

MS PLUS

VHM-SCHAFTFRÄSER SERIE



DIAEDGE

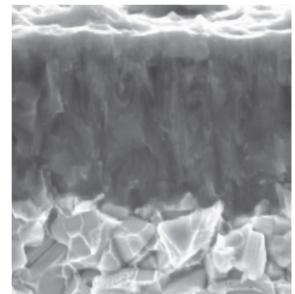
 **MITSUBISHI MATERIALS**

MS PLUS

HARTMETALLSCHAFTFRÄSER-SERIE FÜR ALLGEMEINE BEARBEITUNG

MULTILAYER-BESCHICHTUNG (AL,TI,CR)N (MS PLUS)

Eigens entwickelte Beschichtungstechnologie ermöglicht eine PVD mehrlagen Beschichtung aus (Al,Ti)N und (Al,Cr)N. Diese ermöglicht die Bearbeitung einer Vielzahl von Werkstückmaterialien.



EIGENSCHAFTEN DER MULTILAYER-BESCHICHTUNG (AL,TI,CR)N (MS PLUS)

	(Al,Ti,Cr)N Multilayer	(Al,Ti)N	(Al,Cr)N
Härte (Hv)	3200	2800	3100
Oxidationstemperatur (r)	1100	800	1100
Adhäsion (N)	100	80	80

ANWENDUNGSBEREICH

**MS PLUS BIETET EINE LANGE
WERKZEUGSTANDZEIT BEI MATERIALIEN
BIS ZU 55 HRC.**

Für Stahlsorten härter als 55 HRC werden
IMPACT-MIRACLE-Fräser empfohlen.



Werkstoffhärte	50 HRC	55 HRC	60 HRC	65 HRC
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MS PLUS

IMPACT MIRACLE

MS PLUS

ANWENDUNGSBEREICH

Produktcode	Form		Größen- bereich	Größen	P	H	M	S	N
RADIUS END MILLS									
MPMHVRB	Eckradius, mittlere Schneidenlänge, 4-schneidig, variabler Drall		DC 1 – 20	68	⊙	○	⊙	○	
MPXLRB	Eckradius, kurze Schnittlänge, langer Hinterschliff		DC 0.2 – 6	101	⊙	⊙	○	○	○
SCHAFTFRÄSER									
EXPANSION MPMHV	Schaftfräser, mittlere Schneidenlänge, 4-schneidig, variabler Spiralwinkel		DC 1 – 22	24	⊙	○	⊙	○	
MPJHV	Schaftfräser, mittellange Schneidenlänge, 4-schneidig, variabler Spiralwinkel		DC 1 – 20	23	⊙	○	⊙	○	
KUGELKOPFFRÄSER									
MP2SSB	Kugelpkopfräser, kurze Schneidenlänge, 2-schneidig, kurzer Schaft		RE 0.1 – 6	16	⊙	⊙	○	○	○
MP2SB	Kugelpkopfräser, kurze Schneidenlänge, 2-schneidig		RE 0.1 – 6	29	⊙	⊙	○	○	○
MP2MB	Kugelpkopfräser, mittlere Schneidenlänge, 2-schneidig		RE 0.25 – 6	21	⊙	⊙	○	○	○
MP2SDB	Kugelpkopfräser, kurze Schneidenlänge, 2-schneidig, hochstabil		RE 0.5 – 6	16	⊙	⊙			
MP2XLB	Kugelpkopfräser, 2-schneidig, langer Hinterschliff		RE 0.05 – 3	232	⊙	⊙	○	○	○
KONISCHE KUGELKOPFFRÄSER									
MP3XB	Kugelpkopfräser, 3-schneidig, konischer Hinterschliff		RE 0.05 – 6	125	⊙	⊙	○	○	○

MPMHVRB

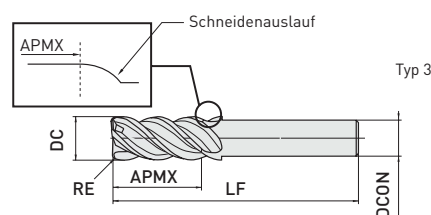
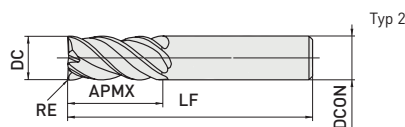
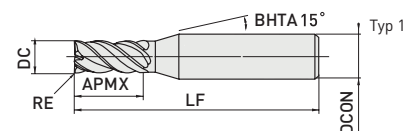


ECKRADIUS, MITTLERE SCHNEIDENLÄNGE, 4-SCHNEIDIG, VARIABLEL DRALL

P M S H



R	0.1 ≤ RE ≤ 5				
	±0.015				
DC	DC ≤ 12		DC > 12		
	0		0		
	- 0.02		- 0.03		
h5	DCON=4		DCON=6	DCON=8	
	0		0	0	
	- 0.005		- 0.005	- 0.006	
h6	DCON=8[DC=10]	DCON=10[DC=12]	DCON=10	12 ≤ DCON ≤ 16	DCON=20
	0	0	0	0	0
	- 0.009	- 0.009	- 0.009	- 0.011	- 0.013



4-schneidiger Schaftfräser mit variablem Spiralwinkel zur Vibrationskontrolle bei der Bearbeitung rostfreier Stähle und C-Stähle.

Bestellnummer	DC	RE	APMX	LF	DCON	Schneiden	Lager	Typ
MPMHVRBD0100R010	1	0.1	2.5	45	4	4	★	1
MPMHVRBD0100R020	1	0.2	2.5	45	4	4	★	1
MPMHVRBD0200R010	2	0.1	5	45	4	4	★	1
MPMHVRBD0200R020	2	0.2	5	45	4	4	●	1
MPMHVRBD0200R030	2	0.3	5	45	4	4	●	1
MPMHVRBD0200R050	2	0.5	5	45	4	4	★	1
MPMHVRBD0300R010	3	0.1	7.5	45	6	4	★	1
MPMHVRBD0300R020	3	0.2	7.5	45	6	4	●	1
MPMHVRBD0300R030	3	0.3	7.5	45	6	4	●	1
MPMHVRBD0300R050	3	0.5	7.5	45	6	4	●	1
MPMHVRBD0400R010	4	0.1	10	45	6	4	★	1
MPMHVRBD0400R020	4	0.2	10	45	6	4	●	1
MPMHVRBD0400R030	4	0.3	10	45	6	4	●	1
MPMHVRBD0400R050	4	0.5	10	45	6	4	●	1
MPMHVRBD0400R100	4	1	10	45	6	4	★	1
MPMHVRBD0500R010	5	0.1	12.5	50	6	4	★	1
MPMHVRBD0500R020	5	0.2	12.5	50	6	4	●	1
MPMHVRBD0500R030	5	0.3	12.5	50	6	4	●	1
MPMHVRBD0500R050	5	0.5	12.5	50	6	4	●	1
MPMHVRBD0500R100	5	1	12.5	50	6	4	●	1
MPMHVRBD0600R010	6	0.1	15	60	6	4	★	2
MPMHVRBD0600R020	6	0.2	15	60	6	4	★	2
MPMHVRBD0600R030	6	0.3	15	60	6	4	●	2
MPMHVRBD0600R050	6	0.5	15	60	6	4	●	2

Bestellnummer	DC	RE	APMX	LF	DCON	Schneiden	Lager	Typ
MPMHVRBD0600R100	6	1	15	60	6	4	●	2
MPMHVRBD0800R020	8	0.2	20	70	8	4	★	2
MPMHVRBD0800R030	8	0.3	20	70	8	4	●	2
MPMHVRBD0800R050	8	0.5	20	70	8	4	●	2
MPMHVRBD0800R100	8	1	20	70	8	4	●	2
MPMHVRBD0800R150	8	1.5	20	70	8	4	●	2
MPMHVRBD0800R200	8	2	20	70	8	4	★	2
MPMHVRBD0800R250	8	2.5	20	70	8	4	★	2
MPMHVRBD0800R300	8	3	20	70	8	4	★	2
MPMHVRBD1000R030S08	10	0.3	25	100	8	4	★	3
MPMHVRBD1000R050S08	10	0.5	25	100	8	4	★	3
MPMHVRBD1000R100S08	10	1	25	100	8	4	★	3
MPMHVRBD1000R200S08	10	2	25	100	8	4	★	3
MPMHVRBD1000R020	10	0.2	25	80	10	4	★	2
MPMHVRBD1000R030	10	0.3	25	80	10	4	●	2
MPMHVRBD1000R050	10	0.5	25	80	10	4	●	2
MPMHVRBD1000R100	10	1	25	80	10	4	●	2
MPMHVRBD1000R150	10	1.5	25	80	10	4	●	2
MPMHVRBD1000R200	10	2	25	80	10	4	●	2
MPMHVRBD1000R250	10	2.5	25	80	10	4	★	2
MPMHVRBD1000R300	10	3	25	80	10	4	★	2
MPMHVRBD1200R030S10	12	0.3	30	110	10	4	★	3
MPMHVRBD1200R050S10	12	0.5	30	110	10	4	★	3
MPMHVRBD1200R100S10	12	1	30	110	10	4	★	3
MPMHVRBD1200R200S10	12	2	30	110	10	4	★	3
MPMHVRBD1200R300S10	12	3	30	110	10	4	★	3
MPMHVRBD1200R030	12	0.3	30	100	12	4	★	2
MPMHVRBD1200R050	12	0.5	30	100	12	4	●	2
MPMHVRBD1200R100	12	1	30	100	12	4	●	2
MPMHVRBD1200R150	12	1.5	30	100	12	4	●	2
MPMHVRBD1200R200	12	2	30	100	12	4	●	2
MPMHVRBD1200R300	12	3	30	100	12	4	●	2
MPMHVRBD1600R030	16	0.3	40	110	16	4	★	2
MPMHVRBD1600R050	16	0.5	40	110	16	4	★	2
MPMHVRBD1600R100	16	1	40	110	16	4	●	2
MPMHVRBD1600R200	16	2	40	110	16	4	●	2
MPMHVRBD1600R300	16	3	40	110	16	4	●	2
MPMHVRBD1600R500	16	5	40	110	16	4	●	2
MPMHVRBD2000R030	20	0.3	50	125	20	4	★	2
MPMHVRBD2000R050	20	0.5	50	125	20	4	★	2
MPMHVRBD2000R100	20	1	50	125	20	4	●	2
MPMHVRBD2000R200	20	2	50	125	20	4	●	2
MPMHVRBD2000R300	20	3	50	125	20	4	●	2
MPMHVRBD2000R500	20	5	50	125	20	4	●	2

MPMHVRB

SCHNITTDATENEMPFEHLUNGEN

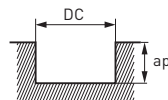
SCHULTERFRÄSEN

	P								M	S				H			
Material	C-Stahl, legierter Stahl, duktiles Gusseisen				C-Stahl, legierter Stahl, vergüteter Stahl, legierter Werkzeugstahl				Austenitische rostfreie Stähle, Titanlegierungen				Gehärteter Stahl (45 – 55 HRC)				
	DC (mm)	n (min ⁻¹)	Vf (mm/min)	ap (mm)	ae (mm)	n (min ⁻¹)	Vf (mm/min)	ap (mm)	ae (mm)	n (min ⁻¹)	Vf (mm/min)	ap (mm)	ae (mm)	n (min ⁻¹)	Vf (mm/min)	ap (mm)	ae (mm)
1		38.000	910	1.7	0.2	31.000	500	1.7	0.2	25.000	500	1.7	0.2	18.000	290	1.7	0.05
1.5		27.000	970	2.5	0.3	22.000	530	2.5	0.3	18.000	500	2.5	0.3	13.000	310	2.5	0.08
2		21.000	1.500	3.5	0.4	17.000	820	3.5	0.4	14.000	640	3.5	0.4	10.000	320	3.5	0.1
2.5		18.000	1.700	4.2	0.5	15.000	900	4.2	0.5	12.000	820	4.2	0.5	8.500	360	4.2	0.13
3		16.000	1.800	5	0.6	13.000	940	5	0.6	11.000	880	5	0.6	7.400	380	5	0.15
4		12.000	1.700	7	0.8	9.500	950	7	0.8	8.000	900	7	0.8	5.600	400	7	0.2
5		9.500	1.800	8.5	1	7.600	1.100	8.5	1	6.400	900	8.5	1	4.500	430	8.5	0.25
6		8.000	2.100	10	1.2	6.400	1.300	10	1.2	5.300	1.100	10	1.2	3.700	440	10	0.3
7		6.800	2.000	12	1.4	5.500	1.400	12	1.4	4.500	1.200	12	1.4	3.200	450	12	0.35
8		6.000	2.000	13.5	1.6	4.800	1.400	13.5	1.6	4.000	1.200	13.5	1.6	2.800	450	13.5	0.4
10		4.800	2.100	17	2	3.800	1.500	17	2	3.200	1.100	17	2	2.200	440	17	0.5
11		2.600	1.200	18.5	1.1	2.100	880	18.5	1.1	1.700	520	18.5	1.1	1.200	190	18.5	0.55
12		4.000	1.900	20.5	2.4	3.200	1.400	20.5	2.4	2.700	1.100	20.5	2.4	1.900	380	20.5	0.6
13		2.200	1.100	22	1.3	1.800	830	22	1.3	1.500	490	22	1.3	1.000	160	22	0.65
16		3.000	1.400	27.2	3.2	2.400	1.100	27.2	3.2	2.000	840	27.2	3.2	1.400	340	27.2	0.8
20		2.400	1.200	34	4	1.900	840	34	4	1.600	670	34	4	1.100	260	34	1



NUTENFRÄSEN

	P						M	S	H				
Material	C-Stahl, legierter Stahl, duktiles Gusseisen			C-Stahl, legierter Stahl, vergüteter Stahl, legierter Werkzeugstahl			Austenitische rostfreie Stähle, Titanlegierungen			Gehärteter Stahl (45 – 55 HRC)			
	DC (mm)	n (min ⁻¹)	Vf (mm/min)	ap (mm)	n (min ⁻¹)	Vf (mm/min)	ap (mm)	n (min ⁻¹)	Vf (mm/min)	ap (mm)	n (min ⁻¹)	Vf (mm/min)	ap (mm)
1		31.000	620	0.5	24.000	380	0.5	20.000	400	0.5	9.500	110	0.2
1.5		22.000	630	0.8	17.000	410	0.8	14.000	390	0.8	6.400	130	0.3
2		17.000	650	2	14.000	450	2	11.000	500	2	4.800	130	0.4
2.5		15.000	830	2.5	12.000	580	2.5	9.700	660	2.5	3.800	130	0.5
3		13.000	940	3	10.000	660	3	8.500	680	3	3.200	140	0.6
4		9.500	820	4	7.600	600	4	6.400	720	4	2.400	150	0.8
5		7.600	910	5	6.100	670	5	5.100	710	5	1.900	170	1
6		6.400	860	6	5.100	630	6	4.200	870	6	1.600	190	1.2
7		5.500	960	7	4.400	710	7	3.600	940	7	1.400	190	1.4
8		4.800	1.000	8	3.800	750	8	3.200	960	8	1.200	190	1.6
10		3.800	910	10	3.100	680	10	2.500	880	10	950	150	2
12		3.200	920	12	2.500	660	12	2.100	860	12	800	160	2.4
16		2.400	690	16	1.900	500	16	1.600	380	16	600	120	3.2
20		1.900	550	20	1.500	400	20	1.300	310	20	480	96	4



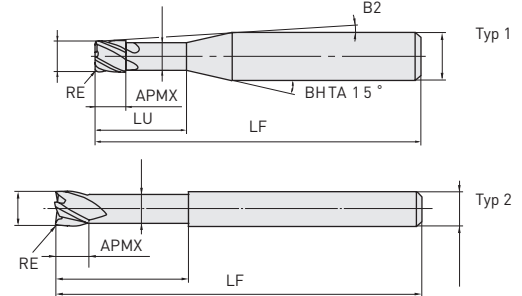
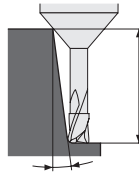
NOTIZEN

MPXLRB



ECKRADIUS, KURZE SCHNITTLÄNGE, LANGER HINTERSCHLIFF

P H M S N



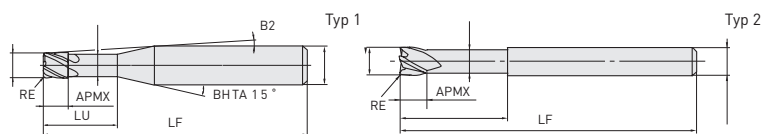
R	0.1 ≤ RE ≤ 5				
	±0.005				
DC	DC ≤ 12		DC > 12		
	0		0		
	- 0.02		- 0.03		
h5	DCON=4		DCON=6	DCON=8	
	0		0	0	
	- 0.005		- 0.005	- 0.006	
h6	DCON=8(DC=10)		DCON=10(DC=12)	DCON=10	12 ≤ DCON ≤ 16
	0		0	0	0
	- 0.009		- 0.009	- 0.009	- 0.011
					- 0.013

2 bzw. 4-schneidiger Eckradienfräser mit Vibrationskontrolle, für die Bearbeitung von Kohlenstoffstählen bis hin zu rostfreien Stählen.

Bestellnummer	DC	RE	APMX	LU	DN	B2	LF	DCON	Schneiden	Lager	Typ	Effektive Länge bei Neigungswinkel			
												30°	1°	2°	3°
MPXLRBD0020R005N005	0.2	0.05	0.2	0.5	0.18	11.4°	50	4	2	★	1	0.5	0.5	0.6	0.7
MPXLRBD0020R005N010	0.2	0.05	0.2	1	0.18	10.8°	50	4	2	●	1	1.0	1.1	1.2	1.3
MPXLRBD0030R005N010	0.3	0.05	0.3	1	0.28	10.8°	50	4	2	★	1	1.0	1.1	1.2	1.3
MPXLRBD0030R005N020	0.3	0.05	0.3	2	0.28	9.8°	50	4	2	★	1	2.1	2.2	2.4	2.7
MPXLRBD0040R005N020	0.4	0.05	0.4	2	0.37	9.8°	50	4	4	●	1	2.1	2.2	2.4	2.6
MPXLRBD0040R005N030	0.4	0.05	0.4	3	0.37	8.9°	50	4	4	★	1	3.1	3.3	3.6	4.0
MPXLRBD0040R005N040	0.4	0.05	0.4	4	0.37	8.2°	50	4	4	★	1	4.2	4.3	4.8	5.3
MPXLRBD0050R005N020	0.5	0.05	0.5	2	0.47	9.7°	50	4	4	★	1	2.1	2.2	2.4	2.6
MPXLRBD0050R005N030	0.5	0.05	0.5	3	0.47	8.9°	50	4	4	★	1	3.1	3.3	3.6	4.0
MPXLRBD0050R005N040	0.5	0.05	0.5	4	0.47	8.1°	50	4	4	★	1	4.2	4.3	4.8	5.3
MPXLRBD0050R005N050	0.5	0.05	0.5	5	0.47	7.5°	50	4	4	●	1	5.2	5.4	6.0	6.6
MPXLRBD0060R005N020	0.6	0.05	0.6	2	0.57	9.7°	50	4	4	★	1	2.1	2.2	2.4	2.6
MPXLRBD0060R005N040	0.6	0.05	0.6	4	0.57	8.1°	50	4	4	★	1	4.2	4.3	4.8	5.3
MPXLRBD0060R005N060	0.6	0.05	0.6	6	0.57	6.9°	50	4	4	★	1	6.2	6.5	7.2	7.9
MPXLRBD0080R005N040	0.8	0.05	0.8	4	0.77	7.9°	50	4	4	★	1	4.2	4.3	4.8	5.3
MPXLRBD0080R005N060	0.8	0.05	0.8	6	0.77	6.8°	50	4	4	★	1	6.2	6.5	7.2	7.9
MPXLRBD0100R005N030	1	0.05	1	3	0.96	8.3°	50	4	4	●	1	3.2	3.4	3.8	4.2
MPXLRBD0100R005N040	1	0.05	1	4	0.96	7.6°	50	4	4	★	1	4.3	4.5	5.0	5.6
MPXLRBD0100R005N050	1	0.05	1	5	0.96	7.0°	50	4	4	●	1	5.4	5.6	6.2	6.9
MPXLRBD0100R005N060	1	0.05	1	6	0.96	6.5°	50	4	4	★	1	6.4	6.7	7.4	8.2
MPXLRBD0100R005N080	1	0.05	1	8	0.96	5.6°	50	4	4	●	1	8.5	8.9	9.8	10.9
MPXLRBD0100R005N100	1	0.05	1	10	0.96	5.0°	50	4	4	★	1	10.6	11.1	12.2	13.5
MPXLRBD0100R005N120	1	0.05	1	12	0.96	4.5°	50	4	4	●	1	12.7	13.3	14.6	16.2
MPXLRBD0100R010N030	1	0.1	1	3	0.96	8.4°	50	4	4	●	1	3.2	3.4	3.8	4.2

