

# *TXseries*

**TX-120**

**Small Type Precision  
CNC Turret Lathe**

It is the stable high-speed high precision in the good small turret lathe of operativity, and is efficiency up.

With excellent operability and performance, opens up new turret lathe's possibilities.

Since making its first appearance in 2000, the [TX-120 series] has evolved over the years. Now, the series is renovated.



※ Photo shows a machine with options. It is also with rotary tools TX-120D.

### 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

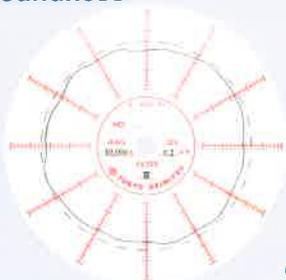
The CNC software options come standard, which generally are necessary. Examples are program storage length 1280M and multiple repetitive cycles. Special specifications are partly removed.

### Processing precision example

#### Processing condition

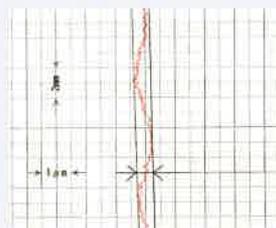
Machined material : BsBM  
Spindle speed : 3000rpm  
Feed : 0.03mm rev  
Cutting depth : 0.02mm(dius diameter)  
Tool used : Compax Nose R0.3

