



GenSwiss®

Making The Machinist's Job Easier



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Signature SERIES





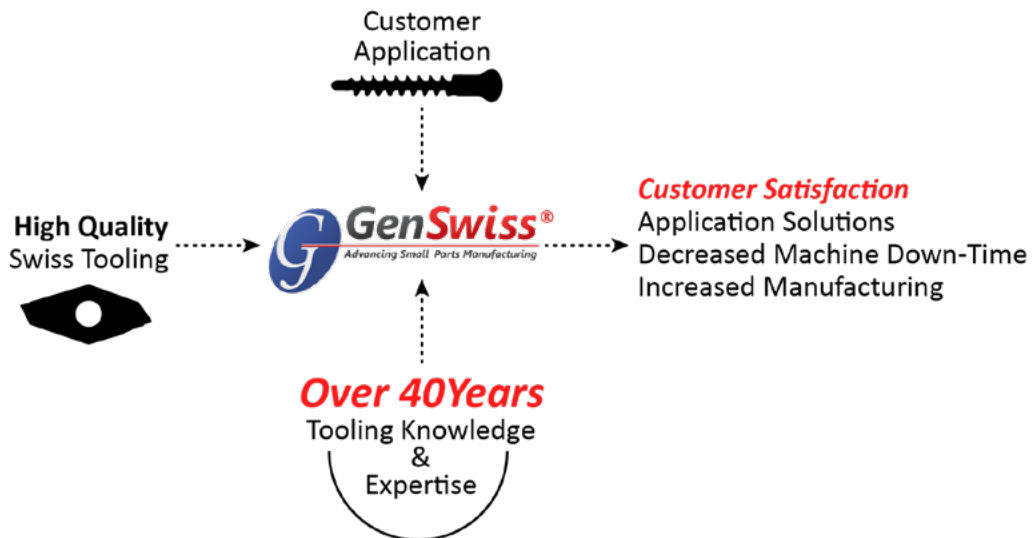
Westfield, MA, USA

Genevieve Swiss Industries, Inc. brings to market unique high-quality precision tools and accessories advancing small parts manufacturing and enhancing Swiss-style machining.

GenSwiss® Signature Series line of premium products consistently delivers precision performance for industries requiring the highest degree of standards. Each tool is held to ultra-high standards and features geometries designed for the material-type. We strive to deliver products which meet or exceed customer expectations, providing a reliable service with application solutions. Standard and custom orders are available.

Industries Served

- Automotive
- Aerospace
- Energy Markets
- Firearms
- Medical/Dental
- Metalworking



Precision Tools

- High quality for extended tool life
- Quick setup times
- Low TIR's and tight tolerances
- Thousands of tools available
- Custom tooling available



Customer Service & Sales Team

- Our skilled staff is dedicated to providing you with the tooling and assistance you require
- The GenSwiss team visits our distributor network to support our partners and learn how we can better provide or improve the GenSwiss experience
- Instant access to inventory allows our team to provide immediate lead times and pricing

Tooling Application Assistance

- 40 years of industry experience
- Knowledge of the benefits and disadvantages on all available tooling systems
- GenSwiss will find the right combination of tools for your application to optimize the best tool life with cost savings



GenSwiss E-Commerce

- See product inventory 24/7
- Get instant pricing 24/7
- Track orders
- Place custom tooling orders



www.genswiss.com

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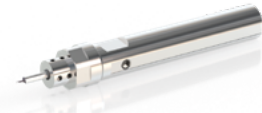
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ROTARY BROACHING GUIDE



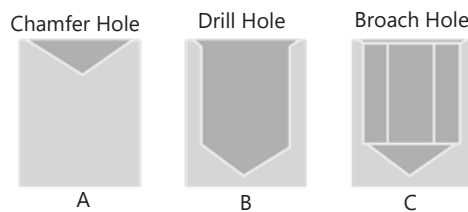
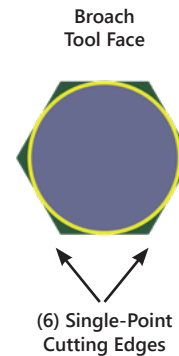
Rotary Broaching is a fast and easy method of producing polygonal drive features in turned parts. Genevieve Swiss offers Premium Rotary Broaching products from PCM, the European industry leader in rotary broaching tools.



A Guide To Internal Rotary Broaching

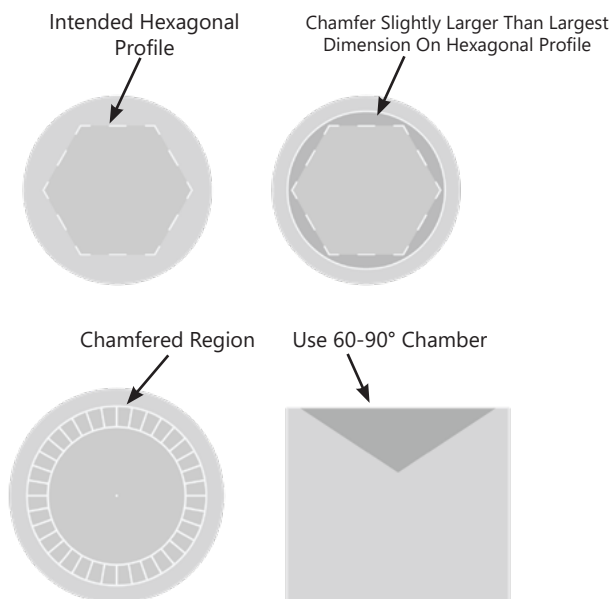
During the rotary broach operation, the broach tool approaches the work piece at a small angle. The tool spins synchronously with the part, creating a wobble effect that causes the leading cutting edge to rotate in and out of the cut like a cam. This method shapes internal and external polygonal profiles at a single-point. Compared to punch forming, which shapes the entire profile at once, rotary broaching requires 80% less force, offers increased tool life, and lowers machine maintenance cost over time.

The advantages offered by rotary broaching result from proper preparation prior to the broaching operation. The most important part of this preparation includes drilling a hole which allows for broached material to accumulate, preventing damage to the broach tool and machine. Continue with the guide below for some important tips on rotary broaching.



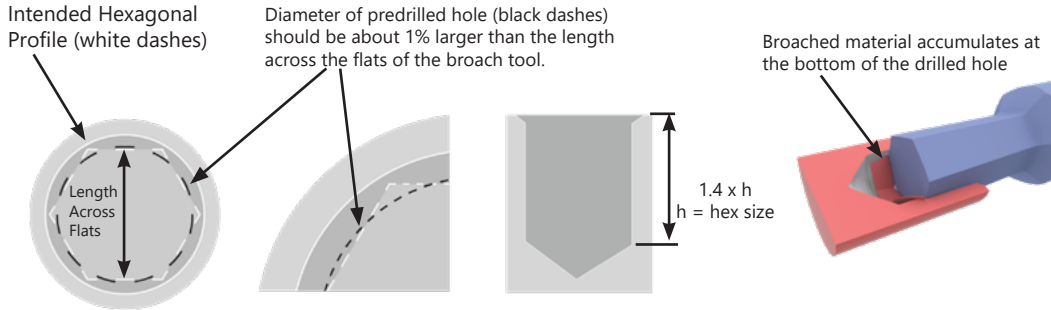
Preparing To Broach A Hole

First, prepare the hole with a 60° - 90° chamfer slightly bigger than the largest dimension of the broach tool. A chamfer provides a guide for the broach tool.



Drilling The Hole

For internal broaching, the diameter of the hole should be 1 percent larger than the diameter across the flats of the broach's hex shape and drilled as deep as possible. A depth of 1.3 to 1.5 times the depth of the broached profile is recommended. Drilling to this depth is vital, leaving room for material accumulation during the broaching process. If material accumulates during the drilling process, re-drill the hole with a smaller drill.



If Drill Radius Is Not Allowed

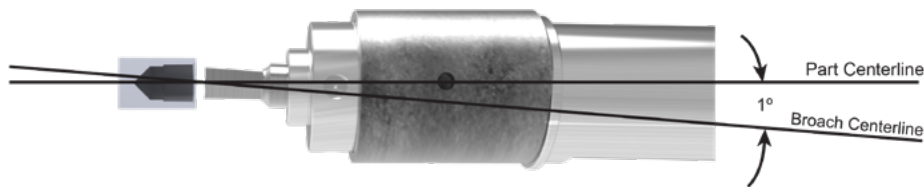
Many medical and aerospace applications do not allow for a drill radius along the broached walls of the part. When exact concentricity is required, chamfer, drill, and then pre-bore the hole. Using a micro-bore allows for extra control and accuracy. The use of a drill might lead to inaccuracies due to deflection and other conditions.

NOTE: Broaching into a tight hole will not allow air or coolant to escape, resulting in a build up of pressure. This can cause the part or tool to push back, damaging the tool or machine. Use a GenSwiss broach that has a pressure relief vent.



Broaching The Hole

Rotary broaching holders hold the broach tool at a 1° angle relative to the centerline of the workpiece. As the broach holder rotates, the broach tool is pushed into the pre-drilled hole. During the beginning of broaching, when the broach is touching the material, the edges could break if the speed is too high.

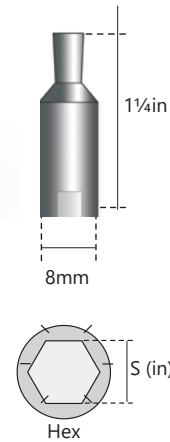


For best results, start the broach operation at a slow rotation, and then increase the speed when it is in full contact. We recommend for the first 1mm a reduced speed of 500 rpm max.

The feed rate mainly depends on the material characteristics. In mild steel, 0.0012 to 0.0024 inches per revolution is recommended. If the machine thrust force is sufficient, the feed can be doubled as machinability increases. In most cases the maximum feed rate should not exceed 0.03 times the profile diameter. A slower feed rate will produce an improved finish with finer lines along the sidewalls of the broached hole. By increasing the feed rate, the cutting cycle will be faster, but the broaching lines will be more pronounced, leaving a coarse finish. **We do not recommend speeds over 2,000 rpm.**

Call us [413-562-4800](tel:413-562-4800) for more information on Rotary Broaching

SIGNATURE SERIES ROTARY BROACH TOOLS



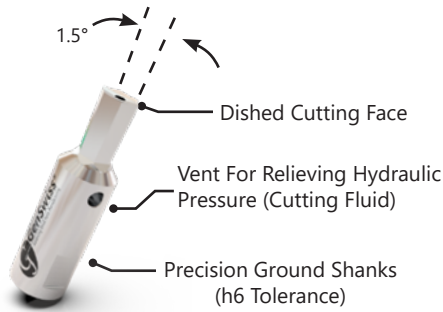
GenSwiss' premium rotary broach tools deliver consistent high-performance cutting for industries requiring the highest degree of standards. Each tool is precision ground to ultra-high standards and features geometries designed specifically for the material type in which each broach will be used. These tools are engineered and manufactured to be utilized in the aerospace industry, medical industry, or any industry requiring the highest standards for inspection.

Signature Series Hexagon Broaches - 1 1/4 inch OAL

Item No.	Description	S _{min}	S _{max}	Nominal	Material	Vented
3008-000130	RBT-0832-01.280	0.0503	0.0507		GSX	
3008-000178	RBT-0832-01.300	0.0513	0.0529	1.3mm	GSX	•
3008-000131	RBT-0832-01.529	0.0600	0.0604	1.5mm	GSX	
3008-000132	RBT-0832-01.600	0.063	0.0635	1/16	GSX	
3008-000133	RBT-0832-01.983T	0.0781	0.0791	5/64	GSX	•
3008-000134	RBT-0832-02.030T	0.0795	0.0799	2mm	GSX	•
3008-000135	RBT-0832-02.039T	0.0801	0.0805		GSX	•
3008-000136	RBT-0832-02.400T	0.0939	0.0951	3/32	GSX	•
3008-000137	RBT-0832-02.420T	0.0949	0.0953		GSX	•
3008-000138	RBT-0832-02.540T	0.0996	0.1000	2.5mm	GSX	•
3008-000139	RBT-0832-02.555T	0.1004	0.1008		GSX	•
3008-000140	RBT-0832-02.780T	0.1094	0.1111	7/64	GSX	•
3008-000141	RBT-0832-03.020T	0.1189	0.1193	3mm	GSX	•
3008-000142	RBT-0832-03.210T	0.1262	0.1266	1/8	GSX	•
3008-000143	RBT-0832-03.530T	0.139	0.1394		GSX	•
3008-000144	RBT-0832-03.550T	0.1394	0.1398		GSX	•
3008-000145	RBT-0832-03.553T	0.1395	0.1399		GSX	•
3008-000146	RBT-0832-03.580T	0.1402	0.1409		GSX	•
3008-000147	RBT-0832-03.581T	0.1406	0.1410	9/64	GSX	•
3008-000231	RBT-0832-03.606T	0.1418	0.1422		GSX	•
3008-000148	RBT-0832-03.968T	0.1563	0.1586	5/32	GSX	•
3008-000149	RBT-0832-04.049T	0.1594	0.1600	4mm	GSX	•
3008-000340	RBT-0832-04.135T	0.1626	0.1630		GSX	•
3008-000223	RBT-0832-04.150T-NF	0.1642	0.1646		GSX	•
3008-000179	RBT-0832-04.366T	0.1719	0.1743	11/64	GSX	•
3008-000150	RBT-0832-04.560T	0.1795	0.1799	5mm	GSX	•
3008-000341	RBT-0832-04.669T	0.1836	0.1840		GSX	•
3008-000151	RBT-0832-04.790T	0.188	0.1892	3/16	GSX	•
3008-000152	RBT-0832-05.000T	0.1969	0.1976		GSX	•
3008-000153	RBT-0832-05.048T	0.1985	0.1990	5mm	GSX	•
3008-000154	RBT-0832-05.070T	0.1996	0.2000		GSX	•
3008-000180	RBT-0832-05.557T	0.2188	0.2218	7/32	GSX	•
3008-000181	RBT-0832-06.000T	0.237	0.2399	6.0mm	GSX	•
3008-000155	RBT-0832-06.390T	0.2514	0.2518	1/4	GSX	•
3008-000156	RBT-0832-06.420T	0.2525	0.2530		GSX	•
3008-000157	RBT-0832-06.450T	0.2539	0.2545		GSX	•
3008-000336	RBT-0832-07.944T	0.3125	0.3130		GSX	•
3008-000158	RBT-0832-08.020T	0.3155	0.3160	5/16	GSX	•
3008-000159	RBT-0832-09.520T	0.3788	0.3794	3/8	GSX	•

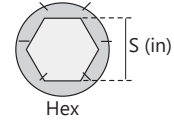
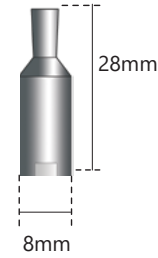
Recommended Depth of Cut = 1.5x5

Special sizes available upon request. Quick turnaround time.



Special Sizes Expedited for
FAST DELIVERY!

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Email sales@genswiss.com
Order Online www.genswiss.com



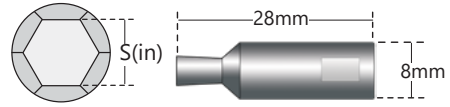
Signature Line Hexagon Broaches - 28mm OAL

Item No.	Description	S _{min}	S _{max}	Nominal	Material	Vented
3008-000335	RBT-0828-00.895	0.035	0.0355		GSX	
3008-000307	RBT-0828-00.9017-Ti	0.0353	0.0357		GSX	
3008-000164	RBT-0828-00.902-Ti	0.035	0.0360		GSX	
3008-000330	RBT-0828-00.914	0.035	0.0370		GSX	
3008-000309	RBT-0828-00.95	0.0374	0.0378		GSX	
3008-000202	RBT-0828-01.270-Ti	0.0498	0.0502		GSX	
3008-000100	RBT-0828-01.280	0.0503	0.0507		GSX	
3008-000174	RBT-0828-01.300	0.0513	0.0529	1.3mm	GSX	
3008-000226	RBT-0828-01.518	0.0595	0.0600		GSX	
3008-000101	RBT-0828-01.529	0.06	0.0604	1.5mm	GSX	
3008-000173	RBT-0828-01.590T	0.0623	0.0628		GSX	•
3008-000102	RBT-0828-01.600	0.063	0.0635	1/16	GSX	
3008-000204	RBT-0828-01.619T-Ti	0.0635	0.0640		GSX	•
3008-000188	RBT-0828-01.621T	0.0636	0.0640		GSX	•
3008-000206	RBT-0828-01.626-NF	0.063	0.0650		GSX	
3008-000199	RBT-0828-01.721T-Ti	0.0675	0.0680		GSX	•
3008-000319	RBT-0828-01.842-Ti	0.072	0.0730		GSX	
3008-000327	RBT-0828-01.842T-Ti	0.072	0.0730		GSX	•
3008-000103	RBT-0828-01.983T	0.0781	0.0791	5/64	GSX	•
3008-000213	RBT-0828-01.996T	0.0785	0.0790		GSX	•
3008-000104	RBT-0828-02.030T	0.0795	0.0799	2mm	GSX	•
3008-000205	RBT-0828-02.030T-NF	0.0795	0.0799		GSX	•
3008-000105	RBT-0828-02.039T	0.0801	0.0805		GSX	•
3008-000248	RBT-0828-02.100T-Ti	0.0823	0.0827		GSX	•
3008-000168	RBT-0828-02.380T	0.0935	0.0939		GSX	•
3008-000249	RBT-0828-02.387T	0.0938	0.0942		GSX	•
3008-000203	RBT-0828-02.393T	0.0937	0.0947		GSX	•
3008-000106	RBT-0828-02.400T	0.0939	0.0951	3/32	GSX	•
3008-000214	RBT-0828-02.401T-Ti	0.0939	0.0952		GSX	•
3008-000208	RBT-0828-02.413T-NF	0.0948	0.0952		GSX	•
3008-000107	RBT-0828-02.420T	0.0949	0.0953		GSX	•
3008-000215	RBT-0828-02.500T-NF	0.0979	0.0989		GSX	•
3008-000189	RBT-0828-02.512T-NF	0.0987	0.0991		GSX	•
3008-000334	RBT-0828-02.518-Ti	0.0989	0.0994		GSX	•
3008-000184	RBT-0828-02.525T-NF	0.0992	0.0996		GSX	•

Recommended Depth of Cut = 1.5x5

Special sizes available upon request. Quick turnaround time.

Signature Line Hexagon Broaches - 28mm OAL

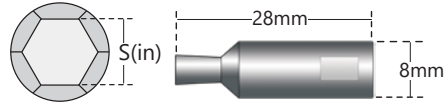


Item No.	Description	S_{min}	S_{max}	Nominal	Material	Vented
3008-000187	RBT-0828-02.527T-NF	0.0993	0.0997		GSX	•
3008-000108	RBT-0828-02.540T	0.0996	0.1000		GSX	•
3008-000109	RBT-0828-02.555T	0.1004	0.1008		GSX	•
3008-000185	RBT-0828-02.600T	0.102	0.1028		GSX	•
3008-000216	RBT-0828-02.684T-NF	0.1055	0.1059		GSX	•
3008-000373	RBT-0828-02.7125	0.1065	0.1071		GSX	
3008-000247	RBT-0828-02.715T	0.1067	0.1070		GSX	•
3008-000368	RBT-0828-02.774	0.109	0.1094		GSX	
3008-000171	RBT-0828-02.774T	0.109	0.1094		GSX	•
3008-000110	RBT-0828-02.780T	0.1094	0.1111		GSX	•
3008-000182	RBT-0828-02.837T-NF	0.1115	0.1119		GSX	•
3008-000111	RBT-0828-03.020T	0.1189	0.1193		GSX	•
3008-000333	RBT-0828-03.043T	0.1196	0.1200		GSX	•
3008-000328	RBT-0828-03.200T	0.1255	0.1270		GSX	•
3008-000112	RBT-0828-03.210T	0.1262	0.1266		GSX	•
3008-000163	RBT-0828-03.245T-NF	0.126	0.131		GSX	•
3008-000207	RBT-0828-03.255T-NF	0.1272	0.1291		GSX	•
3008-000160	RBT-0828-03.500T-Ti	0.1386	0.1392		GSX	•
3008-000113	RBT-0828-03.530T	0.139	0.1394		GSX	•
3008-000190	RBT-0828-03.538T	0.1391	0.1395		GSX	•
3008-000196	RBT-0828-03.543T-Ti	0.1393	0.1397		GSX	•
3008-000114	RBT-0828-03.550T	0.1394	0.1398		GSX	•
3008-000115	RBT-0828-03.553T	0.1395	0.1399		GSX	•
3008-000116	RBT-0828-03.580T	0.1402	0.1409		GSX	•
3008-000117	RBT-0828-03.581T	0.1406	0.1410	9/64	GSX	•
3008-000194	RBT-0828-03.595T-Ti	0.1414	0.1417		GSX	•
3008-000183	RBT-0828-03.607T-NF	0.1416	0.1424		GSX	•
3008-000201	RBT-0828-03.615T-NF	0.142	0.1427		GSX	•
3008-000167	RBT-0828-03.962T	0.155	0.1570		GSX	•
3008-000118	RBT-0828-03.968T	0.1563	0.1586	5/32	GSX	•
3008-000186	RBT-0828-04.013T-NF	0.157	0.159		GSX	•
3008-000200	RBT-0828-04.02T-NF	0.158	0.1585		GSX	•
3008-000195	RBT-0828-04.030T-Ti	0.1584	0.1589		GSX	•
3008-000119	RBT-0828-04.049T	0.1594	0.1600	4mm	GSX	•
3008-000162	RBT-0828-04.049T-NF	0.1594	0.1600		GSX	•
3008-000320	RBT-0828-04.079T	0.1586	0.1626		GSX	•
3008-000222	RBT-0828-04.188T	0.1639	0.1659		GSX	•
3008-000175	RBT-0828-04.366T	0.1719	0.1743	11/64	GSX	•
3008-000172	RBT-0828-04.38T	0.179	0.1795		GSX	•
3008-000237	RBT-0828-04.552T	0.1779	0.1804		GSX	•
3008-000120	RBT-0828-04.560T	0.1795	0.1799		GSX	•
3008-000312	RBT-0828-04.580T	0.1783	0.1823		GSX	•
3008-000218	RBT-0828-04.680T	0.184	0.1845		GSX	•
3008-000121	RBT-0828-04.790T	0.188	0.1892		GSX	•
3008-000192	RBT-0828-04.790T-NF	0.188	0.1892		GSX	•

Recommended Depth of Cut = 1.5x5

Special sizes available upon request. Quick turnaround time.

Signature Line Hexagon Broaches - 28mm OAL

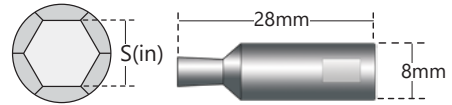


Item No.	Description	S _{min}	S _{max}	Nominal	Material	Vented
3008-000210	RBT-0828-04.790T-Ti	0.188	0.1892		GSX	•
3008-000225	RBT-0828-04.826T-Ti	0.1895	0.19		GSX	•
3008-000321	RBT-0828-04.919T	0.192	0.1953		GSX	•
3008-000342	RBT-0828-04.948T	0.1946	0.1950		GSX	•
3008-000122	RBT-0828-05.000T	0.1969	0.1976		GSX	•
3008-000123	RBT-0828-05.048T	0.1985	0.199		GSX	•
3008-000169	RBT-0828-05.048T-NF	0.1985	0.199		GSX	•
3008-000124	RBT-0828-05.070T	0.1996	0.2		GSX	•
3008-000198	RBT-0828-05.070T-NF	0.1996	0.2		GSX	•
3008-000322	RBT-0828-05.080T	0.198	0.2020		GSX	•
3008-000343	RBT-0828-05.177T	0.2036	0.2040		GSX	•
3008-000329	RBT-0828-05.182T-NF	0.198	0.2040		GSX	•
3008-000371	RBT-0828-05.207T-NF	0.2	0.2100		GSX	•
3008-000238	RBT-0828-05.556T	0.2174	0.2200		GSX	•
3008-000176	RBT-0828-05.557T	0.2188	0.2218		GSX	•
3008-000227	RBT-0828-05.557T-NF	0.2188	0.2218		GSX	•
3008-000313	RBT-0828-05.580T	0.2177	0.2217		GSX	•
3008-000344	RBT-0828-05.685T	0.2236	0.2240		GSX	•
3008-000177	RBT-0828-06.000T	0.237	0.2399		GSX	•
3008-000166	RBT-0828-06.00T-NF	0.236	0.2364		GSX	•
3008-000165	RBT-0828-06.00T-Ti	0.236	0.2364		GSX	•
3008-000197	RBT-0828-06.09T	0.2396	0.24		GSX	•
3008-000324	RBT-0828-06.109T	0.2385	0.2425		GSX	•
3008-000193	RBT-0828-06.12T-Ti	0.24	0.242		GSX	•
3008-000345	RBT-0828-06.167T	0.2426	0.2430		GSX	•
3008-000229	RBT-0828-06.200T-Ti	0.2439	0.2443		GSX	•
3008-000125	RBT-0828-06.390T	0.2514	0.2518		GSX	•
3008-000126	RBT-0828-06.420T	0.2525	0.253		GSX	•
3008-000161	RBT-0828-06.420T-NF	0.2525	0.253		GSX	•
3008-000127	RBT-0828-06.450T	0.2539	0.2545		GSX	•
3008-000323	RBT-0828-06.477T	0.253	0.2570		GSX	•
3008-000211	RBT-0828-06.482T-NF	0.2549	0.2555		GSX	•
3008-000212	RBT-0828-06.507T-NF	0.2559	0.2565		GSX	•
3008-000346	RBT-0828-06.523T	0.2566	0.257		GSX	•
3008-000217	RBT-0828-06.705T-NF	0.263	0.265		GSX	•
3008-000339	RBT-0828-06.99T-Ti	0.2745	0.276		GSX	•
3008-000170	RBT-0828-07.000T	0.2764	0.2793		GSX	•
3008-000314	RBT-0828-07.109T	0.2779	0.2819		GSX	•
3008-000347	RBT-0828-07.183T	0.2826	0.283		GSX	•
3008-000219	RBT-0828-07.220T	0.284	0.2845		GSX	•
3008-000228	RBT-0828-07.239T-NF	0.2848	0.2852		GSX	•
3008-000310	RBT-0828-07.300T	0.2866	0.2874		GSX	•
3008-000348	RBT-0828-07.310T	0.2876	0.288		GSX	•
3008-000224	RBT-0828-08.001T-NF	0.314	0.316		GSX	•
3008-000128	RBT-0828-08.020T	0.3155	0.316		GSX	•
3008-000209	RBT-0828-08.052T	0.316	0.318		GSX	•
3008-000369	RBT-0828-08.053T	0.315	0.3190		GSX	•
3008-000315	RBT-0828-08.098T	0.3163	0.3213		GSX	•

Recommended Depth of Cut = 1.5x5

Special sizes available upon request. Quick turnaround time.

Signature Series Hexagon Broaches - 28mm OAL



Item No.	Description	S _{min}	S _{max}	Nominal	Material	Vented
3008-000191	RBT-0828-08.10T-NF	0.3157	0.3224		GSX	•
3008-000325	RBT-0828-08.115T	0.3170	0.3220		GSX	•
3008-000370	RBT-0828-08.153T	0.3190	0.3230		GSX	•
3008-000349	RBT-0828-08.174T	0.3216	0.322		GSX	•
3008-000375	RBT-0828-08.496T	0.3343	0.3347		GSX	•
3008-000239	RBT-0828-08.778T	0.3437	0.3475		GSX	•
3008-000316	RBT-0828-08.920T	0.3490	0.3533		GSX	•
3008-000350	RBT-0828-08.936T	0.3516	0.352		GSX	•
3008-000220	RBT-0828-08.9725T	0.3530	0.3535		GSX	•
3008-000232	RBT-0828-09.073T	0.3553	0.3591		GSX	•
3008-000317	RBT-0828-09.096T	0.3556	0.3606		GSX	•
3008-000351	RBT-0828-09.190T	0.3616	0.362		GSX	•
3008-000221	RBT-0828-09.2265T	0.3630	0.3635		GSX	•
3008-000129	RBT-0828-09.520T	0.3788	0.3794		GSX	•
3008-000332	RBT-0828-09.525T	0.3750	0.379		GSX	•
3008-000326	RBT-0828-09.690T	0.3790	0.3840		GSX	•
3008-000352	RBT-0828-09.723T	0.3826	0.3830		GSX	•
3008-000338	RBT-0828-09.746T	0.3835	0.3839		GSX	•
3008-000230	RBT-0828-10.020T-Ti	0.3943	0.3947		GSX	•
3008-000372	RBT-0828-10.046T-Ti	0.395	0.396		GSX	
3008-000240	RBT-0828-10.076	0.3947	0.3987		GSX	
3008-000308	RBT-0828-10.1000	0.3965	0.3976		GSX	
3008-000318	RBT-0828-10.137	0.3966	0.4016		GSX	
3008-000353	RBT-0828-10.206	0.4016	0.4020		GSX	
3008-000233	RBT-0828-11.083	0.4342	0.4384		GSX	
3008-000366	RBT-0828-11.100-Ti	0.4360	0.4380		GSX	
3008-000374	RBT-0828-11.125	0.4360	0.4400		GSX	
3008-000241	RBT-0828-11.169	0.4375	0.4420		GSX	
3008-000354	RBT-0828-11.222	0.4416	0.4420		GSX	
3008-000355	RBT-0828-11.298	0.4446	0.4450		GSX	
3008-000337	RBT-0828-11.303	0.4448	0.4452		GSX	
3008-000234	RBT-0828-12.085	0.4737	0.4780		GSX	
3008-000356	RBT-0828-12.238	0.4816	0.4820		GSX	
3008-000236	RBT-0828-12.763	0.5000	0.5050		GSX	
3008-000311	RBT-0828-12.934	0.5088	0.5092		GSX	
3008-000357	RBT-0828-12.949	0.5096	0.5100		GSX	
3008-000235	RBT-0828-13.089	0.5130	0.5175		GSX	
3008-000358	RBT-0828-13.228	0.5206	0.5210		GSX	

Recommended Depth of Cut = 1.5xS

Special sizes available upon request. Quick turnaround time.



