

蕙勒 US WHEELER

Industrial Robot + CNC Machinetools + Intelligent Factory

杭州蕙勒智能科技股份有限公司

HANGZHOU WHEELER GENERAL MACHINERY INCORPORATED CO.,LTD

杭州蕙勒智能科技股份有限公司

HANGZHOU WHEELER GENERAL MACHINERY INCORPORATED CO.,LTD

HM Series

HORIZONTAL MACHINING CENTER



400 780 1898

We provide on-call service 24 hours a day, 7 days a week. If you encounter any equipment maintenance and repair problems, please contact us. If you have any suggestions, please log in to the company's official website to leave a message.



Sample parameters and information are subject to change without prior notice, and the final data is subject to the technical agreement.

HL-HM02303-01-1000



For more information, please pay attention to the official WeChat account

US WHEELER

蕙勒

INDUSTRIAL ROBOT/CNC
MACHINETOOLS/INTEL-
LIGENT FACTORY

ABOUT US

Hangzhou Wheeler General Machinery Incorporated Co., Ltd. is a national high-tech enterprise specializing in CNC machining equipment, automatic machine tool loading and unloading, digital factories, and non-standard fixtures design and manufacture. The company was established in January 2015, and is located in Linping District, Hangzhou City. The company has more than 300 employees, and an efficient professional technology research and development team, including more than 60 professional and technical personnel with various intermediate and senior technical titles (engineers). The company has a 5,000-square-meter R&D center and a 43,000-square-meter production and debugging base, and has more than 50 patented technologies. There are offices and after-sales service outlets in 22 prefecture-level cities in China, as well as professional agency partners and service outlets in Turkey, Russia, Egypt, South Africa, Brazil, Australia, Singapore, Malaysia, Thailand and other countries.

Certification system we have passed



Wheeler is currently a strategic partner of robotics companies such as KUKA(Germany), ABB(Switzerland), CNC system companies such as Fanuc, Mitsubishi(Japan), Siemens(Germany). We provide customers with mechanical processing automation technology scheme design, a full set of automation equipment, technical consultation, and perfect after-sales and technical services. The company's products are widely used in mass production industries such as auto parts processing and construction machinery.



HM series horizontal high speed machining center

HM series high-rigidity roller guide horizontal machining center incorporates international advanced design concepts.

Inverted T-shaped bed, front hanging box layout, and three-axis high-rigidity roller guide realize the perfect integration of high-precision and high-efficiency machining.

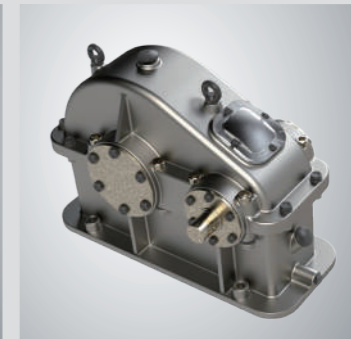
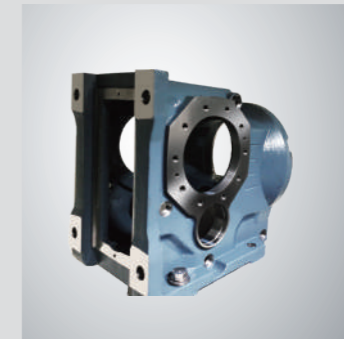
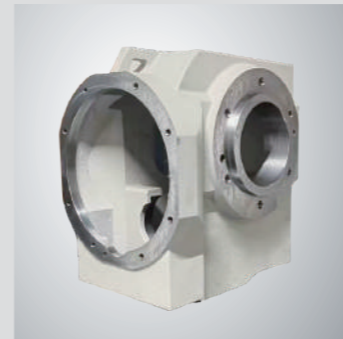
Especially suitable for Plane processing of the hole system of box parts.



+ Processing characteristics

The HM series horizontal machining centers are especially suitable for high-speed machining of aluminum batch parts.

