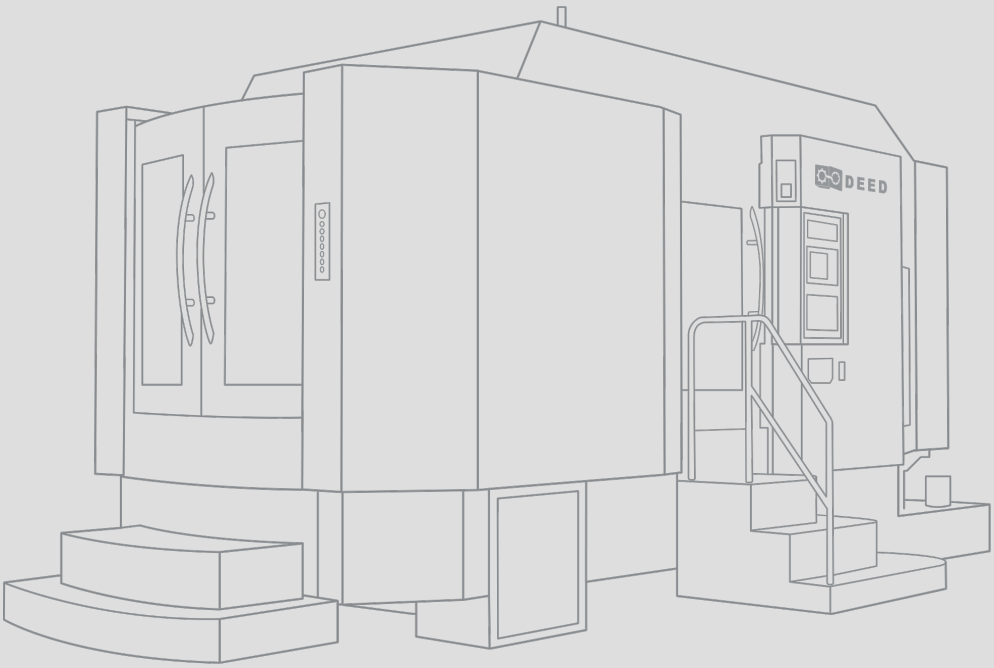
DEED BENELUX

HMC SERIES

HORIZONTAL MACHINING CENTER

ADVANCED GERMAN TECHNOLOGY WITH THE STRENGTH OF CHINESE MANUFACTURING



COMPANY PROFILE



Shandong Deed Precision Machine Tool Co., Ltd. is a high-end equipment enterprise integrating R&D, production and sales of high-end CNC machine tools, located in Yanzhou District, Jining City. The company takes high-speed vertical machining center, large scale gantry machining center, high-efficiency drilling & tapping machining center, high-precision turning center, high-precision five-axis linkage machining center, horizontal milling & boring machining center and horizontal machining center as the leading products, and serves a wide range of key industries such as aviation, aerospace, military, shipbuilding, automobile, construction machinery, rail transit, 5G, precision mold and others, both in the domestic and overseas markets. The company vigorously implements the development strategy of “going out and bringing in”, and has reached a comprehensive strategic cooperation with the well-known German CNC machine tool manufacturing enterprise ROTTLER to jointly develop high-grade precision machine tools of the world’s leading level and jointly explore the global high-end market. Establishing a high-end machine tool R & D center and manufacturing base in Germany - “Hipreed Technology GmbH”, fully implementing international operations and achieving the perfect combination of German technology and Chinese manufacturing. The company has five domestic and foreign R & D centers, with six provincial and municipal innovation platforms, with comprehensive R & D, experiment, testing, manufacturing advantages of high-grade machine tool research and development, new material development, advanced technology testing and reliability improvement. Through continuous innovation and breakthrough, it has undertaken 25 key government science and technology projects, obtained more than 200 intellectual property rights of various types, 15 scientific and technological achievement awards, and is in a leading position of the overall development and innovation ability in the industry. With strong technology and innovation advantages, the company has passed the ISO9001 quality management system certification, ISO14001 environmental management system certification and ISO45001 occupational health and safety management system certification. It has won more than 80 key awards such as the “National High-Tech Enterprise”, “National Specialized New Little Giant Enterprise”, the highest award of China’s machine tool industry the “ Spring Swallow Award”, “ Top 10 Product Quality of China’s Machine Tool Industry”, and “Chinese Machinery Industry Science & Technology Progress 2nd Award “ etc.

