蒂德全球销售服务网络
DEED GLOBAL SALES & SERVICE NETWORK

中国总部 China Headquarter
德国总部 Germany Headquarter
全球代理商 Global sales centers
售后服务网点 After-sales service centers

蒂德精机 DEED MT

中国销售中心
China Sales Center

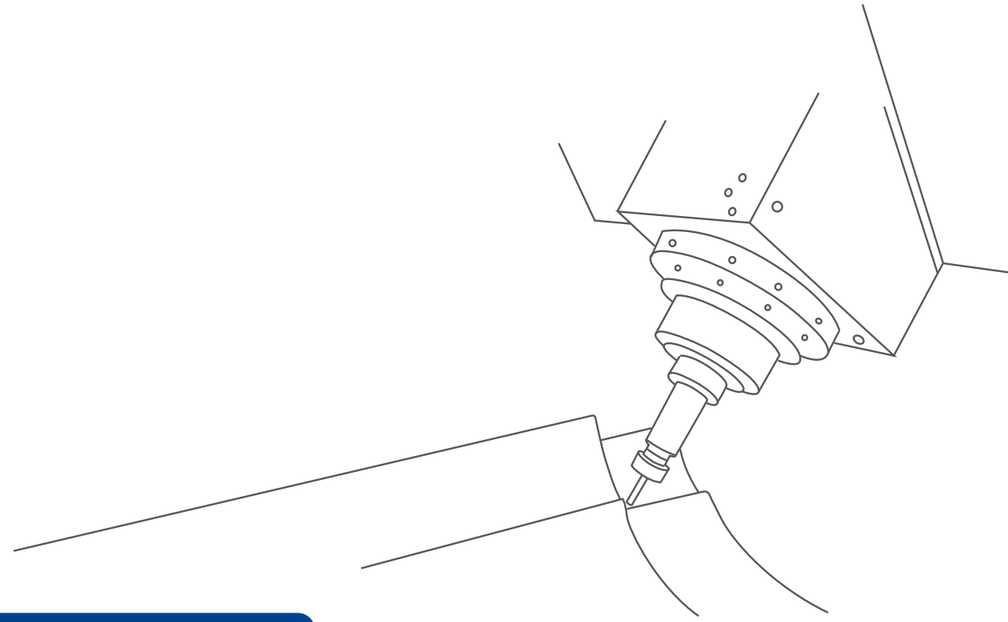
销售热线 / Sales Hotline(China)：0537-3775666
外贸热线 / Sales Hotline(overseas)：+86 537 3451030
售后热线 / After-sales Service：400-113-6699
企业邮箱 / E-mail：sale@deedmt.com / itd@deedmt.com
企业网址 / Website：www.deedmt.com (中国/China) / www.cncindeed.com(国际/overseas)
地址：山东省济宁市兖州经济开发区永安路
Address：Yong'an Road,Industrial Park,Yanzhou District,Jining City,Shandong Province.

HIPREED

德国（Germany）
欧洲研发、销售中心
Europe R&D，Sales Center
地址 / Address: Stahlwerkstraße 32-D-57555 Mudersbach

蒂德精机 DEED MT

综合样本
General Catalog



精 | Precise　大 | Large　特 | Customized

山东蒂德精密机床有限公司
SHANDONG DEED PRECISION MACHINE TOOL CO.,LTD.

蒂德简介
COMPANY PROFILE

山东蒂德精密机床有限公司是一家集高档数控机床研发、生产、销售为一体的高端装备企业，位于济宁市兖州区，现有员工500余人，目前是“中国机床工具工业协会理事单位”和“山东机床通用机械工业协会理事单位”。公司以高速立式加工中心、大型龙门加工中心、高效钻攻加工中心、高精度车削加工中心、高精密五轴联动加工中心、卧式铣镗加工中心及卧式加工中心为主导产品，广泛服务于国内外航空、航天、军工、船舶、汽车、工程机械、轨道交通、5G、精密模具等重点领域。公司大力实施“走出去，引进来”的发展战略，与德国知名数控机床制造企业ROTTLER达成全面战略合作，联合开发具有世界领先水平的高档精密机床，共同开拓全球高端市场，并在德国设立了高端机床研发中心及制造基地——“Hipreed Technology GmbH（汉普瑞德科技有限公司）”，全面实施国际化运营，实现了德国技术和中德制造的完美结合。公司建有国内外5大研发中心，拥有6大省市级创新平台，具备高档机床研发、新材料研制、先进技术测试和可靠性提升等全面的研发、实验、测试、制造优势。通过持续创新和不断突破，已承担24项重点政府科技项目，获得各类知识产权200余项（含发明专利9项）、科技成果奖14项，整体开发、创新能力行业领先。凭借强大的技术、创新优势，公司分别通过了ISO9001质量管理体系认证、ISO14001环境管理体系认证和ISO45001职业健康安全管理体系认证，荣获“国家高新技术企业”、“国家级专精特新‘小巨人’企业”、中国机床行业最高奖“春燕奖”、“中国机床工具行业‘产品质量十佳’”、“中国机械工业科技进步二等奖”等80多项重点荣誉。

Shandong Deed Precision Machine Tool Co., Ltd. is a high-end equipment enterprise integratd with R&D, production and sales. It is located in Yanzhou District, Jining City, with more than 500 people, is currently the governing unit of "China Machine Tool Industry Association " and the governing unit of "Shandong Machine Tool General Machinery Industry Association". The company takes high-speed vertical machining center, large gantry machining center, high-efficiency drilling and tapping machining center, high-precision turning center, high-precision five-axis linkage machining center, horizontal milling and boring machining center and horizontal machining center as the leading products, and serves a wide range of domestic and foreign key industries such as aviation, aerospace, military, shipbuilding, automobile, construction machinery, rail transit, 5G, precision mold and other key fields. 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 and jointly explore the global high-end market. It has set up a high-end machine tool R & D center and manufacturing base in Germany - "Hipreed Technology GmbH", fully implemented international operations, and achieved perfect combination of German technology and Chinese-German manufacturing. The company has set up five domestic and foreign R & D centers, and six provincial and municipal innovation platforms, with high-grade machine tool research and development, new material development, advanced technology testing and reliability improvement and comprehensive R & D, experiment, testing, manufacturing advantages. Through continuous innovation and breakthrough, it has undertaken 24 key governmental science and technology projects, obtained more than 200 intellectual property rights (including 9 invention patents), and 14 scientific and technological achievement awards, and leading overall development and innovation ability of 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 the "National High-Tech Enterprise", "National Special New 'little giant' Enterprise", the highest award of China's machine tool industry "Spring Swallow Award", "China Machine Tool Industry 'Top 10 Product Quality'", "China Machinery Industry Science and Technology Progress 2nd Award" and more than 80 key honors.

蒂德精机
DEED MT

专业金属加工设备供应商

— PROFESSIONAL METAL CUTTING MACHINE TOOL SUPPLIER —

DEED MT

目录

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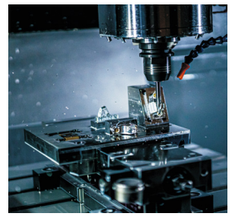
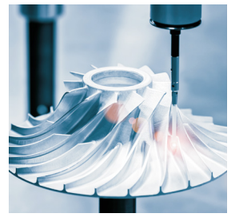
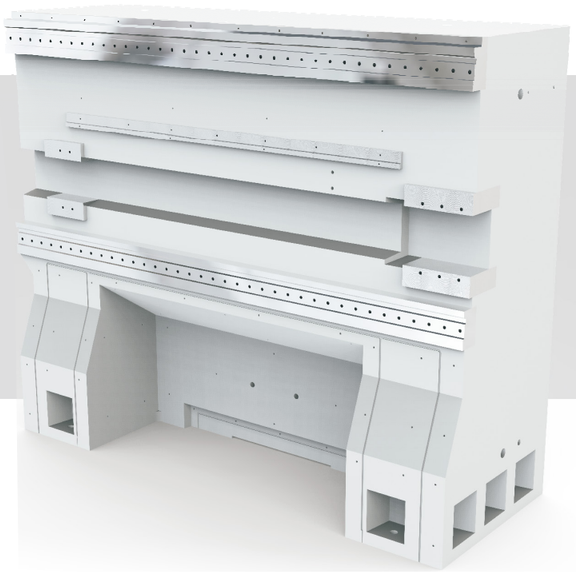


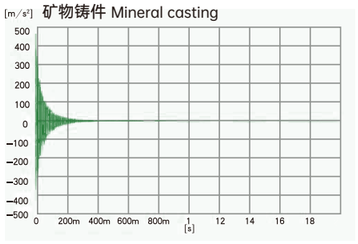


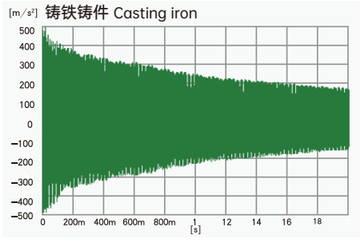
矿物铸件技术
MINERAL CASTING TECHNOLOGY

为确保每一件产品都能达到最高的精度标准，机床的底座、立柱基础部件全面采用德国新型矿物铸件技术工艺和铸造材料。

In order to make sure each product can reach the highest precision standard, the machine basic parts, machine base and column, are fully made of new German mineral casting technology and casting materials.

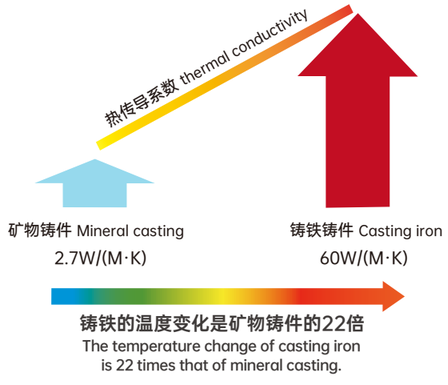






矿物铸件具有极强的吸振性，吸振性是铸铁的10倍在大幅动态载荷下，保证了机床精度的稳定性，工件表面加工质量提高20%。

Mineral casting has strong vibration absorption, its vibration absorption is 10 times that of casting iron, under big dynamic load, it can help guarantee machine precision stability, the workpiece surface processing quality can increase by 20%.



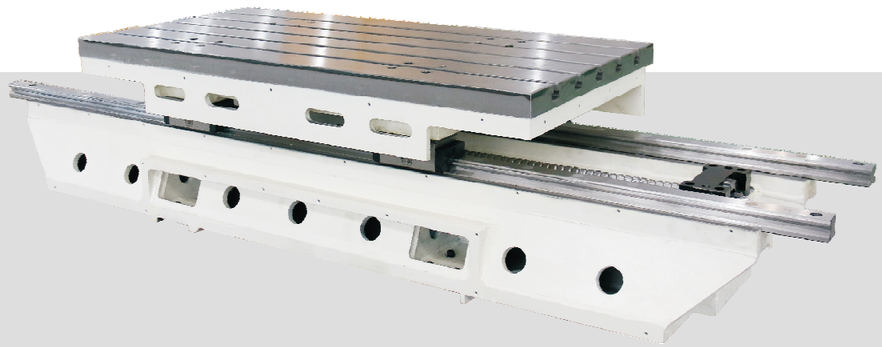
矿物铸件具有极佳的热稳定，热传导率是铸铁的1/20，比热容是铸铁的2.1倍，极佳的热稳定性和热惯性，有效的控制了机床因温度变化引起的变形，保证了机床加工精度的稳定性。

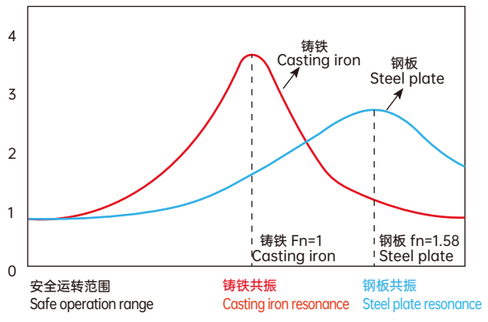
Mineral casting has excellent thermal stability, the thermal conductivity is 1/20 of cast iron, the specific heat capacity is 2.1 times that of casting iron, excellent thermal stability and thermal inertia, can effectively control the deformation caused by temperature change, and guarantee machine processing precision stability.

钢板焊接技术
STEEL WELDING TECHNOLOGY

鞍座、工作台、主轴箱引用德国钢板焊接技术工艺，具有更高的刚性。

Saddle, worktable, spindle box adopt German steel welding technology, which can help for higher rigidity.





移动部件轻量化的结构，重量较铸铁件降低了20%-30%，有效降低移动部件的惯量，动态响应提升10%-20%。

与相同结构的铸铁材料相比，固有频率显著提升，降低切削过程中共振的可能性，提高切削稳定性及加工精度。

The lightweight structure of the moving parts reduce d the parts weight by 20%-30% compared to casting iron parts, can effectively reduce the inertia of moving parts, and the dynamic response speed is increased by 10%-20%.
Compared to casting iron material in same structure, the natural frequency is significantly increased, the possibility of resonance during cutting is reduced, and the cutting stability and processing precision are improved.

移动部件鞍座、工作台、主轴箱由高强度低合金钢焊接而成，其材料弹性模量约为铸铁的1.4倍，结构整体刚性提高30%。

焊接件截面形状采用高性能、高刚度、全封闭的空心薄壁、双层壁及蜂窝状结构。

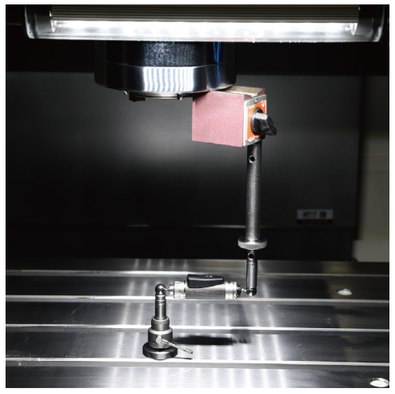
The moving parts saddle, table and spindle box are welded from high-strength low-alloy steel, whose material elastic modulus is about 1.4 times that of cast iron, and the overall rigidity of the structure is increased by 30%.
The cross-section shape of welding parts adopts high performance, high regidity, fully-closed hollow thin wall, double wall and honeycomb structure.

严密的检测流程
STRICT INSPECTION PROCESS

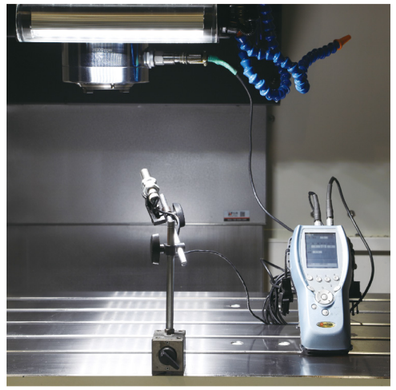
严格的质量管理内控标准，保证整个机床设计制造过程的严密检测。45个检验检测项目，632个品质管控要点，48小时高速全行程载荷加工测试，采用德国ZEISS三坐标测量仪、英国RENISHAW激光干涉仪等顶级精密检测设备，保证机床所有细节的精准控制。

Strict internal quality control standards can help guarantee that each design and manufacture points and process will be closely inspected. 45 inspection items, 632 quality control points, 48 hours high-speed full-stroke load processing test, with German ZEISS 3-coordinate measuring instrument, RENISHAW laser interferometer from UK and other top-level precision testing equipment, all details of the machines are under control.

