



Facing



Ramping



Helical Interpolation



Pocketing



Plunging



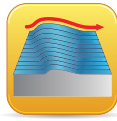
Helical Interpolation with Bore Hole



Slotting / Shoulder



Spiral / Circular



Copy / 3D

HIGH FEED CUTTERS

7792VX high feed milling cutters are capable of high metal removal in facing, plunging and slotting applications. The patented insert design offers better performance than round insert cutters.

The 7792VX high feed cutters are the best solution when specifically focusing on reducing cycle times or removing the maximum volume of material in the shortest time.

Our high feed cutter has the capacity to achieve 5 times higher feed rate than other existing cutters in the market. This is due to its unique design and insert positioning. 7792VX cutters also has a tremendous advantage, when used in a long (extended) toolholder. These cutters absorb vibration and greatly reduces the instability and deflection of the tool.

7792VX cutters are designed for a wide range of applications. Facing, pocketing, ramping, helical interpolation and plunging. They are capable of machining all materials such as Steel, Stainless Steel, Cast Iron and High Temperature Alloys. Also suitable for machining Aluminum Alloys.



US Patent #7,220,083 / #7,600,952 / #7,806,634 / # 7,988,387 / #8,162,152
EU Patent #EP 1689 548 B1 / # EP 1897 643 B1

7792VXP06:

Maximum $a_p = 0.035"$
Diameter Range = 0.625" to 1.250"

7792VXD09:

Maximum $a_p = 0.059"$
Diameter Range = 1.000" to 2.000"

7792VXD12:

Maximum $a_p = 0.098"$
Diameter Range = 1.250" to 6.300"
Note: Larger diameter Shell Mill Fixation cutters with interchangeable cartridges are available. Please see page 126.

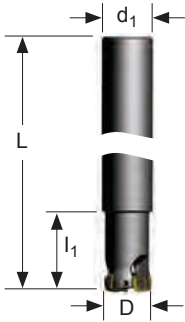
7792VXE16:

Maximum $a_p = 0.138"$
Diameter Range = 2.500" to 6.000"
Note: Larger diameter Shell Mill Fixation cutters with interchangeable cartridges are available. Please see page 128.



7792VXP06

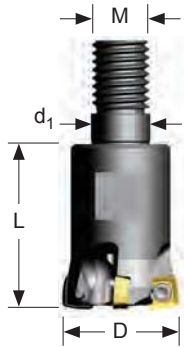
High Feed Milling Cutter



Cylindrical Shank



Product		Dimensions (inch)						Spares				
EDP	Item Description	D	L/H	l ₁	d ₁	a _p max	No. of Teeth	EDP		EDP		Screw Tightening in. lbs.
7792VXP06 Cylindrical Shank												
031643	C7792VXP06CA.62Z2R5.5	0.625	7.420	0.980	0.625	0.035	2	031449	FP2506T	031452	TP7	8.90
031620	C7792VXP06CA.75Z3R6.1	0.750	8.090	1.260	0.750	0.035	3	031449	FP2506T	031452	TP7	8.90
031621	C7792VXP06CA1.0Z4R6.1	1.000	8.340	1.575	1.000	0.035	4	031450	FP2507T	031452	TP7	8.90
031622	C7792VXP06CA1.25Z5R8	1.250	9.760	1.575	1.250	0.035	5	031450	FP2507T	031452	TP7	8.90

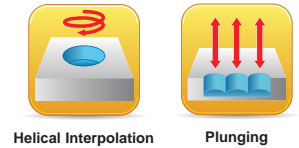


Modular Head

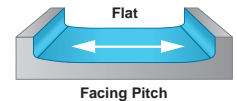
Product		Dimensions (inch)						Spares				
EDP	Item Description	D	L/H	M	d ₁	a _p max	No. of Teeth	EDP		EDP		Screw Tightening in. lbs.
7792VXP06 Modular Head - Medium and Fine Pitch												
031623	A7792VXP06SA.625Z2R1	0.625	1.000	M8	0.335	0.035	2	031449	FP2506T	031452	TP7	8.90
031624	A7792VXP06SA.75Z2R1.4	0.750	1.377	M10	0.413	0.035	2	031449	FP2506T	031452	TP7	8.90
031625	A7792VXP06SA.75Z3R1.4	0.750	1.377	M10	0.413	0.035	3	031449	FP2506T	031452	TP7	8.90
031626	A7792VXP06SA1.0Z3R1.4	1.000	1.377	M12	0.492	0.035	3	031450	FP2507T	031452	TP7	8.90
031627	A7792VXP06SA1.0Z4R1.4	1.000	1.377	M12	0.492	0.035	4	031450	FP2507T	031452	TP7	8.90
031628	A7792VXP06SA1.25Z5R2	1.250	1.693	M16	0.669	0.035	5	031450	FP2507T	031452	TP7	8.90

Note: For cylindrical shank extensions in high density alloy with through coolant refer to page 86.

7792VXP06 Technical Information (inch)									
Product		Dimensions							
EDP	Item Description	Facing Pitch	Ramping Angle		Helical Hole min. - max.	a _p max Helical / Linear	a _e max Plunging	Max RPM	
			A °	B °					
031643	C7792VXP06CA.62Z2R5.5	0.255	6.09	8.20	0.850	1.170	0.023	0.118	65,000
031620	C7792VXP06CA.75Z3R6.1	0.380	3.86	6.74	1.100	1.420	0.023	0.118	57,000
031621	C7792VXP06CA1.0Z4R6.1	0.630	2.11	4.34	1.600	1.920	0.023	0.118	49,000
031622	C7792VXP06CA1.25Z5R8	0.880	1.43	2.69	2.100	2.420	0.023	0.118	41,500
031623	A7792VXP06SA.625Z2R1	0.255	6.09	8.20	0.850	1.170	0.023	0.118	65,000
031624	A7792VXP06SA.75Z2R1.4	0.380	3.86	6.74	1.100	1.420	0.023	0.118	57,000
031625	A7792VXP06SA.75Z3R1.4	0.380	3.86	6.74	1.100	1.420	0.023	0.118	57,000
031626	A7792VXP06SA1.0Z3R1.4	0.630	2.11	4.34	1.600	1.920	0.023	0.118	49,000
031627	A7792VXP06SA1.0Z4R1.4	0.630	2.11	4.34	1.600	1.920	0.023	0.118	49,000
031628	A7792VXP06SA1.25Z5R2	0.880	1.43	2.69	2.100	2.420	0.023	0.118	41,500

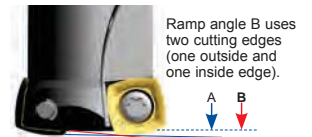


Helical Interpolation Plunging



Facing Pitch

Ramp angle A uses one outside cutting edge only.



A = max ramp angle utilizing full face contact
B = max ramp angle utilizing full contact + internal corner radius



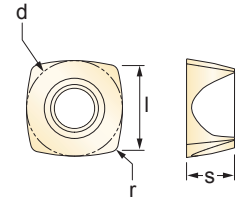
Depth of Cut (a_p)

7792VXP06

Milling Inserts & Recommended Feeds



XPLT06-D41



Product			Application & Material			Dimensions (inch)				
EDP	Item Description	Grade	Facing	Slotting	Plunging	d (IC)	l	s	r	h _m min
			Depth of Cut (inch)							
			a _p max. 0.035	a _p max. 0.035	a _e max. 0.118					
030403	XPLT060308ER-D41	X400	◆◆◆	◆◆◆	◆◆◆	0.276	0.276	0.125	0.031	0.002
030402	XPLT060308ER-D41	X500	◆◆◆	◆◆◆	◆◆◆	0.276	0.276	0.125	0.031	0.002
031538	XPLT060308ER-D41	SP6519	●◆◆◆	●◆◆◆	●◆◆◆	0.276	0.276	0.125	0.031	0.002
033066	XPLT060308ER-D41	SC6525	◆◆◆	◆◆◆	◆◆◆	0.276	0.276	0.125	0.031	0.002

Machining Choice: ◆ 1st Choice ■ 2nd Choice ● 3rd Choice | Material Guide Key descriptions found on page 9.



