

H II series Horizontal Machining Centers

- introduction

Machine features



Models	H63 II	H80 II	H100 II	H125 II
Travels X/Y/Z, mm	1050/850/900	1350/980/1000	1800/1500/1350	2000/1500/1350
Table size, mm	630x630	800x800	1000x1000	1250x1250
Max. speed rpm	4500			



Development path

H II series Horizontal Machining Centers



H

HUP



standard

W axis series

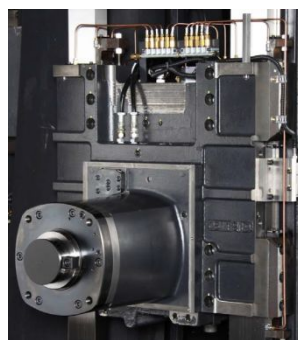
e series

Industry: General machinery, energy oil valves, air compressors, etc

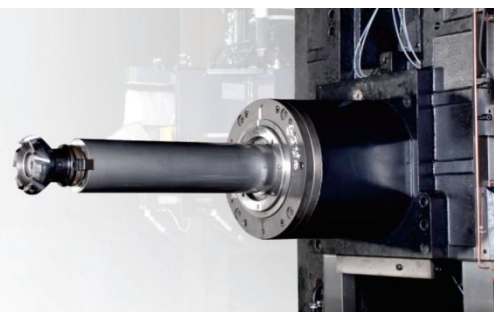
Industry: Injection molding machine related, mold frame and other deep hole processing

Industry: electric high pressure tank, passenger car caliper, water pump, motor housing, textile machinery, etc

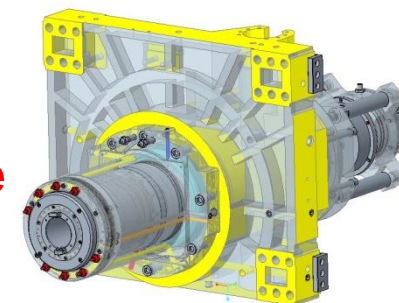
Mechanical structure spindle



W-axis



Built-in spindle



ITEMS			SPEC	ITEMS			SPEC	
Machining range	X travel	mm	1050	Tool magazine	Capacity	T	40	
	Y travel	mm	850		Max. tool diameter	mm	Φ 120 (Φ 240)	
	Z travel	mm	900		Max. tool length	mm	550	
	Distance from spindle center to table	mm	0-850		Max. tool weight	kg	30	
	Spindle nose to table center	mm	200-1100		X (with scale)	mm	0.012 (0.008)	
Table	Size	mm	630×630	Positioning	Y (with scale)	mm	0.012 (0.008)	
	Max. loading	Kg	1300		Z (with scale)	mm	0.012 (0.008)	
	indexing	°	1° × 360		Curvic coupling table	"	8	
Spindle	Max. speed	rpm	6000		Repeatability	NC table	"	10 (OP)
	Motor power	kW	18.5/22			X (with scale)	mm	0.006 (0.005)
	Max. torque	Nm	837	Y (with scale)		mm	0.006 (0.005)	
	Spindle taper	-	ISO7:24 NO.50	Z (with scale)		mm	0.006 (0.005)	
	Pull stud	-	P50T-2-MAS403	Curvic coupling table		"	4	
Feeds	Cutting feed X/Y/Z	m/min	12/12/12	Required power			kVA	65
	Rapid feed X/Y/Z	m/min	32/30/32	Controller			-	FANUC 0i
	Min. indexing	mm	0.001					



ITEMS			SPEC	ITEMS			SPEC	
Machining range	X travel	mm	1350	Tool magazine	Capacity	T	40	
	Y travel	mm	980		Max. tool diameter	mm	Φ 120 (Φ 240)	
	Z travel	mm	1000		Max. tool length	mm	550	
	Distance from spindle center to table	mm	0-980		Max. tool weight	Kg	30	
	Spindle nose to table center	mm	230-1230		X (with scale)	mm	0.012 (0.010)	
Table	Size	mm	800×800	Positioning	Y (with scale)	mm	0.012 (0.010)	
	Max. loading	kg	2000		Z (with scale)	mm	0.012 (0.010)	
	indexing	°	1° ×360		Curvic coupling table	"	8	
Spindle	Max. speed	rpm	6000		Repeatability	NC table	"	10 (OP)
	Motor power	kW	18.5/22			X (with scale)	mm	0.008 (0.006)
	Max. torque	Nm	837	Y (with scale)		mm	0.008 (0.006)	
	Spindle taper	-	ISO7:24 NO.50	Z (with scale)		mm	0.008 (0.006)	
	Pull stud	-	P50T-2-MAS403	Curvic coupling table		"	4	
Feeds	Cutting feed X/Y/Z	m/min	12/12/12	Required power			kVA	65
	Rapid feed X/Y/Z	m/min	30/24/30	Controller			-	FANUC 0i
	Min. indexing	mm	0.001					



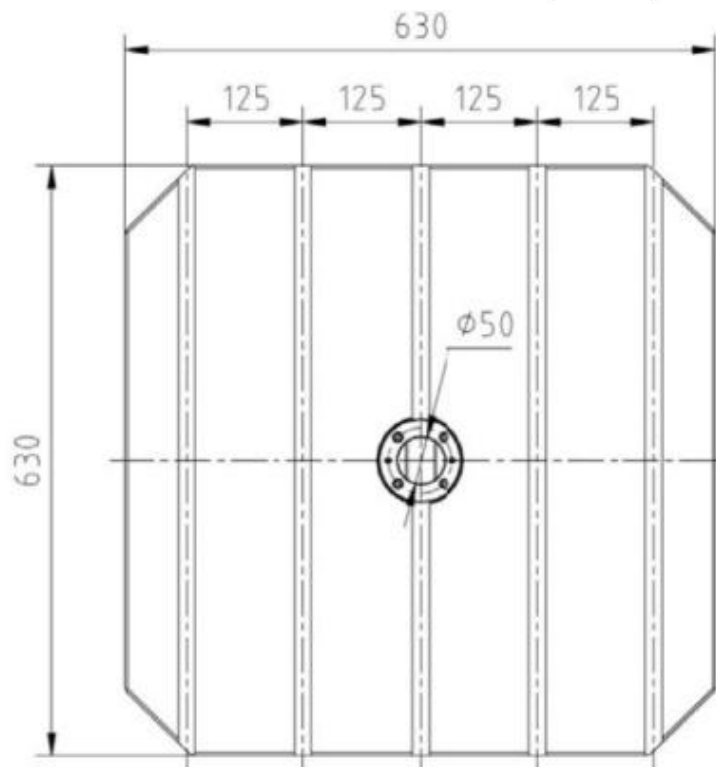
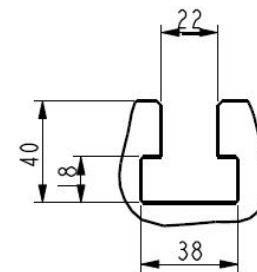
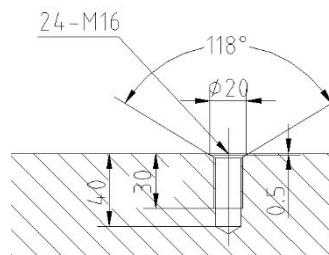
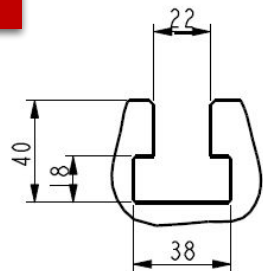
ITEMS			SPEC	ITEMS			SPEC
Machining range	X travel	mm	1800	Tool magazine	Capacity	T	40
	Y travel	mm	1500		Max. tool diameter	mm	Φ 120 (Φ 240)
	Z travel	mm	1350		Max. tool length	mm	550
	Distance from spindle center to table	mm	0 -1500 (100H) 100-1600 (100H/D)		Max. tool weight	kg	30
	Spindle nose to table center	mm	300-1650				
Table	Size	mm	1000×1000	Positioning	X (with scale)	mm	0.015 (0.012)
	Max. loading	kg	3000		Y (with scale)	mm	0.015 (0.012)
	indexing	°	1° ×360		Z (with scale)	mm	0.015 (0.012)
Spindle	Max. speed	rpm	6000		Curvic coupling table	"	8
	Motor power	kW	22/26		NC table	"	10 (OP)
	Max. torque	Nm	989	Repeatability	X (with scale)	mm	0.010 (0.008)
	Spindle taper	-	ISO7:24 NO.50		Y (with scale)	mm	0.010 (0.008)
	Pull stud	-	P50T-2-MAS403		Z (with scale)	mm	0.010 (0.008)
Feeds	Cutting feed X/Y/Z	m/min	6/6/6		Curvic coupling table	"	4
	Rapid feed X/Y/Z	m/min	30/20/30		NC table	"	6 (OP)
	Min. indexing	mm	0.001	Required power		kVA	65
				Controller		-	FANUC 0i



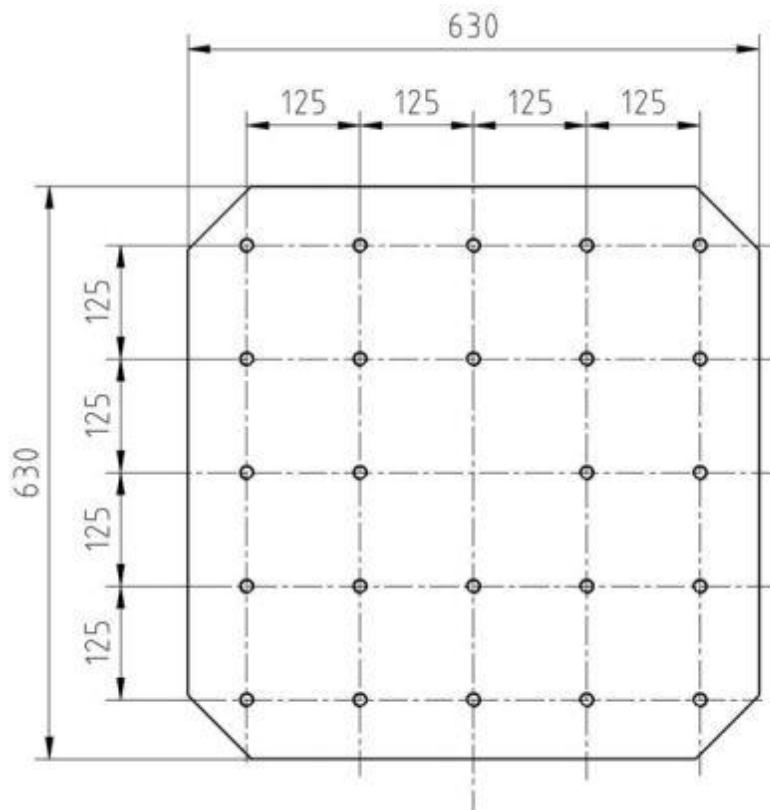
ITEMS			SPEC	ITEMS			SPEC
Machining range	X travel	mm	2000	Tool magazine	Capacity	T	40
	Y travel	mm	1500		Max. tool diameter	mm	Φ 120 (Φ 240)
	Z travel	mm	1350		Max. tool length	mm	550
	Distance from spindle center to table	mm	0 -1500 (100H) 100-1600 (100H/D)		Max. tool weight	kg	30
	Spindle nose to table center	mm	350-1700				
Table	Size	mm	1250×1250	Positioning	X (with scale)	mm	0.015 (0.012)
	Max. loading	kg	3000		Y (with scale)	mm	0.015 (0.012)
	indexing	°	1° ×360		Z (with scale)	mm	0.015 (0.012)
Spindle	Max. speed	rpm	6000		Curvic coupling table	"	8
	Motor power	kW	22/26		NC table	"	10 (OP)
	Max. torque	Nm	989	Repeatability	X (with scale)	mm	0.010 (0.008)
	Spindle taper	-	IS07:24 NO.50		Y (with scale)	mm	0.010 (0.008)
	Pull stud	-	P50T-2-MAS403		Z (with scale)	mm	0.010 (0.008)
Feeds	Cutting feed X/Y/Z	m/min	6/6/6		Curvic coupling table	"	4
	Rapid feed X/Y/Z	m/min	30/20/30		NC table	"	6 (OP)
	Min. indexing	mm	0.001	Required power		kVA	65
				Controller		-	FANUC 0i