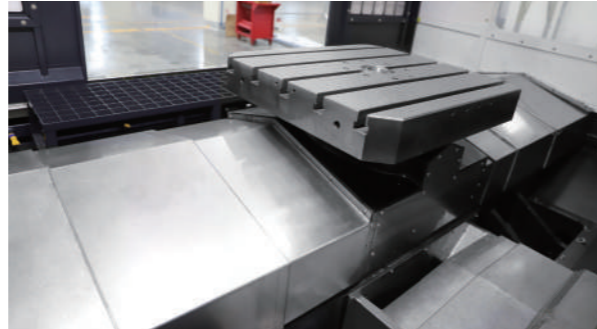
The machining time of aluminum castings is 34% shorter than that of traditional machine tools; the positioning time is shortened through high acceleration/deceleration axis feed, and the high-speed B-axis rotation (table rotation), high-speed ATC and high-speed drilling rank among the world's mainstream machine tools, greatly shortening the processing cycle. The models are widely used in automotive, aerospace, rail transit, petroleum valves, plastic machinery, general machinery for mining machinery and other mechanical processing fields.



MACHANICAL STRUCTURE

Inverted T bed

HM series high-rigidity roller guide horizontal machining center incorporates the international advanced design concept; the inverted T-shaped bed, the layout of the hanging box, and the three-axis high-rigidity roller guide realize the perfect fusion of high-precision and high-efficiency machining.



High Rigidity Roller Guide

It has high bearing capacity and high rigidity, sensitivity and high-performance plane linear motion. In the case of heavy load or variable load, the elastic deformation is small and can obtain smooth linear motion and excellent mechanical positioning accuracy.



Structure

After the workpiece is processed by a horizontal machining center, it completes multi-process automatic processing, automatically selects and replaces tools, automatically changes the speed and feed speed of the machine tool spindle, automatically realizes changes in the trajectory of the tool and workpiece, and automatically realizes other auxiliary functions.

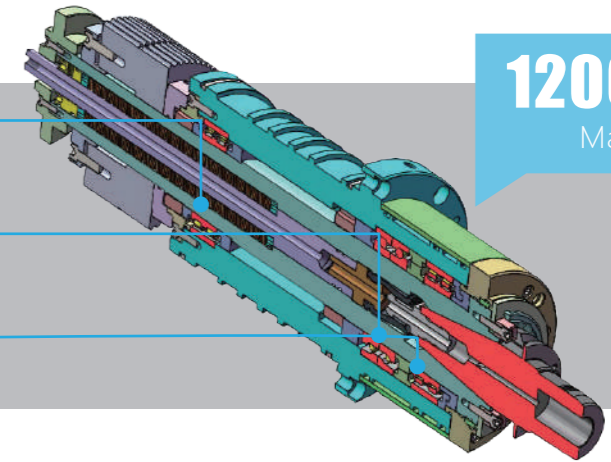


PRINCIPAL AXIS

High-efficiency, high-performance spindle

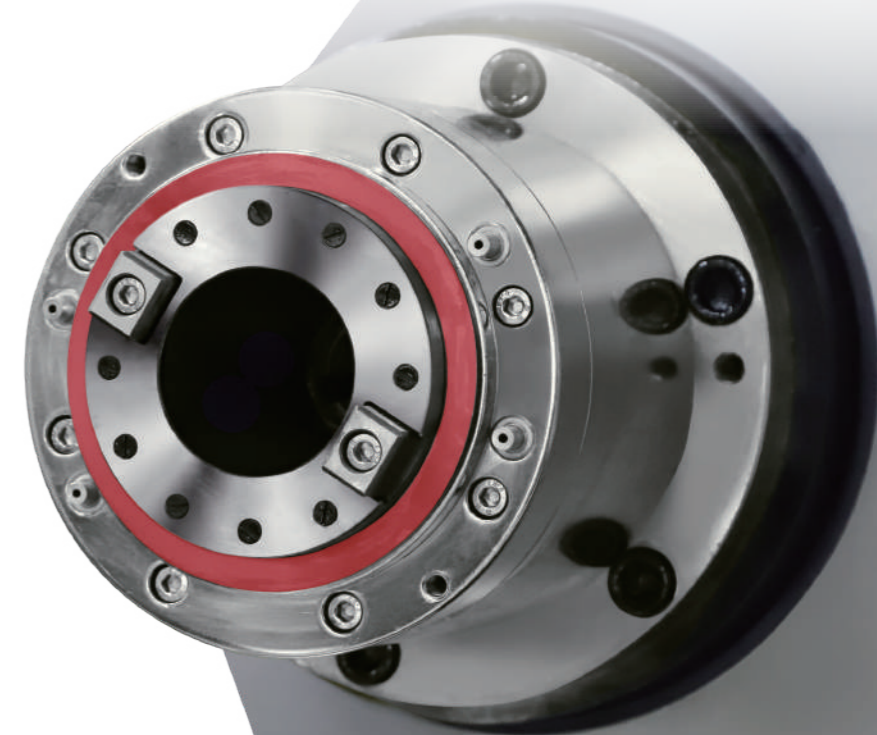
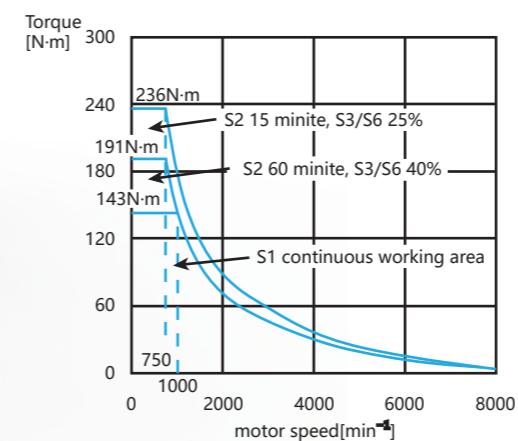
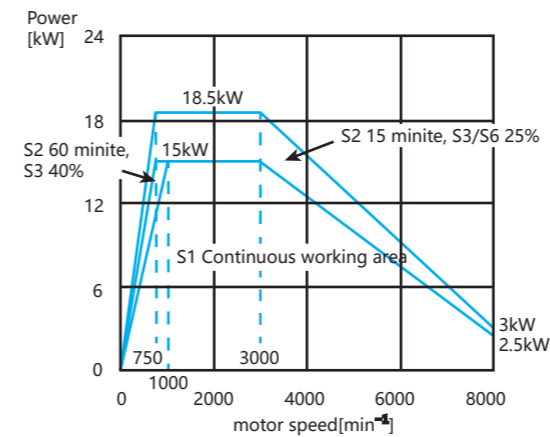
12000 rpm
Maximum speed

