



P★TRIOT 
SERIOUSLY HARD★HITTING
INDEXABLE TOOLS

USA MADE HIGH PERFORMANCE
Metalworking Tools By:

ULTRA-DEX

HIGH PERFORMANCE INDEXABLE DRILLING

3xD DIAMETER RANGE .562 - 2.125"

- ★ X-offset design to adjust diameter size on turning centers and optimized tolerances on machining centers.
- ★ Engineered flute design optimized for superior evacuation & rigidity.



1



★ New and improved 4-edge insert design to provide excellent chip control with lower spindle loads.



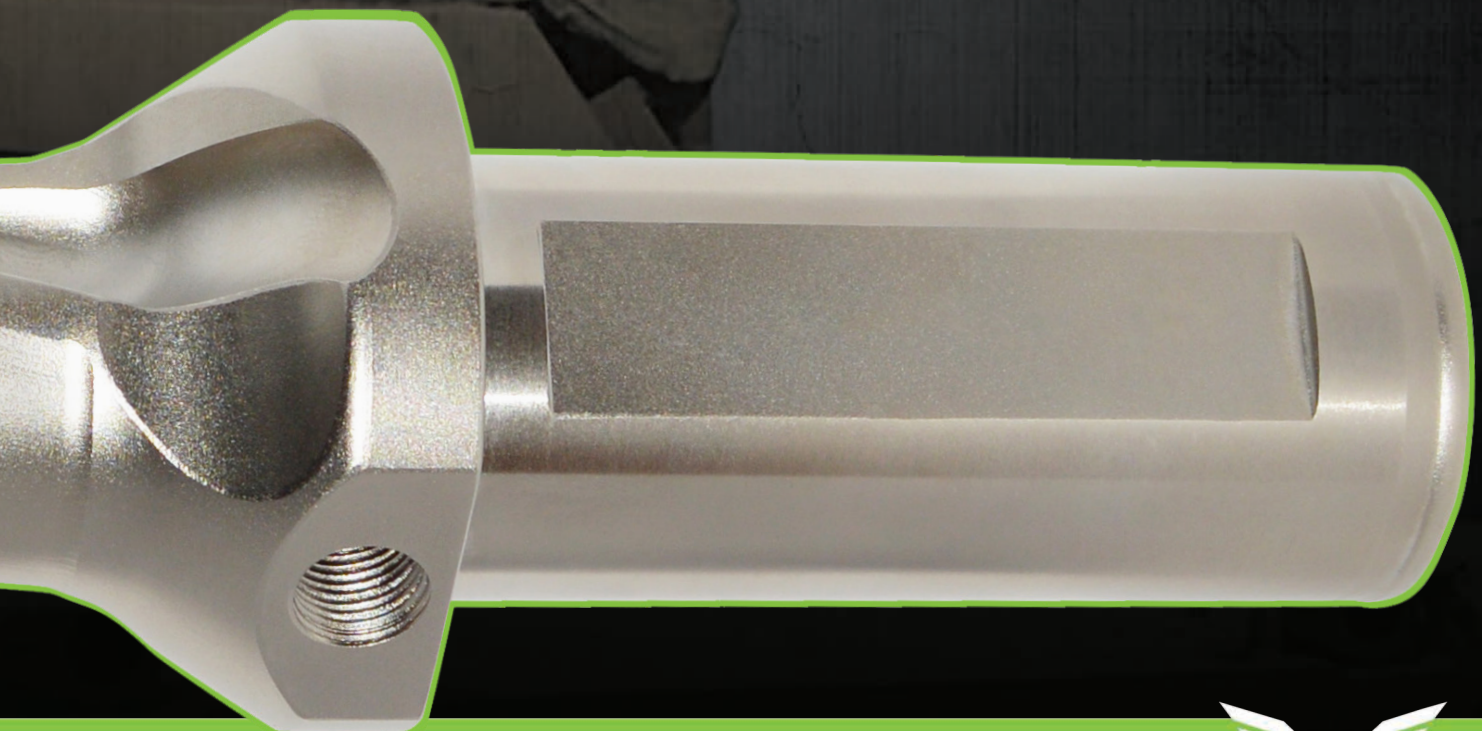
★ Same insert can be used as inboard & outboard insert + no risk of mixing up inner & outer.