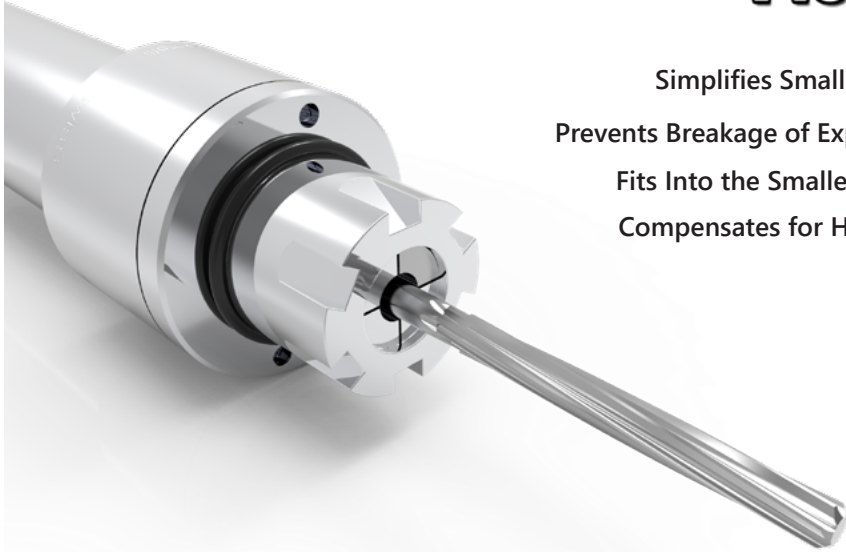
Signature Series Hexagon Broaches - 1.75in OAL

Item No.	Description	S_{min}	S_{max}	Material
3008-000242	RBT-127445-14.095	0.5524	0.5574	GSX
3008-000359	RBT-127445-14.244	0.5606	0.5610	GSX
3008-000243	RBT-127445-14.357	0.5625	0.5680	GSX
3008-000360	RBT-127445-14.549	0.5726	0.5730	GSX
3008-000244	RBT-127445-15.133	0.5925	0.5990	GSX
3008-000361	RBT-127445-15.260	0.6006	0.6010	GSX
3008-000245	RBT-127445-15.951	0.6250	0.6310	GSX
3008-000362	RBT-127445-16.124	0.6346	0.6350	GSX
3008-000246	RBT-127445-16.133	0.6318	0.6351	GSX
3008-000363	RBT-127445-16.276	0.6406	0.6410	GSX

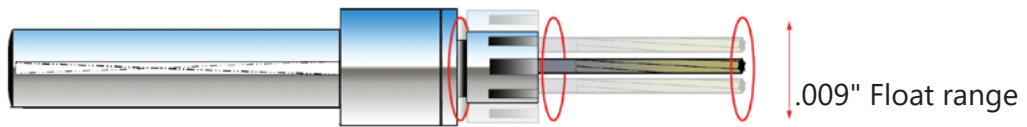
Recommended Depth of Cut = 1.5xS

Special sizes available upon request. Quick turnaround time.

.009" True Orbital/ Float

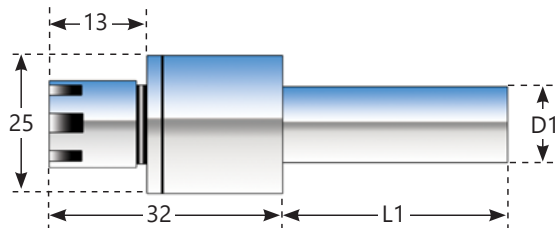


- Simplifies Small Hole Reaming
- Prevents Breakage of Expensive Micro Reamers
- Fits Into the Smallest Swiss Machines
- Compensates for Hole Misalignment



Orbital Float

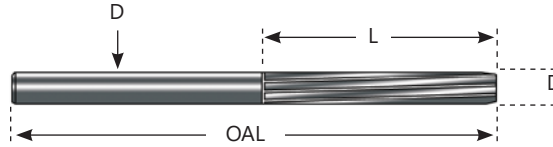
Designed with "True Orbital Float" capability, the micro reamer holder aligns the reamer perfectly to the drilled hole enabling better size control, reduces "bell-mouthing", and increases tool life.



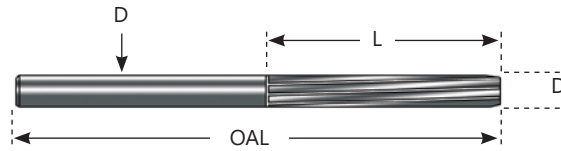
Item No.	Description	Shank (D1)	Length (L1)	Collet Size
3505-000100	RFH-08-008-042	8mm	42mm	ER8
3505-000103	RFH-08-190-070	3/4in	42mm	ER8
3505-000105	RFH-11-010-042	10mm	42mm	ER11
3505-000108	RFH-11-200-042	20mm	42mm	ER11
3505-000107	RFH-11-220-042	22mm	42mm	ER11
3505-000106	RFH-11-190-042	3/4in	42mm	ER11

Holds .5mm to 7mm diameter reamers

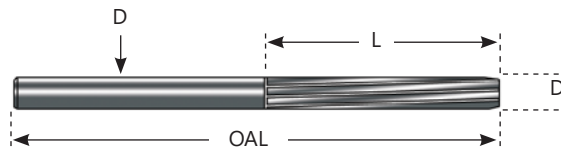
- Precision manufactured from K15 carbide
- Sizes ranging from .023" - .5138"
- Diameter tolerance of $+.00012'' / - 0.00''$
- 10° left hand spiral right hand cut



Item No.	Description	D mm	D Inch	L	OAL	Item No.	Description	D mm	D Inch	L	OAL
3510-000176	TR-8600-0060	0.60	.0236	.275	1.3	3510-000110	TR-8600-0109	1.09	.0429	.393	1.58
3510-000387	TR-8600-0061	0.61	.0240	.275	1.3	Call For Details	TR-8600-0110	1.10	.0433	.393	1.58
3510-000215	TR-8600-0062	0.62	.0244	.275	1.3	3510-000254	TR-8600-0111	1.11	.0437	.158	1.58
3510-000278	TR-8600-0063	0.63	.0248	.275	1.3	3510-000111	TR-8600-0112	1.12	.0441	.158	1.58
3510-000152	TR-8600-0064	0.64	.0252	.275	1.3	Call For Details	TR-8600-0113	1.13	.0445	.158	1.58
3510-000153	TR-8600-0065	0.65	.0256	.275	1.3	Call For Details	TR-8600-0114	1.14	.0449	.158	1.58
3510-000168	TR-8600-0066	0.66	.0260	.275	1.3	3510-000192	TR-8600-0115	1.15	.0453	.158	1.58
3510-000343	TR-8600-0067	0.67	.0264	.275	1.3	3510-000253	TR-8600-0116	1.16	.0457	.158	1.58
3510-000324	TR-8600-0068	0.68	.0268	.275	1.3	Call For Details	TR-8600-0117	1.17	.0461	.158	1.58
3510-000217	TR-8600-0070	0.70	.0276	.275	1.3	3510-000207	TR-8600-0118	1.18	.0465	.158	1.58
3510-000202	TR-8600-0071	0.71	.0280	.280	1.3	Call For Details	TR-8600-0119	1.19	.0469	.158	1.58
3510-000100	TR-8600-0072	0.72	.0283	.275	1.3	3510-000310	TR-8600-0120	1.20	.0472	.393	1.58
3510-000364	TR-8600-0073	0.73	.0287	.275	1.3	3510-000275	TR-8600-0121	1.21	.0476	.393	1.58
3510-000102	TR-8600-0074	0.74	.0291	.275	1.3	Call For Details	TR-8600-0122	1.22	.0480	.393	1.58
3510-000256	TR-8600-0075	0.75	.0295	.275	1.3	3510-000401	TR-8600-0123	1.23	.0484	.393	1.58
3510-000178	TR-8600-0077	0.77	.0305	.275	1.3	3510-000169	TR-8600-0124	1.24	.0488	.393	1.58
3510-000103	TR-8600-0078	0.78	.0307	.275	1.3	3510-000170	TR-8600-0125	1.25	.0492	.393	1.58
3510-000104	TR-8600-0079	0.79	.0311	.275	1.3	Call For Details	TR-8600-0126	1.26	.0496	.393	1.58
3510-000301	TR-8600-0080	0.80	.0314	.275	1.3	3510-000112	TR-8600-0127	1.27	.0500	.393	1.58
Call For Details	TR-8600-0081	0.81	.0319	.275	1.3	3510-000113	TR-8600-0128	1.28	.0504	.393	1.58
3510-000197	TR-8600-0082	0.82	.0323	.275	1.3	Call For Details	TR-8600-0129	1.29	.0508	.393	1.58
3510-000376	TR-8600-0083	0.83	.0327	.275	1.3	3510-000163	TR-8600-0130	1.30	.0512	.393	1.58
3510-000388	TR-8600-0084	0.84	.0333	.275	1.3	3510-000195	TR-8600-0131	1.31	.0516	.393	1.58
3510-000200	TR-8600-0085	0.85	.0334	.275	1.3	3510-000114	TR-8600-0132	1.32	.0519	.393	1.58
3510-000294	TR-8600-0086	0.86	.0339	.275	1.3	3510-000346	TR-8600-0133	1.33	.0524	.393	1.97
Call For Details	TR-8600-0087	0.87	.0343	.275	1.3	Call For Details	TR-8600-0134	1.34	.0528	.393	1.58
3510-000377	TR-8600-0088	0.88	.0346	.275	1.3	Call For Details	TR-8600-0135	1.35	.0531	.393	1.58
3510-000203	TR-8600-0089	0.89	.0350	.275	1.3	3510-000335	TR-8600-0136	1.36	.0535	.393	1.58
3510-000105	TR-8600-0090	0.90	.0354	.275	1.3	3510-000193	TR-8600-0137	1.37	.0539	.393	1.58
3510-000394	TR-8600-0091	0.91	.0358	.275	1.3	3510-000194	TR-8600-0138	1.38	.0543	.393	1.58
3510-000395	TR-8600-0092	0.92	.0362	.275	1.3	Call For Details	TR-8600-0139	1.39	.0547	.393	1.58
3510-000323	TR-8600-0093	0.93	.0366	.275	1.3	3510-000141	TR-8600-0140	1.40	.0550	.393	1.58
3510-000396	TR-8600-0094	0.94	.0370	.275	1.3	3510-000300	TR-8600-0141	1.41	.0555	.393	1.58
Call For Details	TR-8600-0095	0.95	.0374	.275	1.3	3510-000276	TR-8600-0142	1.42	.0559	.393	1.58
3510-000160	TR-8600-0096	0.96	.0378	.275	1.3	Call For Details	TR-8600-0143	1.43	.0563	.393	1.58
Call For Details	TR-8600-0097	0.97	.0382	.275	1.3	Call For Details	TR-8600-0144	1.44	.0567	.393	1.58
3510-000296	TR-8600-0098	0.98	.0386	.275	1.3	Call For Details	TR-8600-0145	1.45	.0571	.393	1.58
3510-000297	TR-8600-0099	0.99	.0389	.275	1.3	3510-000279	TR-8600-0146	1.46	.0575	.393	1.58
3510-000298	TR-8600-0100	1.00	.0394	.275	1.3	3510-000264	TR-8600-0147	1.47	.0579	.393	1.58
3510-000187	TR-8600-0101	1.01	.0398	.281	1.3	Call For Details	TR-8600-0148	1.48	.0583	.393	1.58
3510-000289	TR-8600-0102	1.02	.0402	.275	1.3	3510-000373	TR-8600-0149	1.49	.0587	.393	1.58
3510-000397	TR-8600-0103	1.03	.0406	.275	1.3	3510-000175	TR-8600-0150	1.50	.0590	.393	1.58
3510-000107	TR-8600-0104	1.04	.0409	.275	1.3	3510-000183	TR-8600-0151	1.51	.0594	.393	1.58
3510-000108	TR-8600-0105	1.05	.0413	.275	1.3	3510-000184	TR-8600-0152	1.52	.0598	.393	1.58
3510-000367	TR-8600-0106	1.06	.0417	.433	1.97	3510-000185	TR-8600-0153	1.53	.0602	.393	1.58
3510-000368	TR-8600-0107	1.07	.0421	.433	1.97	3510-000186	TR-8600-0154	1.54	.0614"	.393	1.58
3510-000109	TR-8600-0108	1.08	.0425	.393	1.58	3510-000257	TR-8600-0155	1.57	.0618"	.393	1.58



Item No.	Description	D mm	D Inch	L	OAL	Item No.	Description	D mm	D Inch	L	OAL
3510-000309	TR-8600-0156	1.58	.0622"	.433	1.97	3510-000374	TR-8600-0207	2.07	.0815	.433	1.97
3510-000191	TR-8600-0157	1.59	.0626"	.433	1.97	3510-000375	TR-8600-0208	2.08	.0819	.433	1.97
3510-000190	TR-8600-0158	1.60	.0630"	.433	1.97	Call For Details	TR-8600-0209	2.09	.0823	.433	1.97
3510-000115	TR-8600-0159	1.61	.0634"	.433	1.97	3510-000304	TR-8600-0210	2.10	.0826	.433	1.97
3510-000158	TR-8600-0160	1.62	.0638"	.433	1.97	3510-000126	TR-8600-0211	2.11	.0831	.433	1.97
3510-000116	TR-8600-0161	1.63	.0642"	.433	1.97	Call For Details	TR-8600-0212	2.12	.0835	.433	1.97
3510-000248	TR-8600-0162	1.64	.0645"	.433	1.97	Call For Details	TR-8600-0213	2.13	.0839	.433	1.97
3510-000177	TR-8600-0163	1.65	.0649"	.433	1.97	3510-000251	TR-8600-0214	2.14	.0843	.437	1.97
3510-000180	TR-8600-0164	1.64	.0646	.433	1.97	Call For Details	TR-8600-0215	2.15	.0846	.437	1.97
3510-000117	TR-8600-0165	1.65	.0650	.433	1.97	Call For Details	TR-8600-0216	2.16	.0850	.437	1.97
Call For Details	TR-8600-0166	1.66	.0654	.433	1.97	3510-000250	TR-8600-0217	2.17	.0854	.437	1.97
Call For Details	TR-8600-0167	1.67	.0657	.433	1.97	Call For Details	TR-8600-0218	2.18	.0858	.437	1.97
3510-000344	TR-8600-0168	1.68	.0661"	.433	1.97	Call For Details	TR-8600-0219	2.19	.0862	.437	1.97
3510-000345	TR-8600-0169	1.69	.0665"	.433	1.97	Call For Details	TR-8600-0220	2.20	.0866	.437	1.97
3510-000342	TR-8600-0170	1.70	.0669"	.433	1.97	Call For Details	TR-8600-0221	2.21	.0870	.437	1.97
3510-000118	TR-8600-0171	1.71	.0673"	.433	1.97	Call For Details	TR-8600-0222	2.22	.0874	.437	1.97
3510-000336	TR-8600-0172	1.72	0.0677	.433	1.97	Call For Details	TR-8600-0223	2.23	.0878	.437	1.97
3510-000144	TR-8600-0173	1.73	0.0681	.433	1.97	3510-000402	TR-8600-0224	2.24	.0882	.433	1.97
Call For Details	TR-8600-0174	1.74	.0685	.433	1.97	3510-000179	TR-8600-0225	2.25	.0886	.433	1.97
3510-000150	TR-8600-0175	1.75	.0689	.433	1.97	Call For Details	TR-8600-0226	2.26	.0890	.433	1.97
3510-000361	TR-8600-0176	1.76	.0692	.433	1.97	Call For Details	TR-8600-0227	2.27	.0894	.433	1.97
Call For Details	TR-8600-0177	1.76	.0697	.433	1.97	3510-000292	TR-8600-0228	2.28	.0897	.433	1.97
3510-000363	TR-8600-0178	1.76	.0701	.433	1.97	3510-000404	TR-8600-0229	2.29	.0902	.433	1.97
3510-000378	TR-8600-0179	1.79	.0704	.433	1.97	3510-000393	TR-8600-0230	2.30	.0905	.433	1.97
3510-000277	TR-8600-0180	1.80	.0708	.433	1.97	Call For Details	TR-8600-0231	2.31	.0909	.437	1.97
Call For Details	TR-8600-0181	1.81	.0713	.433	1.97	3510-000188	TR-8600-0232	2.32	.0913	.433	1.97
Call For Details	TR-8600-0182	1.82	.0717	.433	1.97	Call For Details	TR-8600-0233	2.33	.0917	.433	1.97
3510-000208	TR-8600-0183	1.83	.0720	.433	1.97	3510-000291	TR-8600-0234	2.34	.0921	.433	1.97
Call For Details	TR-8600-0184	1.84	.0724	.433	1.97	3510-000127	TR-8600-0235	2.35	.0925	.433	1.97
3510-000370	TR-8600-0185	1.85	.0728	.433	1.97	3510-000128	TR-8600-0236	2.36	.0929	.433	1.97
3510-000381	TR-8600-0186	1.86	.0732	.433	1.97	3510-000129	TR-8600-0237	2.37	.0933	.590	2.25
3510-000382	TR-8600-0187	1.87	.0736	.433	1.97	3510-000130	TR-8600-0238	2.38	.0937	.590	2.25
Call For Details	TR-8600-0188	1.88	.0740	.433	1.97	3866-000351	TR-8600-0239	2.39	.0941	.590	2.25
3510-000155	TR-8600-0189	1.89	.0744	.433	1.97	3510-000145	TR-8600-0240	2.4	.0945	.590	2.25
3510-000360	TR-8600-0190	1.90	.0748	.433	1.97	3510-000347	TR-8600-0241	2.41	.0949	.590	2.25
3510-000156	TR-8600-0191	1.91	.0752	.433	1.97	3510-000371	TR-8600-0244	2.44	.0960	.590	1.97
Call For Details	TR-8600-0192	1.92	.0756	.433	1.97	3510-000196	TR-8600-0245	2.45	.0965	.590	2.25
3510-000157	TR-8600-0193	1.93	.0760	.433	1.97	3510-000189	TR-8600-0246	2.46	.0968	.590	2.25
3510-000119	TR-8600-0194	1.94	.0763	.433	1.97	3510-000287	TR-8600-0247	2.47	.0972	.590	2.25
3510-000230	TR-8600-0195	1.95	.0767	.433	1.97	3510-000288	TR-8600-0248	2.48	.0976	.590	2.25
3510-000120	TR-8600-0196	1.96	.0772	.433	1.97	3510-000131	TR-8600-0249	2.49	.0980	.590	2.25
3510-000121	TR-8600-0197	1.97	.0776	.433	1.97	3510-000159	TR-8600-0250	2.5	.0984"	.590	2.25
3510-000322	TR-8600-0198	1.98	.0780	.433	1.97	3510-000365	TR-8600-0251	2.51	.0988"	.590	2.25
3510-000122	TR-8600-0199	1.99	.0783	.433	1.97	3510-000182	TR-8600-0254	2.54	.0100"	.590	2.25
3510-000339	TR-8600-0200	2.00	.0787	.433	1.97	3510-000198	TR-8600-0255	2.55	.1003"	.590	2.25
3510-000356	TR-8600-0201	2.01	.0791	.433	1.97	3510-000398	TR-8600-0256	2.56	.1008"	.590	2.25
3510-0352	TR-8600-0202	2.02	.0795	.433	1.97	3510-000399	TR-8600-0258	2.58	.1016"	.590	2.25
3510-000204	TR-8600-0203	2.03	.0799	.433	1.97	3510-000400	TR-8600-0259	2.59	.1020"	.590	2.25
3510-000123	TR-8600-0204	2.04	.0803	.433	1.97	3510-000341	TR-8600-0261	2.61	.1028"	.590	2.25
3510-000124	TR-8600-0205	2.05	.0807	.433	1.97	3510-000340	TR-8600-0262	2.62	.1031"	.590	2.25
3510-000125	TR-8600-0206	2.06	.0811	.433	1.97	3510-000132	TR-8600-0263	2.63	.1035"	.590	2.25



Item No.	Description	D mm	D Inch	L	OAL
3510-000173	TR-8600-0267	2.67	.1051"	.590	2.25
3510-000174	TR-8600-0268	2.68	.1055"	.590	2.25
3510-000379	TR-8600-0269	2.69	.1059"	.590	2.25
3510-000359	TR-8600-0272	2.72	.1070"	.590	2.25
3510-000143	TR-8600-0277	2.77	.1091"	.590	2.25
3510-000362	TR-8600-0278	2.78	.1094"	.590	2.25
3510-000380	TR-8600-0279	2.79	.1098"	.590	2.25
3510-000372	TR-8600-0280	2.8	.1102"	.590	2.25
3510-000151	TR-8600-0283	2.83	.1114"	.590	2.25
3510-000316	TR-8600-0284	2.84	.1118"	.590	2.25
3510-000263	TR-8600-0288	2.88	.1134"	.590	2.25
3510-000295	TR-8600-0292	2.92	.1150"	.590	2.25
3510-000302	TR-8600-0293	2.93	.1155"	.590	2.25
3510-000233	TR-8600-0295	2.95	.1161"	.590	2.25
3510-000234	TR-8600-0296	2.96	.1165"	.590	2.25
3510-000252	TR-8600-0298	2.98	.1173"	.590	2.25
3510-000210	TR-8600-0299	2.99	.1177"	.590	2.25
3510-000255	TR-8600-0300	3.0	.1181"	.590	2.25
3510-000231	TR-8600-0301	3.01	.1185"	.590	2.25
3510-000337	TR-8600-0302	3.02	.1189"	.590	2.25
3510-000338	TR-8600-0303	3.03	.1193"	.590	2.25
3510-000134	TR-8600-0305	3.05	.1201"	.590	2.25
3510-000354	TR-8600-0306	3.06	.1204"	.590	2.25
3510-000232	TR-8600-0309	3.09	.1216"	.590	2.25
3510-000315	TR-8600-0310	3.1	.1220"	.590	2.25
3510-000135	TR-8600-0311	3.11	.1224"	.590	2.25
3510-000355	TR-8600-0312	3.12	.12228"	.590	2.25
3510-000235	TR-8600-0313	3.13	.1232"	.590	2.25
3510-000236	TR-8600-0314	3.14	.1236"	.590	2.25
3510-000136	TR-8600-0316	3.16	.1244"	.590	2.25
3510-000357	TR-8600-0317	3.17	.1248"	.590	2.25
3510-000138	TR-8600-0318	3.18	.1252"	.590	2.25
3510-000206	TR-8600-0319	3.19	.1256"	.590	2.25
3510-000161	TR-8600-0320	3.2	.1260"	.590	2.25
3510-000171	TR-8600-0321	3.21	.1264"	.590	2.25
3510-000303	TR-8600-0322	3.22	.1268"	.590	2.25
3510-000172	TR-8600-0323	3.23	.1272"	.590	2.25
3510-000201	TR-8600-0324	3.24	.1275"	.590	2.25
3510-000282	TR-8600-0325	3.25	.1279"	.590	2.25

Additional Sizes Available - Call 413-562-4800 for More Information

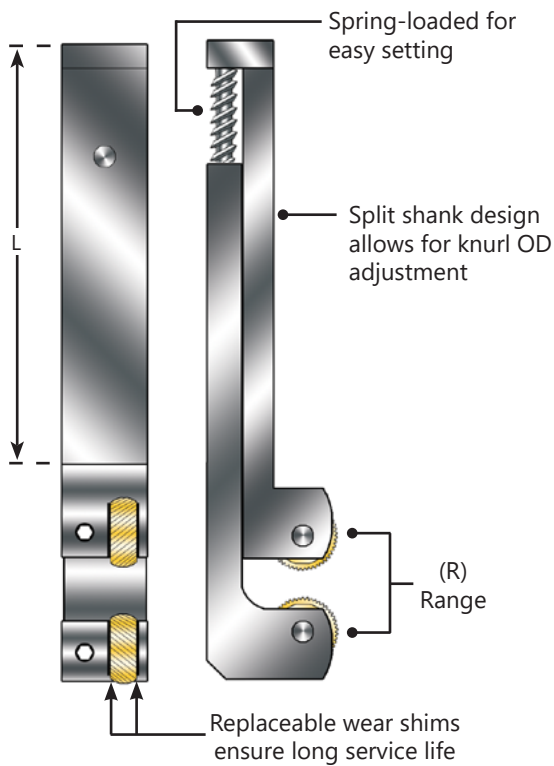
COMPACT STRADDLE KNURL HOLDERS

for small parts

- Create perfect knurls
- Eliminates workpiece deflection
- Low interference

Specifically designed for Swiss-type machines; our low profile straddle knurl holders keep interference to a minimum within the tooling envelope of most machines while ensuring adjacent tool positions are available to maximize tooling capacity.

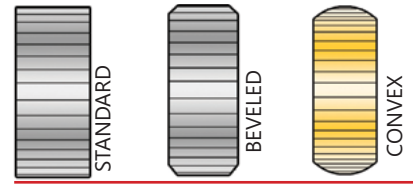
Item No.	Description	Shank	L	R	Wheel Dimensions
2040-000107	KHS-2BPR-375	.375in	2.7in	.0-.394in	5/16in x 1/8in x 5/32in
2040-000110	KHS-2EPR-500	.500in	3.24in	0-.750in	1/2in x 3/16in x 3/16in
2040-000111	KHS-2EPR-625	.625in	3.24in	0-.750in	1/2in x 3/16in x 3/16in



KNURLING WHEELS

Genevieve Swiss offers a full line of precision knurling tools for Swiss-type applications. Optional wheel geometries are available to suit your specific needs. More options are available in addition to what is listed below.

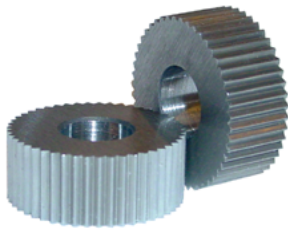
Call 413-562-4800 for details or to discuss applications.



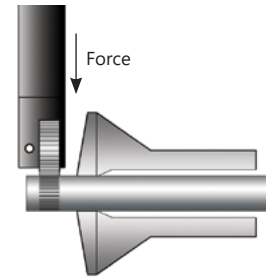
Standard Knurl Dies For Bump Knurling

Knurl Series	Wheel Dimensions	Straight Tooth	30° Right Hand	30° Left Hand	30° Male	30° Female	Available Pitch Teeth Per Inch (TPI)
	OD x ID x Width						
BP	5/16 x 1/8 x 5/32	KDS-BPS0-	KDR-BPR0-	KDL-BPL0-	KDD-BPM0-	KDD-BPF0-	20, 25, 30, 35, 40, 50, 60, 70, 80, 90, 100
EP	1/2 x 3/16 x 3/16	KDS-EPS0-	KDR-EPR0-	KDL-EPL0-	KDD-EPM0-	KDD-EPF0-	16, 20, 25, 30, 32, 35, 40, 50, 80

All Wheels Also Available in DIAMETRICAL PITCH Configurations: 64DP, 96DP, 128DP, 160DP



- Precision lapped tooth forms provide superior knurled surfaces
- HSS vacuum hardened to approximately 63 Rockwell C
- Sides and Bore are Finish Ground to Maintain Close Tolerances
- Available Coated on Request



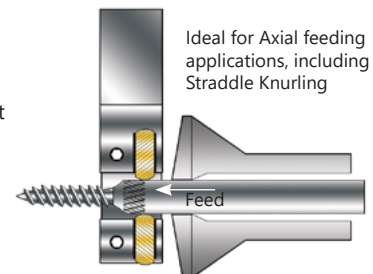
CONVEX Series Knurl Dies For Axial Feeding - Inch

Knurl Series	Wheel Dimensions	Straight Tooth	30° Right Hand	30° Left Hand	Available Pitch Teeth Per Inch (TPI)
	OD x ID x Width				
EPV	1/2 x 3/16 x 3/16	KDS-EPV-	KDR-EPRV-	KDL-EPLV-	16, 20, 25, 30, 32, 35, 40, 50, 80

All Wheels Also Available in DIAMETRICAL PITCH Configurations: 64DP, 96DP, 128DP, 160DP

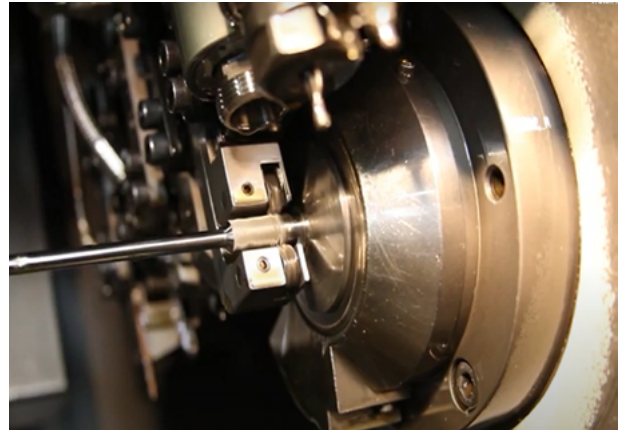


- Hi-Cobalt HSS treated with ferritic nitrocarburizing is standard on all CONVEX Knurls.
- Full-form convex relief spreads out forces providing smoother finish
- The ULTIMATE knurling die for Swiss-type straddle knurling

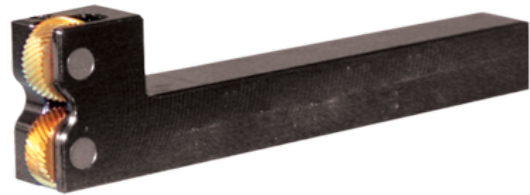


Knurling Speeds and Feeds

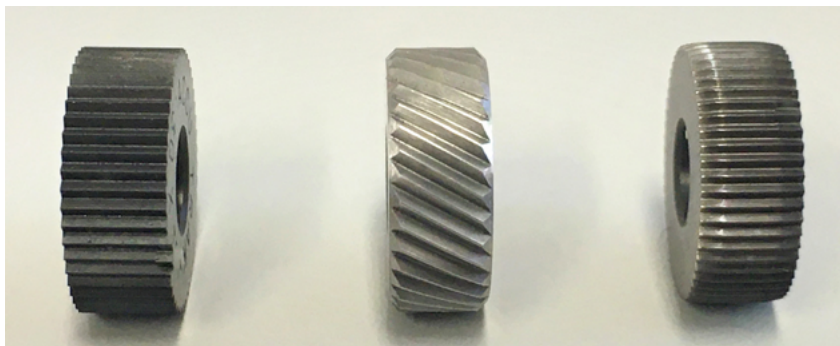
For convenience, knurling is often performed at the same speeds used for turning operations when using high speed steel tool bits. But to prevent seizing of the rolls on the pin, we recommend a maximum surface speed of about 150 SFPM (Feet/Min) or 50 m/min. You may find you get longer knurl life and improved appearance by slowing down the spindle to about 50 SFPM (15 m/min) for harder steels and stainless. CARBIDE knurl pins are strongly recommended for all high speed knurl applications. DOWEL pins with a plus tolerance SHOULD NOT be used because of the possibility of the knurls seizing up and breaking.



