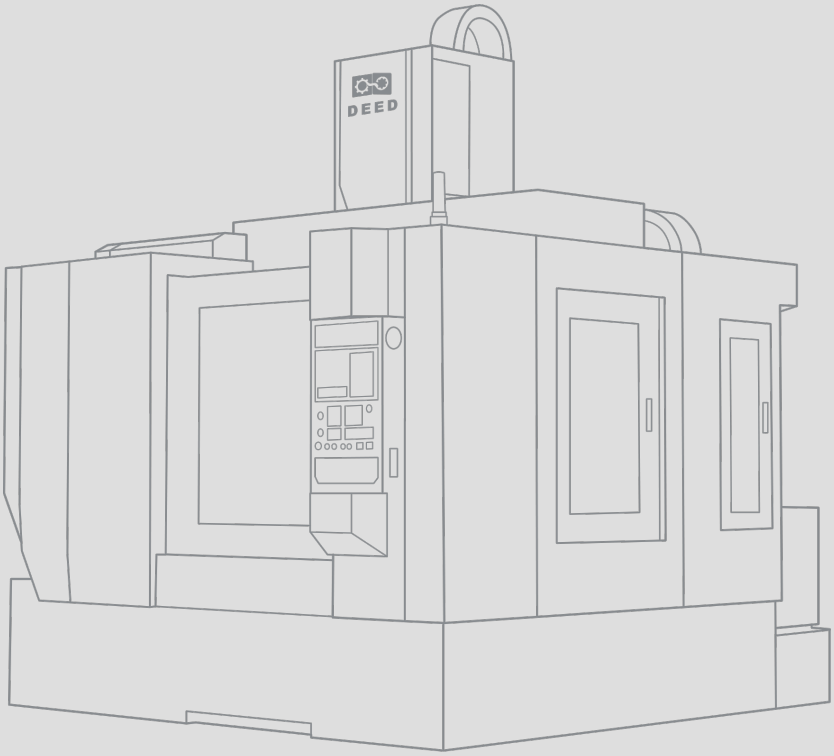
DEED BENELUX

GV SERIES

GANTRY STRUCTURE VERTICAL 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.

CATALOG

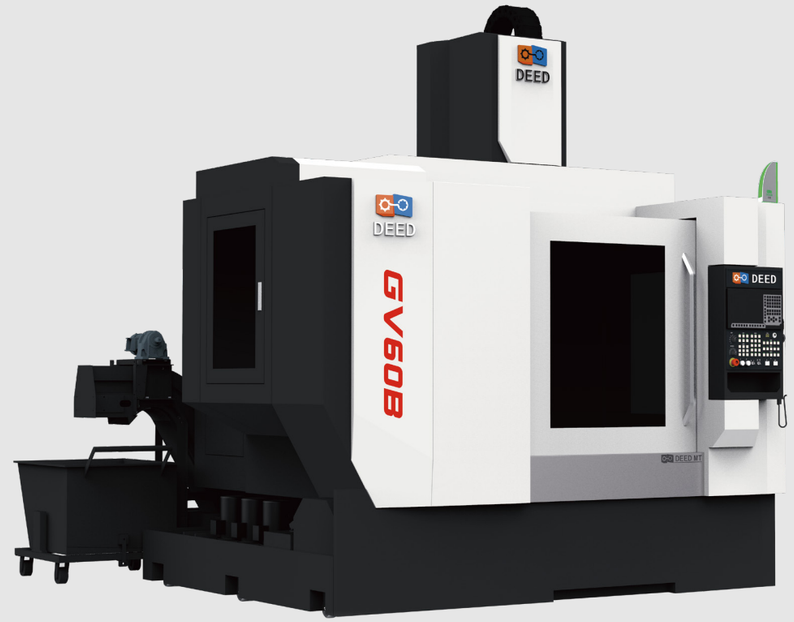
5 GV Series Gantry Structure Vertical Machining Center

6 Product advantages

8 Technical parameters

9 Configurations

DEED BENELUX



GV SERIES

GANTRY STRUCTURE VERTICAL MACHINING CENTER

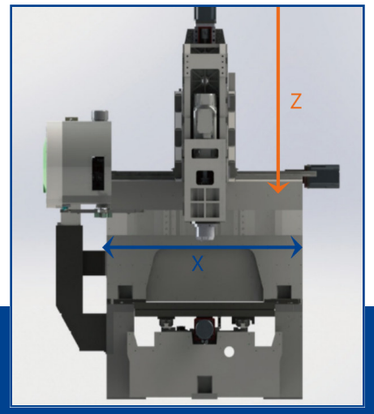
High rigidity, all-round temperature control

