



HUP series Horizontal Machining Centers

--introduction



Applications

Industry	Typical parts	Material	HPC	H	HUP			Typical Customers
			HPC650、HPC800 (high)	63H、80H (high)	HUP80、100/125 (4500rpm) General workpieces	HUP80、100/125、160 (With W axis) deep	HUP80、100/125、160 (e) mold machining	
IMM parts	mold plate	cast iron		★★★	★★☆		★★☆	Haitian
	valve plate, bars	steel/cast iron	★★★					
	injection stand	cast iron		★★☆	★★★			
Oil and Valves	valves	steel		★★★	★★☆			Shanghai Xinlian
	diesel engine housing	cast iron	★★☆	★★☆	★★★			Ningbo Zhongce
	drillers	alloy steel						
Agricultural machinery & mechanical engineering	forklift balancing	cast iron		★★★	★★☆			Ruyi forklift
	Tractor bridge	cast iron		★★☆	★★★			YTO Group
	Railway controller housing	aluminum	★★★				★★★	CRRC Changchun Railway
	High voltage electrical tank	aluminum	★★★				★★★	JiangSu Ankura
	Turret,	steel		★★☆				
Molds	Slider, slider stand	steel	★★☆			★★★	★★★	Beilun Xinlin
	mold center	steel	★★☆			★★★	★★★	Beilun Junlin
	mold base	steel	★★☆			★★★		Taizhou Kejia
Automobile parts	transmission	aluminum	★★★					ChangChun Saide
	engine housing&cover	aluminum	★★★					ChangChun Saide
	Brake clamp, pump	cast iron	★★★	★★☆	★★☆			ChangChun Saide
Aviation	Helicopter hub	Titanium alloy		★★★	★★☆			Changhe Aircraft
	Aircraft landing gear	Titanium alloy		★★★				Changhe Aircraft

conformity ★★★recommend ★★☆☆ common



Machine features



HUP Series horizontal machining center, one time clamping can complete parts processing, especially suitable for the body parts of hole and plane processing, widely used in automotive, aerospace, rail transportation, oil valves, plastic machinery, mining machinery, general machinery and mechanical processing field.

Models	HUP80	HUP100	HUP125	HUP160	HUP160/D
Travels X/Y/Z, mm	1270/980/1000	1800/1500/1350	2000/1500/1350	2500/1850/1500	2500/2000/1500 (10t) 2500/2000/1400 (20t)
Table size, mm	800x800	1000x1000	1250x1250	1600x1800	1600x1800 (10t) 1800x2000 (20t)
Max. speed rpm	4500			2500	





Axle (cast steel)



Gearbox body (casting)

The HUP series has a large stroke, with high rapid traverse, is suitable for the processing of box and shell workpieces.



ITEMS			SPEC	ITEMS			SPEC	
Machining range	X travel	mm	1270	Tool magazine	Capacity	T	40	
	Y travel	mm	980		Max. tool diameter			
	Z travel	mm	1000		Max. tool length	mm	Φ120(Φ240)	
	Distance from spindle center to table	mm	0-980		Max. tool weight	mm	500	
	Spindle nose to table center	mm	230-1230		Capacity	kg	30	
Table	size	mm	800×800	Positioning accuracy	X (with scale)	mm	0.012(0.008)	
	Max loading	kg	2000		Y (with scale)	mm	0.012(0.010)	
	Index	°	1°×360		Z (with scale)	mm	0.012(0.008)	
Spindle	Max. speed	rpm	4500		Repeatability	Curvic coupling table	"	8
	Max.power	kW	18.5/22			NC table	"	10
	Max.torque	Nm	837	X (with scale)		mm	0.006(0.005)	
	spindle taper	-	ISO7:24 NO.50	Y (with scale)		mm	0.008(0.006)	
	Pull stud	-	P50T-2-MAS403	Z (with scale)		mm	0.006(0.005)	
Feeds	Cutting feed X/Y/Z	m/min	12/12/12	Curvic coupling table	"	4		
	Rapid feed X/Y/Z	m/min	24/24/24	NC table	"	6		
	Rapid feed X/Y/Z	mm	0.001	Required power	kVA	65		
				Controller	-	FANUC 0i		

ITEMS			SPEC	ITEMS			SPEC	
Machining range	X travel	mm	1800	Tool magazine	Capacity	T	40	
	Y travel	mm	1500		Max. tool diameter			
	Z travel	mm	1350		Max. tool length	mm	Φ120(Φ240)	
	Distance from spindle center to table	mm	0-1500 (HUP100) 100-1600(HUP100/D)		Max. tool weight	mm	500	
	Spindle nose to table center	mm	300-1650		Capacity	kg	30	
Table	size	mm	1000×1000	Positioning accuracy	X (with scale)	mm	0.012(0.008)	
	Max loading	kg	3000		Y (with scale)	mm	0.012(0.010)	
	Index	°	1°×360		Z (with scale)	mm	0.012(0.008)	
					Curvic coupling table	"	8	
			NC table		"	10(OP)		
Spindle	Max. speed	rpm	4500	Repeatability	X (with scale)	mm	0.008(0.006)	
	Max.power	kW	18.5/22		Y (with scale)	mm	0.010(0.008)	
	Max.torque	Nm	837		Z (with scale)	mm	0.008(0.006)	
	spindle taper	-	ISO7:24 NO.50		Curvic coupling table	"	4	
	Pull stud	-	P50T-2-MAS403		NC table	"	6(OP)	
Feeds	Cutting feed X/Y/Z	m/min	5/5/5		Required power			kVA
	Rapid feed X/Y/Z	m/min	15/15/15	Controller			-	FANUC 0i
	Rapid feed X/Y/Z	mm	0.001					

ITEMS			SPEC	ITEMS			SPEC	
Machining range	X travel	mm	2000	Tool magazine	Capacity	T	40	
	Y travel	mm	1500		Max. tool diameter			
	Z travel	mm	1350		Max. tool length	mm	Φ120(Φ240)	
	Distance from spindle center to table	mm	0-1500 (HUP125) 100-1600(HUP125/D)		Max. tool weight	mm	500	
	Spindle nose to table center	mm	350-1700		Capacity	kg	30	
Table	size	mm	1250×1250	Positioning accuracy	X (with scale)	mm	0.012(0.008)	
	Max loading	kg	3000		Y (with scale)	mm	0.012(0.010)	
	Index	°	1°×360		Z (with scale)	mm	0.012(0.008)	
Spindle	Max. speed	rpm	4500		Repeatability	Curvic coupling table	"	8
	Max.power	kW	18.5/22			NC table	"	10(OP)
	Max.torque	Nm	837	X (with scale)		mm	0.008(0.006)	
	spindle taper	-	ISO7:24 NO.50	Y (with scale)		mm	0.010(0.008)	
	Pull stud	-	P50T-2-MAS403	Z (with scale)		mm	0.008(0.006)	
Feeds	Cutting feed X/Y/Z	m/min	5/5/5	Curvic coupling table	"	4		
	Rapid feed X/Y/Z	m/min	15/15/15	NC table	"	6(OP)		
	Rapid feed X/Y/Z	mm	0.001	Required power	kVA	65		
				Controller	-	FANUC 0i		

SPEC-HUP160



ITEMS			SPEC	ITEMS			SPEC	
Machining range	X travel	mm	2500	Tool magazine	Capacity	T	40	
	Y travel	mm	1850		Max. tool diameter			
	Z travel	mm	1500		Max. tool length	mm	Φ120(Φ240)	
	W axis	mm	700					
	Distance from spindle center to table	mm	0-1850		Max. tool weight	mm	500	
	Spindle nose to table center	mm	580-2080		Capacity	kg	30	
Table	size	mm	1600×1800	Positioning accuracy	X (with scale)	mm	0.020(0.015)	
	Max loading	kg	8000		Y (with scale)	mm	0.020(0.015)	
	Index	°	0.001		Z (with scale)	mm	0.020(0.015)	
					B axis	"	15	
Spindle	Max. speed	rpm	2500	Repeatability	X (with scale)	mm	0.012(0.010)	
	Max.power	kW	30/37		Y (with scale)	mm	0.012(0.010)	
	Max.torque	Nm	2277		Z (with scale)	mm	0.012(0.010)	
	W axis diameter	mm	Φ130					
	spindle taper	-	ISO7:24 NO.50		B axis	"	8	
	Pull stud	-	P50T-2-MAS403					
Feeds	Cutting feed X/Y/Z	m/min	4/4/4	Required power			kVA	84
	Rapid feed X/Y/Z	m/min	10/10/10	Controller			-	FANUC 0i
	Rapid feed X/Y/Z	mm	0.001					

SPEC-HUP160/D(10 Ton)



ITEMS			SPEC	ITEMS			SPEC	
Machining range	X travel	mm	2500	Tool magazine	Capacity	T	40	
	Y travel	mm	2000		Max. tool diameter			
	Z travel	mm	1500		Max. tool length	mm	Φ120(Φ240)	
	W axis	mm	700					
	Distance from spindle center to table	mm	120-2120		Max. tool weight	mm	500	
	Spindle nose to table center	mm	580-2080		Capacity	kg	30	
Table	size	mm	1600×1800	Positioning accuracy	X (with scale)	mm	0.020(0.015)	
	Max loading	kg	10000		Y (with scale)	mm	0.020(0.015)	
	Index	°	0.001		Z (with scale)	mm	0.020(0.015)	
					B axis	"	15	
Spindle	Max. speed	rpm	2500	Repeatability	X (with scale)	mm	0.012(0.010)	
	Max.power	kW	30/37		Y (with scale)	mm	0.012(0.010)	
	Max.torque	Nm	2277		Z (with scale)	mm	0.012(0.010)	
	W axis diameter	mm	Φ130					
	spindle taper	-	ISO7:24 NO.50		B axis	"	8	
	Pull stud	-	P50T-2-MAS403					
Feeds	Cutting feed X/Y/Z	m/min	4/4/4	Required power			kVA	84
	Rapid feed X/Y/Z	m/min	10/10/10	Controller			-	FANUC 0i
	Rapid feed X/Y/Z	mm	0.001					

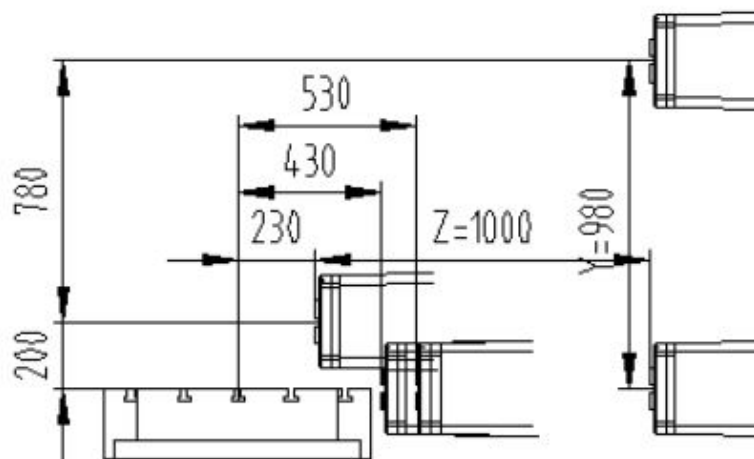
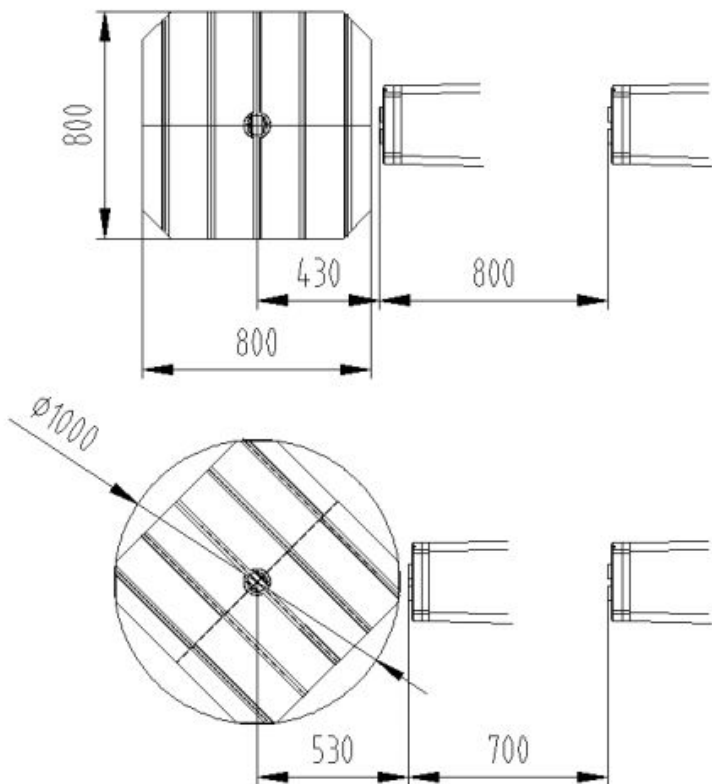
SPEC-HUP160/D(20 Ton option)



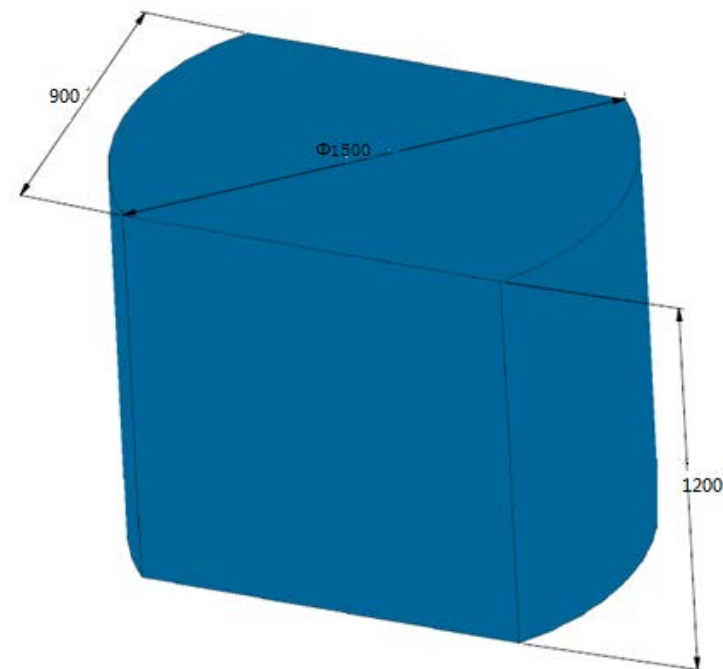
ITEMS			SPEC	ITEMS			SPEC	
Machining range	X travel	mm	2500	Tool magazine	Capacity	T	40	
	Y travel	mm	2000		Max. tool diameter			
	Z travel	mm	1400		Max. tool length	mm	Φ120(Φ240)	
	W axis	mm	700					
	Distance from spindle center to table	mm	0-2000		Max. tool weight	mm	500	
	Spindle nose to table center	mm	680-2080		Capacity	kg	30	
Table	size	mm	1800×2000	Positioning accuracy	X (with scale)	mm	0.020(0.015)	
	Max loading	kg	20000		Y (with scale)	mm	0.020(0.015)	
	Index	°	0.001		Z (with scale)	mm	0.020(0.015)	
					B axis	"	15	
Spindle	Max. speed	rpm	2500	Repeatability	X (with scale)	mm	0.012(0.010)	
	Max.power	kW	30/37		Y (with scale)	mm	0.012(0.010)	
	Max.torque	Nm	2277		Z (with scale)	mm	0.012(0.010)	
	W axis diameter	mm	Φ130					
	spindle taper	-	ISO7:24 NO.50		B axis	"	8	
	Pull stud	-	P50T-2-MAS403					
Feeds	Cutting feed X/Y/Z	m/min	4/4/4	Required power			kVA	84
	Rapid feed X/Y/Z	m/min	10/10/10	Controller			-	FANUC 0i
	Rapid feed X/Y/Z	mm	0.001					

