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Expansion 2.0

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Hi-Pro Milling High Feed Series

Feed rate up to 2.0mm/tooth • Depth of cut up to 1.4mm • Longer tool life



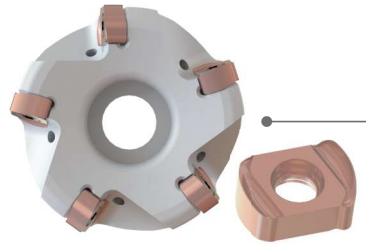
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MHFL, MHFS and MHFW range of High feed milling cutters.

Expansion

The next generation of newly launched high feed milling cutters engineered for **maximum metal removal**, **superior tool life**, **process stability**, and **higher productivity** in **engineering steels (up to 50 HRC).**



LNMX
Negative
4 corner



SDMT
Positive
4 corner



NEW!

WNMX
6 corners
Double side

Feed rate up to 2.0 mm/tooth
Lower cycle time → Increased productivity

Depth of cut up to 1.4mm
Aggressively high metal removal rates

Robust 4 Cutting edges
Superior Cost Efficiency per Component

MHFL cutter
Feed rate up to 1.4mm/tooth
Depth of cut up to 0.70mm

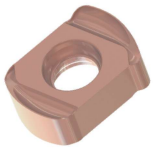
MHFS cutter
Feed rate up to 2.0mm/tooth
Depth of cut up to 1.4mm

MHFW cutter
Feed rate up to 2.0mm/tooth
Depth of cut up to 2.2mm

Curved Cutting Edge Advantage

Curved Edge Geometry for **Ultra-Smooth High Feed Cutting.**
Lower Impact Forces. **Higher Stability. Longer Tool Life.**
Superior Chip Control for Aggressive **High Speed Machining.**
Smoother multi-directional engagement for **complex milling operations.**

6mm **LNMX06 - inserts**
MHFLN cutter



LNMX Negative
4 corner

12mm **SDMT1205 - inserts**
MHFSD cutter



SDMT Positive
4 corner

NEW!

WNMX08 - double sided inserts
MHFW cutter



WNMX
6 corners

Wide range of machining with 2 grades
Highly versatile DMP2030P
Steel, Stainless steel and Cast Iron
Highly wear resistant DMP2130P
Steels upto 50 HRC and high-thermal cutting

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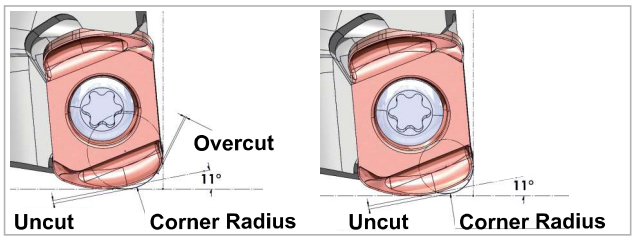
RECOMMENDED Cutting conditions

Insert	Parameters	For **DMP2030P** (HRC ~ 40)			For **DMP2130P** HRC (~40)			For **DMP2130P** HRC (40-50)			For **DMP3030K** (HRC ~ 40)			For **DMC3020K** HRC (40-50)		
		Min.	Ideal	Max.	Min.	Ideal	Max.	Min.	Ideal	Max.	Min.	Ideal	Max.	Min.	Ideal	Max.
LNMX0603 (Ap ~ 0.7mm) (Ae/D = 67%)	**Speed** (m/min)	80	120	150	100	140	180	70	90	110	100	150	180	125	180	280
	Feed (mm/tooth)	1.0	1.2	1.4	0.8	0.9	1.2	0.3	0.5	0.7	1.2	1.4	1.6	1.2	1.4	1.6
SDMT1205 (Ap ~ 1.4mm) (Ae/D = 67%)	**Speed** (m/min)	100	125	150	110	140	160	70	80	90	110	150	180	125	180	280
	Feed (mm/tooth)	1.0	1.5	2.0	0.8	1.2	1.6	0.5	0.6	0.8	1.2	1.4	1.6	1.2	1.4	1.6
NEW! **WNMX0807** (Ap ~ 2.5mm) (Ae/D = 67%)	**Speed** (m/min)	100	125	150	110	140	160	75	90	110						
	Feed (mm/tooth)	1.0	1.75	2.5	0.8	1.5	2.0	0.75	0.9	1.25						

