

# ***SUPER THREADING***

Threading & Cutting Tools



# Company Profile

Super threading (India) Pvt. Ltd. Has been an integral part of the Indian cutting threading tool industry of a decade. Established in 1987 to manufacture pipe and pipe threading machines, Lanco type die head, tangential chasers, tap, milling cutters, tool bits, pipe and pipe sockets. Has thus truly earned for itself the nick name of **STI**. All our products are manufactured with the utmost precision from high quality steel imported from Japan and west Europe. Our product range includes die head, heat treated die head, bolt and pipe threading machines, end facing machines, chaser Grinder machines. **STI** has always endeavored to acquire a close insight into the requirement of its customers. Our quality assurance cell and R&D wing are always at their foot to serve swiftly while making product development a continuous process. **STI** never hesitates to do that extra mile to make sure that its products line upto their promises. Growing from strength to strength the **STI** image has reached the Zenith of status backed by a dynamic and dedicated team of skilled employees and expert engineers, **STI** is using the advanced international techniques working on its motto of "**Quality by choice not by chance**".



# Threading Machines



## SPECIFICATIONS

CAPACITY	1"	1½"	2½"	4"	6"	8"
No. Of Spindle Speed	3	3	3	2	2	2
Speed	109	109	60	60	48	42
Range	144	144	80	80	80	70
RPM	187	187	103	103		
Threading Length	6"	6"	6"	6"	6"	10"
Length	4¼'	4¼'	5½'	5½'	7'	9½'
Width	2'	2'	4'	4'	4½'	6'
Height	4'	4'	4'	4'	4½'	5'
Motor RPM	1440	1440	1440	1440	960	960
Power of the Motor	3 H.P.	5 H.P.	7.5 H.P.	20 H.P.	30 H.P.	40 H.P.
Weight (Approx.)	750 Kg.	850 Kg.	1400 Kg.	2200 Kg.	2400 Kg.	7000 Kg.
Bolt	¼ to 1"	¼ to 1½"	½ to 3"			
Pipe	¼ to 1"	½ to 1½"	½ to 2½"	1 to 4"	2½ to 6"	4" to 8"

# Die HEAD



## DIE HEAD

**THREADING DIE HEAD** : STI HEAT Treated threading die head, are of revolving type for application to hand operated, semi automatic to hand operated, semi automatic and automatic threading machines of rugged construction the heads provide accurate and trouble free operation over long production runs.

Constructed of specially selected alloys steel, the STI Head are recommended for threading upto and including class 3 tolerances and are well known for their ability to cut coarse pitch threads in a single pass. They have wide range converge, permit rapid set up, gives trouble free operations.

## STANDARD CHASER TO SUIT STI THREADING DIE HEAD

Die Head Capacity	Chaser Section
1/4" to 1"	3" x 1 3/8"
3/8" to 1 1/2"	4" x 1 3/8"
1/2" to 2"	4" x 1 1/4"
1/2 to 2 1/2"	4" x 1 1/4"
1" to 4"	
a) 1" to 2"	4" x 1 1/4"
b) 2 1/2" to 4"	5" x 2 1/4" (set of four pcs.)
2 1/2" to 6"	
a) 2 1/2" to 3"	5" x 2 1/4" (set of six pcs.)
b) 3 1/2" to 4"	5" x 2 1/4" (set of six pcs.)
c) 4 1/2" to 6"	5" x 2 1/4" (set of six pcs.)
4" to 8"	5" x 2 1/4" (set of six pcs.)

## RANGE OF THREADING DIE HEAD

SIZE IN INCH	SIZE IN MM
1/4" to 1"	6 mm to 25 mm
3/8" to 1 1/2"	10 mm to 40 mm
1/2" to 2 1/2"	12 mm to 65 mm
1" to 4"	25 mm to 16 mm
2 1/2" to 6"	65 mm to 150 mm
4" to 8"	100 mm to 200 mm