For BUMP knurling with a SINGLE TOOL HOLDER from the cross-slide, the infeed would normally be .001-.004"/rev (.025 - .1mm) to roll the part complete 5/20 revolutions. When knurling stainless steels, it is important not to roll any longer than necessary as this material work hardens as it is formed. The total amount the tool penetrates into the workpiece is approximately 50% of the tooth depth of the wheel. You may have to travel more than this amount to allow for the flexing of the part or holder due to rolling pressure. Some trial and error will be required.



If you are using a two die STRADDLE HOLDER, the infeed rate should be 5 or 10 times faster because the wheels are coming in tangentially instead of head on. Before knurling, the holder should be set so that the distance between the two wheels is smaller than the workpiece diameter by approximately the depth of the knurl tooth. Then to knurl, move the holder so that the two wheels are as close to the centerline as possible to minimize the knurling pressure on work spindle and cross slide.



Knurling Speeds and Feeds

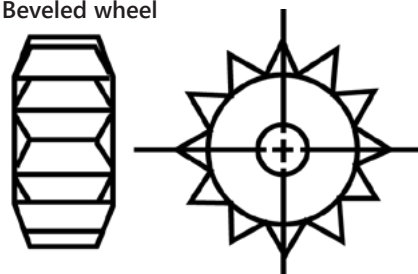
Material	Recommended SFPM [ft/Min]
Acetal (Delrin)	90-130 SFM [27-40] M/MIN
Aluminum and its alloys	90-130 SFM [27-40] M/MIN
Brass (360 high machining)	90-130 SFM [27-40] M/MIN
Bronze (high tensile)	90-130 SFM [27-40] M/MIN
Hastelloy	35-50 SFM [10-15 M/MIN]
Inconel	35-50 SFM [10-15 M/MIN]
Monel	35-50 SFM [10-15 M/MIN]
High nickel steel	35-50 SFM [10-15 M/MIN]
Mild steel (.2-.3 C)	50-70 SFM [15-21 M/MIN]
Steel (.4-.5 C)	50-70 SFM [15-21 M/MIN]
Tool steel	35-50 SFM [10-15 M/MIN]
Steel alloys (300-400 Brinell)	35-50 SFM [10-15 M/MIN]
Stainless steel (free machining)	50-70 SFM [15-21 M/MIN]
Stainless (work hardening)	35-50 SFM [10-15 M/MIN]
Titanium alloys	50-70 SFM [15-21 M/MIN]
Heat Treated Steels	
35-40 Rockwell C	35-50 SFM [10-15 M/MIN]
40-45 Rockwell C	35-50 SFM [10-15 M/MIN]
45-50 Rockwell C	35-50 SFM [10-15 M/MIN]
50-55 Rockwell C	35-50 SFM [10-15 M/MIN]

Material	Recommended Feed per Rev [in/Rev]
Acetal (Delrin)	.008 to .020
Aluminum and its alloys	.008 to .020
Brass (360 high machining)	.008 to .020
Bronze (high tensile)	.008 to .020
Hastelloy	.004 to .009
Inconel	.004 to .009
Monel	.004 to .009
High nickel steel	.004 to .009
Mild steel (.2-.3 C)	.006 to .012
Steel (.4-.5 C)	.006 to .012
Tool steel	.004 to .009
Steel alloys (300-400 Brinell)	.004 to .009
Stainless steel (free machining)	.008 to .020
Stainless steel (work hardening)	.004 to .009
Titanium alloys	.004 to .009
Heat Treated Steels	
35-40 Rockwell C	.004 to .009
40-45 Rockwell C	.004 to .009
45-50 Rockwell C	.004 to .009
50-55 Rockwell C	.004 to .009

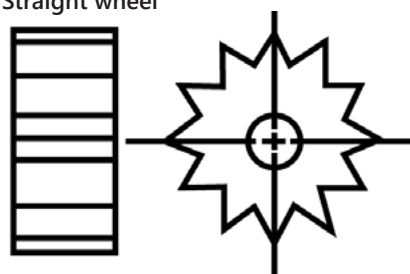
In-Feed approximate Rev			
T.P.I.	ALUMINUM & BRASS	MILD STEEL	ALLOY STEEL
12	12	15	25
16-20	10	13	22
25-35	8	11	20

End-Feed approximate Feed Per Rev			
T.P.I.	ALUMINUM & BRASS	MILD STEEL	ALLOY STEEL
12	.008	.006	.004
16-20	.010	.008	.005
25-35	.013	.010	.007

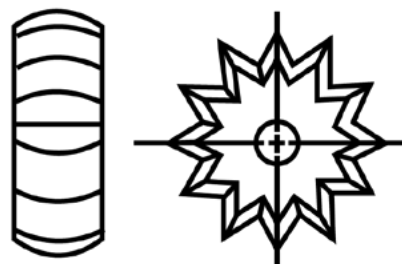
Beveled wheel



Straight wheel



Convex wheel



SIGNATURE SERIES Mini Boring System with Anti-Vibration Technology



Coolant-Thru

Every insert-style boring holder has coolant-thru capability.



Multiple Insert Types

35 and 80 degree rhombic and trigon inserts available with several coating types.

Adaptable Shank Sizes

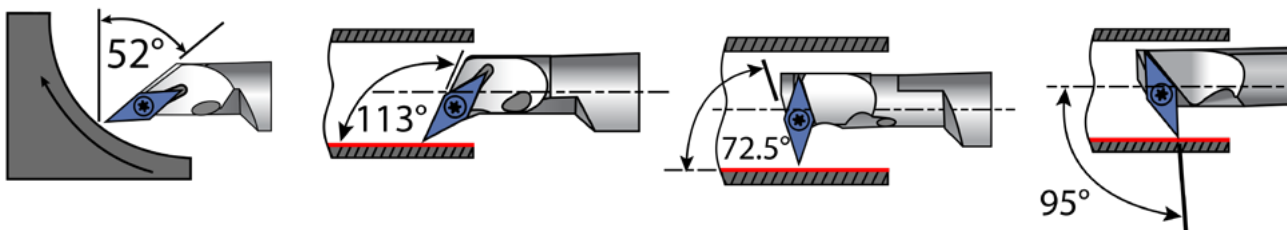
Coolant-thru bushings are available to fit boring holders to almost any static tool holder diameter.

GenSwiss' new mini boring line provides a method of creating ID features that utilize easy to change ISO style turning inserts and round shank holders.

Inserts come in 3 geometries: 35 degree rhombic, 80 degree rhombic, and 80 degree trigon. Several chip breaker geometries and coatings are available, ideal for cutting materials such as carbon alloy steels, stainless steels, cast iron, and aluminum alloys.

Available solid carbide insert holders provide enhanced vibration dampening to ensure tool cutting accuracy. Each holder features coolant-thru outlets and shank diameters down to 4.8mm. Boring holders can be paired with a GenSwiss bushing for easy mounting to static round shank tool holders.

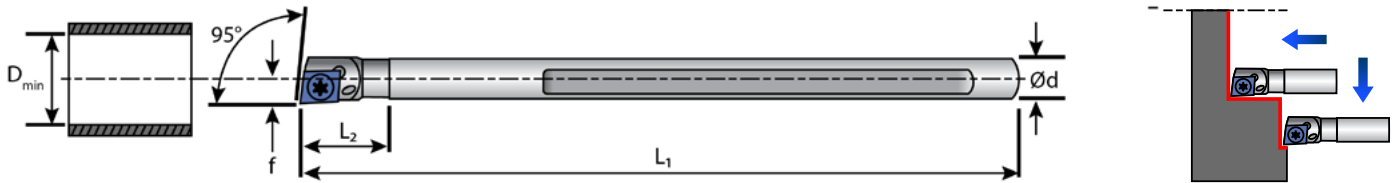
Holders Are Available With Various Cutting Angles



Down to Min bore diameter .189 inch (4.8mm)

Signature Series Mini Boring System

Internal Turning Tools Material: Carbide



SCLDL (95°)

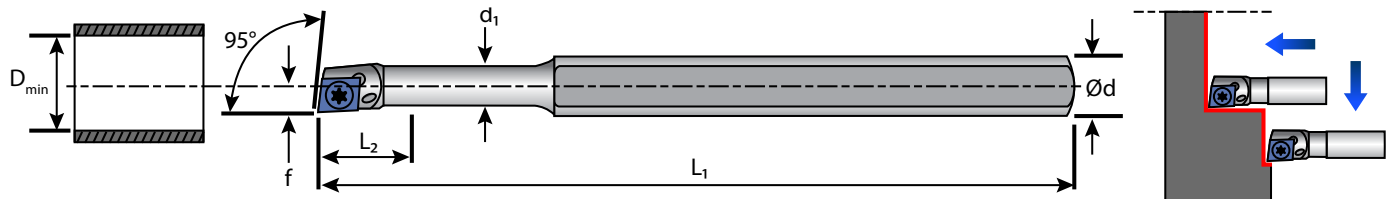
Ø 4-6mm Shanks

Left Hand Item No.	Description	d	L ₁	L ₂	f	D _{min}	Insert	Screw	Key
Call for details	CB0400F SCLDL 04	4	80	-	2.4	4.8	CDGT 0401	BFTX1804	T6
Call for details	CB0500F SCLDL 04	5	80	-	2.9	5.8	CDGT 0401	BFTX1804	T6
Call for details	CB0600G SCLDL 04	6	95	-	3.4	6.8	CDGT 0401	BFTX1804	T6

SCLDR (95°)

Ø 4-6mm Shanks

Right Hand Item No.	Description	d	L ₁	L ₂	f	D _{min}	Insert	Screw	Key
1200-000001	CB0400F SCLDR04	4	80	-	2.4	4.8	CDGT 0401	BFTX1804	T6
1200-000002	CB0500F SCLDR04	5	80	-	2.9	5.8	CDGT 0401	BFTX1804	T6
1200-000003	CB0600G SCLDR04	6	95	-	3.4	6.8	CDGT 0401	BFTX1804	T6



SCLDL (95°)

Ø 8mm Shanks

Left Hand Item No.	Description	d	d ₁	L ₁	L ₂	f	D _{min}	Insert	Screw	Key
Call for details	CB0408H SCLDL 04	8	4	100	24	2.4	4.8	CDGT 0401	BFTX1804	T6
Call for details	CB0508H SCLDL 04	8	5	100	30	2.9	5.8	CDGT 0401	BFTX1804	T6
Call for details	CB0608H SCLDL 04	8	6	100	36	3.4	6.8	CDGT 0401	BFTX1804	T6

SCLDR (95°)

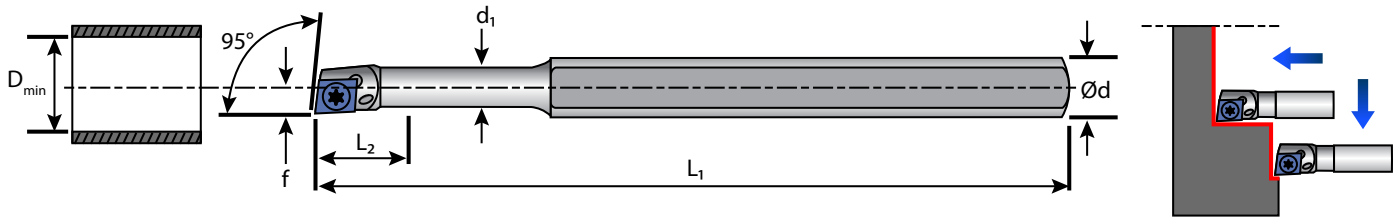
Ø 8mm Shanks

Right Hand Item No.	Description	d	d ₁	L ₁	L ₂	f	D _{min}	Insert	Screw	Key
1200-000004	CB0408H SCLDR 04	8	4	100	24	2.4	4.8	CDGT 0401	BFTX1804	T6
1200-000005	CB0508H SCLDR 04	8	5	100	30	2.9	5.8	CDGT 0401	BFTX1804	T6
1200-000006	CB0608H SCLDR 04	8	6	100	36	3.4	6.8	CDGT 0401	BFTX1804	T6

Signature Series Mini Boring System

Internal Turning Tools

Material: Carbide



SCUPL (95°)

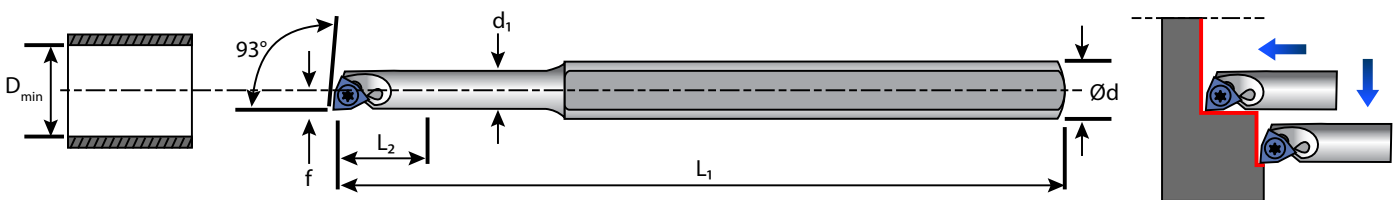
Ø 8-16mm Shanks

Left Hand Item No.	Description	d	d ₁	L ₁	L ₂	f	D _{min}	Insert	Screw	Key
Call for details	CB0608H SCUPL 05	8	6	100	28	4.5	8	CPMT 05T1/CPGT 05T1	BTFX 02204	T7
Call for details	CB0810J SCUPL 05	10	8	110	36	6	11	CPMT 05T1/CPGT 05T1	BTFX 02204	T7
Call for details	CB1012K SCUPL 05	12	10	125	44	7	13	CPMT 05T1/CPGT 05T1	BTFX 02205	T7
Call for details	CB1216M SCUPL 05	16	12	150	55	9	16	CPMT 05T1/CPGT 05T1	BTFX 02206	T7

SCUPR (95°)

Ø 8-16mm Shanks

Right Hand Item No.	Description	d	d ₁	L ₁	L ₂	f	D _{min}	Insert	Screw	Key
1200-000007	CB0608H SCUPR 05	8	6	100	28	4.5	8	CPMT 05T1/CPGT 05T1	BTFX 02204	T7
1200-000008	CB0810J SCUPR 05	10	8	110	36	6	11	CPMT 05T1/CPGT 05T1	BTFX 02204	T7
1200-000009	CB1012K SCUPR 05	12	10	125	44	7	13	CPMT 05T1/CPGT 05T1	BTFX 02205	T7
Call for details	CB1216M SCUPR05	16	12	150	55	9	16	CPMT 05T1/CPGT 05T1	BTFX 02206	T7



SWUCL (93°)

Ø 8mm Shanks

Left Handed Item No.	Description	d	d ₁	L ₁	L ₂	f	D _{min}	Insert	Screw	Key
Call for details	CB0508H SWUCL 02	8	5	100	24	2.9	5.8	WCMT 0201/WCGT 0201	BTFX 02035	T6
Call for details	CB0608H SWUCL 02	8	6	100	32	3.9	7.8	WCMT 0201/WCGT 0201	BTFX 02035	T6

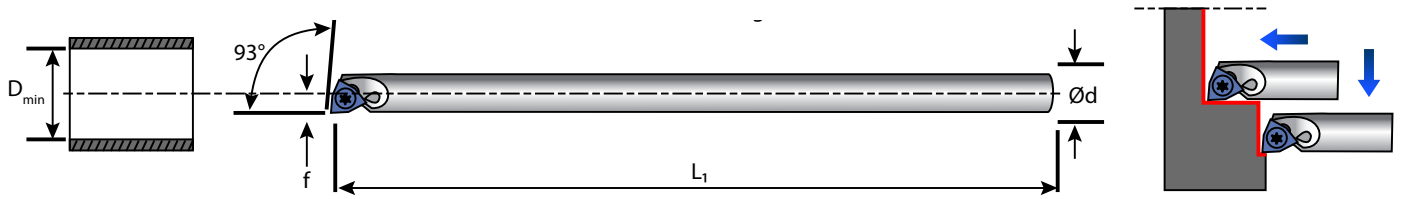
SWUCR (93°)

Ø 8mm Shanks

Right Handed Item No.	Description	d	d ₁	L ₁	L ₂	f	D _{min}	Insert	Screw	Key
Call for details	CB0508H SWUCR 02	8	5	100	24	2.9	5.8	WCMT 0201/WCGT 0201	BTFX 02035	T6
1200-000010	CB0608H SWUCR 02	8	6	100	32	3.9	7.8	WCMT 0201/WCGT 0201	BTFX 02035	T6

Signature Series Mini Boring System

Internal Turning Tools Material: Carbide



SWUCL (93°)

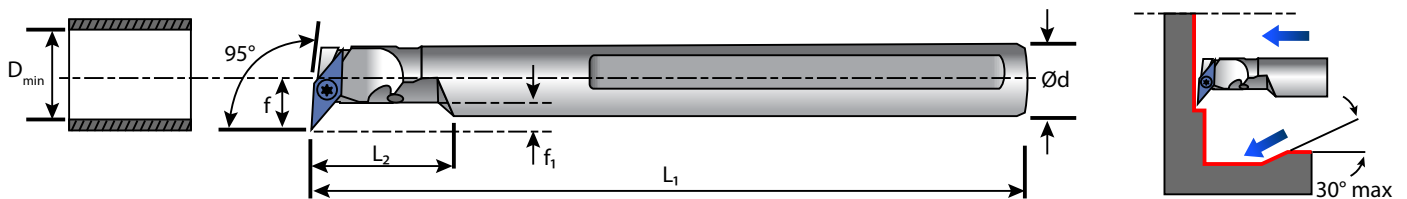
Ø 5-6mm Shanks

Left Handed Item No.	Description	d	L ₁	L ₂	f	D _{min}	Insert	Screw	Key
Call for details	CB0500F SWUCL 02	5	85	-	2.9	5.8	WCMT 0201/WCGT 0201	BFTX 02035	T6
Call for details	CB0600G SWUCL 02	6	95	-	3.9	5.8	WCMT 0201/WCGT 0201	BFTX 02035	T6

SWUCR (93°)

Ø 5-6mm Shanks

Right Handed Item No.	Description	d	L ₁	L ₂	f	D _{min}	Insert	Screw	Key
Call for details	CB0500F SWUCR 02	5	85	-	2.9	5.8	WCMT 0201/WCGT 0201	BFTX 02035	T6
Call for details	CB0600G SWUCR 02	6	95	-	3.9	5.8	WCMT 0201/WCGT 0201	BFTX 02035	T6



SVLCL (95°)

Ø 10-16mm Shanks

Left Handed Item No.	Description	d	L ₁	L ₂	f	f ₁	D _{min}	Insert	Screw	Key
Call for details	CB1000H SVLCL 07	10	100	32	7	5	12.5	VCMT 0702/VCGT 0702	BFTX0205	T6
Call for details	CB1200K SVLCL 07	12	125	40	9	6	15.5	VCMT 0702/VCGT 0702	BFTX0205	T6
Call for details	CB1600M SVLCL 07	16	150	55	11	5	19.5	VCMT 0702/VCGT 0702	BFTX0205	T6

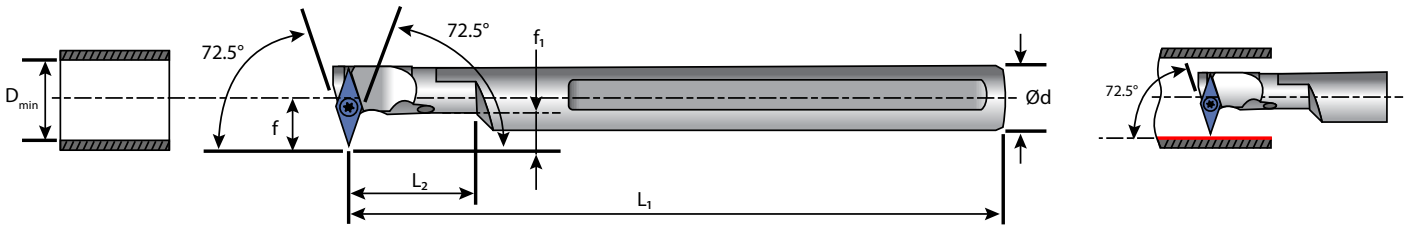
SVLCR (95°)

Ø 10-16mm Shanks

Right Handed Item No.	Description	d	L ₁	L ₂	f	f ₁	D _{min}	Insert	Screw	Key
1200-000011	CB1000H SVLCR 07	10	100	32	7	5	12.5	VCMT 0702/VCGT 0702	BFTX0205	T6
1200-000012	CB1200K SVLCR 07	12	125	40	9	6	15.5	VCMT 0702/VCGT 0702	BFTX0205	T6
Call for details	CB1600M SVLCR 07	16	150	55	11	5	19.5	VCMT 0702/VCGT 0702	BFTX0205	T6

Signature Series Mini Boring System

Internal Turning Tools Material: Carbide



SVVCL (72.5°)

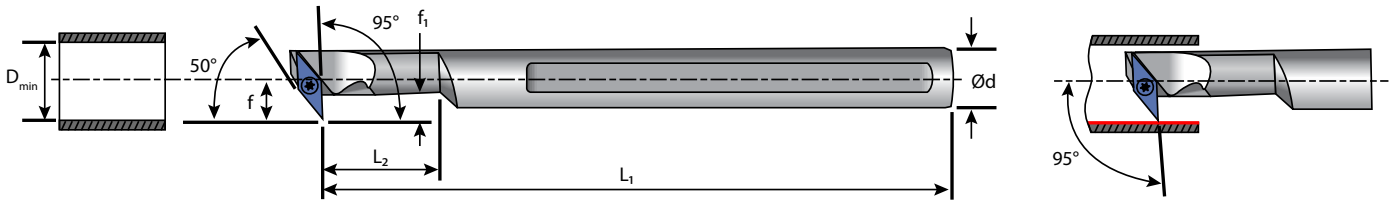
Ø 10-16mm Shanks

Left Handed Item No.	Description	d	L ₁	L ₂	f	f ₁	D _{min}	Insert	Screw	Key
Call for details	CB1000H SVVCL 07	10	100	32	8	6	13.5	VCMT 0702/VCGT 0702	BFTX0205	T6
Call for details	CB1200K SVVCL 07	12	125	40	9	6	15.5	VCMT 0702/VCGT 0702	BFTX0205	T6
Call for details	CB1600M SVVCL 07	16	150	55	11	6	19.5	VCMT 0702/VCGT 0702	BFTX0205	T6

SVVCR (72.5°)

Ø 10-16mm Shanks

Right Handed Item No.	Description	d	L ₁	L ₂	f	f ₁	D _{min}	Insert	Screw	Key
Call for details	CB1000H SVVCR 07	10	100	32	8	6	13.5	VCMT 0702/VCGT 0702	BFTX0205	T6
Call for details	CB1200K SVVCR 07	12	125	40	9	6	15.5	VCMT 0702/VCGT 0702	BFTX0205	T6
Call for details	CB1600M SVVCR 07	16	150	55	11	6	19.5	VCMT 0702/VCGT 0702	BFTX0205	T6



SV95CL (50°)

Ø 10-16mm Shanks

Left Handed Item No.	Description	d	L ₁	L ₂	f	f ₁	D _{min}	Insert	Screw	Key
Call for details	CB1000H SV95CL 07	10	100	32	7	5	12.5	VCMT 0702/VCGT 0702	BFTX0205	T6
Call for details	CB1200K SV95CL 07	12	125	40	9	6	15.5	VCMT 0702/VCGT 0702	BFTX0205	T6
Call for details	CB1600M SV95CL 07	16	150	55	11	8	19.5	VCMT 0702/VCGT 0702	BFTX0205	T6

SV95CR (50°)

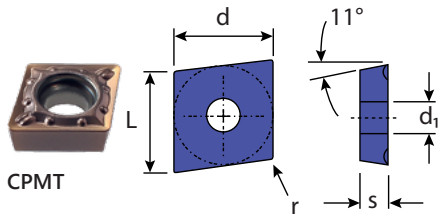
Ø 10-16mm Shanks

Right Handed Item No.	Description	d	L ₁	L ₂	f	f ₁	D _{min}	Insert	Screw	Key
Call for details	CB1000H SV95CR 07	10	100	32	7	5	12.5	VCMT 0702/VCGT 0702	BFTX0205	T6
Call for details	CB1200K SV95CR 07	12	125	40	9	6	15.5	VCMT 0702/VCGT 0702	BFTX0205	T6
Call for details	CB1600M SV95CR 07	16	150	55	11	8	19.5	VCMT 0702/VCGT 0702	BFTX0205	T6

Signature Series Mini Boring System

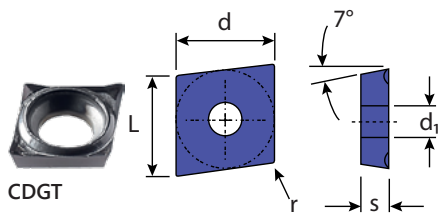
Turning Inserts

P	CarbonSteel, Alloy Steel
M	Stainless Steel
K	Cast Iron
N	Aluminium alloy, non-ferrous metal



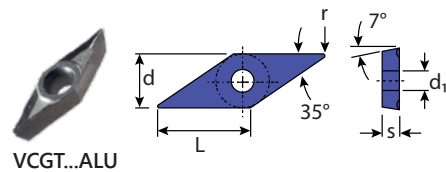
Item No.	Description	L	d	s	d ₁	r	P	M	K
1200-000018	CPMT 05T102 EN-PM1	5.6	5.56	1.97	2.5	0.2	■	■	■
1200-000019	CPMT 05T104 EN-PM1	5.6	5.56	1.97	2.5	0.4	■	■	■

Grade K400 with G1 Coating



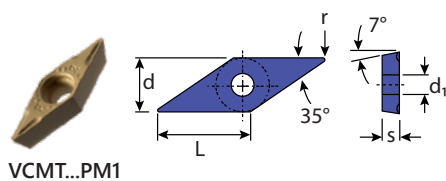
Item No.	Description	L	d	s	d ₁	r	P	M	K	N
1200-000020	CDGT 040101 FN-ALU	4.03	3.97	1	2.1	0.1				■
1200-000021	CDGT 040102 FN	4.03	3.97	1	2.1	0.2	■	■	■	
1200-000022	CDGT 040104 FN	4.03	3.97	1	2.1	0.4	■	■		

(Item # 1200-000020) Grade K15 Uncoated
 (Item # 1200-000021 & 1200-000022) Grade K400 with G1 Coating



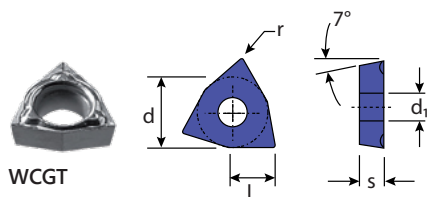
Item No.	Description	L	d	s	d ₁	r	N
1200-000025	VCGT 070201 FN-ALU	6.92	3.97	2.38	2.2	0.1	■

Grade K15 Uncoated



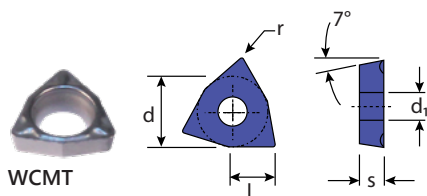
Item No.	Description	L	d	s	d ₁	r	P	M	K
1200-000023	VCMT 070202 EN-PM1	6.92	3.97	2.38	2.2	0.2	■	■	■
1200-000024	VCMT 070204 EN-PM1	6.92	3.97	2.38	2.2	0.4	■	■	■

Grade K400 with G1 Coating



Item No.	Description	L	d	s	d ₁	r	N
1200-000028	WCGT 020101 FN-ALU	2.7	3.97	1.59	2.2	0.1	■

Grade K15 Uncoated

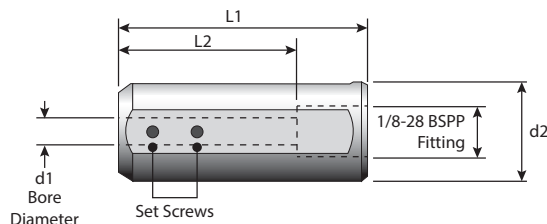


Item No.	Description	L	d	s	d ₁	r	M
1200-000026	WCMT 020102	2.7	3.97	1.59	2.2	0.2	■
1200-000027	WCMT 020104	2.7	3.96	1.59	2.2	0.4	■

