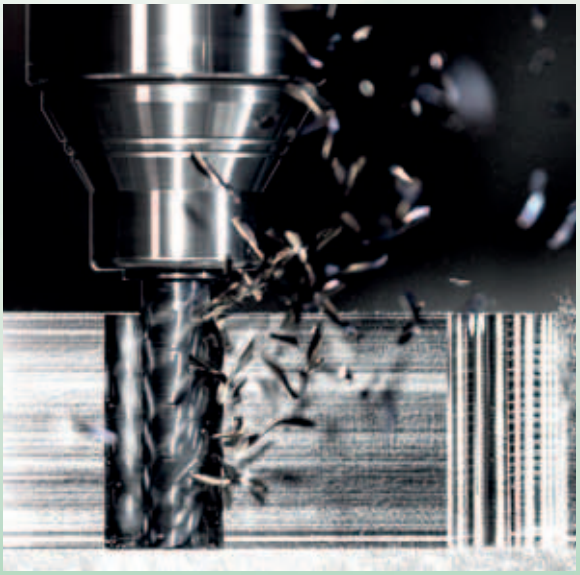
EN

HARTNER

Precision Cutting Tools

TF 100 MASTER-MILL

HPC MILLING IN GENERAL AND STAINLESS STEELS



+ Maximum running smoothness and high metal removal rate
+ High-performance roughing even at high cutting depths

TF 100 MASTER-MILL

HPC milling in steel and stainless steel

NEW

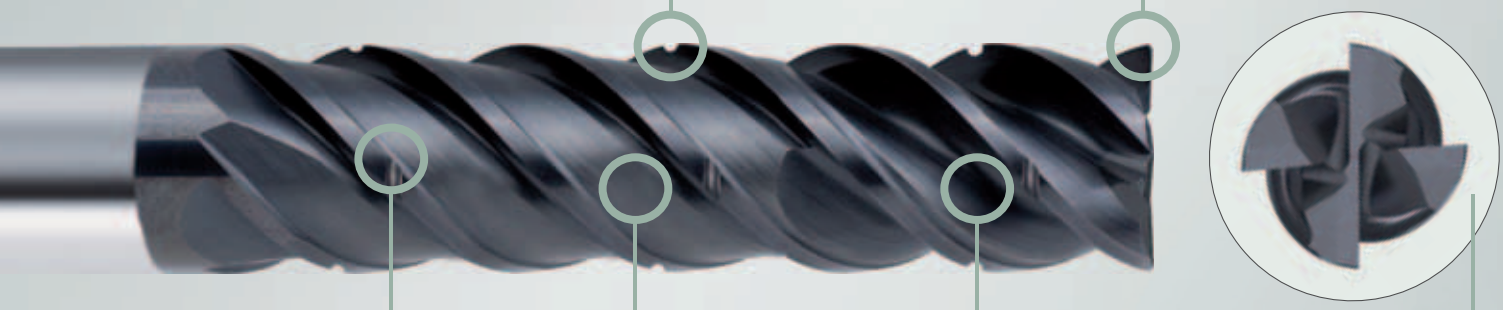
- **High-performance roughing** even at high cutting depths
- **Maximum running smoothness** and **high metal removal rate**
- **HPC milling** in tough, low- and high-alloyed steels and difficult-to-machine special materials

Chip breakers

TF 100 MASTER-MILL extra long (Article no. 84983) chip breakers in the cutting edges ensure short chips for secure evacuation in automated processes. The load on the machine is clearly reduced and the volume performance increased thanks to the light cut.

Stable cutting edge corner

thanks to corner protection chamfer and face correction
= double protection!



Optimised cutting edge spacing

48° helix angle with unequal cutting edge spacing for soft, quiet cut

AlTiN coating

Optimised chip space

deepened flute on front cutting edge area for improved chip evacuation

Face geometry with large chip spaces and **improved web thinning** for minimum vibration plunging, ramping and orbital milling.

