

Horizontal CNC Lathe

TE Series



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Official Website



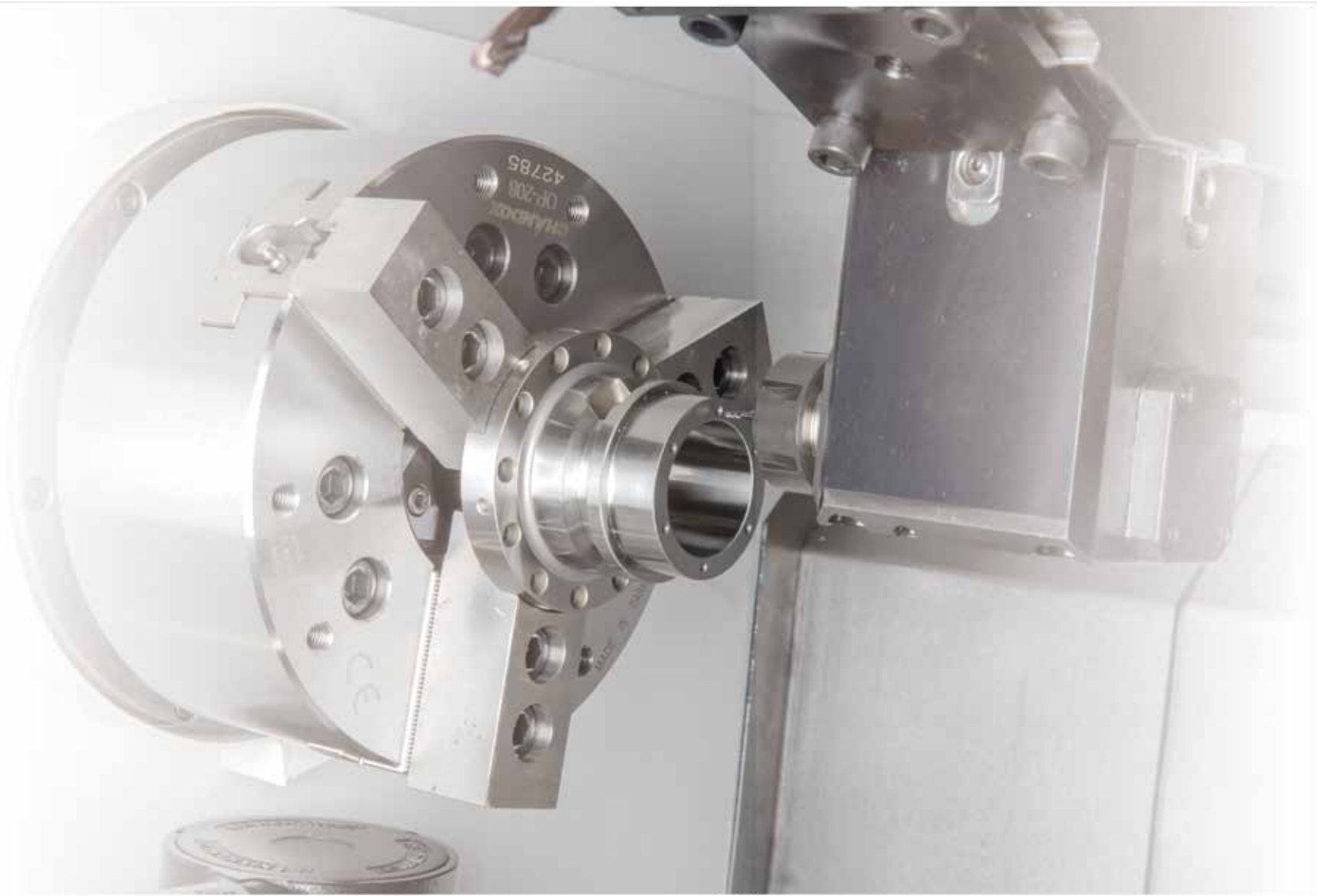
Global Network

TE Series : 2019.12.04 ©All the specifications in the brochure are subject to change without prior notice.

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TE Series



Better rigidity

TE series is a new generation CNC lathe in Tongtai, its structure rigidity is enhanced and has a turret and two movement axes. TE series is standard equipped with 8 tools servo turret, regard to the machining requirements, power turret is selectable and the maximum tool capacity is 16 tools. Furthermore, sub-spindle is optional for allowing machine to complete both sides machining of parts in one time.

75 degree machine bed structure

Different from the 90 degree slant bed on TNL-100T, the TE series adopts a 75 degree slant bed design. It not only keeps the advantages of excellent chip disposal and accessibility, but also lowers the machine's gravity center for enhancing the entire structure rigidity.

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Machine dimension

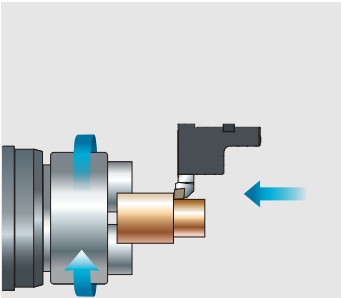
22 Specifications

Spindle diameter		Bar capacity	Tailstock Sub-Spindle		Turret	Model
Chuck size 8"	Ø100 mm	Ø51 mm	Tailstock	Servo		TE-2000
				Power		TE-2000M
			Sub-Spindle	Servo		TE-2000B
				Power		TE-2000MB(C)
Chuck size 10"	Ø120/Ø130 mm	Ø64/Ø74 mm	Tailstock	Servo		TE-2500
				Power		TE-2500M
			Sub-Spindle	Servo		TE-2500B
				Power		TE-2500MB(C)

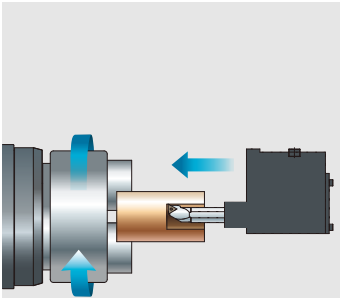


Machining ability

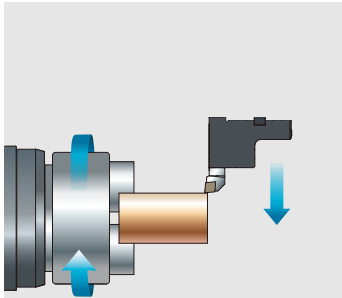
Turning Material:S45C



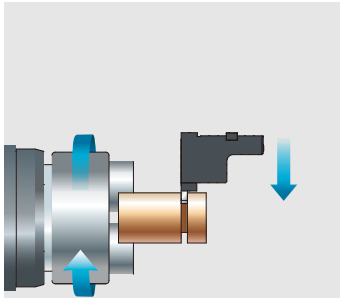
O.D. turning	
Material removal rate	360 cm³/min
Cutting depth	6 mm
Spindle speed	764 rpm
Feedrate	0.5 mm/rev
Cutting speed	120 m/min



I.D. turning	
Material removal rate	240 cm³/min
Cutting depth	5 mm
Spindle speed	764 rpm
Feedrate	0.4 mm/rev
Cutting speed	120 m/min

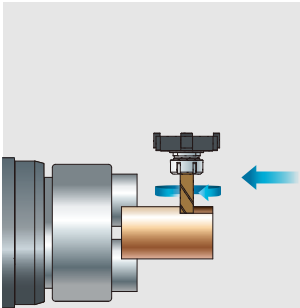


Face turning	
Material removal rate	360 cm³/min
Cutting depth	6 mm
Feedrate	0.5 mm/rev
Cutting speed	120 m/min

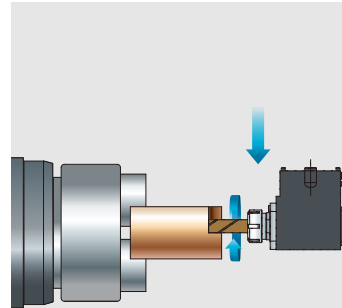


Grooving	
Material removal rate	6 mm
Feedrate	0.4 mm/rev
Cutting speed	120 m/min

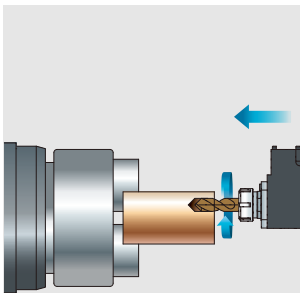
Milling Material:S45C



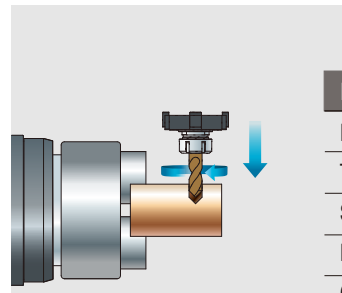
End milling	
Material removal rate	45 cm³/min
Tool	end mill Ø20 mm (4 teeth)
Spindle speed	557 rpm
Cutting feedrate	220 mm/min
Cutting width	20 mm
Cutting depth	10 mm



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Material removal rate	45 cm³/min
Tool	end mill Ø20 mm (4 teeth)
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Cutting feedrate	220 mm/min
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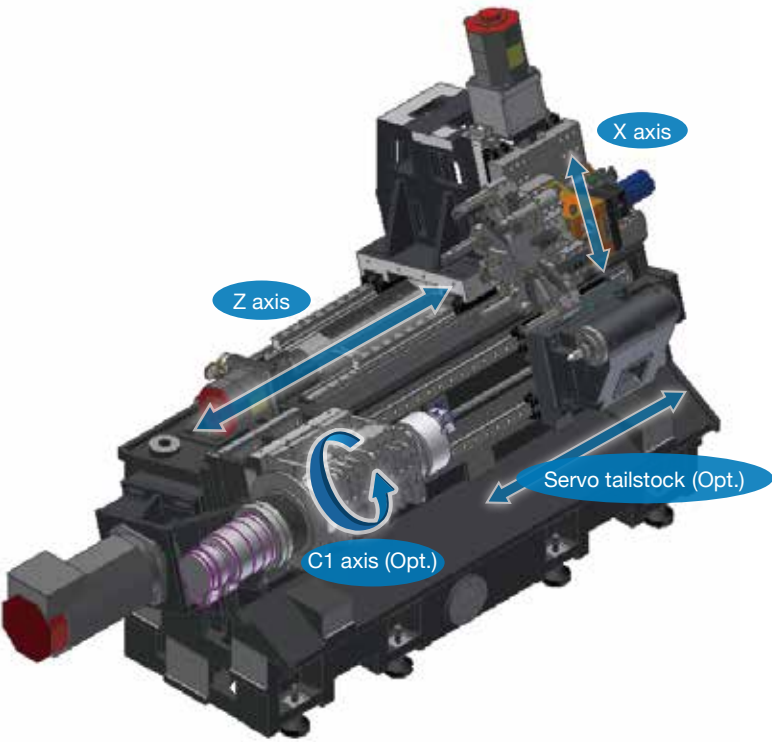