Bestellnummer	DC	RE	APMX	LU	DN	B2	LF	DCON	Schneiden	Lager	Typ	Effektive Länge bei Neigungswinkel			
												30°	1°	2°	3°
MPXLRBD0100R010N040	1	0.1	1	4	0.96	7.6°	50	4	4	★	1	4.3	4.5	5.0	5.5
MPXLRBD0100R010N050	1	0.1	1	5	0.96	7.0°	50	4	4	●	1	5.3	5.6	6.2	6.9
MPXLRBD0100R010N060	1	0.1	1	6	0.96	6.5°	50	4	4	★	1	6.4	6.7	7.4	8.2
MPXLRBD0100R010N080	1	0.1	1	8	0.96	5.6°	50	4	4	★	1	8.5	8.9	9.8	10.8
MPXLRBD0100R010N100	1	0.1	1	10	0.96	5.0°	50	4	4	★	1	10.6	11.1	12.2	13.5
MPXLRBD0100R010N120	1	0.1	1	12	0.96	4.5°	50	4	4	★	1	12.7	13.3	14.6	16.2
MPXLRBD0120R010N100	1.2	0.1	1.2	10	1.16	4.8°	50	4	4	★	1	10.6	11.1	12.2	13.5
MPXLRBD0120R020N100	1.2	0.2	1.2	10	1.16	4.8°	50	4	4	★	1	10.6	11.1	12.2	13.5
MPXLRBD0150R010N060	1.5	0.1	1.5	6	1.44	6.0°	50	4	4	★	1	6.4	6.7	7.3	8.1
MPXLRBD0150R010N120	1.5	0.1	1.5	12	1.44	4.0°	50	4	4	★	1	12.6	13.2	14.5	16.1
MPXLRBD0150R010N180	1.5	0.1	1.5	18	1.44	3.0°	60	4	4	★	1	18.9	19.7	21.7	24.0
MPXLRBD0150R020N060	1.5	0.2	1.5	6	1.44	6.0°	50	4	4	★	1	6.4	6.7	7.3	8.1
MPXLRBD0150R020N120	1.5	0.2	1.5	12	1.44	4.0°	50	4	4	★	1	12.6	13.2	14.5	16.0
MPXLRBD0150R020N180	1.5	0.2	1.5	18	1.44	3.0°	60	4	4	★	1	18.9	19.7	21.7	*
MPXLRBD0150R030N060	1.5	0.3	1.5	6	1.44	6.1°	50	4	4	●	1	6.3	6.6	7.3	8.0
MPXLRBD0150R030N120	1.5	0.3	1.5	12	1.44	4.0°	50	4	4	★	1	12.6	13.2	14.5	16.0
MPXLRBD0150R030N180	1.5	0.3	1.5	18	1.44	3.0°	60	4	4	●	1	18.9	19.7	21.6	*
MPXLRBD0200R010N080	2	0.1	2	8	1.94	4.5°	50	4	4	★	1	8.5	8.8	9.7	10.8
MPXLRBD0200R010N120	2	0.1	2	12	1.94	3.4°	50	4	4	●	1	12.6	13.2	14.5	16.1
MPXLRBD0200R010N160	2	0.1	2	16	1.94	2.8°	60	4	4	★	1	16.8	17.6	19.3	*
MPXLRBD0200R010N200	2	0.1	2	20	1.94	2.3°	60	4	4	★	1	21.0	21.9	24.1	*
MPXLRBD0200R010N240	2	0.1	2	24	1.94	2.0°	70	4	4	●	1	25.2	26.3	*	*
MPXLRBD0200R020N080	2	0.2	2	8	1.94	4.5°	50	4	4	★	1	8.5	8.8	9.7	10.7
MPXLRBD0200R020N120	2	0.2	2	12	1.94	3.4°	50	4	4	★	1	12.6	13.2	14.5	*
MPXLRBD0200R020N160	2	0.2	2	16	1.94	2.8°	60	4	4	★	1	16.8	17.6	19.3	*
MPXLRBD0200R020N200	2	0.2	2	20	1.94	2.3°	60	4	4	★	1	21.0	21.9	24.0	*
MPXLRBD0200R020N240	2	0.2	2	24	1.94	2.0°	70	4	4	★	1	25.1	26.3	*	*
MPXLRBD0200R030N080	2	0.3	2	8	1.94	4.5°	50	4	4	★	1	8.5	8.8	9.7	10.7
MPXLRBD0200R030N120	2	0.3	2	12	1.94	3.5°	50	4	4	●	1	12.6	13.2	14.5	16.0
MPXLRBD0200R030N160	2	0.3	2	16	1.94	2.8°	60	4	4	★	1	16.8	17.5	19.2	*
MPXLRBD0200R030N200	2	0.3	2	20	1.94	2.3°	60	4	4	★	1	21.0	21.9	24.0	*
MPXLRBD0200R030N240	2	0.3	2	24	1.94	2.0°	70	4	4	●	1	25.1	26.3	*	*
MPXLRBD0300R010N080	3	0.1	3	8	2.9	5.7°	60	6	4	★	1	8.4	8.8	9.6	10.7
MPXLRBD0300R010N120	3	0.1	3	12	2.9	4.5°	60	6	4	★	1	12.6	13.1	14.4	16.0
MPXLRBD0300R010N180	3	0.1	3	18	2.9	3.4°	70	6	4	●	1	18.8	19.7	21.6	23.9
MPXLRBD0300R010N240	3	0.1	3	24	2.9	2.8°	70	6	4	★	1	25.1	26.2	28.8	*
MPXLRBD0300R010N300	3	0.1	3	30	2.9	2.3°	70	6	4	★	1	31.3	32.7	35.9	*
MPXLRBD0300R010N360	3	0.1	3	36	2.9	2.0°	90	6	4	●	1	37.6	39.3	*	*
MPXLRBD0300R020N120	3	0.2	3	12	2.9	4.5°	60	6	4	★	1	12.6	13.1	14.4	15.9
MPXLRBD0300R020N180	3	0.2	3	18	2.9	3.4°	60	6	4	★	1	18.8	19.6	21.6	23.9
MPXLRBD0300R020N240	3	0.2	3	24	2.9	2.8°	70	6	4	★	1	25.1	26.2	28.7	*
MPXLRBD0300R020N300	3	0.2	3	30	2.9	2.3°	70	6	4	★	1	31.3	32.7	35.9	*
MPXLRBD0300R020N360	3	0.2	3	36	2.9	2.0°	90	6	4	★	1	37.6	39.3	43.1	*
MPXLRBD0300R030N120	3	0.3	3	12	2.9	4.5°	60	6	4	★	1	12.5	13.1	14.4	15.9
MPXLRBD0300R030N180	3	0.3	3	18	2.9	3.5°	60	6	4	●	1	18.8	19.6	21.5	23.9
MPXLRBD0300R030N240	3	0.3	3	24	2.9	2.8°	70	6	4	★	1	25.1	26.2	28.7	*
MPXLRBD0300R030N300	3	0.3	3	30	2.9	2.3°	70	6	4	★	1	31.3	32.7	35.9	*
MPXLRBD0300R030N360	3	0.3	3	36	2.9	2.0°	90	6	4	●	1	37.6	39.2	*	*
MPXLRBD0300R050N120	3	0.5	3	12	2.9	4.6°	60	6	4	★	1	12.5	13.1	14.3	15.8
MPXLRBD0300R050N180	3	0.5	3	18	2.9	3.5°	60	6	4	★	1	18.8	19.6	21.5	23.8
MPXLRBD0300R050N240	3	0.5	3	24	2.9	2.8°	70	6	4	★	1	25.1	26.2	28.7	*
MPXLRBD0300R050N300	3	0.5	3	30	2.9	2.3°	70	6	4	★	1	31.3	32.7	35.9	*
MPXLRBD0300R050N360	3	0.5	3	36	2.9	2.0°	90	6	4	★	1	37.6	39.2	*	*

MPXLRB

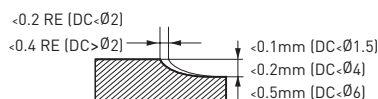


Bestellnummer	DC	RE	APMX	LU	DN	B2	LF	DCON	Schneiden	Lager	Typ	Effektive Länge bei Neigungswinkel			
												30°	1°	2°	3°
MPXLRBD0400R010N160	4	0.1	4	16	3.9	2.8°	70	6	4	★	1	16.7	17.5	19.2	*
MPXLRBD0400R010N240	4	0.1	4	24	3.9	2.0°	70	6	4	●	1	25.1	26.2	*	*
MPXLRBD0400R010N320	4	0.1	4	32	3.9	1.6°	70	6	4	★	1	33.4	34.9	*	*
MPXLRBD0400R010N480	4	0.1	4	48	3.9	1.1°	90	6	4	●	1	50.1	52.3	*	*
MPXLRBD0400R020N160	4	0.2	4	16	3.9	2.8°	70	6	4	★	1	16.7	17.5	19.2	*
MPXLRBD0400R020N240	4	0.2	4	24	3.9	2.0°	70	6	4	★	1	25.1	26.2	*	*
MPXLRBD0400R020N320	4	0.2	4	32	3.9	1.6°	70	6	4	★	1	33.4	34.9	*	*
MPXLRBD0400R020N480	4	0.2	4	48	3.9	1.1°	90	6	4	★	1	50.1	52.3	*	*
MPXLRBD0400R030N160	4	0.3	4	16	3.9	2.8°	70	6	4	★	1	16.7	17.5	19.1	*
MPXLRBD0400R030N240	4	0.3	4	24	3.9	2.0°	70	6	4	●	1	25.1	26.2	*	*
MPXLRBD0400R030N320	4	0.3	4	32	3.9	1.6°	70	6	4	★	1	33.4	34.9	*	*
MPXLRBD0400R030N480	4	0.3	4	48	3.9	1.1°	90	6	4	●	1	50.1	52.3	*	*
MPXLRBD0400R050N160	4	0.5	4	16	3.9	2.8°	70	6	4	★	1	16.7	17.4	19.1	*
MPXLRBD0400R050N240	4	0.5	4	24	3.9	2.0°	70	6	4	●	1	25.1	26.2	*	*
MPXLRBD0400R050N320	4	0.5	4	32	3.9	1.6°	70	6	4	★	1	33.4	34.9	*	*
MPXLRBD0400R050N480	4	0.5	4	48	3.9	1.1°	90	6	4	●	1	50.1	52.3	*	*
MPXLRBD0600R010N240	6	0.1	6	24	5.85	–	70	6	4	★	2	*	*	*	*
MPXLRBD0600R010N480	6	0.1	6	48	5.85	–	100	6	4	★	2	*	*	*	*
MPXLRBD0600R020N240	6	0.2	6	24	5.85	–	70	6	4	★	2	*	*	*	*
MPXLRBD0600R020N480	6	0.2	6	48	5.85	–	100	6	4	★	2	*	*	*	*
MPXLRBD0600R030N240	6	0.3	6	24	5.85	–	70	6	4	★	2	*	*	*	*
MPXLRBD0600R030N480	6	0.3	6	48	5.85	–	100	6	4	★	2	*	*	*	*
MPXLRBD0600R050N240	6	0.5	6	24	5.85	–	70	6	4	★	2	*	*	*	*
MPXLRBD0600R050N480	6	0.5	6	48	5.85	–	100	6	4	●	2	*	*	*	*

* Keine Interferenz

SCHNITTDATENEMPFEHLUNGEN

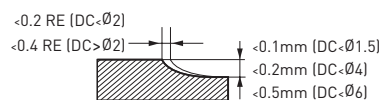
		P				H			
Material		Baustahl, C-Stahl, legierter Stahl, vergüteter Stahl, ausscheidungsgehärteter, rostfreier Stahl (< 450 HB)				Gehärteter Stahl (45 – 52 HRC)			
DC (mm)	LU (mm)	n (min ⁻¹)	Vf (mm/min)	ap (mm)	ae (mm)	n (min ⁻¹)	Vf (mm/min)	ap (mm)	ae (mm)
0.2	0.5	30.000	180	0.003	0.04	30.000	150	0.003	0.04
	1	30.000	120	0.003	0.04	30.000	100	0.003	0.04
0.3	1	30.000	210	0.003	0.08	30.000	180	0.003	0.08
	2	30.000	120	0.003	0.08	30.000	100	0.003	0.08
0.4	2	31.000	970	0.005	0.10	31.000	810	0.005	0.10
	3	31.000	790	0.004	0.10	31.000	660	0.004	0.10
	4	31.000	540	0.003	0.10	31.000	450	0.003	0.10
0.5	2	31.000	1.500	0.006	0.12	31.000	1.300	0.006	0.12
	3	31.000	1.300	0.005	0.12	31.000	1.100	0.005	0.12
	4	31.000	970	0.004	0.12	31.000	810	0.004	0.12
	5	25.000	790	0.004	0.12	25.000	660	0.004	0.12
0.6	2	31.000	2.100	0.020	0.13	31.000	1.800	0.020	0.13
	4	25.000	1.300	0.015	0.13	25.000	1.100	0.015	0.13
	6	20.000	790	0.008	0.13	20.000	660	0.008	0.13
0.8	4	25.000	3.200	0.025	0.20	25.000	2.700	0.025	0.20
	6	20.000	2.100	0.020	0.20	20.000	1.800	0.020	0.20
	3	24.000	2.400	0.045	0.30	20.000	2.000	0.045	0.30
1	4	24.000	1.900	0.040	0.30	20.000	1.600	0.040	0.30
	5	24.000	1.800	0.035	0.25	20.000	1.500	0.035	0.25
	6	20.000	1.400	0.030	0.25	17.000	1.200	0.030	0.25
	8	20.000	1.000	0.020	0.20	17.000	880	0.020	0.20
	10	15.000	800	0.015	0.10	13.000	670	0.015	0.10
1.2	12	15.000	370	0.010	0.01	13.000	310	0.010	0.01
	10	18.000	1.500	0.030	0.25	15.000	1.300	0.030	0.25
	6	20.000	2.400	0.050	0.40	17.000	2.000	0.050	0.40
1.5	12	15.000	1.400	0.040	0.30	13.000	1.200	0.040	0.30
	18	12.000	670	0.010	0.15	10.000	560	0.010	0.15
	8	15.000	2.600	0.050	0.50	13.000	2.200	0.050	0.50
2	12	15.000	2.100	0.045	0.50	13.000	1.800	0.045	0.50
	16	14.000	1.900	0.040	0.35	12.000	1.600	0.040	0.35
	20	14.000	1.100	0.015	0.25	12.000	960	0.015	0.25
	24	9.300	930	0.010	0.20	7.800	780	0.010	0.20
	8	12.000	3.300	0.100	0.80	10.000	2.800	0.100	0.80
3	12	12.000	3.100	0.080	0.80	10.000	2.600	0.080	0.80
	18	11.000	3.100	0.070	0.70	9.600	2.600	0.070	0.70
	24	11.000	2.600	0.060	0.50	9.300	2.200	0.060	0.50
	30	9.000	1.300	0.030	0.40	7.500	1.100	0.030	0.40
	36	6.200	910	0.010	0.30	5.200	760	0.010	0.30
4	16	9.000	3.200	0.100	1.00	7.500	2.700	0.100	1.00
	24	7.900	2.500	0.085	0.80	6.600	2.100	0.085	0.80
	32	6.900	1.600	0.040	0.70	5.800	1.400	0.040	0.70
	48	4.800	740	0.010	0.35	4.000	620	0.010	0.35
	24	5.500	2.700	0.120	1.50	4.600	2.263	0.120	1.50
6	48	3.800	1.200	0.050	1.20	3.200	1.000	0.050	1.20



MPXLRB

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		M		S		N			
Material		Austenitische rostfreie Stähle, Titanlegierungen				Kupfer, Kupferlegierungen			
DC (mm)	LU (mm)	n (min ⁻¹)	Vf (mm/min)	ap (mm)	ae (mm)	n (min ⁻¹)	Vf (mm/min)	ap (mm)	ae (mm)
0.2	0.5	33.000	170	0.003	0.04	30.000	150	0.003	0.08
	1	30.000	110	0.003	0.04	30.000	100	0.003	0.08
0.3	1	30.000	200	0.003	0.08	30.000	180	0.003	0.16
	2	30.000	110	0.003	0.08	30.000	100	0.003	0.16
0.4	2	31.000	930	0.005	0.10	31.000	810	0.005	0.20
	3	31.000	750	0.004	0.10	31.000	660	0.004	0.20
0.5	4	31.000	510	0.003	0.10	31.000	450	0.003	0.20
	2	31.000	1.400	0.006	0.12	31.000	1.300	0.006	0.24
	3	31.000	1.200	0.005	0.12	31.000	1.100	0.005	0.24
	4	31.000	930	0.004	0.12	31.000	8.100	0.004	0.24
0.6	5	25.000	750	0.004	0.12	25.000	660	0.004	0.24
	2	31.000	2.000	0.020	0.13	31.000	1.800	0.020	0.26
	4	25.000	1.200	0.015	0.13	25.000	1.100	0.015	0.26
	6	20.000	750	0.008	0.13	20.000	660	0.008	0.26
0.8	4	25.000	3.100	0.025	0.20	25.000	2.700	0.025	0.40
	6	20.000	2.000	0.020	0.20	20.000	1.800	0.020	0.40
1	3	23.000	2.300	0.045	0.30	20.000	2.000	0.045	0.60
	4	23.000	1.800	0.040	0.30	20.000	1.600	0.040	0.60
	5	23.000	1.700	0.035	0.25	20.000	1.500	0.035	0.50
	6	19.000	1.300	0.030	0.25	17.000	1.200	0.030	0.50
	8	19.000	1.000	0.020	0.20	17.000	880	0.020	0.40
	10	14.000	770	0.015	0.10	13.000	670	0.015	0.20
1.2	12	14.000	350	0.010	0.01	13.000	310	0.010	0.02
	10	17.000	1.400	0.030	0.25	15.000	1.300	0.030	0.50
1.5	6	19.000	2.300	0.050	0.40	14.700	1.700	0.050	0.80
	12	14.000	1.300	0.040	0.30	11.000	1.000	0.040	0.60
2	18	11.000	640	0.010	0.15	8.600	480	0.010	0.30
	8	14.000	2.500	0.050	0.50	11.000	1.900	0.050	1.00
	12	14.000	2.000	0.045	0.50	11.000	1.500	0.045	1.00
	16	13.000	1.800	0.040	0.35	10.000	1.300	0.040	0.70
	20	13.000	1.100	0.015	0.25	10.000	830	0.015	0.50
	24	8.900	890	0.010	0.20	6.700	670	0.010	0.40
3	8	11.000	3.200	0.100	0.80	8.600	2.400	0.100	1.60
	12	11.000	2.900	0.080	0.80	8.600	2.200	0.080	1.60
	18	11.000	2.900	0.070	0.70	8.300	2.200	0.070	1.40
	24	10.000	2.500	0.060	0.50	8.000	1.900	0.060	1.00
	30	8.600	1.200	0.030	0.40	6.500	950	0.030	0.80
	36	5.900	870	0.010	0.30	4.500	660	0.010	0.60
4	16	8.600	3.100	0.100	1.00	6.500	2.300	0.100	2.00
	24	7.500	2.400	0.085	0.80	5.700	1.800	0.085	1.60
	32	6.600	1.600	0.040	0.70	5.000	1.200	0.040	1.40
	48	4.600	710	0.010	0.35	3.400	530	0.010	0.70
6	24	5.200	2.600	0.120	1.50	4.000	1.900	0.120	3.00
	48	3.600	1.100	0.05	1.20	2.700	870	0.050	2.40



NOTIZEN

MPMHV

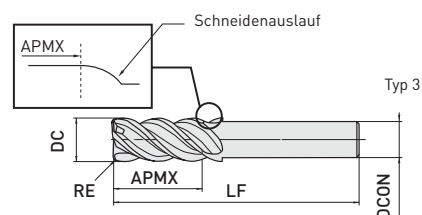
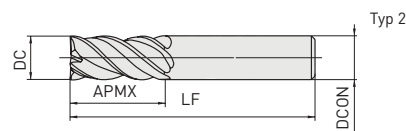
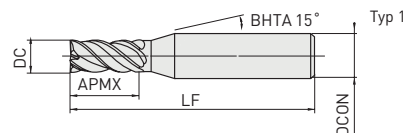


SCHAFTFRÄSER, MITTLERE SCHNEIDENLÄNGE, 4-SCHNEIDIG, VARIABLER SPIRALWINKEL

P M S H



	DC ≤ 12	DC > 12			
	0	0			
	- 0.02	- 0.03			
	DCON = 4	DCON = 6	DCON = 8		
	0	0	0		
	- 0.005	- 0.005	- 0.006		
	DCON = 6{DC = 8}	DCON = 8{DC = 10}	DCON = 10	12≤DCON≤16	DCON = 20
	0	0	0	0	0
	- 0.008	- 0.009	- 0.009	- 0.011	- 0.013



4-schneidiger Schaftfräser mit variablem Spiralwinkel zur Vibrationskontrolle bei der Bearbeitung rostfreier Stähle und C-Stähle.