7792VXP06 Feeds f_z (inch/tooth)

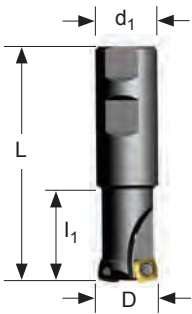
Geometry	Grade	Operation	Unalloyed Steel	Alloyed Steel	Stainless Steel	Stainless Steel Refractory PH	Gray Iron	Spheroidal-Ductile Iron	Malleable Iron	Aluminum & Alloys <16% Si 116 HBN	Aluminum & Silicon >16% Si 92 HBN	HTA Iron Based Alloys	HTA Cobalt Based Alloys	HTA Nickel Based Alloys	HTA Titanium Based Alloys	Hard Steel >1400 N/mm ² >415 HBN	Chilled Cast Iron >1400 N/mm ² >400 HBN
			Min. - Max.	Min. - Max.	Min. - Max.	Min. - Max.	Min. - Max.	Min. - Max.	Min. - Max.	Min. - Max.	Min. - Max.	Min. - Max.	Min. - Max.	Min. - Max.	Min. - Max.	Min. - Max.	Min. - Max.
ER-D41	X400	Facing	0.008 - 0.043	0.008 - 0.035	-	-	-	-	-	-	-	-	-	-	-	0.008 - 0.024	0.008 - 0.024
ER-D41	X400	Slotting	0.008 - 0.035	0.008 - 0.031	-	-	-	-	-	-	-	-	-	-	-	0.008 - 0.020	0.008 - 0.020
ER-D41	X400	Plunging	0.002 - 0.012	0.002 - 0.008	-	-	-	-	-	-	-	-	-	-	-	0.002 - 0.003	0.002 - 0.003
ER-D41	X500	Facing	-	-	0.006 - 0.039	0.006 - 0.035	-	-	-	-	-	0.006 - 0.020	0.006 - 0.020	0.006 - 0.020	0.006 - 0.024	-	-
ER-D41	X500	Slotting	-	-	0.006 - 0.031	0.006 - 0.030	-	-	-	-	-	0.004 - 0.016	0.004 - 0.016	0.004 - 0.016	0.004 - 0.018	-	-
ER-D41	X500	Plunging	-	-	0.002 - 0.008	0.002 - 0.006	-	-	-	-	-	0.002 - 0.002	0.002 - 0.002	0.002 - 0.002	0.002 - 0.002	-	-
ER-D41	SP6519	Facing	0.008 - 0.039	0.008 - 0.031	0.006 - 0.035	0.006 - 0.031	0.008 - 0.047	0.008 - 0.039	0.008 - 0.035	0.008 - 0.028	-	0.006 - 0.020	0.006 - 0.020	0.006 - 0.020	0.006 - 0.024	-	-
ER-D41	SP6519	Slotting	0.008 - 0.031	0.008 - 0.030	0.006 - 0.031	0.006 - 0.028	0.008 - 0.039	0.008 - 0.035	0.008 - 0.031	0.008 - 0.028	-	0.004 - 0.016	0.004 - 0.016	0.004 - 0.016	0.004 - 0.018	-	-
ER-D41	SP6519	Plunging	0.002 - 0.010	0.002 - 0.007	0.002 - 0.008	0.002 - 0.006	0.002 - 0.010	0.002 - 0.008	0.002 - 0.007	0.002 - 0.010	-	0.002 - 0.002	0.002 - 0.002	0.002 - 0.002	0.002 - 0.002	-	-
ER-D41	SC6525	Facing	0.006 - 0.039	0.006 - 0.031	-	-	0.008 - 0.047	0.008 - 0.039	-	-	-	-	-	-	-	-	-
ER-D41	SC6525	Slotting	0.006 - 0.030	0.006 - 0.027	-	-	0.008 - 0.039	0.008 - 0.035	-	-	-	-	-	-	-	-	-
ER-D41	SC6525	Plunging	0.002 - 0.008	0.002 - 0.006	-	-	0.002 - 0.010	0.002 - 0.008	-	-	-	-	-	-	-	-	-

Note: HTA = High Temperature Alloys

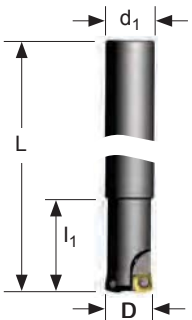
Note: Speed recommendations can be found on page 82.

7792VXD09

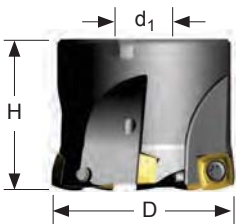
High Feed Milling Cutter



Weldon Shank



Cylindrical Shank



Shell Mill Fixation



Modular Head



Depth of Cut (ap)

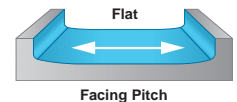
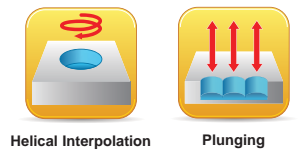


Product		Dimensions (inch)						Spares				
EDP	Item Description	D	L/H	l ₁	d ₁	ap max	No. of Teeth	EDP		EDP		Screw Tightening in. lbs.
7792VXD09 Weldon Shank												
029474	C7792VXD09WA1.00Z2R	1.000	3.855	1.574	1.000	0.059	2	015269	F3508T	015240	T15	18.60
029475	C7792VXD09WA1.25Z3R	1.250	3.855	1.574	1.250	0.059	3	015064	F3510T	015240	T15	18.60
7792VXD09 Cylindrical Shank												
031193	C7792VXD09CA1.00Z2R2	1.000	7.874	1.968	1.000	0.059	2	015269	F3508T	015240	T15	18.60
031194	C7792VXD09CA1.25Z3R3	1.250	9.842	2.755	1.250	0.059	3	015064	F3510T	015240	T15	18.60
7792VXD09 Shell Mill Fixation - Coarse, Medium and Fine Pitch												
029476	C7792VXD09-A1.50Z3R	1.500	1.260	-	0.500	0.059	3	015064	F3510T	015240	T15	18.60
029477	C7792VXD09-A1.50Z4R	1.500	1.260	-	0.500	0.059	4	015064	F3510T	015240	T15	18.60
030431	C7792VXD09-A1.50Z5R	1.500	1.260	-	0.500	0.059	5	015064	F3510T	015240	T15	18.60
030432	C7792VXD09-A2.00Z5R	2.000	1.574	-	0.750	0.059	5	015064	F3510T	015240	T15	18.60
030433	C7792VXD09-A2.00Z6R	2.000	1.574	-	0.750	0.059	6	015064	F3510T	015240	T15	18.60

Product		Dimensions (inch)						Spares				
EDP	Item Description	D	L/H	M	d ₁	ap max	No. of Teeth	EDP		EDP		Screw Tightening in. lbs.
7792VXD09 Modular Head												
030616	A7792VXD09SA1.0Z2R1.4	1.000	1.377	M12	0.492	0.059	2	015269	F3508T	015240	T15	18.60
030617	A7792VXD09SA1.25Z3R2	1.250	1.692	M16	0.669	0.059	3	015064	F3510T	015240	T15	18.60

Note: For cylindrical shank extensions in high density alloy with through coolant refer to page 86.