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HMC SERIES

HORIZONTAL MACHINING CENTER

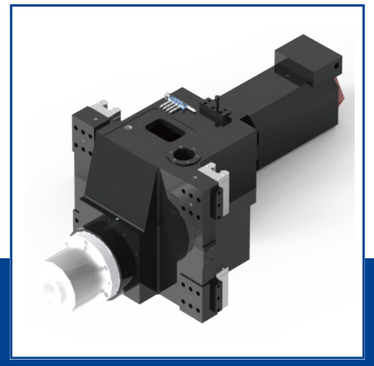
Portal type double-wall structure column

For high-rigidity heavy cutting and high-precision machining

PRODUCT OVERVIEW

The HMC series is a range of high-precision horizontal machining centers developed and manufactured by Deed, based on advanced technology from home and abroad. These 4-axis, 3-linkage CNC machine tools combine high precision, high speed, high efficiency and high reliability. They are suitable for multi-face and hole semi-finishing and finishing of box-type parts in industries such as aerospace, defence, automotive and precision molds. Together with tooling and fixtures, complex multi-face parts, holes and surfaces can be machined in one setup. The machines can also be combined with other CNC machine tools to form flexible manufacturing cells and production lines. Available as single-pallet (HMC-S) and double-pallet (HMC) versions.

PRODUCT ADVANTAGES



Standard spindle
Motor: βiP30/8000
Torque: 143/236 Nm
Speed: 6000 rpm



The machine bed is cast in one piece from nanoscale mineral material. Excellent vibration absorption and thermal stability effectively improve the surface quality of the workpiece and the service life of the cutting tools.



The columns adopt a closed frame structure to improve bending and torsion resistance.

High-precision horizontal machining center with hard cutting capabilities

Rough machining: high rigidity, heavy cutting

Precise machining: high precision, fine finishing

- Tool magazine
  Fully automatic cam-type tool magazine with fast, frequency-controlled tool change.

- Machine guarding
  Armor-type shield made from raw materials imported from Germany.

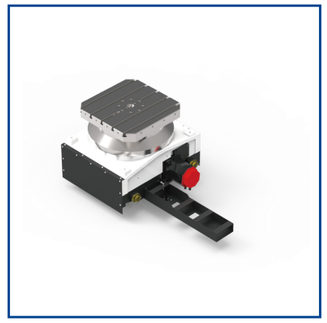
- Rotary table
  High-performance indexing rotary table made in Taiwan.

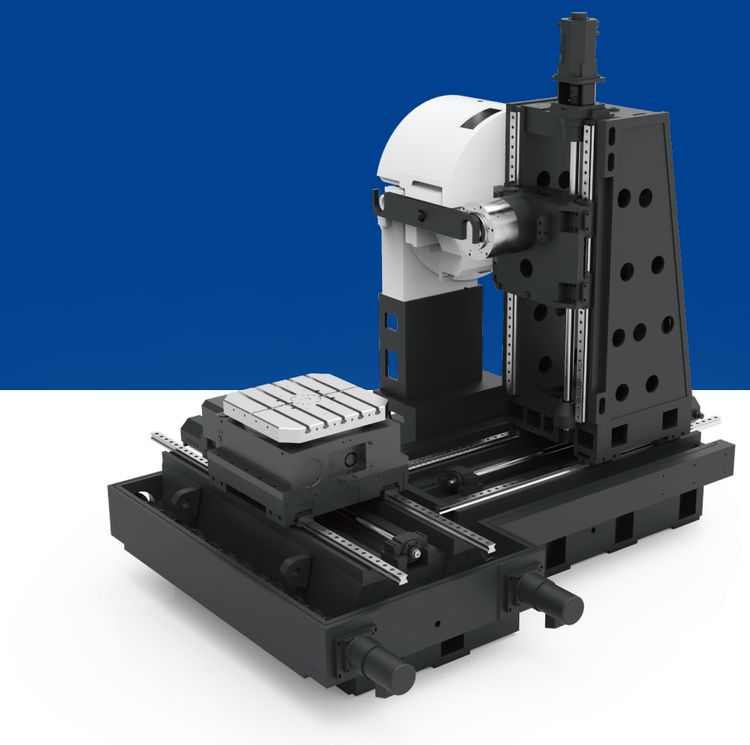
- Machine bed
  Solid mineral casting structure with high rigidity and high reliability, suitable for heavy cutting.

