



CFV SERIES

Vertical Machining Center

HPC SERIES

Horizontal Machining Center

HTC SERIES

CNC Lathe

Ningbo Dagang Production Base



Ningbo Yanshan Production Base



Dalian Production Base



Ningbo Haitian Precison Machinery Co., Ltd.

H.Q.& Production Base1

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Production Base2

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Production Base3

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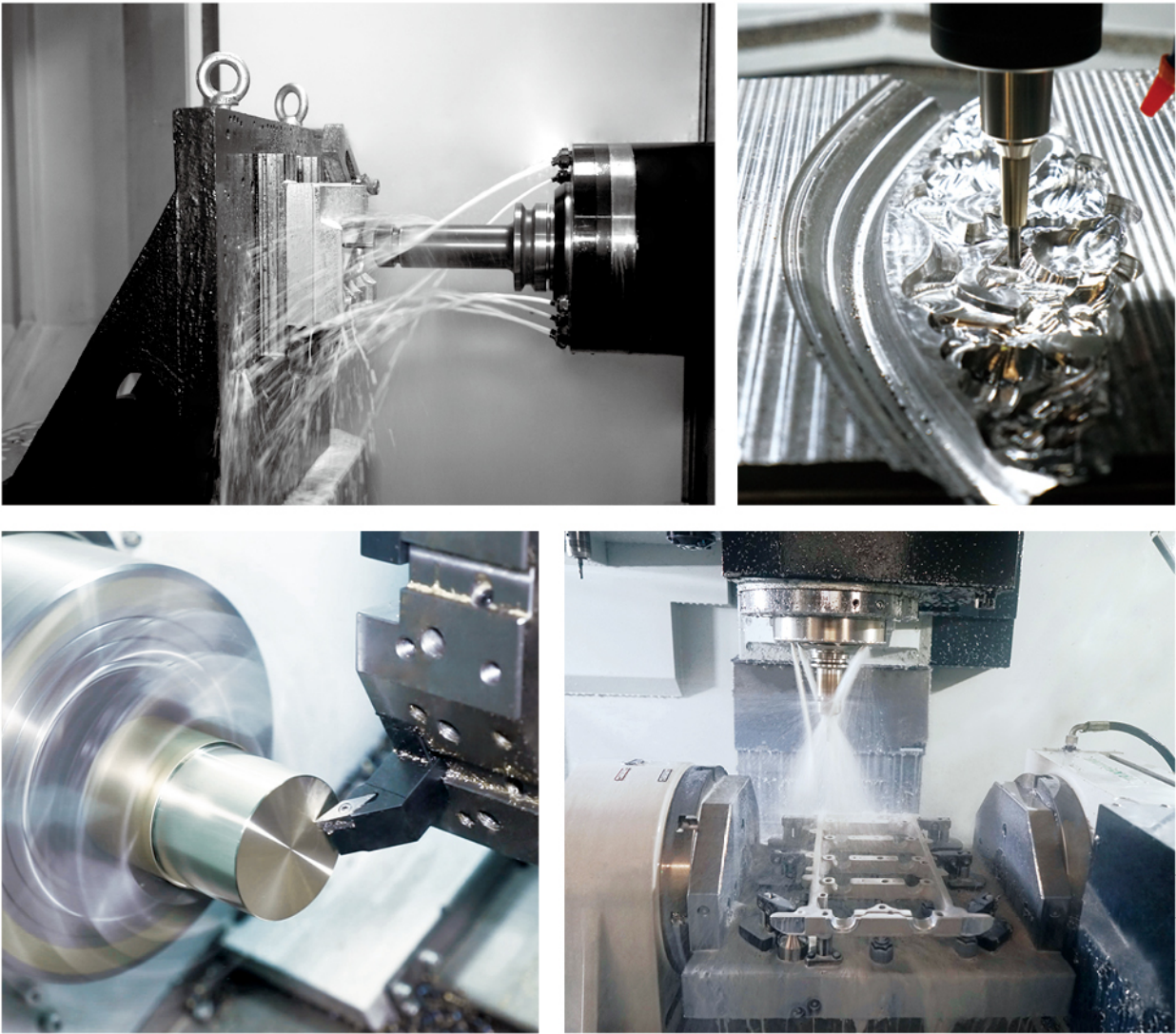
**HIGH SPEED
HIGH EFFICIENCY
HIGH ACCURACY**

Company Profile

HISION is a manufacturer dedicated in CNC machine tools. It owns Ningbo Dagang Manufacturing Base, Ningbo Yanshan Manufacturing Base & Dalian Manufacturing Base, more than 300,000 square meters processing assembly plant of modern constant temperature with nearly 1,500 employees. The main products include various Double Column Machining Centers, Vertical Machining Centers, Horizontal Machining Centers, CNC Lathes & other product lines.

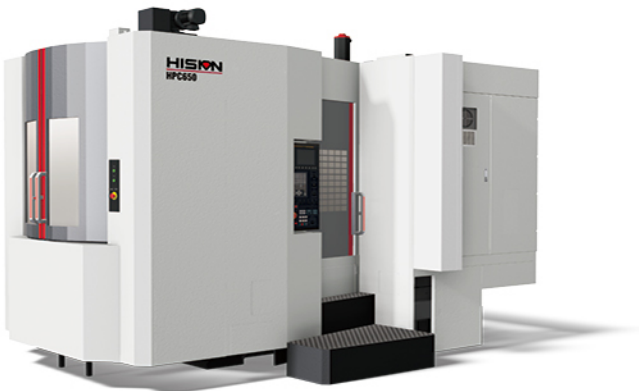
Widely used in automotive, aerospace, rail transportation, mold manufacturing, marine diesel, engineering machinery, machinery manufacturing and other industries. HISION adheres to the advanced management philosophy of Haitian Group for half a century, and takes customers as the center to provide customers with the best cost-effective solutions through pre-sales, sales and after-sales services, so that customers can obtain excellent product performance.

