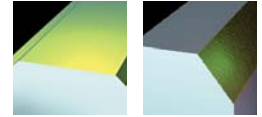


# 7745 VOD 04 Milling Cutter

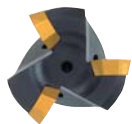


## 7745 VOD 04 Weldon Shank

EDP #	Part Number	Dimensions (mm)							No. of Inserts	Spares		
		D	L	l <sub>2</sub>	d <sub>1</sub>	a <sub>1 max.</sub>	a	EDP#		EDP#	EDP#	
021758	7745VOD 04 WA025R	25	90	40	20	8	3,5	2	015270	F4011T	015241	T20
025379	7745VOD 04 WA025R095	25	145	95	20	8	3,5	2	015270	F4011T	015241	T20
021759	7745VOD 04 WA032R	32	96	40	25	8	3,5	3	015270	F4011T	015241	T20
025380	7745VOD 04 WA032R095	32	151	95	25	8	3,5	3	015270	F4011T	015241	T20
023064	7745VOD 04 WA25/040R	40	106	50	25	8	3,5	4	015270	F4011T	015241	T20
021760	7745VOD 04 WA040R	40	110	50	32	8	3,5	4	015270	F4011T	015241	T20
025381	7745VOD 04 WA040R095	40	155	95	32	8	3,5	4	015270	F4011T	015241	T20

## 7745 VOD 04 Shell Mill Fixation

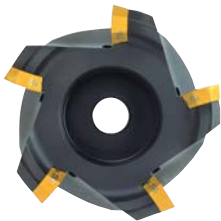
021754	7745VOD 04 -A040R	40	35	-	16	8	3,5	4	015270	F4011T	015241	T20
021755	7745VOD 04 -A050R	50	40	-	22	8	3,5	4	015270	F4011T	015241	T20
023058	7745VOD 04 -A050Z06R	50	40	-	22	8	3,5	6	015270	F4011T	015241	T20
021756	7745VOD 04 -A063R	63	40	-	22	8	3,5	5	015270	F4011T	015241	T20
023059	7745VOD 04 -A063Z07R	63	40	-	22	8	3,5	7	015270	F4011T	015241	T20
017907	7745VOD 04 -A080R	80	50	-	27	8	3,5	6	015270	F4011T	015241	T20
023060	7745VOD 04 -A080Z09R	80	50	-	27	8	3,5	9	015270	F4011T	015241	T20
021757	7745VOD 04 -A100R	100	55	-	32	8	3,5	7	015270	F4011T	015241	T20
023061	7745VOD 04 -A100Z11R	100	55	-	32	8	3,5	11	015270	F4011T	015241	T20
023062	7745VOD 04 -A125R	125	63	-	40	8	3,5	8	015270	F4011T	015241	T20
023063	7745VOD 04 -A125Z12R	125	63	-	40	8	3,5	12	015270	F4011T	015241	T20
025382	7745VOD 04 -160Z10R	160	63	-	40	8	3,5	10	015270	F4011T	015241	T20
025383	7745VOD 04 -160Z15R	160	63	-	40	8	3,5	15	015270	F4011T	015241	T20



Weldon Shank



Nominal Diameter  
Ø Da



Shell Mill Fixation



Depth of Cut (a)

## 7745 VOD 04 Technical Advice

Milling Cutter Order Example: **7745VOD 04 WA025R095**  
Milling Insert Order Example: **ODET0404APEN-44 MP91M**  
For complete cutting conditions refer to page: **264**

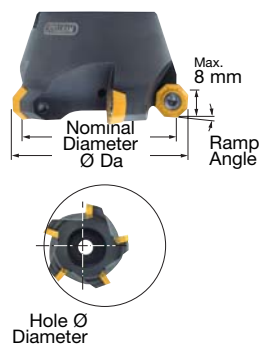
Feedrate compensation: For 45° cutting, divide the h<sub>m</sub> value by the sine of the approach angle (the sine of 45° = 0,707)

ie:  $\frac{h_m}{0,707}$  or  $\frac{0,08}{0,707} = 0,113$  mm programmed feed rate



## Circular Ramp Milling Method

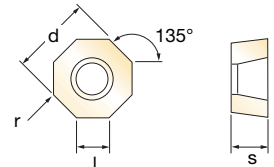
Maximum Depth of Cut per Revolution = 4,2 mm



### Milling with Circular Interpolation

Milling Cutter Nominal Diameter	Diameter Ø Da	Hole Ø Diameter		Ramp Angle
		D min.	D max.	
Ø 25	Ø 33	Ø 46	Ø 64	17,0°
Ø 32	Ø 40	Ø 60	Ø 78	12,1°
Ø 40	Ø 48	Ø 76	Ø 94	8,5°
Ø 50	Ø 58	Ø 96	Ø 114	6,1°
Ø 63	Ø 71	Ø 122	Ø 140	4,3°
Ø 80	Ø 88	Ø 156	Ø 174	3,0°
Ø 100	Ø 108	Ø 196	Ø 214	2,4°
Ø 125	Ø 133	Ø 246	Ø 264	2,0°
Ø 160	Ø 168	Ø 316	Ø 334	1,4°