Best choice for high-precision parts and mold making

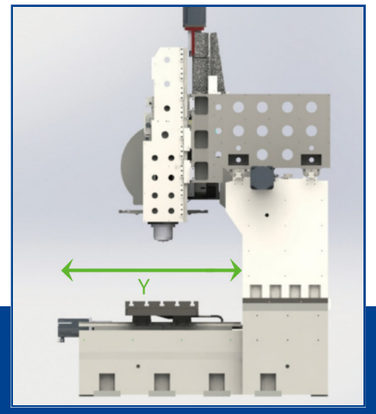
PRODUCT OVERVIEW

This series of vertical machining centers is mainly used for mold making and high-precision parts machining. The machine adopts a symmetrical, highly rigid, stable and reliable gantry structure on a mineral casting bed with excellent rigidity and thermal stability. The machine body is as wide as the base, and the table runs independently on the base, giving full-stroke support. Optional bed and beam cooling, drive motor temperature control and coolant temperature control keep the machine stable and precise in continuous operation. Excellent dynamic performance, an ideal axis ratio, high precision and high stability make it a reliable solution for the production of high-precision workpieces.

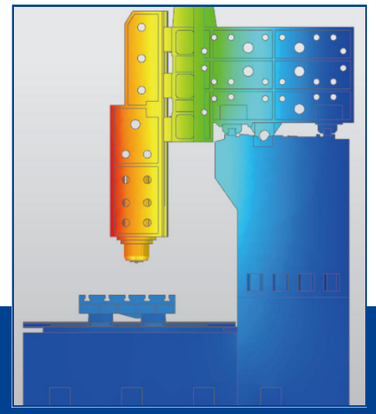
PRODUCT ADVANTAGES



Portal structure
Most feed movement is concentrated on non-load parts, reducing motion inertia and ensuring machining quality.

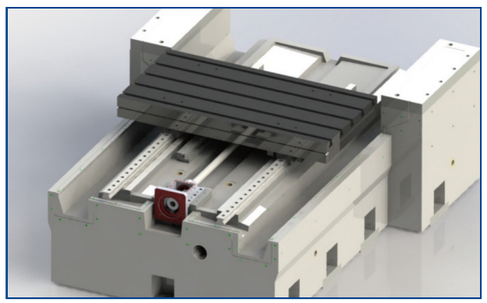


The large-span support ensures the contact rigidity of the base components and the mechanical rigidity. The short distance between the spindle box center of gravity and the beam gives excellent spindle rigidity.

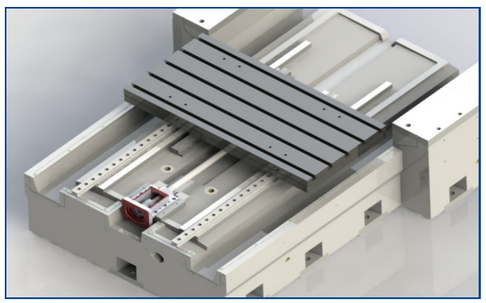


FEA optimized
Finite element analysis shows the machine structure has reached the best possible rigidity for this configuration.

MACHINE BED

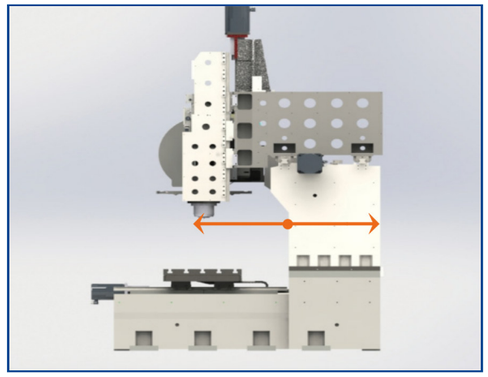


The Y-axis motor seat is placed at the front, reducing the zero-point shift caused by thermal expansion of the ball screw.

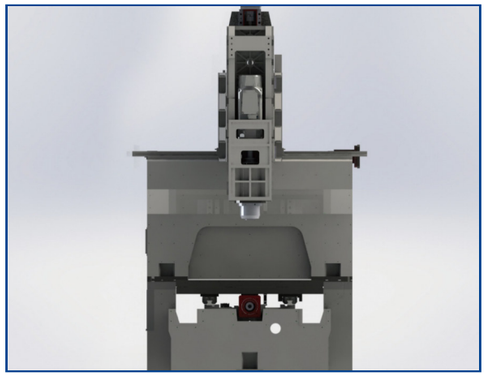


Both sides of the bed have full-length chip channels, so the chip conveyor can easily be placed at the front, rear or side, or changed from chain type to auger type.