- NN3016 double row cylindrical roller bearing
- 90BAR Thrust Angular Contact Ball Bearings
- NN3018K double row cylindrical roller bearing



- The spindle of the horizontal machining center has smooth rotation characteristics, excellent acceleration capability and high reliability, and it can realize high-precision positioning and control with a built-in encoder. The air-cooled asynchronous motor is selected, with compact structure and high output and high torque characteristics.
- The HRV control of the spindle motor makes the control more efficient, generates less heat, and meets the international standard (IEC) waterproof design.

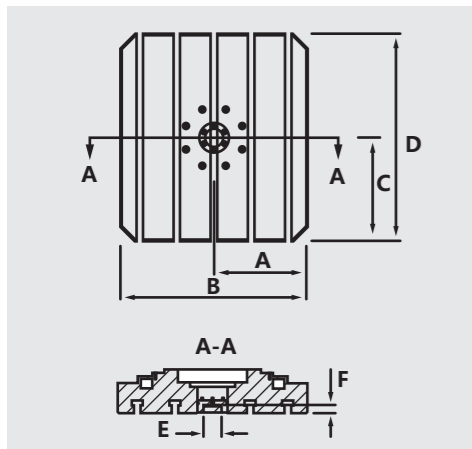
Spindle motor characteristic curve



TURNTABLE

Turntable size

The worktable adopts a complete set of products from imported professional supporting manufacturers, with reliable quality and stable performance, which further improves the reliability of the whole machine. The worktable is equipped with an indexing worktable positioned with ratchet (1°×360) as standard, with high positioning accuracy; a CNC worktable with continuous indexing (0.001°) is also optional. The indexing turntable is realized by an AC servo motor through a 1:8 gear pair and a pair of 1:30 worm gear pairs to realize the rotation of the worktable, and the clamping and loosening of the worktable is realized by the oil cylinder. The rotary position accuracy of the worktable is guaranteed by the high-precision end gear.

