Precision Sync ER Tapping System

Reduce Tap Wear and Extend your Tap Life

- Compensates for synchronization errors in the tap cycle
- Minimal length compensation in both Tension and Compression compensates for small pitch differences between the spindle and tap reducing friction on the tap flanks
- Increases tap life at least 30%
- For tapping speeds up to 15,000 RPM's
- For use in Left or Right hand applications
- Coolant Thru, for use up to 1,500 PSI
- Compact Design with Modular Shank options to fit many machine spindles

Coolant Thru Tapping with Precision Sync

The holder is designed for coolant thru the center. To see the tap shank use a coolant cap matching the tap shank size to create the seal.

Required (each sold separately)

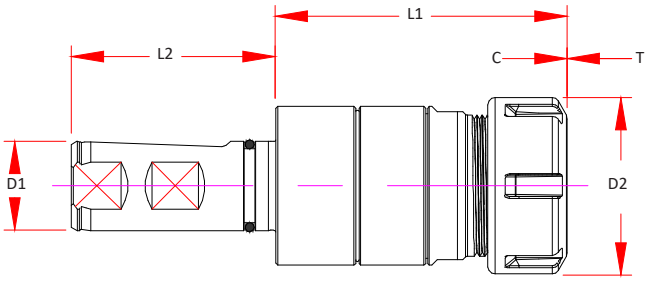
- Holder
- Coolant Cap Nut (page 28)
- Coolant Cap (page 28-29)
- Tap Collet (page 26-27)

Please note the coolant tap shank must be long enough for the coolant deal to make contact on the full round diameter, tap flutes cannot enter the cap.

Precision Sync Tapping ER Straight Shank

Features

- Coolant Thru, for use up to 1,500 PSI
- Compensates for synchronization errors in the tap cycle
- Minimal length compensation in both Tension and Compression compensates for small pitch differences between the spindle and tap reducing friction on the tap flanks

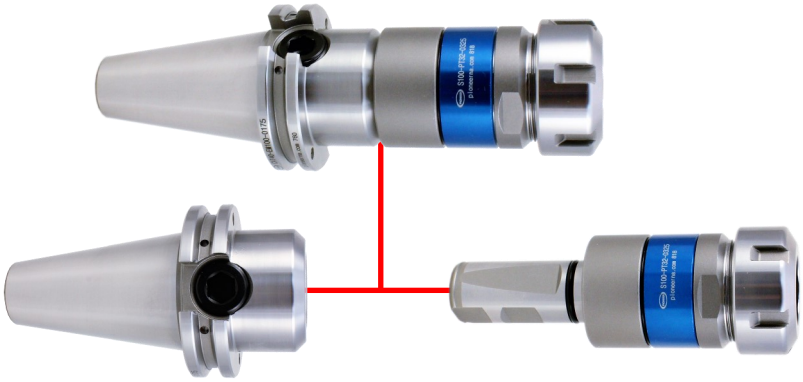


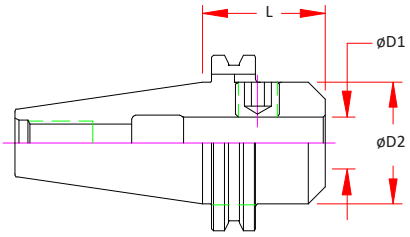
Part Number	Collet Type	D1	D2	L1	L2	C	T	Wrench
S100-PT20-0268	ER20	1.00	1.34	2.79	2.28	0.02	0.02	ERW-20HEX
S100-PT32-0325	ER32	1.00	1.97	3.25	2.28	0.02	0.02	ERW-32E

Modular Taper Assembly

Features

- Coolant Thru, for use up to 1,500 PSI
  DIN B flange coolant available in some models
- For Total Projection:
  Add "L" from chart below with "L1" from chart above
- Longer projections available see EM section of the catalog





