11.90	5.00	1.50	●
MTH 63F R2.0	38.00	11.90	5.00	2.00	●

For tools, see pages: MTSRH (endmills) (409) • MTSRH (helical shell mill) (409)

Machining Data for Indexable Insert Threading Tools

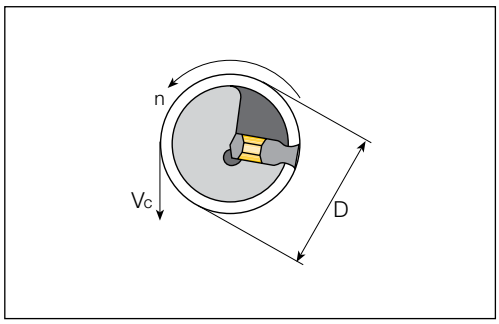
ISO	Material		Condition	Tensile Strength [N/mm²]	Hardness HB	Material No.
P	Non-alloy steel and cast steel, free cutting steel	< 0.25 %C	Annealed	420	125	1
		≥ 0.25 %C	Annealed	650	190	2
		< 0.55 %C	Quenched and tempered	850	250	3
		≥ 0.55 %C	Annealed	750	220	4
			Quenched and tempered	1000	300	5
	Low alloy steel and cast steel (less than 5% of alloying elements)		Annealed	600	200	6
			Quenched and tempered	930	275	7
				1000	300	8
				1200	350	9
	High alloyed steel, cast steel, and tool steel		Annealed	680	200	10
			Quenched and tempered	1100	325	11
	Stainless steel and cast steel		Ferritic/martensitic	680	200	12
			Martensitic	820	240	13
M	Stainless steel		Austenitic	600	180	14
K	Grey cast iron (GG)		Ferritic		160	17
			Pearlitic		250	18
	Cast iron nodular (GGG)		Ferritic/pearlitic		180	15
			Pearlitic		260	16
	Malleable cast iron		Ferritic		130	19
			Pearlitic		230	20
N	Aluminum-wrought alloy		Not cureable		60	21
			Cured		100	22
	Aluminum-cast, alloyed	=<12% Si	Not cureable		75	23
			Cured		90	24
		>12% Si	High temperature		130	25
	Copper alloys	>1% Pb	Free cutting		110	26
			Brass		90	27
			Electrolitic copper		100	28
	Non-metallic		Duroplastics, fiber plastics			29
			Hard rubber			30
S	High temp. alloys	Fe based	Annealed		200	31
			Cured		280	32
		Ni or Co based	Annealed		250	33
			Cured		350	34
			Cast		320	35
	Titanium Ti alloys			RM 400		36
			Alpha+beta alloys cured	RM 1050		37
H	Hardened steel		Hardened		55 HRC	38
			Hardened		60 HRC	39
	Chilled cast iron		Cast		400	40
	Cast iron		Hardened		55 HRC	41

No.	Indexable Cutting Speed m/min IC908
1	100-200
2	95-190
3	90-180
4	90-170
5	80-150
6	120-170
7	115-160
8	105-150
9	90-140
10	90-170
11	75-145
12	110-170
13	100-160
14	90-145
15	65-135
16	65-110
17	65-135
18	60-100
19	65-135
20	60-120
21	110-260
22	110-200
23	145-350
24	145-275
25	95-225
26	145-350
27	145-350
28	145-350
29	90-370
30	80-330
31	20-60
32	20-50
33	20-30
34	10-20
35	15-25
36	30-90
37	20-70
38	25-60
39	20-40
40	25-60
41	20-50

Calculating RPM:

Example:
V=120 m/min
D=30mm

$$n = \frac{Vc \times 1000}{\pi x D} = \frac{120 \times 1000}{3.14x30} = 1274 \text{ RPM}$$