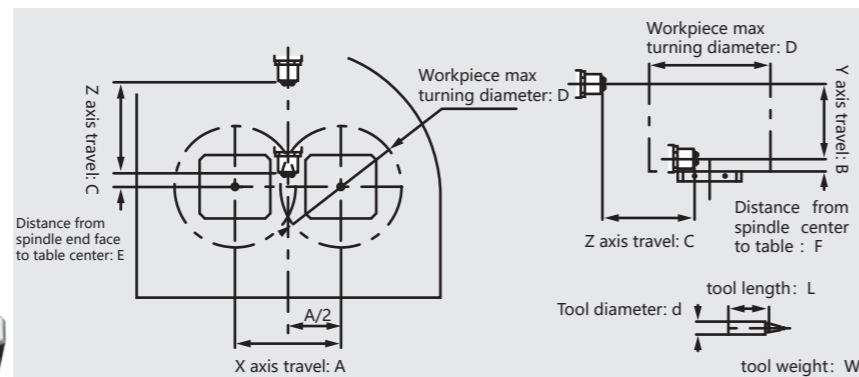


Turntable size

unit: mm

Machine	A	B	C	D	E	F
HS5000	250	500	250	500	Φ50 G6	20
HM6300	315	630	315	630	Φ60 G6	27
HM8000	400	800	400	800	Φ60 G6	27
HM1000	500	500	500	500	Φ60 G6	27

Processing range



unit: mm

Machine	A	B	C	D	E	F	W (kg)	L	d
HS5000	1100	600	600	700	180-780	-20-580	8	400	150
HM6300	1050	750	900	1200	130-1030	120-870	15	400	200
HM8000	1100	850	900	1600	180-1080	100-950	15	400	200
HM1000	1300	1000	1000	1800	200-1200	120-1120	15	400	200

OPERATION SYSTEM

FANUC - 0iMF PLUS

The biggest advantage of FANUC CNC system is the open design, which is mainly manifested in three aspects: man-machine interface, PLC and NC. The system has added a variety of interpolation functions to provide users with more technical support.

The system integrates many practical computer functions, CAD, CAM software and CNC system are perfectly combined, integrating product modeling, automatic programming, and simulated processing; it truly achieves intelligent control.

The keyboard-like operation panel greatly shortens the user's learning and adaptation cycle and reduces learning costs.



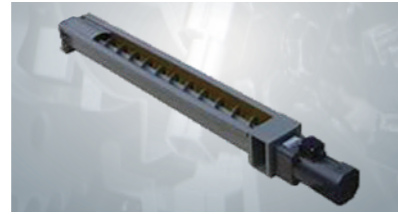
The storage capacity of 0iMF Plus system has been greatly improved

- System processing program storage capacity standard 2M+1000 programs.
- Using FANUC program transmission software can support online editing of programs.
- The whole series of PMC is equipped with 24000 steps as standard, and the program capacity is expanded.
- All PMC series are equipped with MEM B as standard.
- User software capacity 6M.



STANDRAD CONFIGURATION

- FANUC control system
- water tank cooling device
- automatic lubrication device outer protective
- outer shield
- spindle taper hole air blowing device
- automatic tool changer (manipulator)
- transformer
- electrical cabinet heat exchanger
- manual pulse generator
- working light
- three-color warning light
- liquid crystal display
- tool and tool box
- Operation manual
- Pneumatics parts



Spiral Chip Conveyor

Easy installation, stable operation and low noise.



Heat exchanger

Effectively block moisture, oil gas, and dust from entering the electric control box.



Spindle

6000RPM-12000RPM optional, using ultra-precision P4 bearings, optional oil cooling and optional central water outlet.



Screw

The screw rod is pre-compressed precisely, so that it has better rigidity and effectively reduces the thermal expansion and contraction phenomenon in use.



Chain chip conveyor

The chip conveying speed is fast and the working efficiency is high, and it is applicable to various chips.

OPTIONAL CONFIGURATION

- Spindle oil cooling device
- Spindle center water outlet system
- Oil-water separator
- Auto tool length measurement system
- Manual/automatic side milling head
- ZF gearbox



Oil cooler/oil cooler

Maintain a constant temperature to ensure the machining accuracy of the spindle.



Oil water separator

Effectively remove cutting fluid slick oil, maintain the performance of cutting fluid, and prolong the service life of cutting fluid.



ZF gearbox

1:4 deceleration to achieve low-speed high-torque processing.

