

Global Services

DONGS Machine Tool Global Service,
24-hour rapid response to customer needs

DONGS Machine Tool provides systematic services for all pre-sales and after-sales processes, responding quickly to customer needs and resolving issues quickly. From the supply of machine tool equipment and equipment spare parts to product training, troubleshooting, and technical support, we can provide customers with fast services through our service network.



EFFICIENT HORIZONTAL TURNING CENTER

TCK52



DONGS SOLUTIONS

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DONGS SOLUTIONS

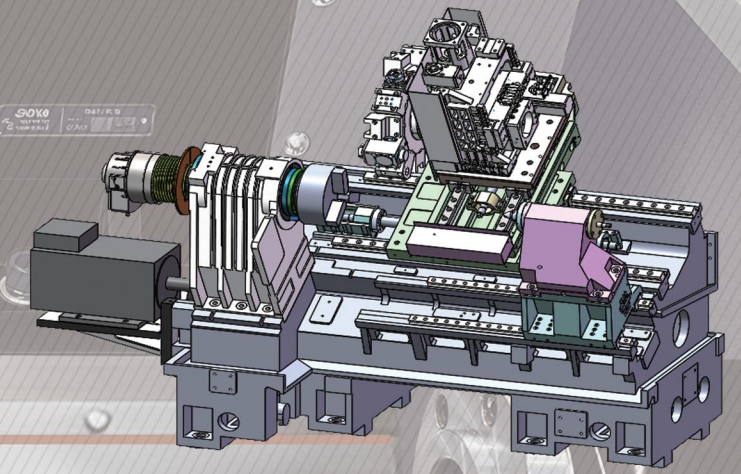
Efficient horizontal turning center

TCK52 series is a new generation of high-efficiency horizontal turning center with higher rigidity and stability of bed structure, which can satisfy the production needs of different customers from high precision machining to mass production. It is widely used in automotive, general machinery and other fields.



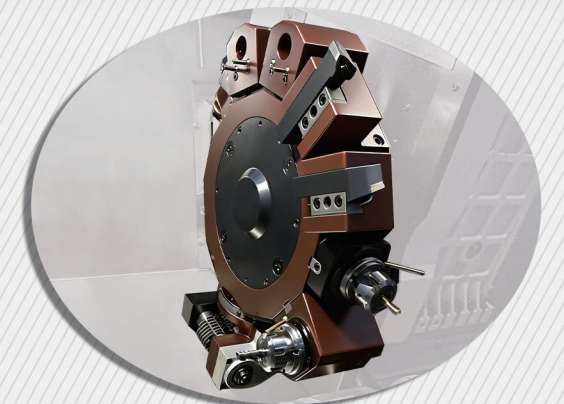
Highly rigid structure

Adopting 30° low center of gravity inclined bed structure and 45mm roller linear guideway to improve structural rigidity and stability.



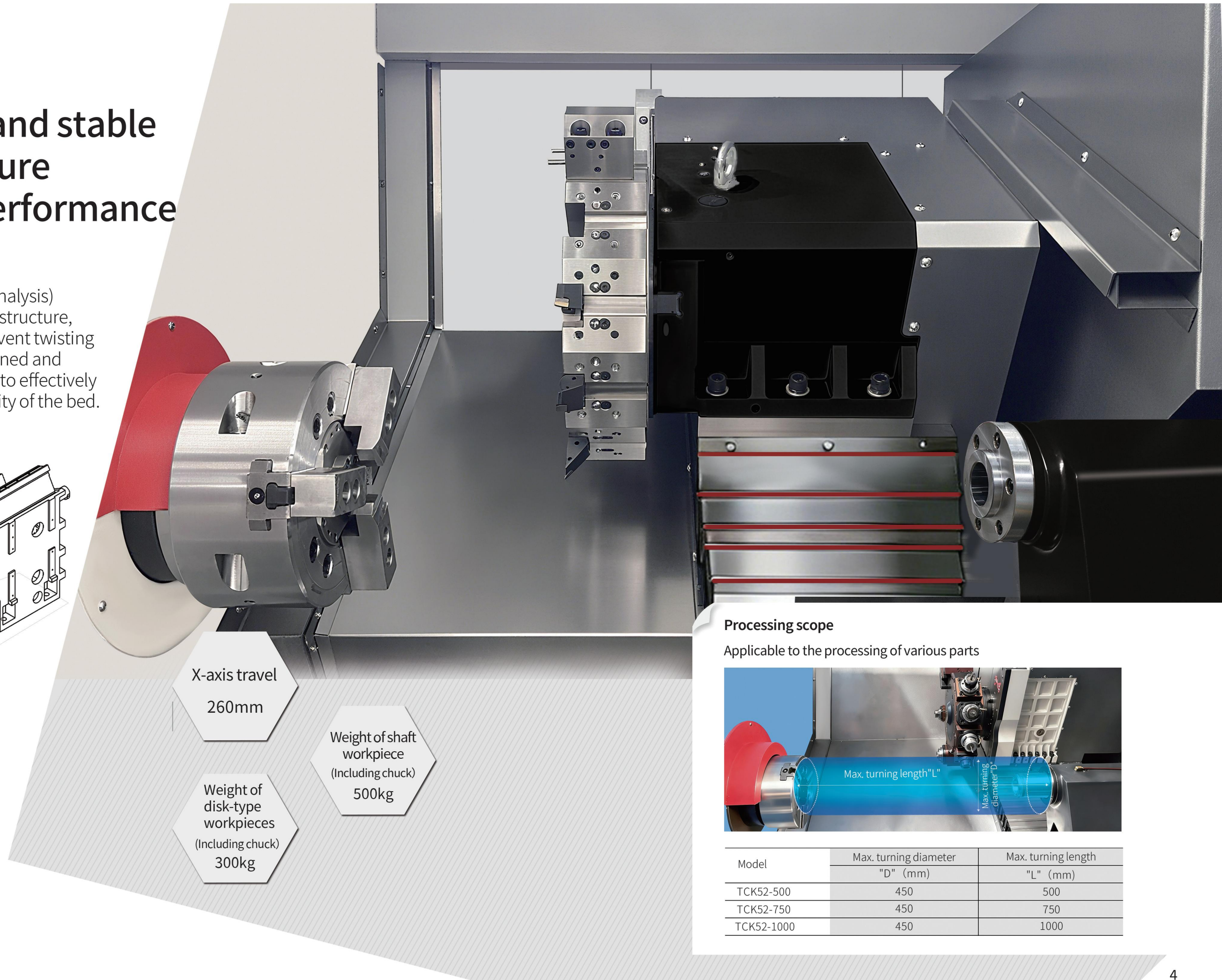
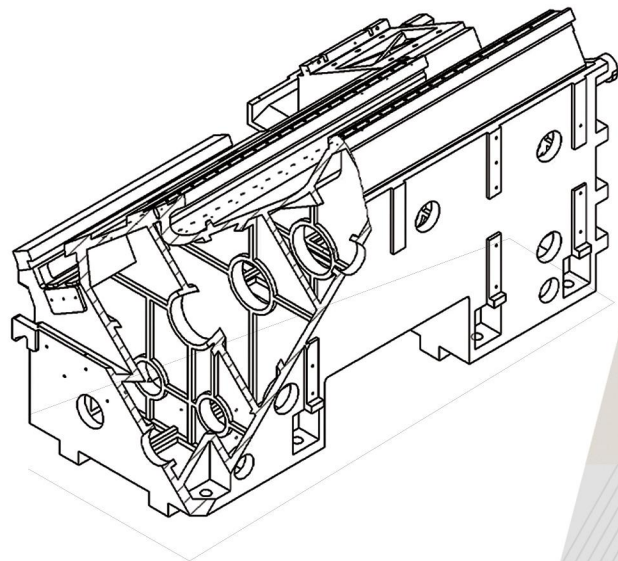
High efficiency

The optional BMT55 milling turret, driven by a high-efficiency servo motor, provides powerful machining performance. Highly efficient machining of complex workpieces is possible.



High rigidity and stable structure ensure processing performance

FEM (Finite Element Stress Analysis) for stress analysis of the bed structure, reinforcing bar design to prevent twisting and deformation, and thickened and widened weighted structure to effectively ensure the rigidity and stability of the bed.