Programming radius

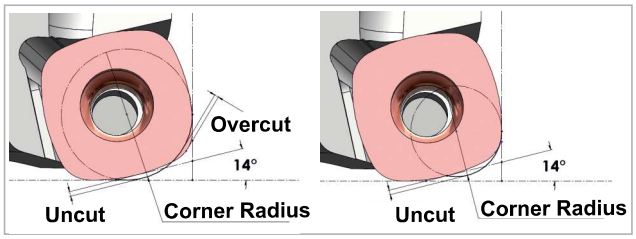
For **MHFL** - LNMX0603R-HF1

Corner Radius	Uncut Portion	Overcut Portion	Ap (mm)
R2	0.25	0.05	0.7
R1.5	0.36	0	0.7
R1	0.47	0	0.7
R0.5	0.57	0	0.7



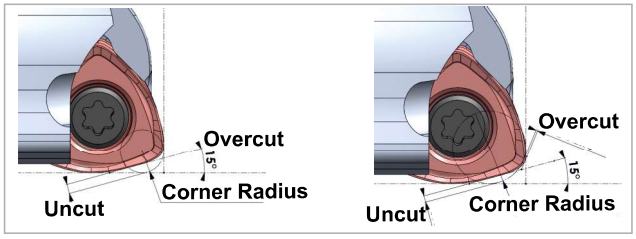
For **MHFS** - SDMT1205ZDTN-HF2

Corner Radius	Uncut Portion	Overcut Portion	Ap (mm)
R5	0.6	0.1	1.4
R4	0.8	0	1.4
R3	1.02	0	1.4
R2	1.2	0	1.4



NEW! For **MHFW** - WNMX0807ZNER NEW!

Corner Radius	Uncut Portion	Overcut Portion	Ap (mm)
R2	1.22	0	2.2
R2.5	1.08	0	2.2
R3	0.95	0	2.2
R3.5	0.83	0.04	2.2



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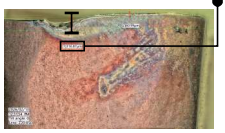
Machining example

MHFL (MHFLN06016EL02) + (LNMX0603R- HF1- DMP2030P)

Component: Block
Material: P20 Alloy Steel
Hardness: 35~38 HRC
Application: Milling

2X stability

Wear comparison after machining 133 parts

Motherson	Existing
Micro chipping size 150 µm	Micro chipping size 317 µm
	

MHFS (MHFSD050RS04) + (SDMT1205ZDTN - HF2 - DMP2130P)

Component: Die & Mould
Material: P20
Machine: VMC-V5
Application: Side & Face Milling







	Existing	Motherson
Vc (m/min)	157	157
↑ Fz (mm/tooth)	1.12	1.38
↑ Ap (mm)	0.35	0.4
↑ **Tool life**	160	220
↓ **Cut time**	555min.	454min.

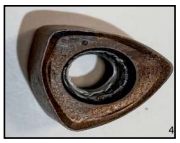
Feed 1.2X
Productivity 18%
Tool Life 37%

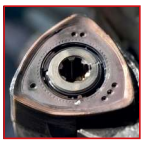
NEW!

MHFW (MHFW08080RS06) + (WNMX0807ZNER-HF3-DMP2130P)

Component: Coupler - H
Material: Cast Steel - ISO (P)
Machine: HMC (BT50)
Application: Side & Face Milling (Heavy Interrupted)







	Existing	Motherson
Vc (m/min)	147	150
↑ Fz (mm/tooth)	1.71	1.78
↑ Ap (mm)	1.00	1.20
↑ **Tool life**	6	8
↓ **Cut time**	16.2min.	15.3min.