Typical Parts



CFV Models

	CFV600	CFV900	CFV1100
Table size	900x430mm	1100x430mm	1300x550mm
X/Y/Z axis travel	600/430/510mm	900/430/510mm	1100/540/520mm



HPC Models

	HPC650	HPC800
Table size	630x630mm	800x800mm
X/Y/Z axis travel	1050/900/900mm	1400/1100/1050mm



HTC Models

	HTC150 II	HTC200	HTC300
Max.Swing over bed	Φ500mm	Φ620mm	Φ620mm
Max.Cutting diamater	Φ300mm	Φ400mm	Φ520mm
Max.Cutting length	290mm	360/560mm	580mm

CFV Series Vertical Machining Center

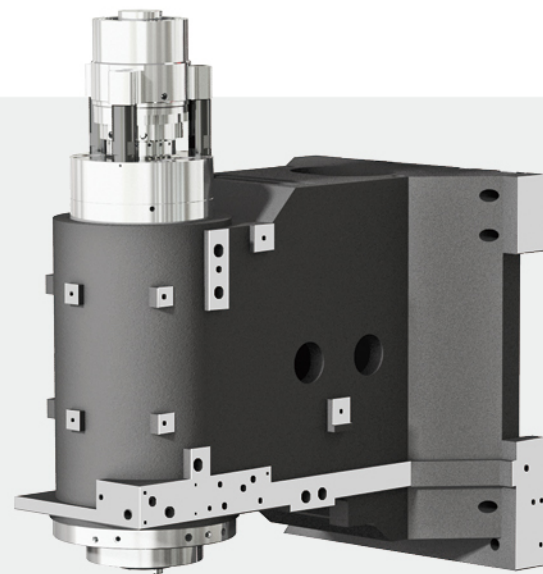
Profile

The CFV series vertical machining center equips with advanced built-in spindle and high dynamic response drive system for high speed, high precision and high efficiency machining. And have pollution-free, energy-saving features. Widely used in the processing of general parts and mold markets.

The Main Structure:

High Speed, High Precision Built-In Spindle:

- High precision: built-in spindle direct drive, no other vibration source.
- High torque: two-speed automatic transmission, low speed and high torque, high speed and constant power.
- Efficient start and stop: zero drive chain, small inertia, starting from 0 to 8000 rpm in just 0.8 seconds.



Optimized Component Design:

- High-rigid base components: large-span bed base, thickened column.
- Lightweight moving parts: the total weight of the spindle box and built-in spindle 30% lower than the conventional machines.

24T Servo Tool Magazine:

- Intelligent preparation tool mode: shorten non-machining time.
- Max.180mm dia. bridge type boring tool.
- Automatic protection door.
- Heavy tool mode: auto slow tool change in this mode.

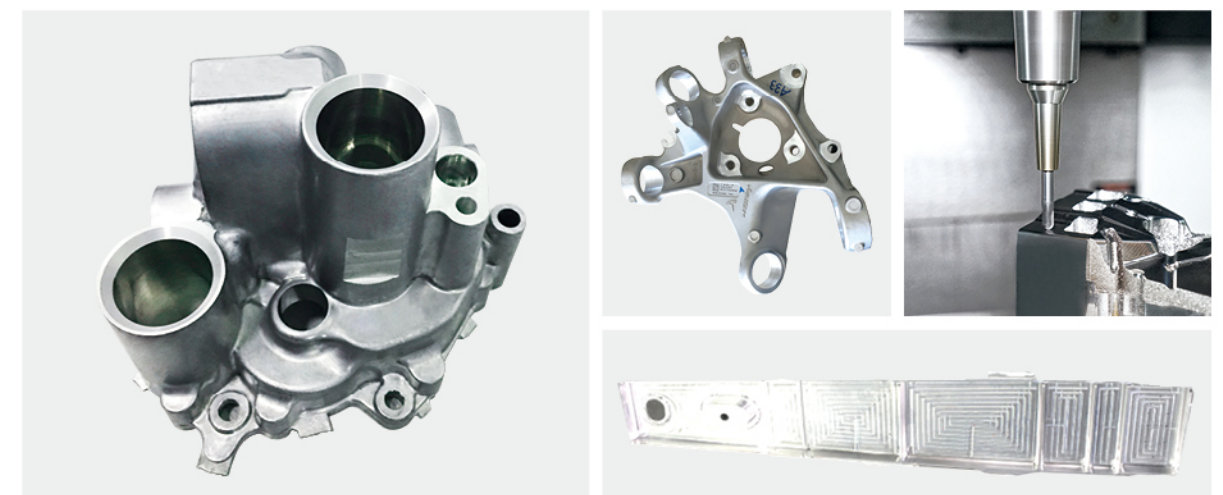


Professional Automation Interface:

- Automatic door.
- Automatic line communication interface.
- Tool automatic compensation & life management.
- Tool magazine broken tool detection.
- Workpiece detecting device.
- Option 4th axis & 5th axis.