Bestellnummer	DC	APMX	LF	DCON	Schneiden	Lager	Typ
MPMHVD0100	1	2.5	45	4	4	●	1
MPMHVD0150	1.5	3.8	45	4	4	●	1
MPMHVD0200	2	5	45	4	4	●	1
MPMHVD0250	2.5	6.3	45	4	4	●	1
MPMHVD0300	3	7.5	45	6	4	●	1
MPMHVD0400	4	10	45	6	4	●	1
MPMHVD0500	5	12.5	50	6	4	●	1
MPMHVD0600	6	15	60	6	4	●	2
NEW MPMHVD0700S06	7	17.5	80	6	4	●	3
MPMHVD0700	7	17.5	70	8	4	●	2
MPMHVD0800	8	20	70	8	4	●	2
MPMHVD0800S06	8	20	90	6	4	★	3
NEW MPMHVD0900S08	9	22.5	90	8	4	●	3
MPMHVD1000	10	25	80	10	4	●	2
MPMHVD1000S08	10	25	100	8	4	★	3
MPMHVD1100S10	11	28	100	10	4	★	3
MPMHVD1200	12	30	100	12	4	●	2
MPMHVD1200S10	12	30	110	10	4	★	3
MPMHVD1300S12	13	32	110	12	4	★	3
NEW MPMHVD1400S12	14	35	130	12	4	●	3
MPMHVD1600	16	40	110	16	4	●	2
NEW MPMHVD1800S16	18	45	150	16	4	●	3
MPMHVD2000	20	50	125	20	4	●	2
NEW MPMHVD2200S20	22	55	160	20	4	★	3

SCHNITTDATENEMPFEHLUNGEN

SCHULTERFRÄSEN

	P								M	S		H					
Material	C-Stahl, legierter Stahl, duktiles Gusseisen				C-Stahl, legierter Stahl, vergüteter Stahl, legierter Werkzeugstahl				Austenitische rostfreie Stähle, Titanlegierungen				Gehärteter Stahl (45 – 55 HRC)				
	DC (mm)	n (min ⁻¹)	Vf (mm/min)	ap (mm)	ae (mm)	n (min ⁻¹)	Vf (mm/min)	ap (mm)	ae (mm)	n (min ⁻¹)	Vf (mm/min)	ap (mm)	ae (mm)	n (min ⁻¹)	Vf (mm/min)	ap (mm)	ae (mm)
1		38.000	910	1.7	0.2	31.000	500	1.7	0.2	25.000	500	1.7	0.2	18.000	290	1.7	0.05
1.5		27.000	970	2.5	0.3	22.000	530	2.5	0.3	18.000	500	2.5	0.3	13.000	310	2.5	0.08
2		21.000	1.500	3.5	0.4	17.000	820	3.5	0.4	14.000	640	3.5	0.4	10.000	320	3.5	0.1
2.5		18.000	1.700	4.2	0.5	15.000	900	4.2	0.5	12.000	820	4.2	0.5	8.500	360	4.2	0.13
3		16.000	1.800	5	0.6	13.000	940	5	0.6	11.000	880	5	0.6	7.400	380	5	0.15
4		12.000	1.700	7	0.8	9.500	950	7	0.8	8.000	900	7	0.8	5.600	400	7	0.2
5		9.500	1.800	8.5	1	7.600	1.100	8.5	1	6.400	900	8.5	1	4.500	430	8.5	0.25
6		8.000	2.100	10	1.2	6.400	1.300	10	1.2	5.300	1.100	10	1.2	3.700	440	10	0.3
7		6.800	2.000	12	1.4	5.500	1.400	12	1.4	4.500	1.200	12	1.4	3.200	450	12	0.35
7*		4.100	1.200	12	0.7	3.300	860	12	0.7	2.700	700	12	0.7	1.900	270	12	0.35
8		6.000	2.000	13.5	1.6	4.800	1.400	13.5	1.6	4.000	1.200	13.5	1.6	2.800	450	13.5	0.4
8*		3.600	1.200	13.5	0.8	2.900	870	13.5	0.8	2.400	720	13.5	0.8	1.700	270	13.5	0.4
9*		3.200	1.200	15	0.9	2.500	900	15	0.9	2.100	660	15	0.9	1.500	270	15	0.45
10		4.800	2.100	17	2	3.800	1.500	17	2	3.200	1.100	17	2	2.200	440	17	0.5
11*		2.600	1.200	18.5	1.1	2.100	880	18.5	1.1	1.700	520	18.5	1.1	1.200	190	18.5	0.55
12		4.000	1.900	20.5	2.4	3.200	1.400	20.5	2.4	2.700	1.100	20.5	2.4	1.900	380	20.5	0.6
12*		2.400	1.200	20.5	1.2	1.900	840	20.5	1.2	1.600	650	20.5	1.2	1.000	220	20.5	0.6
13*		2.200	1.100	22	1.3	1.800	830	22	1.3	1.500	490	22	1.3	1.000	160	22	0.65
14*		2.000	960	24	1.4	1.600	700	24	1.4	1400	460	24	1.4	950	150	24	0.7
16		3.000	1.400	27.2	3.2	2.400	1.100	27.2	3.2	2.000	840	27.2	3.2	1.400	340	27.2	0.8
18*		1.600	770	31	1.8	1.300	570	31	1.8	1100	360	31	1.8	740	120	31	0.9
20		2.400	1.200	34	4	1.900	840	34	4	1.600	670	34	4	1.100	260	34	1
22*		1.300	620	37.5	2.2	1.000	440	37.5	2.2	870	280	37.5	2.2	610	98	37.5	1.2



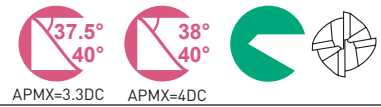
* = Typ 3

NUTENFRÄSEN

	P						M	S	H				
Material	C-Stahl, legierter Stahl, duktiles Gusseisen			C-Stahl, legierter Stahl, vergüteter Stahl, legierter Werkzeugstahl			Austenitische rostfreie Stähle, Titanlegierungen			Gehärteter Stahl (45 – 55 HRC)			
	DC (mm)	n (min ⁻¹)	Vf (mm/min)	ap (mm)	n (min ⁻¹)	Vf (mm/min)	ap (mm)	n (min ⁻¹)	Vf (mm/min)	ap (mm)	n (min ⁻¹)	Vf (mm/min)	ap (mm)
1		31.000	620	0.5	24.000	380	0.5	20.000	400	0.5	9.500	110	0.2
1.5		22.000	630	0.8	17.000	410	0.8	14.000	390	0.8	6.400	130	0.3
2		17.000	650	2	14.000	450	2	11.000	500	2	4.800	130	0.4
2.5		15.000	830	2.5	12.000	580	2.5	9.700	660	2.5	3.800	130	0.5
3		13.000	940	3	10.000	660	3	8.500	680	3	3.200	140	0.6
4		9.500	820	4	7.600	600	4	6.400	720	4	2.400	150	0.8
5		7.600	910	5	6.100	670	5	5.100	710	5	1.900	170	1
6		6.400	860	6	5.100	630	6	4.200	870	6	1.600	190	1.2
7		5.500	960	7	4.400	710	7	3.600	940	7	1.400	190	1.4
8		4.800	1.000	8	3.800	750	8	3.200	960	8	1.200	190	1.6
10		3.800	910	10	3.100	680	10	2.500	880	10	950	150	2
12		3.200	920	12	2.500	660	12	2.100	860	12	800	160	2.4
16		2.400	690	16	1.900	500	16	1.600	380	16	600	120	3.2
20		1.900	550	20	1.500	400	20	1.300	310	20	480	96	4



MPJHV

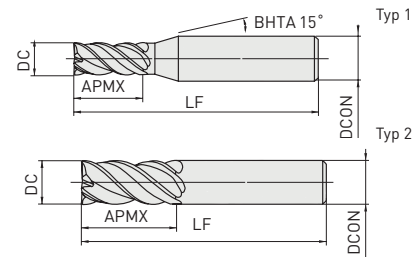


SCHAFTFRÄSER, MITTLERE SCHNEIDENLÄNGE, 4-SCHNEIDIG, VARIABLER SPIRALWINKEL

P M S H



	DC ≤ 12	DC > 12	
	0 - 0.02	0 - 0.03	
	DCON=4 0 - 0.005	DCON=6 0 - 0.005	DCON=8 0 - 0.006
	DCON=10 0 - 0.009	DCON=12 0 - 0.011	DCON=16 0 - 0.011
			DCON=20 0 - 0.013



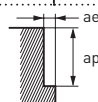
4-schneidiger Schaftfräser mit variablem Spiralwinkel zur Vibrationskontrolle bei der Bearbeitung rostfreier Stähle und C-Stähle. Mittellange Schneidenlänge, geeignet für das Schlichten an vertikalen Wandflächen.

Bestellnummer	DC	APMX	LF	DCON	Schneiden	Lager	Typ
MPJHVD0100AP04	1	4	45	4	4	●	1
MPJHVD0150AP06	1.5	6	45	4	4	●	1
MPJHVD0200AP06	2	6.5	60	6	4	●	1
MPJHVD0200AP08	2	8	60	6	4	●	1
MPJHVD0250AP10	2.5	10	60	6	4	●	1
MPJHVD0300AP10	3	10	60	6	4	●	1
MPJHVD0300AP12	3	12	60	6	4	●	1
MPJHVD0400AP13	4	13	60	6	4	●	1
MPJHVD0400AP16	4	16	60	6	4	●	1
MPJHVD0500AP17	5	17	60	6	4	●	1
MPJHVD0500AP20	5	20	60	6	4	●	1
MPJHVD0600AP20	6	20	60	6	4	●	2
MPJHVD0600AP24	6	24	60	6	4	●	2
MPJHVD0800AP26	8	26	80	8	4	●	2
MPJHVD0800AP32	8	32	80	8	4	●	2
MPJHVD1000AP33	10	33	100	10	4	●	2
MPJHVD1000AP40	10	40	100	10	4	●	2
MPJHVD1200AP40	12	40	110	12	4	●	2
MPJHVD1200AP48	12	48	110	12	4	●	2
MPJHVD1600AP53	16	53	125	16	4	●	2
MPJHVD1600AP64	16	64	125	16	4	●	2
MPJHVD2000AP66	20	66	140	20	4	●	2
MPJHVD2000AP80	20	80	140	20	4	●	2

SCHNITTDATENEMPFEHLUNGEN

SCHULTERFRÄSEN

		P								M	S		H				
Material		C-Stahl, legierter Stahl, duktiles Gusseisen				C-Stahl, legierter Stahl, vergüteter Stahl, legierter Werkzeugstahl				Austenitische rostfreie Stähle, Titanlegierungen				Gehärteter Stahl (45 – 55 HRC)			
DC (mm)	APMX (mm)	n (min ⁻¹)	Vf (mm/min)	ap (mm)	ae (mm)	n (min ⁻¹)	Vf (mm/min)	ap (mm)	ae (mm)	n (min ⁻¹)	Vf (mm/min)	ap (mm)	ae (mm)	n (min ⁻¹)	Vf (mm/min)	ap (mm)	ae (mm)
1	4	19.000	300	3	0.03	15.000	240	3	0.03	13.000	210	3	0.03	13.000	160	3	0.02
1.5	6	16.000	320	4.5	0.05	13.000	260	4.5	0.05	11.000	220	4.5	0.05	8.500	170	4.5	0.03
2	6.5	15.000	500	5	0.1	12.000	380	5	0.1	10.000	320	5	0.1	7.700	220	5	0.06
2	8	14.000	470	6	0.06	11.000	350	6	0.06	9.500	300	6	0.06	7.300	200	6	0.04
2.5	10	13.000	660	7.5	0.08	11.000	520	7.5	0.08	8.900	390	7.5	0.08	6.300	250	7.5	0.05
3	10	13.000	890	7.4	0.15	10.000	620	7.4	0.15	8.400	470	7.4	0.15	5.900	300	7.4	0.09
3	12	12.000	820	9	0.09	9.500	590	9	0.09	8.000	450	9	0.09	5.600	280	9	0.06
4	13	9.400	940	9.9	0.2	7.500	650	9.9	0.2	6.300	530	9.9	0.2	4.700	320	9.9	0.12
4	16	9.000	900	12	0.12	7.200	620	12	0.12	6.000	500	12	0.12	4.500	310	12	0.08
5	17	7.500	990	12.4	0.25	6.000	680	12.4	0.25	5.000	560	12.4	0.25	3.800	350	12.4	0.15
5	20	7.200	950	15	0.15	5.700	650	15	0.15	4.800	540	15	0.15	3.600	330	15	0.1
6	20	6.300	1.100	14.9	0.3	5.000	760	14.9	0.3	4.200	640	14.9	0.3	3.200	350	14.9	0.18
6	24	6.000	1.000	18	0.18	4.800	730	18	0.18	4.000	610	18	0.18	3.000	330	18	0.12
8	26	4.700	1.100	19.8	0.4	3.800	800	19.8	0.4	3.100	620	19.8	0.4	2.400	360	19.8	0.24
8	32	4.500	1.000	24	0.24	3.600	760	24	0.24	3.000	600	24	0.24	2.300	350	24	0.16
10	33	3.800	1.000	24.8	0.5	3.000	760	24.8	0.5	2.500	590	24.8	0.5	1.900	330	24.8	0.3
10	40	3.600	970	30	0.3	2.900	730	30	0.3	2.400	570	30	0.3	1.800	310	30	0.2
12	40	3.100	1.000	29.7	0.6	2.500	720	29.7	0.6	2.100	550	29.7	0.6	1.600	300	29.7	0.36
12	48	3.000	970	36	0.36	2.400	690	36	0.36	2.000	520	36	0.36	1.500	280	36	0.24
16	53	2.400	780	27.2	0.48	1.900	550	39.6	0.8	1.600	420	39.6	0.8	1.200	240	39.6	0.48
16	64	2.200	710	48	0.48	1.800	520	48	0.48	1.500	390	48	0.48	1.100	220	48	0.32
20	66	1.900	620	34	0.6	1.500	430	49.5	1	1.300	340	49.5	1	950	190	49.5	0.6
20	80	1.800	580	60	0.6	1.400	400	60	0.6	1.200	310	60	0.6	900	180	60	0.4



MP2SSB



KUGELKOPFFRÄSER, KURZE SCHNITTLÄNGE, 2-SCHNEIDIG, KURZER SCHAFT

P H M S N



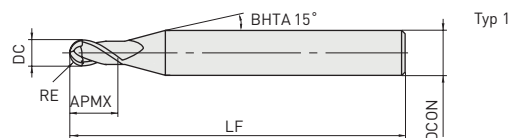
$0.1 < RE < 6$

± 0.005

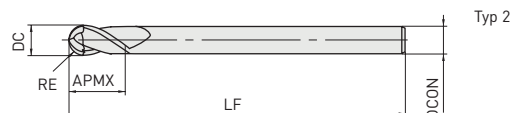


$4 < DCON < 6$ $8 < DCON < 10$ $DCON = 12$

0 0 0
- 0.005 - 0.006 - 0.008



Typ 1



Typ 2

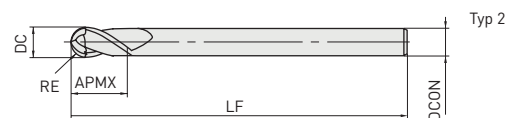
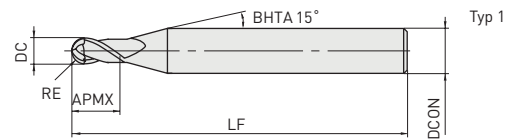
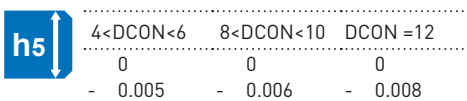
2-schneidiger Kugelpkopfräser mit kurzer Schneidenlänge für allgemeine Anwendungen. Ausgezeichnete Leistung beim Fräsen einer Vielzahl von Werkstückmaterialien wie C-Stahl, legierter Stahl und gehärteter Stahl.

Bestellnummer	RE	DC	APMX	LF	DCON	Schneiden	Lager	Typ
MP2SSBR0010	0.1	0.2	0.2	40	4	2	★	1
MP2SSBR0020	0.2	0.4	0.4	40	4	2	★	1
MP2SSBR0030	0.3	0.6	0.6	40	4	2	●	1
MP2SSBR0040	0.4	0.8	0.8	40	4	2	●	1
MP2SSBR0050	0.5	1	1	40	4	2	●	1
MP2SSBR0050S06	0.5	1	1	40	6	2	●	1
MP2SSBR0075	0.75	1.5	1.5	40	4	2	★	1
MP2SSBR0075S06	0.75	1.5	1.5	40	6	2	●	1
MP2SSBR0100	1	2	2	45	6	2	●	1
MP2SSBR0150	1.5	3	3	45	6	2	●	1
MP2SSBR0200	2	4	4	45	6	2	●	1
MP2SSBR0250	2.5	5	5	50	6	2	●	1
MP2SSBR0300	3	6	6	50	6	2	●	2
MP2SSBR0400	4	8	8	60	8	2	●	2
MP2SSBR0500	5	10	10	70	10	2	●	2
MP2SSBR0600	6	12	12	75	12	2	●	2

MP2SB



KUGELKOPFFRÄSER, KURZE SCHNITTLÄNGE, 2-SCHNEIDIG



2-schneidiger Kugelpfärsr mit kurzer Schneldenlänge für allgemeine Anwendungen. Ausgezeichnete Leistung beim Fräsen einer Vielzahl von Werkstückmaterialien wie C-Stahl, legierter Stahl und gehärteter Stahl.

Bestellnummer	RE	DC	APMX	LF	DCON	Schneiden	Lager	Typ
MP2SBR0010	0.1	0.2	0.3	45	4	2	★	1
MP2SBR0015	0.15	0.3	0.5	45	4	2	●	1
MP2SBR0020	0.2	0.4	0.6	45	4	2	●	1
MP2SBR0020S06	0.2	0.4	0.6	50	6	2	★	1
MP2SBR0025	0.25	0.5	0.8	45	4	2	●	1
MP2SBR0030	0.3	0.6	0.9	45	4	2	★	1
MP2SBR0030S06	0.3	0.6	0.9	50	6	2	★	1
MP2SBR0035	0.35	0.7	1.1	45	4	2	★	1
MP2SBR0040	0.4	0.8	1.2	45	4	2	★	1
MP2SBR0040S06	0.4	0.8	1.2	50	6	2	★	1
MP2SBR0045	0.45	0.9	1.4	45	4	2	★	1
MP2SBR0050	0.5	1	1.5	45	4	2	●	1
MP2SBR0050S06	0.5	1	1.5	50	6	2	●	1
MP2SBR0060	0.6	1.2	1.8	45	4	2	★	1
MP2SBR0070	0.7	1.4	2.1	45	4	2	★	1
MP2SBR0075	0.75	1.5	2.3	45	4	2	★	1
MP2SBR0075S06	0.75	1.5	2.3	50	6	2	★	1
MP2SBR0080	0.8	1.6	2.4	45	4	2	●	1
MP2SBR0090	0.9	1.8	2.7	45	4	2	★	1
MP2SBR0100	1	2	3	50	4	2	●	1
MP2SBR0100S06	1	2	3	50	6	2	★	1
MP2SBR0125	1.25	2.5	3.8	50	4	2	★	1
MP2SBR0150	1.5	3	4.5	70	6	2	●	1
MP2SBR0200	2	4	6	70	6	2	●	1
MP2SBR0250	2.5	5	7.5	80	6	2	●	1
MP2SBR0300	3	6	9	80	6	2	●	2
MP2SBR0400	4	8	12	90	8	2	●	2
MP2SBR0500	5	10	15	100	10	2	●	2
MP2SBR0600	6	12	18	110	12	2	●	2

MP2MB

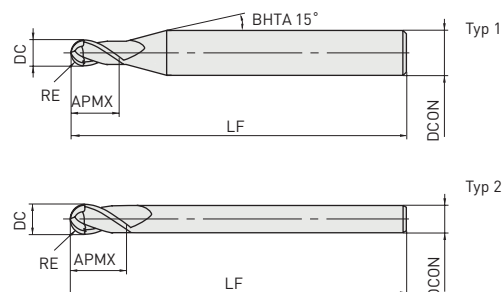


KUGELKOPFFRÄSER, MITTLERE SCHNEIDENLÄNGE, 2-SCHNEIDIG

P H M S N



R	0.25<RE<6
	±0.005
h5	4<DCON<6 8<DCON<10 DCON=12
	0 0 0
	- 0.005 - 0.006 - 0.008



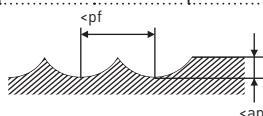
2-schneidiger Kugelpkopfräser mit mittlerer Schneidenlänge für die allgemeine Bearbeitung. Ausgezeichnete Leistung beim Fräsen einer Vielzahl von Werkstückmaterialien wie C-Stahl, legierter Stahl und gehärteter Stahl.

