NEW

Machining flow in cast iron

The new MaxiMill – S-Power face milling system unleashes the maximum number of teeth

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Glide through cast iron with the maximum number of teeth

MaxiMill – S-Power

Smooth cuts in cast materials

Cast iron machining can be tricky, with issues like heavy tool wear, extreme burr formation and fractures on workpiece edges potentially jeopardising efficiency.

Our new MaxiMill – S-Power sets new standards when it comes to face milling cast materials. With a high tooth count and double-sided indexable inserts, the system offers optimal performance and a highly stable, low-vibration construction. What's more, the innovative double wedge clamp also ensures that the indexable inserts are easy to use and securely attached in no time.

MaxiMill – S-Power unleashes the maximum number of teeth

The milling cutters in the MaxiMill – S-Power series boast an impressive number of cutting edges. But how does it all work? The **setting angle of 88°** enables a **high tooth count** and small chip spaces. **Double-sided indexable inserts** with eight actual cutting edges made from selected substrates and with DRAGONSKIN coatings ensure high performance with a **smooth cutting action**. The sturdy construction with **robust insert seat** and **double wedge clamp** guarantees a secure hold and **high axial and radial run-out accuracy**.

Why is the MaxiMill – S-Power the right solution for you?

Higher indexable insert strength compared to the competition	Provides exceptional removal rates
Feed reduction possible	Fractures on the casting wall avoided
Double wedge clamp as standard	Easy handling and quick insert changes
Positive cutting edge design	Prevents burr formation and fractures on workpiece edges
Maximum number of teeth on the milling cutter diameter	Highly cost-effective due to maximum speed
Peripherally ground indexable inserts	High axial and radial run-out accuracy
Asymmetrical insert seat	Reduces vibrations
Wear-resistant indexable insert grades with PVD or CVD coating	Long tool life

Machining flow in cast iron

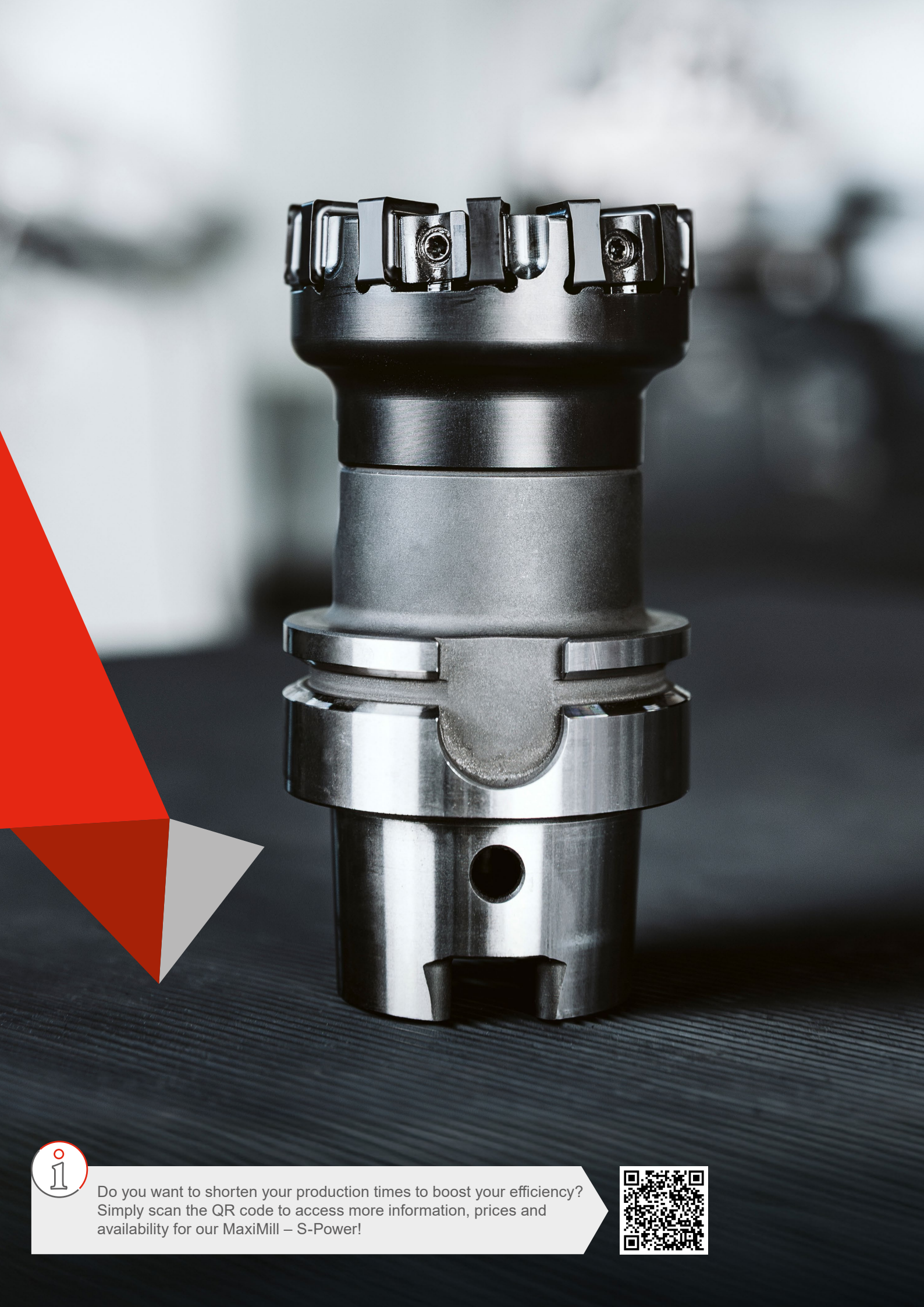
The MaxiMill – S-Power perfectly complements our face milling system portfolio and is a genuine pro when used on cast iron components made of GJS, GJV and GJL. The MaxiMill – S-Power milling cutters are available in standard diameters of Ø 56-125 mm.

