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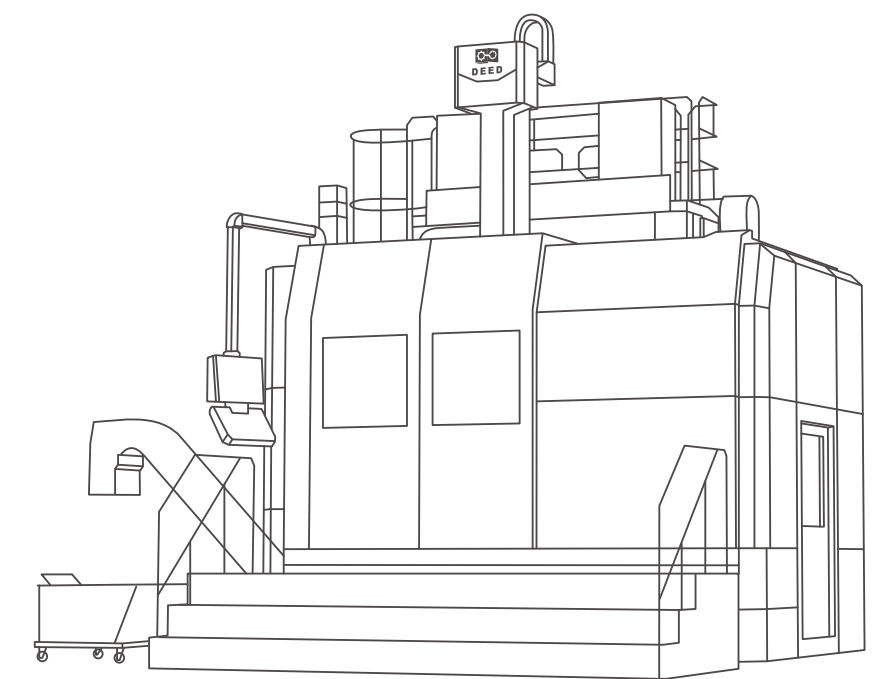


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VTC立式车削中心

VTC Vertical Turning Center



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。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、高精度五轴联动加工中心、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国制造的完美结合。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25项重点政府科技项目，获得各类知识产权200余项，科技成果奖15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 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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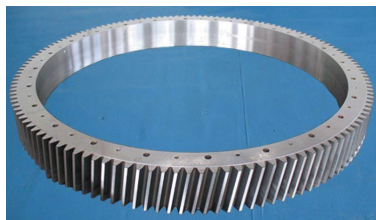
立式车削中心 VERTICAL TURNING CENTER (VTC1250-4500)

简介、产品优势、技术参数、标准配置、选购配置
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售后服务 AFTER-SALES SERVICE

24/7 全天候不间断服务
24/7 NON-STOP SERVICE



VTC系列 立式车削中心 (VTC450-1000)

VTC-Series Vertical Turning Center (VTC450-1000)

该系列机床是在吸收国内外同类机床先进技术的基础上开发的产品，主要用于加径向尺寸大而轴向尺寸小，形状复杂的大型和重型工件。如各种盘、轮和套类工件的螺纹、圆弧及回转体的内外曲面、端面、沟槽等，也通过使用动力刀塔进行铣削等加工。本系列机床是汽车、水泵、电机及其他行业复杂盘类及短轴类零件加工的首选。

This series of machine tools is a product developed based on the advanced technology of similar machine tools at home and abroad. It is mainly used for processing large and heavy workpieces with large radial dimensions and small axial dimensions and complex shapes. Such as threads, arcs, and inner and outer curved surfaces, end faces, grooves, etc. of various discs, wheels, and sleeve parts. It can also perform milling and other processing through the use driven turrets. This series of machine tools is the preferred choice for processing complex disc and short shaft parts in the automotive, pump, motor, and other industries.

