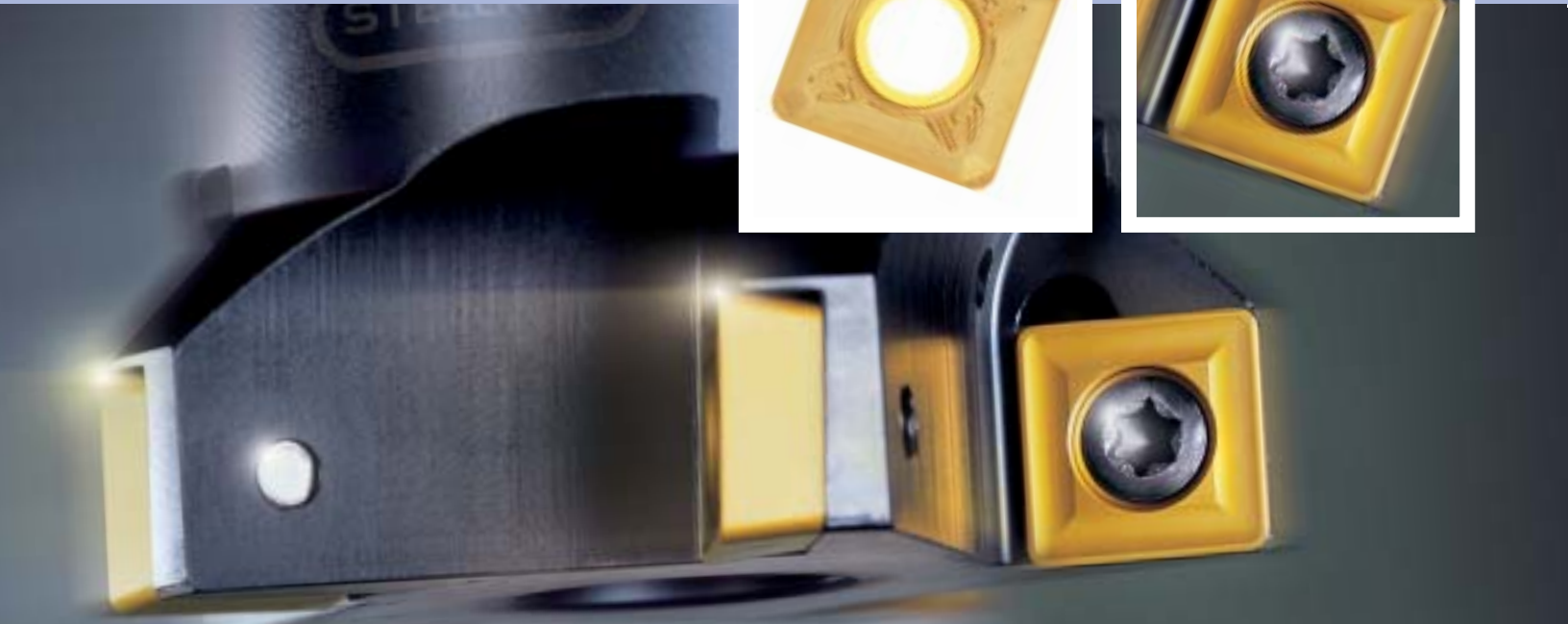


**STELLRAM**®

# New! Plunge Milling 7791VS

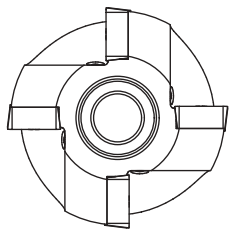
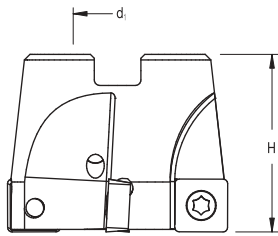


## PERFORMANCE FEATURES

- Ideal tool for stepover-plunge-slotting and core plunging.
- High metal removal rate and excellent chip evacuation.
- Principally Z-axial cutting force minimises tool deflection and side forces.
- System extremely efficient in all roughing operations and deep cavities.
- Ideal for aerospace and mold making industries.
- Wide range of grades and geometries for all applications.

Stellram® tooling systems for  
all your milling requirements.

