



ECOM

# HORIZONTAL MACHINING CENTER



ECOM

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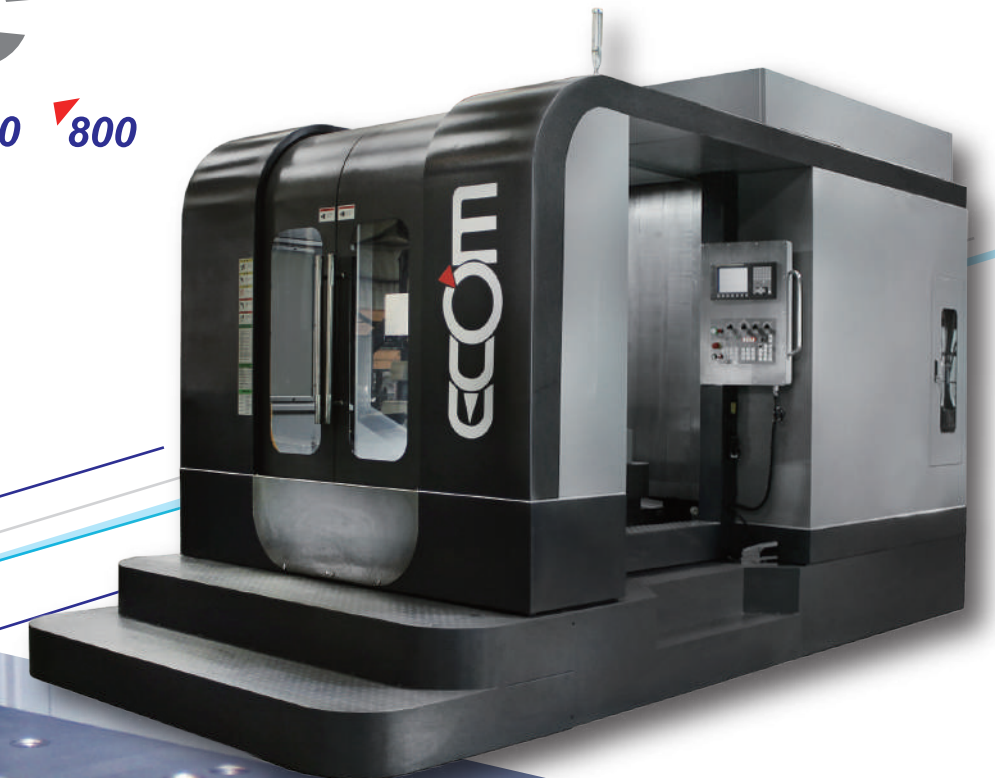
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## HMC

400 500 630 800

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*ECOM, you can rely on.*

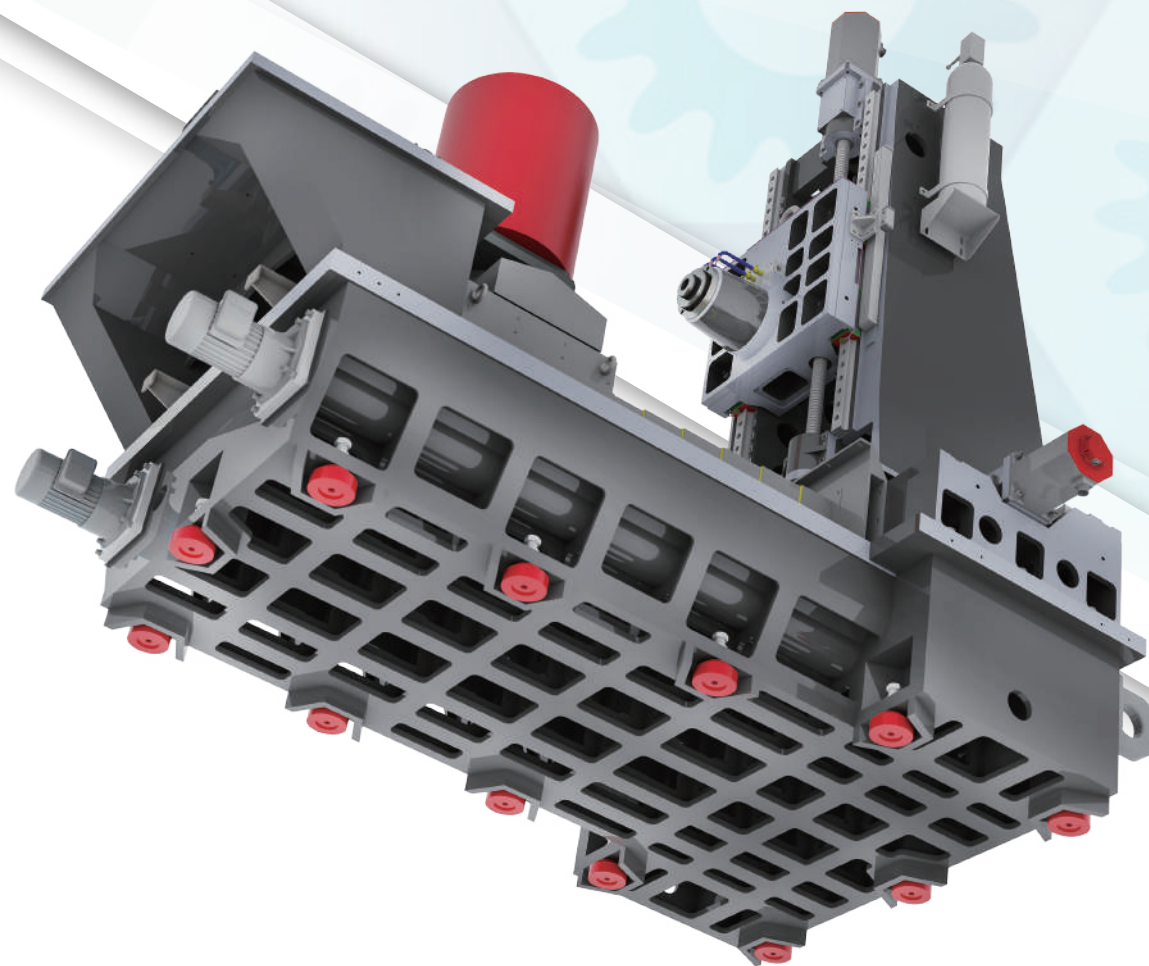


# High Rigidity Structure

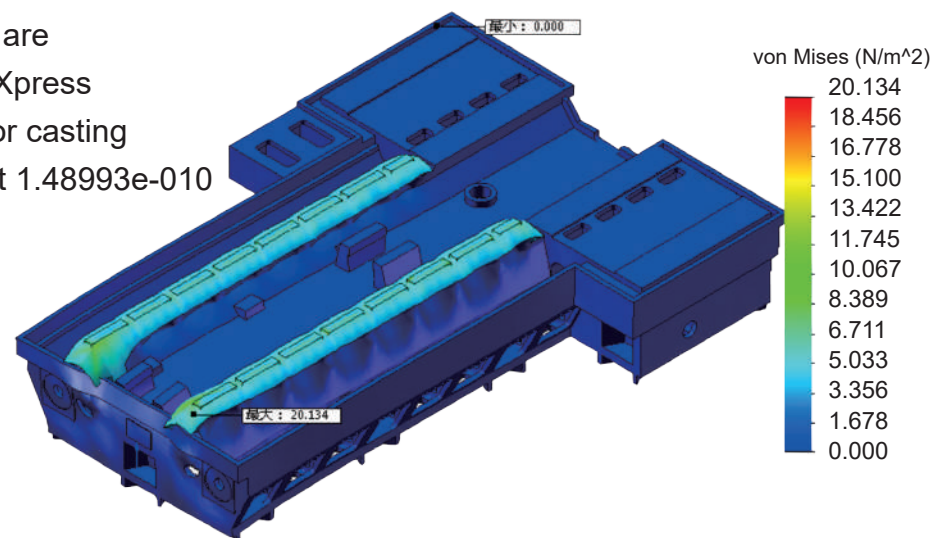
The Finite Element Method ( **FEM** ) analysis provides optimum machine design with light-weighted structural advantages to ensure machine rigidity.

The one-piece base casting is made of a high rigidity T-shaped box structure. It is combined with the X-axis guideways that offset from each other with large span track designs.

