

Technical parameters

Items	unit	HMC 50Q	HMC 63Q	HMC 80Q	HMC 100Q	
<b>Work table</b>						
Worktable size	mm	500×500	630×630	800×800	1000×1000	
Worktable capacity	kg	800	1200	2000	3000	
Number of worktable	Pcs	1 (2)	1 (2)	1 (2)	1 (2)	
<b>Working range</b>						
X axis travel	mm	750	1000	1350	1800	
Y axis travel	mm	600	900	1100	1500	
Z axis travel	mm	600	900	1100	1350	
B-axis indexing		1°×360	1°×360	1°×360	1°×360	
Max. rotation diameter of workpiece	mm	Φ800	Φ1100	Φ1350	Φ1500	
Distance from spindle nose to worktable center	Max	mm	750	1050	1300	1650
	Min	mm	150	150	200	300
Distance between spindle nose to worktable surface	Max	mm	650	900	1100	1600
	Min	mm	50	0	0	100
<b>Spindle</b>						
Spindle taper (7: 24)		BT40	BT50	BT50	BT50	
Maximum speed	rpm	8000	6000	6000	4500	
Spindle motor power (continuous/S2)	kw	7.5/11	15/18.5	15/18.5	18.5/22	
Maximum output torque(continuous/S2)	Nm	53/105 (15min)	433/713 (15min)	433/713 (15min)	713/871 (15min)	
<b>Tool magazine</b>						
Tool magazine capacity	Pcs	24	24	24	40	
Max. tool length	mm	300	400	500	500	
Max. tool weight	kg	8	15	15	25	
Max. tool diameter full/empty	mm	Φ78/Φ120	Φ110/Φ220	Φ110/Φ220	Φ125/Φ250	
Tool change time (T-T)	s	3	3.8	4.3	5.5	
<b>Feed</b>						
Maximum cutting feed speed(X/Y/Z)	mm/min	1-36000	1-24000	1-24000	1-20000	
Rapid traverse (X/Y/Z)	m/min	36	24	24	20	
<b>Positioning accuracy</b>						
X/Y/Z axis	mm	0.01	0.01	0.01	0.012	
B axis (1° X360)	"	10	10	10	10	
<b>Repetitive positioning accuracy</b>						
X/Y/Z axis	mm	0.006	0.006	0.008	0.008	
B axis (1°×360)	"	3	3	3	3	
<b>Overall dimension (LxWxH)</b>	mm	3250×2650×2650	3700×3000×3250	4300×3400×3600	6100×5000×4600	
<b>Floor space</b>	mm	4000×4000	4500×4300	5100×5000	6800×6000	

Standard

- FANUC 0i MF PLUS controller
- 1° Positioning worktable
- Mechanical spindle
- Water tank+bed dual spiral conveyor

Optional

- Dual Exchanging Worktables
- Rotary worktable
- Motorized spindle
- Encoder
- Spindle internal cooling chain conveyor
- Water gun
- Automatic door

Note: The parameters provided in the table are for reference only, changes will not be informed. If you need special configuration, please contact us.

The explanation, diagram and technical parameters are varying with continuous technology development without further notice.

# HMC Q Series

## Horizontal Machining Center



# HMC **Q Series**

## Horizontal Machining Center

General

### HMC50Q/63Q/80Q/100Q

#### Introduction

HMC-Q series horizontal machining center is a new generation of high-performance and compact machine. It has excellent quality, high reliability and efficiency. It is widely used in auto parts, pump, valves and other industries. It can meet the processing requirements of single or small batch products with high efficiency.