Part Number	Spindle Type	D1	D2	L
BT30-EM100-0275	Standard	1.000	2.00	2.75
DBT30-EM100-0275	Dual Contact		2.00	2.75
BT40-EM100-0200	Standard		2.00	2.00
DBT40-EM100-0200	Dual Contact		2.00	2.00
CAT40-EM100-0175	Standard		1.75	1.75
DCAT40-EM100-0175	Dual Contact		1.75	1.75
CAT50-EM100-0162	Standard		2.75	1.62
DCAT50-EM100-0162	Dual Contact		2.75	1.62
HSK 63A-EM100-0400	Standard		2.00	4.00
HSK100A-EM100-0400	Standard		2.00	4.00

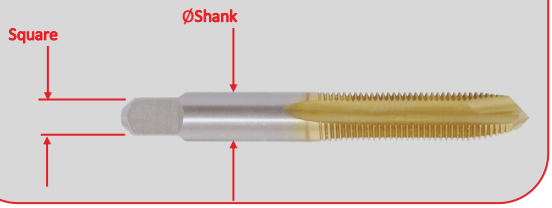
ER Rigid Tap Collets - ANSI

Features

Special design locks tap flats into the collet slots preventing the tap from spinning inside the collet.

- ANSI Shank and Square Standard

Note:
Due to Multiple Standards for Metric Taps, the actual shank and square must be supplied to verify compatibility.



øShank	Square	Tap Size	TER16U	TER20U	TER25U	TER32U	TER40U
0.141	0.110	#6	TER16U-141	TER20U-141	TER25U-141	TER32U-141	TER40U-141
0.168	0.131	#8	TER16U-168	TER20U-168	TER25U-168	TER32U-168	TER40U-168
0.194	0.152	#10	TER16U-194	TER20U-194	TER25U-194	TER32U-194	TER40U-194
0.220	0.165	#12	TER16U-220	TER20U-220	TER25U-220	TER32U-220	TER40U-220
0.255	0.191	1/4"	TER16U-255	TER20U-255	TER25U-255	TER32U-255	TER40U-255
0.318	0.238	5/16"	TER16U-318	TER20U-318	TER25U-318	TER32U-318	TER40U-318
0.323	0.242	7/16"	TER16U-323	TER20U-323	TER25U-323	TER32U-323	TER40U-323
0.367	0.275	1/2"	TER16U-367	TER20U-367	TER25U-367	TER32U-367	TER40U-367
0.381	0.286	3/8"	TER16U-381	TER20U-381	TER25U-381	TER32U-381	TER40U-381
0.429	0.322	9/16"			TER25U-429	TER32U-429	TER40U-429
0.437	0.328	1/8" NPT			TER25U-437	TER32U-437	TER40U-437
0.480	0.360	5/8"			TER25U-480	TER32U-480	TER40U-480
0.542	0.406	11/16"				TER32U-542	TER40U-542
0.562	0.421	1/4" NPT				TER32U-562	TER40U-562
0.590	0.442	3/4"				TER32U-590	TER40U-590
0.652	0.489	13/16"				TER32U-652	TER40U-652
0.687	0.515	1/2" NPT					TER40U-687
0.697	0.523	7/8"					TER40U-697
0.700	0.531	3/8" NPT					TER40U-700
0.760	0.570	15/16"					TER40U-760
0.800	0.600	1"					TER40U-800

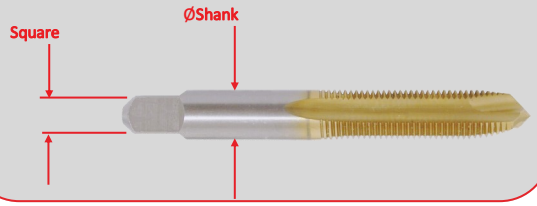
ER Rigid Tap Collets - DIN

Features

Special design locks tap flats into the collet slots preventing the tap from spinning inside the collet.

- DIN Shank and Square Standard

Note:
Due to Multiple Standards for Metric Taps, the actual shank and square must be supplied to verify compatibility.



