

YB Series

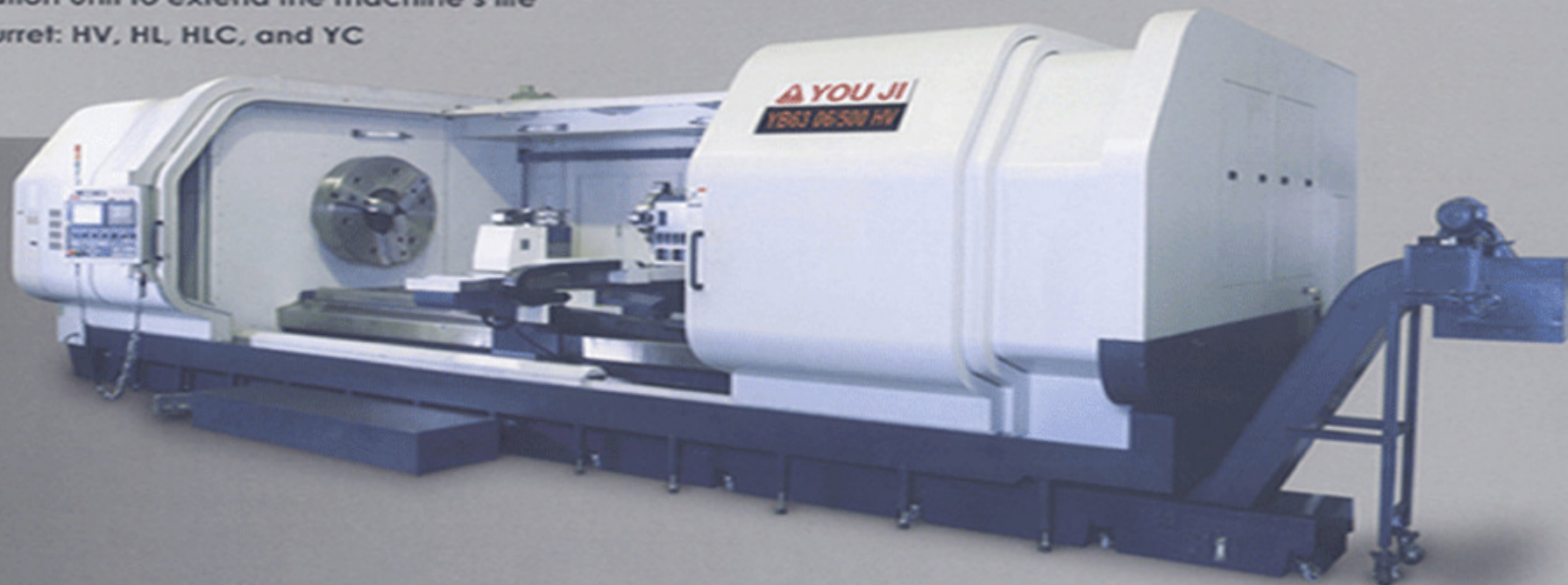


Flat bed horizontal turning lathe

High Rigidity - High Torque Cutting - Heavy Duty Cutting

Machine features

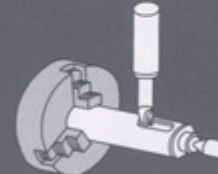
- High rigidity Meehanite cast iron
- High horse power for spindle motor
- 3-steps gearbox with low speed & high torque
- Large capacity spindle bore
- X-axis and Z-axis driven directly by servo motor
- Auto lubrication unit to extend the machine's life
- Choice of turret: HV, HL, HLC, and YC
- Fanuc 0i-TD CNC with proven the reliability and accuracy
- Ergonomic design and easy to use operation panel
- High volume flush coolant pumps
- Coolant tank of the machine allows easy access for maintenance
- Full enclosure guarding design for water-proof & dust-proof in accordance with CE regulations
- A full strict quality control and test-cut



Application

- General turning operations
- Wind Mill industry (main shafts)
- Oil & mining industries (oil pipes)
- Aerospace industry (landing gears)
- Rolling Mill industry (rollers)
- Marine repair industry, mold industry, paper industry, and long shafts

▼ Turn-Mill function (with C-axis and power turret)



CF-axis system

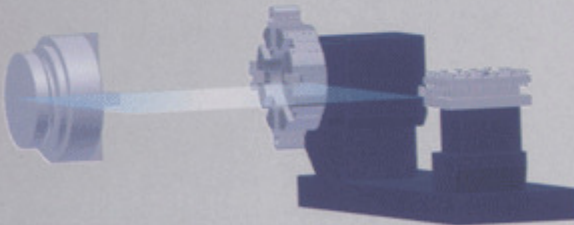
The servo motor combined with the brake system provides positioning accuracy, incorporating the power turret to allow for a wide range of work to be carried out.