Grade K400 with G1 Coating

COOLANT THRU BORING BUSHINGS

Material: Steel



Coolant Fittings & Accessories

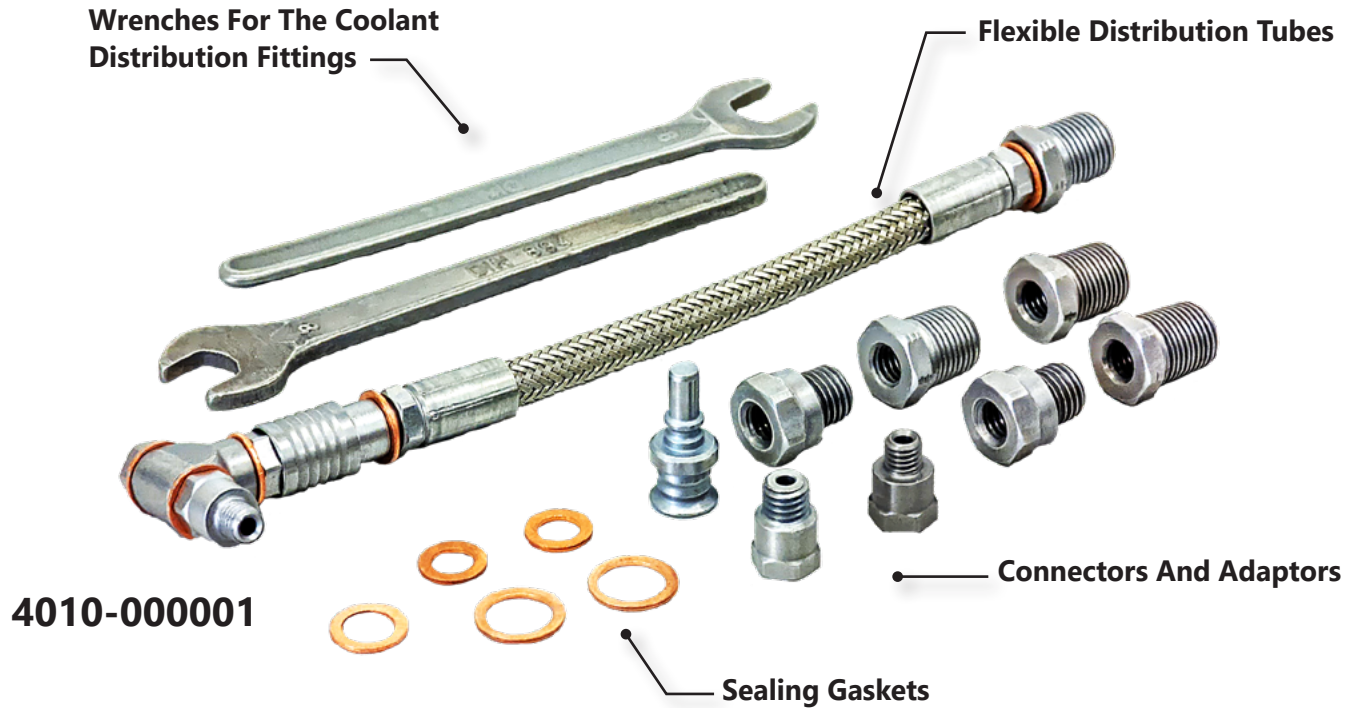


Item # 4005-000104

Item No.	Description	d ₁	L ₁	L ₂	d ₂
1028-000001A	CTB-4.00-158760	4mm	3 inch	thru	5/8 inch
1028-000002A	CTB-4.00-190760	4mm	3 inch	thru	3/4 inch
1028-000003A	CTB-4.00-200760	4mm	3 inch	thru	20mm
1028-000004A	CTB-4.00-220760	4mm	3 inch	thru	22mm
1028-000005A	CTB-4.00-230760	4mm	3 inch	thru	23mm
1028-000006A	CTB-4.00-250760	4mm	3 inch	thru	25mm
1028-000007A	CTB-4.00-254760	4mm	3 inch	thru	1.0 inch
1028-000008A	CTB-5.00-158760	5mm	3 inch	thru	5/8 inch
1028-000009A	CTB-5.00-190760	5mm	3 inch	thru	3/4 inch
1028-000010A	CTB-5.00-200760	5mm	3 inch	thru	20mm
1028-000011A	CTB-5.00-220760	5mm	3 inch	thru	22mm
1028-000012A	CTB-5.00-230760	5mm	3 inch	thru	23mm
1028-000013A	CTB-5.00-250760	5mm	3 inch	thru	25mm
1028-000014A	CTB-5.00-254760	5mm	3 inch	thru	1.0 inch
1028-000015A	CTB-6.00-158760	6mm	3 inch	thru	5/8 inch
1028-000016A	CTB-6.00-190760	6mm	3 inch	thru	3/4 inch
1028-000017A	CTB-6.00-200760	6mm	3 inch	thru	20mm
1028-000018A	CTB-6.00-220760	6mm	3 inch	thru	22mm
1028-000019A	CTB-6.00-230760	6mm	3 inch	thru	23mm
1028-000020A	CTB-6.00-250760	6mm	3 inch	thru	25mm
1028-000021A	CTB-6.00-254760	6mm	3 inch	thru	1.0 inch
1028-000022A	CTB-8.00-158760	8mm	3 inch	thru	5/8 inch
1028-000023A	CTB-8.00-190760	8mm	3 inch	thru	3/4 inch
1028-000024A	CTB-8.00-200760	8mm	3 inch	thru	20mm
1028-000025A	CTB-8.00-220760	8mm	3 inch	thru	22mm
1028-000026A	CTB-8.00-230760	8mm	3 inch	thru	23mm
1028-000027A	CTB-8.00-250760	8mm	3 inch	thru	25mm
1028-000028A	CTB-8.00-254760	8mm	3 inch	thru	1.0 inch
1028-000029A	CTB-10.0-190760	10mm	3 inch	2 inch min	3/4 inch
1028-000030A	CTB-10.0-200760	10mm	3 inch	2 inch min	20mm
1028-000031A	CTB-10.0-220760	10mm	3 inch	2 inch min	22mm
1028-000032A	CTB-10.0-230760	10mm	3 inch	2 inch min	23mm
1028-000033A	CTB-10.0-250760	10mm	3 inch	2 inch min	25mm
1028-000034A	CTB-10.0-254760	10mm	3 inch	2 inch min	1.0 inch
1028-000035A	CTB-12.0-190760	12mm	3 inch	2 inch min	3/4 inch
1028-000036A	CTB-12.0-200760	12mm	3 inch	2 inch min	20mm
1028-000037A	CTB-12.0-220760	12mm	3 inch	2 inch min	22mm
1028-000038A	CTB-12.0-230760	12mm	3 inch	2 inch min	23mm
1028-000039A	CTB-12.0-250760	12mm	3 inch	2 inch min	25mm
1028-000040A	CTB-12.0-254760	12mm	3 inch	2 inch min	1.0 inch

GenSwiss MicroCoolant Kit

- No more searching for proper fittings!
- Everything in one kit with all connections!
- Precision Copper sealing gaskets!
- High pressure hose with quick disconnect!
- Wrenches included for all fittings!



Flexible tube 102mm (Stocked) 152mm / 203mm
(Available upon request) with quick connection fittings.

Quick Connection Fittings:

(1) Quick connection fitting MICRO with M8x1(M) on one end.

Flexible Distribution Tubes:

(1) M8x1(M), flexible tube OD: 8 mm, L: 4", 6" or 8" (102, 152 or 203 mm), M8x1(M)

Connectors And Adaptors:

(2) Adaptor M8x1 (H) to BSPP 1/8" (M)
(1) Adaptor M8x1 (H) to M6x1 (M)
(1) Spacer H:10mm M8x1 (M)-M8x1 (F)
(1) Short banjo M8x1 (F)
(1) Banjo bolt M8x1 (M)

Locking And Connecting Plugs:

(1) Quick connection fitting NANO to M8x1(F)
(1) Sealing plug with quick connection fitting MICRO

Sealing Gaskets:

(2) Sealing gasket in copper for M6
(6) Sealing gasket in copper for M8
(1) Sealing gasket in copper for M10 & BSPP 1/8"

Fastening Keys For Coolant Distribution Fittings:

(2) Wrench for assembly on the universal hexagon used in the MICRO program.

Connectors and Adaptors



**Adaptor
M6x1(H) to
NPT 1/8\"(M)**



**Adaptor
M6x1(H) to
BSPT 1/8\"(M)**



**Adaptor
M6x1(H) to M8x-
1(M)**



**Adaptor
M6x1(H) to M5x-
0.8(M)**



**Quick-Change
Protector Plug**



**Adaptor
M6x1(H) to
BSPT 1/8\"(M)**



**Adaptor
M6x1(H) to M8x-
1(M)**



**Quick-Change
Fitting M6x1(M)
on one end(M)**



**M5 to 1/4JIC
4005-000133**

- Easily adapts coolant delivery kits to standard quarter JIC feedlines from high-pressure pumps
- Run a feedline from the pump to the tool
- M5 to 1/4JIC



**M6 to 1/4JIC
4005-000134**

- Easily adapts coolant delivery kits to standard quarter JIC feedlines from high-pressure pumps
- Run a feedline from the pump to the tool
- M6 to 1/4JIC

Fluid Management Systems

Replace your plastic lock lines! Modular articulated system for the supply of refrigerant at low, medium or high-pressure. Also useful for air blasting operations. Ideal for both fixed-head and Swiss-type CNC lathes, vertical and horizontal machining centers, grinding or transfer machines.

3mm through hole for coolant supply

6mm through hole for coolant supply

10.5mm through hole for coolant supply

16mm through hole for coolant supply

Exclusive operation of the mechanism that allows to position and use it with low pressures without the need for tightening of the nuts, even in this mode of operation a total liquid tightness is maintained. For high-pressure work, it must be blocked to ensure stiffness.

Withstands the vibration and pressure of refrigerant without losing the position. It can be orientated and fixed without the need to use mounting keys.

Allows work with emulsion or cutting oil or compressed air for cooling or cleaning of the workpiece.

In the "Initial Connection" (IC) parts, BSP threads have 1 mark in the hexagon area and NPT threads have 2 marks. Metric threads have no marks. This marking allows for easy identification.

Resistant to pressures of up to 80 bar (1,160 psi) in the 16mm and 10.5mm programs, 100 bar (1,450 psi) in the 6mm program and 150 bar (2,175 psi) in the 3mm program.

Pressure (Bar)	3mm (l/min)	6mm (l/min)	10.5mm (l/min)	16mm (l/min)
2	6	24	73	169
8	12	48	145	338
15	16	65	199	463
20	19	75	230	534
30	23	92	282	654
50	30	119	364	844
80	38	150	460	1068
100	42	168	---	---
150	51	---	---	---

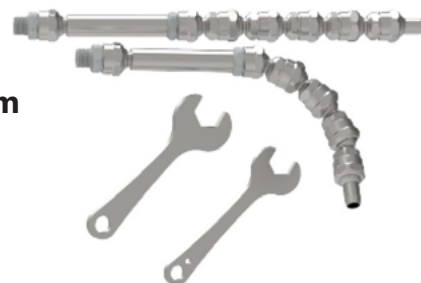
	3mm	6mm	10.5mm	16mm
MAX TORQUE	1.8 Nm	6 Nm	28 Nm	40 Nm

NOTE: Do not exceed the maximum tightening torque when blocking the parts. We strongly recommend using the specific wrenches for each of the articulated steel programs. Failure to follow these instructions may damage the parts and void the warranty.

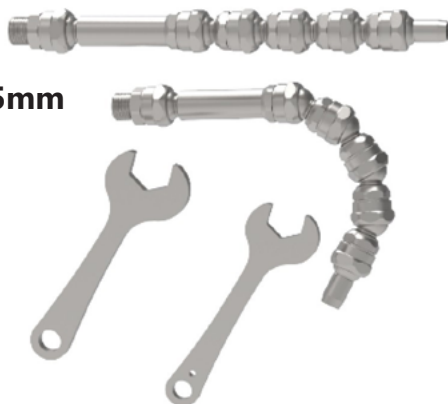
3mm



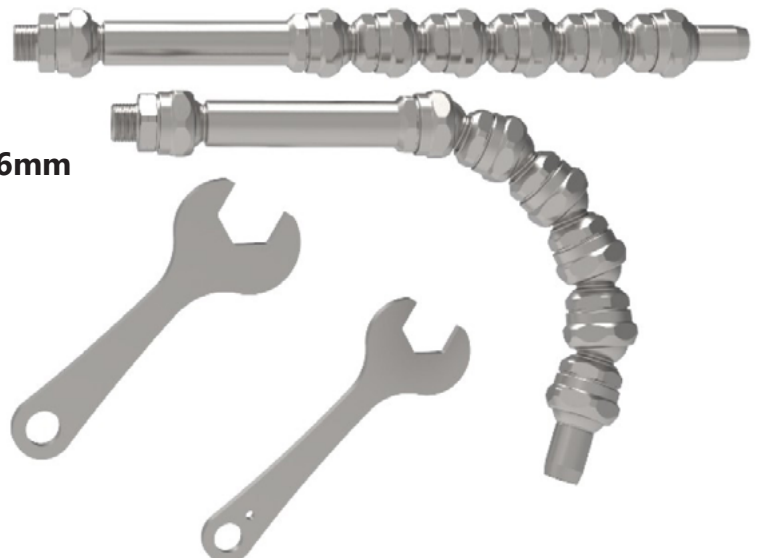
6mm



10.5mm



16mm



All Coolant Kits Offer Mix & Match Compatibility

3mm Articulated Coolant Distribution Starter Kit

Item# **DMH-FLEX-KIT-3MM**

The internal through hole of the program is 3mm and is ideal for the distribution of refrigerant (oil or emulsion) in small-sized machines such as Swiss-type CNC lathes, fixed-head CNC lathes, driven tools or as distribution branches of bigger programs: 6mm, 10.5mm or 16mm.

Description

Kit Single Outlet 3mm

For general cooling with a single outlet L=135mm.
Weight: 30 g.

A. Initial Connection:

1 Unit M8x1(M) to articulated connection

B. Articulated connection:

5 units Articulated connection L:12:5mm
1 unit Articulated connection L:42.5mm

C. Coolant nozzles:

1 unit Straight nozzle. ID: 3mm & L:9mm

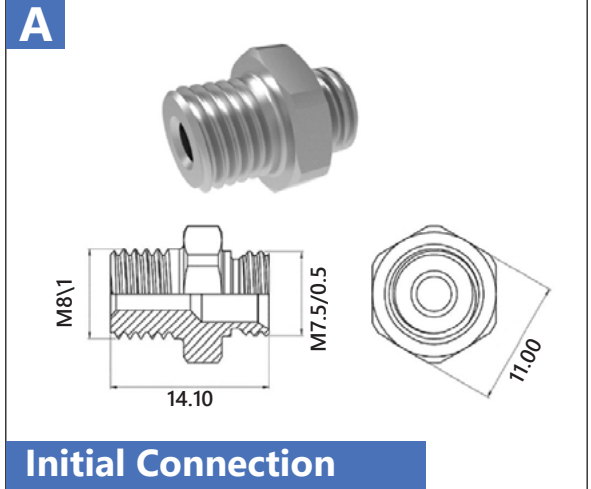
D. Fastening wrenches for the articulated system:

1 unit Wrenches for fastening the 2 hexagons used in the 3mm starter kit. SW8 & SW9

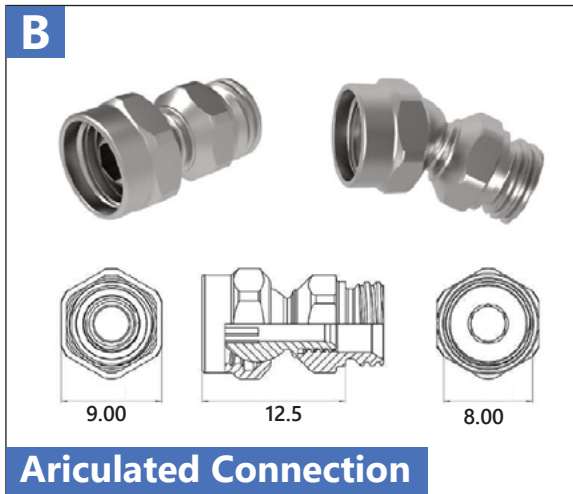
Maximum torque for locking the parts of the system: 1.8 Nm
Maximum pressure: 150 Bar (2,175 psi)

Starter Kit: Set of Components delivered in a basic kit for the most typical applications.

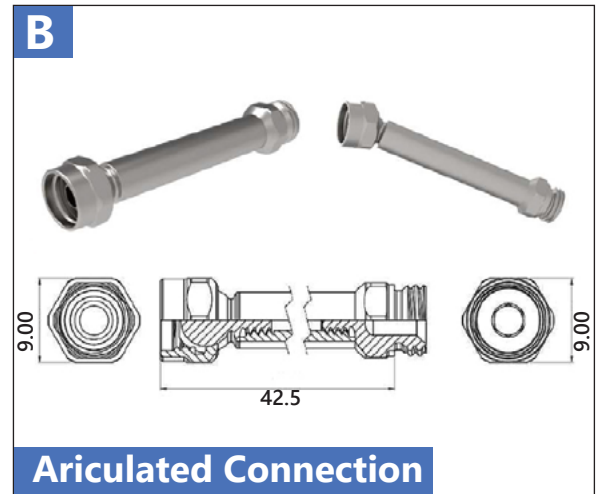
Call 413-562-4800 to order starter kit or inquire on more Coolant Distribution Components.



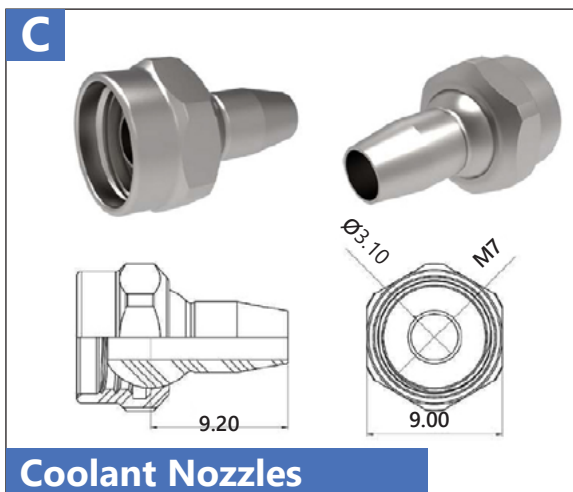
Initial Connection



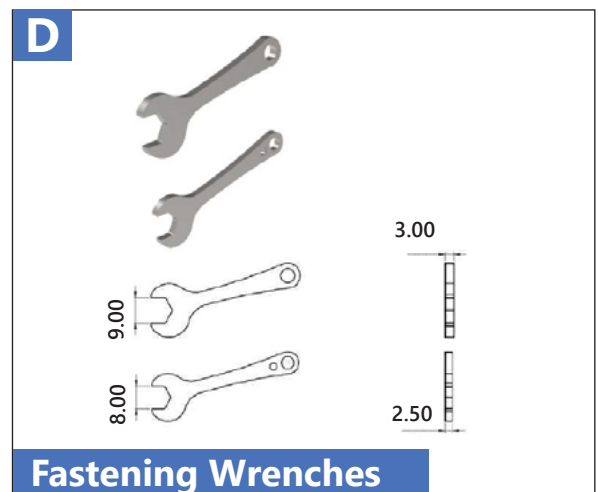
Articulated Connection



Articulated Connection



Coolant Nozzles



Fastening Wrenches

6mm Articulated Coolant Distribution Starter Kit

Item# **DMH-FLEX-KIT-6MM**

The internal through hole of the program is 6mm and is ideal for the distribution of air and refrigerant (oil or emulsion) in small-sized machines such as Swiss-type CNC lathes, fixed-head CNC lathes, tapping centers, grinding machines or as distribution branches of bigger programs 10.5 or 16mm.

Description

Kit Single Outlet 6 mm

For general cooling with a single outlet L=220mm.
Weight: 120 g.

A. Initial Connection:

1 Unit BSPP 1/8" (M) to articulated connection

B. Articulated connection:

5 units Articulated connection L:20:5mm
1 unit Articulated connection L:70.5mm

C. Coolant nozzles:

1 unit Straight nozzle. ID: 6mm & L:16mm

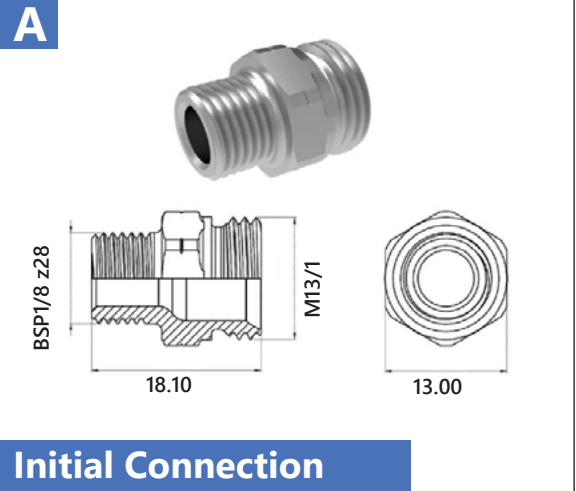
D. Fastening wrenches for the articulated system:

1 unit Wrenches for fastening the 2 hexagons used in the 6mm starter kit. SW13 & SW15

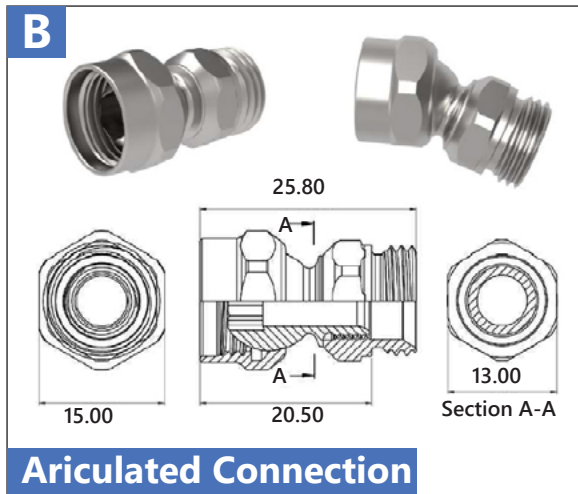
Maximum torque for locking the parts of the system: 6 Nm
Maximum pressure: 100 Bar (1,450 psi)

Starter Kit: Set of Components delivered in a basic kit for the most typical applications.

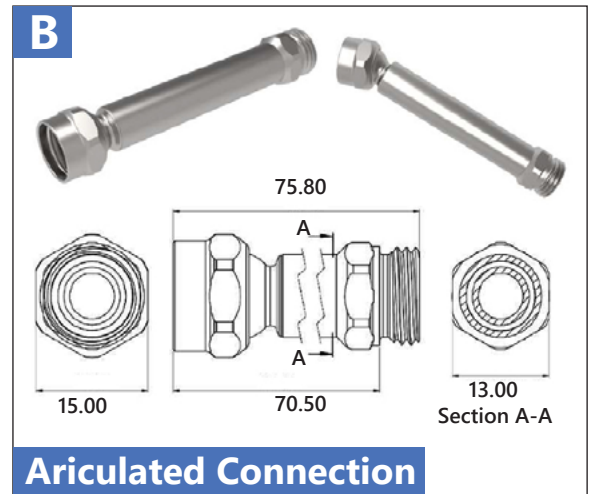
Call 413-562-4800 to order starter kit or inquire on more Coolant Distribution Components.



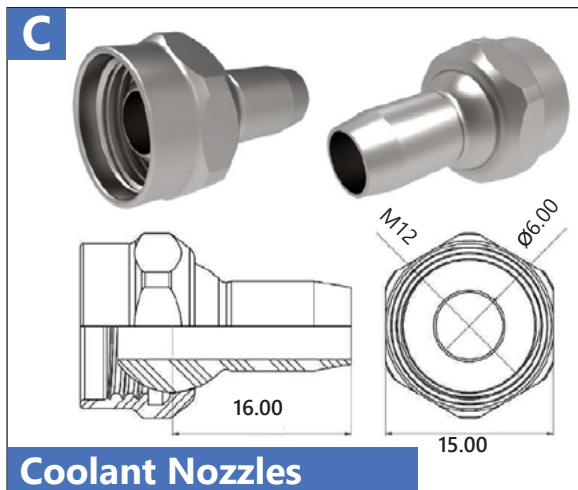
Initial Connection



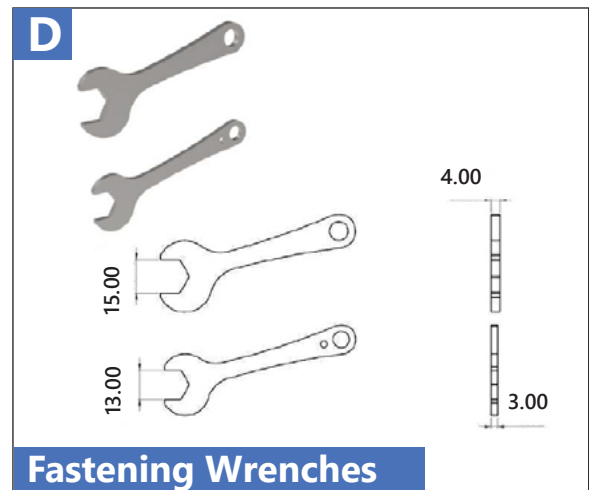
Articulated Connection



Articulated Connection



Coolant Nozzles



Fastening Wrenches

10.5mm Articulated Coolant Distribution Starter Kit

Item# **DMH-FLEX-KIT-10.5MM**

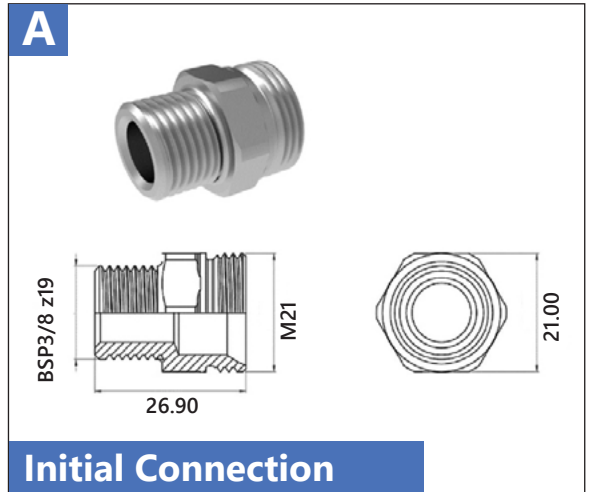
The internal through hole of the program is 10.5mm and is ideal for the distribution of air and refrigerant (oil or emulsion) in medium and large-sized machines such as CNC lathes, machining centers, grinding machines or as distribution branches of the 16mm program.

Description
<p>Kit Single Outlet 10.5mm For general cooling with a single outlet L=260mm. Weight: 440g.</p> <p>A. Initial Connection: 1 Unit BSPP 3/8" (M) to articulated connection</p> <p>B. Articulated connection: 5 units Articulated connection L:28.5mm 1 unit Articulated connection L:78.5mm</p> <p>C. Coolant nozzles: 1 unit Straight nozzle. ID: 10.5mm & L:27mm</p> <p>D. Fastening wrenches for the articulated system: 1 unit Wrenches for fastening the 2 hexagons used in the 10.5mm starter kit. SW21 & SW24</p>

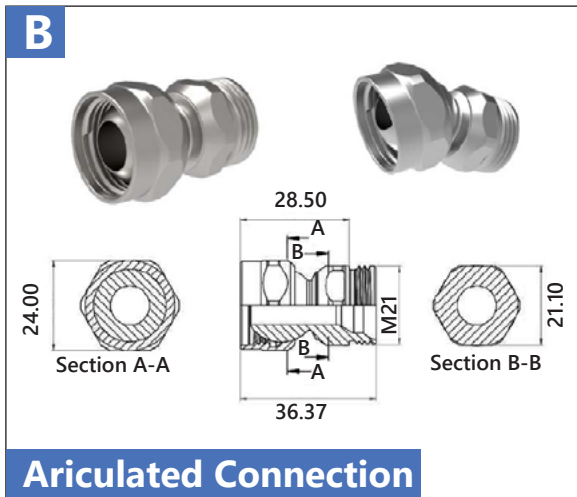
Starter Kit: Set of Components delivered in a basic kit for the most typical applications.

Call 413-562-4800 to order starter kit or inquire on more Coolant Distribution Components.