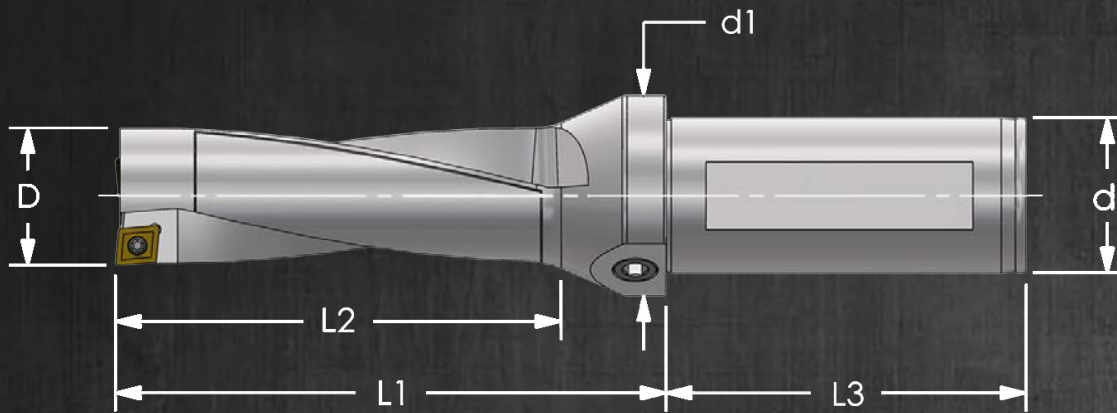
* Insert is compatible w/ Counterbores Pg. 7



★ Hardened high quality tool steel & electroless nickel coated for rigidity, wear resistance & reduced chip wash.

★ Able to offset and drill into slant workpieces without pre-drilling.





3xD Indexable Drills

High Performance

COOLANT THRU

Designation	D	d	d1	L3	L1	L2	Insert	Screw	List Price		
PD1-0562-3D-075	.562	.750	1.120	1.900	2.747	1.804	PD1 042004	PD1-16 Wrench T-6-S	\$232.78		
PD1-0594-3D-075	.594				2.843	1.900			\$232.78		
PD1-0609-3D-075	.609				2.888	1.945			\$232.78		
PD1-0625-3D-075	.625				2.936	1.993	PD1 052804	PD1-2 Wrench T-6-S	\$232.78		
PD1-0669-3D-075	.669 (17mm)				3.069	2.126			\$232.78		
PD1-0687-3D-075	.687				3.122	2.179			\$232.78		
PD1-0709-3D-075	.709 (18mm)				3.187	2.244			\$232.78		
PD1-0734-3D-100	.734	1.000	1.360	2.400	3.263	2.320	PD1 063306	PD1-22 Wrench T-7-S	\$232.78		
PD1-0750-3D-100	.750				3.311	2.368			\$263.66		
PD1-0787-3D-100	.787 (20mm)				3.422	2.479			\$263.66		
PD1-0812-3D-100	.812				3.499	2.556			\$263.66		
PD1-0844-3D-100	.844				3.637	2.694			\$263.66		
PD1-0875-3D-100	.875				3.686	2.743			\$263.66		
PD1-0937-3D-125	.937				1.250	1.614			2.900	3.874	2.931
PD1-0984-3D-125	.984 (25mm)	4.014	3.071	\$263.66							
PD1-1000-3D-125	1.000	4.061	3.118	\$298.45							
PD1-1062-3D-125	1.062	4.249	3.306	\$298.45							
PD1-1125-3D-125	1.125	4.436	3.493	\$298.45							
PD1-1181-3D-125	1.181 (30mm)	4.645	3.702	PD1 094508			PD1-35 Wrench T-15-S	\$298.45			
PD1-1250-3D-125	1.250	4.850	3.907					\$337.18			
PD1-1312-3D-125	1.312	5.039	4.095		\$337.18						
PD1-1375-3D-125	1.375	1.980	1.980	2.900	5.225	4.282	PD1 125812	PD1-5 Wrench T-20-S	\$337.18		
PD1-1437-3D-125	1.437				5.413	4.470			\$337.18		
PD1-1500-3D-150	1.500				5.640	4.697			\$385.84		
PD1-1625-3D-150	1.625	1.500	1.980	2.900	6.015	5.072	PD1 156812	PD1-6 Wrench T-25-S	\$408.62		
PD1-1750-3D-150	1.750				6.390	5.447			\$425.89		
PD1-1875-3D-150	1.875				6.825	5.882			\$483.08		
PD1-2000-3D-150	2.000	1.940	1.940	2.900	7.140	6.197	PD1 156812	Wrench T-25-S	\$511.40		
PD1-2125-3D-150	2.125	2.065	2.065	2.900	7.515	6.572			\$560.38		