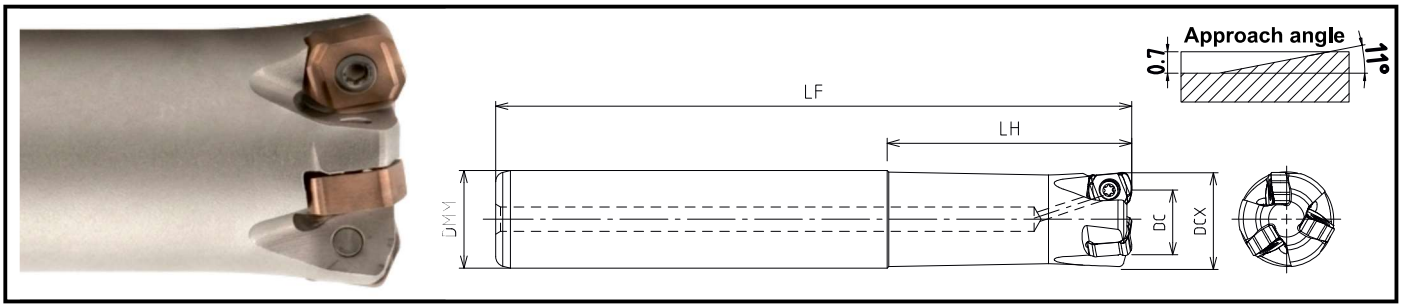
Feed 1.1X
Productivity 5.5%
Tool Life 33%

NEW!

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Cutter Body (MHFL Series) - E/EL shank type



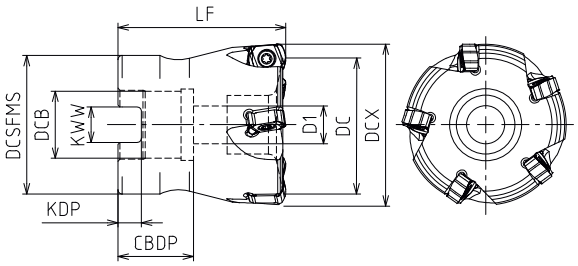
Catalogue No.	Stock	Max Dia. DCX	Min. Dia DC	Shank Dia DMM	Working Length LH	Overall Length LF	No. of Teeth Zn	Weight (Kg)
MHFLN06016E02	●	16	9	16	30	110	2	0.15
MHFLN06016EL02	●	16	9	16	70	150	2	0.19
MHFLN06020E02	●	20	13	20	50	130	2	0.27
MHFLN06020E03	●	20	13	20	50	130	3	0.27
MHFLN06020E04	●	20	13	20	50	130	4	0.27
MHFLN06020EL03	●	20	13	20	80	160	3	0.33
MHFLN06025E04	●	25	18	25	60	140	4	0.46
MHFLN06025E05	●	25	18	25	60	140	5	0.46
MHFLN06025EL05	●	25	18	25	100	170	5	0.54
MHFLN06032E03	●	32	25	32	70	150	3	0.82
MHFLN06032E05	●	32	25	32	70	150	5	0.82
MHFLN06032E06	●	32	25	32	70	150	6	0.82
MHFLN06032EL05	●	32	25	32	120	200	5	1.06
MHFLN06035E05	○	35	28	32	50	150	5	0.88
MHFLN06035EL05	○	35	28	32	60	210	5	1.21
MHFLN06040E04	○	40	33	32	50	150	4	0.91
MHFLN06040E06	○	40	33	32	50	150	6	0.91
MHFLN06040E08	○	40	33	32	50	150	8	0.91
MHFLN06040EL06	○	40	33	32	60	210	6	1.24

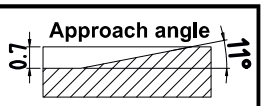
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Cutter Body (MHFL) - RS shell type