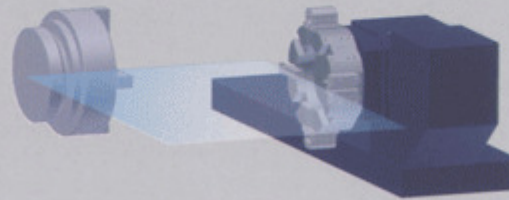
Turn-Mill function



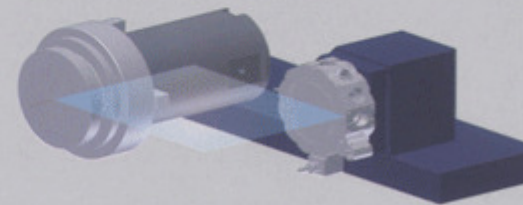
HV turret



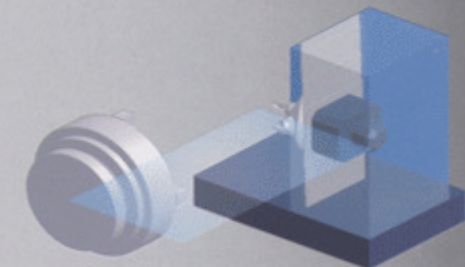
HL turret

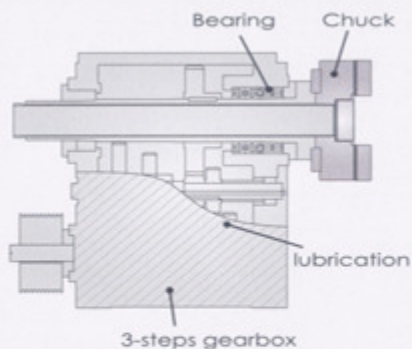


HLC turret



YC turret





Headstock and Spindle

- The solid box construction casting provides excellent rigidity for heavy cutting
- Spindle is fitted with double roller bearings and angular contact ball bearings to maintain excellent stability during the high speed.
- Gear shift of spindle is controlled by M CODE automatically.
- High grade nickel-chrome alloy steel gears in the headstock are hardened and precision ground.
- Auto lubrication unit is fitted to headstock gears and spindle to maintain high accuracy and long machine life.



Chuck

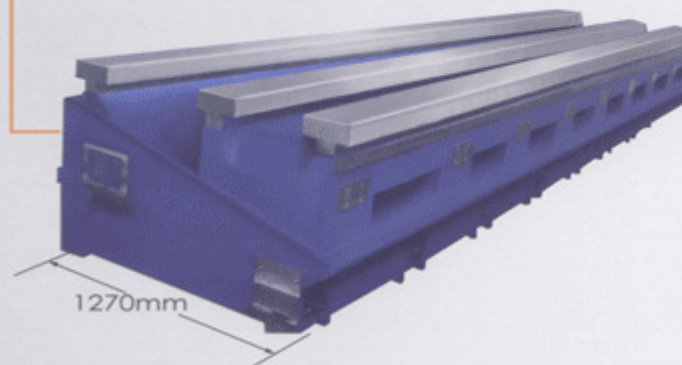
(4 jaws manual chuck)

- Best modules design and 4 jaws manual chuck & 3 jaws hydraulic chuck are available.
- 2nd chuck can be mounted on the rear side of spindle and achieves the best clamping support when the parts through spindle is machining



Machine base

- The box type design is used on the machine base which is made of Meehanite one piece cast iron and heat treated with a stress releasing process to keep the stable precision.

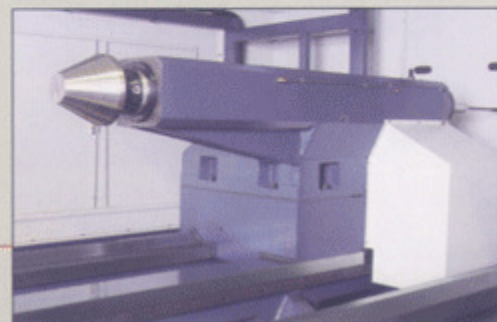


Cross Slide

- Cross slide is made of Meehanite cast iron to provide stability and precision.
- Large size work-piece can be supported by 3 wide span box guide ways and increases radial turning range.
- Surface of box guide ways are heat treated and precisely ground incorporating laser calibration to ensure linear precision.
- Each axes has Turcite B coated to reduce the friction factors and enhances feed rate capability.
- Z-axis cross slide is driven by twin drive simultaneously to provide the maximum thrust.

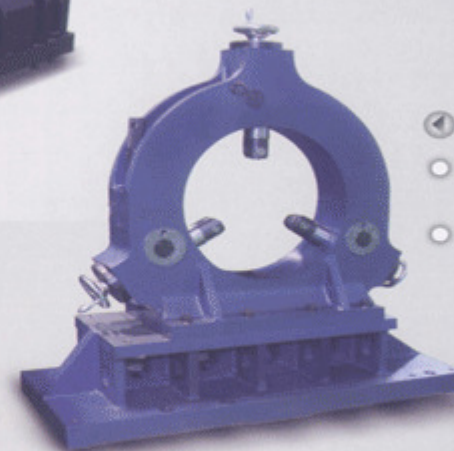
▶ Deep boring bar holder

- Can be mounted on X-axis cross slide and boring diameter & depth can be controlled by program.
- It is designed for boring bar and boring bar holder in accordance with customer's requirement.
- Boring bar bushes can be selected depending on the production requirements, various size can be supplied.



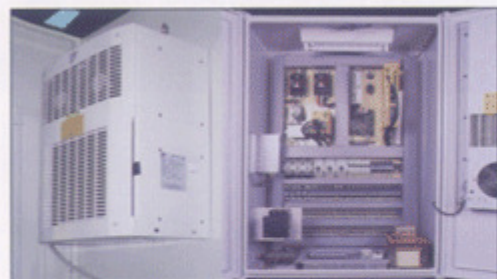
◀ Hydraulic tailstock

- The solid box construction tailstock. The quill is heat treated and precisely ground.
- Taper roller bearings are used on the rotary quill providing the excellent support and stability.
- Quill movement is controlled by program and adjusted by hydraulic valve to maintain the best part support.



◀ Steady rest

- Hydraulic and manual steady rests are available.
- To get the best support and rigidity when machining the longer type of work-piece.



▶ Electrical cabinet

- The control circuit in the electrical cabinet consists of high quality electronic components with auto power off system, and provides the best stability of control performance.
- The electrical cabinet is fitted with an air conditioner to maintain the temperature, and extends the life of electronic components.