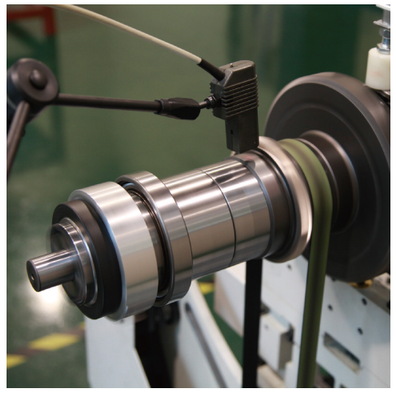
三坐标测量仪检测
THREE COORDINATES MEASUREMENT



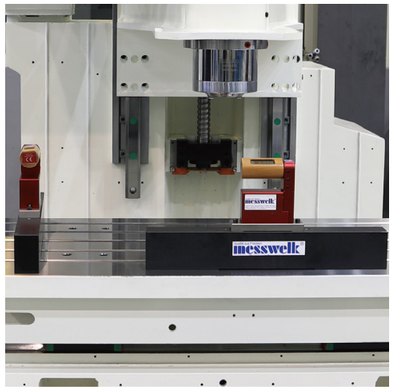
球杆仪循圆检测
BALL-BAR CIRCULAR TEST



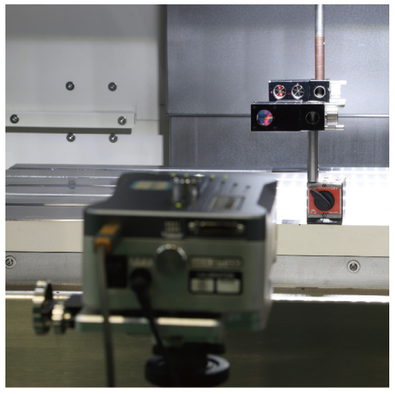
动平衡仪检测
DYNAMIC BALANCE INSTRUMENT TEST



动平衡机检测
DYNAMIC BALANCE MACHINE TEST



电子水平检测
ELECTRONIC LEVELING TEST



激光干涉仪检测
LASER INTERFEROMETER TEST

蒂德精机
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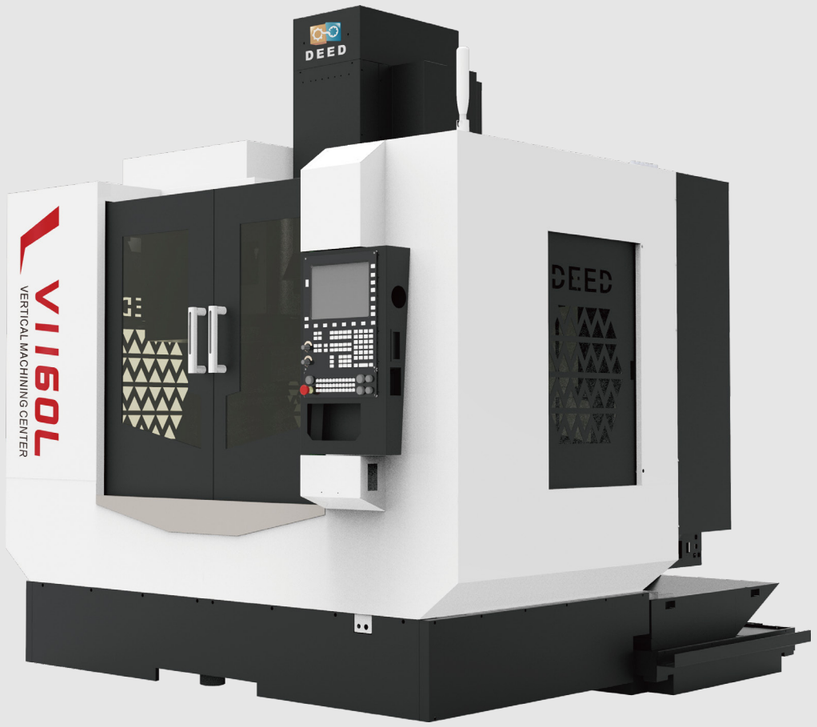


VL 系列 SERIES

立式加工中心 VERTICAL MACHINING CENTER

出色的性价比 High cost performance

可广泛使用于各种生产现场

For various production requirements

产品概述 PRODUCT OVERVIEW

本设备采用十字滑台移动结构，导轨采用直线滚动导轨，主要用于各种中小型复杂零件的加工，能在一次装夹下完成铣、钻、扩、攻丝以及轮廓铣削等多种加工，适合于加工各种精度高、工序多，形状复杂的零件，加装数控转台后，可使机床具备4轴/5轴加工能力。

This series of machine adopts cross-slide structure, and equipped with roller linear guideway. It is mainly used for processing various small and medium-sized complex parts, can complete milling, drilling, enlarging, tapping and contour milling with one clamping. It is suitable for processing various parts with high precision, multiple processing steps and complex shapes. After adding a CNC rotary table, the machine can have 4-axis/5-axis processing capabilities.

产品优势 PRODUCT ADVANTAGE

●机床底座、立柱等基础部件全面采用新型矿物铸件材料，相比传统的高耗能铸铁件，具备极佳的吸振性、热稳定性、高刚性和耐腐蚀性，同时室温固化内应力小，且绿色无污染，节能环保；

●鞍座、工作台、主轴箱等移动部件采用德国先进的钢板焊接新工艺，具有更高的刚性，同时又降低了移动部件的重量、减小运动惯性，提升了机床的响应速度和运动精度；

●Z轴无配重设计，减少加工过程中Z轴高速换向时产生机床振动；

●进给系统采用预拉伸结构，手工精密刮研，机床精度与切削刚性更佳；

●机床关键零件和整机精度均由精密级三坐标测量仪和激光干涉仪严格检测控制，确保机床几何精度和工作精度稳定可靠；

●床身紧凑，三轴导轨大跨距设计，机床载重更大，刚性更强，运行更稳。

●Basic components such as machine bed and column are all made of new mineral casting materials. Compared with traditional high-energy-consuming iron casting, it has the advantages as excellent vibration absorption, thermal stability, high rigidity and corrosion resistance, with small curing stress under room temperature, it is green, non-pollution and environmental friendly;

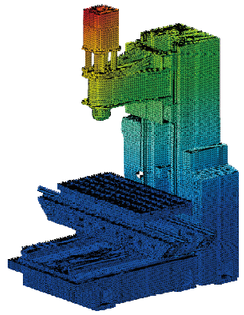
●Moving parts such as the saddle, worktable, and spindle box adopt German advanced new steel plate welding technology, which can help increase rigidity ,reduce the motion inertia by moving parts weight rduction,meanwhile improve the response speed and moving accuracy;

●Z-axis no-counterweight design, reduce machine vibration when the Z-axis reversing at high speed during processing;

●The feeding system adopts prestretching structure, with manual precise scraping, can help achieve better machine precision and cutting rigidity;

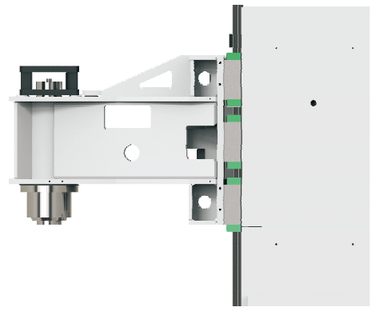
●Key parts and the whole machine precision are guaranteed by strictly test of precise 3-coordinates measurement and laser interferometer to make sure the geometric accuracy and working precision of the machine tool are stable and reliable.

●Compact bed, 3-axis guide big span design make the machine get bigger load capacity, higher rigidity, and more stable operation.



机械结构采用有限元素分析法(FEA)，进行动态模拟及结构分析设计，保证最佳的结构刚性，机械精度以及加工可靠性。

The mechine structure is analyzed by finite element analysis (FEA) for dynamic simulation and structural analysis to reach the best structural rigidity, mechanical precision and processing reliability.



Z轴单轨三滑块,保持主轴箱高刚度，加工更稳定。

Z-axis single guideway with 3 slide blocks to maintain high rigidity of the spindle box and get more stable processing.

技术参数 TECHNICAL PARAMETER

配置 Configuration / 型号 Model		V850L	V1160L	V1370L	V1580L	V1690L
X轴行程 X axis travel	mm	850	1100	1300	1500	1600
Y轴行程 Y axis travel	mm	510	610	710	810	910
Z轴行程 Z axis travel	mm	510	610	710	810	810
工作台尺寸 Table size	mm	950×500	1200×600	1400×700	1700×800	1800×900
工作台最大载重 Table max load	kg	500	1000	1300	1500	1600
主轴转速 Spindle speed	rpm	8000 / 12000	8000 / 12000	8000 / 12000	5000	5000
主轴功率 Spindle power	kW	11/18.5 / 11/18.5	11/18.5 / 11/18.5	11/18.5 / 11/18.5	11/15	11/15
主轴扭矩 Spindle torque	N·m	69/157 / 52.5/118	69/157 / 52.5/118	69/157 / 52.5/118	168/305	168/305
快移速度 Rapid Traverse	m/min	36/36/24	32/32/24	30/30/24	20/20/20	20/20/20
刀库 ATC		24T	24T	24T	24T	24T
主轴锥度 Spindle taper		BT40	BT40	BT40	BT50	BT50

※ 参数以技术协议为准
※ The parameters are subject to the final technical agreement

蒂德精机 DEED MT

VMC 系列 SERIES

立式加工中心 VERTICAL MACHINING CENTER

高性能的铣削加工表现 High Performance Milling

为不同需求提供专业解决方案

Provide professional solutions for different demands

产品概述 PRODUCT OVERVIEW

本设备是由德国设计、中国制造的一款中小型规格的立式加工中心，是我司采用欧洲主流设计结构，并结合我司多年的机床设计及制造经验、大量用户的使用要求特点等，全新开发的新一代高速、高精度产品。工件一次装夹后可以自动连续地完成铣、钻、镗、扩、铰、攻丝等多种工序的加工，适用于中、小型箱体类、板类、盘类、壳体类等复杂零件的多品种加工，广泛应用于汽车零部件、阀门、工程机械、IT设备、光学设备、医疗设备、常规模具及航空航天等行业。

This machine is a small and medium-size vertical machining center designed in Germany and manufactured in China. Adopting mainstream European design structure, based on company many years design and manfactur experience, combined with big number research on customers' application demands,our company developped this new generation high-speed and high-precision products. Once the workpiece is clamped, it can automatically and continuously complete multiple processes such as milling, drilling, boring, expanding, reaming and tapping. It is suitable for complex parts and multi-variety processing ranges such as medium and small box-type parts, plates, disk parts and housing parts. This series can be widely used in automobile parts, valves, engineering machinery, IT equipment, optical equipment, medical equipment, conventional molds, aerospace and other industries.

产品优势 PRODUCT ADVANTAGE

●机床底座、立柱等基础部件全面采用新型矿物铸件材料，相比传统的高耗能铸铁件，具备极佳的吸振性、热稳定性、高刚性和耐腐蚀性，同时室温固化内应力小，且绿色无污染，节能环保；

●鞍座、工作台、主轴箱等移动部件采用德国先进的钢板焊接新工艺，具有更高的刚性，同时又降低了移动部件的重量减小运动惯性，提升了机床的响应速度和运动精度；

●各轴均采用大扭矩交流伺服电机通过德产联轴器直联驱动精密滚珠丝杠，零背隙，传动刚性好、响应速度快，适宜于工件高精度强力切削；

●各导轨、滚珠丝杆等润滑点采用中央集中式自动油脂润滑系统，无渗漏，彻底解决了机床漏油及油液与切削液混合污染问题，减少维护成本；

●机床占地小巧，内部空间宽大，同时设置多处可开启或拆卸的门，便于操作者操作及机床检修。

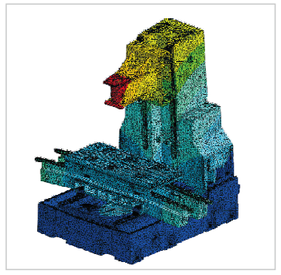
●Basic components such of machine bed and column are all made of new mineral casting materials. Compared with traditional high-energy-consuming iron casting, it has the advantages as excellent vibration absorption, thermal stability, high rigidity and corrosion resistance, with small curing stress under room temperature, it is green, non-pollution and environmental friendly;

●Moving parts such of the saddle, worktable, and spindle box adopt German advanced new steel plate welding technology, which can help increase rigidity ,reduce the motion inertia by moving parts weight rduction,meanwhile improve the response speed and moving accuracy;

●Each axis uses high-torque AC servo motor to directly drive precision ball screw through German-made coupling, with zero backlash, good transmission rigidity and fast response speed, It is suitable for high-precision and strong cutting;

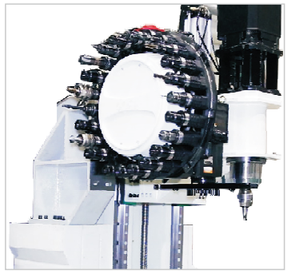
●Each guide rail, ball screw and other lubrication points adopt centralized automatic grease lubrication system without leakage, which completely solves the problem of oil leakage and mixed pollution of oil and cutting fluid, reducing maintenance costs;

●The machine tool occupies small area and has large internal space. It is also equipped with multiple doors that can be opened or removed for operaion, inspection or maintenance.



通过有限元分析采用了金字塔式床身结构设计达到床身最佳结构刚性，使静态刚性大幅度提高，与普通产品相比提升了46%。

To get the best structural rigidity, the machine bed adopts pyramid structure with support of FEA, compared to normal products, the static rigidity is improved by 46%.



标配24把刀具(可选30把)，有效扩大了加工工具的选择范围，ATC可迅速实现快速换刀，从而大幅缩短非切削的待机时间。

Standard tool amount for ATC is 24(can choose 30 as option),it can effecively increase the cutting tool selection range,realize fast tool change,thus greatly shorten the non-cutting waiting time.