# 7791VS – Shell Mill Fixation



Shell Mill Fixation

## 7791VS09 Shell Mill Fixation

EDP #	Part Number	Insert	Dimensions mm					Spares			
			D	d <sub>1</sub>	H	Z	a <sub>e</sub>	EDP #	EDP #	EDP #	EDP #
029342	<b>C7791VS09-A1.50Z04R</b>	SC..09T3	1.500	0.500	1.260	4	0.315	015269	F3508T	015240	T15
029343	<b>C7791VS09-A2.00Z05R</b>	SC..09T3	2.000	0.750	1.575	5	0.315	015269	F3508T	015240	T15

## 7791VS12 Shell Mill Fixation

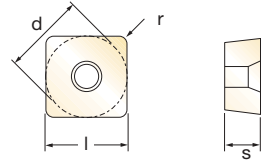
EDP #	Part Number	Insert	Dimensions mm					Spares			
			D	d <sub>1</sub>	H	Z	a <sub>e</sub>	EDP #	EDP #	EDP #	EDP #
029344	<b>C7791VS12-A2.50Z05R</b>	SC..12M5	2.500	0.750	1.575	5	0.433	015270	F4011T	015241	T20
029345	<b>C7791VS12-A3.00Z06R</b>	SC..12M5	3.000	1.000	1.969	6	0.433	015270	F4011T	015241	T20
029346	<b>C7791VS12-A4.00Z08R</b>	SC..12M5	4.000	1.250	1.969	8	0.433	015270	F4011T	015241	T20
029347	<b>C7791VS12-A5.00Z09R</b>	SC..12M5	5.000	1.500	2.480	9	0.433	015270	F4011T	015241	T20
029348	<b>C7791VS12-6.00Z12R</b>	SC..12M5	6.000	1.500	2.480	12	0.433	015270	F4011T	015241	T20

## 7791VS Technical Advice

Milling Cutter Order Example: **C7791VS09-A1.50Z04R**  
 Milling Insert Order Example: **SCMT09T308EN-41 SP6564**



# Inserts for 7791VS



EDP #	Part Number	Grade	Application & Material			Dimensions (in)				
			Roughing ▼	Semi-Finishing ▼▼	Finishing ▼▼▼	d	l	s	r	h <sub>m</sub> min
018186	SCMT09T308E	GH1	◆	◆	◆	0.375	0.375	0.156	0.031	-
017315	SCMT09T308EN-41	MP91M	◆◆			0.375	0.375	0.156	0.031	-
024107	SCMT09T308EN-41	PFZ				0.375	0.375	0.156	0.031	-
015147	SCMT09T308EN-41	X500	◆◆			0.375	0.375	0.156	0.031	-
027731	SCMT09T308EN-41	SP6564	◆◆◆			0.375	0.375	0.156	0.031	-
018192	SCMT12M508E	GH1	◆			0.500	0.500	5,00	0.031	-
017709	SCMT12M512E	GH1	◆			0.500	0.500	5,00	0.047	-
017316	SCMT12M512E	MP91M	◆◆			0.500	0.500	5,00	0.047	-
015227	SCMT12M512E	PFZ				0.500	0.500	5,00	0.047	-
017710	SCMT12M512E	SFZ	◆◆			0.500	0.500	5,00	0.047	-
024129	SCMT12M512E	X500	◆			0.500	0.500	5,00	0.047	-
017317	SCMT12M512EN-41	MP91M	◆◆			0.500	0.500	5,00	0.047	-
024108	SCMT12M512EN-41	PFZ				0.500	0.500	5,00	0.047	-
015226	SCMT12M512EN-41	X500	◆◆			0.500	0.500	5,00	0.047	-
027732	SCMT12M512EN-41	SP6564	◆◆◆			0.500	0.500	5,00	0.047	-



## Recommended Cutting Conditions

Material	▼ Roughing				▼▼ Semi-finishing		▼▼▼ Finishing	
	Speed V <sub>C</sub> (feet/min)	a <sub>e</sub> 0.118 - 0.315 Feed SCMT09 f <sub>z</sub> (in/tooth)	a <sub>e</sub> 0.118 - 0.276 Feed SCMT12 f <sub>z</sub> (in/tooth)	a <sub>e</sub> 0.315 - 0.433 Feed SCMT12 f <sub>z</sub> (in/tooth)	Speed V <sub>C</sub> (m/min)	Feed f <sub>z</sub> (mm/tooth)	Speed V <sub>C</sub> (m/min)	Feed f <sub>z</sub> (mm/tooth)
◆ Unalloyed Steels	425 - 985	0.005 - 0.012	0.005 - 0.012	0.005 - 0.009	-	-	-	-
◆ Alloyed Steels	345 - 655	0.005 - 0.010	0.005 - 0.010	0.005 - 0.008	-	-	-	-
◆ Stainless Steels	375 - 785	0.005 - 0.010	0.005 - 0.010	0.005 - 0.007	-	-	-	-
◆ PH Stainless	-	-	-	-	-	-	-	-
◆ Cast Irons	345 - 1195	0.005 - 0.012	0.005 - 0.012	0.005 - 0.010	-	-	-	-
◆ Aluminum & Alloys	1310 - 3280	0.005 - 0.009	0.005 - 0.009	0.005 - 0.008	-	-	-	-
◆ High Temp. Alloys	98 - 280	0.002 - 0.005	0.002 - 0.005	0.002 - 0.003	-	-	-	-
◆ Hard Steels (52-56 HRc)	-	-	-	-	-	-	-	-

