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KENNAMETAL®

MASTER CATALOG 2018

VOLUME TWO | **ROTATING** TOOLS

HOLEMAKING | TAPPING | SOLID END MILLING | INDEXABLE MILLING

Indexable Milling • Copy Milling

Stellram® 7792 High-Feed Series

Indexable Milling

The 7792 cutter series has been designed for high-feed milling applications with superior surface generation. 7792VX cutters are designed for a wide range of applications, including facing, pocketing, ramping, helical interpolation, and plunging. They are capable of machining all materials, including steel, stainless steel, cast iron, and high-temperature and aluminum alloys.

Features and Benefits

- The 7792VX high-feed cutters are the best solution for reducing cycle times or removing the maximum amount of material in the shortest time.
- New ultra-fine pitch cutters further increase metal removal rates, especially in high-temp alloys.
- The unique design and insert positioning help to achieve up to 5x higher feed rates than other cutters on the market.
- When used in long (extended) toolholders, 7792VX cutters absorb vibrations and greatly reduce instability and tool deflection.
- Integrated wiper facet for improved surface finish: 16 Ra (1,6µ) when used at <0.020 in/z.

7792VXP06:
Maximum ap = 0.035"
Diameter Range = 0.625–1.250"

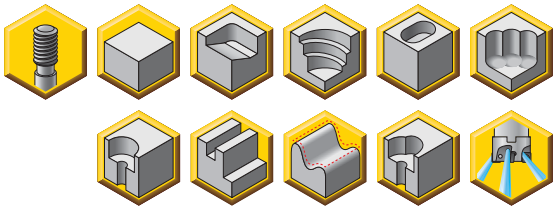
7792VXD09:
Maximum ap = 0.059"
Diameter Range = 1.000–2.000"

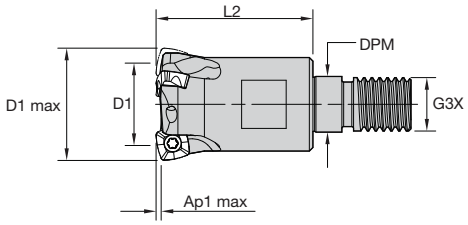
7792VXD12:
Maximum ap = 0.098"
Diameter Range = 1.250–6.300"

7792VXE16:
Maximum ap = 0.138"
Diameter Range = 2.000–6.000"

NOTE: Larger diameter shell mill fixation cutters with interchangeable cartridges are available.

- Ultra-fine pitch cutters available to increase material removal rates, especially on high-temp alloys.
- Positive design to support lower cutting forces and long overhang usage.
- Ramping and plunge milling capabilities.
- Screw-on cutters provide better rigidity and stability when used with small spindels: BT30, BT40, DV40, HSK50, HSK63, etc.
- Screw-on cutters can be less expensive when compared to cylindrical shank cutters due to their higher flexibility through multiple holder combinations.





7792VXP06 Modular Head • Screw-On

order number	catalog number	D1 max	D1	L2	G3X	DPM	Ap1 max	Z U
5661213	A7792VXP06SA.625Z2R1	.625	.255	1.000	M8	.335	.035	2
5660060	A7792VXP06SA.75Z2R1.4	.750	.380	1.377	M10	.413	.035	2
5661214	A7792VXP06SA.75Z3R1.4	.750	.380	1.377	M10	.413	.035	3
5667958	A7792VXP06SA1.0Z3R1.4	1.000	.630	1.377	M12	.492	.035	3
5661215	A7792VXP06SA1.0Z4R1.4	1.000	.630	1.377	M12	.492	.035	4
5681114	A7792VXP06SA1.25Z5R2	1.250	.880	1.693	M16	.669	.035	5

Spare Parts

catalog number	insert screw	in. lbs.	Torx driver
A7792VXP06SA.625Z2R1	FP2506T	7.1	TP7
A7792VXP06SA.75Z2R1.4	FP2506T	7.1	TP7
A7792VXP06SA.75Z3R1.4	FP2506T	7.1	TP7
A7792VXP06SA1.0Z3R1.4	FP2507T	7.1	TP7
A7792VXP06SA1.0Z4R1.4	FP2507T	7.1	TP7
A7792VXP06SA1.25Z5R2	FP2507T	7.1	TP7

NOTE: For further application recommendation, please see technical information on pages V30–V32.

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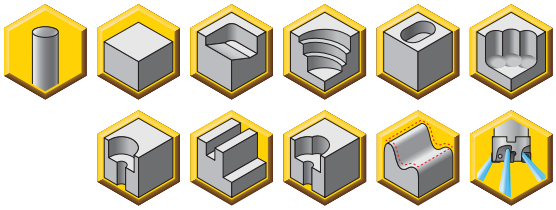
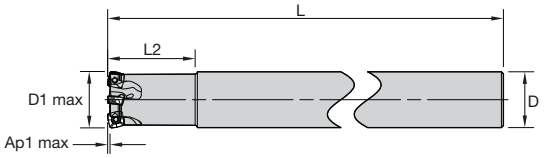
- Positive design to support lower cutting forces and long overhang usage.
- Ramping and plunge milling capabilities.





7792VXP06 Cylindrical Shank

order number	catalog number	D1 max	D	L	L2	Ap1 max	Z U
5667588	C7792VXP06CA.62Z2R5.5	.625	.625	7.402	.980	.035	2
5658507	C7792VXP06CA.75Z3R6.1	.750	.750	7.874	1.259	.035	3
5661212	C7792VXP06CA1.0Z4R6.1	1.000	1.000	8.344	1.575	.035	4
5681117	C7792VXP06CA1.25Z5R8	1.250	1.250	9.761	1.575	.035	5

Spare Parts

catalog number	insert screw	in. lbs.	Torx driver
C7792VXP06CA.62Z2R5.5	FP2506T	7.1	TP7
C7792VXP06CA.75Z3R6.1	FP2506T	7.1	TP7
C7792VXP06CA1.0Z4R6.1	FP2507T	7.1	TP7
C7792VXP06CA1.25Z5R8	FP2507T	7.1	TP7

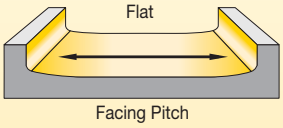
NOTE: For further application recommendation, please see technical information on pages V30–V32.