技术参数 TECHNICAL PARAMETER

配置 Configuration / 型号 Model		单位 Unit	VMC50B		VMC60B		VMC70B	
加工范围 Working range	X轴 X axis	mm	850	850	1100	1100	1400	1400
	Y轴 Y axis	mm	500	500	600	600	700	700
	Z轴 Z axis	mm	600	600	600	600	700	700
	主轴鼻端至工作台面(直连式) Spindle nose to table (direct type)	mm	150-750	150-750	150-750	150-750	150-850	150-850
	主轴鼻端至工作台面(皮带式) Spindle nose to table (belt type)	mm	120-720	120-720	120-720	120-720	90-790	90-790
工作台 Table	尺寸 Size	mm	950×500	950×500	1200×600	1200×600	1500x700	1500x700
	载重 Load	kg	600	600	1000	1000	1200	1200
主轴 Spindle	主轴形式 Spindle type	-	直联式 Direct	皮带式 Belt	直联式 Direct	皮带式 Belt	直联式 Direct	皮带式 Belt
	主轴锥度 Spindle taper	-	BT40	BT50	BT40	BT50	BT40	BT50
	主轴转速 Spindle speed	rpm	12000rpm	4500rpm	12000rpm	4500rpm	12000rpm	4500rpm
	功率(额定/最大) Power(rated/max)	kW	11/18.5	15/18.5	11/18.5	15/18.5	11/18.5	15/18.5
	扭矩(额定/最大) Torque(rated/max)	Nm	70/117	126/208	70/117	126/208	70/117	126/208
进给 Feed	快移速度 Fast feed	m/min	40/40/40	40/40/32	40/40/40	40/40/32	40/40/32	32/32/24
	三轴螺杆直径 3-axis ball screw diameter	mm	40	40	40	40	50	50
	三轴线轨宽度 3-axis linear guideway width	mm	45	45	45	45	45	45
	定位精度 Positioning	mm	0.006	0.006	0.006	0.006	0.008	0.008
ISO精度 accuracy (20+0.5°C)	重复定位精度 Repeatability	mm	0.004	0.004	0.004	0.004	0.005	0.005
	刀库型式 Tool magazine type	-	圆盘 Disc	圆盘 Disc	圆盘 Disc	圆盘 Disc	圆盘 Disc	圆盘 Disc
刀库 ATC	刀库容量 Tool magazine capacity	把T	24	24	24	24	24	24
	换刀时间(刀对刀) Tool change time (tool to tool)	s	1.6	3.5	1.6	3.5	1.6	3.5
重量 Weight		kg	7500	7500	7500	7500	12500	12500

※ 参数以技术协议为准
※ The parameters are subject to the final technical agreement

蒂德精机
DEED MT

GV 系列 SERIES

立式加工中心 VERTICAL MACHINING CENTER

高刚性、全方位温度控制 High rigidity, all-round temperature control

高精度零件加工的最佳选择

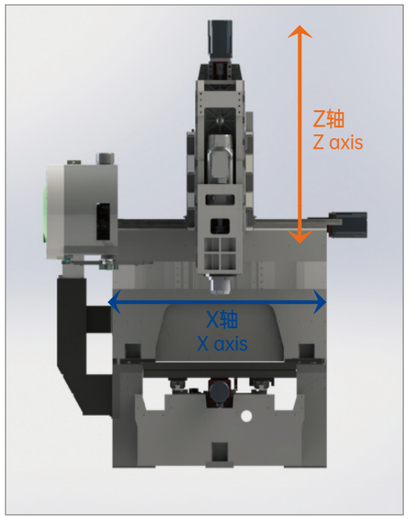
Best choice for high precision parts processing

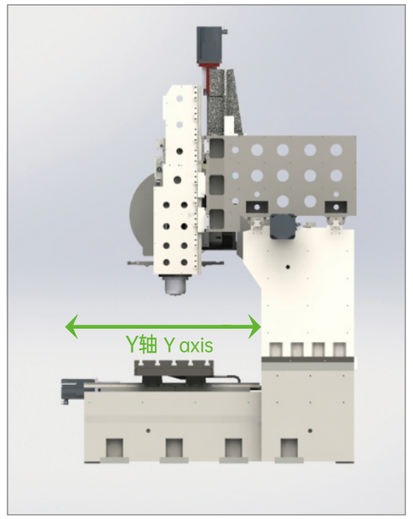
产品概述 PRODUCT OVERVIEW

本系列立式加工中心主要应用于模具和高精密零部件加工领域，机床采用对称式、高刚性、稳定可靠的龙门结构，使用刚性和热稳定性能优异的矿物质床身，机体与底座同宽，工作台独立于底座之上提供全行程支撑，具有高速、稳定、高精密特性。机床可通过配置丝杠冷却、主轴冷却、床身冷却、驱动电机温度控制、冷却液温度控制等全方位的冷却措施保障机床持续稳定的高精度，其优异的动态性能、理想的轴比、高精度和高稳定性为客户高精度工件的生产提供可靠的解决方案。

This series of vertical machining center is mainly used in the field of mold and high precision parts processing. The machine adopts symmetrical, high rigidity, stable and reliable gantry structure, uses the mineral bed with excellent rigidity and heat stability, the body is the same width as the base, and the table is independent on the base to provide full stroke support, with high-speed, stable and high precision characteristics. The machine tool can be configured with lead screw cooling, spindle cooling, bed cooling, drive motor temperature control, coolant temperature control and other comprehensive cooling measures to ensure the continuous stability of the machine tool with high precision, its excellent dynamic performance, ideal shaft ratio, high precision and high stability to provide customers with reliable solutions for the production of high-precision workpieces.

产品优势 PRODUCT ADVANTAGE





采用门式结构，大部分进给运动集中在非载重部件上，减小运动惯性，保证加工质量；

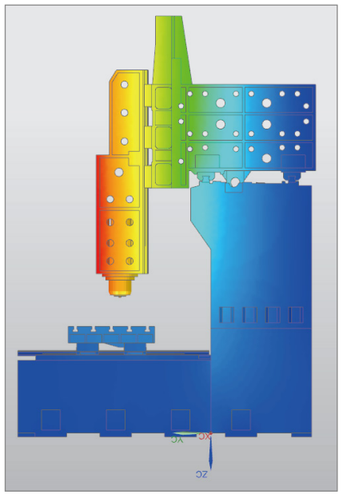
采用门式结构，大跨距支撑形式保证基础部件接触刚性及力学刚性；

采用门式结构，主轴箱重心与横梁距离大幅缩短，保证主轴良好的加工刚性。

Portal structure can help concentrate most feed movement on non-load parts, thus reduce motion inertia and ensure processing quality;

Portal structure together with large-span support form can help ensure basic components contact rigidity and mechanical rigidity;

Portal structure can help shorten the space betwen spindle box gravity center and beam, thus ensure spindle excellent processing rigidity.



机床结构经有限元分析，已达最佳刚性结构

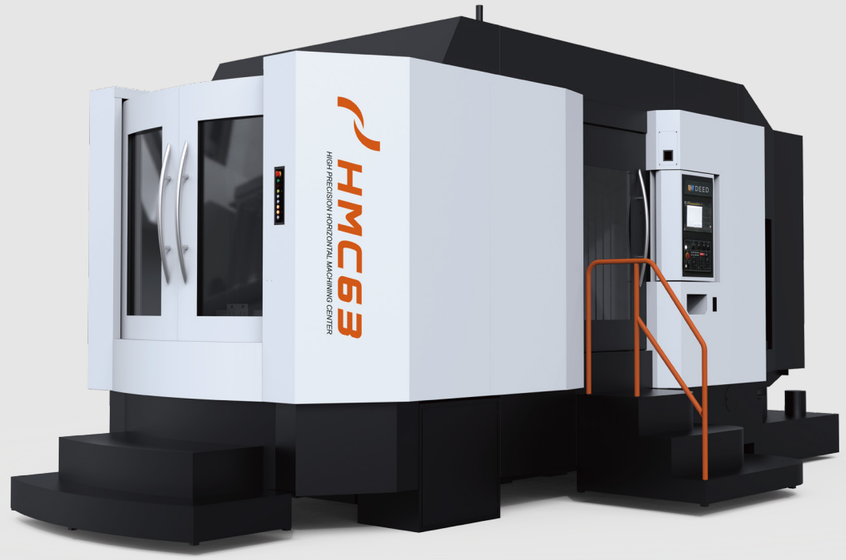
FEA result shows the machine tool has already reached the best regidity structure in this condition.

技术参数 TECHNICAL PARAMETER

配置 Configuration / 型号 Model		单位 Unit	GV50B	GV60B	GV70B
加工范围 Working range	X轴行程 X axis travel	mm	800	1100	1300
	Y轴行程 Y axis travel	mm	500	600	700
	Z轴行程 Z axis travel	mm	500	600	700
	主轴鼻端至工作台面距离 Spindle nose to table	mm	150 ~ 650	150 ~ 750	150 ~ 850
工作台 Table	工作台尺寸 Table size	mm	950×500	1200×600	1400×700
	工作台最大载重 Table max. load	kg	600	1000	1500
进给 Feed	X/Y/Z轴快速进给速度 X/Y/Z axis fast feed	m/min	40/40/32	40/40/32	36/36/32
电主轴 electrical spindle	驱动方式 Drive mode	/	直联式 Direct drive	直联式 Direct drive	直联式 Direct drive
	主轴锥度 Spindle taper	/	BT40	BT40	BT40
	最高工作转速 Max working speed	r/min	12000	12000	12000
	功率(额定/最大) Power(rated/max)	KW	11/22	11/22	11/22
	扭矩(额定/最大) Torque(rated/max)	N·m	53/106	53/106	53/106
精度 Accuracy	X/Y/Z轴定位精度(半闭环) X/Y/Z positioning (half-closed loop)	mm	0.005（全长） 0.005（Full length）	0.005（全长） 0.005（Full length）	0.006（全长） 0.006（Full length）
	X/Y/Z轴重复精度(半闭环) X/Y/Z repeatability (half-closed loop)	mm	0.003（全长） 0.003（Full length）	0.003（全长） 0.003（Full length）	0.004（全长） 0.004（Full length）
刀库 ATC	型式 Model	/	圆盘 Disc	圆盘 Disc	圆盘 Disc
	刀库容量 Tool magazine capacity	把 T	24	24	24

※ 参数以技术协议为准
※ The parameters are subject to the final technical agreement

蒂德精机 DEED MT



HMC 系列 SERIES

卧式加工中心 HORIZONTAL MACHINING CENTER

立柱采用门型双重壁结构设计

Portal type double-wall structure column

可实现高刚性重切削加工

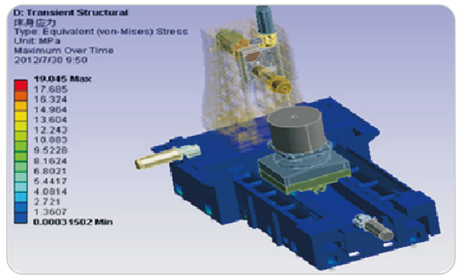
For high-rigidity heavy cutting processing

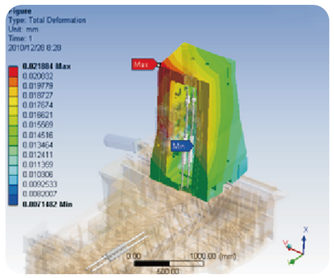
产品概述 PRODUCT OVERVIEW

本设备是由我公司在引进、吸收国内外先进技术的基础上自行研发设计生产的高精密卧式加工中心，是由数控系统控制的四轴三联动数控机床，具高精度、高速度、高效率、高可靠性等特点，模块化设计，适合航空航天、军工、汽车、精密模具等行业箱体类零件的多面和孔系的半精加工和精加工，配合工装夹具等能满足复杂零件的多面和孔系加工，以及曲面加工。也可与多台数控机床一起组成柔性制造单元和生产流水线。

This machine is a high precision horizontal machining center developed and manufacured by our company on the basis of the introduction and absorption of advanced technology at home and abroad. It is 4-axis 3-linkage CNC machine tool controlled by numerical control system. It has the characteristics of high precision, high speed, high efficiency and high reliability,suitable for box type parts multi-face and holes semi-finishing and finishing processing in industries such as aerospace, military, automotive, precision molds and others, together with toolings and fixtures, it can work for complex parts multi-face and hole processing as well as surface processing. It can also be combined with multiple CNC machine tools to form flexible manufacturing units and production lines.

产品优势 PRODUCT ADVANTAGE





单工位卧加：本系列卧式加工中心，采用倒T型整体床身结构，门型双重壁立柱结构设计，结构刚性强，行程大，精度高，适用于各种重切削、高精度机械加工领域，具备铣削、镗削、钻削(钻、扩、铰)、攻螺纹等多种加工功能，保证高效率和高精度的单件或中小批量产品的加工需求。

双工位卧加：本系列高速卧式加工中心，机床主体为正T型高刚性一体式床身、门型双重壁立柱结构设计，采用有限元(FEM)分析，正挂箱布局，可实现高刚性重切削加工；配备自动换刀装置(ATC)，和托盘自动交换(APC)提高了设备可靠性，且便于维护，可配备托盘自动化生产线实现自动化生产线的高效生产。

Single pallet horizontal machining center: This series of horizontal machining centers adopts inverted T-shape whole bed structure and portal double-wall column structure, configured with strong structural rigidity, large travel, and high precision, it can be widely used for various heavy cutting and high-precision machanical processing industries. It can do miling, boring, drilling (driling, expanding, reaming), tapping etc. and can meet single piece or small &medium batch products machining demands with high-efficiency and high-precision.

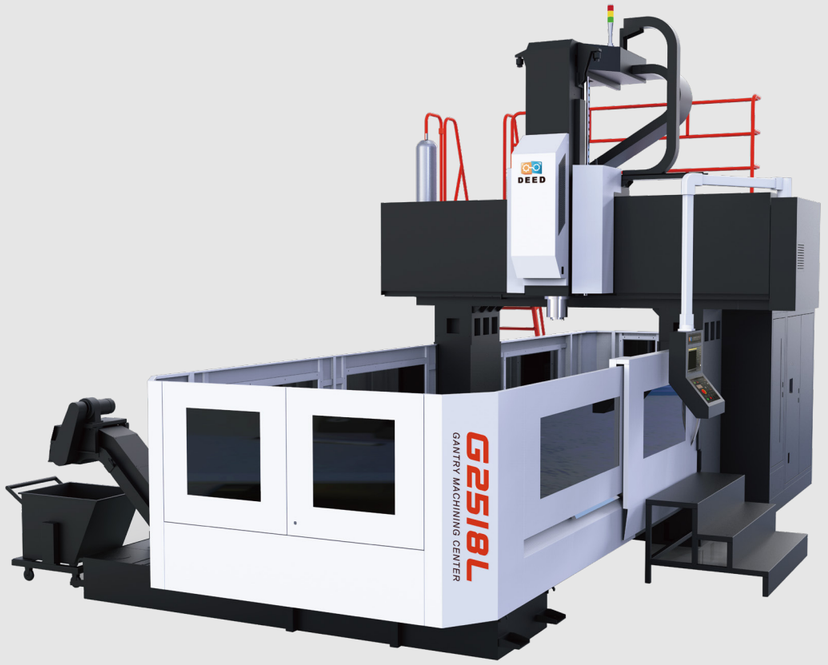
Double pallet horizontal machining center: This series of machine is high-speed horizontal machining centers, its main body is combined by positive T-shaped one-piece casted high-rigidity base and portal structure double-wall column. With help of FEM, the spindle box is hanged upright,it can help realize high-rigidity heavy cutting; equipped with automatic tool changer (ATC)and automatic pallet changer (APC) , machine reliability can be improved and machine maintenance can be easier. It can also be equipped with automatic pallets to organize automatic production line and achieve high-efficency production.

