

TXseries

TX-120D

Small Type Precision CNC Multiple Turret Lathe
Rotary tools + Rigidtapping + Cs Contouring Control

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Rotary tools | Rigidtapping | Cs Contouring Control

■ One-chuck operation by complex machining as well as stable, high-speed, high-precision machining of a compact turret lathe.

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. The 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. Is your lathe best suited for a workpiece to be machined?



※ 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 0.1μ 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

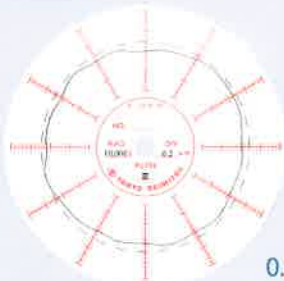
The CNC software options come standard, which generally are necessary. Examples are program storage length 1280M and multiple repetitive cycles. Special specifications are partly removed.

■ Processing precision example

■ Processing condition

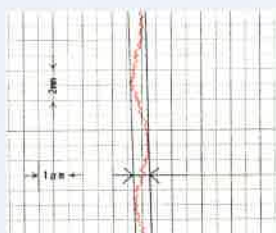
Machined material : BsBM
Spindle speed : 3000rpm
Feed : 0.03mm rev
Cutting depth : 0.02mm(dius diameter)
Tool used : Compax Nose R0.3