Bestellnummer	RE	DC	APMX	LF	DCON	Schneiden	Lager	Typ
MP2MBR0025	0.25	0.5	1	45	4	2	★	1
MP2MBR0030	0.3	0.6	1.2	45	4	2	●	1
MP2MBR0040	0.4	0.8	1.6	45	4	2	★	1
MP2MBR0050	0.5	1	2.5	45	4	2	●	1
MP2MBR0060	0.6	1.2	2.5	45	4	2	★	1
MP2MBR0070	0.7	1.4	3	45	4	2	★	1
MP2MBR0075	0.75	1.5	4	45	4	2	●	1
MP2MBR0080	0.8	1.6	4	45	4	2	★	1
MP2MBR0090	0.9	1.8	5	45	4	2	★	1
MP2MBR0100	1	2	6	50	4	2	●	1
MP2MBR0125	1.25	2.5	6	50	4	2	★	1
MP2MBR0150S03	1.5	3	8	70	3	2	●	2
MP2MBR0150	1.5	3	8	70	6	2	●	1
MP2MBR0175	1.75	3.5	8	70	6	2	★	1
MP2MBR0200S04	2	4	8	70	4	2	●	2
MP2MBR0200	2	4	8	70	6	2	●	1
MP2MBR0250	2.5	5	12	80	6	2	●	1
MP2MBR0300	3	6	12	80	6	2	●	2
MP2MBR0400	4	8	14	90	8	2	●	2
MP2MBR0500	5	10	18	100	10	2	●	2
MP2MBR0600	6	12	22	110	12	2	●	2

MP2SSB / MP2SB / MP2MB

SCHNITTDATENEMPFEHLUNGEN

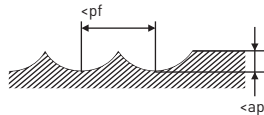
Material	P						H					
	Baustahl, C-Stahl, legierter Stahl, vergüteter Stahl, gehärteter Stahl (– 45 HRC)						Gehärteter Stahl (45 – 55 HRC)					
	$\alpha < 15^\circ$		$\alpha > 15^\circ$		ap (mm)	pf (mm)	$\alpha < 15^\circ$		$\alpha > 15^\circ$		ap (mm)	pf (mm)
RE (mm)	n (min ⁻¹)	Vf (mm/min)	n (min ⁻¹)	Vf (mm/min)			n (min ⁻¹)	Vf (mm/min)	n (min ⁻¹)	Vf (mm/min)		
R 0.1	40.000	300	40.000	250	0.003	0.02	40.000	300	40.000	250	0.003	0.02
R 0.15	40.000	500	40.000	350	0.007	0.03	40.000	500	40.000	350	0.007	0.03
R 0.2	40.000	1.600	40.000	1.200	0.02	0.04	40.000	1.300	40.000	950	0.015	0.04
R 0.25	40.000	2.400	40.000	1.400	0.025	0.05	40.000	1.900	40.000	1.100	0.02	0.05
R 0.3	40.000	3.200	40.000	1.600	0.03	0.06	40.000	2.500	40.000	1.300	0.025	0.06
R 0.4	40.000	4.800	40.000	2.400	0.05	0.08	40.000	4.000	40.000	1.900	0.04	0.08
R 0.5	40.000	5.600	40.000	3.200	0.06	0.1	40.000	5.600	40.000	3.000	0.05	0.1
R 0.75	40.000	6.500	40.000	4.000	0.09	0.15	40.000	6.500	32.000	3.200	0.08	0.15
R 1	40.000	6.500	39.000	4.700	0.11	0.2	40.000	6.500	31.000	3.500	0.11	0.2
R 1.25	40.000	7.000	33.000	4.500	0.12	0.25	36.000	6.500	26.000	3.500	0.12	0.25
R 1.5	40.000	7.500	27.000	4.300	0.13	0.3	32.000	6.000	22.000	3.400	0.13	0.3
R 2	32.000	7.500	20.000	3.600	0.15	0.4	25.000	6.000	16.000	2.700	0.15	0.4
R 2.5	25.000	6.000	16.000	2.900	0.2	0.5	20.000	5.400	13.000	2.300	0.2	0.5
R 3	21.000	5.800	13.000	2.600	0.25	0.6	17.000	4.700	10.000	2.000	0.25	0.6
R 4	16.000	4.500	10.000	2.000	0.3	0.8	13.000	3.600	8.000	1.500	0.3	0.8
R 5	13.000	3.600	8.000	1.700	0.5	1.0	10.000	2.900	6.400	1.200	0.5	1.0
R 6	9.000	2.500	6.000	1.300	0.5	1.2	7.200	2.000	4.800	1.000	0.5	1.2



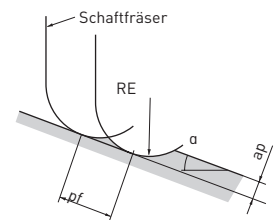
MP2SSB / MP2SB / MP2MB

SCHNITTDATENEMPFEHLUNGEN

	M		S				N					
Material	Austenitische rostfreie Stähle, Titanlegierungen						Kupfer, Kupferlegierungen					
RE (mm)	$\alpha<15^\circ$		$\alpha>15^\circ$		ap (mm)	pf (mm)	$\alpha<15^\circ$		$\alpha>15^\circ$		ap (mm)	pf (mm)
	n (min ⁻¹)	Vf (mm/min)	n (min ⁻¹)	Vf (mm/min)			n (min ⁻¹)	Vf (mm/min)	n (min ⁻¹)	Vf (mm/min)		
R 0.1	40.000	300	40.000	250	0.003	0.02	40.000	300	40.000	250	0.003	0.02
R 0.15	40.000	500	40.000	350	0.007	0.03	40.000	500	40.000	350	0.007	0.03
R 0.2	40.000	1.500	40.000	1.000	0.02	0.04	40.000	1.300	40.000	950	0.015	0.04
R 0.25	40.000	2.100	40.000	1.200	0.025	0.05	40.000	1.900	40.000	1.100	0.02	0.05
R 0.3	40.000	2.800	40.000	1.400	0.03	0.06	40.000	2.500	40.000	1.300	0.025	0.06
R 0.4	40.000	4.600	40.000	2.100	0.05	0.08	40.000	4.000	40.000	1.900	0.04	0.08
R 0.5	40.000	5.600	40.000	3.400	0.06	0.1	40.000	5.600	40.000	3.000	0.05	0.1
R 0.75	40.000	6.500	36.000	3.600	0.09	0.15	40.000	6.500	32.000	3.200	0.08	0.15
R 1	40.000	6.500	35.000	4.000	0.11	0.2	40.000	6.500	31.000	3.500	0.11	0.2
R 1.25	40.000	7.400	29.000	4.000	0.12	0.25	36.000	6.500	26.000	3.500	0.12	0.25
R 1.5	36.000	6.900	24.000	3.900	0.13	0.3	32.000	6.000	22.000	3.400	0.13	0.3
R 2	28.000	6.900	18.000	3.100	0.15	0.4	25.000	6.000	16.000	2.700	0.15	0.6
R 2.5	22.000	6.200	14.000	2.600	0.2	0.5	20.000	5.400	13.000	2.300	0.2	0.75
R 3	18.000	5.400	11.000	2.300	0.25	0.6	17.000	4.700	10.000	2.000	0.25	0.9
R 4	14.000	4.100	9.000	1.700	0.3	0.8	13.000	3.600	8.000	1.500	0.3	1.6
R 5	11.000	3.300	7.200	1.300	0.5	1.0	10.000	2.900	6.400	1.200	0.5	2.0
R 6	8.100	2.300	5.400	1.100	0.5	1.2	8.500	2.300	5.300	1.100	0.5	2.4



1. α ist der Anstellwinkel zur Bearbeitungsfläche.
2. Bei geringen Schnitttiefen können Drehzahl und Vorschub erhöht werden.
3. Falls die Stabilität der Maschine oder der Werkstückbefestigung sehr gering ist oder Vibrationen auftreten, müssen Drehzahl und Vorschub entsprechend reduziert werden, oder es muss eine geringere Schnitttiefe eingestellt werden.
4. Standard-Schnittbedingungen für austenitischen rostfreien Stahl und Titanlegierungen, reduzieren Sie jedoch die Spindeldrehzahl auf 60 % und die Vorschubgeschwindigkeit auf 45 %.



NOTIZEN

MP2SDB

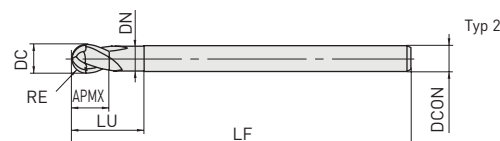
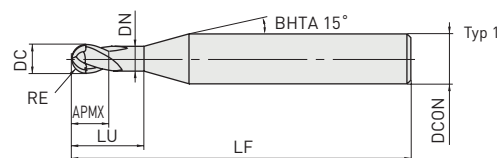


KUGELKOPFFRÄSER, KURZE SCHNEIDENLÄNGE, 2-SCHNEIDIG, HOCHSTABILE GEOMETRIE

P H



R	0.1 < RE < 6
	±0.01
h5	4 < DCON < 6 DCON = 8
	0 0
	- 0.005 - 0.006
h6	DCON = 10 DCON = 12
	0 0
	- 0.009 - 0.011



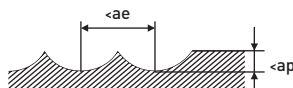
Hervorragende Bruchfestigkeit mit einer stabilen S-Bogen-Schneidkante.
Ideal zum Vorschlichten von Gesenken.

Bestellnummer	RE	DC	APMX	LU	DN	LF	DCON	Schneiden	Lager	Typ
MP2SDBR0050	0.5	1	1	2	0.96	50	4	2	★	1
MP2SDBR0075S06	0.75	1.5	1.5	3	1.46	50	6	2	★	1
MP2SDBR0100	1	2	2	4	1.90	50	4	2	★	1
MP2SDBR0100S06	1	2	2	4	1.90	60	6	2	★	1
MP2SDBR0150	1.5	3	3	6	2.90	70	4	2	★	1
MP2SDBR0200	2	4	4	8	3.90	60	4	2	★	2
MP2SDBR0200S06	2	4	4	8	3.90	70	6	2	★	1
MP2SDBR0250	2.5	5	5	10	4.90	80	6	2	★	1
MP2SDBR0300	3	6	12	18	5.85	80	6	2	★	2
MP2SDBR0300A120	3	6	12	18	5.85	120	6	2	★	2
MP2SDBR0400	4	8	14	24	7.85	90	8	2	★	2
MP2SDBR0400A130	4	8	14	24	7.85	130	8	2	★	2
MP2SDBR0500	5	10	18	30	9.70	100	10	2	★	2
MP2SDBR0500A140	5	10	18	30	9.70	140	10	2	★	2
MP2SDBR0600	6	12	22	36	11.70	110	12	2	★	2
MP2SDBR0600A140	6	12	22	36	11.70	140	12	2	★	2

SCHNITTTDATENEMPFEHLUNGEN

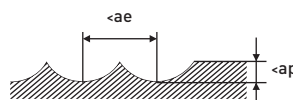
AUSKRAGUNG UNTER 5xDC (DC:DURCHM.)

Material	P						H					
	C-Stahl, legierter Stahl, Legierter Werkzeugstahl, Werkzeugstahl, Vergüteter Stahl						Gehärteter Stahl (45 – 55 HRC)					
	$\alpha < 15^\circ$		$\alpha > 15^\circ$		ap (mm)	ae (mm)	$\alpha < 15^\circ$		$\alpha > 15^\circ$		ap (mm)	ae (mm)
RE (mm)	n (min ⁻¹)	Vf (mm/min)	n (min ⁻¹)	Vf (mm/min)			n (min ⁻¹)	Vf (mm/min)	n (min ⁻¹)	Vf (mm/min)		
R 0.5	40.000	3.900	36.000	2.100	0.1	0.25	40.000	4.300	36.000	2.200	0.1	0.25
R 0.75	40.000	4.200	36.000	2.600	0.15	0.35	40.000	4.700	36.000	2.700	0.15	0.35
R 1	40.000	4.500	36.000	3.100	0.2	0.5	40.000	5.000	36.000	3.300	0.2	0.5
R 1.5	37.000	5.300	24.000	2.700	0.3	0.75	37.000	5.800	24.000	2.800	0.3	0.75
R 2x4	24.000	3.200	15.000	2.000	0.25	0.7	19.000	2.800	13.000	1.600	0.25	0.7
R 2	30.000	4.900	19.000	2.500	0.4	1	28.000	5.000	19.000	2.400	0.4	1
R 2.5	25.000	4.500	16.000	2.300	0.5	1.3	22.000	4.200	16.000	2.200	0.5	1.25
R 3	22.000	4.300	14.000	2.200	0.6	1.8	18.000	3.800	12.000	1.800	0.6	1.5
R 4	19.000	3.900	12.000	2.000	0.8	2.4	15.000	3.200	9.500	1.600	0.8	2
R 5	15.000	3.300	9.500	1.800	1	3	11.000	2.500	7.000	1.400	1	2.5
R 6	12.000	2.550	8.000	1.600	1.2	3.6	9.000	2.000	6.000	1.300	1.2	3

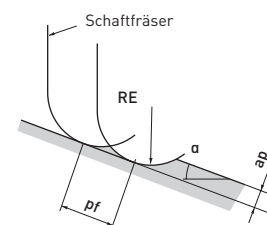


AUSKRAGUNG UNTER 7xDC (DC:DURCHM.)

Material	P						H					
	C-Stahl, legierter Stahl, Legierter Werkzeugstahl, Werkzeugstahl, Vergüteter Stahl						Gehärteter Stahl (45 – 55 HRC)					
	$\alpha < 15^\circ$		$\alpha > 15^\circ$		ap (mm)	ae (mm)	$\alpha < 15^\circ$		$\alpha > 15^\circ$		ap (mm)	ae (mm)
RE (mm)	n (min ⁻¹)	Vf (mm/min)	n (min ⁻¹)	Vf (mm/min)			n (min ⁻¹)	Vf (mm/min)	n (min ⁻¹)	Vf (mm/min)		
R 3	10.000	1.500	6.900	1.000	0.2	1	8.000	1.400	5.300	770	0.2	0.8
R 4	8.000	1.400	5.600	900	0.3	1.5	6.400	1.300	4.000	650	0.3	1.2
R 5	6.000	1.200	4.100	740	0.4	2	4.800	1.100	3.200	580	0.4	1.6
R 6	5.000	1.000	3.400	600	0.45	2.4	4.000	900	2.700	490	0.45	2



1. α ist der Anstellwinkel zur Bearbeitungsfläche.
2. Bei geringeren Schnitttiefen als in dieser Tabelle angegeben können Drehzahl und Vorschub erhöht werden.
3. Falls die Stabilität der Maschine oder der Werkstückbefestigung sehr gering ist oder Vibrationen auftreten, müssen Drehzahl und Vorschub entsprechend reduziert werden, oder es muss eine geringere Schnitttiefe eingestellt werden.



MP2XLB



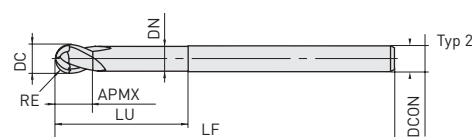
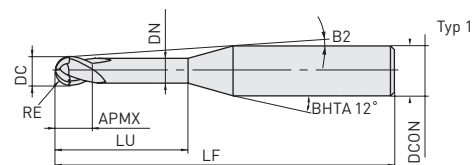
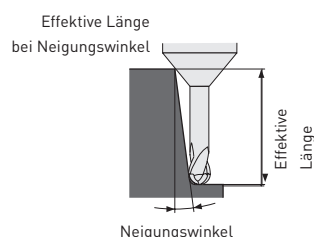
KUGELKOPFFRÄSER, KURZE SCHNEIDENLÄNGE, 2-SCHNEIDIG, LANGER HINTERSCHLIFF

P H N



R 0.05 < RE < 3
±0.005

h5 4 < DCON < 6
0
-0.005



2-schneidiger Kugelpkopfräser mit langem Hinterschliff. Ausgezeichnete Leistung beim Fräsen einer Vielzahl von Werkstückmaterialien wie C-Stahl, legierter Stahl und gehärteter Stahl.

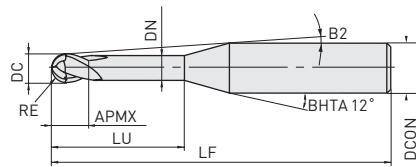
Bestellnummer	RE	DC	APMX	LU	DN	B2	LF	DCON	Schneiden	Lager	Typ	Effektive Länge bei Neigungswinkel			
												30°	1°	2°	3°
MP2XLBR0005N003	0.05	0.1	0.08	0.3	0.085	11.6°	50	4	2	★	1	0.3	0.3	0.4	0.4
MP2XLBR0005N005	0.05	0.1	0.08	0.5	0.085	11.4°	50	4	2	★	1	0.5	0.5	0.6	0.7
MP2XLBR0010N005	0.1	0.2	0.15	0.5	0.18	11.5°	50	4	2	★	1	0.5	0.5	0.6	0.7
MP2XLBR0010N008	0.1	0.2	0.15	0.75	0.18	11.2°	50	4	2	★	1	0.8	0.8	0.9	1.0
MP2XLBR0010N010	0.1	0.2	0.15	1	0.18	10.9°	50	4	2	★	1	1.0	1.1	1.2	1.3
MP2XLBR0010N013	0.1	0.2	0.15	1.25	0.18	10.6°	50	4	2	★	1	1.3	1.4	1.5	1.7
MP2XLBR0010N015	0.1	0.2	0.15	1.5	0.18	10.4°	50	4	2	★	1	1.6	1.6	1.8	2.0
MP2XLBR0010N018	0.1	0.2	0.15	1.75	0.18	10.2°	50	4	2	★	1	1.8	1.9	2.1	2.3
MP2XLBR0010N020	0.1	0.2	0.15	2	0.18	9.9°	50	4	2	★	1	2.1	2.2	2.4	2.6
MP2XLBR0010N025	0.1	0.2	0.15	2.5	0.18	9.5°	50	4	2	★	1	2.6	2.7	3.0	3.3
MP2XLBR0015N005	0.15	0.3	0.24	0.5	0.28	11.5°	50	4	2	★	1	0.5	0.5	0.6	0.6
MP2XLBR0015N008	0.15	0.3	0.24	0.75	0.28	11.2°	50	4	2	★	1	0.8	0.8	0.9	1.0
MP2XLBR0015N010	0.15	0.3	0.24	1	0.28	10.9°	50	4	2	●	1	1.0	1.1	1.2	1.3
MP2XLBR0015N010S06	0.15	0.3	0.24	1	0.28	11.3°	50	6	2	★	1	1.0	1.1	1.2	1.3
MP2XLBR0015N013	0.15	0.3	0.24	1.25	0.28	10.7°	50	4	2	★	1	1.3	1.4	1.5	1.6
MP2XLBR0015N013S06	0.15	0.3	0.24	1.25	0.28	11.1°	50	6	2	★	1	1.3	1.4	1.5	1.6
MP2XLBR0015N015	0.15	0.3	0.24	1.5	0.28	10.4°	50	4	2	★	1	1.6	1.6	1.8	2.0
MP2XLBR0015N015S06	0.15	0.3	0.24	1.5	0.28	10.9°	50	6	2	★	1	1.6	1.6	1.8	2.0
MP2XLBR0015N018	0.15	0.3	0.24	1.75	0.28	10.2°	50	4	2	★	1	1.8	1.9	2.1	2.3
MP2XLBR0015N020	0.15	0.3	0.24	2	0.28	9.9°	50	4	2	★	1	2.1	2.2	2.4	2.6
MP2XLBR0015N025	0.15	0.3	0.24	2.5	0.28	9.5°	50	4	2	★	1	2.6	2.7	3.0	3.3
MP2XLBR0015N030	0.15	0.3	0.24	3	0.28	9.1°	50	4	2	★	1	3.1	3.3	3.6	4.0
MP2XLBR0015N035	0.15	0.3	0.24	3.5	0.28	8.7°	50	4	2	★	1	3.7	3.8	4.2	4.6
MP2XLBR0015N040	0.15	0.3	0.24	4	0.28	8.4°	50	4	2	★	1	4.2	4.4	4.8	5.3
MP2XLBR0020N005	0.2	0.4	0.3	0.5	0.37	11.6°	50	4	2	★	1	0.5	0.5	0.5	0.6
MP2XLBR0020N008	0.2	0.4	0.3	0.75	0.37	11.3°	50	4	2	★	1	0.7	0.8	0.9	0.9