X-axis travel
260mm

Weight of shaft workpiece
(Including chuck)
500kg

Weight of disk-type workpieces
(Including chuck)
300kg

Processing scope

Applicable to the processing of various parts

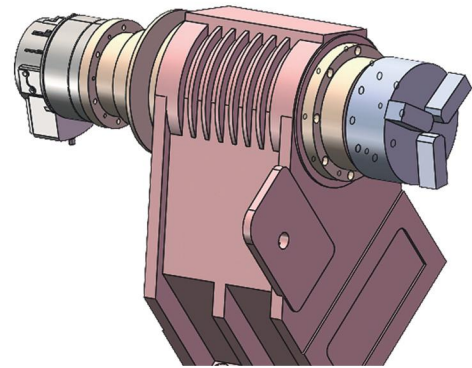


Model	Max. turning diameter "D" (mm)	Max. turning length "L" (mm)
TCK52-500	450	500
TCK52-750	450	750
TCK52-1000	450	1000

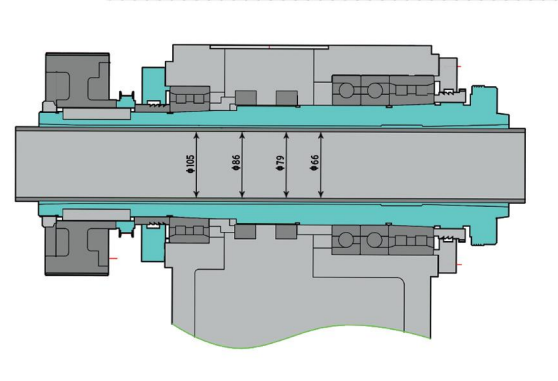
High-efficiency spindle

The spindle box and spindle are manufactured under constant temperature conditions and assembled and tested in a clean room. The front and rear ends of the heavy-duty plug-in spindle unit are supported by double row roller bearings, which reduce noise while improving rigidity and processing efficiency.

spindle

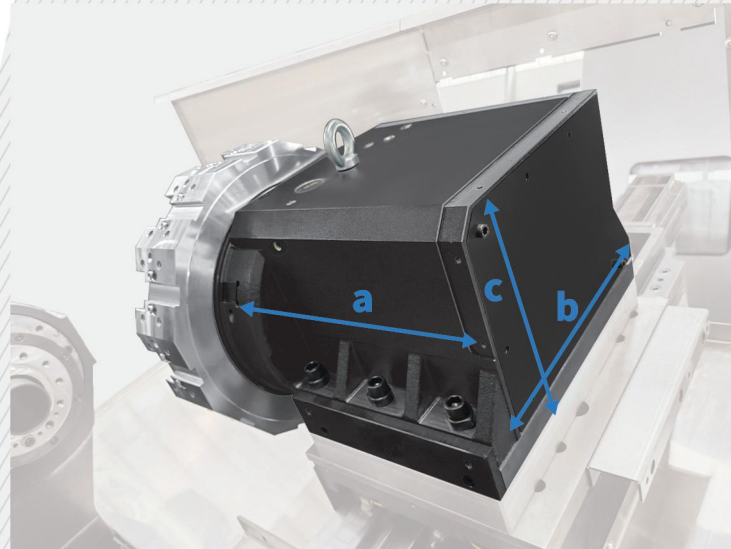
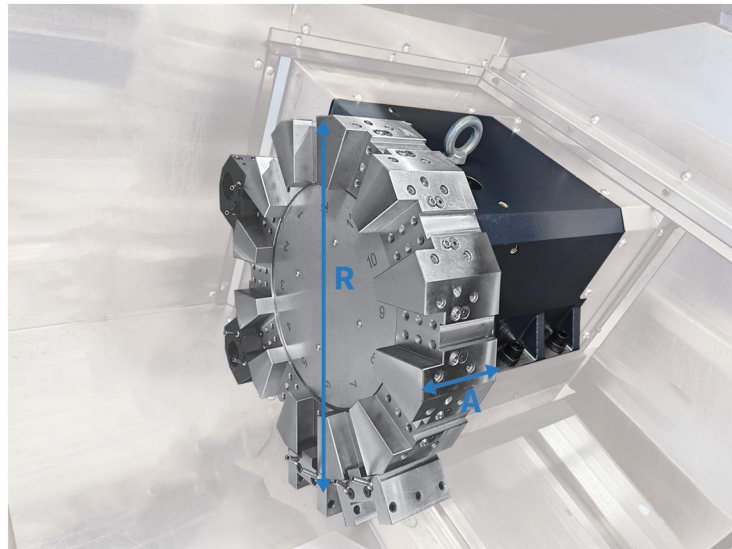


Structural diagram of spindle



Hydraulic/servo turret

Pure turning tool tower **STANDARD**

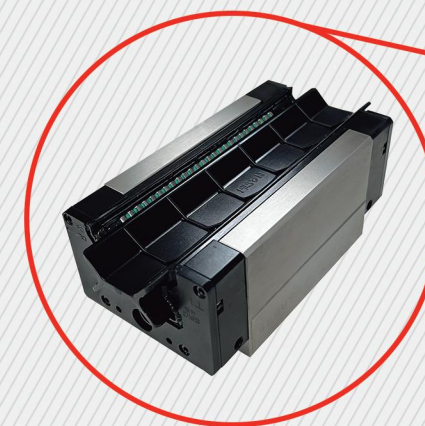
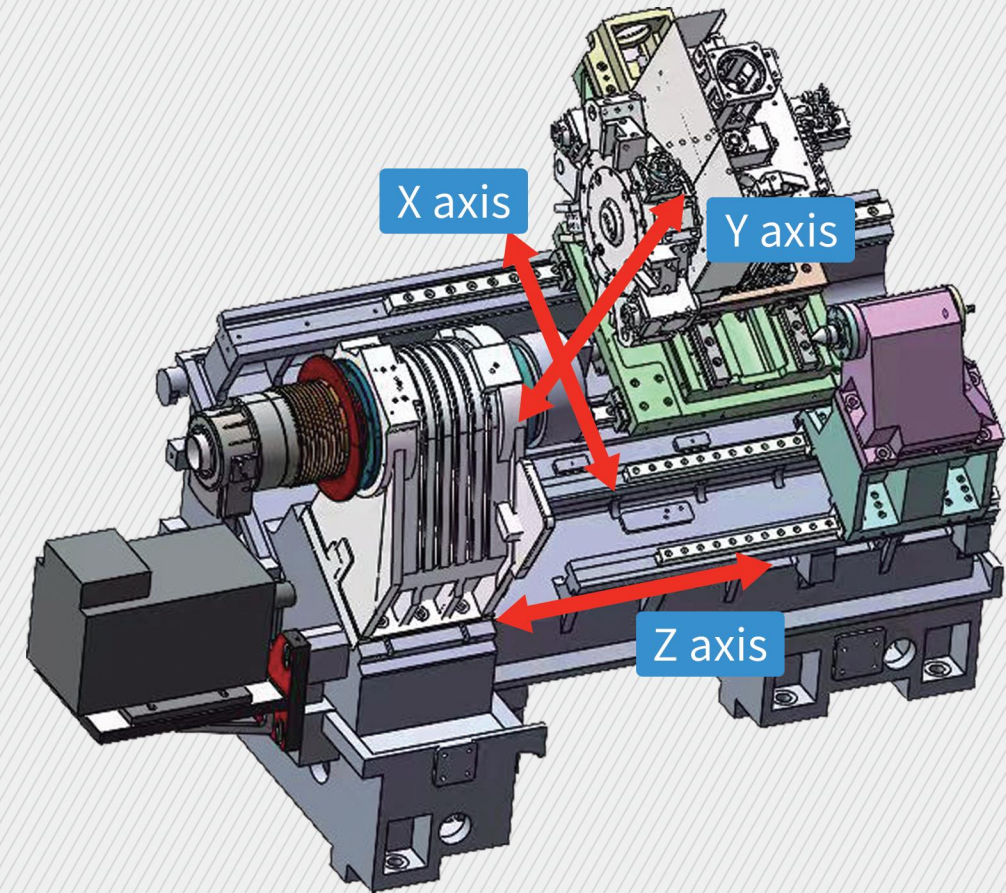


The high torque servo motor controls the acceleration and deceleration of the turret rotation, as well as clamping/releasing operations, and its excellent indexing position achieves continuous high-precision machining.