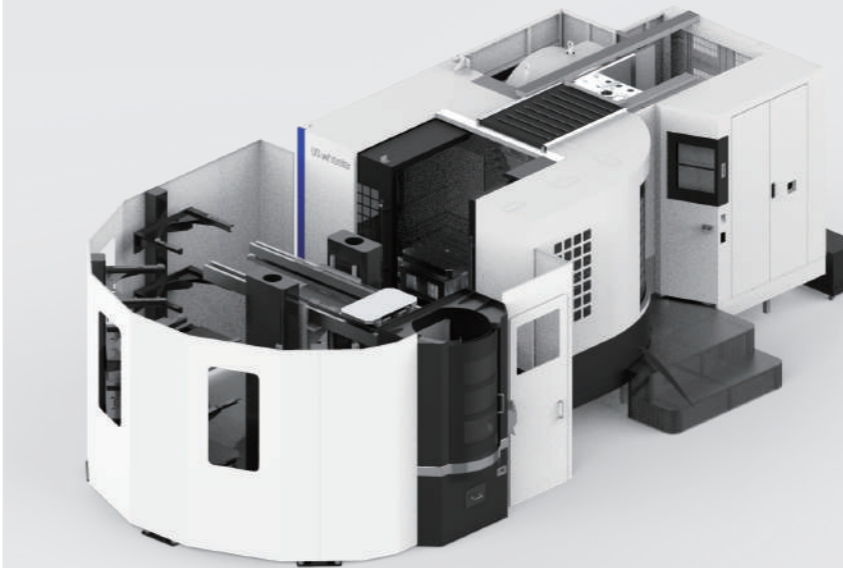


Auto tool length measuring device

Improve work efficiency and ensure machining accuracy.

AUTOMATIC MANUFACTURE LINE

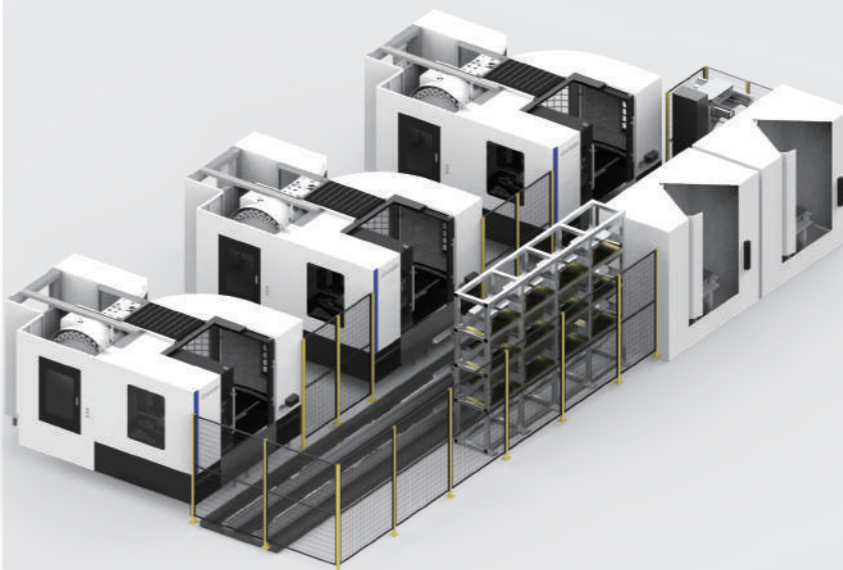
Horizontal plus pallet system



Production line features

The production line features compact structure, which can save space and cost. Servo drive, stability and high precision can realize long-time unattended, realize multi-variety, small batch production demand, increase price equipment utilization rate, reduce machine tool downtime.

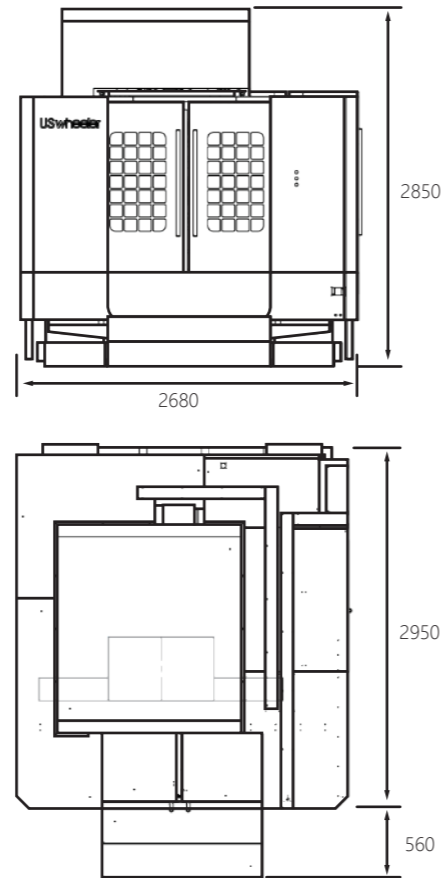
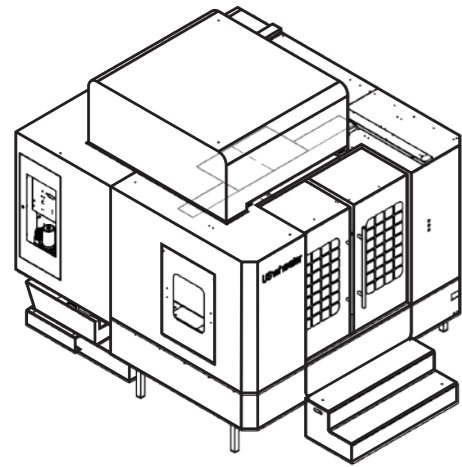
Robot Flexible System