The machine base is designed with 4 points leveling and 12 points support. The unrivaled solid base makes stable axis feed possible during high speed.



HMC base are  
SimulationXpress  
analyzed for casting  
stress point 1.48993e-010



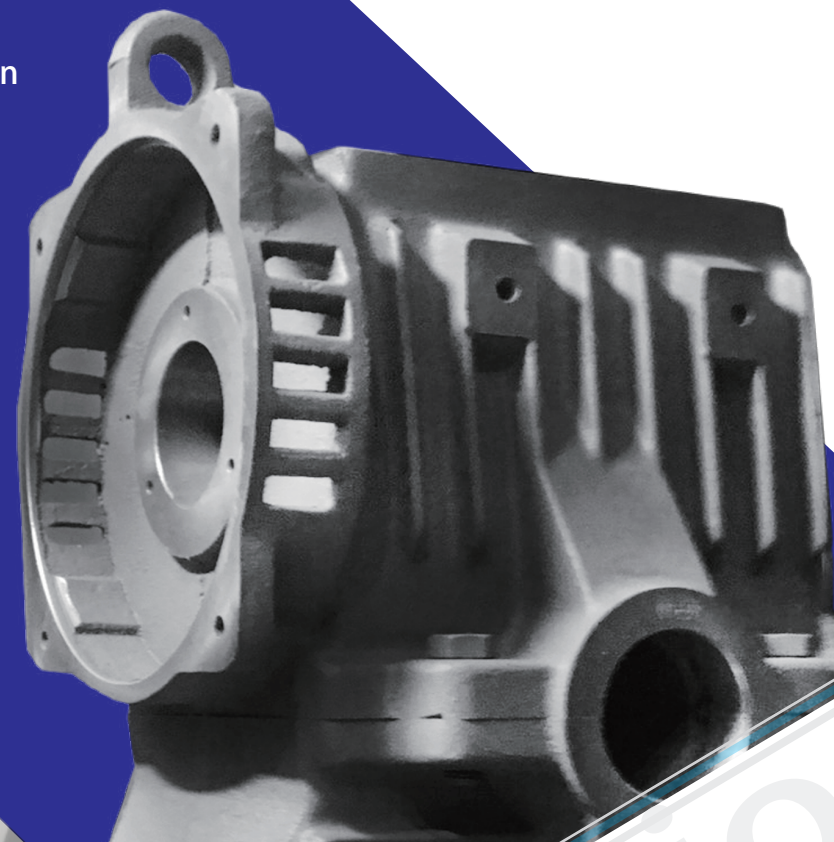
*ECOM, you can rely on.*



# Fast Effective

## HMC- 400 series

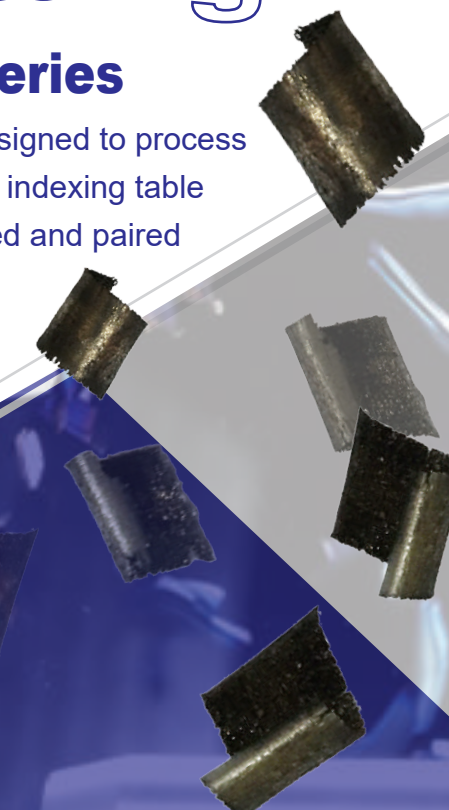
HMC - 400 series focus on high-speed and high production efficiency. The XYZ axis rapid feed rate at 48m/min.



# Heavy Duty Cutting

## HMC- 500 / 630 / 800 series

HMC-500 / 630 / 800 series are designed to process heavy-duty applications. The one degree indexing table (option 0.001) has coupling gears installed and paired with hydraulic clamping system. The gearbox provide excellent torque for heavy cutting.



# High Speed

BT40 Direct Driven 12000rpm spindle

# High Performance Spindle System

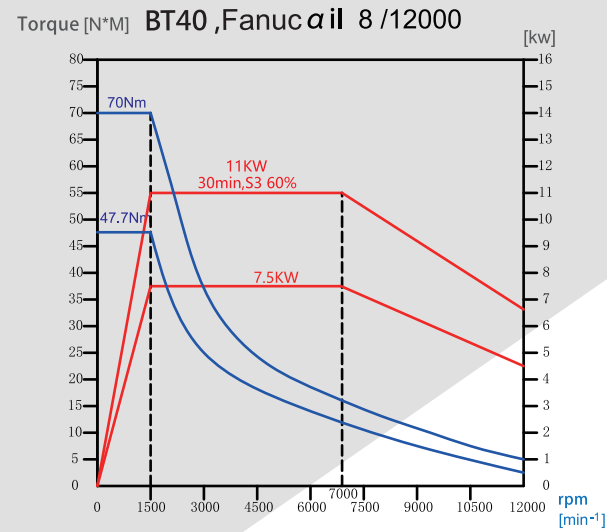
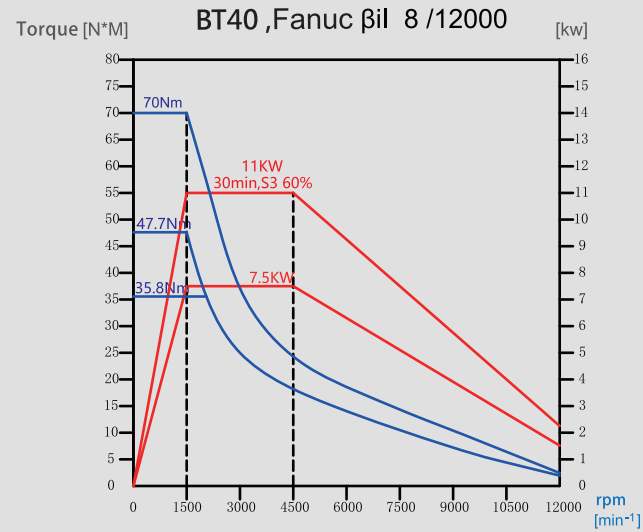
## HMC - 500 / 630 / 800

1:5 Gear head with high output torque.  
Maximum Cutting Torque up to 588Nm  
Continuous Cutting Torque up to 358Nm