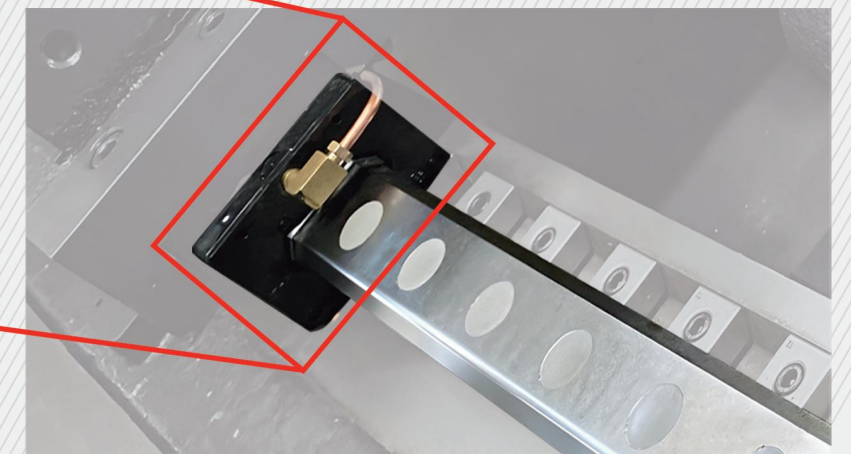
R	A	a	b	c
cutterhead diameter	cutterhead thickness			
420mm	104mm	361mm	423mm	260mm

Machine tool structure

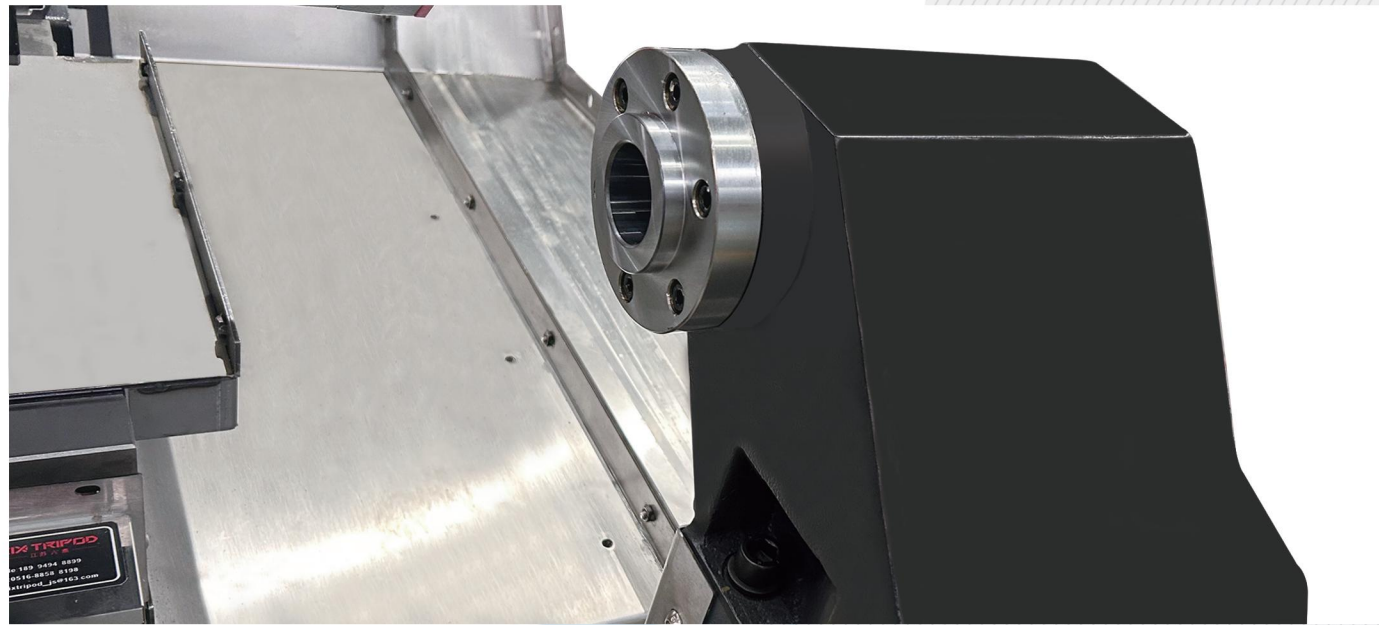
The stable high rigidity bed structure and roller linear guides equipped on each axis achieve high rigidity and precision of the machine tool.



45mm roller guide rail for X/Z axis

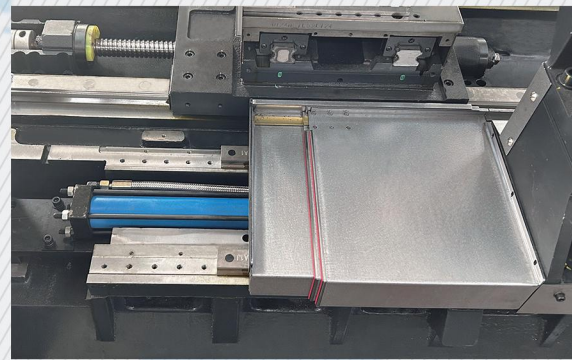


Hydraulic/servo programmable tailstock



Hydraulically programmable tailstock

The overall movement of the tailstock is driven by hydraulic cylinder, all movements are controlled by M code, the main structure of the tailstock adopts heavy-duty design, stable jacking force. The moving speed and pressure of the cylinder can be adjusted arbitrarily, applicable to different working conditions.



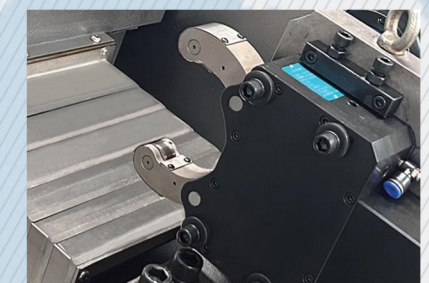
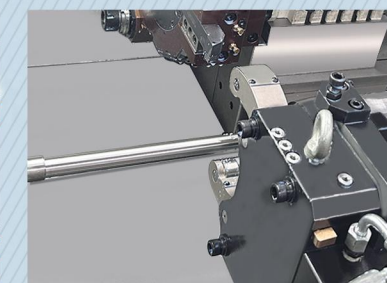
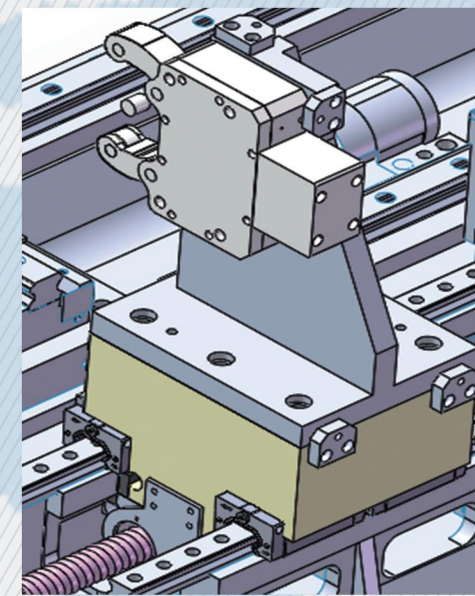
The tailstock guideway adopts roller type line rail structure to achieve high rigidity, high speed, durability, high precision repetitive motion and improve machining stability.



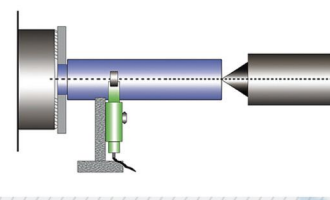
Optional configurations

Hydraulic steady rest OPTION

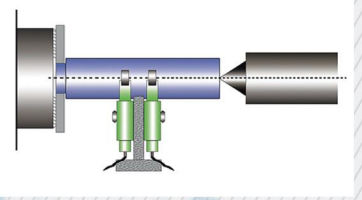
For turning long parts, various types of hydraulic centre holders (single and double) and servo controlled programmable centre holders (tool followers) are available for dynamic and precise support of the workpiece during the machining process.



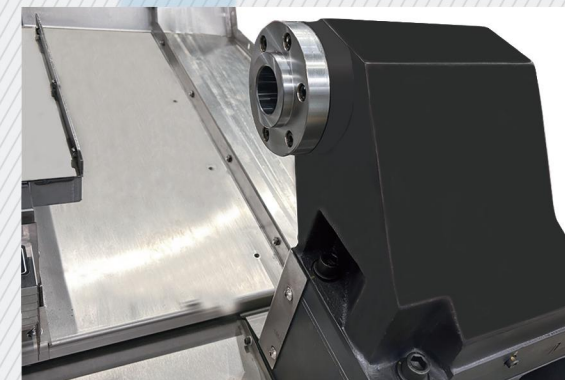
Single strut hydraulic steady rest



Double-pillar hydraulic steady rest



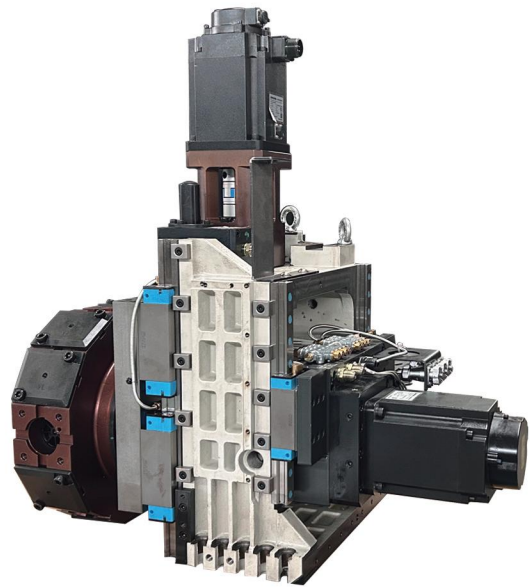
Servo programmable fully automatic tailstock OPTION