Drilling	
Material removal rate	71 cm³/min
Tool	drill Ø20 mm
Spindle speed	1512 rpm
Feedrate	0.15 mm/rev
Cutting speed	95 m/min



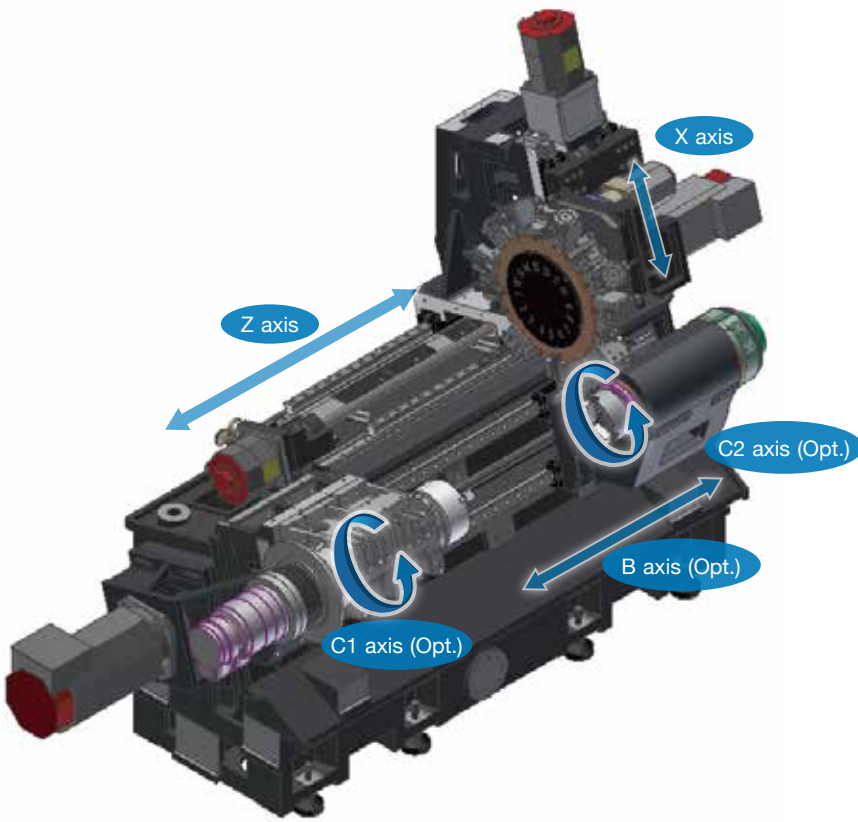
Drilling	
Material removal rate	71 cm³/min
Tool	drill Ø20 mm
Spindle speed	1512 rpm
Feedrate	0.15 mm/rev
Cutting speed	95 m/min

Main Structure



Working area	
X/Z axis	230/600 mm
Hydraulic tailstock	600 mm
Servo tailstock (Opt.)	600 mm

Rapid traverse	
X/Z axis	30/30 m/min
Servo tailstock (Opt.)	30 m/min



Working area	
X/Z axis	230/600 mm
B axis (Opt.)	630 mm

Rapid traverse	
X/Z axis	30/30 m/min
B axis (Opt.)	30 m/min

Main structure

Main spindle

Model	TE-2000	TE-2500	
Bar capacity	Ø51 mm	Ø64 mm	Ø74 mm
Spindle bearing diameter	Ø100 mm	Ø120 mm	Ø130 mm
Chuck size	8"	10"	
Max. spindle speed	4,500 rpm	3,500 rpm	
Spindle motor	18.5/15/11 kW	18.5/15/11 kW	

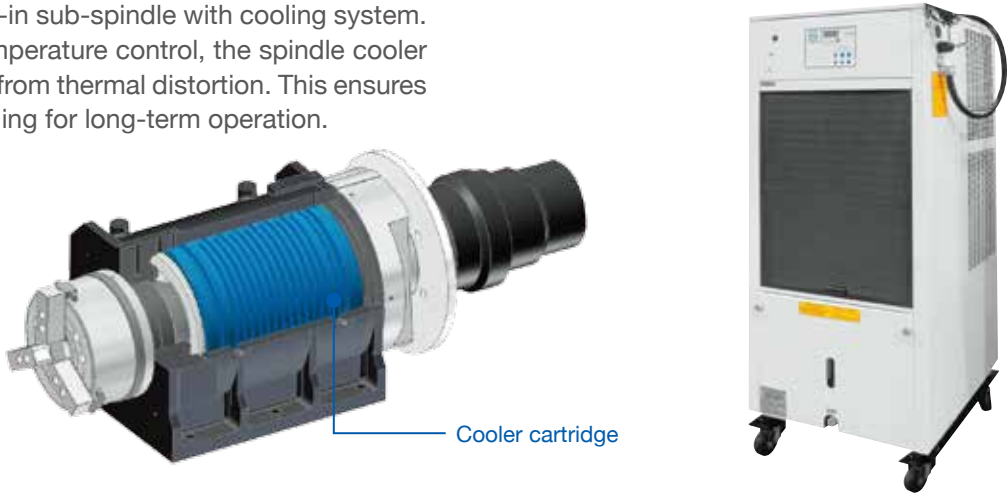
Sub-spindle

Spindle bearing diameter	Ø90 mm
Chuck size	6"
Max. spindle speed	5,000 rpm
Spindle motor	7.5/5.5 kW
Driving method	Built-in type motor



Sub-spindle cooler

TE series adopts built-in sub-spindle with cooling system. With synchronous temperature control, the spindle cooler prevents sub-spindle from thermal distortion. This ensures high precision machining for long-term operation.



Turret

Model	TE-2000	TE-2000B	TE-2000M(BC)
Brand	SAUTER	Tongtai	
Tool capacity	8/12		12/16
Type	Servo turret		Power turret
Indexing time of adjacent tool	0.2 sec	0.3 sec	
Indexing time of opposite tool	0.6 sec	1 sec	
Max. live too speed	-		6000 rpm
Spindle output of live tool	-		5.5/3.7 kW

Tailstock- power type

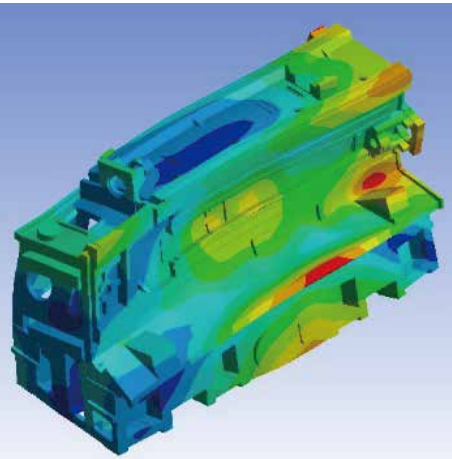
Driving type	Hydraulic	Servo
Travel	600 mm	
Center taper	MT4	
Center diameter	100 mm	
Travel of tailstock	-	80 mm



Hydraulic tailstock

Robust structure

All components are made of high quality cast-iron. With excellent design, the structure is able to decrease the influences of distortion and vibration. In addition, with the Finite Element Analysis (FEA), the structure is improved and can satisfy the requirements of high dynamic rigidity and stability.



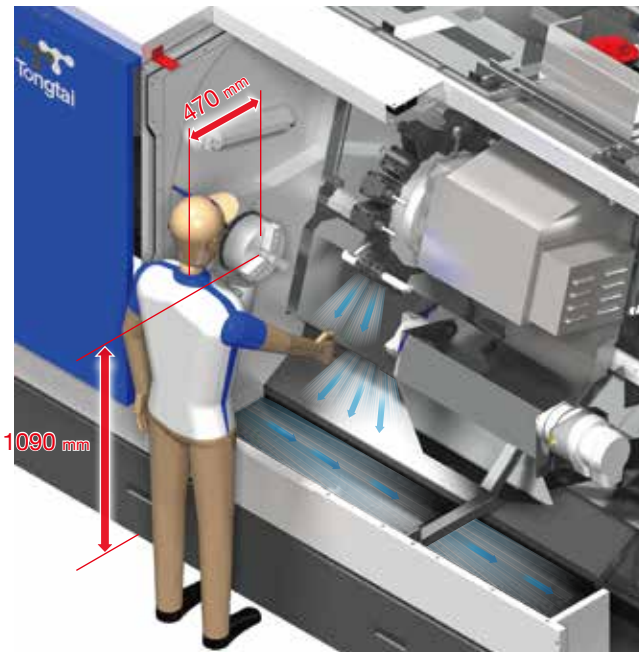
Operation

Sweivel-type operation panel



The swivel panel makes operator easy to operate and inspect during operation.

Accessibility



75 degree machine bed design facilitates the chips disposal and spindle accessibility.

Front-pull coolant tank



Coolant tank is able to be pulled from the front of the machine. It saves floor space and facilitates the maintenance.

Easier daily maintenance



Through centralized management of pneumatic solenoid and lubricant pump, it made the daily maintenance easy.

Peripheral accessories

Chip conveyor

According to different workpiece materials and chips, the clients can to select suitable conveyors for achieving the best chip disposal. Tongtai provides various chip conveyors for our clients' convenience.