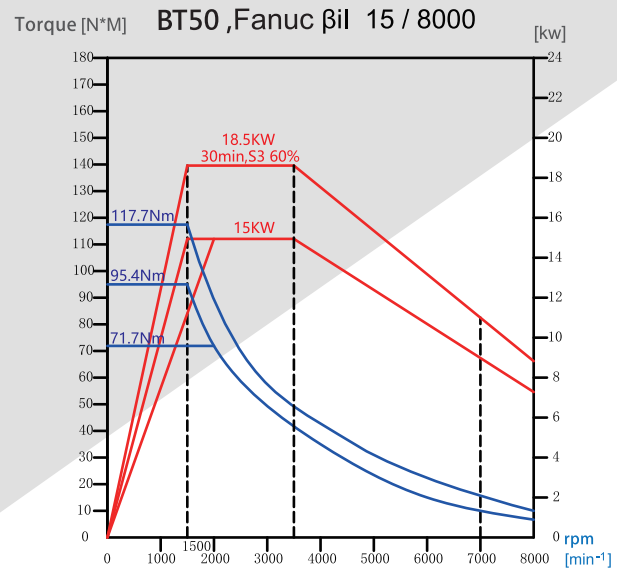


# Spindle Output Diadrams

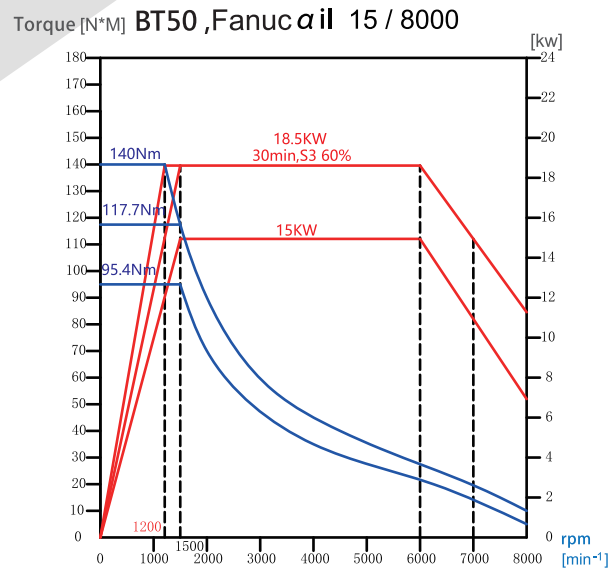
HMC- 400 BT40 Direct Type 12000rpm



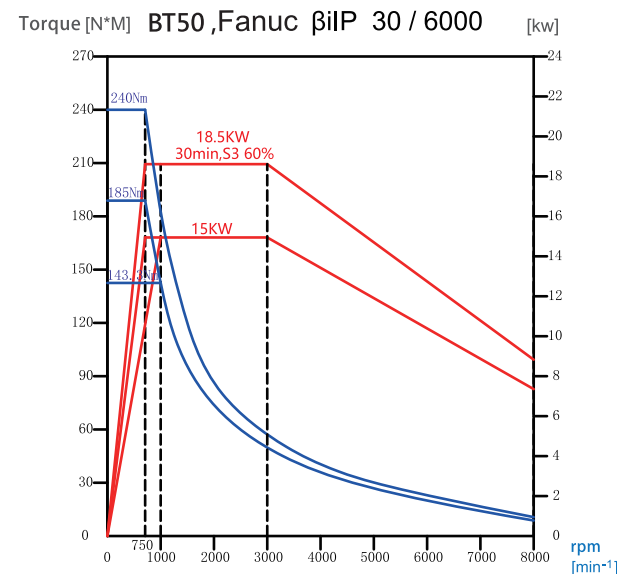
HMC- 500 BT50 Belt Type 8000rpm



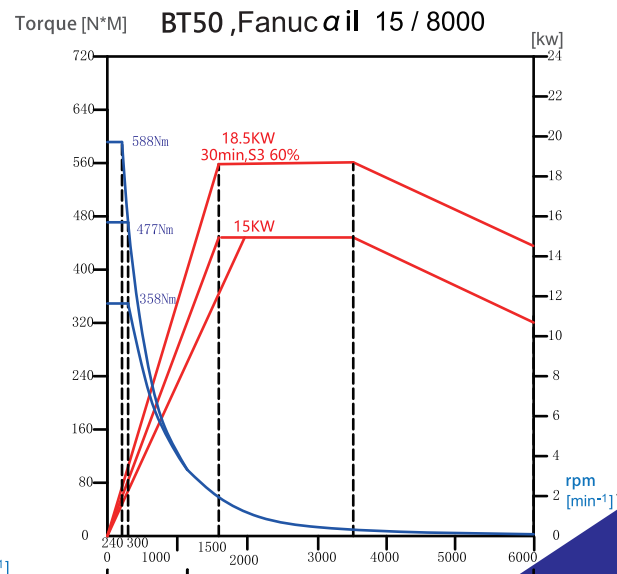
HMC- 500/630 BT50 Belt Type 8000rpm



HMC- 630 BT50 Belt Type 6000rpm



HMC- 500/630 BT50 1 : 5 GEAR HEAD



Low Gear Operating Zone High Gear Operating Zone



0.001° degree B-axis indexing

Full 4th B-axis simultaneously controlled.  
Pallet change time: 10~15 seconds  
Maximum table load: 400~2000Kg

1° degree B-axis indexing

High rigidity hydraulic type coupling gears clutch indexing, positioning accuracy +/-3 arc seconds & repeatability +/-1 second, suitable for heavy table load and heavy cutting applications.

