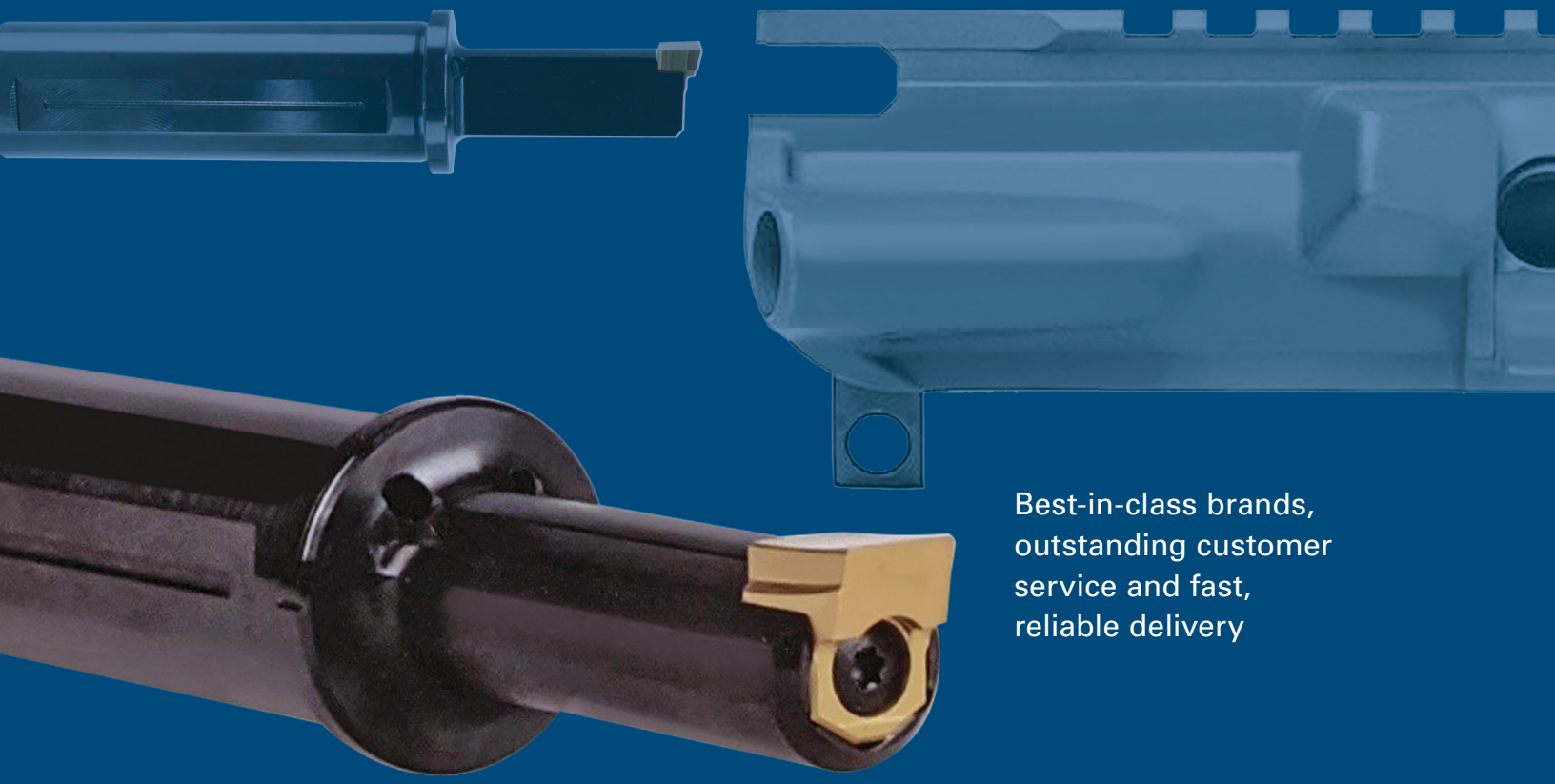
PILOT
Precision Products

CNC Broaching Kit Catalog



Best-in-class brands, outstanding customer service and fast, reliable delivery

Power Transmission Components

Automotive

Firearms

Military

Marine

Pilot Precision Products is the world's largest manufacturer and supplier of industrial broaches from duMONT MinuteMan® Industrial Broaches and Hassay Savage broaching tools, after a recent merger of these two top brands. Pilot Precision Products is also the leading supplier of small, round cutting tools and the exclusive American master wholesaler of Magafor® and GMauvaisUSA™ products.

Located in Western Massachusetts, an area long known as a manufacturing hub for complex machining, Pilot Precision Products balances time-honored traditions with innovative manufacturing techniques in all its offerings, and only partners with like-minded brands. As a result, customers trust the best-in-class, durable and reliable products that the manufacturer couples with outstanding customer service and fast, reliable delivery.

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PILOT Precision Products

duMONT CNC Broaching Kits

Indexable Broaching Systems Combine Flexibility & Rigidity to Deliver Superior Performance

With generations of experience delivering American-crafted precision broaching tools, our passion for developing new technologies that solve problems gives our Indexable Broaching Systems the ability to improve productivity, quality and consistency in ways that stand the test of time.

Our CNC Broaching Kits are designed to conveniently give you a wide range of capabilities for your applications at a better value than buying individually.

Save up to 20% off of list pricing with our CNC Broaching Kits

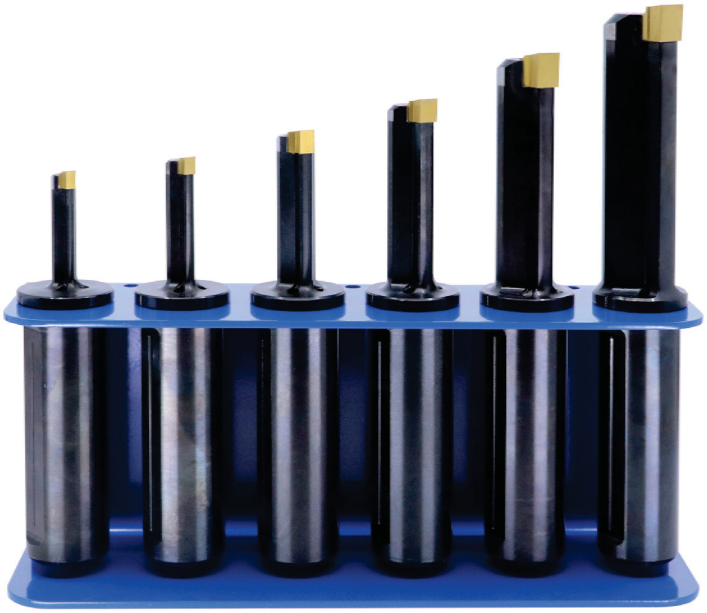
Broaching an Opportunity for Loyal Customers to Save

Any kit order includes a

$100 Gift

towards resharpening your broaching inserts.

Valid for 12 months from date of order.



CNC Broaching Our broaches...

Save Time:
Eliminate the need for a secondary broaching operation

Improve Efficiency:
Eliminate long lead times for special broach resharpening/replacements

Save Money:
Reduce the need of an additional operator and the inventory of multiple expensive broaches

duMONT CNC Broaching Kits

List Price: **$2,837.50** **Promo Price: $2,270.00**

632 Kit - 6 Piece Kit, 32mm Shank	
EDP #	**Description**
KIT-BC-632	CNC Broach Concierge Kit with 6 Standard 32mm shank dia. Tools #5, 6, 8, 10, 12, 14/16 tool holders with 1 insert / each, in a metal rack & T8,T15,T20 Torx Drivers
Includes	
99036	UT-5-32 32mm DIAMETER TOOL HOLDER
99038	UT-6-32 32mm DIAMETER TOOL HOLDER
99040	UT-8-32 32mm DIAMETER TOOL HOLDER
99042	UT-10-32 32mm DIAMETER TOOL HOLDER
99044	UT-12-32 32mm DIAMETER TOOL HOLDER
99046	UT-14/16-32 32mm DIAMETER TOOL HOLDER
99207	IN-3/16-H7 KEYWAY INSERT
99209	IN-1/4-H7 KEYWAY INSERT
99212	IN-5/16-H7 KEYWAY INSERT
99213	IN-3/8-H7 KEYWAY INSERT
99215	IN-1/2-H7 KEYWAY INSERT
99216	IN-5/8-H7 KEYWAY INSERT
99561	T08 TORX DRIVER
99562	T15 TORX DRIVER
99563	T20 TORX DRIVER

Reference pages 6-12 for details on inserts, dimensions and engineering.