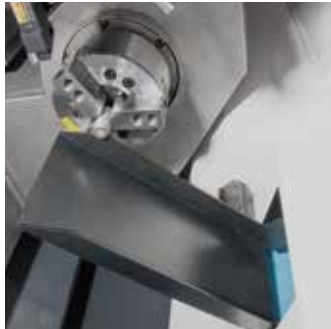
Coolant tank capacity
260 L (80% full)

Specification	Steel		Cast iron		Aluminum/ Non-ferrous metal		
	Long/Curl chips	Short chips	Powder chips	Short chips	Long/Curl chips	Short chips	Powder chips
Hinge type	○	X	X	X	○	X	X
Scraper type	X	○	○	○	X	○	○
Magnetic scraper type	X	○	○	○	○	X	X

○ : Suitable × : Non-suitable

Short chips : Chips shorter than Ø60 mm or ball type chips smaller than Ø40 mm.
Curl long chips : Chips' length is longer than short ones.

parts catcher (optional)



Manual tool presetter (optional)



Disc type oil skimmer (optional)



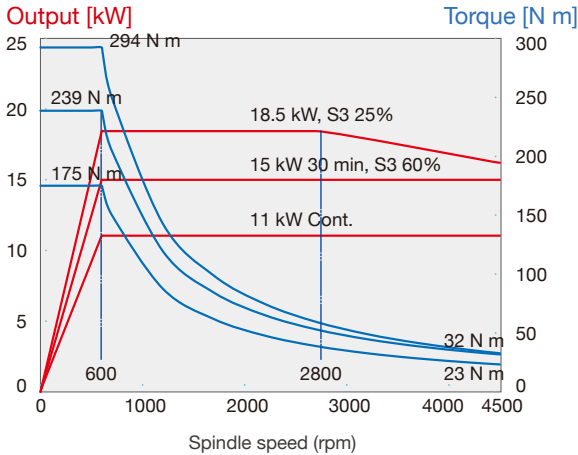
Oil mist collector (optional)



Spindle output and torque chart

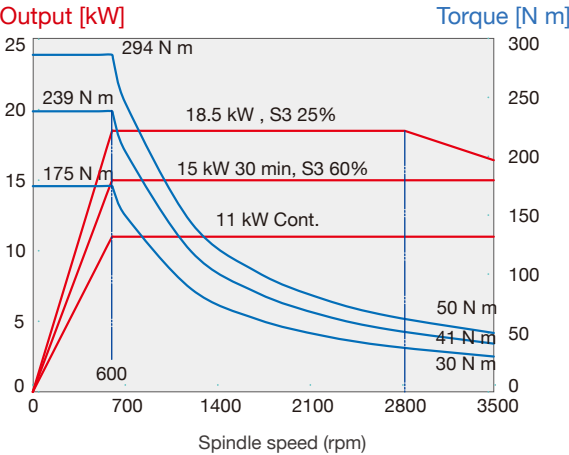
TE-2000 Belt-driven type spindle motor

Spindle diameter Ø100 mm
Spindle speed 4500 rpm
Pulley ratio 1:1.25

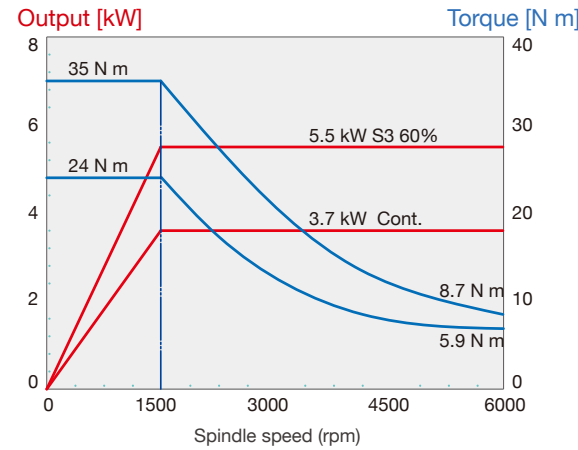


TE-2500 Belt-driven type spindle motor

Spindle diameter Ø120 mm/Ø130 mm
Spindle speed 3500 rpm
Pulley ratio 1:1.25

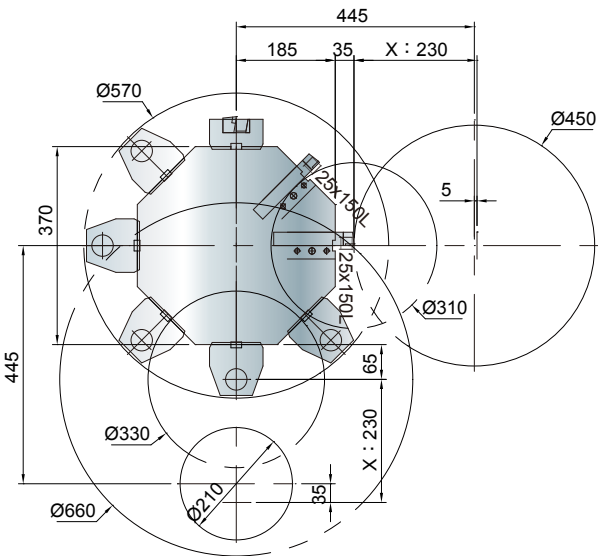


Live tool spindle motor

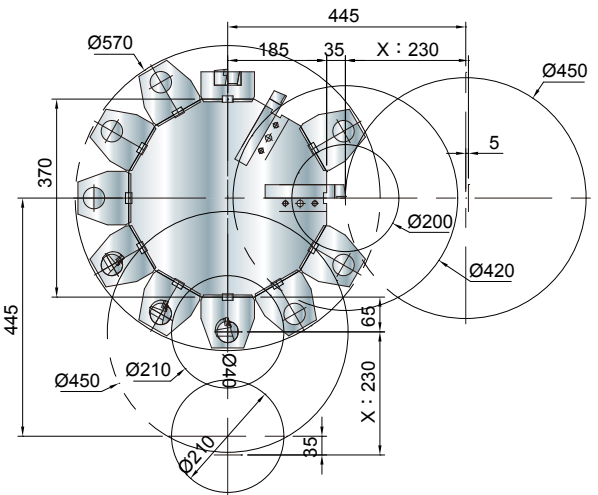


Tool interference

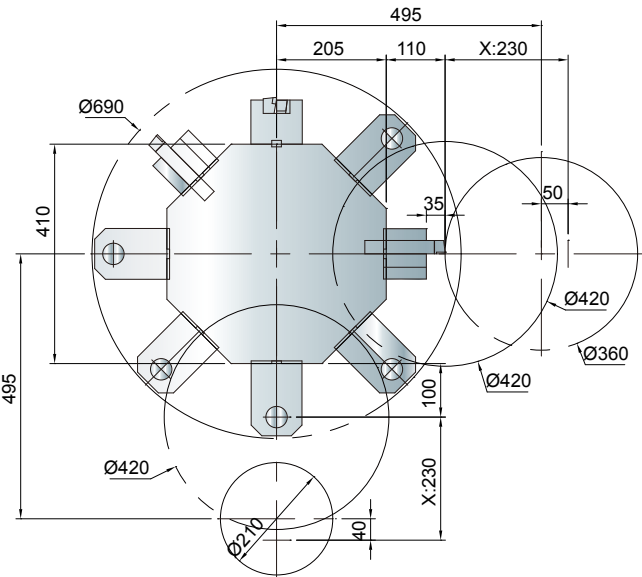
TE-2000 12V / Servo



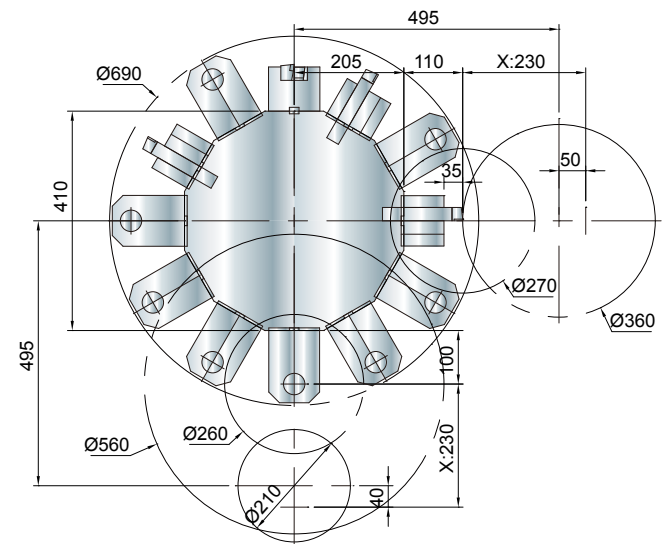
TE-2000 12V / Servo



TE-2000B 8V / Servo

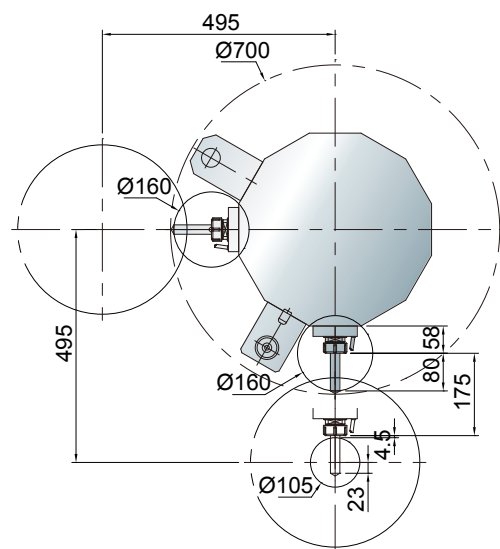
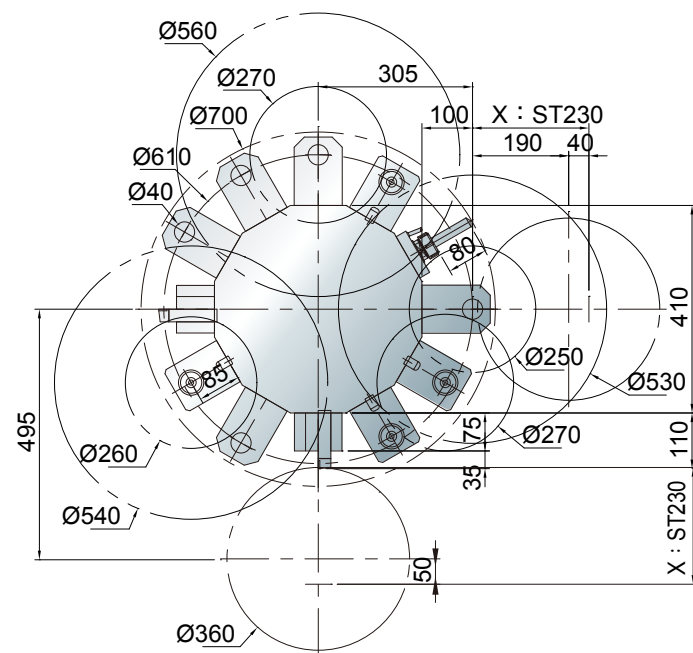


TE-2000B 12V / Servo

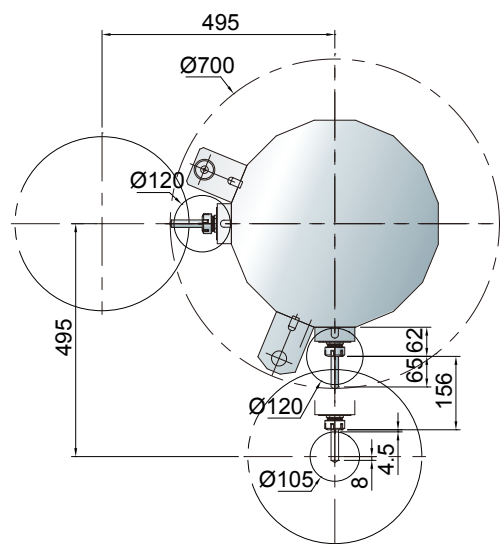
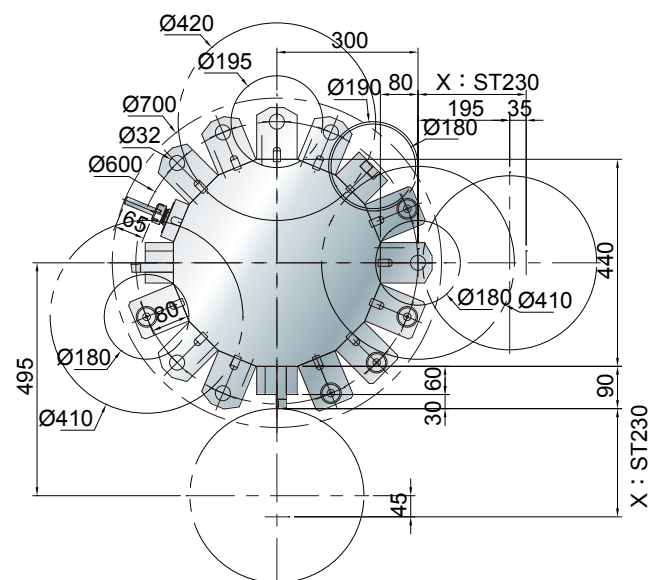