- Chip removal
  Centralized chip removal for high efficiency and high stability.

- Single-pallet horizontal machining center
  This series adopts an inverted T-shape one-piece bed and a portal double-wall column structure, giving strong structural rigidity, large travels and high precision. It is suitable for heavy cutting and high-precision machining: milling, boring, drilling (drilling, expanding, reaming) and tapping, for single parts as well as small and medium batches.

- Worktable
  The table surface can be supplied with T-slots or threaded holes. A 1°×360 indexing table is standard; a 0.001° CNC rotary table is available as an option.





TECHNICAL PARAMETERS

Single-pallet horizontal machining center

Configuration / Model		Unit	HMC50S	HMC63S	HMC80S	HMC100S
Processing range	X axis travel	mm	850	1050	1500	1600
	Y axis travel	mm	600	800	1000	1200
	Z axis travel	mm	700	950	1150	1200
	Spindle center to table surface	mm	120-720	120-920	120-1120	120-1320
	Spindle nose to table center	mm	175-875	200-1150	250-1400	300-1500
	Max. workpiece rotation dia.	mm	800	1050	2200	2300
	Max. workpiece height	mm	800	1000	1200	1400
Table	Table size	mm	500×500	630×630	800×800	1000×1000
	Max. loading	kg	600	1200	2500/2000	3000/2000
	Min. indexing	°	1/0.001			
Spindle	Spindle taper	/	BT50			
	Spindle speed	rpm	6000			
	Main motor power (continuous/30 min)	kW	15/18.5			
	Spindle torque (continuous/30 min)	Nm	143/236			

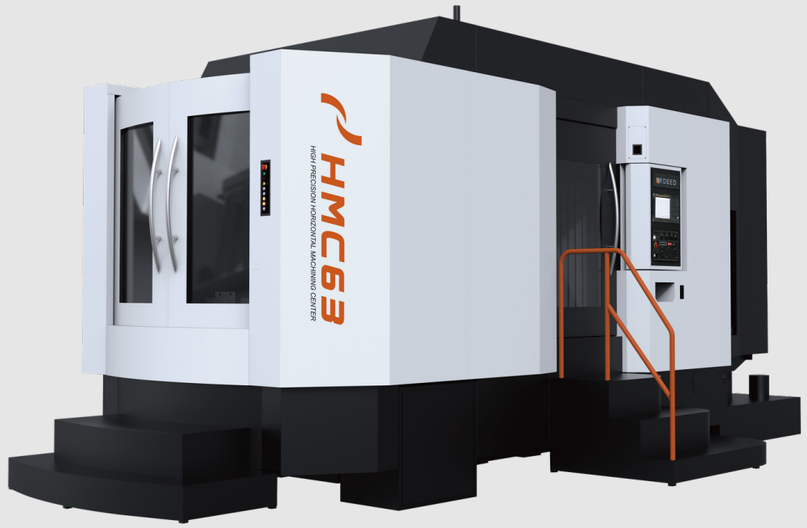
TECHNICAL PARAMETERS

Single-pallet horizontal machining center

Configuration / Model		Unit	HMC50S	HMC63S	HMC80S	HMC100S
Feed	X/Y/Z axis cutting speed	mm/min	0~10000			
	X/Y/Z axis rapid traverse	m/min	24	24	20	16
Precision	X/Y/Z axis positioning	mm	0.01	0.01	0.012	0.02/0.015/0.015
	X/Y/Z axis repeatability	mm	0.005	0.006	0.008	0.015/0.01/0.01
	B axis positioning	″	10			
	B axis repeatability	″	3			
Tool magazine	Tool magazine type	/	Disc			
	Tool change time (tool to tool)	sec	7			
	Tool magazine capacity	T	24			
	Max. tool size (full/unfull/length)	mm	Ø112/Ø200/300			
	Max. tool weight	kg	18			