HIGH PERFORMANCE

DRILL INSERTS

& COUNTERBORE (PG.7)



Designation	HP600	HK356
PD1 042004	\$8.57	\$8.57
PD1 052804	\$8.57	\$8.57
PD1 063306	\$8.68	\$8.68
PD1 074006	\$9.12	\$9.12
PD1 094508	\$10.28	\$10.28
PD1 125812	\$11.79	\$11.79
PD1 156812	\$12.86	\$12.86

Inserts sold in packs of 10

Insert Grade Conditions

Grade	Description
HK 356	Stable cutting performance for drilling cast iron. Suitable for aluminum. Recommended for mild structural steel, difficult chip controlled steel.
HP 600	Super tough substrate with PVD coating. Excellent for drilling steel and stainless steel.

Speeds and Feeds

Material	Insert Grade	SFM	Ø.562-.734	Ø.750-1.437	Ø1.500-2.125
			Inch/Rev	Inch/Rev	Inch/Rev
STEEL	HP600	400-700	.002-.005	.004-.008	.004-.010
CAST IRON	HK356	350-650	.0025-.005	.004-.008	.004-.010
STAINLESS STEEL	HP600	300-600	.002-.005	.004-.008	.004-.010
ALUMINUM	HK356	800-1400	.003-.008	.004-.010	.005-.012
HEAT RESISTANT STEELS	HP600	90-250	.002-.004	.0025-.006	.0025-.0085

Prices are subject to change without notice.



FAX TO 810.638.4001 FOR QUOTE

YOUR INFO:

COMPANY: _____

CONTACT: _____

PHONE: () _____

EXT.: _____

DATE: / /

*PREFERRED DISTRIBUTOR INFO:

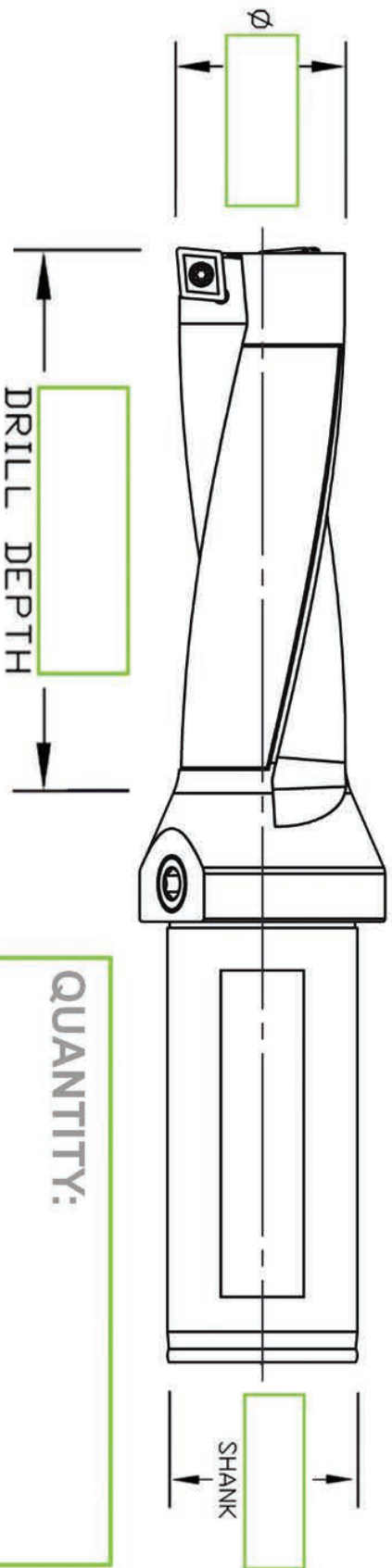
COMPANY: _____

CONTACT: _____

PHONE: () _____

EXT.: _____

* If you do not have a preferred distributor, we can provide you with a list of distributors in your area to choose from.



