

HIGH PERFORMANCE TAPPING SOLUTIONS

SCM

TAPPING SOLUTIONS





TAPPING SOLUTIONS

www.scmtappingsolutions.com

History S.C.M. was founded in 1972, in Murisengo, Italy by Angelo and Eugenio Masoero, brothers who built and patented a rapid change chuck for tapping with an incorporated safety clutch, which was particularly suited to the machine tools used in that period. Over the years the company has broadened its production range and the technology has developed according to the machine tools our products are used on. S.C.M. obtained ISO 9001 Certification in 2000 and Vision 2000 certification in 2003. S.C.M. provides advanced engineering capabilities with efficient machining practices coupled with an effective marketing program that is present in all of the most industrialized countries of the world. S.C.M. is still family owned and operated in Murisengo, Italy today. In 2001 a partnership was formed between S.C.M. and EuroLink to offer products throughout North America under the name SCM-America.



Safety Warning SCM-America products are engineered and manufactured with safety in mind. The heat treat specifications exceed or meet all standards. All of the products manufactured by SCM-America are designed to perform without any undue safety issues when caution, common sense and proper safety practices are followed. The use of cutting tools and toolholders is safe when proper application and protection guidelines are observed. Even when these proper precautions are taken, it is possible that fragments of a cutting tool, cutting material, or holding device may be thrown at a very high rate of speed and have potential to cause severe bodily harm. It is imperative that general safety precautions and safety glasses be used at all times.

Terms & Conditions Net 30 days. Prices Subject to change without notice. **Delivery** All shipments are F.O.B. Mt. Vernon, Ohio USA **Claims** All claims must be made within five (5) days from the receipt of the merchandise. Please submit shortage and/or damage claims request with shipper and invoice number to expedite the claim settlement. Damages incurred with commercial shipments must be claimed from the common carrier. **Return Policy** In order to process a return a request for a RGA# must be made from our North American offices in Mt. Vernon, Ohio. Items shipped back without the RGA# identified on the outside of the box will be refused for delivery. A copy of the original invoice must accompany the merchandise in the package. Returns must be shipped back prepaid freight unless we erred in filling your order. Non-stock items and special sale items will not be accepted for return under any condition. We reserve the right to inspect and determine if the item has been abused or misused. If the item can not be returned to stock and sold in new condition we will not accept the return. All returns are subject to a 20% restocking charge.



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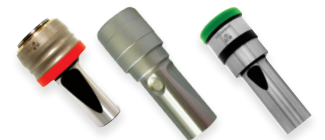
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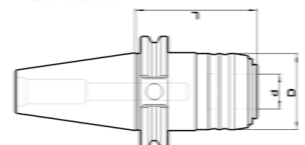
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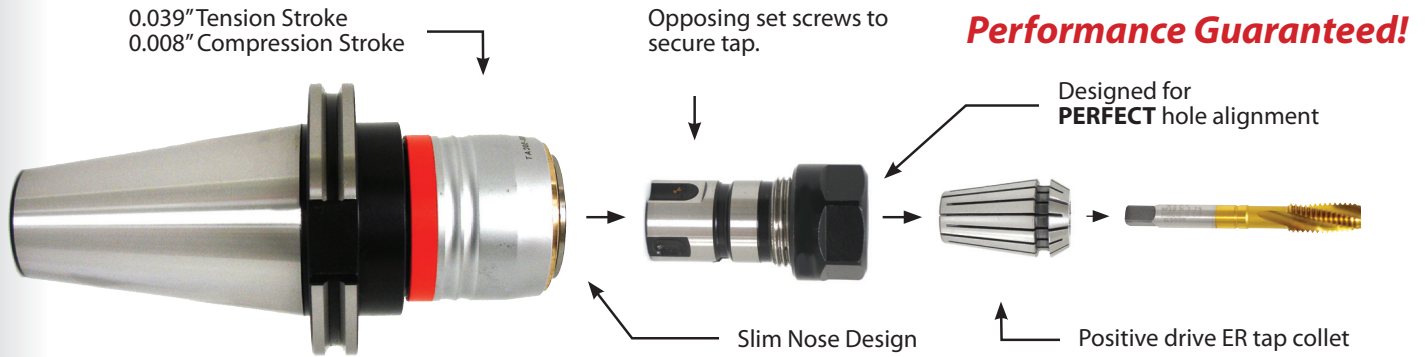
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SYNCROLIZE CHUCKS

CAT, CAT Form B, BT, Straight, HSK Shank



Designed for today's high performance machinery

WHEN TO USE

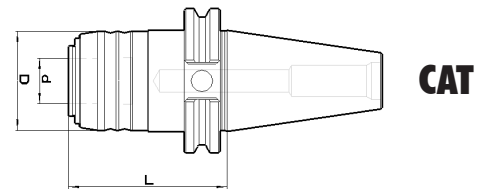
- On machines that are capable and have the programming for synchronous tapping
- When using high performance, coated and carbide taps

WHY USE?

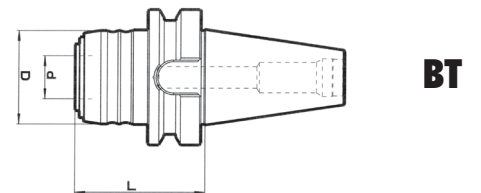
- The CNC machine synchronizes tap rotation and machine feed according to the pitch of the tap.
- When the tap is reversing, high stresses are produced on the 1st full thread of the tap. Rigid holders cannot compensate for these stresses.
- The Syncrolize system has 0.008" of compensation in compression and 0.039" of compensation in tension.