* The parameters are subject to the technical agreement

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HMC SERIES

DOUBLE-PALLET HORIZONTAL MACHINING CENTER

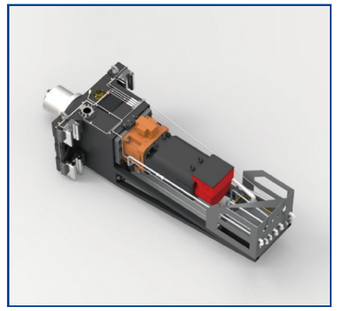
High-speed machining with automatic pallet change

Ready for automated, high-efficiency production

PRODUCT OVERVIEW

This series of high-speed horizontal machining centers is built on a positive T-shaped, one-piece cast high-rigidity base and a portal double-wall column. Designed with the help of FEM analysis, the spindle box is mounted upright, enabling high-rigidity heavy cutting. Equipped with an automatic tool changer (ATC) and automatic pallet changer (APC), the machine offers improved reliability and easier maintenance. It can also be equipped with additional automatic pallets to build an automated production line for high-efficiency production.

PRODUCT ADVANTAGES



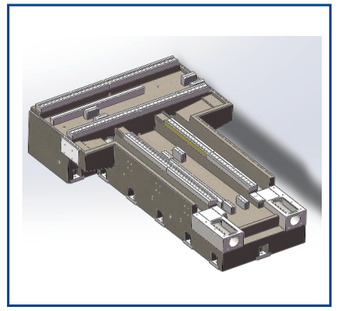
- Spindle

  Standard spindle air curtain prevents chips from entering the spindle bearings. Standard spindle oil cooler circulates cooled oil around the spindle, reducing thermal elongation and improving machining precision and spindle life. Standard two-speed gearbox with a maximum output torque of 770 Nm.



- Pallet changer

  Rotary pallet changer that works smoothly, fast and reliably. A hydraulic clamping interface with its own independent hydraulic system ensures constant clamping pressure. All table cables and lines run through drag chains for a longer service life and easy maintenance. Table surface with T-slots or threaded holes; 1°×360 indexing as standard, 0.001° CNC table as option.



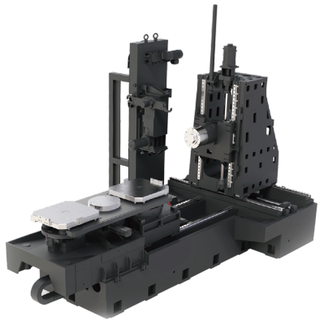
- Machine bed

  The bed is cast in one piece from nanoscale mineral material, with excellent vibration absorption and thermal stability. This effectively improves surface quality and the service life of the cutting tools.



- Column

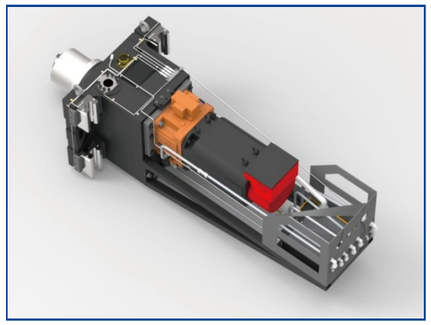
  The columns adopt a closed frame structure, improving bending and torsion resistance.



SPINDLE BOX

High-speed spindle unit

Standard	**Two-speed gearbox**
Spindle motor power	**18.5/22 kW**
Spindle speed	**6000 rpm**
Spindle torque	**649/770 Nm**



- An automatic constant-temperature circulating oil cooling system limits spindle temperature rise and thermal deformation, ensuring machining precision.
- The spindle front is equipped with a spindle air curtain that keeps the bearings clean, protects them and extends their service life.

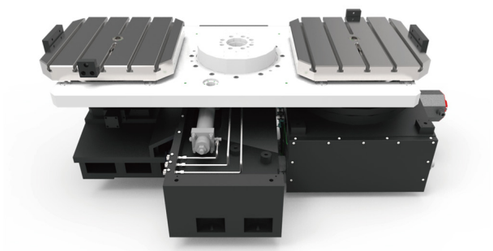
AUTOMATIC PALLET CHANGE

High-speed APC

The standard lifting and rotating automatic pallet changer keeps pallet change time to a minimum. The waiting pallet can be rotated and fixed in 90° steps, making it easy to unload the workpiece and remove chips.

