

GUHRING

Ratio®

90°

- for pre-finishing and super-fine finishing
- without corner chamfer for perfect 90°
- the solution for sharp-edged components

RF 100 90° Sharp-edged milling cutters

GUHRING - YOUR WORLD-WIDE PARTNER

RF 100 90°

sharp edged milling cutter
without corner chamfers
for pre-finishing and super-fine finishing

P M K N S H

the suitable solution for any
material: Steel, cast iron,
stainless materials, titanium- and
special alloys and aluminium

Stable face geometry thanks to face
cutting edge correction

Sharp-edged – without corner chamfer

For components
in electronic,
medical and
mechanical
engineering
as well as the
aviation industry
where accurate 90° corners have to be
produced.

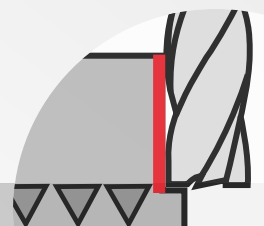
90°

Unequal helix and cutting
edge orientation for maximum
running smoothness

RF 100 SF · Guhring no. 6763

RF 100 A · Guhring no. 6762

RF 100 F · Guhring no. 6764

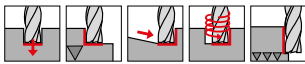


Optimal surface finish when side
and face milling on wall and base
geometries

Perfect for HPC / HSC
strategies such as
Trochoidal milling
or

imachining®

Ratio end mills RF 100 F 90°



P	•
M	•
K	
N	
S	•
H	

centre cutting · without corner protection chamfer

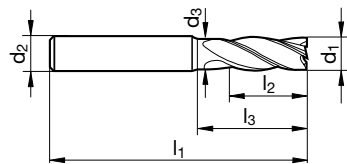
Tool material **Solid carbide**

Surface finish **a**

Type RF 100 F

Shank form HA

Discount group 106



Guhring no.

6764

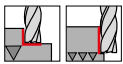
Code no.	d1 h10 mm	d2 h6 mm	d3 mm	l1 mm	l2 mm	l3 mm	Z	Availability
3.000	3.00	6.00	2.80	57	8	15	4	•
4.000	4.00	6.00	3.80	57	11	18	4	•
5.000	5.00	6.00	4.80	57	13	18	4	•
6.000	6.00	6.00	5.70	57	13	20	4	•
8.000	8.00	8.00	7.70	63	19	26	4	•
10.000	10.00	10.00	9.50	72	22	30	4	•
12.000	12.00	12.00	11.50	83	26	36	4	•
16.000	16.00	16.00	15.50	92	32	42	4	•
20.000	20.00	20.00	19.50	104	38	52	4	•

	Hardness	Cutting depth a_p	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/mm ²	2xd	0.3xd	200	0.02	0.04	0.055	0.07	0.085	0.1	0.12	0.17
	850 - 1400 N/mm ²	2xd	0.3xd	180	0.02	0.04	0.055	0.07	0.085	0.1	0.12	0.17
M	≤ 750 N/mm ²	2xd	0.3xd	140	0.018	0.035	0.045	0.06	0.07	0.09	0.1	0.15
	≥ 750 N/mm ²	2xd	0.3xd	120	0.016	0.03	0.04	0.055	0.065	0.08	0.095	0.014
S	≤ 1300 N/mm ²	2xd	0.2xd	130	0.02	0.03	0.04	0.06	0.07	0.08	0.09	0.12

“Gührojet” peripheral cooling is recommended for optimal cooling and tool life.

** With trochoidal milling and imachining with $a_e = 0.1-0.2xd$ the cutting speed v_c and the feed rate can each be increased by 50 %.

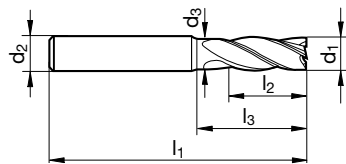
Ratio end mills RF 100 A 90°



P	
M	
K	
N	●
S	
H	

centre cutting · without corner protection chamfer

Tool material	Solid carbide
Surface finish	○
Type	RF 100 A
Shank form	HA
Discount group	106



Guhring no. 6762

Code no.	d1 h10 mm	d2 h6 mm	d3 mm	l1 mm	l2 mm	l3 mm	Z	Availability
3.000	3.00	6.00	2.80	57	8	15	4	●
4.000	4.00	6.00	3.80	57	11	18	4	●
5.000	5.00	6.00	4.80	57	13	18	4	●
6.000	6.00	6.00	5.70	57	13	20	4	●
8.000	8.00	8.00	7.70	63	19	26	4	●
10.000	10.00	10.00	9.50	72	22	30	4	●
12.000	12.00	12.00	11.50	83	26	36	4	●
16.000	16.00	16.00	15.50	92	32	42	4	●
20.000	20.00	20.00	19.50	104	38	52	4	●

	Hardness***	Cutting depth a_p	Cutting width** a_e	Cutting speed v_c	fz (mm/z) with nom. Ø							
					3	6	8	10	12	16	20	25
N	≤ 3% Si	2xd	0.25xd	1000	0.025	0.03	0.045	0.05	0.065	0.08	0.12	0.15
	≤ 7% Si	2xd	0.2xd	400	0.025	0.03	0.045	0.05	0.065	0.08	0.12	0.15

* "Gührojet" peripheral cooling is recommended for optimal cooling and tool life.