## STANDARD CHASER HOLDERS

THREAD STANDARD	DIE HEAD	1"	1 1/2"	2"	2 1/2"	4"	6"	8"
U.N.C. OR N.F. WHITWORTH & S.I		1/4" to 1" (6 to 24 mm)	3/8" to 1 1/2" (10 to 38 mm)	1/2" to 2" (12 to 50 mm) 1 1/4" to 2" (40 to 52 mm)	1/2" to 2 1/2" (12 to 65 mm) 1 1/4" to 2 1/2" (40 to 65 mm)	1" to 4" (25 to 102 mm)	2 1/2" to 6" (65 to 150 mm)	4" to 8" (100 to 200 mm)
U.N.F. OR N.F.		1/4" to 1/2" 3/8" to 1"	3/8" to 1/2" 3/4" to 1" 1 1/4" to 1 1/2"	1/2" 3/4" to 1" 1 1/4" to 1 1/2"	1/2" 3/4" to 1" 1 1/4" to 1 1/2"			
B.S.F		1/4" to 1/2" 3/8" to 1"	3/4" to 3/4" 1" to 1 1/2"	1/2" to 3/4" 1" to 1 1/2" 1 1/4" to 2"	1/2" to 3/4" 1" to 1 1/2" 1 1/4" to 2"			
PIPE		1/2" to 1"	1/2" to 3/4" 1" to 1 1/2"	1/2" to 3/4" 1" to 2"	1/2" to 3/4" 1" to 2" 2"	1" to 2" 2 1/2" to 4"	2 1/2" to 3" 3 1/2" to 4" 4 1/2" to 6"	4" to 6" 6" to 8"

# Chaser

We are Manufacturing the chaser suit for Lanco, Landies, Landmatic, Landex, Kandal & Gents, Heap Die Head, Wagner, Redilmatic Die Head and also manufacture as per Costumer's requirement as per draws or sample.

**PRINCIPAL ADVANTAGES OF TANGENTIAL CHASERS :** These are Long Life Permanent throat, ability to work, close to a shoulder throughout the life of the chasers and easily altered cutting angle to suit different materials. Tangential chasers have a self guiding action, except when ground across the entire width of the die or when used with lead screw feed.

**REGRINDING :** When dull these chasers are reground only on the cutting edge and never on the throat. The edge is completely renewed at each regrinding so the same results can be obtained from reground.

**DIAMETER THREADED :** One set of chasers can be used to thread different diameters of the same pitch, provided the helix angle of the thread being cut and that of the chasers-holder do not vary more than half a degree above or below for standard thread forms. For accurate work the variation in the lead angle should not be overlooked.

**LEFT HAND THREADING :** The same chasers can be used for left-hand and right-hand threads. For left-hand threads the chasers are ground on the end opposite to that for right-hand threads. Left-hand chaser holders are required for left-hand work and the chaser must be inserted in numerical order, but anticlockwise when facing the diehead. The machine must be reversed for left-hand work.

**MARKING ON CHASERS :** Each STI tangential chasers is marked. The diameter is not usually marked because the same chaser may be used for threading different diameters.

**TYPES TO SUIT VARIOUS MATERIALS :** This is determined by the cutting edge, known as the Rake Angle, which varies according to the nature of the material to be threaded, its machinability, the thread to be cut and the method of feeding the work into the diehead. The following are given as a given as a guide, but Rake Angles should be finally determined by the experiment.

**THROATS :** STI tangential chasers are supplied with one of five standard throats that are 1) 45° (no throat), 2) 30° throat, 3) Standard short throat 20°, 4) Long throat 15°, 5) Extra Long Throat 12°.



# Coventry CHASER

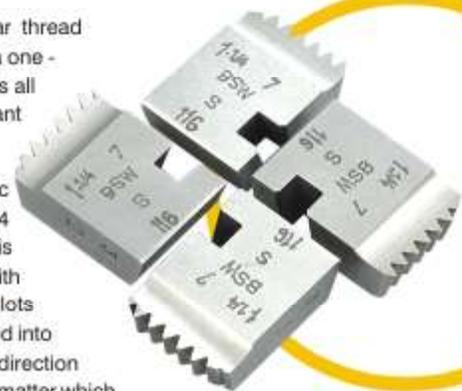
**Marking on dies :** Each die is marked. There is no gauge number for this type of die because only the throat is reground the cutting face remains intact on these straight-cut type of dies.

**Throats :** STI dies are supplied for these die heads with four standard throat angles 15°, 20°, 33° and 45° and their applications are. The longer the throat the better the distribution of chips. This means easier cutting, better finish on the work and longer die life.