技术参数 TECHNICAL PARAMETER

配置 Configuration	型号 Model	单位 Unit	HMC50S	HMC50	HMC63S	HMC63		HMC80S	HMC80	HMC100S
						皮带式	直联式			
加工范围 Working range	X轴行程 X axis travel	mm	850	850	1050	1050	1050	1050	1300	1600
	Y轴行程 Y axis travel	mm	600	600	800	750	800	1000	1100	1200
	Z轴行程 Z axis travel	mm	700	700	950	950	950	1150	1100	1200
	主轴中心至工作台面 Spindle center to table	mm	120-720	50-650	120-920	120-870	50-900	120-1120	120-1220	120-1320
	主轴端面至工作台中心 Spindle end face to table center	mm	175-875	175-875	200-1150	200-1100	175-1075	250-1400	250-1350	300-1500
	最大工件旋径 Max.workpiece rotation dia.	mm	800	800	1050	1050	1050	2200	1500	2300
	最大工件高度 Max. workpiece height	mm	800	800	1000	1000	1000	1200	1200	1400
工作台 Table	工作台数量 Table qty.		1	2	1	2	2	1	2	1
	工作台尺寸 Table size	mm	500×500	500×500	630×630	630×630	630×630	800×800	800×800	1000×1000
	工作台最大载重 Table max load	kg	600	600	1200	1200	1200	2500/2000	2500/2000	3000/2000
	工作台最小分度 Table min indexing	°	1/0.001	1/0.001	1/0.001	1/0.001	1/0.001	1/0.001	1/0.001	1/0.001
	交换时间 Exchange time	Sec.	-	14	-	16	16	-	18	-
主轴 Spindle	主轴型式 Spindle type		BT50	BT50	BT50	BT50	BBT50	BT50	BT50	BT50
	标配主轴转速 Standard spindle speed	rpm	6000	6000	6000	6000	6000	6000	6000	6000
	主电机功率(连续/30分钟) Main motor power(continuous/30 min)	kW	15/18.5	18.5/22	15/18.5	15/18.5	18.5/22	15/18.5	18.5/22	15/18.5
	主轴最大输出扭矩 Spindle max output torque	N·m	143/236	649/770	143/236	446/736	649/770	143/236	649/770	143/236
进给 Feed	切削速度X/Y/Z X/Y/Z cutting speed	m/min	0~10000	0~15000	0~10000	0~10000	0~10000	0~10000	0~10000	0~10000
	快移速度X/Y/Z X/Y/Z rapid traverse speed	m/min	24	40	24	32	40	20	32	16
精度 Accuracy	X/Y/Z轴定位精度 X/Y/Z positioning	mm	0.01	0.01	0.01	0.01	0.01	0.012	0.012	0.02/0.015/0.015
	X/Y/Z轴重复精度 X/Y/Z repeatability	mm	0.005	0.005	0.006	0.006	0.006	0.008	0.008	0.015/0.01/0.01
	B轴定位精度 B axis positioning	"	10	10	10	10	10	10	10	10
	B轴重复定位精度 B axis repeatability	"	3	3	3	3	3	3	3	3
刀库 ATC	刀库型式 Tool magazine type	-	圆盘 Disc type	链式 Chain type	圆盘 Disc type	圆盘 Disc type	链式 Chain type	圆盘 Disc type	链式 Chain type	圆盘 Disc type
	换刀时间(刀对刀) Tool change time (tool to tool)	Sec.	7	7	7	7	7	7	7	7
	刀库容量 Tools	把 T	24	40	24	30	40	24	40	24
	最大刀具尺寸 (满刀直径/空邻刀直径/长度) Max. tool size Full tool dia./empty adjacent tool dia./length	mm	Φ112/Φ200 /300	Φ125/Φ250 /400	Φ112/Φ200 /300	Φ110/Φ220 /350	Φ125/Φ250 /400	Φ112/Φ200 /300	Φ125/Φ250 /400	Φ112/Φ200 /300
	最大刀具重量 Max. tool weight	kg	15	25	15	25	25	15	25	15

※ 参数以技术协议为准
※ The parameters are subject to the final technical agreement

蒂德精机
DEED MT



GL 系列 SERIES
龙门加工中心 GANTRY MACHINING CENTER

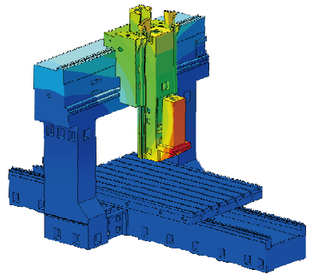
极佳的高刚性结构 Excellent high rigidity structure
高性价比的全行程加工利器
Cost-effective full-stroke machining tool

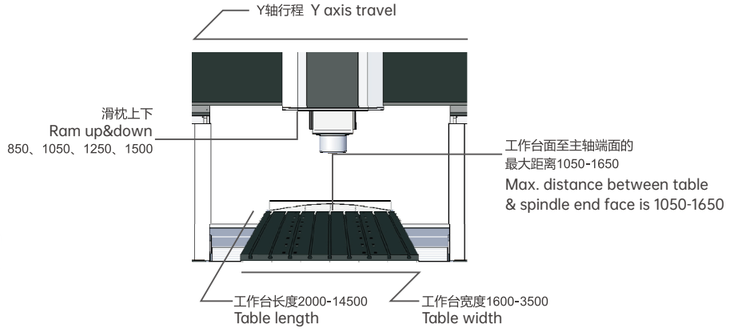
产品概述 PRODUCT OVERVIEW

本设备采用工作台移动，由床身、立柱、横梁组成封闭的龙门框架结构，具有高刚性、高稳定性的特点。机床可完成铣面、镗孔、钻孔、刚性攻丝及三轴联动曲面加工，并可根据客户要求增加直角铣头，一次装夹实现五面加工，特别适用于模具零件粗/半精加工；自动化设备结构件、能源、工程、铸造行业大型零件加工；铁路转向节等大型结构件加工。

This series of machine is table-moving, the bed, columns and beam form closed gantry frame structure, which can help achieve high-rigidity and high-stability. The machine can complete milling, boring, drilling, rigid tapping and 3-axis simultaneous surface processing, and can increase right angle milling head according to customer demands, one-time clamping can achieve five-face processing, especially suitable for mold parts rough/semi-finishing production; automation equipment structural parts, energy, engineering, casting industry large parts processing; railway steering knuckle and other large structural parts processing.

产品优势 PRODUCT ADVANTAGE





●床身、立柱固定部件采用新型矿物铸件材料，具备优异的吸振性、低热膨胀系数、低热传导系数、耐腐蚀性、室温浇注固化内应力小;

●工作台、滑座、主轴箱运动部件选用钢板焊接，保证了高刚性，同时又降低了移动部件的重量、减小运动惯性，提升了机床的响应速度和运动精度;

●三坐标运动部件均采用重载滚柱线轨支撑，使用滚柱保持器防止偏移，实现平衡稳定运动，确保机床长时间运行的精度稳定性;

●主轴箱采用大截面滑枕结构，重载滚柱导轨支撑，主轴横向强力切削能力强，可实现Z轴全行程强力切削;

●Z轴运动采用双平衡缸，消除因自重产生的上下不平衡力矩。

●The fixed parts, machine bed and columns are made of new mineral casting materia, which has excellent vibration absorption, low thermal expansion coefficient, low thermal conductivity coefficient, corrosion resistance, and small curing interal stress under room temperature.

●The moving parts, worktable, saddle and spindle box are welded with steel plates to ensure high rigidity, reduce moving parts weight and moving inertia,thus can improve the response speed and movement accuracy of the machine tool.

●The 3-coordinate moving parts are supported by heavy roller linear guideway, the roller retainer is used to prevent deviation, achieve balanced and stable movement, thus to ensure machine precision stability during long time working.

●The spindle box adopts large cross-section ram structure with heavy load roller linear guideway supporting, spindle transverse strong cutting ability can be stronger, and Z-axis can realize full-stroke strong cutting.

●Z-axis movement adopts double balance cylinder to eliminate the unbalanced torque caused by self-weight.

技术参数 TECHNICAL PARAMETER

配置 Configuration / 型号 Model		G1614L	G2016L	G2018L	G2518L	G3018L	G3518L	G4018L	G4518L	G5018L	G5518L	G6018L	G3024L	G3524L	G4024L	G4524L	G5024L	G5524L	G6024L
X轴行程 X axis travel	mm	1600	2100	2100	2600	3100	3500	4000	4500	5000	5500	6000	3000	3500	4000	4500	5000	5500	6000
Y轴行程 Y axis travel	mm	1300	1600	1800	1800	1800	1800	1800	1800	1800	1800	1800	2400	2400	2400	2400	2400	2400	2400
Z轴行程 Z axis travel	mm	800	850	850	850	850	850	850	850	850	850	850	850	850	850	850	850	850	850
工作台宽度 Table width	mm	1300	1400	1600	1600	1600	1600	1600	1600	1600	1600	1600	1800	1800	1800	1800	1800	1800	1800
工作台最大载重 Table max. load	t	4	4.5	6	7	8	9	10	11	12	13	14	8	9	10	11	12	13	14
主轴转速 Spindle speed	rpm	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000
主轴功率 Spindle power	kW	15118.5	15/18.5	15/18.5	15/18.5	15/18.5	15/18.5	15/18.5	18.5/35	18.5/35	18.5/35	18.5/35	15/18.5	15/18.5	15/18.5	18.5/35	18.5/35	18.5/35	18.5/35
主轴扭矩 Spindle torque	N·m	190/313	190/313	190/313	190/313	190/313	190/313	190/313	156.9/296	156.9/296	156.9/296	156.9/296	190/313	190/313	190/313	156.9/296	156.9/296	156.9/296	156.9/296
X/Y/Z快移速度 X/Y/Z rapid traverse	m/min	16/16/16	16/16/16	16/16/16	16/16/16	16/16/16	12/16/16	12/16/16	10/16/16	8/16/16	8/16/16	8/16/16	12/12/12	12/12/12	12/12/12	10/12/12	8/12/12	8/12/12	8/12/12

配置 Configuration / 型号 Model		G3028L	G3528L	G4028L	G4528L	G5528L	G6528L	G4532L	G5532L	G6532L	G8532L	G10532L	G6537L	G8537L	G10537L	G12537L	G10542L	G12542L	G14542L
X轴行程 X axis travel	mm	3000	3500	4000	4500	5500	6500	4500	5500	6500	8500	10500	6500	8500	10500	12500	10500	12500	14500
Y轴行程 Y axis travel	mm	3400	3400	3400	3400	3400	3400	3800	3800	3800	3800	3800	4300	4300	4300	4300	4300	4300	4300
Z轴行程 Z axis travel	mm	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250
工作台宽度 Table width	mm	2200	2200	2200	2200	2200	2200	2800	2800	2800	2800	2800	3200	3200	3200	3200	3500	3500	3500
工作台最大载重 Table max. load	t	17	18	20	22	23	24	24	28	30	32	32	30	32	36	36	36	36	36
主轴转速 Spindle speed	rpm	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	4500	4500	4500
主轴功率 Spindle power	kW	22/26	22/26	22/26	22/26	22/26	22/26	22/26	22/26	22/26	22/26	22/26	22/26	22/26	22/26	22/26	30/37	30/37	30/37
主轴扭矩 Spindle torque	N·m	770/910	770/910	770/910	770/910	770/910	770/910	770/910	770/910	770/910	770/910	770/910	770/910	770/910	770/910	770/910	1365/1688	1365/1688	1365/1688
X/Y/Z快移速度 X/Y/Z rapid traverse	m/min	12/12/12	12/12/12	12/12/12	12/12/12	12/12/12	12/12/12	12/12/12	12/12/12	12/12/12	12/12/12	10/12/12	12/12/12	10/12/12	10/12/12	8/10/10	8/10/10	8/10/10	8/10/10

※ 参数以技术协议为准
※ The parameters are subject to the final technical agreement

蒂德精机 DEED MT

GMC 系列 SERIES

龙门加工中心 GANTRY MACHINING CENTER

高速高精度切削利器 High speed, high precision cutting tool choice

满足复杂的多面加工需求

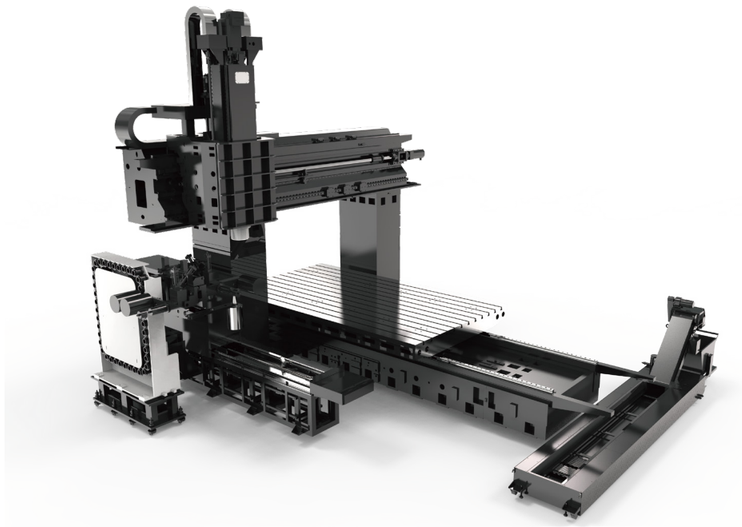
Meet complex multi-face processing demands

产品概述 PRODUCT OVERVIEW

本设备是蒂德公司与德国合作研发的最新一款精密龙门铣加工中心。该机床特别适用于各行业金属等零件精密、高速及重切加工，机床可完成铣面、镗孔、钻孔、刚性攻丝及三轴联动曲面加工，并可根据客户要求增加直角铣头，一次装夹实现五面加工，可有效提高加工精度和加工效率。

This series of machine is the latest precise gantry milling machining center jointly developed by Deed and German partner. The machine is especially suitable for precision, high-speed and heavy cutting of metal parts in various industries. The machine can complete milling, boring, drilling, rigid tapping and 3-axis linkage simultaneous curved surface processing, right-angle milling head can be added according to customer demands. One-time clamping can realize 5-face machining, which can effectively improve the machining precision and efficiency.