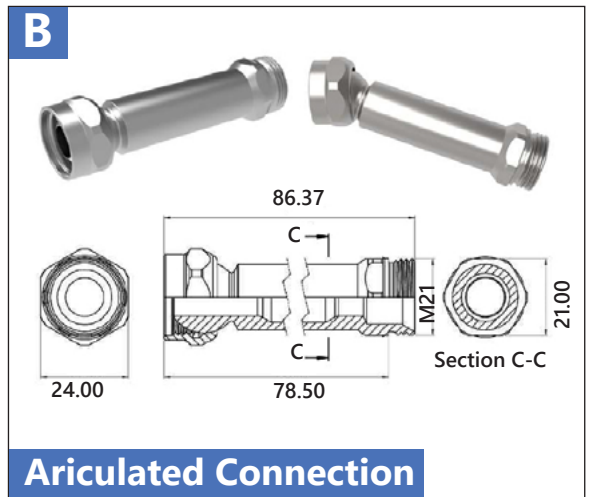
Maximum torque for locking the parts of the system: 28 Nm
Maximum pressure: 80 Bar (1,160 psi)



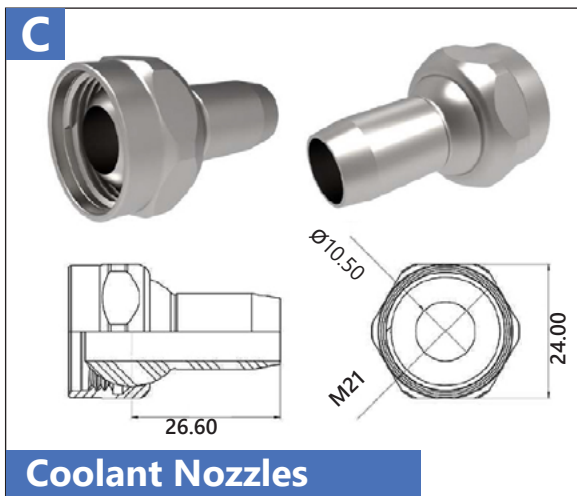
Initial Connection



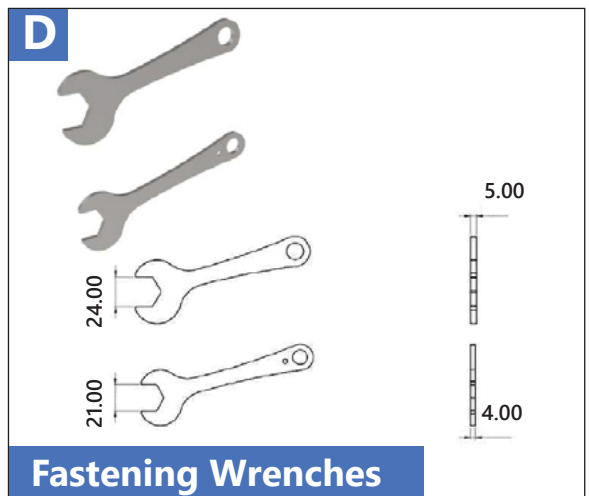
Articulated Connection



Articulated Connection



Coolant Nozzles



Fastening Wrenches

16mm Articulated Coolant Distribution Starter Kit

Item# **DMH-FLEX-KIT-16MM**

The internal through hole of the program is 16mm and is ideal for the distribution of air and refrigerant (oil or emulsion) in medium and large-sized machines such as CNC lathes, machining centers, driven tools or grinding machines.

Description

Kit Single Outlet 16mm
 For general cooling with a single outlet L=206 mm.
 Weight: 1248 g.

A. Initial Connection:
 1 Unit BSPP 1/2" (M) to articulated connection

B. Articulated connection:
 3 units Articulated connection L:37mm
 1 unit Articulated connection L:87mm

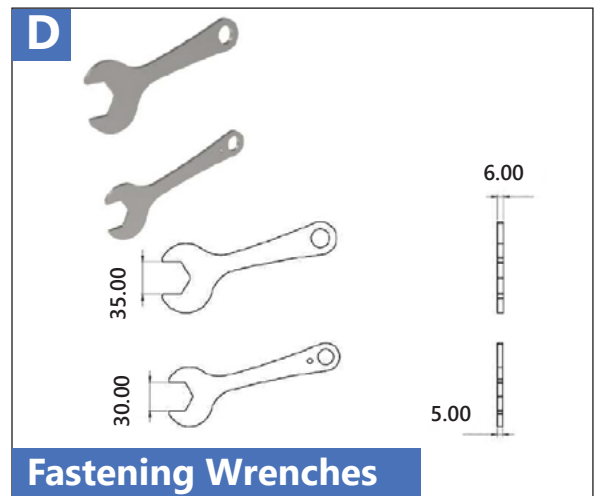
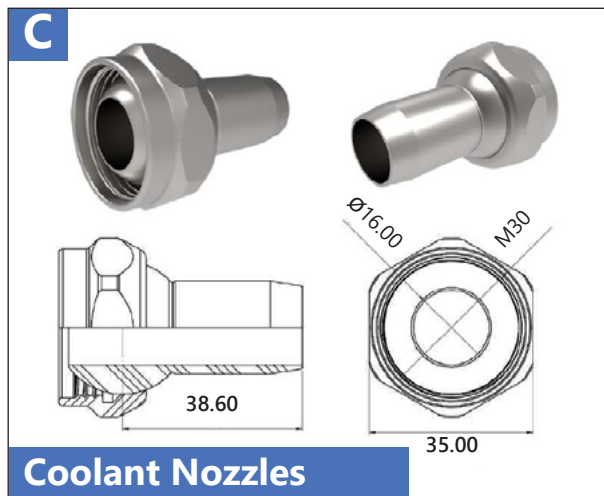
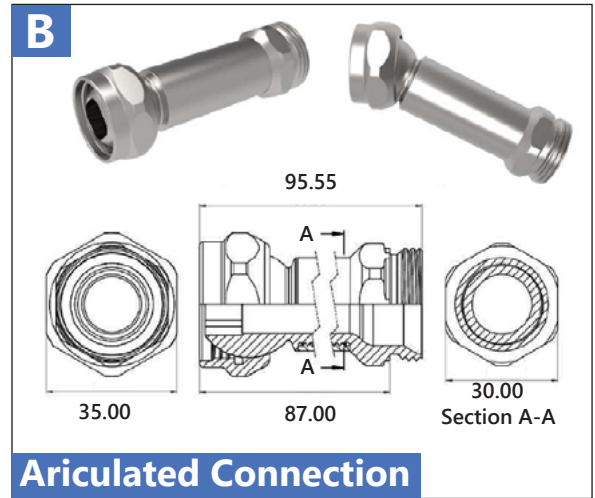
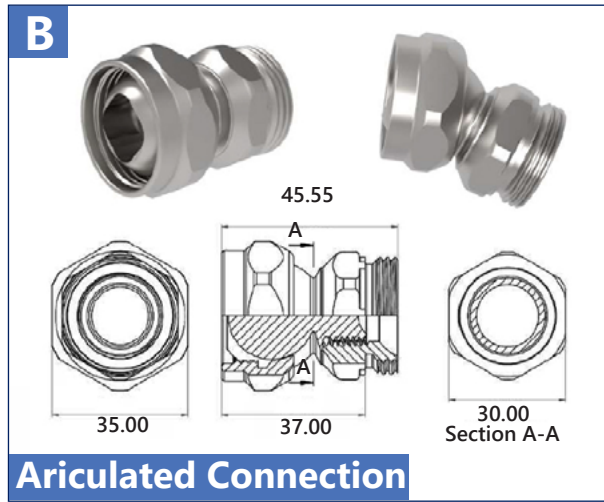
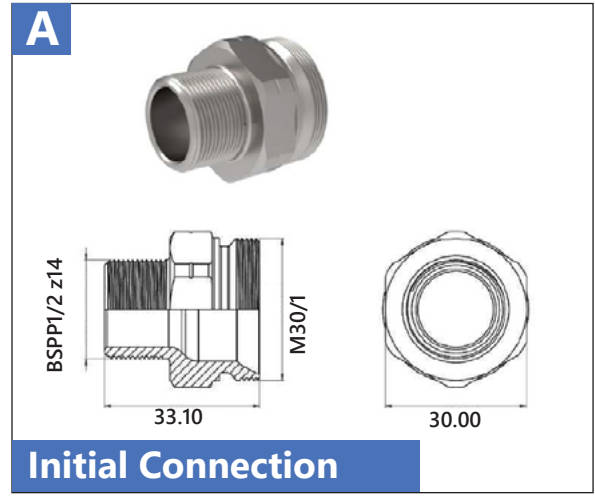
C. Coolant nozzles:
 1 unit Straight nozzle. ID: 16 mm & L:38.5mm

D. Fastening wrenches for the articulated system:
 1 unit Wrenches for fastening the 2 hexagons used in the 16mm starter kit. SW30 & SW35

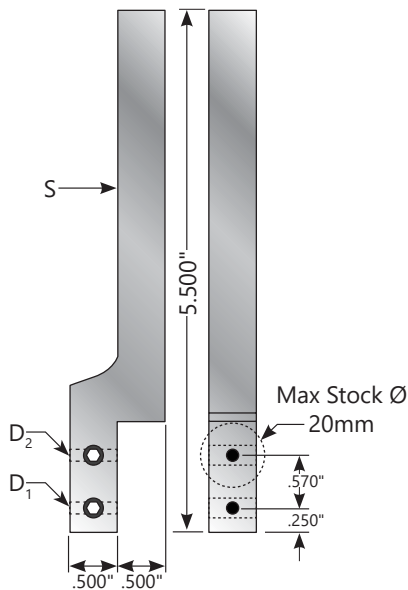
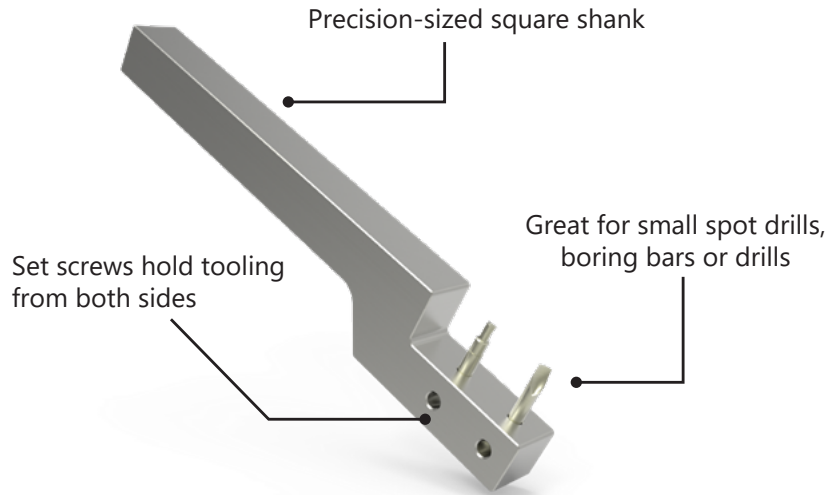
Starter Kit: Set of Components delivered in a basic kit for the most typical applications.

Call 413-562-4800 to order starter kit or inquire on more Coolant Distribution Components.

Maximum torque for locking the parts of the system: 40 Nm
 Maximum pressure: 80 Bar (1,160 psi)



The GenBore[®]-mini

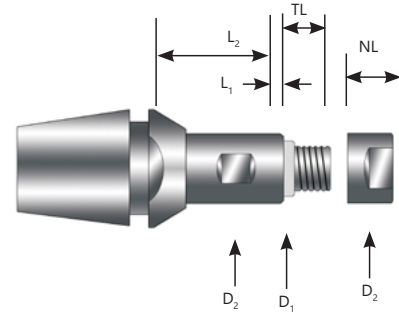


The GenBore-mini is an excellent solution for when you need to incorporate additional small ID tools into your setup. Low profile and interference-free in most Swiss machines, the GenBore-mini is ideal for small ID spotting, drilling, and boring.

- Effective solution for increasing ID tools capacity
- Interference-free design for smaller machines
- Accurately locates small shank ID tooling
- Custom options available - call for details

Item No.	Description	S	D ₁	D ₂
6011-000375	GenBore-mini blank 3/8" shank	.500"	---	---
6011-000200	GenBore-mini blank 1/2" shank	.500"	---	---
6011-000201	(2) .125" Tool Bores	.500"	.125"	.125"
6011-000202	(1) .125" Tool Bore (1) .1875" Tool bore	.500"	.125"	.187"

Ti-Loc® Slitting Saw Arbors



All Ti-Loc Saw Arbors Include (2) Saw Clamping Nuts



The Ti-Loc tool directly mounts into any ER Taper Live or Static Tool Position. Simply insert the Ti-Loc holder into most ER nuts and twist to align the locking cam profile just as you would any ER collet. It comes standard with ER11, ER16 and ER20 taper arbors that serve as their own collet, eliminating the need for a two-piece arbor system.

ER11 Saw Arbors (Inch)		SAW ID	BODY DIAMETER	JOURNAL THICKNESS	EXTENSION LENGTH	NUT LENGTH	THREAD LENGTH
Item No.	Description	D ₁	D ₂	L ₁	L ₂	NL	TL
4800-000208	SAT-11-3.18-064100	.1250in	6.40mm	.045mm	10.00mm	5.00mm	5.00mm
4800-000209	SAT-11-3.18-064140	.1250in	6.40mm	.045mm	14.00mm	5.00mm	5.00mm
4800-000210	SAT-11-3.18-064190	.1250in	6.40mm	.045mm	19.00mm	5.00mm	5.00mm
4800-000224	SAT-11-3.18-064250	.1250in	6.40mm	.045mm	25.00mm	5.00mm	5.00mm
4800-000212	SAT-11-4.76-080100	.1875in	8.00mm	.045mm	10.00mm	5.00mm	6.35mm
4800-000213	SAT-11-4.76-080140	.1875in	8.00mm	.045mm	14.00mm	5.00mm	6.35mm
4800-000214	SAT-11-4.76-080190	.1875in	8.00mm	.045mm	19.00mm	5.00mm	6.35mm
4800-000225	SAT-11-4.76-080250	.1875in	8.00mm	.045mm	25.00mm	5.00mm	6.35mm

ER11 Saw Arbors (Metric)		SAW ID	BODY DIAMETER	JOURNAL THICKNESS	EXTENSION LENGTH	NUT LENGTH	THREAD LENGTH
Item No.	Description	D ₁	D ₂	L ₁	L ₂	NL	TL
4800-000205	SAT-11-3.00-064100	3.00mm	6.40mm	1.00mm	10.00mm	5.00mm	5.00mm
4800-000206	SAT-11-3.00-064140	3.00mm	6.40mm	1.00mm	14.00mm	5.00mm	5.00mm
4800-000207	SAT-11-3.00-064190	3.00mm	6.40mm	1.00mm	19.00mm	5.00mm	5.00mm
4800-000223	SAT-11-3.00-064250	3.00mm	6.40mm	1.00mm	25.00mm	5.00mm	5.00mm
4800-000216	SAT-11-5.00-080100	5.00mm	8.00mm	1.00mm	10.00mm	5.00mm	6.35mm
4800-000217	SAT-11-5.00-080140	5.00mm	8.00mm	1.00mm	14.00mm	5.00mm	6.35mm
4800-000218	SAT-11-5.00-080190	5.00mm	8.00mm	1.00mm	19.00mm	5.00mm	6.35mm
4800-000226	SAT-11-5.00-080250	5.00mm	8.00mm	1.00mm	25.00mm	5.00mm	6.35mm
4800-000220	SAT-11-6.00-080100	6.00mm	8.00mm	1.00mm	10.00mm	6.35mm	8.00mm
4800-000221	SAT-11-6.00-080140	6.00mm	8.00mm	1.00mm	14.00mm	6.35mm	8.00mm
4800-000222	SAT-11-6.00-080190	6.00mm	8.00mm	1.00mm	19.00mm	6.35mm	8.00mm
4800-000227	SAT-11-6.00-080250	6.00mm	8.00mm	1.00mm	25.00mm	6.35mm	8.00mm

ER16 Saw Arbors (Inch)		SAW ID	BODY DIAMETER	JOURNAL THICKNESS	EXTENSION LENGTH	NUT LENGTH	THREAD LENGTH
Item No.	Description	D ₁	D ₂	L ₁	L ₂	NL	TL
4800-000148	SAT-16-3.18-064180	.1250in	.2519in	.0017in	.7086in	0.25in	.2559in
4800-000149	SAT-16-3.18-064240	.1250in	.2519in	.0017in	.9448in	0.25in	.2559in
4800-000151	SAT-16-4.76-095180	.1875in	.3740in	.0017in	.7086in	0.25in	.2559in
4800-000154	SAT-16-4.76-095240	.1875in	.3740in	.0017in	.9448in	0.25in	.2559in
4800-000158	SAT-16-6.35-095180	.2500in	.3740in	.0017in	.7086in	0.25in	.2559in
4800-000162	SAT-16-6.35-095240	.2500in	.3740in	.0017in	.9448in	0.25in	.2559in
4800-000190	SAT-16-7.94-100180	.3125in	.3937in	.0017in	.7086in	0.25in	.2559in
4800-000168	SAT-16-7.94-100240	.3125in	.3937in	.0017in	.9448in	0.25in	.2559in
4800-000294	SAT-16-7.94-100500	.3125in	.3937in	.0017in	1.9685in	0.25in	.2559in

ER16 Saw Arbors (Metric)		SAW ID	BODY DIAMETER	JOURNAL THICKNESS	EXTENSION LENGTH	NUT LENGTH	THREAD LENGTH
Item No.	Description	D ₁	D ₂	L ₁	L ₂	NL	TL
4800-000146	SAT-16-3.00-064180	3.00mm	6.40mm	1.00mm	18.00mm	6.35mm	6.50mm
4800-000147	SAT-16-3.00-064240	3.00mm	6.40mm	1.00mm	24.00mm	6.35mm	6.50mm
4800-000152	SAT-16-5.00-095180	5.00mm	9.50mm	1.00mm	18.00mm	6.35mm	6.50mm
4800-000185	SAT-16-5.00-095240	5.00mm	9.50mm	1.00mm	24.00mm	6.35mm	6.50mm
4800-000156	SAT-16-6.00-095180	6.00mm	9.50mm	1.00mm	18.00mm	6.35mm	6.50mm
4800-000159	SAT-16-6.00-095240	6.00mm	9.50mm	1.00mm	24.00mm	6.35mm	6.50mm
4800-000191	SAT-16-8.00-100180	8.00mm	10.00mm	1.00mm	18.00mm	6.35mm	6.50mm
4800-000186	SAT-16-8.00-100240	8.00mm	10.00mm	1.00mm	24.00mm	6.35mm	6.50mm

ER20 Saw Arbors (Inch)		SAW ID	BODY DIAMETER	JOURNAL THICKNESS	EXTENSION LENGTH	NUT LENGTH	THREAD LENGTH
Item No.	Description	D ₁	D ₂	L ₁	L ₂	NL	TL
4800-000236	SAT-20-3.18-064180	.125in	.2519in	.0017in	.7086in	.25in	.2559in
4800-000237	SAT-20-3.18-064300	.125in	.2519in	.0017in	1.181in	.25in	.2559in
4800-000242	SAT-20-4.76-095180	.1875in	.2519in	.0017in	.7086in	.25in	.3051in
4800-000243	SAT-20-4.76-095300	.1875in	.2519in	.0017in	1.1811in	.25in	.3051in
4800-000257	SAT-20-6.35-095180	.2500in	.3740in	.0017in	.7086in	.25in	.3051in
4800-000258	SAT-20-6.35-095300	.2500in	.3740in	.0017in	1.1811in	.25in	.3051in
4800-000262	SAT-20-7.94-100180	.3125in	.3937in	.0017in	.7086in	.25in	.3051in
4800-000263	SAT-20-7.94-100300	.3125in	.3937in	.0017in	1.1811in	.25in	.3051in
4800-000270	SAT-20-9.52-125180	.3750in	.4921in	.0017in	.7086in	.27in	.3543in
4800-000271	SAT-20-9.52-125300	.3750in	.4921in	.0017in	1.1811in	.27in	.3543in

ER20 Saw Arbors (Metric)		SAW ID	BODY DIAMETER	JOURNAL THICKNESS	EXTENSION LENGTH	NUT LENGTH	THREAD LENGTH
Item No.	Description	D ₁	D ₂	L ₁	L ₂	NL	TL
4800-000232	SAT-20-3.00-064180	3.00mm	6.40mm	1.00mm	18.00mm	6.35mm	6.50mm
4800-000233	SAT-20-3.00-064300	3.00mm	6.40mm	1.00mm	30.00mm	6.35mm	6.50mm
4800-000246	SAT-20-5.00-095180	5.00mm	9.50mm	1.00mm	18.00mm	6.35mm	7.75mm
4800-000247	SAT-20-5.00-095300	5.00mm	9.50mm	1.00mm	30.00mm	6.35mm	7.75mm
4800-000252	SAT-20-6.00-095180	6.00mm	9.50mm	1.00mm	18.00mm	6.35mm	8.50mm
4800-000253	SAT-20-6.00-095300	6.00mm	9.50mm	1.00mm	30.00mm	6.35mm	8.50mm
4800-000266	SAT-20-8.00-100180	8.00mm	10.00mm	1.00mm	18.00mm	6.35mm	7.75mm
4800-000267	SAT-20-8.00-100300	8.00mm	10.00mm	1.00mm	30.00mm	6.35mm	7.75mm
4800-000274	SAT-20-10.0-125180	10.00mm	12.50mm	1.00mm	18.00mm	7.00mm	9.00mm
4800-000275	SAT-20-10.0-125300	10.00mm	12.50mm	1.00mm	30.00mm	7.00mm	9.00mm

Signature Series Saw Arbors

Custom Slitting Saw Arbors

GenSwiss has the capability to assist with the engineering and manufacture of special gang slotting arbors that also feature the option of holding an end mill, spot drill or other small round shank rotary tool.

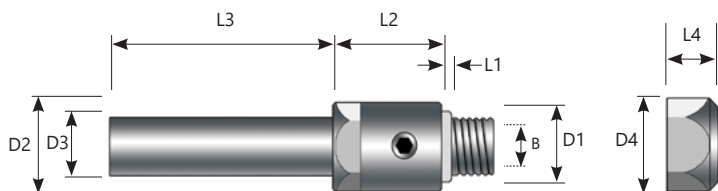
Some features we provide:

- Spacers for gang slotting with multiple blades.
- Custom hub widths (L1 dim.) for oversize blade thicknesses.
- Optional shank sizes for special applications.



Combination Saw Arbors

GenSwiss combination arbors are made from pre-hardened material and exemplify what it means to be called "Swiss Precision". The addition of the combined mill or center drill provides additional tool capacity and setup flexibility.



Combination Saw Arbors - 5015 Series (Inch)

Tool Bore (B)	Hub		Body		Shaft		Nut		Item No.	Description
	D1	L1	D2	L2	D3	L3	D4	L4		
.1181in	.250in	.125in	.375in	.625in	.250in	1.375in	.375in	.375in	5015-000109	SAC-N250-250118
	.312in	.125in	.375in	.625in	.312in	1.375in	.375in	.375in	5015-000111	SAC-N312-312118
	.375in	.125in	.500in	.625in	.375in	1.375in	.500in	.374in	5015-000114	SAC-N375-375118
.1250in	.250in	.125in	.375in	.625in	.250in	1.375in	.375in	.375in	5015-000108	SAC-N250-250125
	.312in	.125in	.375in	.625in	.3125in	1.375in	.375in	.375in	5015-000110	SAC-N312-312125
	.375in	.125in	.500in	.625in	.375in	1.375in	.500in	.375in	5015-000101	SAC-N375-375125
.1875in	.312in	.125in	.375in	.625in	.3125in	1.375in	.375in	.375in	5015-000112	SAC-N312-312187
	.375in	.125in	.500in	.625in	.375in	1.375in	.500in	.375in	5015-000102	SAC-N375-375187

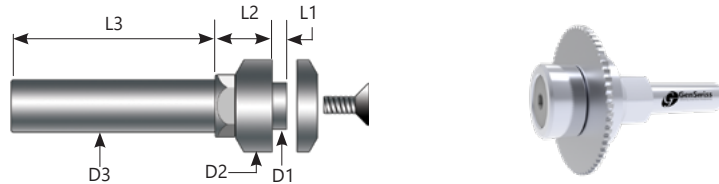
Combination Saw Arbors - 5015 Series (Metric)

Tool Bore (B)	Hub		Body		Shaft		Nut		Item No.	Description
	D1	L1	D2	L2	D3	L3	D4	L4		
3.00mm	8.00mm	3.00mm	8.00mm	16.00mm	8.00mm	35.00mm	9.50mm	9.50mm	5015-000113	SAC-N315-315118
	10.00mm	3.00mm	12.70mm	16.00mm	10.00mm	35.00mm	12.70mm	9.50mm	5015-000115	SAC-N394-394118
.0049mm	8.00mm	3.00mm	9.50mm	16.00mm	8.00mm	35.00mm	9.50mm	9.50mm	5015-000105	SAC-N315-315125
	10.00mm	3.00mm	12.70mm	16.00mm	10.00mm	35.00mm	12.70mm	9.50mm	5015-000106	SAC-N394-394125
.0073mm	8.00mm	3.00mm	9.50mm	16.00mm	8.00mm	35.00mm	9.50mm	9.50mm	5015-000100	SAC-N315-315187
	10.00mm	3.00mm	12.70mm	16.00mm	10.00mm	35.00mm	12.70mm	9.50mm	5015-000103	SAC-N394-394187

Signature Series Saw Arbors

Flange Mount Saw Arbors - 5020 (SAF)

These flanged saw arbors provide maximum saw balance and stability with the flange mount design. The unique design applies pressure to the outward edge of the flange ensuring the greatest gripping power at the outer most edge to prevent slipping. Uses countersunk screw and flange washer to apply holding force. Measured TIR is less than .0002".



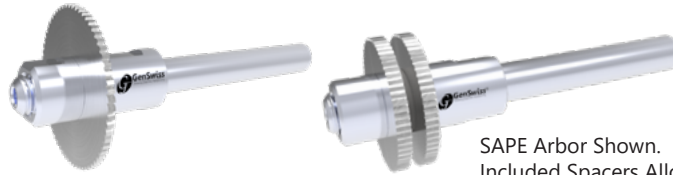
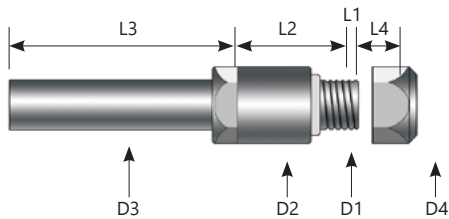
Flange Mount (Inch)		SAW ID	JOURNAL THICKNESS	BODY DIAMETER	EXTENSION LENGTH	SHANK DIAMETER	SHANK LENGTH
Item No.	Description	D1	L1	D2	L2	D3	L3
5021-000006	SAF-047013-473895-M3F	.1874in	.05in	.37in	.47in	.187in	1.50in
5021-000008	SAF-079016-793816-M5F	.3125in	.065in	.625in	.53in	.312in	1.50in
5021-000009	SAF-095025-953816-M6F	.375in	.098in	.625in	.54in	.374in	1.50in
5021-000007	SAF-063013-633811-M4F	.250in	.05in	.448in	.47in	.25in	1.50in
5021-000014	SAF-063028-041611-M4F	.250in	.108in	.448in	.44in	.157in	1.00in
5021-000002	SAF-095011-042511-C11	.3750in	.045in	.450in	.751in	.156in	1.00in

Flange Mount (Metric)		SAW ID	JOURNAL THICKNESS	BODY DIAMETER	EXTENSION LENGTH	SHANK DIAMETER	SHANK LENGTH
Item No.	Description	D1	L1	D2	L2	D3	L3
5020-000100	SAF-050010-503809-M4F	5.00mm	1.00mm	9.00mm	12.00mm	5.00mm	38.0mm
5020-000101	SAF-050010-703812-M4F	5.00mm	1.00mm	12.00mm	12.00mm	7.00mm	38.0mm
5020-000111	SAF-050010-704212-M4F	5.00mm	1.00mm	12.00mm	7.60mm	7.00mm	42.0mm
5020-000103	SAF-080016-703818-M5F	8.00mm	1.60mm	18.00mm	13.00mm	7.00mm	38.00mm
5020-000104	SAF-080016-104514-M5F	8.00mm	1.60mm	14.00mm	14.00mm	10.00mm	45.00mm
5020-000105	SAF-080040-104514-M5F	8.00mm	4.00mm	14.00mm	14.00mm	10.00mm	45.00mm
5021-000010	SAF-095025-071918-M5F	9.52mm	2.50mm	18.00mm	14.00mm	7.00mm	19.00mm
5020-000108	SAF-100025-134520-M6F	10.00mm	2.50mm	20.00mm	16.00mm	13.00mm	45.00mm
5021-000001	SAF-100025-071918-C15	10.00mm	2.50mm	19.00mm	14.00mm	7.00mm	19.00mm
5021-000004	SAF-100025-071918-C18	10.00mm	2.50mm	18.00mm	14.00mm	7.00mm	19.00mm
5020-000106	SAF-130025-134522-M6F	13.00mm	2.50mm	22.00mm	16.00mm	13.00mm	45.00mm
5021-000011	SAF-160025-071919-C19	16.00mm	2.50mm	19.00mm	14.00mm	7.00mm	19.00mm
5020-000107	SAF-160025-134525-M6F	16.00mm	2.50mm	25.00mm	16.00mm	13.00mm	45.00mm

Signature Series Saw Arbors

Precision Saw Arbors - 5025 Series

Our most popular style of slitting saw arbor is available in guaranteed TIR grade SAP (border .0002" TIR) and the extended journal version SAPE. When ULTRA Precision is required the SAP guide is suggested as they are held to stringent quality standards required by discerning Swiss-type machinists.

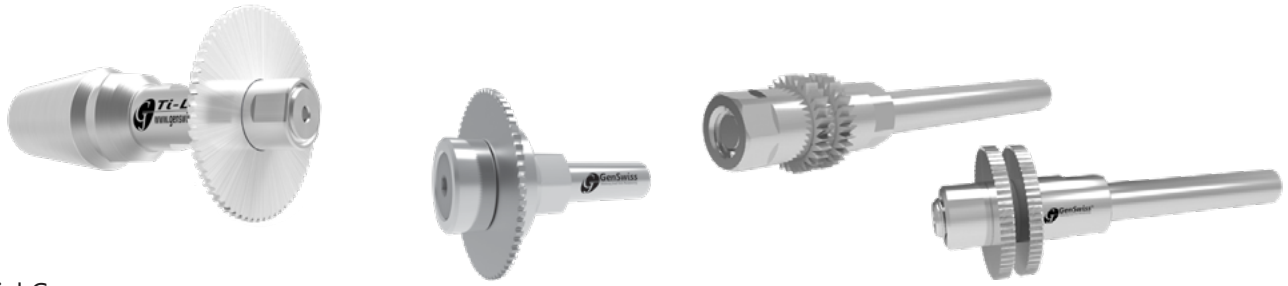


SAPE Arbor Shown.
Included Spacers Allow For
Double Saw Configuration.