#### High stability structure

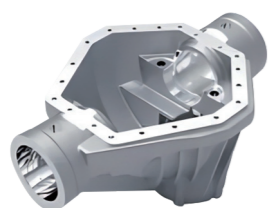
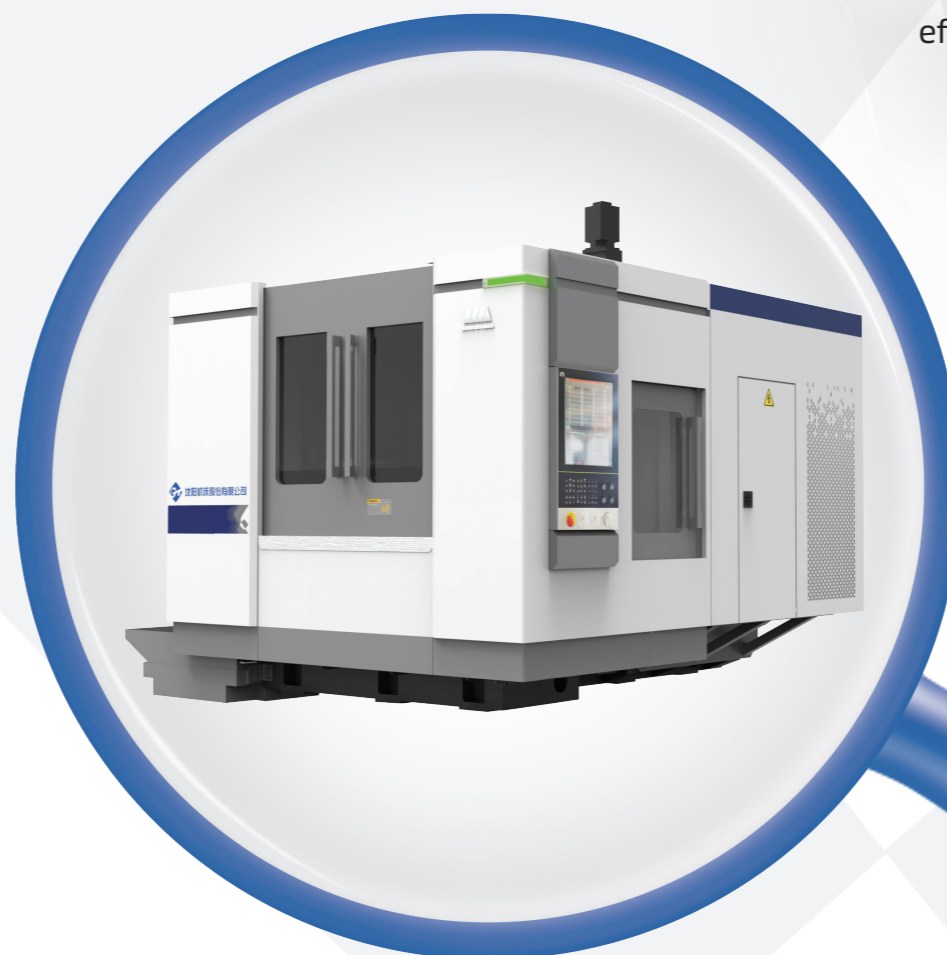
- ◆ Inverted T-shaped integrally cast bed
- ◆ Y-axis motor base and column are casted together
- ◆ Thermally symmetrical spindle

#### High processing capability

- ◆ Gearshift headstock
- ◆ Multi-spindle selection to meet different working conditions
- ◆ Multiple types of tool magazine configuration, meet different efficiency

#### High intelligent function

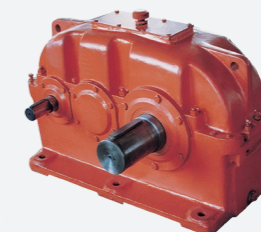
- ◆ Intelligent check and maintenance plan
- ◆ Automatic data backup
- ◆ Spindle intelligent load control



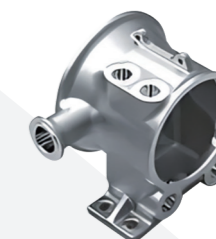
Auto parts



construction machinery

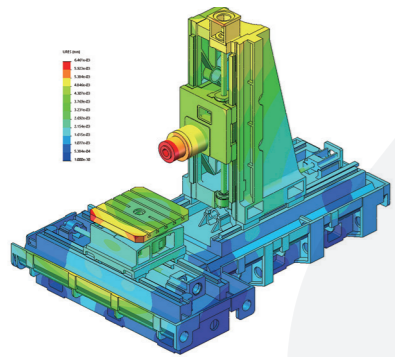


Gear box industry



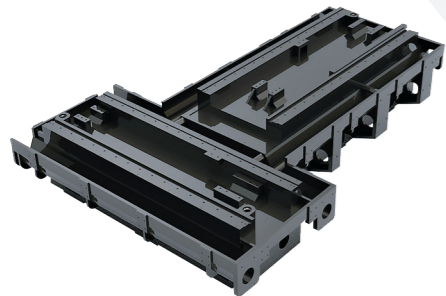
Pump and Valves industry

# High stability structure



## Finite element and topology optimization structure

The machine tool is designed with finite element analysis and well stiffened, the overall structure and large part are optimized to improve the rigidity and stability of the whole machine.