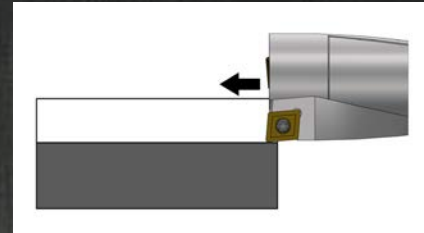
QUANTITY:

DRILL OFFSETS

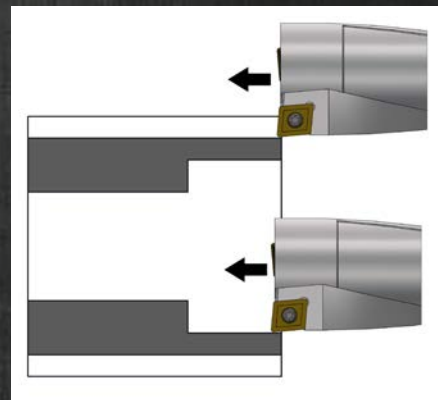
Our Drills offer the ability to offset in turning applications to help with tolerance optimization and creation of holes larger than the drill diameter.

Designation	Offset (Max)
PD1-0562-3D-075	.007
PD1-0594-3D-075	.005
PD1-0609-3D-075	.005
PD1-0625-3D-075	.015
PD1-0669-3D-075	.011
PD1-0687-3D-075	.009
PD1-0709-3D-075	.007
PD1-0734-3D-100	.019
PD1-0750-3D-100	.017
PD1-0787-3D-100	.011
PD1-0812-3D-100	.009
PD1-0844-3D-100	.005
PD1-0875-3D-100	.004
PD1-0937-3D-125	.023
PD1-0984-3D-125	.019
PD1-1000-3D-125	.017
PD1-1062-3D-125	.009
PD1-1125-3D-125	.004
PD1-1181-3D-125	.035
PD1-1250-3D-125	.027
PD1-1312-3D-125	.021
PD1-1375-3D-125	.013
PD1-1437-3D-125	.008
PD1-1500-3D-150	.039
PD1-1625-3D-150	.027
PD1-1750-3D-150	.015
PD1-1875-3D-150	.051
PD1-2000-3D-150	.039
PD1-2125-3D-150	.023

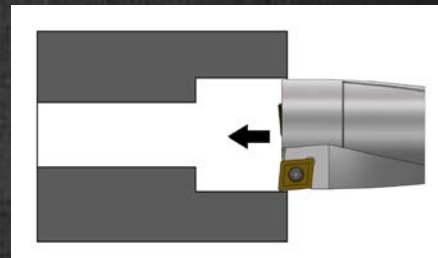
Half Cylindrical



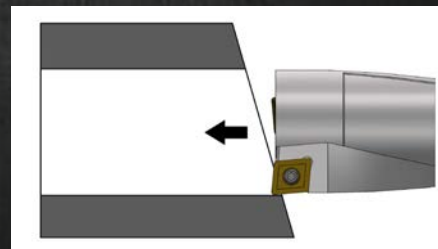
ID & OD Boring



Pre-Drilling



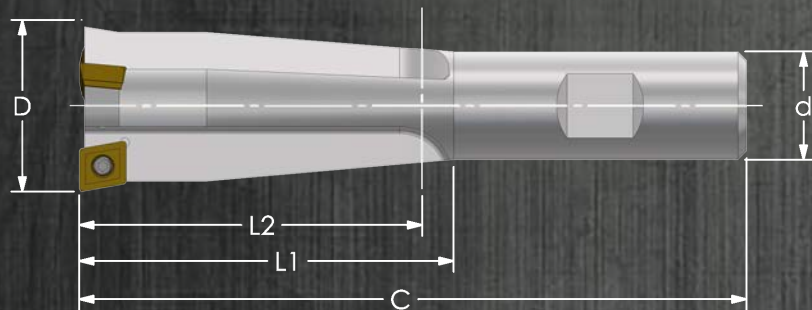
Slanted Surface



HIGH PERFORMANCE INDEXABLE COUNTERBORES



INSERTS ON PG 4

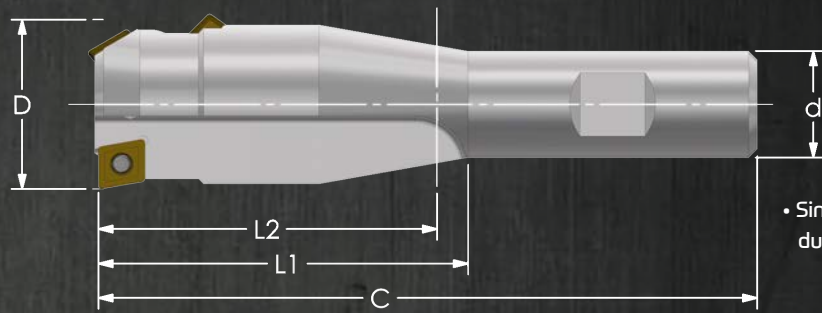


- Designed for high production of standard inch & metric size counterbore.
- Newly designed insert achieves 90° bottom

