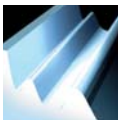
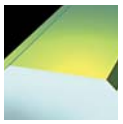
7702 VRD 16

Contour Milling Cutter

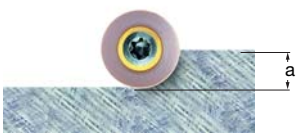




7702 VRD 16 Weldon Shank

EDP #	Part Number	Dimensions (inch) D	L	l_1	d_3	a	No. of Inserts	Linear Ramp Down	Spares EDP#		EDP#	
025733	**C7702VRD16WA1.25R2.75**	1.25	5.030	2.750	1.25	0.315	2	17.5°	015270	F4011T	015241	T20
025734	**C7702VRD16WA1.25R4.75**	1.25	7.030	4.725	1.25	0.315	2	17.5°	015270	F4011T	015241	T20
025735	**C7702VRD16WA1.5R2.75**	1.50	5.437	2.750	1.50	0.315	2	14°	015270	F4011T	015241	T20
025736	**C7702VRD16WA1.5R4.75**	1.50	7.437	4.725	1.50	0.315	2	14°	015270	F4011T	015241	T20

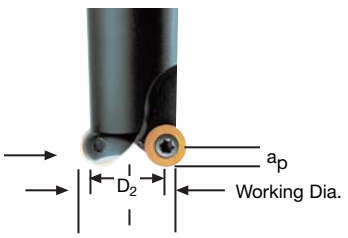
Weldon Shank



Depth of Cut (a)

7702 VRD 16 Technical Advice

Milling Cutter Order Example: **C7702VRD16WA1.5R2.75**
Milling Insert Order Example: **RDHW1604M0T 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
D_2 = Diameter of cutter insert center to center
r = Insert radius
a_p = Axial Depth of Cut

To find programmed feedrate:

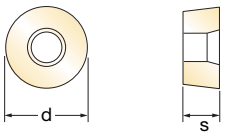
$$f_z = h_m \times \sqrt{\frac{D}{a_p}} \times \sqrt{\frac{D_w}{a_e}}$$

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:

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

Inserts for 7702 VRD 16

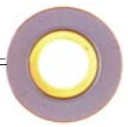


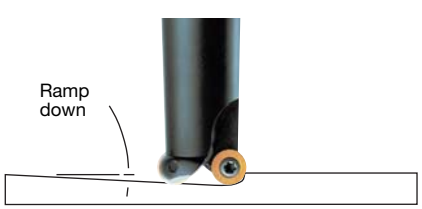
EDP#	Part Number	Grade	Application & Material: Roughing ▼	Semi-Finishing ▼▼	Finishing ▼▼▼	Dimensions (inch): d	l	s	r	h_m min
025751	**RDET1604M0E-701**	**SP4036**	◆	◆◆	◆◆◆	0.630	-	0.187	0.315	0.0020

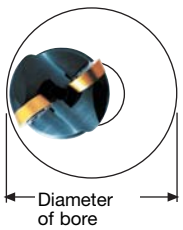
RDET 16_ -701

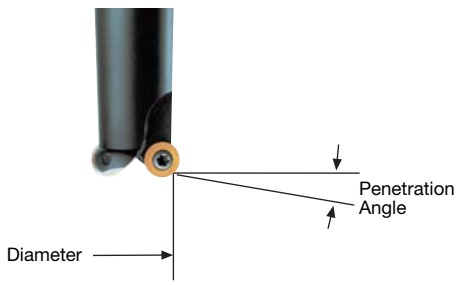
027478	**RDHW1604M0T-30**	**SP4036**	◆◆◆	◆◆◆		0.630	-	0.187	0.315	0.0059
025749	**RDHW1604M0T**	**SP4036**		◆◆	◆	0.630	-	0.187	0.315	0.0059

RDHW 16_









Part Number	Bore Dia. Max. (inch)	Bore Dia. Min. (inch)	Penetration Angle	Linear Ramp Down
C7702VRD16WA1.25R2.75	2.421	1.328	11.2°	17.5°
C7702VRD16WA1.25R4.75				
C7702VRD16WA1.5R2.75	2.921	1.893	8.8°	13.0°
C7702VRD16WA1.5R4.75				

RD_16 Recommended Cutting Conditions

Material	▼ Roughing Speed V_c (feet/min)	Feed h_m (inch)	D.O.C. a_p (inch)	▼▼ Semi-Finishing Speed V_c (feet/min)	Feed h_m (inch)	D.O.C. a_p (inch)	▼▼▼ Finishing Speed V_c (feet/min)	Feed h_m (inch)	D.O.C. a_p (inch)
◆ Unalloyed Steels	600 - 720	0.013 - 0.022	0.16 - 0.31	730 - 850	0.010 - 0.014	0.03 - 0.16	730 - 980	0.004 - 0.007	0.00 - 0.03
◆ Alloyed Steels	230 - 360	0.012 - 0.018	0.16 - 0.31	330 - 490	0.009 - 0.013	0.03 - 0.16	330 - 630	0.004 - 0.006	0.00 - 0.03
◆ Stainless Steels	-	-	-	460 - 590	0.006 - 0.007	0.03 - 0.16	600 - 750	0.003 - 0.005	0.00 - 0.03
◆ PH Stainless	-	-	-	230 - 270	0.003 - 0.006	0.03 - 0.16	270 - 320	0.003 - 0.005	0.00 - 0.03
◆ Cast Irons	460 - 910	0.012 - 0.016	0.16 - 0.31	600 - 980	0.009 - 0.013	0.03 - 0.16	660 - 1140	0.004 - 0.006	0.00 - 0.03
◆ Aluminum & Alloys	910 - 1470	0.002 - 0.005	0.16 - 0.31	1320 - 2460	0.002 - 0.005	0.03 - 0.16	2300 - 3280	0.002 - 0.005	0.00 - 0.03
◆ High Temp. Alloys	-	-	-	120 - 160	0.003 - 0.006	0.03 - 0.16	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

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