A maximum depth of cut of around 8 mm and reduced feed rate values between 0.08 mm and 0.15 mm minimise fractures on the casting wall, while maintaining high efficiency thanks to the high number of teeth.

The setting angle of 88° permits this maximum number of cutting edges, and the peripherally ground indexable inserts provide close tolerances and high surface quality.

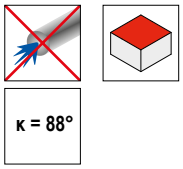
+

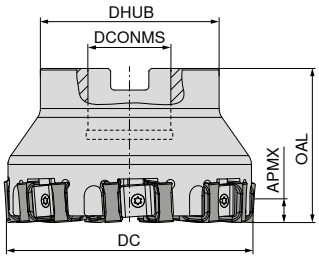
- ISO-P / ISO-K range of indexable inserts
- Cutting edge geometry M
- Corner radii of 0.4 mm, 0.8 mm and 1.2 mm
- Carbide grades CTPK220, CTCP230



Do you want to shorten your production times to boost your efficiency? Simply scan the QR code to access more information, prices and availability for our MaxiMill – S-Power!

MaxiMill – S-Power Face mills



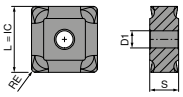


Designation	DC mm	ZNF	APMX mm	OAL mm	DCONMS $_{H6}$ mm	DHUB mm	torque moment Nm	Insert	50 687 ...
APOW.56.R.10-SN12	56	10	8	40	22	43	3,2	SNHF 12..	**05610**
APOW.63.R.12-SN12	63	12	8	40	22	48	3,2	SNHF 12..	**06312**
APOW.80.R.14-SN12	80	14	8	50	27	58	3,2	SNHF 12..	**08014**
APOW.100.R.18-SN12	100	18	8	50	32	78	3,2	SNHF 12..	**10018**
APOW.125.R.24-SN12	125	24	8	63	40	88	3,2	SNHF 12..	**12524**

	TORX® blade	 Clamping Wedge	Key D	 Molykote	 Torque screw-driver	 Differential screw
	80 950 ...	**70 950 ...**	**80 950 ...**	**70 950 ...**	**80 021 ...**	**70 950 ...**
Spare parts DC						
56	**054**	**94400**	**120**	**303**	**032**	**71400**
63	**054**	**94300**	**120**	**303**	**032**	**71400**
80	**054**	**94200**	**120**	**303**	**032**	**71400**
100	**054**	**94100**	**120**	**303**	**032**	**71400**
125	**054**	**94000**	**120**	**303**	**032**	**71400**

SNHF

Designation	IC	D1	L	S
	mm	mm	mm	mm
SNHF 1205..	12,7	3,3	12,7	5,56



SNHF

		-R30 CTPK220	-R30 CTCP230
		DRAGONSKIN	DRAGONSKIN
			
		SNHF	SNHF
		51 292 ...	**51 292 ...**
ISO	RE mm		
120504EN	0,4	**60400**	**00400**
120508EN	0,8	**60800**	**00800**
120512EN	1,2	**61200**	**01200**
P			●
M			
K		●	○
N			
S			
H			
O			