PATRIOT Counterbores

COOLANT THRU

Designation	C'bore Size	D	L1	L2	C	Insert	Screw	Flutes	d	Price
PC1-312-2-750-04	5/16	.500	1.345	1.000	3.375	PD1 042004	PD1-16	2	.750	\$149.67
PC1-375-2-750-04	3/8	.594	1.470	1.188	3.500	PD1 042004	PD1-16	2	.750	\$157.55
PC1-437-2-750-05	7/16	.687	1.595	1.374	3.625	PD1 052804	PD1-2	2	.750	\$165.84
PC1-500-2-750-06	1/2	.781	1.720	1.562	3.750	PD1 063306	PD1-22	2	.750	\$174.57
PC1-625-3-750-06	5/8	1.000	2.220	2.000	4.250	PD1 063306	PD1-22	3	.750	\$189.75
PC1-750-3-750-07	3/4	1.188	2.595	2.376	4.625	PD1 074006	PD1-25	3	.750	\$204.93
PC1-315-2-750-04	8mm	.591	1.470	1.182	3.500	PD1 042004	PD1-16	2	.750	\$149.67
PC1-394-2-750-05	10mm	.709	1.595	1.418	3.625	PD1 052804	PD1-2	2	.750	\$165.84
PC1-472-2-750-06	12mm	.787	1.720	1.574	3.750	PD1 063306	PD1-22	2	.750	\$174.57
PC1-630-3-750-06	16mm	1.024	2.220	2.048	4.250	PD1 063306	PD1-22	3	.750	\$189.75
PC1-787-3-750-07	20mm	1.299	2.720	2.598	4.750	PD1 074006	PD1-25	3	.750	\$204.93

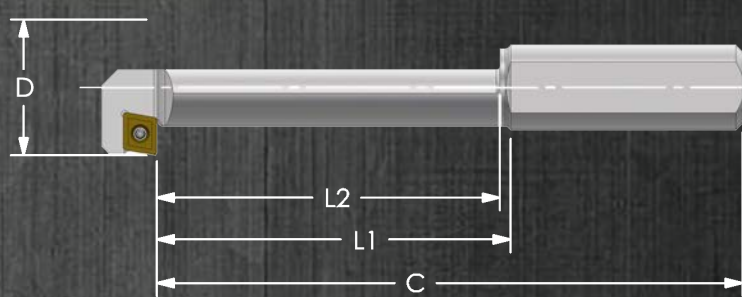


• Single tool to counterbore and dual chamfer in one operation.

PATRIOT Counterbores

COOLANT THRU

Designation	C'bore Size	D	L1	L2	C	Insert	Screw	Flutes	d	Price
PC2-312-3-750-04	5/16	.500	1.345	1.000	3.375	PD1 042004	PD1-16	3	.750	\$149.67
PC2-375-3-750-04	3/8	.594	1.470	1.188	3.500	PD1 042004	PD1-16	3	.750	\$157.55
PC2-437-3-750-05	7/16	.687	1.595	1.374	3.625	PD1 052804	PD1-2	3	.750	\$165.84
PC2-500-3-750-06	1/2	.781	1.720	1.562	3.750	PD1 063306	PD1-22	3	.750	\$174.57
PC2-625-3-750-06	5/8	1.000	2.220	2.000	4.250	PD1 063306	PD1-22	3	.750	\$189.75
PC2-750-3-750-07	3/4	1.188	2.595	2.376	4.625	PD1 074006	PD1-25	3	.750	\$204.93
PC2-315-3-750-04	8mm	.591	1.470	1.182	3.500	PD1 042004	PD1-16	3	.750	\$149.67
PC2-394-3-750-05	10mm	.709	1.595	1.418	3.625	PD1 052804	PD1-2	3	.750	\$165.84
PC2-472-3-750-06	12mm	.787	1.720	1.574	3.750	PD1 063306	PD1-22	3	.750	\$174.57
PC2-630-3-750-06	16mm	1.024	2.220	2.048	4.250	PD1 063306	PD1-22	3	.750	\$189.75
PC2-787-3-750-07	20mm	1.299	2.720	2.598	4.750	PD1 074006	PD1-25	3	.750	\$204.93



• Back counterbore tool
• Reduces production time by eliminating a second operation.