Pallet size

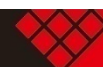
Max. rapid feed X/Y/Z m/min	24/24/24
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max. workpiece
rotary diameter and
height

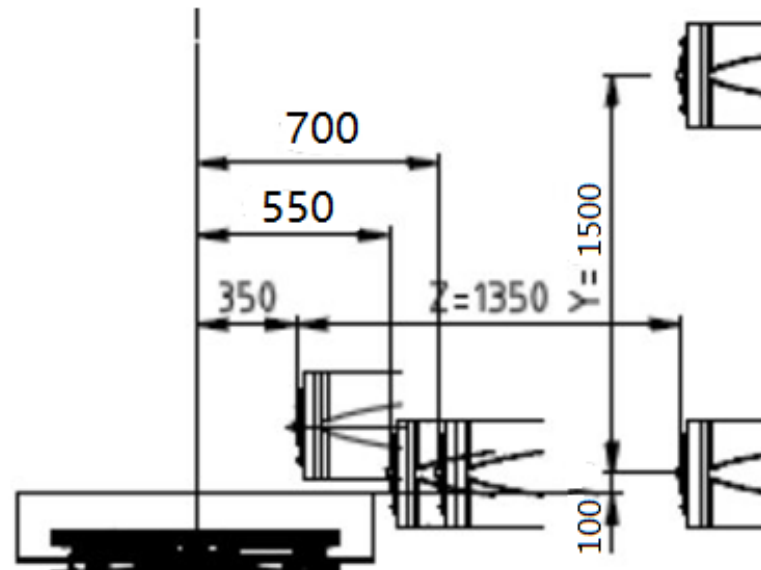
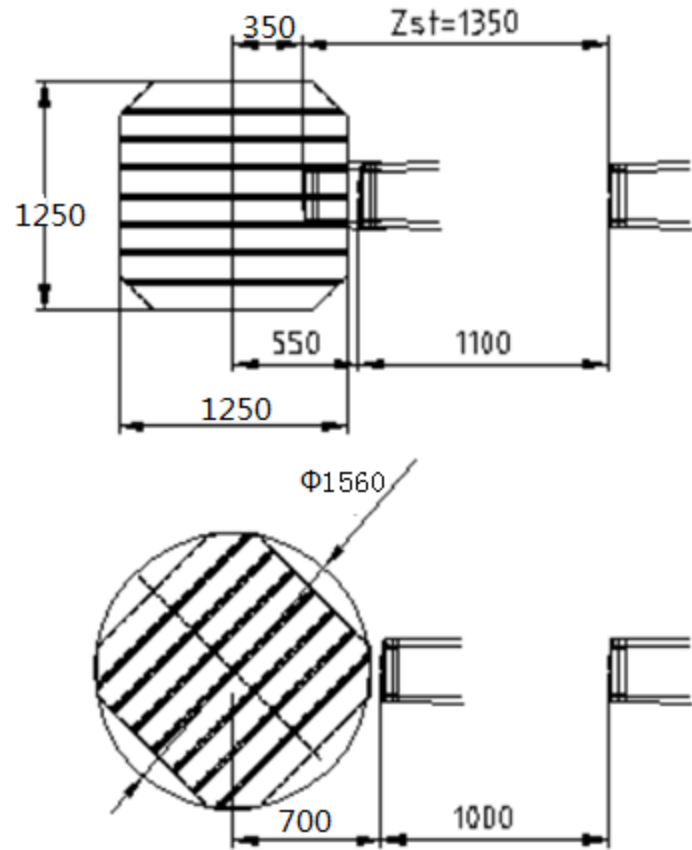


HUP80 HUP80/D



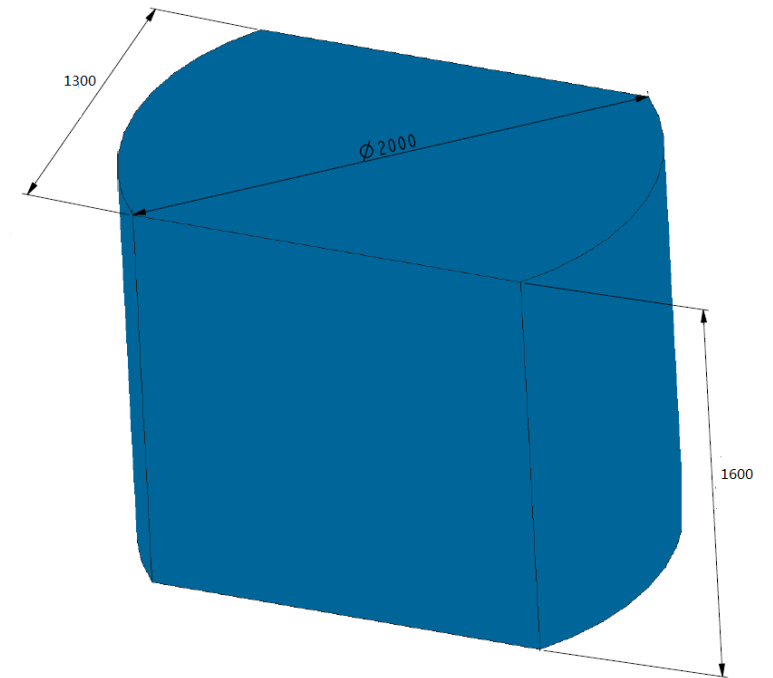
Pallet size

Max. rapid feed X/Y/Z m/min	15/15/15
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HUP125 HUP125/D

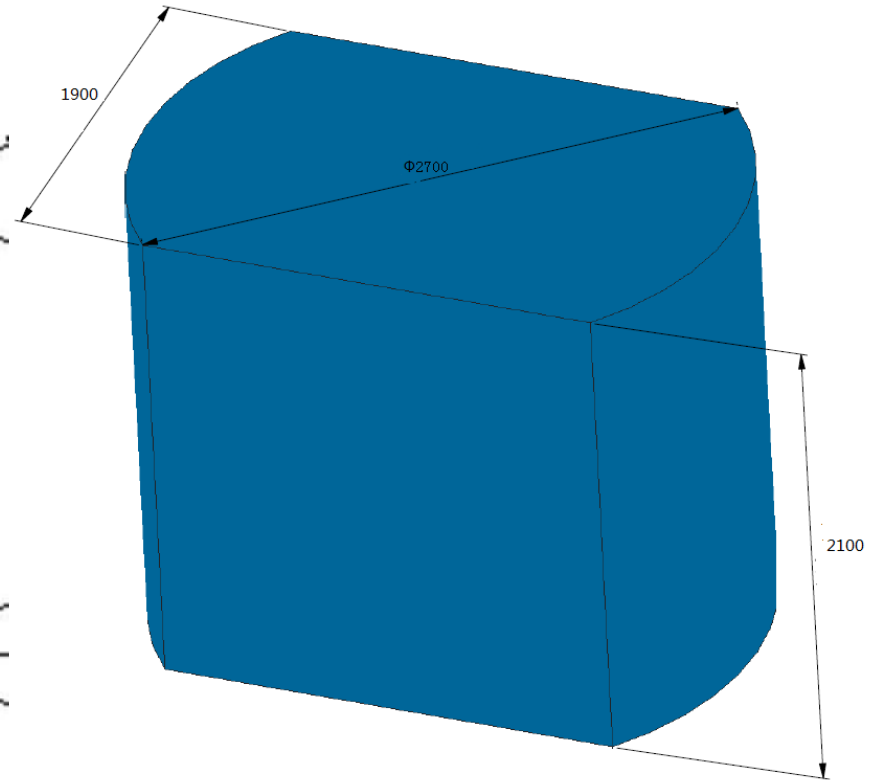
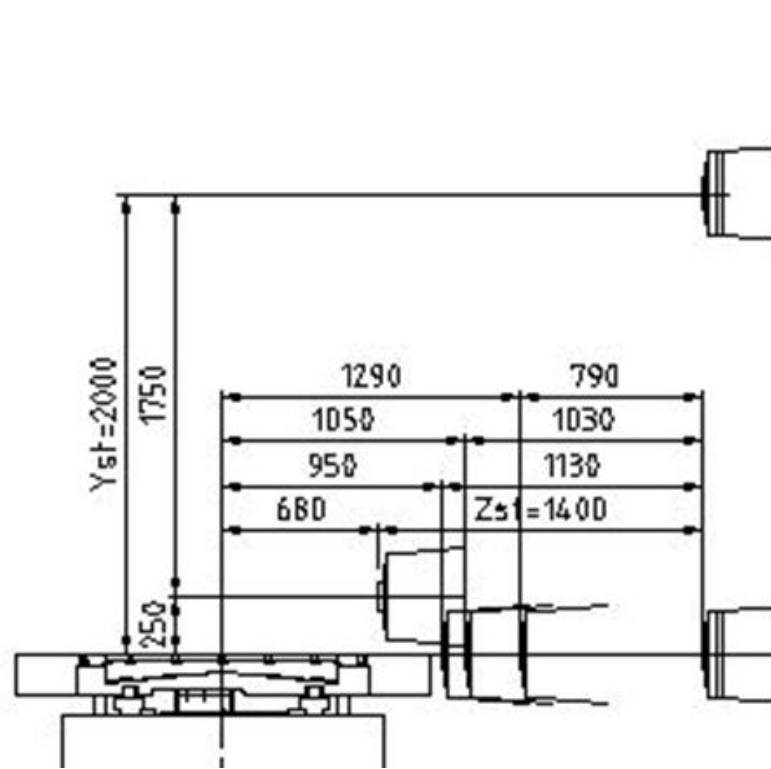
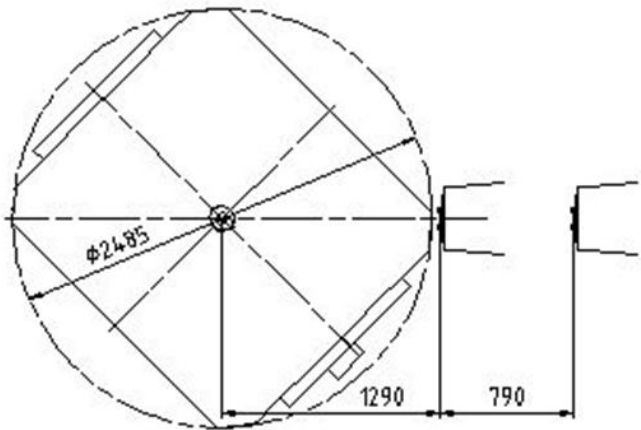
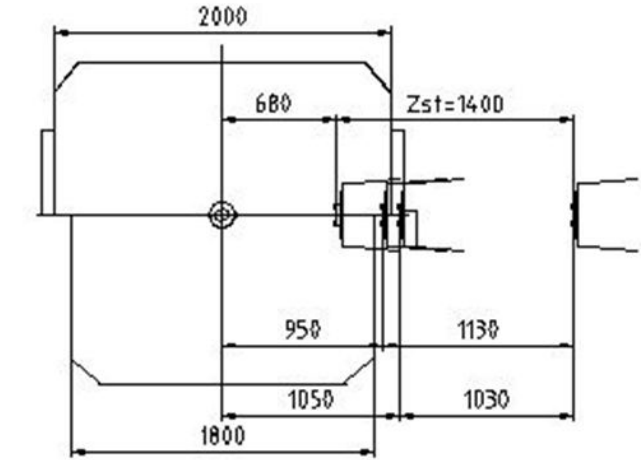
max. workpiece
rotary diameter and



Pallet size

Max. rapid feed X/Y/Z m/min	10/10/10
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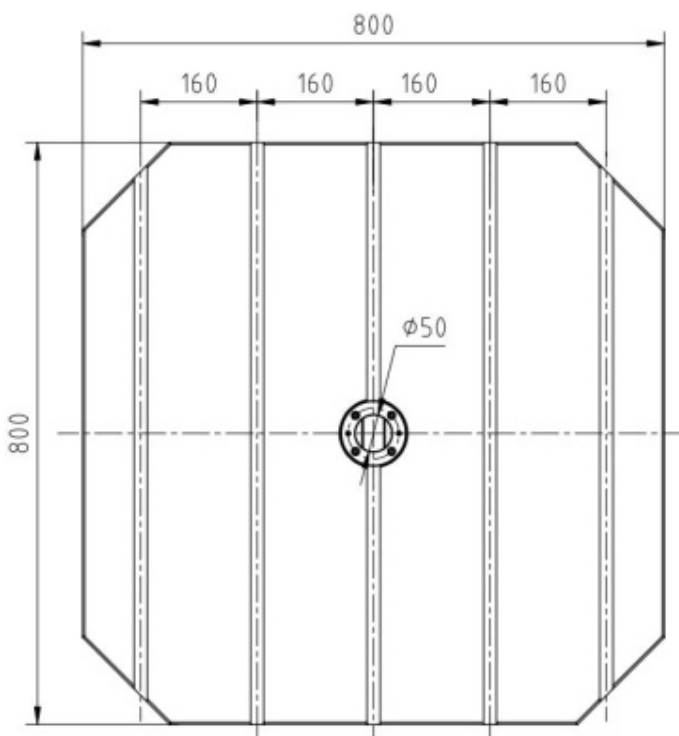
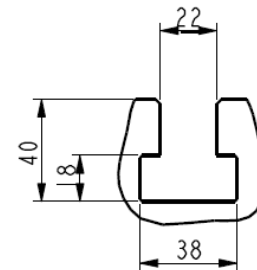
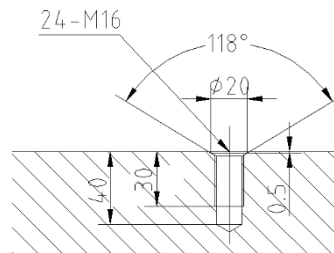
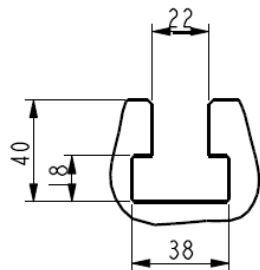
max. workpiece
rotary diameter and