TF 100 MASTER-MILL in application

Article no. 84983 Ø20,0

Application:

HPC roughing; dry machining
in 42CrMo4 (1.7225 with 900 N/mm²)
in HPC clamping chuck with pull-out safety
Cutting parameters:
a_p: 60 mm a_e: up to 1 mm
v_c: 270 m/min S: 4300 min-1
f_z: up to 0,21 mm v_f: up to 3715 mm/min

Metal removal rate Q = 222 cm³/min
Tool life above 278 min. for roughing operations!

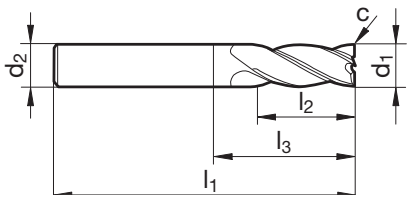
HARTNER

Article no. 84982

P	M	K	N	S	H
•	•			•	

VHM | A | WN | NH | 4 | HB | 48° | 45° | 9°

centre cutting • re-inforced core from Ø 6 mm



d1 h10 mm	d2 h6 mm	l1 mm	l2 mm	l3 mm	c mm x 45°	Z	Code no.
3.000	6.000	57.00	8.00	15.00	0.045	4	3.000
4.000	6.000	57.00	11.00	18.00	0.060	4	4.000
5.000	6.000	57.00	13.00	18.00	0.075	4	5.000
6.000	6.000	57.00	15.00	21.00	0.090	4	6.000
8.000	8.000	63.00	20.00	27.00	0.120	4	8.000
10.000	10.000	72.00	24.00	32.00	0.150	4	10.000
12.000	12.000	83.00	28.00	38.00	0.180	4	12.000
16.000	16.000	92.00	36.00	44.00	0.240	4	16.000
20.000	20.000	104.00	45.00	54.00	0.300	4	20.000

	Hardness	Cutting depth* $a_{p\ max.}$	Cutting width a_e	Cutting speed v_c	fz (mm/z) with nom. Ø 3	6	8	10	12	16	20	25
P	≤ 850 N/mm²	2 x d	0.3 x d	280	0.015	0.04	0.05	0.06	0.07	0.1	0.12	0.14
	850 - 1400 N/mm²	2 x d	0.25 x d	180	0.015	0.03	0.05	0.06	0.07	0.1	0.1	0.13
M	≤ 750 N/mm²	2 x d	0.2 x d	150	0.015	0.03	0.04	0.05	0.06	0.07	0.09	0.12
	≥ 750 N/mm²	2 x d	0.15 x d	100	0.015	0.03	0.04	0.05	0.06	0.07	0.09	0.12
S	≤ 1300 N/mm²	2 x d	0.15 x d	130	0.016	0.025	0.035	0.05	0.06	0.08	0.1	0.12
	≥ 1300 N/mm²	2 x d	0.1 x d	35	0.01	0.015	0.025	0.035	0.042	0.05	0.08	0.12

Peripheral cooling recommended for optimal chip evacuation and tool life.

* With slotting up to ap 0.8 x d v_c and f_z are to be reduced by 30 %.

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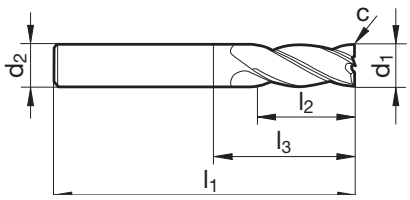
Article no. 84983

P	M	K	N	S	H
•	•			•	

VHM | A | WN | NH | 4 | HB | 48° | 45° | 9°

centre cutting • with chip breaker from Ø 5 mm • re-inforced core from Ø 6 mm



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4.000	6.000	65.00	16.00	18.00	0.060	4	4.000
5.000	6.000	65.00	20.00	18.00	0.075	4	5.000
6.000	6.000	65.00	24.00	29.00	0.090	4	6.000
8.000	8.000	75.00	32.00	39.00	0.120	4	8.000
10.000	10.000	90.00	40.00	50.00	0.150	4	10.000
12.000	12.000	100.00	46.00	55.00	0.180	4	12.000
16.000	16.000	108.00	55.00	60.00	0.240	4	16.000
20.000	20.000	126.00	65.00	76.00	0.300	4	20.000

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