

## Tool Holding

*For improved thread quality*  
- CNC Rigid Tapping

**sutton**tools

# TOOL HOLDING



## SynchroFlex Tapping Attachment with unique Double Flexure

Unlike other "synchronous" tap drivers that use soft plastic components or Belleville washers similar as above, to cushion the taps' entry into the hole, SynchroFlex utilizes a patented (computer generated, precisely machined, special steel alloy) Double Flexure between the mount and the chuck.

It compensates both axially for the unavoidable discrepancies between the machine's programmed RPM, feed and traverse and the exact thread pitch and precise hole location.

The SynchroFlex is dependable and predictable. You can expect long life performance under all working conditions. What's more, you'll make significant savings when it comes to tap costs.



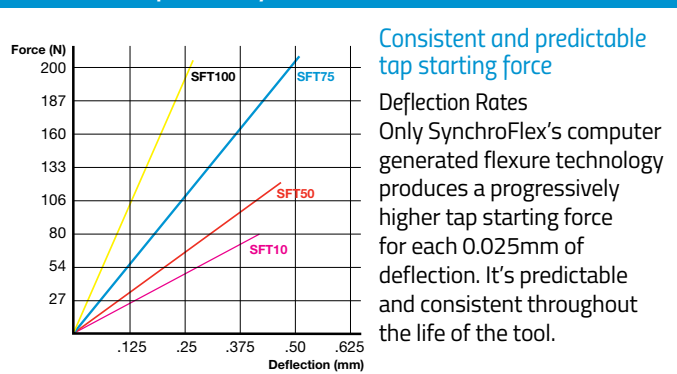
# SynchroFlex Proven Results

Independent tests in real world applications confirm SynchroFlex is unmatched in performance

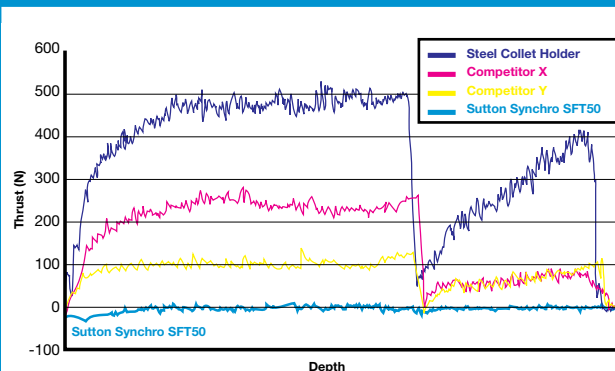
- Tap life increased by 100% or more
- Thread quality improved
- Increased production due to less tap breakage
- Less down time
- Reduced costs

The most economical rigid tapping

SynchroFlex exerts lower thrust and torque forces than any other tap holder on the market. In any given material the lower the thrust and torque forces on the tap, the longer the tap life.



Test One (Thrust): 10 holes, M6 R45Al, 2 flute tap, 3x Dia deep in AL7075 at 1000 RPM



Graph illustrates the final hole tapped by each tap driver.

Holder Type	Average Thrust (N)	Average Down Cut Thrust (N) Entering Hole	Average Reverse Thrust (N) Exiting Hole
Steel Collet Holder (Rigid)	1008	1379	930
Competitor X	681	879	445
Competitor Y	320	425	266
SynchroFlex	-12	-29	-31

Test Two (Torque): 10 holes, M6 R45Al, 2 flute tap, 3x Dia deep in AL7075 at 2000 RPM

Holder Type	Average Torque (Ncm)	Average Down Cut Torque (Ncm) Entering Hole	Average Reverse Torque (Ncm) Exiting Hole
Steel Collet Holder (Rigid)	481	631	-387
Competitor X	593	639	-354
Competitor Y	542	730	-392
SynchroFlex	268	371	-190

## TAPMATIC

- For the best rigid tapping results
- Holder designed for machines with rigid tapping
- Machine reversal required
- Increases tap life by 100% or more
- Improve thread quality
- Flexure design, acts like shock absorber



BT-40 Arbor



ER25 Collet (Sq. Drive)