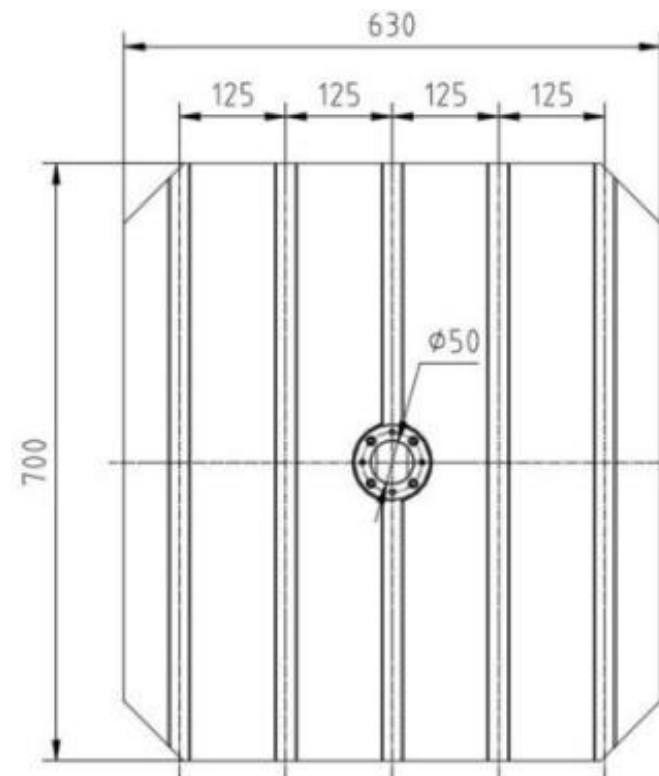
H63 II H63 II /D Pallet



630x630 T slot(STD)

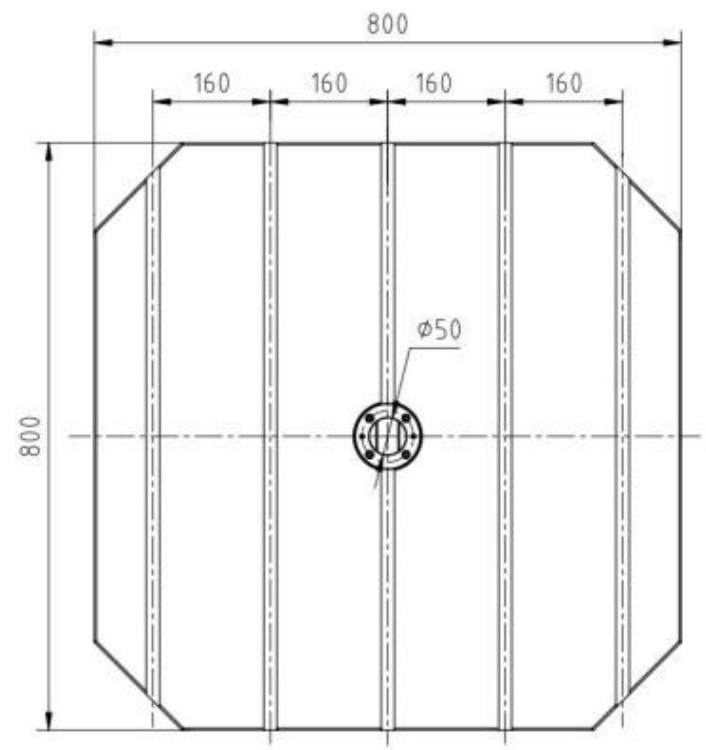
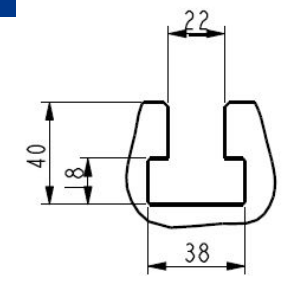
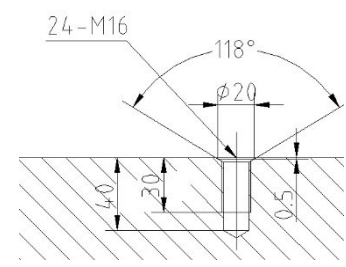
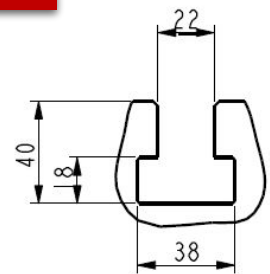


630x630 screw hole(OP)

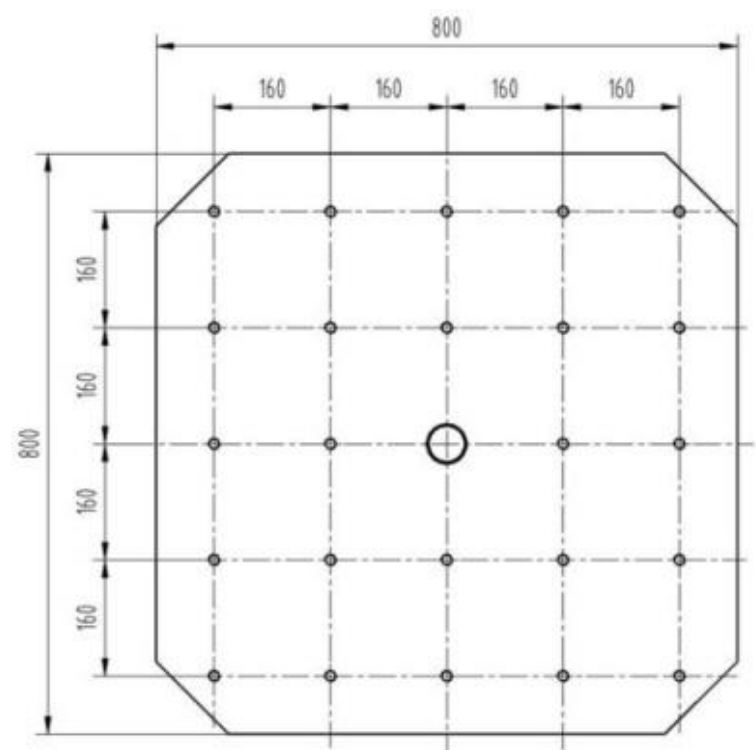


630x700 T slot(OP)

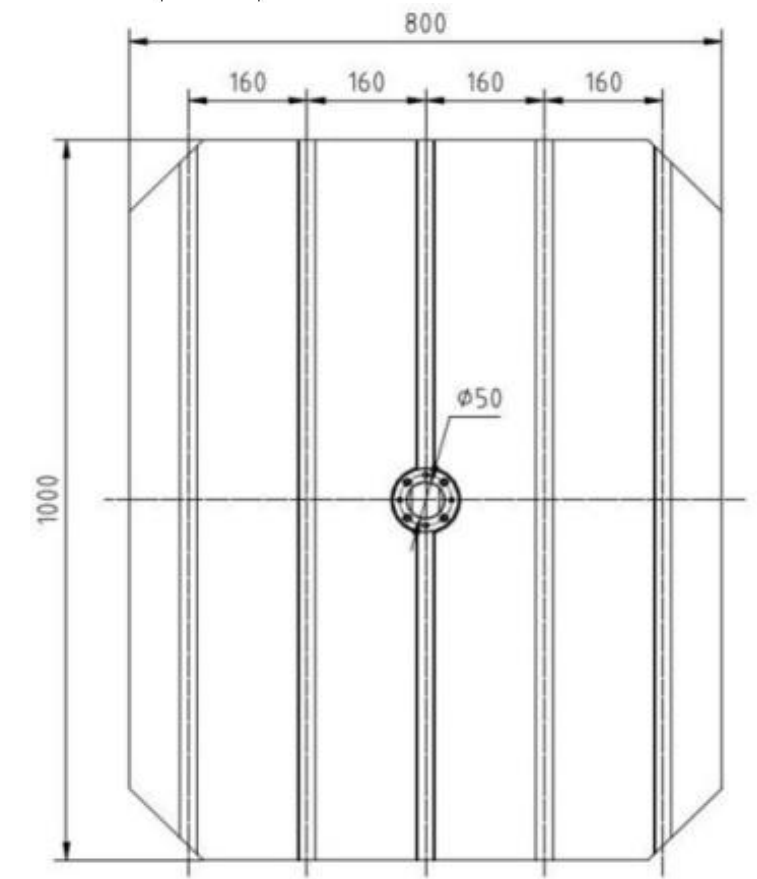




800x800 T slot(STD)



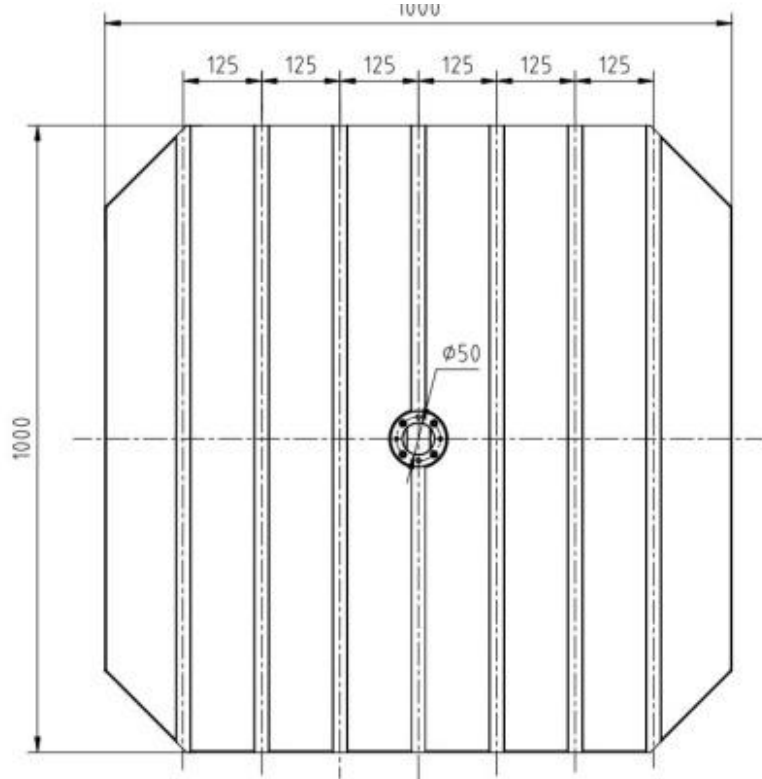
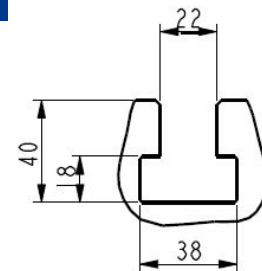
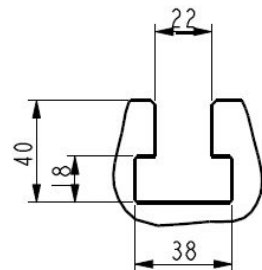
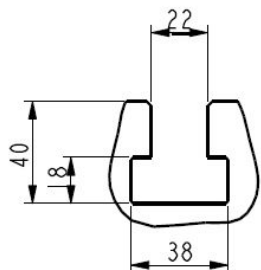
800x800 screw hole(OP)



