

# *TXseries*

## *TX-75Y*

Small Type  
Precision CNC Turret Lathe  
(Y axis + Rotary tools + Rigidtapping + Cs Contouring Control)

### Stable, high-speed and high-precision machining of a compact turret lathe. Additional Y axis on turret make it available for multiple cutting purpose.

Our goal was to implement the high-precision, compact CNC complex turret lathe. After reviewing the design from all aspects, newborn models are now available.

Y axis, turret tool (drill unit and rigid tap) and Cs contour control function enable complex machining in one-chuck operation. If the cycle time needs to be reduced in machining a small workpiece, this compact lathe is the best solution.



※ Photo shows a machine with options.

#### Operation

Totally new design, easy-to-use operation panel, an excellent structure for maintenance.

#### Low price

All these high performances at reasonable prices. We will contribute to low costs for customers.

### Characteristic

#### High-speed

The biggest advantage of the compact complex CNC turret lathe is zippy, efficient, smooth tool reaching, which significantly reduces the cycle time.

#### High-precision

The unique high-precision main spindle of KITAMURA MACHINE WORKS is well known. However, we reduced the cycle time by adoption of high-acceleration servomotor and latest high-speed CNC, comparing to the former model. Without compromise, we have improved the "scraped finish" that can only be achieved with traditional KNC technology and craftsmanship. We provide you with the most stable precision for many years. Furthermore, an NC order  $0.1\mu$  comes standard, Smoother taper/R processing was made possible.

#### Less space

One of the least space in this class of machines.

#### Special specifications

A great number of special accessories available for customers.

#### Specifications

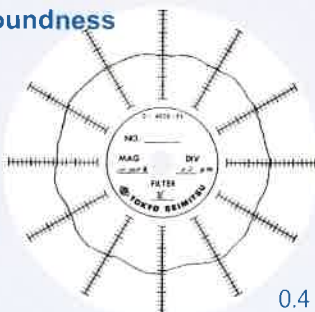
The CNC software options come standard, which generally are necessary. Examples are program storage length 1280M and multiple repetitive cycles. Special specifications are partly removed.

### Processing precision example

#### Processing condition

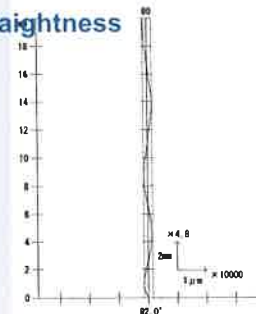
Machined material : BsBM  
 Spindle speed : 3000rpm  
 Feed : 0.03mm rev  
 Cutting depth : 0.02mm(dius diameter)  
 Tool used : Compax Nose R0.3