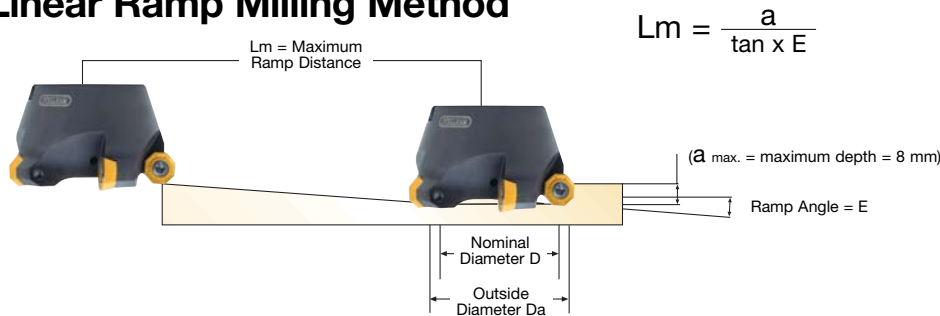
# Inserts for 7745 VOD 04



EDP#	Part Number	Grade	Application & Material			Dimensions (mm)				
			Roughing	Semi-Finishing	Finishing	d	l	s	r	h <sub>m</sub> min
022199	ODET 04 04APEN-44	MP91M			◆◆	12,7	4,0	4,76	Facet	0,04
022198	ODET 04 04APEN-44	X500			◆◆	12,7	4,0	4,76	Facet	0,04
027722	ODET 04 04APEN-44	SP6564			◆◆	12,7	4,0	4,76	Facet	0,04
024911	ODET 04 04APFN-441	GH1	◆	◆	◆	12,7	4,0	4,76	Facet	0,02
017775	ODMT 04 04APEN-41	MP91M		◆◆		12,7	4,0	4,76	Facet	0,04
022061	ODMT 04 04APEN-41	X500		◆◆		12,7	4,0	4,76	Facet	0,04
027724	ODMT 04 04APEN-41	SP6564		◆◆		12,7	4,0	4,76	Facet	0,04
017303	ODMT 04 0408EN-41	MP91M				12,7	4,0	4,76	0,8	0,04
015143	ODMT 04 0408EN-41	X500	◆◆			12,7	4,0	4,76	0,8	0,04
027723	ODMT 04 0408EN-41	SP6564	◆◆			12,7	4,0	4,76	0,8	0,04
017304	ODMW 04 0408SN	MP91M	◆◆			12,7	4,0	4,76	0,8	0,27
015130	ODMW 04 0408SN	PFZ				12,7	4,0	4,76	0,8	0,27
017671	ODMW 04 0408SN	SF30				12,7	4,0	4,76	0,8	0,27
024115	ODMW 04 0408SN	X44				12,7	4,0	4,76	0,8	0,27
017672	ODMW 04 0408SN	X500				12,7	4,0	4,76	0,8	0,27
027197	ODMW 04 0408SN	SP6564	◆			12,7	4,0	4,76	0,8	0,27



## Linear Ramp Milling Method



$$Lm = \frac{a}{\tan \times E}$$

## OD\_04 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	0,30 - 0,50	2,0 - 3,5	220 - 260	0,20 - 0,35	1,0 - 2,0	220 - 300	0,08 - 0,15	0,2 - 1,0
◆ Alloyed Steels	70 - 110	0,27 - 0,40	2,0 - 3,5	100 - 150	0,20 - 0,30	1,0 - 2,0	100 - 195	0,08 - 0,15	0,2 - 1,0
◆ Stainless Steels	120 - 140	0,20 - 0,35	2,0 - 3,5	140 - 180	0,15 - 0,25	1,0 - 2,0	180 - 230	0,05 - 0,15	0,2 - 1,0
◆ PH Stainless	55 - 70	0,15 - 0,25	2,0 - 3,5	70 - 85	0,10 - 0,20	1,0 - 2,0	80 - 100	0,05 - 0,10	0,2 - 1,0
◆ Cast Irons	140 - 280	0,30 - 0,35	2,0 - 3,5	180 - 300	0,15 - 0,25	1,0 - 2,0	200 - 350	0,05 - 0,15	0,2 - 1,0
◆ Aluminium & Alloys	275 - 450	0,20 - 0,30	2,0 - 3,5	400 - 750	0,10 - 0,25	1,0 - 2,0	700 - 1000	0,05 - 0,15	0,2 - 1,0
◆ High Temp. Alloys	25 - 40	0,15 - 0,25	2,0 - 3,5	35 - 50	0,10 - 0,20	1,0 - 2,0	45 - 60	0,05 - 0,10	0,2 - 1,0
◆ Hard Steels (52-56 HRC)	-	-	-	-	-	-	-	-	-

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

## Star Guide Key to Recommended Tools

Material Designations					
◆	◆ Unalloyed Steels	◆	◆ Stainless Steels	◆	◆ Cast Irons
◆	◆ Alloyed Steels	◆	◆ PH Stainless	◆	◆ Aluminium & Alloys
◆		◆		◆	◆ High Temp. Alloys
◆		◆		◆	◆ Hard Materials