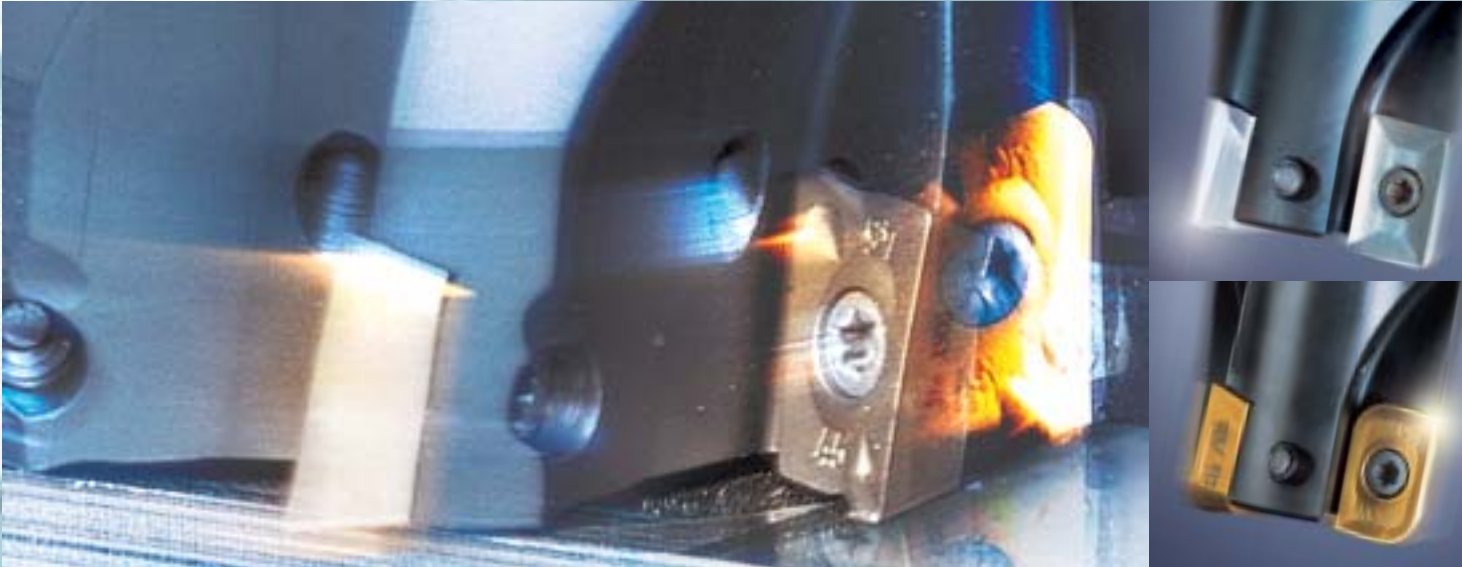


**general** engineering

## 7690VA12 - 90° Milling

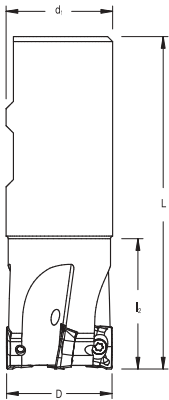


### PERFORMANCE FEATURES

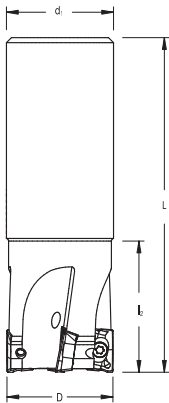
- 90° approach angle for accurate shoulder, slot and pocket milling.
- 11mm cutting depth: high feed rate with a compact design.
- Choice of two body styles: standard and close pitch.
- High metal removal capability and excellent surface finish.
- 4mm thick inserts for greater security in difficult applications.
- Through coolant for optimum chip evacuation.
- 5 grades for all materials applications.



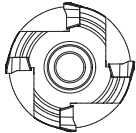
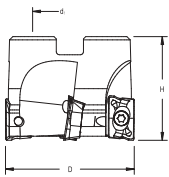
# 7690VA12 Milling Cutter



Weldon Shank



Cylindrical Shank



Shell Mill Fixation



Depth of Cut (a)

## 7690 VA 12 Weldon Shank Coarse Pitch

EDP #	Part Number	Dimensions mm						No. of inserts	Spares		
		D	L/H	$l_2$	$d_1$	$a_{max.}$	EDP #		EDP #	T8	
027917	7690VA12WA020Z02R032	20	82	32	20	11	2	027860	F3007T	022157	T8
027918	7690VA12WA025Z02R040	25	96	40	25	11	2	027860	F3007T	022157	T8
027919	7690VA12WA032Z03R040	32	100	40	32	11	3	027860	F3007T	022157	T8
027920	7690VA12WA040Z04R050	40	110	50	32	11	4	027860	F3007T	022157	T8

## 7690 VA 12 Weldon Shank Fine Pitch

027921	7690VA12WA025Z03R040	25	96	40	25	11	3	027860	F3007T	022157	T8
027922	7690VA12WA032Z04R040	32	100	40	32	11	4	027860	F3007T	022157	T8
027923	7690VA12WA040Z05R050	40	110	50	32	11	5	027860	F3007T	022157	T8