Material examples for cutting data tables

	Material sub-group	Index	Composition / Structure / Heat treatment		Tensile strength N/mm²* / HB / HRC	Material number	Material designation	Material number	Material designation
P	Unalloyed steel	P.1.1	< 0,15 % C	Annealed	420 N/mm² / 125 HB	1.0401	C15	1.1141	Ck15
		P.1.2	< 0,45 % C	Annealed	640 N/mm² / 190 HB	1.1191	C45E	1.0718	9SMnPb28
		P.1.3		Tempered	840 N/mm² / 250 HB	1.1191	C45E	1.0535	C55
		P.1.4	< 0,75 % C	Annealed	910 N/mm² / 270 HB	1.1223	C60R	1.0535	C55
		P.1.5		Tempered	1010 N/mm² / 300 HB	1.1223	C60R	1.0727	45S20
	Low-alloy steel	P.2.1		Annealed	610 N/mm² / 180 HB	1.7131	16MnCr5	1.6587	17CrNiMo6
		P.2.2		Tempered	930 N/mm² / 275 HB	1.7131	16MnCr5	1.6587	17CrNiMo6
		P.2.3		Tempered	1010 N/mm² / 300 HB	1.7225	42CrMo4	1.3505	100Cr6
		P.2.4		Tempered	1200 N/mm² / 375 HB	1.7225	42CrMo4	1.3505	100Cr6
	High-alloy steel and high-alloy tool steel	P.3.1		Annealed	680 N/mm² / 200 HB	1.4021	X20Cr13	1.4034	X46Cr13
		P.3.2		Hardened and tempered	1100 N/mm² / 300 HB	1.2343	X38CrMoV5-1	1.4034	X46Cr13
		P.3.3		Hardened and tempered	1300 N/mm² / 400 HB	1.2343	X38CrMoV5-1	1.4034	X46Cr13
	Stainless steel	P.4.1	Ferritic / martensitic	Annealed	680 N/mm² / 200 HB	1.4016	X6Cr17	1.2316	X36CrMo16
		P.4.2	Martensitic	Tempered	1010 N/mm² / 300 HB	1.4112	X90CrMoV18	1.2316	X36CrMo16
M	Stainless steel	M.1.1	Austenitic / austenitic-ferritic	Quenched	610 N/mm² / 180 HB	1.4301	X5CrNi18-10	1.4571	X6CrNiMoTi17-12-2
		M.2.1	Austenitic	Tempered	300 HB	1.4841	X15CrNiSi25-21	1.4539	X1NiCrMoCu25-20-5
		M.3.1	Austenitic / ferritic (Duplex)		780 N/mm² / 230 HB	1.4462	X2CrNiMoN22-5-3	1.4501	X2CrNiMoCuWN25-7-4
K	Grey cast iron	K.1.1	Pearlitic / ferritic		350 N/mm² / 180 HB	0.6010	GG-10	0.6025	GG-25
		K.1.2	Pearlitic (martensitic)		500 N/mm² / 260 HB	0.6030	GG-30	0.6045	GG-45
	Spherulitic graphite cast iron	K.2.1	Ferritic		540 N/mm² / 160 HB	0.7040	GGG-40	0.7060	GGG-60
		K.2.2	Pearlitic		845 N/mm² / 250 HB	0.7070	GGG-70	0.7080	GGG-80
	Malleable iron	K.3.1	Ferritic		440 N/mm² / 130 HB	0.8035	GTW-35-04	0.8045	GTW-45
		K.3.2	Pearlitic		780 N/mm² / 230 HB	0.8165	GTS-65-02	0.8170	GTS-70-02
N	Aluminium wrought alloy	N.1.1	Non-hardenable		60 HB	3.0255	Al99,5	3.3315	AlMg1
		N.1.2	Hardenable	Age-hardened	340 N/mm² / 100 HB	3.1355	AlCuMg2	3.2315	AlMgSi1
	Cast aluminium alloy	N.2.1	≤ 12 % Si, non-hardenable		250 N/mm² / 75 HB	3.2581	G-AlSi12	3.2163	G-AlSi9Cu3
		N.2.2	≤ 12 % Si, hardenable	Age-hardened	300 N/mm² / 90 HB	3.2134	G-AlSi5Cu1Mg	3.2373	G-AlSi9Mg
		N.2.3	> 12 % Si, non-hardenable		440 N/mm² / 130 HB		G-AlSi17Cu4Mg		G-AlSi18CuNiMg
	Copper and copper alloys (bronze/brass)	N.3.1	Free-machining alloys, PB > 1 %		375 N/mm² / 110 HB	2.0380	CuZn39Pb2 (Ms58)	2.0410	CuZn44Pb2
		N.3.2	CuZn, CuSnZn		300 N/mm² / 90 HB	2.0331	CuZn15	2.4070	CuZn28Sn1As
		N.3.3	CuSn, lead-free copper and electrolytic copper		340 N/mm² / 100 HB	2.0060	E-Cu57	2.0590	CuZn40Fe
	Magnesium alloys	N.4.1	Magnesium and magnesium alloys		70 HB	3.5612	MgAl6Zn	3.5312	MgAl3Zn
S	Heat-resistant alloys	S.1.1	Fe - basis	Annealed	680 N/mm² / 200 HB	1.4864	X12NiCrSi 36-16	1.4865	G-X40NiCrSi38-18
		S.1.2		Age-hardened	950 N/mm² / 280 HB	1.4980	X6NiCrTiMoVB25-15-2	1.4876	X10NiCrAlTi32-20
		S.2.1	Ni or Co basis	Annealed	840 N/mm² / 250 HB	2.4631	NiCr20TiAl (Nimonic80A)	3.4856	NiCr22Mo9Nb
		S.2.2		Age-hardened	1180 N/mm² / 350 HB	2.4668	NiCr19Nb5Mo3 (Inconel 718)	2.4955	NiFe25Cr20NbTi
		S.2.3		Cast	1080 N/mm² / 320 HB	2.4765	CoCr20W15Ni	1.3401	G-X120Mn12
	Titanium alloys	S.3.1	Pure titanium		400 N/mm²	3.7025	Ti99,8	3.7034	Ti99,7
		S.3.2	Alpha + beta alloys	Age-hardened	1050 N/mm² / 320 HB	3.7165	TiAl6V4	Ti-6246	Ti-6Al-2Sn-4Zr-6Mo
		S.3.3	Beta alloys		1400 N/mm² / 410 HB	Ti555.3	Ti-5Al-5V-5Mo-3Cr	R56410	Ti-10V-2Fe-3Al
H	Hardened steel	H.1.1		Hardened and tempered	46–55 HRC				
		H.1.2		Hardened and tempered	56–60 HRC				
		H.1.3		Hardened and tempered	61–65 HRC				
		H.1.4		Hardened and tempered	66–70 HRC				
	Chilled iron	H.2.1		Cast	400 HB				
	Hardened cast iron	H.3.1		Hardened and tempered	55 HRC				
O	Non-metal materials	O.1.1	Plastics, duroplastic		≤ 150 N/mm²				
		O.1.2	Plastics, thermoplastic		≤ 100 N/mm²				
		O.2.1	Aramid fibre-reinforced		≤ 1000 N/mm²				
		O.2.2	Glass/carbon-fibre reinforced		≤ 1000 N/mm²				
		O.3.1	Graphite						

