

The explanation, diagram and technical parameter are varying with continuous technology development without further notice.

General type **Q/S Series** CNC Horizontal Lathe

Parameters

Item	Unit	T 5.1-100Q	T 5.1-500Q	T 5.2-500Q	T 5.2-1000Q	T 5.2-500S	T 5.2-1000S
Max. cutting dia.	mm	Φ160	Φ280	Φ360	Φ360	Φ380	Φ380
Max. cutting length	mm	160	500	500	1000	500	1000
Max. swing over bed	mm	Φ420	Φ420	Φ560	Φ560	Φ560	Φ560
Max. swing over slide	mm	Φ160	Φ280	Φ350	Φ350	Φ400	Φ400
Spindle							
Spindle nose		A2-5	A2-6	A2-6	A2-6	A2-8	A2-8
Front bearing dia.	mm	90	100	100	100	120	120
Spindle taper and hole size		1:20; Φ62	1:20; Φ70	1:20; Φ70	1:20; Φ70	1:20; Φ90	1:20; Φ90
Dia.of spindle hole	mm	Φ56	Φ65	Φ65	Φ65	Φ80	Φ80
Max.dia.of bar	mm	Φ44	Φ50	Φ50	Φ50	Φ65	Φ65
Chuck size	inch	6	8	8	8	10	10
Spindle speed	r/min	5000	4500	4500	4500	4000	4000
Spindle torque	N·m	35(2000r/min)	110(769r/min)	136(769r/min)	136(769r/min)	180(769r/min)	180(769r/min)
Max.spindle torque	N·m	70(1500r/min)	180(576r/min)	245(576r/min)	245(576r/min)	300(576r/min)	300(576r/min)
Main motor output power continuous/30min	kW	7.5/11	9/11	11/15	11/15	15/18.5	15/18.5
X/Z axis							
X/Z rapid traverse	m/min	30	30	30	30	20	20
X axis travel	mm	145	160	200	200	200	200
Z axis travel	mm	205	560	560	1050	560	1025
Tailstock							
Tailstock travel	mm	-	300	500	950	350	770
Drive method		-	Machine body	Servo drive	Servo drive	Machine body	Machine body
Quill travel	mm	-	100	-	-	100	100
Quill diameter	mm	-	Φ80	-	-	Φ100	Φ100
Tailstock taper	Morse	-	MT-5	MT-5	MT-5	MT-4	MT-4
Turret							
Turret type		Horizontal 8 positions servo turret	Horizontal 8 positions servo turret	Horizontal 8 positions servo turret	Horizontal 8 positions servo turret	Horizontal 8 positions servo turret	Horizontal 8 positions servo turret
Center height	mm	63	80	80	80	100	100
Rotary repeat positioning	Sec.	±1.6	±1.6	±1.6	±1.6	±1.6	±1.6
Nearby tooling		Yes	Yes	Yes	Yes	Yes	Yes
Others							
Distance between spindle center and floor	mm	926	936	1015	1015	1015	1015
Weight	kg	2600	3500	4200	4750	4300	5000
Power capacity	kVA	23	23	27	27	42	42
Overall dimensions(LxWxH)	mm	1750×1650×1650	2300×1680×1650	2750×1890×1900	3620×1890×1900	2870×1890×1900	3750×1890×1900

Note: The parameters provided in the table are for reference only. In case of any change, please refer to the actual object.



Standard specifications

- FANUC-0i-TF Plus(5)controller
- Sleeve type spindle
- Hollow chuck and cylinder
- 8-position servo turret

Options

- 12-position servo turret
- Power turret
- Rear conveyor
- Pneumatic door
- Tool detective device
- Workpiece measuring device
- Oil mist collector
- Tool breakage inspect device

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General **Q/S Series**

CNC Horizontal Lathe

High precision & efficiency CNC lathe

T5.1-100Q/T5.1-500Q
T5.2-500Q/T5.2-1000Q
T5.2-500S/T5.2-1000S

Machine instruction

New T5-Q/S serial universal CNC lathe has good cutting ability, can do various swing workpiece machining and provide best using experience, optimized by professional design & analyse software and advanced manufacturing & inspection technology in assembling process.

T5.1-Q serial occupies little ground which suitable for pricious small workpiece in automobile, bearing, accessory and medical industry.

T5.2-Q serial machines suitable for shaft, disk type workpiece, for example, ball cage, motor shaft, gear shaft, etc.