List Price: **$2,837.50** **Promo Price: $2,270.00**

632L Kit - 6 Piece Kit, 32mm Shank - Long	
EDP #	**Description**
KIT-BC-632L	CNC Broach Concierge Kit with 6 Long 32mm shank dia. Tools #5, 6, 8, 10, 12, 14/16 tool holders with 1 insert / each, in a metal rack & T8,T15,T20 Torx Drivers
Includes	
99037	UT-5-32-L 32mm DIAMETER TOOL HOLDER
99039	UT-6-32-L 32mm DIAMETER TOOL HOLDER
99041	UT-8-32-L 32mm DIAMETER TOOL HOLDER
99043	UT-10-32-L 32mm DIAMETER TOOL HOLDER
99045	UT-12-32-L 32mm DIAMETER TOOL HOLDER
99047	UT-14/16-32-L 32mm DIAMETER TOOL HOLDER
99207	IN-3/16-H7 KEYWAY INSERT
99209	IN-1/4-H7 KEYWAY INSERT
99212	IN-5/16-H7 KEYWAY INSERT
99213	IN-3/8-H7 KEYWAY INSERT
99215	IN-1/2-H7 KEYWAY INSERT
99216	IN-5/8-H7 KEYWAY INSERT
99561	T08 TORX DRIVER
99562	T15 TORX DRIVER
99563	T20 TORX DRIVER

duMONT CNC Broaching Kits

List Price: **$2,981.90** **Promo Price: $2,385.52**

725 Kit - 7 Piece Kit, 25mm Shank

EDP #	Description
KIT-BC-725	CNC Broach Concierge Kit with 7 Standard 25mm Shank Tool #2, 3, 4, 5, 6, 8, 10 tool holder with 1 insert / each, in a metal rack & T8,T15,T20 Torx Drivers
Includes	
99000	UT-2-25 25mm DIAMETER TOOL HOLDER
99002	UT-3-25 25mm DIAMETER TOOL HOLDER
99004	UT-4-25 25mm DIAMETER TOOL HOLDER
99006	UT-5-25 25mm DIAMETER TOOL HOLDER
99008	UT-6-25 25mm DIAMETER TOOL HOLDER
99010	UT-8-25 25mm DIAMETER TOOL HOLDER
99012	UT-10-25 25mm DIAMETER TOOL HOLDER
99202	IN-3/32-H7 KEYWAY INSERT
99203	IN-1/8-H7 KEYWAY INSERT
99206	IN-5/32-H7 KEYWAY INSERT
99207	IN-3/16-H7 KEYWAY INSERT
99209	IN-1/4-H7 KEYWAY INSERT
99212	IN-5/16-H7 KEYWAY INSERT
99213	IN-3/8-H7 KEYWAY INSERT
99561	T08 TORX DRIVER
99562	T15 TORX DRIVER
99563	T20 TORX DRIVER

List Price: **$2,981.90** **Promo Price: $2,385.52**

725L Kit - 7 Piece Kit, 25mm Shank - Long

EDP #	Description
KIT-BC-725L	CNC Broach Concierge Kit with 7 Long 25mm Shank Tool #2, 3, 4, 5, 6, 8, 10 tool holder with 1 insert / each, in a metal rack & T8,T15,T20 Torx Drivers
Includes	
99001	UT-2-25-L 25mm DIAMETER TOOL HOLDER
99003	UT-3-25-L 25mm DIAMETER TOOL HOLDER
99005	UT-4-25-L 25mm DIAMETER TOOL HOLDER
99007	UT-5-25-L 25mm DIAMETER TOOL HOLDER
99009	UT-6-25-L 25mm DIAMETER TOOL HOLDER
99011	UT-8-25-L 25mm DIAMETER TOOL HOLDER
99013	UT-10-25-L 25mm DIAMETER TOOL HOLDER
99202	IN-3/32-H7 KEYWAY INSERT
99203	IN-1/8-H7 KEYWAY INSERT
99206	IN-5/32-H7 KEYWAY INSERT
99207	IN-3/16-H7 KEYWAY INSERT
99209	IN-1/4-H7 KEYWAY INSERT
99212	IN-5/16-H7 KEYWAY INSERT
99213	IN-3/8-H7 KEYWAY INSERT
99561	T08 TORX DRIVER
99562	T15 TORX DRIVER
99563	T20 TORX DRIVER

List Price: **$2,752.90** **Promo Price: $2,477.61**

6SQ25-32 Kits - 6 Piece Kit, 25mm or 32mm Shank - Square

EDP #	Description	
KIT-BC-6SQ25 or 32	CNC Square Broach Concierge Kit with 6 tool holders in 25mm or 32mm Shank with 1 insert / each, in a metal rack & T8,T15,T20 Torx Drivers	
Includes (25mm or 32mm):		
25mm	**32mm**	
99621	99622	UT-SQ-8/10 SQUARE TOOL HOLDER SHANK
99623	99624	UT-SQ-10/13 SQUARE INSERT TOOL HOLDER SHANK
99625	99626	UT-SQ-13/16 SQUARE INSERT TOOL HOLDER SHANK
99627	99628	UT-SQ-16/19 SQUARE INSERT TOOL HOLDER SHANK
99629	99630	UT-SQ-19/27 SQUARE INSERT TOOL HOLDER SHANK
99631	99632	UT-SQ-27/37 SQUARE INSERT TOOL HOLDER SHANK
Inserts		
99601	SQ-8/10 SQUARE INSERT	
99602	IN-SQ-10/13 SQUARE INSERT	
99603	IN-SQ-13/16 SQUARE INSERT	
99604	IN-SQ-16/19 SQUARE INSERT	
99605	IN-SQ-19/27 SQUARE INSERT	
99606	IN-SQ-27/37 SQUARE INSERT	
99561	T08 TORX DRIVER	
99562	T15 TORX DRIVER	
99563	T20 TORX DRIVER	

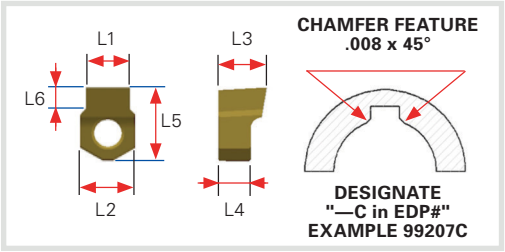
List Price: **$3,067.80** **Promo Price: $2,761.02**

6HX32 Kit - 6 Piece Kit, 32mm Shank - Hex

EDP #	Description
KIT-BC-6HX32	CNC Hex Broach Concierge Kit with 6 tool holders in 32mm Shank with 1 insert / each, in a metal rack & T8,T15,T20 Torx Drivers
Includes	
99722	UT-HEX-9/11-32 HEX TOOL HOLDER 32MM SHANK
99724	UT-HEX-11/17-32 HEX TOOL HOLDER 32MM SHANK
99726	UT-HEX-17/28-32 HEX TOOL HOLDER 32MM SHANK
99728	UT-HEX-28/37-32 HEX TOOL HOLDER 32MM SHANK
99730	UT-HEX-37/45-32 HEX TOOL HOLDER 32MM SHANK
99731	UT-HEX-45/70-32 HEX TOOL HOLDER 32MM SHANK
Inserts	
99701	IN-HEX-9/11 HEX INSERT
99702	IN-HEX-11/17 HEX INSERT
99703	IN-HEX-17/28 HEX INSERT
99704	IN-HEX-28/36 HEX INSERT
99705	IN-HEX-37/45 HEX INSERT
99706	IN-HEX-45/70 HEX INSERT
99561	T08 TORX DRIVER
99562	T15 TORX DRIVER
99563	T20 TORX DRIVER
99563	T20 TORX DRIVER

Reference pages 6-12 for details on inserts, dimensions and engineering.

