THL Machine
Since 2000

The Automatic Cycle software and production tooling allow a complete block to be machined without operator attention. Once the job is set up and the "Cycle Start" button is pressed, the operator is free to walk away and do other work while the machine completes its process – automatically and accurately.

Model: TX200CNC

Wireless Radio Probing

Machine Operations

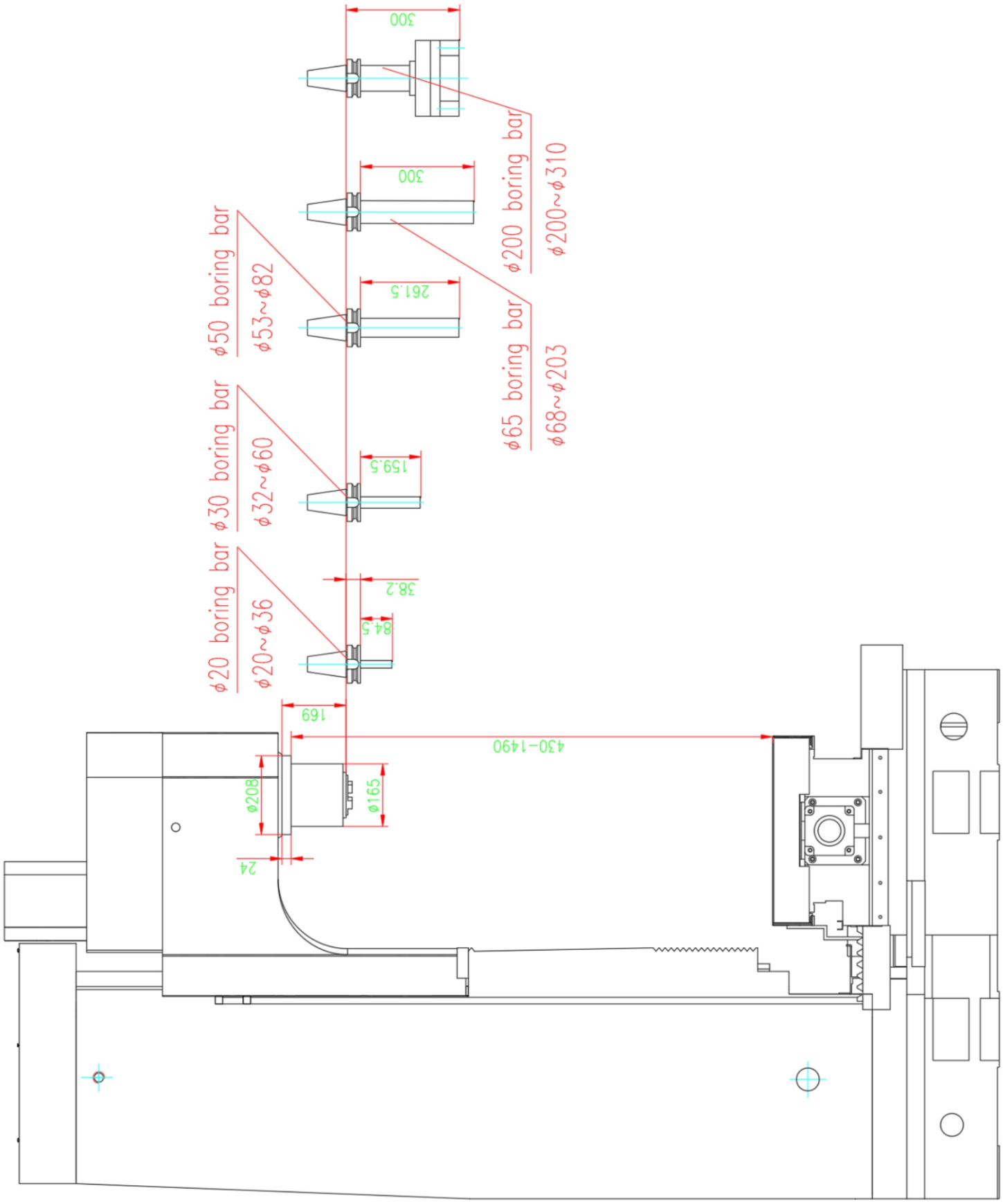
- ☑ *Block Surfacing*
- ☑ *Boring*
- ☑ *Cylinder Boring*
- ☑ *Cylinder Head Resurfacing*
- ☑ *Cylinder Chamfer*
- ☑ Sleeve Top Bore