Bestellnummer	RE	DC	APMX	LU	DN	B2	LF	DCON	Schneiden	Lager	Typ	Effektive Länge bei Neigungswinkel			
												30°	1°	2°	3°
MP2XLBR0020N010	0.2	0.4	0.3	1	0.37	11°	50	4	2	●	1	1.0	1.1	1.2	1.3
MP2XLBR0020N010S06	0.2	0.4	0.3	1	0.37	11.3°	50	6	2	●	1	1.0	1.1	1.2	1.3
MP2XLBR0020N015	0.2	0.4	0.3	1.5	0.37	10.4°	50	4	2	★	1	1.5	1.6	1.7	1.9
MP2XLBR0020N020	0.2	0.4	0.3	2	0.37	9.9°	50	4	2	●	1	2.1	2.2	2.3	2.6
MP2XLBR0020N020S06	0.2	0.4	0.3	2	0.37	10.6°	50	6	2	★	1	2.1	2.2	2.3	2.6
MP2XLBR0020N025	0.2	0.4	0.3	2.5	0.37	9.5°	50	4	2	★	1	2.6	2.7	2.9	3.3
MP2XLBR0020N030	0.2	0.4	0.3	3	0.37	9.1°	50	4	2	★	1	3.1	3.2	3.5	3.9
MP2XLBR0020N035	0.2	0.4	0.3	3.5	0.37	8.7°	50	4	2	★	1	3.6	3.8	4.1	4.6
MP2XLBR0020N040	0.2	0.4	0.3	4	0.37	8.4°	50	4	2	★	1	4.2	4.3	4.7	5.2
MP2XLBR0020N045	0.2	0.4	0.3	4.5	0.37	8°	50	4	2	★	1	4.7	4.9	5.3	5.9
MP2XLBR0020N050	0.2	0.4	0.3	5	0.37	7.7°	50	4	2	★	1	5.2	5.4	5.9	6.6
MP2XLBR0020N055	0.2	0.4	0.3	5.5	0.37	7.5°	50	4	2	★	1	5.7	6.0	6.5	7.2
MP2XLBR0020N060	0.2	0.4	0.3	6	0.37	7.2°	50	4	2	●	1	6.2	6.5	7.1	7.9
MP2XLBR0025N010	0.25	0.5	0.37	1	0.47	11°	50	4	2	★	1	1.0	1.0	1.1	1.2
MP2XLBR0025N015	0.25	0.5	0.37	1.5	0.47	10.4°	50	4	2	●	1	1.5	1.6	1.7	1.9
MP2XLBR0025N015S06	0.25	0.5	0.37	1.5	0.47	11°	50	6	2	●	1	1.5	1.6	1.7	1.9
MP2XLBR0025N020	0.25	0.5	0.37	2	0.47	9.9°	50	4	2	●	1	2.1	2.1	2.3	2.6
MP2XLBR0025N020S06	0.25	0.5	0.37	2	0.47	10.6°	50	6	2	★	1	2.1	2.1	2.3	2.6
MP2XLBR0025N025	0.25	0.5	0.37	2.5	0.47	9.5°	50	4	2	●	1	2.6	2.7	2.9	3.2
MP2XLBR0025N025S06	0.25	0.5	0.37	2.5	0.47	10.3°	50	6	2	★	1	2.6	2.7	2.9	3.2
MP2XLBR0025N030	0.25	0.5	0.37	3	0.47	9.1°	50	4	2	★	1	3.1	3.2	3.5	3.9
MP2XLBR0025N030S06	0.25	0.5	0.37	3	0.47	10°	50	6	2	★	1	3.1	3.2	3.5	3.9
MP2XLBR0025N035	0.25	0.5	0.37	3.5	0.47	8.7°	50	4	2	★	1	3.6	3.8	4.1	4.6
MP2XLBR0025N040	0.25	0.5	0.37	4	0.47	8.3°	50	4	2	●	1	4.1	4.3	4.7	5.2
MP2XLBR0025N045	0.25	0.5	0.37	4.5	0.47	8°	50	4	2	★	1	4.7	4.9	5.3	5.9
MP2XLBR0025N050	0.25	0.5	0.37	5	0.47	7.7°	50	4	2	★	1	5.2	5.4	5.9	6.6
MP2XLBR0025N055	0.25	0.5	0.37	5.5	0.47	7.4°	50	4	2	★	1	5.7	6.0	6.5	7.2
MP2XLBR0025N060	0.25	0.5	0.37	6	0.47	7.2°	50	4	2	★	1	6.2	6.5	7.1	7.9
MP2XLBR0025N070	0.25	0.5	0.37	7	0.47	6.7°	50	4	2	★	1	7.3	7.6	8.3	9.2
MP2XLBR0025N080	0.25	0.5	0.37	8	0.47	6.3°	50	4	2	★	1	8.3	8.7	9.5	10.5
MP2XLBR0025N090	0.25	0.5	0.37	9	0.47	5.9°	50	4	2	★	1	9.4	9.8	10.7	11.9
MP2XLBR0025N100	0.25	0.5	0.37	10	0.47	5.6°	50	4	2	★	1	10.4	10.9	11.9	13.2
MP2XLBR0030N015	0.3	0.6	0.45	1.5	0.57	10.4°	50	4	2	●	1	1.5	1.6	1.8	2.0
MP2XLBR0030N015S06	0.3	0.6	0.45	1.5	0.57	11°	50	6	2	●	1	1.5	1.6	1.8	2.0
MP2XLBR0030N020	0.3	0.6	0.45	2	0.57	9.9°	50	4	2	●	1	2.1	2.2	2.4	2.6
MP2XLBR0030N020S06	0.3	0.6	0.45	2	0.57	10.6°	50	6	2	★	1	2.1	2.2	2.4	2.6
MP2XLBR0030N025	0.3	0.6	0.45	2.5	0.57	9.4°	50	4	2	★	1	2.6	2.7	3.0	3.3
MP2XLBR0030N030	0.3	0.6	0.45	3	0.57	9°	50	4	2	●	1	3.1	3.3	3.6	4.0
MP2XLBR0030N030S06	0.3	0.6	0.45	3	0.57	9.9°	50	6	2	★	1	3.1	3.3	3.6	4.0
MP2XLBR0030N035	0.3	0.6	0.45	3.5	0.57	8.6°	50	4	2	★	1	3.7	3.8	4.2	4.6
MP2XLBR0030N040	0.3	0.6	0.45	4	0.57	8.2°	50	4	2	●	1	4.2	4.4	4.8	5.3
MP2XLBR0030N040S06	0.3	0.6	0.45	4	0.57	9.3°	50	6	2	★	1	4.2	4.4	4.8	5.3
MP2XLBR0030N045	0.3	0.6	0.45	4.5	0.57	7.9°	50	4	2	★	1	4.7	4.9	5.4	5.9
MP2XLBR0030N050	0.3	0.6	0.45	5	0.57	7.6°	50	4	2	★	1	5.2	5.5	6.0	6.6
MP2XLBR0030N050S06	0.3	0.6	0.45	5	0.57	8.8°	50	6	2	★	1	5.2	5.5	6.0	6.6
MP2XLBR0030N055	0.3	0.6	0.45	5.5	0.57	7.3°	50	4	2	★	1	5.8	6.0	6.6	7.3
MP2XLBR0030N060	0.3	0.6	0.45	6	0.57	7.1°	50	4	2	★	1	6.3	6.6	7.2	7.9
MP2XLBR0030N060S06	0.3	0.6	0.45	6	0.57	8.3°	50	6	2	★	1	6.3	6.6	7.2	7.9
MP2XLBR0030N065	0.3	0.6	0.45	6.5	0.57	6.8°	50	4	2	★	1	6.8	7.1	7.8	8.6
MP2XLBR0030N070	0.3	0.6	0.45	7	0.57	6.6°	50	4	2	★	1	7.3	7.6	8.4	9.3
MP2XLBR0030N080	0.3	0.6	0.45	8	0.57	6.2°	50	4	2	★	1	8.4	8.7	9.6	10.6
MP2XLBR0030N080S06	0.3	0.6	0.45	8	0.57	7.6°	50	6	2	★	1	8.4	8.7	9.6	10.6
MP2XLBR0030N085	0.3	0.6	0.45	8.5	0.57	6°	50	4	2	★	1	8.9	9.3	10.2	11.3

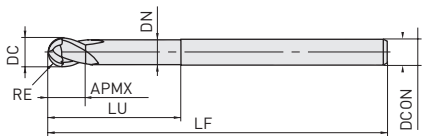
MP2XLB

P H N

Typ 1



Typ 2



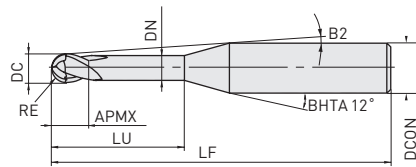
Bestellnummer	RE	DC	APMX	LU	DN	B2	LF	DCON	Schneiden	Lager	Typ	Effektive Länge bei Neigungswinkel			
												30°	1°	2°	3°
MP2XLB0030N090	0.3	0.6	0.45	9	0.57	5.8°	50	4	2	★	1	9.4	9.8	10.8	11.9
MP2XLB0030N095	0.3	0.6	0.45	9.5	0.57	5.7°	50	4	2	★	1	9.9	10.4	11.4	12.6
MP2XLB0030N100	0.3	0.6	0.45	10	0.57	5.5°	50	4	2	★	1	10.5	10.9	12.0	13.2
MP2XLB0030N110	0.3	0.6	0.45	11	0.57	5.2°	50	4	2	★	1	11.5	12.0	13.2	14.6
MP2XLB0030N120	0.3	0.6	0.45	12	0.57	5°	50	4	2	★	1	12.5	13.1	14.4	15.9
MP2XLB0040N020	0.4	0.8	0.6	2	0.77	9.9°	50	4	2	★	1	2.1	2.2	2.4	2.6
MP2XLB0040N020S06	0.4	0.8	0.6	2	0.77	10.6°	50	6	2	★	1	2.1	2.2	2.4	2.6
MP2XLB0040N024S06	0.4	0.8	0.6	2.4	0.77	10.3°	50	6	2	★	1	2.5	2.6	2.8	3.1
MP2XLB0040N030	0.4	0.8	0.6	3	0.77	8.9°	50	4	2	★	1	3.1	3.3	3.6	3.9
MP2XLB0040N030S06	0.4	0.8	0.6	3	0.77	9.9°	50	6	2	★	1	3.1	3.3	3.6	3.9
MP2XLB0040N040	0.4	0.8	0.6	4	0.77	8.2°	50	4	2	★	1	4.2	4.4	4.8	5.2
MP2XLB0040N040S06	0.4	0.8	0.6	4	0.77	9.3°	50	6	2	●	1	4.2	4.4	4.8	5.2
MP2XLB0040N050	0.4	0.8	0.6	5	0.77	7.5°	50	4	2	●	1	5.2	5.5	6.0	6.6
MP2XLB0040N060	0.4	0.8	0.6	6	0.77	6.9°	50	4	2	★	1	6.3	6.5	7.2	7.9
MP2XLB0040N070	0.4	0.8	0.6	7	0.77	6.5°	50	4	2	●	1	7.3	7.6	8.4	9.2
MP2XLB0040N080	0.4	0.8	0.6	8	0.77	6°	50	4	2	★	1	8.4	8.7	9.5	10.6
MP2XLB0040N090	0.4	0.8	0.6	9	0.77	5.7°	50	4	2	★	1	9.4	9.8	10.7	11.9
MP2XLB0040N100	0.4	0.8	0.6	10	0.77	5.4°	50	4	2	★	1	10.5	10.9	11.9	13.2
MP2XLB0040N120	0.4	0.8	0.6	12	0.77	4.8°	50	4	2	★	1	12.5	13.1	14.3	15.9
MP2XLB0050N030	0.5	1	0.75	3	0.96	8.7°	50	4	2	●	1	3.2	3.4	3.7	4.1
MP2XLB0050N030S06	0.5	1	0.75	3	0.96	9.8°	50	6	2	★	1	3.2	3.4	3.7	4.1
MP2XLB0050N040	0.5	1	0.75	4	0.96	7.9°	50	4	2	●	1	4.3	4.5	4.9	5.4
MP2XLB0050N040S06	0.5	1	0.75	4	0.96	9.2°	50	6	2	●	1	4.3	4.5	4.9	5.4
MP2XLB0050N050	0.5	1	0.75	5	0.96	7.3°	50	4	2	●	1	5.3	5.6	6.1	6.7
MP2XLB0050N050S06	0.5	1	0.75	5	0.96	8.6°	50	6	2	●	1	5.3	5.6	6.1	6.7
MP2XLB0050N060	0.5	1	0.75	6	0.96	6.7°	50	4	2	●	1	6.4	6.7	7.3	8.1
MP2XLB0050N060S06	0.5	1	0.75	6	0.96	8.2°	50	6	2	●	1	6.4	6.7	7.3	8.1
MP2XLB0050N070	0.5	1	0.75	7	0.96	6.2°	50	4	2	●	1	7.4	7.8	8.5	9.4
MP2XLB0050N080	0.5	1	0.75	8	0.96	5.8°	50	4	2	●	1	8.5	8.9	9.7	10.7
MP2XLB0050N080S06	0.5	1	0.75	8	0.96	7.3°	50	6	2	●	1	8.5	8.9	9.7	10.7
MP2XLB0050N090	0.5	1	0.75	9	0.96	5.5°	50	4	2	●	1	9.5	10.0	10.9	12.0
MP2XLB0050N100	0.5	1	0.75	10	0.96	5.1°	50	4	2	●	1	10.6	11.1	12.1	13.4
MP2XLB0050N100S06	0.5	1	0.75	10	0.96	6.7°	60	6	2	★	1	10.6	11.1	12.1	13.4
MP2XLB0050N120	0.5	1	0.75	12	0.96	4.6°	50	4	2	●	1	12.7	13.2	14.5	16.0
MP2XLB0050N120S06	0.5	1	0.75	12	0.96	6.1°	60	6	2	★	1	12.7	13.2	14.5	16.0
MP2XLB0050N140	0.5	1	0.75	14	0.96	4.2°	55	4	2	★	1	14.8	15.4	16.9	18.7
MP2XLB0050N160	0.5	1	0.75	16	0.96	3.8°	55	4	2	★	1	16.9	17.6	19.3	21.3
MP2XLB0050N160S06	0.5	1	0.75	16	0.96	5.2°	65	6	2	★	1	16.9	17.6	19.3	21.3
MP2XLB0050N180	0.5	1	0.75	18	0.96	3.5°	55	4	2	★	1	18.9	19.8	21.7	24.0
MP2XLB0050N200	0.5	1	0.75	20	0.96	3.3°	55	4	2	★	1	21.0	22.0	24.1	26.6
MP2XLB0050N200S06	0.5	1	0.75	20	0.96	4.6°	65	6	2	★	1	21.0	22.0	24.1	26.6
MP2XLB0060N060	0.6	1.2	0.9	6	1.16	6.6°	50	4	2	★	1	6.4	6.7	7.3	8.0

Bestellnummer	RE	DC	APMX	LU	DN	B2	LF	DCON	Schneiden	Lager	Typ	Effektive Länge bei Neigungswinkel			
												30°	1°	2°	3°
MP2XLBR0060N060S06	0.6	1.2	0.9	6	1.16	8.1°	55	6	2	★	1	6.4	6.7	7.3	8.0
MP2XLBR0060N080	0.6	1.2	0.9	8	1.16	5.7°	50	4	2	★	1	8.5	8.9	9.7	10.7
MP2XLBR0060N080S06	0.6	1.2	0.9	8	1.16	7.3°	55	6	2	★	1	8.5	8.9	9.7	10.7
MP2XLBR0060N100	0.6	1.2	0.9	10	1.16	5°	50	4	2	★	1	10.6	11.0	12.1	13.3
MP2XLBR0060N100S06	0.6	1.2	0.9	10	1.16	6.6°	55	6	2	★	1	10.6	11.0	12.1	13.3
MP2XLBR0060N120	0.6	1.2	0.9	12	1.16	4.4°	50	4	2	★	1	12.7	13.2	14.5	16.0
MP2XLBR0060N120S06	0.6	1.2	0.9	12	1.16	6°	65	6	2	★	1	12.7	13.2	14.5	16.0
MP2XLBR0060N140	0.6	1.2	0.9	14	1.16	4°	55	4	2	★	1	14.8	15.4	16.9	18.7
MP2XLBR0060N160	0.6	1.2	0.9	16	1.16	3.7°	55	4	2	★	1	16.9	17.6	19.3	21.3
MP2XLBR0060N160S06	0.6	1.2	0.9	16	1.16	5.1°	65	6	2	★	1	16.9	17.6	19.3	21.3
MP2XLBR0060N180	0.6	1.2	0.9	18	1.16	3.4°	60	4	2	★	1	18.9	19.8	21.7	24.0
MP2XLBR0060N200	0.6	1.2	0.9	20	1.16	3.1°	60	4	2	★	1	21.0	21.9	24.0	26.6
MP2XLBR0060N240	0.6	1.2	0.9	24	1.16	2.7°	60	4	2	★	1	25.2	26.3	28.8	*
MP2XLBR0070N080	0.7	1.4	1.05	8	1.34	5.5°	50	4	2	★	1	8.4	8.8	9.6	10.6
MP2XLBR0070N120	0.7	1.4	1.05	12	1.34	4.3°	50	4	2	★	1	12.6	13.1	14.4	15.9
MP2XLBR0070N160	0.7	1.4	1.05	16	1.34	3.5°	50	4	2	★	1	16.8	17.5	19.2	21.2
MP2XLBR0075N030	0.75	1.5	1.1	3	1.44	8.6°	50	4	2	★	1	3.1	3.3	3.6	3.9
MP2XLBR0075N040	0.75	1.5	1.1	4	1.44	7.7°	50	4	2	★	1	4.2	4.4	4.8	5.2
MP2XLBR0075N060	0.75	1.5	1.1	6	1.44	6.3°	50	4	2	●	1	6.3	6.6	7.2	7.9
MP2XLBR0075N060S06	0.75	1.5	1.1	6	1.44	8°	50	6	2	●	1	6.3	6.6	7.2	7.9
MP2XLBR0075N080	0.75	1.5	1.1	8	1.44	5.4°	50	4	2	●	1	8.4	8.8	9.6	10.6
MP2XLBR0075N080S06	0.75	1.5	1.1	8	1.44	7.2°	60	6	2	●	1	8.4	8.8	9.6	10.6
MP2XLBR0075N100	0.75	1.5	1.1	10	1.44	4.7°	50	4	2	●	1	10.5	11.0	12.0	13.2
MP2XLBR0075N100S06	0.75	1.5	1.1	10	1.44	6.5°	60	6	2	★	1	10.5	11.0	12.0	13.2
MP2XLBR0075N120	0.75	1.5	1.1	12	1.44	4.2°	50	4	2	●	1	12.6	13.1	14.4	15.9
MP2XLBR0075N120S06	0.75	1.5	1.1	12	1.44	5.9°	60	6	2	●	1	12.6	13.1	14.4	15.9
MP2XLBR0075N140	0.75	1.5	1.1	14	1.44	3.8°	55	4	2	●	1	14.7	15.3	16.8	18.5
MP2XLBR0075N160	0.75	1.5	1.1	16	1.44	3.4°	55	4	2	●	1	16.8	17.5	19.2	21.2
MP2XLBR0075N160S06	0.75	1.5	1.1	16	1.44	5°	60	6	2	★	1	16.8	17.5	19.2	21.2
MP2XLBR0075N180	0.75	1.5	1.1	18	1.44	3.1°	60	4	2	★	1	18.9	19.7	21.6	23.8
MP2XLBR0075N200	0.75	1.5	1.1	20	1.44	2.9°	60	4	2	★	1	21.0	21.9	23.9	*
MP2XLBR0075N220	0.75	1.5	1.1	22	1.44	2.7°	60	4	2	★	1	23.0	24.0	26.3	*
MP2XLBR0080N080	0.8	1.6	1.2	8	1.54	5.3°	55	4	2	★	1	8.4	8.8	9.6	10.5
MP2XLBR0080N120	0.8	1.6	1.2	12	1.54	4.1°	55	4	2	★	1	12.6	13.1	14.4	15.9
MP2XLBR0080N160	0.8	1.6	1.2	16	1.54	3.3°	55	4	2	★	1	16.8	17.5	19.1	21.2
MP2XLBR0080N200	0.8	1.6	1.2	20	1.54	2.8°	55	4	2	★	1	21.0	21.9	23.9	*
MP2XLBR0090N080	0.9	1.8	1.4	8	1.74	5.1°	55	4	2	★	1	8.4	8.8	9.6	10.5
MP2XLBR0090N120	0.9	1.8	1.4	12	1.74	3.9°	55	4	2	★	1	12.6	13.1	14.3	15.8
MP2XLBR0090N160	0.9	1.8	1.4	16	1.74	3.1°	55	4	2	●	1	16.8	17.5	19.1	21.1
MP2XLBR0090N200	0.9	1.8	1.4	20	1.74	2.6°	55	4	2	★	1	20.9	21.8	23.9	*
MP2XLBR0100N040	1	2	1.5	4	1.94	7.2°	50	4	2	★	1	4.2	4.4	4.7	5.2
MP2XLBR0100N040S06	1	2	1.5	4	1.94	9°	50	6	2	●	1	4.2	4.4	4.7	5.2
MP2XLBR0100N060	1	2	1.5	6	1.94	5.8°	50	4	2	●	1	6.3	6.6	7.1	7.8
MP2XLBR0100N060S06	1	2	1.5	6	1.94	7.8°	50	6	2	●	1	6.3	6.6	7.1	7.8
MP2XLBR0100N080	1	2	1.5	8	1.94	4.8°	50	4	2	●	1	8.4	8.8	9.5	10.5
MP2XLBR0100N080S06	1	2	1.5	8	1.94	6.9°	50	6	2	●	1	8.4	8.8	9.5	10.5
MP2XLBR0100N100	1	2	1.5	10	1.94	4.2°	50	4	2	●	1	10.5	10.9	11.9	13.1
MP2XLBR0100N100S06	1	2	1.5	10	1.94	6.2°	50	6	2	●	1	10.5	10.9	11.9	13.1
MP2XLBR0100N120	1	2	1.5	12	1.94	3.6°	50	4	2	●	1	12.6	13.1	14.3	15.8
MP2XLBR0100N120S06	1	2	1.5	12	1.94	5.6°	60	6	2	●	1	12.6	13.1	14.3	15.8
MP2XLBR0100N140	1	2	1.5	14	1.94	3.2°	55	4	2	●	1	14.7	15.3	16.7	18.4
MP2XLBR0100N140S06	1	2	1.5	14	1.94	5.1°	60	6	2	●	1	14.7	15.3	16.7	18.4
MP2XLBR0100N160	1	2	1.5	16	1.94	2.9°	55	4	2	●	1	16.8	17.5	19.1	*