Optional configurations

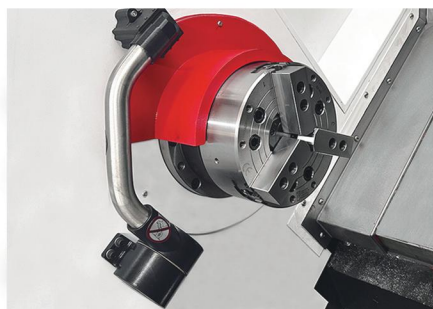
Power turret/Y-axis OPTION

Optional BMT55 power turret Y axis (travel ± 50)



Y axis travel	± 50 (mm)	
Y axis guide rail	4 linear guides	
Power turret	BMT55	
Max.speed	FANUC	4000/6000 rpm
	SYNTEC	5000rpm
Collet Model	ER32	

Automatic tool setter OPTION



Renishaw tool setter

Oil skimmer OPTION



Belt oil skimmer

Oil mist collector OPTION



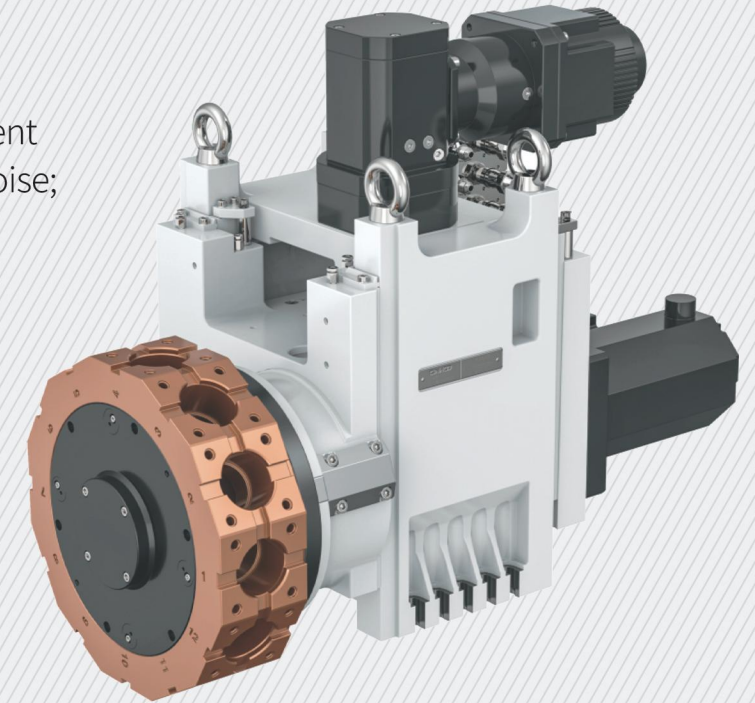
Low noise
high efficiency
table operation

Optional configurations

Built in motor high-speed turret OPTION

Y-axis power turret; high cutting torque, excellent rigidity, low interference and low machining noise; suitable for machining all types of workpieces.

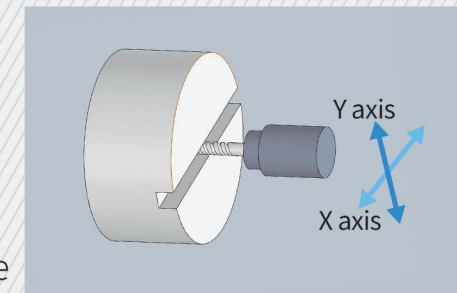
Tool station count	15
Y-axis travel	± 50 mm
Power motor power	6.3KW
Rated torque of power motor	15Nm
Rated speed of power motor	4000rpm
Maximum speed of power motor	12000rpm
Power knife holder cylinder clamp	BMT45-ER25



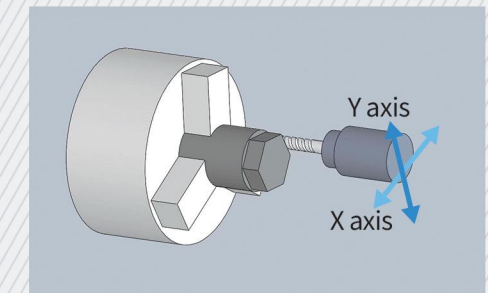
High performance Y-axis machining

Milling cutters support full-range free movement, enabling easy high-precision machining of various complex workpieces.

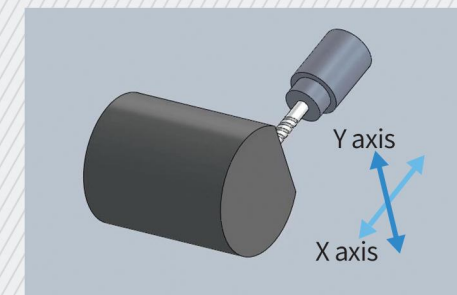
Y-axis travel	Y-axis structure
± 50	4 hard tracks



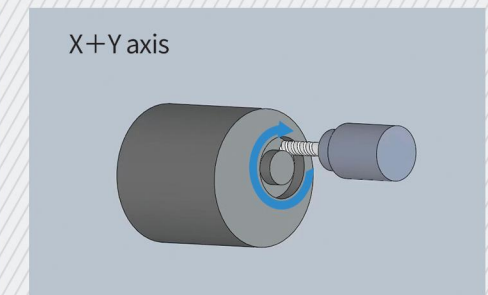
Y-axis plane groove machining



Multi-sided machining



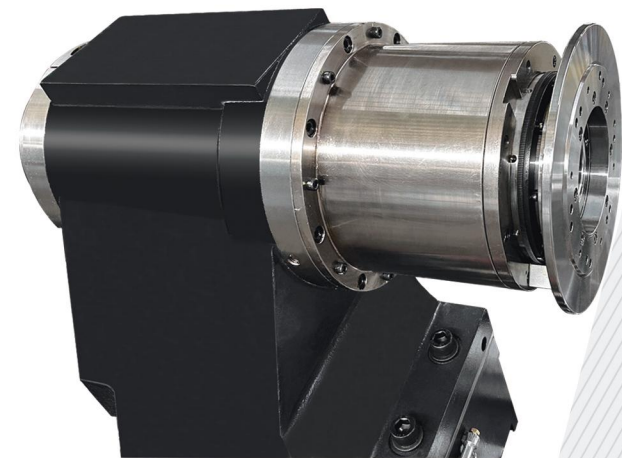
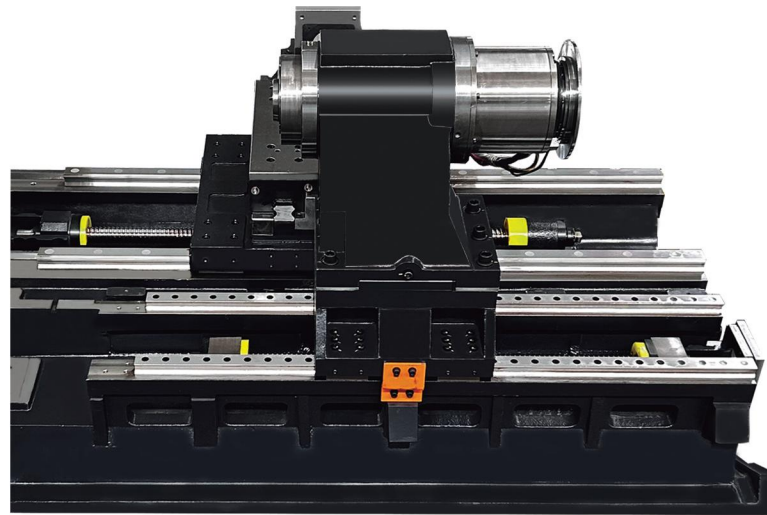
Centrifugal groove machining



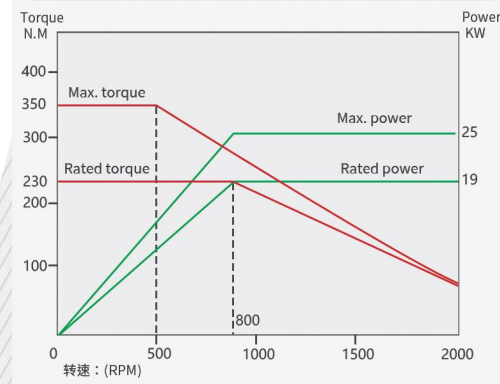
X/Y axis circular interpolation

Sub spindle

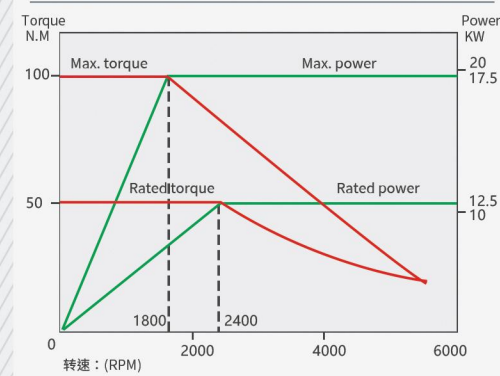
High-power motor inside spindle



Sub spindle-torque diagram [A2-6]