产品优势 PRODUCT ADVANTAGE



●新型矿物铸件材料，极强的吸振性和热稳定性，保证物理和机械性能的稳定性。稳固的重型床身立柱，降低扭曲形变，增强了机床稳定性；

●移动部件轻量化、高刚性焊接结构设计，满足其静态刚性，提高动态响应速度，更有利于提高机床定位精度及加工性能；

●高刚性方滑枕结构，大截面400x400mm、450x500mm可实现Z轴全行程强力切削；

●高刚性双层封闭箱体结构，阶梯式导轨布置方式，减少横梁因应力集中而产生的挠度变形，保证了工件加工精度；

●可配置封闭的全自动头仓，各附件头可自动交换；配置立卧刀库可自动换刀，提高机床自动化能力，实现全自动多面加工。

●New mineral casting material have strong vibration absorption and thermal stability to ensure the physical and mechanical properties stability. Stable and heavy machine base and columns can help reduce distortion and deformation, enhance the whole machine stability;

●lightweight moving parts and high-rigidity welding structure can help meet static rigidity requirements and improve dynamic response speed, it can be more beneficial to improve the positioning accuracy and processing performance of the machines;

●High rigidity square ram structure, large section 400x400mm, 450x500mm can achieve Z-axis full stroke strong cutting;

●High-rigidity double-layer closed box type structure and stepped guideway arrangement can reduce the deflection deformation of machine beam due to stress concentration and ensure the processing accuracy of workpieces;

●It can be configured with a closed automatic head stock, and different milling heads can be automatically exchanged; it can also be configured with vertical and horizontal tool magazine to automatically change the tools, improve the automation ability of the machines and realize automatic multi-face processing.

技术参数 TECHNICAL PARAMETER

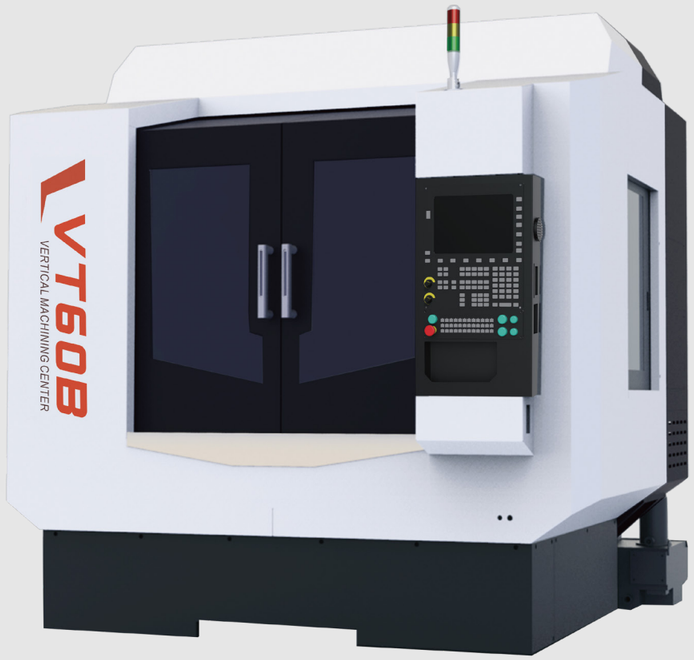
配置 Configuration / 型号 Model		GMC2016L	GMC2516L	GMC3016L	GMC3516L	GMC4016L	GMC2020L	GMC2520L	GMC3020L	GMC3520L	GMC4020L	GMC3024L	GMC3524L	GMC4024L	GMC4524L	GMC3028L
X轴行程 X axis travel	mm	2000	2500	3000	3500	4000	2000	2500	3000	3500	4000	3000	3500	4000	4500	3000
Y轴行程 Y axis travel	mm	1600	1600	1600	1600	1600	2000	2000	2000	2000	2000	3000	3000	3000	3000	3600
Z轴行程 Z axis travel	mm	850	850	850	850	850	850	850	850	850	850	850	850	850	850	1250
工作台宽度 Table width	mm	1250	1250	1250	1250	1250	1600	1600	1600	1600	1600	1800	1800	1800	1800	2600
工作台最大载重 Table max. load	t	5	6	8	9	10	7	9	11	13	14	15	16	17	18	17
主轴转速 Spindle speed	rpm	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000	6000
主轴功率 Spindle power	kW	22/26	22/26	22/26	22/26	22/26	22/26	22/26	22/26	22/26	22/26	22/26	22/26	22/26	22/26	22/26
主轴扭矩 Spindle torque	N·m	560/660	560/660	560/660	560/660	560/660	560/660	560/660	560/660	560/660	560/660	560/660	560/660	560/660	560/660	770/910
X/Y/Z快移速度 X/Y/Z rapid traverse	m/min	16/16/16	16/16/16	16/16/16	16/16/16	16/16/16	16/16/16	16/16/16	16/16/16	16/16/16	16/16/16	16/12/16	16/12/16	16/12/16	16/12/16	12/12/12

配置 Configuration / 型号 Model		GMC3528L	GMC4028L	GMC4528L	GMC5028L	GMC5528L	GMC6528L	GMC5532L	GMC6532L	GMC8532L	GMC10532L	GMC5537L	GMC6537L	GMC8537L	GMC10537L
X轴行程 X axis travel	mm	3500	4000	4500	5000	5500	6500	5500	6500	8500	10500	5500	6500	8500	10500
Y轴行程 Y axis travel	mm	3600	3600	3600	3600	3600	3600	4000	4000	4000	4000	4500	4500	4500	4500
Z轴行程 Z axis travel	mm	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250
工作台宽度 Table width	mm	2600	2600	2600	2600	2600	2600	2800	2800	2800	2800	3500	3500	3500	3500
工作台最大载重 Table max. load	t	18	20	22	24	26	30	28	32	36	40	28	32	36	40
主轴转速 Spindle speed	rpm	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000
主轴功率 Spindle power	kW	22/26	22/26	22/26	22/26	22/26	22/26	22/26	22/26	22/26	22/26	22/26	22/26	22/26	22/26
主轴扭矩 Spindle torque	N·m	770/910	770/910	770/910	770/910	770/910	770/910	770/910	770/910	770/910	770/910	770/910	770/910	770/910	770/910
X/Y/Z快移速度 X/Y/Z rapid traverse	m/min	12/12/12	12/12/12	12/12/12	12/12/12	12/12/12	12/12/12	12/12/12	12/12/12	12/12/12	10/12/12	12/12/12	12/12/12	12/12/12	10/12/12

※ 参数以技术协议为准

※ The parameters are subject to the final technical agreement

蒂德精机
DEED MT



VT 系列 SERIES

立式钻攻中心 VERTICAL TAPPING MACHINING CENTER

整体采用龙门式结构 Special gantry structure

机床总体布局方案、重量配比更加合理

Overall layout scheme, more reasonable weight ratio

产品概述 PRODUCT OVERVIEW

本产品是我公司独立设计研发的一款立式钻攻中心，该产品具有高速度、高精度、高刚性、高可靠性的结构特点，在规定的环境条件下能连续正常工作精度稳定。该机床广泛应用于 3C 行业，5G、IT、航空航天、汽车配件、小型模具加工、医疗器械等行业的精密加工，特别适用于大产量零部件及有色金属的高效率加工。

This product is vertical tapping center independently designed and developed by our company. It has the structural advantages of high-speed, high-precision, high-rigidity and high reliability, can work continuously and normally with stable accuracy under specified environmental conditions. It can be widely used in 3C, 5G, IT, aerospace, automotive parts, small molds, medical equipment etc. for precise machining, particularly suitable for high-efficiency machining of large production capacity components and non-ferrous metals.

产品优势 PRODUCT ADVANTAGE

●机床床身、横梁固定部件采用新型矿物铸件材料，相比传统铸铁材料，具备优异的吸振性、低热膨胀系数、低热传导系数、优秀的耐腐蚀性、室温浇注固化内应力小；

●滑座、主轴箱、工作台运动部件选用钢板焊接，相比传统铸铁材料，具有更高的刚性，同时又降低了移动部件的重量.减小运动惯性，提升了机床的响应速度和运动精度；

●工作台沿床身做纵向Y轴移动，有效避免了十字滑台移动式工作台结构基础在负载重量小时的响应过冲、负载重量大时响应延缓问题；

●滑座在横梁上做横向X轴移动，主轴箱在滑座上做上下Z轴移动，有效避免了运动部件的悬伸，具有更高的刚性和精度；

●三轴采用高精密静音C3级丝杠，摩擦损失小，定位精度高，丝杠由大扭矩交流伺服电机通过精密联轴器直联提供动力保证机床各轴的高动态性能。

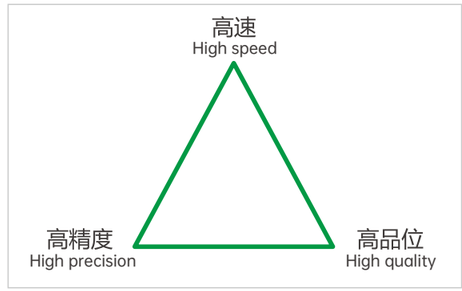
●The fixed parts,machine base and beam, are made of new mineral casting material, compared to traditional cast iron materials, it have excellent vibration absorption, low thermal expansion coefficient, low thermal conductivity coefficient, excellent corrosion resistance and low internal curing stress after casting at room temperature.

●The moving parts,slidder, spindle box and worktable, are welded with steel plates, which have higher rigidity compared with traditional cast iron materials, while it can help reduce the moving parts weight, reduce the movement inertia, and improve the machine response speed and movement precision.

●The table moves along the bed to do longitudinal Y axis movement,it can effectively avoid the possible problems under crossing slie table-moving structure, such as response overshoot when the load is small and response delay when the load is big.

●The slider moves along the X axis on the cross beam, and the spindle box moves along the Z axis up and down on the slider, it can effectively avoid the overhanging of moving parts and achieve higher rigidity and precision;

●3 axes adopt high-precision silent C3 level ball screw with low friction loss and high positioning accuracy; the lead screw is powered by high-torque AC servo motor through precise coupling to ensure high dynamic performance of each axis of the machine tool.



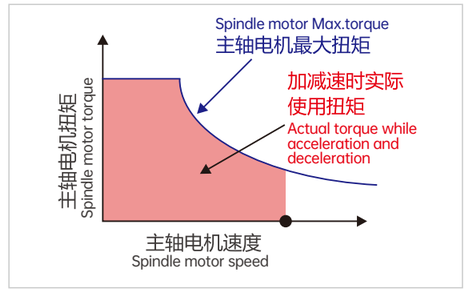
高速
HIGH SPEED

较优的伺服轴及主轴加减速；
Better servo axis and spindle acceleration and deceleration;

60m/min的快速移动速度；
rapid traverse 60m/min;

1G的加速度；
1G acceleration;

高速钻孔、攻丝；
High speed drilling and tapping;



高效智能刚性攻丝
HIGH-EFFICIENCY INTELLIGENT RIGID TAPPING

无需调整攻丝时间常数，主轴利用最大输出功率进行加减速，实现快速最优刚性攻丝动作，提高加工效率。

Acceleration and deceleration is realized by spindle with Max.output power,no need adjusting the tapping time constant, in this way the machine can achieve fast optimal rigid tapping action and improve processing efficiency.

技术参数 TECHNICAL PARAMETER

配置 Configuration / 型号 Model		VT60B			
X轴行程 X axis travel	mm	1100	主轴功率 Spindle power	kW	3.717.5
Y轴行程 Y axis travel	mm	600	主轴扭矩 Spindle torque	N·m	23.6/47.7
Z轴行程 Z axis travel	mm	350	快移速度 Rapid traverse	m/min	60/60/60
主轴鼻端至台面 Spindle nose to table	mm	250-600	定位精度 Positioning	mm	0.008
工作台尺寸 Table size	mm	1200x600	重复定位精度 Repeatability	mm	0.005
工作台最大载重 Table max. load	kg	400	加速度 Acceleration	G	1
主轴转速 Spindle speed	rpm	12000	刀库容量 Tool magazine capacity	把 T	21

※ 参数以技术协议为准
※ The parameters are subject to the final technical agreement

蒂德精机 DEED MT

HBP 系列 SERIES

刨台式铣镗加工中心 PLANER MILLING & BORING MACHINING CENTER

高精度高速高刚性加工利器

High-precision, high-speed, high-rigidity machining tool

满足中大型箱体、壳体类零件加工需求

Satisfy medium&large box-type parts and housing parts processing requirements

产品概述 PRODUCT OVERVIEW

本机床为立柱移动式，单立柱、横床身、正挂主轴箱布局，并配有刀具、工件冷却系统，适用于大、中型各种基础大件、板件、盘类件、壳体件、模具等多品种零件的加工，工件一次装夹后可自动、高效、高精度地连续完成镗、铣、钻等多种工序的加工。

This machine is column-moving , with single column, horizontal bed, and upright spindle box layout, equipped with cutting tools and workpiece cooling systems. It is suitable for processing various types of large and medium-sized basic large parts, plates, disc parts, housing parts, molds and other parts. With one-time clamping, it can automatically, efficiently and accurately complete various processing such as boring, milling, and drilling etc.

产品优势 PRODUCT ADVANTAGE

● 转台采用伺服电机驱动十字交叉滚子轴承（轴承外圈为齿圈）双电机消隙控制，实现转台更高承载力；同时配备角度光栅尺，达到转台任意分度8″高定位精度的要求，并配备四点定位装置，使转台分度达到士4″的高精度定位要求；

● X、Y、Z伺服轴采用伺服电机直联精密行星减速箱带动大直径、高精度双螺母滚珠丝杆的形式；机床导轨采用滚柱直线导轨副，保持较强的切削刚性；

● 主轴采用进口高精度主轴专用轴承，配备主轴环形外冷及主轴轴承油气润滑冷却等技术，保证了主轴长时间高精度运行。W轴采用先进材料制造，并经过精心热处理使镗轴具有更高的刚度及精度保持性；

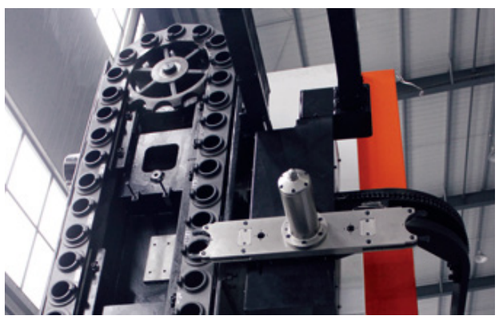
● Y轴采用双丝杠对称结构，配合数控系统实现了同服轴的主从控制，该结构完全代替了传统的配重结构，降低了系统故障率，提高了机床动态响应性及机床定位精度。

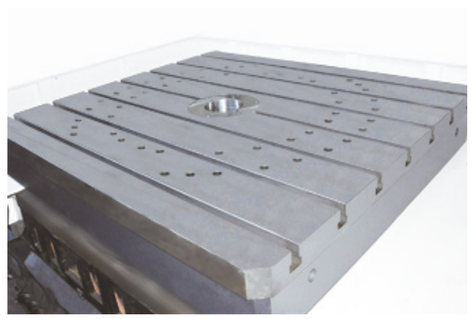
●The rotary table uses servo motor to drive the cross roller bearing (the outer ring of the bearing is the tooth ring), dual motor anti-backlash control to achieve high bearing capacity of the rotary table, and angle grating ruler to achieve rotary table arbitrary division 8″ high positioning accuracy requirements, 4-points positioning device to make the rotary table reach high precision positioning demands of ±4″;

●X, Y, and Z servo axes are driven by servo motor directly connected with precision planetary gearbox to drive the large diameter, high-precision double nut ball screw; the machine is equipped with roller linear guideways to maintain strong cutting rigidity.