BEAM

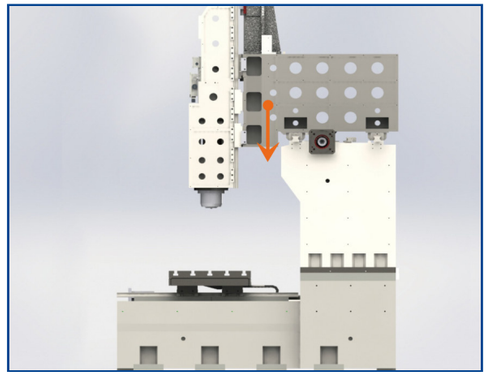


Large beam thickness: the ratio between the spindle center to column front support surface and the column thickness is 1:1, for higher rigidity.



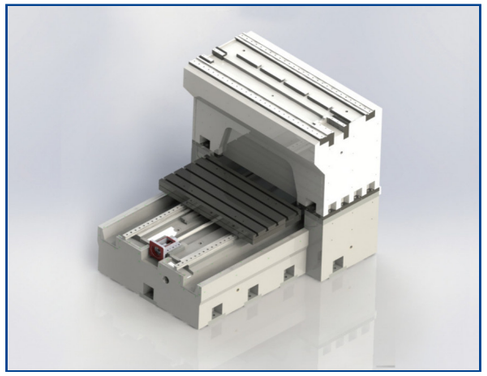
The beam is supported over the full travel, for excellent machining rigidity.

Saddle and spindle box



Short overhang of the center of gravity, for good machining rigidity.

Table



Within its effective travel, the table moves completely outside the beam's working range, so long fixtures can be used when needed.

TECHNICAL PARAMETERS

GV Series vertical machining center | standard configuration

Configuration / Model		Unit	GV50B	GV60B	GV70B
Processing range	X axis travel	mm	800	1100	1300
	Y axis travel	mm	500	600	700
	Z axis travel	mm	400	500	600
	Spindle nose to table	mm	150~550	150~650	150~750
Table	Table size	mm	900×500	1200×600	1400×700
	Table max. load	kg	600	1000	1500
Feed	X/Y/Z axis rapid traverse	m/min	36/36/32	32/32/30	30/30/24
Spindle	Drive mode	/	Direct drive		
	Spindle taper	/	BBT40		
	Max. speed	rpm	15000		
	Power (rated/max)	kW	8.5/16.2		
	Torque (rated/max)	Nm	54/115		
Accuracy	X/Y/Z axis positioning (semi-closed loop)	mm	0.005 (full length)	0.005 (full length)	0.006 (full length)
	X/Y/Z axis repeatability (semi-closed loop)	mm	0.003 (full length)	0.003 (full length)	0.004 (full length)
Tool magazine	Tool magazine type	/	Disc		
	Tool magazine capacity	T	24		

* Values shown apply to the standard configuration. Options are available on request (see Configurations). 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.

CONFIGURATIONS

No.	Standard Configuration	No.	Standard Configuration
1	Siemens 828D CNC system	11	Work area lighting
2	Roller linear guideway for 3 axes	12	Air conditioner for electrical cabinet
3	Ball screw for 3 axes	13	Workpiece flood cooling
4	Spindle taper air blowing	14	Workpiece air cooling
5	Spindle air curtain (dust-proof)	15	BT40 24T tool magazine
6	Spindle ring spray	16	Chain type chip conveyor
7	Automatic lubrication system	17	Oil cooler
8	Air gun	18	Handheld pulse generator
9	Water gun	19	Double-pump flushing device
10	Electric cabinet lighting	20	Hollow-cooled ball screws (3 axes)

No.	Options	No.	Options
1	FANUC control system	7	Automatic door
2	Linear scales (grating scale)	8	Tool setter
3	CTS (coolant through spindle)	9	Workpiece measurement
4	Electro spindle	10	Oil-mist collector
5	Door interlock	11	Oil skimmer
6	4th-axis rotary table	12	Cutting fluid cooling

All options are available for the GV50B, GV60B and GV70B.

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NOTES

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