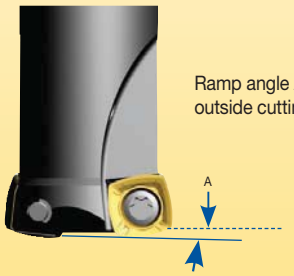
Technical Information (in)

		dimension						
order number	catalog number	facing pitch	ramping angle	helical hole min–max		ap max helical/ linear	a_e max plunging	max RPM
5667588	C7792VXP06CA.62Z2R5.5	6.090	8.20	0.850	1.170	0.024	0.118	65,000
5658507	C7792VXP06CA.75Z3R6.1	3.860	6.74	1.100	1.420	0.024	0.118	57,000
5661212	C7792VXP06CA1.0Z4R6.1	2.110	4.34	1.600	1.920	0.024	0.118	49,000
5681117	C7792VXP06CA1.25Z5R8	1.430	2.69	2.100	2.420	0.024	0.118	41,500
5661213	A7792VXP06SA.625Z2R1	6.090	8.20	0.850	1.170	0.024	0.118	65,000
5660060	A7792VXP06SA.75Z2R1.4	3.860	6.74	1.100	1.420	0.024	0.118	57,000
5661214	A7792VXP06SA.75Z3R1.4	3.860	6.74	1.100	1.420	0.024	0.118	57,000
5667958	A7792VXP06SA1.0Z3R1.4	2.110	4.34	1.600	1.920	0.024	0.118	49,000
5661215	A7792VXP06SA1.0Z4R1.4	2.110	4.34	1.600	1.920	0.024	0.118	49,000
5681114	A7792VXP06SA1.25Z5R2	1.430	2.69	2.100	2.420	0.024	0.118	41,500

Helical Interpolation

Plunging





Ramp angle A uses one outside cutting edge only.

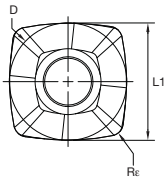
A = max ramp angle utilizing full-face contact.

Inserts

Insert Selection Guide • IC 06

Material Group	Light Machining (Light geometry)		General Purpose		Heavy Machining (Strong geometry)	
	wear resistance		←	→	toughness	
	Geometry	Grade	Geometry	Grade	Geometry	Grade
P1–P2	...D41	SC6525	**...D41**	**SC6525**	...D41	X400
P3–P4	…D	KC522M	**…D**	**KC522M**	…D	KCPM40
P5–P6	...D41	SP6519	**...D41**	**X500**	...D41	X500
M1–M2	...D41	SP6519	**...D41**	**KCSM40**	...D41	KCSM40
M3	...D41	SP6519	**...D41**	**KCSM40**	...D41	KCSM40
K1–K2	…D	KC510M	**…D**	**KCPK30**	…D	KCPK30
K3	…D	KC510M	**…D**	**KCPK30**	…D	KCPK30
N1–N2	–	–	**–**	**–**	–	–
N3	–	–	**–**	**–**	–	–
S1–S2	...D41	SP6519	**...D41**	**KCSM40**	...D41	KCSM40
S3	...D41	SP6519	**...D41**	**KCSM40**	...D41	KCSM40
S4	...D41	SP6519	**...D41**	**KCSM40**	...D41	KCSM40
H1	…D	KC510M	**…D**	**KC510M**	…D	KCPM40


XPLT06-D41



XPLT06-D41

● first choice
○ alternate choice

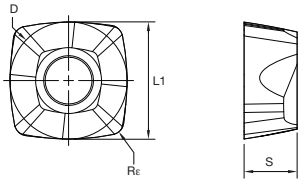
		KC510M	KC522M	KCPK30	KCPM40	KCSM40	SC6525	SP6519	X400	X500
P		○	○	●	●	○	●	○	●	○
M			●	○	○	●		●		●
K		●	○	○			●	○		
N		○								
S			●			●		●		●
H									○	

XPLT06-D41 • First choice for machining stainless steel and high-temp alloys

catalog number	D	LI	S	Rε	hm	RT	KC510M	KC522M	KCPK30	KCPM40	KCSM40	SC6525	SP6519	X400	X500
XPLT060308ERD41	.276	.276	.125	.031	.002	.054	–	–	–	–	–	●	●	●	●

NOTE: RT is the theoretical radius to be used for CAD/CAM programming.


XPPT-D41

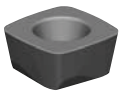


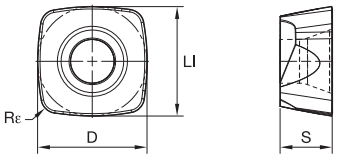
XPPT-D41

XPPT-D41 • Precision pressed insert. General purpose in soft steels, stainless steels, and high-temp alloys.

catalog number	D	LI	S	Rε	hm	RT	KC510M	KC522M	KCPK30	KCPM40	KCSM40	SC6525	SP6519	X400	X500
XPPT060308ERD41	.276	.276	.125	.031	.002	.054	–	–	–	–	●	–	–	–	–

NOTE: RT is the theoretical radius to be used for CAD/CAM programming.


XPPW-06-D



XPPW-06-D

XPPW-06-D • Precision pressed insert; improved cost per edge. Reinforced geometry. Particularly suitable for high strength steels, hardened materials, and cast iron.

catalog number	D	LI	S	Rε	hm	RT	KC510M	KC522M	KCPK30	KCPM40	KCSM40	SC6525	SP6519	X400	X500
XPPW060310SRD	.276	.276	.125	.039	.006	.061	●	●	●	●	–	–	–	–	–

NOTE: RT is the theoretical radius to be used for CAD/CAM programming.