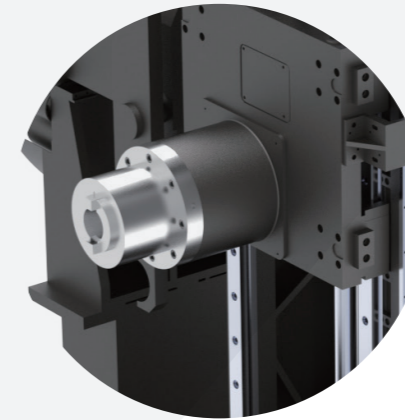
## High strength integrally cast bed

Inverted T-shaped integrated bed, large span, low center of gravity, well stiffened, strengthened anti-deformation, using 4 groups of twisted cage for chip removal ensure removal efficiency



## Y-axis motor base and column are casted together

Double-wall structure is adopted by the columns of this series, Y-axis motor base and column are casted together to improve the accuracy and stability of machine tool



## thermally symmetrical spindle

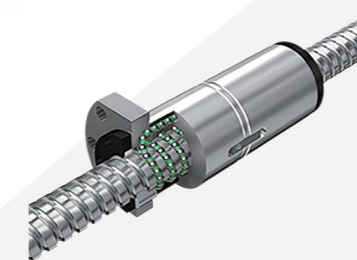
Thermal symmetry spindle improve the controllability of thermal deformation; Excellent thermal stability.

## Heavy load roller guideway

All three axes are equipped with a high-rigidity heavy load roller linear guideway. The four force direction of the slide block have the same load, makes the machine tool got large bearing capacity and improves the rigidity of the whole machine.

## Precision ball screw

All three axes are equipped with precision ball screw, pre-stretching process is adopted to effectively reduce the influence of the screw heating during working, improve the accuracy of the machine tool, strengthened anti-deformation ability and accuracy retention.



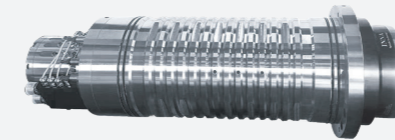
# High processing capability



## Mechanical spindle

- ◆ Two gear shift speed change is adopted to achieve from high-speed machining to heavy cutting
- ◆ Large-span bearing arrangement, high rigidity

	Unit	HMC 50Q	HMC 63Q	HMC 80Q	HMC 100Q
Maximum speed	rpm	8000	6000	6000	4500
spindle motor power(continuous/S2)	kw	7.5/11	15/18.5	15/18.5	18.5/22
Maximum torque	Nm	105	713	713	871
Spindle taper		BT40	BT50	BT50	BT50

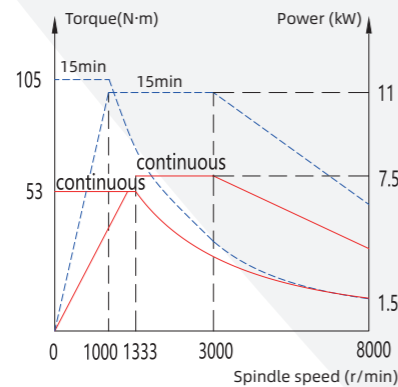


## Motorized spindle (optional)

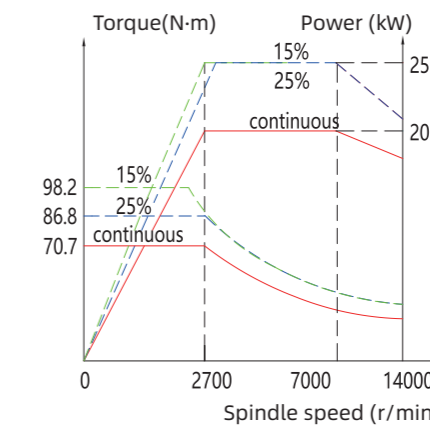
- ◆ Multi-spindle selection to meet different working conditions
- ◆ Widely used in high-speed and high-torque parts cutting, with wide applicability