## 7690 VA 12 Long Version Cylindrical Shank

027924	7690VA12CA020Z02R154	20	204	154	20	11	2	027860	F3007T	022157	T8
027925	7690VA12CA025Z03R154	25	210	154	25	11	3	027860	F3007T	022157	T8
027926	7690VA12CA032Z04R190	32	250	190	32	11	4	027860	F3007T	022157	T8

## 7690 VA 12 Shell Mill Fixation Coarse Pitch

027927	7690VA12-A040Z04R	40	32	-	16	11	4	027860	F3007T	022157	T8
027928	7690VA12-A050Z05R	50	40	-	22	11	5	027860	F3007T	022157	T8
027929	7690VA12-A063Z06R	63	40	-	22	11	6	027860	F3007T	022157	T8
027930	7690VA12-A080Z07R	80	50	-	27	11	7	027860	F3007T	022157	T8

## 7690 VA 12 Shell Mill Fixation Fine Pitch

027931	7690VA12-A040Z05R	40	32	-	16	11	5	027860	F3007T	022157	T8
027932	7690VA12-A050Z06R	50	40	-	22	11	6	027860	F3007T	022157	T8
027933	7690VA12-A063Z08R	63	40	-	22	11	8	027860	F3007T	022157	T8
027934	7690VA12-A080Z10R	80	50	-	27	11	10	027860	F3007T	022157	T8

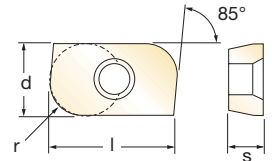
Note: for radius greater than 1,2mm cutter body has to be modified.

## 7690VA12 Technical Advice

Milling Cutter Order Example: **7690VA12WA020Z02R032**

Milling Insert Order Example: **ADHT12T3PDER-46 SP6564**

# Inserts for 7690VA12



EDP #	Part Number	Grade	Application & Material			Dimensions (mm)				
			Roughing ▼	Semi-Finishing ▼▼	Finishing ▼▼▼	d	l	s	r	h <sub>m</sub> min
027915	ADKT12T3PDER-45	MP91M	◆	◆	◆	7,87	12,70	3,97	Facet	0,05
027916	ADKT12T3PDER-45	SC3025	◆	◆	◆	7,87	12,70	3,97	Facet	0,05
027914	ADKT12T3PDER-45	SP6564		◆	◆	7,87	12,70	3,97	Facet	0,05
027913	ADKT12T3PDER-45	X500	◆			7,87	12,70	3,97	Facet	0,05

ADKT 12\_ -45



029098	ADGT12T3PDFR-721	GH1	◆	◆	◆	7,96	12,9	4,4	Facet	0,05
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ADGT 12\_ -721



029326	ADHT12T3PDER-46	SP6564		◆◆◆	◆◆◆	8,0	12,9	4,4	Facet	0,05
029327	ADHT12T3PDER-46	X500	◆◆◆			8,0	12,9	4,4	Facet	0,05
029328	ADHT12T308ER-46	SP6564		◆◆◆	◆◆◆	8,0	12,9	4,4	0,8	0,05
029329	ADHT12T308ER-46	X500	◆◆◆			8,0	12,9	4,4	0,8	0,05
029330	ADHT12T316ER-46	SP6564		◆◆◆	◆◆◆	8,0	12,9	4,4	1,6	0,05
029331	ADHT12T316ER-46	X500	◆◆◆			8,0	12,9	4,4	1,6	0,05
029336	ADHT12T320ER-46	SP6564		◆◆◆	◆◆◆	8,0	12,9	4,4	2,0	0,05
029337	ADHT12T320ER-46	X500	◆◆◆			8,0	12,9	4,4	2,0	0,05
029332	ADHT12T324ER-46	SP6564		◆◆◆	◆◆◆	8,0	12,9	4,4	2,4	0,05
029333	ADHT12T324ER-46	X500	◆◆◆			8,0	12,9	4,4	2,4	0,05
029338	ADHT12T330ER-46	SP6564		◆◆◆	◆◆◆	8,0	12,9	4,4	3,0	0,05
029339	ADHT12T330ER-46	X500	◆◆◆			8,0	12,9	4,4	3,0	0,05
029037	ADHT12T332ER-46	SP6564		◆◆◆	◆◆◆	8,0	12,9	4,4	3,2	0,05
029036	ADHT12T332ER-46	X500	◆◆◆			8,0	12,9	4,4	3,2	0,05
029334	ADHT12T340ER-46	SP6564		◆◆◆	◆◆◆	8,0	12,9	4,4	4,0	0,05
029335	ADHT12T340ER-46	X500	◆◆◆			8,0	12,9	4,4	4,0	0,05

ADHT 12\_ -46



## GEOMETRY

Two new geometries are completing the AD...12 range of inserts.