Catalogue No.	Stock	Max Dia. DCX	Min. Dia DC	Boss DCSFMS	Height LF	Bore Dia DCB	Keyway Width KWW	Keyway Depth KDP	Mounting Depth CBDP	Bolt D1	No. of Teeth Zn	Weight (Kg)
MHFLN06040RS04	●	40	33	33	40	16	8.4	5.6	18	9	4	0.2
MHFLN06040RS05	●	40	33	33	40	16	8.4	5.6	18	9	5	0.2
MHFLN06040RS06	●	40	33	33	40	16	8.4	5.6	18	9	6	0.2
MHFLN06040RS08	●	40	33	33	40	16	8.4	5.6	18	9	8	0.2
MHFLN06050RS05	○	50	43	41	40	22	10.4	6.3	20	11	5	0.3
MHFLN06050RS08	○	50	43	41	40	22	10.4	6.3	20	11	8	0.3
MHFLN06063RS08	○	63	56	50	50	22	10.4	6.3	20	11	8	0.52

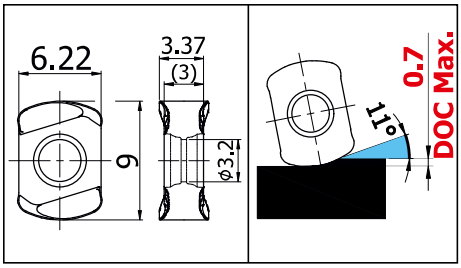
Spare items

INSERT SCREW	WRENCH
S-M03065N	MFT-T10

Insert - LNMX0603R

		PVD	PVD	PVD (NEW!)	CVD (NEW!)	
Application	High-Speed		P		K	
High feed milling	General Purpose	P		K	K	
	Roughing	P	P	K		
	Cat. No.	**DMP2030P**	**DMP2130P**	**DMP3030K**	**DMC3020K**	Fig.
	LNMX0603R-HF1	●	●	●	●	2
	LNMX0603R-HFK	●	●	●	●	

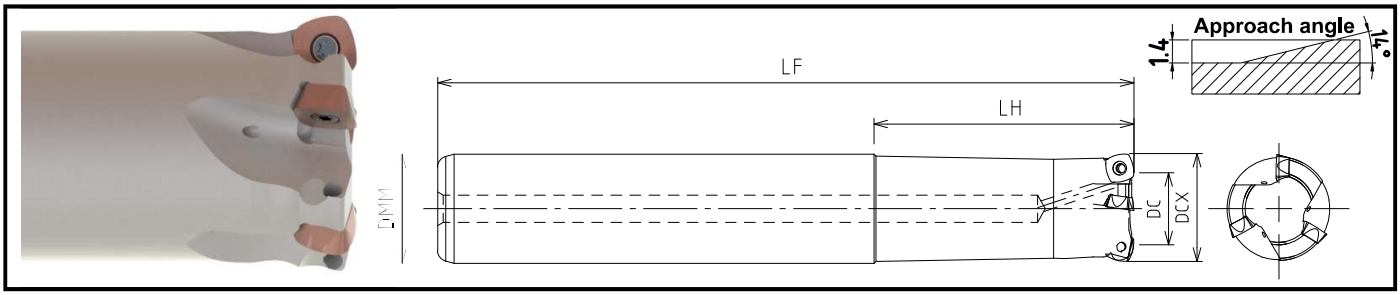
Fig.2



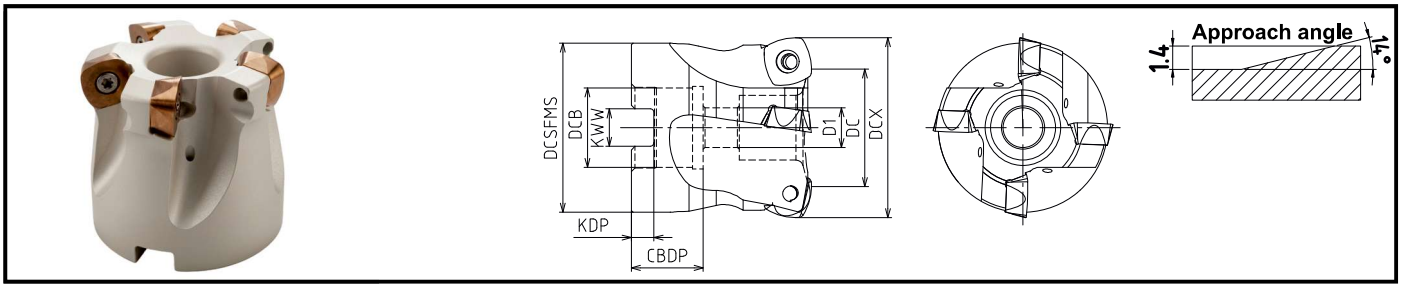
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Cutter Body (MHFS Series) - E shank type and RS shell type