T5.2-S serial use boxway in feeding part with high rigidity, suitable for shaft and disk machining in automobil, bearing, constructure machinery industry.

High precision

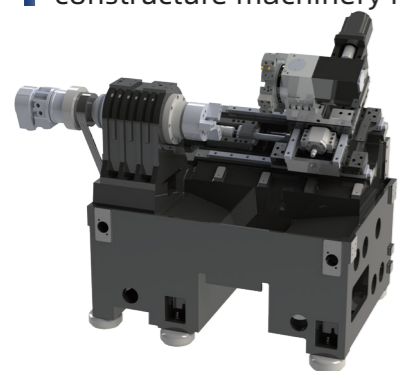
- ◆ C3 class pre-tension screw
- ◆ Error compensation technology
- ◆ Assembling technology standardization

High efficiency

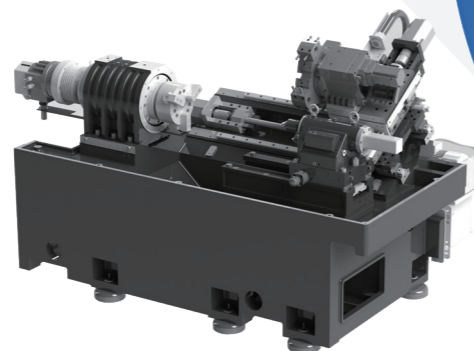
- ◆ X/Z axis rapid travel speed
- ◆ Split servo tailstock
- ◆ Effective servo turret

High rigidity

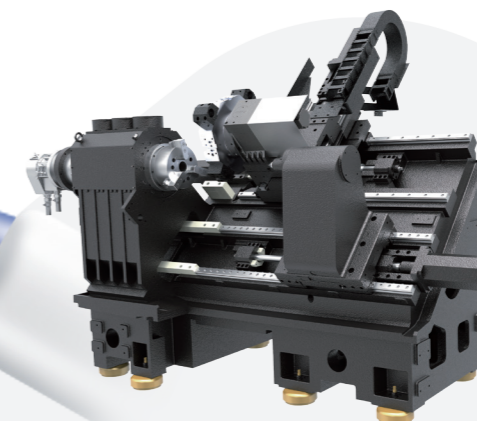
- ◆ Good quality main parts, casting, etc
- ◆ Large span double line roller spindle bearing
- ◆ Anti-bend body design



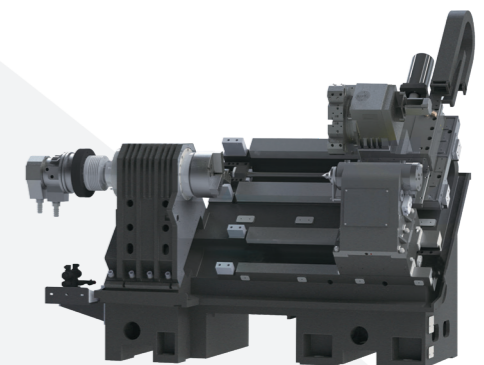
T5.1-100Q



T5.1-500Q

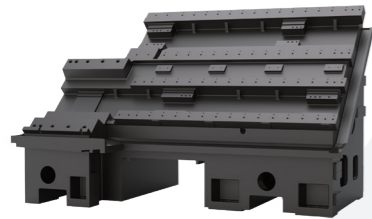


T5.2-500/1000Q



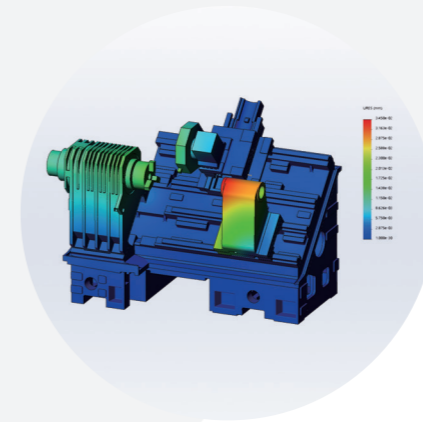
T5.2-500/1000S

High rigidity



High rigidity body

Overall body with high rigidity, U shape structure in the body to giving enough support to important parts, double scotch in the headstock surface to improve cutting rigidity.