ULTRA Precision (Inch)		SAW ID	JOURNAL THICKNESS	BODY Ø	EXTENSION LENGTH	SHANK DIAMETER	SHANK LENGTH	NUT DIAMETER	NUT LENGTH	
Item No.	Description	D1	L1	D2	L2	D3	L3	D4	L4	Includes Spacer
5025-000102	SAP-N1250-1250	.1250in	.025in	.197in	.500in	.125in	1.0in	.197in	.185in	No
5025-000103	SAP-N1875-1875	.1875in	.045in	.315in	.500in	.187in	1.4in	.315in	.305in	No
5025-000104	SAP-N2500-2500	.2500in	.045in	.394in	.500in	.250in	1.4in	.394in	.305in	No
5025-000105	SAP-N3125-3125	.3125in	.045in	.450in	.500in	.312in	1.4in	.450in	.305in	No
5025-000106	SAP-N3750-3750	.3750in	.045in	.500in	.500in	.375in	1.4in	.500in	.305in	No
5025-000107	SAP-N5000-5000	.5000in	.045in	.625in	.500in	.500in	1.4in	.625in	.305in	No
5025-000113	SAPE-N2500-2500-6.0	.2500in	.236in	.453in	.500in	.250in	1.4in	.453in	.349in	Yes

ULTRA Precision (Metric)		SAW ID	JOURNAL THICKNESS	BODY Ø	EXTENSION LENGTH	SHANK DIAMETER	SHANK LENGTH	NUT Ø	NUT LENGTH	
Item No.	Description	D1	L1	D2	L2	D3	L3	D4	L4	Includes Spacer
5025-000114	SAP-N0500-0300	5.00mm	1.00mm	8.00mm	11.50mm	3.00mm	38.00mm	8.00mm	6.35mm	No
5025-000100	SAP-N0500-0500	5.00mm	1.00mm	8.00mm	11.50mm	5.00mm	38.00mm	8.00mm	6.35mm	No
5025-000116	SAP-N0507-0738	5.00mm	3.00mm	7.00mm	13.20mm	7.00mm	25.65mm	7.00mm	9.50mm	No
5025-000117	SAP-N1970-1970	5.00mm	3.00mm	7.00mm	16.50mm	5.00mm	30.00mm	7.00mm	9.50mm	No
5025-000101	SAP-N0800-0800	8.00mm	1.00mm	11.50mm	11.30mm	8.00mm	35.00mm	11.50mm	8.00mm	No
5025-000109	SAP-N1000-1000	10.00mm	1.00mm	13.50mm	16.60mm	10.00mm	30.00mm	13.50mm	8.00mm	No
5025-000111	SAPE-N0500-0500-6.0	5.00mm	6.00mm	8.00mm	12.70mm	5.00mm	35.60mm	8.00mm	8.85mm	Yes
5025-000112	SAPE-N0800-0800-6.0	8.00mm	6.00mm	10.00mm	12.70mm	8.00mm	35.60mm	10.00mm	8.85mm	Yes

Slitting Saw Speeds & Feeds



Material Groups

Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	Group 7	Group 8	Group 9
Steels up to 50 daN/mm ²	Steels 50-80 daN/mm ²	Steels 80-100 daN/mm ²	Steels 100-130 daN/mm ²	Alloyed Steels CR, Ni	Tough Materials	Copper	Aluminium	Plastic
Construction steels	Construction steels	Construction steels	Stainless steels	Stainless steels	High alloyed steels	Brass		Thermoplast
Tempering steels	Tempering steels	Tempering steels	Alloyed tool steels	Heat resisting steels	Nickel Alloys	Bronze		Duroplast
Case hardening steels	Spring steels	Nitrid steels	High speed steels	Titanium alloys	Inconel			
Steels for automatic lathes	Case hardening steels	Cast iron >180 HB	Heat resisting steels		Waspalloy			
	Non-alloyed tool steels	Spring steels	Cast iron >180 HB		Nimonic			
		Tool steels						

Surface Feet Per Minute

Material Group 1	Material Group 2	Material Group 3	Material Group 4	Material Group 5	Material Group 6	Material Group 7	Material Group 8	Material Group 9
525	460	330	280	230	130	625	820	1640

RPM Per Diameter

	Material Group 1	Material Group 2	Material Group 3	Material Group 4	Material Group 5	Material Group 6	Material Group 7	Material Group 8	Material Group 9
15 mm	3400	3000	2125	1800	1500	840	4000	5300	10600
20 mm	2550	2200	1600	1360	1120	630	3000	4000	7950
25 mm	2038	1800	1280	1100	900	500	2425	3200	6365
30 mm	1700	1500	1065	900	750	420	2000	2650	5300
40 mm	1275	1100	800	680	560	315	1500	2000	3975

Feed Per Tooth

Material Group 1	Material Group 2	Material Group 3	Material Group 4	Material Group 5	Material Group 6	Material Group 7	Material Group 8	Material Group 9
.0005"-.001"	.0005"-.001"	.0004"-.0008"	.0004"-.0008"	.0003"-.0006"	.0003"-.0006"	.0006"-.0012"	.0006"-.0012"	.0005"-.001"

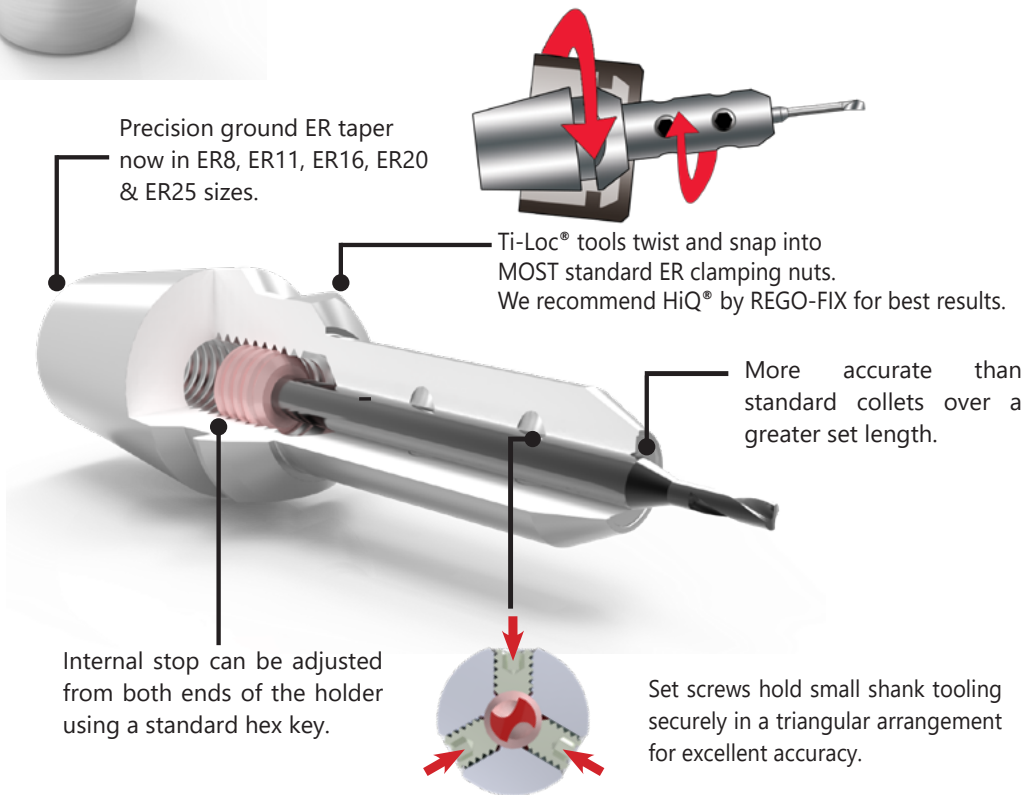


Ti-Loc[®] Mill Extensions

Patented

The BEST Method For Running
Micro End Mills In Your CNC Swiss

- Enables micro tools to clear the guide bushing
- Maintains exceptional TIR at extended length
- Solves deflection and chatter issues
- Coolant-thru versions for ER16 sizes
- TIR <.0002in



Replacement Stop Screws

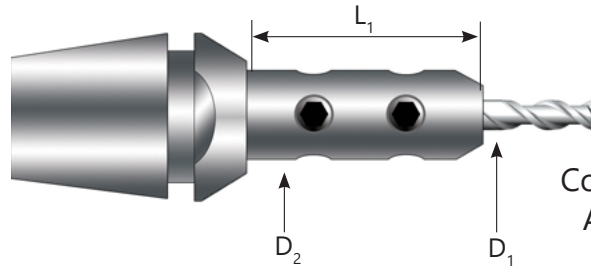
Item No.	Size	Fits
8999-000021	M6	ER11
8999-000206	M8	ER16 & 20
8999-000210	M10	ER25



Replacement Set Screws

Item No.	Size
8999-000011	M3
8999-000007	M4
8999-000214	M5





Coolant-Thru Versions Available For ER16!

ER8

Item No.	Description	L_1	D_1	D_2	
4900-110100	CTE-08-1.00-064100	10	1	6.4	
4900-110150	CTE-08-1.50-064100		1.5	6.4	
4900-110159	CTE-08-1.59-064100		.062in	6.4	
4900-110200	CTE-08-2.00-064100		2	6.4	
4900-110300	CTE-08-3.00-070100		3	7	
4900-110318	CTE-08-3.18-070100		.125in	7	
4900-115100	CTE-08-1.00-064150	15	1	6.4	
4900-115150	CTE-08-1.50-064150		1.5	6.4	
4900-115159	CTE-08-1.59-064150		.062in	6.4	
4900-115200	CTE-08-2.00-064150		2	6.4	
4900-115300	CTE-08-3.00-070150		3	7	
4900-115318	CTE-08-3.18-070150			.125in	7

NOTE: ER8 Holders Include a special M10x.75 clamping nut.

ER11

Item No.	Description	L_1	D_1	D_2	
4900-210100	CTE-11-1.00-064100	10	1	6.4	
4900-210150	CTE-11-1.50-064100		1.5	6.4	
4900-210159	CTE-11-1.59-064100		.062in	6.4	
4900-210200	CTE-11-2.00-064100		2	6.4	
4900-210300	CTE-11-3.00-080100		3	8	
4900-210318	CTE-11-3.18-080100		.125in	8	
4900-215300	CTE-11-3.00-080150	15	3	8	
4900-215318	CTE-11-3.18-080150			.125in	8
4900-210400	CTE-11-4.00-080100		4	8	
4900-215400	CTE-11-4.00-080150		4	8	
4900-216400	CTE-11-4.00-080160	16	4	8	
4900-220300	CTE-11-3.00-080200	20	3	8	
4900-220318	CTE-11-3.18-080200			.125in	8
4900-220400	CTE-11-4.00-080200			4	8

ER16

Item No.	Description	L_1	D_1	D_2	
4900-306318	CTE-16-3.18-095060	6mm	1/8in	9.5	
4900-316100	CTE-16-1.00-064160	16	1	6.4	
4900-316150	CTE-16-1.50-064160		1.5	6.4	
4900-316159	CTE-16-1.59-064160		.062in	6.4	
4900-316200	CTE-16-2.00-064160		2	6.4	
4900-316300	CTE-16-3.00-095160		3	8	
4900-316318	CTE-16-3.18-095160			.187in	9.5
4900-316400	CTE-16-4.00-095160		4	9.5	
4900-316476	CTE-16-4.76-095160			.187in	9.5
4900-316500	CTE-16-5.00-095160		5	9.5	
4900-320300	CTE-16-3.00-095200		20	3	9.5
4900-325300	CTE-16-3.00-095250	25	3	9.5	
* 4900-325300C	CTE-16-3.00-095250C		3	9.5	
4900-325318	CTE-16-3.18-095250			.125in	9.5
* 4900-325318C	CTE-16-3.18-095250C			.125in	9.5
4900-325400	CTE-16-4.00-095250		4	9.5	
4900-325476	CTE-16-4.76-095250			.187in	9.5
4900-325500	CTE-16-5.00-095250		5	9.5	
4900-340476	CTE-16-4.76-095400			3/16in	9.5

* Coolant-Thru Version

ER25

Item No.	Description	L_1	D_1	D_2	
4900-525300	CTE-25-3.00-100250	25	3	10	
4900-525318	CTE-25-3.18-100250			.125in	10
4900-525400	CTE-25-4.00-100250		4	10	
4900-525476	CTE-25-4.76-125250			.187in	12.5
4900-525500	CTE-25-5.00-125250		5	12.5	
4900-525600	CTE-25-6.00-125250		6	12.5	
4900-525635	CTE-25-6.35-125250			.250in	12.5
4900-525700	CTE-25-7.00-160250		7	16	
4900-525794	CTE-25-7.94-160250			.312in	16
4900-525800	CTE-25-8.00-160250		8	16	

ER20

Item No.	Description	L_1	D_1	D_2	
4900-414300	CTE-20-3.00-095140	14	3	9.5	
4900-414476	CTE-20-4.76-114140			.187in	11.4
4900-414500	CTE-20-5.00-114140		5	11.4	
4900-414600	CTE-20-6.00-125140		6	12.5	
4900-414635	CTE-20-6.35-125140			.250in	12.5
4900-416318	CTE-20-3.18-095160	16	.125in	9.5	
4900-416400	CTE-20-4.00-095160			4	9.5
4900-416476	CTE-20-4.76-114160			.187in	11.4
4900-425300	CTE-20-3.00-095250	25	3	9.5	
4900-425318	CTE-20-3.18-095250			.125in	9.5
4900-425400	CTE-20-4.00-095250		4	9.5	
4900-425476	CTE-20-4.76-114250			.187in	11.4
4900-425500	CTE-20-5.00-114250		5	11.4	
4900-425600	CTE-20-6.00-125250		6	12.5	
4900-425635	CTE-20-6.35-125250			.250in	12.5

Collet Reduction

Item No.	Description	Shank Size	Collet Size	Extension Length
4910-000100	RTE-16-08-100254	ER16	ER8	1.0 in



Extend the reach of your tools with superior TIR

Special sizes available upon request. Quick turnaround time. Please call 413-562-4800 for additional sizes.

GENQUICK

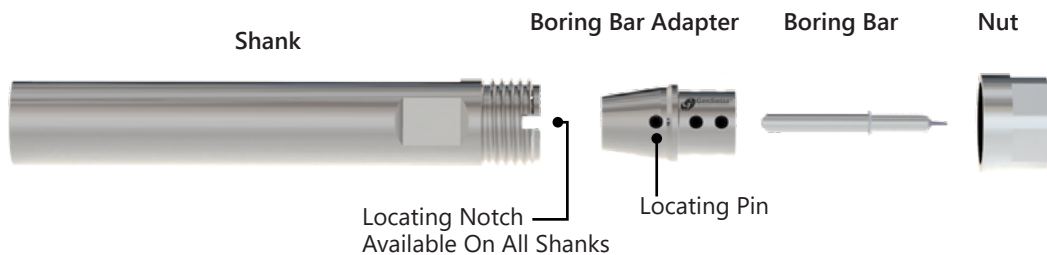
QUICK-CHANGE TOOL HOLDING SOLUTIONS

The GenQuick tooling system helps new users as well as seasoned veterans achieve faster setups and tool changes through the use of tool holder adaptors and quick-change modules that can be preset and are based on the ER standard tool holding system.

These collet sleeves are cost effective solutions to tool holding and are available in a variety of both inch and metric sized shank diameters, and feature a solid shank for rigidity and a side coolant port for connection to a high-pressure coolant delivery system. Every unit has a notched collet taper for easy tool orientation when combined with quick-change boring bar adaptors.



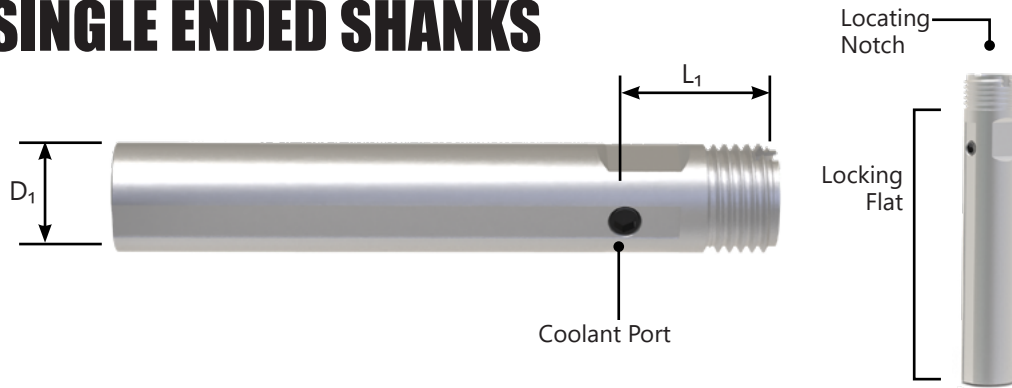
Single Ended Shank Used With The Quick-Change Boring Bar Adapter



Single Ended Shank Used With The Quick-Change Collet Adapter



SINGLE ENDED SHANKS



Shank w/ Nut - Inch

Item No.	Description	Collet	D ₁	L ₁	OAL
1045-000257	CQS-S16-0500-CSE	ER16	.500"	1.1"	4.5"
1045-000195	CQS-S16-0625-CSE	ER16	.625"	1.1"	4.5"
1045-000129	CQS-S16-0750-CSE	ER16	.750"	1.1"	4.5"
1045-000133	CQS-S16-1000-CSE	ER16	1.00"	1.1"	4.5"
1045-000134	CQS-S20-0750-CSE	ER20	.750"	1.2"	4.5"
1045-000136	CQS-S20-1000-CSE	ER20	1.00"	1.2"	4.5"
1045-000291	CQS-S20-1250-CSE	ER20	1.25"	1.2"	4.5"

Shank w/ Nut - Metric

Item No.	Description	Collet	D ₁	L ₁	OAL
1045-000126	CQS-S16-0629-CSE	ER16	16mm	22mm	114mm
1045-000190	CQS-S16-0787-CSE-S	ER16	20mm	22mm	71mm
1045-000225	CQS-S16-0787-CSE	ER16	20mm	28mm	114mm
1045-000206	CQS-S16-0866-CSE	ER16	22mm	28mm	118mm
1045-000220	CQS-S16-0984-CSE	ER20	25mm	28mm	95mm
1045-000135	CQS-S20-0866-CSE	ER20	22mm	30mm	114mm
1045-000290A	CQS-S20-0984-CSE	ER20	25mm		95.25mm

DOUBLE ENDED SHANKS



Inch

Item No.	Description	Collet	D ₁	OAL
1045-000127	CQS-S16-0750-CDE	ER16	.750"	4.5"
1045-000131	CQS-S16-1000-CDE	ER16	1.00"	4.5"
1045-000170	CQS-S20-1000-CDE	ER20	1.00"	4.5"

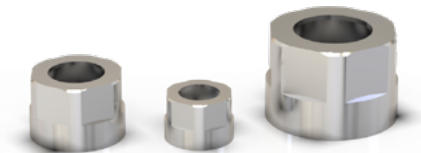
Metric

Item No.	Description	Collet	D ₁	OAL
1045-000130	CQS-S16-0866-CDE	ER16	22mm	114mm
1045-000200	CQS-S16-0984-CDE	ER16	25mm	95mm

NOTE: Each double ended shank is sold with two nuts

SPARE CLAMPING NUTS

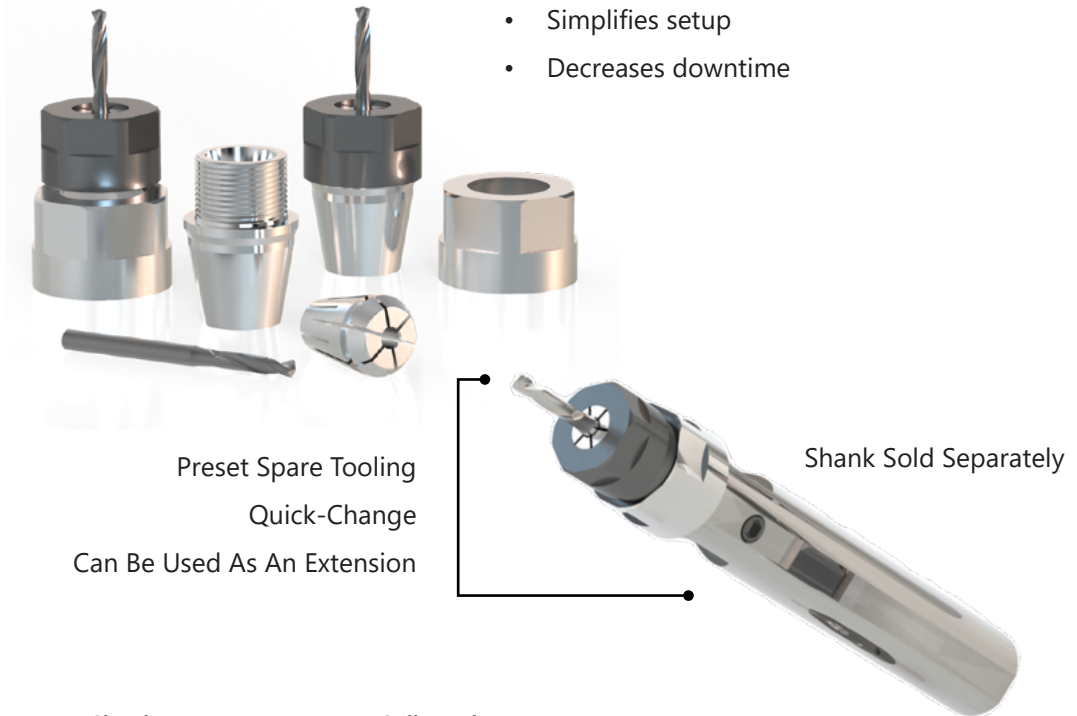
For holding the collet and bore adapters to the single or double ended shanks.



Item No.	Description	ER Size	Nut Thread
1045-000305	CQS-NT-11A	ER11	M13 x .75
1045-000244	CQS-NT-11B	ER11	M14 x .75
1045-000205	CQS-NT-16A	ER16	M19 x 1.0
1045-000124	CQS-NT-16B	ER16	M22 x 1.5
1045-000197	CQS-NT-20A	ER20	M24 x 1.0
1045-000125	CQS-NT-20B	ER20	M25 x 1.5

QUICK-CHANGE COLLET ADAPTERS

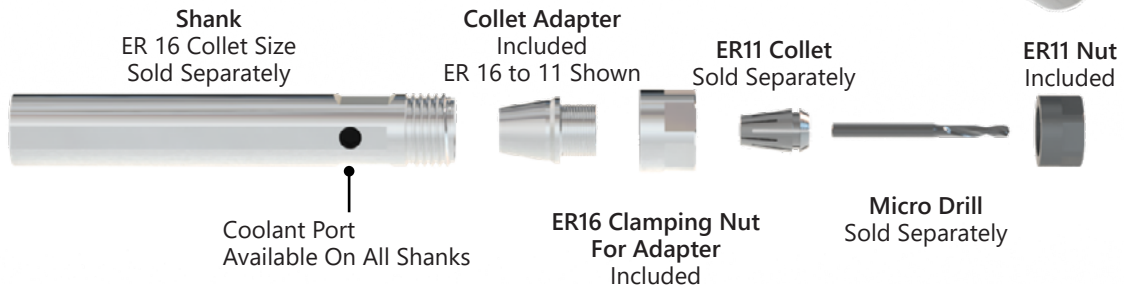
Quick-Change collet adapters make it easier to control quality in your shop. These adapters make it simple to have preset tooling available, eliminating the need to touch off the tool after a routine change. This also enables less experienced machine operators to be more productive.



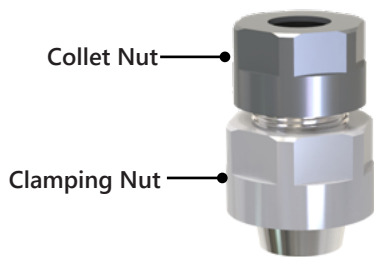
- Simplifies setup
- Decreases downtime

Preset Spare Tooling
Quick-Change
Can Be Used As An Extension

Shank Sold Separately



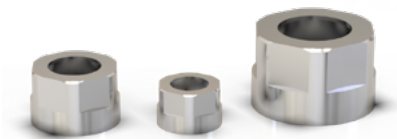
Quick-Change Collet Adapter Assembly



Item No.	Description	Adapter	Collet	Clamping Nut Thread	Collet Nut Thread
1045-000242	CQS-AS11-08A	ER11 to ER8	ER8	M13 x .75	M10 x .75
1045-000226	CQS-AS11-08B	ER11 to ER8	ER8	M14 x .75	M10 x .75
1045-000111	CQS-AS16-11A	ER16 to ER11	ER11	M19 x 1	M13 x .75
1045-000112	CQS-AS16-11B	ER16 to ER11	ER11	M22 x 1.5	M13 x .75
1045-000114	CQS-AS20-16A	ER20 to ER16	ER16	M24 x 1	M19 x .1
1045-000115	CQS-AS20-16B	ER20 to ER16	ER16	M25 x 1.5	M19 x .1

NOTE: Shank and collets sold separately

Spare Collet Nuts

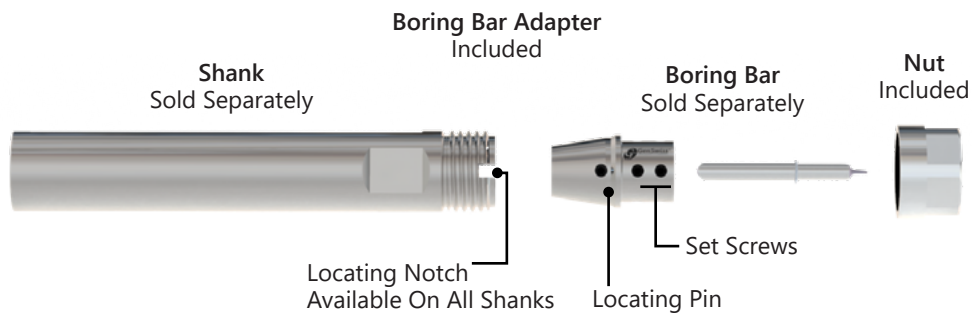


Item No.	Description	ER Size	Nut Thread
1045-000242	CN-ER08-MNSH	ER08	M10 x .75
1045-000111	CN-ER11-MNSG	ER11	M13 x .75
1045-000114	CN-ER16-MNSG	ER16	M19 x 1.0

QUICK-CHANGE BORING ADAPTERS

Quick-Change Boring adaptors make it fast and simple to locate center position for boring bars when combined with notched ER holders. A simple locating pin rests within the notched holder ensuring accurate centering. These solid bushings utilize the ER collet system to securely hold a boring bar in a rigid fashion. Axial length can be easily set using any form of presetting device.

- Easily locates boring bar axial & radial position



Inch

Item No.	Description	ER Size	Bore	Nut Thread
1045-000137	CQS-SH16-12501	ER16	1/8 in	M19 x 1
1045-000139	CQS-SH16-15601		5/32 in	M19 x 1
1045-000140	CQS-SH16-18701		3/16 in	M19 x 1
1045-000230	CQS-SH16-21801		7/32 in	M19 x 1
1045-000142	CQS-SH16-25001		1/4 in	M19 x 1
1045-000145	CQS-SH16-31201		5/16 in	M19 x 1
1045-000147	CQS-SH16-37501		3/8 in	M19 x 1
1045-000149	CQS-SH20-12501	ER20	1/8 in	M24 x 1
1045-000193	CQS-SH20-18701		3/16 in	M24 x 1
1045-000153	CQS-SH20-25001		1/4 in	M24 x 1
1045-000280	CQS-SH20-31201		5/16 in	M24 x 1
1045-000156	CQS-SH20-37501		3/8 in	M24 x 1
1045-000157	CQS-SH20-5001		1/2 in	M24 x 1

Metric

Item No.	Description	ER Size	Bore	Nut Thread
1045-000260	CQS-SH16-15701	ER16	4mm	M19 x 1
1045-000201	CQS-SH16-19701		5mm	M19 x 1
1045-000202	CQS-SH16-23601		6mm	M19 x 1
1045-000146	CQS-SH16-31501		8mm	M19 x 1
1045-000306	CQS-SH20-23601	ER20	6mm	M24 x 1

Please call 413-562-4800 for additional sizes

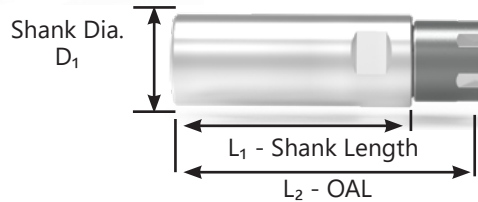
Locking Flats Prevent
Damage To Shank;
Provides Orientation
For Tools

SIGNATURE SERIES COLLET SLEEVES

ER-style precision collet sleeves provide rigid and accurate holding for ID tooling. Machined from medium carbon alloy steel. These collet sleeves feature ground shanks and tapers. Mini-nuts are used to reduce interference and to make setup and tool changing easier than other collet sleeves with hexagonal clamping nuts.