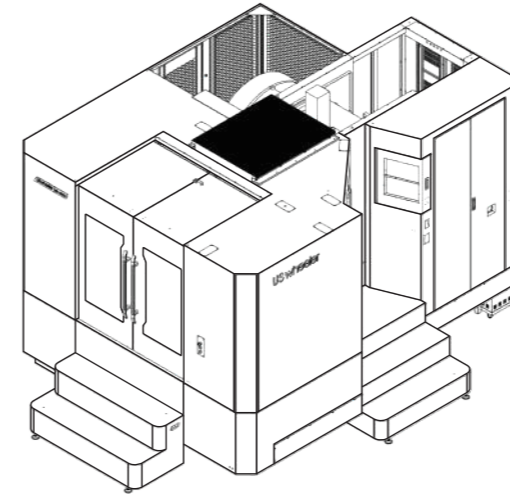
Production line features

The flexible control system mainly includes three parts: processing system, material storage and transportation system, control and management system. The processing system conducts unified control of processing equipment, auxiliary equipment, testing equipment, etc.; the material storage and transportation system controls the loading and unloading workstations. System-level management and scheduling of pallet warehouses, fixtures, tools, etc.; control and management system to realize process control, process scheduling and process monitoring of the robot flexible system.

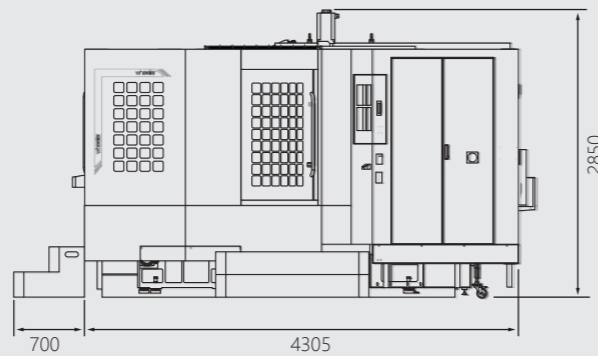
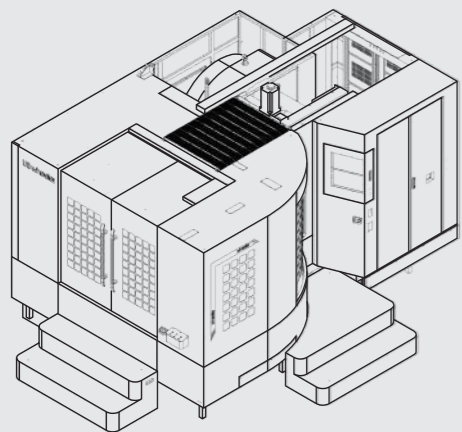
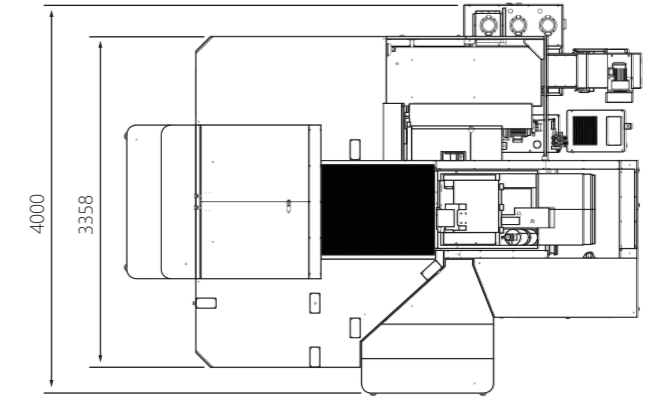
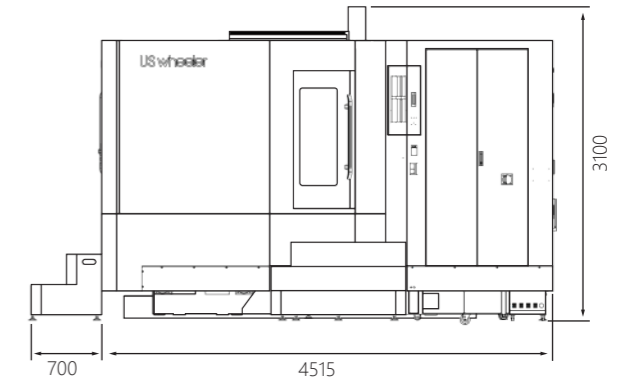
MACHINE DIMENSION