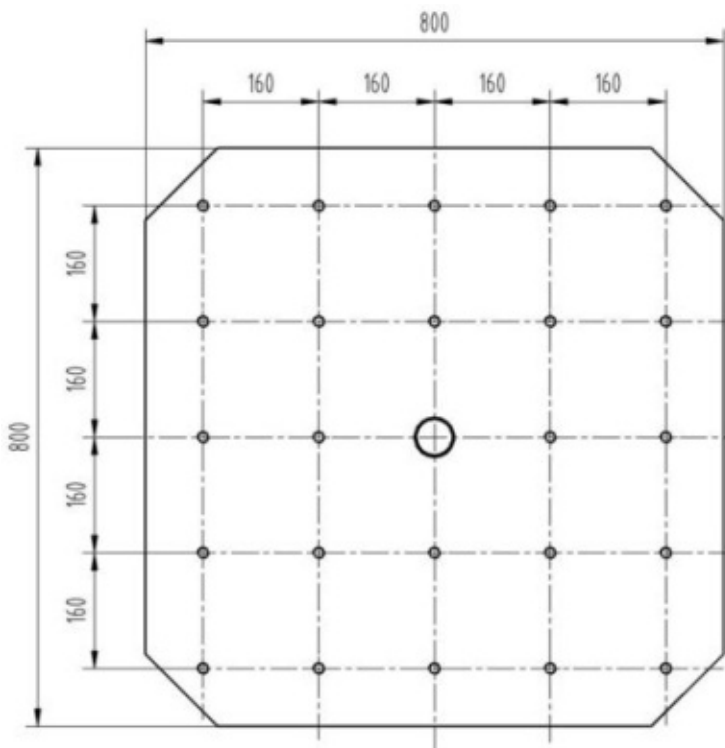
HUP160/D 20T



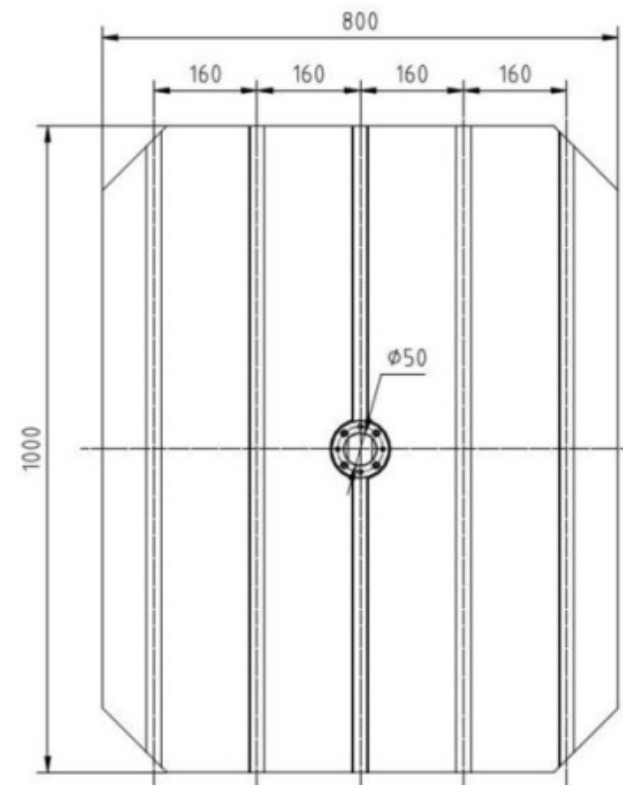
HUP80 HUP80/D Pallet



800×800 T slot(STD)



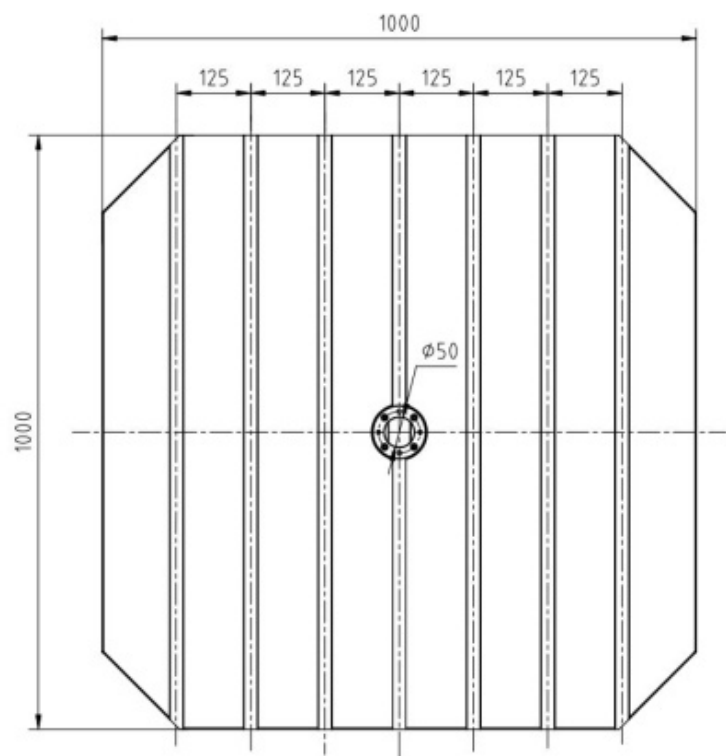
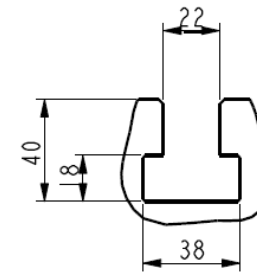
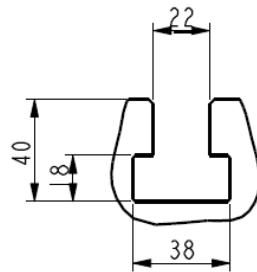
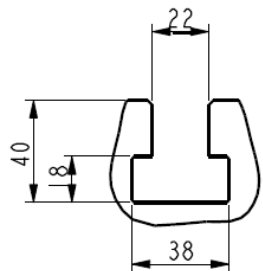
800×800 screw hole(OP)



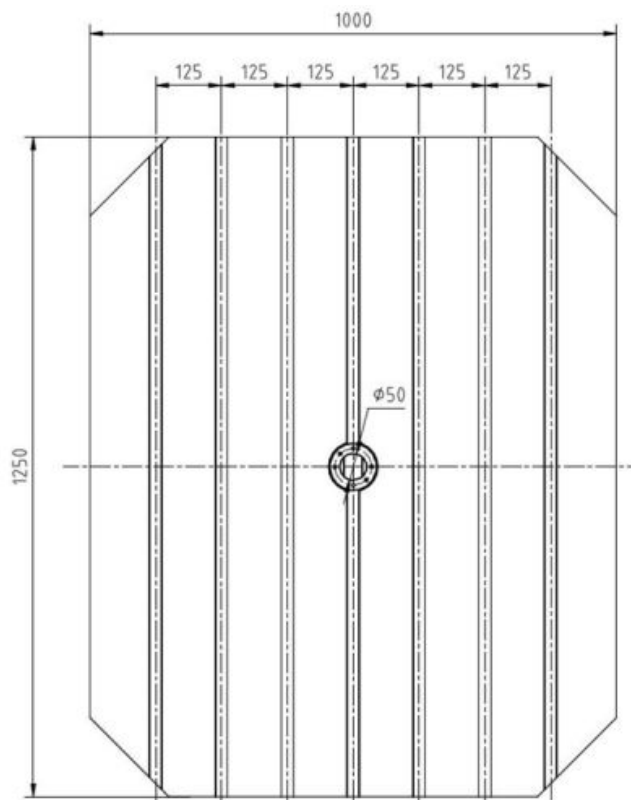
800×1000 T slot(OP)



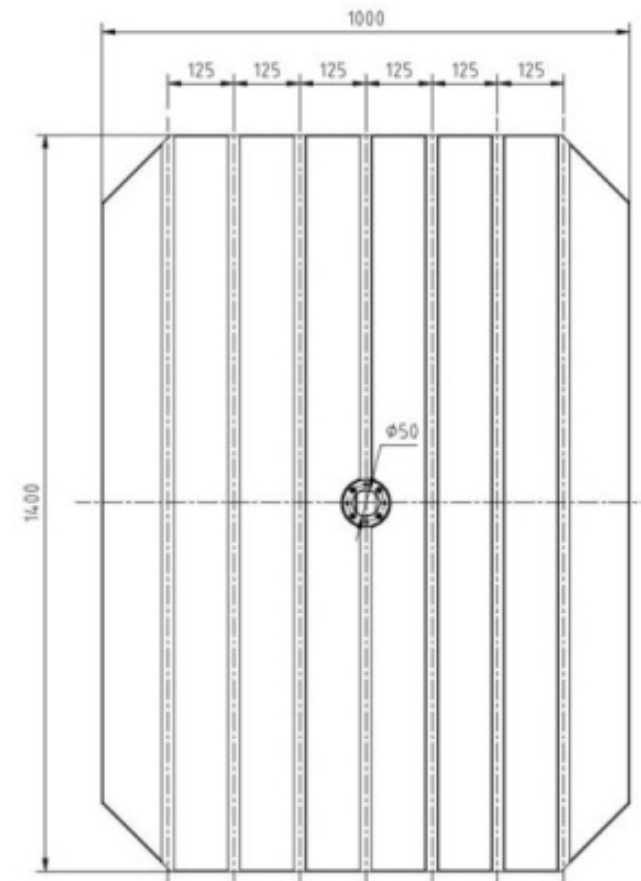
HUP100 HUP100/D Pallet



1000×1000T Slot (STD)



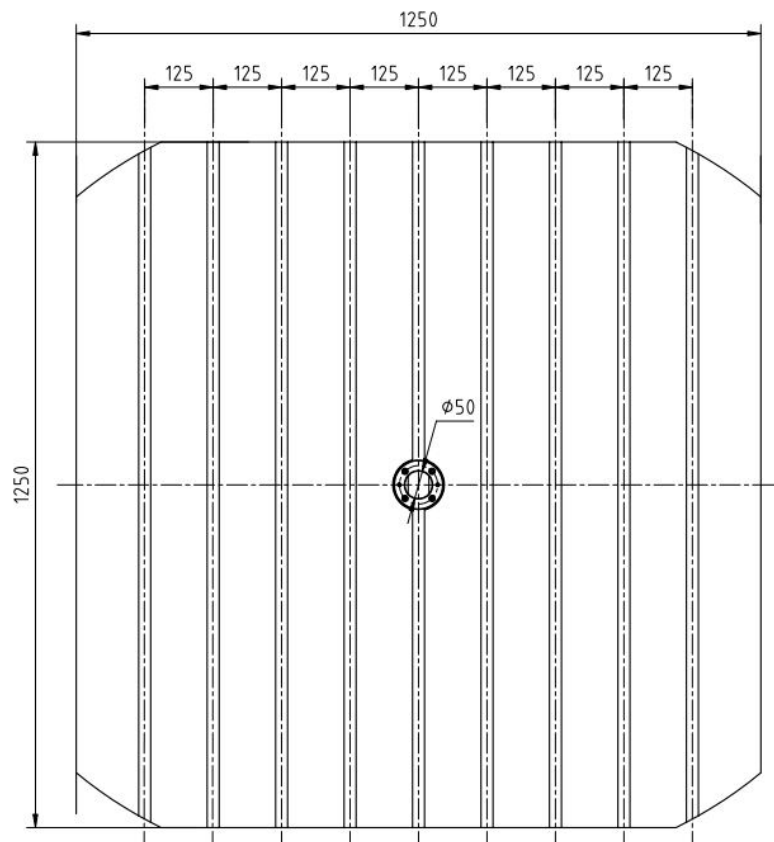
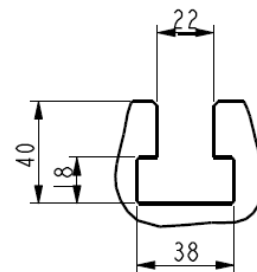
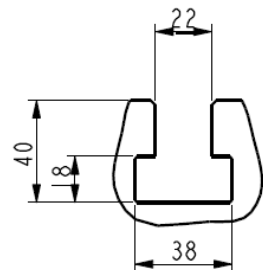
1000×1250T Slot (OP)



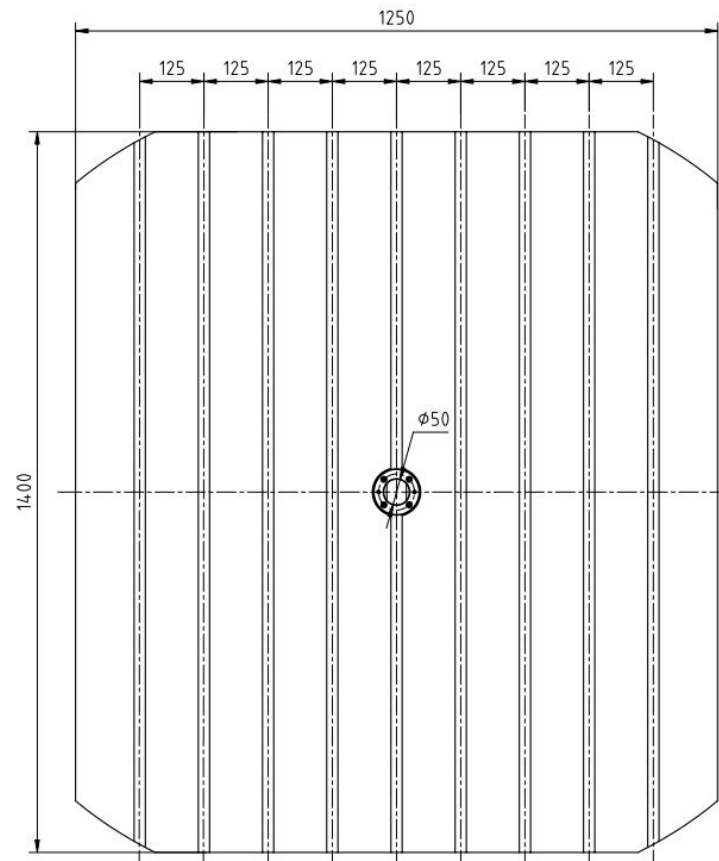
1000×1400T Slot (100H/D) (OP)



HUP125 HUP125/D Pallet



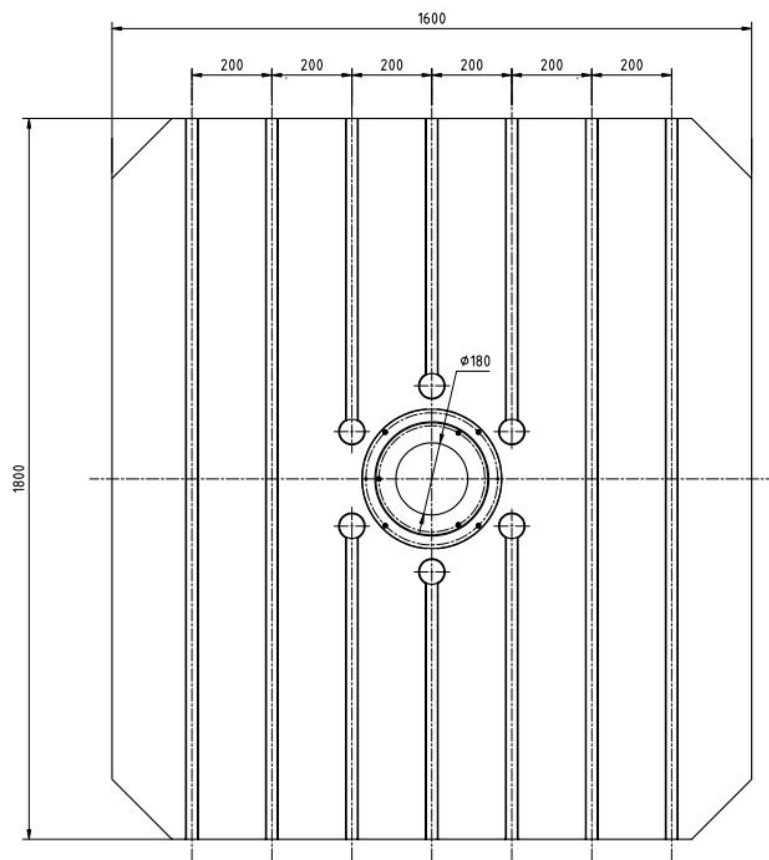
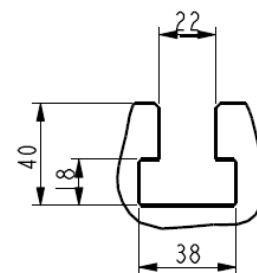
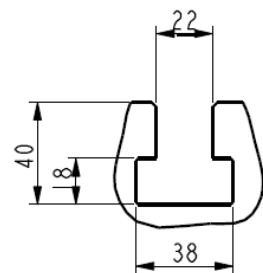
1250×1250T Slot (STD)