BENEFITS

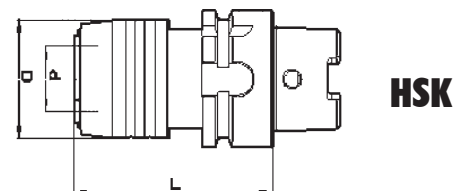
- Higher quality threads
- No tapped holes out of tolerance
- Increased tool life
- Less time spent changing tools
- Less time spent inspecting



CAT



BT



HSK

Size 1	Size 2	Size 3
#0 - 1/2"	3/8" - 3/4"	5/8" - 1 1/4"
M1.6 - M12	M10 - M18	M10 - M25
ER 16	ER 25	ER 40

EDP	Part Number	Shank	Nose Diameter (D)	Gage Length (L)	Compensation		Size	Collet Size	Quick Change Collet Chucks
					Tension	Compression			
CAT Shank									
13004B	23400-40CAT	CAT40	1.732"	2.756"	0.039"	0.008"	1	ER16	23410-ER16
13005B	23400-50CAT	CAT50	1.732"	2.756"	0.039"	0.008"	1	ER16	23410-ER16
13013B	23600-40CAT	CAT40	2.362"	3.543"	0.039"	0.008"	2	ER25	23610-ER25
13014B	23600-50CAT	CAT50	2.362"	3.543"	0.039"	0.008"	2	ER25	23610-ER25
13320B	23800-50CAT	CAT50	3.425"	4.528"	0.039"	0.008"	3	ER40	23810-ER40
CAT Shank Form B <i>Coolant thru the flange</i>									
13040B	23400-40CAT-B	CAT40	1.732"	2.756"	0.039"	0.008"	1	ER16	23410-ER16
13041B	23600-40CAT-B	CAT40	2.362"	3.543"	0.039"	0.008"	2	ER25	23610-ER25
BT Shank									
13034B	23400-30BT	BT30	1.693"	2.087"	0.039"	0.008"	1	ER16	23410-ER16
13006B	23400-40BT	BT40	1.693"	2.402"	0.039"	0.008"	1	ER16	23410-ER16
13007B	23400-50BT	BT50	1.693"	2.835"	0.039"	0.008"	1	ER16	23410-ER16
13015B	23600-40BT	BT40	2.362"	3.228"	0.039"	0.008"	2	ER25	23610-ER25
13016B	23600-50BT	BT50	2.362"	3.821"	0.039"	0.008"	2	ER25	23610-ER25
13321B	23800-50BT-B	BT50	3.425"	4.881"	0.039"	0.008"	3	ER40	23810-ER40
Straight Shank									
13008B	23400-INC1	1"	1.693"	1.378"	0.039"	0.008"	1	ER16	23410-ER16
13017B	23600-INC1	1"	2.323"	2.205"	0.039"	0.008"	2	ER25	23610-ER25
HSK Shank									
13000B	23400-H40A	HSK40	1.693"	2.717"	0.039"	0.008"	1	ER16	23410-ER16
13020B	23400-H40E	HSK40	1.693"	2.717"	0.039"	0.008"	1	ER16	23410-ER16
13001B	23400-H50A	HSK50	1.693"	2.756"	0.039"	0.008"	1	ER16	23410-ER16
13021B	23400-H50E	HSK50	1.693"	2.756"	0.039"	0.008"	1	ER16	23410-ER16
13002B	23400-H63A	HSK63	1.693"	2.520"	0.039"	0.008"	1	ER16	23410-ER16
13022B	23400-H63E	HSK63	1.693"	2.520"	0.039"	0.008"	1	ER16	23410-ER16
13003B	23400-H100A	HSK100	1.693"	2.756"	0.039"	0.008"	1	ER16	23410-ER16
13009B	23600-H40A	HSK40	2.362"	3.543"	0.039"	0.008"	2	ER25	23610-ER25
13023B	23600-H40E	HSK40	2.362"	3.543"	0.039"	0.008"	2	ER25	23610-ER25
13010B	23600-H50A	HSK50	2.362"	3.819"	0.039"	0.008"	2	ER25	23610-ER25
13024B	23600-H50E	HSK50	2.362"	3.819"	0.039"	0.008"	2	ER25	23610-ER25
13011B	23600-H63A	HSK63	2.362"	3.819"	0.039"	0.008"	2	ER25	23610-ER25
13025B	23600-H63E	HSK63	2.362"	3.819"	0.039"	0.008"	2	ER25	23610-ER25
13012B	23600-H100A	HSK100	2.362"	3.583"	0.039"	0.008"	2	ER25	23610-ER25
13090B	23800-H100A	HSK100A	3.425"	4.528"	0.039"	0.008"	3	ER40	23810-ER40
Polygonal Shank									
13050B	23400-C63	C63	2.480"	2.244"	0.039"	0.008"	1	ER16	23410-ER16
13080B	23600-C63	C63	2.480"	3.031"	0.039"	0.008"	2	ER25	23610-ER25
KM63									
13060B	23400-KM63	KM63	1.692"	2.283"	0.039"	0.008"	1	ER16	23410-ER16
13082B	23600-KM63	KM63	2.362"	3.071"	0.039"	0.008"	2	ER25	23610-ER25
KM63-Mazak									
13070B	23400-KM63M	KM63M	1.692"	2.283"	0.039"	0.008"	1	ER16	23410-ER16

SYNCROLIZE ACCESSORIES

EXTENSIONS & QUICK CHANGE COLLETS



Extension System

EDP	Part Number	Extension Length	Size
-----	-------------	------------------	------

ER Terminal

13103B	42147/ER16	1.969"	1
13107B	42247/ER25	3.110"	2
13304B	42347/ER40	3.661"	3

Extension

13101B	42150/25	0.984"	1
13102B	42150/50	1.969"	1
13105B	42250/50	1.969"	2
13106B	42250/100	3.937"	2
13300B	42350/100	3.937"	3

Tap Adapter Body

13100B	23411-MOD	0.197"	1
13104B	23611-MOD	0.276"	2
13303B	23811-MOD	0.078"	3

EDP	Part Number	Collet Size	Syncrolized Size
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Syncrolize Coolant Sealed Nut Size 1 ER16

13128A	9134.16.28	ER16	1
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Syncrolize Coolant Sealed Nut Size 2 ER25

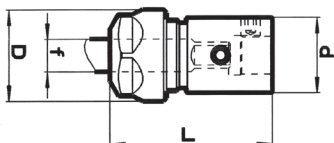
13129A	9134.25.42	ER25	2
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EDP	Part Number	Collet Size	(L)	Nose Ø
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Quick Change Collets

13600A	23410-ER16	ER16	0.945"	1.102"
13602A	23610-ER25	ER25	1.102"	1.654"
14415A	23810-ER40	ER40	1.260"	2.480"