Feed Rate: 0.05-0.15 mm/t

Machining Data for Solid Carbide Threading Endmills

ISO	Material		Condition	Tensile Strength [N/mm²]	Hardness HB	Material No.
P	Non-alloy steel and cast steel, free cutting steel	< 0.25 %C	Annealed	420	125	1
		≥ 0.25 %C	Annealed	650	190	2
		< 0.55 %C	Quenched and tempered	850	250	3
		≥ 0.55 %C	Annealed	750	220	4
			Quenched and tempered	1000	300	5
	Low alloy steel and cast steel (less than 5% of alloying elements)		Annealed	600	200	6
			Quenched and tempered	930	275	7
				1000	300	8
				1200	350	9
	High alloyed steel, cast steel, and tool steel		Annealed	680	200	10
			Quenched and tempered	1100	325	11
	Stainless steel and cast steel		Ferritic/martensitic	680	200	12
			Martensitic	820	240	13
M	Stainless steel		Austenitic	600	180	14
K	Grey cast iron (GG)		Ferritic		160	17
			Pearlitic		250	18
	Cast iron nodular (GGG)		Ferritic/pearlitic		180	15
			Pearlitic		260	16
	Malleable cast iron		Ferritic		130	19
			Pearlitic		230	20
N	Aluminum-wrought alloy		Not cureable		60	21
			Cured		100	22
	Aluminum-cast, alloyed	=<12% Si	Not cureable		75	23
			Cured		90	24
		>12% Si	High temperature		130	25
	Copper alloys	>1% Pb	Free cutting		110	26
			Brass		90	27
			Electrolitic copper		100	28
	Non-metallic		Duroplastics, fiber plastics			29
			Hard rubber			30
S	High temp. alloys	Fe based	Annealed		200	31
			Cured		280	32
		Ni or Co based	Annealed		250	33
			Cured		350	34
			Cast		320	35
	Titanium Ti alloys			RM 400		36
			Alpha+beta alloys cured	RM 1050		37
H	Hardened steel		Hardened		55 HRC	38
			Hardened		60 HRC	39
	Chilled cast iron		Cast		400	40
	Cast iron		Hardened		55 HRC	41

Material No.	Cutting Speed (m/min) IC908	Cutting Diameter Feed (mm/tooth) 2	3	4	6	8	10	12	14	16	20	25	30
1	100-250	0.03	0.04	0.04	0.06	0.07	0.08	0.09	0.11	0.12	0.15	0.18	0.21
2	80-210	0.03	0.04	0.04	0.06	0.07	0.08	0.09	0.11	0.12	0.15	0.18	0.21
3	65-170												
4	110-180	0.02	0.03	0.03	0.05	0.06	0.07	0.08	0.09	0.1	0.12	0.15	0.18
5	95-160	0.02	0.03	0.03	0.05	0.06	0.07	0.08	0.09	0.1	0.12	0.15	0.18
6	90-160	0.02	0.02	0.03	0.03	0.04	0.05	0.05	0.06	0.07	0.08	0.1	0.11
7	65-200	0.02	0.02	0.03	0.03	0.04	0.05	0.05	0.06	0.07	0.08	0.1	0.11
8	70-210	0.02	0.02	0.03	0.03	0.04	0.05	0.05	0.06	0.07	0.08	0.1	0.11
9	95-160	0.02	0.02	0.03	0.03	0.04	0.05	0.05	0.06	0.07	0.08	0.1	0.11
10	130-170	0.02	0.02	0.03	0.03	0.04	0.05	0.05	0.06	0.07	0.08	0.1	0.11
11	75-100	0.02	0.02	0.03	0.03	0.04	0.05	0.05	0.06	0.07	0.08	0.1	0.11
12	110-170	0.02	0.02	0.03	0.03	0.04	0.05	0.05	0.06	0.07	0.08	0.1	0.11
13	70-155	0.02	0.02	0.03	0.03	0.04	0.05	0.05	0.06	0.07	0.08	0.1	0.11
14	85-100	0.02	0.02	0.03	0.03	0.04	0.05	0.05	0.06	0.07	0.08	0.1	0.11
15	120-160	0.03	0.04	0.04	0.06	0.07	0.08	0.09	0.11	0.12	0.15	0.18	0.21
16	75-160	0.03	0.04	0.04	0.06	0.07	0.08	0.09	0.11	0.12	0.15	0.18	0.21
17	70-150	0.03	0.04	0.04	0.06	0.07	0.08	0.09	0.11	0.12	0.15	0.18	0.21
18	110-140	0.03	0.04	0.04	0.06	0.07	0.08	0.09	0.11	0.12	0.15	0.18	0.21
19	120-160	0.03	0.04	0.04	0.06	0.07	0.08	0.09	0.11	0.12	0.15	0.18	0.21
20	110-140	0.03	0.04	0.04	0.06	0.07	0.08	0.09	0.11	0.21	0.15	0.18	0.21
21	160-300	0.03	0.04	0.04	0.06	0.07	0.08	0.09	0.11	0.12	0.15	0.18	0.21
22													
23	150-350	0.03	0.04	0.04	0.06	0.07	0.08	0.09	0.11	0.12	0.15	0.18	0.21
24													
25	100-250	0.02	0.02	0.03	0.03	0.04	0.05	0.05	0.06	0.07	0.08	0.10	0.12
26													
27													
28													
29	100-400	0.05	0.06	0.07	0.09	0.1	0.11	0.12	0.13	0.15	0.18	0.22	0.25
30													
31													
32													
33	20-80	0.02	0.02	0.02	0.03	0.03	0.03	0.03	0.04	0.04	0.04	0.05	0.05
34													
35													
36													
37	20-80	0.02	0.02	0.02	0.03	0.03	0.03	0.03	0.04	0.04	0.04	0.05	0.05
38	55-65												
39	45-55												
40	90-105												
41	55-65												