	Unit	HMC 50Q	HMC 63Q	HMC 80Q	HMC 100Q
Maximum speed	rpm	14000	8000	8000	8000
spindle motor power(continuous/S2)	kw	20/25	14.7/40	14.7/40	14.7/40
Maximum torque	Nm	98.2	623	623	623
Spindle taper		BT40	BT50	BT50	BT50

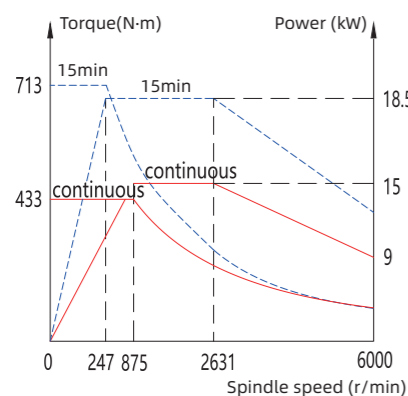
## Excellent performance



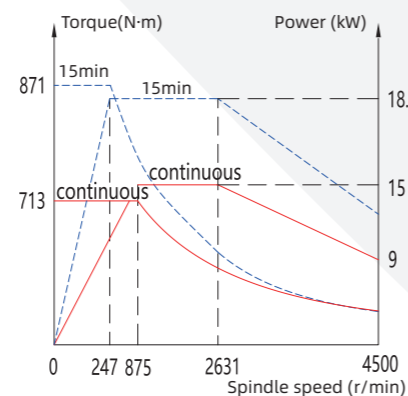
HMC50Q



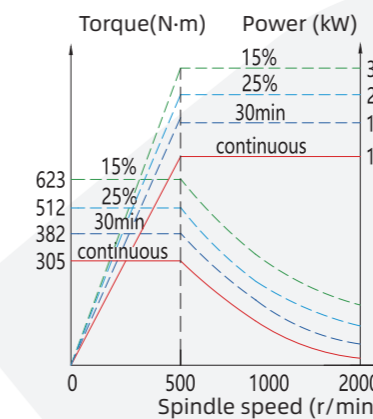
HMC50Q



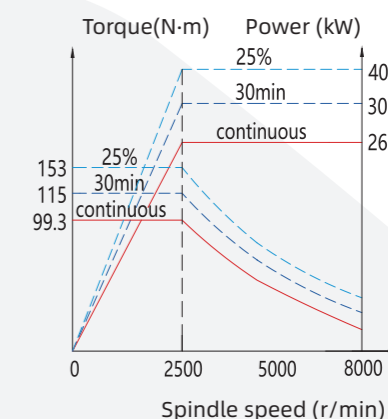
HMC63Q/HMC80Q



HMC100Q



HMC63Q/HMC80Q/HMC100Q



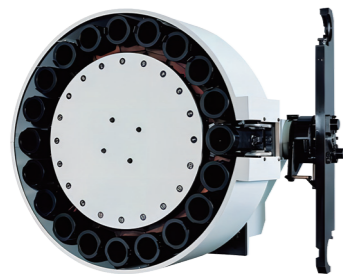
# High processing capacity



## High-precision rotary worktable

- ◆ Standard equipped with 1 ° indexing positioning workbench
- ◆ Options: 0.001 ° rotary worktable and Daul exchange worktable
- ◆ Options: hydraulic chuck interface
- ◆ Accurate and reliable

Worktable specifications	Unit	HMC 50Q	HMC 63Q	HMC 80Q	HMC 100Q
Worktable size	mm	500×500	630×630	800×800	1000×1000
Worktable capacity	kg	800	1200	2000	3000
Min. index	°	1° /0.001°	1° /0.001°	1° /0.001°	1° /0.001°
Rotary speed	rpm	22	16	11	5.5



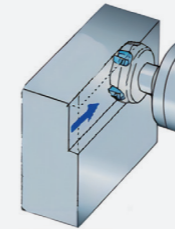
## Multiple types of ATC configuration, meet different efficiency

- ◆ Automatic tool change mechanism to achieve rapid tool change
- ◆ With tool preselection function, greatly reduce non-cutting time
- ◆ Servo ATC is optional to improve processing efficiency
- ◆ Cam tool change device ensures the reliability of tool change for long and large diameter tools