Syncrolize Coolant Sealed Rings

Inch	Metric	ID	Size 1 - ER16		Size 2 - ER25	
			EDP	Part Number	EDP	Part Number
#0-6	M1.6-M3.5	0.141"	13112A	9810.16.141		
#8	M4	0.168"	13113A	9810.16.168		
#10	M5	0.194"	13114A	9810.16.194		
#12	--	0.220"	13115A	9810.16.220		
1/4"	M6	0.255"	13116A	9810.16.255		
5/16"	M7-M8	0.318"	13117A	9810.16.318		
3/8"	M10	0.381"	13118A	9810.16.381	13121A	9810.25.381
7/16"	M11	0.323"	13117A	9810.16.318	13122A	9810.25.323
1/2"	M12	0.367"	13120A	9810.16.367	13123A	9810.25.367
9/16"	M14	0.429"			13124A	9810.25.429
5/8"	M16	0.480"			13125A	9810.25.480
1 1/16"	M18	0.542"			13126A	9810.25.542
3/4"	--	0.590"			13127A	9810.25.590

STANDARD, COOLANT THRU & POSITIVE DRIVE



ER Collets DIN 6499			Size 1 - ER16 #0 - 1/2" Range				Size 2 - ER25 3/8" - 3/4" Range				Size 3 - ER40 5/8" - 1 1/4" Range			
			Standard		Coolant Thru		Standard		Coolant Thru		Standard		Coolant Thru	
Inch Tap	Metric Tap	Tap Shank Diameter	EDP	Part Number	EDP	Part Number	EDP	Part Number	EDP	Part Number	EDP	Part Number	EDP	Part Number
#0-6	M1.6-M3.5	0.141"	13801A	9010.16.04	13872A	9010.16.04TR								
#8	M4	0.168"	13802A	9010.16.05	13873A	9010.16.04TR								
#10	M5	0.194"	13802A	9010.16.05	13873A	9010.16.04TR								
#12	--	0.220"	13803A	9010.16.06	13874A	9010.16.06TR								
1/4"	M6	0.255"	13804A	9010.16.07	13875A	9010.16.07TR								
5/16"	M7, M8	0.318"	13806A	9010.16.09	13877A	9010.16.09TR								
3/8"	M10	0.381"	13807A	9010.16.10	13878A	9010.16.10TR	13812A	9010.25.10	13908A	9010.25.10TR				
7/16"	M10	0.323"					13811A	9010.25.09	13907A	9010.25.09TR				
1/2"	M12	0.367"					13812A	9010.25.10	13908A	9010.25.10TR				
9/16"	M14	0.429"					13813A	9010.25.11	13909A	9010.25.11TR				
5/8"	M16	0.480"					13815A	9010.25.13	13911A	9010.25.13TR	13847A	9010.40.13	13950A	9010.40.13TR
1 1/16"	M18	0.542"					13816A	9010.25.14	13912A	9010.25.14TR	13848A	9010.40.14	13951A	9010.40.14TR
3/4"	--	0.590"					13817A	9010.25.15	13913A	9010.25.15TR	13849A	9010.40.15	13952A	9010.40.15TR
13/16"	M20	0.652"									13851A	9010.40.17	13954A	9010.40.17TR
7/8"	M22	0.697"									13852A	9010.40.18	13955A	9010.40.18TR
15/16"	M24	0.760"									13854A	9010.40.20	13957A	9010.40.20TR
1"	M25	0.800"									13855A	9010.40.21	13958A	9010.40.21TR
1 1/8"	--	0.896"									13857A	9010.40.23	13960A	9010.40.23TR
1 1/4"	--	1.021"									13860A	9010.40.26	13963A	9010.40.26TR

POSITIVE DRIVE



ER Collets for Positive Drive Tapping

			Size 1 - ER16 #0 - 1/2"		Size 2 - ER25 3/8" - 5/8"		Size 3 - ER40 5/8" - 1 1/4"	
			EDP	Part Number	EDP	Part Number	EDP	Part Number
#0-6	M1.6-M3.5	0.110"	X13700A	9011.16.141				
#8	M4	0.131"	X13701A	9011.16.168				
#10	M5	0.152"	X13702A	9011.16.194				
#12	--	0.165"	X13703A	9011.16.220				
1/4"	M6	0.191"	X13704A	9011.16.255				
5/16"	M7, M8	0.238"	X13705A	9011.16.318				
3/8"	M10	0.286"	X13706A	9011.16.381	X13723A	9011.25.381		
7/16"	M11	0.242"	X13708A	9011.16.323	X13726A	9011.25.323		
1/2"	M12	0.275"	X13707A	9011.16.367	X13724A	9011.25.367		
9/16"	M14	0.275"			X13727A	9011.25.429		
5/8"	M16	0.328"			X13725A	9011.25.480	X13754A	9010.40.480
1 1/16"	M18	0.360"					X13755A	9010.40.542
3/4"	--	0.442"					X13757A	9010.40.590
13/16"	M20	0.489"					X13758A	9010.40.652
7/8"	M22	0.523"					X13760A	9010.40.697
15/16"	M24	0.570"					X13762A	9010.40.760
1"	M25	0.600"					X13763A	9010.40.800
1 1/8" NPT	--	0.322"					X13753A	9010.40.437
1 1/4" NPT	--	0.421					X13756A	9010.40.562
1 1/2" NPT	--	0.515					X13759A	9010.40.687
3/8" NPT	--	0.531					X13761A	9010.40.700

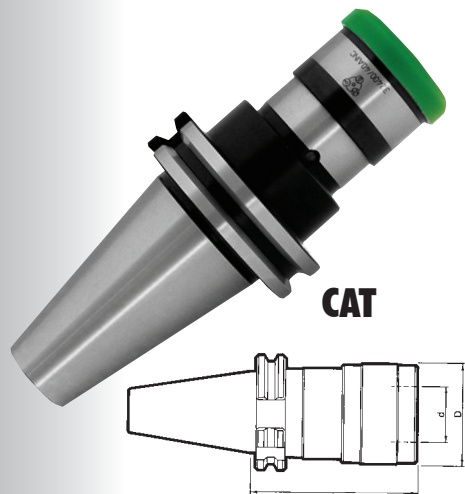


Replacement Nuts

EDP	Part Number	Size	Type
60022T	9133.16.28	ER16	Hex
14962T	9130.25.42	ER25	Standard
14964T	9130.40.63	ER40	Standard

BILZ STYLE TAPPING CHUCKS

CAT, BT, MT & STRAIGHT SHANK



EDP	Part Number	Shank	Nose Diameter (D)	Gage Length (L)	Compensation		Size
					Tension	Compression	