#### Roundness

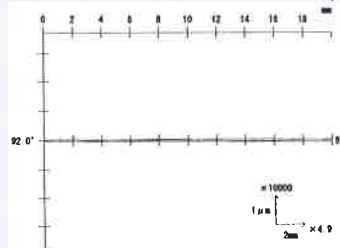


$0.4\mu\text{m}$

#### Straightness

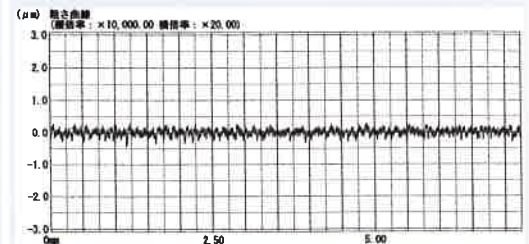


Outside diameter surface /  $0.5\mu\text{m}$

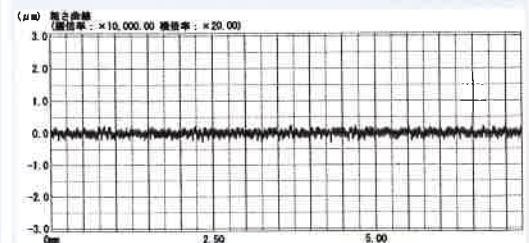


End face /  $0.3\mu\text{m}$

#### Finished surface roughness

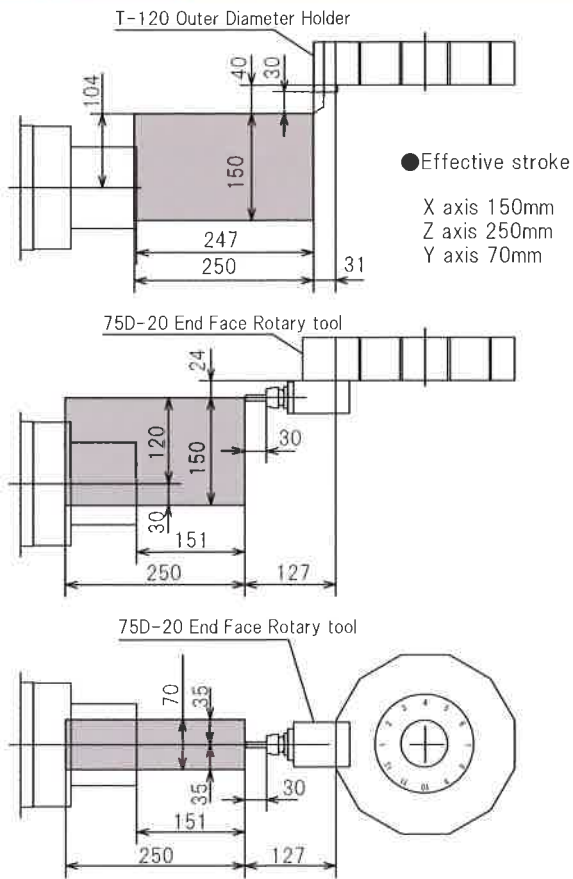


Outside diameter surface



End face

## Tooling Area



※ It is the stroke area when collet chuck type S is used

## Tool Holder

T-120  
Outer Diameter Holder

T-110  
End Face Holder

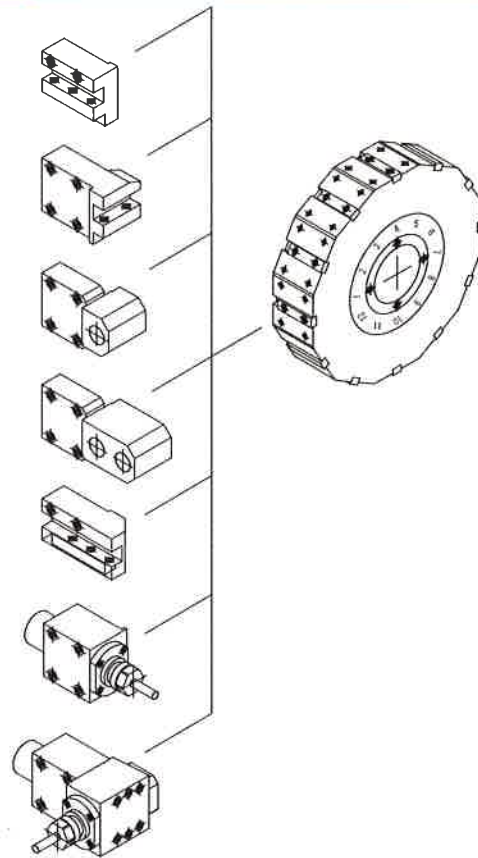
T-130B  
Boring Holder

T-130A  
Boring Holder

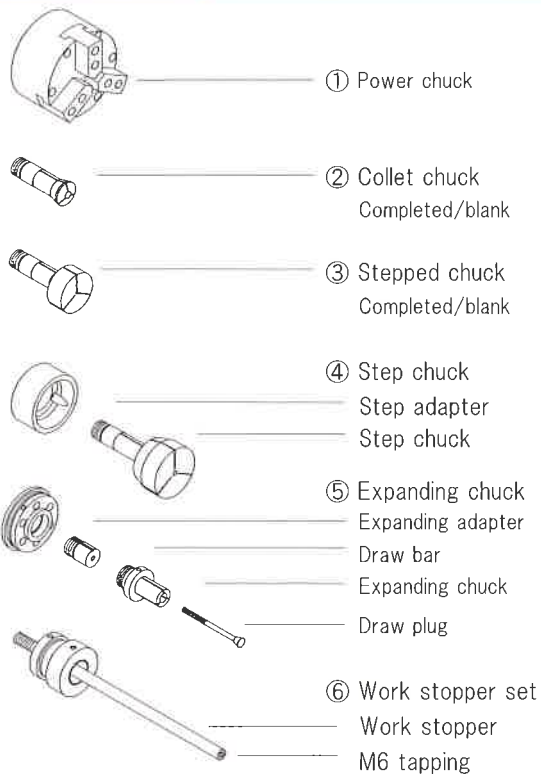
T-120L  
Cutting Off Holder

75D-10(-AR16)  
Outer Diameter Rotary tool

75D-20(-AR16)  
End Face Rotary tool



## Chucks



※ ① is standard specification and others are all options.

### ● Others chuck

- Super precision air chuck
- S type collet chuck
- Vacuum chuck

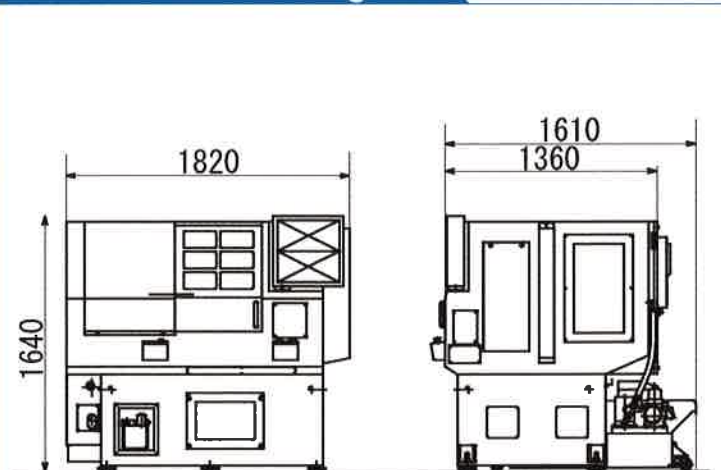
### ● Others chucking system

- Rotary air cylinder open/closed center
- Rotary hydraulic cylinder open/closed center