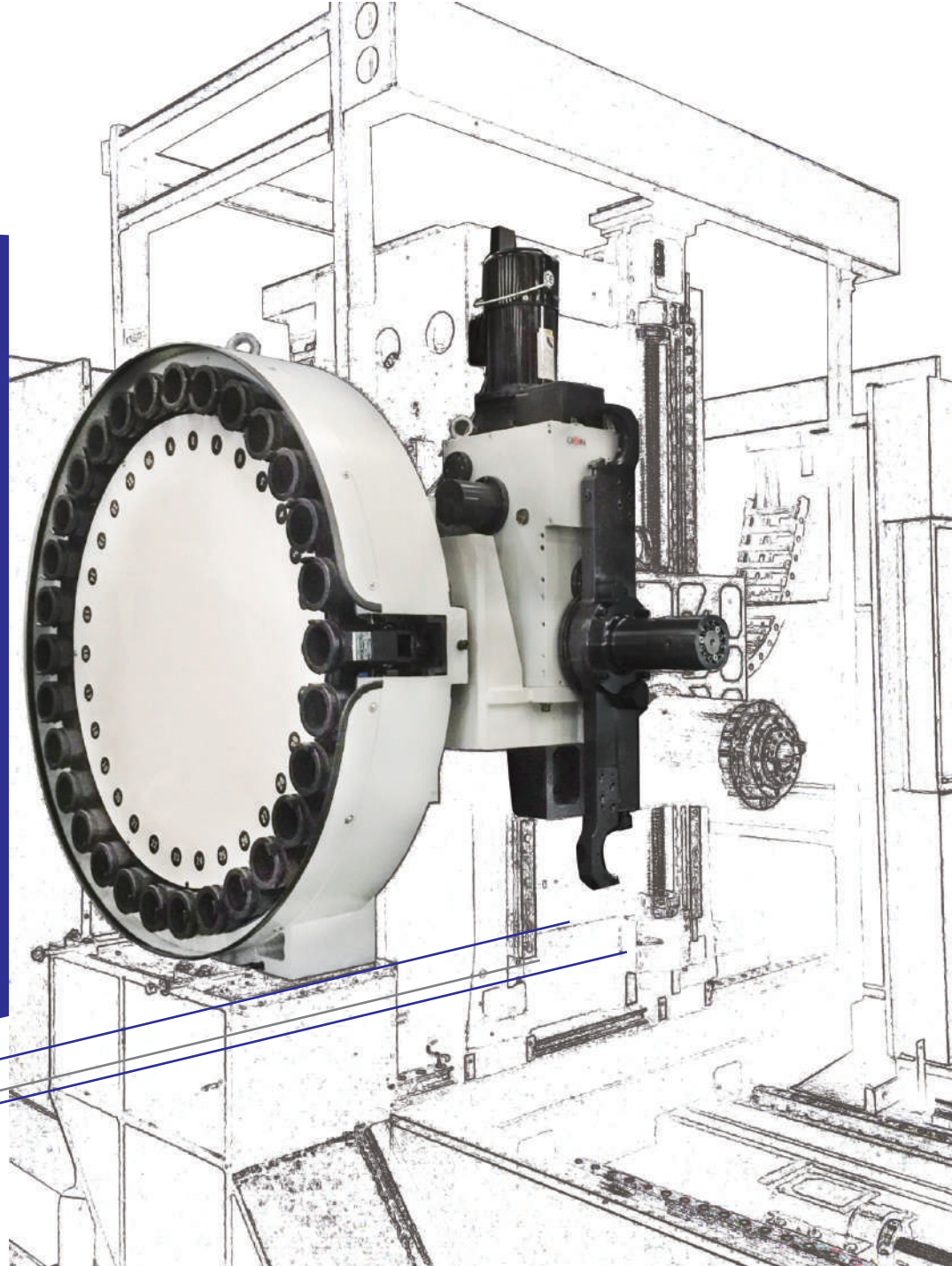
Gearbox

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# Tool Magazine System

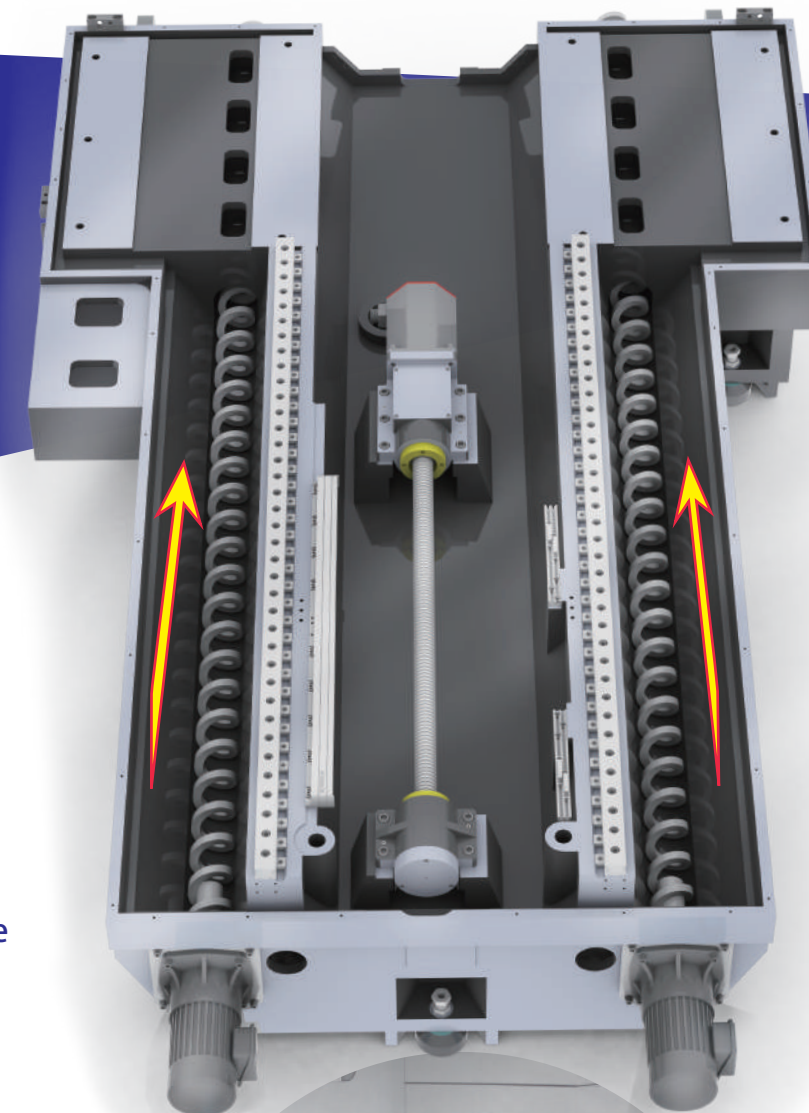
ECOM HMC series is equipped with a high standard ATC system. The tool gripper is designed as a separate component to prevent coolant from entering to ATC system.



# Efficient chips disposal

Screw chip conveyor on both sides of machine base with chip storage cart installed in rear of machine. Increased machine operating time and reduced cleaning chips by man.

Oil skimmer (optional) increases the life of cutting fluid and stabilized the process quality.



## Chip conveyor



Chip types

Curly iron

Metallic

Non-Curling

Cast Iron

Curly Aluminum

Aluminum

Screw type Chip Conveyor



X

(Dry cutting only)

(Dry cutting only)

Steel Belt Chip Conveyor



● Excellent ○ Fine X Not suitable



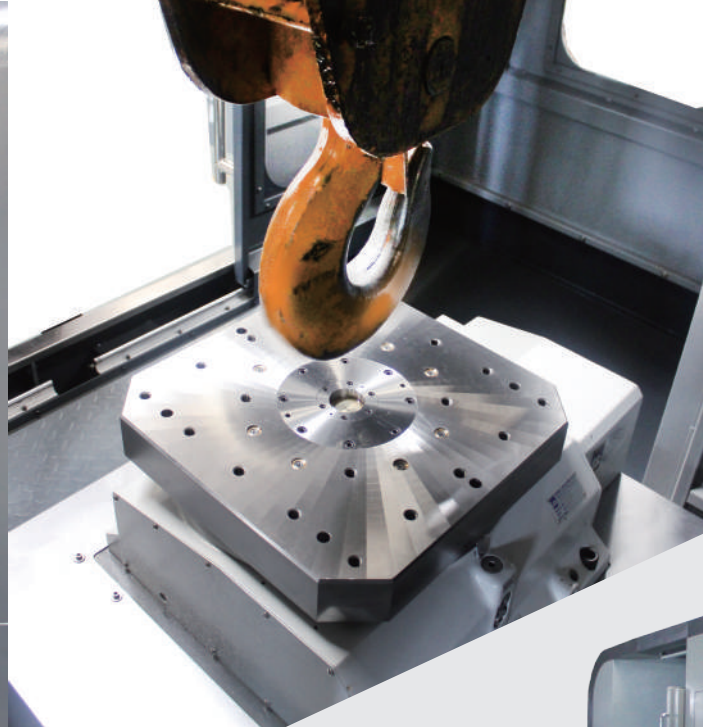
Magazine access window allows tool number display and easy maintenance

Centralized FRL set with Pressure Accumulator.

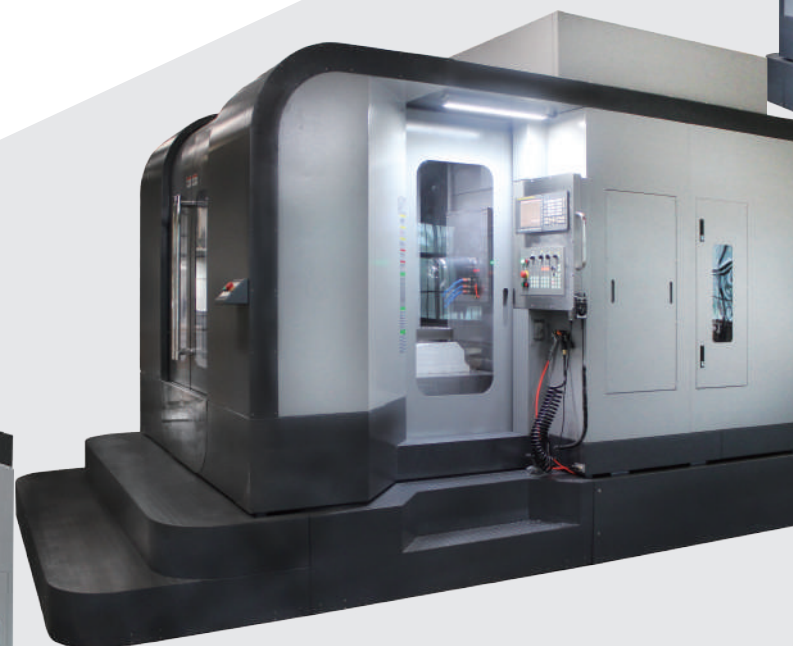
Centralized cables and hydraulic system inside of machine.