duMONT CNC Broaching Inserts



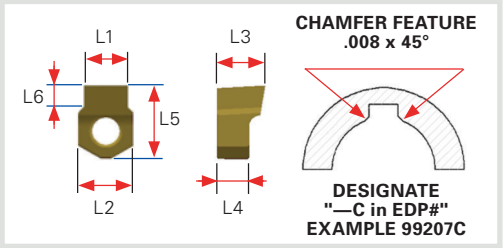
Inserts (mm) - Tolerances

To order a different tolerance - EDP# + (TOLERANCE) = 99202P9

		H-7 (Standard)		P-9		D-10		C-11								
EDP No.	L1 (mm)	L1 (High)	L1 (Low)	L1 (High)	L1 (Low)	L1 (High)	L1 (Low)	L1 (High)	L1 (Low)	L2 (mm)	L3 (mm)	L4 (mm)	L5 (mm)	L6 (mm)	Tool Holder Size	Sharpen Stem
99401		0.07910	0.07810											1.30		
99401( )	2			0.07850	0.07750	0.08110	0.08540	0.08350	0.08300	5.00	6.50	5.00	6.00	1.30	2	SS-1
99401C*		0.07910	0.07810											1.09		
99402		0.11860	0.11830											2.00		
99402( )	3			0.11790	0.11690	0.12090	0.12047	0.12280	0.12244	6.08	6.50	5.00	7.50	2.00	3	SS-1
99402C*		0.11860	0.11830											1.42		
99403		0.15800	0.15767											2.60		
99403( )	4			0.15710	0.15590	0.16020	0.15984	0.16220	0.16180	6.08	7.00	5.00	8.00	2.60	4	SS-1
99403C*		0.15800	0.15767											2.07		
99404		0.19730	0.19705											3.00		
99404( )	5			0.19650	0.19530	0.19960	0.19920	0.20160	0.20118	6.08	7.00	5.00	8.00	3.00	5	SS-1
99404C*		0.19730	0.19705											2.74		
99406		0.23680	0.23650											4.00		
99406( )	6			0.23560	0.23420	0.23940	0.23897	0.24090	0.24055	10.08	9.00	6.00	13.50	4.00	6	SS-2
99406C*		0.23680	0.23650											3.00		
99407		0.31560	0.31527											4.50		
99407( )	8			0.31440	0.31300	0.31810	0.31770	0.32050	0.32010	10.08	9.00	6.00	13.50	4.50	8	SS-2
99407C*		0.31560	0.31527											3.78		
99408		0.39430	0.39410											6.00		
99408( )	10			0.39300	0.39130	0.39720	0.39680	0.40000	0.39960	13.10	14.00	10.00	18.50	6.00	10	SS-3
99408C*		0.39430	0.39410											3.88		
99409		0.47310	0.47280											6.50		
99409( )	12			0.47170	0.47000	0.47600	0.47560	0.47950	0.47910	13.10	14.00	10.00	18.50	6.50	12	SS-3
99409C*		0.47310	0.47280											3.89		
99410		0.55190	0.55157											7.00		
99410( )	14			0.55050	0.54880	0.55510	0.55472	0.55910	0.55860	18.00	14.00	10.00	22.00	7.00	14/16	SS-4
99410C*		0.55190	0.55157											4.71		
99411		0.63060	0.63030											8.00		
99411( )	16			0.62920	0.62750	0.63390	0.63346	0.63780	0.63740	18.00	14.00	10.00	22.00	8.00	14/16	SS-4
99411C*		0.63060	0.63030											5.53		
99412		0.70950	0.70905											9.00		
99412( )	18			0.70780	0.70580	0.71450	0.71413	0.71810	0.71770	26.00	18.00	10.00	30.00	9.00	18/26	SS-5
99412C*		0.70950	0.70905											5.67		
99413		0.78820	0.78780											10.00		
99413( )	20			0.78650	0.78450	0.79330	0.79287	0.79690	0.79645	26.00	18.00	10.00	30.00	10.00	18/26	SS-5
99413C*		0.78820	0.78780											6.29		
99414		0.86700	0.86650											11.00		
99414( )	22			0.86520	0.86320	0.87200	0.87160	0.87560	0.87519	26.00	18.00	10.00	30.00	11.00	18/26	SS-5
99414C*		0.86700	0.86650											6.79		
99494		0.98510	0.98464											12.00		
99494( )	25			0.98340	0.98140	0.99010	0.98970	0.99370	0.99330	26.00	18.00	10.00	30.00	12.00	18/26	SS-5
99494C*		0.98510	0.98464											7.02		

*Chamfer feature providing a 45° Chamfer at the intersection of the bore and the walls of the broached section when cut to full depth is available by specifying a "C" in the EDP No. for example --- 99402-C.

duMONT CNC Broaching Inserts



Inserts (inch) - Tolerances

To order a different tolerance - EDP# + (TOLERANCE) = 99202P9

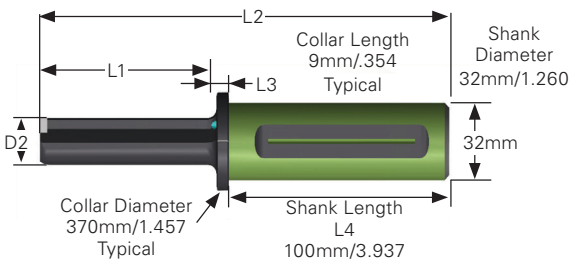
		H-7 (Standard)		P-9		D-10		C-11								
EDP No.	L1 (Inch)	L1 (High)	L1 (Low)	L1 (High)	L1 (Low)	L1 (High)	L1 (Low)	L1 (High)	L1 (Low)	L2 (Inch)	L3 (Inch)	L4 (Inch)	L5 (Inch)	L6 (Inch)	Tool Holder Size	Sharpen Stem
99202		0.09410	0.09370											0.0551		
99202( )	3/32			0.09360	0.09260	0.09610	0.09570	0.09850	0.09810	0.1968	0.2362	0.1968	0.2559	0.0551	2	SS-1
99202C*		0.09410	0.09370											0.0520		
99203		0.12550	0.12551											0.0905		
99203( )	1/8			0.12460	0.12340	0.12810	0.12770	0.13070	0.13030	0.2362	0.2755	0.1968	0.3149	0.0905	3	SS-1
99203C*		0.12550	0.12551											0.0740		
99206		0.15670	0.15652											0.1141		
99206( )	5/32			0.15590	0.15470	0.15930	0.15892	0.16200	0.16160	0.2362	0.2755	0.1968	0.3149	0.1141	4	SS-1
99206C*		0.15670	0.15652											0.0790		
99207		0.18800	0.18778											0.1299		
99207( )	3/16			0.18710	0.18590	0.19060	0.19020	0.19320	0.19280	0.2362	0.2755	0.1968	0.3149	0.1299	5	SS-1
99207C*		0.18800	0.18778											0.1050		
99209		0.25080	0.25040											0.1587		
99209( )	1/4			0.24940	0.24800	0.25390	0.25350	0.25670	0.25630	0.3968	0.3543	0.2362	0.5314	0.1587	6	SS-2
99209C*		0.25080	0.25040											0.1360		
99210		0.28180	0.28160											0.1692		
99210( )	9/32			0.28060	0.27920	0.28510	0.28470	0.28790	0.28750	0.3968	0.3543	0.2362	0.5314	0.1692	8	SS-2
99210C*		0.28180	0.28160											0.1520		
99212		0.31310	0.31270											0.1875		
99212( )	5/16			0.31190	0.31050	0.31640	0.31600	0.31920	0.31880	0.3968	0.3543	0.2362	0.5314	0.1875	8	SS-2
99212C*		0.31310	0.31270											0.1670		
99213		0.37560	0.37520											0.2500		
99213( )	3/8			0.37440	0.37300	0.37890	0.37850	0.38170	0.38130	0.5157	0.5511	0.3937	0.7283	0.2500	10	SS-3
99213C*		0.37560	0.37520											0.1990		
99214		0.43820	0.43780											0.2500		
99214( )	7/16			0.43680	0.43510	0.44220	0.44180	0.44560	0.44520	0.5157	0.5511	0.3937	0.7283	0.2500	12	SS-4
99214C*		0.43820	0.43780											0.2300		
99215		0.50070	0.50030											0.3000		
99215( )	1/2			0.49930	0.49760	0.50470	0.50430	0.50810	0.50760	0.5157	0.5511	0.3937	0.7283	0.3000	12	SS-4
99215C*		0.50070	0.50030											0.2610		
99242		0.56320	0.56280											0.2750		
99242( )	9/16			0.56180	0.56010	0.56720	0.56680	0.57060	0.57020	0.7086	0.5511	0.3937	0.8661	0.2750	14/16	SS-4
99242C*		0.56320	0.56280											0.2670		
99216		0.62570	0.62530											0.3120		
99216( )	5/8			0.62430	0.62240	0.62970	0.62930	0.63310	0.63270	0.7086	0.5511	0.3937	0.8661	0.3120	14/16	SS-4
99216C*		0.62570	0.62530											0.3024		
99217		0.75080	0.75040											0.3930		
99217( )	3/4			0.74910	0.74710	0.75590	0.75550	0.75940	0.75900	1.0236	0.7086	0.3937	1.1811	0.3930	18/26	SS-5
99217C*		0.75080	0.75040											0.3860		
99218		0.87579	0.87559											0.4330		
99218( )	7/8			0.8743	0.8738	0.88090	0.88050	0.88450	0.88410	1.0236	0.7086	0.3937	1.1811	0.4330	18/26	SS-5
99218C*		0.87579	0.87559											0.4030		
99219		1.00150	1.00250											0.5410		
99219( )	1			0.9993	0.9988	1.00590	1.00550	1.00960	1.00910	1.0236	0.7086	0.3937	1.1811	0.5410	18/26	SS-5
99219C*		1.00150	1.00250													

*Chamfer feature providing a 45° Chamfer at the intersection of the bore and the walls of the broached section when cut to full depth is available by specifying a "C" in the EDP No. for example --- 99408-C.