Patented Flexure Design



Patented Flexure Design

Size Ref.	Description	Size Capacity	Mount	Collet Series	Ref. Code	Item #
<b>Tapping Attachments (Discount Group Z1104)</b>						<b>Z101</b>
<b>SFT10</b>	Synchro SFT10	M1-M6 #2 - #10	25mm SS	ER11	43102511	Z101 SFT10
<b>SFT50</b>	Synchro SFT50	M4-M12 #8 - 1/2	25mm SS	ER20	43502520	Z101 SFT50
<b>SFT75</b>	Synchro SFT75	M4-M16 3/8 - 3/4	25mm SS	ER25	43752525	Z101 SFT75
<b>SFT100</b>	Synchro SFT100	M8-M30	25mm SS	ER40	431002540	Z101 SFT100
<b>Tapping Attachments (Discount Group Z1104)</b>						<b>Z100</b>
<b>SFT10</b>	SynchroFlex SFT10	M1-M6 (#2 - #10)	25mm SS	ER11	43102511	Z100 SFT10
<b>SFT50</b>	SynchroFlex SFT50	M4-M12 (#8 - 1/2)	25mm SS	ER20	43502520	Z100 SFT50
<b>SFT75</b>	SynchroFlex SFT75	M4-M16 (3/8 - 3/4)	25mm SS	ER20	43752525	Z100 SFT75
<b>Collets - SFT10 (Round Drive) (Discount Group Z1110)</b>						<b>Z110</b>
<b>0025</b>	2-2.5mm	M1-1.8		ER11		Z110 0025
<b>0030</b>	2.5-3mm	M2-2.6		ER11		Z110 0030
<b>0035</b>	3-3.5mm	M3		ER11		Z110 0035
<b>0040</b>	3.5-4mm	M3.5		ER11		Z110 0040
<b>0045</b>	4-4.5mm	M4		ER11		Z110 0045
<b>0050</b>	4.5-5mm	M4 JIS		ER11		Z110 0050
<b>0055</b>	5-5.5mm	M5 JIS		ER11		Z110 0055
<b>0060</b>	5.5-6mm	M5 / M6 / M2-M6 Synchro				Z110 0060
<b>Collets - SFT50 (Square Drive) (Discount Group Z1110)</b>						<b>Z111</b>
<b>0045</b>	∅ 4.5mm	M4 DIN371		ER20		Z111 0045
<b>0050</b>	∅ 5mm	ISO		ER20		Z111 0050
<b>0060</b>	∅ 6mm	M5 / M6 DIN371 / M2-M6 Synchro		ER20		Z111 0060
<b>0070</b>	∅ 7mm	M10 DIN376		ER20		Z111 0070
<b>0080</b>	∅ 8mm	M8 DIN371 / M8 Synchro		ER20		Z111 0080
<b>0090</b>	∅ 9mm	M12 DIN376		ER20		Z111 0090
<b>0100</b>	∅ 10mm	M10 DIN371 / M10 Synchro		ER20		Z111 0100
<b>Collets - SFT75 (Square Drive) (Discount Group Z1110)</b>						<b>Z112</b>
<b>0045</b>	∅ 4.5mm	M4 DIN371		ER25		Z112 0045
<b>0060</b>	∅ 6mm	M5 / M6 DIN371 / M2-M6 Synchro		ER25		Z112 0060
<b>0070</b>	∅ 7mm	M10 DIN371		ER25		Z112 0070
<b>0080</b>	∅ 8mm	M8 DIN371 / M8 Synchro		ER25		Z112 0080
<b>0090</b>	∅ 9mm	M12 DIN376		ER25		Z112 0090
<b>0100</b>	∅ 10mm	M10 DIN371 / M10 Synchro		ER25		Z112 0100
<b>0110</b>	∅ 11mm	M14 DIN376		ER25		Z112 0110
<b>0120</b>	∅ 12mm	M16 DIN376 / M12 Synchro		ER25		Z112 0120
<b>Collets - SFT100 (Square Drive) (Discount Group Z1110)</b>						<b>Z113</b>
<b>0080</b>	∅ 8mm	M8 DIN371 / M8 Synchro		ER40		Z113 0080
<b>0100</b>	∅ 10mm	M10 DIN371 / M10 Synchro		ER40		Z113 0100
<b>0120</b>	∅ 12mm	M16 DIN376 / M12 Synchro		ER40		Z113 0120
<b>0140</b>	∅ 14mm	M18 DIN376 / M14 Synchro		ER40		Z113 0140
<b>0160</b>	∅ 16mm	M20 DIN376 / M16 Synchro		ER40		Z113 0160
<b>Accessories (Discount Group Z1108)</b>						<b>Z130</b>
<b>3943</b>	BT-40 Arbor W/25mm Bore				23943	Z130 3943
<b>3945</b>	BT-50 Arbor W/25mm Bore				23945	Z130 3945
						<b>Z135</b>
<b>BT40</b>	Pull stud BT40					Z135 BT40
<b>BT50</b>	Pull stud BT50					Z135 BT50