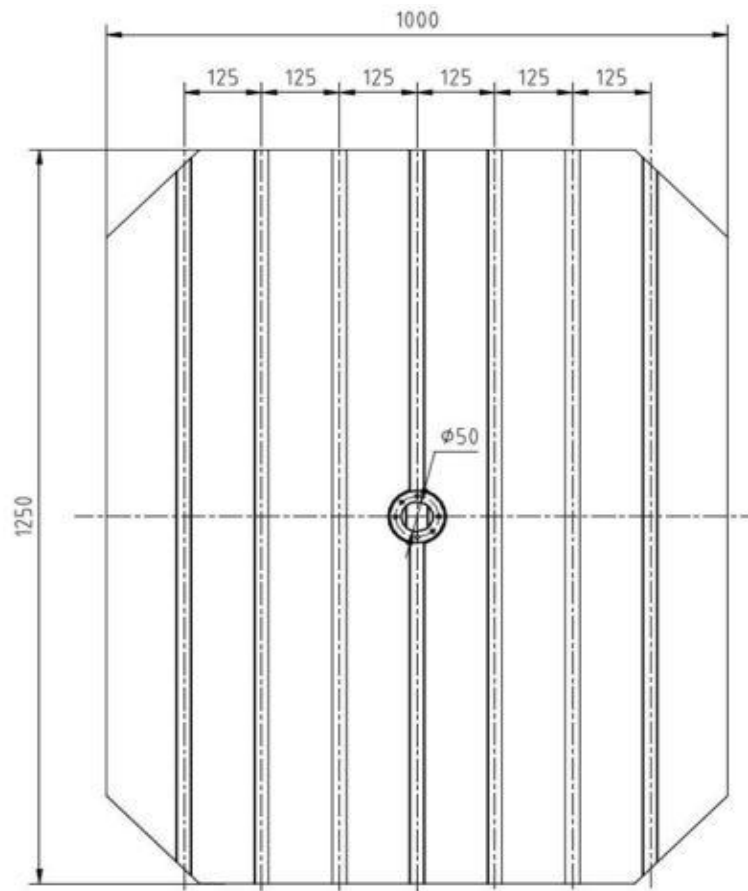
800x1000 T slot(OP)



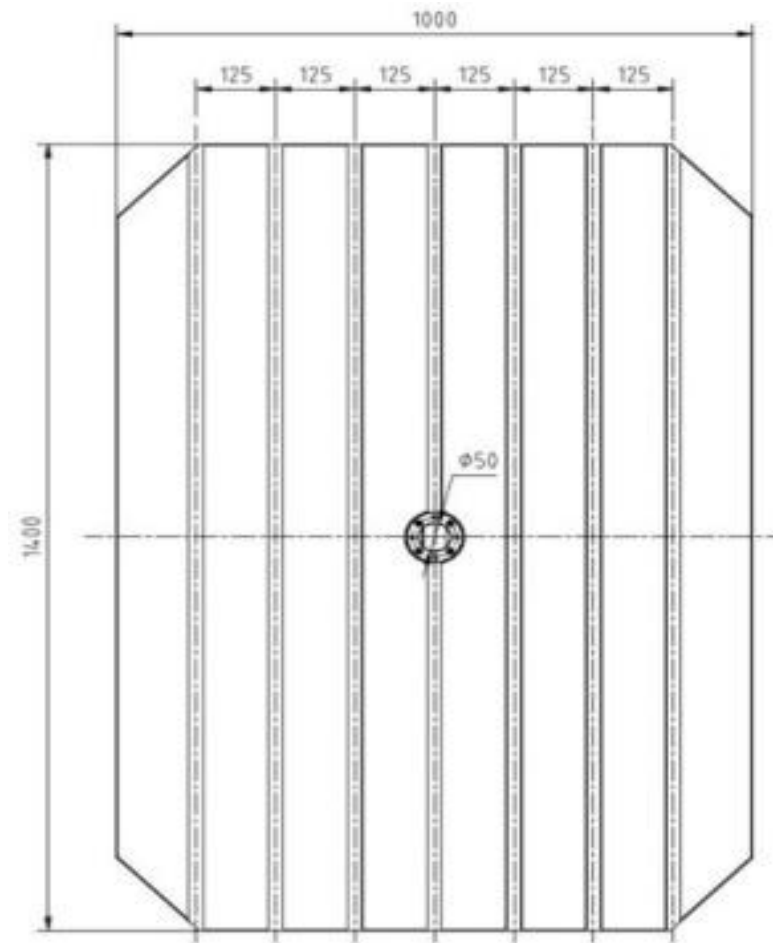
H100 II H100 II /D Pallet Size



1000×1000 T slot(STD)



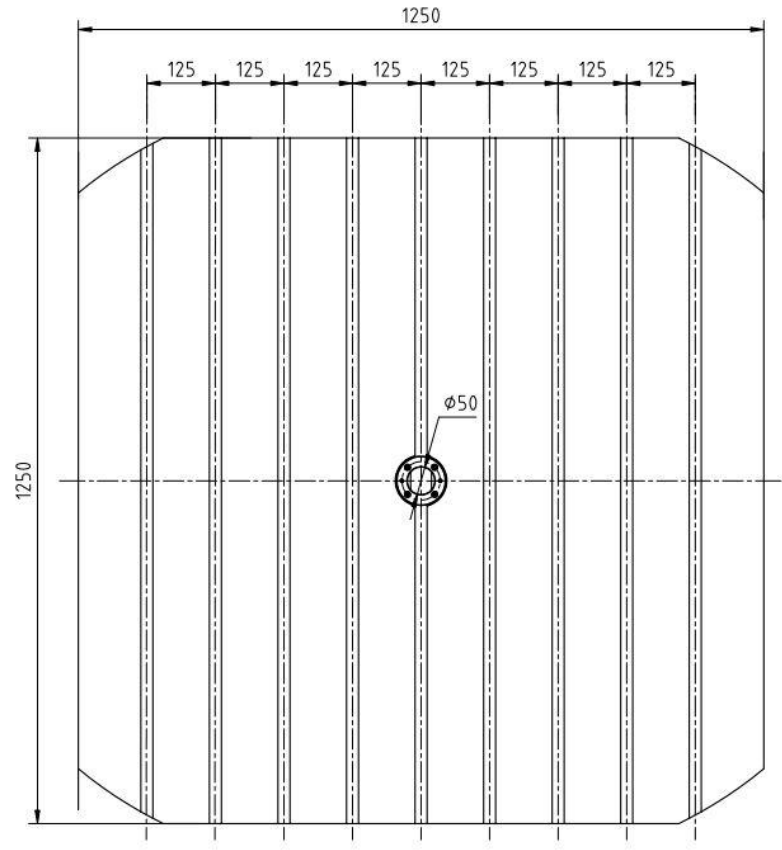
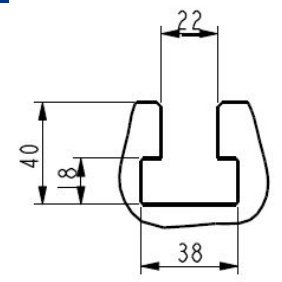
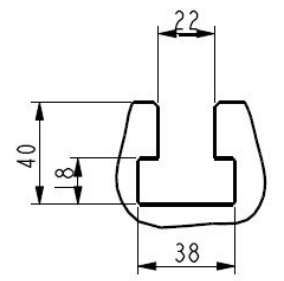
1000×1250 T slot(OP)



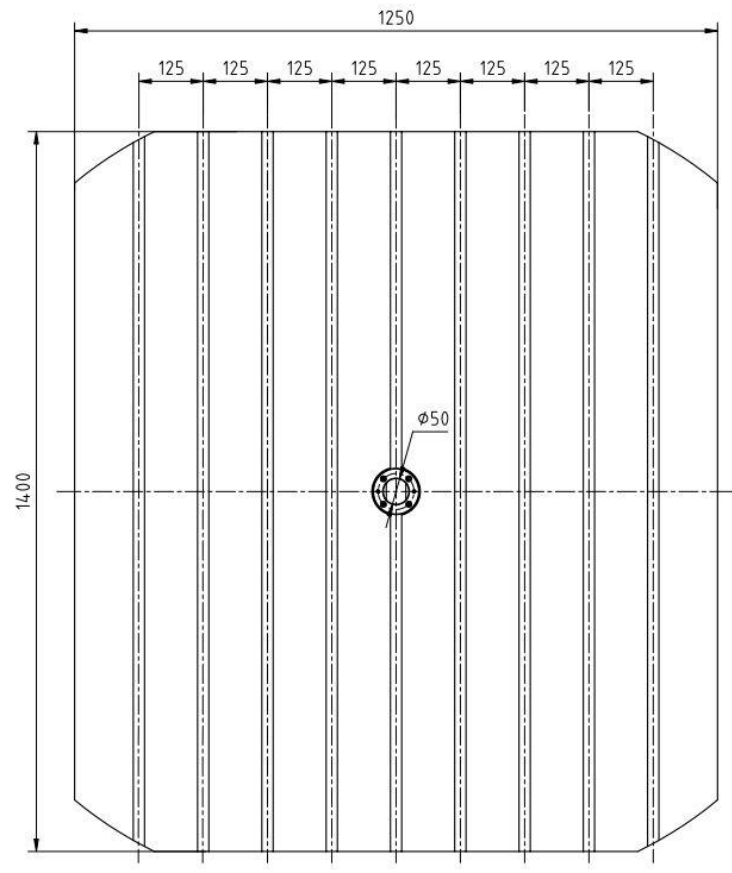
1000×1400 T slot(100H/D) (OP)



H125 II H125 II /D Pallet Size



1250×1250 T slot(STD)