Catalogue No.	Stock	Max Dia. DCX	Min. Dia DC	Shank Dia DMM	Working Length LH	Overall Length LF	No. of Teeth Zn	Weight (Kg)
MHFSD032E03	●	32	14.8	32	50	150	3	0.8
MHFSD040E04	●	40	22.8	16	50	150	4	0.86



Catalogue No.	Stock	Max Dia. DCX	Min. Dia DC	Boss DCSFMS	Height LF	Bore Dia DCB	Keyway Width KWW	Keyway Depth KDP	Mounting Depth CBDP	Bolt D1	No. of Teeth Zn	Weight (Kg)
MHFSD040RS04	●	40	22.8	37.5	40	16	8.4	5.6	18	M8	4	0.21
MHFSD050RS04	●	50	32.8	47	40	22	10.4	6.3	20	11	4	0.25
MHFSD050RS05	●	50	32.8	47	40	22	10.4	6.3	20	11	5	0.24
MHFSD052RS05	●	52	34.8	49	40	22	10.4	6.3	20	11	5	0.27
MHFSD063RS05	●	63	45.8	58	40	22	10.4	6.3	20	11	5	0.46
MHFSD063RS06	●	63	45.8	58	40	22	10.4	6.3	20	11	6	0.44
MHFSD080RS07	●	80	62.8	78	50	27	12.4	7	22	14	7	0.88
MHFSD080RS08	●	80	62.8	78	50	27	12.4	7	22	14	8	0.86
MHFSD100RS10	●	100	82.8	97	50	32	14.4	8	32	46	10	1.3

Spare items

Common for all

INSERT SCREW	WRENCH
S-M0409N	MFT-T15

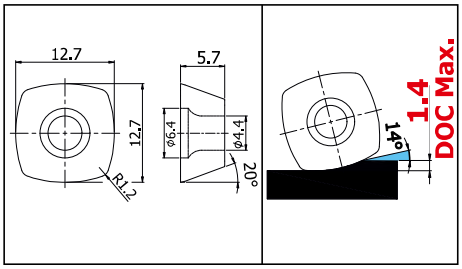
** Additional for MHFSD040RS04

DOUBLE SCREW	WRENCH
B-DC-M8-30H	MLT-4

Insert - SDMT1205ZDTN

Fig.1

Grade		PVD	PVD	PVD	CVD	
Application	High-Speed		P		K	
HIGH FEED MILLING	General Purpose	P		K	K	
	Roughing	P	P	K		
	Cat. No.	DMP2030P	DMP2130P	DMP3030K	DMC3020K	Fig.
	SDMT1205ZDTN-HF2	●	●	●	●	1

