

# GUHRING

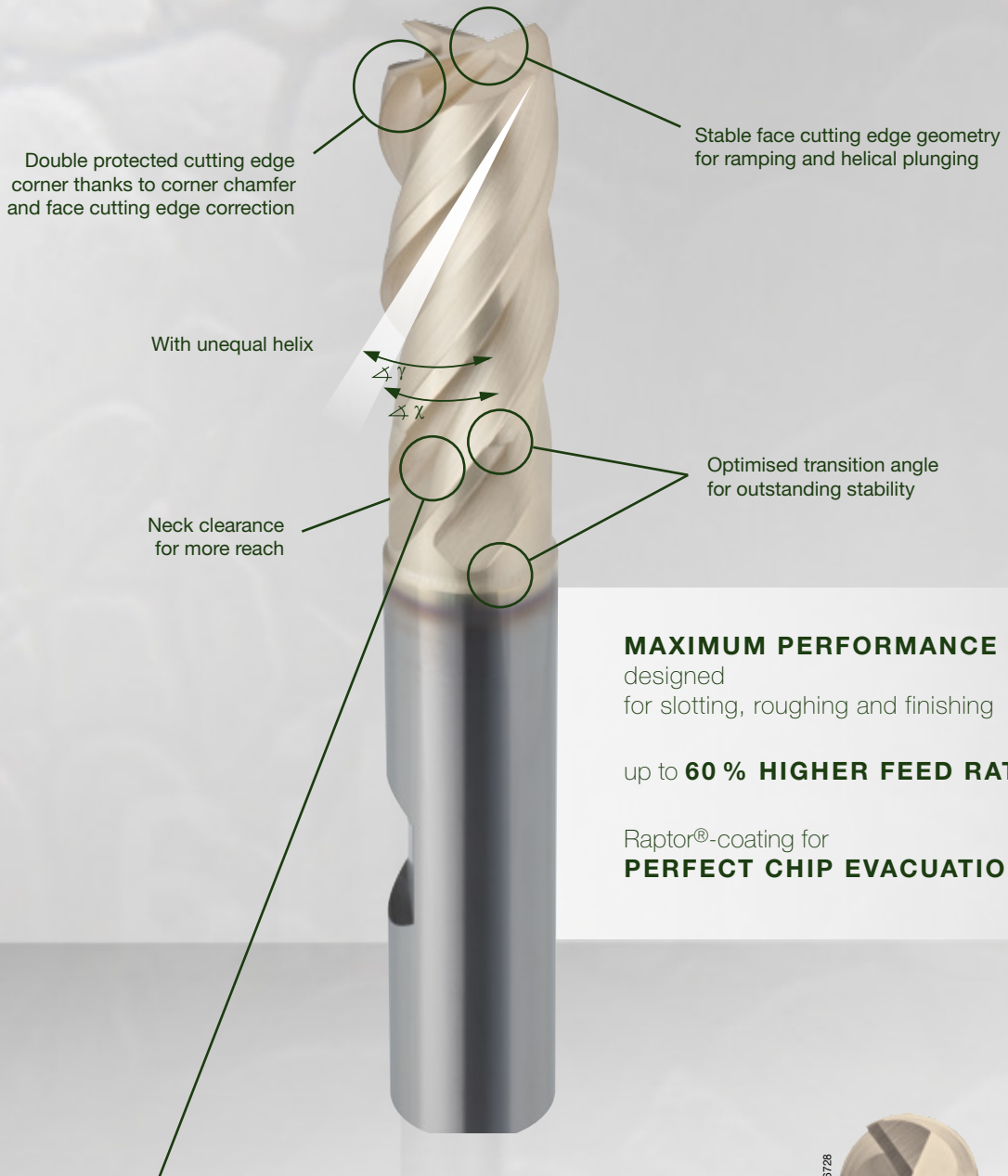


## Ratio End Mill RF 100 Raptor®

GUHRING – YOUR WORLD-WIDE PARTNER

# RF 100 **raptor**<sup>®</sup>

//Ratio<sup>®</sup>//



## **MAXIMUM PERFORMANCE**

designed for slotting, roughing and finishing

up to **60 % HIGHER FEED RATES**

Raptor<sup>®</sup>-coating for **PERFECT CHIP EVACUATION**

## **raptor**<sup>®</sup>-coating

Prevents the formation of built-up edges, the adhesion of the material to the cutting edge and improves the sliding of the chips thanks to a reduced chemical reaction with the material to be machined – the Raptor<sup>®</sup>-coating from Guhring.