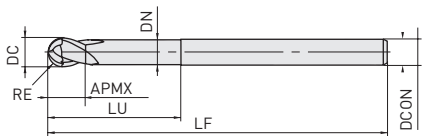
MP2XLB

P H N

Typ 1



Typ 2



Bestellnummer	RE	DC	APMX	LU	DN	B2	LF	DCON	Schneiden	Lager	Typ	Effektive Länge bei Neigungswinkel			
												30°	1°	2°	3°
MP2XLB0100N160S06	1	2	1.5	16	1.94	4.7°	65	6	2	●	1	16.8	17.5	19.1	21.1
MP2XLB0100N180	1	2	1.5	18	1.94	2.7°	55	4	2	★	1	18.9	19.7	21.5	*
MP2XLB0100N180S06	1	2	1.5	18	1.94	4.3°	65	6	2	★	1	18.9	19.7	21.5	23.8
MP2XLB0100N200	1	2	1.5	20	1.94	2.4°	65	4	2	●	1	20.9	21.8	23.9	*
MP2XLB0100N200S06	1	2	1.5	20	1.94	4°	65	6	2	●	1	20.9	21.8	23.9	26.4
MP2XLB0100N220	1	2	1.5	22	1.94	2.3°	65	4	2	★	1	23.0	24.0	26.3	*
MP2XLB0100N250	1	2	1.5	25	1.94	2°	65	4	2	★	1	26.2	27.3	*	*
MP2XLB0100N250S06	1	2	1.5	25	1.94	3.5°	90	6	2	●	1	26.2	27.3	29.9	33
MP2XLB0100N300	1	2	1.5	30	1.94	1.7°	80	4	2	★	1	31.4	32.7	*	*
MP2XLB0100N300S06	1	2	1.5	30	1.94	3°	90	6	2	★	1	31.4	32.7	35.9	*
MP2XLB0100N350	1	2	1.5	35	1.94	1.5°	80	4	2	★	1	36.6	38.2	*	*
MP2XLB0100N350S06	1	2	1.5	35	1.94	2.7°	90	6	2	★	1	36.6	38.2	41.8	*
MP2XLB0100N400	1	2	1.5	40	1.94	1.4°	80	4	2	★	1	41.8	43.6	*	*
MP2XLB0100N400S06	1	2	1.5	40	1.94	2.4°	90	6	2	★	1	41.8	43.6	47.8	*
MP2XLB0125N100	1.25	2.5	1.9	10	2.4	3.5°	55	4	2	★	1	10.4	10.8	11.8	12.9
MP2XLB0125N150	1.25	2.5	1.9	15	2.4	2.5°	55	4	2	★	1	15.6	16.3	17.8	*
MP2XLB0125N200	1.25	2.5	1.9	20	2.4	2°	55	4	2	★	1	20.8	21.7	*	*
MP2XLB0125N250	1.25	2.5	1.9	25	2.4	1.6°	70	4	2	★	1	26.1	27.2	*	*
MP2XLB0125N300	1.25	2.5	1.9	30	2.4	1.4°	70	4	2	★	1	31.3	32.6	*	*
MP2XLB0125N350	1.25	2.5	1.9	35	2.4	1.2°	70	4	2	★	1	36.5	38.1	*	*
MP2XLB0150N060S03	1.5	3	2.3	6	2.9	-	60	3	2	★	1	*	*	*	*
MP2XLB0150N080	1.5	3	2.3	8	2.9	6.3°	60	6	2	●	1	8.3	8.6	9.3	10.2
MP2XLB0150N100	1.5	3	2.3	10	2.9	5.5°	60	6	2	●	1	10.4	10.8	11.7	12.9
MP2XLB0150N120	1.5	3	2.3	12	2.9	4.9°	60	6	2	●	1	12.5	13.0	14.1	15.5
MP2XLB0150N140	1.5	3	2.3	14	2.9	4.4°	60	6	2	●	1	14.6	15.2	16.5	18.2
MP2XLB0150N160	1.5	3	2.3	16	2.9	4°	70	6	2	●	1	16.7	17.3	18.9	20.8
MP2XLB0150N200	1.5	3	2.3	20	2.9	3.4°	70	6	2	●	1	20.8	21.7	23.7	26.1
MP2XLB0150N250	1.5	3	2.3	25	2.9	2.8°	70	6	2	●	1	26.1	27.2	29.7	*
MP2XLB0150N300	1.5	3	2.3	30	2.9	2.5°	70	6	2	★	1	31.3	32.6	35.7	*
MP2XLB0150N350	1.5	3	2.3	35	2.9	2.2°	90	6	2	★	1	36.5	38.0	41.7	*
MP2XLB0150N400	1.5	3	2.3	40	2.9	1.9°	90	6	2	★	1	41.7	43.5	*	*
MP2XLB0175N150	1.75	3.5	2.6	15	3.4	3.8°	65	6	2	★	1	15.6	16.2	17.7	19.4
MP2XLB0175N250	1.75	3.5	2.6	25	3.4	2.5°	65	6	2	★	1	26.0	27.1	29.6	*
MP2XLB0175N350	1.75	3.5	2.6	35	3.4	1.9°	90	6	2	★	1	36.5	38.0	*	*
MP2XLB0175N450	1.75	3.5	2.6	45	3.4	1.5°	90	6	2	★	1	46.9	48.9	*	*
MP2XLB0200N080S04	2	4	3	8	3.9	-	65	4	2	★	1	*	*	*	*
MP2XLB0200N100	2	4	3	10	3.9	4.5°	65	6	2	●	1	10.4	10.8	11.6	12.7
MP2XLB0200N120	2	4	3	12	3.9	3.9°	65	6	2	●	1	12.5	12.9	14.0	15.4
MP2XLB0200N140	2	4	3	14	3.9	3.4°	65	6	2	●	1	14.6	15.1	16.4	18.0
MP2XLB0200N160	2	4	3	16	3.9	3.1°	70	6	2	●	1	16.6	17.3	18.8	20.7
MP2XLB0200N200	2	4	3	20	3.9	2.6°	70	6	2	●	1	20.8	21.7	23.6	*
MP2XLB0200N250	2	4	3	25	3.9	2.1°	70	6	2	●	1	26.0	27.1	29.6	*

Bestellnummer	RE	DC	APMX	LU	DN	B2	LF	DCON	Schneiden	Lager	Typ	Effektive Länge bei Neigungswinkel			
												30°	1°	2°	3°
MP2XLBR0200N300	2	4	3	30	3.9	1.8°	80	6	2	●	1	31.2	32.6	*	*
MP2XLBR0200N350	2	4	3	35	3.9	1.6°	80	6	2	●	1	36.5	38.0	*	*
MP2XLBR0200N400	2	4	3	40	3.9	1.4°	90	6	2	★	1	41.7	43.5	*	*
MP2XLBR0200N450	2	4	3	45	3.9	1.2°	90	6	2	★	1	46.9	48.9	*	*
MP2XLBR0200N500	2	4	3	50	3.9	1.1°	100	6	2	★	1	52.1	54.3	*	*
MP2XLBR0250N150	2.5	5	3.8	15	4.9	2°	70	6	2	★	1	15.6	16.2	*	*
MP2XLBR0250N200	2.5	5	3.8	20	4.9	1.5°	70	6	2	●	1	20.8	21.6	*	*
MP2XLBR0250N250	2.5	5	3.8	25	4.9	1.2°	70	6	2	●	1	26.0	27.1	*	*
MP2XLBR0250N300	2.5	5	3.8	30	4.9	1°	80	6	2	★	1	31.2	*	*	*
MP2XLBR0250N350	2.5	5	3.8	35	4.9	0.9°	80	6	2	★	1	36.4	*	*	*
MP2XLBR0250N400	2.5	5	3.8	40	4.9	0.8°	90	6	2	★	1	41.7	*	*	*
MP2XLBR0300N200	3	6	6	20	5.85	–	70	6	2	●	2	*	*	*	*
MP2XLBR0300N250	3	6	6	25	5.85	–	70	6	2	★	2	*	*	*	*
MP2XLBR0300N300	3	6	6	30	5.85	–	80	6	2	●	2	*	*	*	*
MP2XLBR0300N400	3	6	6	40	5.85	–	90	6	2	★	2	*	*	*	*
MP2XLBR0300N500	3	6	6	50	5.85	–	100	6	2	★	2	*	*	*	*

* Keine Interferenz

MP2XLB

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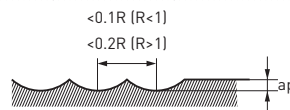
		P			H			N		
Material		C-Stahl, legierter Stahl, legierter Werkzeugstahl, vergüteter Stahl, Ausscheidungsgehärteter, rostfreier Stahl			Gehärteter Stahl (45 – 55 HRC)			Kupfer, Kupferlegierungen		
RE (mm)	LU (mm)	n (min ⁻¹)	Vf (mm/min)	ap (mm)	n (min ⁻¹)	Vf (mm/min)	ap (mm)	n (min ⁻¹)	Vf (mm/min)	ap (mm)
0.05	0.3	50.000	200	0.002	50.000	200	0.002	50.000	200	0.004
	0.5	50.000	200	0.001	50.000	200	0.002	50.000	200	0.002
	0.5	50.000	400	0.003	50.000	320	0.003	50.000	320	0.006
0.1	1	50.000	400	0.002	50.000	320	0.002	50.000	320	0.004
	1.5	40.000	300	0.001	40.000	240	0.001	40.000	240	0.002
	2	40.000	200	0.001	40.000	160	0.001	40.000	160	0.002
	2.5	40.000	100	0.001	40.000	80	0.001	40.000	80	0.002
	1	50.000	600	0.007	50.000	480	0.007	50.000	480	0.014
0.15	1.5	50.000	600	0.005	50.000	480	0.005	50.000	480	0.01
	2	50.000	600	0.003	50.000	480	0.003	50.000	480	0.006
	2.5	40.000	400	0.003	40.000	320	0.003	40.000	320	0.006
	3	40.000	300	0.002	40.000	240	0.002	40.000	240	0.004
	3.5	30.000	250	0.002	30.000	200	0.002	30.000	200	0.004
	4	30.000	200	0.002	30.000	160	0.002	30.000	160	0.004
0.2	1	50.000	1.800	0.015	50.000	1.400	0.015	50.000	1.400	0.03
	2	50.000	1.300	0.01	50.000	1.000	0.01	50.000	1.000	0.02
	3	50.000	900	0.005	50.000	700	0.005	50.000	700	0.01
	4	40.000	600	0.004	40.000	480	0.004	40.000	480	0.008
	5	40.000	400	0.003	40.000	320	0.003	40.000	320	0.006
	6	30.000	200	0.002	30.000	160	0.002	30.000	160	0.004
0.25	2	50.000	2.500	0.02	50.000	2.000	0.02	50.000	2.000	0.04
	3	50.000	1.500	0.015	50.000	1.200	0.015	50.000	1.200	0.03
	4	45.000	1.200	0.01	45.000	950	0.01	45.000	950	0.02
	5	45.000	900	0.007	45.000	700	0.007	45.000	700	0.014
	6	36.000	600	0.006	36.000	480	0.006	36.000	480	0.012
	7	32.000	400	0.005	32.000	320	0.005	32.000	320	0.01
	8	32.000	300	0.003	32.000	240	0.003	32.000	240	0.006
	10	26.000	200	0.002	26.000	160	0.002	26.000	160	0.004
0.3	2	50.000	3.500	0.03	50.000	2.800	0.03	50.000	2.800	0.06
	3	50.000	3.500	0.03	50.000	2.800	0.03	50.000	2.800	0.06
	4	44.000	2.500	0.02	44.000	2.000	0.02	44.000	2.000	0.04
	5	37.000	1.200	0.01	37.000	950	0.01	37.000	950	0.02
	6	37.000	1.000	0.008	37.000	800	0.008	37.000	800	0.016
	7	35.000	750	0.008	35.000	600	0.008	35.000	600	0.016
	8	35.000	600	0.006	35.000	480	0.006	35.000	480	0.012
	9	30.000	500	0.004	30.000	400	0.004	30.000	400	0.008
	10	30.000	500	0.003	30.000	400	0.003	30.000	400	0.006
	11	22.000	300	0.002	22.000	240	0.002	22.000	240	0.004
	12	22.000	200	0.002	22.000	160	0.002	22.000	160	0.004
	2	50.000	4.400	0.04	50.000	3.500	0.04	50.000	3.500	0.08
0.4	3	50.000	4.000	0.04	50.000	3.200	0.04	50.000	3.200	0.08
	4	50.000	4.000	0.02	50.000	3.200	0.02	50.000	3.200	0.04
	5	35.000	2.400	0.02	35.000	1.900	0.02	35.000	1.900	0.04
	6	35.000	2.400	0.02	35.000	1.900	0.02	35.000	1.900	0.04
	7	30.000	1.500	0.015	30.000	1.200	0.015	30.000	1.200	0.03
	8	30.000	1.500	0.01	30.000	1.200	0.01	30.000	1.200	0.02
	10	30.000	700	0.008	30.000	560	0.008	30.000	560	0.016
	12	22.000	500	0.006	22.000	400	0.006	22.000	400	0.012

		P			H			N		
Material		C-Stahl, legierter Stahl, legierter Werkzeugstahl, vergüteter Stahl, Ausscheidungsgehärteter, rostfreier Stahl			Gehärteter Stahl (45 – 55 HRC)			Kupfer, Kupferlegierungen		
RE (mm)	LU (mm)	n (min ⁻¹)	Vf (mm/min)	ap (mm)	n (min ⁻¹)	Vf (mm/min)	ap (mm)	n (min ⁻¹)	Vf (mm/min)	ap (mm)
0.5	3	40.000	4.000	0.05	40.000	3.200	0.05	40.000	3.200	0.1
	4	40.000	4.000	0.05	40.000	3.200	0.05	40.000	3.200	0.1
	6	35.000	3.000	0.03	35.000	2.400	0.03	35.000	2.400	0.06
	8	30.000	2.000	0.02	30.000	1.600	0.02	30.000	1.600	0.04
	10	20.000	1.000	0.01	20.000	800	0.01	20.000	800	0.02
	12	20.000	1.000	0.01	20.000	800	0.01	20.000	800	0.02
	14	18.000	600	0.008	18.000	480	0.008	18.000	480	0.016
	16	18.000	500	0.008	18.000	400	0.008	18.000	400	0.016
	18	13.000	300	0.005	13.000	240	0.005	13.000	240	0.01
	20	13.000	250	0.005	13.000	200	0.005	13.000	200	0.01
0.6	6	40.000	4.400	0.04	40.000	3.500	0.04	40.000	3.500	0.08
	8	40.000	4.000	0.04	40.000	3.200	0.04	40.000	3.200	0.08
	10	27.000	1.900	0.02	27.000	1.500	0.02	27.000	1.500	0.04
	12	16.000	1.400	0.02	16.000	1.100	0.02	16.000	1.100	0.04
	18	15.000	700	0.008	15.000	560	0.008	15.000	560	0.016
	24	11.000	300	0.006	11.000	240	0.006	11.000	240	0.012
0.7	8	40.000	4.000	0.05	40.000	3.200	0.05	40.000	2.560	0.1
	12	26.000	2.000	0.04	26.000	1.600	0.04	26.000	1.280	0.08
	16	17.000	1.400	0.03	17.000	1.120	0.03	17.000	896	0.06
0.75	6	40.000	6.000	0.07	36.000	4.300	0.07	36.000	4.300	0.14
	8	40.000	6.000	0.07	36.000	4.300	0.07	36.000	4.300	0.14
	10	40.000	5.000	0.06	36.000	3.600	0.06	36.000	3.600	0.12
	12	32.000	3.400	0.04	29.000	2.400	0.04	29.000	2.400	0.08
	16	15.000	1.400	0.03	15.000	1.100	0.03	15.000	1.100	0.06
	20	12.000	900	0.02	12.000	720	0.02	12.000	720	0.04
0.8	30	9.000	400	0.01	9.000	320	0.01	9.000	320	0.02
	8	40.000	6.000	0.08	32.000	3.800	0.08	32.000	3.800	0.16
	12	36.000	4.500	0.06	29.000	2.800	0.06	29.000	2.800	0.12
	16	14.000	1.400	0.04	14.000	1.100	0.04	14.000	1.100	0.08
	20	12.000	1.000	0.03	12.000	800	0.03	12.000	800	0.06
0.9	8	40.000	6.600	0.09	32.000	4.200	0.09	32.000	4.200	0.18
	12	40.000	5.000	0.07	32.000	3.200	0.07	32.000	3.200	0.14
	16	28.000	2.800	0.04	22.000	1.800	0.04	22.000	1.800	0.08
	20	10.000	800	0.03	10.000	640	0.03	10.000	640	0.06
1	4	40.000	8.000	0.1	32.000	5.000	0.1	32.000	5.000	0.2
	6	40.000	8.000	0.1	32.000	5.000	0.1	32.000	5.000	0.2
	8	40.000	6.000	0.1	32.000	3.800	0.1	32.000	3.800	0.2
	10	40.000	5.000	0.08	32.000	3.200	0.08	32.000	3.200	0.16
	12	40.000	5.000	0.08	32.000	3.200	0.08	32.000	3.200	0.16
	16	32.000	3.500	0.05	26.000	2.200	0.05	26.000	2.200	0.1
	20	10.000	1.000	0.04	10.000	800	0.04	10.000	800	0.08
	25	10.000	1.000	0.04	10.000	800	0.04	10.000	800	0.08
	30	10.000	800	0.02	10.000	640	0.02	10.000	640	0.04
	35	10.000	600	0.02	10.000	480	0.02	10.000	480	0.04
	40	8.000	400	0.01	8.000	320	0.01	8.000	320	0.02

MP2XLB

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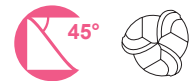
Material		P			H			N		
		C-Stahl, legierter Stahl, legierter Werkzeugstahl, vergüteter Stahl, Ausscheidungsgehärteter, rostfreier Stahl			Gehärteter Stahl (45—55 HRC)			Kupfer, Kupferlegierungen		
RE (mm)	LU (mm)	n (min ⁻¹)	Vf (mm/min)	ap (mm)	n (min ⁻¹)	Vf (mm/min)	ap (mm)	n (min ⁻¹)	Vf (mm/min)	ap (mm)
1.25	10	36.000	6.000	0.12	29.000	3.800	0.12	29.000	3.800	0.24
	15	32.000	4.500	0.1	26.000	2.900	0.1	26.000	2.900	0.2
	20	26.000	3.200	0.07	21.000	2.000	0.07	21.000	2.000	0.14
	25	12.000	1.400	0.06	8.000	720	0.06	8.000	720	0.12
	30	8.000	900	0.04	8.000	700	0.04	8.000	700	0.08
	35	8.000	800	0.02	8.000	640	0.02	8.000	510	0.04
1.5	6	32.000	7.000	0.15	26.000	4.500	0.15	22.000	3.800	0.3
	10	32.000	7.000	0.15	26.000	4.500	0.15	22.000	3.800	0.3
	16	32.000	5.000	0.1	26.000	3.200	0.1	22.000	2.700	0.2
	20	27.000	3.800	0.1	22.000	2.400	0.1	22.000	2.400	0.2
	25	21.000	2.700	0.08	17.000	1.700	0.08	17.000	1.700	0.16
	30	10.000	700	0.08	6.000	560	0.08	6.000	560	0.16
1.75	35	6.000	700	0.06	6.000	560	0.06	6.000	560	0.12
	40	6.000	600	0.04	6.000	480	0.04	6.000	480	0.08
	15	27.500	4.400	0.13	22.000	2.800	0.13	18.000	2.300	0.26
	25	23.000	3.600	0.1	18.000	2.200	0.1	18.000	2.200	0.2
	35	10.000	1.400	0.08	10.000	1.100	0.08	10.000	1.100	0.16
	45	7.500	900	0.04	7.500	720	0.04	7.500	720	0.08
2	10	24.000	6.000	0.2	19.000	3.800	0.2	16.000	3.200	0.4
	20	24.000	3.800	0.15	19.000	2.400	0.15	16.000	2.000	0.3
	30	20.000	3.000	0.1	16.000	1.900	0.1	16.000	1.900	0.2
	40	12.000	1.700	0.1	12.000	1.400	0.1	12.000	1.400	0.2
	50	8.000	1.000	0.05	8.000	800	0.05	8.000	800	0.1
2.5	20	22.000	6.000	0.2	18.000	3.800	0.2	13.000	2.800	0.4
	25	22.000	4.400	0.2	18.000	2.800	0.2	13.000	2.000	0.4
	30	22.000	3.800	0.15	18.000	2.400	0.15	13.000	1.700	0.3
	40	22.000	3.600	0.1	18.000	2.300	0.1	13.000	1.600	0.2
	20	20.000	6.000	0.2	16.000	3.800	0.2	11.000	2.600	0.4
3	30	20.000	6.000	0.2	16.000	3.800	0.2	11.000	2.600	0.4
	40	20.000	4.500	0.15	16.000	2.800	0.15	11.000	2.000	0.3
	50	20.000	3.000	0.15	16.000	1.900	0.15	11.000	1.300	0.3



1. Wenn der Neigungswinkel der Bearbeitungsfläche groß ist oder unter hohen Schnittlasten gearbeitet wird, wie in Ecken, müssen Drehzahl und Vorschub reduziert werden.
2. Die Verwendung von Ölnebel wird beim Fräsen mit kleinem Durchmesser empfohlen.
3. Bei geringen Schnitttiefen (ap) können Drehzahl und Vorschub erhöht werden.
4. Die Schnittbedingungen können sich aufgrund der Auskragung, der Schnitttiefe und des Werkzeugmaschinenzustands erheblich unterscheiden. Bitte nutzen Sie die obige Tabelle zu Referenzzwecken.
5. Benutzen Sie VF2XLB für gehärteten Stahl über 55 HRC.
6. Nutzen Sie für die Schnittbedingungen für austenitischen rostfreien Stahl und Titanlegierungen die Tabelle für Stahl mit hoher Härte (45-55 HRC), aber reduzieren Sie die Spindeldrehzahl um 40 % und die Vorschubgeschwindigkeit um 55 %.