** With trochoidal milling and machining with a_p 2xD and a_e 0.15xd the cutting speed v_c and the feed rate can each be increased by 50 %.

***Optionally our Carbo-coating is available as a special tool for soft and adhesive aluminium-alloys and plastics.

Ratio end mills RF 100 SF 90°



P	•
M	•
K	•
N	•
S	•
H	

centre cutting - without corner protection chamfer

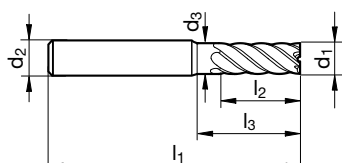
Tool material **Solid carbide**

Surface finish **a**

Type RF 100 SF

Shank form HA

Discount group 106



Guhring no. 6763

Code no.	d1 h10	d2 h6	d3	l1	l2	l3	Z	Availability
	mm	mm	mm	mm	mm	mm		
4.000	4.000	6.00	3.80	65	12	26	5	•
5.000	5.000	6.00	4.80	65	15	26	5	•
6.000	6.000	6.00	5.70	65	18	28	5	•
8.000	8.000	8.00	7.70	75	24	32	5	•
10.000	10.000	10.00	9.50	80	30	32	5	•
12.000	12.000	12.00	11.50	93	36	46	5	•
16.000	16.000	16.00	15.50	108	48	58	5	•
20.000	20.000	20.00	19.50	126	60	74	5	•

	Hardness	Cutting depth* a _p	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/mm ²	2xd	0.3xd	280	0.016	0.03	0.04	0.055	0.065	0.08	0.095	0.14
	850 - 1400 N/mm ²	2xd	0.2xd	220	0.015	0.025	0.035	0.045	0.05	0.065	0.08	0.12
M	≤ 750 N/mm ²	2xd	0.2xd	180	0.015	0.025	0.035	0.045	0.05	0.065	0.08	0.12
	≥ 750 N/mm ²	2xd	0.2xd	120	0.015	0.025	0.035	0.045	0.05	0.065	0.08	0.12
K	≥ 240 HB 30	2xd	0.2xd	200	0.018	0.035	0.045	0.05	0.065	0.08	0.12	0.15
N	≤ 7% Si	2xd	0.2xd	1000	0.018	0.035	0.045	0.05	0.065	0.08	0.12	0.15
S	up to 1300 N/mm ²	2xd	0.15xd	130	0.01	0.03	0.04	0.05	0.05	0.063	0.081	0.11

* "Gührojet" peripheral cooling is recommended for optimal cooling and tool life.

** With trochoidal milling and machining with a_e = 0.1-0.2xd the cutting speed v_c and the feed rate can each be increased by 50 %.

***With finishing with a_e = 0.01xd the feed rate should be reduced by 25 % to achieve an optimal surface finish.

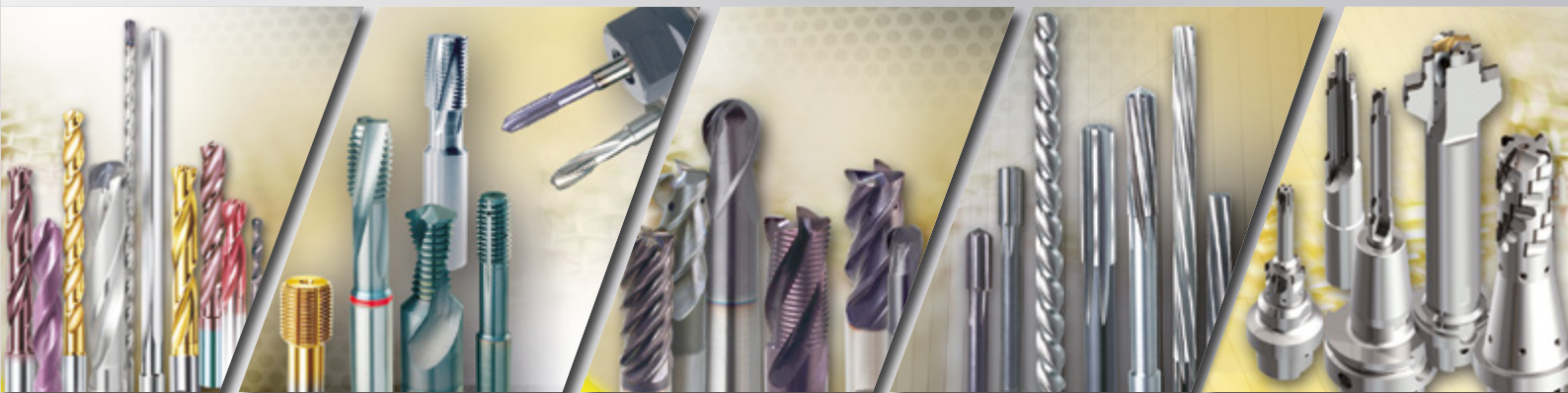
DRILLING

TAPPING/THREAD MILLING/
FLUTELESS TAPPING

MILLING

REAMING

PCD



SPECIAL TOOLING
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DE-BURRING

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