ATC specifications	Unit	HMC 50Q	HMC 63Q	HMC 80Q	HMC 100Q
Tool magazine capacity	count	24/30	24/40	24/40	40/60
Max. tool length	mm	300	400	500	500
Max. tool weight	kg	8	15	15	25
Exchange time(T-T)	s	3	3.8	4.3	5.5

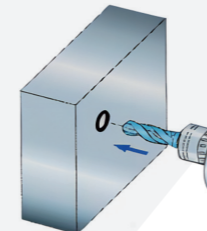
## Excellent performance

### Milling



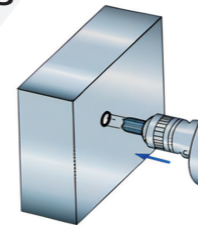
Model No.	HMC 50Q	HMC 63Q	HMC 80Q	HMC 100Q
Tool	D80 Face mill	D80 Face mill	D80 Face mill	D80 Face mill
Spindle speed r/min	1035	1074	1074	1035
Feed speed mm/min	1676	2192	2192	2607
Cutting depth/width mm	2.7/64	3.8/64	3.8/64	4/64
Removal rate cm <sup>3</sup> /min	322	533	533	667

### Drilling



Model No.	HMC 50Q	HMC 63Q	HMC 80Q	HMC 100Q
Tool	D50	D50	D50	D60
Spindle speed r/min	U Drill	U Drill	U Drill	U Drill
Feed speed mm/min	891	1019	1019	1061
Cutting depth/width mm	89	173	173	138
Removal rate cm <sup>3</sup> /min	262	510	510	585

### Tapping



Model No.	HMC 50Q	HMC 63Q	HMC 80Q	HMC 100Q
Tool	M20×2.5	M36×4	M36×4	M48×5
Type	Cutting tap	Cutting tap	Cutting tap	Cutting tap
Spindle speed r/min	240	133	133	100
Feed speed mm/min	600	531	531	500

Note: Result is under workpiece HT250. The table is only for reference. Due to the differences in the environment and cutting conditions during the processing, the actual results will be different

## Working range



Model No.	A Max. Dia	B Max. Height
HMC50Q	Φ800	700
HMC63Q	Φ1100	1100
HMC80Q	Φ1350	1200
HMC100Q	Φ1500	1500