NOTIZEN

MP3XB



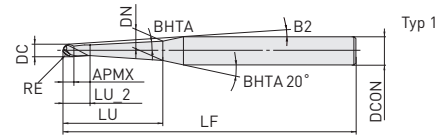
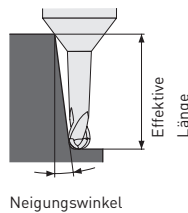
KUGELKOPFFRÄSER, 3-SCHNEIDIG, KONISCHER HINTERSCHLIFF

P H N

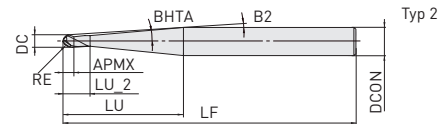


R	RE<3	4<RE
	±0.005	±0.010
h5	DCON = 6	DCON = 8
	0 - 0.005	0 - 0.006
h6	DCON = 10	12<DCON
	0 - 0.009	0 - 0.011

Effektive Auskrantung
bei Neigungswinkel



Typ 1



Typ 2

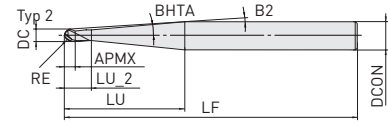
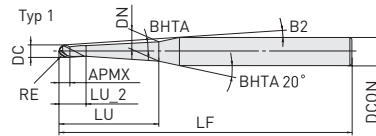
Ideal zum Schruppfräsen bei Anwendungen mit langer Auskrantung und zum Vorschlichten von Gesenken (40-50 HRC).

Die stabile Konstruktion mit großem Spiralwinkel und 3 Schneiden ermöglicht hohe Schnitttiefen und hohe Vorschubgeschwindigkeiten für erhöhte Bearbeitungseffizienz.

Bestellnummer	RE	DC	BHTA	APMX	LU	LU_2	B2	DN	LF	DCON	Schneiden	Lager	Typ	Effektive Auskrantung bei Neigungswinkel			
														30°	1°	2°	3°
MP3XBR0050N008T05	0.5	1	0.5°	0.8	8	2.3	9.3°	1.04	60	6	3	★	1	8.5	8.8	9.3	9.8
MP3XBR0050N012T05	0.5	1	0.5°	0.8	12	2.3	7.5°	1.1	60	6	3	★	1	12.6	13	13.6	14.4
MP3XBR0050N016T05	0.5	1	0.5°	0.8	16	2.3	6.3°	1.18	60	6	3	★	1	16.6	17.1	18	18.9
MP3XBR0050N020T05	0.5	1	0.5°	0.8	20	2.3	5.4°	1.24	60	6	3	★	1	20.6	21.2	22.3	23.5
MP3XBR0050N025T05	0.5	1	0.5°	0.8	25	2.3	4.6°	1.34	70	6	3	★	1	25.7	26.3	27.7	29.3
MP3XBR0050N030T05	0.5	1	0.5°	0.8	30	2.3	4°	1.42	70	6	3	★	1	30.7	31.5	33.1	35
MP3XBR0050N050T05	0.5	1	0.5°	0.8	50	2.3	2.6°	1.78	90	6	3	★	1	50.8	52.1	54.8	*
MP3XBR0050N010T10	0.5	1	1°	0.8	10	2.3	8.4°	1.2	60	6	3	★	1	-	10.6	11.2	11.8
MP3XBR0050N016T10	0.5	1	1°	0.8	16	2.3	6.4°	1.42	60	6	3	★	1	-	16.7	17.6	18.5
MP3XBR0050N020T10	0.5	1	1°	0.8	20	2.3	5.5°	1.56	60	6	3	★	1	-	20.7	21.8	23
MP3XBR0050N025T10	0.5	1	1°	0.8	25	2.3	4.7°	1.74	70	6	3	★	1	-	25.7	27.1	28.6
MP3XBR0050N030T10	0.5	1	1°	0.8	30	2.3	4.1°	1.9	70	6	3	★	1	-	30.8	32.4	34.2
MP3XBR0050N035T10	0.5	1	1°	0.8	35	2.3	3.6°	2.08	90	6	3	★	1	-	35.8	37.7	39.8
MP3XBR0050N050T10	0.5	1	1°	0.8	50	2.3	2.7°	2.6	90	6	3	★	1	-	50.9	53.6	*
MP3XBR0050N010T15	0.5	1	1.5°	0.8	10	2.3	8.5°	1.34	60	6	3	★	1	-	-	11	11.6
MP3XBR0050N016T15	0.5	1	1.5°	0.8	16	2.3	6.5°	1.66	60	6	3	★	1	-	-	17.2	18.1
MP3XBR0050N020T15	0.5	1	1.5°	0.8	20	2.3	5.6°	1.86	60	6	3	★	1	-	-	21.3	22.5
MP3XBR0050N023T15	0.5	1	1.5°	0.8	23	2.3	5°	2.02	70	6	3	★	1	-	-	24.4	25.7
MP3XBR0050N025T15	0.5	1	1.5°	0.8	25	2.3	4.7°	2.12	70	6	3	★	1	-	-	26.5	27.9
MP3XBR0050N010T30	0.5	1	3°	0.8	10	2.3	8.8°	1.74	60	6	3	★	1	-	-	-	10.8
MP3XBR0050N020T30	0.5	1	3°	0.8	20	2.3	5.9°	2.8	60	6	3	★	1	-	-	-	20.9
MP3XBR0050N030T30	0.5	1	3°	0.8	30	2.3	4.4°	3.84	70	6	3	★	1	-	-	-	31
MP3XBR0050N042T30	0.5	1	3°	0.8	42	2.3	3.4°	5.1	90	6	3	★	1	-	-	-	43
MP3XBR0050N025T50	0.5	1	5°	0.8	25	2.3	5.4°	4.92	60	6	3	★	1	-	-	-	-
MP3XBR0075N010T05	0.75	1.5	0.5°	1.2	10	2.7	7.8°	1.56	60	6	3	★	1	10.6	10.9	11.4	12
MP3XBR0075N016T05	0.75	1.5	0.5°	1.2	16	2.7	5.8°	1.68	60	6	3	★	1	16.6	17.1	17.9	18.9

Bestellnummer	RE	DC	BHTA	APMX	LU	LU_2	B2	DN	LF	DCON	Schneiden	Lager	Typ	Effektive Auskrugung bei Neigungswinkel			
														30°	1°	2°	3°
MP3XBR0075N020T05	0.75	1.5	0.5°	1.2	20	2.7	5°	1.74	60	6	3	★	1	20.6	21.2	22.3	23.5
MP3XBR0075N030T05	0.75	1.5	0.5°	1.2	30	2.7	3.7°	1.92	80	6	3	★	1	30.7	31.5	33.1	35
MP3XBR0075N010T10	0.75	1.5	1°	1.2	10	2.7	7.9°	1.7	60	6	3	★	1	-	10.6	11.2	11.8
MP3XBR0075N016T10	0.75	1.5	1°	1.2	16	2.7	5.9°	1.9	60	6	3	★	1	-	16.7	17.6	18.5
MP3XBR0075N020T10	0.75	1.5	1°	1.2	20	2.7	5.1°	2.04	60	6	3	★	1	-	20.7	21.8	23
MP3XBR0075N030T10	0.75	1.5	1°	1.2	30	2.7	3.7°	2.4	80	6	3	★	1	-	30.8	32.4	34.2
MP3XBR0075N010T15	0.75	1.5	1.5°	1.2	10	2.7	8°	1.82	60	6	3	★	1	-	-	11	11.6
MP3XBR0075N016T15	0.75	1.5	1.5°	1.2	16	2.7	6°	2.14	60	6	3	★	1	-	-	17.2	18.1
MP3XBR0075N020T15	0.75	1.5	1.5°	1.2	20	2.7	5.1°	2.34	60	6	3	★	1	-	-	21.3	22.5
MP3XBR0075N025T15	0.75	1.5	1.5°	1.2	25	2.7	4.4°	2.6	80	6	3	★	1	-	-	26.5	27.9
MP3XBR0075N030T15	0.75	1.5	1.5°	1.2	30	2.7	3.8°	2.86	80	6	3	★	1	-	-	31.6	33.4
MP3XBR0075N046T30	0.75	1.5	3°	1.2	46	2.7	2.9°	-	80	6	3	★	2	-	-	-	*
MP3XBR0100N016T05	1	2	0.5°	1.6	16	3.6	5.2°	2.12	60	6	3	★	1	17	17.6	18.6	19.5
MP3XBR0100N020T05	1	2	0.5°	1.6	20	3.6	4.5°	2.18	60	6	3	★	1	21.1	21.8	22.9	24.1
MP3XBR0100N030T05	1	2	0.5°	1.6	30	3.6	3.3°	2.36	70	6	3	★	1	31.1	32.1	33.7	35.6
MP3XBR0100N035T05	1	2	0.5°	1.6	35	3.6	2.9°	2.44	80	6	3	★	1	36.2	37.2	39.2	*
MP3XBR0100N040T05	1	2	0.5°	1.6	40	3.6	2.6°	2.54	80	6	3	★	1	41.2	42.4	44.6	*
MP3XBR0100N016T10	1	2	1°	1.6	16	3.6	5.3°	2.34	60	6	3	★	1	-	17.1	18.2	19.1
MP3XBR0100N020T10	1	2	1°	1.6	20	3.6	4.5°	2.48	60	6	3	★	1	-	21.2	22.4	23.6
MP3XBR0100N025T10	1	2	1°	1.6	25	3.6	3.8°	2.64	70	6	3	★	1	-	26.2	27.7	29.2
MP3XBR0100N030T10	1	2	1°	1.6	30	3.6	3.3°	2.82	70	6	3	★	1	-	31.3	33	34.8
MP3XBR0100N035T10	1	2	1°	1.6	35	3.6	3°	3	80	6	3	★	1	-	36.3	38.3	40.4
MP3XBR0100N040T10	1	2	1°	1.6	40	3.6	2.7°	3.18	80	6	3	★	1	-	41.3	43.6	*
MP3XBR0100N050T10	1	2	1°	1.6	50	3.6	2.2°	3.52	110	6	3	★	1	-	51.4	54.2	*
MP3XBR0100N070T10	1	2	1°	1.6	70	3.6	1.7°	4.22	110	6	3	★	1	-	71.5	*	*
MP3XBR0100N016T15	1	2	1.5°	1.6	16	3.6	5.4°	2.54	60	6	3	★	1	-	-	22.8	18.7
MP3XBR0100N020T15	1	2	1.5°	1.6	20	3.6	4.6°	2.76	60	6	3	★	1	-	-	21.9	23.1
MP3XBR0100N025T15	1	2	1.5°	1.6	25	3.6	3.9°	3.02	70	6	3	★	1	-	-	27.1	28.5
MP3XBR0100N030T15	1	2	1.5°	1.6	30	3.6	3.4°	3.28	70	6	3	★	1	-	-	32.2	34
MP3XBR0100N035T15	1	2	1.5°	1.6	35	3.6	3°	3.54	80	6	3	★	1	-	-	37.4	39.4
MP3XBR0100N040T15	1	2	1.5°	1.6	40	3.6	2.7°	3.8	80	6	3	★	1	-	-	42.6	*
MP3XBR0100N020T30	1	2	3°	1.6	20	3.6	4.8°	3.62	60	6	3	★	1	-	-	-	20.5
MP3XBR0100N030T30	1	2	3°	1.6	30	3.6	3.6°	4.66	70	6	3	★	1	-	-	-	30.6
MP3XBR0100N042T30	1	2	3°	1.6	42	3.6	2.8°	-	80	6	3	★	2	-	-	-	*
MP3XBR0100N027T50	1	2	5°	1.6	27	3.6	4.3°	-	60	6	3	★	2	-	-	-	-
MP3XBR0150N010T05	1.5	3	0.5°	2.4	10	5.4	5.7°	2.98	60	6	3	★	1	11	11.4	12	12.6
MP3XBR0150N020T05	1.5	3	0.5°	2.4	20	5.4	3.5°	3.16	60	6	3	★	1	21.1	21.8	22.9	24.1
MP3XBR0150N030T05	1.5	3	0.5°	2.4	30	5.4	2.6°	3.32	70	6	3	★	1	31.2	32.1	33.7	*
MP3XBR0150N040T05	1.5	3	0.5°	2.4	40	5.4	2°	3.5	80	6	3	★	1	41.3	42.4	44.6	*
MP3XBR0150N050T05	1.5	3	0.5°	2.4	50	5.4	1.7°	3.68	90	6	3	★	1	51.3	52.7	*	*
MP3XBR0150N020T10	1.5	3	1°	2.4	20	5.4	3.6°	3.4	60	6	3	★	1	-	21.3	22.4	23.6
MP3XBR0150N030T10	1.5	3	1°	2.4	30	5.4	2.6°	3.76	70	6	3	★	1	-	31.3	33	*
MP3XBR0150N035T10	1.5	3	1°	2.4	35	5.4	2.3°	3.94	80	6	3	★	1	-	36.4	38.3	*
MP3XBR0150N040T10	1.5	3	1°	2.4	40	5.4	2.1°	4.1	80	6	3	★	1	-	41.4	43.6	*
MP3XBR0150N050T10	1.5	3	1°	2.4	50	5.4	1.7°	4.46	90	6	3	★	1	-	51.5	*	*
MP3XBR0150N060T10	1.5	3	1°	2.4	60	5.4	1.5°	4.8	110	6	3	★	1	-	61.5	*	*
MP3XBR0150N070T10	1.5	3	1°	2.4	70	5.4	1.3°	5.16	110	6	3	★	1	-	71.6	*	*
MP3XBR0150N020T15	1.5	3	1.5°	2.4	20	5.4	3.7°	3.66	60	6	3	★	1	-	-	22	23.2
MP3XBR0150N030T15	1.5	3	1.5°	2.4	30	5.4	2.7°	4.18	70	6	3	★	1	-	-	32.3	*
MP3XBR0150N035T15	1.5	3	1.5°	2.4	35	5.4	2.4°	4.46	70	6	3	★	1	-	-	37.5	*
MP3XBR0150N040T15	1.5	3	1.5°	2.4	40	5.4	2.1°	4.72	80	6	3	★	1	-	-	42.6	*
MP3XBR0150N045T15	1.5	3	1.5°	2.4	45	5.4	1.9°	4.98	80	6	3	★	1	-	-	*	*
MP3XBR0150N052T15	1.5	3	1.5°	2.4	52	5.4	1.7°	5.34	90	6	3	★	1	-	-	*	*
MP3XBR0150N064T15	1.5	3	1.5°	2.4	64	5.4	1.4°	-	110	6	3	★	2	-	-	*	*

MP3XB



Bestellnummer	RE	DC	BHTA	APMX	LU	LU_2	B2	DN	LF	DCON	Schneiden	Lager	Typ	Effektive Auskragung bei Neigungswinkel			
														30°	1°	2°	3°
MP3XBR0150N025T30	1.5	3	3°	2.4	25	5.4	3.3°	4.96	60	6	3	★	1	-	-	-	26.8
MP3XBR0150N034T30	1.5	3	3°	2.4	34	5.4	2.6°	-	70	6	3	★	2	-	-	-	*
MP3XBR0150N040T30	1.5	3	3°	2.4	40	5.4	3.4°	6.52	90	8	3	★	1	-	-	-	41.9
MP3XBR0150N054T30	1.5	3	3°	2.4	54	5.4	2.7°	-	90	8	3	★	2	-	-	-	*
MP3XBR0200N030T05	2	4	0.5°	3.2	30	6.2	1.8°	4.32	70	6	3	★	1	31.2	32.1	*	*
MP3XBR0200N040T05	2	4	0.5°	3.2	40	6.2	1.4°	4.48	80	6	3	★	1	41.3	42.4	*	*
MP3XBR0200N060T05	2	4	0.5°	3.2	60	6.2	1°	4.84	100	6	3	★	1	61.4	63	*	*
MP3XBR0200N020T10	2	4	1°	3.2	20	6.2	2.6°	4.38	70	6	3	★	1	-	21.3	22.4	*
MP3XBR0200N030T10	2	4	1°	3.2	30	6.2	1.8°	4.74	70	6	3	★	1	-	31.4	*	*
MP3XBR0200N035T10	2	4	1°	3.2	35	6.2	1.6°	4.9	70	6	3	★	1	-	36.4	*	*
MP3XBR0200N040T10	2	4	1°	3.2	40	6.2	1.5°	5.08	80	6	3	★	1	-	41.4	*	*
MP3XBR0200N045T10	2	4	1°	3.2	45	6.2	1.3°	5.26	80	6	3	★	1	-	46.5	*	*
MP3XBR0200N066T10	2	4	1°	3.2	66	6.2	1°	-	100	6	3	★	2	-	*	*	*
MP3XBR0200N050T15	2	4	1.5°	3.2	50	6.2	2.2°	6.2	90	8	3	★	1	-	-	53	*
MP3XBR0200N084T15	2	4	1.5°	3.2	84	6.2	1.5°	-	120	8	3	★	2	-	-	*	*
MP3XBR0200N030T30	2	4	3°	3.2	30	6.2	3.6°	6.4	90	8	3	★	1	-	-	-	31.9
MP3XBR0200N045T30	2	4	3°	3.2	45	6.2	2.6°	-	90	8	3	★	2	-	-	-	*
MP3XBR0250N038T10	2.5	5	1°	4	38	7	0.8°	-	80	6	3	★	2	-	*	*	*
MP3XBR0250N050T10	2.5	5	1°	4	50	7	1.7°	6.4	90	8	3	★	1	-	51.5	*	*
MP3XBR0250N065T10	2.5	5	1°	4	65	7	1.4°	6.92	110	8	3	★	1	-	66.6	*	*
MP3XBR0250N066T15	2.5	5	1.5°	4	66	7	1.4°	-	110	8	3	★	2	-	-	*	*
MP3XBR0250N036T30	2.5	5	3°	4	36	7	2.4°	-	90	8	3	★	2	-	-	-	*
MP3XBR0300N040T10	3	6	1°	9	40	12	1.4°	6.82	80	8	3	★	1	-	41.8	*	*
MP3XBR0300N050T10	3	6	1°	9	50	12	1.2°	7.18	90	8	3	★	1	-	51.8	*	*
MP3XBR0300N073T10	3	6	1°	9	73	12	0.9°	-	110	8	3	★	2	-	*	*	*
MP3XBR0300N090T10	3	6	1°	9	90	12	1.3°	8.58	140	10	3	★	1	-	92	*	*
MP3XBR0300N053T15	3	6	1.5°	9	53	12	1.2°	-	90	8	3	★	2	-	-	*	*
MP3XBR0300N032T30	3	6	3°	9	32	12	1.9°	-	80	8	3	★	2	-	-	-	*
MP3XBR0400N050T10	4	8	1°	12	50	15	1.2°	9.08	110	10	3	★	1	-	51.9	*	*
MP3XBR0400N065T10	4	8	1°	12	65	15	1°	9.6	130	10	3	★	1	-	67	*	*
MP3XBR0400N076T10	4	8	1°	12	76	15	0.8°	-	130	10	3	★	2	-	*	*	*
MP3XBR0400N090T10	4	8	1°	12	90	15	1.3°	10.46	150	12	3	★	1	-	92.1	*	*
MP3XBR0400N040T15	4	8	1.5°	12	40	15	1.5°	9.16	90	10	3	★	1	-	-	*	*
MP3XBR0400N056T15	4	8	1.5°	12	56	15	1.1°	-	110	10	3	★	2	-	-	*	*
MP3XBR0400N035T30	4	8	3°	12	35	15	1.7°	-	90	10	3	★	2	-	-	-	*
MP3XBR0500N060T10	5	10	1°	15	60	25	1°	10.92	120	12	3	★	1	-	62.6	*	*
MP3XBR0500N070T10	5	10	1°	15	70	25	0.9°	11.28	120	12	3	★	1	-	*	*	*
MP3XBR0500N100T10	5	10	1°	15	100	25	1.7°	12.32	160	16	3	★	1	-	102.8	*	*
MP3XBR0500N050T15	5	10	1.5°	15	50	25	1.2°	11	100	12	3	★	1	-	-	*	*
MP3XBR0500N068T15	5	10	1.5°	15	68	25	0.9°	-	120	12	3	★	2	-	-	*	*
MP3XBR0500N046T30	5	10	3°	15	46	25	1.3°	-	100	12	3	★	2	-	-	-	*
MP3XBR0600N070T10	6	12	1°	18	70	28	1.6°	13.16	130	16	3	★	1	-	72.7	*	*
MP3XBR0600N100T10	6	12	1°	18	100	28	1.2°	14.22	160	16	3	★	1	-	102.9	*	*
MP3XBR0600N080T15	6	12	1.5°	18	80	28	1.5°	14.42	130	16	3	★	1	-	-	*	*
MP3XBR0600N069T30	6	12	3°	18	69	28	1.8°	-	130	16	3	★	2	-	-	-	*