CAT Shank

11050B	32400/40CAT	CAT40	1.496"	3.012"	0.35"	0.35"	1
11051B	32400/50CAT	CAT50	1.496"	3.012"	0.35"	0.35"	1
11052B	32600/40CAT	CAT40	2.165"	3.940"	0.59"	0.59"	2
11053B	32600/50CAT	CAT50	2.165"	3.898"	0.59"	0.59"	2
11054B	32800/40CAT	CAT40	3.110"	5.472"	0.94"	0.94"	3
11055B	32800/50CAT	CAT50	3.110"	5.276"	0.94"	0.94"	3
11056B	32900/40CAT	CAT40	3.858"	6.063"	1.02"	1.02"	4
11057B	32900/50CAT	CAT50	3.858"	5.809"	1.02"	1.02"	4

BT Shank

11200B	32400/30BT	BT30	1.496"	2.480"	0.35"	0.35"	1
11201B	32400/40BT	BT40	1.496"	2.677"	0.35"	0.35"	1
11202B	32400/50BT	BT50	1.496"	3.150"	0.35"	0.35"	1
11203B	32600/30BT	BT30	2.165"	3.780"	0.59"	0.59"	2
11204B	32600/40BT	BT40	2.165"	3.661"	0.59"	0.59"	2
11205B	32600/50BT	BT50	2.165"	4.016"	0.59"	0.59"	2
11206B	32800/40BT	BT40	3.110"	5.433"	0.94"	0.94"	3
11207B	32800/50BT	BT50	3.110"	5.236"	0.94"	0.94"	3
11208B	32900/40BT	BT40	3.858"	6.181"	1.02"	1.02"	4
11209B	32900/50BT	BT50	3.858"	5.787"	1.02"	1.02"	4

Morse Taper Shank

12025B	32400/2	MT2	1.496"	1.811"	0.35"	0.35"	1
12026B	32400/3	MT3	1.496"	1.811"	0.35"	0.35"	1
12023B	32600/3	MT3	2.165"	2.717"	0.59"	0.59"	2
12028B	32600/4	MT4	2.165"	2.756"	0.59"	0.59"	2
12024B	32800/4	MT4	3.110"	4.252"	0.94"	0.94"	3
12030B	32800/5	MT5	3.110"	4.055"	0.94"	0.94"	3
12031B	32900/5	MT5	3.858"	4.567"	1.02"	1.02"	4

Straight Shank

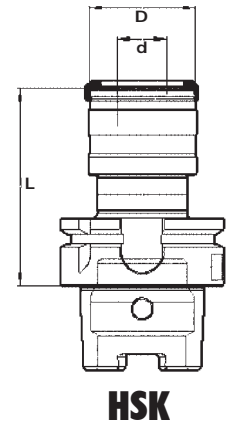
12000B	32400/INC1	1"	1.496"	1.614"	0.35"	0.35"	1
12001B	32600/INC1	1"	2.165"	2.520"	0.35"	0.35"	2
12002B	32600/INC1-1/2	1½"	2.165"	2.520"	0.59"	0.59"	2

Straight Shank w/Coolant Thru

12003B	36400/INC1	1"	1.535"	2.441"	0.35"	0.35"	1
12202B	36600/INC1	1"	2.087"	3.858"	0.59"	0.59"	2

- Compensates for spindle over-rotation and prevents cross threading
- Most dependable system in the market place for producing a quality thread
- Reduce unpredictable tap failure
- Increased tool life

EDP	Part Number	Shank	Nose Diameter (D)	Gage Length (L)	Compensation		Size
					Tension	Compression	
HSK Shank							
11400B	34400/H50A	HSK50A	1.614"	2.835"	0.29"	0.29"	1
11401B	34400/H63A	HSK63A	1.614"	2.835"	0.29"	0.29"	1
11403B	34400/H100A	HSK100A	1.614"	3.150"	0.29"	0.29"	1
11380B	34400/H50E	HSK50E	1.614"	2.835"	0.29"	0.29"	1
11382B	34400/H63E	HSK63E	1.614"	2.835"	0.29"	0.29"	1
11404B	34600/H50A	HSK50A	2.362"	4.331"	0.39"	0.39"	2
11405B	34600/H63A	HSK63A	2.362"	4.331"	0.39"	0.39"	2
11407B	34600/H100A	HSK100A	2.362"	3.937"	0.39"	0.39"	2
11386B	34600/H50E	HSK50E	2.362"	4.331"	0.39"	0.39"	2
11388B	34600/H63E	HSK63E	2.362"	4.331"	0.39"	0.39"	2
11408B	34800/H63A	HSK63A	3.386"	5.551"	0.69"	0.69"	3
11410B	34800/H100A	HSK100A	3.386"	5.669"	0.69"	0.69"	3



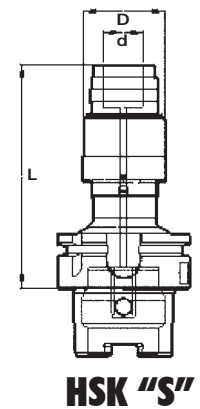
HSK Shank "S Series" Tension Stroke Only

11363B	34400/H50AS	HSK50A	1.614"	2.657"	0.47"	N/A	1
11364B	34400/H63AS	HSK63A	1.614"	2.657"	0.47"	N/A	1
11366B	34400/H100AS	HSK100A	1.614"	2.972"	0.47"	N/A	1
11381B	34400/H50ES	HSK50E	1.614"	2.657"	0.47"	N/A	1
11383B	34400/H63ES	HSK63E	1.614"	2.657"	0.47"	N/A	1
11369B	34600/H50AS	HSK50A	2.362"	4.094"	0.63"	N/A	2
11370B	34600/H63AS	HSK63A	2.362"	4.094"	0.63"	N/A	2
11372B	34600/H100AS	HSK100A	2.362"	3.701"	0.63"	N/A	2
11387B	34600/H50ES	HSK50E	2.362"	4.094"	0.63"	N/A	2
11389B	34600/H63ES	HSK63E	2.362"	4.094"	0.63"	N/A	2
11373B	34800/H63AS	HSK63A	3.386"	5.118"	1.18"	N/A	3
11375B	34800/H100AS	HSK100A	3.386"	5.217"	1.18"	N/A	3