Recommended Starting Feeds [IPT] • High-Feed

Light Machining	General Purpose	Heavy Machining

At .035 Axial Depth of Cut (ap)

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)															Insert Geometry
	5%			10%			20%			30%			40–100%			
.E..D41	.015	**.043**	.076	.011	**.029**	.050	.008	**.022**	.036	.007	**.019**	.031	.006	**.017**	.028	.E..D41
.S..D	.027	**.058**	.093	.019	**.039**	.059	.014	**.028**	.042	.012	**.024**	.036	.011	**.022**	.033	.S..D

At .025 Axial Depth of Cut (ap)

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)															Insert Geometry
	5%			10%			20%			30%			40–100%			
.E..D41	.018	**.051**	.094	.013	**.035**	.059	.009	**.025**	.042	.008	**.022**	.037	.007	**.020**	.033	.E..D41
.S..D	.032	**.070**	.118	.023	**.046**	.071	.017	**.033**	.050	.014	**.029**	.043	.013	**.026**	.039	.S..D

At .020 Axial Depth of Cut (ap)

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)															Insert Geometry
	5%			10%			20%			30%			40–100%			
.E..D41	.020	**.058**	.109	.014	**.039**	.067	.010	**.028**	.047	.009	**.025**	.041	.008	**.022**	.037	.E..D41
.S..D	.036	**.080**	.141	.025	**.052**	.080	.019	**.037**	.056	.016	**.032**	.048	.015	**.029**	.043	.S..D

Feed Rate Guide • Plunging • IC 06 • fz [in/tooth]

Insert Geometry	Programmed Feed per Tooth (fz) Max .118" insert engagement (ae radial engagement)			Insert Geometry
.E..D41	.002	**.006**	.010	.E..D41
.S..D	.004	**.008**	.012	.S..D

NOTE: For further details about using the 7792VX series in plunging operations, please see page V30.
Use "Light Machining" values as starting feed rate
Please see pages X22–X37 for recommended starting speeds.

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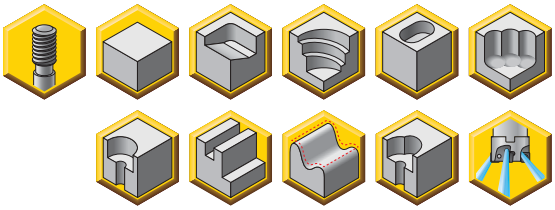

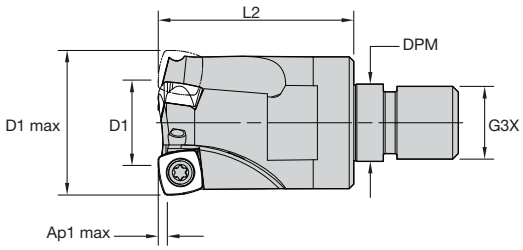

7792VXD09 Modular Head • Screw-On

order number	catalog number	D1 max	D1	L2	G3X	DPM	Ap1 max	Z U
5659840	A7792VXD09SA1.0Z2R1.4	1.000	.487	1.378	M12	.492	.059	2
5660449	A7792VXD09SA1.25Z3R2	1.250	.738	1.692	M16	.669	.059	3

Spare Parts

catalog number	 insert screw	 in. lbs.	 Torx driver
A7792VXD09SA1.0Z2R1.4	F3508T	18.6	T15
A7792VXD09SA1.25Z3R2	F3510T	18.6	T15

NOTE: For further application recommendation, please see technical information on pages V30–V32.

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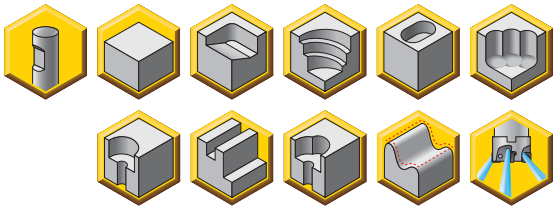

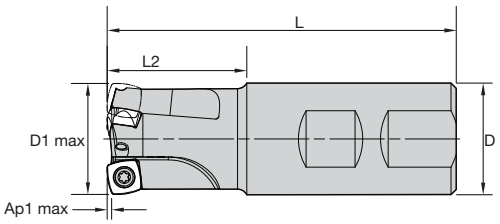

7792VXD09 Weldon® Shank

order number	catalog number	D1 max	D	L	L2	Ap1 max	Z U
5658075	**C7792VXD09WA1.00Z2R**	1.000	1.000	3.856	1.575	.059	2
5666067	**C7792VXD09WA1.25Z3R**	1.250	1.250	3.855	1.574	.059	3

Spare Parts

catalog number	 insert screw	 in. lbs.	 Torx driver
C7792VXD09WA1.00Z2R	**F3508T**	18.6	**T15**
C7792VXD09WA1.25Z3R	**F3510T**	18.6	**T15**

NOTE: For further application recommendation, please see technical information on pages V30–V32.

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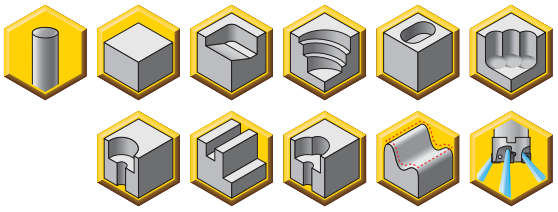

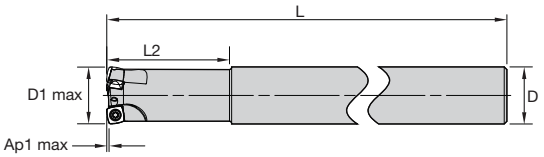

7792VXD09 Cylindrical Shank

order number	catalog number	D1 max	D	L	L2	Ap1 max	Z U
5667564	C7792VXD09CA1.00Z2R2	1.000	1.000	7.874	1.969	.059	2
6025590	C7792VXD09CA1.00Z3R2	1.000	1.000	8.000	2.000	.059	3
5659948	C7792VXD09CA1.25Z3R3	1.250	1.250	9.843	2.756	.059	3
6025611	C7792VXD09CA1.25Z4R3	1.251	1.250	10.000	3.000	.059	4

Spare Parts

catalog number	 insert screw	 in. lbs.	 Torx driver
C7792VXD09CA1.00Z2R2	F3508T	18.6	T15
C7792VXD09CA1.00Z3R2	F3508T	18.6	T15
C7792VXD09CA1.25Z3R3	F3510T	18.6	T15
C7792VXD09CA1.25Z4R3	F3510T	18.6	T15

NOTE: For further application recommendation, please see technical information on pages V30–V32.