**It is necessary on larger cuts 12mm or ½ inch keyways and above to cut in two operations, a roughing pass with a smaller width insert (approximate ½ required width) and finishing pass at the desired width. This approach reduces the pressure required.

duMONT CNC Broaching Kit - Detailed Dimensions

32mm Shank Stock Tool Holder



Tool Holder Accessories

EDP No.	Description Tool Holder Size	Minimum Bore Dia. (mm)	Minimum Bore Dia. (inch)	Stem Dia. (D2) (mm)	Stem Dia. (D2) (inch)	Stem Length (L1) (mm)	Stem Length (L1) (inch)	Overall Length (L2) (mm)	Overall Length (L2) (inch)	Centering Plate	Mounting Screw	Driver	Thru Tool Coolant
99000	2-25-S	7	.276	6.5	.256	25	.984	124	4.882	CP-0	MS-1	T08	Yes
99001	2-25-L	7	.276	6.5	.256	35	1.378	134	5.276	CP-0	MS-1	T08	Yes
99002	3-25-S	8.5	.335	8	.315	30	1.181	129	5.079	CP-1	MS-1	T08	Yes
99003	3-25-L	8.5	.335	8	.315	40	1.575	139	5.472	CP-1	MS-1	T08	Yes
99004	4-25-S	10.5	.413	10	.394	40	1.575	139	5.472	CP-1	MS-1	T08	Yes
99005	4-25-L	10.5	.413	10	.394	56	2.205	155	6.102	CP-1	MS-1	T08	Yes
99006	5-25-S	12.5	.492	12	.472	46	1.811	145	5.709	CP-1	MS-1	T08	Yes
99007	5-25-L	12.5	.492	12	.472	66	2.598	165	6.496	CP-1	MS-1	T08	Yes
99008	6-25-S	16.5	.650	16	.630	56	2.205	155	6.102	CP-2	MS-2	T15	Yes
99009	6-25-L	16.5	.650	16	.630	81	3.189	182	7.087	CP-2	MS-2	T15	Yes
99010	8-25-S	21	.827	20	.787	68	2.677	162	6.378	CP-2	MS-2	T15	Yes
99011	8-25-L	21	.827	20	.787	100	3.937	199	7.825	CP-2	MS-2	T15	Yes
99012	10-25-S*	28	1.102	25	.984	86	3.386	185	7.284	CP-3	MS-3	T20	No
99013	10-25-L	28	1.102	25	.984	126	4.961	225	8.858	CP-3	MS-3	T20	No

*Collar Length 11mm (.433 inch)

Tool Holder Accessories

EDP No.	Description Tool Holder Size	Minimum Bore Dia. (mm)	Minimum Bore Dia. (inch)	Stem Dia. (D2) (mm)	Stem Dia. (D2) (inch)	Stem Length (L1) (mm)	Stem Length (L1) (inch)	Overall Length (L2) (mm)	Overall Length (L2) (inch)	Centering Plate	Mounting Screw	Driver	Thru Tool Coolant
99036	5-32-S	12.5	.492	12	.472	46	1.811	155	6.102	CP-1	MS-1	T08	Yes
99037	5-32-L	12.5	.492	12	.472	66	2.598	165	6.496	CP-1	MS-1	T08	Yes
99038	6-32-S	16.5	.650	16	.630	56	2.205	165	6.496	CP-2	MS-2	T15	Yes
99039	6-32-L	16.5	.650	16	.630	81	3.189	190	7.480	CP-2	MS-2	T15	Yes
99040	8-32-S	21	.827	20	.787	68	2.677	172	6.772	CP-2	MS-2	T15	Yes
99041	8-32-L	21	.827	20	.787	100	3.937	209	8.228	CP-2	MS-2	T15	Yes
99042	10-32-S	28	1.102	25	.984	86	3.386	195	7.677	CP-3	MS-3	T20	Yes
99043	10-32-L	28	1.102	25	.984	126	4.961	235	9.252	CP-3	MS-3	T20	Yes
99044	12-32-S	30	1.181	30	1.181	102	4.016	213	8.386	CP-3	MS-3	T20	Yes
99045	12-32-L	30	1.181	30	1.181	161	6.339	270	10.630	CP-3	MS-3	T20	Yes
99046	14/16-32-S	35	1.378	35	1.378	126	4.961	231	9.094	CP-4	MS-3	T20	No
99047	14/16-32-L	35	1.378	35	1.378	180	7.087	285	11.220	CP-4	MS-3	T20	No

*Collar Length 11mm (.433 inch)

duMONT CNC Broaching Kits - Speeds and Feeds

	Aluminum			Bronze			Mild Steel / Low Alloy Steel			High Alloy Steel			Stainless		
Width of Insert	Cut per Stroke (inch)	Cutting Speed (inches/min)	Pressure Required (lbs)	Cut per Stroke (inch)	Cutting Speed (inches/min)	Pressure Required (lbs)	Cut per Stroke Inch	Cutting Speed (inches/min)	Pressure Required (lbs)	Cut per Stroke (inch)	Cutting Speed (inches/min)	Pressure Required (lbs)	Cut per Stroke (inch)	Cutting Speed (inches/min)	Pressure Required (lbs)
3/32	0.0060	480	71	0.0040	340	132	0.0035	300	182	0.0030	230	170	0.0023	200	141
1/8	0.0060	480	94	0.0040	340	176	0.0035	300	242	0.0028	230	211	0.0025	200	204
5/32	0.0060	480	118	0.0040	340	220	0.0035	300	302	0.0025	230	235	0.0023	200	235
3/16	0.0060	480	141	0.0040	340	236	0.0033	300	342	0.0025	230	282	0.0023	200	281
1/4	0.0055	480	172	0.0032	340	281	0.0025	300	345	0.0022	230	331	0.0020	200	326
9/32	0.0055	400	194	0.0032	300	316	0.0022	265	341	0.0021	200	355	0.0020	175	366
5/16	0.0050	400	196	0.0032	300	351	0.0022	265	379	0.0020	200	376	0.0019	175	387
3/8	0.0050	400	235	0.0027	300	355	0.0019	265	393	0.0017	200	384	0.0016	175	391
7/16	0.0044	400	241	0.0027	300	414	0.0018	265	434	0.0016	200	421	0.0015	175	428
1/2	0.0042	380	263	0.0026	270	456	0.0016	230	441	0.0015	180	451	0.0014	150	456
9/16	0.0040	380	282	0.0024	270	473	0.0016	230	496	0.0014	180	473	0.0013	150	476
5/8	0.0040	380	313	0.0023	270	504	0.0015	230	517	0.0014	180	526	0.0013	150	529
3/4	0.0035	380	329	0.0020	270	526	0.0013	230	538	0.0012	180	541	0.0011	150	538
2mm	0.0060	480	59	0.0040	340	110	0.0035	300	151	0.0025	230	118	0.0023	200	118
3mm	0.0060	480	89	0.0040	340	165	0.0035	300	227	0.0025	230	177	0.0023	200	176
4mm	0.0060	480	118	0.0040	340	220	0.0035	300	303	0.0025	230	236	0.0023	200	235
5mm	0.0060	480	148	0.0036	340	248	0.0033	300	357	0.0025	230	295	0.0023	200	294
6mm	0.0055	480	162	0.0032	340	264	0.0033	300	429	0.0022	230	312	0.0020	200	307
8mm	0.0055	400	216	0.0032	300	353	0.0025	265	433	0.0020	200	378	0.0018	175	368
10mm	0.0050	400	246	0.0027	300	372	0.0020	265	433	0.0017	200	401	0.0016	175	409
12mm	0.0045	380	266	0.0027	270	446	0.0019	230	494	0.0015	180	425	0.0014	150	430
14mm	0.0040	380	276	0.0025	270	482	0.0017	230	515	0.0013	180	430	0.0013	150	466
16mm	0.0040	380	315	0.0022	270	485	0.0015	230	520	0.0013	180	491	0.0011	150	450
18mm	0.0037	380	328	0.0020	270	496	0.0014	230	546	0.0012	180	510	0.0010	150	461
20mm	0.0034	360	335	0.0019	250	523	0.0013	200	563	0.0012	150	567	0.0010	130	512
22mm	0.0032	360	346	0.0018	250	546	0.0012	200	571	0.0010	150	520	0.0010	130	535
25mm	0.0032	360	394	0.0017	250	585	0.0011	200	595	0.0009	150	531	0.0009	130	544

CNC Programming Support

Programming – Allow us to put our experience to work for you.

Programming assistance is available; the make, model, and controls of the machine used, along with a print drawing of the part is required.

In the CNC program it is necessary to establish an approaching value which accounts for the “cord”, the distance from the center of the cutting edge of the Insert to I.D. of the bore at the point the corners of the Inserts contact the I.D. of the bore. This distance is a function of Insert width and Bore Diameter. The approaching value being sufficiently lower than the diameter of the bore avoids damage to the Insert.