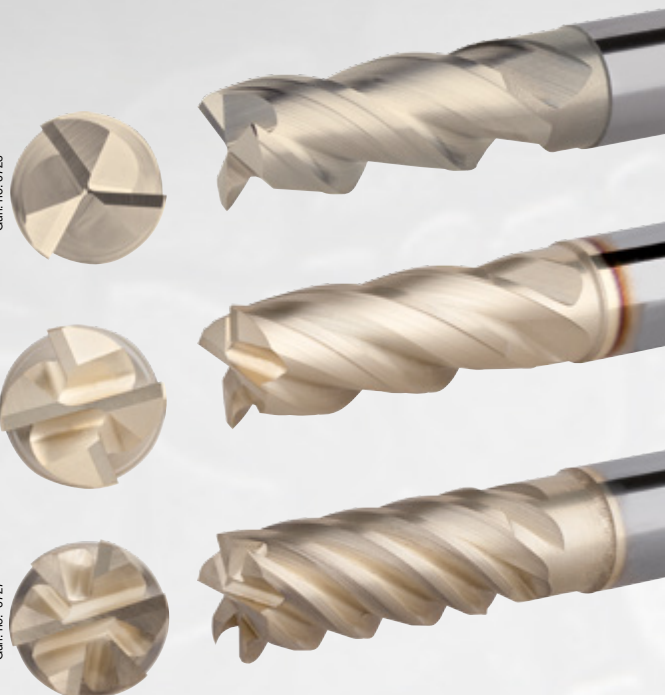
Thanks to its mechanical resistance the tool is optimally protected while simultaneously reducing the friction value.

With a multi-layer construction the zirconium containing cover layer ensures optimal results for the machining of steel materials, titanium and stainless materials.

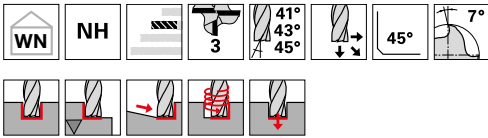
Guhr. no. 6728

Guhr. no. 6726

Guhr. no. 6727

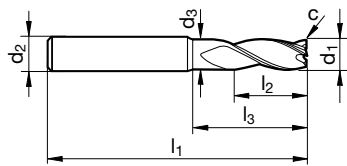


Ratio end mills RF 100 U (3-fluted) Raptor®



P	•
M	•
K	
N	○
S	•
H	

Tool material	<b>Solid carbide</b>
Surface finish	Raptor®
Type	RF 100 U (3-fluted)
Shank form	HB
Discount group	106



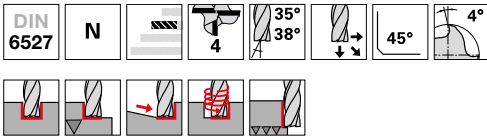
Guhring no. 6728

Code no.	d1 e8	d2 h6	d3	l1	l2	l3	c	Z	Availability
	mm	mm	mm	mm	mm	mm	mm x 45°		
3.000	3.000	6.000	2.800	57.00	8.00	15.00	0.03	3	•
4.000	4.000	6.000	3.800	57.00	11.00	18.00	0.06	3	•
6.000	6.000	6.000	5.700	57.00	13.00	20.00	0.09	3	•
8.000	8.000	8.000	7.700	63.00	19.00	26.00	0.12	3	•
10.000	10.000	10.000	9.500	72.00	22.00	30.00	0.15	3	•
12.000	12.000	12.000	11.500	83.00	26.00	36.00	0.18	3	•
16.000	16.000	16.000	15.500	92.00	32.00	42.00	0.19	3	•
20.000	20.000	20.000	19.500	104.00	38.00	52.00	0.24	3	•

	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
P	≤ 850 N/mm <sup>2</sup>	1 x d	1 x d	180	0.018	0.035	0.045	0.06	0.07	0.09	0.1
	850 - 1400 N/mm <sup>2</sup>	1 x d	1 x d	160	0.018	0.035	0.045	0.06	0.07	0.09	0.1
M	≤ 750 N/mm <sup>2</sup>	1 x d	1 x d	120	0.015	0.03	0.04	0.05	0.06	0.07	0.09
	≥ 750 N/mm <sup>2</sup>	1 x d	1 x d	80	0.015	0.025	0.035	0.045	0.05	0.065	0.08
S	≤ 1300 N/mm <sup>2</sup>	0,6 x d	1 x d	60	0.01	0.02	0.03	0.04	0.04	0.054	0.063

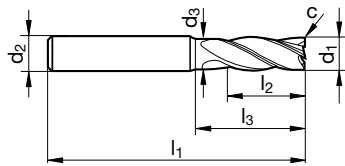
“Gührojet” peripheral cooling is recommended for optimal cooling and tool life.