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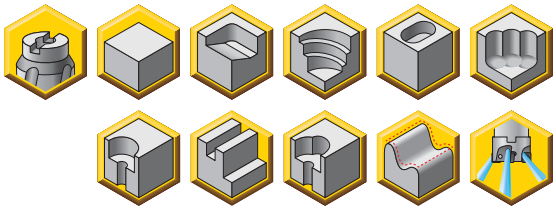
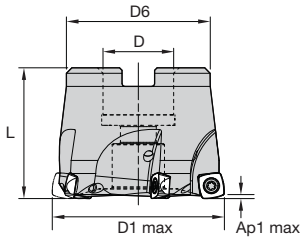
- Ramping and plunge milling capabilities.





7792VXD09 Shell Mill

order number	catalog number	D1 max	D	D6	L	Ap1 max	Z U
5656731	C7792VXD09-A1.50Z4R	1.500	.500	1.339	1.260	.059	4
5658170	C7792VXD09-A1.50Z5R	1.500	.500	1.339	1.260	.059	5
5667832	C7792VXD09-A2.00Z5R	2.000	.750	1.811	1.575	.059	5
5665795	C7792VXD09-A2.00Z6R	2.000	.750	1.811	1.575	.059	6
6025612	C7792VXD09-A2.00Z7R	2.000	.750	1.772	1.575	.059	7

Spare Parts

catalog number	 insert screw	 in. lbs.	 Torx driver	 mounting screw
C7792VXD09-A1.50Z4R	F3510T	18.6	T15	#1/4-28X3/4SHCSA
C7792VXD09-A1.50Z5R	F3510T	18.6	T15	#1/4-28X3/4SHCSA
C7792VXD09-A2.00Z5R	F3510T	18.6	T15	#3/8-24X1SHCSA
C7792VXD09-A2.00Z6R	F3510T	18.6	T15	#3/8-24X1SHCSA
C7792VXD09-A2.00Z7R	F3510T	18.6	TB15	#3/8-24X1SHCSA

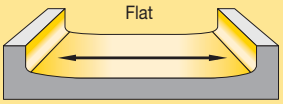
NOTE: For further application recommendation, please see technical information on pages V30–V32.

Technical Information (in)

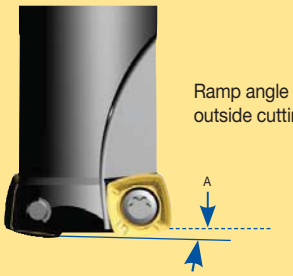
order number	catalog number	dimension						max RPM
		facing pitch	ramping angle	helical hole min–max		ap max helical/ linear	a_e max plunging	
5658075	C7792VXD09WA1.00Z2R	0.478	2.70	1.370	1.920	0.039	0.236	48,000
5666067	C7792VXD09WA1.25Z3R	0.728	1.50	1.870	2.420	0.039	0.236	40,500
5667564	C7792VXD09CA1.00Z2R2	0.478	2.70	1.370	1.920	0.039	0.236	48,000
6025590	C7792VXD09CA1.00Z3R2	0.478	2.70	1.370	1.920	0.039	0.236	48,000
5659948	C7792VXD09CA1.25Z3R3	0.728	1.50	1.870	2.420	0.039	0.236	40,500
6025611	C7792VXD09CA1.25Z4R3	0.728	1.50	1.870	2.420	0.039	0.236	40,500
5656731	C7792VXD09-A1.50Z4R	0.980	1.10	2.370	2.920	0.039	0.236	36,000
5658170	C7792VXD09-A1.50Z5R	0.980	1.10	2.370	2.920	0.039	0.236	36,000
5667832	C7792VXD09-A2.00Z5R	1.478	0.70	3.370	3.920	0.039	0.236	30,000
5665795	C7792VXD09-A2.00Z6R	1.478	0.70	3.370	3.920	0.039	0.236	30,000
6025612	C7792VXD09-A2.00Z7R	1.478	0.70	3.370	3.920	0.039	0.236	30,000
5659840	A7792VXD09SA1.0Z2R1.4	0.480	2.70	1.370	1.920	0.039	0.236	48,000
5660449	A7792VXD09SA1.25Z3R2	0.730	1.50	1.870	2.420	0.039	0.236	40,500


Helical Interpolation


Plunging



Facing Pitch



Ramp angle A uses one outside cutting edge only.

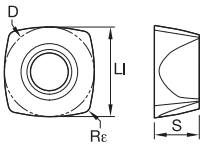
A = max ramp angle utilizing full face contact.

Insert Selection Guide • IC 09

Material Group	Light Machining (Light geometry)		General Purpose		Heavy Machining (Strong geometry)	
	wear resistance		◄———	———►	toughness	
	Geometry	Grade	Geometry	Grade	Geometry	Grade
P1–P2	…GP	KC522M	**…GP**	**KCPM40**	…GP	KCPM40
P3–P4	…GP	KC522M	**…D**	**KC522M**	…D	KCPM40
P5–P6	…D411	SP6519	**…D411**	**X500**	…D41	X500
M1–M2	…D411	SP6519	**…D41**	**KCSM40**	…D41	KCSM40
M3	…D411	SP6519	**…D41**	**KCSM40**	…D41	KCSM40
K1–K2	…D	KCK15	**…D**	**KCK15**	…D	KCPK30
K3	…D	KCPK30	**…D**	**KCPK30**	…D	KCPK30
N1–N2	…D721	GH2	**…D721**	**GH2**	…D721	GH2
N3	…D721	GH2	**…D721**	**GH2**	…D721	GH2
S1–S2	…D411	SP6519	**…D411**	**KCSM40**	…D41	KCSM40
S3	…D411	SP6519	**…D411**	**KCSM40**	…D41	KCSM40
S4	…D411	SP6519	**…D411**	**KCSM40**	…D41	KCSM40
H1	…D	KC510M	**…D**	**KC510M**	…D	KCPM40

