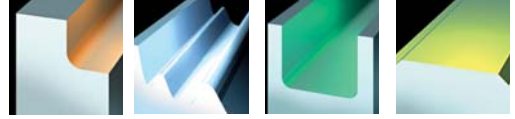




7702 VRD 12 Contour Milling Cutter



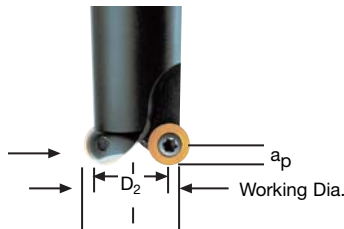
7702 VRD 12 Weldon Shank

EDP #	Part Number	Dimensions (inch)							Spares			
		D	L	l_1	d_3	a	No. of Inserts	Linear Ramp Down	EDP#	 EDP#	 EDP#	
025727	C7702VRD12WA1.00R2.75	1.00	5.030	2.750	1.25	0.196	2	16°	015269	F3508T	015240	T15
025728	C7702VRD12WA1.00R4.75	1.00	7.030	4.725	1.25	0.196	2	16°	015269	F3508T	015240	T15
025729	C7702VRD12WA1.25R2.75	1.25	5.030	2.750	1.25	0.196	3	16.5°	015269	F3508T	015240	T15
025730	C7702VRD12WA1.25R4.75	1.25	7.030	4.725	1.25	0.196	3	16.5°	015269	F3508T	015240	T15
025731	C7702VRD12WA1.5R2.75	1.50	5.437	2.750	1.5	0.196	3	12°	015269	F3508T	015240	T15
025732	C7702VRD12WA1.5R4.75	1.50	7.437	4.725	1.5	0.196	3	12°	015269	F3508T	015240	T15



7702 VRD 12 Technical Advice

Milling Cutter Order Example: **C7702VRD12WA1.25R4.75**
 Milling Insert Order Example: **RDHW12T3M0T SP4036**
 For complete cutting conditions refer to page: **208**



Working Diameter:

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

where:

- DW** = Working Diameter
- D₂** = Diameter of cutter insert center to center
- r** = Insert radius
- a_p** = 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_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:

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

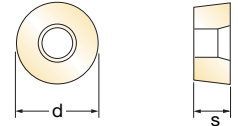
Weldon Shank



Depth of Cut (a)



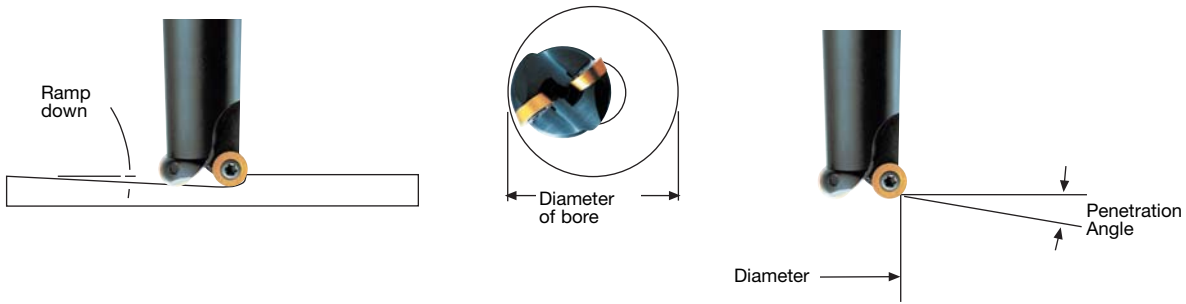
Inserts for 7702 VRD 12



EDP#	Part Number	Grade	Application & Material			Dimensions (inch)				
			Roughing	Semi-Finishing	Finishing	d	l	s	r	h_m min
025747	RDET12T3M0E-701	SP4036	◆	◆◆◆	◆◆◆◆◆	0.472	-	0.156	0.236	0.0020



027477	RDHW12T3M0T-20	SP4036	◆◆◆	◆◆◆◆	◆◆◆◆◆	0.472	-	0.156	0.236	0.0059
025745	RDHW12T3M0T	SP4036		◆◆◆◆	◆◆◆◆◆	0.472	-	0.156	0.236	0.0059



Part Number	Bore Dia. Max. (inch)	Bore Dia. Min. (inch)	Penetration Angle	Linear Ramp Down
C7702VRD12WA1.00R2.75	1.921	1.102	11.0°	16.5°
C7702VRD12WA1.00R4.75				
C7702VRD12WA1.25R2.75	2.421	1.643	8.2°	12.0°
C7702VRD12WA1.25R4.75				
C7702VRD12WA1.5R2.75	2.921	2.208	6.6°	13.0°
C7702VRD12WA1.5R4.75				

RD_12 Recommended Cutting Conditions

Material	▼ Roughing			▼▼ Semi-Finishing			▼▼▼ Finishing		
	Speed V_c (feet/min)	Feed h_m (inch)	D.O.C. a_p (inch)	Speed V_c (feet/min)	Feed h_m (inch)	D.O.C. a_p (inch)	Speed V_c (feet/min)	Feed h_m (inch)	D.O.C. a_p (inch)
◆ Unalloyed Steels	600 - 720	0.010 - 0.016	0.12 - 0.24	730 - 850	0.009 - 0.013	0.03 - 0.12	730 - 980	0.004 - 0.007	0.00 - 0.03
◆ Alloyed Steels	230 - 360	0.009 - 0.014	0.12 - 0.24	330 - 490	0.008 - 0.012	0.03 - 0.12	330 - 630	0.004 - 0.006	0.00 - 0.03
◆ Stainless Steels	-	-	-	460 - 590	0.003 - 0.006	0.03 - 0.12	600 - 750	0.003 - 0.005	0.00 - 0.03
◆ PH Stainless	-	-	-	230 - 270	0.003 - 0.006	0.03 - 0.12	270 - 320	0.003 - 0.005	0.00 - 0.03
◆ Cast Irons	460 - 910	0.009 - 0.014	0.12 - 0.24	600 - 980	0.008 - 0.012	0.03 - 0.12	660 - 1140	0.004 - 0.006	0.00 - 0.03
◆ Aluminum & Alloys	910 - 1470	0.002 - 0.005	0.12 - 0.24	1320 - 2460	0.002 - 0.005	0.03 - 0.12	2300 - 3280	0.002 - 0.005	0.00 - 0.03
◆ High Temp. Alloys	-	-	-	120 - 160	0.003 - 0.006	0.03 - 0.12	150 - 190	0.003 - 0.005	0.00 - 0.03
◆ Hard Steels (52-56 HRC)	-	-	-	170 - 270	0.002 - 0.004	0.02 - 0.06	170 - 320	0.001 - 0.002	0.00 - 0.02

h_m = 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	Aluminum & Alloys	◆ H	Hard Materials