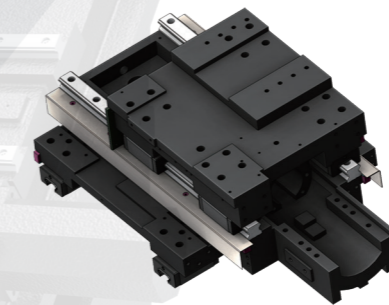
Whole machine FEA analyse

Optimize machine structure and improve rigidity, anti-vibration by FEA analyse and topology design, also get can mass production for swing type workpiece.



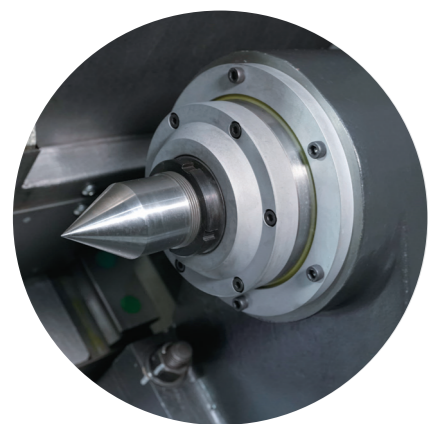
High rigidity spindle

Big gap sleeve type spindle unit has double line bearings and ball bearings support to enhance the spindle's rigidity and torque, can get excellent heavy cutting result.



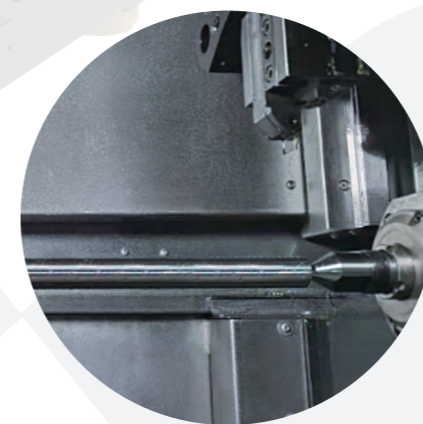
Anti-bend body

By enlarge guideway width to optimize moving structure, machine body uses circular design to ensure the rigidity for the key parts.



Second spindle tailstock

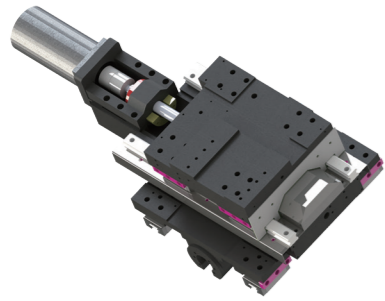
This tailstock as option with internal roller bearings and ball bearings, can improve cutting rigidity in tailstock side, especially for long shaft workpiece.



Rigidity cutting test

Dia. $\phi 70\text{mm}$ batch test:
 Material: 45#
 Shaft workpiece cutting length/dia. more than 1:20
 Material: 40Cr
 Shaft workpiece cutting length/dia. more than 1:25

High precision



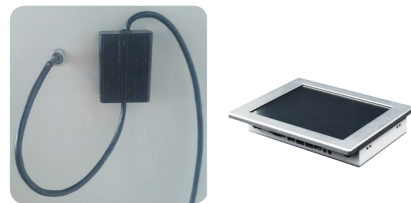
Double support pre-tension structure

Pre-tension screw with double support on X axis. Special seal design can decrease temperature warm up, to get feeding high precision and stability.



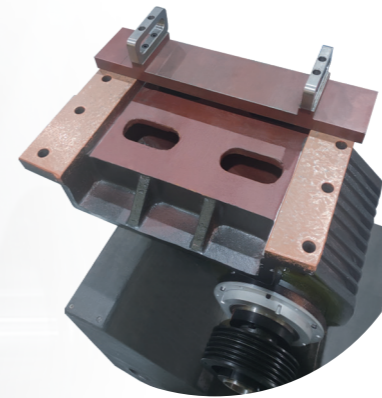
High precision ballscrew

Adopts high quality imported C3 class ballscrew and H class guideway driven by servo motor to get running precision.



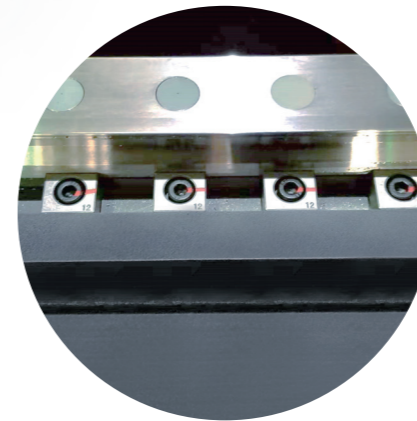
Error compensation technology

Digital temperature display can predict temperature warm up during machine running, meanwhile compensate spindle and feeding axial to improve the precision.