Tool interference

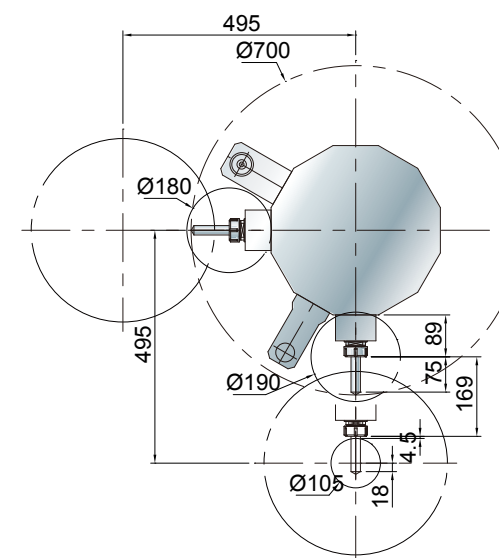
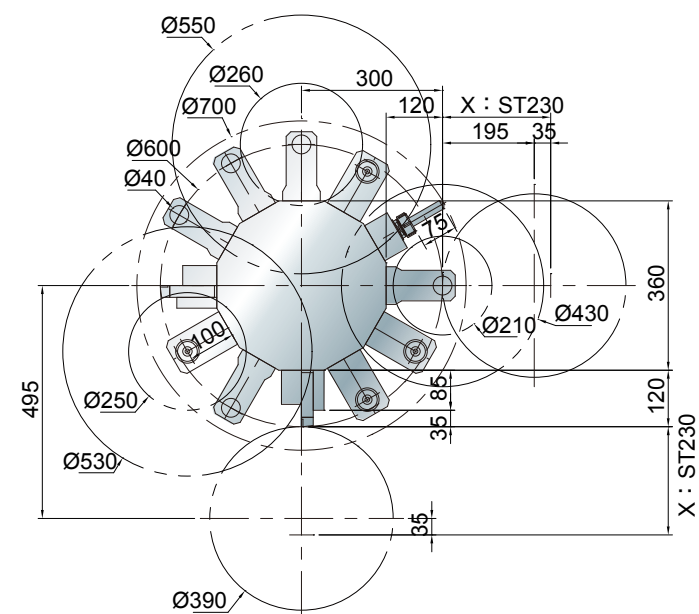
TE-2000M(BC)
12V BMT65 tool-Power



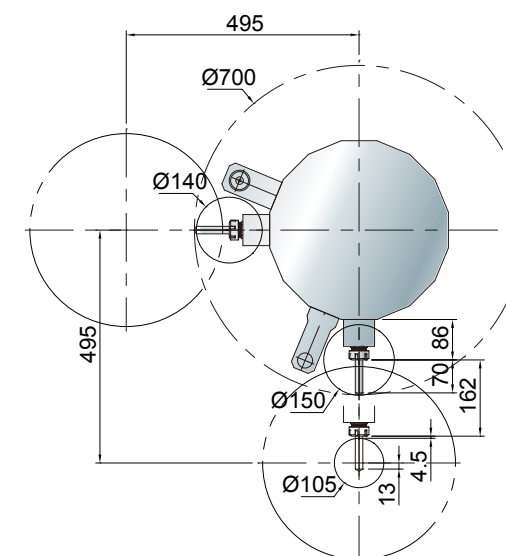
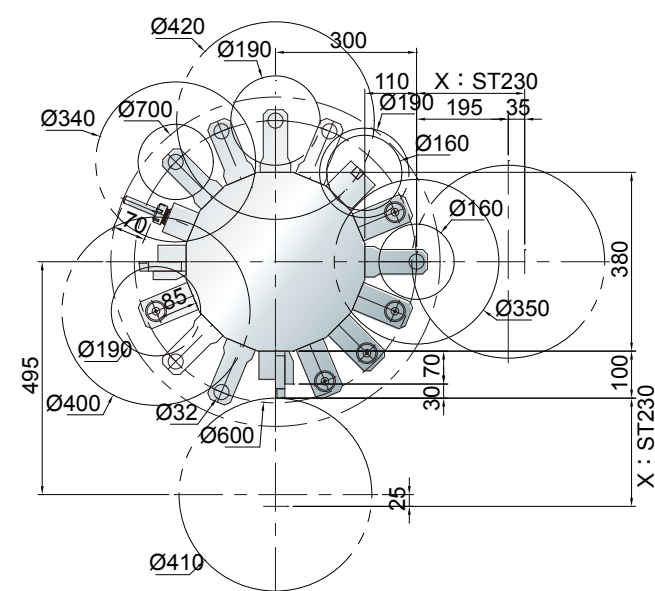
TE-2000M(BC)
16V BMT55 tool-Power



TE-2000M(BC)
12V VDI40-Power



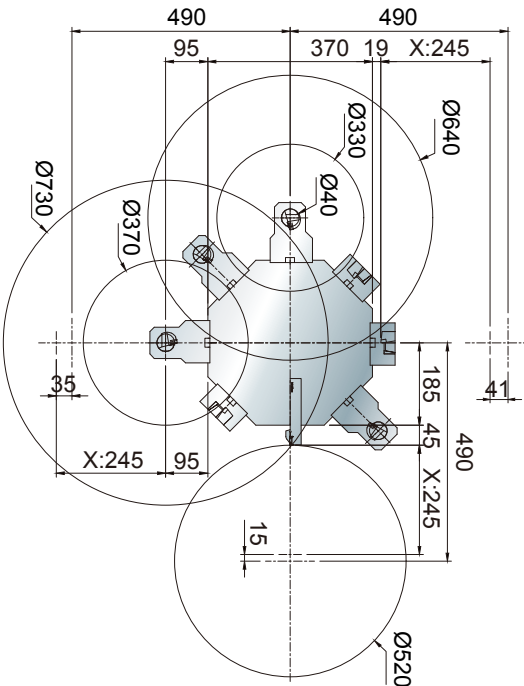
TE-2000M(BC)
16V VDI30-Power



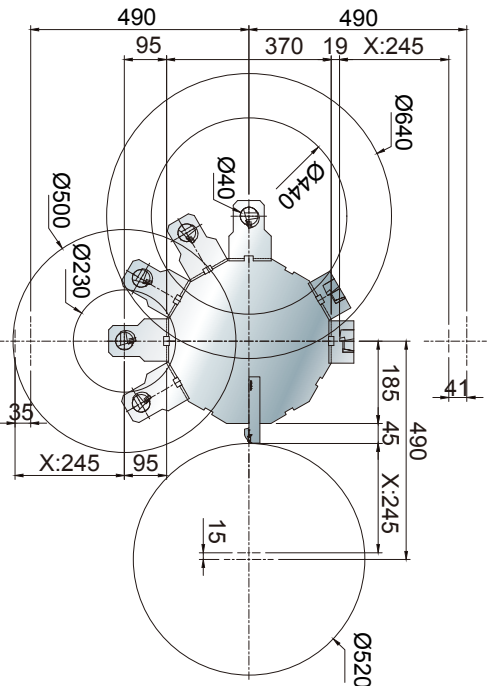
Tool interference

Working area

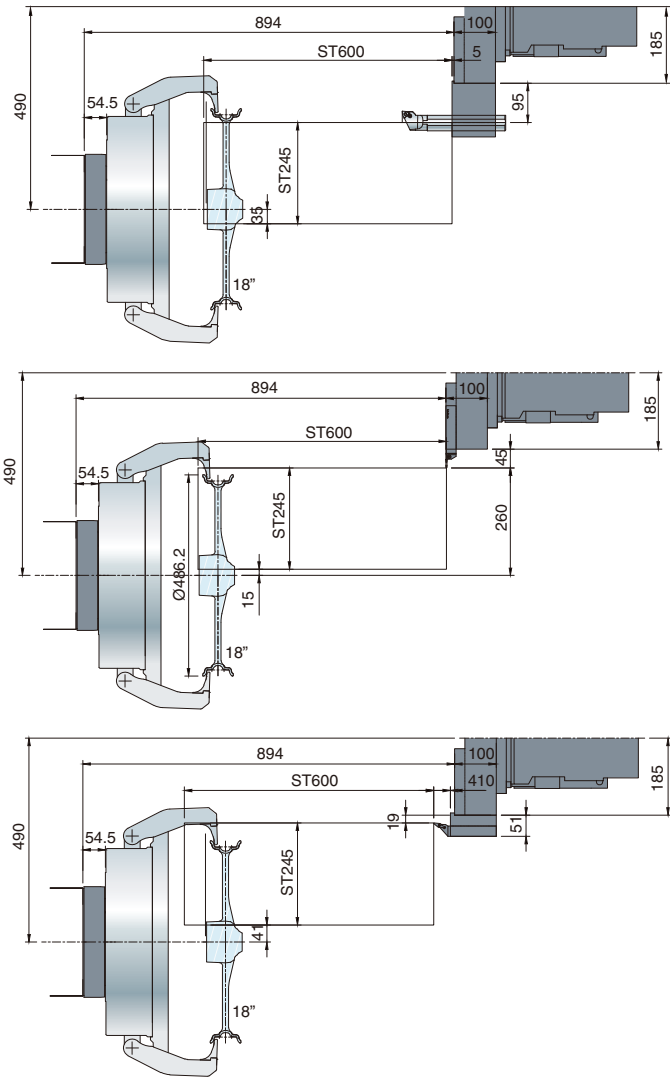
TE-2500
8T(Wheel Turning Lathe)