产品优势

PRODUCT ADVANTAGE



- 1) 墙式立柱为刀塔运行提供全程支撑，确保运动刚性；
- 2) 床身与立柱采用矿物铸件，加工更加稳定；
- 3) X/Z轴全部采用高刚性滚柱线轨，精度更高更稳定；

- 1) The wall-type column provides full travel support for the operation of the turret, ensuring rigidity of the movement;
- 2) The bed and column are made of mineral castings, which makes the processing more stable;
- 3) Both X and Z axes are equipped with high rigidity roller linear guides, resulting in higher precision and greater stability;



- 4) 主轴使用更大规格轴承，可承受轴向与径向负荷切削及长时间切削加工，并维持加工精度；
- 5) 刀塔采用高刚性高强度端齿盘，精度更高，保证重切削加工的流畅性。
- 4) The spindle uses larger-sized bearings, which can withstand axial and radial loads for cutting and long-term cutting operations, and maintain processing accuracy;
- 5) The turret adopts high rigidity and high-strength end gear disk, with higher precision, ensuring the smoothness of heavy cutting operations.

标准配置

STANDARD CONFIGURATION

序号 No.	设备标准配置 Standard Configuration	序号 No.	设备标准配置 Standard Configuration
1	FANUC Oi TF系统 FANUC Oi TF	8	12工位伺服刀塔 12 station servo turret
2	矿物床身与立柱 Mineral bed&column	9	电柜箱热交换器 Electric cabinet heat exchanger
3	机械式主轴 Mechanic spindle	10	全封闭内外防护 Full closed inner&outer protection
4	中实卡盘 Solid chuck	11	链式排屑器（后排） Chain chip conveyor (rear side)
5	液压系统 Hydraulic system	12	工作灯 Working light
6	冷却系统（水泵、水箱） Cooling system (Water pump, water tank)	13	脚踏开关 Pedal
7	润滑系统 Lubrication system	-	-

选购配置

OPTIONS

选配/Options			
1	其它数控系统	Other CNC systems	☐
2	对刀仪	Tool setter	☐
3	工件测量	Workpiece measurement	☐
4	油雾收集器	Oil mist collector	☐
5	油水分离机	Oil skimmer	☐
6	自动门	Automatic door	☐
7	自动断电	Automatic power off	☐
8	稳压器	Voltage Stabilizer	☐
9	门联锁	Door interlock	☐
10	自动化接口	Automatic interface	☐

型号 Model		单位 Unit	VTC450	VTC550	VTC650	VTC850	VTC1000
配置 Configuration							
最大回转直径 Max. swing dia.	mm		600	700	800	980	1200
最大切削高度 Max. cutting height	mm		500	600	700	800	900
最大切削直径 Max. cutting dia.	mm		450	550	650	850	1000
主轴端部型式及代号 Spindle end type&code	-		A2-8	A2-8	A2-11	A2-11	A2-15
主轴前端轴径 Spindle front end shaft dia.	mm		Φ130	Φ130	Φ150	Φ170	Φ220
主轴转速范围 Spindle rotation speed range	r/min		50~2500	50~2500	50~2000	50~2000	30~1000
主电机功率 Main motor power	kW		15/18.5	18.5/22	22/26	30/37	37/45
主轴扭矩 Spindle torque	N·m		305/376	423/504	420/573	715/883	1140/1413
卡盘直径 Chuck dia.	inch		12"	15"	18"	21"	24"
X轴快移速度 X axis fast traverse	m/min		20	20	20	20	15
Z轴快移速度 Z axis fast traverse	m/min		20	20	20	20	15
X轴行程 X axis tra	mm		260	310	360	460	540
Z轴行程 Z axis travel	mm		500	600	700	800	900
刀架形式 Tool rest type	-		立式12工位 Vertical 12 station	立式12工位 Vertical 12 station	立式12工位 Vertical 12 station	立式12工位 Vertical 12 station	立式12工位 Vertical 12 station
刀具尺寸 Tool size	外圆刀 Cylindrical tool	mm	25×25	32×32	32×32	32×32	32×32
	镗刀杆直径 Boring shaft dia.	mm	Φ40	Φ50	Φ50	Φ60	Φ60



VTC系列 立式车削中心 (VTC1250-4500)

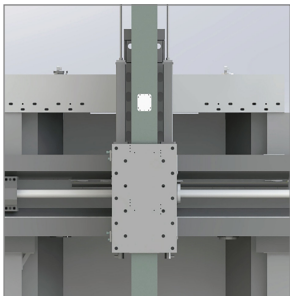
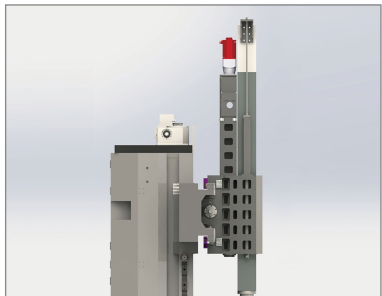
VTC-Series Vertical Turning Center (VTC1250-4500)