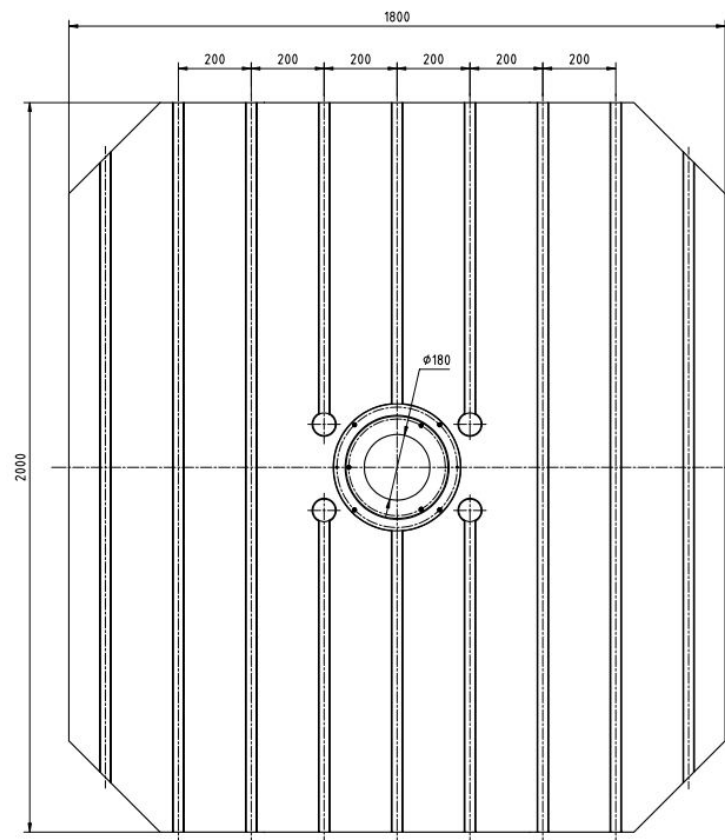
1250×1400T Slot (OP)



HUP160 HUP160/D Pallet



1600×1800T Slot (STD)



1800×2000T (20t OP)



Structure feature-Bed (one-piece)

one-piece bed,high accuracy,easy to Commissioning



HUP80 HUP80/D

Model	Axis	Size(mm)		class
		OD	pitch	
HUP80	X	50	12	C3

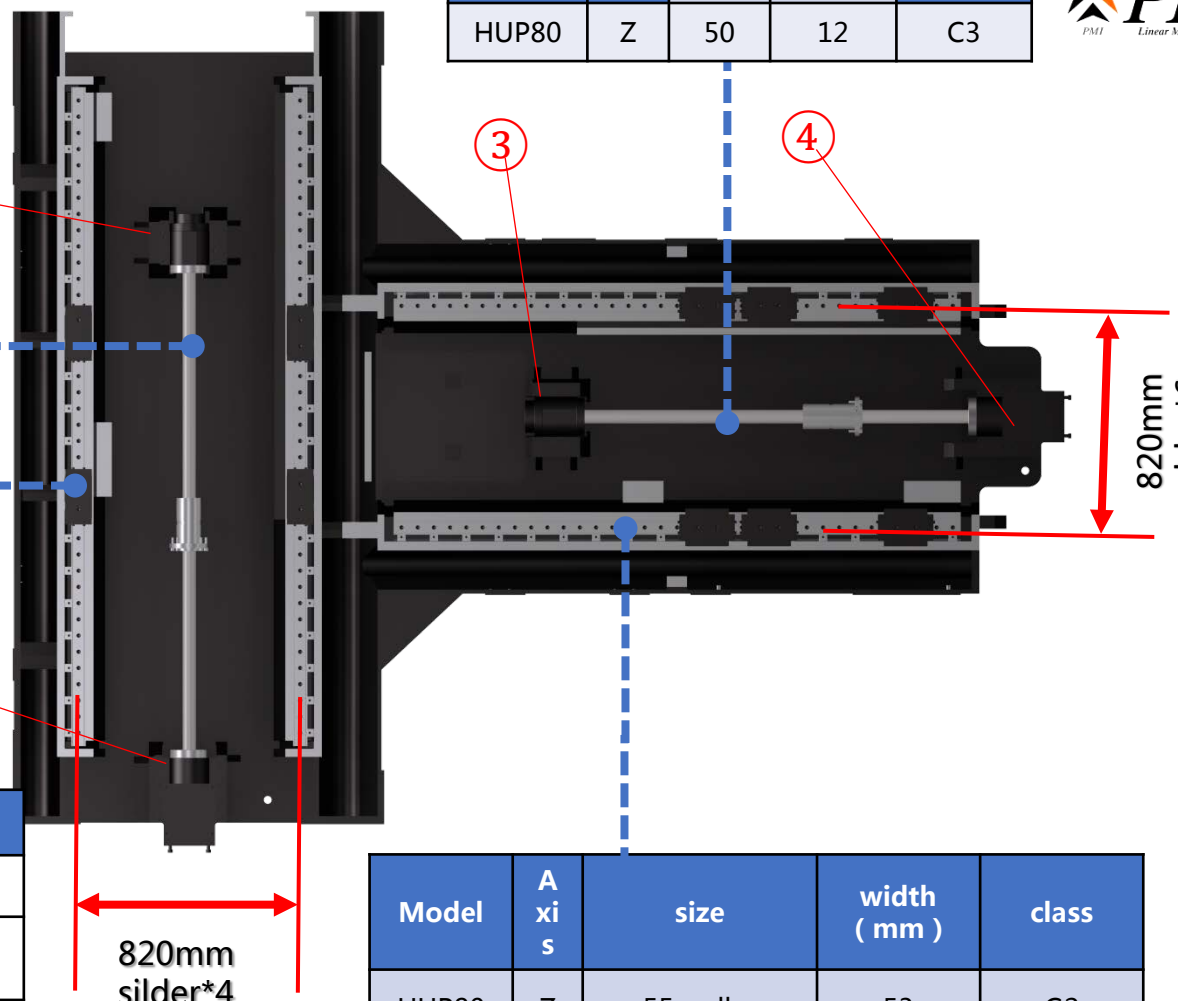
Model	Axis	size	width (mm)	class
HUP80	X	55 roller	53	G2

Bearing NSK

Bearing	①	②	③	④
Unit	4	4	4	4
ID&OD mm	Φ40*Φ90	Φ40*Φ90	Φ40*Φ90	Φ40*Φ90

Model	Axis	Size(mm)		class
		OD	pitch	
HUP80	Z	50	12	C3

Ball screw
PMI
Linear Motion Systems



Large span,
high rigidity
support

Model	Axis	size	width (mm)	class
HUP80	Z	55 roller	53	G2

Linear
Guideway
Schneberg



Structure feature-Bed (one-piece)

one-piece bed, high accuracy, easy to Commissioning



HUP100 HUP100/D

Model	Ax is	Size(mm)		class
		OD	pitch	
HUP100	Z	55	12	C3

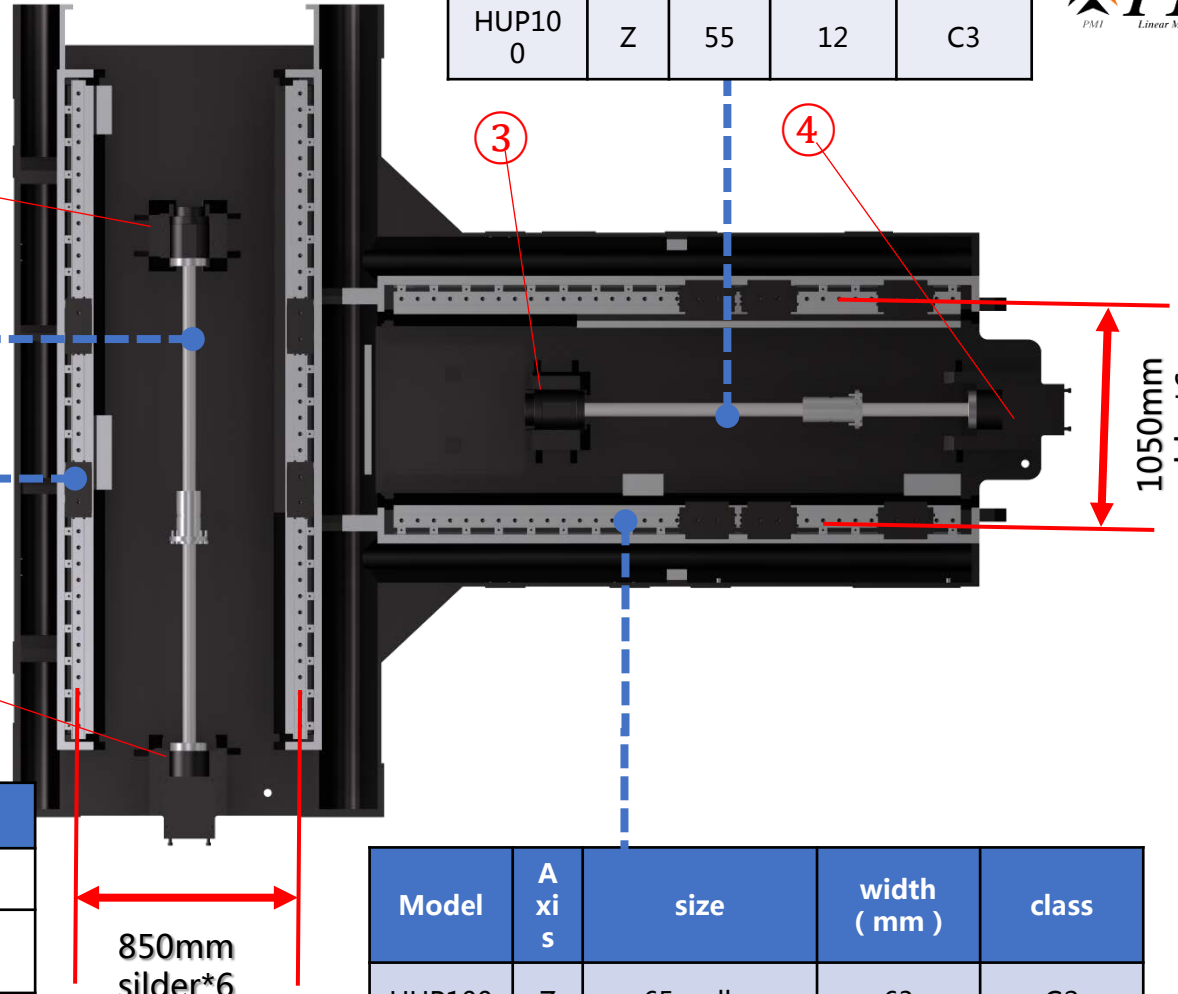
Ball screw
PMI
Linear Motion Systems

Model	Ax is	Size(mm)		class
		OD	pitch	
HUP100	X	55	12	C3

Model	Ax is	size	width (mm)	class
HUP100	X	55 roller	53	G2

Bearing
NSK

Bearing	①	②	③	④
Unit	4	4	4	4
ID&OD mm	Φ45*Φ100	Φ45*Φ100	Φ45*Φ100	Φ45*Φ100



Large span,
high rigidity
support

Model	Ax is	size	width (mm)	class
HUP100	Z	65 roller	63	G2

Linear
Guideway
Schneberg

Structure feature-Bed (one-piece)

one-piece bed, high accuracy, easy to Commissioning



HUP125 HUP125/D

Model	Axis	Size(mm)		class
		OD	pitch	
HUP125	Z	55	12	C3

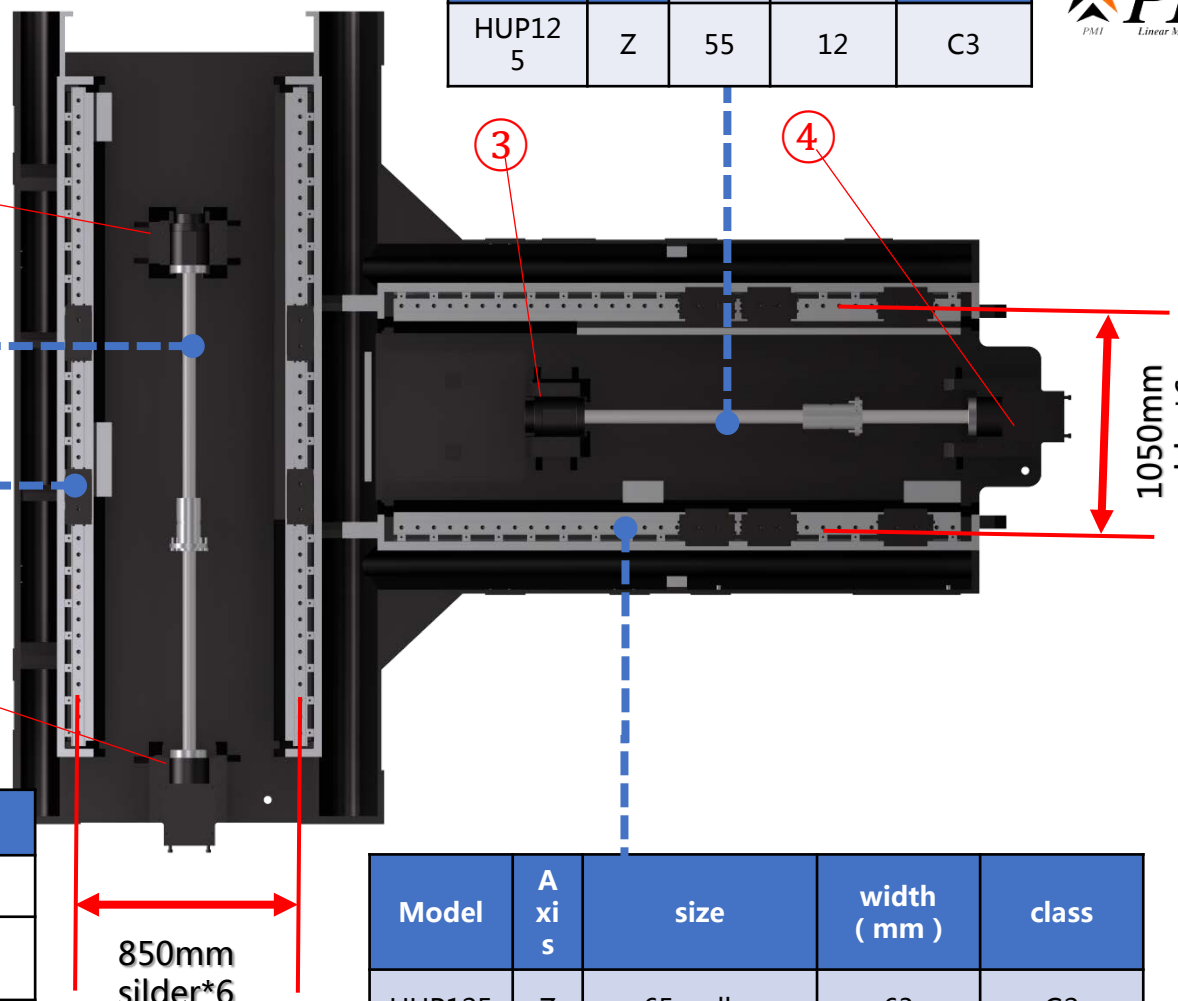
Ball screw
PMI
Linear Motion Systems

Model	Axis	Size(mm)		class
		OD	pitch	
HUP125	X	55	12	C3

Model	Axis	size	width (mm)	class
HUP125	X	55 roller	53	G2

Bearing
NSK

Bearing	①	②	③	④
Unit	4	4	4	4
ID&OD mm	Φ45*Φ100	Φ45*Φ100	Φ45*Φ100	Φ45*Φ100



Large span,
high rigidity
support

Model	Axis	size	width (mm)	class
HUP125	Z	65 roller	63	G2

Linear
Guideway
Schneberg

Structure feature-Bed (Two-piece)