Specifications

Model	TX200CNC	T200CNC
CNC System	LNC ELC-2442BD3-A2V2M10	
Boring range	Φ20～Φ310mm	
Max. boring depth	300mm (Depending on the spindle boring bar)	
Milling head diameter	Φ350	Without milling
Max. Milling plane	400×1000mm	Without milling
Max. spindle head travel	1050mm	
Distance from spindle C/L to column ways	400mm	
Size of working table (including water slot)	500×1500mm	
Amount of working table T slot	5	
Longitudinal travel of working table	1500mm	
Cross travel of working table	200mm	
Tool holder	BT50	
Spindle speed	50～1200rpm	
Spindle Feed	10～9000mm/min	
Longitudinal feed of table	10～6000mm/min	
Horizontal feed of the table	1500mm/min	
Spindle motor	5.5KW AC servo motor	
Spindle vertical movement motor	2.3KW AC servo motor	
Table longitudinal movement motor	2.3KW AC servo motor	
Table horizontal movement motor	1.3KW AC servo motor	
Overall dimension	280×165×270cm	
Packing dimension	255×180×258cm	
Net weight	3700kg	
Gross weight	4000kg	
Precision of boring dimension	H7	
Roughness of boring surface	Ra2.5	
Roughness of milling surface	Ra3.2	Without milling
*All technical data and photos are subject to change due to designing without notice.		

Note: Model T is just Boring Machine without Milling function.

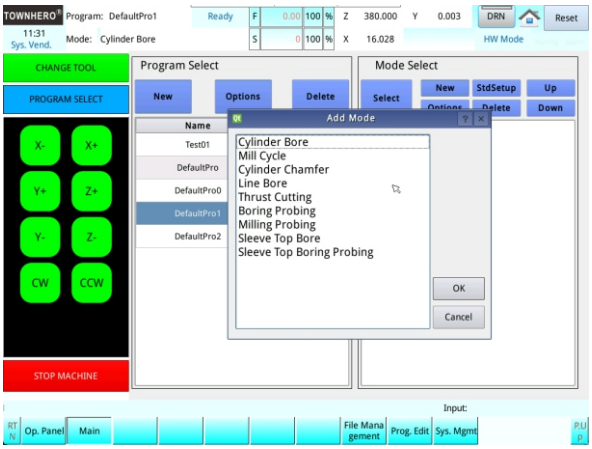
Spindle system diagram



Features

1.CNC system

Uses CNC OS and Touch Screen Technology through 15" touch panel. The CNC software has many advantages such as a common user interface that the whole world is familiar with.
Touch Screen Controls located on a flexible adjustable pendant arm for ease of operation from front or rear of the machine.



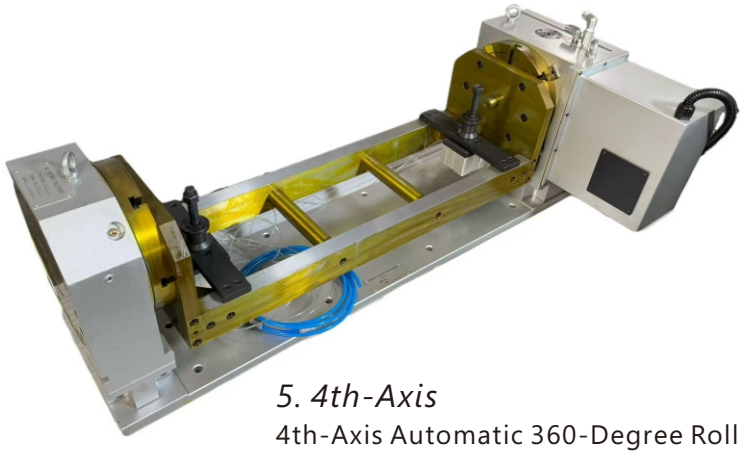
2.Hand wheel for Manual Movement and Variable Feedrate

For manual movement. the operator is able to move the machine by rotating the hand wheel just like a manual machine. The hand wheel has a clicking action and each click moves the machine an exact amount: In Coarse Mode, the machine moves 0.1mm per click allowing very fast movement. In Medium Mode, the machine moves 0.0mm per click allowing slower movement. In Fine Mode, the machine moves 0.001mm) per click allowing very fine movement of the machine.