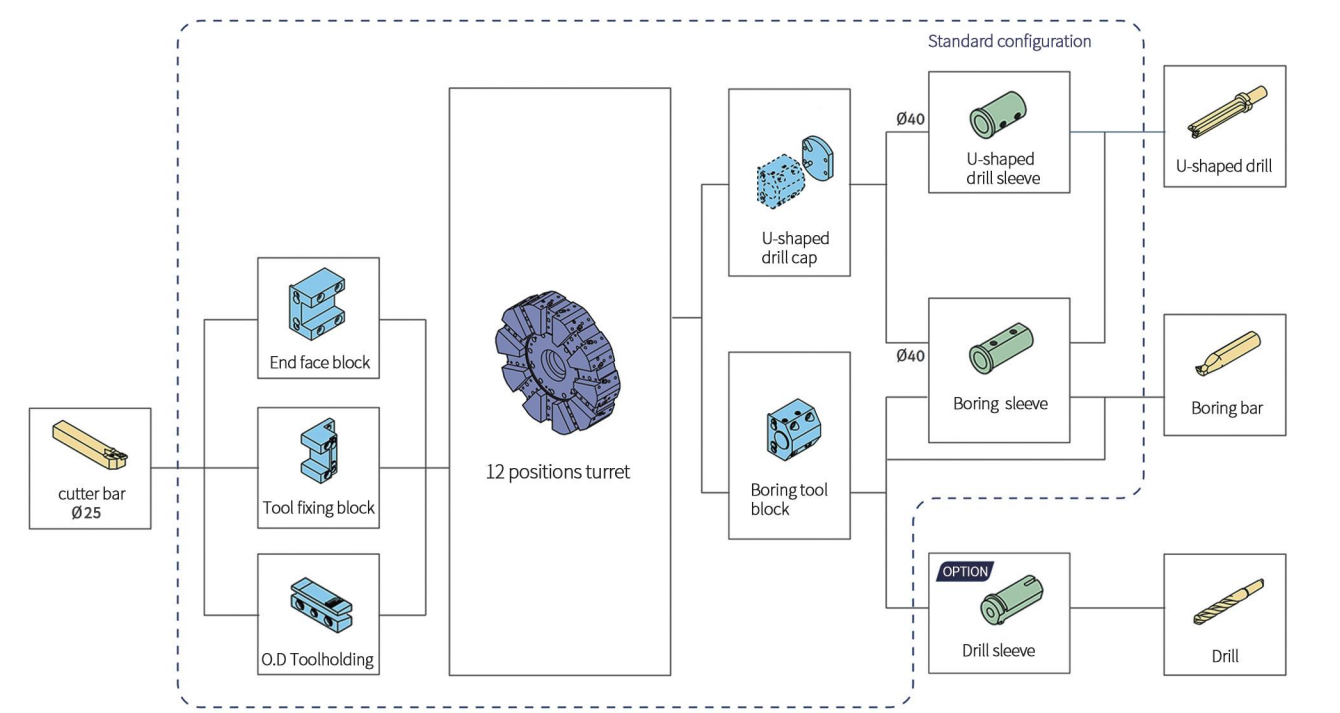
Sub spindle torque diagram [A2-5]



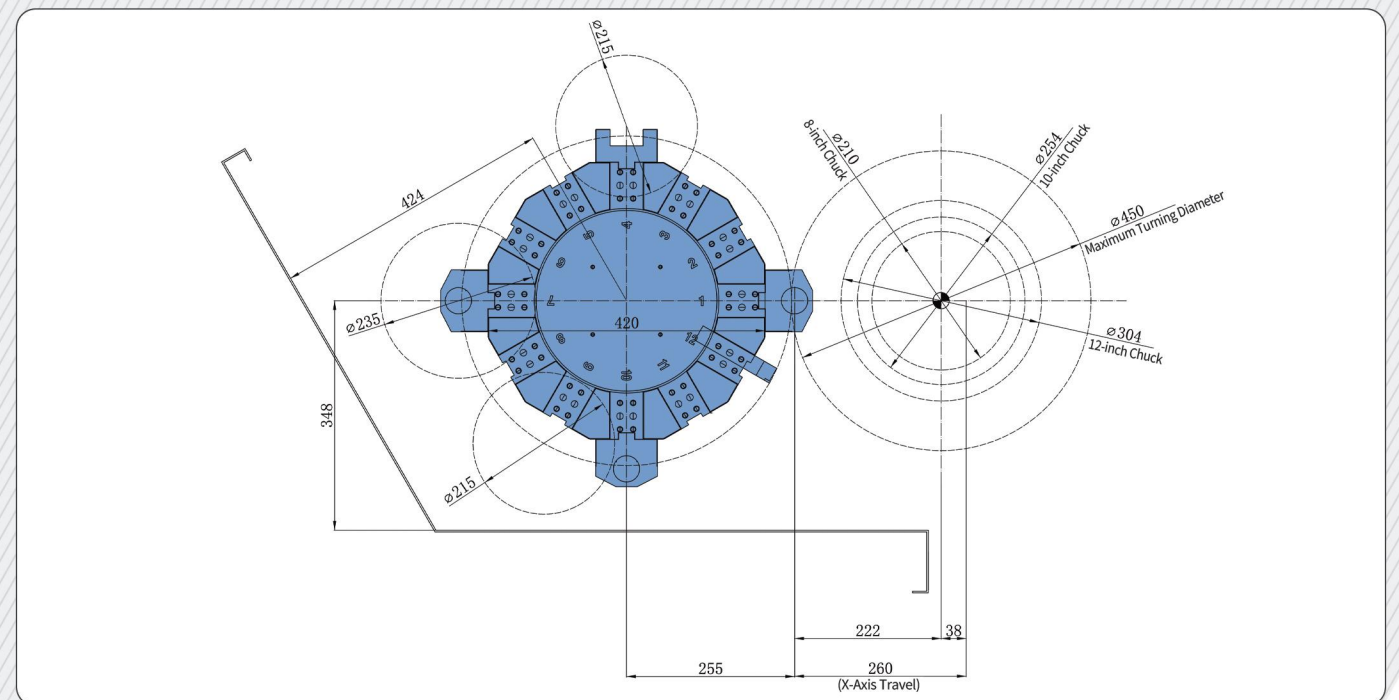
Ltem	Unit	Specifications	
Spindle taper	mm	A2-5	A2-6
Spindle Hole	mm	56	66
Outer diameter	mm	170	200
Spindle Precision	mm	≤0.003	≤0.003
Rated speed	rpm	2400	2320
Max. speed	rpm	5500	4300
Rated power	kw	12.5	22.15
Rated torque	Nm	50	91.1
Max. torque	Nm	100	227