øShank	Inch	Square	Inch	TER16D	TER20D	TER25D	TER32D	TER40D
3.5	0.138	2.7	0.106	TER16D-035		TER25D-035		
4.0	0.157	3.0	0.118	TER16D-040	TER20D-040	TER25D-040		
4.5	0.177	3.4	0.134	TER16D-045	TER20D-045	TER25D-045	TER32D-045	
5.5	0.217	4.3	0.169	TER16D-055	TER20D-055	TER25D-055	TER32D-055	
6.0	0.236	4.9	0.193	TER16D-060	TER20D-060	TER25D-060	TER32D-060	TER40D-060
7.0	0.276	5.5	0.217	TER16D-070	TER20D-070	TER25D-070	TER32D-070	TER40D-070
8.0	0.315	6.2	0.244	TER16D-080	TER20D-080	TER25D-080	TER32D-080	TER40D-080
9.0	0.354	7.0	0.276	TER16D-090	TER20D-090	TER25D-090	TER32D-090	TER40D-090
10.0	0.394	8.0	0.315	TER16D-100	TER20D-100	TER25D-100	TER32D-100	TER40D-100
11.0	0.433	9.0	0.354			TER25D-110	TER32D-110	TER40D-110
12.0	0.472	9.0	0.354			TER25D-120	TER32D-120	TER40D-120
14.0	0.551	11.0	0.433			TER25D-140	TER32D-140	TER40D-140
16.0	0.630	12.0	0.472			TER25D-160	TER32D-160	TER40D-160
18.0	0.709	14.5	0.571				TER32D-180	TER40D-180
20.0	0.787	16.0	0.630				TER32D-200	TER40D-200
22.0	0.866	18.0	0.709					TER40D-220

ER Coolant Cap Collet Nuts

Features

- For coolant pressures up to 1,500 PSI.
- Fits standard ER collet chucks.
- Jet-Blast Caps Available Upon Request
- Uses SX Coolant Caps below and on the following page.
- Designed for use with standard ER collets

Nut Part Number	Description	Nut Diameter	Coolant Cap	Wrench Part Number	Thread	Max. Torque
ERN11-CC	ER 11 Nut - Hex	0.787 / 20mm	SXC06	ERW-11H	M14 x 0.75	18 ft/lbs Max
ERN16-CC	ER 16 Nut - Hex	1.102 / 28mm	SXC10	ERW-16H	M22 x 1.50	40 ft/lbs Max
ERN20-CC	ER 20 Nut - Hex	1.338 / 34mm	SXC16	ERW-20H	M25 x 1.50	60 ft/lbs Max
ERN25-CC	ER 25 Nut - E Type	1.654 / 42mm	SXC16	ERW-25	M32 x 1.50	75 ft/lbs Max
ERN32-CC	ER 32 Nut - E Type	1.969 / 50mm	SXC25	ERW-32	M40 x 1.50	100 ft/lbs Max
ERN40-CC	ER 40 Nut - E Type	2.480 / 63mm	SXC25	ERW-40	M50 x 1.50	125 ft/lbs Max

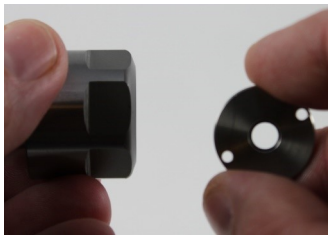
ER Coolant Caps - Inch

w/ Jet-Blast Option

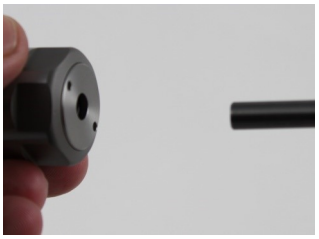
Features

- O-ring seal for pressures up to 1500 PSI
- Prevents chips, dust & swarf from entering the holder
- Seal range +0 / -.50mm (+0 / -.020")
- Requires Coolant Cap Nut (See Previous Page)
- Jet Slot Available, Order by adding a "J" to the end of the Cap part number