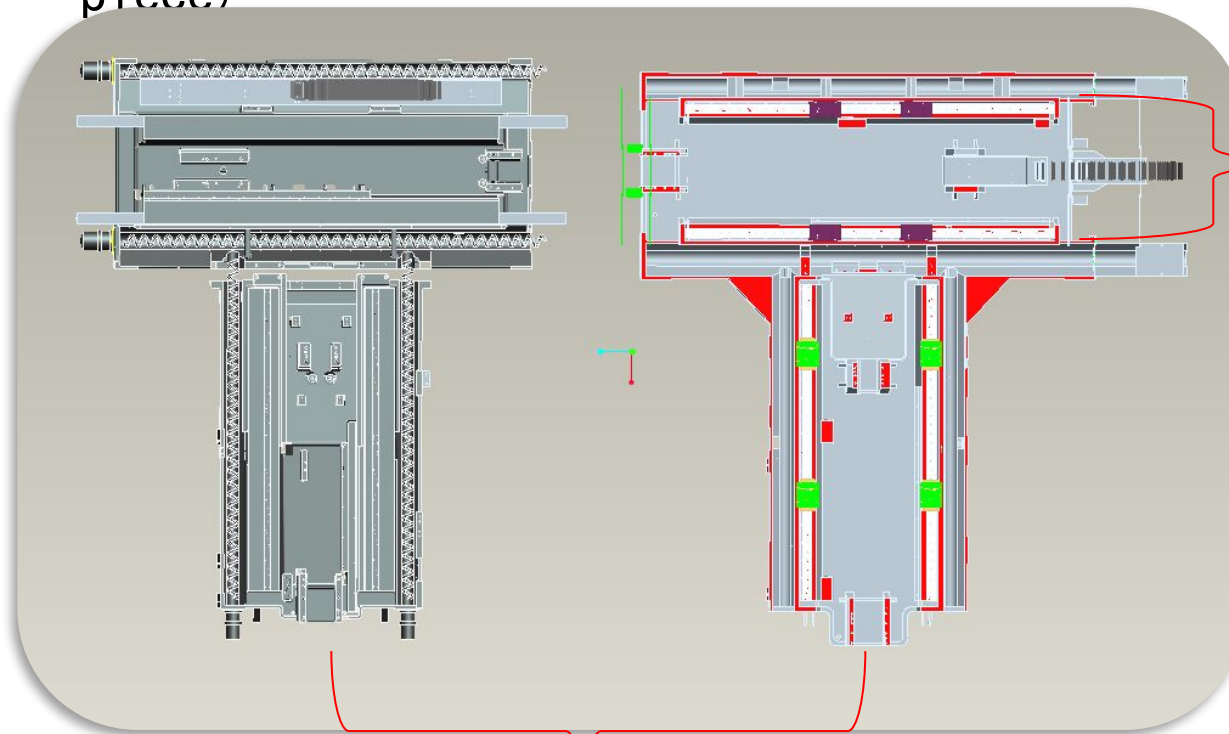
1250×1400 T slot(OP)



- **63-125 adopt integral bed;**
- **Optimization of reinforcement cavity structure;**
- **Reasonable footing layout;**
- **Travel improvement.**

Other bed (split)

II Series bed (one piece)



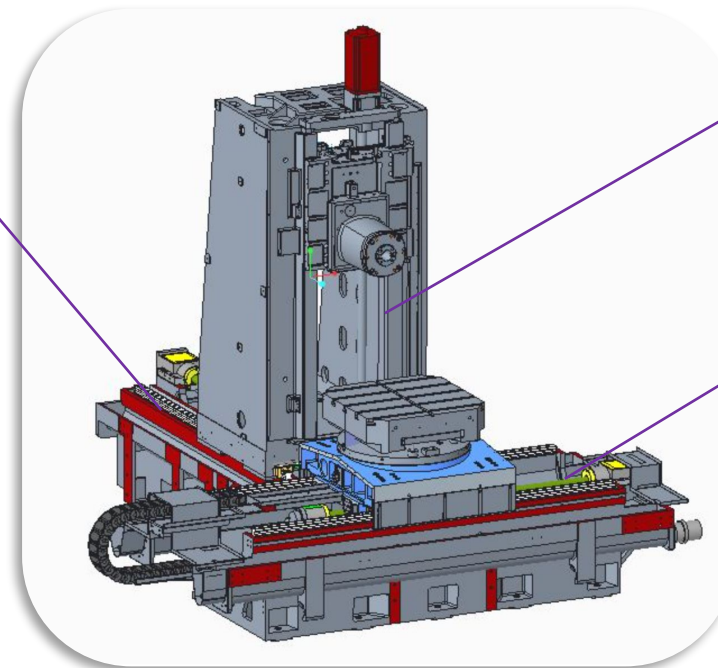
Larger guide rail span, more stable support rigidity

The integrated casting bed is not only convenient for installation and adjustment, but also ensures accuracy and stability.



- Horizontal axis adopts line rail, long precision retention;
- The vertical axis adopts hard rail, with better rigidity;
- Lift rapid traverse and cutting feedrate.

Linear guide



Hardened rail

Linear guide

HISION



Structural features - guide rail and drive

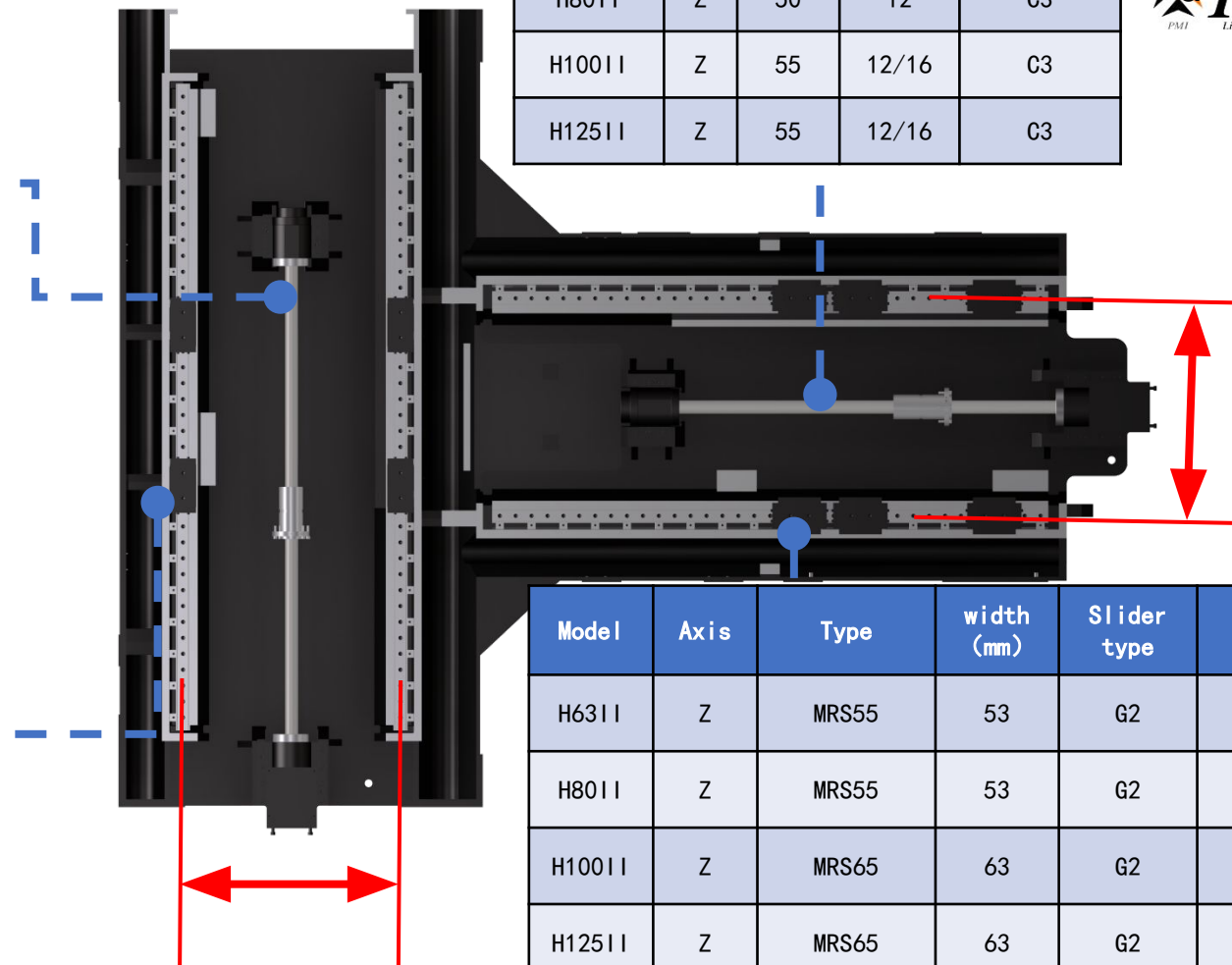


Model	Axis	size (mm)		class
		OD	lead	
H6311	X	50	12	C3
H8011	X	50	12	C3
H10011	X	55	12/16	C3
H12511	X	55	12/16	C3

Model	Axis	size (mm)		class
		OD	lead	
H6311	Z	50	12	C3
H8011	Z	50	12	C3
H10011	Z	55	12/16	C3
H12511	Z	55	12/16	C3

Model	Axis	Type	width (mm)	Slider type	No.
H6311	X	MRS55	53	G2	4
H8011	X	MRS55	53	G2	4
H10011	X	MRS65	63	G2	6
H12511	X	MRS65	63	G2	6

Model	Axis	Type	width (mm)	Slider type	No.
H6311	Z	MRS55	53	G2	4
H8011	Z	MRS55	53	G2	6
H10011	Z	MRS65	63	G2	6
H12511	Z	MRS65	63	G2	6