On Acme, Worm, Modified Square and similar thread forms, a tow thread throat is approximately 15° a one - thread throat approximately 33°. As the cutting is all done by the throat and first full tooth it is important that the throat is right for the work.

**FITTING the Die into the Diehead :** Geometric die heads have the die slots numbered 1,2,3, or 4 and the dies are marked in similar sequence. It is important that each die is inserted in the slot with the same number. For die heads which have slots which are not numbered, the dies should be fitted into the die head in numerical order, in a clockwise direction looking at the front of the die head but it does not matter which slot of the die head is taken to start. This applies whether the dies are for right hand or left hand threading.

**Adjusting Dies to Size :** If a sample screw is available adjust the dies to this part . If not, use as a setting gauge a piece of bar stock turned to the minor (root) diameter of the thread to be cut. Care should be taken not to force the chasers into the setting gauge.



Material	Rake Angle
Aluminum	10-25°
Bakelized Paper	45° Neg.
Brass bar	10-22°
Cast	5° Neg.-0°
Bronze Bar	10-22°
Cast	0-10°
Manganese	0-10°
Phosphor	0-10°
Copper	28°
Duralumin	25-30°
Ebonite	0-10° Neg.
Erinoid	0°
Gunmetal	0-5°
Iron, Cast	15°
Malleable	18-22°
Wrought	5-22°
Monel Metal	25-30°
Steel, Cast	12°
Free Cutting	15-30°
High Tensile	25°
Mild	18-22°
Nickel	18-25°
Stainless	25°
Vulcanite	0°

# TOOL Bits



## A WORD ABOUT STI TOOL BITS :

- 1. RAW MATERIAL :** STI Tool Bits are made from finest grades of imported steel. These steel are further tested in our well equipped laboratory for grain size, chemical composition other variables and defects before further processing. This includes a whole battery of tests, from spectroscopic examination for chemical composition to microscopic tests for carbide distribution . It is made sure that raw materials used meet with our requirements.
- 2. PRECISE HEAT TREATMENT ;** Heat Treatment is what transforms a soft, pliable piece of steel into hard, tough and wear resistant Tool Bit . Hence other things remaining same ,it is the Heat Treatment that makes a Tool-Bit very much different from other Tool-Bit.This is the factor where there is no chance for compromise on quality. We have therefore opted for furnace manufactured under German licence to ensure precise Automatic temperature control and of course very close process control. Even then each batch is carefully tested for microstructure and each tool for hardness in well equipped laboratory and quality control department . After well controlled further processing what we have is STI tool-bit to give you the best in every desired quality.

## DESIRABLE PROPERTIES OF GOOD TOOL BITS :

- 1. HOT HARDNESS :** A tool fails or performs poor at high speed of cutting if it has low hot hardness because high speed involves high temperature at the cutting edge which tends to soften the edge.
- 2. WEAR RESISTANCE :** A tool may have same hardness or even lower but can stand the wear during cutting better just as vulcanised rubber compared to wood.
- 3. TOUGHNESS :** This is most desirous property for any type of tool as capacity of tool to withstand vibrations, and shock loads depends on its toughness. This may also be called "Lack of Brittleness". This allows tool to slightly "bend" rather than "break" under shock or heavy load.

STI TOOL BIT INCORPORATES ALL THE ABOVE IN APPROPRIATE DEGREES.

## STI TOOL BIT ARE AVAILABLE IN FOLLOWING GRADES & RANGES :

**SINGLE S :** STI single S Tool Bits are made from M-2 High Speed Steel. This time proved tungsten molybdenum material has excellent toughness and wear-resistance. It is an economical grade for general shop purposes. It is best suited for applications involving interrupted cuts and roughing operation where strength is a pre-requisite.

**DOUBLE SS :** STI double SS tool bits have a high degree of hot hardness and wear-resistance. Made from 8% cobalt bearing M-42 steel, these offer top efficiency on difficult to machine alloys and high strength steels.

**TREBLE SSS :** STI Treble SSS tool bits have exceptional wear resistance property. Made of 10% cobalt bearing T-42 steel, these also have a high hot hardness, edge holding ability and ample toughness for all types of cutting tool applications, particularly at high temperatures and high speeds . They are especially adopted for roughing or finishing operations where maximum tool life is required for large batch automatic lathe work and all types of lathe and boring operations.