PATRIOT Counterbores

NO COOLANT

Designation	C'bore Size	D	L1	L2	C	Insert	Screw	Flutes	d	Price
PC3-312-1-750-04	5/16	.500	1.345	1.030	3.375	PD1 042004	PD1-16	1	.750	\$137.96
PC3-375-1-750-04	3/8	.594	1.470	1.218	3.500	PD1 042004	PD1-16	1	.750	\$145.22
PC3-437-1-750-05	7/16	.687	1.970	1.748	4.000	PD1 052804	PD1-2	1	.750	\$152.86
PC3-500-1-750-06	1/2	.781	2.220	1.983	4.250	PD1 063306	PD1-22	1	.750	\$160.91
PC3-625-1-750-06	5/8	1.000	2.720	2.530	4.750	PD1 063306	PD1-22	1	.750	\$174.90
PC3-750-1-750-07	3/4	1.188	3.095	3.000	5.125	PD1 074006	PD1-25	1	.750	\$188.89
PC3-315-1-750-04	8mm	.591	1.470	1.212	3.500	PD1 042004	PD1-16	1	.750	\$139.96
PC3-394-1-750-05	10mm	.709	1.720	1.448	3.750	PD1 052804	PD1-2	1	.750	\$152.86
PC3-472-1-750-06	12mm	.787	2.220	1.998	4.250	PD1 063306	PD1-22	1	.750	\$160.91
PC3-630-1-750-06	16mm	1.024	2.720	2.590	4.750	PD1 063306	PD1-22	1	.750	\$174.90
PC3-787-1-750-07	20mm	1.299	3.345	3.278	5.375	PD1 074006	PD1-25	1	.750	\$188.89

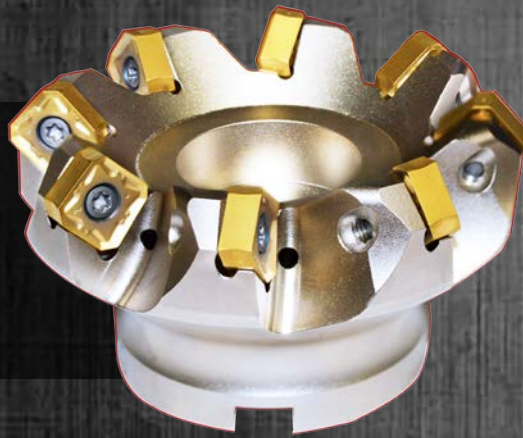
Prices are subject to change without notice.