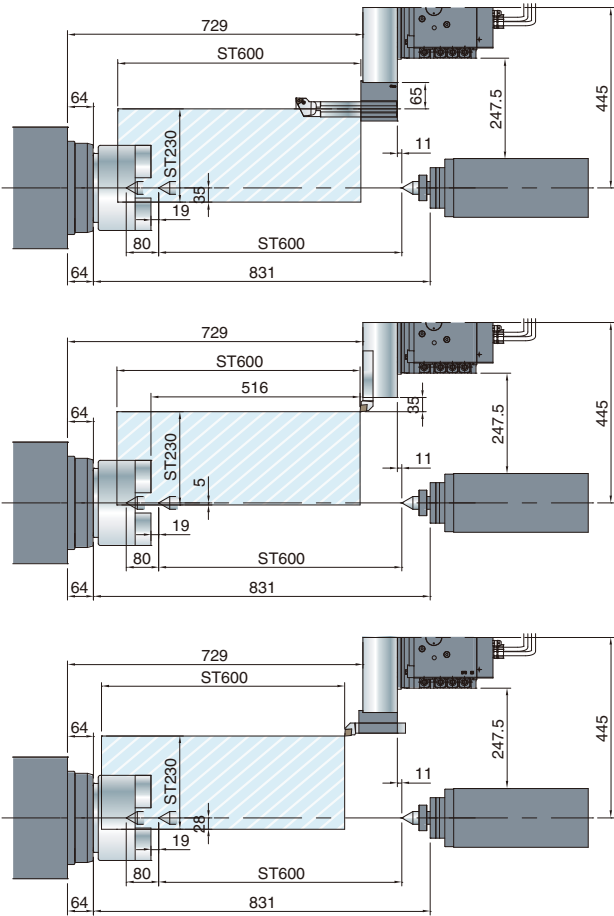
TE-2500
12T(Wheel Turning Lathe)



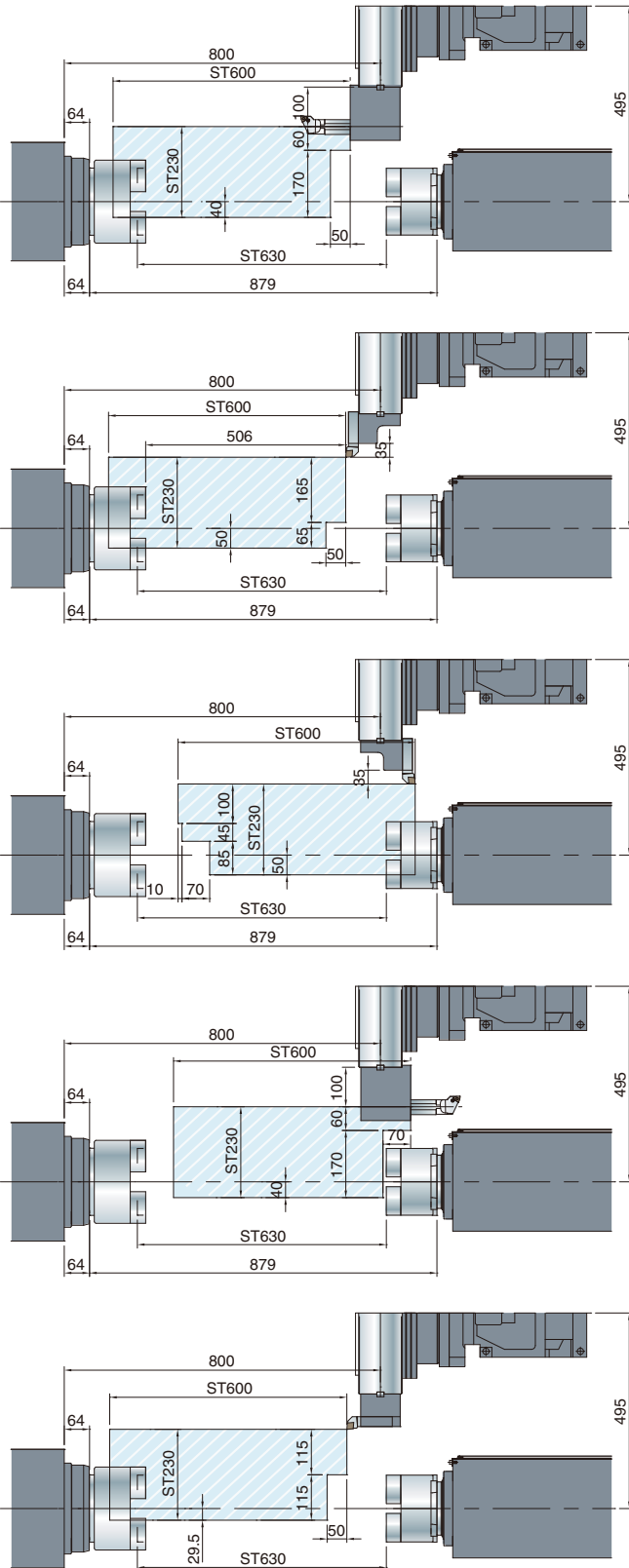
TE-2500
8T/12T(Hydraulic)



TE-2000
8/12V-Servo

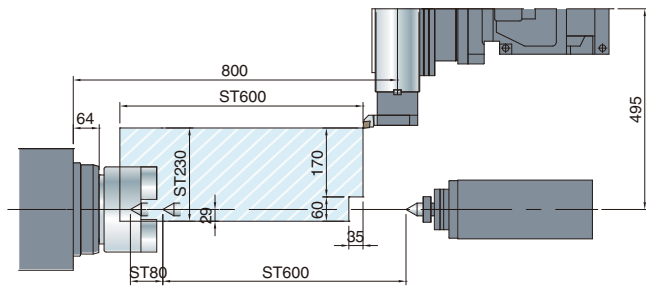
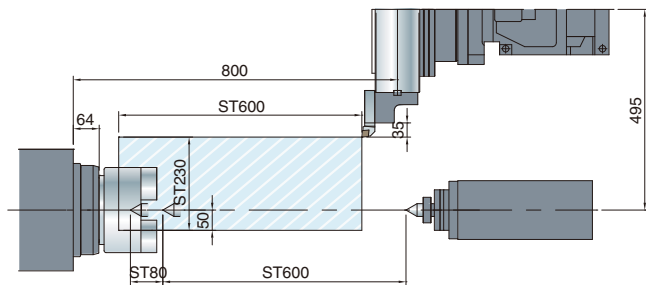
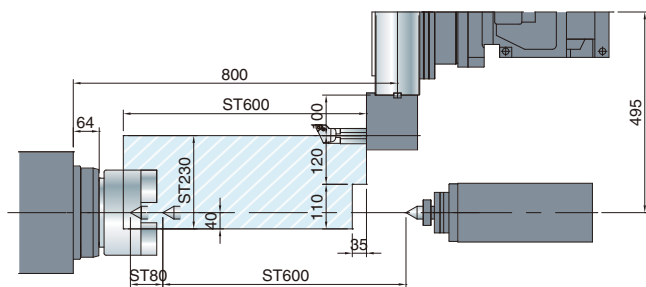
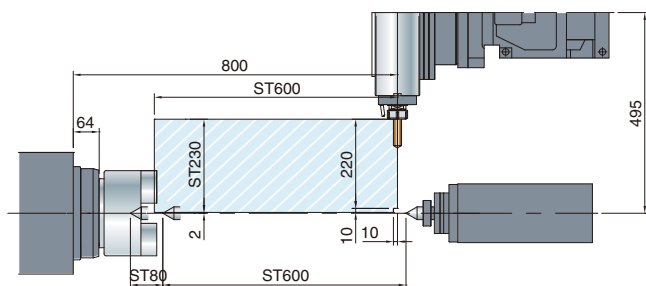
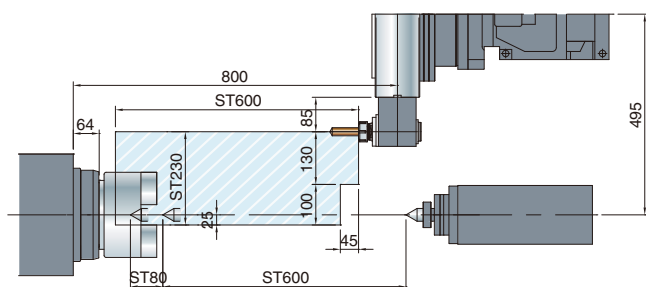


TE-2000B
12V BMT65-Servo

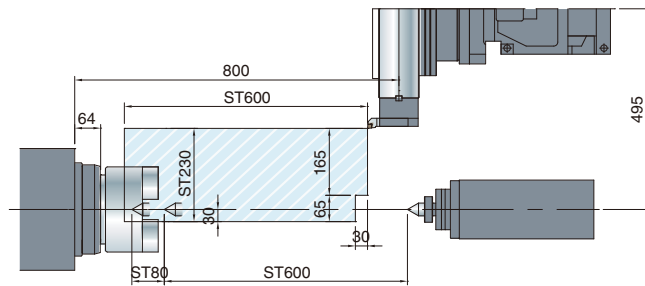
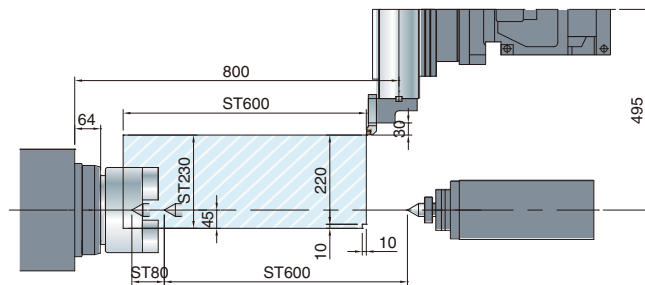
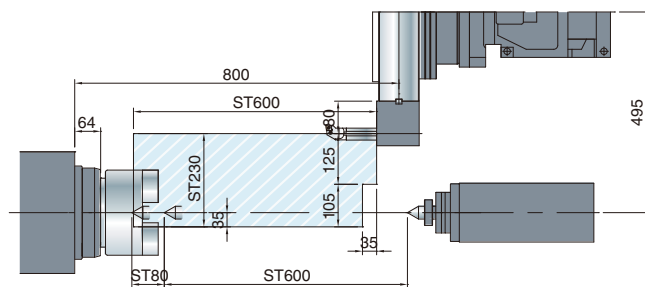
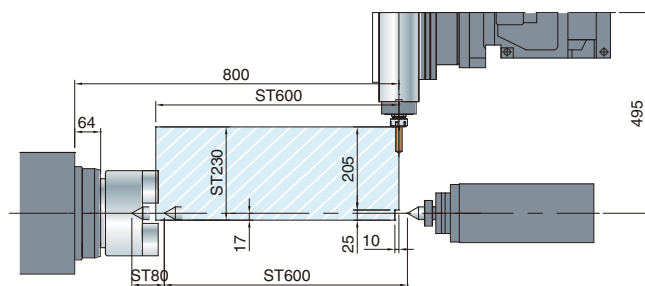
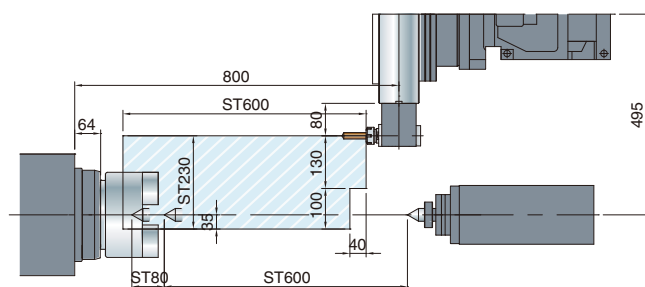