Tapping Size Ranges

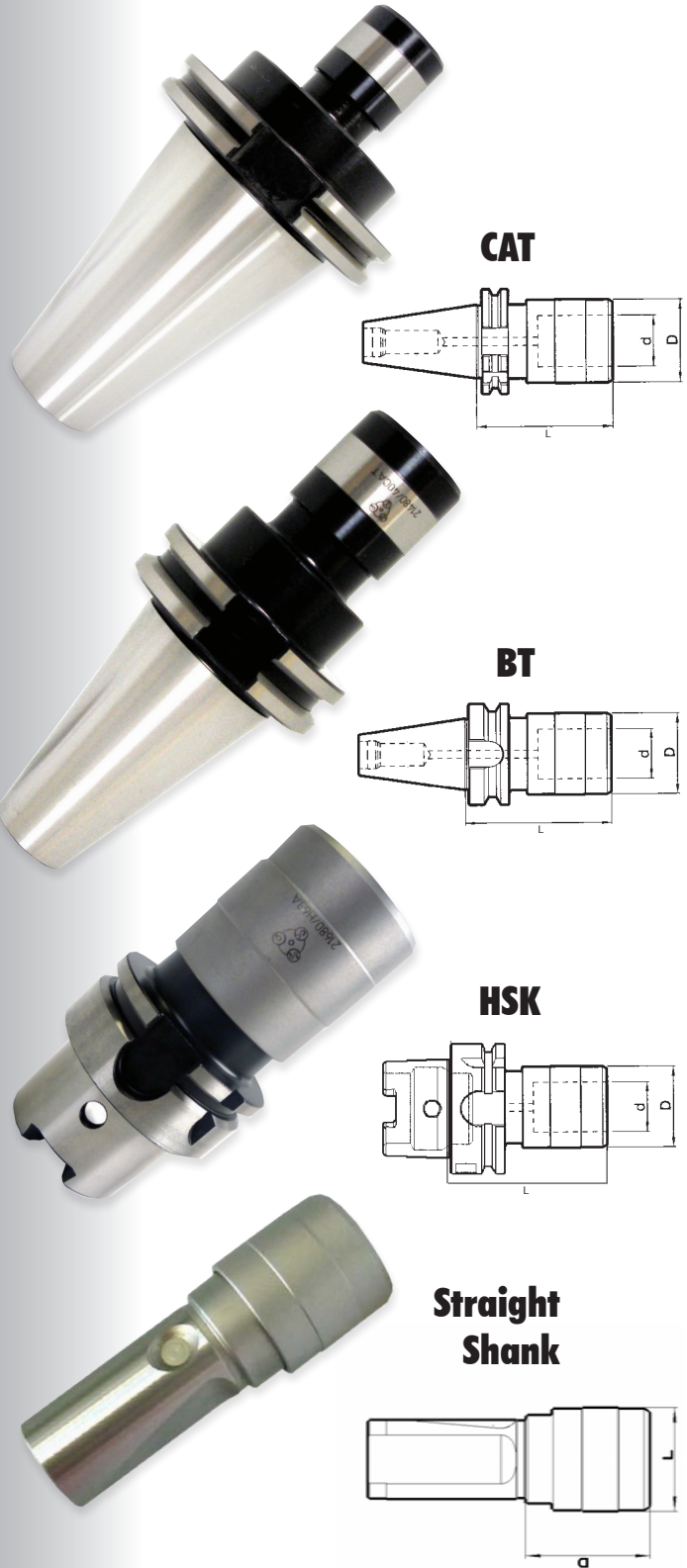
RANGE	Size	Tap Capacity	Compensation		Tap Adapter	
			Tension	Compression	Rigid	Torque Control
	1	#0-6 - 9/16"	0.35"	0.35"	19/11	19/1
	2	3/8" - 7/8"	0.59"	0.59"	31/12	31/2
	3	1/2" - 1 3/8"	0.94"	0.94"	48/13	48/3
	4	1 7/16" - 2"	1.02"	1.02"	60/14	60/4



CAT, BT, MT, STRAIGHT SHANK, HSK

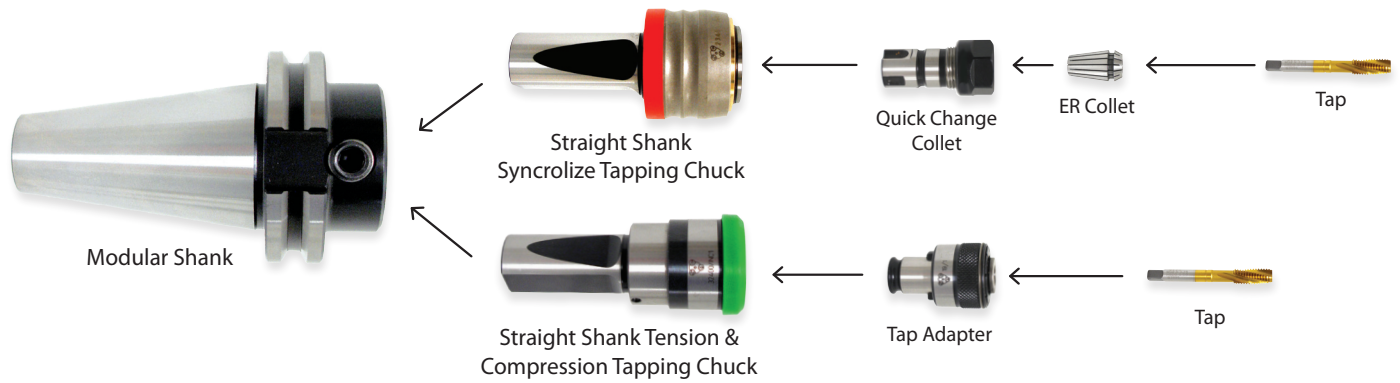
- For fast rigid tapping
- Quick change tapping
- No axial compensation
- Fits the very popular rigid & torque control tap adapters
- Superior to tapping with a collet chuck
- Rigid tap adapters are recommended for rigid chucks when tap breakage is not a concern.

For blind hole applications, torque control tap adapters are recommended.