HIGH PERFORMANCE INDEXABLE MILLING

PM1

45° Cutter for face/slot
milling and chamfering



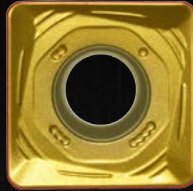
PM2

90° Cutter for face, slot,
and shoulder milling



HCX-PM1

Double sided square insert provides 8 indexes



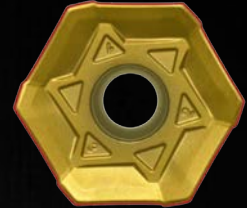
HCX-PM2

Single sided insert provides 4 indexes



HCX-PM3

Single sided insert provides 4 indexes



HCX-PM4

Single sided insert provides 6 indexes



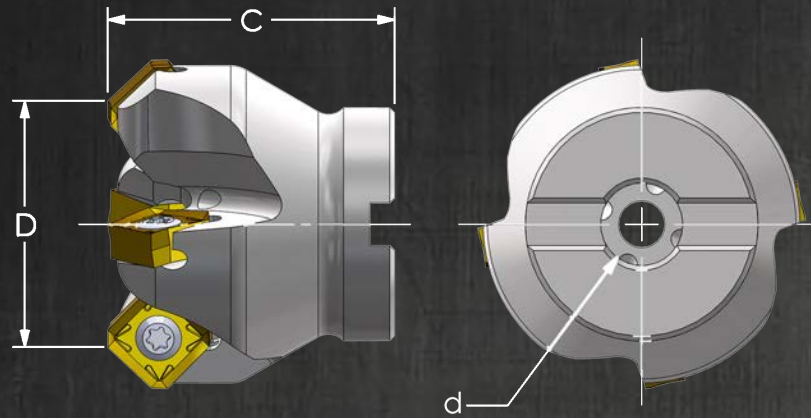
PM3

High Feed Cutter for face, slot, plunge milling and angled ramping



PM4

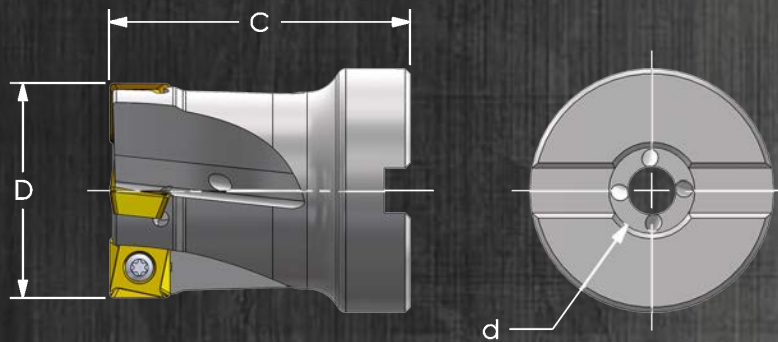
45° Cutter for face/slot milling and chamfering



PM1-Face Mill Cutter

COOLANT THRU

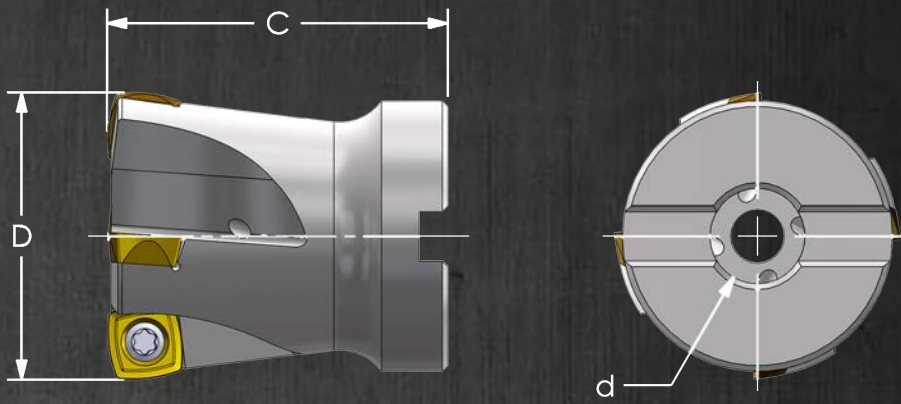
Designation	D	Flutes	C	d	Insert	Screw	Price
PM1-1.25-3-.500-12	1.250	3	1.750	.500	PM1 1205	PM1-4	\$252.00
PM1-1.50-4-.500-12	1.500	4	1.750	.500			\$294.00
PM1-2.00-5-.750-12	2.000	5	1.750	.750			\$327.00
PM1-2.50-6-1.00-12	2.500	6	2.000	1.000			\$389.00
PM1-3.00-8-1.00-12	3.000	8	2.000	1.000			\$502.00
PM1-4.00-10-1.25-12	4.000	10	2.000	1.250			\$613.00



PM2-Face Mill Cutter

COOLANT THRU

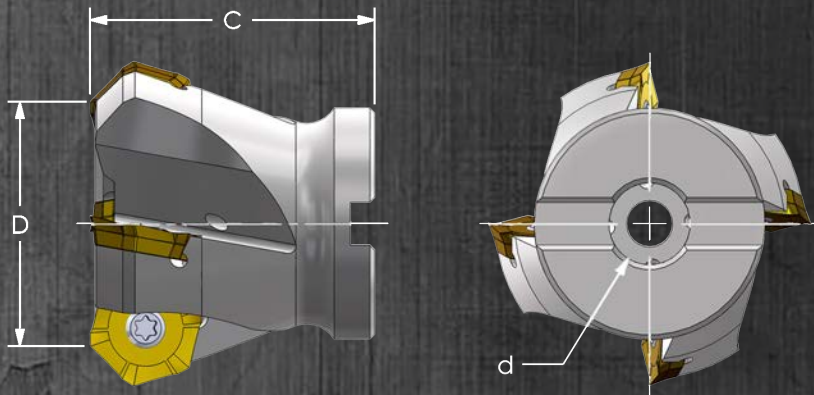
Designation	D	Flutes	C	d	Insert	Screw	Price
PM2-1.25-4-.500-09	1.250	4	1.750	.500	PM2 09T308	PM2-3	\$259.00
PM2-1.50-5-.500-09	1.500	5	1.750	.500			\$292.00
PM2-2.00-6-.750-09	2.000	6	1.750	.750			\$348.00
PM2-2.50-7-1.00-09	2.500	7	2.000	1.000			\$396.00
PM2-3.00-9-1.00-09	3.000	8	2.000	1.000			\$495.00