Once the machine Is operating in automatic cycle, the operator Is able to vary the feed rate or speed of movement from zero to 100%. This allows operators to slow down and speed up automatic movement while not changing the spindle cutting speed. This function is ideal for operators learning the machine and checking their programs to be sure they *have best productivity and safety, and not damaging cutting tools and jobs.*

3.Wireless Radio Probing

Computer controlled wireless probe automatically finds cylinder bore centers.
The deck (head gasket face) can be probed to check flatness and squareness to ensure accuracy and minimum metal removal when surfacing.



5. 4th-Axis

4th-Axis Automatic 360-Degree Roll Over Fixture for increased productivity.

4.BT50 Tool holder

World standard BT50 Spindle for fast tool changing and worldwide versatility.

Accessories

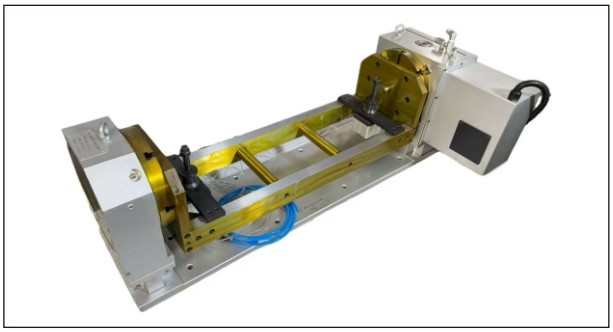
1 CNC operation box

2 Wireless Radio Probing

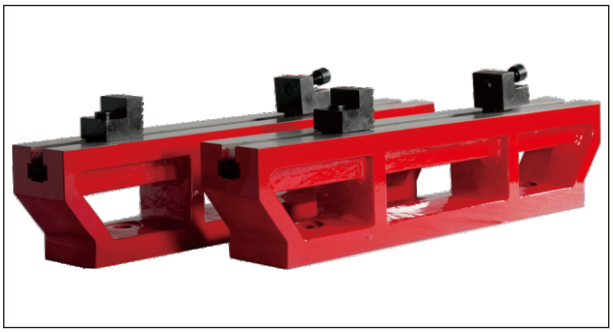
3 External handwheel

4 Bore gauge

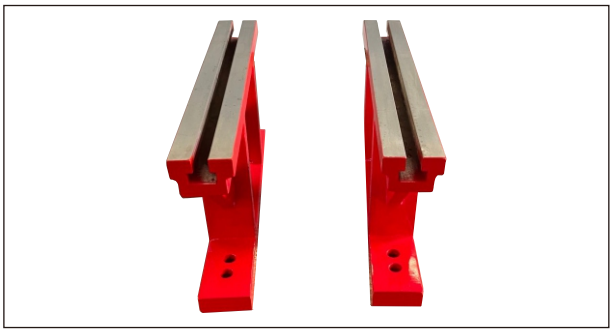
5 *4th-Axis*



6 Universal fixture



7 parallel block



8 Quick acting fixture

9 Belt-drive spindles

10 Drilling and reaming chuck (Φ1~Φ16mm)

11 Φ20 boring bar (Φ20~Φ36mm depth 84mm)

12 Φ30 boring bar (Φ32~Φ60mm depth 159mm)

13 Φ50 boring bar (Φ53~Φ82mm depth 260mm)

14 Φ65 boring spindle (Φ68~Φ203mm depth 300mm)