▶ Lubrication unit

- It is controlled by automatic central feeding device, and it can be set in accordance with volume and timing.
- The alarm message can be displayed due to oil leakage in order to avoid any machine damage.



▶ Chip conveyor

- Standard accessory is steel belt type chip conveyor.
- Effective chip disposal is used with 2 chip conveyors on the front and rear side of the machines.

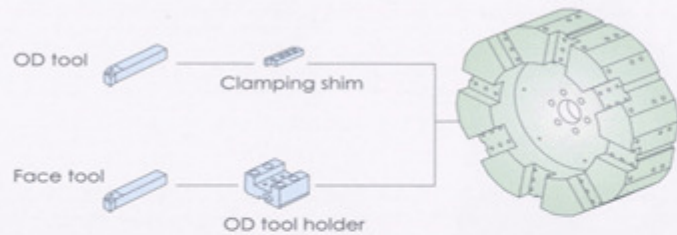


▶ Machine guarding design

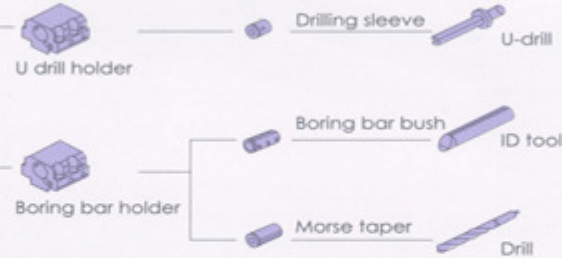
- Full enclosure guarding prevents the chips & coolant fly out and protects the operators safety.
- A large movable door allows easy access for loading & unloading.
- There is the maintenance door on the rear side of the machine.

Tooling system (Hydraulic turret)

OD tool holder

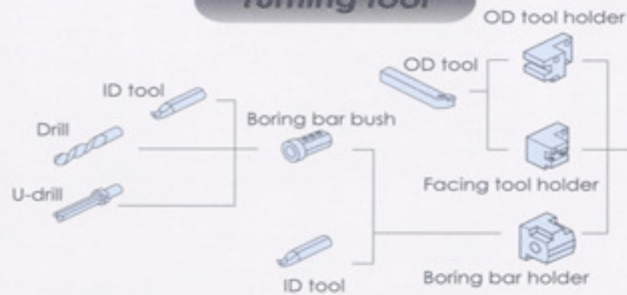


Boring bar holder

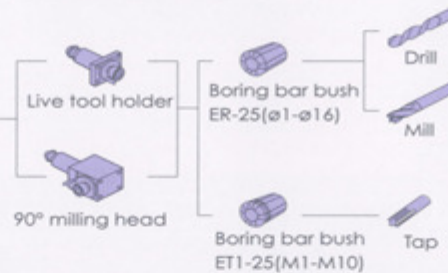


Live tool system (BMT power turret)