Tools system

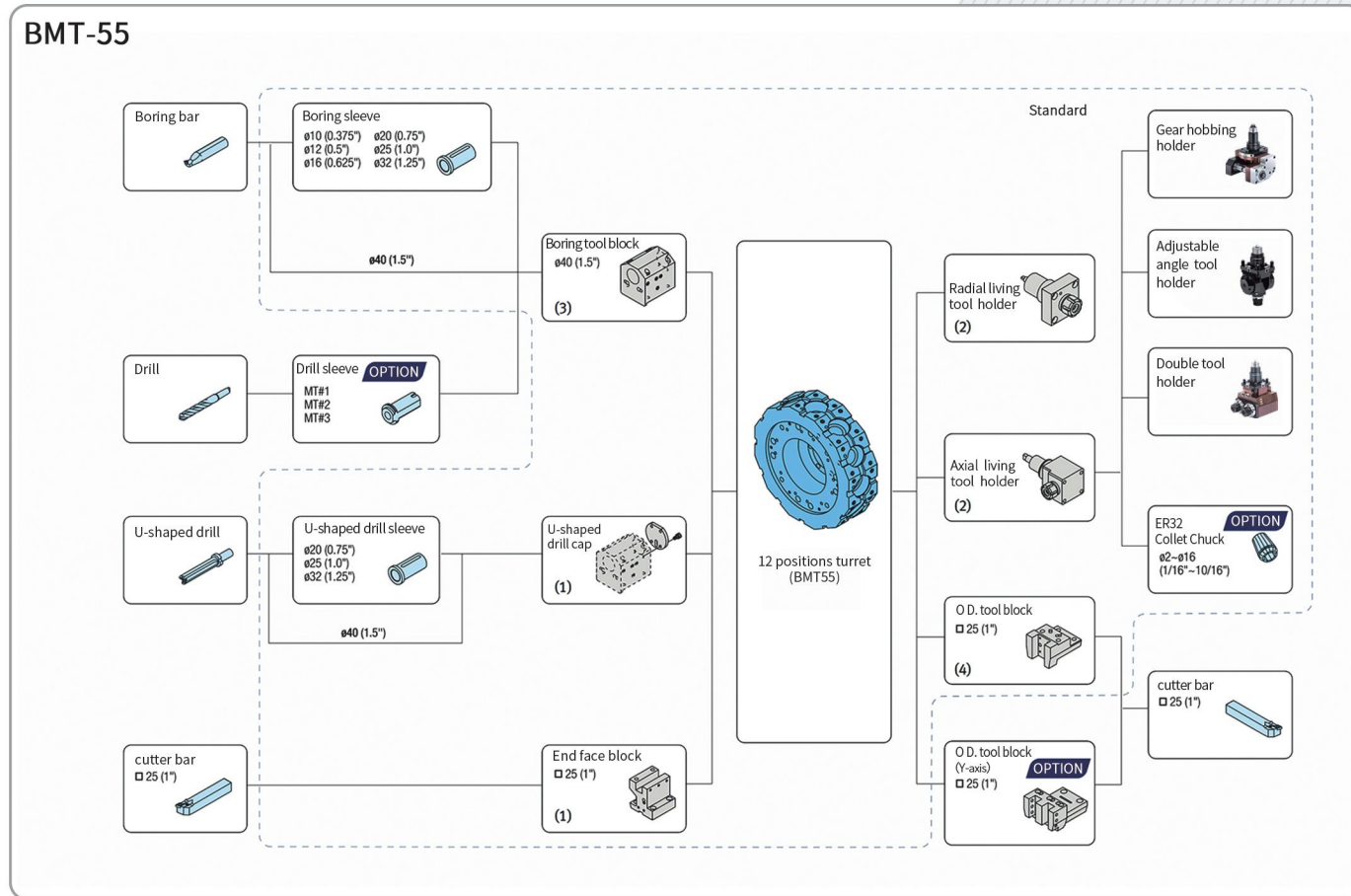
Turning turret



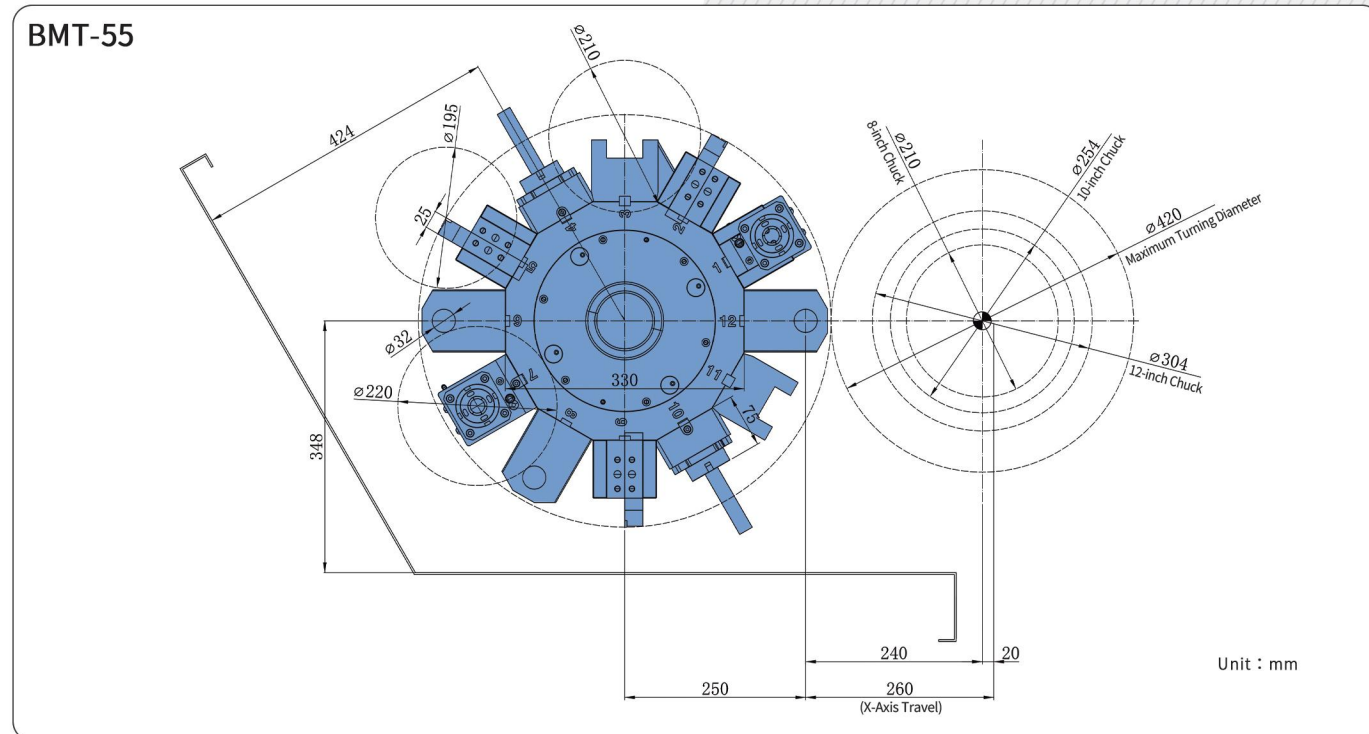
Tool interference pattern



Tools system



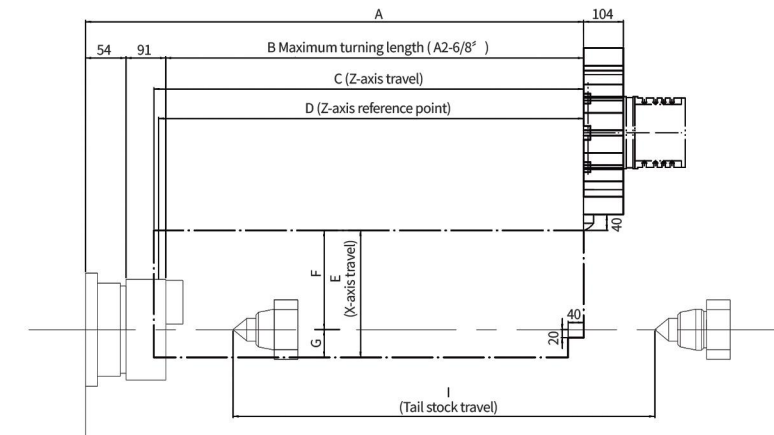
Tool interference pattern



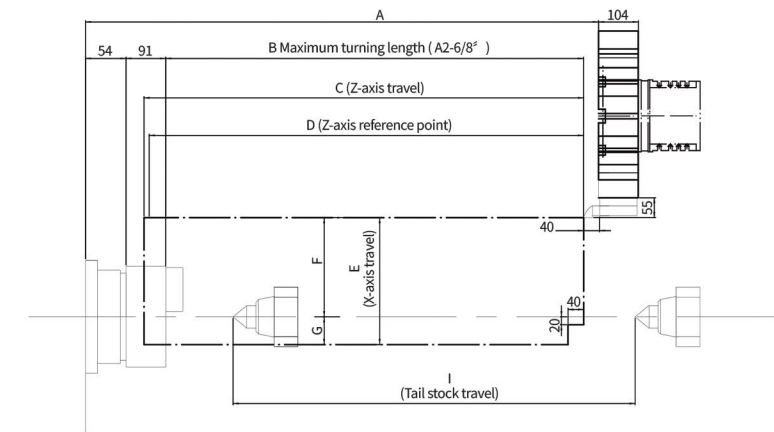
Processing scope

Turning turret

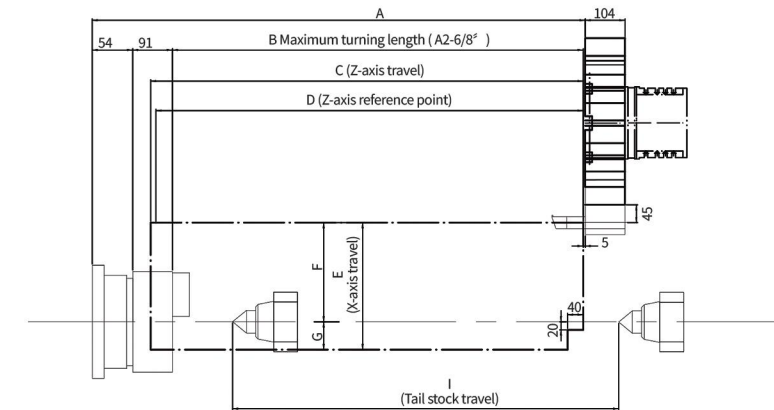
OD tool block



End face block



Boring tool block

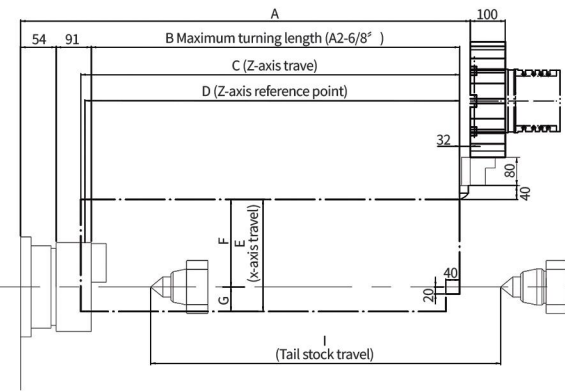


Model	Blade	A	B	C	D	E	F	G	I
TCK52-500	OD tool block	686	509	580	570	260	228	32	440
TCK52-750		936	759	830	820				690
TCK52-1000		1186	1009	1080	1070				940
TCK52-500	END face block	686	501	580	570	260	212	48	440
TCK52-750		936	751	830	820				690
TCK52-1000		1186	1001	1080	1070				940
TCK52-500	Boring tool block	686	506	580	570	260	222	38	440
TCK52-750		936	756	830	820				690
TCK52-1000		1186	1006	1080	1070				940