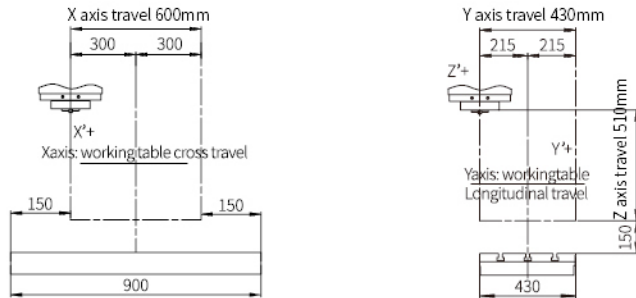
Application Fields:



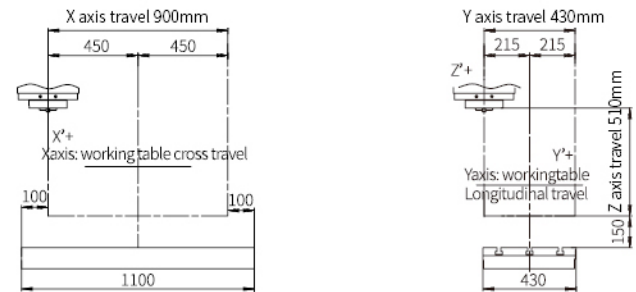
CFV Series Vertical Machining Center

Processing Range:

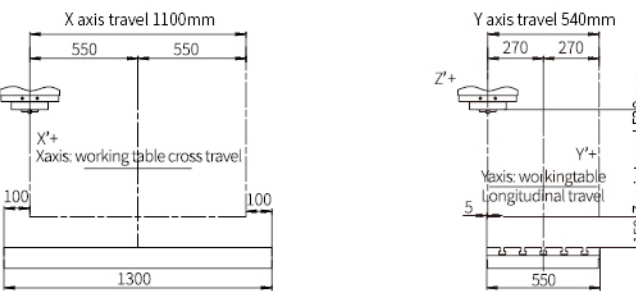
CFV600



CFV900

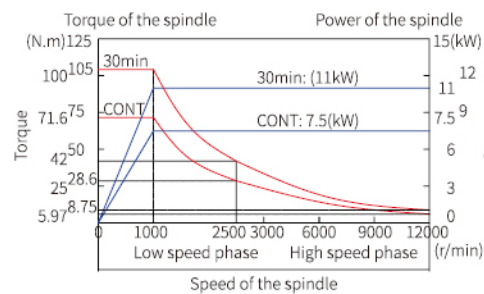


CFV1100

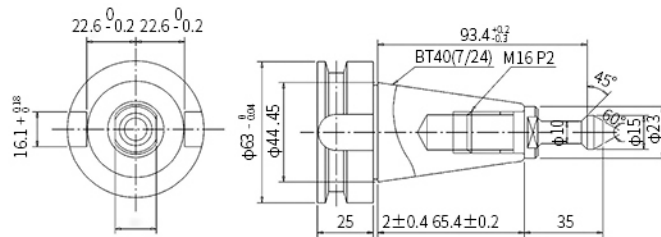


Power-Torque Diagram:

Torque Power



Mitsubishi Electrical Spindle(12000rpm)



BT40(7: 24)
Pull Stud Specification

Parameter Table:

	Technical Specification	Unit	CFV600	CFV900	CFV1100
Working area	X axis travel	mm	600	900	1100
	Y axis travel	mm	430		540
	Z axis travel	mm	510		520
	Distance from spindle nose table	mm	150-660		150-670
Working table	Table size	mm	900x430	1100x430	1300x550
	Max.table loading capacity	kg	500	700	1200
	T slot (slot number X width X distance)	mm	3x18x125		5x18x100
Spindle	Driving system		Built-in spindle		
	Speed of the spindle	rpm	12,000		
	Spindle power(continuous 30 minutes overload)	kW	7.5/11		
	Spindle torque	N.m	71.6/105		
	Spindle taper		ISO 7:24 NO.40 (BT40)		
	Pull stud specifications		MAS-P40T-1 (45°)		
Feed speed	Rapid feed X/Y/Z axis	m/min	36		
	Max.working feed speed	m/min	20		
	Guideway type		Linear guideway		
Tool magazine	Tool magazine capacity	T	24		
	Tool change type		Tool change arm		
	Max.tool dia.(with / without adjacent tools)	mm	Φ80/Φ125		
	Max.tool length	mm	300		
	Max.tool weight	kg	7		
	Change time of tool	s	1.5		
Others	Machine weight	t	6	7	8
	Machine size (LxWxH) (without conveyor)	mm	2060x2400x2660	2600x2420x2580	2900x2890x2680
	Power capacity	kVA	35		

Standard Configuration:

(Notes: "●" standard configuration, "⊙" option configuration)

No.	Item	CFV600	CFV900	CFV1100
1	Controller: Mitsubishi M80	●	●	●
2	12000rpm built-in spindle	●	●	●
3	Coolant system	●	●	●
4	Splash guard	●	●	●
5	Internal water flooding chip conveyor	⊙	●	●
6	Internal screw chip conveyor	●	⊙	⊙
7	3 color signal lamp	●	●	●
8	Coolant gun	●	●	●
9	Scraper type external chip conveyor & trolley	⊙	●	●
10	Scraper type external rear chip conveyor & bucket	●	⊙	⊙
11	24T servo ATC-arm type	●	●	●
12	ATC pneumatic door	●	●	●
13	Hydraulic & grease lubrication system	●	●	●
14	Spindle oil chiller	●	●	●

Option Configuration:

No.	Item
1	Controller: FANUC 0i
2	Air conditioner
3	Auto door
4	CNC rotary table (4th)
5	BLUM tool setter
6	BLUM workpiece probe
7	Tool detection in magazine
8	Air gun
9	Coolant through spindle (2-6MPa)
10	Spindle ring spray
11	Shower coolant
12	Oil mist collector
13	Oil skimmer
14	Internal helix type chip conveyor (front)
15	Flush chip system (front)

The company reserves the right to modify the parameters due to technical improvement.

