

# 5500 V 12

## Contour Milling Cutter



Cylindrical Shank

### 5500 V 12 Cylindrical Shank

EDP#	Part Number	Dimensions (mm)								Spares			
		D	L	l <sub>2</sub>	l <sub>3</sub>	d <sub>1</sub>	MT	a	No. of Inserts	EDP#	EDP#	EDP#	
021668	5500V 12 CR	12	180	30	-	12	-	6	1	015251	55.674	013215	T10

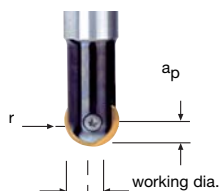
### 5500 V 12 Morse Taper Shank

021669	5500V 12 MR	12	124	55	60	-	MT2	6	1	015251	55.674	013215	T10
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## 5500 V 12 Technical Advice

Milling Cutter Order Example: **5500V12CR**  
 Milling Insert Order Example: **RG12 SP1032**  
 For complete cutting conditions refer to page: **264**

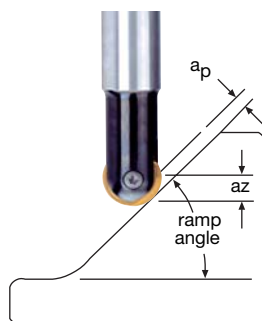


#### Working Diameter:

$$DW = 2 \times \sqrt{r^2 - (r - a_p)^2}$$

where: **DW** = Working Diameter  
**r** = Cutter radius  
**a<sub>p</sub>** = Axial Depth of Cut

## Ramp Milling Method



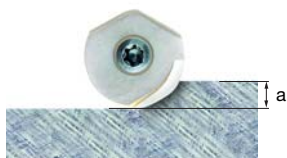
#### Ramp-up Data

Cutter Diameter 12,00 mm		Ramp Angle
a <sub>p</sub> (mm)	az (mm)	
4,5	5,8	15°
3,0	5,2	30°
1,8	4,2	45°
0,8	3,0	60°
0,2	1,4	75°
0,1	0,6	85°

Torque Limits 1.75 Nm



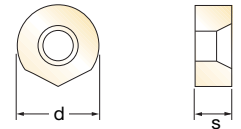
Morse Taper Shank



Depth of cut (a)

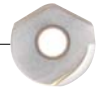


# Inserts for 5500 V 12



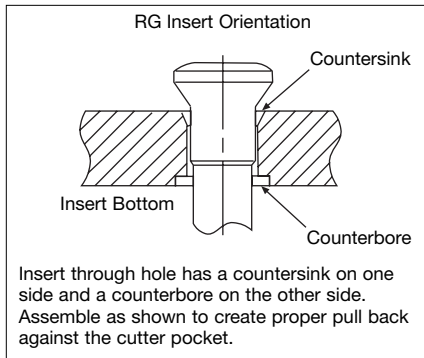
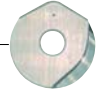
EDP#	Part Number	Grade	Application & Material			Dimensions (mm)				
			Roughing	Semi-Finishing	Finishing	d	l	s	r	h <sub>m</sub> min
024118	RG 12	SP1032	▼	▼▼	▼▼▼	12,0	-	2,5	6,0	0,02

RG 12\_



027796	RG 12S	SP1064				12,0	-	2,5	6,0	0,02
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RG 12S\_



### Insert Interchangeability\*

Metric		Inch	
Diameter	Insert Number	Diameter	Insert Number
12 mm	RG 12	.500 in.	RG .500

\*Insert interchangeability allows metric inserts to be used in inch cutters and vice-versa.

### To find programmed feedrate:

$$f_z = h_m \times \sqrt{\frac{D}{a_p}} \times \sqrt{\frac{D_w}{a_e}}$$

where:

- $f_z$  = Feed per tooth
- $h_m$  = Average chip thickness
- $D$  = Cutter diameter (outside)
- $a_e$  = Radial Depth of Cut
- $D_w$  = Working Diameter
- $a_p$  = Axial Depth of Cut

### Average chip thickness:

$$h_m = \frac{f_z}{\sqrt{\frac{D}{a_p}} \times \sqrt{\frac{D_w}{a_e}}}$$

## RG\_12 Recommended Cutting Conditions

Material	Speed	▼ Roughing	D.O.C.	Speed	▼▼ Semi-Finishing	D.O.C.	Speed	▼▼▼ Finishing	D.O.C.
	V <sub>C</sub> (m/min)	Feed h <sub>m</sub> (mm)		a <sub>p</sub> (mm)	V <sub>C</sub> (m/min)		Feed h <sub>m</sub> (mm)	a <sub>p</sub> (mm)	
Unalloyed Steels	-	-	-	-	-	-	180 - 360	0,10 - 0,15	< 1,0
Alloyed Steels	-	-	-	-	-	-	110 - 240	0,10 - 0,15	< 1,0
Stainless Steels	-	-	-	-	-	-	140 - 240	0,10 - 0,15	< 1,0
PH Stainless	-	-	-	-	-	-	120 - 190	0,08 - 0,12	< 1,0
Cast Irons	-	-	-	-	-	-	100 - 160	0,08 - 0,12	< 1,0
Aluminium & Alloys	-	-	-	-	-	-	400 - 1000	0,10 - 0,15	< 1,0
High Temp. Alloys	-	-	-	-	-	-	45 - 60	0,08 - 0,12	< 1,0
Hard Steels (52-56 HRC)	-	-	-	-	-	-	50 - 100	0,03 - 0,06	< 0,5

h<sub>m</sub> = average chip thickness

## Star Guide Key to Recommended Tools

Material Designations					
	<b>P</b> Unalloyed Steels		<b>M</b> Stainless Steels		<b>K</b> Cast Irons
	<b>P</b> Alloyed Steels		<b>M</b> PH Stainless		<b>N</b> Aluminium & Alloys
			<b>S</b> High Temp. Alloys		<b>H</b> Hard Materials