Turning tool

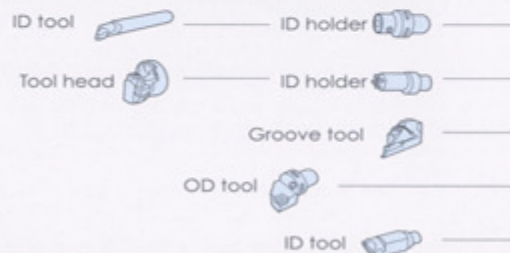


Live tool

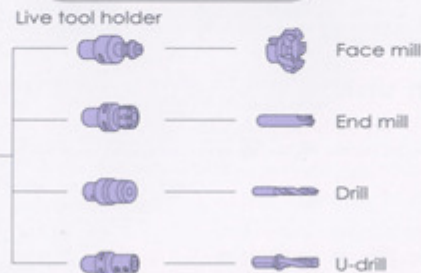


Capto tooling system

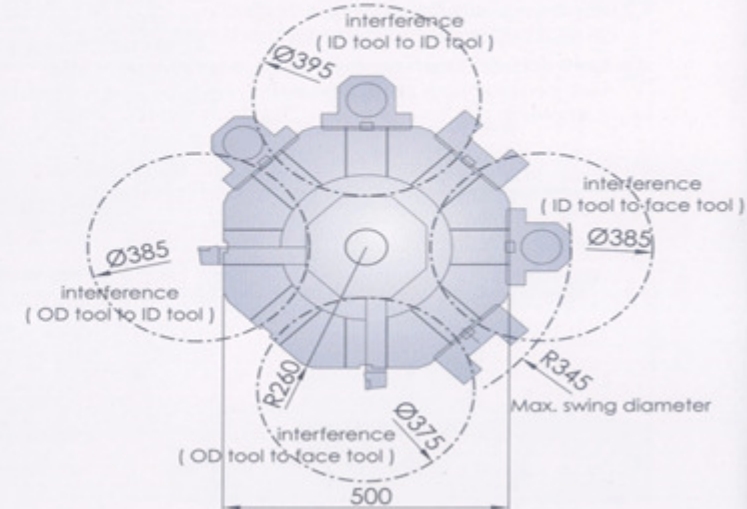
Turning tool



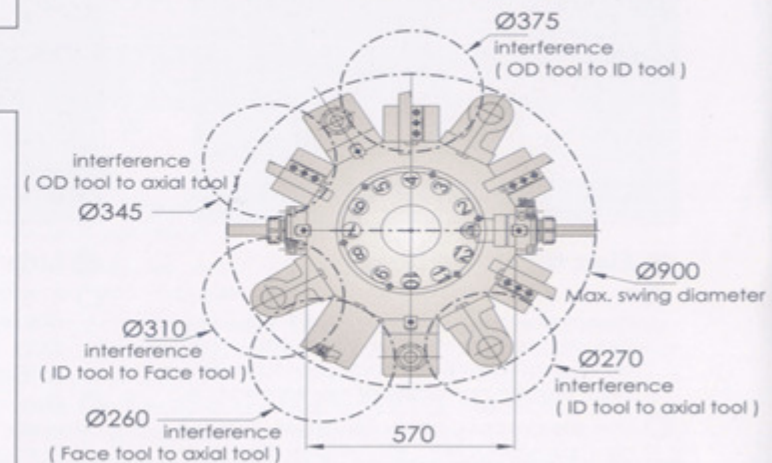
Live tool



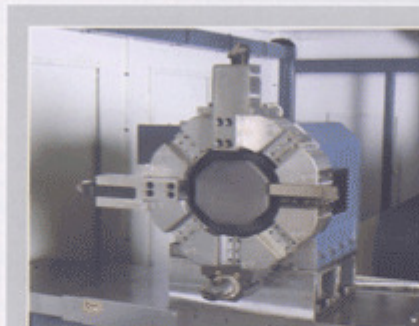
Tooling interference Hydraulic turret



Tooling interference BMT power turret



Machining Range										Unit:mm
Model	A	B	C	D	E	F	G	H	I	
YB55/300	3,100	900	45	45	50	250	3,100	3,000	1,100	
YB55/400	4,100	900	45	45	50	250	4,100	4,000	1,100	
YB55/500	5,100	900	45	45	50	250	5,100	5,000	1,100	
YB55/600	6,100	900	45	45	50	250	6,100	6,000	1,100	
YB63/300	3,100	1,100	45	45	50	250	3,100	3,000	1,300	
YB63/400	4,100	1,100	45	45	50	250	4,100	4,000	1,300	
YB63/500	5,100	1,100	45	45	50	250	5,100	5,000	1,300	
YB63/600	6,100	1,100	45	45	50	250	6,100	6,000	1,300	
YB80/300	3,100	1,500	45	45	50	250	3,100	3,000	1,700	
YB80/400	4,100	1,500	45	45	50	250	4,100	4,000	1,700	
YB80/500	5,100	1,500	45	45	50	250	5,100	5,000	1,700	
YB80/600	6,100	1,500	45	45	50	250	6,100	6,000	1,700	

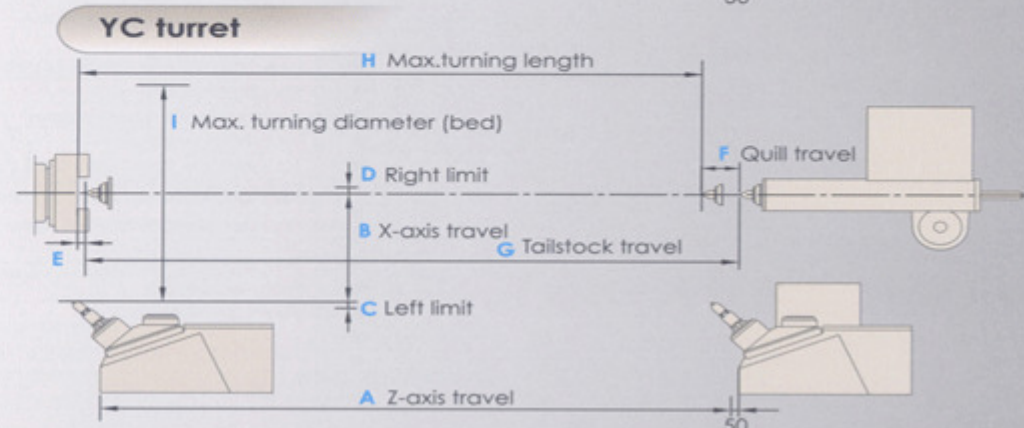
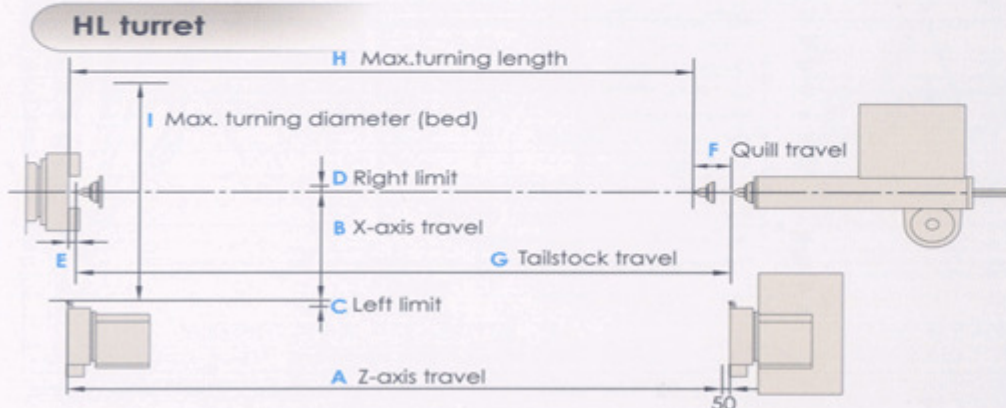
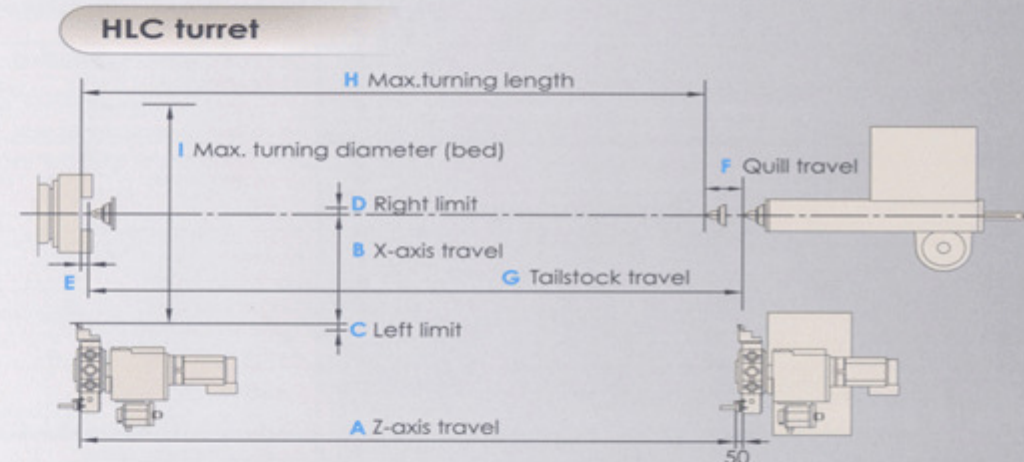
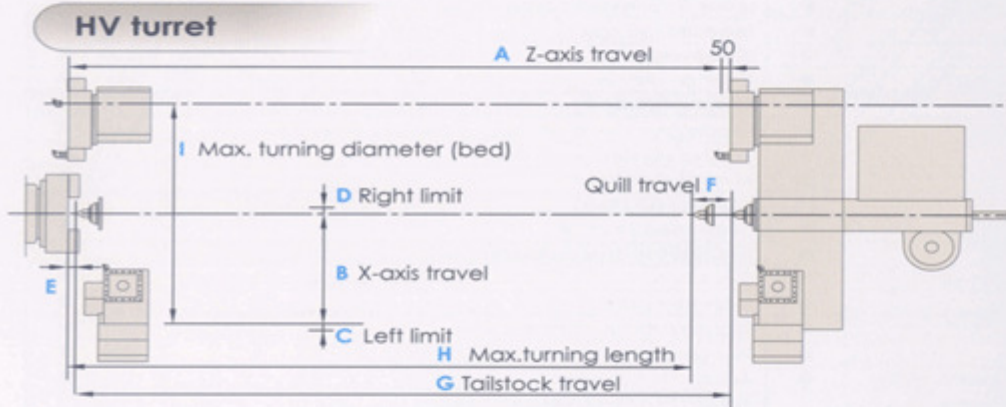