Milling Inserts

XDLT09-D721



XDLT09-D721

● first choice
○ alternate choice

		GH2	KC510M	KC522M	KC725M	KCK15	KCPK30	KCPM40	KCSM40	SC3025	SC6525	SP6519	X400	X500
P			○	○	●		●	●	○		●	○	●	○
M				●	●		○	○	●			●		●
K		○	●	○		●	○			●	●	○		
N		●	○											
S				●	●				●			●		●
H													○	

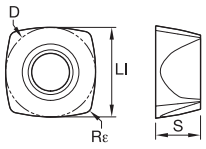
XDLT09-D721 • First choice for non-ferrous alloys

catalog number	D	LI	S	Rε	hm	RT
XDLT090408ERD721	.375	.375	.187	.031	.002	.079

NOTE: RT is the theoretical radius to be used for CAD/CAM programming.

- First choice for machining stainless steel and high-temp alloys.

XDLT09-D41



XDLT09-D41

XDLT09-D41 • General purpose in soft steels. Best fit for face milling, slotting operation

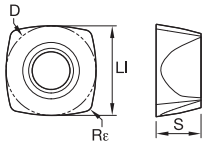
catalog number	D	LI	S	Rε	hm	RT	GH2	KC510M	KC522M	KC725M	KCK15	KCPK30	KCPM40	KCSM40	SC3025	SC6525	SP6519	X400	X500
XDLT090408ERD41	.375	.375	.187	.031	.002	.079	–	–	–	–	–	–	–	–	–	●	●	–	●

NOTE: RT is the theoretical radius to be used for CAD/CAM programming.

Copy Milling

- First choice for machining stainless steel and high-temp alloys.


XDPT09...D41



XDPT09...D41

● first choice
○ alternate choice

		GH2	KC510M	KC522M	KC725M	KCK15	KCPK30	KCPM40	KCSM40	SC3025	SC6525	SP6519	X400	X500
P			○	○	●		●	●	○		●	○	●	○
M				●	●		○	○	●			●		●
K		○	●	○		●	○			●	●	○		
N		●	○											
S				●	●				●			●		●
H													○	

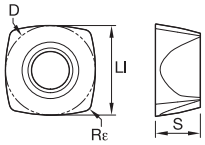
XDPT09-D41 • Precision pressed. General purpose in soft steels. Best fit for face milling, slotting operation

catalog number	D	LI	S	Rε	hm	RT	GH2	KC510M	KC522M	KC725M	KCK15	KCPK30	KCPM40	KCSM40	SC3025	SC6525	SP6519	X400	X500
XDPT090408ERD41	.375	.375	.187	.031	.002	.079	–	–	–	–	–	–	–	●	–	●	●	–	●

NOTE: RT is the theoretical radius to be used for CAD/CAM programming.

- Geometry similar to D41, but with higher corner nose protection for heavier applications.


XDLT09...D411



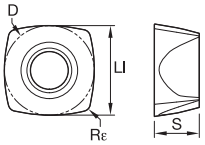
XDLT09...D411

XDLT09-D411 • General purpose in stainless steel and high-temp alloys. Best fit for pocketing and profiling operations in general, also in combination with long overhangs

catalog number	D	LI	S	Rε	hm	RT	GH2	KC510M	KC522M	KC725M	KCK15	KCPK30	KCPM40	KCSM40	SC3025	SC6525	SP6519	X400	X500
XDLT090412ERD411	.375	.375	.187	.047	.002	.089	–	–	–	–	–	–	–	–	–	–	●	–	●

NOTE: RT is the theoretical radius to be used for CAD/CAM programming.


XDPT-D411



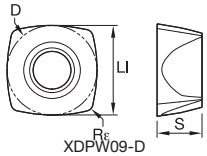
XDPT-D411

XDPT-D411 • Precision pressed. General purpose in stainless steel and high-temp alloys. Best fit for pocketing and profiling operations in general, also in combination with long overhangs

catalog number	D	LI	S	Rε	hm	RT	GH2	KC510M	KC522M	KC725M	KCK15	KCPK30	KCPM40	KCSM40	SC3025	SC6525	SP6519	X400	X500
XDPT090412ERD411	.375	.375	.187	.047	.002	.089	–	–	–	–	–	–	–	●	–	–	–	–	–

NOTE: RT is the theoretical radius to be used for CAD/CAM programming.


XDPW09-D



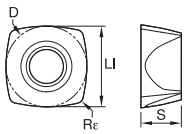
XDPW09-D

XDPW09-D • Precision pressed. First choice for roughing alloyed steel and cast iron

catalog number	D	LI	S	Rε	hm	RT	GH2	KC510M	KC522M	KC725M	KCK15	KCPK30	KCPM40	KCSM40	SC3025	SC6525	SP6519	X400	X500
XDPW090412SRD	.375	.375	.187	.047	.004	.089	–	●	●	–	●	●	●	–	–	–	–	–	–

NOTE: RT is the theoretical radius to be used for CAD/CAM programming.


XDLW09-D



XDLW09-D

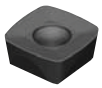
● first choice
○ alternate choice

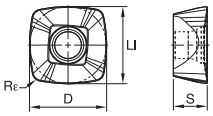
		GH2	KC510M	KC522M	KC725M	KCK15	KCPK30	KCPM40	KCSM40	SC3025	SC6525	SP6519	X400	X500
P			○	○	●		●	●	○		●	○	●	○
M				●	●		○	○	●			●		●
K		○	●	○		●	○			●	●	○		
N		●	○											
S				●	●				●			●		●
H													○	

XDLW09-D • First choice for roughing alloyed steel and cast iron

catalog number	D	LI	S	Rε	hm	RT	GH2	KC510M	KC522M	KC725M	KCK15	KCPK30	KCPM40	KCSM40	SC3025	SC6525	SP6519	X400	X500
XDLW090408SRD	.375	.375	.187	.031	.004	.079	–	–	–	–	–	–	–	–	●	●	–	●	●

NOTE: RT is the theoretical radius to be used for CAD/CAM programming.