## TAPMATIC

- Tension/compression tapping units for NC machining and turning centres
- Uses Rubberflex collets (only two required)
- ER Collect Chuck available on special request
- Provides greater thread accuracy and higher production rates
- Compact Design for application where space is limited
- Releasable Hard Start for accurate depth control



BT-40 Arbor



Rubberflex Collet



Tension & Compression Holder NSM6

Size Ref.	Description	Size Capacity	Mount	Collet Series	Ref. Code	Item #
<b>Tapping Attachments (Discount Group Z1104)</b>						<b>Z102</b>
<b>NSM6</b>	Tension & Compression Holder NSM6	M5-M18 #10-3/4	25mm SS	Rubberflex	35887	Z102 NSM6
<b>Collets - NSM6 (Discount Group Z1108)</b>						<b>Z117</b>
<b>0443</b>	Rubberflex	3-7mm		J443	24300	Z117 0443
<b>0440</b>	Rubberflex	5-12mm		J440	24100	Z117 0440
<b>0441</b>	Rubberflex	8-16mm		J441	24000	Z117 0441
<b>0445</b>	Rubberflex	10-14mm		J445	24500	Z117 0445
<b>Accessories (Discount Group Z1108)</b>						<b>Z130</b>
<b>3943</b>	BT-40 Arbor W/25mm Bore				23943	Z130 3943
<b>3945</b>	BT-50 Arbor W/25mm Bore				23945	Z130 3945
						<b>Z135</b>
<b>BT40</b>	Pull stud BT40					Z135 BT40
<b>BT50</b>	Pull stud BT50					Z135 BT50

## TAPMATIC

- Self-Reversing Holder for CNC machines
- Machine reversal NOT required, less wear and tear on machine spindle
- Designed for applications where high volume of threads are required
- Constant speed tapping
- Bore cycle (G85) used in CNC program instead of Tapping cycle (G84)
- Please note: 2 different size stop arms available for RDT50, must check for machine centre distance & order best suited.



BT-40 Arbor



ER25 Collet (Sq. Drive)



Self-Reversing RDT50

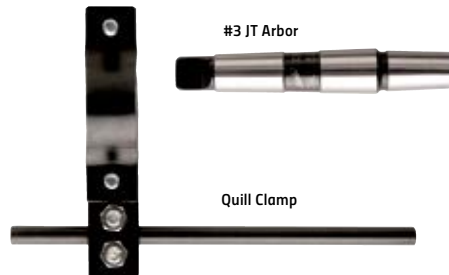
Size Ref.	Description	Size Capacity	Mount	Collet Series	Ref. Code	Item #
<b>Tapping Attachments (Discount Group Z1102)</b>						<b>Z103</b>
<b>RDT25</b>	Self-Reversing RDT25	M2.5 - M6 (#4-1/4)	25mm SS	ER11	39252511	Z103 RDT25
	Self-Reversing RDT50	M4 - M12 (#10-1/2)	25mm SS	ER16	39502516	Z103 RDT50
<b>Collets - RDT25 (Round Drive) (Discount Group Z1110)</b>						<b>Z110</b>
<b>0025</b>	2-2.5mm	M1-1.8		ER11		Z110 0025
<b>0030</b>	2.5-3mm	M2-2.6		ER11		Z110 0030
<b>0035</b>	3-3.5mm	M3		ER11		Z110 0035
<b>0040</b>	3.5-4mm	M3.5		ER11		Z110 0040
<b>0045</b>	4-4.5mm	M4		ER11		Z110 0045
<b>0050</b>	4.5-5mm	M4 JIS		ER11		Z110 0050
<b>0055</b>	5-5.5mm	M5 JIS		ER11		Z110 0055
<b>0060</b>	5.5-6mm	M5/M6		ER11		Z110 0060
<b>Collets - RDT50 (Square Drive) (Discount Group Z1110)</b>						<b>Z114</b>
<b>0045</b>	Ø 4.5mm	M4 DIN371		ER16		Z114 0045
<b>0050</b>	Ø 5mm	ISO		ER16		Z114 0050
<b>0060</b>	Ø 6mm	M5 / M6 DIN371		ER16		Z114 0060
<b>0070</b>	Ø 7mm	M10 DIN376		ER16		Z114 0070
<b>Accessories (Discount Group Z1108)</b>						<b>Z130</b>
<b>3943</b>	BT-40 Arbor W/25mm Bore				23943	Z130 3943
<b>3945</b>	BT-50 Arbor W/25mm Bore				23945	Z130 3945
<b>Stop Arms (Discount Group Z1102)</b>						<b>Z132</b>
<b>2565</b>	65mm Stop Arm RDT25			ER11	392565	Z132 2565
<b>Stop Arms (Discount Group Z1102)</b>						<b>Z133</b>
<b>5065</b>	65mm Stop Arm RDT50			ER16	395065	Z133 5065
<b>5080</b>	80mm Stop Arm RDT50			ER16	395080	Z133 5080