Unit: mm

# High intelligent function



## Intelligent check and maintenance plan

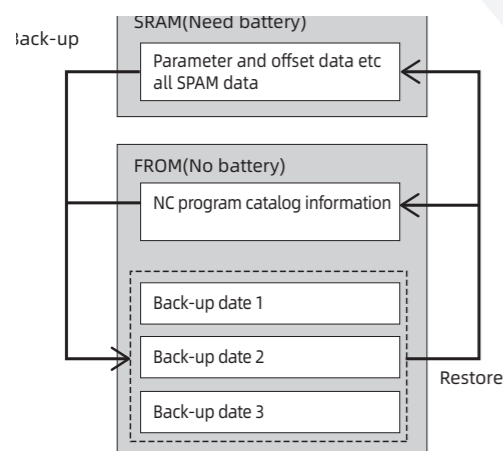
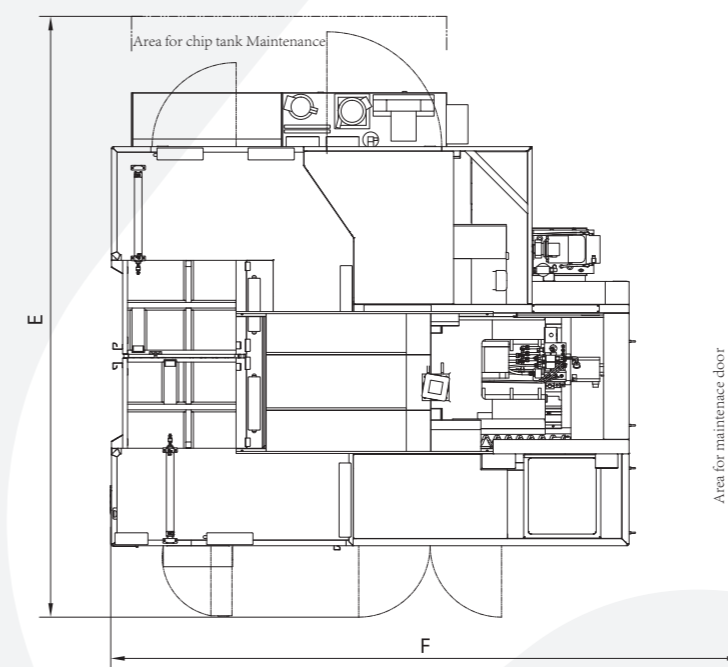
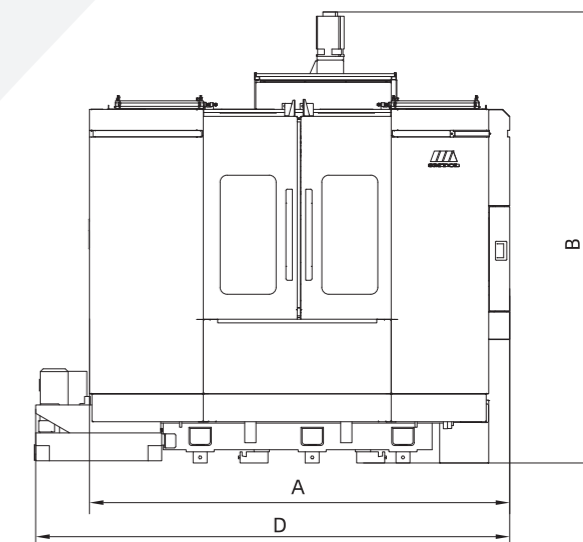
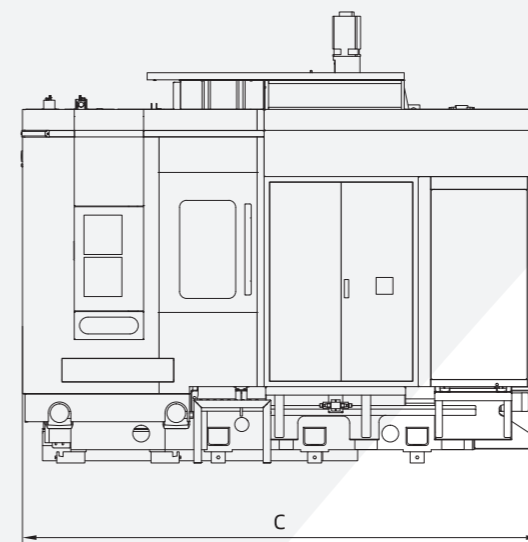
Customized daily inspection, weekly inspection, monthly inspection, 1500-hour inspection or 3000-hour inspection. Maintenance visualization.



## ATC management and signal diagnosis

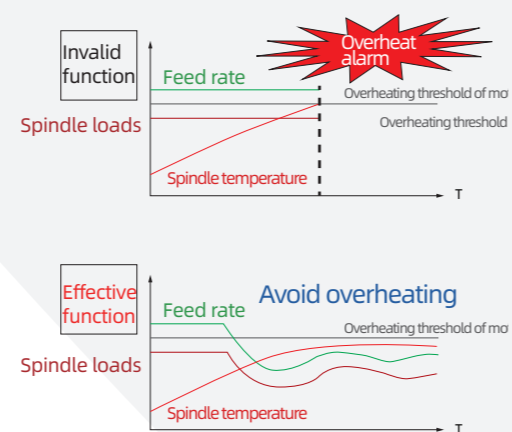
One-click initialization to achieve rapid config. and update ;  
One-click set tool change position, easy to operate;  
One-click to set the large dia.tool and fixed position for tool exchange to avoid operation error

## Machine layout



## Automatic data backup

The data of all SRAM packages such as parameters and offset data are saved in FROM, and are automatically updated at a fixed period. Once lost, they can be retrieved to achieve automatic data backup.



## Spindle intelligent load control (optional)

According to the load and temperature of the spindle, it can automatically control the feed speed, improve efficiency and protect the tool. At the same time, it can shorten the processing cycle and prolong the tool life.

Unit: mm

Model No.	A	B	C	D	E	F
HMC50Q	2650	2650	3250	3100	4000	4000
HMC63Q	3000	3250	3700	3400	4300	4500
HMC80Q	3400	3600	4300	4000	5000	5100
HMC100Q	5000	4600	6100	5600	6000	6800