HUP160 HUP160/D

model	axis	size(mm)		class
		OD	Pitch	
HUP160	X	55	16	C3

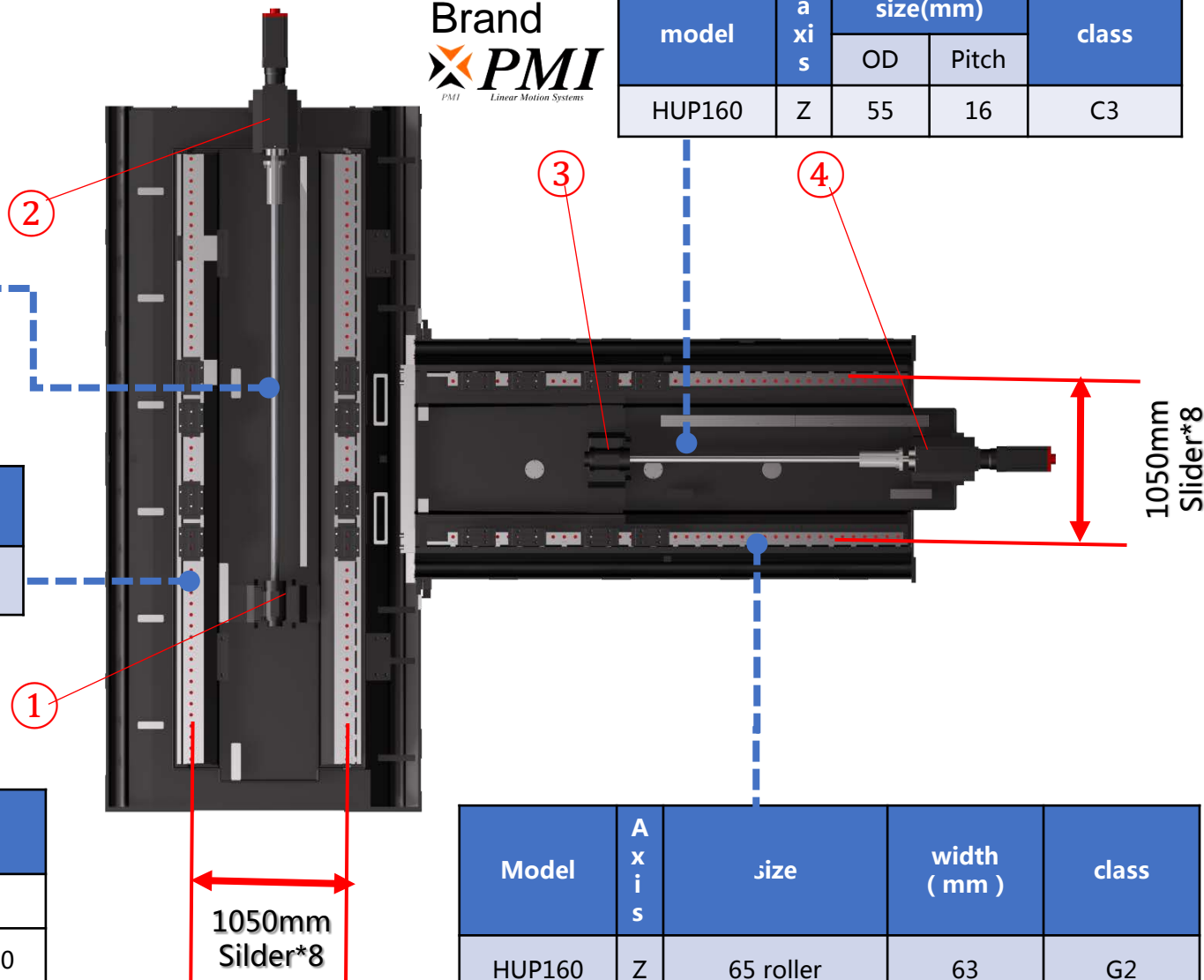
机型	轴	线轨规格	width (mm)	Class
HUP160	X	65 roller	63	G2

Brand
NSK

bearing	①	②	③	④
No.	4	4	4	4
OD&I Dmm	Φ45*Φ100	Φ50*Φ100	Φ45*Φ100	Φ50*Φ100

Brand
PMI
Linear Motion Systems

model	axis	size(mm)		class
		OD	Pitch	
HUP160	Z	55	16	C3



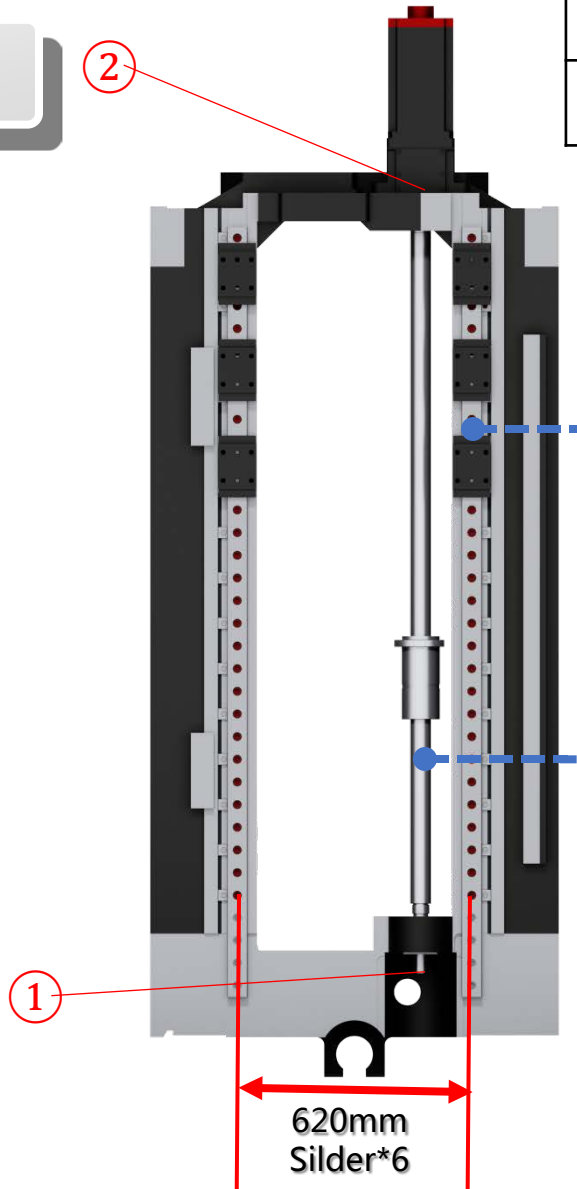
Model	Axis	size	width (mm)	class
HUP160	Z	65 roller	63	G2

Linear
Guideway
Schneberg

Structure feature-Column



HUP80 HUP80/D



bearing	①	②
Unit	4	3
ID&OD mm	Φ40*Φ72	Φ45*Φ100

Bearing
NSK

Model	Axi s	size	width (mm)	class
HUP80	Y	55 roller	53	G2

Linear
Guideway
Schneberg

Model	Axi s	Size(mm)		class
		OD	pitc h	
HUP80	Y	50	12	C3

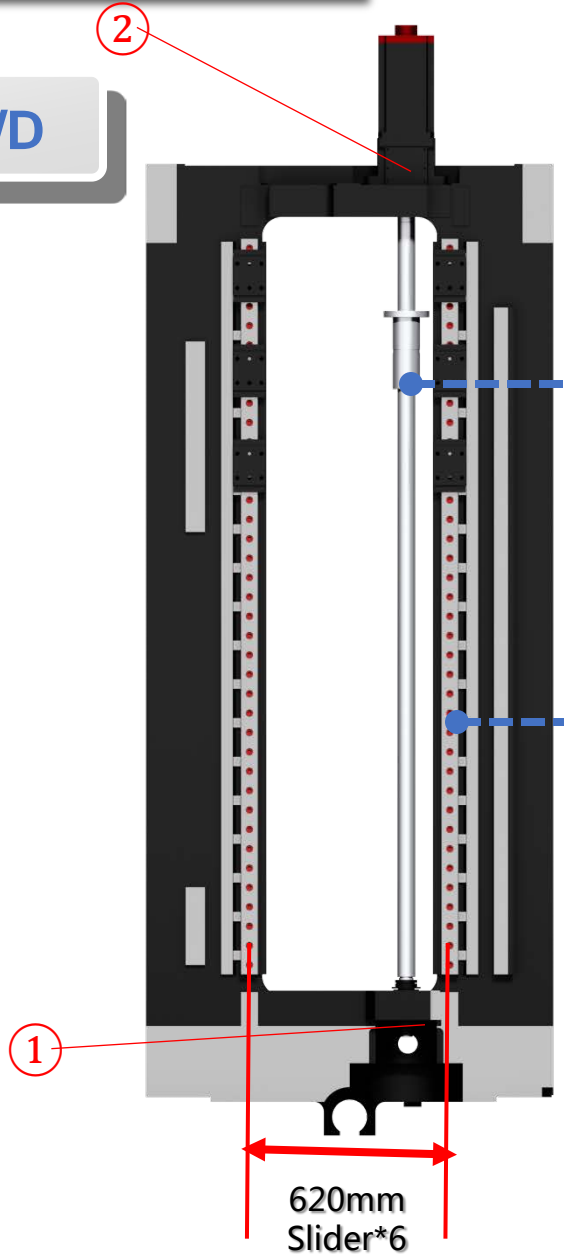
Ball screw
PMI
PMI Linear Motion Systems

Gantry type coulmn, Suppressing thermal deformation



Structure feature-Column

HUP100 HUP100/D



bearing	①	②
Unit	4	3
ID&O Dmm	Φ40*Φ72	Φ45*Φ100

Bearing
NSK



Model	A x i s	size	width (mm)	class
HUP100	Y	55 roller	53	G2

Linear
Guideway
Schneberg

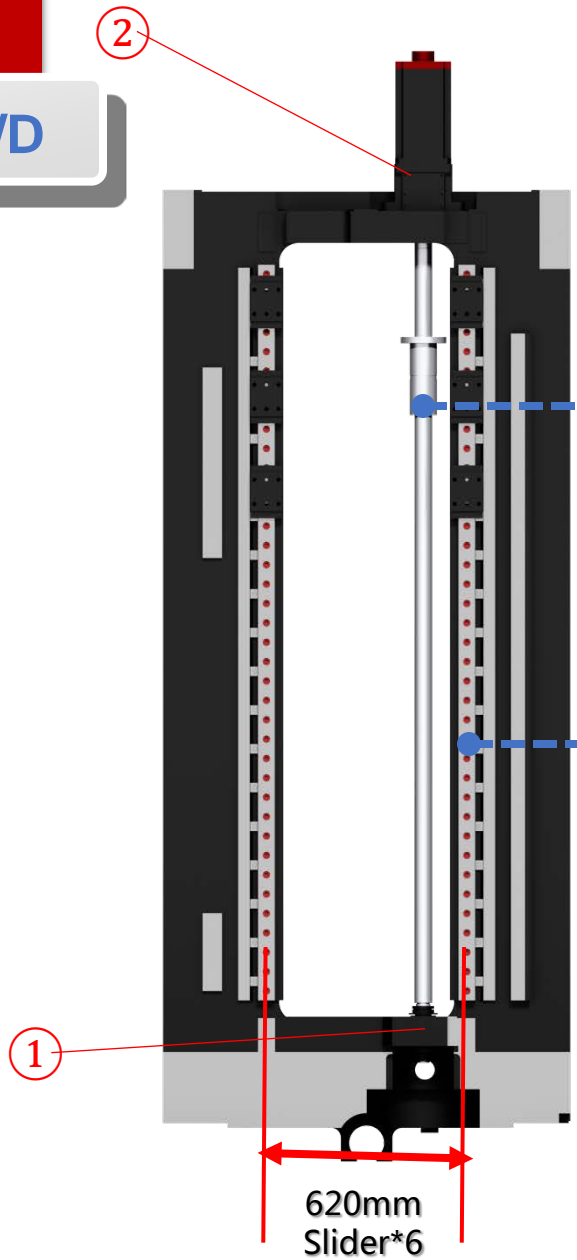
Model	A x i s	Size(mm)		class
		OD	pitch	
HUP100	Y	55	12	C3

Ball screw
PMI
PMI Linear Motion Systems



Structure feature-Column

HUP125 HUP125/D



bearing	①	②
Unit	4	3
ID&ODmm	Φ40*Φ72	Φ45*Φ100

Bearing
NSK



Model	A x i s	size	width (mm)	class
HUP125	Y	55 roller	53	G2

Linear
Guideway
Schneberg

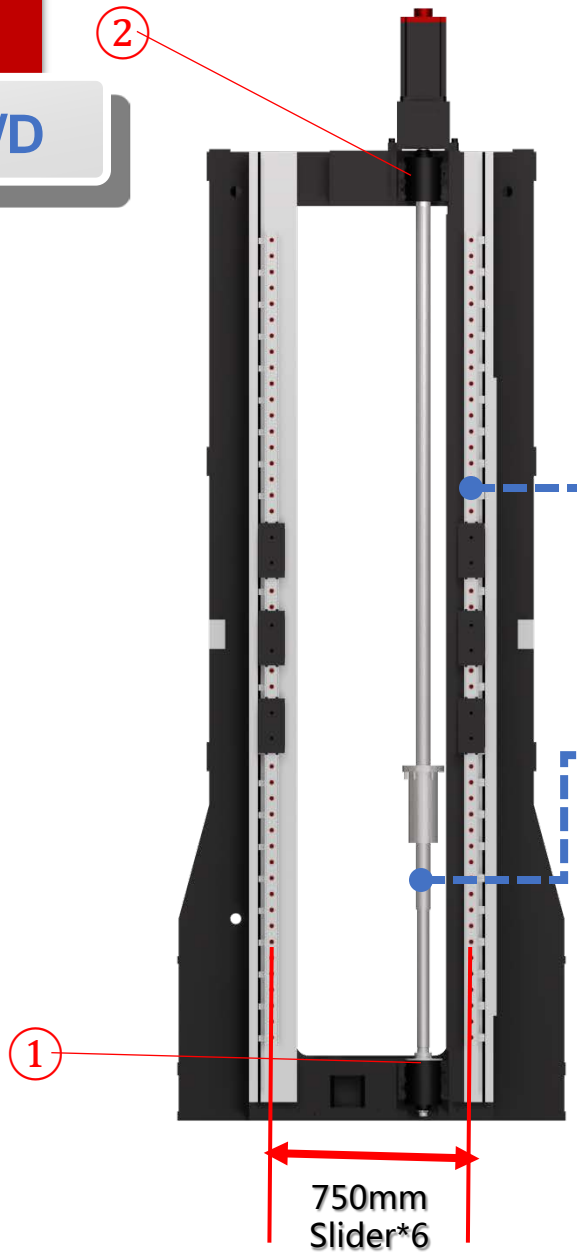
Model	A x i s	Size(mm)		class
		OD	pitch	
HUP125	Y	55	12	C3