HPC Series Horizontal Machining Center

Profile

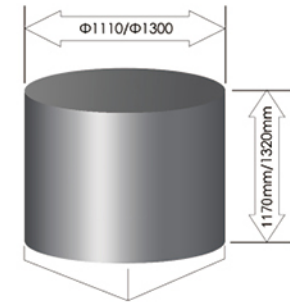
HPC series High Speed Horizontal Machining Center is a new high-end product with international advanced design concepts. The basic cast iron are analyzed to optimize stiffeners structure. The thick one-piece bed combines three axes heavy-duty roller guideways and high-speed built-in spindle. It can handle a wide range of processing from high speed, high precision to heavy cutting, from aluminum parts to steel parts to castings. In addition, through fast cutting feed and fast-rotating APC enable high efficient machining to meet powerful cutting and high production efficiency.

Applicable Fields:

automobiles, aerospace, petroleum, electric power, railways, plastic machinery, engineering machinery and other industries.

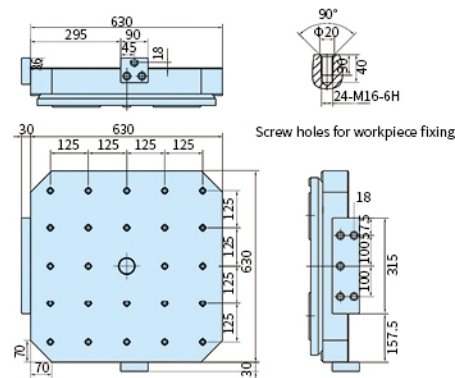
Workpiece Clamping Range:

	HPC650	HPC800
Exchange worktable size	630x630 (800x800 Option)	800x800
Max.workpiece size	Φ1110x1170mm	Φ1300x1320mm
Max.table loading capacity	1300kg	2000kg

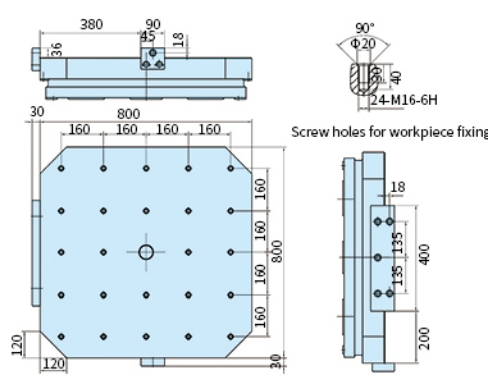


Max. workpiece clamping size

Worktable Size:



HPC650 Pallet size



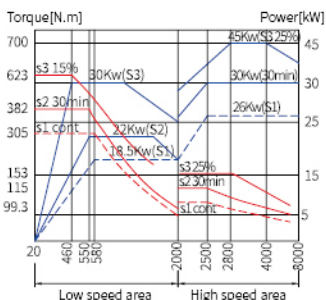
HPC800 Pallet size

Power-torque Drawing:

Fanuc 160LL Advanced type

Spindle torque

Motor power



HPC650/HPC800 Power torque diagram



Parameter Table:

	Technical Specification	Unit	HPC650	HPC800
Working area	X-axis travel (column cross travel)	mm	1050	1400
	Y-axis travel (spindle box vertical travel)	mm	900	1100
	Z-axis travel (table longitudinal travel)	mm	900	1050
	Distance between spindle center and table surface	mm	70-970	55-1155
	Distance between spindle forepart and table center	mm	200-1100	200-1250
Working table	Table size	mm	630x630	800x800
	Table indexing	degree	1°x360	
	Max.table loading capacity	kg	1300	2000
Spindle	Driving system		Built-in spindle	
	Electrical spindle motor	kW	26/45	
	Spindle rotary speed	r/min	8000	
	Max.spindle	Nm	305/623	
	Spindle taper hole		ISO7:24 NO.50	
	Pull stub specification torque		PT50T-2-MAS403	
Feed speed	Rapid feed X/Y/Z	m/min	40	36
	Cutting feed X/Y/Z	m/min	40	30
	Table 90° indexing time	s	2.5	5
Pallet	Exchanging mode		Direct rotary type	
	Pallet exchanging time		10	15
Tool magazine	Tool magazine capacity	T	40	
	TOOL selection mode		Any shortest path	
	Tool holder		BT50	
	Max.tool length	mm	500	
	Max.tool dia. (full/empty adj. Positions)	mm	Φ115/230	
	Max.tool weight	kg	25	
	Tool changing time (tool to tool)	s	2.5	
Others	Machine weight	t	19	25
	Machine size	cm	580x430x336	650x470x385
	Power capacity	kVA	65	