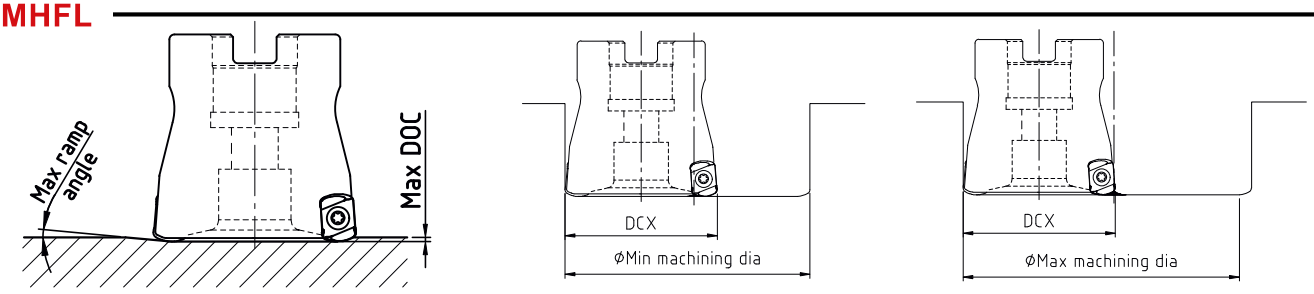


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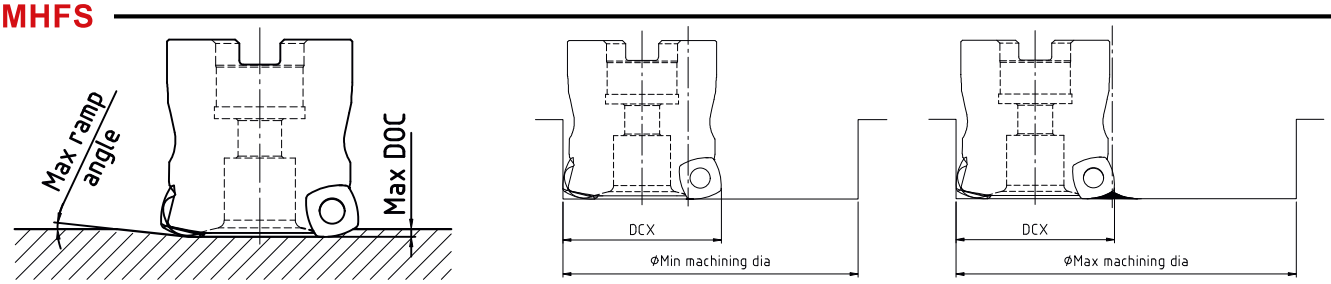
Ramping and Helical Milling

MHFL



Max dia. (DCX)	Max ramping angle	Helical milling	
		Min machining dia.	Max machining dia.
16	0.7°	21	30
20	0.6°	29	38
25	0.6°	39	48
32	0.3°	53	62
40	0.2°	69	78

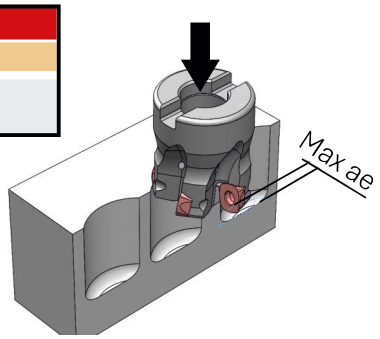
MHFS



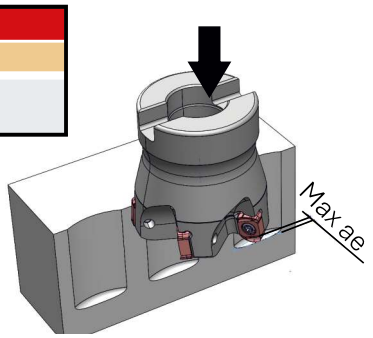
Max dia. (DCX)	Max ramping angle	Helical milling	
		Min machining dia.	Max machining dia.
32	7°	46	60
40	4.5°	62	76
50	3°	82	96
52	3°	86	100
63	1.7°	108	122
80	1°	142	156
100	1°	182	196