Ball screw
PMI
PMI Linear Motion Systems



Structure feature-Column

HUP160 HUP160/D



bearing	①	②
Unit	4	3
ID&ODmm	φ40*φ90	φ50*φ100

Bearing
NSK



Model	A x i s	size	width (mm)	class
HUP160	Y	55 roller	53	G2

Linear
Guideway
Schneberg

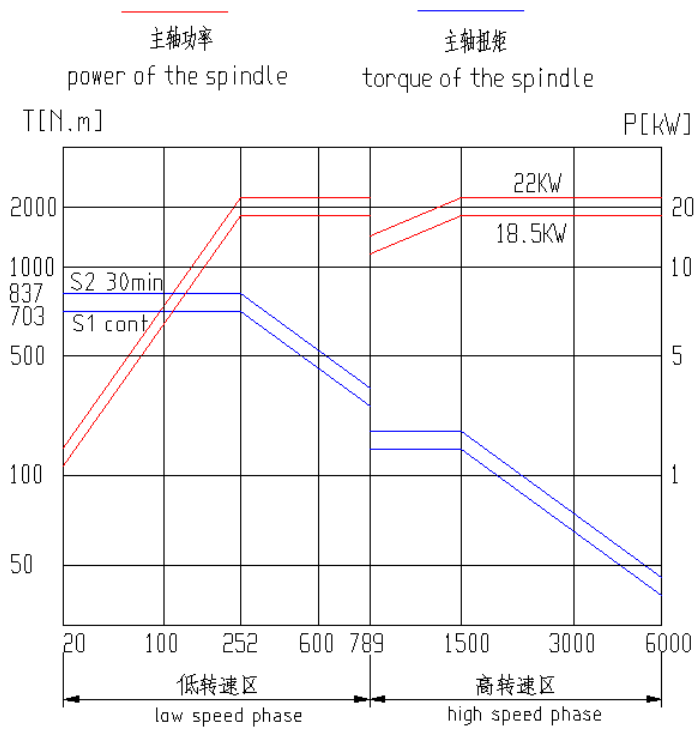
Model	A x i s	Size(mm)		class
		OD	pitch	
HUP160	Y	55	16	C3

Ball screw
PMI
Linear Motion Systems

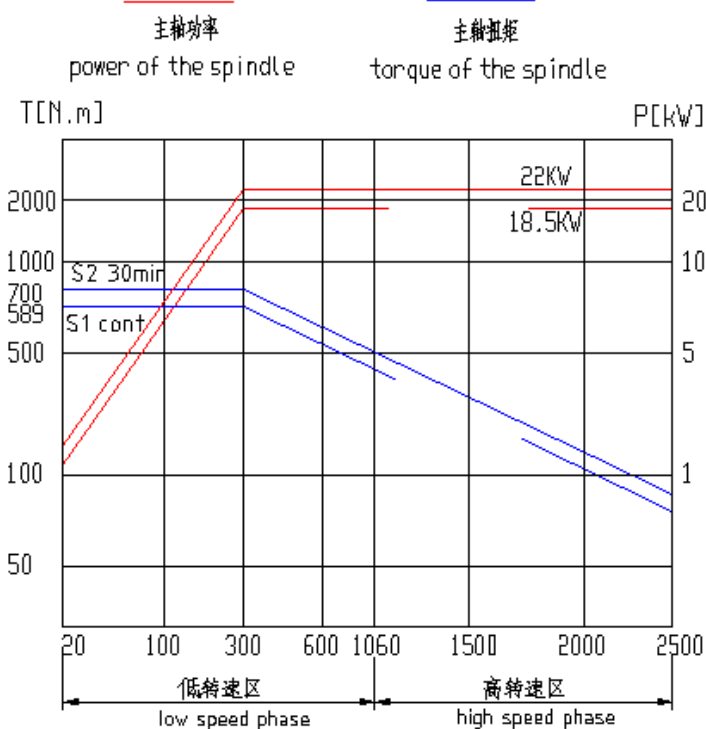
750mm
Slider*6



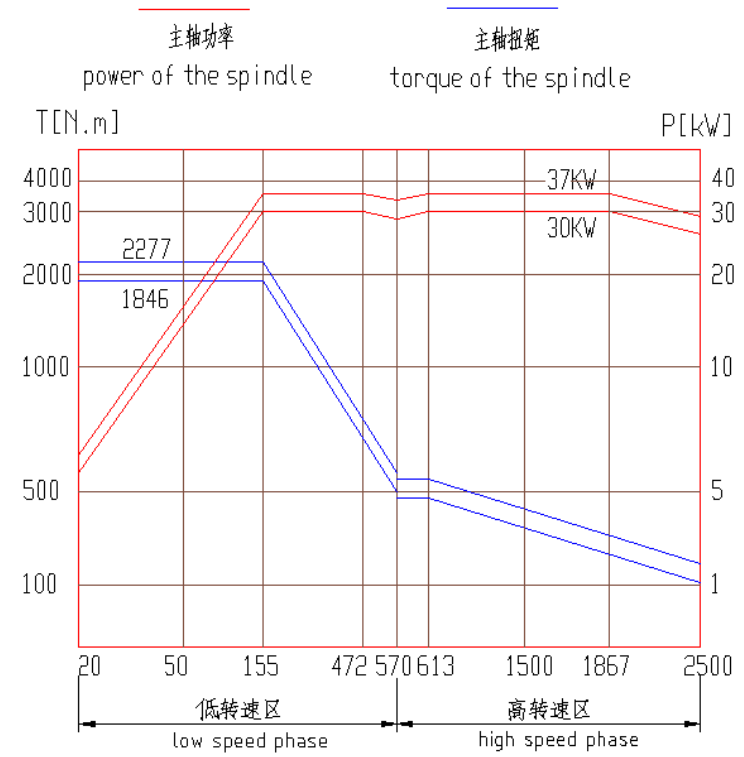
Power-torque



HUP80/100/125



HUP80/100/125 With W axis

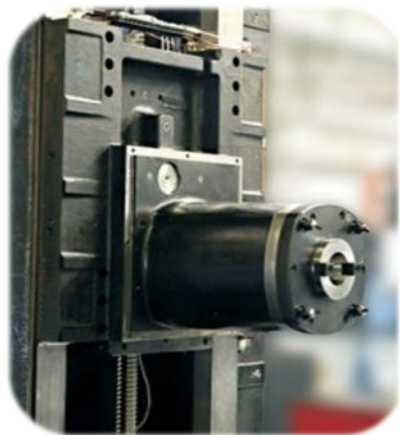


HUP160

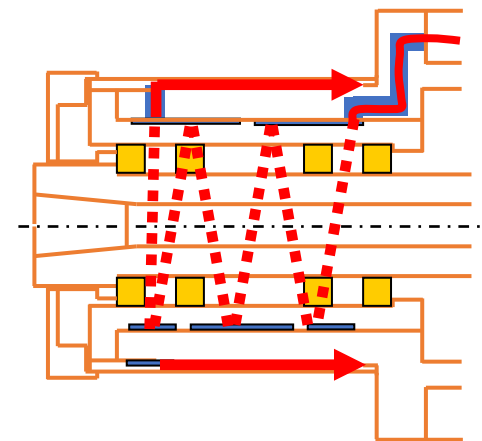


Structural features-headstock

The integrated casting headstock is equipped with a circulating cooling device, which can quickly remove heat from gears and bearings with minimal thermal deformation. The headstock adopts oil air lubrication (except for HUP160 which is lubricated with grease) and short roller bearings.

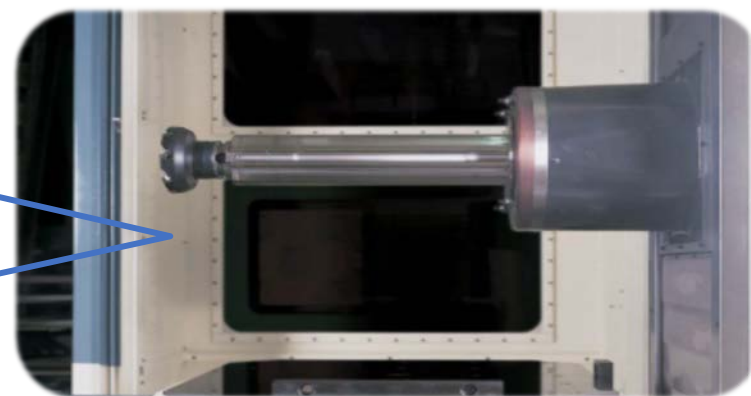


headstock



Circulating cooling

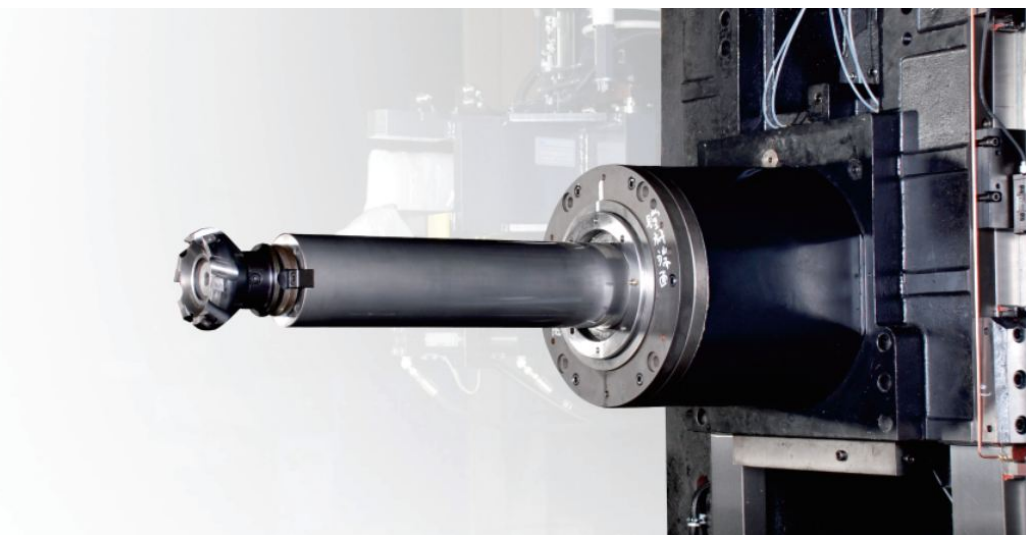
Bigger bearing size, W axis in option, Y axis adopts balancing cylinder to reduce loading on Y ball screw.



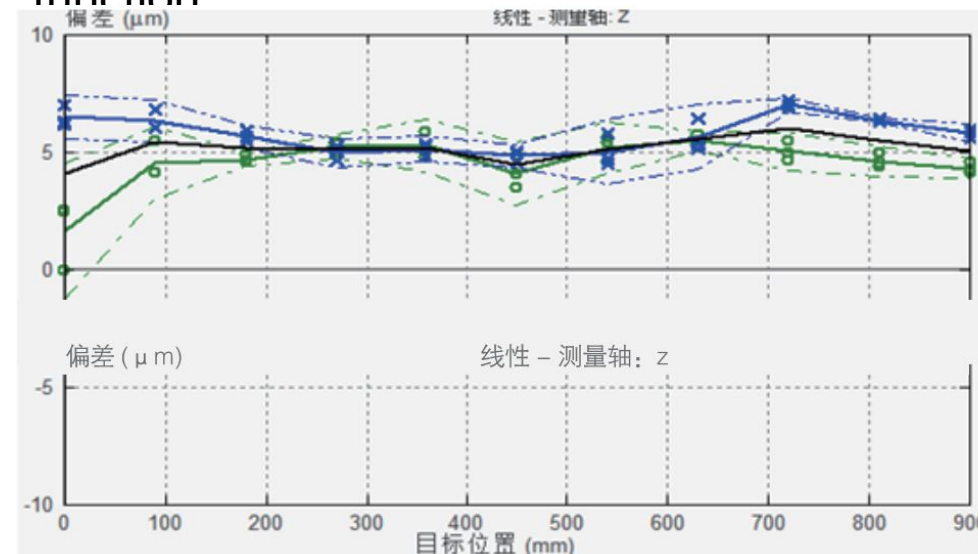
Structure feature-spindle option



W axis in option



Spindle thermal elongation compensation function

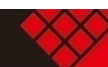


telescopical boring bar function is a powerful complement to the traditional horizontal machining center.

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

Model	HUP80	HUP100	HUP125	HUP160
W axis dia.	φ130	φ130	φ130	φ130
travel	535	535	535	700

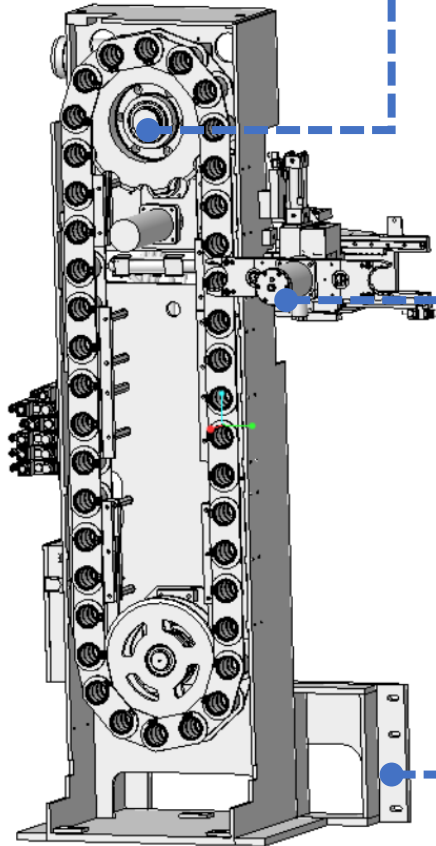
Model	HUP80	HUP100	HUP125	HUP160
W axis center to table mm	60-910	70-1470	70-1470	120-2120
W axis nose to table center mm	260-1260	300-1650	350-1700	580-2080



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	HUP80	HUP100	HUP125	HUP160
Change time(T-T)	7.5s	8.5s		
options	60T,90T,120T			
Change time(C-C)	16	16	18	20



Structure feature-Table

Pallet is positioned by 8 taper pins.



positioning (")	Repeatability (")	Speed (r/min)		Evenly loading (t)	
		Model	Speed	Model	Load
8	4	HUP80	6rpm	HUP80	2
		HUP100	3rpm	HUP100	3
		HUP125	3rpm	HUP125	3

0.5Mpa compressed air inject from taper pins when pallets changing for cleaning contact surface.