Standard Configuration:

No.	Item
1	Controller: FANUC 0i
2	40T ATC (BT50)
3	1° index pallet
4	APC (Auto pallets changer)
5	Full enclosure with top cover
6	Guideway cover
7	External chain type chip conveyor
8	Coolant system
9	Spindle oil chiller
10	Ballscrew cooling system
11	Spindle air blow
12	Automatic power-off device
13	Diagnostic function
14	3-color signal lamp, working light
15	Standard accessories

Option Configuration:

No.	Item
1	Controller: FANUC 31i
2	High speed built-in spindle (12000rpm)
3	Linear scales for XYZ axis
4	CNC rotary table (0.001°)
5	T-slot, enlarge table
6	60/90/120T ATC
7	Workpiece probe
8	Tool setter
9	Coolant through spindle
10	Shower coolant
11	Water gun
12	Oil skimmer
13	Air conditioner
14	Air gun

The company reserves the right to modify the parameters due to technical improvement.

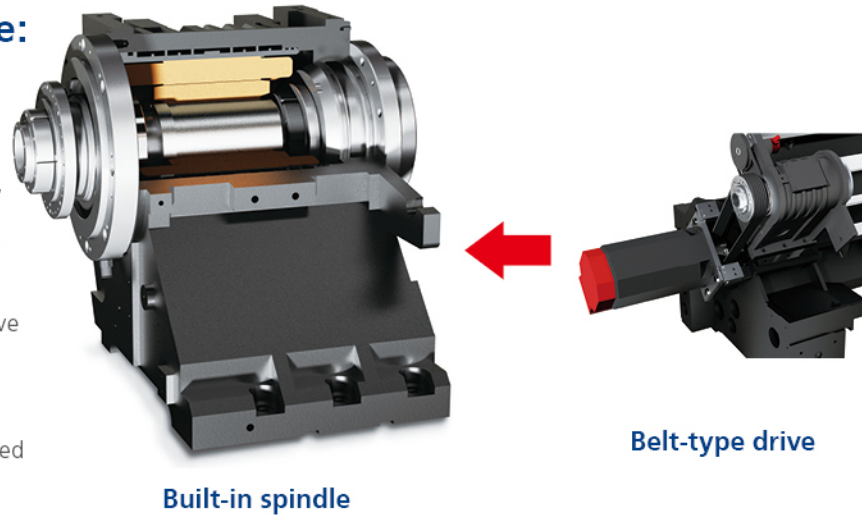
HTC Series CNC Lathe

Profile

High rigidity, heavy duty cutting, high stability. With one-piece cast iron bed, the stiffer design is scientifically finite element analysis, minimizing distortion and thermal deformation. It has good thermal stability and long-term precision retention.

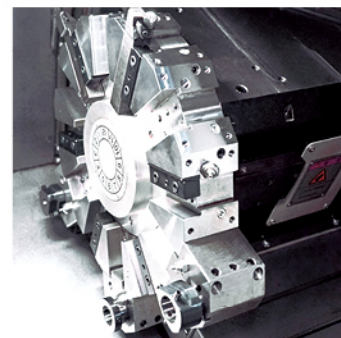
The Main Structure:

- The spindle is directly driven by the built-in motor, no other transmission links, high reliability
- High dynamic and static accuracy, high stability.
- Short start and stop time, improve production efficiency.
- Meet the low speed and high torque and balance the high speed performance.



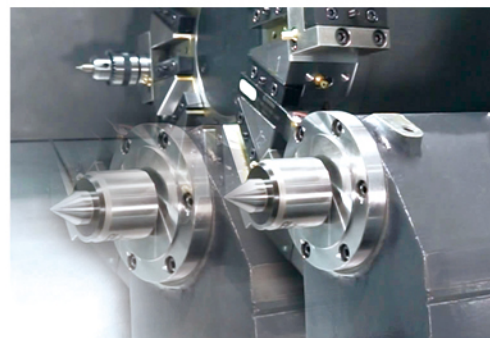
Other features:

- Through thermal compensation technology, reduce the impact of temperature changes on machine tool accuracy.
- Reserve automation interface.



Servo turret

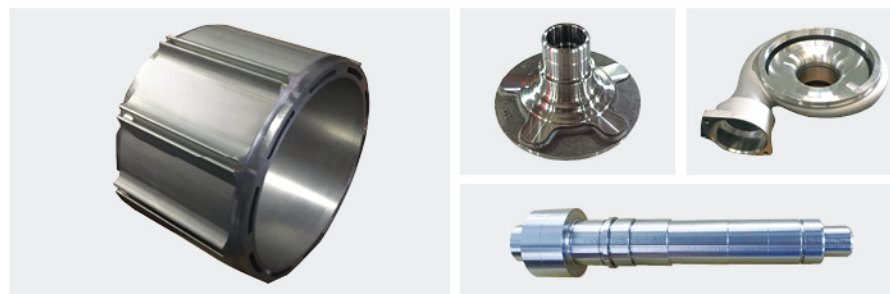
- Improve tool change efficiency.