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。

This series of machine tools is based on the investigation of a large customer base, combined with the advanced technology and process of FKD, a well-known European lathe enterprise, to develop and design vertical lathes. The machine tool loading and unloading is easy, the machine rigidity is good, the operation is convenient and flexible, can be widely used in aerospace, wind power, transportation, electric power, nuclear power and other industries such as wheel, motor shell, valve body, pump body and other large and medium-sized disk and ring parts processing, can be turned inside and outside cylindrical surface, plane, inside and outside cone surface, internal and external thread, curved surface and complex rotary curve surface.

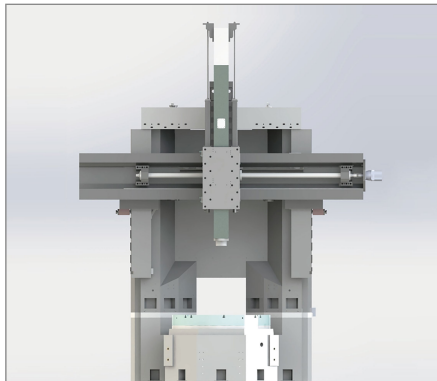
产品优势

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；
- 2) 滑座采用对称型设计，减少热变形发生，Z轴轨面经过高精密刮研处理，保证Z轴高精度运行；
- 1) 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) The slide seat adopts symmetrical design to reduce thermal deformation, and the Z-axis rail surface is processed by high-precision scraping to ensure the high-precision operation of the Z-axis.

- 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；
- 4) 转台使用大跨距高精度交叉滚子轴承，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。
- 3) The cross beam can be lifted up and down to ensure the maximum cutting rigidity out from the most suitable position.
- 4) 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.



尺寸参数

SIZE PARAMETER

VTC1250		VTC1600		VTC2000		VTC2500	
工作台直径 Table dia.	Φ1250mm	工作台直径 Table dia.	Φ1600mm	工作台直径 Table dia.	Φ2000mm	工作台直径 Table dia.	Φ2500mm
最大回转直径 Max.Swing Dia.	Φ1600mm	最大回转直径 Max.Swing Dia.	Φ2000mm	最大回转直径 Max.Swing Dia.	Φ2500mm	最大回转直径 Max.Swing Dia.	Φ3000mm
最大加工直径 Max. cutting Dia.	Φ1400mm	最大加工直径 Max. cutting Dia.	Φ1800mm	最大加工直径 Max. cutting Dia.	Φ2300mm	最大加工直径 Max. cutting Dia.	Φ2800mm
最大加工高度 Max. cutting Height	1200mm	最大加工高度 Max. cutting Height	1200mm	最大加工高度 Max. cutting Height	1600mm	最大加工高度 Max. cutting Height	1600mm

VTC3000		VTC3500		VTC4000		VTC4500	
工作台直径 Table dia.	Φ3000mm	工作台直径 Table dia.	Φ3500mm	工作台直径 Table dia.	Φ4000mm	工作台直径 Table dia.	Φ4500mm
最大回转直径 Max.Swing Dia.	Φ3400mm	最大回转直径 Max.Swing Dia.	Φ4100mm	最大回转直径 Max.Swing Dia.	Φ4600mm	最大回转直径 Max.Swing Dia.	Φ5100mm
最大加工直径 Max. cutting Dia.	Φ3300mm	最大加工直径 Max. cutting Dia.	Φ3800mm	最大加工直径 Max. cutting Dia.	Φ4300mm	最大加工直径 Max. cutting Dia.	Φ4800mm
最大加工高度 Max. cutting Height	1600mm	最大加工高度 Max. cutting Height	1600mm	最大加工高度 Max. cutting Height	1600mm	最大加工高度 Max. cutting Height	1600mm

标准配置

STANDARD CONFIGURATION

序号 No.	设备标准配置 Standard Configuration	序号 No.	设备标准配置 Standard Configuration
1	FANUC Oi TF系统 FANUC Oi TF	7	伞形刀库 Unbrella type tool magazine
2	二段式减速机 Two-stage reduction gearbox	8	手动夹盘 Manual chuck
3	液压系统 Hydraulic system	9	半封闭钣金 Half-closed sheet metal
4	冷却系统（水泵、水箱） Cooling system(water pump, water tank)	10	工作灯 Working light
5	自动润滑系统 Automatic lubrication system	11	脚踏开关 Foot Pedal Switch
6	电箱空调 Electric cabinet air conditioner	12	链式排屑机 Chain type chip conveyer