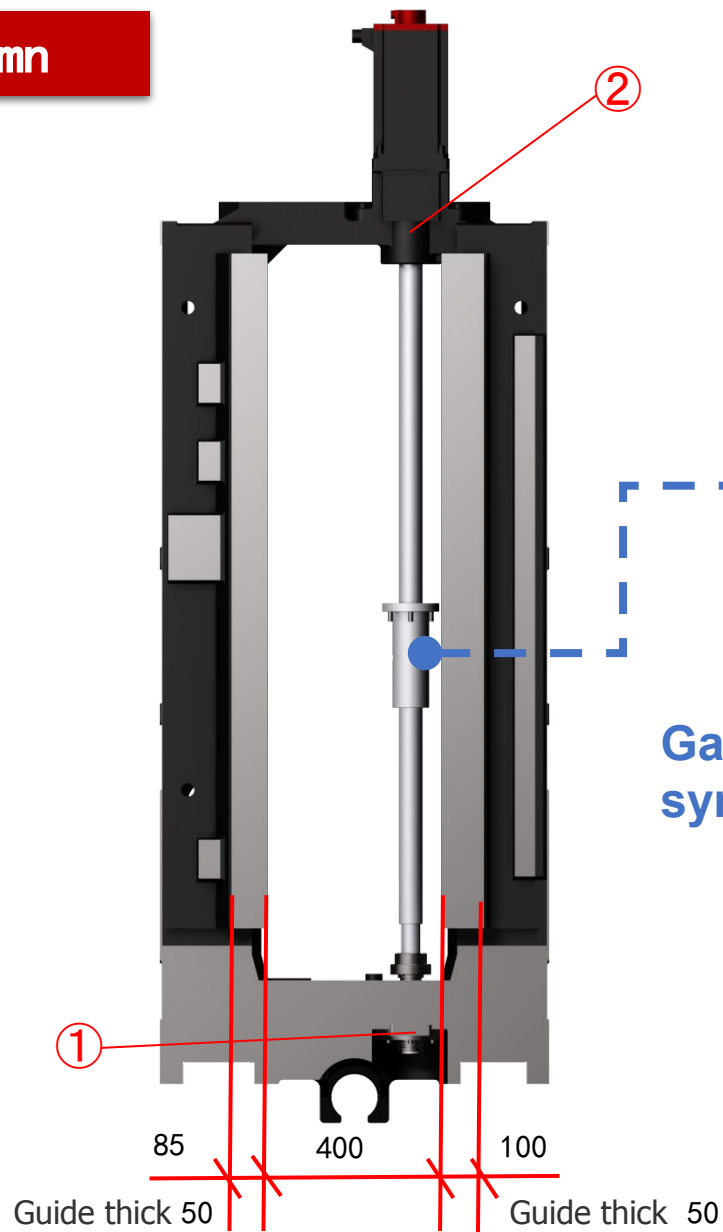


Bran



Structure feature-Column

H63 II H63 II /D



Model	axis	Size (mm)		class
		OD	lead	
H63 II	Y	55	12	C3

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dPMI
Linear Motion Systems

Gantry frame column, thermal symmetry structure

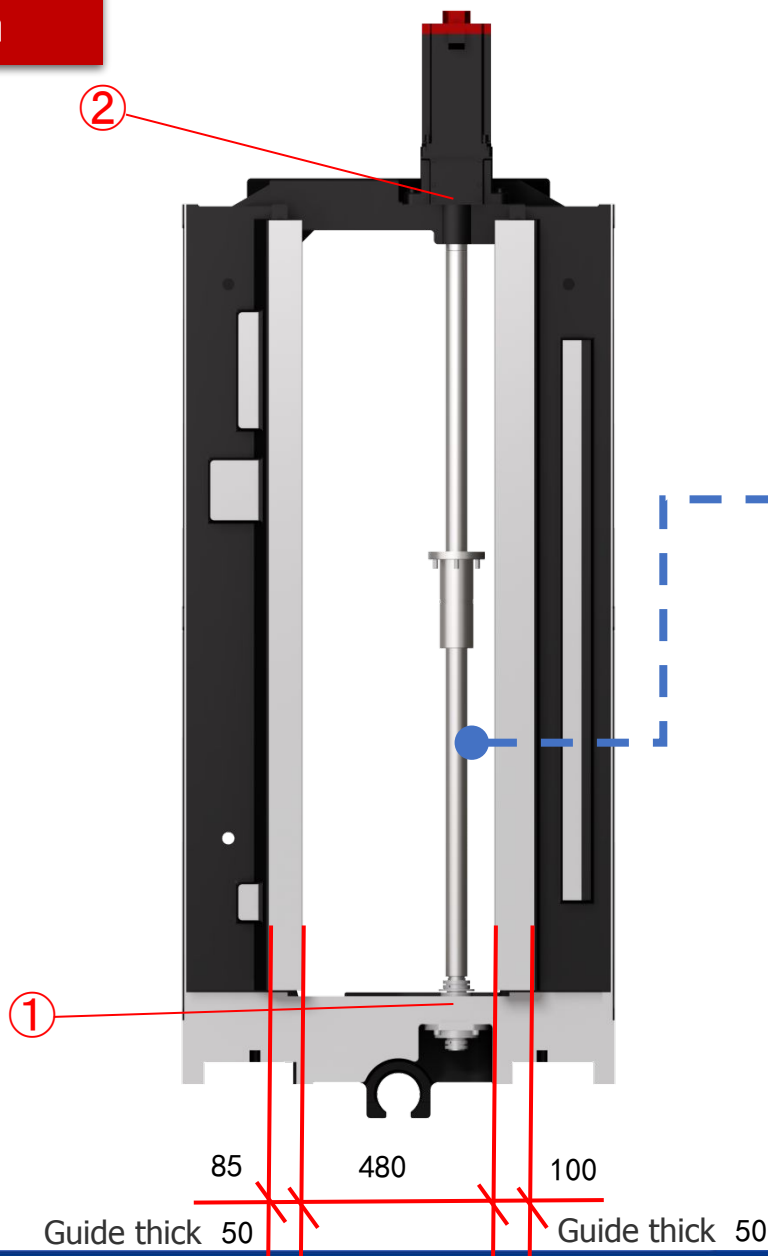
Bearing	Y axis rear ①	Y axis front ②
QTY	4	3
ID/OD mm	Φ 40*Φ 90	Φ 45*Φ 100

Bran
MOTION & CONTROL™
NSK



Structure feature-Column

H80 II H80 II /D



Model	axis	Size (mm)		class
		OD	lead	
H80 II	Y	55	12	C3

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d
PMI
Linear Motion Systems

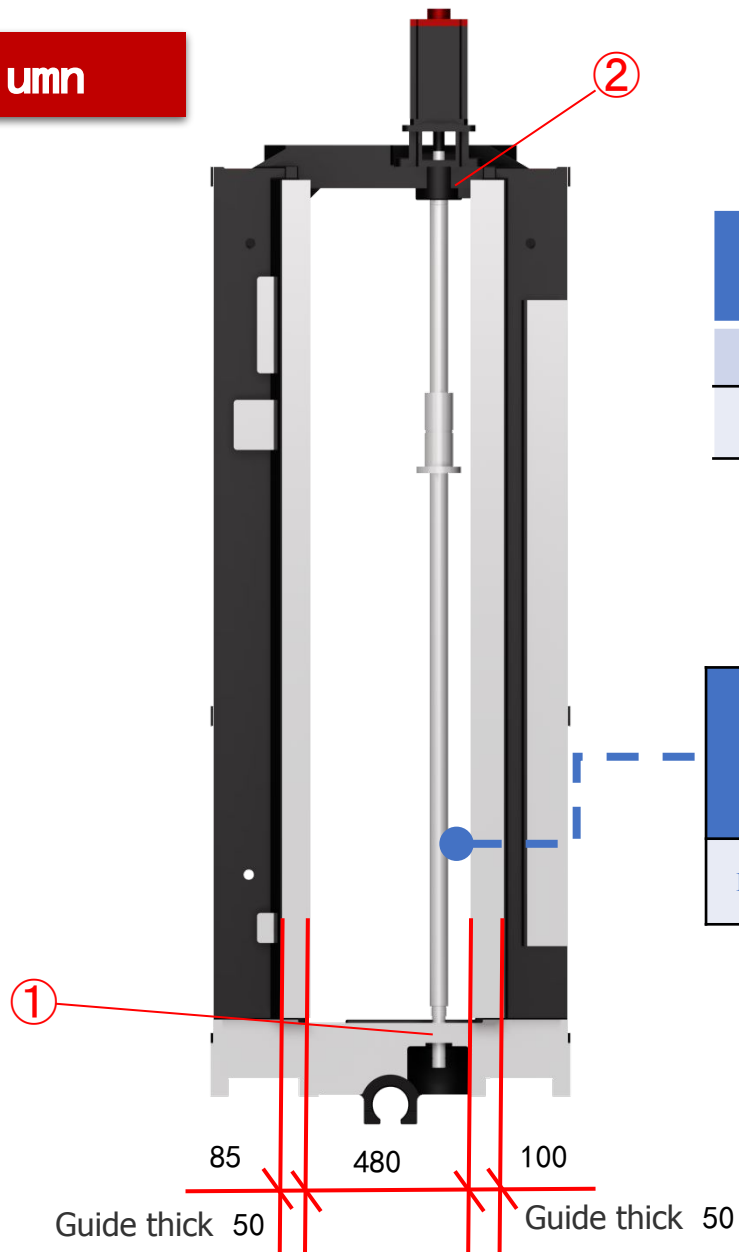
Bearing	Y axis rear ①	Y axis front ②
QTY	4	3
ID/OD mm	Φ 40*Φ 72	Φ 45*Φ 100

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MOTION & CONTROL™
NSK



Structure feature-Column

H100 II H100 II /D



Bearing	Y axis rear ①	Y axis front ②
QTY	4	3
ID/OD mm	Φ 40*Φ 72	Φ 45*Φ 100

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MOTION & CONTROL™
NSK

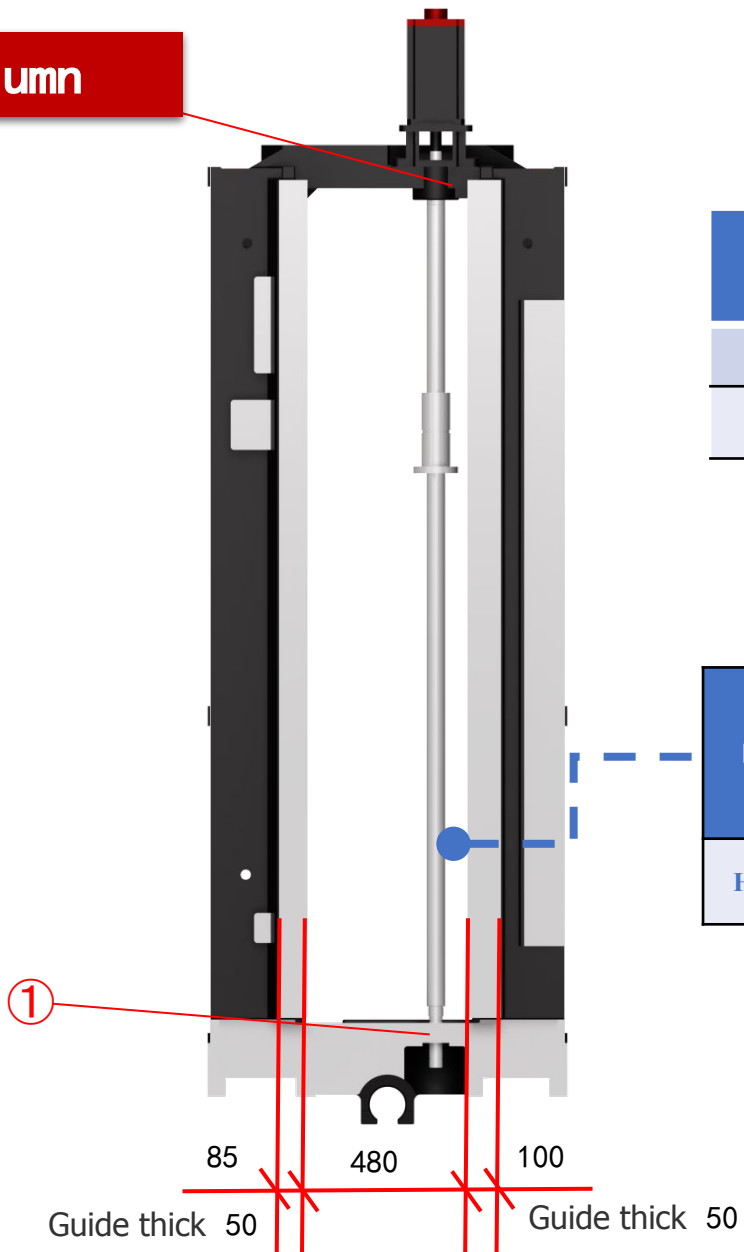
Model	axis	Size (mm)		class
		OD	lead	
H100 II	Y	55	12	C3