On-site engineering programming service is available at an hourly rate plus travel costs.

Tools and Inserts for Square

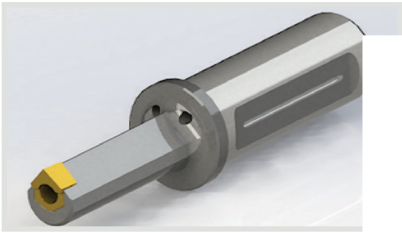
This series of duMONT tools was developed to execute internal squares. It offers the following advantages: absolute concentricity, the possibility of correcting the required measurement, machining speed and cost savings. Every insert size in this line is able to execute various square sizes, which makes using duMONT tools for squares very economical and convenient. To execute internal square holes, it is necessary to cut a pre-hole with a diameter based on the following formula:

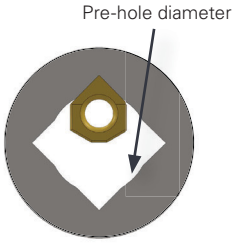
PRE-HOLE DIAMETER = SQUARE THICKNESS X 1.050

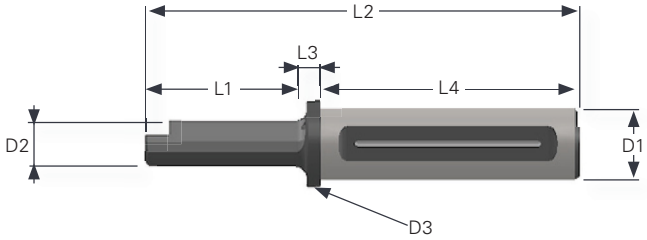
For example, for a square with a thickness of 10mm, the diameter of the pre-hole will be: 10mm x 1.050 = 10.50mm

To execute completely square holes, the customer will need to make a specific request and will be supplied with an ad hoc tool. In addition to this, in many other cases, in order to obtain a perfectly appropriate tool for the type of square hole that needs to be executed, it will be possible to produce a special tool that meets the customer's specifications.

Tools for Square



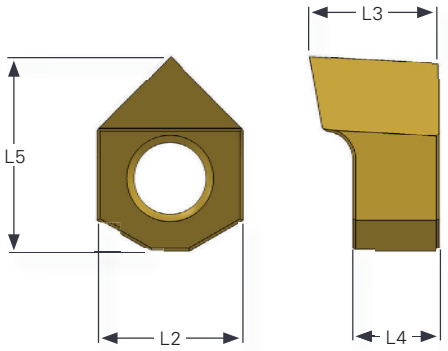




Tools for Square (mm)

EDP No.	Description	L1 (mm)	L2 (mm)	L3 (mm)	L4 (mm)	D1 (mm)	D2 (mm)	D3 (mm)	Centering Plate	Torx driver	Mounting screw	Minimum hole (mm)	Weight (g)
99621	8/10-25	30.0	129.0	9.0	90.0	25.0	7.25	30.0	CP-1	T08	MS-1	8.0	368
99622	8/10-32	30.0	139.0		100.0	32.0	7.25	38.0	CP-1	T08	MS-1	8.0	673
99623	10/13-25	40.0	139.0		90.0	25.0	8.60	30.0	CP-1	T08	MS-1	10.0	368
99624	10/13-32	40.0	149.0		100.0	32.0	8.60	38.0	CP-1	T08	MS-1	10.0	672
99625	13/16-25	50.0	149.0		90.0	25.0	12.00	30.0	CP-2	T15	MS-2	13.0	428
99626	13/16-32	50.0	159.0		100.0	32.0	12.00	38.0	CP-2	T15	MS-2	13.0	725
99627	16/19-25	52.0	151.0		90.0	25.0	15.00	30.0	CP-3	T20	MS-3	16.0	647
99628	16/19-32	52.0	161.0		100.0	32.0	15.00	38.0	CP-3	T20	MS-3	16.0	935
99629	19/27-25	86.0	185.0		90.0	25.0	18.50	30.0	CP-3	T20	MS-3	19.0	824
99630	19/27-32	86.0	195.0		100.0	32.0	18.50	38.0	CP-3	T20	MS-3	19.0	1,157
99631	27/37-25	100.0	199.0		90.0	25.0	25.00	30.0	CP-4	T20	MS-3	27.0	1,390
99632	27/37-32	100.0	209.0		100.0	32.0	25.00	38.0	CP-4	T20	MS-3	27.0	1,490
99633	37/50-32	140.0	249.0		100.0	32.0	35.00	45.0	CP-5	BRUG-5	MS-4	37.0	1,903

Inserts for Square



Inserts for Square (mm)

EDP No.	Working range (mm)	Working range (inches)	L2 (mm)	L3 (mm)	L4 (mm)	L5 (mm)	Tool Holder Size	Sharpen Stem
99601	8mm/10mm	0.314/0.393	6.00	7.00	5.00	7.00	8/10	SS-1
99602	10mm/13mm	0.393/0.511	6.00	7.00	5.00	7.50	10/13	SS-1
99603	13mm/16mm	0.511/0.629	10.00	8.00	6.00	12.00	13/16	SS-2
99604	16mm/19mm	0.629/0.748	10.00	8.00	6.00	12.50	16/19	SS-2
99605	19mm/27mm	0.748/1.062	13.00	13.00	10.00	17.00	19/27	SS-3
99606	27mm/37mm	1.062/1.456	18.00	14.00	10.00	22.00	27/37	SS-4
99607	37mm/50mm	1.456/1.968	26.00	18.00	10.00	30.00	37/50	SS-5

See pages 55-57 for accessories.

Tools and Inserts for Hexagon

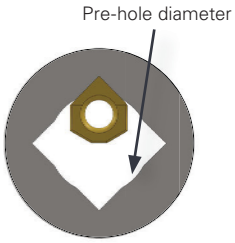
The duMONT CNC Indexable Broaching System was developed to execute internal hexagons. It offers the following advantages: absolute concentricity, the possibility of correcting the required measurement, machining speed and cost savings. Every insert size in this line is able to execute various hexagonal sizes, which makes using duMONT tools for hexagons very economical and convenient. To execute internal hexagonal holes, it is necessary to cut a pre-hole with a diameter based on the following formula:

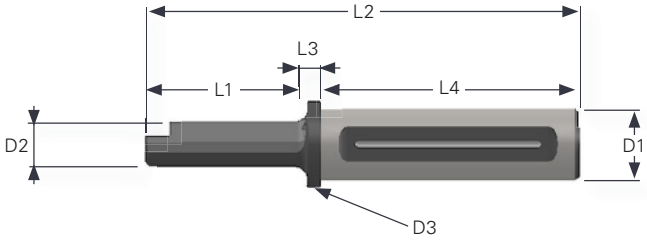
PRE-HOLE DIAMETER = HEXAGON THICKNESS X 1.020

For example, for a hexagon with a thickness of 10mm, the diameter of the pre-hole will be: 10mm x 1.020 = 10.20mm

To achieve your desired hexagonal hole, contact our Engineering Department for a custom solution to meet your needs.

Tools for Hexagon

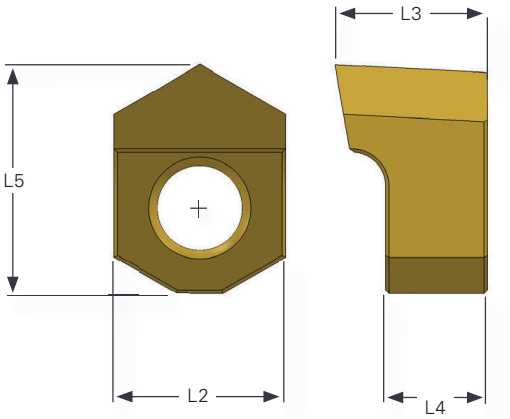




Tools for Hexagon (mm)

EDP No.	Description	L1 (mm)	L2 (mm)	L3 (mm)	L4 (mm)	D1 (mm)	D2 (mm)	D3 (mm)	Centering Plate	Torx driver	Mounting screw	Minimum hole (mm)	Weight (g)
99721	9/11-25	30.0	129.0		90.0	25.0	8.0	30.0	CP-1	T08	MS-1	9.0	388
99722	9/11-32	30.0	139.0		100.0	32.0	8.0	38.0	CP-1	T08	MS-1	9.0	673
99723	11/17-25	40.0	139.0		90.0	25.0	10.0	30.0	CP-1	T08	MS-1	11.0	368
99724	11/17-32	40.0	149.0		100.0	32.0	10.0	38.0	CP-1	T08	MS-1	11.0	672
99725	17/28-25	56.0	155.0		90.0	25.0	15.0	30.0	CP-2	T15	MS-2	17.0	647
99726	17/28-32	56.0	165.0	9.0	100.0	32.0	15.0	38.0	CP-2	T15	MS-2	17.0	935
99727	28/37-25	86.0	185.0		90.0	25.0	25.0	30.0	CP-3	T20	MS-3	28.0	1,390
99728	28/37-32	86.0	195.0		100.0	32.0	25.0	38.0	CP-3	T20	MS-3	28.0	1,157
99729	37/45-25	126.0	225.0		90.0	25.0	35.0	45.0	CP-4	T20	MS-3	37.0	1,490
99730	37/45-32	126.0	235.0		100.0	32.0	35.0	45.0	CP-4	T20	MS-3	37.0	1,850
99731	45/70-32	140.0	249.0		100.0	32.0	40.0	45.0	CP-5	BRUG 5	MS-4	45.0	1,950