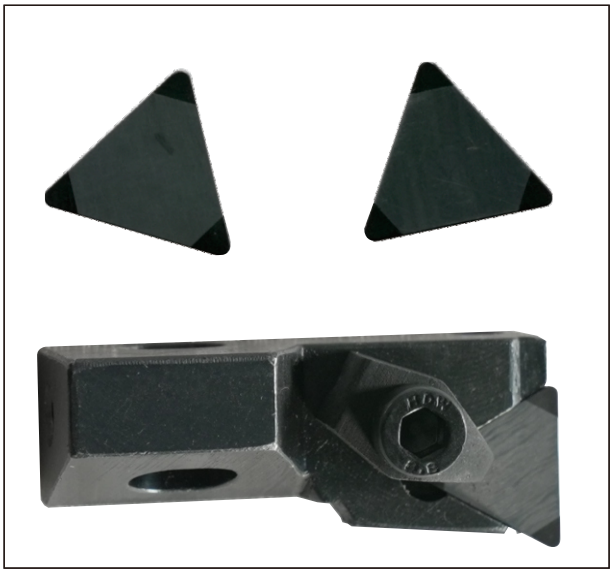
15 Φ200 boring bar (Φ200~Φ310mm depth 300mm)

16 Face mill (Φ50mm)

17 Surfacing cutterhead (Φ350mm)

18 Right angle spindle

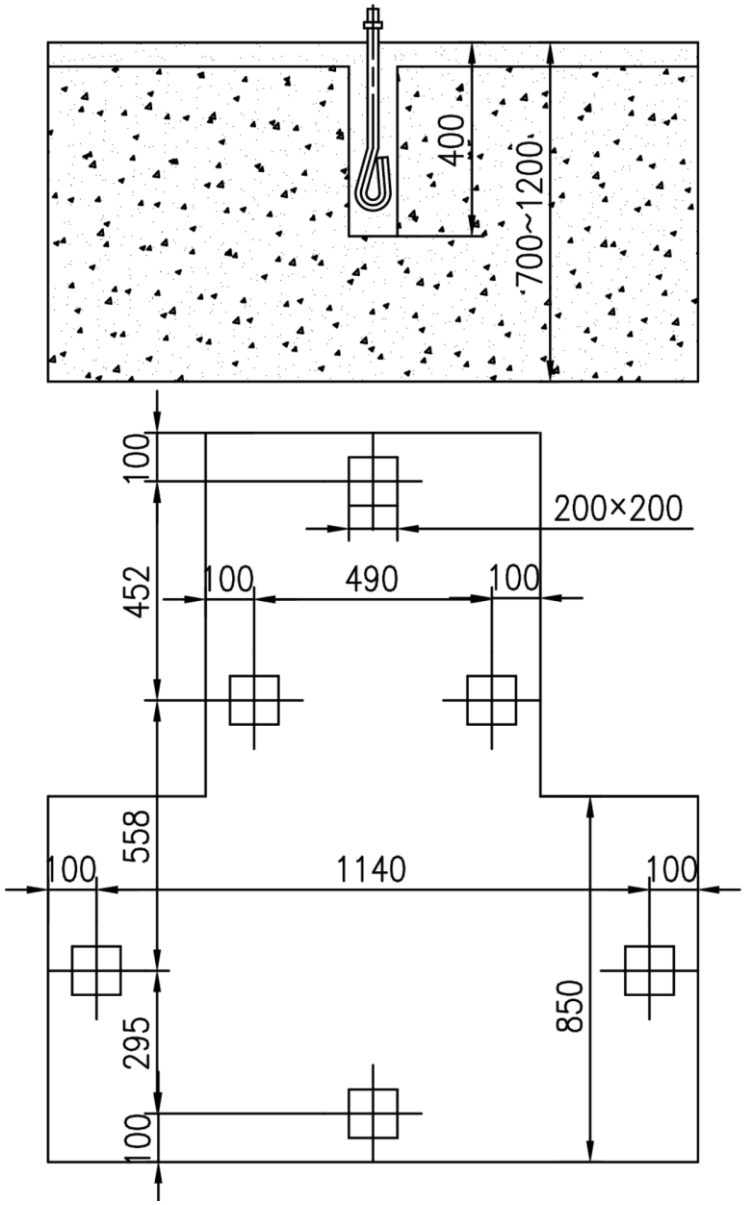
19 Triangular inserts (CBN/PCD) and holder



20 Tool management vehicle

21 Packing tool

Talbe of standard Acc. and optional Acc.

Model	Standard	Optional
TX200CNC	1, 2, 9, 21	3, 4, 5, 6, 7, 8, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20
T200CNC	1, 2, 9, 21	3, 4, 5, 6, 7, 8, 10, 11, 12, 13, 14, 15, 16, 18, 20

Installation Foundation Drawing