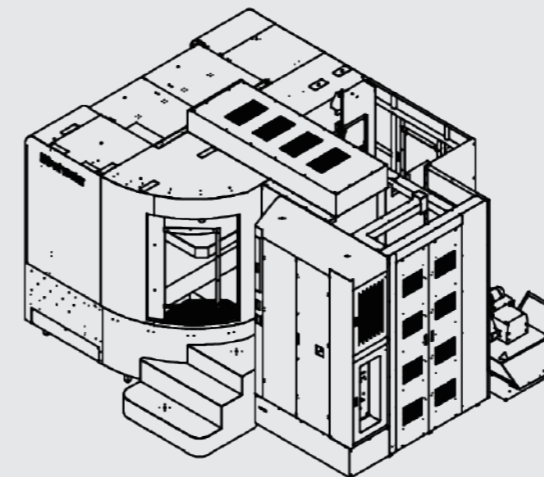
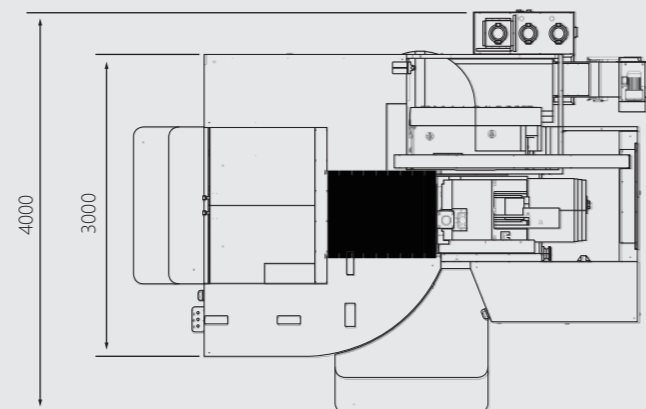
Project	HS5000
Length	2680 mm
Width	2950 mm
High	2850 mm
Weight	7500 kg



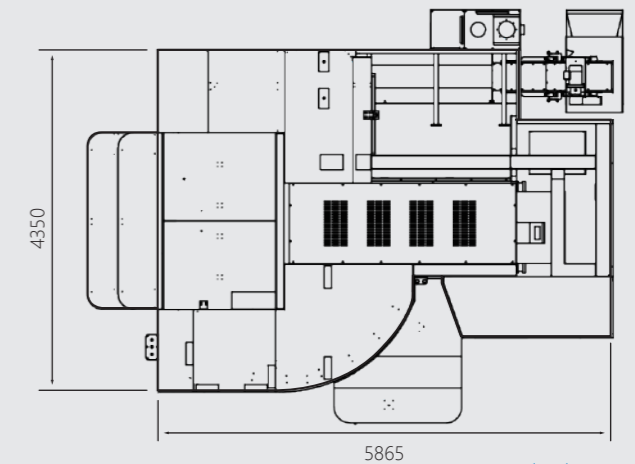
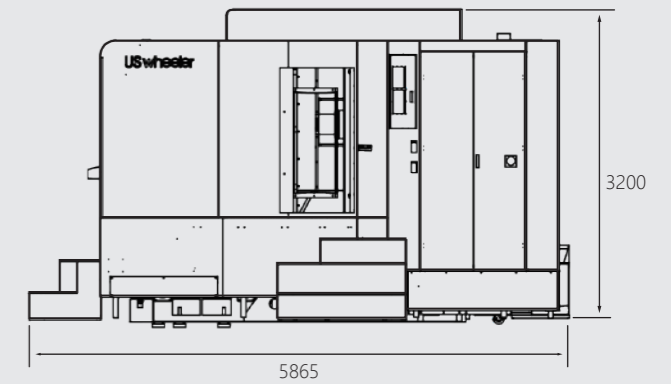
Project	HM8000
Length	5215 mm
Width	4000 mm
High	3100 mm
Weight	14000 kg



