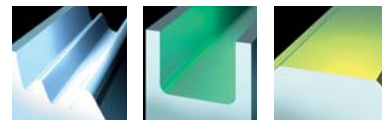




# 7702 VRD 16

## Contour Milling Cutter



### 7702 VRD 16 Weldon Shank

EDP #	Part Number	Dimensions (mm)						No. of Inserts	Linear Ramp Down	Spares			
		D	L	$l_1$	$d_3$	$a_{max}$	EDP#				EDP#		
025709	7702VRD 16 WA032R70	32	130	70	32	8	2	17,5°	015270	F4011T	015241	T20	
025710	7702VRD 16 WA032R120	32	180	120	32	8	2	17,5°	015270	F4011T	015241	T20	
025712	7702VRD 16 WA040R120	40	190	120	40	8	2	13,0°	015270	F4011T	015241	T20	
025711	7702VRD 16 WA040R70	40	140	70	40	8	2	13,0°	015270	F4011T	015241	T20	



### 7702 VRD 16 Technical Advice

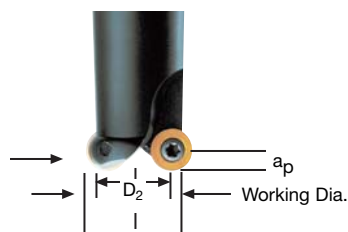
Milling Cutter Order Example: 7702VRD16WA040R120  
 Milling Insert Order Example: RDHW1604M0T SP4036  
 For complete cutting conditions refer to page: 264



Weldon Shank



Depth of Cut (a)



#### Working Diameter:

$$DW = D_2 + 2 \times \sqrt{r^2 - (r - a_p)^2}$$

where: **DW** = Working Diameter  
**D<sub>2</sub>** = Diameter of cutter insert centre to centre  
**r** = Insert radius  
**a<sub>p</sub>** = Axial Depth of Cut

#### To find programmed feedrate:

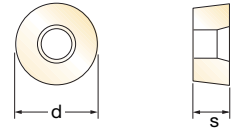
$$f_z = h_m \times \sqrt{\frac{D}{a_p}} \times \sqrt{\frac{D_w}{a_e}}$$

where: **f<sub>z</sub>** = Feed per tooth  
**h<sub>m</sub>** = Average chip thickness  
**D** = Cutter diameter (outside)  
**a<sub>e</sub>** = Radial Depth of Cut  
**D<sub>w</sub>** = Working Diameter  
**a<sub>p</sub>** = Axial Depth of Cut

#### Average chip thickness:

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

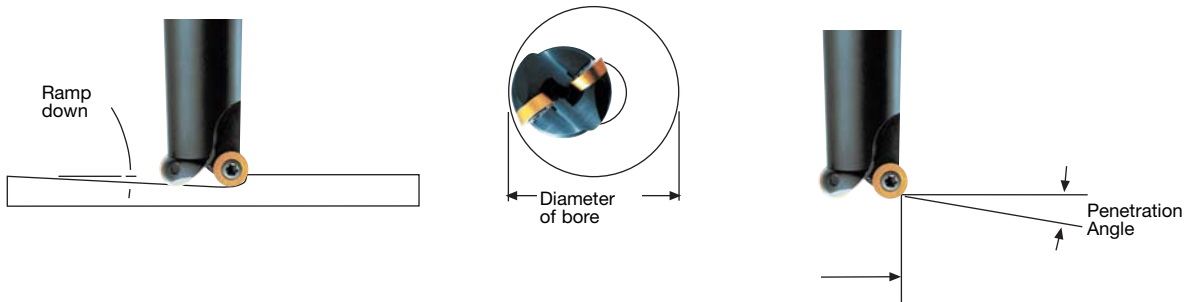
# Inserts for 7702 VRD 16



EDP#	Part Number	Grade	Application & Material			Dimensions (mm)				
			Roughing	Semi-Finishing	Finishing	d	l	s	r	h <sub>m</sub> min
025751	RDET 16 04M0E-701	SP4036	▼	▼▼	▼▼▼	16,0	-	4,76	8,0	0,05



027478	RDHW 16 04M0T -30	SP4036	◆◆◆	◆◆◆◆	◆◆◆◆◆	16,0	-	4,76	8,0	0,15
025749	RDHW 16 04M0T	SP4036		◆◆◆◆	◆◆◆◆◆	16,0	-	4,76	8,0	0,15



Part Number	Bore Dia. Max. (mm)	Bore Dia. Min. (mm)	Penetration Angle	Linear Ramp Down
7702VRD 16 WA032R70	62	34	11,1°	17,5°
7702VRD 16 WA032R120				
7702VRD 16 WA040R120	78	50	8,3°	13,0°
7702VRD 16 WA040R70				

## RD\_16 Recommended Cutting Conditions

Material	▼ Roughing			▼▼ Semi-Finishing			▼▼▼ Finishing		
	Speed V <sub>C</sub> (m/min)	Feed h <sub>m</sub> (mm)	D.O.C. a <sub>p</sub> (mm)	Speed V <sub>C</sub> (m/min)	Feed h <sub>m</sub> (mm)	D.O.C. a <sub>p</sub> (mm)	Speed V <sub>C</sub> (m/min)	Feed h <sub>m</sub> (mm)	D.O.C. a <sub>p</sub> (mm)
◆ Unalloyed Steels	180 - 220	0,33 - 0,55	4,0 - 8,0	220 - 260	0,25 - 0,35	0,8 - 4,0	220 - 300	0,10 - 0,18	0,1 - 0,8
◆ Alloyed Steels	70 - 110	0,30 - 0,45	4,0 - 8,0	100 - 150	0,22 - 0,33	0,8 - 4,0	100 - 195	0,10 - 0,16	0,1 - 0,8
◆ Stainless Steels	-	-	-	140 - 180	0,15 - 0,18	0,8 - 4,0	180 - 230	0,08 - 0,12	0,1 - 0,8
◆ PH Stainless	-	-	-	70 - 85	0,08 - 0,14	0,8 - 4,0	80 - 100	0,08 - 0,12	0,1 - 0,8
◆ Cast Irons	140 - 280	0,30 - 0,40	4,0 - 8,0	180 - 300	0,22 - 0,33	0,8 - 4,0	200 - 350	0,10 - 0,16	0,1 - 0,8
◆ Aluminium & Alloys	275 - 450	0,06 - 0,12	4,0 - 8,0	400 - 750	0,06 - 0,12	0,8 - 4,0	700 - 1000	0,06 - 0,12	0,1 - 0,8
◆ High Temp. Alloys	-	-	-	35 - 50	0,08 - 0,14	0,8 - 4,0	45 - 60	0,08 - 0,12	0,1 - 0,8
◆ Hard Steels (52-56 HRC)	-	-	-	50 - 85	0,05 - 0,10	0,5 - 1,5	50 - 100	0,03 - 0,06	0,1 - 0,5

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

### Star Guide Key to Recommended Tools

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