H8 hydraulic turret

The turret is driven by a hydraulic motor for fast positioning, allowing the shortest route tool selection, so reduces the tool changing time.

V4 hydraulic turret

The turret provides the fast tool change and is suitable for heavy duty cutting & a bore turning.



FANUC controller specifications

Standard: ● Option: ○ Not available: —

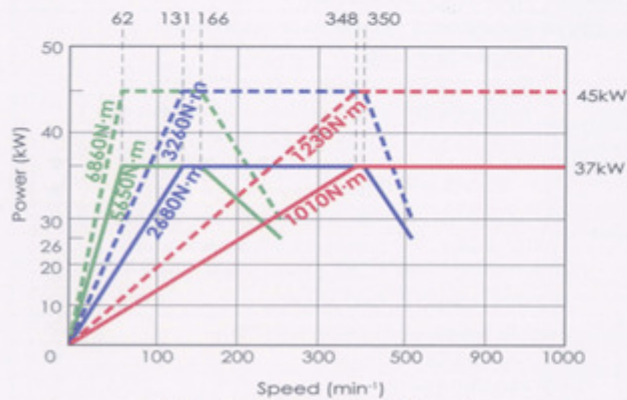
Item	Oi-TD	Item	Oi-TD	Item	Oi-TD
Controlled axis		Program input		Feed function	
Controlled axis	4 axes	Tape code	EIA/ISO	Rapid traverse rate	Max.240m/min(1μm)
Simultaneously controlled axes	4 axes	Label skip	●		Max.999.999m/min(1mm)IS-B
Least input increment	0.001mm,0.001deg,0.0001inch	Parity check	●		Max.99.9999m/min(0.1mm)IS-C
	0.0001mm,0.0001deg,0.00001inch	Control in/out	●	Rapid traverse override	F0.25,50,100% or 0~100%(1% step)
HRV control	●	Optional block skip	1	Feed per minute	●
Inch/metric conversion	●		9	Feed per revolution	●
Interlock	●	Max. programmable dimension	±9 digit	Tangential speed constant control	●
Machine lock	●	Program number	O4-digit	Cutting feedrate clamp	●
Emergency stop	●	Sequence number	N5-digit	Automatic acceleration/deceleration	●
Overtravel	●	Absolute/incremental programming	●	Rapid traverse bell-shaped acceleration/deceleration	●
Stored stroke check	●	Decimal point programming/ pocket calculator	●	Linear acceleration/deceleration after cutting feed interpolation	●
Mirror image	●	Input unit 10 time multiply	●	Feedrate override	0~254%
Chamfering ON/OFF	●	Diameter/radius programming	●	JOG override	0~655.34%
Unexpected disturbance torque detection function	●	Plane selection	G17,G18,G19	Override cancel	●
Position switch	●	Automatic coordinate system setting	●	Data input/output	
Operation		Workpiece coordinate system	G52~G59	Reader/puncher interface	Ch1,Ch2 interface
Automatic operation	●	Direct drawing dimension programming	●	External I/O device control	●
MDI operation	●	G code system	A	External data input	●
DNC operation	Reader/puncher interface is required		B/C	Interface function	
DNC operation with Memory Card	PCMCIA Card Attachment is required	Chamfering/corner R	●	Embedded Ethernet	●
Program number search	●	Programmable data input	G10	Tool function/Tool compensation	
Sequence number search	●	Sub program call	10 folds	Tool function	T7+1/T6+2 digits
Sequence number comparison and stop	●	Canned cycles	●	Tool offset pairs	●
Buffer register	●	Multiple repetitive cycle	●	Tool nose radius compensation	●
Dry run	●	Multiple repetitive cycle II	●	Tool geometry/wear compensation	●
Single block	●	Tape format	FANUC series 10/11	Automatic tool offset	●
JOG feed	●		FANUC series 15	Accuracy compensation function	
Manual reference position return	●	Auxiliary/Spindle speed function		Backlash compensation	●
Manual handle feed	Max. 2 units	Auxiliary function lock	●	Stored pitch error compensation	●
Manual handle feed rate	x1,x10,xm,xn m:0~127,n:0~1000	High speed M/S/T/B interface	●	Setting and display	
Interpolation functions		Spindle speed function	●	Status display	●
Positioning	G00	Constant surface speed control	●	Clock function	●
Threading, Synchronous cutting	●	Spindle override	0~254%	Current position display	●
Multiple threading	●	Actual spindle speed output	●	Program display	Program name 31 characters
Threading retract	●	1st spindle orientation	●	Self-diagnosis function	●
Continuous threading	●	1st spindle output switching function	●	Alarm display	●
Variable lead threading	●	Edit operation		Operator message history display	●
Linear interpolation	●	Number of registerable programs	63	Run hour and parts count display	●
Circular interpolation	●		400	Actual cutting feedrate display	●
Dwell	●	Part program editing	●	Dynamic graphic display	○
Skip	G31	Program protect	●	Multi-language display	English
Reference position return	G28	Background editing	●		Japan/Chinese
Reference position return check	G27				
2nd reference position return	●				