Ratio end mills RF 100 U Raptor®



P	•
M	•
K	
N	
S	•
H	

Tool material	Solid carbide
Surface finish	Raptor®
Type	RF 100 U
Shank form	HB
Discount group	106



Guhring no. 6726

Code no.	d1 h10	d2 h6	d3	l1	l2	l3	c	Z	Availability
	mm	mm	mm	mm	mm	mm	mm x 45°		
6.000	6.000	6.000	5.700	57.00	13.00	20.00	0.15	4	•
8.000	8.000	8.000	7.700	63.00	19.00	26.00	0.15	4	•
10.000	10.000	10.000	9.500	72.00	22.00	30.00	0.20	4	•
12.000	12.000	12.000	11.500	83.00	26.00	36.00	0.20	4	•
16.000	16.000	16.000	15.500	92.00	32.00	42.00	0.35	4	•
20.000	20.000	20.000	19.500	104.00	38.00	52.00	0.45	4	•

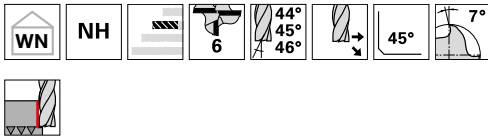
	Hardness	Cutting depth $a_p$	Cutting width $a_e$	Cutting speed $v_c$	$f_z$ (mm/z) with nom. $\emptyset$						
					3	6	8	10	12	16	20
P	$\leq 850$ N/mm <sup>2</sup>	2 x d	0.3 x d	200	0.02	0.04	0.055	0.07	0.085	0.1	0.12
M	$\leq 750$ N/mm <sup>2</sup>	2 x d	0.3 x d	140	0.018	0.035	0.045	0.06	0.07	0.09	0.1
	$\geq 750$ N/mm <sup>2</sup>	2 x d	0.3 x d	120	0.016	0.03	0.04	0.055	0.065	0.08	0.095
S	$\leq 1300$ N/mm <sup>2</sup>	2 x d	0.2 x d	130	0.02	0.03	0.04	0.06	0.07	0.08	0.09

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



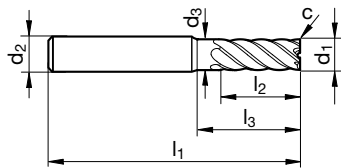


**Ratio end mills RF 100 SF Raptor®**



P	•
M	•
K	
N	•
S	•
H	

Tool material	<b>Solid carbide</b>
Surface finish	Raptor®
Type	RF 100 SF
Shank form	HB
Discount group	106



**Guhring no. 6727**

Code no.	d1 h10	d2 h6	d3	l1	l2	l3	Z	Availability
	mm	mm	mm	mm	mm	mm		
8.000	8.000	8.000	7.700	63.00	19.00	26.00	6	•
10.000	10.000	10.000	9.500	72.00	22.00	30.00	6	•
12.000	12.000	12.000	11.500	83.00	26.00	36.00	6	•
16.000	16.000	16.000	15.500	92.00	32.00	42.00	6	•
20.000	20.000	20.000	19.500	104.00	38.00	52.00	6	•

	Hardness	Cutting depth* a <sub>p</sub>	Cutting width** a <sub>e</sub>	Cutting speed v <sub>c</sub>	fz (mm/z) with nom. Ø							
					3	6	8	10	12	16	20	25
<b>P</b>	≤ 850 N/mm <sup>2</sup>	2xd	0.3xd	280	0.016	0.03	0.04	0.055	0.065	0.08	0.095	0.14
	850 - 1400 N/mm <sup>2</sup>	2xd	0.2xd	220	0.015	0.025	0.035	0.045	0.05	0.065	0.08	0.12
<b>M</b>	≤ 750 N/mm <sup>2</sup>	2xd	0.2xd	180	0.015	0.025	0.035	0.045	0.05	0.065	0.08	0.12
	≥ 750 N/mm <sup>2</sup>	2xd	0.2xd	120	0.015	0.025	0.035	0.045	0.05	0.065	0.08	0.12
<b>N</b>	≤ 7% Si	2xd	0.2xd	1000	0.018	0.035	0.045	0.05	0.065	0.08	0.12	0.15
<b>S</b>	bis 1300 N/mm <sup>2</sup>	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 imachining with a<sub>e</sub> = 0.1-0.2xd the cutting speed v<sub>c</sub> and the feed rate can each be increased by 50 %.

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# GUHRING

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