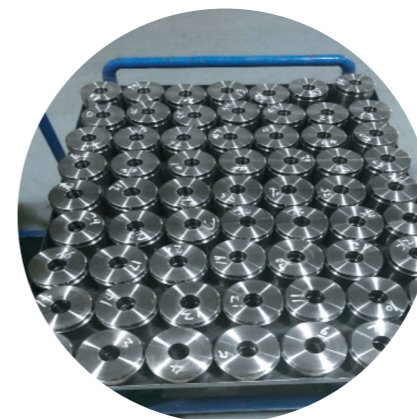
R&D of patented tooling

Special patent assembling skill of spindle and feeding axial can ensure the assemble precision.



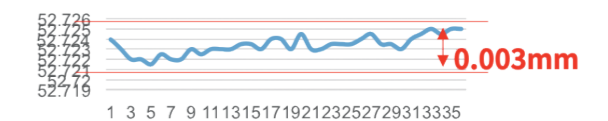
Assemble quantitative technology

Use torque wrench, tensiometer, dynamic balance instrument and laser interferometer for key parts to ensure the assemble result.



Precision cutting test

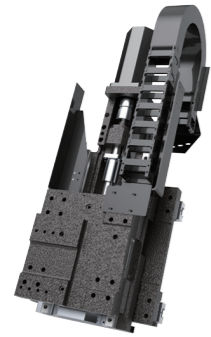
Repeat machining precision error up to: 0.003mm



Actual result may relate to material, tooling and lubrication, the result may be little different.

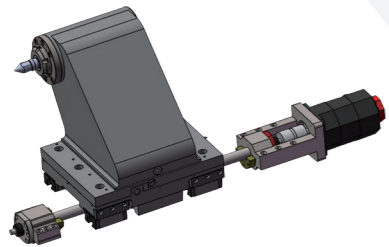
Machine for mass test, CMK2.0 and above(IT6 Class)

High efficiency



Rapid traverse speed: 30m/min

Coupling and ballscrew contact by servo motor driven without gap. X/Z axis both installed import linear guideway to ensure the high rigidity, excellent dynamic ability and precision, improve running speed and production efficiency.



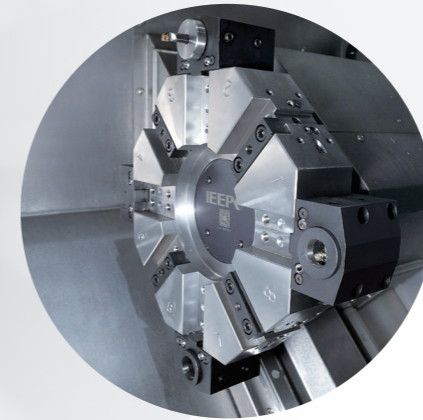
Split type servo tailstock

Tailstock driven by servo way, adjust tailstock moving speed and jacking force according to workpiece demand to get tailstock fast contact without touch. UP-down position separate tailstock easy to adjust and improve maintain efficiency.



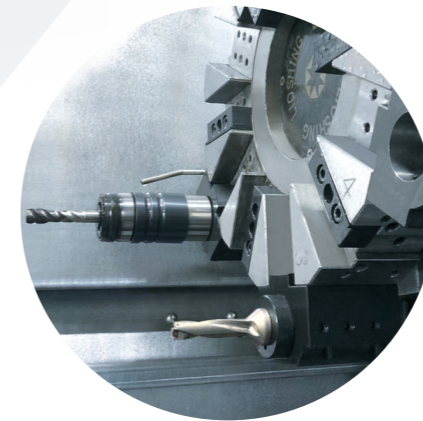
Sub-spindle module

Sub-spindle as option can get multiple process machining and improve efficiency.



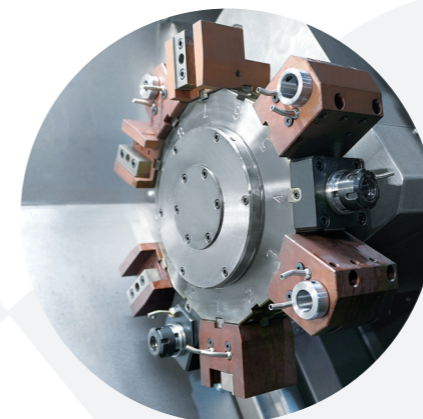
Effective servo turret

Servo turret can continuously rotate and be fast, bidirectional, especially suitable for frequent tool change. Turret rotation driven by reduction motor, locked well in the right location. The internal design is simple, not easy to brake down.