*Specification is subject to change without prior notice.

Torque Diagram

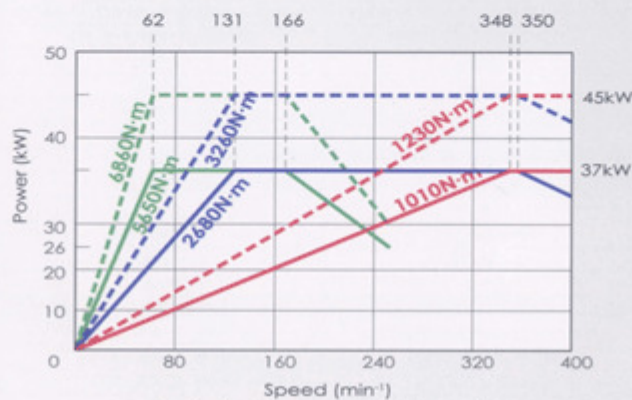
Spindle motor FANUC α 40

- 1st gear
- 2nd gear
- 3rd gear
- 30Min operation zone
- Continuous operation zone



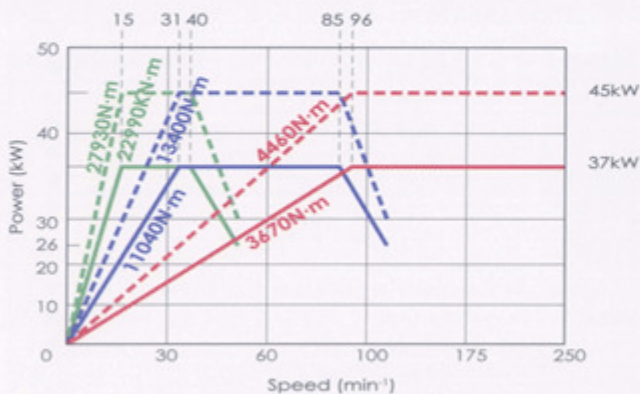
Spindle bore Ø6"(152mm)

1st gear : 2nd gear : 3rd gear = 24 : 11.4 : 4.31



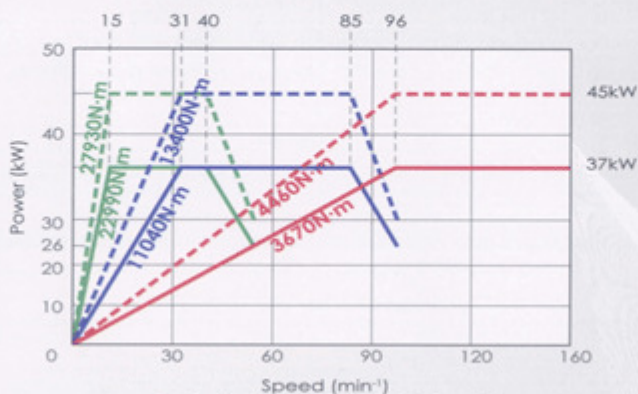
Spindle bore Ø14"(356mm)

1st gear : 2nd gear : 3rd gear = 24 : 11.4 : 4.31



Spindle bore Ø20"(508mm)