### Star Guide Key to Recommended Inserts

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

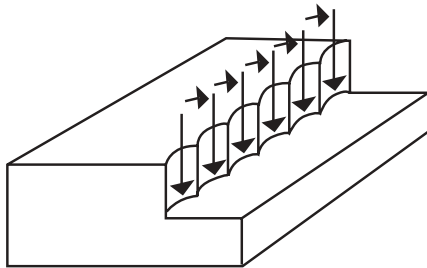


# Technical Data

## Tool Definition - Scallop height and step over

Diameter	Tool definition (in)						
	1.5	2	2.5	3	4	5	6
Insert size	0.354	0.354	0.472	0.472	0.472	0.472	0.472
$a_e$ max	0.315	0.315	0.394	0.394	0.394	0.394	0.394
Scallop height	Step over (in)						
	0.010	0.248	0.278	0.312	0.352	0.393	0.440
0.020	0.350	0.392	0.440	0.496	0.555	0.621	0.681
0.030	0.427	0.479	0.538	0.607	0.679	0.760	0.833
0.039	0.492	0.551	0.620	0.700	0.783	0.877	0.961
0.079	0.686	0.771	0.870	0.983	1.102	1.235	1.355
0.118	0.830	0.935	1.056	1.197	1.343	1.506	1.654
0.157	0.945	1.068	1.210	1.373	1.543	1.732	1.903
0.197	1.042	1.181	1.341	1.525	1.716	1.929	2.120
0.236	1.125	1.279	1.456	1.659	1.870	2.104	2.314
0.276	1.197	1.366	1.559	1.780	2.009	2.263	2.491
0.315	1.260	1.443	1.652	1.890	2.136	2.409	2.654
0.354			1.736	1.990	2.253	2.544	2.805
0.394			1.813	2.083	2.362	2.670	2.946

The scallop height is calculated in relation with the step over.

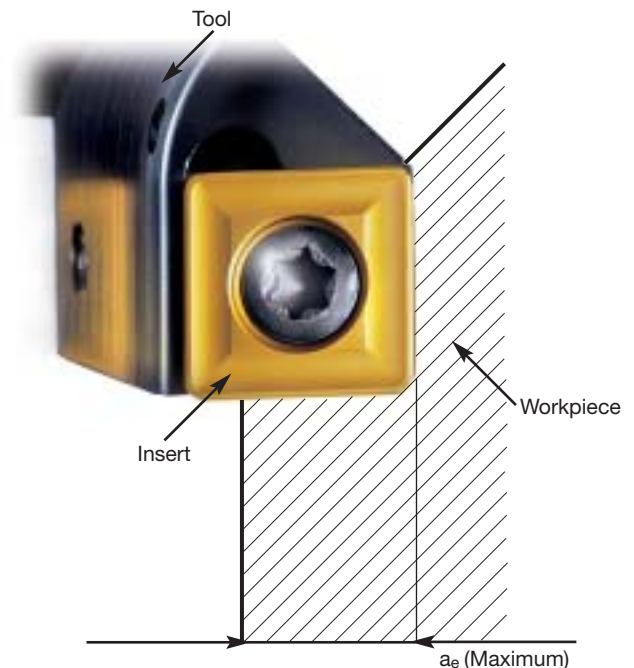
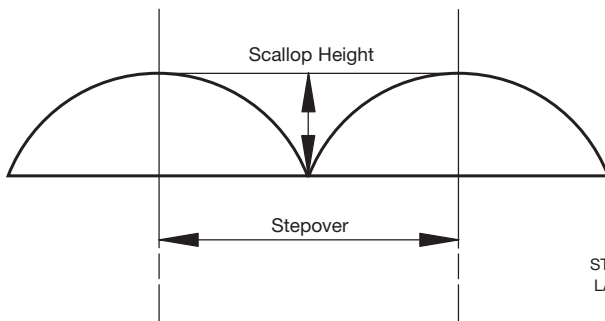


The maximum radial engagement is directly in relation with insert cutting edge length.

For insert type: **SC...09** the  $a_e$ , max is 0.315".

For insert type: **SC...12** the  $a_e$ , max is 0.433".

The cutting edge should not be in contact with the material face after machining to maintain the cutting edge quality.



STELLRAM U.S.A. 1 TELEDYNE PLACE,  
LAVERGNE, TENNESSEE, U.S.A. 37086

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