●The spindle adopts imported high-precision spindle specific bearings, equipped with technologies such as spindle ring external cooling and spindle bearing oil and air lubrication cooling, to ensure long-term high-precision working. W-axis aopts advanced materials and undergoes careful heat treatment to provide higher regidity and precision retaining ability for the boring shaft.

●Y-axis adopts double screw symmetrical structure, in conjunction with CNC controller, achieves master-slave control of the same server axis. This structure completely replaced the traditional counterweight structure, reduced system failure rate and improved the dynamic responsiveness and positioning precision of the machine tool.





技术参数 TECHNICAL PARAMETER

配置 Configuration		型号 Model	HBP16	HBP13	HBP11
镗轴直径 Boring spindle diameter		mm	Φ160	Φ130	Φ110
主轴最大切削扭矩 Spindle max. cutting torque		Nm	3500/5254	2500/3721	2000/2977
主轴最高转速 Spindle max. speed		rpm	2000	2500	3000
工作台横向行程(X轴) Worktable horizontal travel(X-axis)		mm	4000~6000	3000~5000	2000~3000
主轴箱垂直行程(Y轴) Spindle box vertical travel(Y-axis)		mm	2500、3000	2000、2500	1600、2000
工作台纵向行程 (Z轴) Worktable longitudinal travel(Z-axis)		mm	2000	1600	1200
镗轴移置行程(w轴) Boring spindle travel (W-axis)		mm	1000	700	600
回转工作台 Turntable	尺寸 Size	mm	2500×3000 (3000×3500)	1800×2200 (2000×2500)	1400×1600 1600×1800
	载重 load capacity	Kg	25000(50000)	20000(30000)	15000(20000)
	定位精度 Positioning	"	8	8	8
	重复定位精度 Repeatability	"	4	4	4
快速移动速度 Rapid traverse	X、Y	mm/min	20000	20000	20000
	Z、W	mm/min	10000	10000	10000
	B	rpm	2.5	2.5	2.5
进给速度 Feed speed	X、Y、Z、W	mm/min	1-8000	1-8000	1-8000
定位精度（半闭环） Positioning (half-closed loop)	X、Y、Z	mm	0.015	0.015	0.015
	W	mm	0.02	0.02	0.02
重复定位精度（半闭环） Repeatability (half-closed loop)	X、Y、Z	mm	0.01	0.01	0.01
	W	mm	0.015	0.015	0.015

※ 参数以技术协议为准
※ The parameters are subject to the final technical agreement

蒂德精机
DEED MT

HBC 系列 SERIES

卧式铣镗加工中心 HORIZONTAL MILLING & BORING MACHINING CENTER

高精度高性价比加工利器

High-precision, cost-effective machining tool

满足中小型箱体、阀体类零件加工需求

Satisfy small and medium-size box-type parts, valve body parts processing requirements

产品概述 PRODUCT OVERVIEW

本系列机床为卧式铣镗加工中心，立柱与床身固定，十字滑台结构，工作台左右移动（X轴），主轴箱在立柱上上下移动（Y轴），工作台前后移动（Z轴），镗轴前后移动（W轴），工作台回转（B轴）。床身采用新型矿物材料，精度更稳定。

该机床广泛应用于船舶、交通、铁路、能源、风电、重型、冶金、矿山、工程机械、石化机械、内燃机、水泵、高压开关、模具等各类通用机械加工行业，是加工箱体类、壳体类、机座类等零件的关键首选设备。

This series of machine is horizontal milling & boring machining center,while the column and bed are fixed, table is in cross-sliding structure, worktable moves left and right (X axis), spindle box moves up and down on the column (Y axis), worktable moves forward and backward (Z axis), boring axis moves forward and backward (W axis), and wortable rotates (B axis) .The bed is casted by new mineral material for more stable precision.

It can be widely used in shipbuilding, transportation, railway, energy, wind power, heavy duty, metallurgy, mining, engineering machinery, petrochemical machinery, internal combustion engine, water pump, high pressure switch, molds and other general mechanical processing industries, and it is the key and premier choice to process box-type, housing-type and seats parts etc.

产品优势 PRODUCT ADVANTAGE

● 转台采用伺服电机驱动十字交叉滚子轴承（轴承外圈为齿圈）双电机消隙控制，具体更高承载力；同时配备角度光栅尺，达到转台任意分度8″高定位精度的要求；

● 主传动采用主轴电机与二段齿轮变速箱直联的形式，将动力传递至主轴，充分发挥主轴电机的最大效率，确保低速档大扭矩输出，以适合重切削功能；

● 主轴轴承的冷却采用恒温油箱循环冷却方式，传动系统稳定可靠；

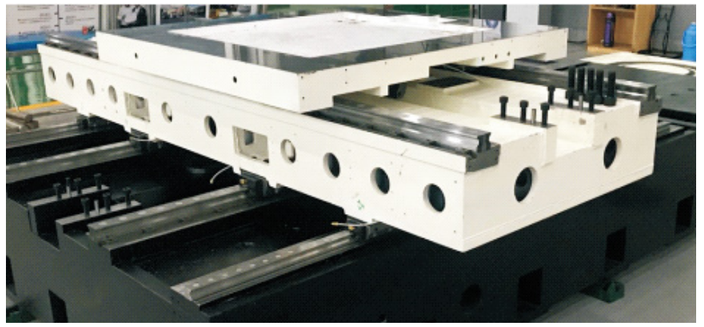
● 基础大件除床身采用新型矿物铸件材料一体铸造外，其余均采用优质灰铸铁，二者结合使整机具备优异的吸振性和热稳定性，具有更加完美的切削表现。

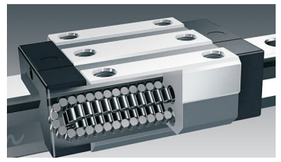
●The rotary table uses servo motor to drive the cross roller bearing (the outer ring of the bearing is the tooth ring), dual motor anti-backlash control, to achieve high bearing capacity of the rotary table, and is equipped with angle grating ruler, to achieve the rotary table arbitrary division 8″ high positioning accuracy requirements.

●The main transmission adopts direct connection of the spindle motor and the 2-stage gear gearbox to transfer the power to spindle and fully utilize the maximum efficiency of spindle motor to ensure high torque output at low speed, suitable for heavy cutting ;

●The cooling of spindle bearings adopts constant temperature oil tank circulation cooling , and the transmission system is stable and reliable;

●All of the basic large parts,except for mineral casting base, are made of high-quality gray casting iron. The combination of the two different castings makes the entire machine have excellent vibration absorption and thermal stability and gain more perfect cutting performance.





● 采用十字滑台结构型布局；

● 床身采用高强度矿物铸件一体铸造；

● Cross slide structure layout

● One-piece mineral casted high strength machine base

● High rigidity steel welded saddle

● Z-axis 4 Pcs high rigidity linear guideways

● 鞍座采用高刚性钢板焊接结构；

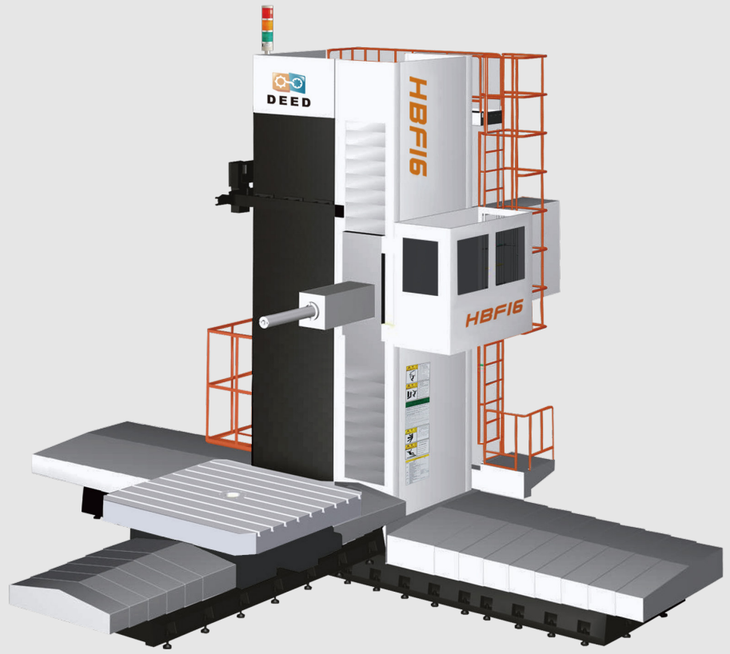
● Z轴四条高刚性的直线滚动导轨副。

技术参数 TECHNICAL PARAMETER

配置 Configuration / 型号 Model			HBC1320	HBC1116
镗轴直径 Boring spindle diameter		mm	Φ130	Φ110
主轴最大切削扭矩 Spindle max. cutting torque		Nm	2000/2977	2000/2977
主轴最高转速 Spindle max. speed		rpm	2500	3000
工作台横向行程(X轴) Worktable horizontal travel(X-axis)		mm	2000	1600
主轴箱垂直行程(Y轴) Spindle box vertical travel(Y-axis)		mm	1500	1200
工作台纵向行程 (Z轴) Worktable longitudinal travel(Z-axis)		mm	1400	1200
镗轴移置行程(w轴) Boring spindle travel (W-axis)		mm	800	600
回转工作台 Turntable	尺寸 Size	mm	1400×1600	1200×1400
	载重 load capacity	Kg	5000	4000
	定位精度 Positioning	"	8	8
	重复定位精度 Repeatability	"	4	4
快速移动速度 Rapid traverse	X、Y	mm/min	20000	20000
	Z、W	mm/min	10000	10000
	B	rpm	2.5	2.5
进给速度 Feed speed	X、Y、Z、W	mm/min	1-8000	1-8000
定位精度（半闭环） Positioning (half-closed loop)	X、Y、Z	mm	0.02	0.02
	W	mm	0.02	0.02
重复定位精度（半闭环） Repeatability (half-closed loop)	X、Y、Z	mm	0.01	0.01
	W	mm	0.015	0.015

※ 参数以技术协议为准
※ The parameters are subject to the final technical agreement

蒂德精机
DEED MT



HBF 系列 SERIES

落地式铣镗加工中心 FLOOR TYPE MILLING & BORING MACHINING CENTER

高精度高刚性高效率加工利器

High-precision, high-rigidity, high-efficiency machining tool

满足大型箱体、大型工程机械零件加工需求

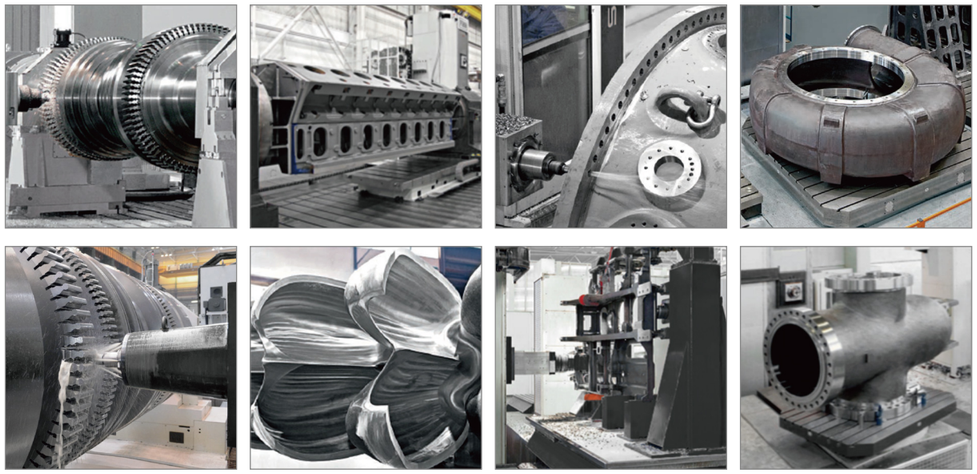
Satisfy large size box parts and engineering machinery parts processing requirements

产品概述 PRODUCT OVERVIEW

本系列机床为动立柱、正挂主轴箱（主轴直径Φ200以上为侧挂）、滑枕移动式布局，并配有数控转台（或落地式平台）。机床X轴采用两台伺服电机、精密减速机及高精度齿轮、齿条进行同步驱动，其它各轴均采用伺服电机、精密减速机及高精度滚珠丝杠副进行驱动。

This series of machine tool is column-moving, with side-hanging spindle box, ram movable layout and equipped with CNC rotary table (or floor type platform). The X-axis of the machine tool is driven synchronously by two servo motors, precision reducer and high-precision gear and rack. The other axes are driven by servo motors, precision reducer and high-precision ball screw.X, Y, and Z axes are closed-loop controlled by high-precision linear scale to ensure higher positioning precision.

产品优势 PRODUCT ADVANTAGE



●主轴箱采用二级齿轮变速，在低速档，输出扭矩大，适合重切削；在高速档，输出转速高，适合高速切削；

●方滑枕采用优质球墨铸铁精铸而成，Y轴采用双丝杠驱动，用以补偿由于镗杆及方滑枕前移而产生的下垂变形；

●转台采用伺服电机驱动十字交叉滚子轴承(轴承外圈为齿圈)双电机消隙控制，实现转台更高承载力;同时配备角度光栅尺，达到转台任意分度8″高定位精度的要求；

●机床采用自动升降操作台，操作方便灵活，安全性好；

●基础大件除床身采用新型矿物铸件材料一体铸造外，其余均采用优质灰铸铁，二者结合使整机具备优异的吸振性和热稳定性，具有更加完美的切削表现。

●Spindle box adopts two-stage gear change, in low speed gear, large output torque, suitable for heavy cutting; in high speed gear, high output speed, suitable for high-speed cutting.

●The square ram is made of high-quality ductile iron precision casting, and the Z-axis guideway adopts the latest rolling and sliding composite technology, and is equipped with automatic extension compensation to ensure the rigidity and dynamic response of the Z-axis.

●The rotary table uses servo motor to drive the cross roller bearing (the outer ring of the bearing is the tooth ring), dual motor anti-backlash control, to achieve high bearing capacity of the rotary table, and is equipped with angle grating ruler, to achieve the rotary table arbitrary division 8″ high positioning accuracy requirements

●The machine adopts automatic lifting operation platform, convenient and flexible operation, good safety.

●All of the basic large parts,except for mineral casting base, are made of high-quality gray casting iron. The combination of the two different castings makes the entire machine have excellent vibration absorption and thermal stability and gain more perfect cutting performance.