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PMI
Linear Motion Systems



Structure feature-Column

H125 II H125 II /D



Bearing	Y axis rear ①	Y axis front ②
QTY	4	3
ID/OD mm	Φ 40*Φ 72	Φ 45*Φ 100

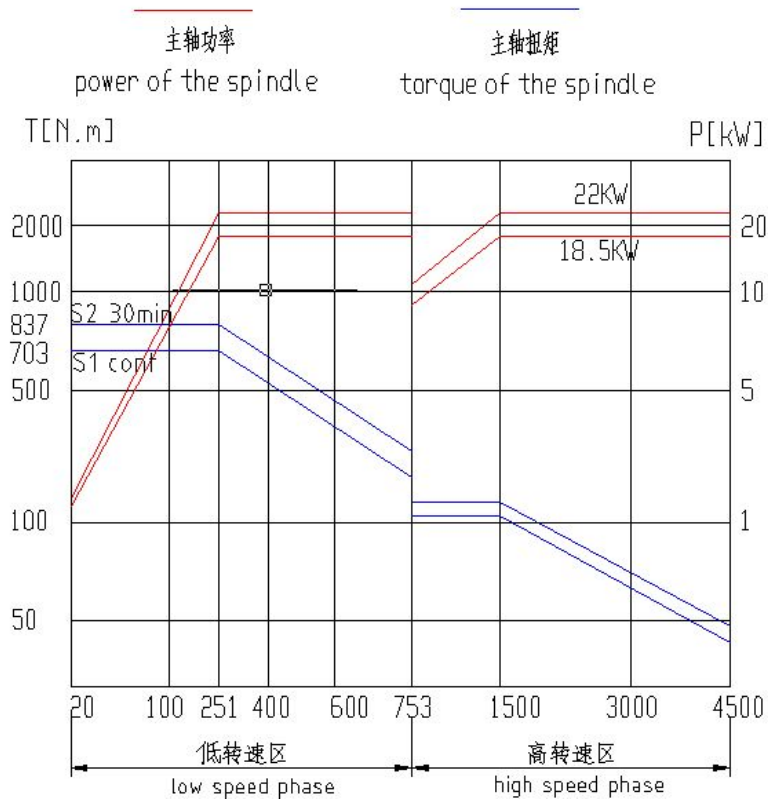
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Model	axis	Size (mm)		class
		OD	lead	
H125 II	Y	55	12	C3

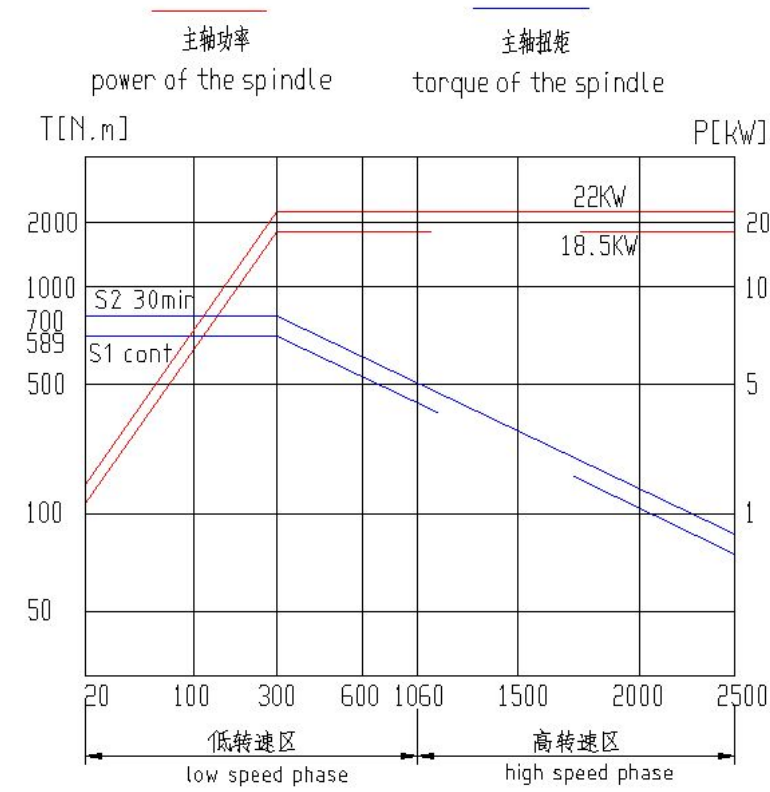
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Power-torque



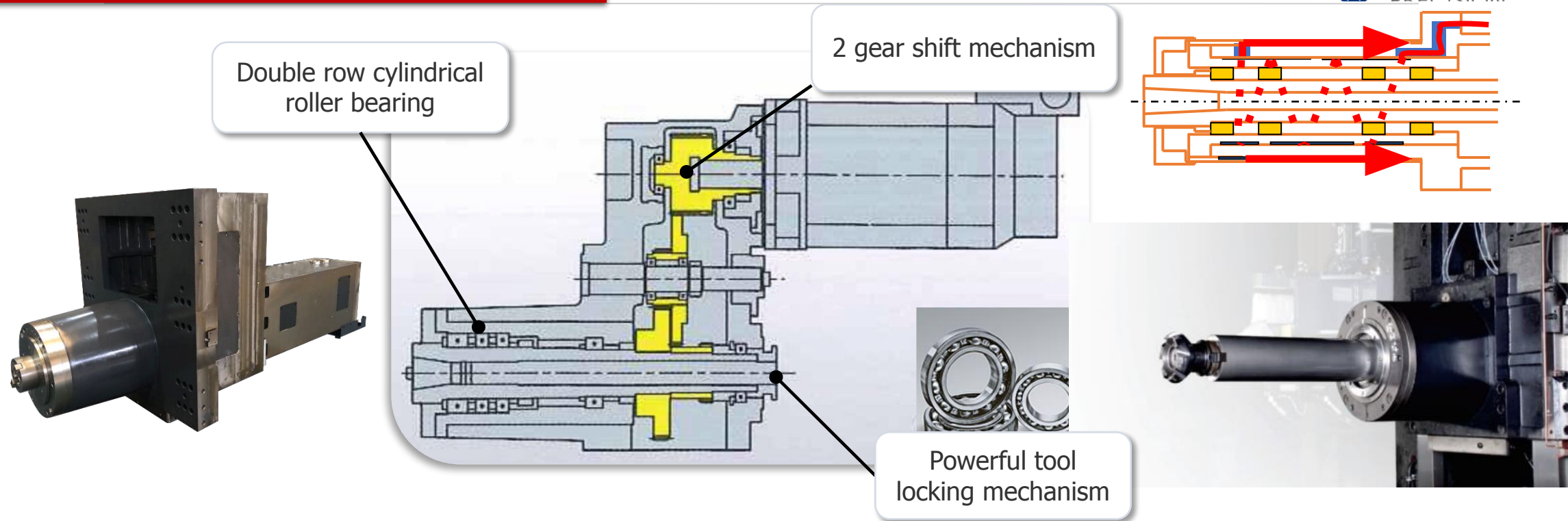
H63 II / H80 II / H100 II / H125 II



H63 II / H80 II / H100 II / H125 II with W-axis



Structural features - The spindle box

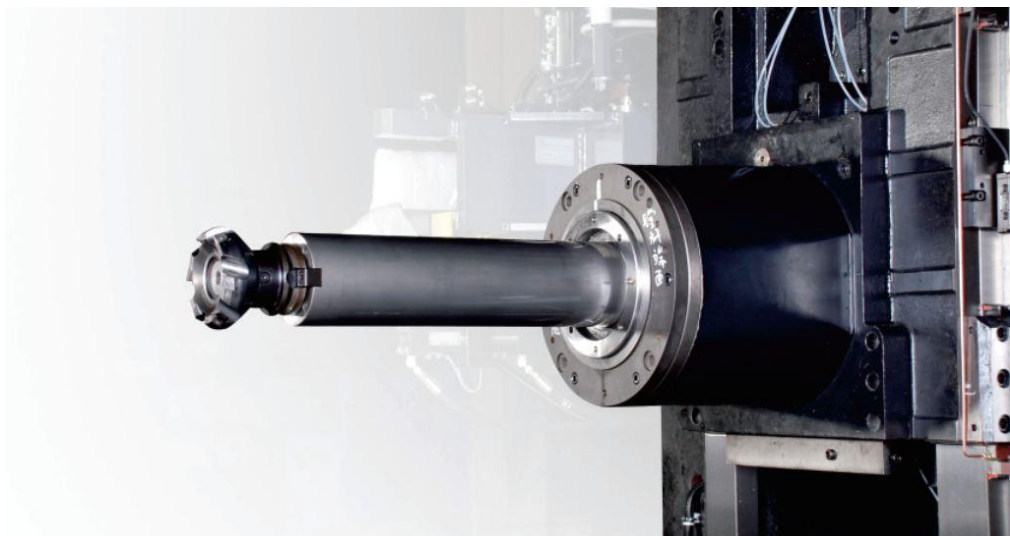


- ◆ The spindle box is of long nose structure, high rigidity one-piece casting, adopt two-stage gear change speed, ensure large torque output at low speed, and with circulating cooling device can quickly remove the heat of gears and bearings, and the thermal deformation is very small.
- ◆ The precision spindle bearing with multi-point support and optimized bearing support span design make the spindle get extremely high rotary accuracy.

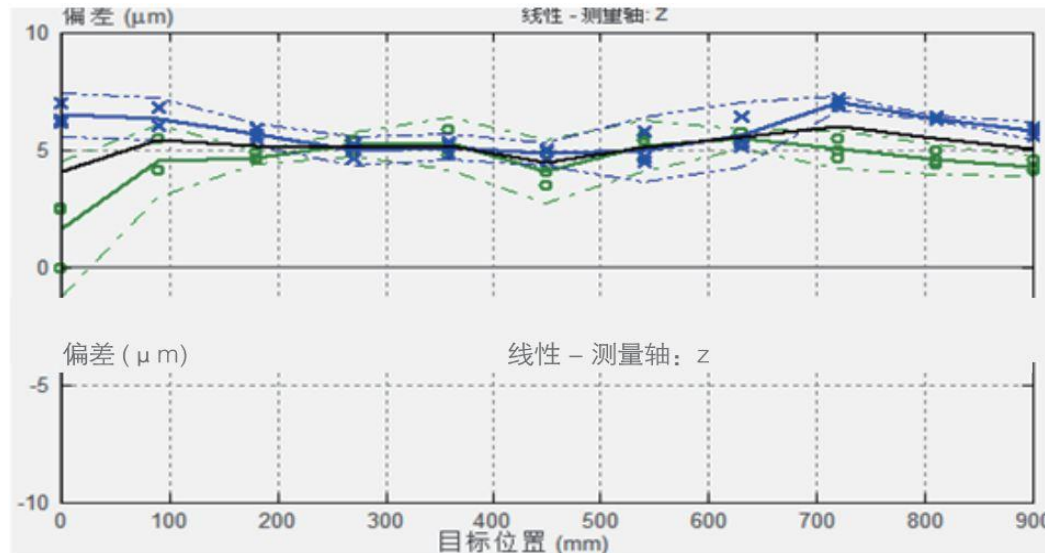
- ◆ W axis boring function, diameter 130mm, stroke 535mm.
- ◆ High strength casting tail barrel ensures the stability of high speed rotation of spindle.
- ◆ The boring shaft is guided by high precision linear guide rail to ensure the stability of the boring shaft.
- ◆ The boring shaft feed is directly driven by ball screw and servo motor, the boring shaft feed precision is high.