- 721 is the ideal solution for machining aluminium and alloys. The fully ground periphery allows for a consistent edge condition. The insert's top surface is polished, to enhance chip removal.
- 46 geometry is the 1st choice for machining high temperature alloys and stainless steels.

-46 geometry is fully peripheral ground for increased accuracy. The inserts are available with a ground facet for improved surface finishes on the component floor, and the peripheral grinding produces a consistent edge condition and accurate radius form, which leads to longer tool life.

## Star Guide Key to Recommended Inserts

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



## Recommended Cutting Data for -45 geometry

Material	▼ Roughing			▼▼ Semi-finishing			▼▼▼ Finishing		
	Speed $V_C$ (m/min)	Feed $f_z$ (mm/tooth)	D.O.C $a_p$ (mm)	Speed $V_C$ (m/min)	Feed $f_z$ (mm/tooth)	D.O.C $a_p$ (mm)	Speed $V_C$ (m/min)	Feed $f_z$ (mm/tooth)	D.O.C $a_p$ (mm)
◆ Unalloyed Steels	18 - 220	0.08 - 0.15	7.00 - 11.00	220 - 260	0.08 - 0.20	2.50 - 7.00	220 - 300	0.10 - 0.30	0.20 - 2.50
◆ Alloyed Steels	70 - 110	0.08 - 0.15	7.00 - 11.00	100 - 265	0.08 - 0.20	2.50 - 7.00	125 - 270	0.08 - 0.26	0.20 - 2.50
◆ Stainless Steels	-	-	-	-	-	-	-	-	-
◆ PH Stainless	-	-	-	-	-	-	-	-	-
◆ Cast Irons	160 - 300	0.08 - 0.15	7.00 - 11.00	200 - 320	0.08 - 0.18	2.50 - 7.00	220 - 370	0.10 - 0.25	0.20 - 2.50
◆ Aluminium & Alloys	-	-	-	-	-	-	-	-	-
◆ High Temp. Alloys	-	-	-	-	-	-	-	-	-
◆ Hard Steels (52-56 HRC)	-	-	-	-	-	-	-	-	-

## Recommended Cutting Data for -46 geometry

Material	▼ Roughing			▼▼ Semi-finishing			▼▼▼ Finishing		
	Speed $V_C$ (m/min)	Feed $f_z$ (mm/tooth)	D.O.C $a_p$ (mm)	Speed $V_C$ (m/min)	Feed $f_z$ (mm/tooth)	D.O.C $a_p$ (mm)	Speed $V_C$ (m/min)	Feed $f_z$ (mm/tooth)	D.O.C $a_p$ (mm)
◆ Unalloyed Steels	-	-	-	-	-	-	-	-	-
◆ Alloyed Steels	70 - 110	0.06 - 0.15	7.00 - 11.00	82 - 150	0.06 - 0.18	2.50 - 7.00	90 - 180	0.06 - 0.22	0.20 - 2.50
◆ Stainless Steels	115 - 160	0.08 - 0.18	7.00 - 11.00	125 - 200	0.08 - 0.18	2.50 - 7.00	150 - 270	0.08 - 0.18	0.20 - 2.50
◆ PH Stainless	95 - 150	0.08 - 0.18	7.00 - 11.00	115 - 180	0.08 - 0.18	2.50 - 7.00	125 - 240	0.08 - 0.18	0.20 - 2.50
◆ Cast Irons	-	-	-	-	-	-	-	-	-
◆ Aluminium & Alloys	-	-	-	-	-	-	-	-	-
◆ High Temp. Alloys	25 - 40	0.04 - 0.10	7.00 - 11.00	30 - 50	0.04 - 0.12	2.50 - 7.00	30 - 60	0.04 - 0.14	0.20 - 2.50
◆ Hard Steels (52-56 HRC)	-	-	-	-	-	-	-	-	-

## Recommended Cutting Data for -721 geometry

Material	▼ Roughing			▼▼ Semi-finishing			▼▼▼ Finishing		
	Speed $V_C$ (m/min)	Feed $f_z$ (mm/tooth)	D.O.C $a_p$ (mm)	Speed $V_C$ (m/min)	Feed $f_z$ (mm/tooth)	D.O.C $a_p$ (mm)	Speed $V_C$ (m/min)	Feed $f_z$ (mm/tooth)	D.O.C $a_p$ (mm)
◆ Unalloyed Steels	-	-	-	-	-	-	-	-	-
◆ Alloyed Steels	-	-	-	-	-	-	-	-	-
◆ Stainless Steels	-	-	-	-	-	-	-	-	-
◆ PH Stainless	-	-	-	-	-	-	-	-	-
◆ Cast Irons	-	-	-	-	-	-	-	-	-
◆ Aluminium & Alloys	200 - 800	0.04 - 0.15	7.00 - 11.00	300 - 1200	0.04 - 0.18	2.50 - 7.00	400 - 1600	0.04 - 0.20	0.20 - 2.50
◆ High Temp. Alloys	-	-	-	-	-	-	-	-	-
◆ Hard Steels (52-56 HRC)	-	-	-	-	-	-	-	-	-