1st gear : 2nd gear : 3rd gear = 97.66 : 46.88 : 15.62

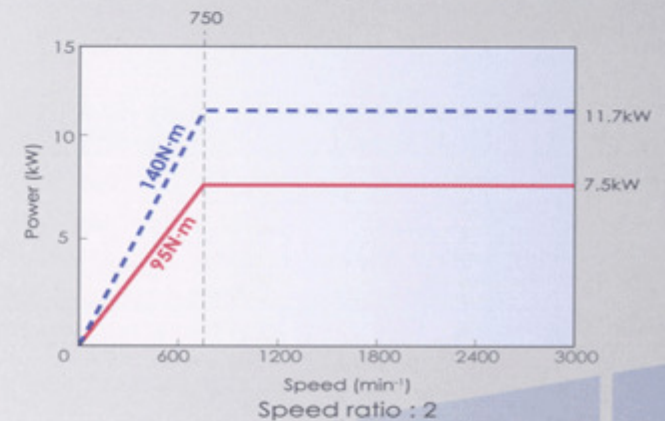


Spindle bore Ø32"(813mm)

1st gear : 2nd gear : 3rd gear = 97.66 : 46.88 : 15.62

2nd spindle motor FANUC α 8

- 30Min operation zone
- Continuous operation zone



Speed ratio : 2

Machine Specifications

	Item	Unit	YB55				YB63				YB80			
Capacity	Max. turning length	mm	3000	4000	5000	6000	3000	4000	5000	6000	3000	4000	5000	6000
	Swing over cross slide	mm	Ø800				Ø1000				Ø1400			
	Swing over bed	mm	Ø1400				Ø1600				Ø2000			
	Max. turning diameter (cross slide)	mm	Ø800				Ø1000				Ø1400			
	Max. turning diameter (bed)	mm	Ø1100				Ø1300				Ø1700			
Travel	Distance between centers	mm	3200	4200	5200	6200	3200	4200	5200	6200	3200	4200	5200	6200
	X-axis travel	mm	900				1100				1500			
	Z-axis travel	mm	3100	4100	5100	6100	3100	4100	5100	6100	3100	4100	5100	6100
Tailstock	Quill diameter	mm	Ø170(rotary quill)				Ø170(rotary quill)				Ø250(rotary quill)			
	Quill travel	mm	250				250				250			
	Tailstock center		MT6				MT6				MT6			
	Tailstock base movement		Hydraulic				Hydraulic				Hydraulic			
	Quill movement		Hydraulic				Hydraulic				Hydraulic			
Feed rate	X-axis rapid traverse	m/min	10				10				10			
	X-axis ballscrew diameter	mm	Ø50xP10				Ø50xP10				Ø50xP10			
	Z-axis rapid traverse	m/min	6				6				6			
	Z-axis ballscrew diameter	mm	Ø80xP10				Ø80xP10				Ø80xP10			
	Cutting feed rate	mm/min	1~2000				1~2000				1~2000			
	Manual feed rate	m/min	0~6				0~6				0~6			
Control		FANUC 0i-TD				FANUC 0i-TD				FANUC 0i-TD				
Motor	Spindle motor	kW	37/45(α 40/6000i)				37/45(α 40/6000i)				37/45(α 40/6000i)			
	X-axis motor	kW	4(α 22/3000i)				4(α 22/3000i)				4(α 22/3000i)			
	Z-axis motor	kW	6(α 40/3000i)				6(α 40/3000i)				6(α 40/3000i)			
	Power capacity	KVA	65				65				65			
Tank capacity & Pump	Coolant tank	L	500				500				500			
	Coolant pump	w	700				700				700			
	Lubrication pump	w	45+45				45+45				45+45			
Dimension	Machine height	mm	2,950				3,200				3,700			
	Machine length	mm	9,380	10,380	11,380	12,380	9,380	10,380	11,380	12,380	9,380	10,380	11,380	12,380
	Machine width	mm	4,000				4,300				4,900			
	Machine weight	Kg	18,000	20,000	22,000	25,000	19,000	21,000	23,000	26,000	21,000	23,000	25,000	28,000

*Specification is subject to change without prior notice.

Choice of spindle and chuck

NO	Spindle diameter	Spindle speed	Spindle nose	Spindle bore	Option	
					4 jaws manual chuck	3 jaws hydraulic chuck
1	Ø220	1~1000	3 steps	A2-15	Ø152(6")	610(24")
						710(28")
						813(32")
						813(32")
2	Ø457.2	1~400	3 steps	A2-20	Ø356(14")	915(36")
						1000(40")
						1000(40")
						1250(49")
3	Ø580	1~250	3 steps	Ø600	Ø508(20")	1400(55")
						1400(55")
						1600(63")
						1800(71")
4	Ø901.7	1~160	3 steps	Ø900	Ø813(32")	-
						-
						-
						-

Unit:mm

Standard Accessories and Optional Accessories

Spindle	Spindle motor		●
	3-steps gearbox		●
	Rigid tapping		●
Work-piece clamping	Hard jaws (hydraulic chuck)		○
	Hydraulic tailstock		●
	Tailstock center		●
	Manual steady test		○
	Hydraulic steady rest		○
	Foot pedal for tailstock operation		○
	Chuck pressure		○
	Programmable 2 step pressure control (chuck)		○
	Programmable 2 step pressure control (tailstock)		○
	Turret	HV turret	Face tool holder× 2 sets
Boring bar holder× 4 sets			●
Boring bar bush× 1 set			●
HL turret		Face tool holder× 2 sets	●
		Boring bar holder× 4 sets	●
		Boring bar bush× 1 set	●
HLC turret		BMT tooling	○
YC turret	Capto tooling	○	
Controller	FANUC 0i-TD		●
	FANUC 18i-TB		○
Coolant unit	Oil skimmer		○
	Level detector		○
	Paper filter		○
	Air gun		○
	Coolant gun		○
	Oil mist collector		○
	Coolant cooler		○
Safety	Full guarding		●
	Door interlock		○
	Overtravel switch		●
	Overload monitoring system		●
Others	Signal tower (3 stage)		●
	Working lamp		●
	Deep boring bar holder		○
	Double chuck		○
	Air conditioner for electrical cabinet		●
	Hydraulic unit		●
	Oil cooling fan		●
	Hydraulic oil cooler		○
	Auto lubrication unit		●
	Tool box		●
Transformer		○	