Inserts for Hexagon



Inserts for Hexagon (mm)

EDP No.	Working range (mm)	Working range (inches)	L2 (mm)	L3 (mm)	L4 (mm)	L5 (mm)	Tool Holder Size	Sharpen Stem
99701	9mm/11mm	0.354/0.433	6.00	7.00	5.00	7.50	9/11	SS-1
99702	11mm/17mm	0.433/0.669	6.00	7.00	5.00	8.00	11/17	SS-1
99703	17mm/28mm	0.669/1.102	10.00	9.00	6.00	13.50	17/28	SS-2
99704	28mm/37mm	1.102/1.456	13.00	14.00	10.00	18.50	28/37	SS-3
99705	37mm/45mm	1.456/1.771	18.00	14.00	10.00	22.00	37/45	SS-4
99706	45mm/70mm	1.771/2.755	26.00	16.00	10.00	30.00	45/70	SS-5

See pages 55-57 for accessories.

Engineering Section

Special Inserts and Applications

The CNC Indexable Broaching System offers a wide range of Special Design Inserts that provide the opportunity to manufacture parts more efficiently and accurately through single machine processing. When location or timing is a critical design element of the part, the tooling system offers a means to do more work within the same coordinate system. Allow us to put our experience to work for you. Get the right Insert for the material you are machining, the shape or form you require with the programming needed to get your job done. Please contact us at **413-350-5200**.

Cornering Inserts

Machine Squares, Hexagons, and Octagons with Inserts designed with two cutting edges intersecting at the appropriate angle 90°, 120° or 135°. Cut the corner, rotate the spindle (C axis) as required for the next cut (re-run of the subroutine) and repeat to completion. The same cornering Inserts may be used to generate a range of sizes of the given shape by simply increasing or decreasing the tool offset.

Internal Toothing and Grooving Inserts

Inserts designed to meet industry standards (ANSI, DIN, ISO etc.) as well as nonstandard geometries are available. A chamfering feature may be added in order to produce a burr-free part. One machine processing in the same coordinate system promotes product uniformity and processing efficiencies.

Sharpening – Allow us to extend the life of your inserts

Re-sharpening extends the life of the Insert and saves money. The Inserts that show a decline in surface finish (a sign of wear), can have their life extended through a resharpening process. The Inserts are designed to allow two to three resharpenings, more if tolerances allow. A Sharpening Stem is available for mounting and supporting of an Insert during re-sharpening. The Stem's hexagon shank facilitates the resharpening process. Sharpening must be properly performed using an appropriate grinder and grinding wheel. The original cutting angle must be maintained. Recoating of the Insert is required after sharpening.

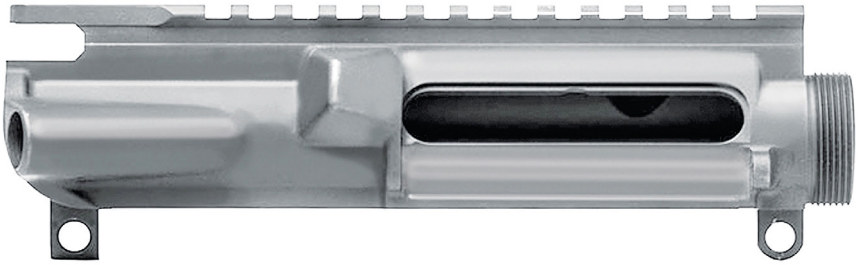
Contact us for a quote to re-sharpen your inserts to proper manufactured geometry.

Firearm CNC Broaching Solutions

PilotPrecision.com | 413-350-5200

Charging Handle for CNC Broaching Kit

Charging Handle Broach



For improved functionality of charging handles, use our CNC Charging Handle Broaching Kit.

Key features and benefits include:

- Broach is internal to machine cycle
- No subcontractor/offline operation required
- Easy resharpening of insert (up to 3-5 times)
- Costs only 25% of traditional broaching

The Charging Handle CNC Broaching Kit is available for:

AR15 (.223/5.56 NATO)

AR10 (.308/.762)

AR22 (.22 LR)

AR9 (9mm)

Cutting Data includes:

300-500 IPM
.0035 CPP (cut per pass)

Estimated Cycle Time:
45 seconds

Charging Handle Kit $770.00

EDP 99914
(Comes with 4 inserts & mounting screws, 1 holder & torx driver)

Replacement Components

99925 AR Charging Handle Insert

99926 AR Charging Handle Holder

99552 T-15 Torx Driver

99552 MS-2 Mounting Screw

Inserts can be modified if needed.

Broaching an Opportunity for Loyal Customers to Save

Any kit order includes a

$100 Gift

towards resharpening your broaching inserts.

Valid for 12 months from date of order.

AR Firearm CNC Broaching Kits

The **duMONT CNC** AR15/M16 Magwell Kit comes with 3 holders, 3 types of inserts, 2 drivers, and an alignment tool in a durable case. This kit allows all broaching of a magwell to be done within the CNC cycle. The need for a secondary broaching process in a special purpose broaching machine is eliminated!

Insert 1
Profile Insert

Insert 2
Long Straight Insert

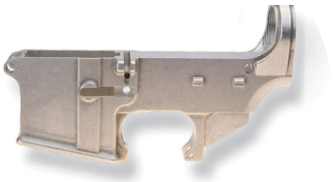
Insert 3
Mag Catch Insert

Save time: Approximate 1 minute 30 sec. total broaching cycle time

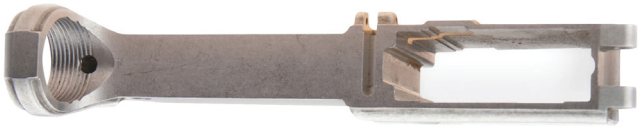
CUTTING DATA

Insert 1	Insert 2	Insert 3
300-500 IPM with .0035 stepover	300-500 IPM with .0035 stepover	300-400 IPM with .0025-.0055 stepover
ROUGHMILL (with a ø3/8" endmill) then 51 passes	ROUGHMILL (with a ø3/8" endmill) then 45 passes	ROUGHMILL (with a ø3/8" or ø1/2" endmill) then 15 passes
OR	OR	
ROUGHMILL (with a ø1/2" endmill) then 69 passes	ROUGHMILL (with a ø1/2" endmill) then 63 passes	
3 passes at final depth	3 passes at final depth	3 passes at final depth
Estimated Tool Life, 2,600 pieces TiN coated EDP 99911 for AR10 EDP 99916 for AR15 Can be Resharpened 2-3 times	Estimated Tool Life, 2,600 pieces TiN coated EDP 99912 for AR10 EDP 99917 for AR15 Can be Resharpened 2-3 times	Estimated Tool Life, 4,000 pieces TiN coated EDP 99918 for AR10 & AR15 Can be Resharpened 2-3 times

1-1/4" Shank Diameter Holders



A standard CNC broaching tool can be added if you would like to make the magazine reliefs square corners.



AR15/M16 and AR10 FIREARMS KIT

KIT 99915

ELIMINATE THE NEED FOR A SECONDARY BROACHING OPERATION

- All broaching done in one step
- No operator required
- These kits are a quarter of the total tool life cost of a traditional magwell broach.