Inch Shank		ER11	ER 16	ER 20	ER 25	ER 32	ER 40
1/8	0.1250	SXC06-0125	SXC10-0125	SXC16-0125	SXC16-0125	SXC25-0125	SXC25-0125
3/16	0.1875	SXC06-0187	SXC10-0187	SXC16-0187	SXC16-0187	SXC25-0187	SXC25-0187
1/4	0.2500	SXC06-0250	SXC10-0250	SXC16-0250	SXC16-0250	SXC25-0250	SXC25-0250
5/16	0.3125		SXC10-0312	SXC16-0312	SXC16-0312	SXC25-0312	SXC25-0312
3/8	0.3750		SXC10-0375	SXC16-0375	SXC16-0375	SXC25-0375	SXC25-0375
7/16	0.4375			SXC16-0437	SXC16-0437	SXC25-0437	SXC25-0437
1/2	0.5000			SXC16-0500	SXC16-0500	SXC25-0500	SXC25-0500
9/16	0.5625				SXC16-0562	SXC25-0562	SXC25-0562
5/8	0.6250				SXC16-0625	SXC25-0625	SXC25-0625
3/4	0.7500					SXC25-0750	SXC25-0750
7/8	0.8750						SXC25-0875
1"	1.0000						SXC25-M254



Thread Coolant Cap into ER nut, snug with wrench after the collet has been assembled.



Insert cutting tool with the seal engaged on the round part of the shank

ER Coolant Caps - Metric

Features

- O-ring seal for pressures up to 1500 PSI
- Prevents chips, dust & swarf from entering the holder
- Seal range +0 / -.50mm (+0 / -.020")
- Requires Coolant Cap Nut (See Previous Page)
- Jet Slot Available, Order by adding a "J" to the end of the Cap part number