Coolant through turret as option

Lubrication can go through tool holder in coolant through turret. Chips easy to remove from deep hole machining and ensure the result.



Servo powered turret

As option, works with C axis and double powered holder, can do turning, milling and drilling.

Industry applications



Motor axial	
Industry	Pump motor
Material	45
Processing time	330s



Ball cage	
Industry	Automobile
Material	55
Processing time	120s



Camshaft	
Industry	Automobile
Material	45
Processing time	318s



Gear shaft	
Industry	Automobile
Material	45
Processing time	190s

Excellent performance on various industries



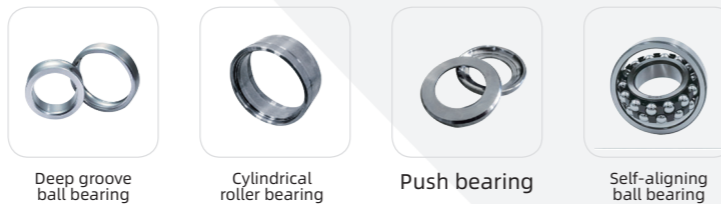
Automobile



Motor



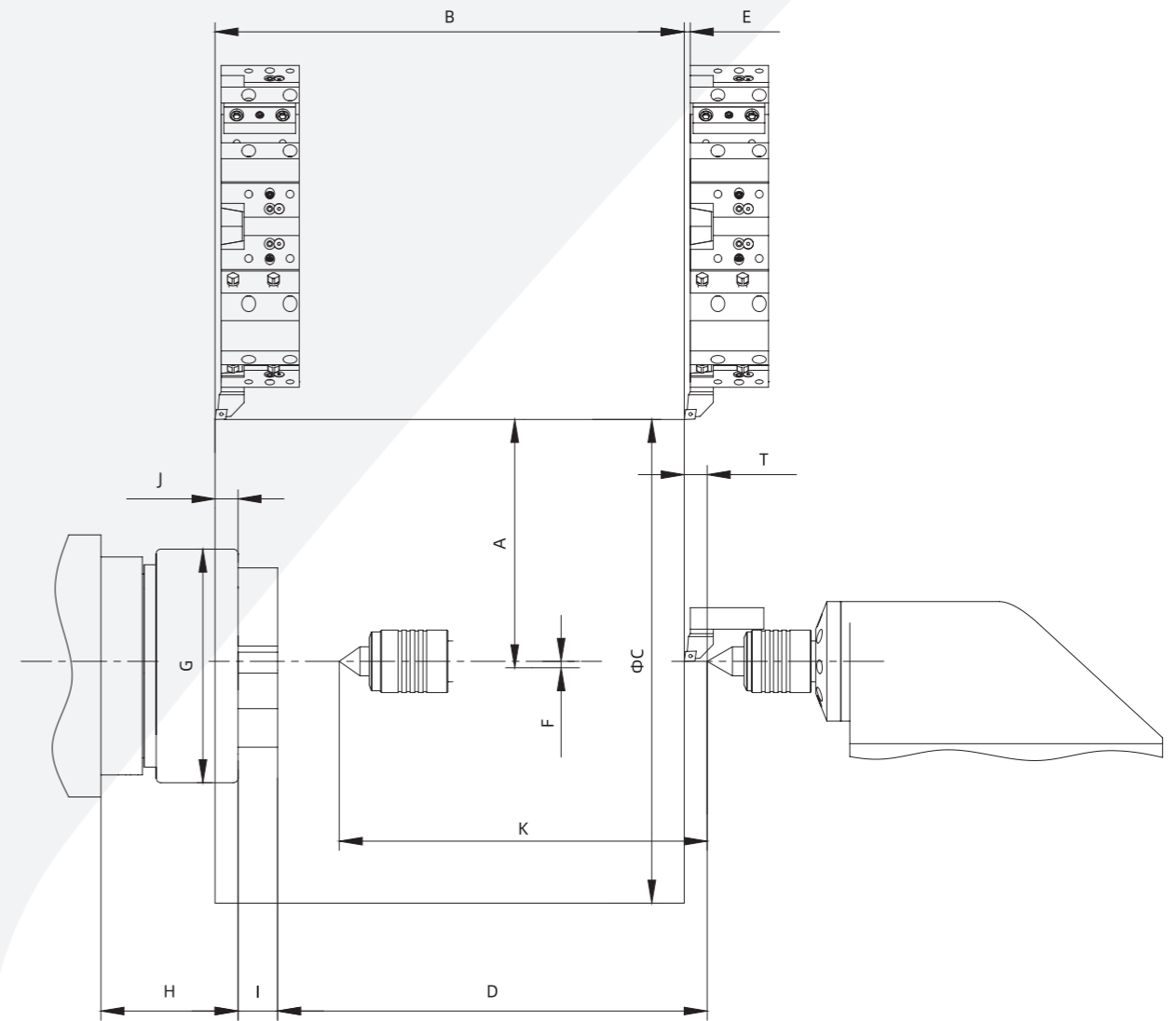
Bearing



General



Machining range

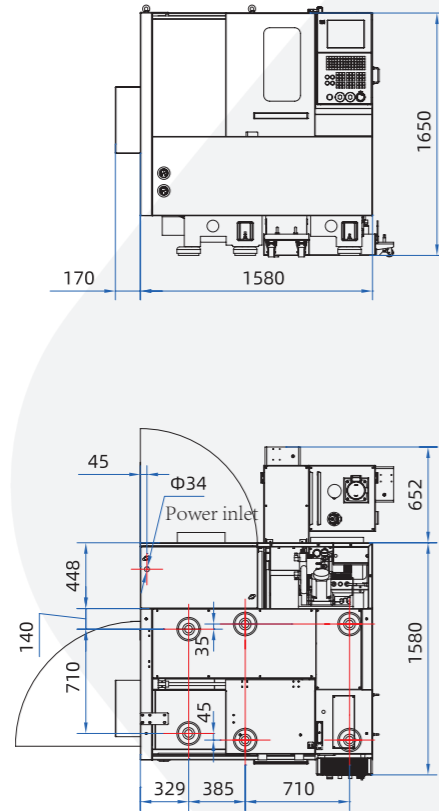


Model	Unit	A	B	C	D	E	F	G	H	I	J	K	T
T5.1-100Q	mm	145	205	280	163	7	5	169	163	37.5	5	-	-
T5.1-500Q	mm	160	560	310	519	7	5	210	140	39.5	2	400	0
T5.2-500Q	mm	200	560	390	510	7	5	210	140	39.5	5	500	0
T5.2-1000Q	mm	200	1050	390	1010	7	5	210	140	39.5	5	950	0
T5.2-500S	mm	200	560	390	510	7	5	254	158	43	5	450	0
T5.2-1000S	mm	200	1025	390	970	7	5	254	158	43	5	870	0