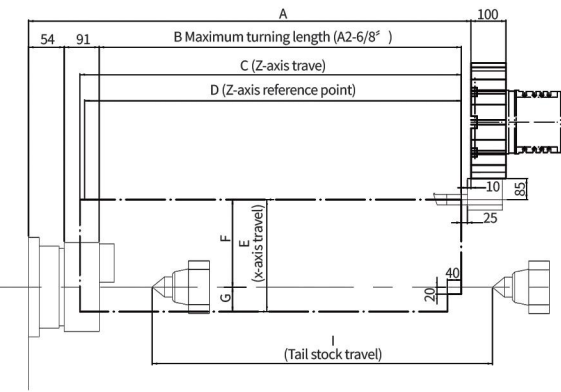
Processing scope

BMT55 Power turret

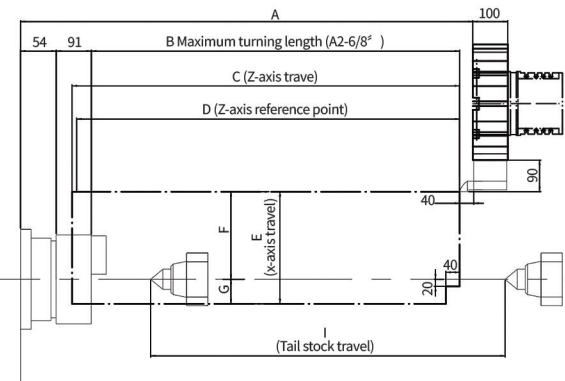
OD tool block



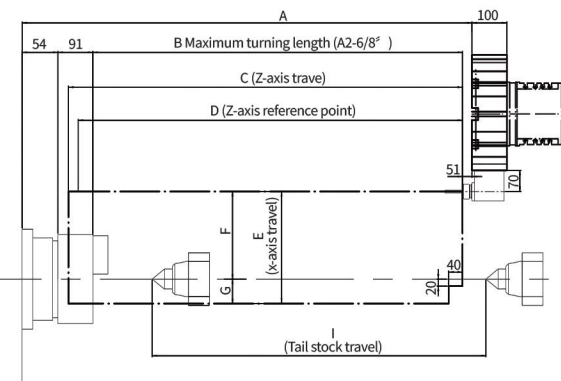
Boring tool block



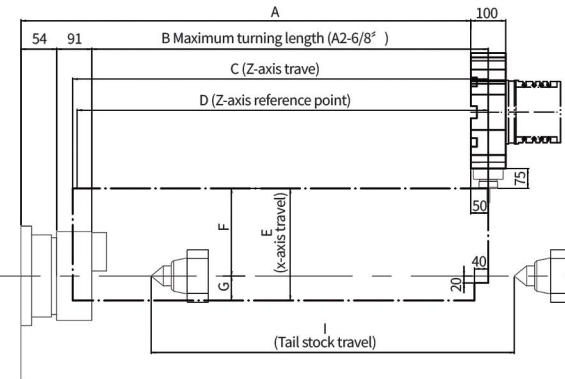
End face block



Axial living tool holder



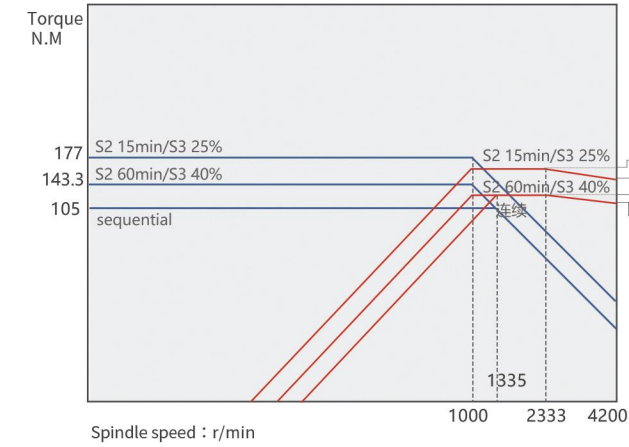
Radial living tool holder



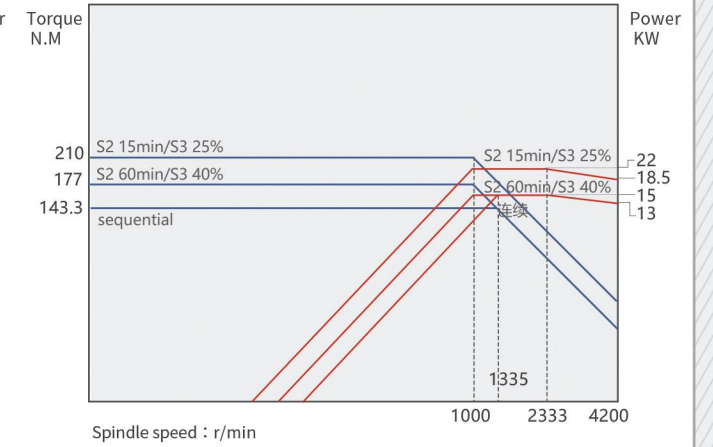
Model	Blade	A	B	C	D	E	F	G	I
TCK52-500	OD tool block	686	509	580	570				440
TCK52-750		936	759	830	820	260	209	51	690
TCK52-1000		1186	1009	1080	1070				940
TCK52-500	END face block	686	501	580	570				440
TCK52-750		936	751	830	820	260	239	21	690
TCK52-1000		1186	1001	1080	1070				940
TCK52-500	Boring tool block	686	506	580	570				440
TCK52-750		936	756	830	820	260	240	20	690
TCK52-1000		1186	1006	1080	1070				940
TCK52-500	Axial living tool holder	686	490	580	570				440
TCK52-750		936	740	830	820	260	259	1	690
TCK52-1000		1186	990	1080	1070				940
TCK52-500	Radial living tool holder	686	591	580	570				440
TCK52-750		936	841	830	820	260	255	5	690
TCK52-1000		1186	1091	1080	1070				940

Power & Torque

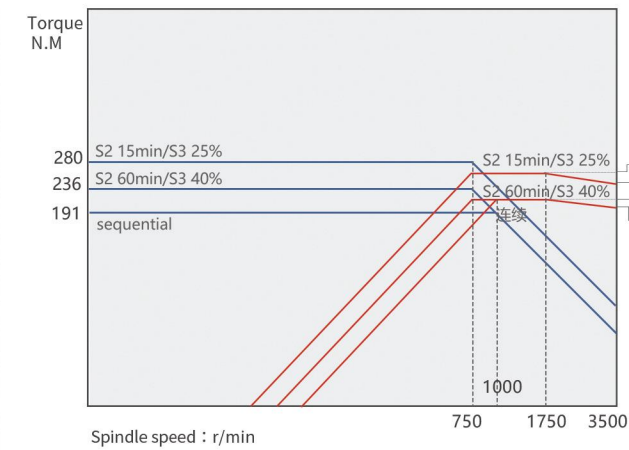
A2-6 (11kw)



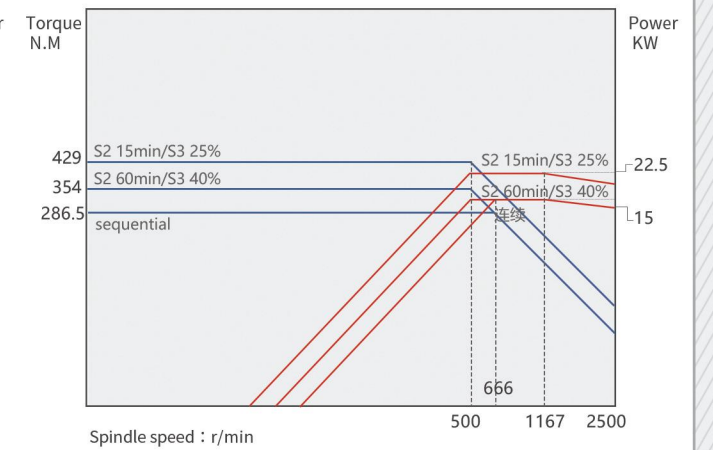
A2-6 (15kw OPTION)