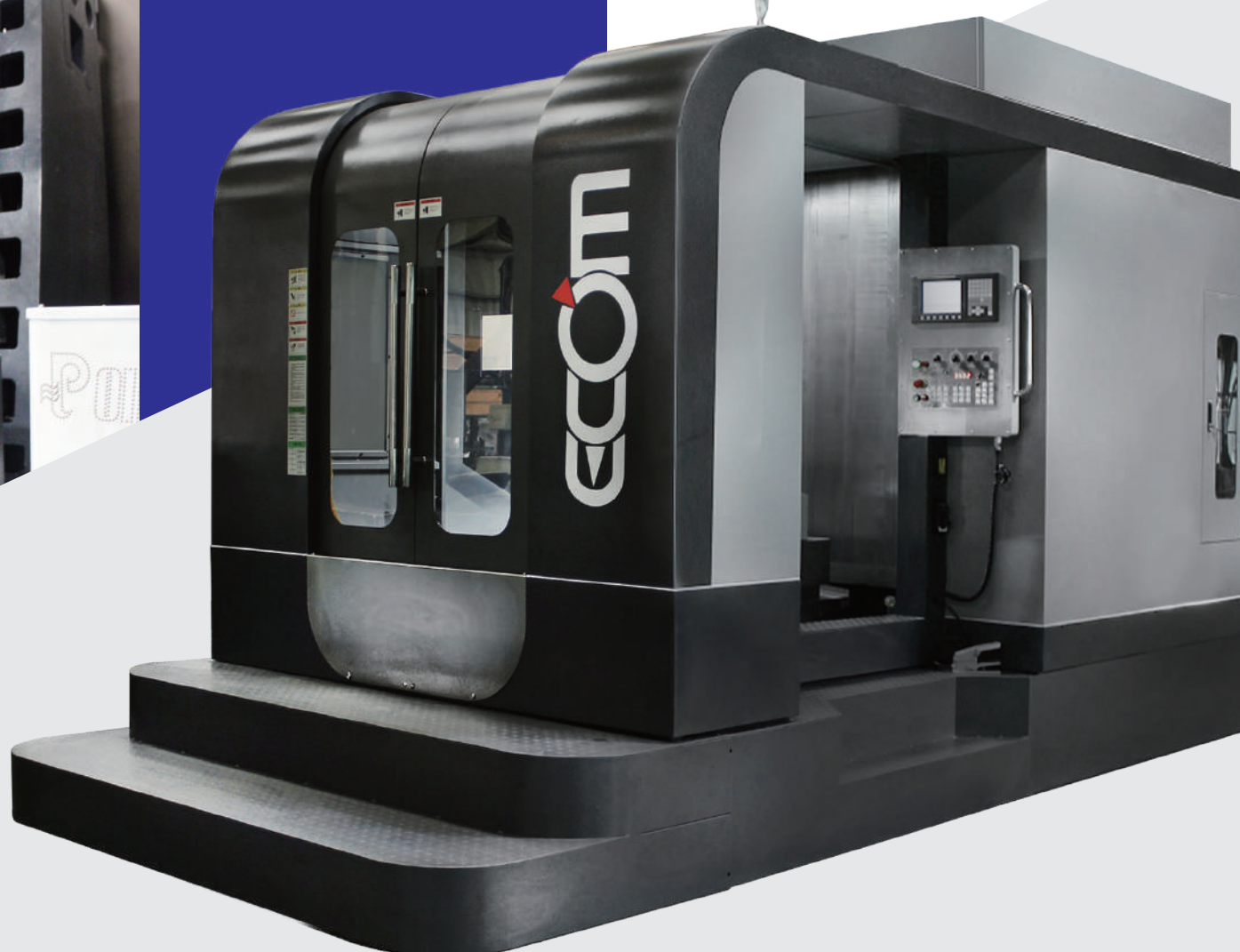
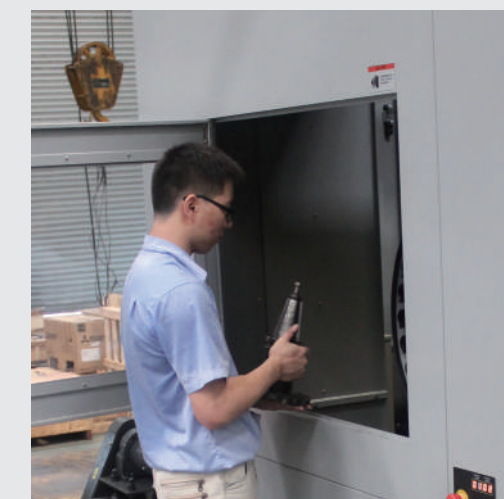
Wide door opening design for easy access to the work area.



Magazine access window and tool number display for easy maintenance.



Operating work light at the control panel area for better viewing



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# Accessories

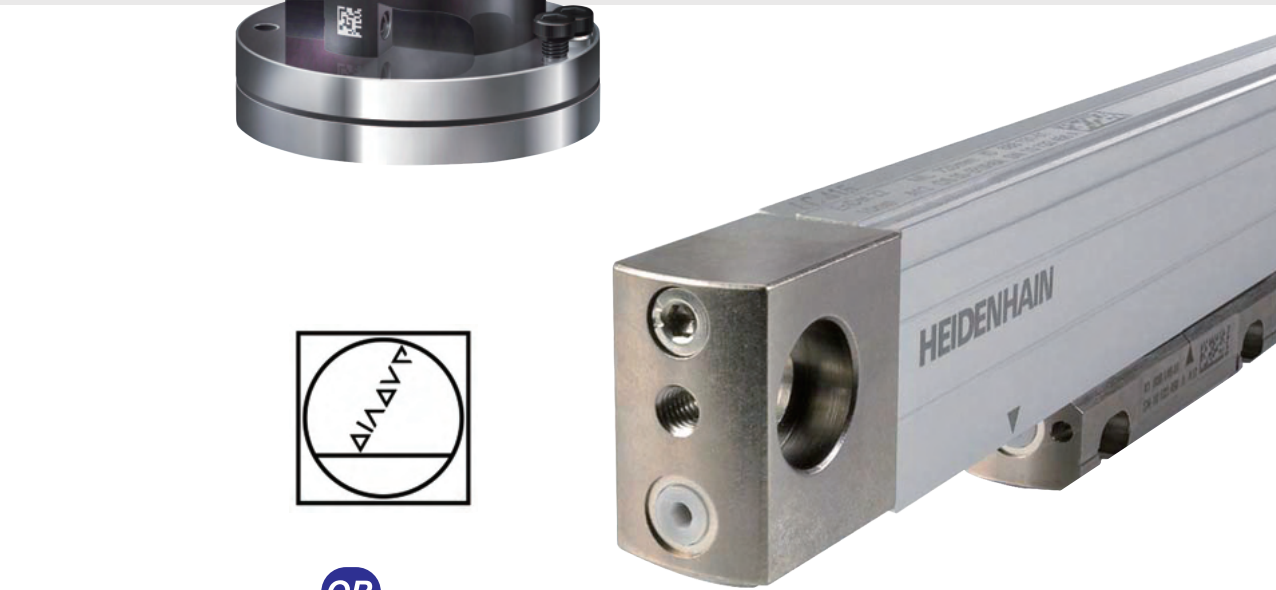
# Total Quality Management



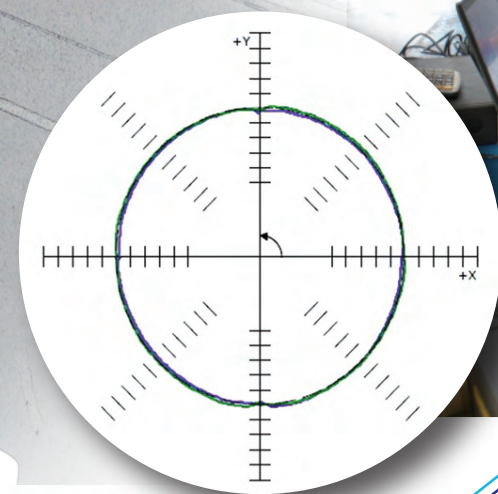
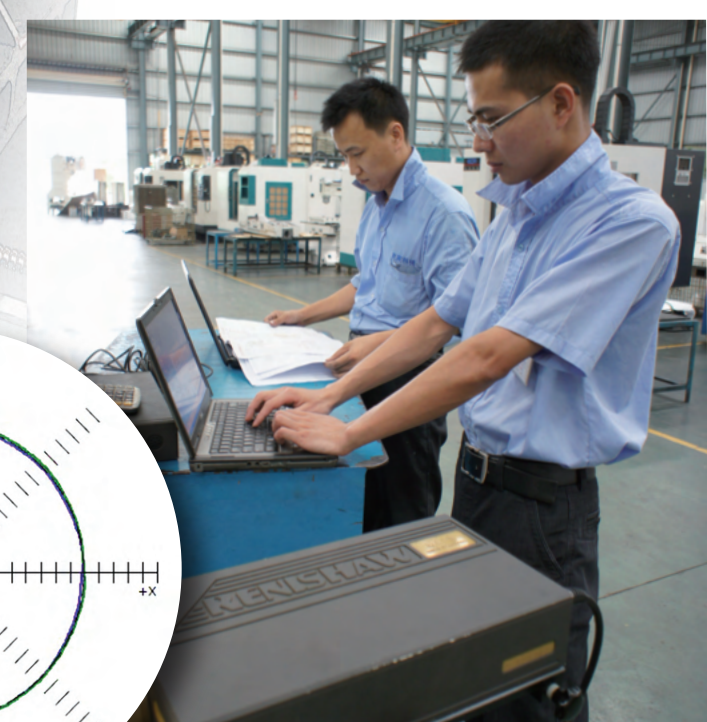
RENISHAW Workpiece Measurement. **OP**