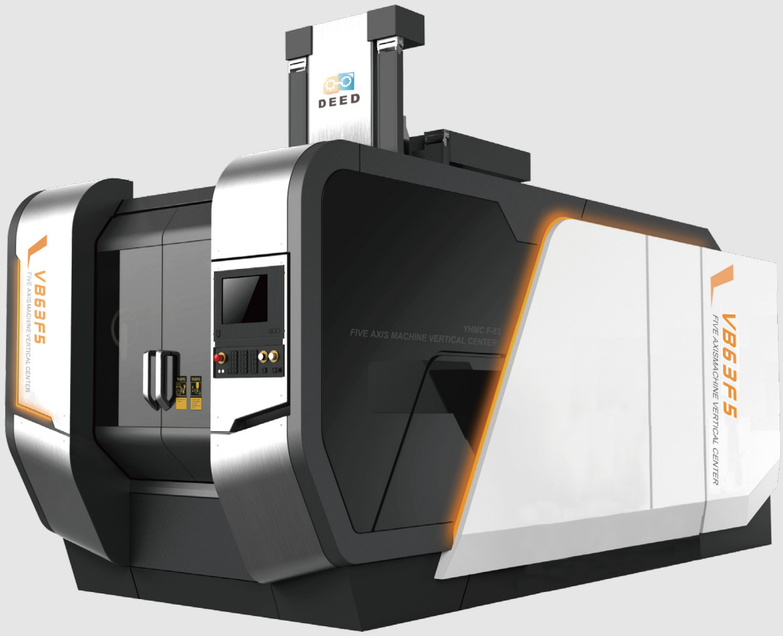
技术参数 TECHNICAL PARAMETER

配置 Configuration / 型号 Model			HBF16	HBF13
镗轴直径 Boring spindle diameter		mm	Φ160	Φ130
主轴最大切削扭矩 Spindle max. cutting torque		Nm	3500/5254	3000/3721
主轴最高转速 Spindle max. speed		rpm	2000	2500
工作台横向行程(X轴) Worktable horizontal travel(X-axis)		mm	4000~30000	4000~20000
主轴箱垂直行程(Y轴) Spindle box vertical travel(Y-axis)		mm	3000 4000 5000	2000 3000 4000
工作台纵向行程(Z轴) Worktable longitudinal travel(Z-axis)		mm	1250	1000
镗轴移置行程(w轴) Boring spindle travel (W-axis)		mm	1000	800
转台直线移置行程(V轴) Turntable linear movement travel(V-axis)		mm	2000-3500	2000-3500
回转工作台 Turntable	尺寸 Size	mm	2000×2000 2000×2500 2500×2500 2500×3000 3000×3500 3500×3500	2000×2000 2000×2500 2500×2500 2500×3000 3000×3500 3500×3500
	载重 load capacity	Kg	20000-50000	20000-50000
	定位精度 Positioning	"	8	8
	重复定位精度 Repeatability	"	4	4
快速移动速度 Rapid traverse	X、Y、	mm/min	20000	20000
	Z、V、W	mm/min	10000	10000
	B	rpm	2	2
进给速度 Feed speed	X、Y、Z、V、W	mm/min	1-8000	1-8000
定位精度 (X/Y/Z/V全闭环,W半闭环) Positioning (X/Y/Z/V full-closed loop, W half-closed loop)	X、Y、Z、V	mm	0.015	0.015
	W	mm	0.02	0.02
重复定位精度 (X/Y/Z/V全闭环,W半闭环) Repeatability (X/Y/Z/V full-closed loop, W half-closed loop)	X、Y、Z、V	mm	0.01	0.01
	W	mm	0.015	0.015

※参数以技术协议为准

※The parameters are subject to the final technical agreement

蒂德精机
DEED MT



VB 系列 SERIES

立式五轴加工中心 VERTICAL 5-AXIS MACHINING CENTER

便利的操作极佳的五轴加工能力

Easy operation and Excellent 5-axis machining capacity

产品概述 PRODUCT OVERVIEW

本设备是由欧洲知名机床设计公司设计、在中国制造的一款中小规格的立式五轴加工中心，采用桥式结构，并结合我公司多年的机床设计及制造经验、大量用户的使用要求特点等，全新开发的新一代高速、高精度产品。本设备可广泛适用于叶片、叶轮、模具工业等各种类型的机械加工行业中的复杂曲面零件加工，能满足中、小型箱体零件和空间曲面多品种加工的需要，广泛使用在航天航空、模具、高精密仪器等民用工业和军工企业等领域。

This is medium and small size 5-axis vertical machining center which is designed in Europe and made in China, taking in long term design and manufacture experience , after lots of research on customers 'machining demands, it is designed into gantry structure and upgraded to new generation with higher-speed , higher-precision. It can be widely used in various machinery industries for complex curve surface parts machining such as blades, impeller and molds etc. It can also meet the machining demand for medium and small box-type parts, space curves faces and other various special machining cases, can be widely used in civil industry and military industry for parts machining in aerospace, mold and high-precision instrument instrument industries etc.

产品优势 PRODUCT ADVANTAGE

●整体龙门式紧凑结构，刚性好，X轴采用双驱动结构设计，保证高速运动的平衡性，箱体式主轴箱结构带来更高的大扭矩输出稳定性；

●A/C轴采用力矩电机直接驱动，省去减速传动齿轮，大幅度提高运行精度，提高旋转速度，并有液压夹紧系统，锁紧力矩大，能很好的保证复杂的五轴加工功能的实现；

●X、Y、Z轴配备光栅尺，A、C轴配备时栅，保证了机床在高速快移的情况下提高工件精度等级，高定位精度；

●采用双摇摆结构，确保在五轴加工或任意角度定位精度加工等，以扩展机床应用领域，满足高复杂度加工需求；

●配备链式直插式刀库伺服电机直接驱动，运行速度快、定位精度高，极大地方便了客户对不同工序的加工需求。

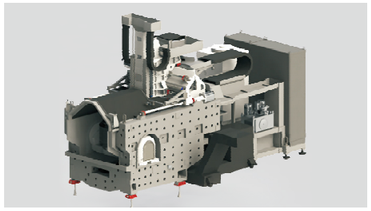
●The overall gantry type compact structure has good rigidity, X-axis adopts dual drive structure design to guarantee the balance of high-speed movement. The box type spindle box structure will help bring better stability under large torque output.

●A/C axes are directly driven by torque motor which can eliminate the demands for deceleration transmission gears, significantly improve operating precision and rotational speed. It also has an hydraulic clamping system with large locking torque, which can effectively realize complex 5-axis machining functions.

●X. Y and Z axes are equipped with linear scale, A and C axes are equipped with time gratings, to hlp improves the accuracy level of the workpiece and high positioning accuracy under high-speed and fast movement.

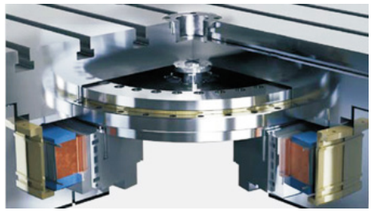
●Double swing structure can help for precision machining in 5-axis machining or arbitrary angle positioning, to expand the machine application field and meet high complexity processing requirements.

●Equipped with chain type direct insertion type tool magazine directly driven by servo motor , it has fast operating speed and high positioning accuracy, make it closer to the processing needs of customers for different specificaions.



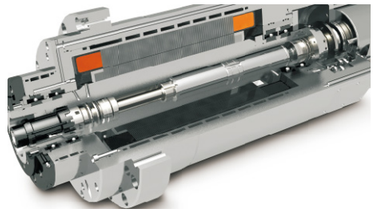
整体龙门式紧凑结构，刚性好，X轴采用双驱动结构设计，保证高速运动的平衡性，箱体式主轴箱结构带来更高的大扭矩输出稳定性。

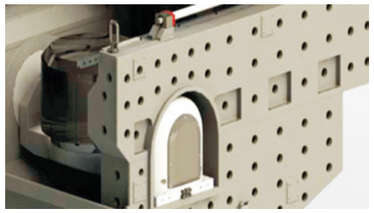
The overall gantry type compact structure has good rigidity, X-axis adopts dual drive structure design to guarantee the balance of high-speed movement. The box type spindle box structure will help bring better stability under large torque output.



A/C轴采用力矩电机直接驱动技术，省去传动齿轮中间环节，大幅度提高了机床的运行精度和速度。同时采用液压夹紧系统，可实现高精度定位加工。

A/C axes are directly driven by torque motor which can eliminate the demands for deceleration transmission gears, significantly improve operating precision and rotational speed. It also has an hydraulic clamping system , which can effectively realize high precision positioning processing.





配有大功率、高速电主轴不仅适合工件表面的高速高精加工，而且还特别适合工件的深孔加工。

Equipped with big-power, high-speed built-in spindle, not only suitable for high-speed and high-precision machining of workpiece surfaces, but also particularly suitable for deep hole machining.

机床采用U型床身结构和尾座单元，保证了运动部件高速运动或大负荷切削时机床的稳定性。

The machine tool adopts U-shaped bed structure and tailstock unit, to help for machine stability during high-speed movement or big-load heavy cutting.

技术参数 TECHNICAL PARAMETER

行程 Travel			工作台 Worktable		
X轴行程 X-axis travel	mm	800	工作台尺寸 Worktable size	mm	Φ630
Y轴行程 Y-axis travel	mm	800+400	工作台最大载重 Worktable max.load	kg	850
Z轴行程 Z-axis travel	mm	600	主轴转速 Spindle speed	rpm	15000
A轴 A-axis	°	±120	X/Y/Z快移速度 X/Y/Z rapid traverse	mm/min	50/50/50
C轴 C-axis	°	连续360 Continuous 360	A/C轴转速 A/C axis speed	rpm	60/120

※ 参数以技术协议为准
※ The parameters are subject to the final technical agreement

蒂德精机 DEED MT

RY 系列 SERIES

立式五轴加工中心 VERTICAL 5-AXIS MACHINING CENTER

高性能和高精度加工中心

High-Performance, High-Precision 5-axis Machining Center

产品概述 PRODUCT OVERVIEW

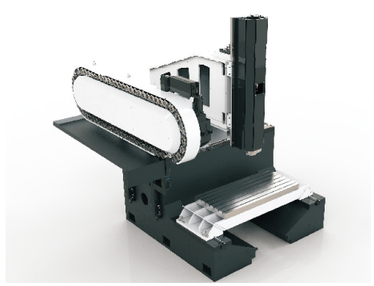
RY系列产品是德国ROTTLER公司与我司共同合作开发、德国制造的立式加工中心。该产品具有高速度、高精度、高刚性、高可靠性的结构特点，在规定的环境条件下能连续正常工作，精度稳定，主要用于汽车、航空、航天、电力以及中小型模具等行业的精密加工，特别适用于本身重量大，重量不均匀零件的高精度、高速度铣削。

The RY series product is vertical machining centers jointly developed and manufactured in Germany with our German partner ROTTLER . This product has the structural characteristics of high speed, high precision, high rigidity and high reliability. It can work continuously and normally under specified environmental conditions with stable accuracy. It is mainly used for precision machining in industries such as automobiles, aviation, aerospace, power and small and medium-sized molds. It is particularly suitable for high-precision and high-speed milling of parts with large weight and uneven weight.

产品优势 PRODUCT ADVANTAGE

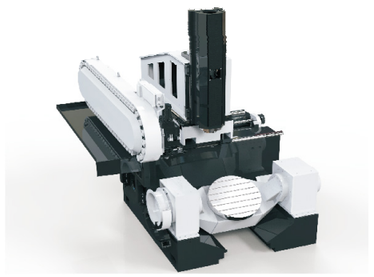
●机床底座、立柱固定部件采用新型矿物铸件材料，相比传统铸铁材料，具备优异的吸振性、低热膨胀系数、低热传导系数、优秀的耐腐蚀性、室温浇注固化内应力小；
●鞍座、工作台、主轴箱运动部件选用钢板焊接，相比传统铸铁材料，具有更高的刚性，同时又降低了移动部件的重量、减小运动惯性，提升了机床的响应速度和运动精度；
●工作台固定，有效避免了十字滑台移动式工作台结构基础在负载重量小时的响应过冲、负载重量大时响应延缓的问题；
●XY轴运动由XY轴滑板在床身上移动实现，有效避免了运动部件的悬伸，具有更高的刚性和精度；
●主轴箱采用近似方滑枕结构，改变了传统主轴箱悬伸形式所带来的刚性不足问题；
●丝杠由大扭矩交流同服电机通过减速同步带提供动力，保证机床各轴的高动态性能；
●配置线轨、丝杠、主轴冷却确保长时间加工的精度稳定性；
●配置光栅尺，全闭环控制，使得机床具有更高的定位及加工精度；
●配置高转速电主轴，可以满足多种材料的高速加工。

●The fixed components , machine base and column are made of new mineral casting materials. Compared to traditional casting iron materials, they have excellent vibration absorption, low thermal expansion coefficient, low thermal conductivity coefficient, excellent corrosion resistance and low internal curing stress under room temperature casting conditions.
●The moving parts, saddle, worktable, and spindle box are welded with steel plates, which have higher rigidity compared to traditional casting iron materials. At the same time, it can help reduce the weight of the moving parts, reduce movement inertia, and improve the response speed and motion accuracy of the machine tools.
●Fixed woktable can effectively avoid the problems of cross slide moving wortable structure such as response overshoot when the load is small and response delay when the load is large.
●XY axis motion is achieved by the movement of the XY axis slider on the machine bed, it can effectively avoid the overhanging of moving parts and get higher rigidity and accuracy.
●The spindle box adopts approximate square ram structure, it will help o improve the lackness of insufficient rigidity caused by traditional suspension mode of the spindle box.
●The lead ball screw is powered by high torque AC servo motor through deceleration synchronous belt, to ensure high dynamic performance of each axis of the machine tool.
●Configured with linear guides, ball screw and spindle cooling to ensure precision stability for long-term processing.
●Configured with linear scale with fully closed-loop control, help get higher positioning and processing stability.
●Configured with high-speed electrical built-in spindle, meet the high-speed processing of various materials.