7792VXD09 Technical Information (inch)									
Product		Dimensions							
EDP	Item Description	Facing Pitch	Ramping Angle		Helical Hole min. - max.	ap max Helical / Linear	ae max Plunging	Max RPM	
			A °	B °					
029474	C7792VXD09WA1.00Z2R	0.478	2.70	8.00	1.370 1.920	0.020	0.236	48,000	
029475	C7792VXD09WA1.25Z3R	0.728	1.50	4.50	1.870 2.420	0.020	0.236	40,500	
031193	C7792VXD09CA1.00Z2R2	0.478	2.70	8.00	1.370 1.920	0.020	0.236	48,000	
031194	C7792VXD09CA1.25Z3R3	0.728	1.50	4.50	1.870 2.420	0.020	0.236	40,500	
029476	C7792VXD09-A1.50Z3R	0.980	1.10	2.70	2.370 2.920	0.020	0.236	36,000	
029477	C7792VXD09-A1.50Z4R	0.980	1.10	2.70	2.370 2.920	0.020	0.236	36,000	
030431	C7792VXD09-A1.50Z5R	0.980	1.10	2.70	2.370 2.920	0.020	0.236	36,000	
030432	C7792VXD09-A2.00Z5R	1.478	0.70	1.80	3.370 3.920	0.020	0.236	30,000	
030433	C7792VXD09-A2.00Z6R	1.478	0.70	1.80	3.370 3.920	0.020	0.236	30,000	
030616	A7792VXD09SA1.0Z2R1.4	0.480	2.70	8.10	1.370 1.920	0.020	0.236	48,000	
030617	A7792VXD09SA1.25Z3R2	0.728	1.50	4.50	1.870 2.420	0.020	0.236	40,500	



Ramp angle A uses one outside cutting edge only.

Ramp angle B uses two cutting edges (one outside and one inside edge).

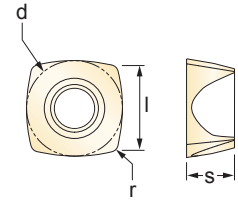


A = max ramp angle utilizing full face contact

B = max ramp angle utilizing full contact + internal corner radius

7792VXD09

Milling Inserts & Recommended Feeds



Product			Application & Material			Dimensions (inch)				
EDP	Item Description	Grade	Facing	Slotting	Plunging	d (IC)	l	s	r	h _m min
			Depth of Cut (inch)							
			a _p max. 0.059	a _p max. 0.059	a _e max. 0.236					
029487	XDLW090408SR-D	X400	◆◆◆	◆◆◆	◆◆◆	0.375	0.375	0.187	0.031	0.004
029485	XDLW090408SR-D	X500	●●●	●●●	●●●	0.375	0.375	0.187	0.031	0.004
029486	XDLW090408SR-D	SC3025	◆	◆	◆	0.375	0.375	0.187	0.031	0.004
029685	XDLT090408ER-D41	X500	◆◆◆	◆◆◆	◆◆◆	0.375	0.375	0.187	0.031	0.002
031535	XDLT090408ER-D41	SP6519	●◆◆◆	●◆◆◆	●◆◆◆	0.375	0.375	0.187	0.031	0.002
033067	XDLT090408ER-D41	SC6525	◆◆◆	◆◆◆	◆◆◆	0.375	0.375	0.187	0.031	0.002
029637	XDLT090408ER-D721	GH2	◆	◆	◆	0.375	0.375	0.187	0.031	0.001
030853	XDLT090412ER-D411	X500	◆◆◆	◆◆◆	◆◆◆	0.375	0.375	0.187	0.047	0.002
030854	XDLT090412ER-D411	SP6519	●◆◆◆	●◆◆◆	●◆◆◆	0.375	0.375	0.187	0.047	0.002

Machining Choice: ◆ 1st Choice ■ 2nd Choice ● 3rd Choice | Material Guide Key descriptions found on page 9.

XDLW090408SR-D X500 should be used for Alloy Steel and Stainless Steel with heavy scale.

XDLT090412ER-D411 is a more positive geometry than the -D-41 with a larger radius which increases performance during smaller radial engagements or where chipping may occur when using the -D-41 geometry. XDLT090412ER-D411 uses less power than the -D-41 geometry.

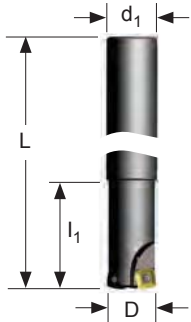
7792VXD09 Feeds f _z (inch/tooth)																	
Geometry	Grade	Operation	Unalloyed Steel	Alloyed Steel	Stainless Steel	Stainless Steel Refractory PH	Gray Iron	Spheroidal-Ductile Iron	Malleable Iron	Aluminum & Alloys <16% Si T16 HBN	Aluminum & Silicon >16% Si I92 HBN	HTA Iron Based Alloys	HTA Cobalt Based Alloys	HTA Nickel Based Alloys	HTA Titanium Based Alloys	Hard Steel >1400 N/mm ² >415 HBN	Chilled Cast Iron >1400 N/mm ² >400 HBN
			Min. - Max.	Min. - Max.	Min. - Max.	Min. - Max.	Min. - Max.	Min. - Max.	Min. - Max.	Min. - Max.	Min. - Max.	Min. - Max.	Min. - Max.	Min. - Max.	Min. - Max.	Min. - Max.	Min. - Max.
SR-D	X400	Facing	0.012 - 0.079	0.012 - 0.079	-	-	-	-	-	-	-	-	-	-	-	0.012 - 0.032	0.012 - 0.039
SR-D	X400	Slotting	0.012 - 0.059	0.012 - 0.059	-	-	-	-	-	-	-	-	-	-	-	0.012 - 0.024	0.012 - 0.032
SR-D	X400	Plunging	0.004 - 0.010	0.004 - 0.008	-	-	-	-	-	-	-	-	-	-	-	0.004 - 0.005	0.004 - 0.005
SR-D	X500	Facing	-	0.012 - 0.079	0.012 - 0.097	0.012 - 0.090	-	-	-	-	-	-	-	-	-	-	-
SR-D	X500	Slotting	-	0.012 - 0.059	0.012 - 0.035	0.012 - 0.032	-	-	-	-	-	-	-	-	-	-	-
SR-D	X500	Plunging	-	0.004 - 0.008	0.004 - 0.008	0.004 - 0.006	-	-	-	-	-	-	-	-	-	-	-
SR-D	SC3025	Facing	-	-	-	-	0.012 - 0.079	0.012 - 0.071	0.012 - 0.059	-	-	-	-	-	-	-	-
SR-D	SC3025	Slotting	-	-	-	-	0.012 - 0.067	0.012 - 0.059	0.012 - 0.051	-	-	-	-	-	-	-	-
SR-D	SC3025	Plunging	-	-	-	-	0.004 - 0.010	0.004 - 0.009	0.004 - 0.008	-	-	-	-	-	-	-	-
ER-D41	X500	Facing	-	0.012 - 0.059	0.008 - 0.039	0.008 - 0.030	-	-	-	-	-	0.008 - 0.024	0.008 - 0.024	0.008 - 0.024	0.008 - 0.032	-	-
ER-D41	X500	Slotting	-	0.012 - 0.043	0.008 - 0.032	0.006 - 0.025	-	-	-	-	-	0.004 - 0.020	0.004 - 0.020	0.004 - 0.020	0.004 - 0.028	-	-
ER-D41	X500	Plunging	-	0.004 - 0.007	0.004 - 0.006	0.003 - 0.005	-	-	-	-	-	0.002 - 0.003	0.002 - 0.003	0.002 - 0.003	0.002 - 0.004	-	-
ER-D41	SP6519	Facing	0.012 - 0.059	0.012 - 0.051	0.008 - 0.039	0.008 - 0.024	0.012 - 0.059	0.012 - 0.051	-	-	-	0.008 - 0.024	0.008 - 0.024	0.008 - 0.024	0.008 - 0.032	-	-
ER-D41	SP6519	Slotting	0.012 - 0.051	0.012 - 0.039	0.008 - 0.032	0.006 - 0.020	0.012 - 0.051	0.012 - 0.039	-	-	-	0.004 - 0.020	0.004 - 0.020	0.004 - 0.020	0.004 - 0.028	-	-
ER-D41	SP6519	Plunging	0.004 - 0.008	0.004 - 0.006	0.004 - 0.006	0.002 - 0.003	0.004 - 0.008	0.004 - 0.006	-	-	-	0.002 - 0.003	0.002 - 0.003	0.002 - 0.003	0.002 - 0.004	-	-
ER-D41	SC6525	Facing	0.008 - 0.047	0.008 - 0.039	-	-	0.012 - 0.059	0.012 - 0.051	-	-	-	-	-	-	-	-	-
ER-D41	SC6525	Slotting	0.008 - 0.040	0.008 - 0.032	-	-	0.012 - 0.051	0.012 - 0.039	-	-	-	-	-	-	-	-	-
ER-D41	SC6525	Plunging	0.004 - 0.008	0.004 - 0.006	-	-	0.004 - 0.008	0.004 - 0.006	-	-	-	-	-	-	-	-	-
ER-D721	GH2	Facing	-	-	-	-	-	-	-	0.012 - 0.039	0.012 - 0.039	-	-	-	-	-	-
ER-D721	GH2	Slotting	-	-	-	-	-	-	-	0.012 - 0.039	0.012 - 0.039	-	-	-	-	-	-
ER-D721	GH2	Plunging	-	-	-	-	-	-	-	0.004 - 0.012	0.004 - 0.012	-	-	-	-	-	-
ER-D411	X500	Facing	-	-	0.008 - 0.039	0.008 - 0.032	-	-	-	-	-	0.008 - 0.024	0.008 - 0.024	0.008 - 0.024	0.008 - 0.032	-	-
ER-D411	X500	Slotting	-	-	0.008 - 0.032	0.006 - 0.028	-	-	-	-	-	0.004 - 0.020	0.004 - 0.020	0.004 - 0.020	0.004 - 0.028	-	-
ER-D411	X500	Plunging	-	-	0.004 - 0.006	0.003 - 0.005	-	-	-	-	-	0.002 - 0.003	0.002 - 0.003	0.002 - 0.003	0.002 - 0.004	-	-
ER-D411	SP6519	Facing	0.012 - 0.059	0.012 - 0.051	0.008 - 0.006	0.008 - 0.024	0.012 - 0.059	0.012 - 0.051	-	-	-	0.008 - 0.024	0.008 - 0.024	0.008 - 0.024	0.008 - 0.032	-	-
ER-D411	SP6519	Slotting	0.012 - 0.051	0.012 - 0.039	0.008 - 0.032	0.006 - 0.020	0.012 - 0.051	0.012 - 0.039	-	-	-	0.004 - 0.020	0.004 - 0.020	0.004 - 0.020	0.004 - 0.028	-	-
ER-D411	SP6519	Plunging	0.004 - 0.008	0.004 - 0.006	0.004 - 0.006	0.002 - 0.003	0.004 - 0.008	0.004 - 0.006	-	-	-	0.002 - 0.003	0.002 - 0.003	0.002 - 0.003	0.002 - 0.004	-	-