Plunging

MHFSD
Max. ae
7



MHFLN
Max. ae
2

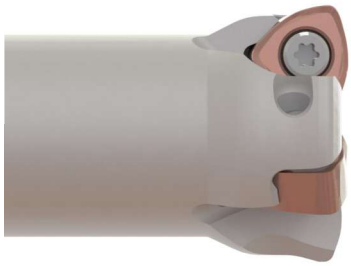


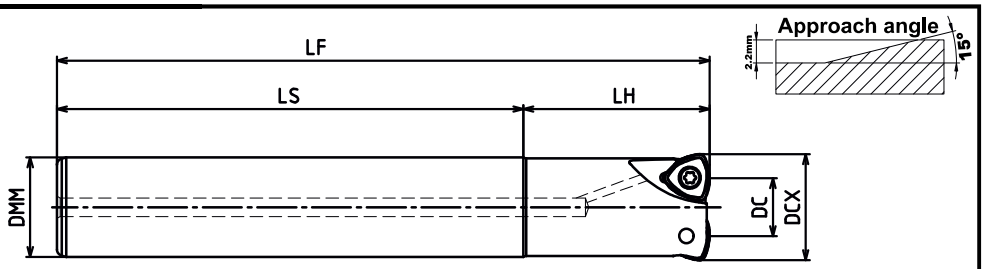
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NEW! Expansion 1.0

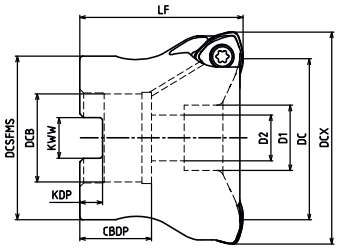
NEW! Cutter Body (MHFW Series) - ES/EL shank type and RS shell type

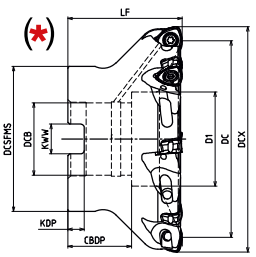


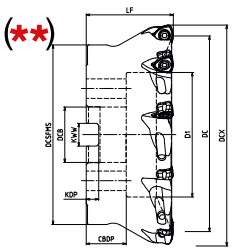


Catalogue No.	Stock	Max Dia. DCX	Min. Dia DC	Shank Dia DMM	Working Length LH	Overall Length LF	No. of Teeth Zn	Weight (Kg)
MHFW 08035ES02	●	35	18.6	32	50	150	2	0.85
MHFW 08035EL02	●	35	18.6	32	60	210	2	1.21
MHFW 08040ES03	●	40	23.5	32	50	150	3	0.86
MHFW 08040ES03	●	40	23.5	32	60	210	3	1.22
MHFW08050ES03-42	○	50	33.4	42	50	150	3	1.51
MHFW08050EL03-42	○	50	33.4	42	50	250	3	2.54









Catalogue No.	Stock	Max Dia. DCX	Min. Dia DC	Boss DCSFMS	Height LF	Bore Dia DCB	Keyway Width KWW	Keyway Depth KDP	Mounting Depth CBDP	Bolt D1	Bolt D2	No. of Teeth Zn	Weight (Kg)
MHFW08050RS04	●	50	33.4	41	40	22	10.4	6.3	20	16.7	11	4	0.25
MHFW08050RS05	●	50	33.4	41	40	22	10.4	6.3	20	16.7	11	5	0.24
MHFW08052RS04	●	52	35.4	41	40	22	10.4	6.3	20	17	11	4	0.27
MHFW08052RS05	●	52	35.4	41	40	22	10.4	6.3	20	17	11	4	0.25
MHFW08063RS04	●	63	46.4	50	40	22	10.4	6.3	20	18	11	4	0.46
MHFW08063RS05	●	63	46.4	50	40	22	10.4	6.3	20	18	11	5	0.46
MHFW08063RS06	●	63	46.4	50	40	22	10.4	6.3	20	18	11	6	0.44
MHFW08063RS05-27	○	63	46.4	50	50	27	12.4	7	22	20	14	5	0.55
MHFW08063RS06-27	○	63	46.4	50	50	27	12.4	7	22	20	14	6	0.53
MHFW08066RS05-27	○	66	49.4	50	50	27	12.4	7	22	20	14	5	0.60
MHFW08066RS06-27	○	66	49.4	50	50	27	12.4	7	22	20	14	6	0.58
MHFW08080RS06	●	*80	63.3	55	50	27	12.4	7	22	20	14	6	0.88
MHFW08080RS08	●	*80	63.3	55	50	27	12.4	7	22	20	14	8	0.84
MHFW08100RS06 *	●	100	83.3	70	50	32	14.4	8	32	46	_	6	1.29
MHFW08125RS08	●	125	108.3	80	63	40	16.4	9	29	52	29	8	2.41
MHFW08160RS10 * *	●	160	143.3	130	63	40	16.4	9	29	90	_	10	4.73