XDPT09-GP



XDPT09-GP

XDPT09-GP • Precision pressed. General use on alloyed steels. Good balance across all machining situations.

catalog number	D	LI	S	Rε	hm	RT	GH2	KC510M	KC522M	KC725M	KCK15	KCPK30	KCPM40	KCSM40	SC3025	SC6525	SP6519	X400	X500
XDPT090412SRGP	.375	.375	.187	.047	.009	.026	–	–	●	●	–	●	●	–	–	–	–	–	–

NOTE: RT is the theoretical radius to be used for CAD/CAM programming.

Recommended Starting Feeds • High-Feed and Plunging Applications • fz [in/tooth]

Recommended Starting Feeds [IPT] • High-Feed

Light Machining	General Purpose	Heavy Machining

At .060 Axial Depth of Cut (ap)

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)															Insert Geometry
	5%			10%			20%			30%			40–100%			
.E..D721	.012	**.038**	.067	.009	**.027**	.047	.006	**.020**	.034	.006	**.018**	.030	.005	**.016**	.027	.E..D721
.E..D41	.015	**.044**	.067	.011	**.031**	.047	.008	**.023**	.034	.007	**.020**	.030	.006	**.018**	.027	.E..D41
.E..D411	.015	**.044**	.067	.011	**.031**	.047	.008	**.023**	.034	.007	**.020**	.030	.006	**.018**	.027	.E..D411
.S..D	.021	**.048**	.079	.015	**.034**	.055	.011	**.025**	.040	.010	**.022**	.035	.009	**.020**	.032	.S..D
.S..GP	.021	**.048**	.079	.015	**.034**	.054	.011	**.025**	.040	.010	**.022**	.035	.009	**.020**	.032	.S..GP

At .040 Axial Depth of Cut (ap)

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)															Insert Geometry
	5%			10%			20%			30%			40–100%			
.E..D721	.015	**.047**	.083	.010	**.033**	.057	.008	**.024**	.042	.007	**.021**	.036	.006	**.019**	.033	.E..D721
.E..D41	.018	**.053**	.083	.013	**.038**	.057	.010	**.028**	.042	.009	**.024**	.036	.008	**.022**	.033	.E..D41
.E..D411	.018	**.053**	.083	.013	**.038**	.057	.010	**.028**	.042	.009	**.024**	.036	.008	**.022**	.033	.E..D411
.S..D	.026	**.059**	.098	.019	**.041**	.067	.014	**.031**	.049	.012	**.027**	.042	.011	**.024**	.039	.S..D
.S..GP	.026	**.058**	.097	.019	**.041**	.067	.014	**.030**	.049	.012	**.026**	.042	.011	**.024**	.038	.S..GP

At .030 Axial Depth of Cut (ap)

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)															Insert Geometry
	5%			10%			20%			30%			40–100%			
.E..D721	.017	**.054**	.097	.012	**.038**	.066	.009	**.028**	.048	.008	**.024**	.042	.007	**.022**	.038	.E..D721
.E..D41	.021	**.062**	.097	.015	**.043**	.066	.011	**.032**	.048	.010	**.028**	.042	.009	**.025**	.038	.E..D41
.E..D411	.021	**.062**	.097	.015	**.043**	.066	.011	**.032**	.048	.010	**.028**	.042	.009	**.025**	.038	.E..D411
.S..D	.030	**.069**	.115	.021	**.048**	.078	.016	**.035**	.056	.014	**.031**	.049	.013	**.028**	.044	.S..D
.S..GP	.030	**.068**	.114	.021	**.047**	.077	.016	**.035**	.056	.014	**.030**	.048	.013	**.028**	.044	.S..GP

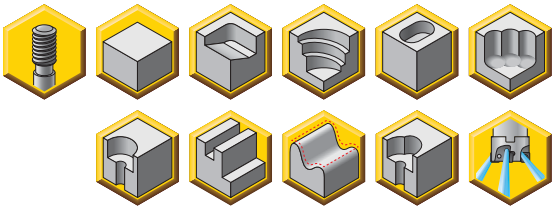
Feed Rate Guide • Plunging • IC 09 • fz [in/tooth]

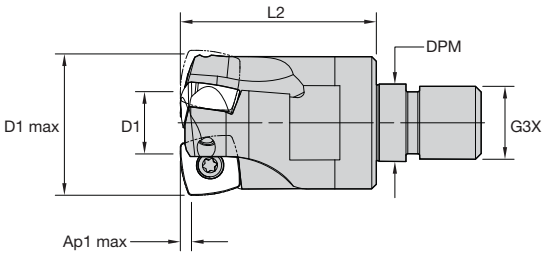
Insert Geometry	Programmed Feed per Tooth (fz) Max .236" insert engagement (ae radial engagement)			Insert Geometry
.E..D721	.002	**.007**	.012	.E..D721
.E..D41	.003	**.008**	.012	.E..D41
.E..D411	.003	**.008**	.012	.E..D411
.S..D	.004	**.009**	.014	.S..D
.S..GP	.004	**.009**	.014	.S..GP

NOTE: For further details about using the 7792VX series in plunging operations, please see page V30.
Use "Light Machining" values as starting feed rate
Please see pages X22–X37 for recommended starting speeds.

Copy Milling

- Ultra-fine pitch cutters available to increase material removal rates, especially on high-temp alloys.
- Positive design to support lower cutting forces and long overhang usage.
- Ramping and plunge milling capabilities.
- Screw-on cutters provide better rigidity and stability when used with small spindels: BT30, BT40, DV40, HSK50, HSK63, etc.
- Screw-on cutters can be less expensive when compared to cylindrical shank cutters due to their higher flexibility through multiple holder combinations.