●:Standard ○:Option

Machine Description

YB 55 06 / 300 HV

- HV : H8 hydraulic turret + V4 hydraulic turret
- HL : H8 hydraulic turret (left type)
- HLC: BMT power turret (left type)
- YC: Y-axis cross slide + Capto power turret

Max. turning length

- 300 : 3000mm
- 400 : 4000mm
- 500 : 5000mm
- 600 : 6000mm

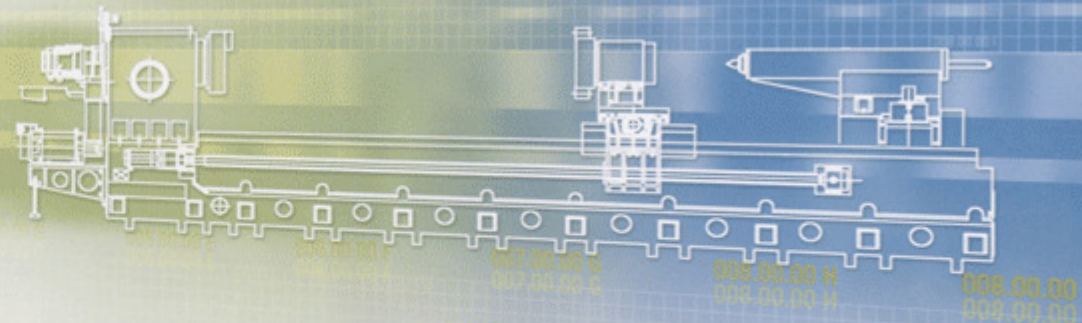
Spindle bore

- 6 : 6" (152mm)
- 14 : 14" (356mm)
- 20 : 20" (508mm)
- 32 : 32" (813mm)

Max. swing over bed

- 55" : 1400mm
- 63" : 1600mm
- 80" : 2000mm

Flat bed horizontal turning lathe



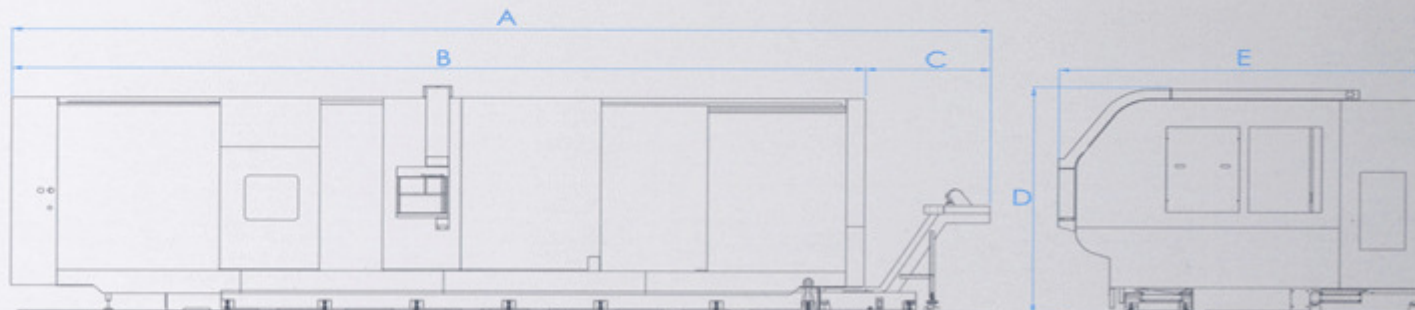
Turret Specifications Option

ITEM		Unit	HV	HL	HLC	YC
Turret	Type of turret		H8 hydraulic turret V4 hydraulic turret	H8 hydraulic turret	BMT power turret	Capto power turret
	OD tool shank size	mm	□40x40	□40x40	□32x32	C6
	ID tool shank size	mm	Ø63	Ø63	Ø60	C6
	Drilling sleeve		MT4、MT5	MT4、MT5	MT4、MT5	C6
Travel	Y-axis travel	mm	N/A	N/A	N/A	100
Motor	CF-axis servo motor	kW	N/A	N/A	4 (α 22)	4 (α 22)
	Y-axis servo motor	kW	N/A	N/A	N/A	4 (α 22)
	Live spindle motor	kW	N/A	N/A	7.5/11 (α 8)	7.5/11 (α 8)

Machine Layout Dimension

Model	A	B	C	D	E
YB55/300	9,380	7,980	1,400	2,950	4,000
YB55/400	10,380	8,980	1,400	2,950	4,000
YB55/500	11,380	9,980	1,400	2,950	4,000
YB55/600	12,380	10,980	1,400	2,950	4,000
YB63/300	9,380	7,980	1,400	3,200	4,300
YB63/400	10,380	8,980	1,400	3,200	4,300
YB63/500	11,380	9,980	1,400	3,200	4,300
YB63/600	12,380	10,980	1,400	3,200	4,300
YB80/300	9,380	7,980	1,400	3,700	4,900
YB80/400	10,380	8,980	1,400	3,700	4,900
YB80/500	11,380	9,980	1,400	3,700	4,900
YB80/600	12,380	10,980	1,400	3,700	4,900

Unit:mm





Product Range

- CNC Vertical Turning Lathe
- CNC Horizontal Turning Lathe
- CNC Vertical Machining Center
- CNC Horizontal Machining Center
- NC Special Purpose Machine Automatic Production Line



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