PM3-Face Mill Cutter

COOLANT THRU

Designation	D	Flutes	C	d	Insert	Screw	Price
PM3-1.50-4-.500-10	1.500	4	1.750	.500	PM3 10T308	PM3-3.5	\$292.00
PM3-2.00-5-.750-10	2.000	5	1.750	.750			\$348.00
PM3-2.50-6-1.00-10	2.500	6	2.000	1.000			\$378.00



PM4-Face Mill Cutter

COOLANT THRU

Designation	D	Flutes	C	d	Insert	Screw	Price
PM4-1.50-4-.500-06	1.500	4	1.750	.500	PM4 0604	PM4-4	\$294.00
PM4-2.00-5-.750-06	2.000	5	1.750	.750			\$327.00
PM4-2.50-6-1.00-06	2.500	6	2.000	1.000			\$389.00
PM4-3.00-7-1.00-06	3.000	7	2.000	1.000			\$492.00
PM4-4.00-9-1.25-06	4.000	9	2.000	1.250			\$592.00

Prices are subject to change without notice.



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HIGH PERFORMANCE MILLING INSERTS



HCX



SCX

Designation	HP470	HM470	HS470	HS480	HK430	HN432
PM1 1205-HCX	\$19.32	-	-	-	-	-
PM1 1205-SCX	-	\$19.32	\$26.70	-	\$19.32	-

Inserts sold in packs of 10



HCX



SCX



CCX



LCX

Designation	HP470	HM470	HS470	HS480	HK430	HN432
PM2 09T308-HCX	\$11.10	-	-	-	-	-
PM2 09T308-SCX	-	\$11.10	\$17.94	\$17.94	-	-
PM2 09T308-CCX	-	-	-	-	\$11.10	-
PM2 09T308-LCX	-	-	-	-	-	\$13.52

Inserts sold in packs of 10



HCX



SCX

Designation	HP470	HM470	HS470	HS480	HK430	HN432
PM3 10T308-HCX	\$11.52	-	-	-	\$11.52	-
PM3 10T308-SCX	-	\$11.52	\$14.40	\$15.50	-	-

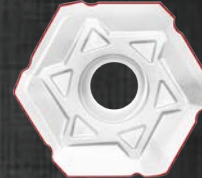
Inserts sold in packs of 10



HCX



SCX



LCX

Designation	HP470	HM470	HS470	HS480	HK430	HN432
PM4 0604-HCX	\$13.52	-	-	-	\$13.52	-
PM4 0604-SCX	-	\$13.52	\$16.93	-	-	-
PM4 0604-LCX	-	-	-	-	-	\$18.30

Inserts sold in packs of 10

Insert Grade Conditions

Grade	Description
HP 470	Suitable for demanding steel milling applications, interrupted cut
HM 470	Stainless steel milling grade. PVD, TiAlN coating.
HS 470	First choice for milling heat-resistant alloys.
HS 480	Extremely heat resistant tough grade for milling titanium
HK 430	Milling grade for cast iron
HN 432	Ideal grade for aluminum. Low tendency for adhesion.

	Grade	SFM	PM1		PM2		PM3		PM4	
			Inch/Tooth	Ap (Inch)	Inch/Tooth	Ap (Inch)	Inch/Tooth	Ap (Inch)	Inch/Tooth	Ap (Inch)
Steel	HP470	200-720	.004-.020	.007-.236	.002-.010	.004-.157	.004-.020	.003-.031	.004-.015	.011-.150
Stainless Steel	HM470	200-650	.003-.016	.007-.236	.002-.010	.004-.157	.004-.020	.003-.031	.004-.010	.011-.150
Cast Iron	HK430	350-1050	.003-.017	.007-.236	.002-.010	.004-.157	-	-	.003-.012	.011-.150
Non Ferrous	HN432	<6500	-	-	.002-.011	.004-.157	-	-	.004-.015	.011-.150
Heat Resistant	HS470	80-250	.003-.010	.007-.236	.002-.006	.004-.157	.004-.020	.003-.031	.002-.005	.007-.150
Titanium	HS480	80-250	-	-	.002-.006	.004-.157	.004-.020	.003-.031	-	-

Indexable & Versatile



ULTRA-DEX

7144 Sheridan Rd ★ Flushing, MI 48433

Call: 810-638-5388 ★ Fax: 810-638-4001

sales@ULTRADEXUSA.COM

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