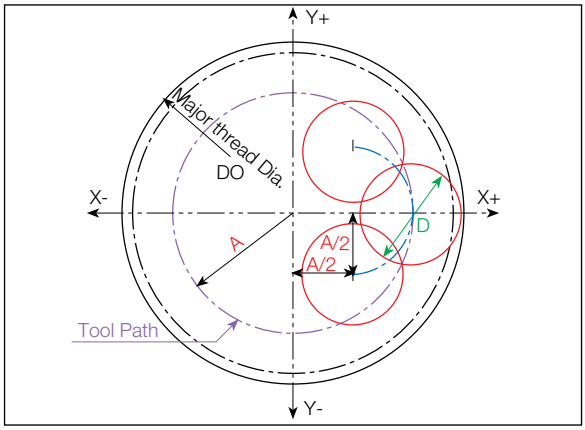
* For cutters with long cutting flute, reduce feed rate by 40%.

Thread Milling CNC Program for Internal Thread

Right-hand thread (climb milling) from bottom up.
Program is based on tool center.
This method of programming needs no tool radius compensation value, other than an offset for wear.

$$A = \frac{Do - D}{2}$$

A = Radius of tool path
Do = Major thread diameter
D = Cutting diameter



General Program

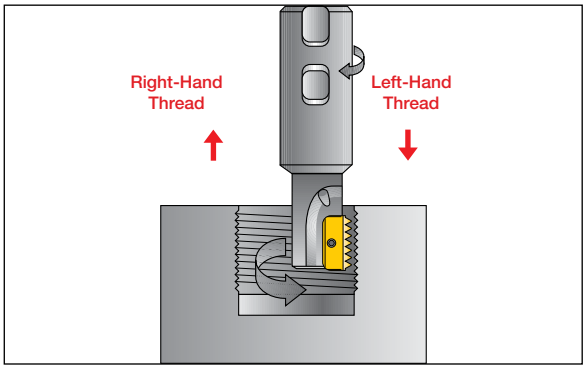
G90	**G00 G54 G43 H1X0 Y0 Z10 S**...
G00	**Z**-(to thread depth)
G01	**G91 G41 D1 X**(**A**/2) **Y**-(**A**/2) **Z0 F**...
G03	**X**(**A**/2) **Y**(**A**/2) **R**(**A**/2) **Z**(1/8 pitch)
G03	**X0 Y0 I**-(**A**) **J0 Z**(pitch)
G03	**X**-(**A**/2) **Y**(**A**/2) **R**(**A**/2) **Z**(1/8 pitch)
G01	**G40 X**-(**A**/2) **Y**-(**A**/2) **Z0**
G90	**X0 Y0 Z0**