Note: HTA = High Temperature Alloys

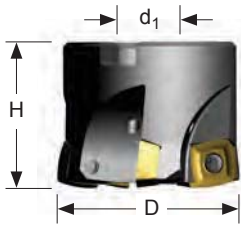
Note: Speed recommendations can be found on page 82.

7792VXD12

High Feed Milling Cutter



Cylindrical Shank



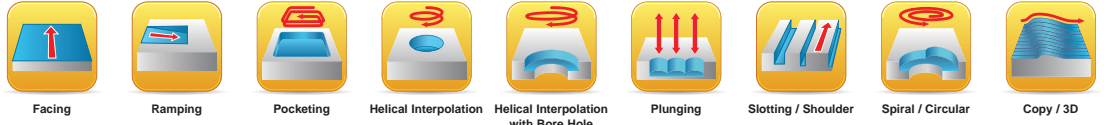
Shell Mill Fixation



Modular Head



Depth of Cut (ap)

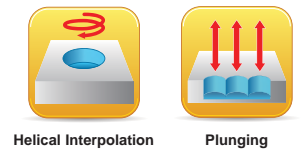


Product		Dimensions (inch)						Spares				
EDP	Item Description	D	L/H	l ₁	d ₁	ap max	No. of Teeth	EDP		EDP		Screw Tightening in. lbs.
7792VXD12 Cylindrical Shank												
031196	C7792VXD12CA1.25Z2R3	1.250	9.842	2.755	1.250	0.098	2	015262	D4010T	015240	T15	27.40
033070	C7792VXD12CA1.2I1.5Z3R3	1.500	9.842	2.755	1.250	0.098	3	015262	D4010T	015240	T15	27.40
7792VXD12 Shell Mill Fixation - Coarse, Medium and Fine Pitch												
029480	C7792VXD12-A2.00Z3R	2.000	1.574	-	0.750	0.098	3	015263	D4012T	015240	T15	27.40
029481	C7792VXD12-A2.00Z4R	2.000	1.574	-	0.750	0.098	4	015263	D4012T	015240	T15	27.40
030485	C7792VXD12-A2.00Z5R	2.000	1.574	-	0.750	0.098	5	015262	D4010T	015240	T15	27.40
029482	C7792VXD12-A2.50Z4R	2.500	1.574	-	1.000	0.098	4	015263	D4012T	015240	T15	27.40
029483	C7792VXD12-A2.50Z5R	2.500	1.574	-	1.000	0.098	5	015263	D4012T	015240	T15	27.40
029484	C7792VXD12-A3.00Z5R	3.000	1.970	-	1.000	0.098	5	015263	D4012T	015240	T15	27.40
030486	C7792VXD12-A3.00Z8R	3.000	1.970	-	1.000	0.098	8	015263	D4012T	015240	T15	27.40
030437	C7792VXD12-A4.00Z6R	4.000	1.970	-	1.250	0.098	6	015263	D4012T	015240	T15	27.40
030438	C7792VXD12-A4.00Z9R	4.000	1.970	-	1.250	0.098	9	015263	D4012T	015240	T15	27.40
030439	C7792VXD12-A5.00Z8R	5.000	2.480	-	1.500	0.098	8	015263	D4012T	015240	T15	27.40
030440	C7792VXD12-A5.00Z11R	5.000	2.480	-	1.500	0.098	11	015263	D4012T	015240	T15	27.40
030441	C7792VXD12-6.00Z8R	6.000	2.480	-	1.500	0.098	8	015263	D4012T	015240	T15	27.40
030442	C7792VXD12-6.00Z12R	6.000	2.480	-	1.500	0.098	12	015263	D4012T	015240	T15	27.40
033071	C7792VXD12-6.30Z8R	6.300	2.480	-	1.500	0.098	8	015263	D4012T	015240	T15	27.40

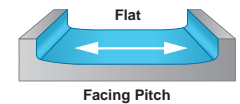
Product		Dimensions (inch)						Spares				
EDP	Item Description	D	L/H	M	d ₁	ap max	No. of Teeth	EDP		EDP		Screw Tightening in. lbs.
7792VXD12 Modular Head												
031086	A7792VXD12SA1.25Z2R2	1.250	1.693	M16	0.669	0.098	2	015262	D4010T	015240	T15	27.40
030727	A7792VXD12SA1.5Z3R1.7	1.500	1.750	M16	0.669	0.098	3	015262	D4010T	015240	T15	27.40

Note: For cylindrical shank extensions in high density alloy with through coolant refer to page 86.