Machine layout

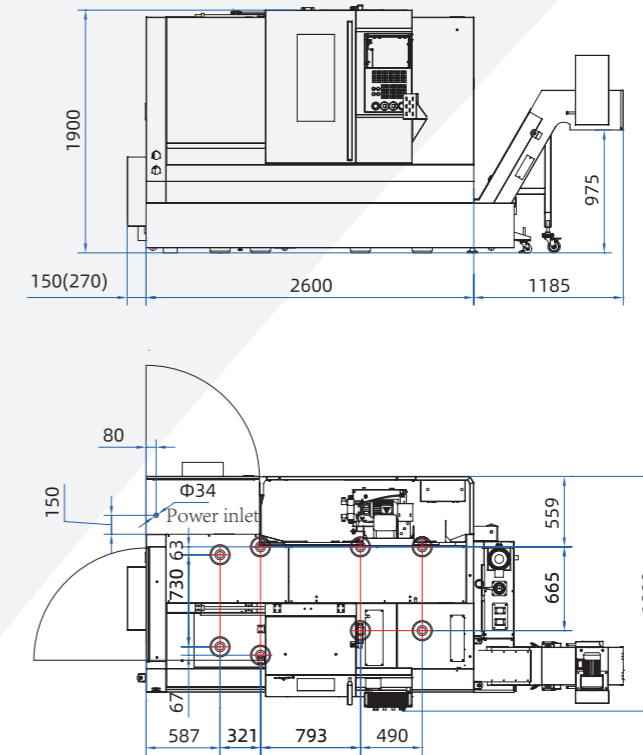
T5.1-100Q

Unit: mm

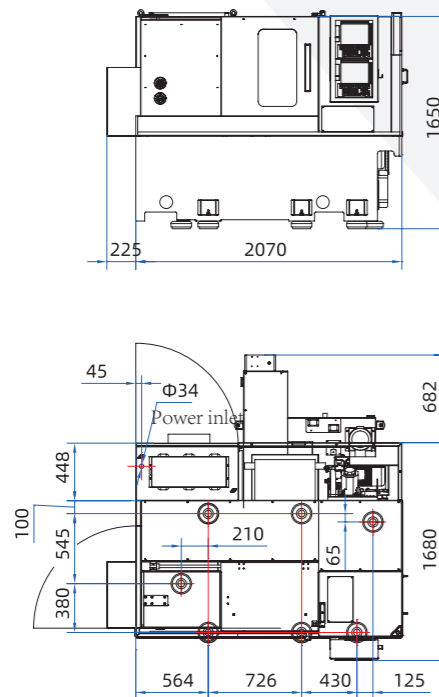


T5.2-500Q/T5.2-500S

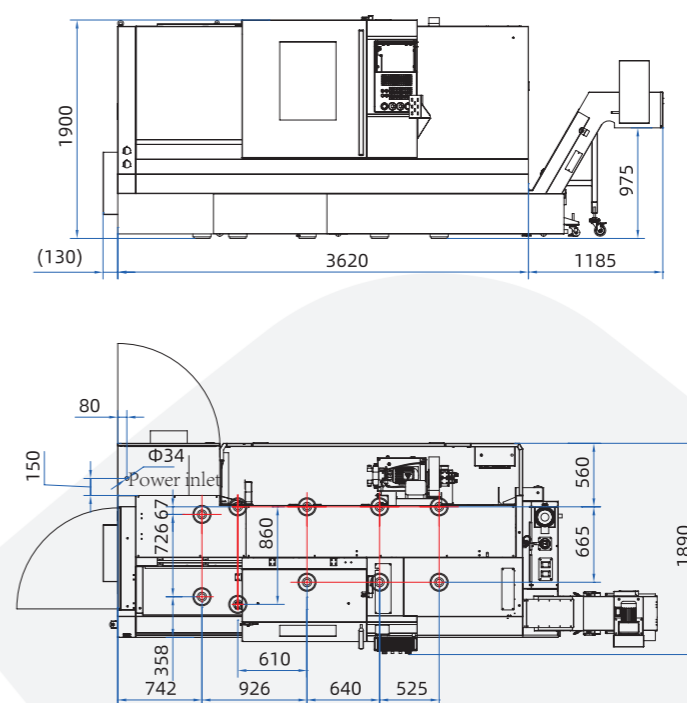
Unit: mm



T5.1-500Q

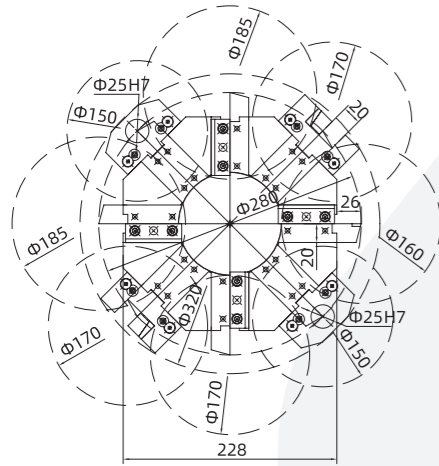


T5.2-1000Q/T5.2-1000S

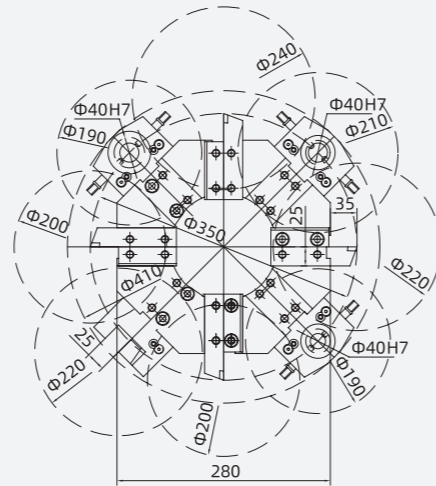


Tooling interference diagram

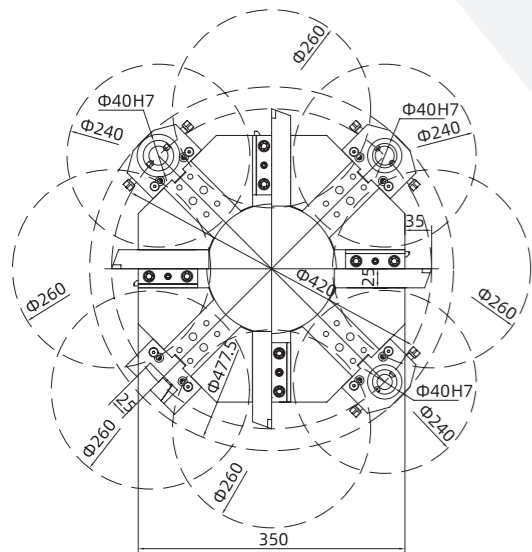
Spindle power torque chart



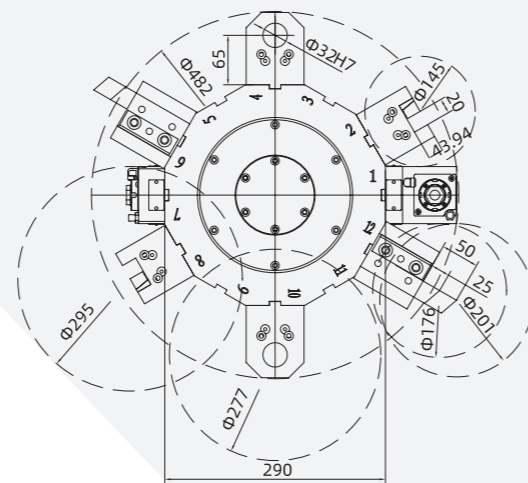