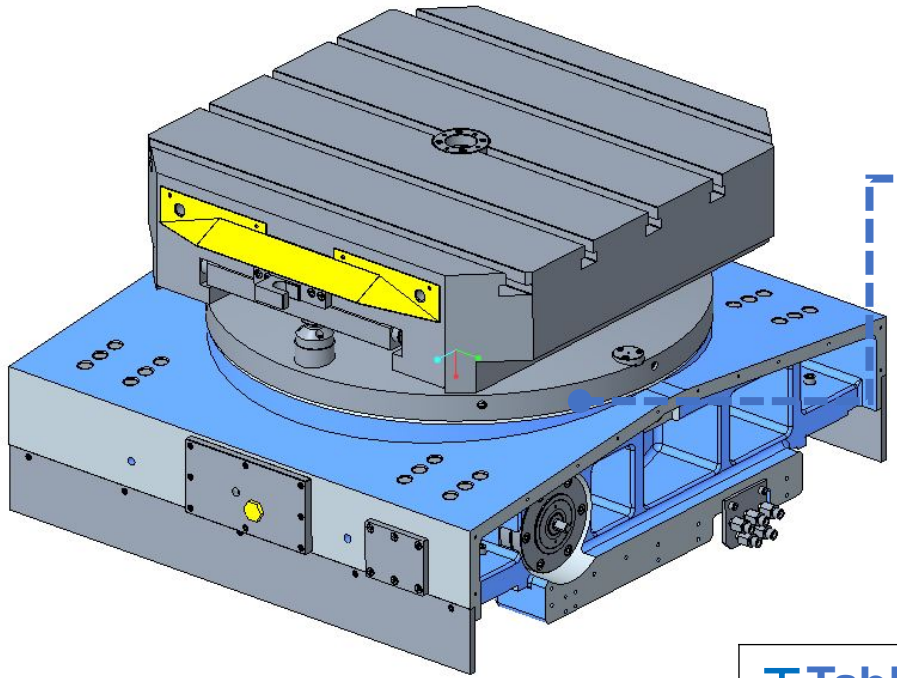
AC servo control, makes dual direction indexing faster; big diameter curvic coupling ensures excellent table positioning, hydraulic clamping force:9t (HUP80) , 12t (HUP100) , 12t (HUP125)



Options—NC Table



- Indexing 0.001°
- High rigidity and high load capacity
- High rotation accuracy

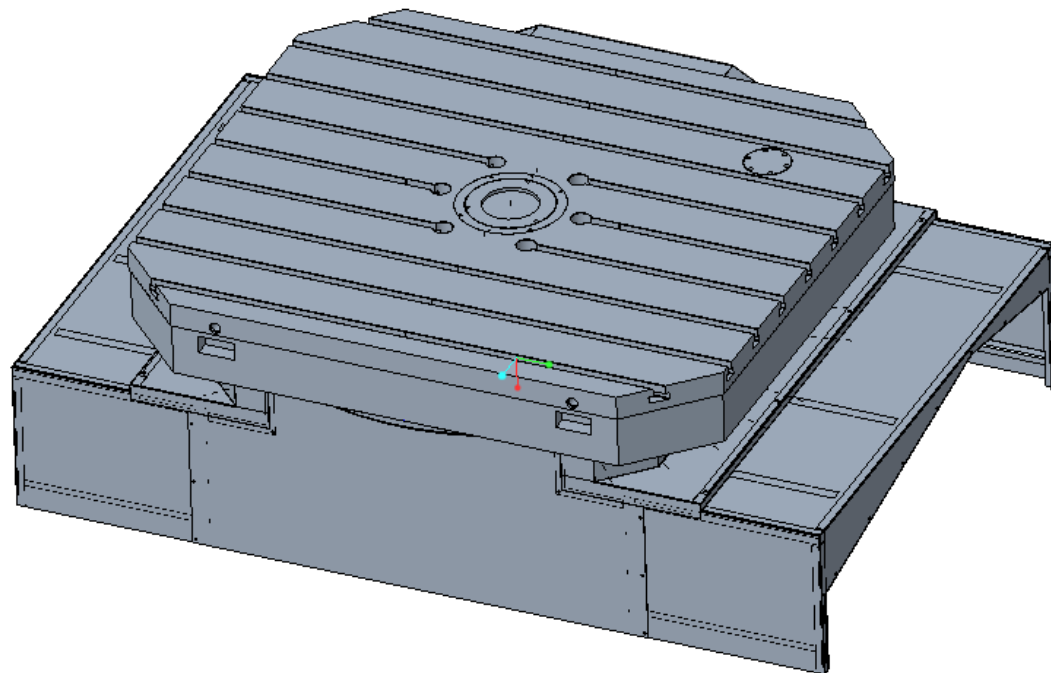


YRTM bearing with angle measurement device

Table is driven by servo motor through worm gear, hydraulic clamp and dual layer friction plate positioning with good repeatability, hydraulic clamping force: 17t (HUP80) ,26.7t (HUP100) ,26.7t (HUP125)

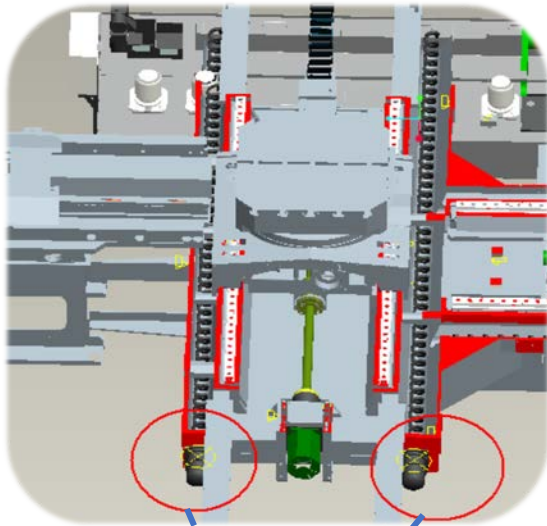
positioning g (")	Repeatability y (")	Speed (r/min)		Evenly loading (t)	
10	6	HUP80	6rpm	HUP80	2
		HUP100	3rpm	HUP100	3 (op5)
		HUP125	3rpm	HUP125	3 (op5)

OP—20T NC Rotary table(HUP160/D)



The rotation between the table and the base is driven by a servo motor, which is driven by a large gear ratio reduction box, double gears eliminate clearance, and hydraulic clamping to ensure the cutting rigidity and precise positioning of the table.

positioning (")	Repeatability (")	Speed (r/min)	Evenly loading (t)
10	6	2rpm	20



Two-way spiral chip conveyor can discharge iron chips in time



Large angle guideway cover to avoid iron filings





Ball screw-in Z & X axes



Dual-nut ball screw

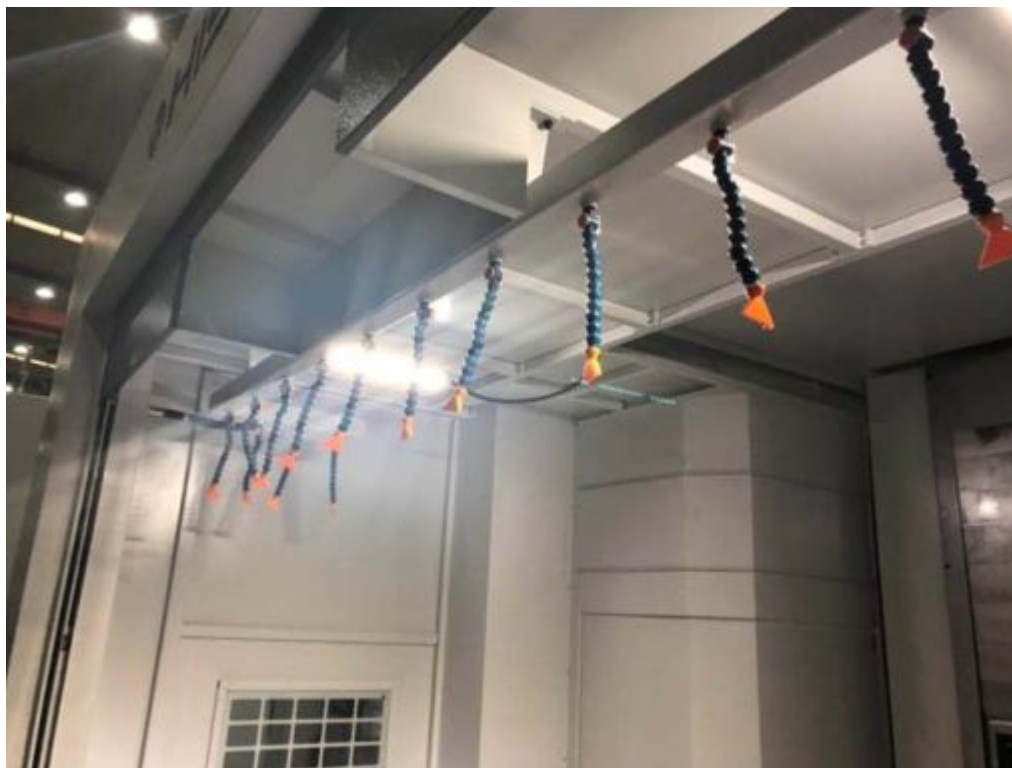


Structural features-reasonable layout

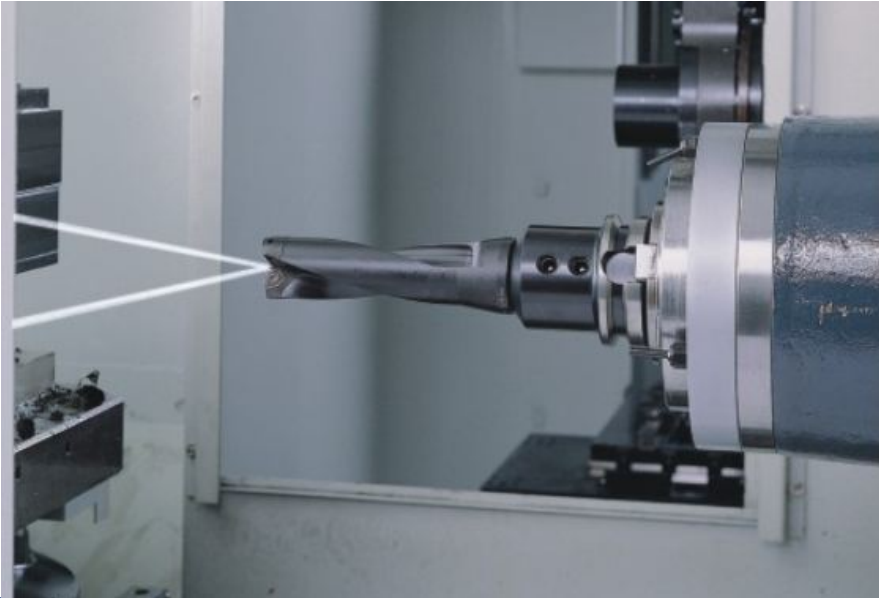
Three-door electric cabinet, reasonable electrical components layout



Swing type operation box, easy to operate



The coolant is sprayed from machine top for workpiece strongly cooling. And take away chips from corner.



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.



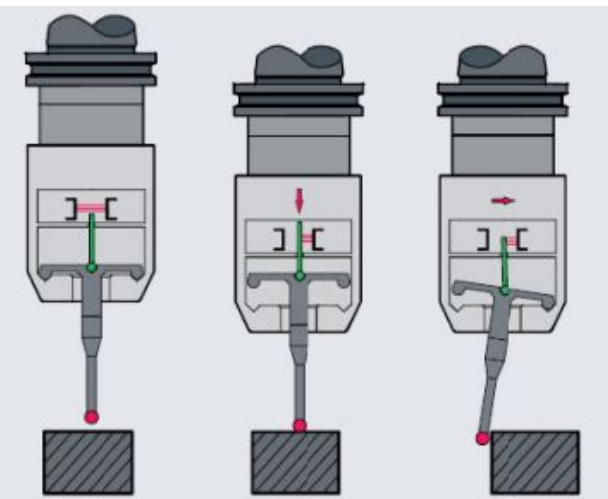
2mpa



5-6mpa

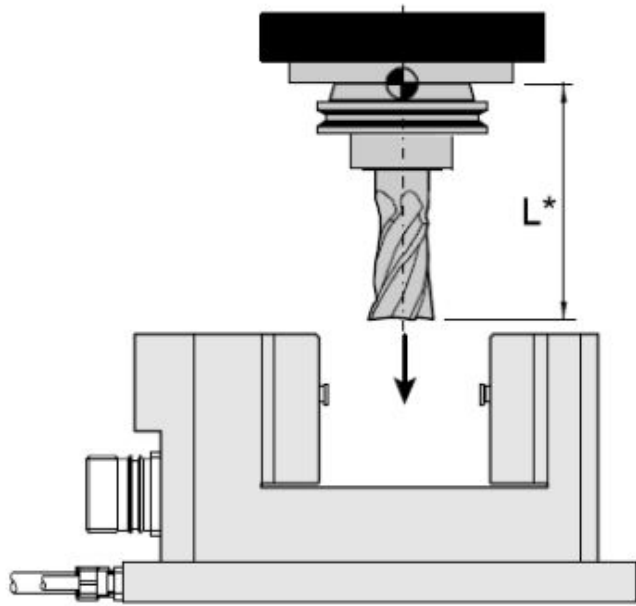
Option—Workpiece probe

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.