7792VXD12 Technical Information (inch)										
Product		Dimensions								
EDP	Item Description	Facing Pitch	Ramping Angle		Helical Hole min. - max.	ap max Helical / Linear	ae max Plunging	Max RPM		
			A°	B°						
031196	C7792VXD12CA1.25Z2R3	0.526	1.80	2.60	1.630	2.420	0.070	0.354	31,500	
033070	C7792VXD12CA1.2I1.5Z3R3	0.770	0.95	1.60	2.130	2.920	0.070	0.354	27,500	
029480	C7792VXD12-A2.00Z3R	1.276	0.90	1.40	3.130	3.920	0.070	0.354	22,500	
029481	C7792VXD12-A2.00Z4R	1.276	0.90	1.40	3.130	3.920	0.070	0.354	22,500	
030485	C7792VXD12-A2.00Z5R	1.276	0.90	1.40	3.370	3.920	0.070	0.354	22,500	
029482	C7792VXD12-A2.50Z4R	1.776	0.60	0.90	4.130	4.920	0.070	0.354	22,500	
029483	C7792VXD12-A2.50Z5R	1.776	0.60	0.90	4.130	4.920	0.070	0.354	22,500	
029484	C7792VXD12-A3.00Z5R	2.276	0.45	0.90	5.130	5.920	0.070	0.354	17,500	
030486	C7792VXD12-A3.00Z8R	2.276	0.45	0.90	5.130	5.920	0.070	0.354	17,500	
030437	C7792VXD12-A4.00Z6R	3.270	0.31	1.42	7.130	7.920	0.070	0.354	14,500	
030438	C7792VXD12-A4.00Z9R	3.270	0.31	1.42	7.130	7.920	0.070	0.354	14,500	
030439	C7792VXD12-A5.00Z8R	4.270	0.24	1.04	9.130	9.920	0.070	0.354	13,000	
030440	C7792VXD12-A5.00Z11R	4.270	0.24	1.04	9.130	9.920	0.070	0.354	13,000	
030441	C7792VXD12-6.00Z8R	5.270	0.19	0.82	11.130	11.920	0.070	0.354	11,500	
030442	C7792VXD12-6.00Z12R	5.270	0.19	0.82	11.130	11.920	0.070	0.354	11,500	
033071	C7792VXD12-6.30Z8R	5.570	0.18	0.38	11.130	11.920	0.070	0.354	11,000	
031086	A7792VXD12SA1.25Z2R2	0.520	2.60	2.60	1.630	2.420	0.070	0.354	31,500	
030727	A7792VXD12SA1.5Z3R1.7	0.770	0.95	1.60	2.130	2.920	0.070	0.354	27,500	

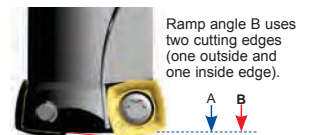


Helical Interpolation Plunging



Facing Pitch

Ramp angle A uses one outside cutting edge only.



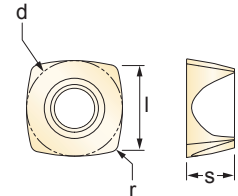
Ramp angle B uses two cutting edges (one outside and one inside edge).

A = max ramp angle utilizing full face contact

B = max ramp angle utilizing full contact + internal corner radius

7792VXD12

Milling Inserts & Recommended Feeds



Product			Application & Material			Dimensions (inch)				
EDP	Item Description	Grade	Facing	Slotting	Plunging	d (IC)	l	s	r	h _m min
			Depth of Cut (inch)							
			a _p max. 0.098	a _p max. 0.079	a _e max. 0.354					
029490	XDLW120508SR-D	X400	◆◆◆	◆◆◆	◆◆◆	0.472	0.472	0.219	0.031	0.004
029488	XDLW120508SR-D	X500	●●●	●●●	●●●	0.472	0.472	0.219	0.031	0.004
029489	XDLW120508SR-D	SC3025	◆	◆	◆	0.472	0.472	0.219	0.031	0.004
029682	XDLT120508ER-D41	X500	◆◆◆	◆◆◆	◆◆◆	0.472	0.472	0.219	0.031	0.002
031534	XDLT120508ER-D41	SP6519	●◆◆◆	●◆◆◆	●◆◆◆	0.472	0.472	0.219	0.031	0.002
033068	XDLT120508ER-D41	SC6525	◆◆◆	◆◆◆	◆◆◆	0.472	0.472	0.219	0.031	0.002
029638	XDLT120508ER-D721	GH2	◆	◆	◆	0.472	0.472	0.219	0.031	0.001
030783	XDLT120512ER-D411	X500	◆◆◆	◆◆◆	◆◆◆	0.472	0.472	0.219	0.047	0.002
030792	XDLT120512ER-D411	SP6519	●◆◆◆	●◆◆◆	●◆◆◆	0.472	0.472	0.219	0.047	0.002

Machining Choice: ◆ 1st Choice ■ 2nd Choice ● 3rd Choice | Material Guide Key descriptions found on page 9.

XDLW120508SR-D X500 should be used for Alloy Steel and Stainless Steel with heavy scale.

XDLT120512ER-D411 is a more positive geometry than the -D-41 with a larger radius which increases performance during smaller radial engagements or where chipping may occur when using the -D-41 geometry. XDLT120512ER-D411 uses less power than the -D-41 geometry.

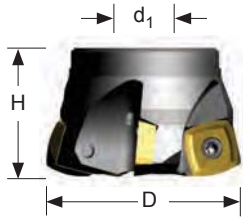
7792VXD12 Feeds f _z (inch/tooth)																		
Geometry	Grade	Operation	Unalloyed Steel	Alloyed Steel	Stainless Steel	Stainless Steel Refractory PH	Gray Iron	Spheroidal-Ductile Iron	Malleable Iron	Aluminum & Alloys <16% Si 116 HBN	Aluminum & Silicon >16% Si 192 HBN	HTA Iron Based Alloys	HTA Cobalt Based Alloys	HTA Nickel Based Alloys	HTA Titanium Based Alloys	Hard Steel >1400 N/mm ² >415 HBN	Chilled Cast Iron >1400 N/mm ² >400 HBN	
			Min. - Max.	Min. - Max.	Min. - Max.	Min. - Max.	Min. - Max.	Min. - Max.	Min. - Max.	Min. - Max.	Min. - Max.	Min. - Max.	Min. - Max.	Min. - Max.	Min. - Max.	Min. - Max.	Min. - Max.	Min. - Max.
			SR-D	X400	Facing	0.012 - 0.118	0.012 - 0.118	-	-	-	-	-	-	-	-	-	-	-
SR-D	X400	Slotting	0.012 - 0.079	0.012 - 0.079	-	-	-	-	-	-	-	-	-	-	-	0.012 - 0.031	0.012 - 0.039	
SR-D	X400	Plunging	0.004 - 0.012	0.004 - 0.010	-	-	-	-	-	-	-	-	-	-	-	0.004 - 0.005	0.004 - 0.006	
SR-D	X500	Facing	-	0.012 - 0.118	0.012 - 0.067	0.012 - 0.047	-	-	-	-	-	-	-	-	-	-	-	
SR-D	X500	Slotting	-	0.012 - 0.079	0.012 - 0.059	0.012 - 0.039	-	-	-	-	-	-	-	-	-	-	-	
SR-D	X500	Plunging	-	0.004 - 0.010	0.004 - 0.010	0.004 - 0.007	-	-	-	-	-	-	-	-	-	-	-	
SR-D	SC3025	Facing	-	-	-	-	0.012 - 0.118	0.012 - 0.110	0.012 - 0.098	-	-	-	-	-	-	-	-	
SR-D	SC3025	Slotting	-	-	-	-	0.012 - 0.098	0.012 - 0.091	0.012 - 0.083	-	-	-	-	-	-	-	-	
SR-D	SC3025	Plunging	-	-	-	-	0.004 - 0.012	0.004 - 0.011	0.004 - 0.010	-	-	-	-	-	-	-	-	
ER-D41	X500	Facing	-	-	0.008 - 0.055	0.008 - 0.030	-	-	-	-	-	0.008 - 0.033	0.008 - 0.033	0.008 - 0.033	0.008 - 0.040	-	-	
ER-D41	X500	Slotting	-	-	0.008 - 0.043	0.008 - 0.026	-	-	-	-	-	0.004 - 0.028	0.004 - 0.028	0.004 - 0.028	0.004 - 0.031	-	-	
ER-D41	X500	Plunging	-	-	0.004 - 0.008	0.003 - 0.006	-	-	-	-	-	0.002 - 0.004	0.002 - 0.004	0.002 - 0.004	0.002 - 0.005	-	-	
ER-D41	SP6519	Facing	0.012 - 0.098	0.012 - 0.091	0.008 - 0.047	0.008 - 0.030	0.012 - 0.098	0.012 - 0.091	-	-	-	0.008 - 0.033	0.008 - 0.033	0.008 - 0.033	0.008 - 0.040	-	-	
ER-D41	SP6519	Slotting	0.012 - 0.079	0.012 - 0.071	0.008 - 0.039	0.006 - 0.024	0.012 - 0.079	0.012 - 0.071	-	-	-	0.004 - 0.028	0.004 - 0.028	0.004 - 0.028	0.004 - 0.031	-	-	
ER-D41	SP6519	Plunging	0.004 - 0.009	0.004 - 0.007	0.004 - 0.007	0.002 - 0.004	0.004 - 0.009	0.004 - 0.007	-	-	-	0.002 - 0.004	0.002 - 0.004	0.002 - 0.004	0.002 - 0.005	-	-	
ER-D41	SC6525	Facing	0.008 - 0.079	0.008 - 0.065	-	-	0.012 - 0.098	0.012 - 0.090	-	-	-	-	-	-	-	-	-	
ER-D41	SC6525	Slotting	0.008 - 0.070	0.008 - 0.062	-	-	0.012 - 0.079	0.012 - 0.071	-	-	-	-	-	-	-	-	-	
ER-D41	SC6525	Plunging	0.004 - 0.009	0.004 - 0.008	-	-	0.004 - 0.009	0.004 - 0.007	-	-	-	-	-	-	-	-	-	
ER-D721	GH2	Facing	-	-	-	-	-	-	0.012 - 0.059	0.012 - 0.059	-	-	-	-	-	-	-	
ER-D721	GH2	Slotting	-	-	-	-	-	-	0.012 - 0.059	0.012 - 0.059	-	-	-	-	-	-	-	
ER-D721	GH2	Plunging	-	-	-	-	-	-	0.004 - 0.016	0.004 - 0.016	-	-	-	-	-	-	-	
ER-D411	X500	Facing	-	-	0.008 - 0.055	0.008 - 0.035	-	-	-	-	-	0.008 - 0.033	0.008 - 0.033	0.008 - 0.033	0.008 - 0.039	-	-	
ER-D411	X500	Slotting	-	-	0.008 - 0.043	0.008 - 0.031	-	-	-	-	-	0.004 - 0.028	0.004 - 0.028	0.004 - 0.028	0.004 - 0.031	-	-	
ER-D411	X500	Plunging	-	-	0.004 - 0.008	0.003 - 0.006	-	-	-	-	-	0.002 - 0.004	0.002 - 0.004	0.002 - 0.004	0.002 - 0.005	-	-	
ER-D411	SP6519	Facing	0.012 - 0.098	0.012 - 0.091	0.008 - 0.047	0.008 - 0.030	0.012 - 0.098	0.012 - 0.091	-	-	-	0.008 - 0.033	0.008 - 0.033	0.008 - 0.033	0.008 - 0.039	-	-	
ER-D411	SP6519	Slotting	0.012 - 0.079	0.012 - 0.071	0.008 - 0.039	0.006 - 0.024	0.012 - 0.079	0.012 - 0.071	-	-	-	0.004 - 0.028	0.004 - 0.028	0.004 - 0.028	0.004 - 0.031	-	-	
ER-D411	SP6519	Plunging	0.004 - 0.009	0.004 - 0.007	0.004 - 0.007	0.002 - 0.004	0.004 - 0.009	0.004 - 0.007	-	-	-	0.002 - 0.004	0.002 - 0.004	0.002 - 0.004	0.002 - 0.005	-	-	