T5.1-100Q



T5.1-500Q

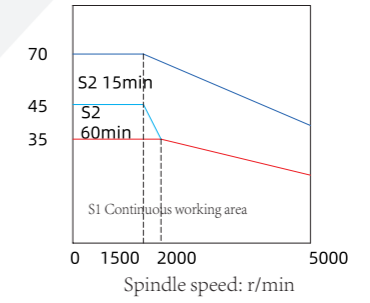
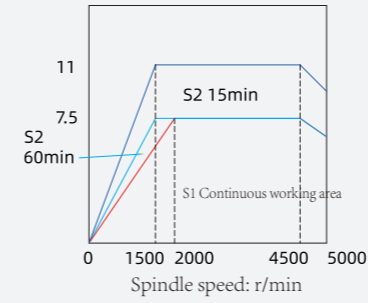


T5.2-Q/S Series

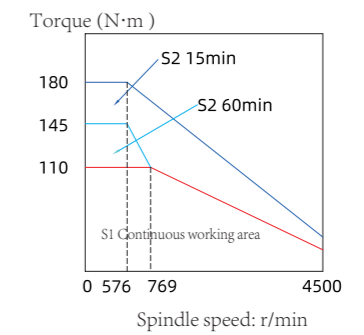
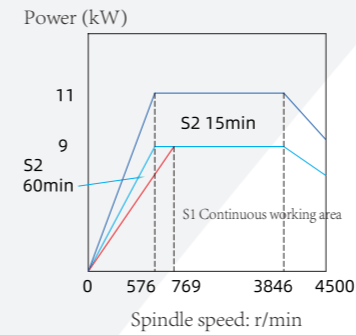


80 center height 12 positions power turret

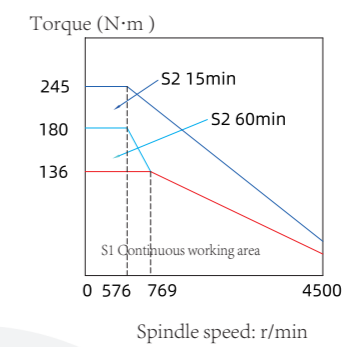
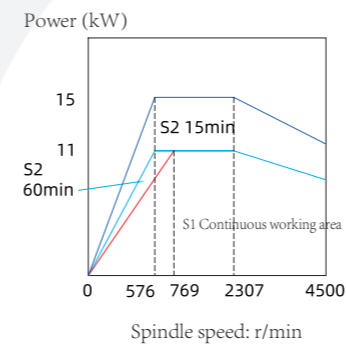
T5.1-100Q FANUC (7.5/11kW)



T5.1-500Q FANUC (9/11kW)



T5.2-Q Series FANUC (11/15kW)



T5.2-S Series FANUC (15/18.5kW)

