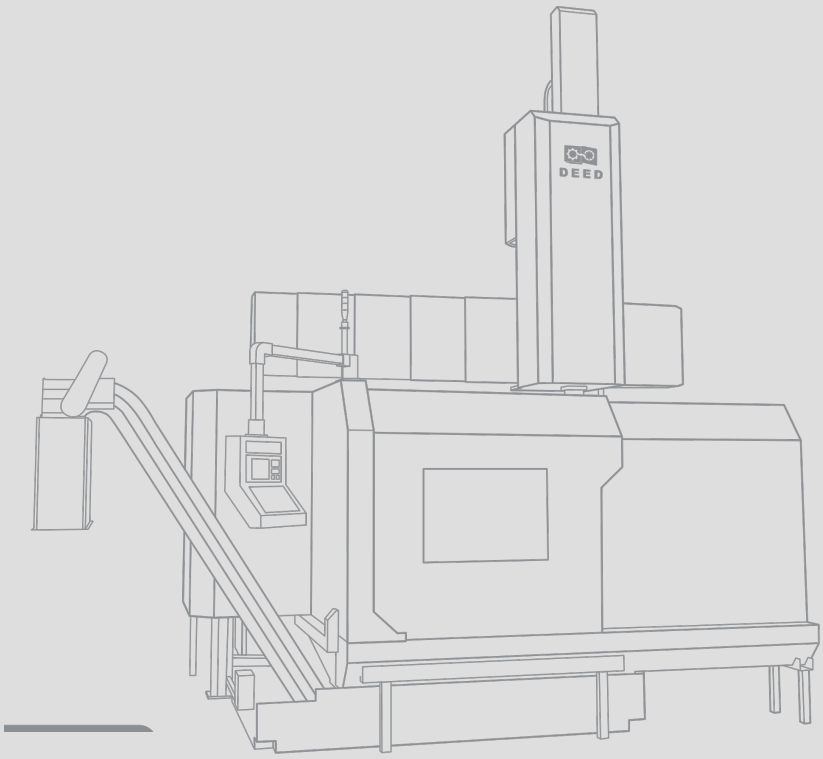
DEED BENELUX

VTC SERIES

VERTICAL TURNING CENTER

VTC450 – VTC4500

ADVANCED GERMAN TECHNOLOGY WITH THE STRENGTH OF CHINESE MANUFACTURING



COMPANY PROFILE



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

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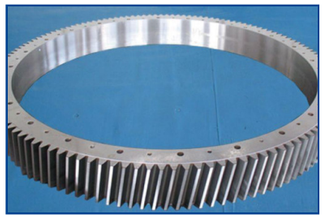
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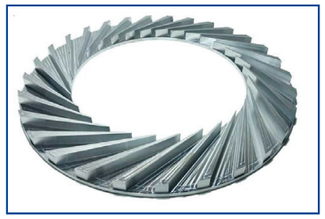
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Typical workpieces: gear rings, slewing rings, discs, wheels and sleeve parts.

DEED BENELUX



VTC SERIES

VERTICAL TURNING CENTER | VTC450–1000

Compact vertical turning center

For complex disc and short shaft parts

PRODUCT OVERVIEW

Developed on the basis of advanced technology from similar machine tools at home and abroad, this series is mainly used for large and heavy workpieces with a large radial and small axial dimension and complex shapes: threads, arcs, inner and outer curved surfaces, end faces and grooves of discs, wheels and sleeve parts. With a driven turret, milling operations are also possible. The preferred choice for complex disc and short shaft parts in the automotive, pump, motor and other industries.

PRODUCT ADVANTAGES







- Wall-type column
  Full-travel support for the turret, ensuring rigid movement.
- Mineral casting
  Bed and column are made of mineral casting for more stable machining.
- Roller guideways
  X and Z axes on high-rigidity roller linear guides for higher precision and stability.





- Large spindle bearings
  Withstand axial and radial cutting loads and long-term cutting while keeping machining accuracy.
- Rigid turret
  High-rigidity, high-strength face gear disc for higher precision and smooth heavy cutting.

SIZE PARAMETERS | VTC450–1000

VTC450	
Max. swing dia.	Ø600 mm
Max. cutting dia.	Ø450 mm
Max. cutting height	500 mm
X axis travel	260 mm
Chuck dia.	12″

VTC550	
Max. swing dia.	Ø700 mm
Max. cutting dia.	Ø550 mm
Max. cutting height	600 mm
X axis travel	310 mm
Chuck dia.	15″

VTC650	
Max. swing dia.	Ø800 mm
Max. cutting dia.	Ø650 mm
Max. cutting height	700 mm
X axis travel	360 mm
Chuck dia.	18″

VTC850	
Max. swing dia.	Ø980 mm
Max. cutting dia.	Ø850 mm
Max. cutting height	800 mm
X axis travel	460 mm
Chuck dia.	21″

VTC1000	
Max. swing dia.	Ø1200 mm
Max. cutting dia.	Ø1000 mm
Max. cutting height	900 mm
X axis travel	540 mm
Chuck dia.	24″