Coolant-thru Internal Stop Screw
Prevents Tool Pushback



Precision ER Collet Sleeves - Inch Shanks

Collet	Item No.	Description	Shank Dia. (D ₁)	Shank Length (L ₁)	OAL (L ₂)	With Locking Flat	Stop Screw	Nut Type
ER08	1025-000299	CS-08-064-070	0.25in	70mm	83mm	Yes	No	Nut
ER11	1025-000201	CS-11-127-023	0.500in	23mm	30mm	Yes	Yes	No Mini-Nut
	1025-000107	CS-11-158-050	0.625in	50mm	62mm	Yes	Yes	Mini-Nut
	1025-000108	CS-11-158-100	0.625in	100mm	112mm	Yes	Yes	Mini-Nut
	1025-000110	CS-11-190-070	0.750in	70mm	82mm	Yes	Yes	Mini-Nut
	1025-000298	CS-11-190-050	0.750in	50mm	67mm	Yes	Yes	Mini-Nut
ER16	1025-000131	CS-16-158-075	0.625in	75mm	90mm	Yes	Yes	Mini-Nut
	1025-000132A	CS-16-190-035	0.750in	35mm	50mm	Yes	Yes	Mini-Nut
	1025-000133	CS-16-190-050	0.750in	50mm	65mm	Yes	Yes	Mini-Nut
	1025-000134	CS-16-190-070	0.750in	70mm	85mm	Yes	Yes	Mini-Nut
	1025-000135	CS-16-190-100	0.750in	100mm	115mm	Yes	Yes	Mini-Nut
	1025-000216	CS-16-254-022	1.00in	22mm	37mm	Yes	Yes	Mini-Nut
	1025-000272	CS-16-254-033	1.00in	33mm	49mm	Yes	Yes	Mini-Nut
	1025-000174	CS-16-254-038	1.00in	38mm	53mm	Yes	Yes	Mini-Nut
	1025-000130	CS-16-254-065	1.00in	65mm	80mm	Yes	No	Mini-Nut
	1025-000183	CS-16-254-075	1.00in	75mm	90mm	Yes	Yes	Mini-Nut
	1025-000138	CS-16-254-080	1.00in	80mm	95mm	Yes	Yes	Mini-Nut
	1025-000140	CS-16-254-100	1.00in	100mm	115mm	Yes	Yes	Mini-Nut
	1025-000142	CS-16-254-130	1.00in	130mm	145mm	Yes	Yes	Mini-Nut
ER20	1025-000151	CS-20-254-100	1.00in	100mm	117mm	Yes	No	Mini-Nut
	1025-000152	CS-20-254-140	1.00in	140mm	157mm	Yes	No	Mini-Nut
	1025-000295	CS-20-254-110	1.00in	110mm	125mm	No	No	Mini-Nut

Precision ER Collet Sleeves - Metric Shanks

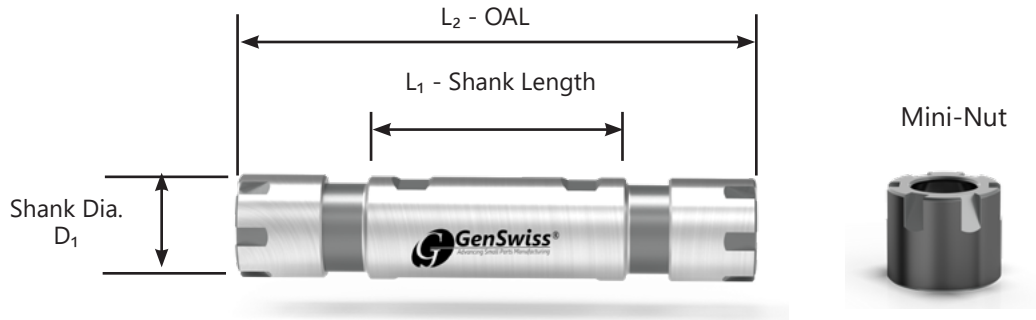
Collet	Item No.	Description	Shank Dia. (D ₁)	Shank Length (L ₁)	OAL (L ₂)	With Locking Flat	Stop Screw	Nut Type
ER11	1025-000164	CS-11-200-070	20mm	70mm	82mm	Yes	Yes	Mini-Nut
ER16	1025-000234	CS-16-200-035	20mm	35mm	50mm	Yes	Yes	Mini-Nut
	1025-000199	CS-16-200-070	20mm	70mm	85mm	Yes	Yes	Mini-Nut
	1025-000184	CS-16-200-100	20mm	100mm	115mm	Yes	Yes	Mini-Nut
	1025-000197	CS-16-250-100	25mm	100mm	115mm	Yes	No	Hex-Nut
	1025-000232	CS-16-250-160	25mm	160mm	175mm	Yes	No	Hex-Nut
ER20	1025-000150	CS-20-220-080	22mm	80mm	97mm	Yes	No	Mini-Nut



SIGNATURE SERIES DOUBLE ENDED COLLET SLEEVES

Double Ended Swiss Precision Sleeves Features:

- Adds additional ID tool positions
- Enables simultaneous main and subspindle operations
- Precision ground and thru-hardened to ensure high accuracy



Double Ended Precision ER Collet Sleeves - Inch Shanks

Collet Size	Item No.	Description	Shank Dia. (D ₁)	Shank Length (L ₁)	OAL (L ₂)	With Locking Flat	Stop Screw	Nut Type
ER11	1025-000114	CS-11-190-035D	0.750in	35mm	51mm	Yes	No	Mini-Nut
	1025-000115	CS-11-190-057D	0.750in	57mm	73mm	Yes	No	Mini-Nut
	1025-000116	CS-11-190-069D	0.750in	69mm	85mm	Yes	No	Mini-Nut
	1025-000117	CS-11-190-096D	0.750in	96mm	112mm	Yes	No	Mini-Nut
ER16	1025-000139	CS-16-254-045D	1.00in	45mm	75mm	Yes	No	Mini-Nut
	1025-000141	CS-16-254-075D	1.00in	75mm	105mm	Yes	No	Mini-Nut

Double Ended Precision ER Collet Sleeves - Metric Shanks

Collet Size	Item No.	Description	Shank Dia. (D ₁)	Shank Length (L ₁)	OAL (L ₂)	With Locking Flat	Stop Screw	Nut Type
ER11	1025-000103	CS-11-160-050D	16mm	50mm	77mm	Yes	No	Mini-Nut
	1025-000300	CS-11-170-066D	17mm	66mm	100mm	Yes	No	Mini-Nut
	1025-000167	CS-11-200-030D	20mm	30mm	57mm	Yes	No	Mini-Nut
ER16	1025-000129	CS-16-250-062D	25mm	62mm	118mm	Yes	No	Mini-Nut

SIGNATURE SERIES COOLANT-FED COLLET SLEEVES

- Designed for high-pressure coolant delivery systems
- Single and dual coolant port versions available
- Use with sealed coolant-style ER collets or standard collets



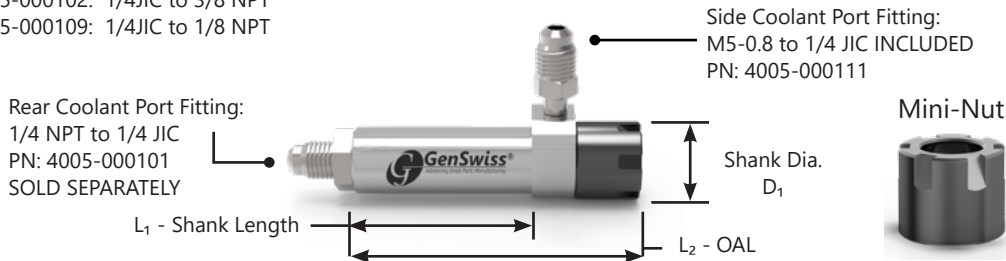
Coolant-Fed ER Collet Sleeves - Inch Shanks

Single Coolant Port

Collet Size	Item No.	Description	Shank Dia. (D ₁)	Shank Length (L ₁)	OAL (L ₂)	With Locking Flat	Stop Screw	Nut Type	Rear Coolant Port	Fitting PN
ER11	1025-000188	CS-11-190-035C	0.75in	35mm	44.5mm	Yes	Yes	Mini-Nut	1/8 NPT	4005-000109
	1025-000190	CS-11-190-062C	0.75in	62mm	71.5mm	Yes	Yes	Mini-Nut	1/8 NPT	4005-000109
ER16	1025-000119	CS-16-190-042C	0.75in	42mm	55mm	Yes	Yes	Mini-Nut	1/4 NPT	4005-000101
	1025-000121	CS-16-190-062C	0.75in	62mm	75mm	Yes	Yes	Mini-Nut	1/4 NPT	4005-000101
	1025-000123	CS-16-190-086C	0.75in	86mm	100mm	Yes	Yes	Mini-Nut	1/4 NPT	4005-000101
	1025-000228	CS-16-254-049C	1in	49mm	65mm	Yes	Yes	Mini-Nut	3/8 NPT	4005-000102
ER20	1025-000147	CS-20-254-050C	1in	50mm	67mm	Yes	Yes	Mini-Nut	3/8 NPT	4005-000102
	1025-000149	CS-20-254-085C	1in	83mm	100mm	Yes	Yes	Mini-Nut	3/8 NPT	4005-000102

NOTE: Fitting is included with all collet sleeves
 PN 4005-000101: 1/4JIC to 1/4 NPT
 PN 4005-000102: 1/4JIC to 3/8 NPT
 PN 4005-000109: 1/4JIC to 1/8 NPT

NOTE: Stop screws included with all shanks



Coolant-Fed ER Collet Sleeves - Inch Shanks

Double Coolant Ports

Collet Size	Item No.	Description	Shank Dia. (D ₁)	Shank Length (L ₁)	OAL (L ₂)	With Locking Flat	Stop Screw	Nut Type	Side Coolant Port	Rear Coolant Port
ER16	1025-000245A	CS-16-190-050GC	0.75in	50mm	77mm	Yes	No	Mini-Nut	M5	1/4 NPT
	1025-000251A	CS-16-190-060GC	0.75in	60mm	87mm	Yes	No	Mini-Nut	M5	1/4 NPT
	1025-000252A	CS-16-190-070GC	0.75in	70mm	97mm	Yes	No	Mini-Nut	M5	1/4 NPT
	1025-000258A	CS-16-254-050GC	1.0in	50mm	77mm	Yes	No	Mini-Nut	M5	1/4 NPT

Coolant-Fed ER Collet Sleeves - Metric Shanks

Double Coolant Ports

Collet Size	Item No.	Description	Shank Dia. (D ₁)	Shank Length (L ₁)	OAL (L ₂)	With Locking Flat	Stop Screw	Nut Type	Side Coolant Port	Rear Coolant Port
ER16	1025-000253A	CS-16-200-050GC	20mm	50mm	77mm	Yes	No	Mini-Nut	M5	1/4 NPT
	1025-000254A	CS-16-200-070GC	20mm	70mm	97mm	Yes	No	Mini-Nut	M5	1/4 NPT
	1025-000250A	CS-16-220-050GC	22mm	50mm	77mm	Yes	No	Mini-Nut	M5	1/4 NPT
	1025-000255A	CS-16-220-070GC	22mm	70mm	97mm	Yes	No	Mini-Nut	M5	1/4 NPT
	1025-000256A	CS-16-250-050GC	25mm	50mm	77mm	Yes	No	Mini-Nut	M5	1/4 NPT
	1025-000257A	CS-16-250-070GC	25mm	70mm	97mm	Yes	No	Mini-Nut	M5	1/4 NPT

SIGNATURE SERIES SUB SPINDLE TOOL HOLDING

- Holds 3/4 in or 1in shank collet sleeves or boring bar holders
- Protects live tooling drive gear when station is not in use
- Shorter block length provides clearance for deeper hole drilling operations

Collet Size	Item No.	Description	Shank Dia. (D ₁)	Shank Length (L ₁)	OAL (L ₂)	With Locking Flat	Stop Screw
ER16	1025-000284A	CS-16-190-040CX	3/4in	39.878mm	61mm	Yes	Yes
	1025-000285A	CS-16-254-050CX	1.0in	50mm	72mm	Yes	No

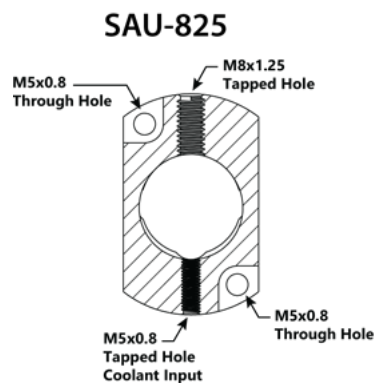
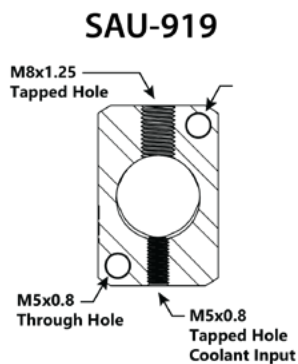
Only Fits L20 & L12 Citizen Machines

TOOL HOLDER (sold separately)
CIT-SAU919-S-CT



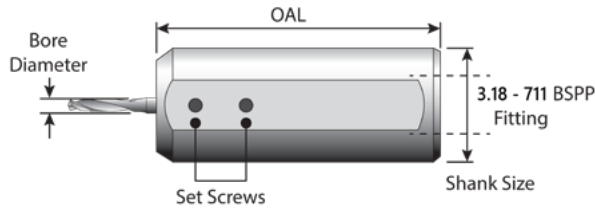
Only Fits L32 Citizen Machines

TOOL HOLDER (sold separately)
CIT-SAU825-S-CT



DRILL BUSHINGS

GenSwiss drill sleeves are a new product designed and manufactured by GenSwiss. These sleeves have precision ground inch and metric shanks and are a robust method for holding drills to tight tolerances. Each GenSwiss drill sleeve features coolant-thru holes, enabling coolant delivery to your coolant-thru drills. Standard tool bore sizes range from 3-8mm, but drill sleeves can be made to order.



Item No.	Description	Shank Size	OAL	Set Screw	Bore Diameter	
1027-000100	CTS-3.00-158760	5/8in	3in	M4	3mm	
1027-000101	CTS-3.18-158760		3in	M4	1/8in	
1027-000102	CTS-4.00-158760		3in	M4	4mm	
1027-000103	CTS-4.76-158760		3in	M4	3/16in	
1027-000104	CTS-6.00-158760		3in	M6	6mm	
1027-000105	CTS-6.35-158760		3in	M6	1/4in	
1027-000106	CTS-7.94-158760		3in	M6	5/16in	
1027-000107	CTS-8.00-158760	3in	M6	8mm		
1027-000146	CTS-1.50-190760	3/4in	3in	M4	1.5mm	
1027-000108	CTS-3.00-190760		3in	M4	3mm	
1027-000109	CTS-3.18-190760		3in	M4	1/8in	
1027-000110	CTS-4.00-190760		3in	M4	4mm	
1027-000111	CTS-4.76-190760		3in	M4	3/16in	
1027-000147	CTS-4.76-190760		3in	M4	5mm	
1027-000112	CTS-6.00-190760		3in	M6	6mm	
1027-000113	CTS-6.35-190760		3in	M6	1/4in	
1027-000114	CTS-7.94-190760		3in	M6	5/16in	
1027-000115	CTS-8.00-190760		3in	M6	8mm	
1027-000150	CTS-12.00-190760		3in	M8	12mm	
1027-000116	CTS-3.00-200760		20mm	3in	M4	3mm
1027-000117	CTS-3.18-200760			3in	M4	1/8in
1027-000118	CTS-4.00-200760			3in	M4	4mm
1027-000119	CTS-4.76-200760			3in	M4	3/16in
1027-000145	CTS-12.70-200760	3in		M8	.5in	
1027-000120	CTS-6.00-200760	3in		M6	6mm	
1027-000121	CTS-6.35-200760	3in		M6	1/4in	
1027-000122	CTS-7.94-200760	3in		M6	5/16in	
1027-000123	CTS-8.00-200760	3in		M6	8mm	
1027-000124	CTS-3.00-220760	22mm		3in	M4	3mm
1027-000125	CTS-3.18-220760			3in	M4	1/8in
1027-000126	CTS-4.00-220760			3in	M4	4mm
1027-000127	CTS-4.76-220760		3in	M4	3/16in	
1027-000128	CTS-6.00-220760		3in	M6	6mm	
1027-000129	CTS-6.35-220760		3in	M6	1/4in	
1027-000130	CTS-7.94-220760		3in	M6	5/16in	
1027-000131	CTS-8.00-220760		3in	M6	8mm	
1027-000149	CTS-8.00-220760		3in	M6	14mm	
1027-000152	CTS-10.00-220760		3in	M8	10mm	
1027-000151	CTS-12.00-220760		3in	M8	12mm	
1027-000149	CTS-14.00-220760		3in	M6	14mm	
1027-000132	CTS-3.00-254760		1in	3in	M4	3mm
1027-000133	CTS-3.18-254760			3in	M4	1/8in
1027-000134	CTS-4.00-254760	3in		M4	4mm	
1027-000135	CTS-4.76-254760	3in		M4	3/16in	
1027-000136	CTS-6.00-254760	3in		M6	6mm	
1027-000137	CTS-6.35-254760	3in		M6	1/4in	
1027-000138	CTS-7.94-254760	3in		M6	5/16in	
1027-000139	CTS-8.00-254760	3in		M6	8mm	
1027-000142	CTS-10.00-254760	3in		M8	10mm	
1027-000148	CTS-12.00-254760	3in		M8	12mm	
1027-000141	CTS-13.00-254760	3in		M8	13mm	
1027-000140	CTS-14.00-254760	3in		M8	14mm	
1027-000144	CTS-14.26-254760	3in		M8	.5615in	
1027-000143	CTS-14.27-254760	3in		M8	.5620in	

SIGNATURE SERIES

Collets & Guide Bushings



GenSwiss Signature Series collection of precision ground collets and guide bushings provide feedstock material with exceptional stability for better results. Used in Swiss type CNC lathes on major machine models, our collets and guide bushings enable operators to create complex parts accurately and precisely while increasing productivity by reducing cycle times. Call us at 413-562-4800 for specialized unique options on workholding guide bushings and collets. Made machine specific to order.



Standards available from stock in nominal, inch and metric

Collets

Several types of collet bores available; including round, hexagon, square and special shapes. Some collets, such as Emergency collets, can be adjusted to hold parts of different sizes within a range by tightening or loosening the clamping force. Whereas the Dead length collets, W, B, L type Collets hold only specific diameters as they are intended to use for repeated accuracy on High production machines. V-Line, U-Line, and over-grip designs, are engineered to securely clamp delicate components without causing surface damage, making them ideal for precision machining applications.

All Standard Collets available with Carbide Insert



Collet - Smooth Bore



- Starting at 1mm
- Bigger Bore Sizes also Available in Smooth Bore on request
- Available in Standard Precision and Ultra Precision



Collet - Grooved Bore



- Standard Grooved Bores Available up to Ø8.0 mm
- Used Especially in Headstock



Collet - Profile Bore (Serrated)

- All profiles (Hexagon, Square, Rectangular, etc.)
- Available up to Ø8.0 mm
- Standard collet models



Collet - Serrated Bore

- Horizontal and Vertical Grooves
- Available in Bore Ø8.0 mm



Collet - Step Bore

- Clamping on Two Different Diameters Possible
- Available for All Collet Types



Collet - Over Gripping (Jump Collet)

- Suitable for Clearing a shoulder and Gripping on a Smaller Diameter
- Used on Pick-off Spindle



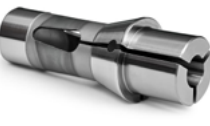
Collet - Special Profile

- Suitable for Different Special Profiles and Partial Shapes
- Unique Shapes Available



Collet - VLine

- No marks on material while clamping / Easier Cleaning after Operation
- Suitable for all profiles (Square, Hexagon, etc.)
- Uniform High Tension



Long Nose Collet - Straight Nose (Extended Nose)

- All Standard Collets available with Long Straight Nose
- Used on Pick-off Spindle



Long Nose Collet - Tapered Nose

- All Standard Collets available with Long Tapered Nose
- Used on Pick-off Spindle



Collet with Full Seal (Silicone Seal)

- Slots filled with silicone sealant to prevent chip and dirt debris entering inside the collets
- Mainly used on a Pick-off Spindle



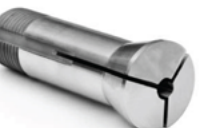
Collet with Key Slot on Cone

- Available on request
- Key Slot on cone is for profile orientation
- Suitable for all profiles (Hexagon, Square, etc..)



Collet with Key Slot on Guiding Diameter

- Key Slot on Guiding Diameter is for profile orientation
- Suitable for all profiles (Hexagon, Square, etc..)



SW Collet - Standard Nose

- Suitable for Tool Grinding machines and Schaublin Lathes
- Available in Standard Precision and Ultra Precision



SW Collet - Long Nose

- Suitable for Tool Grinding machines
- Available in Standard precision and Ultra Precision

Bar Feed Collets

GenSwiss Signature Series Bar Feed Collets, or bar loader collets, are specialized holding devices used in automatic lathe bar feeders mainly used on Swiss type CNC machines to securely grip and advance raw bar stock into the machine spindle. They ensure precise, continuous feeding by securing the bar—even with internal diameters (ID) or irregular shapes—using spring tension and various fastening methods such as pins, threads, or set screws.

Our bar feed collets are made from High quality spring steel and heat treated to ensure good quality and life.

Proper selection depends on the diameter of the bar stock, the style of the bar feed loader, and whether the material is solid or hollow. **Note: made machine specific to order.**

All dimensions are in mm - Unless Otherwise Specified



Bar Feed Collet - External Thread

AVAILABLE STOCK

- Specially processed to obtain uniform tension
- Used for Standard Solid Bars



Bar Feed Collet - Internal Thread

AVAILABLE STOCK

- Specially processed to obtain uniform tension
- Used to install workpiece locator or stop



Bar Feed Collet - Pin Type

AVAILABLE STOCK

- Specially processed to obtain uniform tension
- Secured using pin or set screws for locking into a channel

Three Main Types listed above

Special / Customized Bar Feed Collets available upon request

Call GenSwiss at 413-562-4800

Emergency Collets

AVAILABLE STOCK



Emergency Collets are specifically engineered steel collets that can be quickly and easily sized. This allows the machinist to bore an opening into an emergency collet to match the exact size and shape required.

Provide a dependable temporary solution in situations where standard collets are unavailable. By allowing in-house adjustment, these collets help minimize downtime and keep production running until a permanent replacement is secured.

Popular Bar Feed (Loader) Collets

GenSwiss Signature Series CAV & D, FMB, LNS, and IEMCA Style Bar Loader Collets are engineered for wear resistance, requiring fewer replacements.

Bar loader collets are set to normal tension unless otherwise specified. If an application requires a lighter or heavier tension, please specify when ordering. **Note: made machine specific to order.**



FC7DL Round Bar Loader Collet

AVAILABLE STOCK

- CAV Style with thread connection
- Capacity Range Min Ø .061" and Max Ø .231"



FC10DL Round Bar Loader Collet

AVAILABLE STOCK

- CAV Style with thread connection
- Capacity Range Min Ø .078" and Max Ø .334"



CIT15NF Round Bar Loader Collet

AVAILABLE STOCK

- CAV Style with cross hole for pin mounting
- Capacity Range Min Ø .078" and Max Ø .546"



20D Round Bar Loader Collet

AVAILABLE STOCK

- Engineered for wear resistance, requiring fewer collet replacements
- D-Style with cross hole for pin mounting
- Capacity Range Min Ø 2.54mm (.100") and Max Ø 18mm (.709")



10D Round Bar Loader Collet

AVAILABLE STOCK

- Engineered for wear resistance, requiring fewer collet replacements
- D-Style with cross hole for pin mounting
- Capacity Range Min Ø 2.54mm (.100") and Max Ø 18mm (.709")



15D Round Bar Loader Collet

AVAILABLE STOCK

- Engineered for wear resistance, requiring fewer collet replacements
- D-Style with cross hole for pin mounting
- Capacity Range Min Ø 1.27mm (.050") and Max Ø 13mm (.512")

Guide Bushings

GenSwiss Signature Series Guide Bushings are available in a variety of standard sizes, shapes and materials. Suitable for the most popular Swiss Machines & CNC turning centers.

Draw Bushings, also known as Bushings and Guide Bushings, are manufactured from proprietary material containing both high tensile strengths and wearability. Offered in Round, Hex, Square and other profiles as well as Extended nose, U-Line, silicone sealing, brass guides.

Round Swiss Guide Bushings are carbide lined to keep the stock clean and unmarked. Specials are available in hardened steel, *surface pro lining, angular and zig-zagged.

Standard Stock includes Round Guide Bushings, available in nominal sizes, ready for immediate shipping & delivery.

**Surface Pro is gentler on easy to mark materials offering heat resistance, wear resistance and corrosion resistance while providing high level surface finish for high precision machining.*



Drawn (Adjustable) Type

- Standard Bore Chamfer on bore edge



Reinforced Shank

- Brass & bronze guides provide better guidance to the job
- All guide bushings available with guides on request



Profile

- All Standard guide bushings available with Profiles such as Hexagon, Square and Special partial shapes available on request



Traub

- Bore surface finish - Ra value of 0.4 micron
- Standard Bore Chamfer on bore edge



Long Nose

- Shifting the Guiding area forward and thereby enhancing the stability of the workpiece
- Standard Bore Chamfer on bore edge
- Standard Precision



Extended Carbide Insert (Max Land Guide Bushing)

- Bore Diameter from 4mm to 42mm
- Guiding surface length will vary depending on bore diameter and guide bush model
- Prevents slippage of component from the carbide guide

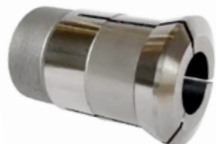
Popular Guide Bushings (Carbide Lined or Surface Pro)



CD25

AVAILABLE STOCK

- Support bar stock up to 25mm
- Available in Round (Smooth), Hex (Keyed), and Square (Keyed)
- Bore sizes from 3 mm - 25 mm



STM38

AVAILABLE STOCK

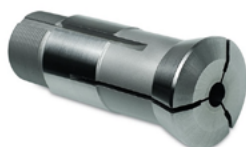
- Primarily used for complex components that require tight toleranc
- Bore sizes from 2 mm - 38.00 mm



TD25S

AVAILABLE STOCK

- Machine Compatability: Star
- High Precision Round Carbide Lined or Surface Pro
- Extended Nose (approximately 82mm in total length)
- Bore sizes from 3 mm - 21 mm



TD25NS

AVAILABLE STOCK

- Features a standard 16° collet angle
- Bore sizes from 3.0 mm-21 mm



TD26

AVAILABLE STOCK

- Available in smooth or specialized forms
- Bore sizes from 2.0 mm - 20.0 mm
- Carbide lined or Surface Pro



TD32

AVAILABLE STOCK

- Available in Round (Smooth) STOCK, Hex (Keyed) SPECIAL, and Square (Keyed) SPECIAL
- Collet Angle 20°
- Bore sizes from 4.0 mm - 32.0 mm



TD32S

AVAILABLE STOCK

- Available in Round (Smooth) STOCK, Hex (Keyed) SPECIAL, and Square (Keyed) SPECIAL
- Bore sizes from 3.0 mm - 32.0 mm

Call GenSwiss 413-562-4800 for unique options on your workholding guide bushings and collets.

Davenport Multi-Spindles

Hard-To-Source

Davenport multi-spindle collets are specialized workholding devices designed for 5-spindle Davenport Model B and Hybrid automatic screw machines, which are known for high-speed, high-volume production. They handle bar stock up to 3/4" (13/16" or 19/32" depending on material shape) and are available in round, hex, and square configurations.

Collets are integral to the versatility of Davenport machines, supporting attachments such as threading, slotting, and drilling.

Application: Used for high-volume machining of parts from 1/16" to 3/4" in diameter.

Types: Standard work collets, oversize collets are available.

Styles:

- Solid Burring Collets
- Solid Extended Nose Collets
- Tap Serration Solid Collets
- Oversized Tap Serration Collets



Compatibility: Essential for 5-spindle Model B automatic screw machines.

Functionality: Designed to work with the high-speed capability (500–4500 RPM) of Davenport lathes.

Just Ask Us!

- Do you have a workholding situation that you need help with?
- Do you have an inventory need?
- Do you have a special size needed?



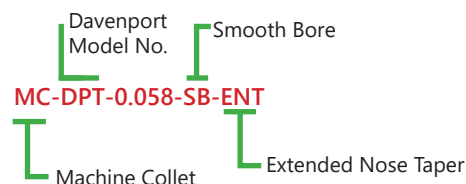
Contact us for unique options on our guide bushings and collets (413) 562-4800

Find What You Need!

[GenSwiss.com Machine Collets and Guide Bushings](#) are listed online to match the Nomenclature listed below.

Nomenclature	
MC - Machine Collet	TS - Tap Serrated
DPT - Davenport	Bore Dia - 0.058
ENT - Extended Nose Taper	SB - Smooth Bore

Example:



GenSwiss Signature Series Micro Inspection V-Blocks

GenSwiss Signatures Series micro inspection v-blocks are a compact solution for holding the round shanks of micro tools and parts during inspection. Each block features precision ground datum surfaces so you can get accurate measurements and no tool or part movement in the block.