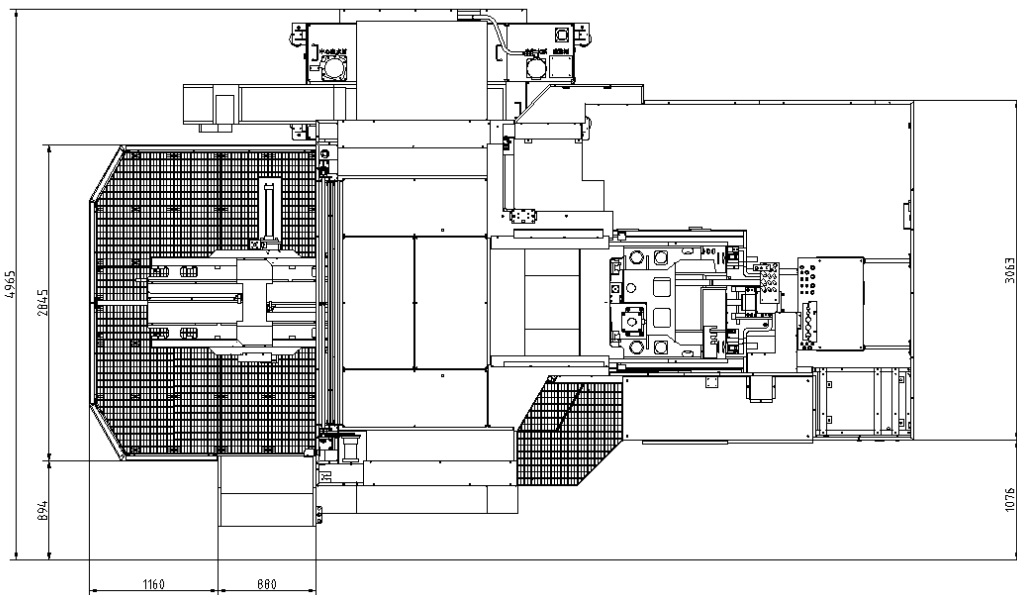
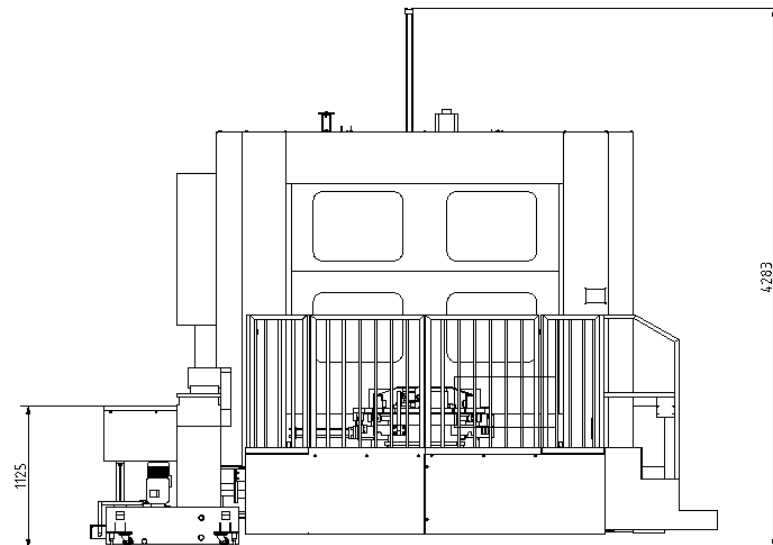
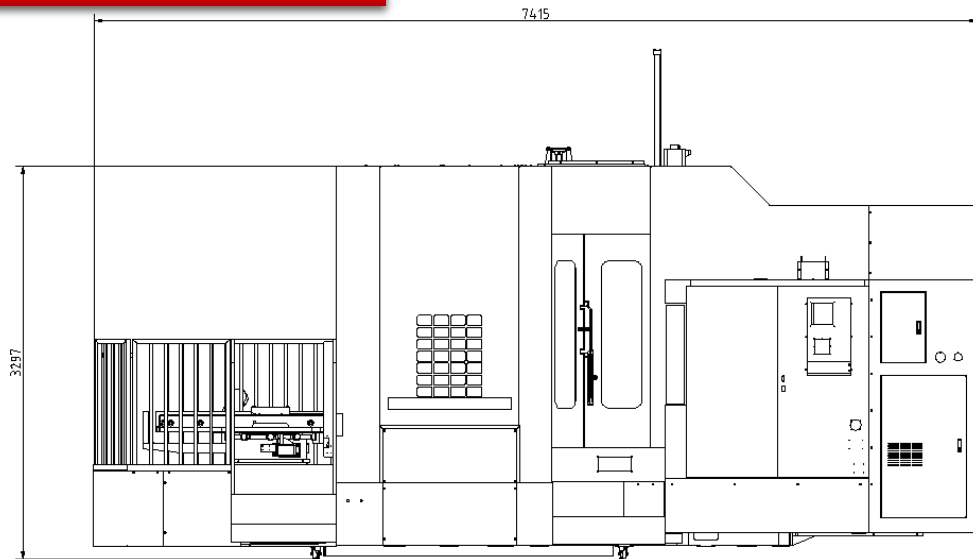
■ Standard :

- Controller : FANUC 0i。
- 40T ATC (BT50) 。
- Full enclosure splash guard
- External chain type chip conveyor
- Spindle oil chiller
- Spindle air blow
- Auto power off
- Self-diagnostic function
- 3-color signal lamp

■ Options :

- Controller:FANUC 31i、 FANUC 0i(22/26kw) 。
- Controller:SIEMENS828D、 SIEMENS840Ds1。
- Air conditioner
- Stabilizer (100KVA)
- BT50 Spindle(45°pull stud), JT50Spindle, BT50Spindle((exclude 6000rpm 63H 、 63H/D、 HUP160/D)
- W axis(exclude 63H、 63H/D)
- BT50 pul stud(45 ° , 60 °)、 JT50 pull stud
- X\Y\Z three axes optical scale(Heidenhain/Fagor)
- Screw table (HUP80)
- Bigger table with T slot
- NC rotary table (0.001° index) 。
- X/Y axes stainless steel guideways cover
- ATC (60T、 90T、 120T)。
- X、 Zaxis stroke extend (HUP160/D)
- Y axis stroke extend
- 20T NC rotary table
- Workpiece probe: BLUM/ Renishaw
- Tool setter: BLUM/ Renishaw
- CTS (2mpa、 3-4mpa、 5-6mpa)
- Shower coolant
- Workpiece air& water gun
- Oil skimmer
- Oil mist collector

HUP80 Dimensions

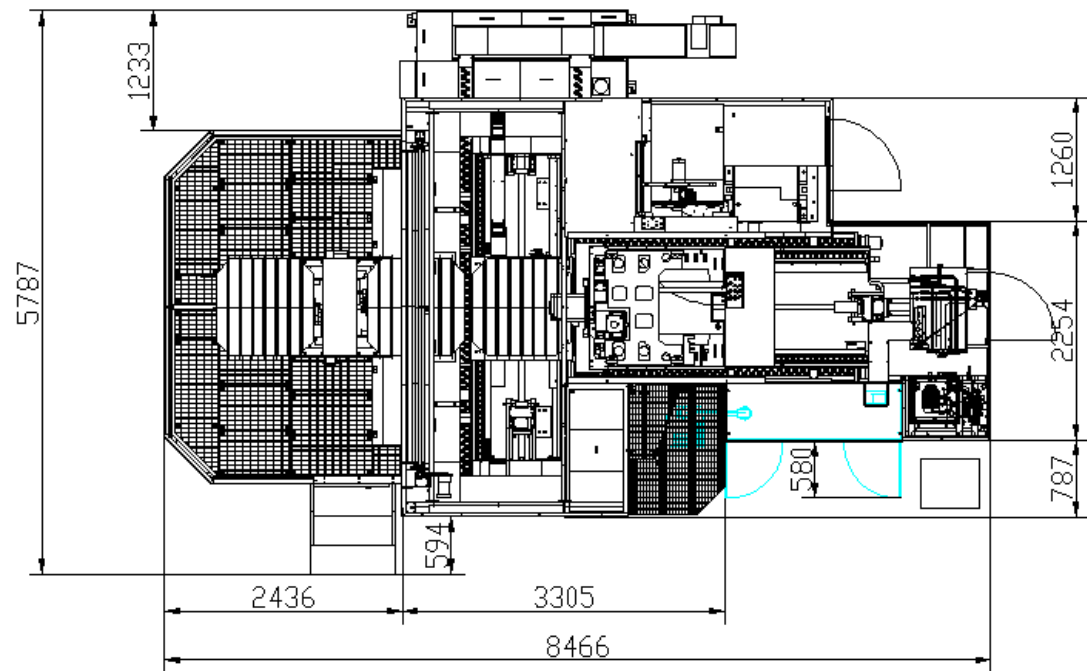
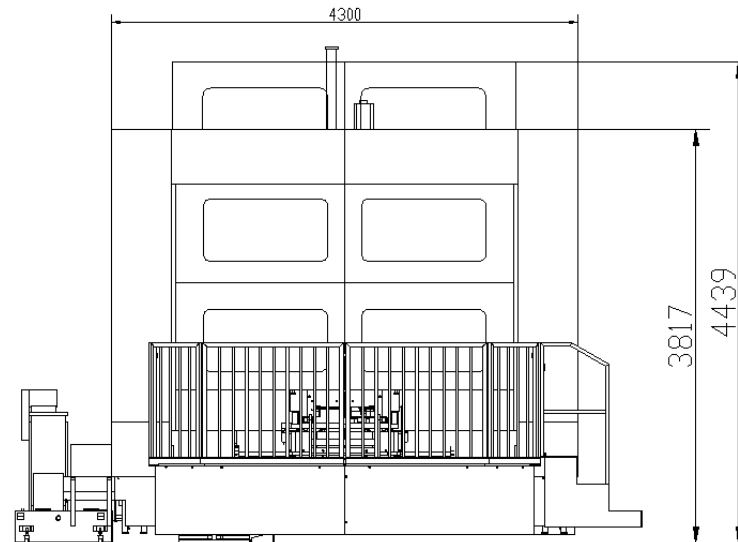
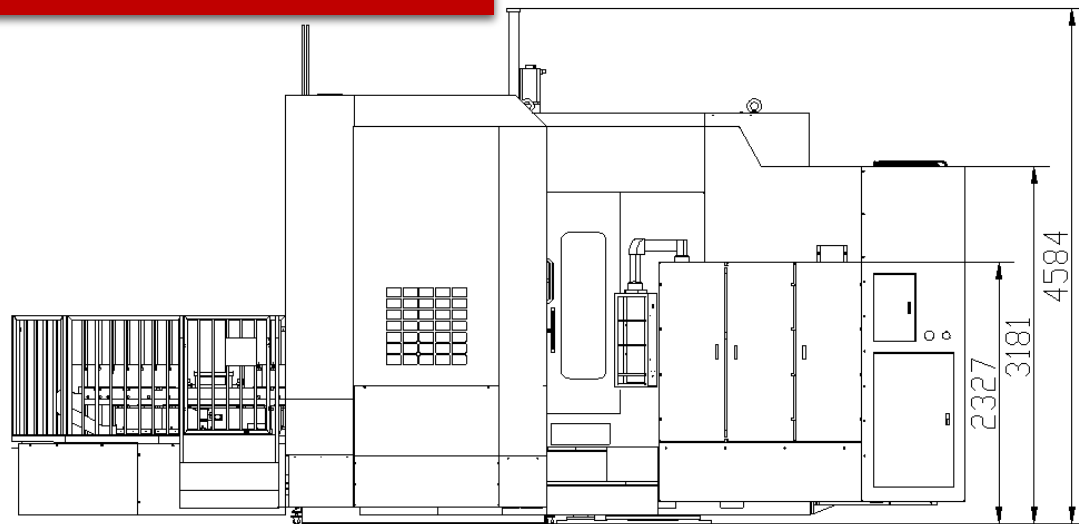


tank removal direction

Tank capacity 680L
Flow 66L/min



HUP100 Dimensions

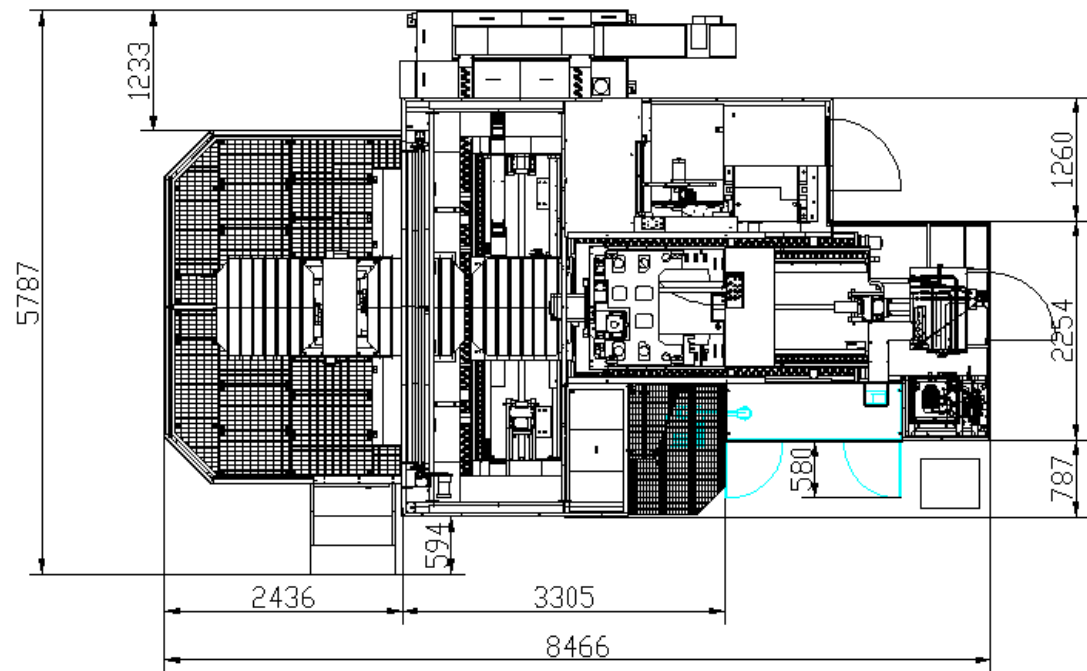
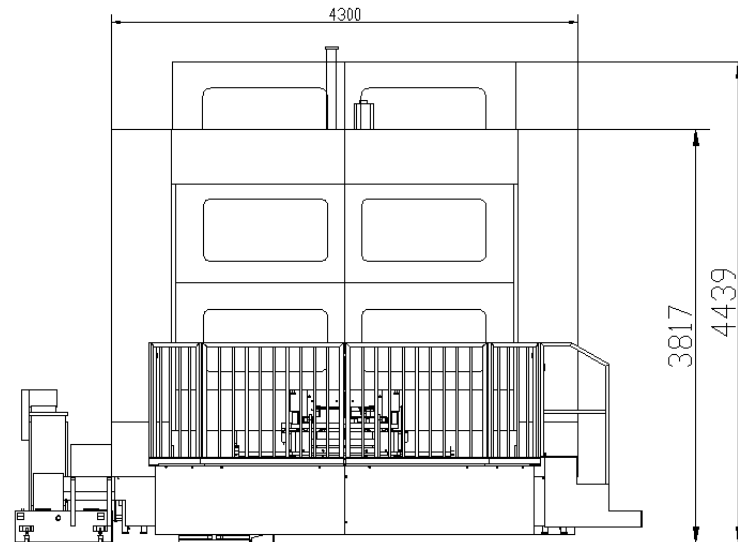
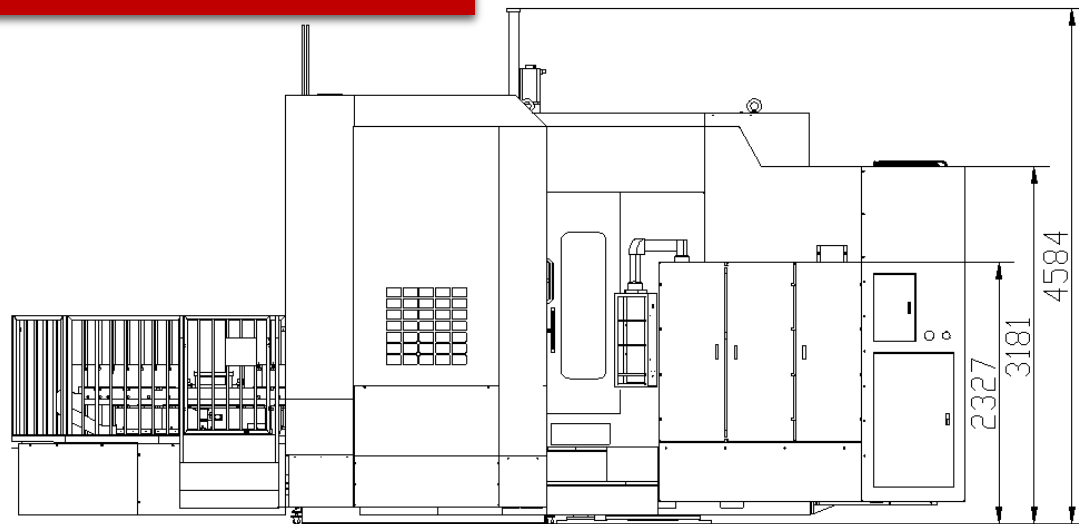


tank removal direction

Tank capacity 680L
Flow 66L/min



HUP125 Dimensions



tank removal direction

Tank capacity 680L
Flow 66L/min





HISKON

Thanks !

www.haitianprecision.com.cn