*** Tensile strength**

Cutting data standard values

Index	CTPK220 DRAGONSKIN		CTCP230 DRAGONSKIN	
	v_c (m/min)			
P.1.1				
P.1.2				
P.1.3				
P.1.4				
P.1.5				
P.2.1				
P.2.2				
P.2.3				
P.2.4				
P.3.1				
P.3.2				
P.3.3				
P.4.1				
P.4.2				
M.1.1				
M.2.1				
M.3.1				
K.1.1	320	190	310	190
K.1.2	170	100	160	100
K.2.1	210	130	200	120
K.2.2	140	90	130	80
K.3.1	200	120	190	115
K.3.2	170	100	160	100
N.1.1				
N.1.2				
N.2.1				
N.2.2				
N.2.3				
N.3.1				
N.3.2				
N.3.3				
N.4.1				
S.1.1				
S.1.2				
S.2.1				
S.2.2				
S.2.3				
S.3.1				
S.3.2				
S.3.3				
H.1.1				
H.1.2				
H.1.3				
H.1.4				
H.2.1				
H.3.1				
O.1.1				
O.1.2				
O.2.1				
O.2.2				
O.3.1				

	CTPK220 & CTCP230			
	f_z		a_p	
	min.	max.	min.	max.
P				
M				
K	0,1	0,25	0,5	8
N				
S				
H				
O				

The cutting data is strongly influenced by external conditions, such as the stability of the tool and workpiece clamping, material and type of machine. The specified values represent guideline cutting data that can be adjusted by approx. **±20%** according to the usage conditions.

We reserve the right to make technical changes and product improvements.

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