RENISHAW Tool length measurement system and broken tool detection systems **OP**



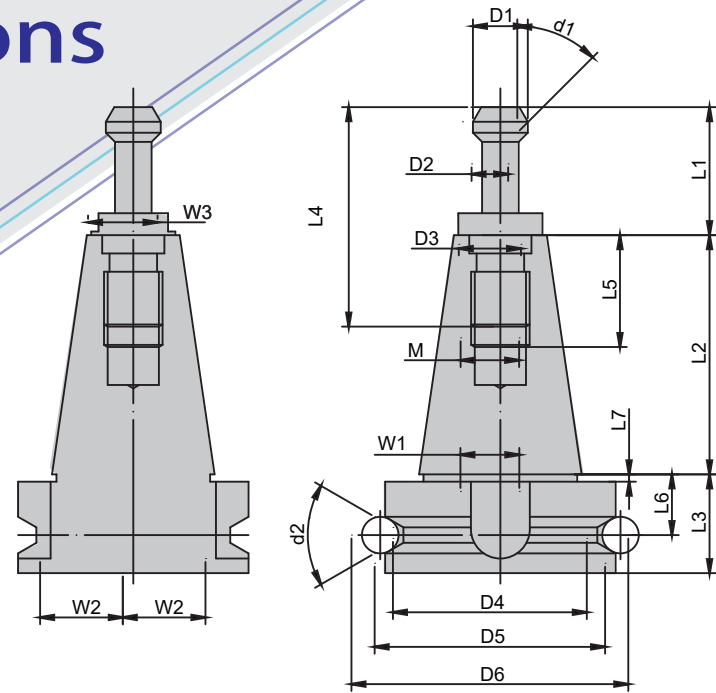
**OP** HEIDENHAIN Optical scale for XYZ



RENISHAW

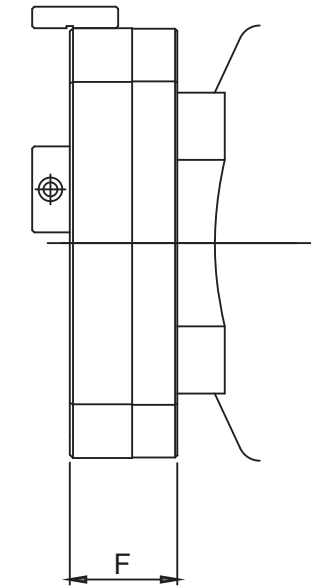
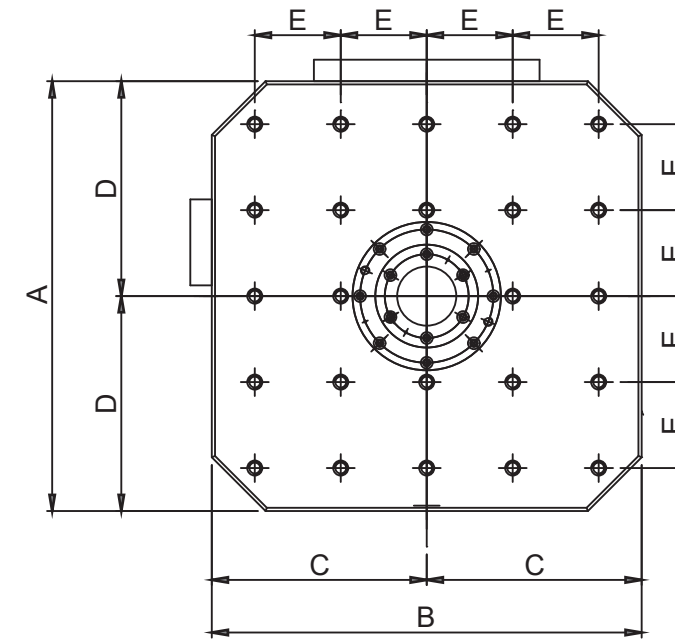


# Dimensions



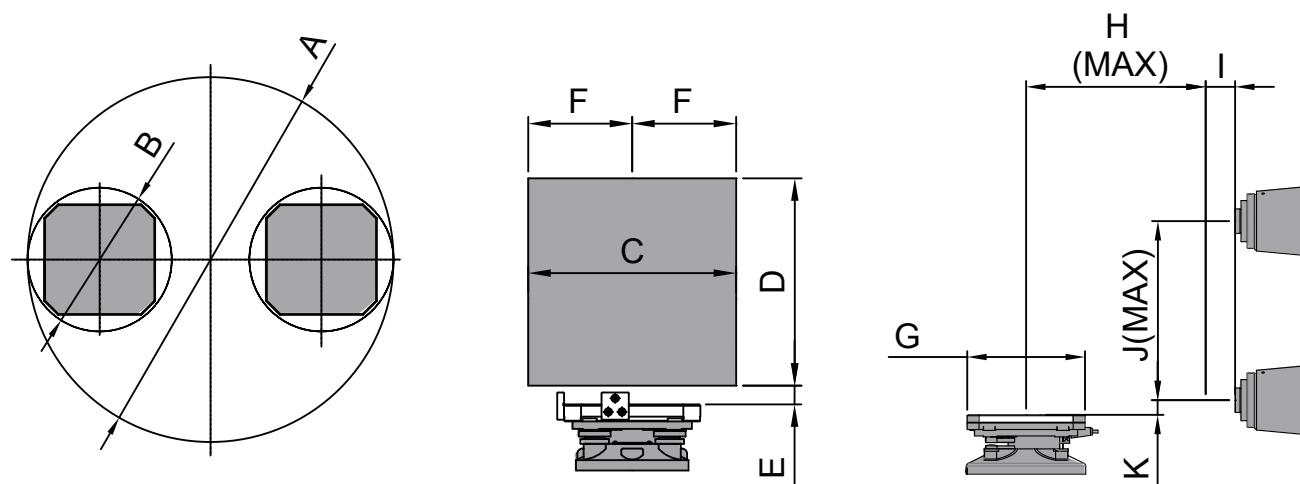
MODEL	D1	D2	D3	D4	D5	D6	d1	d2	L1	L2	L3	L4	L5	L6	L7	W1	W2	W3	M
BT30 - MAS407	11	7	12.5	38	46	56.144	45	60	23	48.4	22	43	24	13.6	2	16.1	16.3	13	12
BT40 - MAS407	15	10	17	53	63	75.679	45	60	35	65.4	27	60	30	16.6	2	16.1	26.3	19	16
BT50 - MAS407	23	17	25	85	100	119.02	45	60	45	101.8	38	85	45	23.2	3	25.7	35.4	30	24

(mm)