Range	Inch	ER11	ER 16	ER 20	ER 25	ER 32	ER 40
1.0 - 0.7mm	1/32	SXC06-M010	SXC10-M010				
1.5 - 1.2mm	3/64	SXC06-M015	SXC10-M015				
2.0 - 1.5mm	1/16	SXC06-M020	SXC10-M020				
2.5 - 2.0mm	3/32	SXC06-M025	SXC10-M025				
3.0 - 2.5mm	7/64	SXC06-M030	SXC10-M030	SXC16-M030	SXC16-M030	SXC25-M030	SXC25-M030
3.5 - 3.0mm	1/8"	SXC06-M035	SXC10-M035	SXC16-M035	SXC16-M035	SXC25-M035	SXC25-M035
4.0 - 3.5mm	5/32"	SXC06-M040	SXC10-M040	SXC16-M040	SXC16-M040	SXC25-M040	SXC25-M040
4.5 - 4.0mm	11/64"	SXC06-M045	SXC10-M045	SXC16-M045	SXC16-M045	SXC25-M045	SXC25-M045
5.0 - 4.5mm	3/16"	SXC06-M050	SXC10-M050	SXC16-M050	SXC16-M050	SXC25-M050	SXC25-M050
5.5 - 5.0mm	13/64"	SXC06-M055	SXC10-M055	SXC16-M055	SXC16-M055	SXC25-M055	SXC25-M055
6.0 - 5.5mm	7/32"	SXC06-M060	SXC10-M060	SXC16-M060	SXC16-M060	SXC25-M060	SXC25-M060
6.5 - 6.0mm	1/4"		SXC10-M065	SXC16-M065	SXC16-M065	SXC25-M065	SXC25-M065
7.0 - 6.5mm	17/64"		SXC10-M070	SXC16-M070	SXC16-M070	SXC25-M070	SXC25-M070
7.5 - 7.0mm	9/32"		SXC10-M075	SXC16-M075	SXC16-M075	SXC25-M075	SXC25-M075
8.0 - 7.5mm	5/16"		SXC10-M080	SXC16-M080	SXC16-M080	SXC25-M080	SXC25-M080
8.5 - 8.0mm	21/64"		SXC10-M085	SXC16-M085	SXC16-M085	SXC25-M085	SXC25-M085
9.0 - 8.5mm	11/32"		SXC10-M090	SXC16-M090	SXC16-M090	SXC25-M090	SXC25-M090
9.5 - 9.0mm	3/8"		SXC10-M095	SXC16-M095	SXC16-M095	SXC25-M095	SXC25-M095
10.0 - 9.5mm	25/64"		SXC10-M100	SXC16-M100	SXC16-M100	SXC25-M100	SXC25-M100
10.5 - 10.0mm	13/32"			SXC16-M105	SXC16-M105	SXC25-M105	SXC25-M105
11.0 - 10.5mm	27/64"			SXC16-M110	SXC16-M110	SXC25-M110	SXC25-M110
11.5 - 11.0mm	7/16"			SXC16-M115	SXC16-M115	SXC25-M115	SXC25-M115
12.0 - 11.5mm	15/32"			SXC16-M120	SXC16-M120	SXC25-M120	SXC25-M120
12.5 - 12.0mm	31/64"			SXC16-M125	SXC16-M125	SXC25-M125	SXC25-M125
13.0 - 12.5mm	1/2"			SXC16-M130	SXC16-M130	SXC25-M130	SXC25-M130
13.5 - 13.0mm	17/32"				SXC16-M135	SXC25-M135	SXC25-M135
14.0 - 13.5mm	35/64"				SXC16-M140	SXC25-M140	SXC25-M140
14.5 - 14.0mm	9/16"				SXC16-M145	SXC25-M145	SXC25-M145
15.0 - 14.5mm	37/64"				SXC16-M150	SXC25-M150	SXC25-M150
15.5 - 15.0mm	19/32"				SXC16-M155	SXC25-M155	SXC25-M155
16.0 - 15.5mm	5/8"				SXC16-M160	SXC25-M160	SXC25-M160
16.5 - 16.0mm	41/64"					SXC25-M165	SXC25-M165
17.0 - 16.5mm	21/32"					SXC25-M170	SXC25-M170
17.5 - 17.0mm	11/16"					SXC25-M175	SXC25-M175
18.0 - 17.5mm	45/64"					SXC25-M180	SXC25-M180
18.5 - 18.0mm	23/32"					SXC25-M185	SXC25-M185
19.0 - 18.5mm	3/4"					SXC25-M190	SXC25-M190
19.5 - 19.0mm	49/64"					SXC25-M195	SXC25-M195
20.0 - 19.5mm	25/32"					SXC25-M200	SXC25-M200
20.5 - 20.0mm	51/64"						SXC25-M205
21.0 - 20.5mm	13/16"						SXC25-M210
21.5 - 21.0mm	27/32"						SXC25-M215
22.0 - 21.5mm	55/64"						SXC25-M220
22.5 - 22.0mm	7/8"						SXC25-M225
23.0 - 22.5mm	29/32"						SXC25-M230
23.5 - 23.0mm	59/64"						SXC25-M235
24.0 - 23.5mm	15/16"						SXC25-M240
24.5 - 24.0mm	61/64"						SXC25-M245
25.0 - 24.5mm	31/32"						SXC25-M250
25.4 - 25.0mm	1"						SXC25-M254

Wrenches

Hex

For Torque Values see page 140

Nut Size	Metric	Type	Works On	Part Number	Drive	Torque Wrench Head #
1.18	30.0	Hex (Open End)	ER20H	WRENCH ERW-20 HEX	0.500	TWSQ050-H30

E Type

For Torque Values see page 140

Nut Size	Metric	Type	Works On	Part Number	Drive	Torque Wrench Head #
1.97	50.0	E Type	ERN32	WRENCH ERW-32 E	0.500	TWSQ050-ER32E

Nut Size	Metric	Type	Works On	Part Number
0.07	1.9	PIN SPANNER	COOLANT CAP	WRENCH SXW-CC