Note: HTA = High Temperature Alloys

Note: Speed recommendations can be found on page 82.

7792VXE16

High Feed Milling Cutter

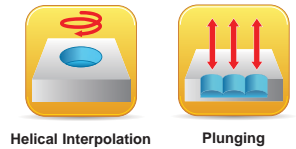


Shell Mill Fixation



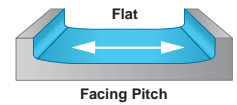
Product		Dimensions (inch)						Spares				
EDP	Item Description	D	L/H	l ₁	d ₁	a _p max	No. of Teeth	EDP		EDP		Screw Tightening in. lbs.
7792VXE16 Shell Mill Fixation												
031282	C7792VXE16-A2.5Z05R	2.500	1.574	-	1.000	0.138	5	031225	DP5013T	030819	TP20	67.30
031283	C7792VXE16-A3.0Z6R	3.000	1.970	-	1.000	0.138	6	031225	DP5013T	030819	TP20	67.30
031284	C7792VXE16-A4.0Z8R	4.000	1.970	-	1.250	0.138	8	031225	DP5013T	030819	TP20	67.30
031285	C7792VXE16-A5.0Z10R	5.000	2.480	-	1.500	0.138	10	031225	DP5013T	030819	TP20	67.30
031286	C7792VXE16-6.0Z12R	6.000	2.480	-	1.500	0.138	12	031225	DP5013T	030819	TP20	67.30

7792VXE16 Technical Information (inch)									
Product		Dimensions							
EDP	Item Description	Facing Pitch	Ramping Angle		Helical Hole		a _p max Helical / Linear	a _e max Plunging	Max RPM
			A °	B °	min.	max.			
031282	C7792VXE16-A2.5Z05R	1.460	0.86	1.00	3.820	4.920	2.50	0.512	22,000
031283	C7792VXE16-A3.0Z6R	1.960	0.58	0.65	4.820	5.920	2.50	0.512	19,500
031284	C7792VXE16-A4.0Z8R	2.960	0.42	0.51	6.820	7.920	2.50	0.512	16,500
031285	C7792VXE16-A5.0Z10R	3.960	0.32	0.37	8.820	9.920	2.50	0.512	14,500
031286	C7792VXE16-6.0Z12R	4.960	0.23	0.27	10.820	11.920	2.50	0.512	13,000



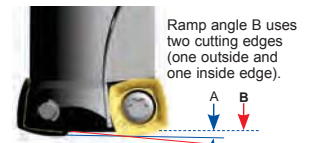
Helical Interpolation

Plunging



Facing Pitch

Ramp angle A uses one outside cutting edge only.



Ramp angle B uses two cutting edges (one outside and one inside edge).

A = max ramp angle utilizing full face contact

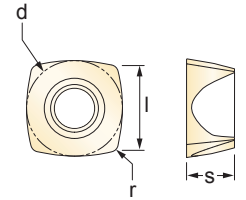
B = max ramp angle utilizing full contact + internal corner radius



Depth of Cut (a_p)

7792VXE16

Milling Inserts & Recommended Feeds



Product			Application & Material			Dimensions (inch)				
EDP	Item Description	Grade	Facing	Slotting	Plunging	d (IC)	l	s	r	h _m min
			Depth of Cut (inch)							
			a _p max. 0.138	a _p max. 0.118	a _e max. 0.512					
031291	XELW160512SR-D	X400	◆◆◆	◆◆◆	◆◆◆	0.661	0.661	0.219	0.047	0.005
031292	XELW160512SR-D	SC3025	◆	◆	◆	0.661	0.661	0.219	0.047	0.005
031293	XELT160512ER-D41	X500	◆◆◆	◆◆◆	◆◆◆	0.661	0.661	0.219	0.047	0.005
031294	XELT160512ER-D41	SP6519	●◆◆◆◆	●◆◆◆◆	●◆◆◆◆	0.661	0.661	0.219	0.047	0.005
033069	XELT160512ER-D41	SC6525	◆◆◆	◆◆◆	◆◆◆	0.661	0.661	0.219	0.047	0.005

Machining Choice: ◆ 1st Choice ■ 2nd Choice ● 3rd Choice | Material Guide Key descriptions found on page 9.