- **Special “V” block geometry for excellent hold on round micro parts and tools**
- **Ground datum surfaces for positioning**
- **Can be used on inspection tables and precision surfaces**
- **Holds shanks from 0.5mm to 6.0mm**



GenSwiss Micro Inspection V-Blocks Available from Stock



5540-000486

**V-Block 0.5mm - 1.0mm
Micro Inspection Clamp**



5540-000487

**V-Block 1.0mm - 1.5mm
Micro Inspection Clamp**



5540-000488

**V-Block 1.5mm - 2mm
Micro Inspection Clamp**



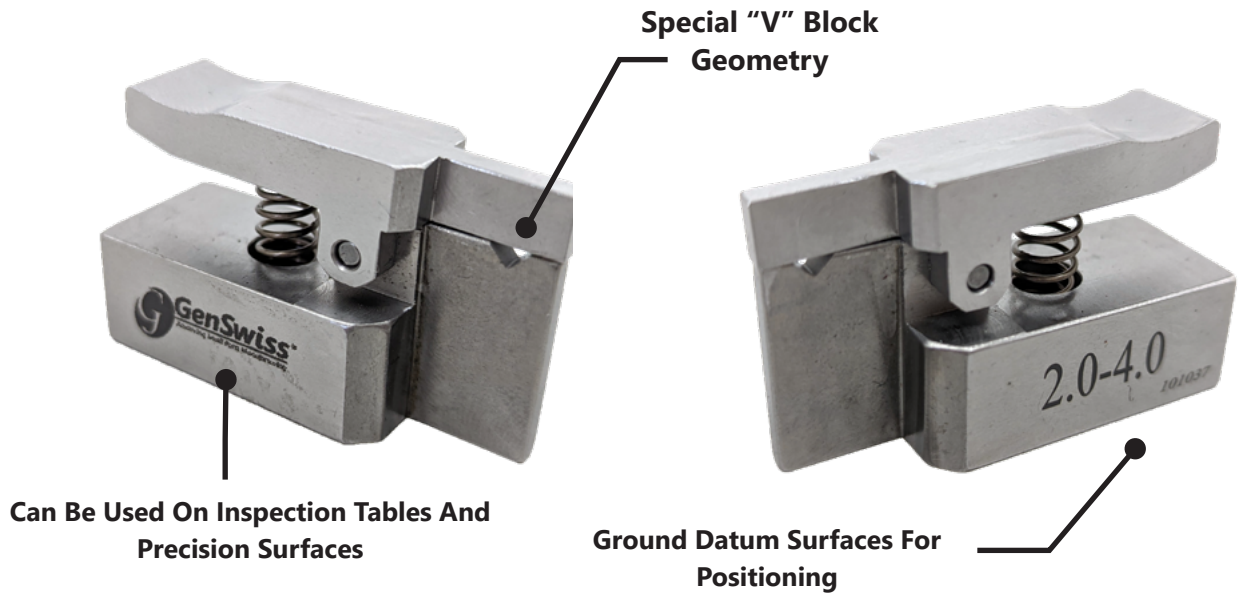
5540-000489

**V-Block 2.0mm - 4.0mm
Micro Inspection Clamp**



5540-000490

**V-Block 4.0mm - 6.0mm
Micro Inspection Clamp**



Item No.	Description	Tool Size Range	Block Size
5540-000486	IMC V-Block 0.5mm - 1.0mm Micro Inspection Clamp	0.5-1.0mm	52x20x31mm
5540-000487	IMC V-Block 1.0mm - 1.5mm Micro Inspection Clamp	1.0-1.5mm	52x20x31mm
5540-000488	IMC V-Block 1.5mm - 2.0mm Micro Inspection Clamp	1.5-2.0mm	52x20x31mm
5540-000489	IMC V-Block 2.0mm - 4.0mm Micro Inspection Clamp	2.0-4.0mm	52x20x31mm
5540-000490	IMC V-Block 4.0mm - 6.0mm Micro Inspection Clamp	4.0-6.0mm	52x20x31mm

IMC V-Block 0.5mm - 1.0mm Micro Inspection Clamp

- GSI Part - 5540-000486
- Tool Size Range - 0.5-1.0mm
- Block Length - 52mm
- Block Width - 20mm
- Block Height - 31mm

IMC V-Block 2.0mm - 4.0mm Micro Inspection Clamp

- GSI Part - 5540-000489
- Tool Size Range - 2.0-4.0mm
- Block Length - 52mm
- Block Width - 20mm
- Block Height - 31mm

IMC V-Block 1.0mm - 1.5mm Micro Inspection Clamp

- GSI Part - 5540-000487
- Tool Size Range - 1.0-1.5mm
- Block Length - 52mm
- Block Width - 20mm
- Block Height - 31mm

IMC V-Block 4.0mm - 6.0mm Micro Inspection Clamp

- GSI Part - 5540-000490
- Tool Size Range - 4.0-6.0mm
- Block Length - 52mm
- Block Width - 20mm
- Block Height - 31mm

IMC V-Block 1.5mm - 2.0mm Micro Inspection Clamp

- GSI Part - 5540-000488
- Tool Size Range - 1.5-2.0mm
- Block Length - 52mm
- Block Width - 20mm
- Block Height - 31mm



Signature Series Ejector Pins

For Most Popular SWISS-CNC Machines

Standard Machining Applications

M10x1.5 to M8x1.25
Adapter For Using
Stand-Alone Ejector Pins With
25 & 32mm Machines

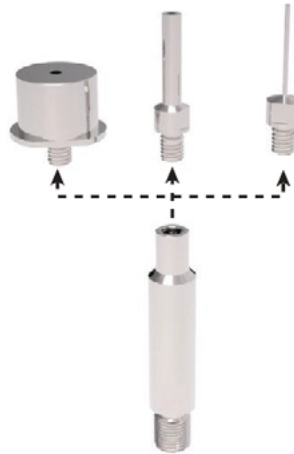
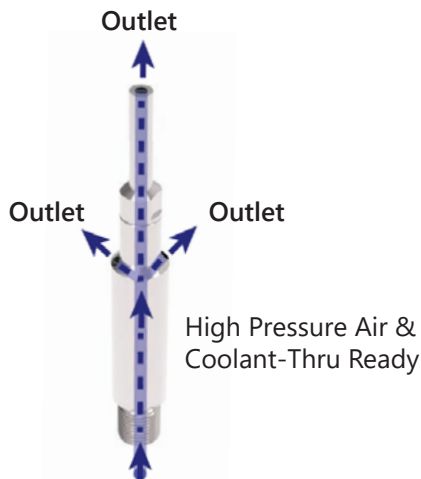


Stand-Alone Ejector Pins

Ejector Pin Bases With
High Pressure Air Or
Coolant-Thru

Interchangeable Tips With High
Pressure Air Or Coolant-Thru

Ejector Pins With High
Pressure Air or Coolant-Thru

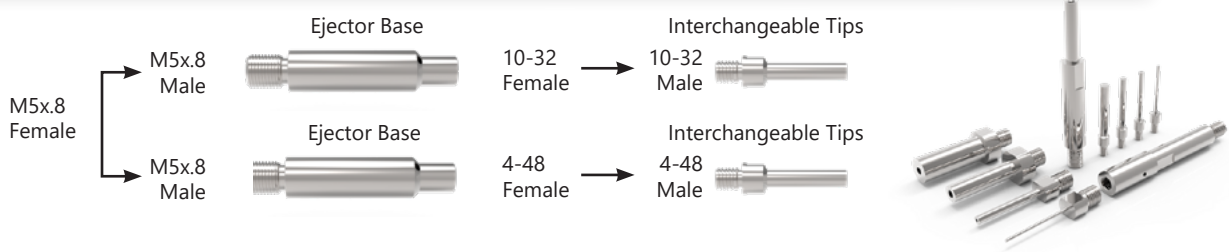


Multiple Tip Sizes For
Different Collet Types & Sizes
Interchangeable Tips Cut Down On
Cost and Reduces Operation Time

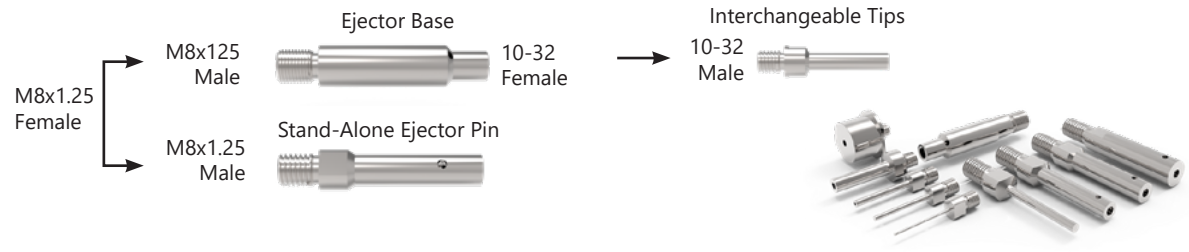
Inlet For High Pressure
Air or Coolant Inlet



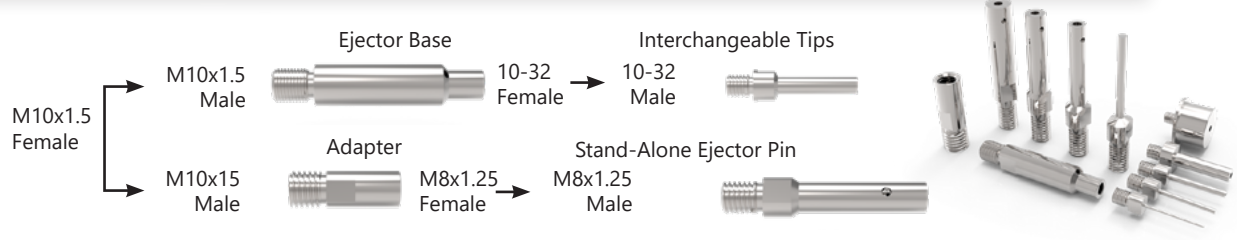
Item No.	Component Type	Diameter	Length	Coolant-Thru
7512-000128	Ejector Base	.160in	1.550in	No
		.310in	1.550in	Yes
		.040in	0.850in	No
		.060in	0.850in	No
	Interchangeable Tips	.090in	0.850in	No
		.120in	0.850in	No
		.040in	1.034in	No
		.093in	1.034in	Yes
		.200in	1.034in	Yes
		.310in	1.034in	Yes



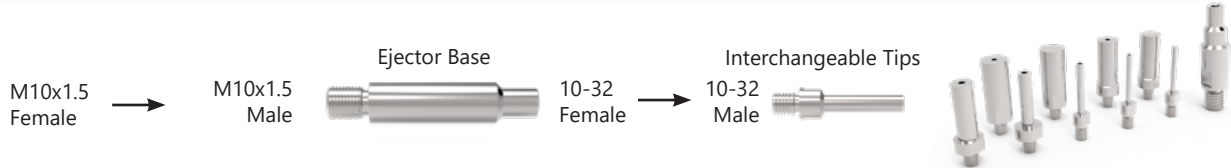
Item No.	Component Type	Diameter	Length	Coolant-Thru
7512-000124	Ejector Base	.276in	1.600in	Yes
		.625in	0.500in	Yes
		.040in	1.034in	No
	Interchangeable Tips	.070in	1.034in	No
		.093in	1.034in	Yes
		.200in	1.034in	Yes
		.120in	1.600in	No
	Stand-Alone Ejectors	.240in	1.600in	Yes
		.300in	1.600in	Yes
		.394in	1.600in	Yes



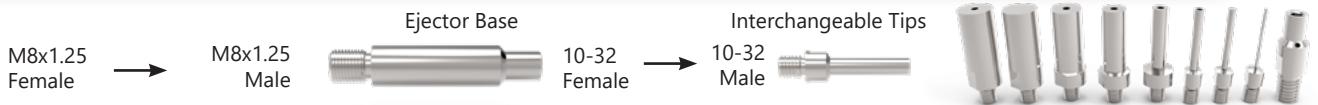
Item No.	Component Type	Diameter	Length	Coolant-Thru
7512-000125	Ejector Base	.276in	1.600in	Yes
		.625in	0.500in	Yes
		.040in	1.034in	No
	Interchangeable Tips	.070in	1.034in	No
		.093in	1.034in	Yes
		.200in	1.034in	Yes
		.120in	1.600in	No
	Stand-Alone Ejectors	.240in	1.600in	Yes
		.300in	1.600in	Yes
		.394in	1.600in	Yes
	Adapter M10-M8	.394in	0.800in	Yes



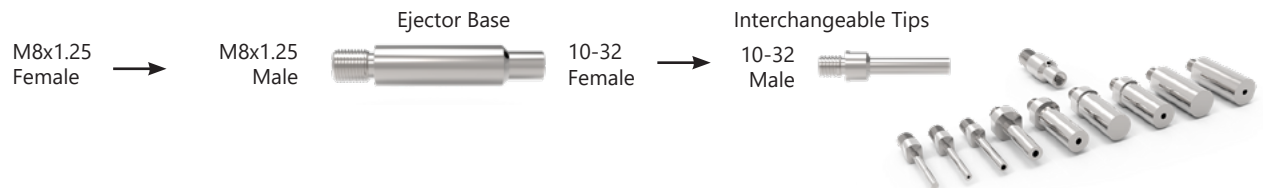
Item No.	Component Type	Diameter	Length	Coolant-Thru
7512-000139	Ejector Base	.275in	1.571in	Yes
	Interchangeable Tips	.093in	1.034in	No
		.093in	1.034in	Yes
		.150in	1.034in	Yes
		.250in	1.034in	Yes
		.310in	1.034in	Yes
		.375in	1.034in	No
		.375in	1.034in	Yes
		.437in	1.034in	No
		.437in	1.034in	Yes



Item No.	Component Type	Diameter	Length	Coolant-Thru
7512-000141	Ejector Base	.276in	0.8in	Yes
	Interchangeable Tips	.093in	1.034in	No
		.120in	1.034in	Yes
		.200in	1.034in	Yes
		.310in	1.034in	Yes
		.375in	1.034in	Yes
		.437in	1.034in	No
		.437in	1.034in	Yes

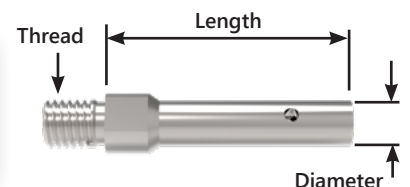


Item No.	Component Type	Diameter	Length	Coolant-Thru
7512-000140	Ejector Base	.276in	0.8in	Yes
	Interchangeable Tips	.093in	1.034in	No
		.093in	1.034in	Yes
		.150in	1.034in	Yes
		.250in	1.034in	Yes
		.310in	1.034in	Yes
		.375in	1.034in	No
		.375in	1.034in	Yes
		.437in	1.034in	No
		.437in	1.034in	Yes



Stand-Alone Ejector Pin Kit

Item No.	Diameter	Length	Coolant-Thru
7512-000136	.120in	1.600in	No
	.240in	1.600in	Yes
	.300in	1.600in	Yes
	.394in	1.600in	Yes



Ejector Base Packs

Pieces	Coolant-Thru	Fits Ejector Tips	Item No.
4	Yes	10-32	7512-000149
4	Yes	10-32	7512-000150
4	Yes	10-32	7512-000151
4	Yes	4-48	7512-000152
4	Yes	10-32	7512-000153
4	Yes	10-32	7512-000154

*Requires tips from kit EJK-CIT12-KIT-A or kit EJK-0448-KIT-A

Tip Packs - Includes 5 Pieces Of A Single Size

Pieces	Diameter	Length	Coolant-Thru	Thread	Item No.
5	.040in	1.034in	No	10-32	7512-000163
5	.070in	1.034in	No	10-32	7512-000162
5	.093in	1.034in	No	10-32	7512-000161
5	.093in	1.034in	Yes	10-32	7512-000164
5	.120in	1.034in	Yes	10-32	7512-000160
5	.150in	1.034in	Yes	10-32	7512-000159
5	.200in	1.034in	Yes	10-32	7512-000158
5	.250in	1.034in	Yes	10-32	7512-000157
5	.310in	1.034in	Yes	10-32	7512-000155
5	.375in	1.034in	No	10-32	7512-000167
5	.375in	1.034in	Yes	10-32	7512-000168
5	.437in	1.034in	No	10-32	7512-000165
5	.437in	1.034in	Yes	10-32	7512-000166
5	.500in	1.034in	Yes	10-32	7512-000169
5	.625in	1.034in	Yes	10-32	7512-000170

Assorted Tip Kits

Pieces	Diameter	Length	Coolant-Thru	Thread	Item No.
4	.040in	.850in	No	4-48	7512-000135
	.060in	.850in	No	4-48	
	.090in	.850in	No	4-48	
	.120in	.850in	No	4-48	
9	.040in	1.034in	No	10-32	7512-000134
	.070in	1.034in	No	10-32	
	.093in	1.034in	No	10-32	
	.093in	1.034in	Yes	10-32	
	.120in	1.034in	Yes	10-32	
	.150in	1.034in	Yes	10-32	
	.200in	1.034in	Yes	10-32	
	.250in	1.034in	Yes	10-32	
13	.310in	1.034in	Yes	10-32	7512-000142
	.040in	1.034in	No	10-32	
	.070in	1.034in	No	10-32	
	.093in	1.034in	No	10-32	
	.375in	1.034in	No	10-32	
	.437in	1.034in	No	10-32	
	.093in	1.034in	Yes	10-32	
	.120in	1.034in	Yes	10-32	
	.150in	1.034in	Yes	10-32	
	.200in	1.034in	Yes	10-32	
	.250in	1.034in	Yes	10-32	
.310in	1.034in	Yes	10-32		
.375in	1.034in	Yes	10-32		
.437in	1.034in	Yes	10-32		

Drill Size Chart

FRACT #SIZE	METRIC (mm)	DECIMAL INCHES
80	0.3429	0.0135
79	0.368	0.0145
(1/64)	0.3969	0.0156
78	0.4064	0.016
77	0.4572	0.018
	0.5	0.0197
76	0.508	0.02
75	0.5334	0.021
74	0.5715	0.0225
73	0.6096	0.024
72	0.635	0.025
71	0.6604	0.026
70	0.7712	0.028
69	0.7417	0.0292
	0.75	0.0295
68	0.7874	0.031
(1/32)	0.7938	0.0312
67	0.8128	0.032
66	0.8382	0.033
65	0.889	0.035
64	0.9144	0.036
63	0.9398	0.037
62	0.9652	0.038
61	0.9906	0.039
	1	0.0394
60	1.016	0.04
59	1.0414	0.041
58	1.0668	0.042
57	1.0922	0.043
56	1.1811	0.0465
(3/64)	1.1906	0.0469
	1.25	0.0492
55	1.3208	0.052
54	1.397	0.055
	1.5	0.0591
53	1.5113	0.0595
(1/16)	1.5875	0.0625
52	1.6129	0.0635
51	1.7018	0.067
	1.75	0.0689
50	1.778	0.07
49	1.8542	0.073
48	1.9304	0.076
(5/64)	1.9844	0.0781
47	1.9939	0.0785
	2	0.0787
46	2.0574	0.081
45	2.0828	0.082
44	2.144	0.086
	2.25	0.0886
43	2.2606	0.089
42	2.3749	0.0935
(3/32)	2.3813	0.0938
41	2.4384	0.096
40	2.4892	0.098
	2.5	0.0984
39	2.5273	0.0995
38	2.5781	0.1015
37	2.6416	0.104
36	2.7051	0.1065

LETTER FRACT #SIZE	METRIC (mm)	DECIMAL INCHES
	2.75	0.1083
(7/64)	2.7781	0.1094
35	2.794	0.11
34	2.8194	0.111
33	2.8702	0.113
32	2.9464	0.116
	3	0.1181
31	3.048	0.12
(1/8)	3.175	0.125
	3.25	0.128
30	3.2639	0.1285
29	3.4544	0.136
	3.5	0.1378
28	3.5687	0.1405
(9/64)	3.5719	0.1406
27	3.6576	0.144
26	3.7973	0.147
	3.75	0.1476
25	3.7973	0.1495
24	3.8608	0.152
23	3.9116	0.154
(5/32)	3.9688	0.1562
22	3.9878	0.157
	4	0.1575
21	4.0386	0.159
20	4.0894	0.161
19	4.2164	0.166
	4.25	0.1673
18	4.3053	0.1695
(11/64)	4.3656	0.1719
17	4.3942	0.173
16	4.4958	0.177
	4.5	0.1772
15	4.572	0.18
14	4.6228	0.182
13	4.699	0.185
	4.75	0.187
(3/16)	4.7625	0.1875
12	4.8006	0.189
11	4.8514	0.191
10	4.9149	0.1935
9	4.9874	0.196
	5	0.1969
8	4.0546	0.199
7	5.1054	0.201
(13/64)	5.1594	0.2031
6	5.1816	0.204
5	5.2197	0.2055
	5.25	0.2067
4	5.3086	0.209
3	5.4102	0.213
	5.5	0.2165
(7/32)	5.5563	0.2188
2	5.6134	0.221
	5.75	0.2264
1	5.7912	0.228
A	5.9436	0.234
(15/64)	5.9531	0.2344
	6	0.2362
B	6.0452	0.238

LETTER/ FRACT SIZE	METRIC (mm)	DEC-IMAL INCHES
C	6.1468	0.242
D	6.2484	0.246
	6.25	0.2461
E (1/4)	6.35	0.25
	6.5	0.2559
F	6.5278	0.257
G	6.6294	0.261
(17/64)	6.7469	0.2656
	6.75	0.2657
H	6.7564	0.266
I	6.9088	0.272
	7	0.2756
J	7.0358	0.277
K	7.1374	0.281
(9/32)	7.1438	0.2812
	7.25	0.2854
L	7.366	0.29
M	7.493	0.295
	7.5	0.2953
(19/64)	7.5406	0.2969
N	7.6708	0.302
	7.75	0.3051
(5/16)	7.9375	0.3125
	8	0.315
O	8.0264	0.316
P	8.2042	0.323
	8.25	0.3248
(21/64)	8.3344	0.3281
Q	8.4328	0.332
	8.5	0.3346
R	8.6106	0.339
(11/32)	8.7316	0.3438
	8.75	0.3445
S	8.8392	0.348
	9	0.3543
T	9.0932	0.358
(23/64)	9.1281	0.3594
	9.25	0.3642
U	9.3472	0.368
	9.5	0.374
(3/8)	9.525	0.375
V	9.5758	0.377
	9.75	0.3839
W	9.8044	0.386
(25/64)	9.9219	0.3906
	10	0.3937
X	10.0838	0.397
Y	10.2616	0.404
(13/32)	10.3188	0.4063
Z	10.4902	0.413
	10.5	0.4134
(27/64)	10.7156	0.4219
	11	0.4331
(7/16)	11.1125	0.4375
	11.5	0.4528
(29/64)	11.5094	0.4531
(15/32)	11.9063	0.4688
	12	0.4724
(31/64)	12.3031	0.4844
	12.5	0.4921

FRACT SIZE	METRIC (mm)	DECIMAL INCHES
(1/2)	12.7	0.5
	13	0.5118
(33/64)	13.0969	0.5156
(17/32)	13.4938	0.5312
	13.5	0.5315
(35/64)	13.8906	0.5469
	14	0.5512
(9/16)	14.2875	0.5625
	14.5	0.5709
(37/64)	14.6844	0.5781
	15	0.5906
(19/32)	15.0813	0.5938
(39/64)	15.4781	0.6094
	15.5	0.6102
(5/8)	15.875	0.625
	16	0.6299
(41/64)	16.2719	0.6406
	16.5	0.6496
(21/32)	16.6687	0.6562
	17	0.6693
(43/64)	17.0656	0.6719
(11/16)	17.4625	0.6875
	17.5	0.689
(45/64)	17.8594	0.7031
	18	0.7087
(23/32)	18.2563	0.7188
	18.5	0.7283
(47/64)	18.6531	0.7344
	19	0.748
(3/4)	19.05	0.75
(49/64)	19.4469	0.7656
	19.5	0.7677
(25/32)	19.8438	0.7813
	20	0.7874
51/64	20.2406	0.7969
	20.5	0.8071
(13/16)	20.6375	0.8125
	21	0.8268
(53/64)	21.0344	0.8281
(27/32)	21.4313	0.8438
	21.5	0.8465
(55/64)	21.8281	0.8594
	22	0.8661
(7/8)	22.225	0.875
	22.5	0.8858
(57/64)	22.6219	0.8906
	23	0.9055
(29/32)	23.0188	0.9062
(21/23)	23.1913	0.913
(59/64)	23.4156	0.9219
	23.5	0.9252
(15/16)	23.8125	0.9375
	24	0.9449
(61/64)	24.2094	0.9531
	24.5	0.9646
(31/32)	24.6063	0.9688
	25	0.9843
(63/64)	25.0031	0.9844
1	25.4	1

www.genswiss.com

Terms & Conditions of Sale

Prices	All prices are in U.S. dollars. Prices are valid for 30 days after quotation, then subject to change. Sales & Use Tax due is the consumer responsibility and payable as State regulations require.
Credit	Credit approval may take several weeks after returning the completed Credit Application and signed Terms & Conditions Agreement. Changes to Genevieve Swiss Industries, Inc. ("GSI") standard Terms and Conditions made by the applicant are grounds for credit denial. GSI reserves the right to change or deny credit at any time based upon late payment or changes to your DNB rating.
Orders	Upon receipt of your purchase order, GSI will provide a sales order confirmation. The customer accepts responsibility to notify GSI of any error or changes that are required.
Cancellation	Order cancellation must be provided to GSI in writing. Cancelled orders are subject to a minimum \$25.00 process fee and a production upcharge depending upon product completion.
Delivery	Product availability is subject to prior order regardless of stock condition at the time of quotation. GSI policy is to partial ship the order if any item is out of stock unless otherwise instructed. The customer is responsible for all shipping charges. The customer accepts responsibility to notify GSI in writing of orders that must ship complete.
Quantity	For special orders, the customer agrees to a delivered quantity +/-10% at the per piece cost.
Blanket Order	At the end of the agreed term, the customer agrees to accept the open balance of the blanket order. Any deviation to this agreement must be in writing by GSI. If GSI agrees to a contract adjustment and where quantity discounts were applied, a change in quantity will affect the price per piece of the complete order. The customer accepts a back charge on any previously shipped quantity.
Payment	Invoices are payable within GSI established terms. Interest will be charge on overdue accounts at 1.5% per month, 18% per annum. Returned checks will incur a \$50 charge. Credit Card payments are due when the item ships. Credit card payments made after 30 days of invoice or later are subject to a 2.75% fee or 1.5% per month at the option of GSI.
Shipping	All freight and packing cost will be paid by the customer and shown separately on the invoice. Shipments will be insured at sale value and included in the shipping cost. A maximum 20% packing fee may be added at the discretion of GSI. Shipments are FOB Westfield Massachusetts.
Warranty	Products are covered by the original manufacturer warranty where applicable. Live Tool Holders are guaranteed by the manufacturer for a period of 12 months or 2000 hours whichever comes first to be free of material defect or poor workmanship. A copy of the manufacturer's full guaranty is available upon request. GSI warrants that its products are free of material defect or poor workmanship ("Defect") for a period of 12 months from delivery. In the event GSI receives written notice of an alleged defect within the warranty period, GSI has a reasonable opportunity to inspect the relevant product and GSI determines that there is a Defect, GSI will repair or replace the product at GSI's option. EXCEPT FOR THE WARRANTY SET FORTH IN THIS SECTION, GSI MAKES NO OTHER WARRANTIES, WHETHER BY STATUTE OR EXPRESS OR IMPLIED, INCLUDING ANY WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, OR THAT THE DESIGN OF THE FINISHED PRODUCT WILL MEET CUSTOMER REQUIREMENTS. ALL OTHER WARRANTIES AS TO THE QUALITY, CONDITION, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE ARE HEREBY EXPRESSLY DISCLAIMED. THE REMEDIES SET FORTH IN THIS SECTION SHALL CONSTITUTE YOUR SOLE AND EXCLUSIVE REMEDIES, AND GSI'S SOLE AND EXCLUSIVE LIABILITY, IN CONNECTION WITH ANY WARRANTY CLAIM ARISING HEREUNDER.
Limitation of Liability	EXCEPT FOR ACTS OF GROSS NEGLIGENCE OR WILLFUL MISCONDUCT, TO THE MAXIMUM EXTENT PERMITTED BY LAW, NEITHER GSI, NOR ITS RESPECTIVE OFFICERS, DIRECTORS, EMPLOYEES, AND AGENTS SHALL BE LIABLE TO CUSTOMER FOR ANY INCIDENTAL, CONSEQUENTIAL, INDIRECT, SPECIAL, RELIANCE OR PUNITIVE DAMAGES OR LOST PROFITS OR OPPORTUNITIES, IRRESPECTIVE OF ANY NOTICE OR ACT CONSTITUTING NOTICE OF THE POSSIBILITY OF ANY SUCH CLAIM. THE AGGREGATE CUMULATIVE LIABILITY THAT GSI SHALL HAVE FOR ANY AND ALL CLAIMS ARISING IN CONNECTION WITH THIS PURCHASE, WHETHER BASED ON CONTRACT, TORT, STRICT OR PRODUCTS LIABILITY, WARRANTY, INFRINGEMENT OR OTHERWISE, SHALL NOT EXCEED ALL PAYMENTS MADE BY CUSTOMER AND RECEIVED BY GSI UNDER CUSTOMER'S ORDER.
Returns	We will replace or accept for return items that are not what was ordered or are found to be defective. Claims must be submitted within 30 days and will not be accepted without an approved GSI Return Authorization Form. Items must be returned in new condition and properly packaged. Returned items that are damaged, used or are missing parts may be refused for return or subject to repair charges and restocking fee. Items returned without cause will incur a \$25.00 process fee and or up to 20% restocking charge. No credit will be issued for items returned after 90 days. Special orders cannot be returned. Any credit due will be issued as a merchandise credit and applied towards future purchases.
Collection	In the event of non-payment within the terms, the customer will be responsible for all costs of collection including, but not limited to, attorneys' fees incurred by GSI in connection with any delinquent account.
Disputes	This Agreement and dispute arising from or related to this Agreement, the sale of goods or any other transactions between the parties shall be governed exclusively by Massachusetts law. Any court action by either party shall be brought exclusively in the appropriate state or federal court in Hampden County, Massachusetts. The customer hereby agrees to submit to the jurisdiction of such court.

I understand the terms and conditions set forth by Genevieve Swiss Industries, Inc. and agree to the conditions in whole as they are stated above in exchange for the goods and service rendered from Genevieve Swiss Industries, Inc. No amendment or modification of these terms and conditions is effective unless agreed to in writing by an officer of Genevieve Swiss Industries, Inc.



TOOLING FOR SWISS-TYPE CNC MACHINES



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