EDP	Part Number	Shank	Nose Diameter (D)	Gage Length (L)	Size
CAT Shank					
11100B	21480/40CAT	CAT40	1.299"	2.953"	1
11101B	21480/50CAT	CAT50	1.299"	2.953"	1
11102B	21680/40CAT	CAT40	1.969"	3.386"	2
11103B	21680/50CAT	CAT50	1.969"	3.858"	2
11104B	21880/40CAT	CAT40	2.835"	4.803"	3
11105B	21880/50CAT	CAT50	2.835"	4.803"	3
BT Shank					
12174B	21480/30BT	BT30	1.299"	2.441"	1
12128B	21480/40BT	BT40	1.299"	2.638"	1
11183B	21480/50BT	BT50	1.299"	3.071"	1
12175B	21680/30BT	BT30	1.969"	3.346"	2
11181B	21680/40BT	BT40	1.969"	3.543"	2
11184B	21680/50BT	BT50	1.969"	3.976"	2
11182B	21880/40BT	BT40	2.835"	4.606"	3
11185B	21880/50BT	BT50	2.835"	4.921"	3
HSK Shank					
12150B	21480/H40A	HSK40A	1.299"	2.244"	1
12151B	21480/H50A	HSK50A	1.299"	2.480"	1
12152B	21480/H63A	HSK63A	1.299"	2.480"	1
12153B	21480/H80A	HSK80A	1.299"	2.480"	1
12154B	21480/H100A	HSK100A	1.299"	2.717"	1
12155B	21680/H40A	HSK40A	1.969"	3.583"	2
12156B	21680/H50A	HSK50A	1.969"	3.858"	2
12157B	21680/H63A	HSK63A	1.969"	3.504"	2
12158B	21680/H80A	HSK80A	1.969"	3.504"	2
12159B	21680/H100A	HSK100A	1.969"	3.622"	2
12160B	21880/H63A	HSK63A	2.835"	5.079"	3
12161B	21880/H80A	HSK80A	2.835"	5.079"	3
12162B	21880/H100A	HSK100A	2.835"	4.567"	3
Morse Taper Shank					
12178B	21480/2	MT2	1.299"	1.772"	1
12179B	21480/3	MT3	1.299"	1.772"	1
12180B	21680/2	MT2	1.969"	2.402"	2
12181B	21680/3	MT3	1.969"	2.402"	2
12183B	21880/4	MT4	2.835"	3.622"	3
Straight Shank					
12204B	21480/INC1	1"	1.299"	1.575"	1
12205B	21680/INC1	1"	1.969"	2.480"	2
12206B	21880/INC1-1/2	1 1/2"	2.835"	3.425"	3

CAT, BT, NMTB, STRAIGHT SHANK



EDP	Part Number	Shank	Nose Ø (D)	Size	Gage Length (L)	Tap Capacity	Tension	Compression
-----	-------------	-------	------------	------	-----------------	--------------	---------	-------------

Syncrolize Straight Shank

13008B	23400-INC1	1"	1.693"	1	1.378"	#0 - 9/16"	0.039"	0.008"
13017B	23600-INC1	1"	2.323"	2	2.205"	5/16 - 7/8"	0.039"	0.008"

Rigid Straight Shank Tap Holder with Coolant Thru

12204B	21480/INC1	1"	1.299"	1	1.575"	#0 - 9/16"	0.039"	0.008"
12205B	21680/INC1	1"	1.969"	2	2.480"	5/16 - 7/8"	0.039"	0.008"
12206B	21880/INC1-1/2	1 1/2"	1.969"	3	2.480"	1/2 - 1 3/8"	0.039"	0.008"

EDP	Part Number	Shank	Nose Ø (D)	Size	Gage Length (L)	Tap Capacity	Tension	Compression
-----	-------------	-------	------------	------	-----------------	--------------	---------	-------------

Tension & Compression Straight Shank

12000B	32400/INC1	1"	1.496"	1	0.748"	#0 - 9/16"	0.35"	0.35"
12001B	32600/INC1	1"	2.165"	2	1.220"	5/16 - 7/8"	0.59"	0.59"
12002B	32600/INC1-1/2	1 1/2"	2.165"	2	1.220"	5/16 - 7/8"	0.59"	0.59"

Tension & Compression Straight Shank with Coolant Thru

12003B	36400/INC1	1"	1.535"	1	0.748"	#0 - 9/16"	0.30"	0.30"
12202B	36600/INC1	1"	2.087"	2	1.220"	5/16 - 7/8"	0.59"	0.59"



EDP	Part Number	Shank	Bore Ø	Nose Ø (d)	Gage Length (L)
-----	-------------	-------	--------	------------	-----------------

CAT Modular Shanks

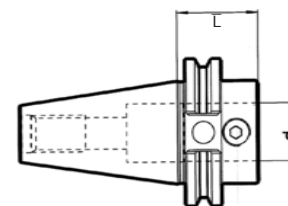
13200B	1806.254.40ACAT	CAT40	1"	1.772"	1.378"
13201B	1806.254.50ACAT	CAT50	1"	2.756"	1.378"
13202B	1806.381.50ACAT	CAT50	1 1/2"	2.756"	1.378"
13208B	1806.25.40CAT	CAT40	25mm	1.772"	1.378"

BT Modular Shanks

13203B	1806.25.40BT	BT40	1"	N/A	1.062"
13204B	1806.25.50BT	BT50	1"	N/A	1.535"
13205B	1806.40.50BT	BT50	1 1/2"	2.742"	1.535"

NMTB Modular Shanks

13206B	1806.254.40INC1	NMTB40	1"	1.742"	1.062"
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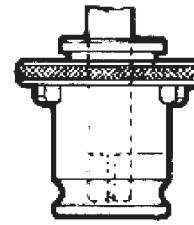


RIGID TAP ADAPTERS

SIZES 1 - 4



Rigid tap adapters are best suited for through holes and in applications where tap breakage is not a concern.