## TAPMATIC

- For manually operated drilling and milling machines
- Increased production
- 1.75 x 1 increased reverse speed
- New durable, rugged design
- Self-feed ensures gauge perfect threads
- New heavy duty ball clutch
- Re-entry cushion eliminates cross threading
- Pre-selective torque drive prevents tap breakage



Rubberflex Collet



#3 JT Arbor

Quill Clamp



Self-Reversing Rx50

Size Ref.	Description	Size Capacity	Mount	Collet Series	Ref. Code	Item #
<b>Tapping Attachments (Discount Group Z1106)</b>						<b>Z104</b>
<b>RX30</b>	Self-Reversing Rx30	M1.4-M6 (#0-1/4)	25mm SS	W#6 JT	013006	Z104 RX30
<b>RX50</b>	Self-Reversing Rx50	M3-M12 (#6-1/2)	25mm SS	W#6 JT	015006	Z104 RX50
<b>RX70</b>	Self-Reversing Rx70	M5-M18 (#10-3/4)	25mm SS	W#3 JT	017003	Z104 RX70
<b>Collets - Rx30 (Discount Group Z1108)</b>						<b>Z115</b>
<b>0116</b>	Rubberflex	3-5mm		J116	21600	Z115 0116
<b>0117</b>	Rubberflex	5-6.5mm		J117	21700	Z115 0117
<b>Collets - Rx50</b>						<b>Z116</b>
<b>0421</b>	Rubberflex	3.5-6.5mm		J421	22100	Z116 0421
<b>0420</b>	Rubberflex	5-8mm		J420	22000	Z116 0420
<b>Collets - Rx70</b>						<b>Z117</b>
<b>0443</b>	Rubberflex	3-7mm		J443	24300	Z117 0443
<b>0440</b>	Rubberflex	5-12mm		J440	24100	Z117 0440
<b>0441</b>	Rubberflex	8-16mm		J441	24000	Z117 0441
<b>0445</b>	Rubberflex	10-14mm		J445	24500	Z117 0445
<b>Accessories (Discount Group Z1108)</b>						<b>Z131</b>
<b>0203</b>	#2MT X Arbor			#3 JT	20203	Z131 0203
<b>0206</b>	#2MT X Arbor			#6 JT	20206	Z131 0206
<b>0303</b>	#3MT X Arbor			#3 JT	20303	Z131 0303
<b>0306</b>	#3MT X Arbor			#6 JT	20306	Z131 0306
<b>0403</b>	#4MT X Arbor			#3 JT	20403	Z131 0403
<b>Quill Clamps</b>						<b>Z134</b>
<b>0099</b>	Quill Clamp	1-1/2 to 2-3/8			29099	Z134 0099
<b>0991</b>	Quill Clamp	2-3/8 to 4-1/2			290991	Z134 0991