Working area

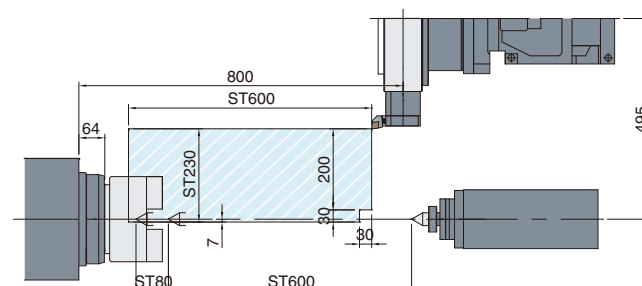
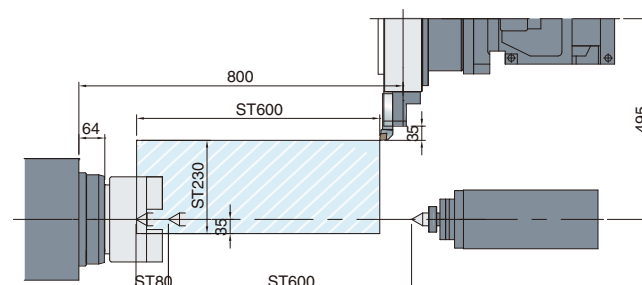
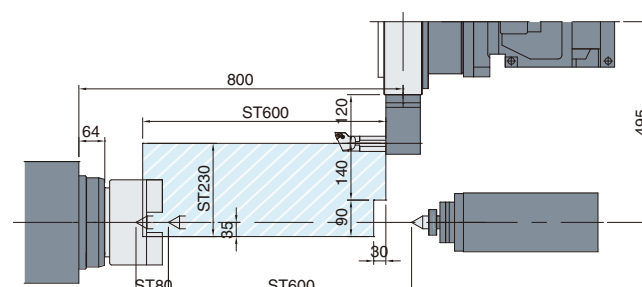
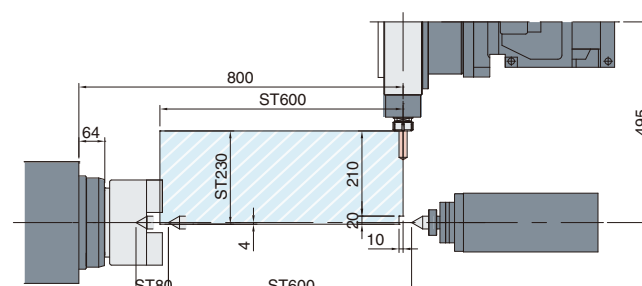
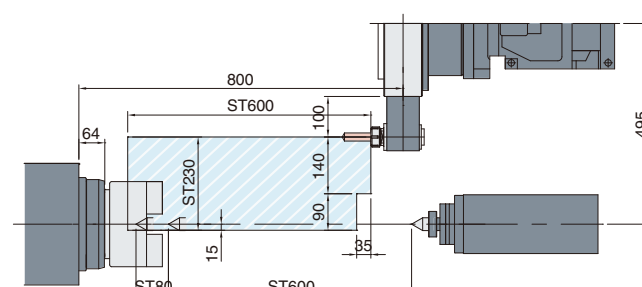
TE-2000M
12V BMT65 tool-Power



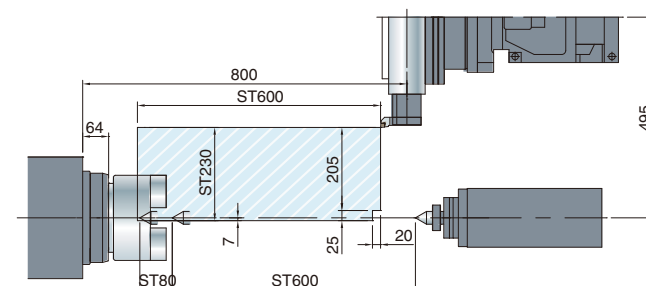
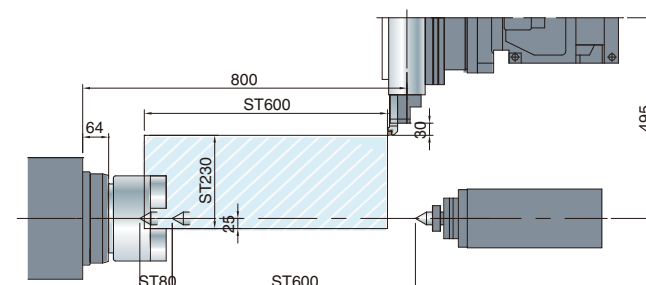
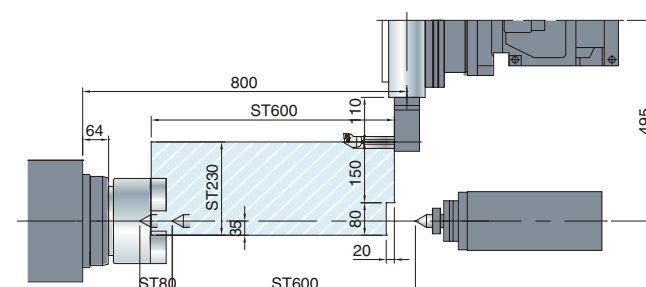
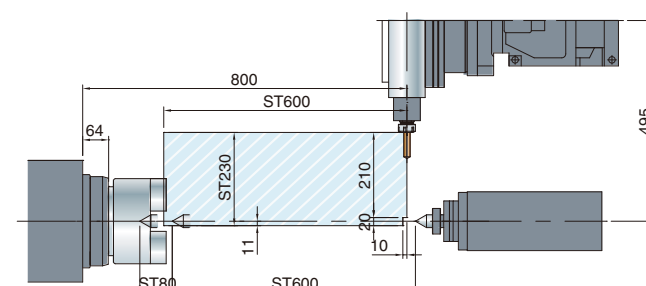
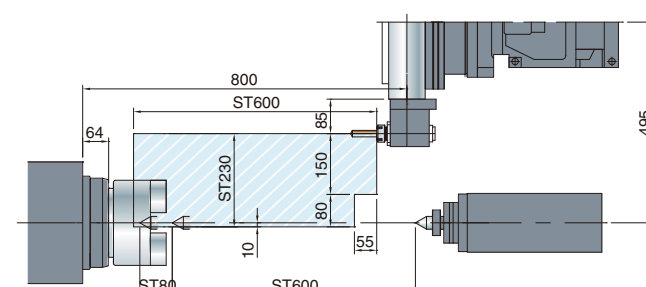
TE-2000M
16V BMT55-Power