Spare items

INSERT SCREW	WRENCH
S-M0513IP	MHT-T20IP

Ø80mm & 88 & 100 mm Cutter mounting socket bolt will be hexagonal
Metric Specification M12x30 to 35mm

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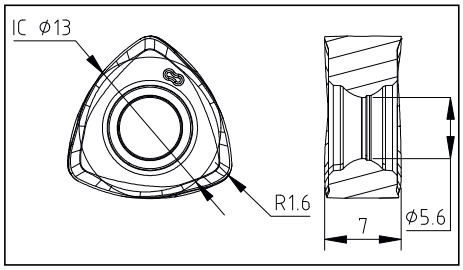
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Expansion 1.0

Insert - WNMX0807ZNER

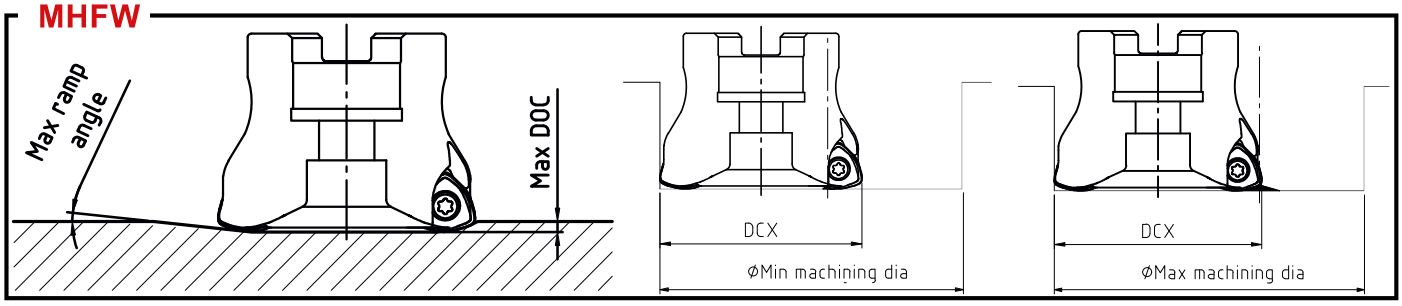
		PVD	PVD	
Application	High-Speed		P	
High feed milling	General Purpose	P		
	Roughing	P	P	
	Cat. No.	**DMP2030P**	**DMP2130P**	Fig.
	WNMX0807ZNER-HF3	●	●	1

Fig.1



Ramping and Helical Milling

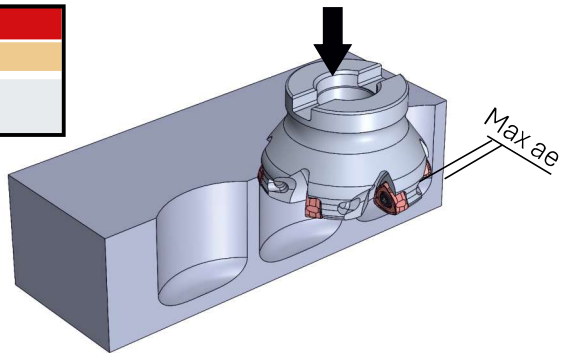
MHFW



Max dia. (DCX)	Max ramping angle	Helical milling	
		Min machining dia.	Max machining dia.
35	0.5	52	69
40	0.8	60	79
42	0.8	64	83
50	1.4	79	99
52	1.4	83	103
63	1.2	104	125
66	1.2	109	131
80	1.2	134	159
85	1.2	144	169
100	0.8	174	199

Plunging

MHFW
Max. ae
10



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