Internal Thread

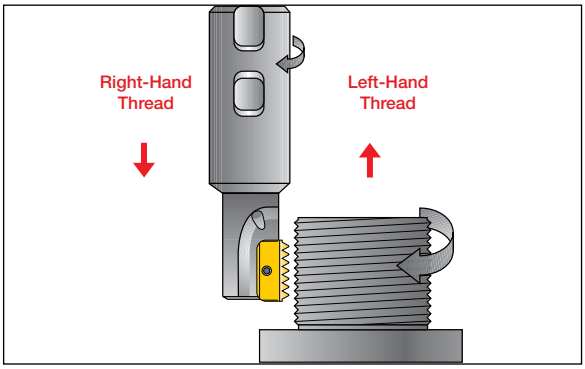
Example: M **48**x2.0 **IN-RH** (Thread depth 25 mm)
Toolholder: **MTSR0029 J30**
(Cutting dia. 29 mm)
Insert: **MT30 I2.0ISO**
A=(Do-**D**)/2=(48-29)/2=9.5
A/2=4.75
(Tool compensation of radius=0)

G90	**G0 G54 G43 G17 H1X0 Y0 Z10 S1320**
G0	**Z**-25
G01	**G91 G41 D1X** 4.75 **Y**-4.75 **Z0 F41**
G03	**X4**.75 **Y4**.75 **R4**.75 **Z0**.25
G03	**X0 Y0 I**-9.5 **J0 Z2**.0
G03	**X**-4.75 **Y4**.75 **R4**.75 **Z0**.25
G01	**G40 X**-4.75 **Y**-4.75 **Z0**
G90	**G0 X0 Y0 Z0**
M30	
%	

Internal Thread



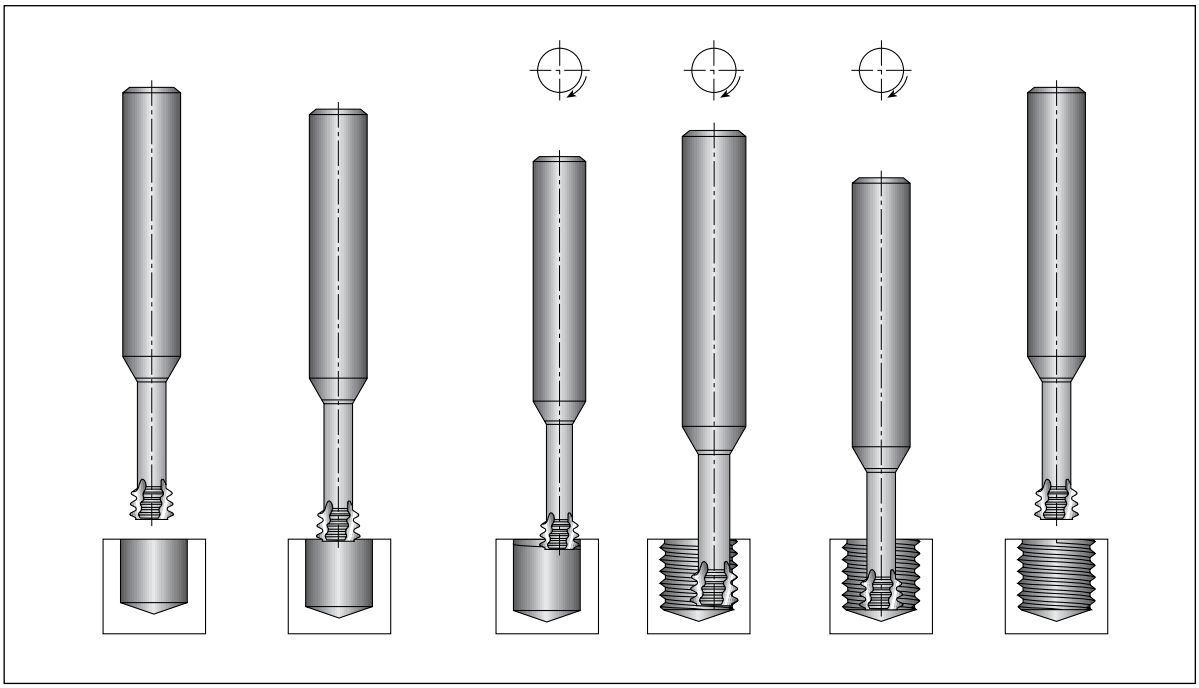
External Thread



A thread milling operation is applicable for thread cutting in non-symmetrical parts utilizing the advantage of helical interpolation programs on modern machining centers.