TE-2000M
12V VDI40-Power

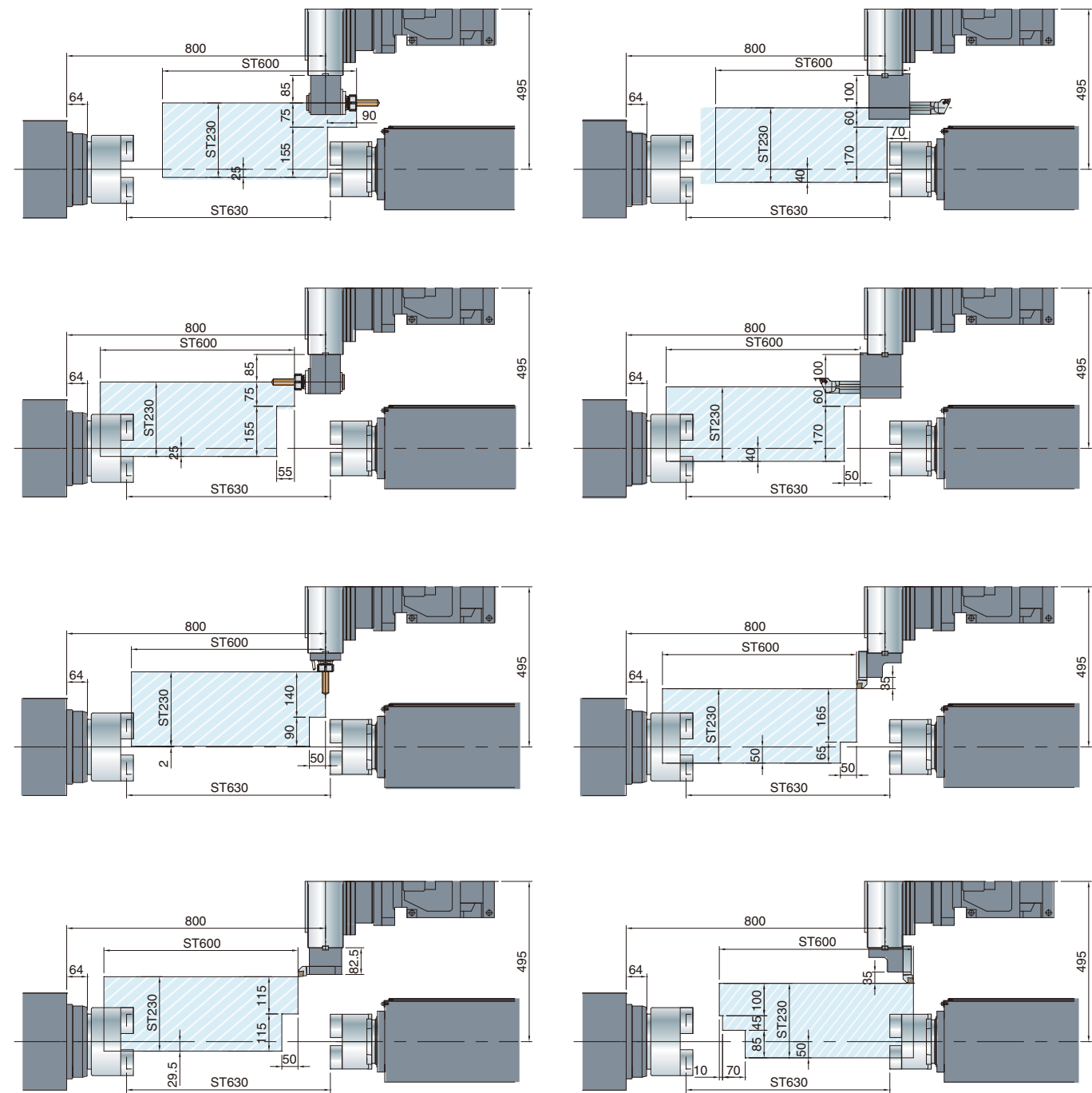


TE-2000M
16V VDI30-Power

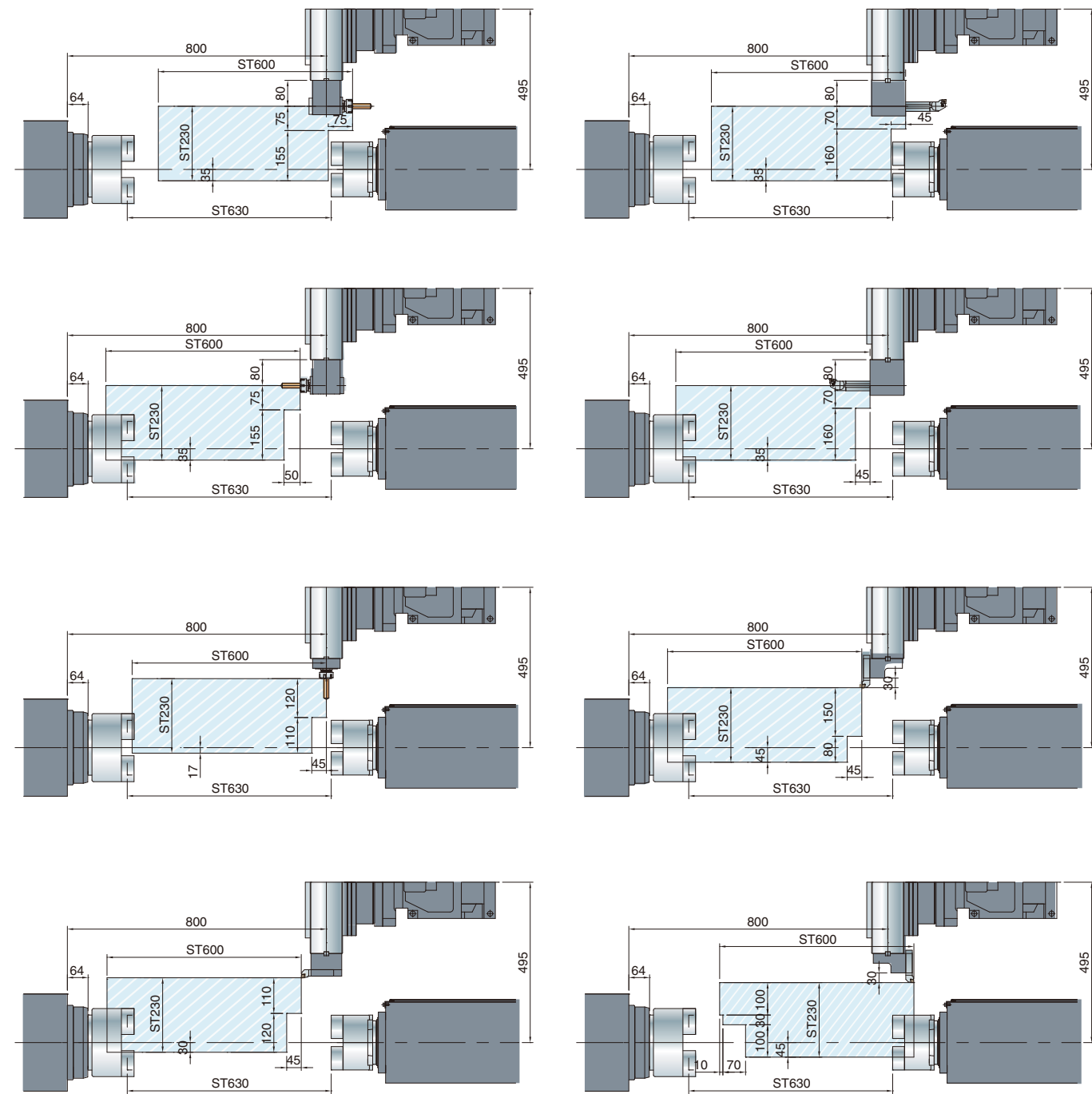


Working area

TE-2000MB(C)
12V BMT65-Power

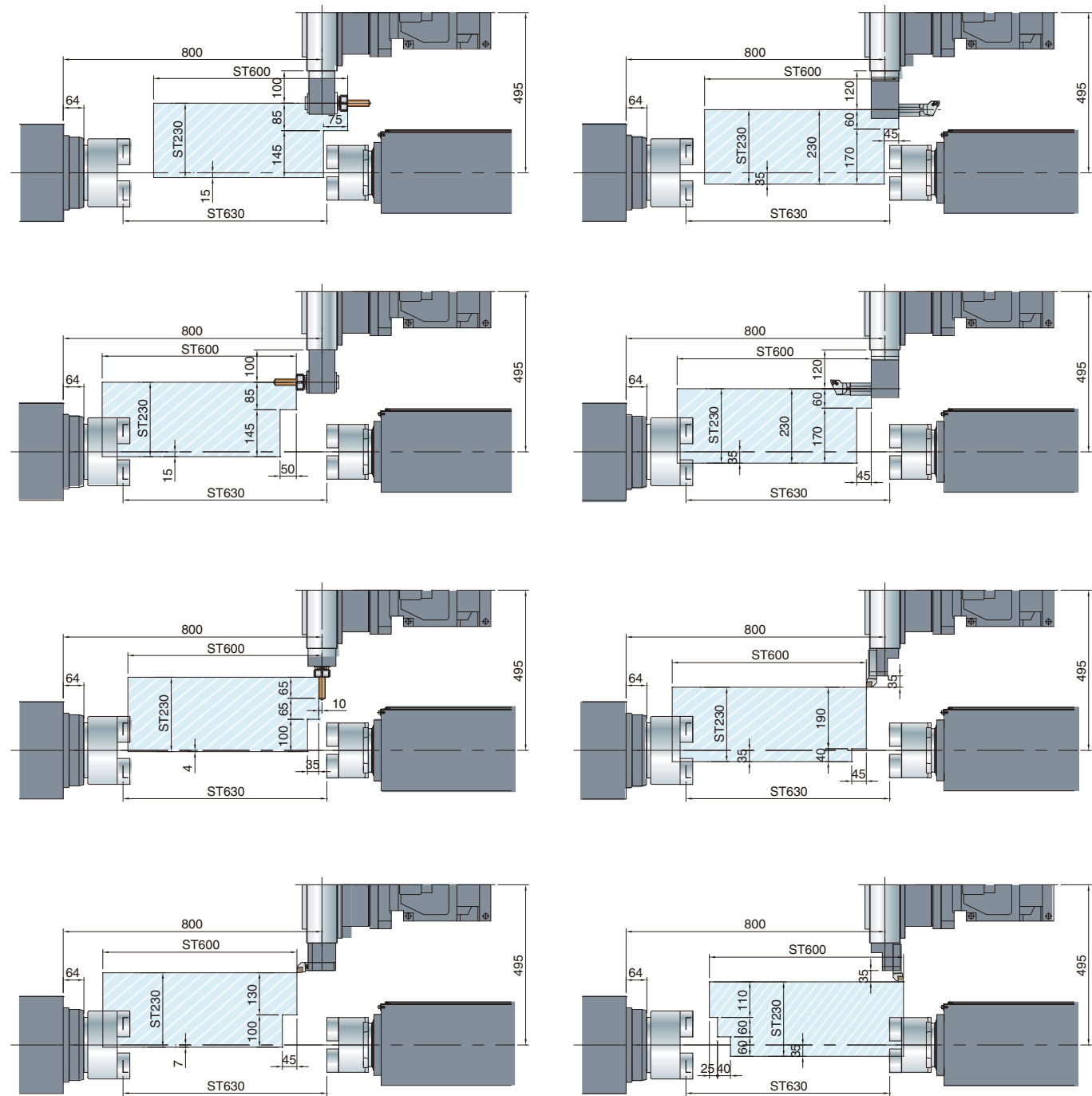


TE-2000MB(C)
16V BMT55-Power

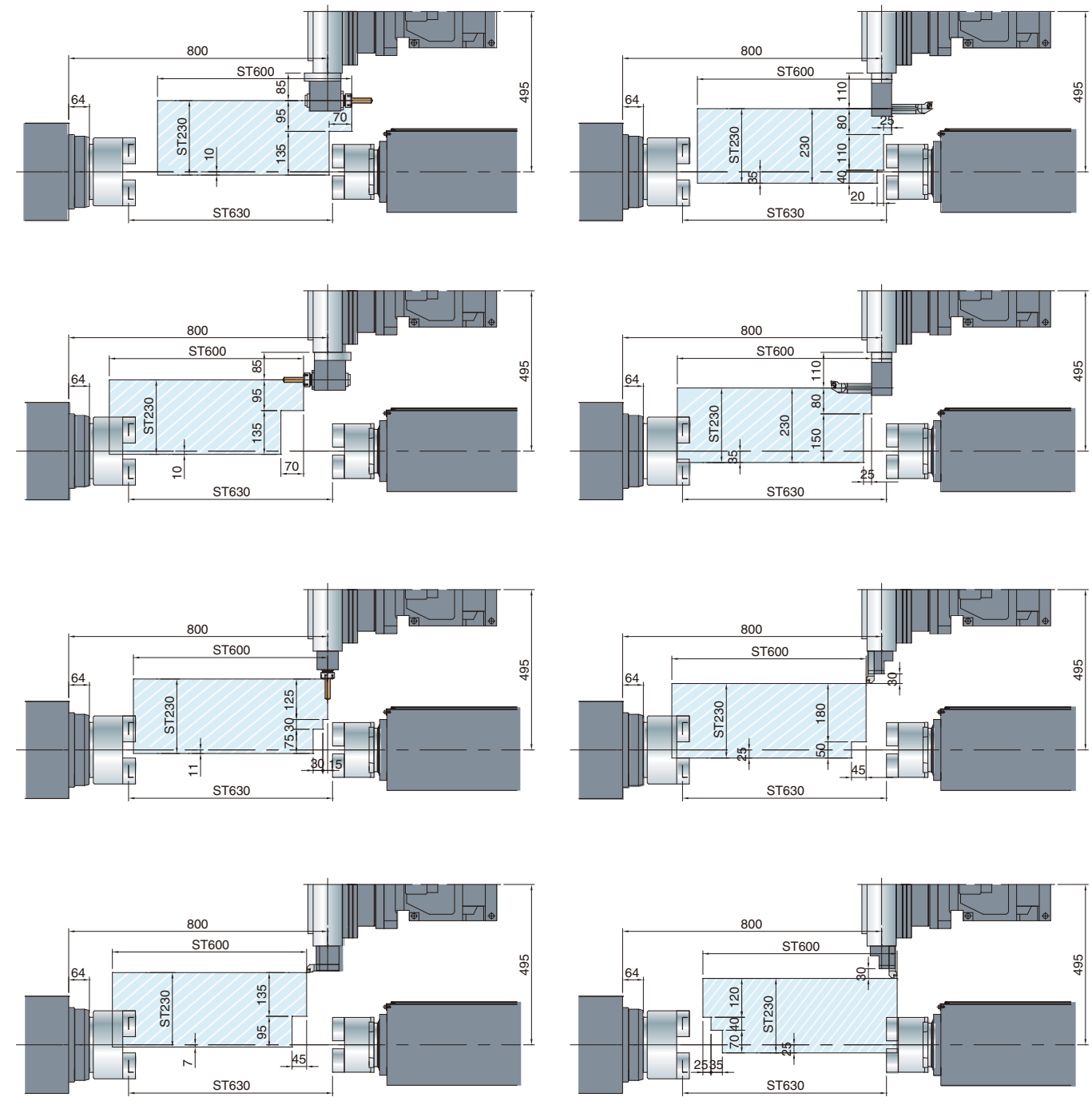


Working area

TE-2000MB(C)
12V VDI40-Power



TE-2000MB(C)
16V VDI30-Power

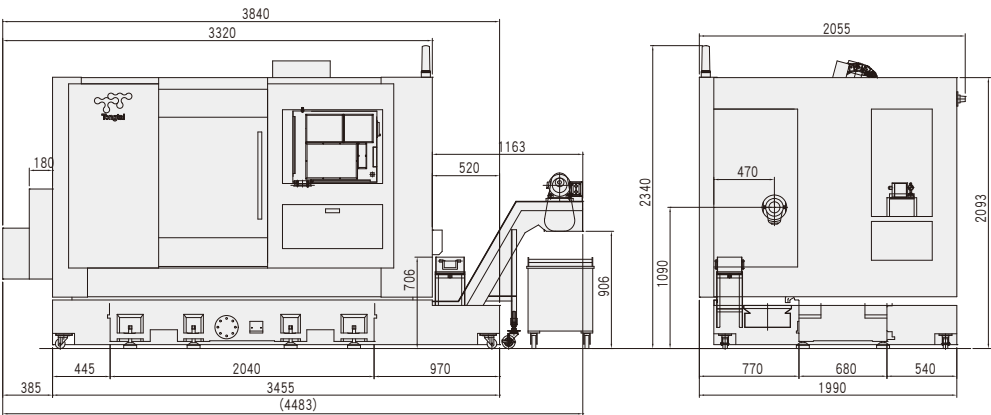


Standard/optional accessories · Machine dimension

Standard : ● Optional : ○ Non-support : -

		TE-2000	TE-2000B	TE-2000M	TE-2000MB	TE-2000MC	TE-2500(Wheel Turning Lathe)
Spindle	Belt-driven spindle, spindle bearing dia. Ø100 mm, 4500 rpm (3000 rpm)	●	●	●	●	●	—
	Belt-driven spindle, spindle bearing dia. Ø120/, 3500 rpm	○	○	○	○	○	●
	Belt-driven spindle, spindle bearing dia. Ø130/, 2500 rpm	○	○	○	○	—	—
	0.001°	—	—	●	●	●	—
Sub spindle	Built-in spindle, spindle bearing dia. Ø90 mm, 5000 rpm	—	●	—	●	●	—
	0.001°	—	—	—	—	●	—
Tailstock- power type	Hydraulic #MT4	●	—	●	—	—	—
	Servo #MT4	○	—	○	—	—	—
turret	8T/12T Servo (SAUTER)	●	—	—	—	—	—
	8T/12T Hydraulic (LIO SHING)	—	—	—	—	—	●
	8/12T-BMT65 Servo (Tongtai)	—	●	—	—	—	—
Power turret (Tongtai)	12T-BMT65	—	—	●	●	●	—
	12T-VDI40	—	—	○	○	○	—
	16T-BMT55	—	—	○	○	○	—
	16T-VDI30	—	—	○	○	○	—
Chuck	3 Jaws through hole chuck			●			—
	Collet type through hole chuck			○			—
	Finger chuck			—			○
Tool holder (servo Hydraulic turret)	Face turning tool holder / I.D. tool holder / Pads /I.D. tool sleeve / Drill sleeve	●	●	—	—	—	●
Tool holder (power turret)	Face turning tool holder / I.D. tool holder / O.D. tool holder	—	—	○	○	○	—
	Axial live tool holder / Radial live tool holder	—	—	○	○	○	—
	I.D tool sleeve / Drill sleeve	—	—	○	○	○	—
Chip conveyor	Hinge type conveyor			●			●
	Scraper type conveyor			○			○
	Magnetic scraper type conveyor			○			○
Automatic loading unloading unit	Bar feeder			○			—
	Parts catcher			○			—
	Parts conveyor			○			—
	Automatic door			○			○
	Parts unloading device for sub-spindle			○			—
Coolant & airblow	Coolant through spindle			○			○
	Air blow through spindle			○			○
Others	Air conditioner for electrical cabinet			○			○
	Air gun / Coolant gun			○			○
	Oil skimmer			○			○
	Oil mist collector			○			○
Controller	Oi-TF 10.4"			●			●

Machine dimension



Unit : mm

Specification

Item	Specification	Unit	TE-2000	TE-2000B	TE-2000M	TE-2000MB[C]	TE-2500	TE-2500B	TE-2500M	TE-2500MB[C]	TE-2500 (Wheel Turning Lathe)
Turning capacity	Spindle bearing diameter	mm	Ø100				Ø120/Ø130				Ø120
	Max. swing diameter	mm	Ø700				Ø700				Ø700
	Max. swing diameter over saddle	mm	Ø400				Ø400				Ø450
	Max. turning diameter	mm	Ø450	Ø360	Ø360/Ø390 (Ø370/Ø410)		Ø450	Ø360	Ø360/Ø390 (Ø370/Ø410)		O.D.18"