7792VXE16 Feeds f_z (inch/tooth)

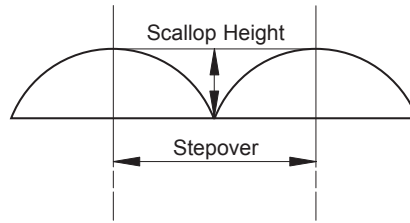
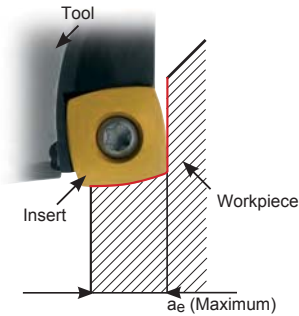
Geometry	Grade	Operation	Unalloyed Steel	Alloyed Steel	Stainless Steel	Stainless Steel Refractory PH	Gray Iron	Spheroidal-Ductile Iron	Malleable Iron	Aluminum & Alloys <16% Si T16 HBN	Aluminum & Silicon >16% Si 92 HBN	HTA Iron Based Alloys	HTA Cobalt Based Alloys	HTA Nickel Based Alloys	HTA Titanium Based Alloys	Hard Steel >1400 N/mm ² >415 HBN	Chilled Cast Iron >1400 N/mm ² >400 HBN
			Min. - Max.	Min. - Max.	Min. - Max.	Min. - Max.	Min. - Max.	Min. - Max.	Min. - Max.	Min. - Max.	Min. - Max.	Min. - Max.	Min. - Max.	Min. - Max.	Min. - Max.	Min. - Max.	Min. - Max.
SR-D	X400	Facing	0.012 - 0.079	0.012 - 0.071	-	-	-	-	-	-	-	-	-	-	-	0.012 - 0.031	0.012 - 0.039
SR-D	X400	Slotting	0.012 - 0.067	0.012 - 0.059	-	-	-	-	-	-	-	-	-	-	-	0.012 - 0.020	0.012 - 0.024
SR-D	X400	Plunging	0.004 - 0.010	0.004 - 0.008	-	-	-	-	-	-	-	-	-	-	-	0.004 - 0.004	0.004 - 0.005
SR-D	SC3025	Facing	-	-	-	-	0.012 - 0.080	0.012 - 0.071	0.012 - 0.059	-	-	-	-	-	-	-	-
SR-D	SC3025	Slotting	-	-	-	-	0.012 - 0.060	0.012 - 0.051	0.012 - 0.047	-	-	-	-	-	-	-	-
SR-D	SC3025	Plunging	-	-	-	-	0.004 - 0.008	0.004 - 0.007	0.004 - 0.006	-	-	-	-	-	-	-	-
ER-D41	X500	Facing	-	-	0.008 - 0.040	0.008 - 0.025	-	-	-	-	-	0.008 - 0.024	0.008 - 0.024	0.008 - 0.024	0.008 - 0.032	-	-
ER-D41	X500	Slotting	-	-	0.008 - 0.032	0.008 - 0.020	-	-	-	-	-	0.004 - 0.016	0.004 - 0.016	0.004 - 0.016	0.004 - 0.020	-	-
ER-D41	X500	Plunging	-	-	0.005 - 0.006	0.003 - 0.005	-	-	-	-	-	0.002 - 0.004	0.002 - 0.004	0.002 - 0.004	0.002 - 0.005	-	-
ER-D41	SP6519	Facing	0.012 - 0.059	0.012 - 0.047	0.008 - 0.040	0.008 - 0.020	0.012 - 0.070	0.012 - 0.055	-	-	-	0.008 - 0.024	0.008 - 0.024	0.008 - 0.024	0.008 - 0.032	-	-
ER-D41	SP6519	Slotting	0.012 - 0.047	0.012 - 0.043	0.008 - 0.032	0.008 - 0.018	0.012 - 0.050	0.012 - 0.045	-	-	-	0.004 - 0.016	0.004 - 0.016	0.004 - 0.016	0.004 - 0.020	-	-
ER-D41	SP6519	Plunging	0.004 - 0.009	0.004 - 0.008	0.005 - 0.006	0.003 - 0.005	0.004 - 0.008	0.004 - 0.006	-	-	-	0.002 - 0.004	0.002 - 0.004	0.002 - 0.004	0.002 - 0.005	-	-
ER-D41	SC6525	Facing	0.012 - 0.047	0.012 - 0.038	-	-	0.012 - 0.070	0.012 - 0.055	-	-	-	-	-	-	-	-	-
ER-D41	SC6525	Slotting	0.012 - 0.045	0.012 - 0.035	-	-	0.012 - 0.050	0.012 - 0.045	-	-	-	-	-	-	-	-	-
ER-D41	SC6525	Plunging	0.004 - 0.009	0.004 - 0.008	-	-	0.004 - 0.008	0.004 - 0.006	-	-	-	-	-	-	-	-	-

Note: HTA = High Temperature Alloys

Note: Speed recommendations can be found on page 82.

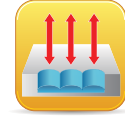
Speed v_c (SFM)			Wear Resistance													
7792VX Series			- ← → +													
Coolant Recommendation			Speed min. - max.													
Recommended ● Possible ◎			PVD X Grade		CVD X Grade		PVD Standard		Uncoated Micrograin		CVD Standard		CVD Standard			
ISO	Materials	Rm and Hardness	◎	●	◎	●	◎	●	◎	●	◎	●	◎	●		
			⊕	⊖	⊕	⊖	⊕	⊖	⊕	⊖	⊕	⊖	⊕	⊖		
			X400	X500	SP6519	GH2	SC6525	SC3025								
P	Unalloyed Steel	<600 N/mm ² <180 HBN	◎	●	395 - 855			◎	●	425 - 970			◎	●	460 - 1190	
		<950 N/mm ² <280 HBN			345 - 755						375 - 855					395 - 1050
	Alloyed Steel	700-950 N/mm ² 200-280 HBN	◎	●	310 - 655	◎	●	330 - 690	◎	●	330 - 755			◎	●	345 - 930
		950-1200 N/mm ² 280-355 HBN			230 - 490			245 - 525			245 - 575					260 - 705
		1200-1400 N/mm ² 355-415 HBN	●		150 - 310	●		165 - 330	●		165 - 360			●	165 - 445	
M	Stainless Steel	Austenitic + Ferritic 300 series				◎	●	375 - 820	◎	●	375 - 885					
		Martensitic 400 series						330 - 720			345 - 770					
	PH Stainless	Refractory P.H.			●		165 - 360	●		165 - 395						
K	Cast Iron	Grey GG-FI						395 - 920			460 - 970			●	475 - 1280	
		Spheroidal-Ductile GGG-FGS			◎	●	345 - 675	◎	●	360 - 785			●	375 - 1000	●	395 - 805
		Malleable GTS - MN/MP					310 - 560			330 - 720					●	375 - 655
N	Aluminum & Alloys	Aluminum & Alloys < 16% Si 116 HBN							●		1000 - 7000	●		1310 - 9005		
		Aluminum + Silicon > 16% Si 92 HBN								●		800 - 5800	●		970 - 7005	
S	High Temperature Alloys	Iron Based						75 - 160			75 - 180					
		Cobalt Based						70 - 145			70 - 160					
		Nickel Based			●		80 - 170	●			80 - 180					
		Titanium Based					115 - 240				120 - 260					
H	Hard Materials	Hard Steel >1400 N/mm ² >415 HBN	●		150 - 310											
		Chilled Cast Iron >1400 N/mm ² > 400 HBN			115 - 260											