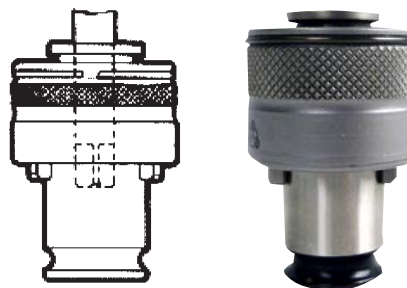
Tap Size			Size 1		Size 2		Size 3		Size 4	
ANSI	ISO	STI	Part Number	EDP	Part Number	EDP	Part Number	EDP	Part Number	EDP
#0 - 6	M1.6-M3.5	#1- 4	19/11 4036	11600B						
#8	M4	#5	19/11 4041	11602B						
#10	M5	#6	19/11 4048	11604B						
#12	--	#8	19/11 4054	11605B						
1/4"	M6	#10	19/11 4063	11606B						
5/16"	M8	1/4"	19/11 4079	11607B	31/12 4079	11614B				
3/8"	M10	5/16"	19/11 4095	11608B	31/12 4095	11615B				
7/16"	M11	--	19/11 4111	11611B	31/12 4111	11616B				
1/2"	M12	3/8"	19/11 4127	11612B	31/12 4127	11617B	48/13 4127	11627B		
9/16"	M14	7/16"	19/11 4142	11613B	31/12 4142	11618B	48/13 4142	11628B		
5/8"	M16	1/2"			31/12 4158	11619B	48/13 4158	11629B		
1 1/16"	M18	9/16"			31/12 4174	11620B	48/13 4174	11630B		
3/4"	--	5/8"			31/12 4190C	11621B	48/13 4190	11631B		
13/16"	M20	--			31/12 4206C	11622B	48/13 4206	11632B		
7/8"	M22	3/4"			31/12 4222C	11623B	48/13 4222	11633B		
15/16"	M24	M20					48/13 4238	11634B		
1"	M25	7/8"					48/13 4254	11635T		
1 1/16"	M27	M24					48/13 4286	11636T		
1 1/8"	M27	M24					48/13 4286	11636T		
1 3/16"	M30	1"					48/13 4317	11637T		
1 1/4"	M30	1"					48/13 4317	11637T		
1 5/16"	M33	1 1/8"					48/13 4349	11638T		
1 3/8"	M33	1 1/8"					48/13 4349	11638T		
1 1/2"	--	--							60/14 4381C	11643B
1 7/16"	M36	1 1/4"							60/14 4381C	11643B
1 5/8"	M39	1 3/8"							60/14 4412C	11644B
1 3/4"	M42	1 1/2"							60/14 4444C	11645B
1 7/8"	--	--							60/14 4476C	11646B
1/8" NPT			19/11 4097C	11609B						
1/4" NPT					31/12 4131C	11624B				
3/8" NPT					31/12 4166C	11625B	48/13 4166C	11639B		
1/2" NPT					31/12 4209C	11626B	48/13 4209C	11640B		
3/4" NPT							48/13 4264C	11641B		
1" NPT							48/13 4332C	11642B		

TORQUE CONTROL TAP ADAPTERS

SIZES 1 - 3



Torque control adapters are the best solution for protecting your taps and workpieces from tap breakage. The primary application for torque control adapters is blind hole tapping and where chip evacuation is a concern.



Tap Size			Size 1		Size 2		Size 3	
ANSI	ISO	STI	Part Number	EDP	Part Number	EDP	Part Number	EDP
#0 - 6	M1.6-M3.5	#1 - 4	19/1 4036	11800B				
#8	M4	#5	19/1 4041	11801B				
#10	M5	#6	19/1 4048	11802B				
#12	--	#8	19/1 4054	11803B				
1/4"	M6	#10	19/1 4063	11804B				
5/16"	M8	1/4"	19/1 4079	11805B	31/2 4079	11811B		
3/8"	M10	5/16"	19/1 4095	11806B	31/2 4095	11812B		
7/16"	M11	--	19/1 4111	11807B	31/2 4111	11813B		
1/2"	M12	3/8"	19/1 4127	11808B	31/2 4127	11814B	48/3 4127	11825B
9/16"	M14	7/16"	19/1 4142	11809B	31/2 4142	11815B	48/3 4142	11826B
5/8"	M16	1/2"			31/2 4158	11816B	48/3 4158	11827B
11/16"	M18	9/16"			31/2 4174	11817B	48/3 4174	11828B
3/4"	--	5/8"			31/2 4190	11818B	48/3 4190	11829B
13/16"	M20	--			31/2 4206	11819B	48/3 4206	11830B
7/8"	M22	3/4"			31/2 4222	11820B	48/3 4222	11831B
15/16"	M24	M20					48/3 4238	11833B
1"	M25	7/8"					48/3 4254	11834B
1 1/16"	M27	M24					48/3 4286	11835B
1 1/8"	M27	M24					48/3 4286	11835B
1 3/16"	M30	1"					48/3 4317	11836B
1 1/4"	M30	1"					48/3 4317	11836B
1 5/16"	M33	1 1/8"					48/3 4349	11837B
1 3/8"	M33	1 1/8"					48/3 4349	11837B
1/8" NPT			19/1 4097C	11810B				
1/4" NPT					31/2 4131C	11822B		
3/8" NPT					31/2 4166C	11823B	48/3 4166C	11838B
1/2" NPT					31/2 4209C	11824B	48/3 4209C	11839B
3/4" NPT							48/3 4264C	11840B
1" NPT							48/3 4332C	11841B



Reduction Cup

EDP	SIZE
10071A	1 - 0
10072A	2 - 1
10073A	3 - 1
10074A	3 - 2



ER Collet Chuck Adapters

EDP	SIZE
11750A	1 - ER16
11751A	2 - ER25

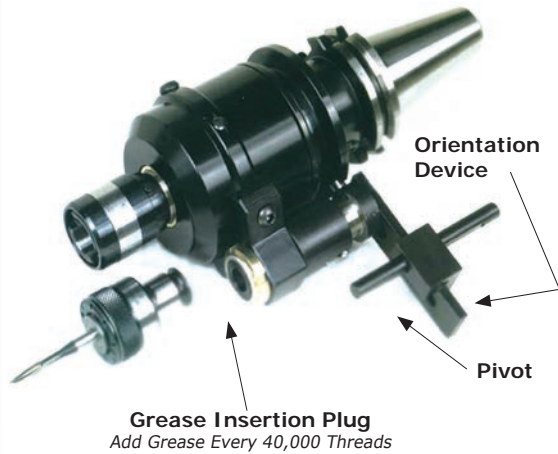


Tap Adapter Extension

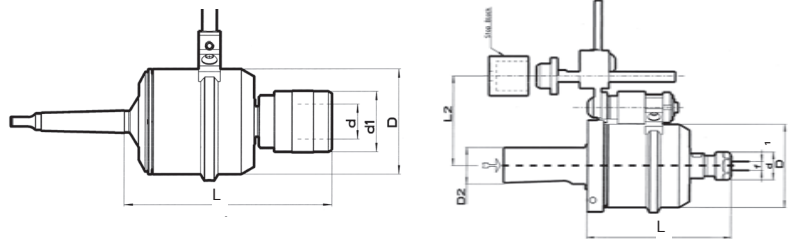
EDP	SIZE
10080A	Size 1 - #10 - 9/16"