#### Roundness

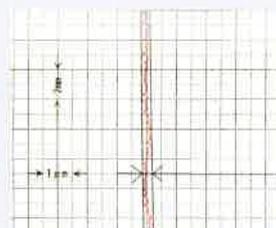


0.4μm

#### Straightness

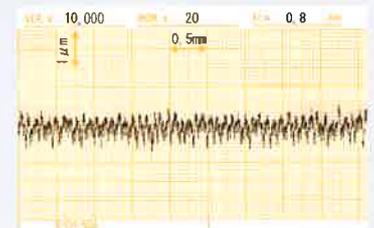


Outside diameter surface / 0.55μm

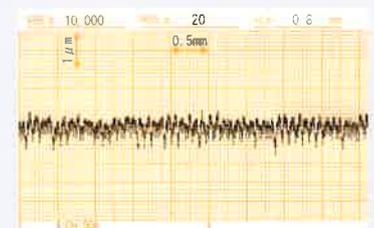


End face / 0.3μm

#### Finished surface roughness

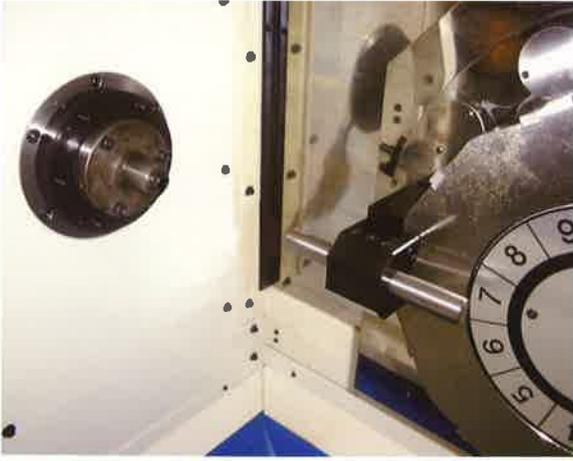


Outside diameter surface

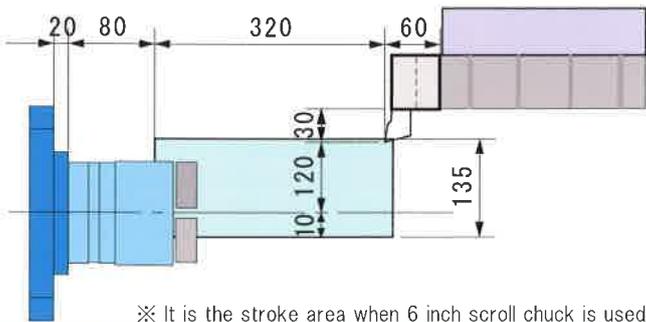


End face

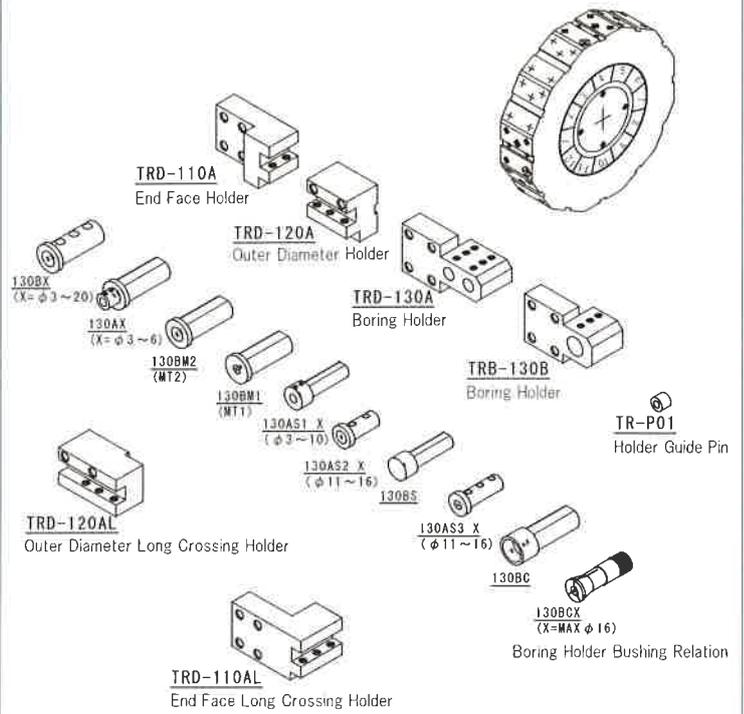
## Tooling Area



● Effective stroke  
X axis 130mm  
Z axis 320mm



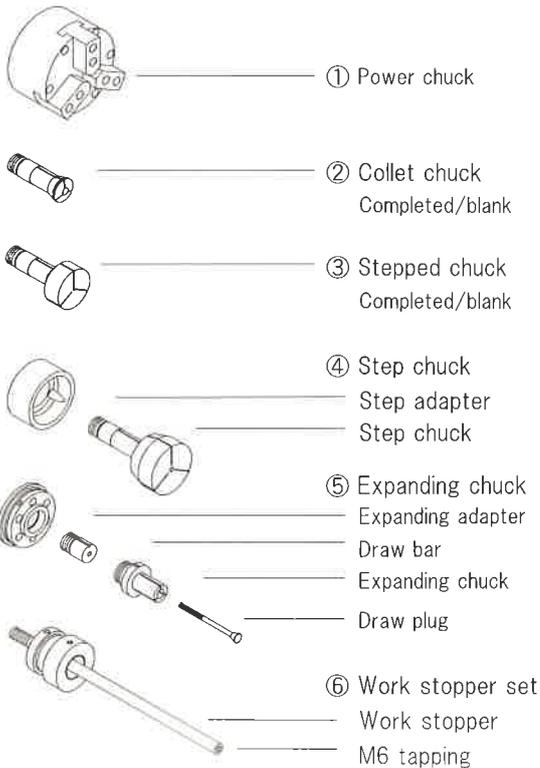
## Tool Holder



## Work Sample



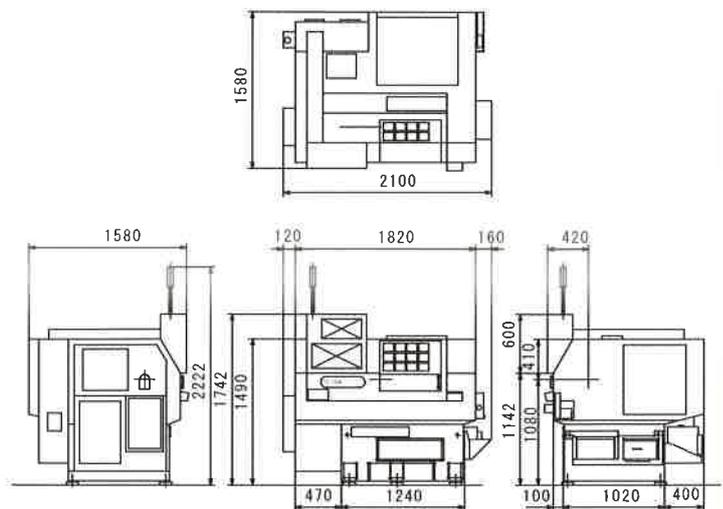
## Chucks



※ ① is standard specification and others are all options.

- Others chuck
  - Super precision air chuck
  - S type collet chuck
  - Vacuum chuck
- Standard chucking system
  - Rotary hydraulic cylinder open center

## Outline Dimensional Diagram



## Machine Specifications

Capacity	Max turning diameter (Chuck work)	φ 120mm
	Max turning diameter (Bar work)	φ 40mm
	Max turning length	120mm
Spindle	Spindle speed	MAX 5,000min <sup>-1</sup>
	Number of spindle speed ranges	Step-less(S4 digits)
	Through hole diameter	MAX φ 42mm
Turret slide	Number of tools	12
	Indexing time	0.5sec/1pos
	Tool size	20mm
Rapid traverse	X-axis rapid traverse	15m/min
	Z-axis rapid traverse	20m/min
Travel of tool slide	X-axis travel	130mm
	Z-axis travel	320mm
Motors	Spindle drive motor	7.5/11kW
	Feed motors (X/Z)	X:1.2kW Z:1.2kW
	Turret index	1.2kW
etc.	Required electric power	3 φ AC200V50/60HZ 16KVA
	Height of machine	1,742mm
	Height from floor to spindle center	1,080mm
	Floor space	2,100 × 1,580mm
	Mass of machine	Approx.2,400kg

### Standard Accessories

- Hydraulic chuck unit
- 5inch Scroll chuck
- Coolant device with chiptank (Spindle side 250W , Tool side H/p 400W)
- Hydraulic unit
- Work light
- Tools and toolbox
- Machine mount

## CNC Standard Specifications

Control unit	KNC & FANUC Oi - TD	
Controlled axes	Simultaneously controllabel 2 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
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	M3(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
- 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
- Threading retract
- Directory display of floppy cassette
- Workpiece coordinate system (G52~G59)
- Adding of custom macro common variables
- Multiple repetitive cycle II

## 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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