7792VXD12 Modular Head • Screw-On

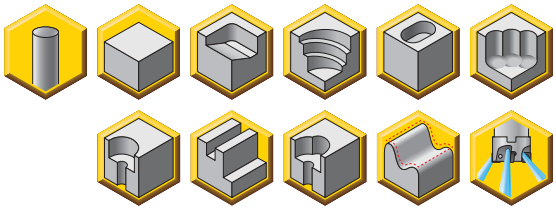
order number	catalog number	D1 max	D1	L2	G3X	DPM	Ap1 max	Z U
5659929	A7792VXD12SA1.25Z2R2	1.250	.520	1.693	M16	.669	.098	2
5667487	A7792VXD12SA1.5Z3R1.7	1.500	.785	1.750	M16	.669	.098	3

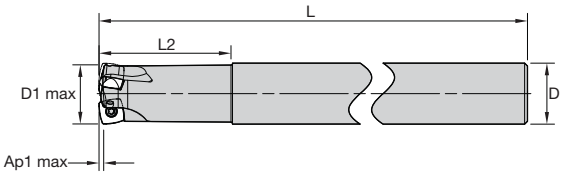
Spare Parts

catalog number	insert screw	in. lbs.	Torx driver
A7792VXD12SA1.25Z2R2	D4010T	27.4	T15
A7792VXD12SA1.5Z3R1.7	D4010T	27.4	T15

NOTE: For further application recommendation, please see technical information on pages V30–V32.

- Ultra-fine pitch cutters available to increase material removal rates, especially on high-temp alloys.
- Positive design to support lower cutting forces and long overhang usage.
- Ramping and plunge milling capabilities.





7792VXD12 Cylindrical Shank

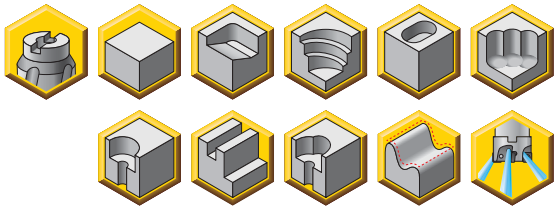
order number	catalog number	D1 max	D	L	L2	Ap1 max	Z U
5666596	C7792VXD12CA1.25Z2R3	1.250	1.250	9.843	2.756	.098	2
6025588	C7792VXD12CA1.25Z3R3	1.250	1.250	10.000	3.000	.098	3
5665832	C7792VXD12CA1.2/1.5Z3	1.500	1.250	9.843	2.755	.098	3
6025589	C7792VXD12CA1.50Z4R3	1.500	1.500	10.000	3.000	.098	4

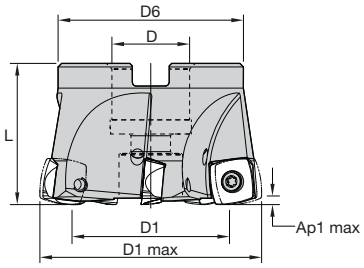
Spare Parts

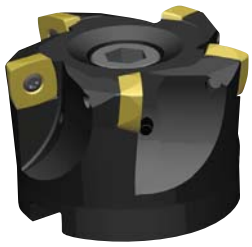
catalog number	 insert screw	 in. lbs.	 Torx driver
C7792VXD12CA1.25Z2R3	D4010T	27.4	T15
C7792VXD12CA1.25Z3R3	D4010T	27.4	T15
C7792VXD12CA1.2/1.5Z3	D4010T	27.4	T15
C7792VXD12CA1.50Z4R3	D4010T	27.4	T15

NOTE: For further application recommendation, please see technical information on pages V30–V32.

- Ultra-fine pitch cutters available to increase material removal rates, especially on high-temp alloys.
- Positive design to support lower cutting forces and long overhang usage.
- Ramping and plunge milling capabilities.







7792VXD12 Shell Mill • Coarse, Medium, and Fine Pitch

order number	catalog number	D1 max	D	D6	L	Ap1 max	Z U
6025581	C7792VXD12-A1.50Z4R	1.500	.750	1.417	1.575	.098	4
5657237	C7792VXD12-A2.00Z3R	2.000	.750	1.811	1.575	.098	3
5667404	C7792VXD12-A2.00Z4R	2.000	.750	1.772	1.575	.098	4
5656382	C7792VXD12-A2.00Z5R	2.000	.750	1.811	1.575	.098	5
6025582	C7792VXD12-A2.00Z6R	2.000	.750	1.772	1.575	.098	6
5667809	C7792VXD12-A2.50Z4R	2.500	1.000	1.969	1.575	.098	4
5656732	C7792VXD12-A2.50Z5R	2.500	1.000	1.969	1.575	.098	5
6025583	C7792VXD12-A2.50Z7R	2.500	1.000	2.087	1.575	.098	7
5665708	C7792VXD12-A3.00Z5R	3.000	1.000	2.087	1.969	.098	5
5656919	C7792VXD12-A3.00Z8R	3.000	1.000	1.969	1.969	.098	8
6025584	C7792VXD12-A3.00Z9R	3.000	1.000	2.087	1.969	.098	9
5667833	C7792VXD12-A4.00Z6R	4.000	1.250	2.559	1.969	.098	6
5656378	C7792VXD12-A4.00Z9R	4.000	1.250	2.559	1.969	.098	9
6025585	C7792VXD12-A4.00Z11R	4.000	1.250	2.559	1.969	.098	11
5667476	C7792VXD12-A5.00Z8R	5.000	1.500	3.244	2.480	.098	8
5658171	C7792VXD12-A5.00Z11R	5.000	1.500	3.244	2.480	.098	11
6025586	C7792VXD12-A5.00Z13R	5.000	1.500	3.189	2.480	.098	13
5656915	C7792VXD12-6.00Z12R	6.000	1.500	3.953	2.480	.098	12
6025587	C7792VXD12-6.00Z15R	6.000	1.500	4.323	2.480	.098	15
5659736	C7792VXD12-6.30Z8R	6.300	1.500	3.945	2.480	.098	8

NOTE: No through coolant for cutters where D1 max = 6.00".