配置 Configuration / 型号 Model		V650-5	V900-5	V1300-5
C轴台面尺寸 C-axis table size	mm	500	600	800
最大载重 Max.load	kg	800	1000	1400
C轴转速 C-axis speed	rpm	80	80	80
C轴回转范围 C-axis rotation range	°	360	360	360
A轴转速 A-axis speed	rpm	25	25	25
A轴转动范围 A-axis rotation range	°	-15~+120	-15~+120	-15~+120

※ 参数以技术协议为准
※ The parameters are subject to the final technical agreement



配置 Configuration / 型号 Model	工作台尺寸mm Worktable size	最大载重kg Max.load	定位精度mm Positioning	重复定位精度mm Repeatability
V650-3	450×650	800	0.005	0.003
V850-3	450×850	900	0.005	0.003
V900-3	550×900	1100	0.005	0.003
V1100-3	550×1100	1300	0.005	0.003
V1300-3	750×1300	1600	0.005	0.003
V1500-3	750×1500	1900	0.005	0.003

技术参数 TECHNICAL PARAMETER

配置 Configuration / 型号 Model		V650-3	V850-3	V900-3	V1100-3	V1300-3	V1500-3	V650-5	V900-5	V1300-5
X轴行程 X-axis travel	mm	650	850	900	1100	1300	1500	650	900	1300
Y轴行程 Y-axis travel	mm	450	450	550	550	750	750	450	550	750
Z轴行程 Z-axis travel	mm	520	520	600	600	700	700	520	600	700
主轴鼻端至台面 Spindle nose to worktable surface	mm	150-670	150-670	150-750	150-750	150-850	150-850	150-670	150-750	150-850
主轴转速 Spindle speed	rpm	15000	15000	15000	15000	15000	15000	18000	18000	18000
主轴功率 Spindle power	kW	26.4	26.4	26.4	26.4	26.4	26.4	35	35	35
主轴扭矩 Spindle torque	N·m	84	84	84	84	84	84	105	105	105
快移速度 Rapid traverse	m/min	40	40	40	40	40	40	40	40	40
切削速度 Cutting speed	m/min	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5
刀库容量 Tool magazine capacity	把 T	30/60	30/60	30/60	30/60	30/60	30/60	30/60	30/60	30/60

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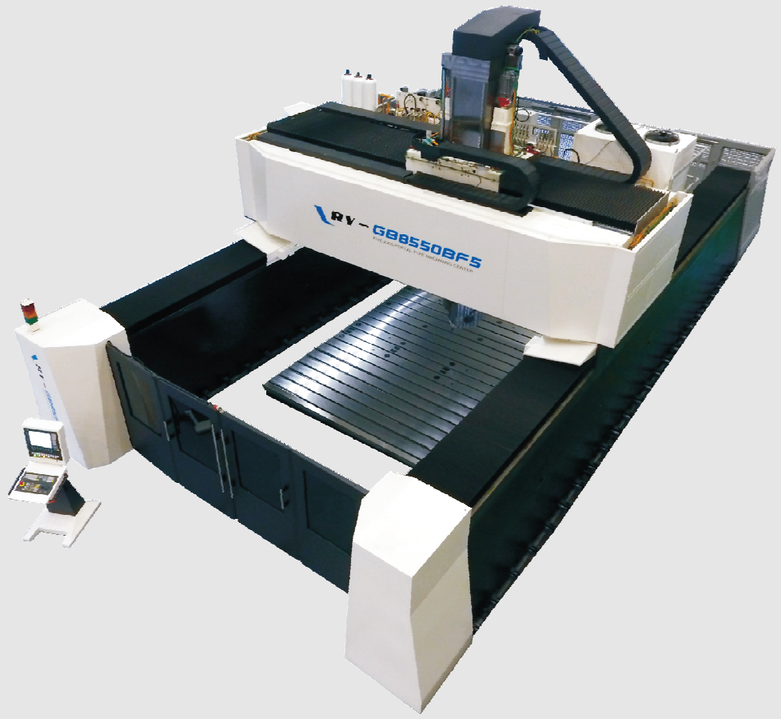
蒂德精机
DEED MT



GB 系列 SERIES

桥式五轴联动加工中心

BRIDGE TYPE 5-AXIS SIMULTANEOUS MACHINING CENTER

专为高精加工和高轮廓精度而设计

Specially designed for high precision processing and high contour accuracy

产品概述 PRODUCT OVERVIEW

该系列产品是德国ROTTLER公司与我司共同合作开发、制造的高速桥式五轴联动龙门加工中心。该产品具有高速度、高精度、高刚性、高可靠性的结构特点，在规定的环境条件下能连续正常工作，精度稳定，主要用于汽车、航空、航天、电力以及大型模具等行业的精密加工，特别适用于零件本身重量大，工件长度较长的的各种空间连续曲面的高精度、高速度铣削。

This series of product is high-speed bridge type 5-axis simultaneous gantry machining center jointly developed and manufactured with our German partner ROTTLER. This product has the structural characteristics of high speed, high precision, high rigidity and high reliability. It can work continuously and normally under specified environmental conditions with stable precision. It can be mainly used for precision machining in industries such as automobiles, aviation, aerospace, power and large molds making. It is particularly suitable for high-precision and high-speed milling of various spatial continuous surfaces with heavy parts and long workpiece lengths.

产品优势 PRODUCT ADVANTAGE

●C轴内藏于滑枕内部，由力矩电机驱动，扩大了Z轴有效加工空间，保证了C轴定位精度的一致性；

●双横梁箱中箱结构确保各个方向切削刚性，以及热变形的对称性，使机床在连续换向加工过程中保持一致的切削性能和稳定的加工精度；

●600*600mm大横截面滑枕确保即使滑枕在大悬伸时，保持较强的切削刚性；

●X/Y轴各配置4条滚柱型线性导轨，配置高精度光栅反馈系统，具有更大的动静态承载力和更强的运动抗振性能；

●X/Y轴各配置2套伺服电机，双边电子消隙同步驱动，保持高速运动的一致性。

●C-axis is hidden inside of the ram and driven by torque motor, which can help expand the effective machining space of Z-axis and ensure the consistency of C-axis positioning accuracy.

●The double crossbeam box-in-box structure can guarantee cutting rigidity in all directions and symmetry of thermal deformation, enable the machine tool to maintain consistent cutting performance and stable machining accuracy during continuous reversing machining.

●600*600mm large cross-section ram ensures strong cutting rigidity under large overhang extension.

●X/Y axes are equipped with 4 roller linear guides and high-precision grating feedback system, they will have bigger dynamic and static bearing capacity and better motion vibration resistance performance.

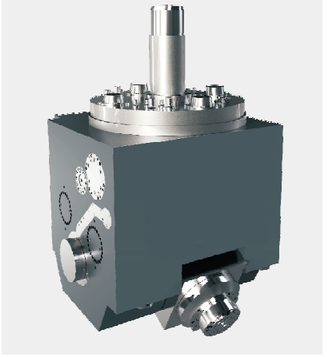
●X/Y axes are equipped with 2 sets of servo motors, with double-side electronic clearance synchronous drive to maintain consistency of high-speed movement.

锥柄形式：HSK-A100
转速：6000rpm
功率：60kW
扭矩：1830N.m

Spindle taper ： HSK-A100
Speed ： 6000rpm
Power：60kW
Torque ：1830N.m

锥柄形式：HSK-A100
转速：4000rpm
功率：60kW
扭矩：1830N.m

Spindle taper ： HSK-A100
Speed ： 4000rpm
Power：60kW
Torque：1830N.m



锥柄形式：HSK-A63
转速：12000rpm
功率：56kW
扭矩：869N.m
B轴摆动角度：-110°/+5°
B轴转速：6rpm

Spindle tape：HSK-A63
Speed：12000rpm
Power：56kW
Torque：869N.m
B-axis swiveling angle：-110°/+5°
B-axis speed：6rpm

技术参数 TECHNICAL PARAMETER

工作台 Worktable			横向滑板移动(Y轴) Horizontal slide movement(Y-axis)		
工作台尺寸 Worktable dimension	mm	3500x9000	纵向行程 Longitudinal travel	mm	4000
工作台最大载重 Worktable max.load	kg/m²	5000	进给速度 Feed speed	mm/min	10~20000
两立柱间距离 Distance between column	mm	5000	快速移动速度 Rapid traverse	mm/min	28000
横梁移动(X轴) Beam movement (X-axis)		8500	主轴箱(Z轴) Spindle box(Z-axis)		
纵向行程 Longitudinal travel	mm	10~20000	垂直行程 Vertical travel	mm	1500
进给速度 Feed speed	mm/min		进给速度 Feed speed	mm/min	10~15000
快速移动速度 Rapid traverse	mm/min	28000	快速移动速度 Rapid traverse	mm/min	20000
C轴 C-axis			B轴 B-axis		
C轴转速 C-axis speed	rpm	12	B轴转速 B-axis speed	rpm	6
C轴转角 C-axis swiveling angle		±185°	B轴转角 B-axis swiveling angle		-110°/+5

※ 参数以技术协议为准
※ The parameters are subject to the final technical agreement

蒂德精机
DEED MT

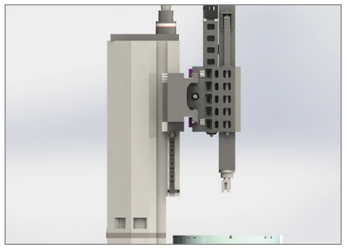
VTC 系列 SERIES
立式车床
Vertical Lathe

产品概述 PRODUCT OVERVIEW

该系列机床是在调研已有庞大客户群体的基础上，结合欧洲知名车床企业FKD先进技术与工艺，开发设计的动梁式立式车床。机床上下料容易，整机刚性好，操作方便灵活，可广泛应用于航空航天、风电、交通、电力、核电等行业中车轮、电机壳、阀门体、泵体等大中型盘类与环类零件加工，可车削内外圆柱面、平面、内外圆锥面、内外螺纹、曲面以及复杂回转曲线面等。

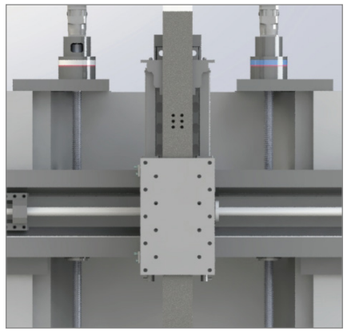
The design of this series product is based on the research of large customer base demands, combined with the advanced technology and specifications of our European partner FKD, it is a type of beam-moving vertical lathe. The machine is easy to load and unload workpieces, with high rigidity and convenien, flexible operation, It can be widely used in aerospace, wind power, transportation, electric power, nuclear power and other industries, for wheel, motor housing, valve body, pump body and other large and medium-sized disc and ring parts processing. It can turning inner and outer cylindrical surface, plane, inner and outer conical surface, inner and outer thread, curved surface and complex rotary curve surface etc.

产品优势 PRODUCT ADVANTAGE



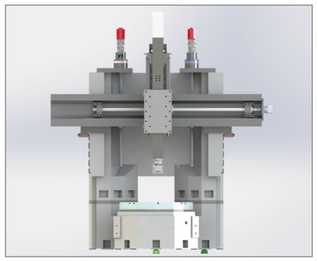
1) 切削刀具中心到立柱导轨距离与立柱安装前后长度为1:1.5，大大减少车削力矩，增加机床稳定性；

The distance from the cutting tool center to the column guide rail : the column length before and after installation length ratio is 1:1.5, which greatly reduces the turning torque and improve machine stability;



2) 滑座采用对称型设计，防止热变形发生，Z轴轨面经过高精密刮研处理，保证Z轴高精密运行；

The saddle adopts symmetrical design to prevent thermal deformation, the Z-axis rail surface has been processed with high-precision scraping to ensure Z-axis high-precision running;



3) 横梁可上下升降，保证在最合适的位置，提供最大的切削刚性；

The cross beam can be lifted up and down to ensure the maximum cutting rigidity out from the most suitable position.

4) 转台使用大跨距高精密交叉滚子轴承，使得转台可以进行稳定运转的同时又承载各方向载荷，保证重切加工。

The rotary table applies large span and high-precision cross roller bearings, so that the rotary table can carry the load in all directions while running stably, thus ensure heavy cutting processing performance.

技术参数 TECHNICAL PARAMETER

VTC1250	
工作台直径 Worktable diameter	Φ1250mm
最大回转直径 Max.swing diameter	Φ1600mm
最大加工直径 Max.processing diameter	Φ1400mm
最大加工高度 Max.processing height	1200mm

VTC1600	
工作台直径 Worktable diameter	Φ1600mm
最大回转直径 Max.swing diameter	Φ2000mm
最大加工直径 Max.processing diameter	Φ1800mm
最大加工高度 Max.processing height	1600mm

VTC2000	
工作台直径 Worktable diameter	Φ2000mm
最大回转直径 Max.swing diameter	Φ2500mm
最大加工直径 Max.processing diameter	Φ2300mm
最大加工高度 Max.processing height	2000mm

VTC2500	
工作台直径 Worktable diameter	Φ2500mm
最大回转直径 Max.swing diameter	Φ3000mm
最大加工直径 Max.processing diameter	Φ2800mm
最大加工高度 Max.processing height	2000mm

VTC3000	
工作台直径 Worktable diameter	Φ3000mm
最大回转直径 Max.swing diameter	Φ3400mm
最大加工直径 Max.processing diameter	Φ3300mm
最大加工高度 Max.processing height	2400mm

VTC3500	
工作台直径 Worktable diameter	Φ3500mm
最大回转直径 Max.swing diameter	Φ4100mm
最大加工直径 Max.processing diameter	Φ3800mm
最大加工高度 Max.processing height	2400mm

VTC4000	
工作台直径 Worktable diameter	Φ4000mm
最大回转直径 Max.swing diameter	Φ4600mm
最大加工直径 Max.processing diameter	Φ4300mm
最大加工高度 Max.processing height	2800mm

VTC4500	
工作台直径 Worktable diameter	Φ4500mm
最大回转直径 Max.swing diameter	Φ5100mm
最大加工直径 Max.processing diameter	Φ4800mm
最大加工高度 Max.processing height	2800mm

VTC5700	
工作台直径 Worktable diameter	Φ5700mm
最大回转直径 Max.swing diameter	Φ7000mm
最大加工直径 Max.processing diameter	Φ6300mm
最大加工高度 Max.processing height	3500mm

VTC6300	
工作台直径 Worktable diameter	Φ6300mm
最大回转直径 Max.swing diameter	Φ8800mm
最大加工直径 Max.processing diameter	Φ8000mm
最大加工高度 Max.processing height	4000mm

VTC7200	
工作台直径 Worktable diameter	Φ7200mm
最大回转直径 Max.swing diameter	Φ11000mm
最大加工直径 Max.processing diameter	Φ10000mm
最大加工高度 Max.processing height	4000mm

※ 参数以技术协议为准

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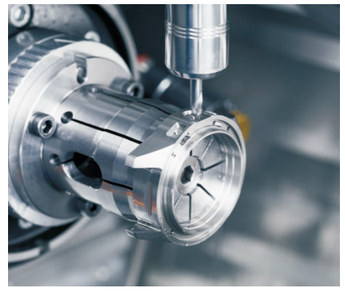
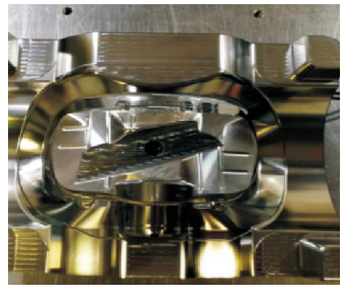
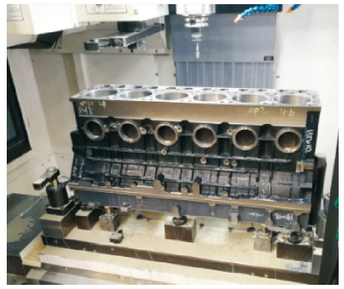
加工案例 PROCESSING CASES







24/7 全天候不间断服务
24/7 NON-STOP SERVICE

- 售后服务工程师平均具有 10 年机床维修经验，客户故障 2 小时响应回复；
  After-sales engineers averagely have over 10 years machine tool industry service experience, can respond to customer failure within 2 hours ;
- 全国设有 30 个销售及售后服务网点，售后网点覆盖范围 24 小时内到场服务；
  30 sales& servive centers inside of China, can give on-site service within 24 hours in near covering range;
- 提供完善的客户培训计划及操作指南；
  Comprehensive training system and operation guidance ;
- 标准化的售后交机及售后服务流程；
  Standardized machine delivery and after-sales service process;
- 购买机床，终身服务。
  1-time purchase, life-time service.





NOTES