Project	HM6300
Length	5005 mm
Width	4000 mm
High	2850 mm
Weight	12000 kg



Project	HM1000
Length	5865 mm
Width	4350 mm
High	3200 mm
Weight	18000 kg



DETAILED PARAMETERS

The final parameters are subject to the technical agreement*

		HS 5000	HM 6300
Processing range	Worktable moves left and right in X direction	mm	1100
	The spindlebox moves up and down in the Y direction	mm	600
	Move the column back and forth in the Z direction	mm	600
	Distance from spindle centerline to worktable surface	mm	-20~580
	Distance from spindle end face to table center	mm	180~780
Worktable	worktable size	mm	500*500
	worktable indexing	°	1°x360
	worktable load	kg	350
	The max turning diameter of the worktable	mm	Φ700
Spindle	drive mode	-	direct drive
	Spindle speed	rpm	50-10000
	main motor power	kW	11/15
	Spindle motor torque (nominal/maximum)	Nm	52.5/118
	Spindle taper and specification	-	BT40
Servo axis	X, Y, Z fast moving speed	m/min	36/36/36
	B-axis rapid traverse speed	r/min	8
	Screw specification X/Y/Z	mm	Φ40*12/Φ40*12/Φ40*12
	Wire gauge specification X/Y/Z	mm	45/45/45
	Cutting feed rate	mm/min	1-10000
	Minimum feed	mm	0.001
Tool magazine	Magazine capacity	No.	24
	Tool magazine form	-	ATC
	Handle Specifications	-	BT40
	handle pull stud	-	P-40T 45°
	tool diameter (adjacent)	mm	80
	tool diameter (without adjacent tools)	mm	150
	tool length	mm	400
	tool weight	kg	8
Main precision	X, Y, Z axis positioning accuracy	mm	±0.005
	B-axis positioning accuracy	sec	8
	X, Y, Z axis repeat positioning accuracy	mm	±0.003
	B-axis repeat positioning accuracy	sec	4
Other	Machine weight	(about)kg	7500
	Dimensions (length × width × height)	mm	2680*2950*2850
	power capacity	kVA	30
	Oil capacity	L	3
	Cutting fluid capacity	L	300
	Air pressure	bar	6~8
	CNC system		FANUC

The final parameters are subject to the technical agreement*

		HM 8000	HM 1000
Processing range	Worktable moves left and right in X direction	mm	1100
	The spindlebox moves up and down in the Y direction	mm	850
	Move the column back and forth in the Z direction	mm	900
	Distance from spindle centerline to worktable surface	mm	100~950
	Distance from spindle end face to table center	mm	180-1080
Worktable	worktable size	mm	800*800
	worktable indexing	°	1°x360
	worktable load	kg	1500
	The max turning diameter of the worktable	mm	Φ1600
Spindle	drive mode	-	Synchronous belt drive
	Spindle speed	rpm	50-6000
	main motor power	kW	15/18.5
	Spindle motor torque (nominal/maximum)	Nm	143/236
	Spindle taper and specification	-	BT50
Servo axis	X, Y, Z fast moving speed	m/min	24/24/24
	B-axis rapid traverse speed	r/min	10
	Screw specification X/Y/Z	mm	Φ50*12/Φ50*12/Φ50*12
	Wire gauge specification X/Y/Z	mm	55/55/55
	Cutting feed rate	mm/min	1-10000
	Minimum feed	mm	0.001
Tool magazine	Magazine capacity	No.	30
	Tool magazine form	-	ATC
	Handle Specifications	-	BT50
	handle pull stud	-	P-50T 45°
	tool diameter (adjacent)	mm	110
	tool diameter (without adjacent tools)	mm	200
	tool length	mm	400
	tool weight	kg	15
Main precision	X, Y, Z axis positioning accuracy	mm	±0.006
	B-axis positioning accuracy	sec	8
	X, Y, Z axis repeat positioning accuracy	mm	±0.004
	B-axis repeat positioning accuracy	sec	4
Other	Machine weight	(about)kg	14000
	Dimensions (length × width × height)	mm	5215*4000*3100
	power capacity	kVA	40
	Oil capacity	L	3
	Cutting fluid capacity	L	300
	Air pressure	bar	6~8
	CNC system		FANUC