选购配置

OPTIONS

选配/Options		
1	其它数控系统 Other CNC systems	○
2	对刀仪 Tool setter	○
3	工件测量 Workpiece measurement	○
4	油雾收集器 Oil mist collector	○
5	油水分离机 Oil skimmer	○
6	自动门 Automatic door	○
7	自动断电 Automatic power off	○
8	稳压器 Voltage Stabilizer	○
9	门联锁 Door interlock	○
10	全封闭钣金 Full-closed sheet metal	○
11	自动化接口 Automatic interface	○

技术参数

TECHNICAL PARAMETER

配置 Configuration	型号 Model	单位 Unit	VTC1250	VTC1600	VTC2000	VTC2500	VTC3000
最大旋转直径 Max. swing dia.		mm	Φ1600	Φ2000	Φ2500	Φ3000	Φ3400
最大切削直径 Max.cutting dia.		mm	Φ1400	Φ1800	Φ2300	Φ2800	Φ3300
最大切削高度 Max.cutting height		mm	1200	1200	1600	1600	1600
最大工作台载重 Max. table load		kg	5000	8000	10000	15000	20000
转台直径 Table dia.		mm	Φ1250	Φ1600	Φ2000	Φ2500	Φ3000
主轴最高转速 Spindle max.speed		rpm	300	200	200	160	120
主轴电机功率 Spindle motor power		kw	37/45	37/45	60/75	60/75	60/75
主轴最大扭矩 Spindle max. Torque		N·m	10000	20000	50000	62000	68000
左右（X轴）行程 Left & right (X axis) travel		mm	-600,+875	-800,+1150	-1000,+1350	-1250,+1600	-1500,+1750
上下（Z轴）行程 Up & down (Z axis) travel		mm	900	900	1200	1200	1500
横梁上下行程 Beam up&down travel		mm	800	800	1200	1200	1200
X轴快速位移 X axis fast traverse		m/min	12	10	10	10	6
Z轴快速位移 Z axis fast traverse		m/min	10	10	10	10	8
刀位数量 Tool station qty.		/	12	12	12	12	16
刀柄型式 Tool shank type		/	BT50	BT50	BT50	BT50	BT50
最大刀具尺寸 Max. tool size		mm	Φ280	Φ280	Φ280	Φ280	Φ280
最大刀具重量 Max. tool weight		kg	30	30	30	30	30
最大刀库载重 Max. tool magazine load		kg	360	360	360	360	480

配置 Configuration	型号 Model	单位 Unit	VTC3500	VTC4000	VTC4500
最大旋转直径 Max. swing dia.		mm	Φ4100	Φ 4600	Φ 5100
最大切削直径 Max.cutting dia.		mm	Φ3800	Φ 4300	Φ 4800
最大切削高度 Max.cutting height		mm	1600	1600	1600
最大工作台载重 Max. table load		kg	20000	30000	30000
转台直径 Table dia.		mm	Φ3500	Φ 4000	Φ 4500
主轴最高转速 Spindle max.speed		rpm	60	60	60
主轴电机功率 Spindle motor power		kw	100/120	100/120	100/120
主轴最大扭矩 Spindle max. Torque		N·m	280000	280000	280000
左右（X轴）行程 Left & right (X axis) travel		mm	-1500,+2000	-2000,+2300	-2000,+2650
上下（Z轴）行程 Up & down (Z axis) travel		mm	1500	1500	1500
横梁上下行程 Beam up&down travel		mm	1500	1500	1500
X轴快速位移 X axis fast traverse		m/min	6	6	6
Z轴快速位移 Z axis fast traverse		m/min	8	8	8
刀位数量 Tool station qty.		/	16	16	16
刀柄型式 Tool shank type		/	BT50	BT50	BT50
最大刀具尺寸 Max. tool size		mm	Φ380	Φ 380	Φ 380
最大刀具重量 Max. tool weight		kg	50	50	50
最大刀库载重 Max. tool magazine load		kg	800	800	800