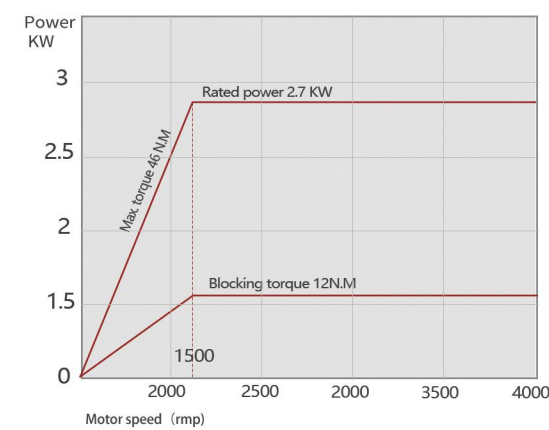
A2-8 (15kw)



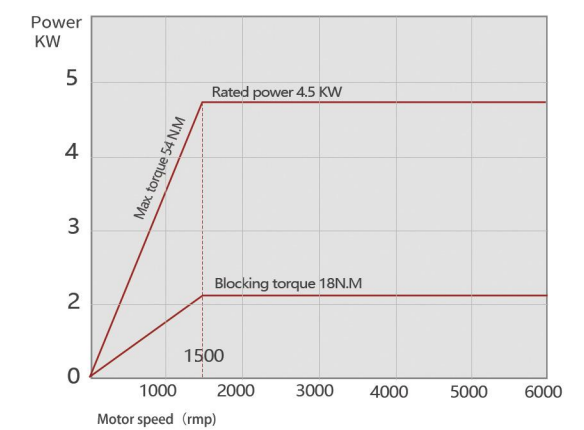
A2-11 (15kw)



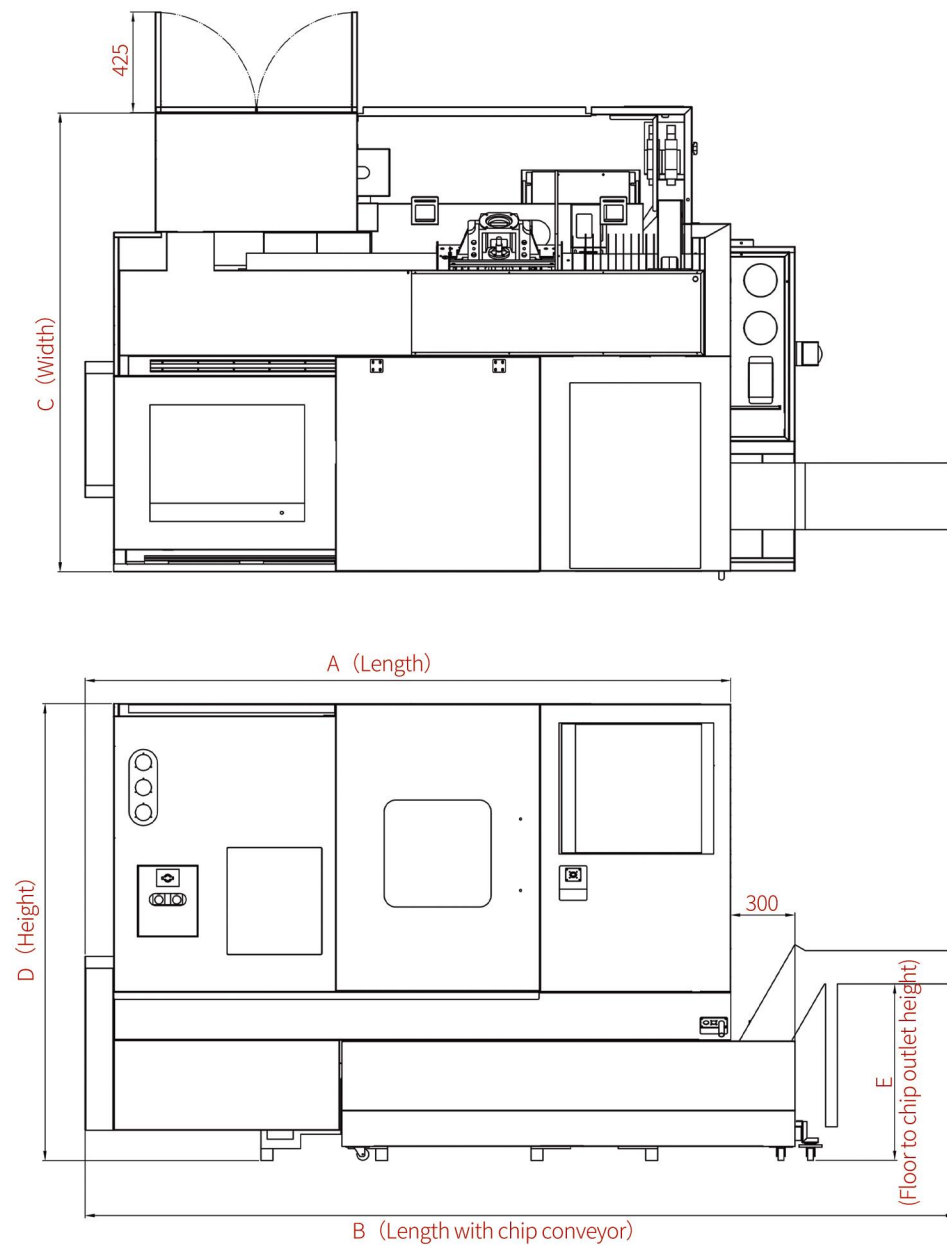
BMT55-12N.M



BMT55-22N.M (OPTION)



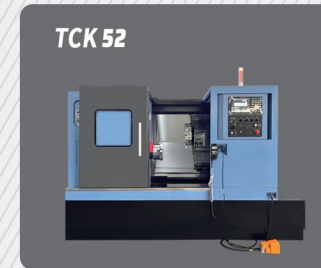
Overall dimensions



Unit : mm

Model	A (Length)	B(Length with chip conveyor)	C (Width)	D (Height)	E (Floor to chip outlet height)
TCK52-500	2720	3660	1950	1920	800
TCK52-750	3527	4318	1950	2061	
TCK52-1000	4393	5213	2044	2187	

Technical parameter



Entry name		Unit	TCK52		
Processing capacity	Swing over bed	mm	φ 580/670		
	Maxi. turning diameter on carriage	mm	φ 330/420		
	Distance between centers	mm	600 / 800 / 1050		
Spindle	Spindle head	—	A2-6	A2-8	A2-11
	Spindle through hole	mm	φ 66/ φ 79	φ 86	φ 105
	Max. spindle speed	rmp	4200	3500	2000
	Bar capacity (<)	mm	φ 55/ φ 65	φ 75	φ 91
Travel	X-axis travel	mm	260		
	Z-axis travel	mm	580/820/1070		
	Y-axis travel	mm	±50		
Fast moving speed	X-axis fast moving speed	m/min	24		
	Z-axis fast moving speed	m/min	24		
Turret	Turret position	/	12		
	Tool size	mm	25x25		
	Rotation time of turret	s	0.5		
Tail stock	Tailstock quill	MT	MT5		
	Moving form of tailstock	/	Hydraulic/servo programmable		
	Tailstock travel	mm	440/660/1000		
	Tailstock guide rail	/	linear guide rail / box way		
Chuck	Hydraulic chuck	inch	8 / 10 / 12		
Motor	Motor power of main spind	kw	11/15		
Other	Machine tool weight (approx.)	T	3.9 / 4.3 / 5		

Standard configurations

- Hydraulic chuck & slewing cylinder
- Water gun
- Soft jaws (three jaws)
- Live center
- Fully enclosed protection
- Attached tool kit (including small tools for operation)
- coolant supply equipment
- Centralized lubrication
- Leveling bolt and blocks
- Working lamp
- Air gun
- Hydraulic power unit
- Safety warning nameplate
- Foot switch
- Working condition lamp (yellow, red, green)
- Machine tool operating instructions and parts manuals
- Standard Tool Holder (Tool Holder&Boring Tool)

Optionals

- Steady rest servo control
- Tailstock servo control
- Steady rest
- Chuck clamping retrieval switch
- Chip conveyor
- Automatic power-off
- Automatic Door
- Automatic tool setter
- Security door lock
- trolley
- Chuck jaws cleaning and blowing device
- Oil skimmer
- Harden jaws
- safety door lock
- Oil mist collector