99910 AR10 Magwell Kit $4,452.00
99915 AR15 Magwell Kit $4,351.00

Broaching an Opportunity for Loyal Customers to Save

Any kit order includes a

$100 Gift

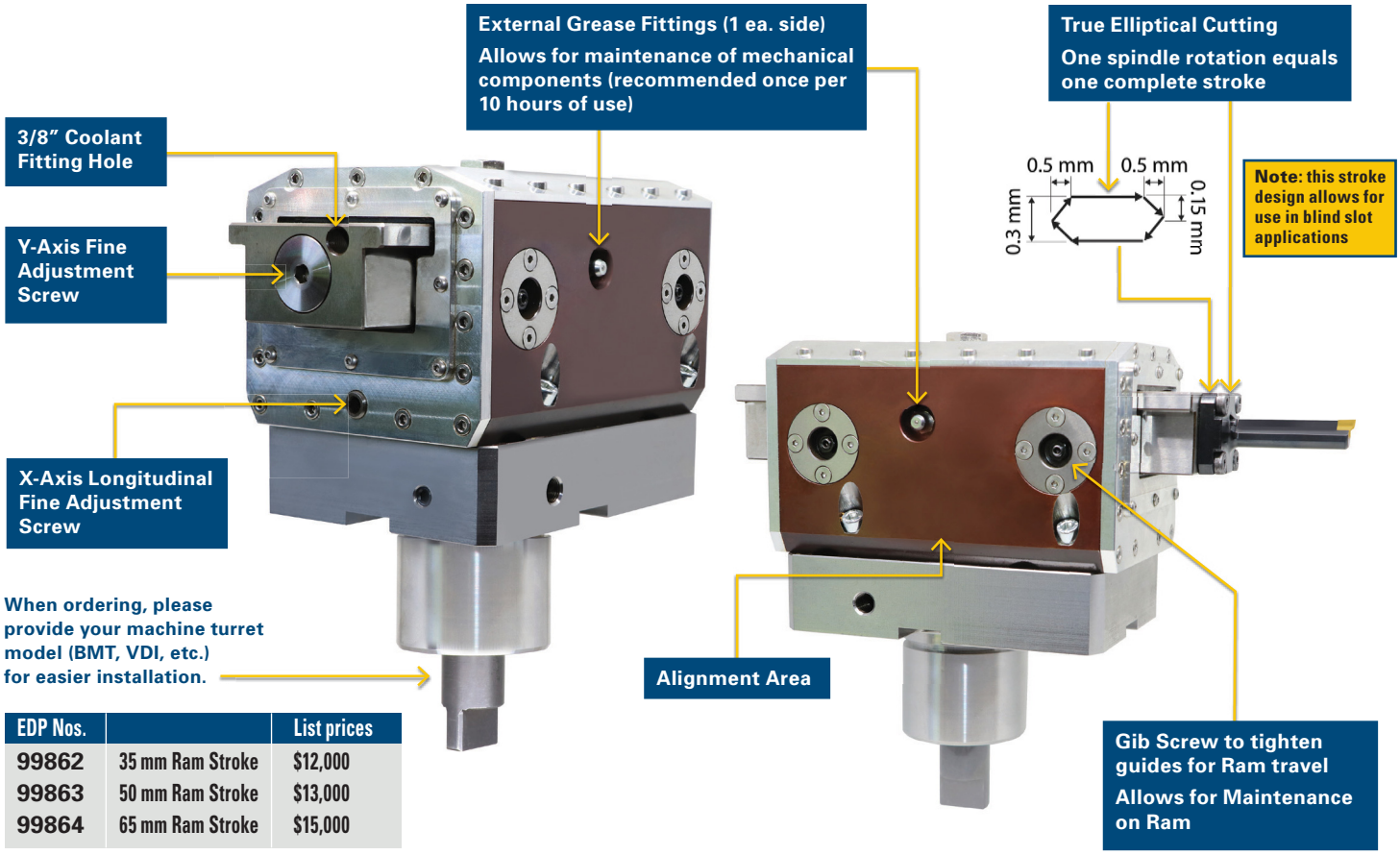
towards resharpening your broaching inserts.

Valid for 12 months from date of order.

duMONT CNC
Indexable Broaching System
Motorized Slotter

FASTER CNC Broaching of AR Barrel Extensions

The duMONT Motorized Slotter can easily handle internal and external keyway and spline profiles in significantly shorter cycle times while consolidating operations in one machine and eliminating secondary broaching operations.



When ordering, please provide your machine turret model (BMT, VDI, etc.) for easier installation.

EDP Nos.		List prices
99862	35 mm Ram Stroke	$12,000
99863	50 mm Ram Stroke	$13,000
99864	65 mm Ram Stroke	$15,000

Key Features & Benefits

6-Sided Ram Design for Maximum Torsional Rigidity Resulting in Superior Finish and Tool Life

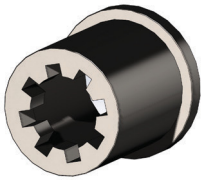
Great for Shaping Holes into Hex or Squares 1" or Larger. Beyond Rotary Broaching Limits

Easy to Maintain and Rebuild Based on the Ability to Grease/Lubricate

Rebuild* Kit is Available for Bearings and Seals for DIY Maintenance, or the Unit can be Sent Back for Maintenance at **Half the Cost of Competitors**

CNC Broached Barrel Extension

60 second cycle time



Cycle Time Comparison:

5-10x FASTER
than other CNC Broaching Tools for OD & ID Slots & Splines

50x FASTER
than Wire EDM in Slots or Splines

Receive a
750
Tooling Certificate
with the purchase of the Slotter

1911 CNC Broaching Kit

Insertable tool vs. solid tool or round tool

1911 Broaching Kit $1,995

EDP Nos.	
99927	1911 Broaching Kit

The 1911 CNC Broaching Kit is available for:

.45 ACP	.22 LR
40 S&W	10mm
.380 ACP	9mm

Broaching an Opportunity for Loyal Customers to Save

Any kit order includes a

$100 Gift

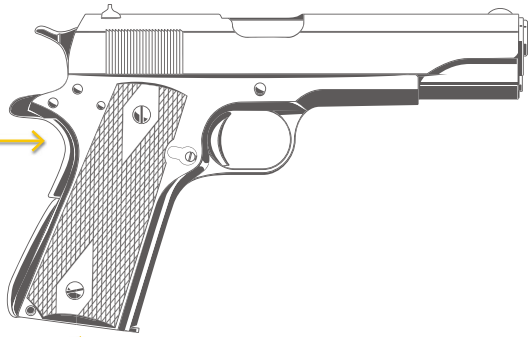
towards resharpening your broaching inserts.

Valid for 12 months from date of order.

Components: 1 of each / kit

EDP Nos.	
99928	1911 Magwell Insert
99929	1911 Magwell Holder
99930	1911 Trigger Slot Insert
99931	1911 Trigger Slot Holder
99932	1911 Trigger Bow Insert
99933	1911 Trigger BowHolder
99561	T-08 Torx Driver
99562	T-15 Torx Driver

Complete Pistol Kits



Trigger Bow Tool
Insert cut width - 0.235" / 5.9817 mm

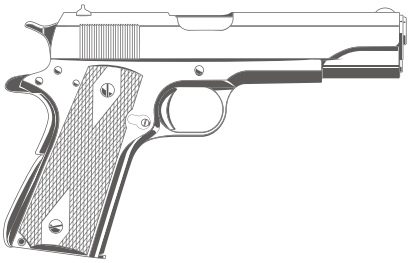
Trigger Slot Tool
Insert cut width - 0.252" / 6.4008 mm

Magwell Tool
Insert cut width - 0.556" / 14.1224 mm

Inserts can be Custom Made to order

Breechface Broaches

Easily assembled into a standard CNC holder.



All Breechface Broaches are made to order for your application.

Send us your print or width and length of cut dimensions for a quote.

For use with the following pistol brands:

Glock
Smith & Wesson
H&K
Walther
CZ
Canik

Calibers include:

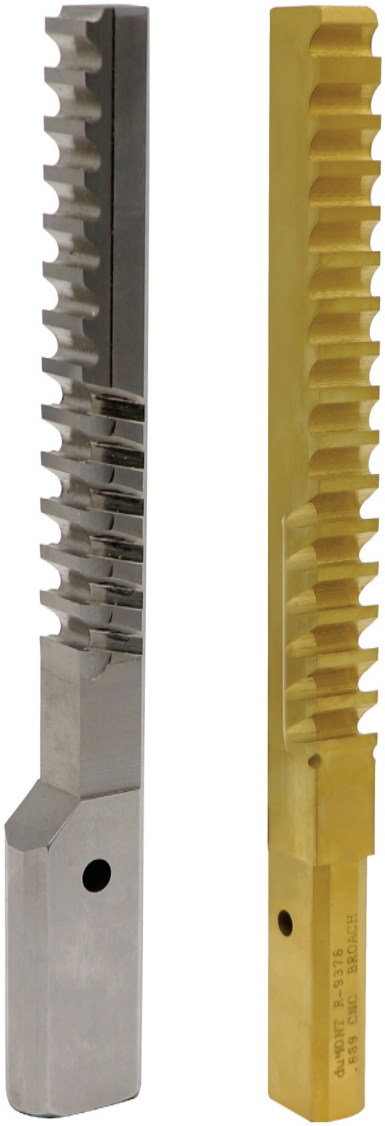
9mm
.40
.45
.380
10mm

Features and Benefits:

Internal to machine cycle

No subcontracting / offline operation required

Smaller Broaches - Delivery in 2-3 Weeks



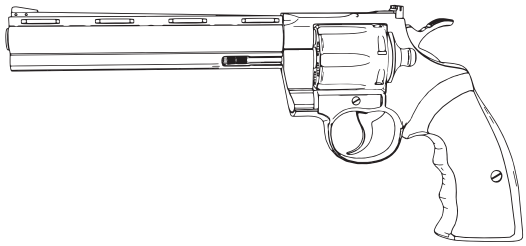
Larger Broaches - Delivery in 5-6 Weeks

Revolver Broaches

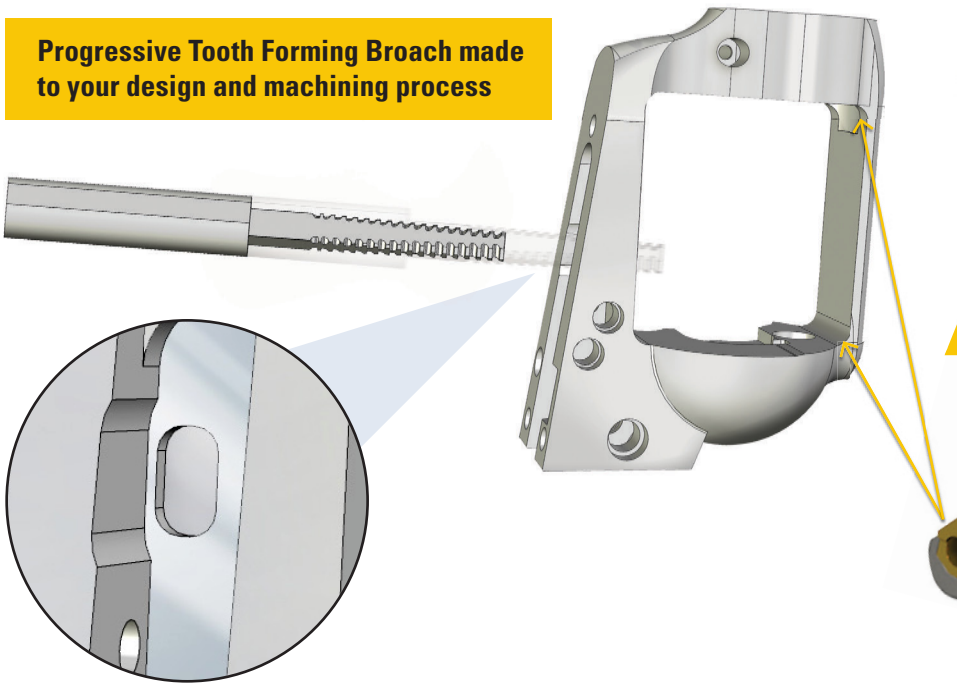
Features and Benefits:

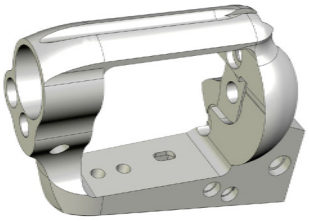
Internal to machine cycle

No subcontracting / offline operation required

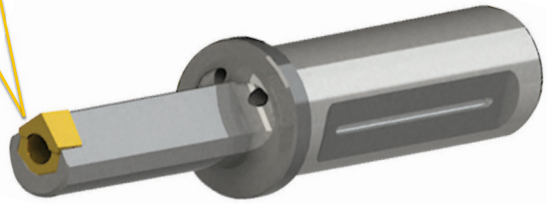


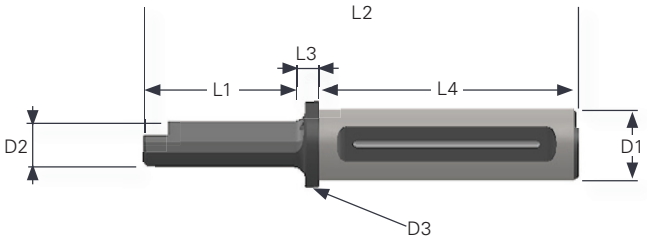
Progressive Tooth Forming Broach made to your design and machining process





Custom Radius Inserts Modified to Required Corner Dimensions





Tools for Square (mm)

EDP No.	Description	L1 (mm)	L2 (mm)	L3 (mm)	L4 (mm)	D1 (mm)	D2 (mm)	D3 (mm)	Centering Plate	Torx driver	Mounting screw	Minimum hole (mm)	Weight (g)
99621	8/10-25	30.0	129.0		90.0	25.0	7.25	30.0	CP-1	T08	MS-1	8.0	368
99622	8/10-32	30.0	139.0		100.0	32.0	7.25	38.0	CP-1	T08	MS-1	8.0	673
99623	10/13-25	40.0	139.0		90.0	25.0	8.60	30.0	CP-1	T08	MS-1	10.0	368
99624	10/13-32	40.0	149.0		100.0	32.0	8.60	38.0	CP-1	T08	MS-1	10.0	672
99625	13/16-25	50.0	149.0		90.0	25.0	12.00	30.0	CP-2	T15	MS-2	13.0	428
99626	13/16-32	50.0	159.0		100.0	32.0	12.00	38.0	CP-2	T15	MS-2	13.0	725
99627	16/19-25	52.0	151.0	9.0	90.0	25.0	15.00	30.0	CP-3	T20	MS-3	16.0	647
99628	16/19-32	52.0	161.0		100.0	32.0	15.00	38.0	CP-3	T20	MS-3	16.0	935
99629	19/27-25	86.0	185.0		90.0	25.0	18.50	30.0	CP-3	T20	MS-3	19.0	824
99630	19/27-32	86.0	195.0		100.0	32.0	18.50	38.0	CP-3	T20	MS-3	19.0	1,157
99631	27/37-25	100.0	199.0		90.0	25.0	25.00	30.0	CP-4	T20	MS-3	27.0	1,390
99632	27/37-32	100.0	209.0		100.0	32.0	25.00	38.0	CP-4	T20	MS-3	27.0	1,490
99633	37/50-32	140.0	249.0		100.0	32.0	35.00	45.0	CP-5	BRUG-5	MS-4	37.0	1,903

Custom Linear Push or Pull Broaches Made for all Firearms Broaching Applications

SERVICES

Broach Resharpening

Our process typically allows for additional resharps on a single broach set

We can also service other manufacturer's broaches

Firearm Broaches we can support:

- **Magwells**
- **Rifling**
- **Receiver**
- **Frame Broaches**
- **Slotters - Revolver**
- **Revolver Finishing**

Custom Designed and High Quality to improve tool life and finish

Broaching Oil That Keeps Your Tooling Sharp & Disposal Costs Down

Our PressLube™ Broaching Oil is a proprietary formulation created to improve the performance of your broaching tools without the use of chlorine (Cl) and phosphorous (P). Our environmentally safe lubricant contains a special electrostatic precipitator (EP) additive that combines with active and inactive sulfurized lubricity agents to produce a high-performance broach cutting oil product.

PressLube BROACHING OIL

How It Works

Our unique EP agent plates the work surface during metal forming and creates a film that has low shear strength and a high melting point. This inert chemical reaction between the lubricant and metal surface allows for improved broaching speeds and tool life.

In contrast, typical lubricants made with chlorinated waxes react with metal surfaces to produce chloride films. Those chlorides contribute to fluid degradation, interfere with rust inhibitors, create ecological challenges and increase your disposal costs.

EDP #	Description
99960	duMONT Broaching Oil 12 x 1 quart/case
99961	duMONT Broaching Oil 4 x 1 gallon/case
99962	duMONT Broaching Oil 5 gallon pail
99963	duMONT Broaching Oil 55 gallon drum
99964	duMONT Broaching Oil 275 gallon tote

The PressLube Advantage

PressLube offers significant benefits over alternative lubricants.
Those advantages include:

- Improves Part Quality, Surface Finish & Operational Efficiency
- Provides Excellent Rust Protection
- Extends Tool Life
- Minimizes Built-Up Edge (BUE)
- Increases Rates of Turning Speeds & Feeds
- Easy to Filter
- Environmentally Friendly (No Chlorine & Phosphorus)
- Recyclable
- Reduces Disposal Costs

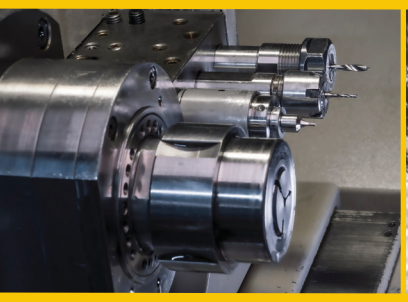
Key Features
PressLube's most important characteristics include:

For more information, visit our website at pilotprecision.com or call 413-350-5200.

Flash Point: 395°F
API Gravity @60°F is 26.4
Viscosity @40°C is 28-32 mm2/s
2.2% Active Sulfur

Copper Corrosion Measurement Taken Using ASTM D-130 4a Test
Falex Jaw Load: 3,000 lbs.
Rust Test: ASTM D665 Pass
Tapping Efficiency Percentage: 135

*California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer and/or reproductive harm.



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