	Max. turning lenght	mm	500		530/560 (530/560)		500		530/560 (530/560)		—
Spindle	Spindle nose		A2-6				A2-8				A2-8
	Spindle speed	rpm	4,500 (Opt. 3,000)				3,500 (Opt. 2,500)				2,500
	Chuck size	inch	8" (Opt. 10")				10" (Opt. 12")				(Opt. Finger chuck)
	Through-spindle hole diameter	mm	Ø62				Ø77/Ø86				—
	Bar capacity	mm	Ø51				Ø64/Ø74				—
	Min. CS axis indexing increment	deg	—	—	0.001°	0.001°	—	—	0.001°	0.001°	—
Sub-spindle	Spindle nose		—	A2-5	—	A2-5	—	A2-5	—	A2-5	—
	Spindle speed	rpm	—	5,000	—	5,000	—	5,000	—	5,000	—
	Chuck size	inch	—	6" (Opt. 8")	—	6" (Opt. 8")	—	6" (Opt. 8")	—	6" (Opt. 8")	—
	Through-spindle hole diameter	mm	—	Ø35	—	Ø35	—	Ø35	—	Ø35	—
	Spindle bearing diameter	mm	—	Ø90	—	Ø90	—	Ø90	—	Ø90	—
	Min. CS axis indexing increment	deg	—	—	—	[0.001°]	—	—	—	[0.001°]	—
Servo turret	Tool capacity	pc	8/12	8/12 (BMT65)	—	—	8/12	8/12 (BMT65)	—	—	8[12]
	O.D. tool	mm	25x25		—	—	25x25		—	—	25x25
	I.D. tool	mm	Ø40		—	—	Ø40		—	—	Ø40
	Type		Servo turret		—		Servo turret		—		Hydraulic
Power turret	Tool shank		—	—	BMT65/VDI40 (BMT55/VDI30)		—	—	BMT65/VDI40 (BMT55/VDI30)		—
	Tool capacity	pc	—	—	12 (16)		—	—	12 (16)		—
	O.D. tool	mm	—	—	25x25 (20x20)		—	—	25x25 (20x20)		—
	I.D. tool	mm	—	—	Ø40 (Ø32)		—	—	Ø40 (Ø32)		—
	Max. speed	rpm	—	—	6,000		—	—	6,000		—
	Spindle motor	kW	—	—	5.5/3.7		—	—	5.5/3.7		—
Feed	Max. tool diameter		—	—	Dia. 20/M16 (Dia. 16/M14)		—	—	Dia. 20/M16 (Dia. 16/M14)		—
	X/Z/B axis travel	mm	230/600/-	230/600/630	230/600/-	230/600/630	230/600/-	230/600/630	230/600/-	230/600/630	245/600/-
	X/Z/B axis rapid traverse	m/min	30/30/-	30/30/30	30/30/-	30/30/30	30/30/-	30/30/30	30/30/-	30/30/30	30/30/-
	X/Z axis cutting feedrate	mm/rev	0.001-500				0.001-500				0.001-500
Hydraulic tailstock	Tailstock travel	mm	600	—	600	—	600	—	600	—	—
	Center taper		MT4	—	MT4	—	MT4	—	MT4	—	—
	Center diameter	mm	100	—	100	—	100	—	100	—	—
Servo type tailstock (Opt.)	Tailstock travel	mm	600	—	600	—	600	—	600	—	—
	Center travel	mm	80	—	80	—	80	—	80	—	—
	Center taper		MT4	—	MT4	—	MT4	—	MT4	—	—
	Center diameter	mm	100	—	100	—	100	—	100	—	—
Hydraulic unit	Hydraulic tank capacity	L	30				30				30
	Hydraulic motor	kW	1.5				1.5				1.5
Coolant unit	Coolant tank capacity	L	260				260				200
	Coolant motor	kW	0.55				0.55				0.55
Motor	Spindle motor	kW	18.5/15/11				18.5/15/11				18.5/15/11
	Sub-spindle motor	kW	—	7.5/5.5	—	7.5/5.5	—	7.5/5.5	—	7.5/5.5	—
	X/Y/Z/B axis servo motor	kW	4.5/2.7/-	4.5/2.7/2.7	4.5/2.7/-	4.5/2.7/2.7	4.5/2.7/-	4.5/2.7/2.7	4.5/2.7/-	4.5/2.7/2.7	4.5/2.7/-
Machine size	Width×depth×height	mm	3,320x2,055x2,340				3,320x2,055x2,340				3,420x1,873x2,500
	Weight	kg	4,900	5,200	5,200	5,500	5,100	5,400	5,400	5,700	5,100
Controller	Oi-TF 10.4"										

◎本型錄規格因改進而有所改變，恕不另行通知。