■ Roundness

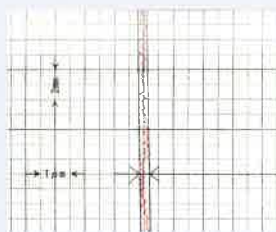


0.4μ m

■ Straightness

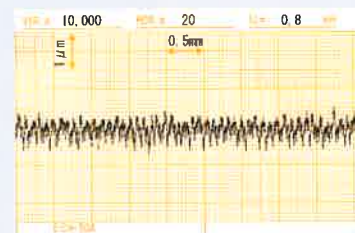


Outside diameter surface / 0.55μ m

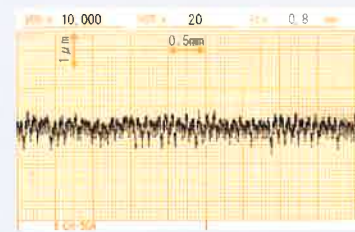


End face / 0.3μ m

■ Finished surface roughness

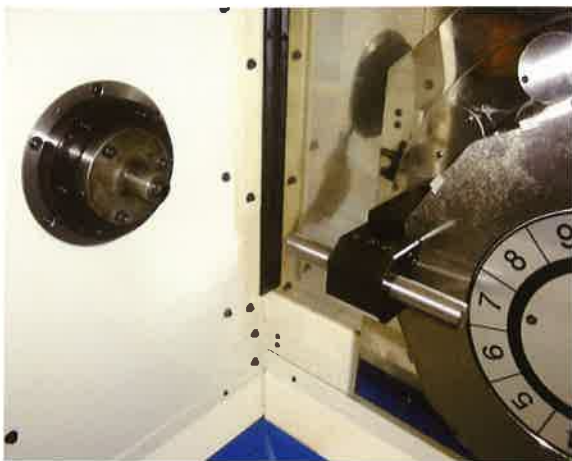


Outside diameter surface

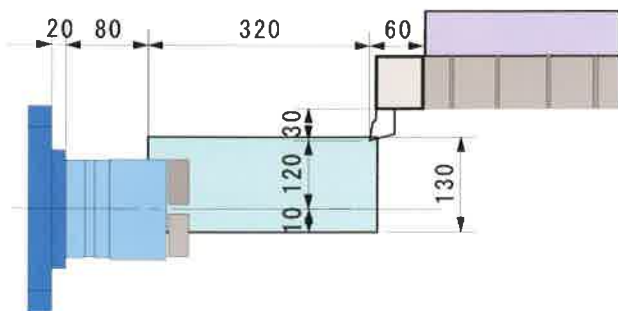


End face

Tooling Area

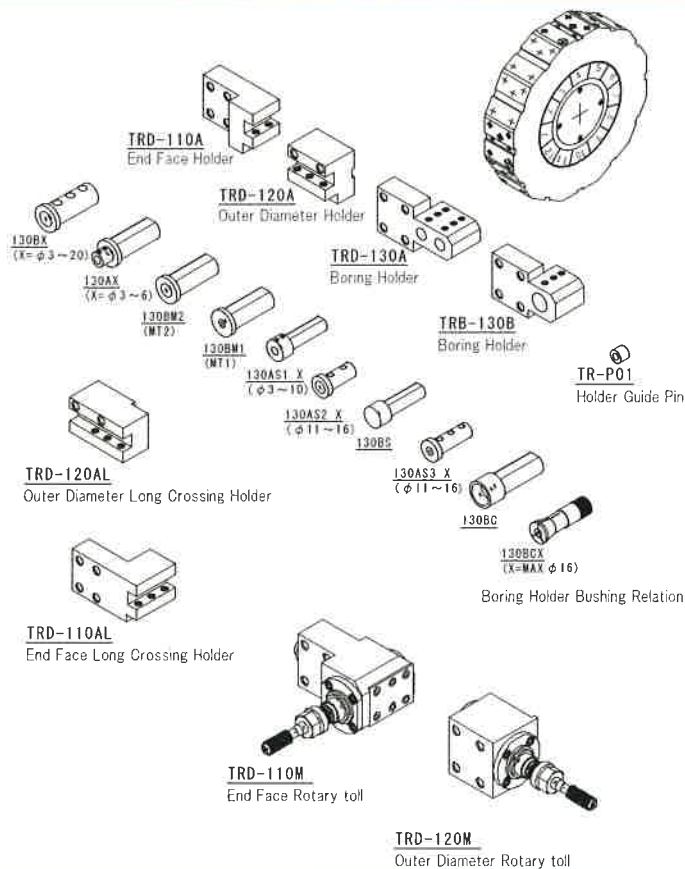


- Effective stroke X axis 130mm
Z axis 320mm



※ It is the stroke area when 6 inch scroll chuck is used.

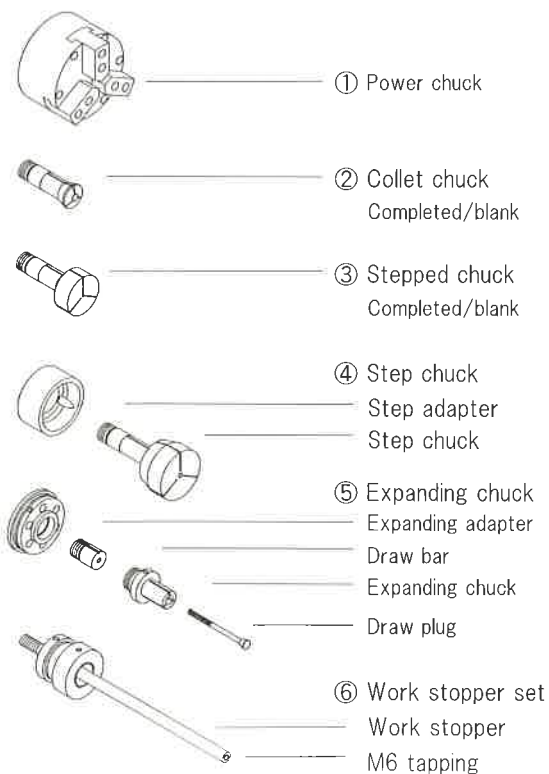
Tool Holder



Work Sample



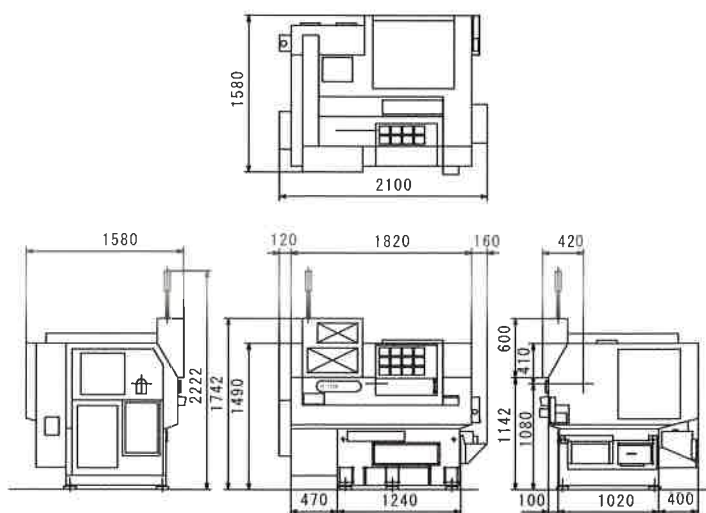
Chucks



※ ① is standard specification and others are all options.

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

Outline Dimensional Diagram



Machine Specifications

| | | |
|----------------------|-------------------------------------|----------------------------|
| Capacity | Max turning diameter (Chuck work) | φ 120mm |
| | Max turning diameter (Bar work) | φ 45mm |
| | Max turning length | 120mm |
| Spindle | Spindle speed | MAX.5,000min ⁻¹ |
| | 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 |
| Rotary tools | Spindle speed | MAX.5,000min ⁻¹ |
| Motors | Spindle drive motor | 7.5/11kW |
| | Feed motors (X/Z) | X:1.2kW Z:1.2kW |
| | Turret index | 1.2kW |
| | Rotary tools spindle motor | 0.9/3.7kW |
| etc. | Required electric power | 3φ 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

- Cs contouring control + Rigidtapping
- 5inch Scroll chuck
- Hydraulic 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 | 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
- 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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