Spare Parts

catalog number	insert screw	in. lbs.	Torx driver	mounting screw	mounting screw
C7792VXD12-A1.50Z4R	D4010T	27.4	T15	–	KLSS0714C
C7792VXD12-A2.00Z3R	D4012T	27.4	T15	#3/8-24X1SHCSA	–
C7792VXD12-A2.00Z4R	D4012T	27.4	T15	#3/8-24X1SHCSA	–
C7792VXD12-A2.00Z5R	D4010T	27.4	T15	#3/8-24X1SHCSA	–
C7792VXD12-A2.00Z6R	D4010T	27.4	TB15	#3/8-24X1SHCSA	–
C7792VXD12-A2.50Z4R	D4012T	27.4	T15	#1/2-20X1-1/4 LHCSA	–
C7792VXD12-A2.50Z5R	D4012T	27.4	T15	#1/2-20X1-1/4 LHCSA	–
C7792VXD12-A2.50Z7R	D4012T	27.4	TB15	#1/2-20X1-1/4 LHCSA	–
C7792VXD12-A3.00Z5R	D4012T	27.4	T15	#1/2-20X1-1/4SHCSA	–
C7792VXD12-A3.00Z8R	D4012T	27.4	T15	#1/2-20X1-1/4SHCSA	–
C7792VXD12-A3.00Z9R	D4012T	27.4	TB15	#1/2-20X1-1/4SHCSA	–
C7792VXD12-A4.00Z6R	D4012T	27.4	T15	#5/8-18X1-1/2SHCSA	–
C7792VXD12-A4.00Z9R	D4012T	27.4	T15	#5/8-18X1-1/2SHCSA	–
C7792VXD12-A4.00Z11R	D4012T	27.4	TB15	#5/8-18X1-1/2SHCSA	–
C7792VXD12-A5.00Z8R	D4012T	27.4	T15	#3/4-16X1-3/4SHCSA	–
C7792VXD12-A5.00Z11R	D4012T	27.4	T15	#3/4-16X1-3/4SHCSA	–
C7792VXD12-A5.00Z13R	D4012T	27.4	TB15	#3/4-16X1-3/4SHCSA	–
C7792VXD12-6.00Z12R	D4012T	27.4	T15	–	–
C7792VXD12-6.00Z15R	D4010T	27.4	TB15	–	–
C7792VXD12-6.30Z8R	D4012T	27.4	T15	–	–

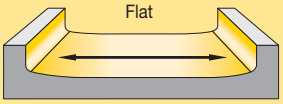
NOTE: For further application recommendation, please see technical information on pages V30–V32.

Technical Information (in)

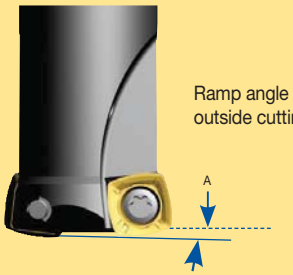
order number	catalog number	dimension						max RPM
		facing pitch	ramping angle	helical hole min–max		ap max helical/ linear	a_e max plunging	
5666596	C7792VXD12CA1.25Z2R3	0.526	1.85	1.630	2.420	0.070	0.354	31,500
5665832	C7792VXD12CA1.2/1.5Z3	0.770	0.95	2.130	2.920	0.070	0.354	27,500
6025581	C7792VXD12-A1.50Z4R	0.770	0.95	2.130	2.920	0.070	0.354	27,500
5657237	C7792VXD12-A2.00Z3R	1.276	0.90	3.130	3.920	0.070	0.354	22,500
5667404	C7792VXD12-A2.00Z4R	1.276	0.90	3.130	3.920	0.070	0.354	22,500
5656382	C7792VXD12-A2.00Z5R	1.276	0.90	3.370	3.920	0.070	0.354	22,500
6025582	C7792VXD12-A2.00Z6R	1.276	0.90	3.130	3.920	0.070	0.354	22,500
5667809	C7792VXD12-A2.50Z4R	1.776	0.60	4.130	4.920	0.070	0.354	22,500
5656732	C7792VXD12-A2.50Z5R	1.776	0.60	4.130	4.920	0.070	0.354	22,500
6025583	C7792VXD12-A2.50Z7R	1.776	0.60	4.130	4.920	0.070	0.354	19,500
5665708	C7792VXD12-A3.00Z5R	2.276	0.45	5.130	5.920	0.070	0.354	17,500
5656919	C7792VXD12-A3.00Z8R	2.276	0.45	5.130	5.920	0.070	0.354	17,500
6025584	C7792VXD12-A3.00Z9R	2.276	0.45	5.130	5.920	0.070	0.354	17,500
5667833	C7792VXD12-A4.00Z6R	3.270	0.31	7.130	7.920	0.070	0.354	14,500
5656378	C7792VXD12-A4.00Z9R	3.270	0.31	7.130	7.920	0.070	0.354	14,500
6025585	C7792VXD12-A4.00Z11R	3.270	0.31	7.130	7.920	0.070	0.354	14,500
5667476	C7792VXD12-A5.00Z8R	4.270	0.24	9.130	9.920	0.070	0.354	13,000
5658171	C7792VXD12-A5.00Z11R	4.270	0.24	9.130	9.920	0.070	0.354	13,000
6025586	C7792VXD12-A5.00Z13R	4.270	0.24	9.130	9.920	0.070	0.354	13,000
5656915	C7792VXD12-6.00Z12R	5.270	0.19	11.130	11.920	0.070	0.354	11,500
6025587	C7792VXD12-6.00Z15R	5.270	0.19	11.130	11.920	0.070	0.354	11,500
5659736	C7792VXD12-6.30Z8R	5.570	0.18	11.130	11.920	0.070	0.354	11,000
5659929	A7792VXD12SA1.25Z2R2	0.520	2.60	1.630	2.420	0.070	0.354	31,500
6025588	C7792VXD12CA1.25Z3R3	0.520	2.60	1.630	2.420	0.070	0.354	31,500
5667487	A7792VXD12SA1.5Z3R1.7	0.770	1.60	2.130	2.920	0.070	0.354	27,500
6025589	C7792VXD12CA1.50Z4R3	0.770	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.

A = max ramp angle utilizing full face contact.