* Keine Interferenz

SCHNITTDATENEMPFEHLUNGEN

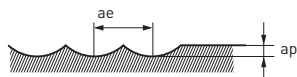
			P				H				N			
Material			C-Stahl, Gusseisen (180 – 280 HB) Werkzeugstahl (<350 HB) Vergüteter Stahl (35 – 45 HRC)				Gehärteter Stahl (45 – 55 HRC)				Kupfer, Kupferlegierungen			
RE (mm)	BHTA	LU (mm)	n (min ⁻¹)	Vf (mm/min)	ap (mm)	ae (mm)	n (min ⁻¹)	f (mm/min)	ap (mm)	ae (mm)	n (min ⁻¹)	f (mm/min)	ap (mm)	ae (mm)
R 0.5	0.5°	8	40.000	1.200	0.07	0.22	39.000	1.200	0.06	0.19	39.000	1.200	0.12	0.38
		12	40.000	1.200	0.06	0.19	39.000	1.200	0.05	0.16	39.000	1.200	0.1	0.32
		16	35.000	1.100	0.06	0.18	33.000	900	0.04	0.14	33.000	900	0.09	0.29
		20	32.000	960	0.05	0.14	29.000	800	0.04	0.11	29.000	800	0.07	0.22
		25	28.000	830	0.03	0.11	24.000	600	0.02	0.07	24.000	600	0.05	0.15
		30	24.000	720	0.03	0.1	21.000	450	0.02	0.06	21.000	450	0.04	0.13
	1°	50	10.000	300	0.003	0.015	11.000	150	0.003	0.015	11.000	150	0.006	0.019
		10	40.000	1.200	0.07	0.22	39.000	1.300	0.06	0.19	39.000	1.300	0.12	0.38
		16	35.000	1.100	0.06	0.18	33.000	1.000	0.05	0.14	33.000	1.000	0.09	0.29
		20	32.000	960	0.05	0.14	29.000	900	0.04	0.11	29.000	900	0.07	0.22
		25	28.000	830	0.04	0.11	24.000	700	0.03	0.08	24.000	700	0.05	0.16
		30	24.000	720	0.03	0.1	21.000	550	0.02	0.06	21.000	550	0.04	0.13
	1.5°	35	17.000	500	0.03	0.08	13.000	350	0.02	0.05	13.000	350	0.03	0.1
		50	10.000	300	0.003	0.015	11.000	250	0.003	0.015	11.000	250	0.006	0.019
		10	40.000	1.200	0.07	0.22	39.000	1.400	0.06	0.19	39.000	1.400	0.12	0.38
		16	35.000	1.100	0.06	0.18	33.000	1.100	0.05	0.14	33.000	1.100	0.09	0.29
		20	32.000	960	0.05	0.14	29.000	1000	0.04	0.11	29.000	1.000	0.07	0.22
		23	27.000	830	0.04	0.11	24.000	800	0.03	0.08	24.000	800	0.05	0.16
	3°	25	27.000	830	0.04	0.12	24.000	800	0.03	0.09	24.000	800	0.05	0.17
		10	40.000	1.200	0.07	0.22	39.000	1.500	0.06	0.19	39.000	1.500	0.12	0.38
		20	32.000	960	0.05	0.14	29.000	1.100	0.04	0.11	29.000	1.100	0.07	0.22
		30	22.000	660	0.03	0.1	19.000	700	0.02	0.06	19.000	700	0.04	0.13
R 0.75	0.5°	42	13.000	390	0.005	0.02	11.000	390	0.005	0.02	11.000	390	0.01	0.03
		25	32.000	960	0.04	0.11	29.000	1.000	0.03	0.08	29.000	1.000	0.05	0.16
		10	30.000	1.800	0.11	0.34	28.000	1.500	0.1	0.3	28.000	1.500	0.19	0.61
	1°	16	27.000	1.600	0.09	0.27	24.000	1.100	0.08	0.24	24.000	1.100	0.15	0.48
		20	26.000	1.500	0.08	0.24	24.000	1.100	0.07	0.21	24.000	1.100	0.13	0.42
		30	25.000	1.400	0.07	0.21	22.000	1.000	0.06	0.18	22.000	1.000	0.11	0.35
	1.5°	10	30.000	1.900	0.11	0.34	28.000	1.600	0.1	0.3	28.000	1.600	0.19	0.61
		16	26.000	1.600	0.09	0.27	24.000	1.200	0.08	0.24	24.000	1.200	0.15	0.48
		20	27.000	1.700	0.08	0.24	24.000	1.200	0.07	0.21	24.000	1.200	0.13	0.42
	3°	30	25.000	1.500	0.07	0.21	22.000	1.100	0.06	0.18	22.000	1.100	0.11	0.35
		10	30.000	1.900	0.11	0.34	28.000	1.700	0.1	0.3	28.000	1.700	0.19	0.61
		16	27.500	1.700	0.09	0.27	24.000	1.300	0.08	0.24	24.000	1.300	0.15	0.48
		20	26.500	1.700	0.08	0.24	24.000	1.300	0.07	0.21	24.000	1.300	0.13	0.42
		25	26.000	1.600	0.07	0.22	23.000	1.200	0.06	0.19	23.000	1.200	0.12	0.38
		30	25.000	1.500	0.07	0.21	22.000	1.100	0.06	0.18	22.000	1.100	0.11	0.35
	3°	46	15.000	450	0.05	0.16	14.000	800	0.04	0.13	14.000	800	0.08	0.26

MP3XB

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			P				H				N			
Material			C-Stahl, Gusseisen (180 – 280 HB), Werkzeugstahl (<350 HB), Vergüteter Stahl (35 – 45 HRC)				Gehärteter Stahl (45 – 55 HRC)				Kupfer, Kupferlegierungen			
RE (mm)	BHTA	LU (mm)	n (min ⁻¹)	Vf (mm/min)	ap (mm)	ae (mm)	n (min ⁻¹)	f (mm/min)	ap (mm)	ae (mm)	n (min ⁻¹)	f (mm/min)	ap (mm)	ae (mm)
R 1.0	0.5°	16	25.000	1.500	0.14	0.45	22.000	1.600	0.13	0.42	22.000	1.600	0.26	0.83
		20	23.000	1.400	0.1	0.3	20.000	1.400	0.09	0.27	20.000	1.400	0.17	0.54
		30	20.000	1.200	0.05	0.17	18.000	1.100	0.06	0.18	18.000	1.100	0.13	0.42
		35	19.000	1.100	0.05	0.15	17.000	1.000	0.05	0.16	17.000	1.000	0.12	0.38
		40	19.000	1.100	0.04	0.14	16.000	900	0.05	0.14	16.000	900	0.11	0.35
	1°	16	25.000	2.300	0.14	0.45	22.000	1.700	0.13	0.42	22.000	1.700	0.26	0.83
		20	23.000	2.100	0.1	0.3	20.000	1.500	0.09	0.27	20.000	1.500	0.17	0.54
		25	23.000	1.400	0.06	0.19	20.000	1.300	0.07	0.21	20.000	1.300	0.16	0.5
		30	20.000	1.200	0.05	0.17	18.000	1.200	0.06	0.18	18.000	1.200	0.13	0.42
		35	19.000	1.100	0.05	0.15	17.000	1.100	0.05	0.15	17.000	1.100	0.12	0.37
	1.5°	40	19.000	1.100	0.04	0.14	16.000	1.000	0.05	0.14	16.000	1.000	0.11	0.35
		50	17.000	900	0.03	0.09	15.000	900	0.03	0.08	15.000	900	0.06	0.19
		70	13.000	700	0.02	0.06	11.000	650	0.02	0.05	11.000	650	0.04	0.12
		16	25.000	2.300	0.14	0.45	22.000	1.800	0.13	0.42	22.000	1.800	0.26	0.83
		20	23.000	2.100	0.1	0.3	20.000	1.600	0.09	0.27	20.000	1.600	0.17	0.54
	3°	25	23.000	1.600	0.06	0.19	20.000	1.400	0.07	0.21	20.000	1.400	0.16	0.5
		30	20.000	1.200	0.05	0.17	18.000	1.300	0.06	0.18	18.000	1.300	0.13	0.42
		35	19.000	1.100	0.05	0.15	16.000	1.100	0.05	0.16	17.000	1.100	0.12	0.38
		40	19.000	1.100	0.04	0.14	16.000	1.000	0.05	0.14	16.000	1.000	0.11	0.35
		20	23.000	2.100	0.1	0.3	20.000	1.700	0.09	0.27	20.000	1.700	0.17	0.54
R 1.5	5°	30	18.000	1.600	0.08	0.26	16.000	1.300	0.07	0.22	16.500	1.300	0.14	0.45
		42	16.000	1.400	0.07	0.21	13.000	1.000	0.06	0.18	13.000	1.000	0.11	0.35
		27	18.000	2.200	0.09	0.29	17.000	1.900	0.08	0.26	17.000	1.900	0.16	0.51
		10	20.000	2.400	0.22	0.7	17.000	1.900	0.21	0.67	17.000	1.900	0.42	1.34
		20	17.000	2.000	0.2	0.64	15.000	1.600	0.19	0.61	15.000	1.600	0.38	1.22
	0.5°	30	16.000	1.700	0.14	0.45	13.000	1.400	0.13	0.42	13.000	1.400	0.26	0.83
		40	16.000	1.400	0.08	0.24	12.000	1.200	0.09	0.27	12.000	1.200	0.2	0.65
		50	13.000	1.100	0.06	0.2	11.000	1.100	0.07	0.22	11.000	1.100	0.17	0.54
		20	17.000	2.000	0.2	0.64	15.000	1.800	0.19	0.61	15.000	1.800	0.38	1.22
		30	17.000	1.900	0.14	0.45	13.000	1.500	0.13	0.42	13.000	1.500	0.26	0.83
	1°	35	16.000	1.700	0.08	0.26	13.000	1.500	0.09	0.29	13.000	1.500	0.22	0.69
		40	16.000	1.500	0.08	0.24	13.000	1.300	0.09	0.27	13.000	1.300	0.2	0.65
		50	13.000	1.200	0.06	0.2	11.000	1.100	0.07	0.22	11.000	1.100	0.17	0.54
		60	13.000	1.100	0.06	0.19	11.000	1.000	0.07	0.21	11.000	1.000	0.16	0.5
		70	10.000	800	0.05	0.17	9.000	700	0.06	0.18	9.000	700	0.13	0.42
	1.5°	20	17.000	2.000	0.2	0.64	15.000	1.900	0.19	0.61	15.000	1.900	0.38	1.22
		30	16.000	1.800	0.14	0.45	13.000	1.600	0.13	0.42	13.000	1.600	0.26	0.83
		35	15.000	1.700	0.08	0.26	12.000	1.400	0.09	0.29	12.000	1.400	0.22	0.69
		40	15.000	1.600	0.08	0.24	12.000	1.300	0.09	0.27	12.000	1.300	0.2	0.65
		45	13.000	1.400	0.07	0.22	11.000	1.300	0.08	0.24	11.000	1.300	0.18	0.58
	3°	52	13.000	1.300	0.06	0.2	11.000	1.100	0.07	0.22	11.000	1.100	0.17	0.54
		64	10.000	900	0.06	0.18	9.000	900	0.06	0.19	9.000	900	0.14	0.46
		25	16.000	2.400	0.16	0.51	13.000	1.900	0.15	0.48	13.000	1.900	0.3	0.96
		34	14.000	2.100	0.13	0.4	11.000	1.600	0.12	0.37	11.000	1.600	0.23	0.74
		40	14.000	1.700	0.12	0.37	11.000	1.400	0.11	0.34	11.000	1.400	0.21	0.67
		54	12.000	1.400	0.1	0.3	10.000	1.200	0.09	0.27	10.000	1.200	0.17	0.54

			P				H				N			
Material			C-Stahl, Gusseisen (180 – 280 HB), Werkzeugstahl (<350 HB), Vergüteter Stahl (35 – 45 HRC)				Gehärteter Stahl (45 – 55 HRC)				Kupfer, Kupferlegierungen			
RE (mm)	BHTA	LU (mm)	n (min ⁻¹)	Vf (mm/min)	ap (mm)	ae (mm)	n (min ⁻¹)	Vf (mm/min)	ap (mm)	ae (mm)	n (min ⁻¹)	Vf (mm/min)	ap (mm)	ae (mm)
R 2.0	0.5°	30	14.000	2.100	0.23	0.74	11.000	1.800	0.22	0.7	11.000	1.800	0.44	1.41
		40	12.000	1.800	0.19	0.61	10.000	1.600	0.18	0.58	10.000	1.600	0.36	1.15
		60	9.000	1.300	0.06	0.19	8.500	1.400	0.07	0.21	8.500	1.400	0.16	0.5
	1°	20	15.000	2.700	0.31	0.99	12.000	2.200	0.3	0.96	12.000	2.200	0.72	2.3
		30	14.000	2.100	0.23	0.74	11.000	1.800	0.22	0.7	11.000	1.800	0.53	1.69
		35	12.000	1.800	0.21	0.67	10.000	1.700	0.2	0.64	10.000	1.700	0.48	1.54
		40	12.000	1.700	0.19	0.61	10.000	1.600	0.18	0.58	10.000	1.600	0.43	1.38
		45	12.000	1.500	0.13	0.42	10.000	1.600	0.12	0.38	10.000	1.600	0.29	0.92
		66	9.000	1.100	0.08	0.24	8.500	1.300	0.07	0.21	8.500	1.300	0.16	0.5
	1.5°	50	12.000	2.200	0.11	0.35	10.000	1.700	0.1	0.32	10.000	1.700	0.24	0.77
		84	8.000	1.400	0.04	0.13	6.500	900	0.03	0.1	6.500	900	0.07	0.23
	3°	30	14.000	2.500	0.23	0.74	11.000	2.000	0.22	0.7	11.000	2.000	0.53	1.69
		45	11.000	1.900	0.16	0.51	9.000	1.600	0.15	0.48	9.000	1.600	0.36	1.15
R 2.5	1°	38	10.000	2.200	0.28	0.9	8.500	2.000	0.27	0.86	8.500	2.000	0.65	2.07
		50	9.000	1.900	0.24	0.77	8.000	1.800	0.23	0.74	8.000	1.800	0.55	1.77
		65	8.000	1.600	0.16	0.51	6.500	1.400	0.15	0.48	6.500	1.400	0.36	1.15
	1.5°	66	8.000	1.600	0.16	0.51	6.500	1.500	0.15	0.48	6.500	1.500	0.36	1.15
		3°	36	10.000	2.700	0.31	0.99	8.500	2.300	0.3	0.96	8.500	2.300	0.72
	R 3.0	1°	40	8.000	2.200	0.28	0.9	7.500	2.100	0.27	0.86	7.500	2.100	0.65
50			8.000	2.000	0.23	0.74	6.500	1.800	0.22	0.7	6.500	1.800	0.53	1.69
73			7.000	1.700	0.15	0.48	6.500	1.700	0.14	0.45	6.500	1.700	0.34	1.07
1.5°		90	6.500	1.500	0.09	0.29	6.000	1.300	0.08	0.26	6.000	1.300	0.19	0.61
		53	7.000	2.100	0.22	0.7	6.500	1.900	0.21	0.67	6.500	1.900	0.5	1.61
3°		32	9.000	2.400	0.35	1.12	8.000	2.200	0.34	1.09	8.000	2.200	0.82	2.61
R 4.0	1°	50	6.000	2.200	0.41	1.31	5.500	2.000	0.4	1.28	5.500	2.000	0.96	3.07
		65	6.000	2.000	0.36	1.15	5.200	1.700	0.35	1.12	5.200	1.700	0.84	2.69
		76	6.000	1.800	0.29	0.93	5.000	1.500	0.28	0.9	5.000	1.500	0.67	2.15
	1.5°	90	5.000	1.400	0.19	0.61	4.700	1.200	0.18	0.58	4.700	1.200	0.43	1.38
		40	6.000	2.300	0.46	1.47	5.800	2.200	0.45	1.44	5.800	2.200	1.08	3.46
	56	6.000	2.200	0.38	1.22	5.500	2.000	0.37	1.18	5.500	2.000	0.9	2.84	
3°	35	7.000	2.700	0.49	1.57	6.000	2.400	0.48	1.54	6.000	2.400	1.15	3.69	
R 5.0	1°	60	5.500	2.600	0.51	1.63	4.500	2.300	0.5	1.6	4.500	2.300	1.2	3.84
		70	5.500	2.600	0.46	1.47	4.500	2.200	0.45	1.44	4.500	2.200	1.08	3.46
		100	5.000	2.400	0.36	1.15	4.000	1.900	0.35	1.12	4.000	1.900	0.84	2.69
	1.5°	50	5.000	2.400	0.56	1.79	4.600	2.400	0.55	1.76	4.600	2.400	1.32	4.22
		68	5.000	2.400	0.49	1.57	4.600	2.300	0.48	1.54	4.600	2.300	1.15	3.69
	3°	46	5.000	2.400	0.69	2.21	4.800	2.500	0.68	2.18	4.800	2.500	1.63	5.22
R 6.0	1°	70	4.500	2.600	0.81	2.59	4.000	2.100	0.8	2.56	4.000	2.100	1.92	6.14
		100	4.000	2.200	0.61	1.95	3.500	1.800	0.6	1.92	3.500	1.800	1.44	4.61
	1.5°	80	5.000	2.300	0.71	2.27	4.000	2.000	0.7	2.24	4.000	2.000	1.68	5.38
		3°	69	5.000	2.700	0.81	2.59	4.000	2.200	0.8	2.56	4.000	2.200	1.92



1. Bei geringen Schnitttiefen können Drehzahl und Vorschub erhöht werden.
2. Falls die Stabilität der Maschine oder der Werkstückbefestigung sehr gering ist oder Vibrationen auftreten, müssen Drehzahl und Vorschub entsprechend reduziert werden.

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