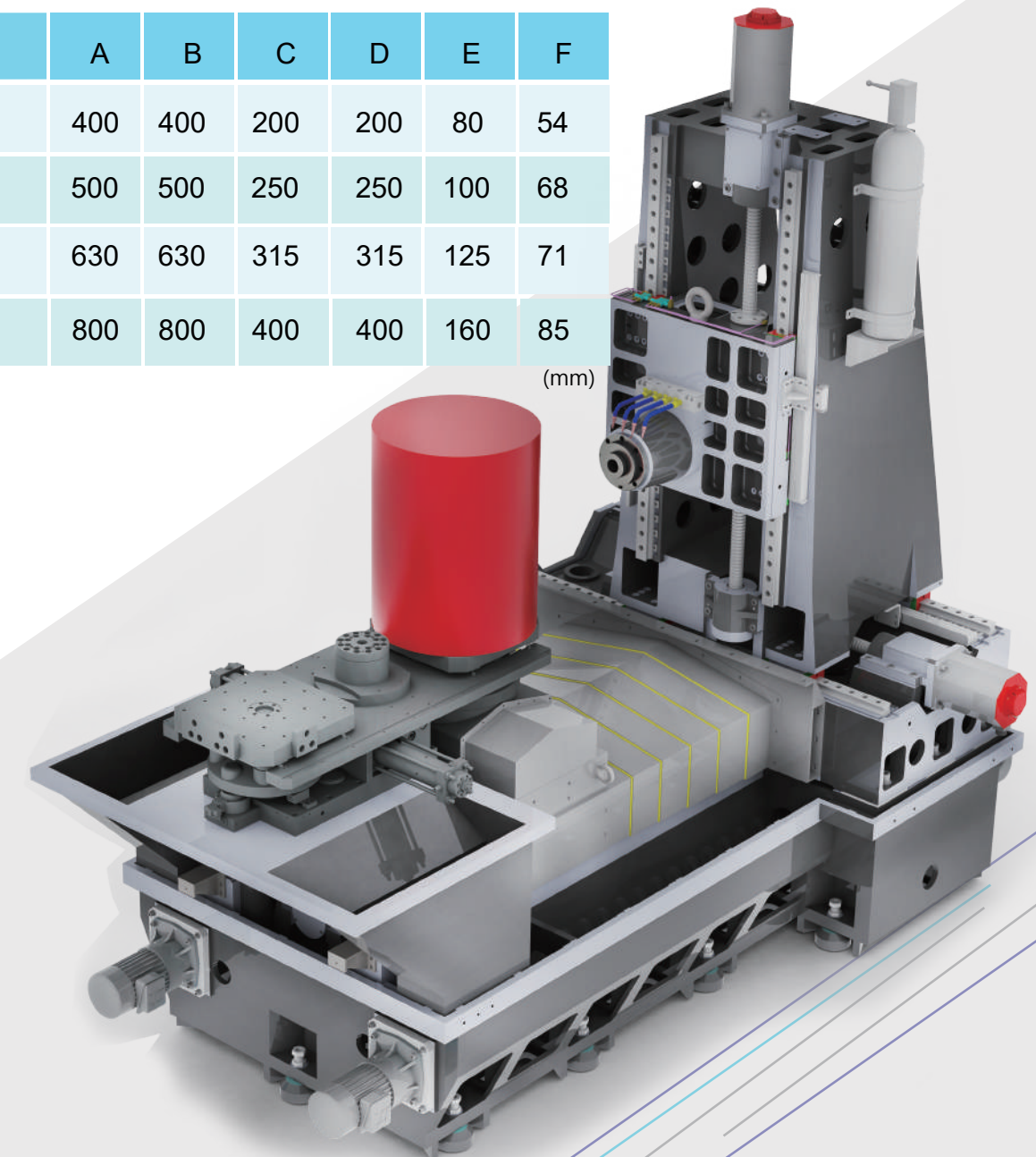
MODEL	A	B	C	D	E	F
HMC-400	400	400	200	200	80	54
HMC-500	500	500	250	250	100	68
HMC-630	630	630	315	315	125	71
HMC-800	800	800	400	400	160	85

(mm)



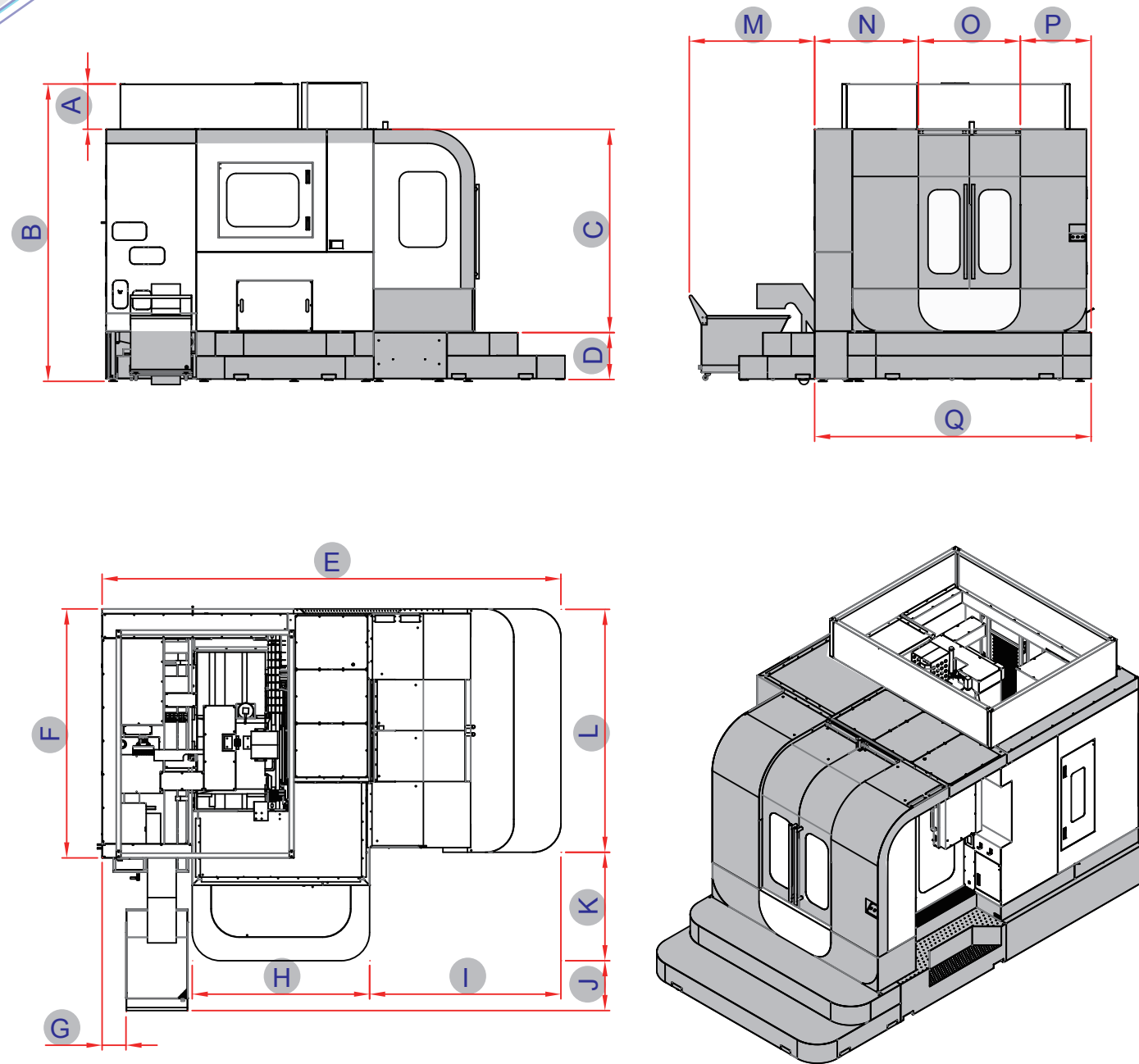
MODEL	A	B	C	D	E	F	G	H	I	J	K
HMC-400	1450	610	520	600	50	260	400	610	110	610	40
HMC-500	1750	750	620	680	50	310	500	680	50	680	50
HMC-630	2410	1050	800	850	50	400	630	950	150	850	90
HMC-800	2510	1160	1000	1000	50	500	800	1050	150	1000	90

(mm)