Servo tailstock (For HTC200)

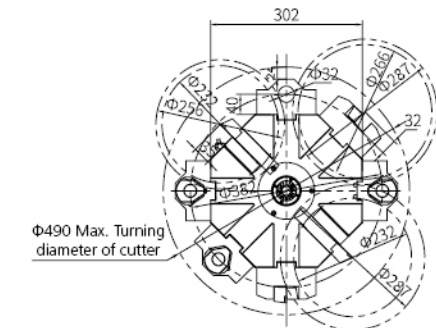
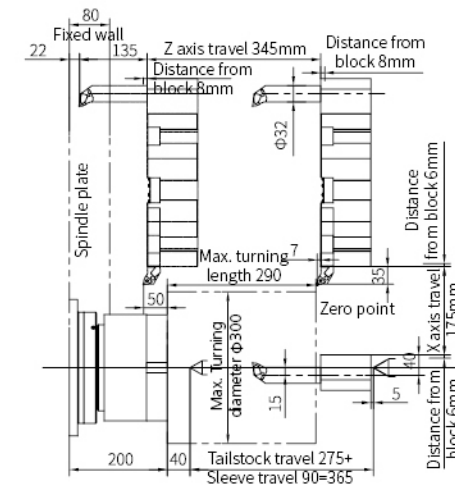
- Can control the tailstock position and tailstock preload.

Application Fields:

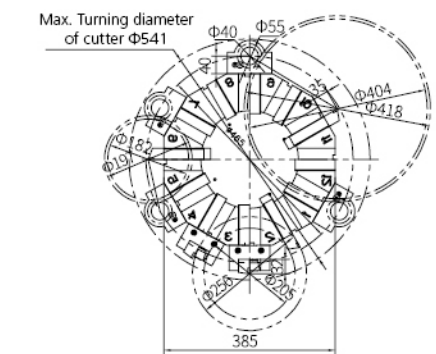
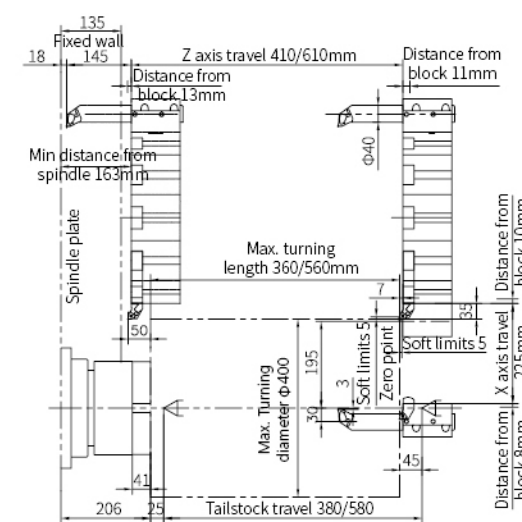


Processing Range & Tool Interference Diagram:

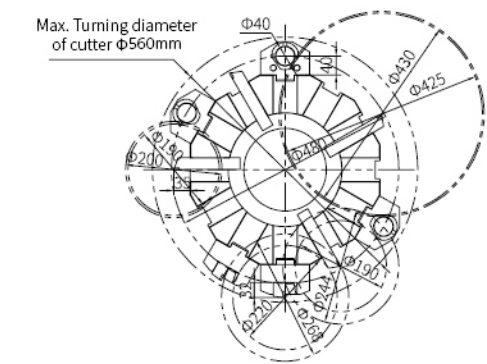
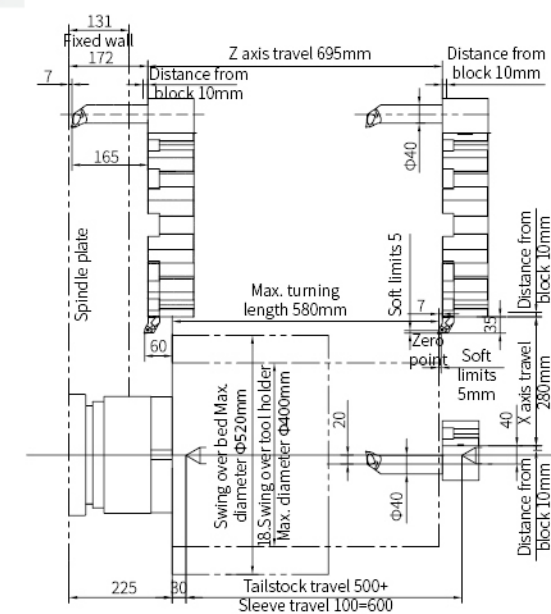
HTC150II