## Work Sample



## Outline Dimensional Diagram





## Machine Specifications

Capacity	Max turning diameter (Chuck work)	φ 100mm
	Max turning diameter (Bar work)	φ 38mm
	Max turning length	100mm
Spindle	Spindle speed	MAX 5,000min <sup>-1</sup>
	Number of spindle speed ranges	Step-less(S4 digits)
	Through hole diameter	MAX φ 38mm
Turret slide	Number of tools	12
	Indexing time	0.5sec/1pos
	Tool size	16mm
Rapid traverse	X-axis rapid traverse	15m/min
	Z-axis rapid traverse	20m/min
	Y-axis rapid traverse	10m/min
Travel of tool slide	X-axis travel	150mm
	Z-axis travel	250mm
	Y-axis travel	70mm
Rotary tools	Spindle speed	MAX 5,000min <sup>-1</sup>
Motors	Spindle drive motor	3.7/5.5kW
	Feed motors (X/Z/Y)	1.2kW
	Turret index	0.75kW
	Rotary tools spindle motor	0.9/2.2kW
etc.	Required electric power	3 φ AC200V50/60HZ 10KVA
	Height of machine	1,640mm
	Height from floor to spindle center	1,137mm
	Floor space	1,820×1,610mm
	Mass of machine	Approx.2,000kg

### Standard Accessories

- Cs contouring control + Rigidtapping
- Collet chuck type S
- Hydraulic unit chuck unit
- Coolant device with chiptank (Spindle side 250W , Tool side H/p 400W)
- Work light
- Tools and toolbox
- Machine mount
- Hydraulic unit

## CNC Standard Specifications

Control unit	KNC & FANUC Oi - TD	
Controlled axes	Simultaneously controllabel 3 axes,2 axis in manual mode	
Input method	MDI keyboard input,combined use of absolute/incremental programming	
Program memory capacity	1280m tape	
Interpolation	Linear,taper,circular,threading	
Least input increment	0.0001mm	
Least command increment	X axis	0.00005mm
	Z axis	0.0001mm
	C axis	0.0001deg
Tool offset	Geometry	±999.9999
	Wear	±9.9999
Tool offset pairs	64pairs	
Number of registerable programs	400parts	
Manual handle feed	0.5/0.1/0.01/0.001mm	
Auxiliary function	M2(Multiple commands 3),S4,T4 digits	
Feed rate override	0~150%	
Rapid trverse override	F0,25,50,100%	
Input/output interface	RS232C/Memory card	
Display language	Japanese/English/Traditional Chinese/Simplified Chinese/French/ German/Italian/Spanish/Korean	

### Others Specifications

- Canned cycles (G90,G92,G94)
- Inch/metric conversion
- Multiple repetitive cycles (G70~G76)
- Background editing
- Run hour and parts count display
- Graphic function
- Canned cycles for drilling (G80~G89)
- Cylindrical interpolation (G107)
- Variable lead threading (G34)
- Custom macro B
- Extended part program editing
- Sequence number search
- Unexpected disturbance torque detection
- Rigidtapping
- Programmable data input (G10)
- G code system B
- Constant surface speed control
- Direct drawing dimension programming
- Tool nose radius compensation
- Conversational programming with graphic function
- Polar coordinate interpolation (G112,G113)
- Threading retract
- Directory display of floppy cassette
- Workpiece coordinate system (G52~G59)
- Adding of custom macro common variables
- Multiple repetitive cycle II
- Cs contouring control

## Example optional specifications



Air blow



Oil temp controller



Chip conveyor



Signal Tower



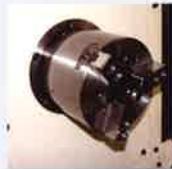
Chuck Foot switch



Work preset counter



Collet chuck type S



Power chuck



Precision air chuck



Simple bar feeder



NC Servo Loader



Parts conveyor



Work stocker



Oil mist collector



Parts catcher

- Variety chucks
- Variety tool holders
- Oil mist spray
- Parts feeder
- Operation panel language English/Chinese
- Variety robots & Loader
- Auto door
- Spindle motor power up
- Spindle Through hole diameter up
- High pressure coolant pump
- Spindle inner coolant
- Variety bar feeder system

※Please feel free to contact us for other options of customization to your specifications.

※The above specifications may be different from the photograph.

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