## HOW TO GET BEST OUT OF STI TOOL BITS :

**CORRECT GRINDING :** The heat generated while grinding the cutting edges reduces the hardness at the cutting edges, thereby lowering the cutting efficiency of a sharpened tool. Therefore, when grinding tool bits : \* Use a soft wheel, appropriately dressed.\* Apply Light pressure & constantly rotate the Tool Bit surface to avoid discoloration or burning of the cutting edge. \* Avoid sudden change of temperature DO NOT dip the hot Tool in cold water (otherwise the Tool will develop surface cracks, which reduce the Tool efficiency & life) \* Hand stoning of the finish ground faces lengthens life between regrinds & enhances surface finish achieved with finishing cuts.

**CORRECT FORM :** To get high cutting efficiency it is vital that correct Tool geometry (Profile) is maintained when regrinding the Tool. Correct grinding of various angles of a tool can greatly improve the Tool Bit's performance. Please refer to the STI chart for details of correct angles for different materials.



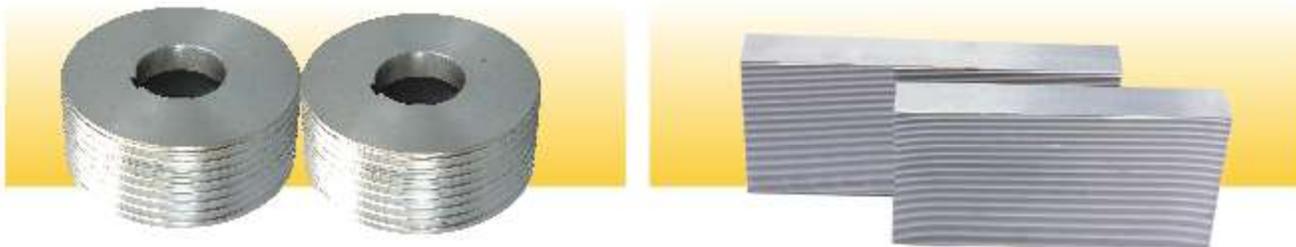
# Milling Cutters, Thread Rolls & Taps



We are manufacturing High Steel Milling Cutter i.e. Side & Face Cutters, Slotting Cutter, Cylindrical Cutters, Helical Cylindrical Cutters, Single Angle Cutter, Convex/ Concave Cutters, Shell End Mills Cutters, (Straight and Taper Shank) Slot Drill, Wood Ruff Cutter, etc.

We also manufacture Tools as per customer requirement or as per the drawing.

We are manufacturing Thread Roll from D-2 material in Two Piece set and Three Pcs set in course and fine pitch, in diameter 25 mm to 225 mm, width 15 mm to 150 mm any in Bore.

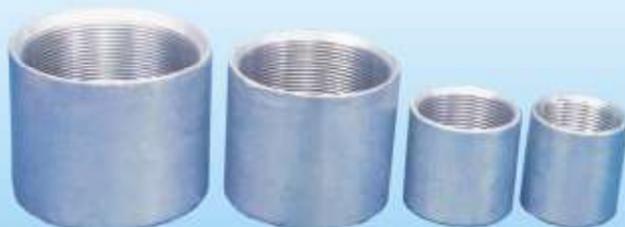


We are manufacture high speed taps, ground thread & carbon steel taps. Cut thread, in form BSW,BSF, UNC, UNF, BSCY & B.S. CONDUCT NPT, BSPT, Taper Pipe Taps, Hand Taps, Nut Tapes, Machine Taps, Long Shank Machine Taps & Special Taps as per customer's requirement.



## Sockets

### DIMENSIONS OF MILD STEEL SOCKETS



NOMINAL BORE mm	MINIMUM OUT SIDE DIAMETER mm	MINIMUM LENGTH mm
6	15.0	19
8	18.5	27
10	22.0	28
15	27.0	37
20	32.5	39
25	39.5	46
32	49.0	51
40	56.0	51
50	68.0	60
65	84.0	69
80	98.0	75
100	124.0	87
125	151.0	96
150	178.0	96
200	235.0	125



## **SUPER THREADING (INDIA) PVT. LTD.**

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