Structure feature—spindle option

W axis in option



Spindle thermal elongation compensation function



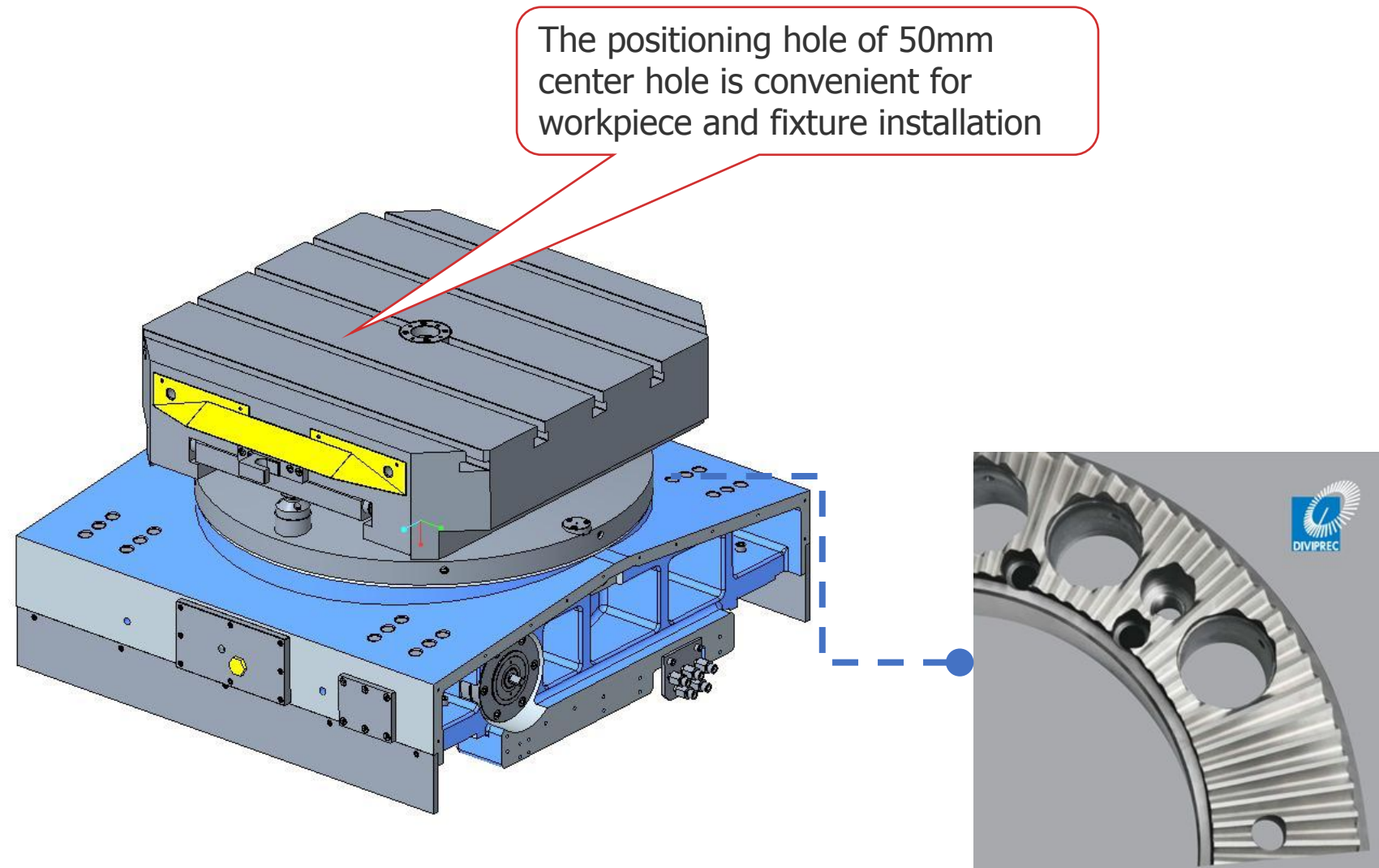
Telescopic boring bar function is a powerful complement to the traditional horizontal machining center.

According to sensor feedback, instant compensate Z axis coordinate, reduce mechanical deformation.

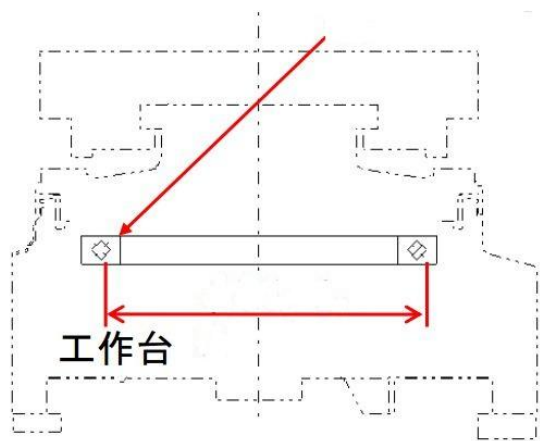
Model	H80 II H80 II/D	H100 II H100 II/D	H125 II H125 II/D
W axis dia.	φ130	φ130	φ130
travel	535	535	535



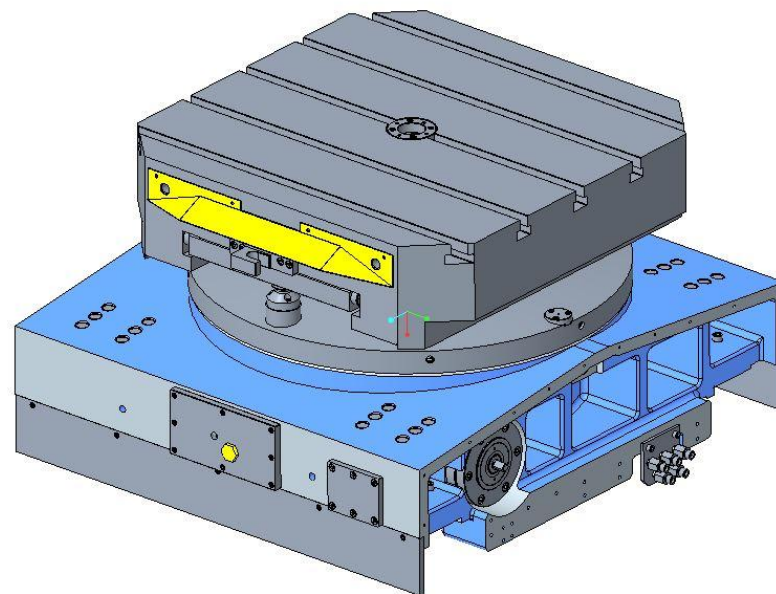
- Standard equipped with Spain imported Diviprec end teeth plate, to ensure high rotary accuracy (100/125 models);
- Through worm gear and worm drive to ensure accurate positioning;



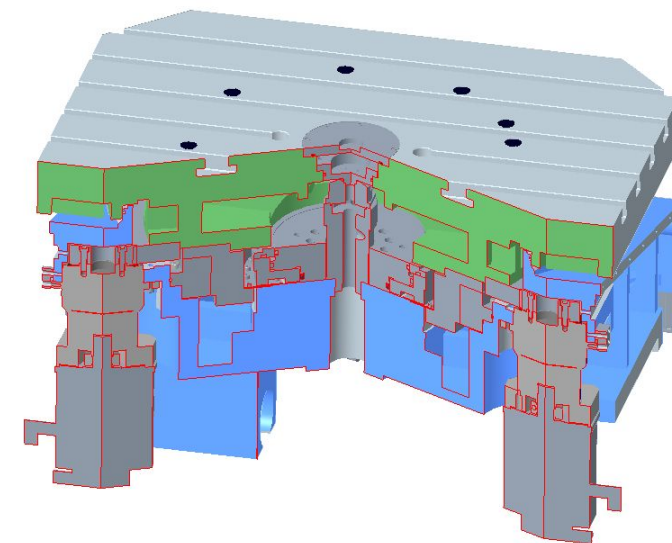
- Standard rotary table with tooth plate;
- Choice of turntable for fitting industry;
- A richer selection of countertops;
- Turntable speed and load bearing option



Mechanical turntable



0.001° indexing CNC turntable



0.001° linkage CNC turntable



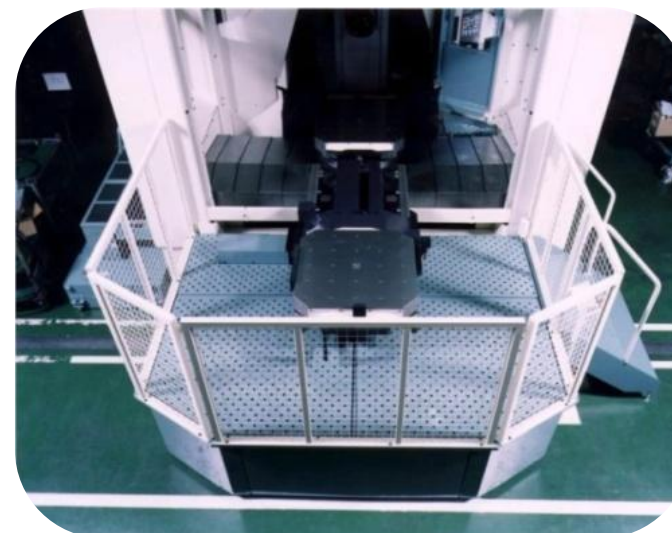
Structure feature-APC

- **H63 II -H125 II switchboard adopts a structure;**
- **Increase in rotary diameter.**

Model	63H II	80H II	100H II	125H II
change time (S)	38	55	58	60



63H(Old)

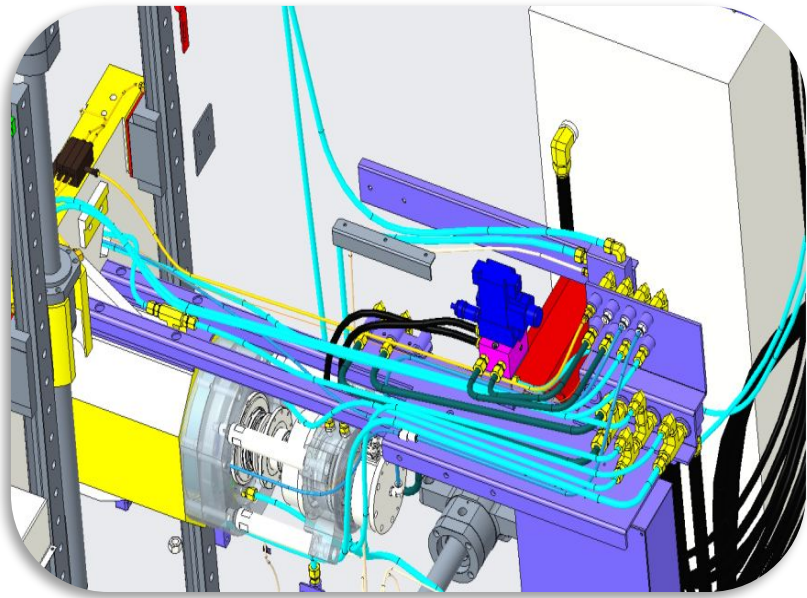
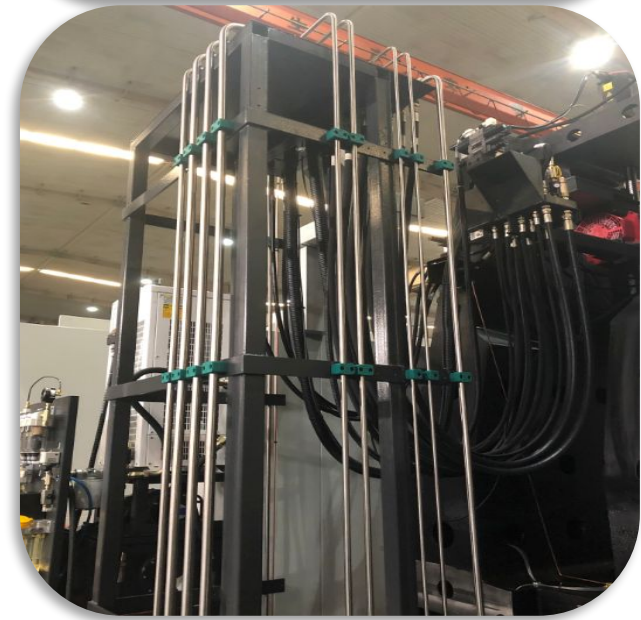
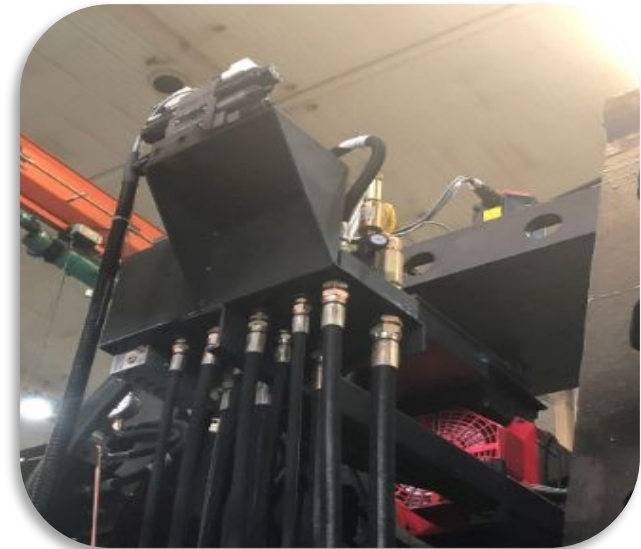


H II Series(Now)



Structural features - Modular hydraulic valve set

- The components of hydraulic valve group;
- The piping of hydraulic pipeline;
- Tightness of hydraulic valve and execution unit.