MTECS Small Diameter, Short Solid Carbide Thread Mills

Thread Milling - Recommended Procedure



Cutting Data

ISO	Materials	Cutting Speed, m/min	Feed (mm/tooth) for Diameter (mm)												
			Ø1.5	Ø2	Ø3	Ø4	Ø5	Ø6	Ø7	Ø8	Ø9	Ø10	Ø12	Ø14	Ø15
P	Low & medium carbon steels	60-120	0.05	0.05	0.07	0.09	0.11	0.13	0.14	0.15	0.16	0.16	0.17	0.18	0.18
	High carbon steels	60-90	0.04	0.05	0.06	0.08	0.09	0.1	0.12	0.13	0.14	0.14	0.16	0.17	0.18
	Alloy steels, treated steels	50-80	0.04	0.04	0.05	0.05	0.06	0.07	0.07	0.08	0.09	0.1	0.12	0.13	0.14
	Cast steels	70-90	0.04	0.04	0.05	0.05	0.06	0.07	0.07	0.08	0.09	0.1	0.12	0.13	0.14
M	Stainless steels	60-90	0.03	0.03	0.04	0.05	0.06	0.06	0.07	0.08	0.09	0.1	0.11	0.12	0.13
S	Nickel alloys, titanium alloys	20-40	0.03	0.03	0.04	0.04	0.05	0.06	0.06	0.06	0.07	0.07	0.07	0.08	0.08
K	Cast iron	40-80	0.05	0.05	0.07	0.09	0.11	0.13	0.14	0.15	0.16	0.16	0.17	0.18	0.18
N	Aluminum	80-150	0.05	0.05	0.07	0.09	0.11	0.13	0.14	0.15	0.16	0.16	0.17	0.18	0.18
	Synthetics, duroplastics, thermoplastics	50-200	0.1	0.11	0.12	0.14	0.16	0.18	0.19	0.19	0.19	0.19	0.19	0.2	0.2

MTECS Small Diameter, Short Solid Carbide Thread Mills

The **MTECS** (Mill Thread Endmills Carbide Short) solid carbide thread mills are used for the production of small internal threads. These thread mills feature a short 3-tooth cutting zone with 3 flutes and a released neck between the cutting zone and the shank.

This unique tool design offers very precise profiles and a high performance **IC908** submicron carbide grade with **PVD** titanium aluminum nitride coating.
The very short profile exerts a low force which minimizes tool bending. This facilitates parallel and high thread precision for the entire length.

Compared to taps, the **SOLIDTHREAD** is more accurate, thread machining is substantially faster and there is no danger of a broken tap being stuck in the hole.

Thread Mill vs. Tap

Features	Solid Carbide Thread Mills	Taps
Thread surface quality	High	Medium
Thread geometry	Very accurate	Medium
Thread tolerance	4H, 5H, 6H with std. cutter	6H with standard tap, 4H with special tap
Machining time	Shorter or same as tap	Short
Machining load	Very low	High
Range of thread diameters	Wide range of diameters	Specific tap for each thread size
Right-/Left-hand threading	Same cutter	Specific tap for right- and left-hand
Geometric shape	Full profile	Partial profile

Features

- Minimum thread size: **M1**.4x0.3 (1.1 mm bore diameter) up to **M20**x2.50
- 2xD and 3xD threading lengths
- High cutting speeds
- Short cycle time
- Low cutting forces due to the short contact profile resulting in accurate and parallel thread
- Prevents oval threads near thin walls
- No more dealing with broken taps
- Reliable threading in blind holes
- Excellent performance on hardened steel, high temperature alloys and titanium