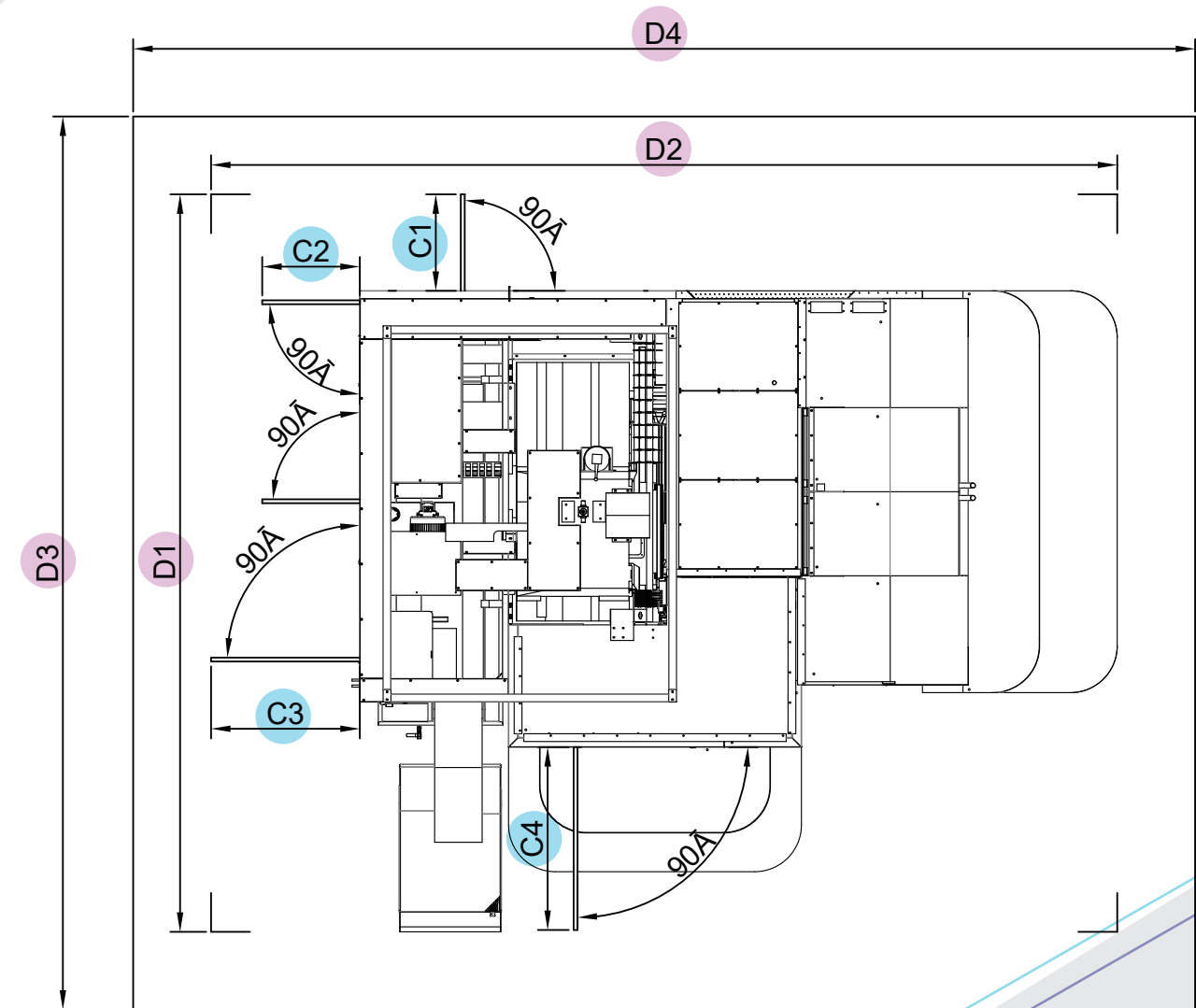
# Maching Dimensions



MODEL	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
HMC-400A	480	3130	2160	500	4860	2640	360	1880	2030	480	1190	2580	1600	1140	1080	700	2490
HMC-500A	480	3220	2300	450	4860	2640	140	2210	1900	140	1490	2580	1570	1440	1080	700	2490
HMC-630A	480	3750	2750	550	5440	2990	150	2480	2230	200	1480	3030	1670	1500	1300	810	2930
HMC-800A	480	3750	2750	550	5900	3040	150	2480	2690	200	1670	3090	1870	1740	1370	810	2990

(mm)

# Floor Space



MODEL	C1	C2	C3	C4	D1	D2	D3	D4
HMC-400A	505	570	690	1000	4430	5550	5430	6550
HMC-500A	505	570	690	1000	4730	5550	5730	6550
HMC-630A	505	570	690	1000	5120	6130	6120	7130
HMC-800A	505	570	690	1000	5420	6590	6420	7590

(mm)



# Specifications



Models	HMC-400A(B)	HMC-500A(B)	HMC-630A(B)	HMC-800A(B)
Controller	FANUC 0i-MF Plus	FANUC 0i-MF Plus	FANUC 0i-MF Plus	FANUC 0i-MF Plus
<b>Travel</b>				
XYZ Axis	X: 610, Y: 610, Z: 610 mm	X: 800, Y: 680, Z: 680 mm	X: 1050, Y: 850, Z: 950 mm	X: 1300, Y: 1000, Z: 1050 mm
Spindle Nose To Pallet	110 - 720 mm	50 - 730 mm	150 - 1100 mm	150 - 1200 mm
Spindle Center To Pallet Surface	40 - 650 mm	50 - 730 mm	90 - 940 mm	90 - 1090 mm / 0 - 1000 mm
<b>Table Size</b>				
Table Size	400X400mm	500X500mm	630X630mm	800X800mm
Number of Pallet	1 ( OP:2)	1 ( OP:2)	1 ( OP:2)	1 ( OP:2)
Pallet Surface Configuration	M12-80mm	M16-100mm	M16-125mm	M16-160mm
Pllate Maximum Load	400 KGS	500 KGS	1200 KGS	2000 KGS
Pallet Indexing	1°(OP : 0.001°)	1°(OP : 0.001°)	1°(OP : 0.001°)	1°(OP : 0.001°)
<b>Spindle</b>				
Spindle Motor	11~15kW	15~18.5kW	15~18.5kW	15~18.5kW
Spindle Taper	BT-40 ~ 8000rpm	BT-50 ~ 8000rpm	BT-50 ~ 6000rpm	BT-50 ~ 6000rpm
Spindle Transmission	Belt Driven	Belt Driven	Belt Driven	Belt Driven
Spindle Options (DDS)	Direct Driven ~ 12000rpm	Direct Driven ~ 8000rpm	Direct Driven ~ 8000rpm	Direct Driven ~ 8000rpm
Spindle Options (Gear)	n/a	Belt + ZF ~ 6000rpm	Gear Head ~ 6000rpm	Gear Head ~ 6000rpm
<b>Feed Rate</b>				
X. Y Axis Rapid Feed Rate	36m/min	24m/min	24m/min	24m/min
Z Axis Rapid Feed Rate	36m/min	24m/min	24m/min	24m/min
X. Y. Z Max.Cutting Feed Rate	10m/min	6m/min	6m/min	6m/min
<b>ATC</b>				
Arm Type	30T(op: 40,60, 80)	30T(op: 40,60, 80)	30T(op: 40,60, 80)	30T
Tool Shank	BT-40	BT-50	BT-50	BT-50
Max. Tool Diameter (adjacent)	φ150mm (φ80mm)	φ200mm (φ105mm)	φ200mm (φ105mm)	φ200mm (φ105mm)
Max. Tool Length	300mm	350mm	350mm	350mm
Max. Tool Weight	8kg	15kg	15kg	15kg
<b>Machine Accuracy</b>				
Positioning Accuracy (JIS)	±0.005mm/300mm	±0.005mm/300mm	±0.005mm/300mm	±0.005mm/300mm
Repeat Poitioning Accuracy (JIS)	±0.003mm	±0.003mm	±0.003mm	±0.003mm
<b>Other</b>				
Approximate Weight	10000kg / 11000kg	12000kg / 13000kg	15500kg / 17000kg	16500kg / 17000kg
Floor Space Measurement	A: 5000*4400*3200mm B: 5200*4400*3200mm	A: 5000*4400*3200mm B: 5600*4400*3200mm	A: 6000*4600*3800mm B: 6500*4600*3800mm	A: 6000*5000*3800mm B: 7000*5000*3800mm

## Standard Accessories

- Fanuc 0i-MF PLUS (10.4" LCD)
- Fully-Enclosed Splash Guard
- Electrical Cabinet
- Heat Exchanger
- Spindle Coolant System
- Chip Flushing System
- Work Lamp
- Alarm Lamp
- High Pressured Coolant & Air Gun
- Spindle Air Blast & Coolant Nozzle
- Rigid Tapping
- Auto Lubrication System
- USB & RS232
- Editable CF Card Function
- Portable Hand Wheel (MPG)
- Auto Interrupt & Power Off System
- Dual Screw Type Chip Conveyor
- Chain Type Chip Conveyor with cart
- Leveling Blocks & Screws
- Tool & Tool Box
- Front&Side Safety Door Lock
- Screw Type Chip Conveyor + Cart
- System Operation & Procedures Manual
- Operation Manual

## Optional Accessories

- Different Spindle Type Available
- Air conditioner for electrical cabinet
- CTS 20/30/50 bar (belt driven)
- Heidenhain linear scales for XYZB
- Renishaw NC4 (laser probe)
- Renishaw RMP60 (workpiece probe)
- Transformer 40kva
- Oil Skimmer
- CE standard