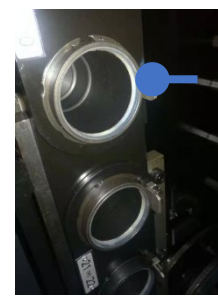
结构特点-刀库

刀链伺服电机驱动方式(标机)

机械手液压驱动

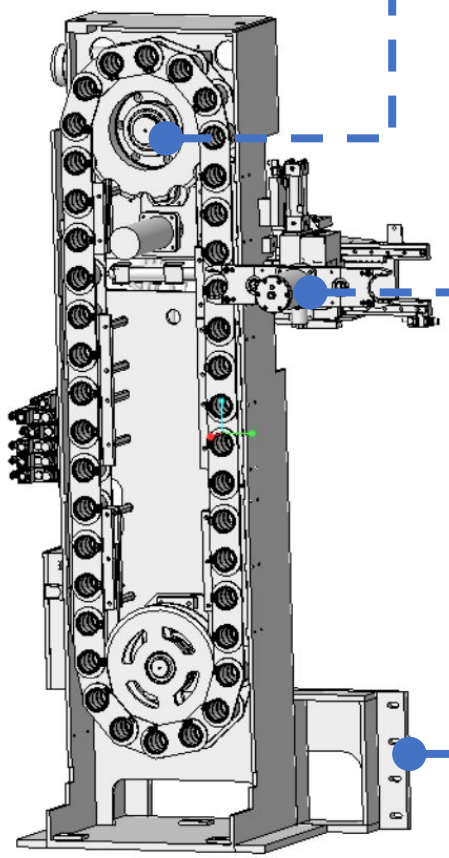
刀库可实现定点换刀, 刀链通过伺服电机驱动, 运动平稳, 定位准确, 在加工状态下可进行刀具检索及自动备刀, 缩短了换刀时间。

基座安装在床身上, 稳定可靠



淬火处理后的铁质刀套

刀库品牌
海天



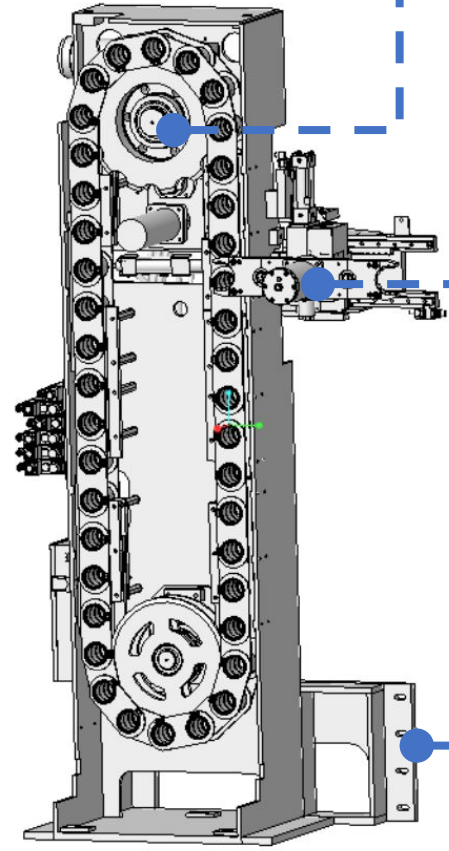
Model	H63 II	H80 II	H100 II	H125 II
Change time(T-T)	7.5s			
options	60T、90T、120T			
Change time(C-C)	13	16	16	18



Structure feature-ATC



Self made 40T
ATC



Cam and Motor drive(STD)

Arm with hydraulic drive

Fixed position tool change, Tool search and automatic tool preparation can be performed during processing, shortening tool change time.

ATC stand fixed onto bed, reliable structure.

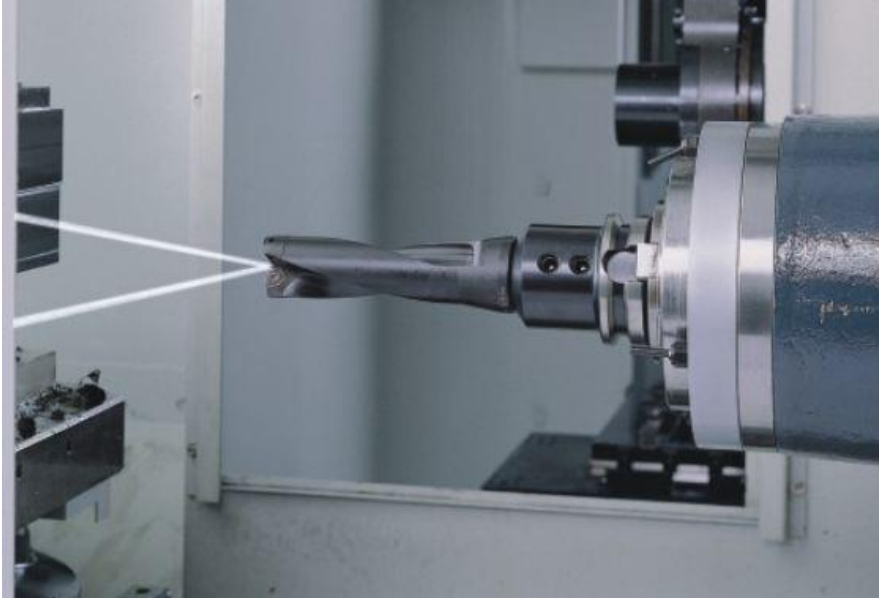


Hardened tool holder in ATC

Model	H63 II	H80 II	H100 II	H125 II
Change time(T-T)	7.5s			
options	60T、90T、120T			
Change time(C-C)	13	16	16	18



Option—CTS



The coolant passes through spindle center and is sprayed from the tip of the tool, which can directly cool the workpiece and the cutting edge, and take away the cutting heat to ensure the processing quality, suitable for parts for deep hole processing.



2mpa

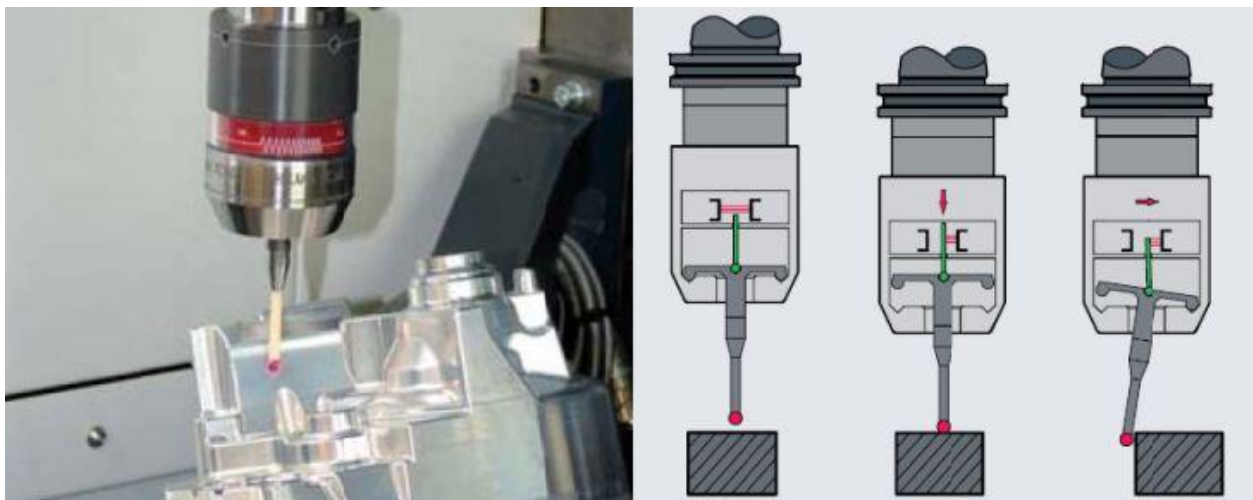


3-6mpa



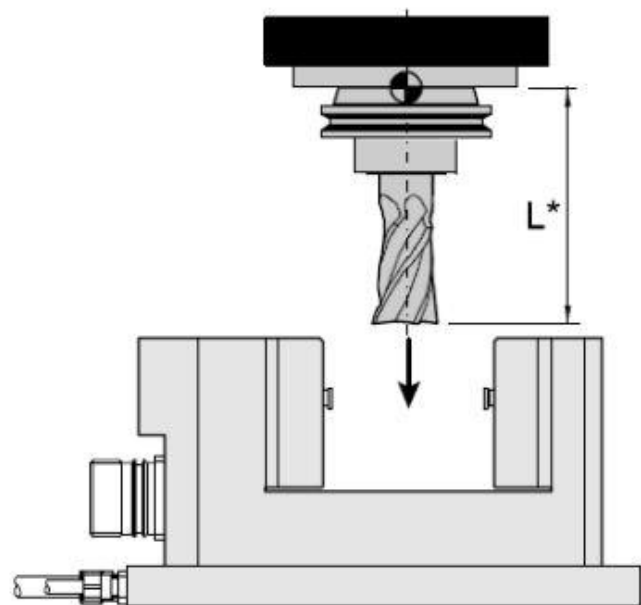
Option—Workpiece probe

Brand



BRC wireless radio transmission contact type device.





Laser
type

Laser tool setter for detecting the geometry of the tool.



Contact
type

Common used for tool length and diameter.



■ Standard :

- Controller :FANUC 0i
- Gear box drive
- 1° index pallet
- 40T ATC
- Pneumatic , hydraulic and lubrication system
- Spindle oil chiller
- Cutting cooling
- Internal helix chip conveyor
- 3-color signal lamp, working light
- Full enclosure with top cover
- Standard accessories
- Common maintenance tools
- External chain type chip conveyor

■ Option Configuration :

- Controller: FANUC 31i
- Controller: SIEMENS 840Dsl
- CNC rotary table
- W axis
- 60/90/120T ATC
- Linear scale
- Coolant through spindle
- Workpiece probe
- Tool setter
- Air gun & water gun
- Air conditioner
- Oil skimmer
- FMS(Flexible Manufacture System)
- Shower coolant
- Voltage regulator



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谢谢观看！
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