Plunging



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

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



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

For insert type: **XP...06** the **ae**, max is **0.118 in.**

For insert type: **XD...09** the **ae**, max is **0.236 in.**

For insert type: **XD...12** the **ae**, max is **0.354 in.**

For insert type: **XE...16** the **ae**, max is **0.512 in.**

Plunging Information (inch) - tool definition-scallop height and step over

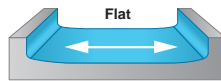
	Tool definition (inch)																					
	7792VXP06				7792VXD09				7792VXD12								7792VXE16					
Diameter	0.625	0.750	1.000	1.250	1.000	1.250	1.500	2.000	1.250	1.500	2.000	2.500	3.000	4.000	5.000	6.000	6.300	2.500	3.000	4.000	5.000	6.000
Insert size	0.236	0.236	0.236	0.236	0.354	0.354	0.354	0.354	0.472	0.472	0.472	0.472	0.472	0.472	0.472	0.472	0.472	0.630	0.630	0.630	0.630	0.630
ae max	0.118	0.118	0.118	0.118	0.236	0.236	0.236	0.236	0.354	0.354	0.354	0.354	0.354	0.354	0.354	0.354	0.512	0.512	0.512	0.512	0.512	
Scallop height	Step over (inch)																					
0.010	0.156	0.175	0.196	0.222	0.196	0.222	0.248	0.278	0.222	0.242	0.283	0.312	0.352	0.393	0.440	0.486	0.498	0.312	0.352	0.393	0.440	0.498
0.020	0.219	0.246	0.276	0.313	0.276	0.313	0.350	0.392	0.313	0.341	0.400	0.440	0.496	0.556	0.621	0.686	0.703	0.440	0.496	0.556	0.621	0.703
0.030	0.266	0.299	0.336	0.381	0.336	0.381	0.427	0.479	0.381	0.417	0.488	0.538	0.607	0.680	0.760	0.840	0.861	0.538	0.607	0.680	0.760	0.861
0.039	0.305	0.343	0.386	0.439	0.386	0.439	0.492	0.551	0.439	0.480	0.562	0.620	0.700	0.783	0.877	0.969	0.993	0.620	0.700	0.783	0.877	0.993
0.079	0.417	0.472	0.534	0.610	0.534	0.610	0.687	0.772	0.610	0.669	0.787	0.870	0.983	1.102	1.235	1.366	1.400	0.870	0.983	1.102	1.235	1.400
0.118	0.492	0.562	0.640	0.734	0.640	0.734	0.830	0.935	0.734	0.808	0.955	1.056	1.197	1.343	1.506	1.667	1.709	1.056	1.197	1.343	1.506	1.709
0.157					0.722	0.833	0.945	1.068	0.833	0.920	1.091	1.209	1.373	1.543	1.732	1.918	1.967	1.209	1.373	1.543	1.732	1.967
0.197					0.787	0.915	1.042	1.181	0.915	1.012	1.207	1.341	1.525	1.716	1.929	2.138	2.192	1.341	1.525	1.716	1.929	2.192
0.236					0.841	0.983	1.125	1.279	0.983	1.093	1.308	1.456	1.659	1.870	2.104	2.334	2.394	1.456	1.659	1.870	2.104	2.393
0.276									1.042	1.162	1.398	1.559	1.780	2.009	2.263	2.512	2.577	1.559	1.780	2.009	2.263	2.577
0.315									1.091	1.222	1.477	1.652	1.890	2.136	2.409	2.676	2.746	1.652	1.890	2.136	2.409	2.746
0.354									1.133	1.274	1.549	1.736	1.991	2.254	2.544	2.889	2.903	1.736	1.991	2.254	2.544	2.903
0.394																		1.813	2.083	2.362	2.670	3.050
0.433																		1.883	2.169	2.464	2.788	3.188
0.472																		1.948	2.249	2.559	2.900	3.319
0.512																		2.007	2.324	2.648	2.648	3.005

Max. flat surface (inch)

Insert size	Cutter dia.	Pitch
06	0.625	0.255
	0.750	0.380
	1.000	0.630
	1.250	0.880
09	1.000	0.480
	1.250	0.730
	1.500	0.980
	2.000	1.480
12	1.250	0.526
	1.500	0.770
	2.000	1.270
	2.500	1.770
	3.000	2.270
	4.000	3.270
	5.000	4.270
16	2.500	1.460
	3.000	1.960
	4.000	2.960
	5.000	3.960



Helical Interpolation



Facing Pitch

Helical interpolation capacity for 7792VX (inch)

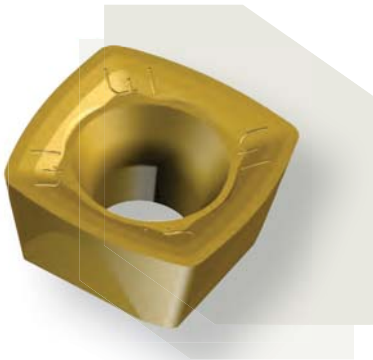
Insert Size	Cutter dia.	Hole min.	Hole max.
06	0.625	0.850	1.170
	0.750	1.100	1.420
	1.000	1.600	1.920
	1.250	2.100	2.420
09	1.000	1.370	1.920
	1.250	1.870	2.420
	1.500	2.370	2.920
	2.000	3.370	3.920
12	1.250	1.630	2.420
	1.500	2.130	2.920
	2.000	3.130	3.920
	2.500	4.130	4.920
	3.000	5.130	5.920
	4.000	7.130	7.920
	5.000	9.130	9.920
16	2.500	3.820	4.920
	3.000	4.820	5.920
	4.000	6.820	7.920
	5.000	8.820	9.920

The advantages of facemilling and producing cavities with Stellram's high feed face mill are numerous.

The unique design of the insert, approach angle and the cutter body ensure the cutting forces are predominantly directed in the axial direction. The example shown with a round insert tool shows complex forces which result in high levels of vibration and damage to the cutting edge.

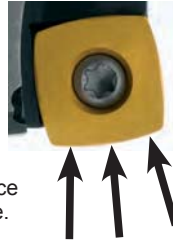
The 7792VX machines with a constant volume of chip throughout all aspects of producing cavities and produces a side wall that is close to profile.

Round insert tools have increasing chip volume through the process.



7792VX

- Cutting forces predominantly axial.
- Relationship between cutting edge and work piece is at its most stable.
- Results in high feed rates and consistent tool life.



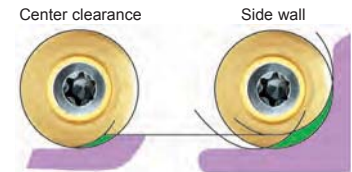
Round Insert Tools

- Tangential forces act around the radius.
- Leads to vibration and damage of the cutting edge.
- Leads to reduced feed and lower productivity.



7792VX

- Constant cutting section (chip volume) irrespective of position in cavity.
- Producing a close to profile side wall.
- Near-square side walls possible.

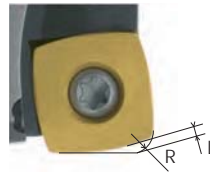


Round insert

- Greater surface contact.
- Increased chip section for side wall machining.
- Vibration in corners.
- Undulating side wall cusps.

CNC Program - Corner Radius Definition

The use of common CAD / CAM systems requires a round insert dimension to be known for cavity machining. This is available with 7792VX cutters as shown to the right and in the reference table.



Programming Data (inch)			
Insert size (mm)	Radius	R	L
06	0.031	0.054	0.016
09	0.031	0.079	0.028
	0.047	0.089	0.026
12	0.031	0.098	0.040
	0.047	0.107	0.038
16	0.047	0.164	0.057

For finish pass applications:

Wiper Facet for finishing use max. feed 0.031 inch/Revolution (IPR)

Calculation of the average chip thickness in relation with the D.O.C. (Axial)

Formula: Program Feed Rate (f_z)

$$f_z = h_m \times \sqrt{\frac{d}{a_p}}$$

h_m = Average chip thickness
 a_p = Depth of cut
 f_z = Feed per tooth
 d = Insert diameter (1.772")
 Theoretical Diameter for all high feed insert sizes = 1.772"

Formula: Average Chip Thickness (h_m)

$$h_m = f_z \times \sqrt{\frac{a_p}{d}}$$

Calculation of the average chip thickness in relation with the a_e (Radial Engagement) if a_e is less than 50% of Dia.

Formula: Program Feed Rate (f_z)

$$f_z = h_m \times \sqrt{\frac{d}{a_e}}$$

h_m = Average chip thickness
 a_e = Radial engagement
 f_z = Feed per tooth
 d = Cutter diameter

Formula: Average Chip Thickness (h_m)

$$h_m = f_z \times \sqrt{\frac{a_e}{d}}$$