HTC200



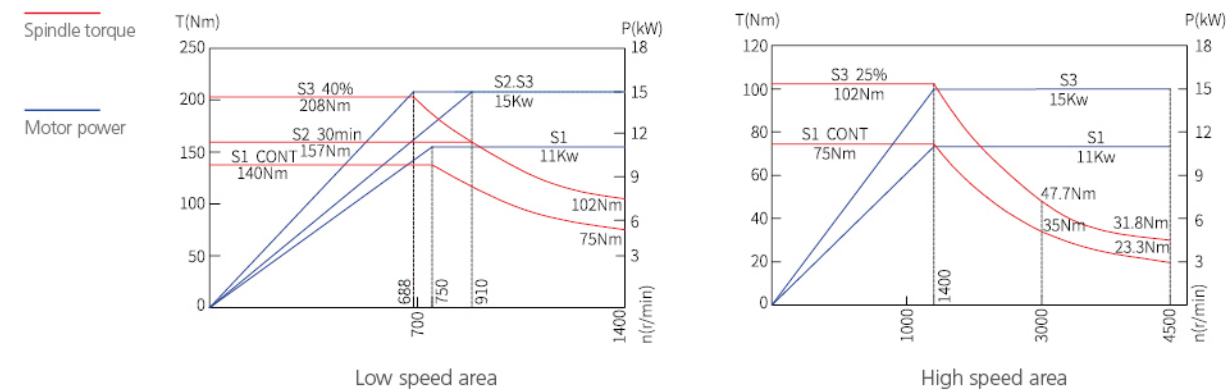
HTC300



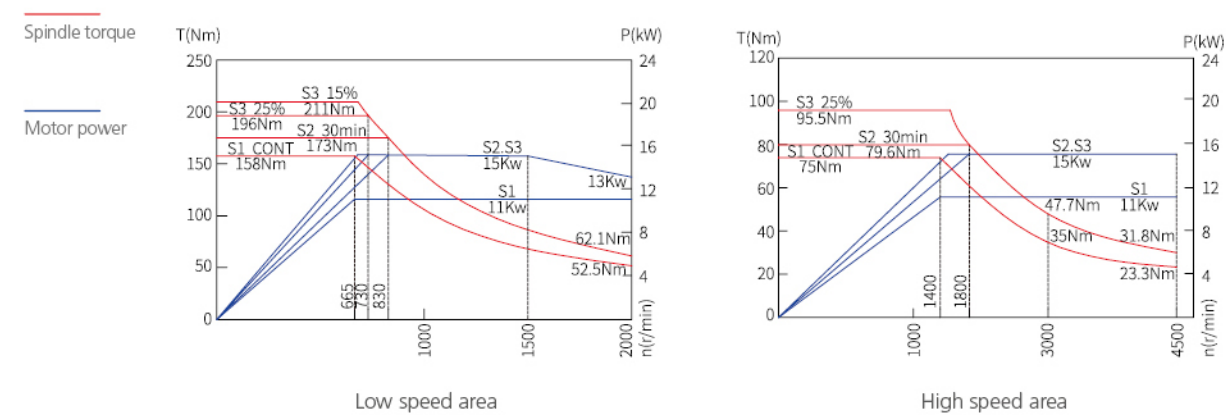
HTC Series CNC Lathe

Power-torque Diagram:

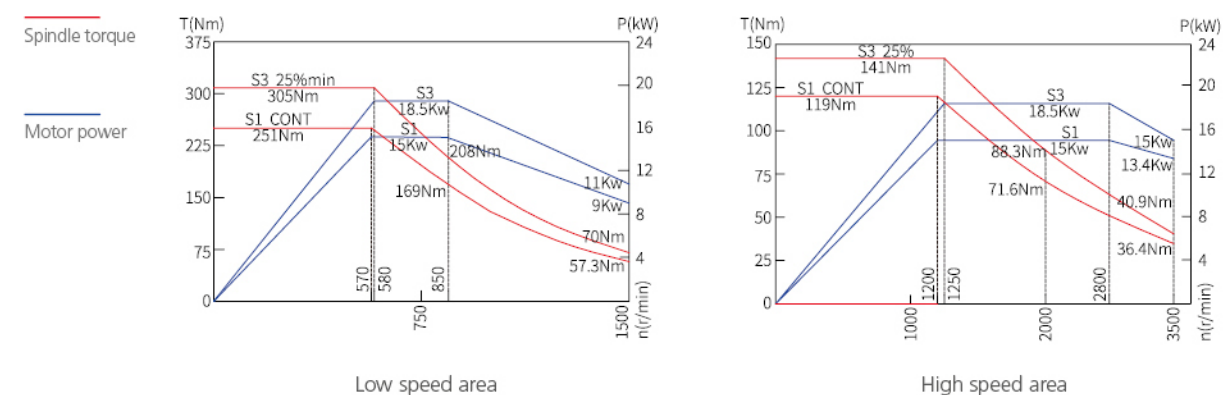
HTC150II Power & Torque Diagram



HTC200 Power & Torque Diagram



HTC300 Power & Torque Diagram



Parameter Table:

	Technical Specification	Unit	HTC150II	HTC200X360	HTC200X560	HTC300X580
Working area	Max.swing over bed	mm	Φ500	Φ620	Φ620	Φ620
	Max.swing over saddle	mm	Φ300	Φ410	Φ400	Φ400
	Max.turning diameter	mm	Φ300	Φ400	Φ520	Φ520
	Max.turning length	mm	290	360	560	580
	Height of spindle center to ground	mm	1030	1028	1055	1055
High speed motorized spindle	Max.spindle speed	rpm	4500	4500	3500	3500
	Spindle power (continuous/30min overload)	kW	11/15	11/15	15/18.5	15/18.5
	Spindle torque	Nm	140/208	158/211	251/305	251/305
	Spindle nose taper	-	JISA2-6	JISA2-6	JISA2-8	JISA2-8
	Spindle through hole	mm	Φ62	Φ66	Φ76	Φ76
	Spindle bearing diameter	mm	Φ100	Φ100	Φ120	Φ120
	Chuck size	inch	8	8	10	10
Turret	Type	-	Servo V8	Servo V12	Servo V12	Servo V12
	Tool section	mm	25x25	25x25	25x25	25x25
	Boring bar diameter	mm	Φ32	Φ40	Φ40	Φ40
Tailstock	Tailstock type	-	-	-	Servo	Hydraulic
	Tailstock stroke	mm	-	-	580	500
	Sleeve bore taper	-	-	-	MT.NO.4	MT.NO.4
Feed shaft	X/Z axis travel	mm	170/345	225/410	225/610	280/695
	Rapid feed X/Z axis	m/min	30/30	24/30	24/30	24/30
	Guideway type	-	Linear guideway	Linear guideway	Linear guideway	Hardened rail
	X/Z axis power	kW	1.2/1.2	1.8/1.8	1.8/3	1.8/3
Others	Power capacity	kVA	30	30	35	35
	Machine size(LxWxH) (without conveyor)	mm	1700x1500x1710	2407x1794x1760	2697x1794x1760	2780x1790x1960
	Machine weight	t	3.8	4.3	4.8	5.3