APC exchange time

14 s (HMC50)



PALLET

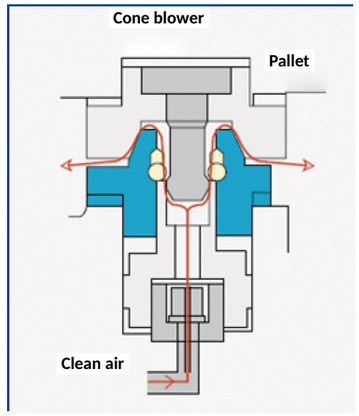


High-precision pallet

The positioning cones on the positioning base are used for pallet clamping. A clamping device inside each cone provides a strong clamping force during heavy cutting.

Air cleaning system

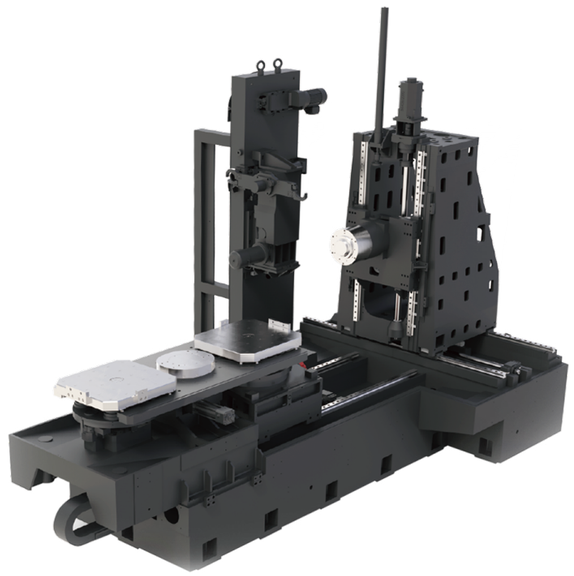
During pallet change, a powerful airflow blows out from the table center hole. It removes chips and cleans the pallet positioning surface, ensuring high pallet positioning accuracy and optimal machining rigidity.



PROCESSING RANGE

	HMC50	HMC63	HMC80
Table size	500×500 mm	630×630 mm	800×800 mm
Max. loading	600 kg	1200 kg	2000 kg
Max. workpiece rotation dia.	800 mm	1050 mm	1200 mm
Max. workpiece height	800 mm	1000 mm	1200 mm

* The parameters are subject to the technical agreement



TECHNICAL PARAMETERS

Double-pallet horizontal machining center

Configuration / Model		Unit	HMC50	HMC63	HMC80
Working range	X axis travel	mm	850	1050	1300
	Y axis travel	mm	600	850	1100
	Z axis travel	mm	700	900	1100
	Spindle center to table surface	mm	50-650	50-900	120-1220
	Spindle nose to table center	mm	175-875	175-1075	250-1350
	Max. workpiece rotation dia.	mm	800	1050	1200
	Max. workpiece height	mm	800	1000	1200
Table	Table quantity	/	2		
	Table size	mm	500×500	630×630	800×800
	Table max. loading	kg	600	1200	2000
	Table min. indexing	°	1/0.001		
	Table exchange time	sec	14	16	18
Spindle	Spindle taper	/	BBT50		
	Spindle speed	rpm	6000		
	Spindle motor power (continuous/30 min)	kW	18.5/22		
	Spindle torque (continuous/30 min)	Nm	649/770		

TECHNICAL PARAMETERS

Double-pallet horizontal machining center

Configuration / Model		Unit	HMC50	HMC63	HMC80
Feed	X/Y/Z axis cutting speed	mm/min	0~10000	0~10000	0~10000
	X/Y/Z axis rapid traverse	m/min	40	40	32
Precision	X/Y/Z axis positioning	mm	0.01	0.01	0.012
	X/Y/Z axis repeatability	mm	0.005	0.006	0.008
	B axis positioning	″	10		
	B axis repeatability	″	3		
Tool magazine	Tool magazine type	/	Chain type		
	Tool change time (tool to tool)	sec	7		
	Tool magazine capacity	T	40		
	Max. tool size (full/unfull/length)	mm	Ø125/Ø250/400		
	Max. tool weight	kg	25		

* The parameters are subject to the technical agreement

Thanks to our direct contact with the factory, additional options and custom-made solutions are possible.
Please ask about the possibilities.

NOTES

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