REVERSE TAPPING CHUCKS

TAPPING SOLUTIONS



- Up to 1,500 RPM
- 1:1 Ratio in both directions of rotation
- 0.137" (3.5mm) release stroke
- Controlled tapping depth
- Utilizes standard rigid or torque control tap adapters
- Variable orientation device included



Morse Taper Reverse Tapping Chuck for Size 1 & Size 2 Tap Adapters

EDP	Part Number	Shank	d	d1	D	L	Tap Capacity	Tap Adapter	Release Stroke	Max RPM
14505B	24570-2	MT2	0.748"	1.299"	3.070"	5.196"	#8 - 1/2"	SIZE 1	0.137"	1,500
14506B	24570-3	MT3	0.748"	1.299"	3.070"	5.196"	#8 - 1/2"	SIZE 1	0.137"	1,500
14507B	24570-4	MT4	0.748"	1.299"	3.070"	5.196"	#8 - 1/2"	SIZE 1	0.137"	1,500
14508B	24600-3	MT3	1.220"	1.968"	3.267"	7.086"	1/4" - 13/16"	SIZE 2	0.394"	1,200
14509B	24600-4	MT4	1.220"	1.968"	3.267"	7.125"	1/4" - 13/16"	SIZE 2	0.394"	1,200

Reverse Tapping with Tap Adapter Connection with Size 1 Tap Adapters

EDP	Part Number	Shank	d	d1	D	L	Tap Capacity	Tap Adapter	Release Stroke	Max RPM
14527B	24570-D25CN	25mm	0.748"	1.299"	3.070"	5.157"	#8 - 1/2"	SIZE 1	0.137"	1,500

SEE PAGE #8 FOR MODULAR SHANKS

TECH INFO

AXIAL FEED

A thread is an inclined plane that is rolled into a cylinder. The distance between a point on the plane and the point directly above or below it is the pitch of the thread. To produce quality thread the tap must be fed into the work piece precisely on pitch. A tap is the only metalworking tool in which the feed rate and the spindle speed must be perfectly matched. For each revolution the tap makes it must advance the distance of the pitch. Retarding or accelerating the taps entrance and exit will cause the tap to be pushed or pulled, producing a defective thread.

TENSION/COMPRESSION STROKE

A tap is a precision ground cutting tool. Because not all machine tools can synchronize speed to feed, a tension and compression floating tapping head is utilized. This allows the tap to pull itself in to the workpiece on entrance, and follow the pitch exiting the workpiece allowing the tap to be pulled from the workpiece, thus producing a quality thread.

TORQUE CONTROL

Torque control is the ability to cause the tap to stop rotating when a predetermined force or pressure is reached. This often happens when tapping blind holes where chip build-up blocks the hole. Without torque control, the tap can break, resulting in excessive tooling cost, and a possible defective or an unusable workpiece. To prevent this problem when tapping blind holes, choose SCM's tap adapters with the torque control clutch feature.

RADIAL FLOAT

Radial float allows for misalignment between the tap and the hole to be tapped. This also allows the tap to follow a hole which has not been drilled straight.

AXIAL COMPRESSION

The compression stroke cushions the tap as it enters the workpiece. This feature also allows holes to be re-tapped. This is particularly helpful when setting up a job. The compression stroke to maximize depth control on Size #1 is adjustable from 45 ft/lbs. to 100 ft/lbs. Size #2 is adjustable from 95 ft/lbs. to 360 ft/lbs.

SYNCROLIZE

The new modern machine tools have 32-bit microprocessors that offer the capability of synchronizing the spindle rotation and spindle feed. This means the compression and tension stroke found in traditional tapping heads is not needed. The newer processors allow for the use of a lower cost holder since the axial float mechanism is not needed. It also offers the advantage of tapping at higher cycle speeds. SCM recommends the Syncrolize tapping chuck for synchronized tapping. It offers 0.039" tension stroke, 0.008" compression stroke, & 0.0001" radial float. This combinations results in perfect hole line-up, reduced cycle times, quality threads and longer tap life (up to 2 times) with a lower cost tapping head.



TROUBLESHOOTING

Threads are of poor quality

- Is proper tap drill size being used?
- Is the correct feed rate programmed?
- Is tap worn and dull?

Tap will not start

- Is proper tap drill size being used?
- Is tap worn and dull?
- Is the program depth using the entire compression stroke?

Unit torques out prior to reaching full depth

- Is proper tap drill size being used?
- Is tap worn and dull?
- Is hole drilled to proper depth?

Threads are oversized

- Is the tension stroke sticking?
- Is the correct feed rate programmed?

Torque Requirements (all values are in inch/lbs)

Tap Size	Aluminum	Brass	200 BHN Steel	300 BHN Steel	400 BHN Steel	Breaking Torque
#6	2.5	5.0	8.8	11.3	12.5	10.0
#8	2.8	5.6	10.0	12.5	13.8	37.5
#10	5.3	10.6	18.8	23.8	26.3	52.5
1/4	10.0	20.0	35.0	45.0	50.0	132.5
5/16	15.0	30.0	52.5	67.5	75.0	225.0
3/8	23.1	46.3	81.3	103.8	116.3	300.0
7/16	33.8	67.5	118.1	152.5	168.8	625.0
1/2	42.5	85.0	148.8	191.3	212.5	875.0
9/16	55.0	110.0	192.5	247.5	275.0	1062.5
5/8	74.4	148.8	260.0	335.0	372.5	1250.0
3/4	106.3	212.5	372.5	478.8	531.3	1875.0
7/8	148.8	297.5	520.0	670.0	743.8	2625.0
1	210.6	421.3	737.5	947.5	1052.5	3375.0

Torque Factors

Factor	Multiplier
75% thread height	1.00
65% thread height	0.75
55% thread height	0.50
Spiral Flute	0.70
Gun Tap	0.60
Fine Pitch	0.55
Dull Tap	2.00

$$RPM = \frac{3.82 \times SFM}{\text{Tap Diameter}}$$

$$FEED (IPR) = \frac{1}{\text{Pitch}}$$

$$FEED (IPR) = \text{Feed (IPR)} \times \text{Speed (RPM)}$$

All numbers in the Torque Requirements table are approximate calculations. They are based upon a 4 flute coarse pitch tap achieving 75% thread height. To calculate torque requirement with a different style tap, simply utilize the multipliers in the Torque Factors table.



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EDP: SCMTAPPING-CAT14

Published February 2014