Standard Configuration:

No.	Item
1	Controller:FANUC Oi-TF
2	Hydraulic and lubrication system
3	Cutting cooling
4	Full enclosure
5	Servo turret
6	Soild hydraulic chuck
7	Face Tool Holder
8	Tailstock with live sleeve
9	Servo tailstock with live quill
10	External chain type chip conveyor(rear)
11	Standard accessories
12	Ground installation
13	Common maintenance tools
14	Soft jaw
15	3-color signal lamp, working light
16	Foot switch
17	Trolley

Option Configuration:

No.	Item
1	Hollow chuck
2	Hard jaw
3	Hydraulic tailstock with live sleeve
4	Servo tailstock with live quill
5	Hydraulic tailstock with live quill
6	Power turret
7	Air conditoner
8	Water gun
9	Air gun
10	Auto door
11	Auto window
12	Tool setter
13	Auto bar feeder
14	Chuck air blow
15	Coolant through tool (1-7Mpa)
16	Oil mist collector
17	Oil skimmer
18	Voltage regulator

The company reserves the right to modify the parameters due to technical improvement.

High Accuracy

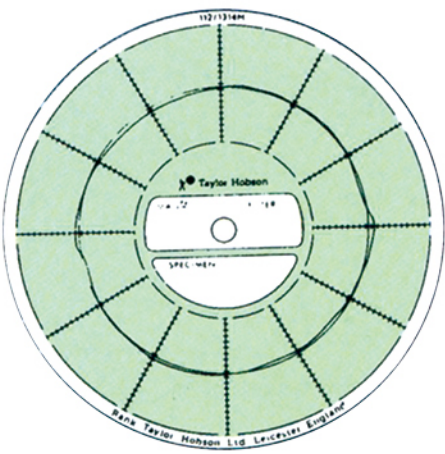
Dynamic Accuracy:

Model	Positioning Accuracy(mm)	Re-positioning Accuracy(mm)
CFV Series	0.006	0.004
HPC Series	0.010	0.006
HTC Series	0.008	0.005

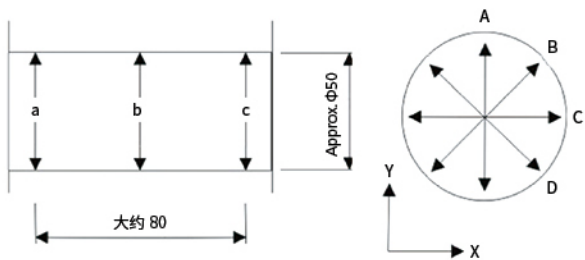
HPC Series

Superhigh Cutting Accuracy:

- Circular interpolation accuracy (endmils)
- Roundness(tolerance)standad values----- 0.02mm
- Measuerd value----- 0.008mm
- Workpiece material: No.20 cast steel----- No.20 cast steel
- Outer diameter----- $\Phi 250\text{mm}$
- Linear velocity----- 50m/min
- Feed rate----- 200mm/min
- Cutting depth----- 0.1mm

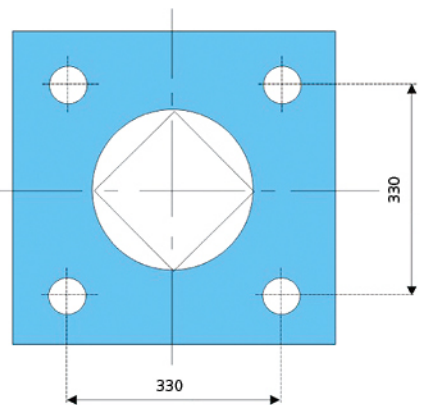


Boring Accuracy:



	Standard value	Measured value
Roundness	0.005mm	0.005mm
Cylindricity	0.005mm	0.005mm

Workpiece Material:



- Measured value----- 0.004mm
- Workpiece material----- No.25 cast steel
- Adjacent pitch----- 330mm

Provide Automative Production Line Solutions

Suitable For Multi-Variety & Different Quantity Of Workpiece Production

- Installation and process preparation time can be reduced by placing parts in the upper and lower stations.
- Implement unmanned or less Humanized operation, reduce labor cost and reduce employee labor intensity.
- To achieve highly refined management of production and reduce inventory of raw materials and finished products.
- Implement tool management and integrated management, and can be connected to the factory's EPR and MMS systems, provide production reports and production scheduling services at any time.
- Stable product quality.
- Maximizing Machine Production Efficiency.
- Flexible operation,with wide range of processing products ability.

Customized FMS Production Lines
Meet Individual Production Needs



FMS Automation Production Lines:

Small/medium model	Single machine FPC unit with linear pallet magazine
Medium/large model	Multi-machine FPM system with Linear single-layer or multi-layer
Professional model	MLS System with Large Custom Flexible Multi pallet