TECHNICAL PARAMETERS

VTC450–1000 vertical turning center | standard configuration

Configuration / Model		Unit	VTC450	VTC550	VTC650	VTC850	VTC1000
Capacity	Max. swing dia.	mm	600	700	800	980	1200
	Max. cutting dia.	mm	450	550	650	850	1000
	Max. cutting height	mm	500	600	700	800	900
Spindle	Spindle nose type	/	A2-8	A2-8	A2-11	A2-11	A2-15
	Spindle front shaft dia.	mm	Ø130	Ø130	Ø150	Ø170	Ø220
	Spindle speed range	rpm	50–2500	50–2500	50–2000	50–2000	30–1000
	Main motor power	kW	15/18.5	18.5/22	22/26	30/37	37/45
	Spindle torque	Nm	305/376	423/504	420/573	715/883	1140/1413
	Chuck dia.	inch	12″	15″	18″	21″	24″
Axes	X axis rapid traverse	m/min	20	20	20	20	15
	Z axis rapid traverse	m/min	20	20	20	20	15
	X axis travel	mm	260	310	360	460	540
	Z axis travel	mm	500	600	700	800	900
Tooling	Tool turret	/	Vertical 12-station turret				
	OD tool size	mm	25×25	32×32	32×32	32×32	32×32
	Boring bar dia.	mm	Ø40	Ø50	Ø50	Ø60	Ø60

* Values shown apply to the standard configuration. Options are available on request. The parameters are subject to the technical agreement.

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

CONFIGURATIONS | VTC450–1000

Standard configuration

No.	Standard Configuration	No.	Standard Configuration
1	FANUC 0i-TF control system	8	12-station servo turret
2	Mineral casting bed and column	9	Electric cabinet heat exchanger
3	Mechanical spindle	10	Fully enclosed inner and outer guarding
4	Solid chuck	11	Chain type chip conveyor (rear side)
5	Hydraulic system	12	Working light
6	Coolant system (water pump, water tank)	13	Foot pedal switch
7	Lubrication system		

Options

No.	Options	No.	Options
1	Other CNC control systems	6	Automatic door
2	Tool setter	7	Automatic power-off
3	Workpiece measurement	8	Voltage stabilizer
4	Oil-mist collector	9	Door interlock
5	Oil skimmer	10	Automation interface

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DEED BENELUX



VTC SERIES

VERTICAL TURNING CENTER | VTC1250–4500

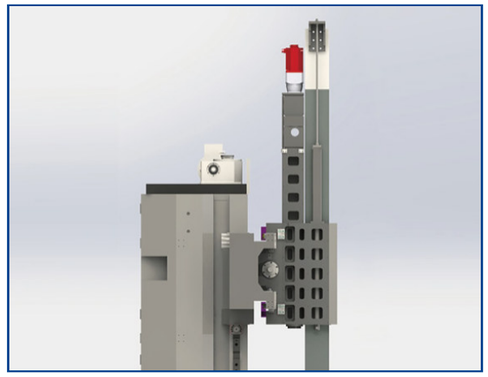
Rigid, easy to load, flexible to operate

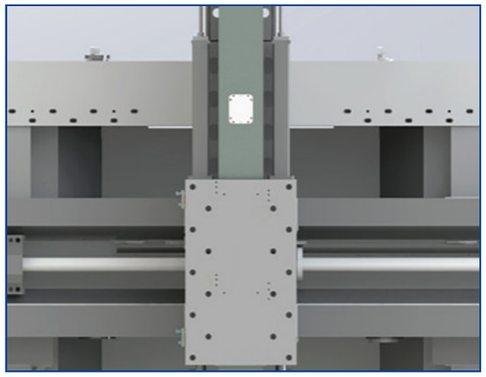
For large and medium-sized disc and ring parts

PRODUCT OVERVIEW

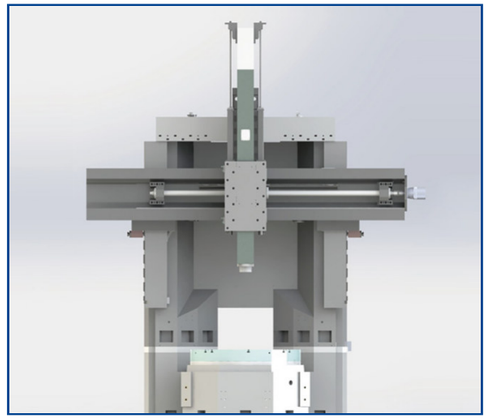
Developed on the basis of a large customer base and the advanced technology and processes of FKD, a well-known European lathe manufacturer. Loading and unloading are easy, machine rigidity is high and operation is convenient and flexible. Widely used in aerospace, wind power, transportation, electric power and nuclear power for wheels, motor housings, valve bodies, pump bodies and other large and medium-sized disc and ring parts: inner and outer cylinders, faces, inner and outer cones, internal and external threads, curved surfaces and complex rotary contours.

PRODUCT ADVANTAGES





- Short tool overhang
  The ratio between the distance from the tool center to the column guideway and the column length is 1:1.5. This greatly reduces turning torque and increases machine stability.
- Symmetric slide seat
  The slide seat is symmetrically designed to reduce thermal deformation, and the Z axis guideway surfaces are precision scraped for high-precision Z axis movement.





- Adjustable cross beam
  The cross beam moves up and down, so cutting always takes place at the most rigid position.
- Large crossed roller bearing
  The rotary table uses large-span, high-precision crossed roller bearings that carry loads in all directions while running stably, for reliable heavy cutting.

SIZE PARAMETERS | VTC1250–4500

VTC1250	
Table dia.	Ø1250 mm
Max. swing dia.	Ø1600 mm
Max. cutting dia.	Ø1400 mm
Max. cutting height	1200 mm

VTC1600	
Table dia.	Ø1600 mm
Max. swing dia.	Ø2000 mm
Max. cutting dia.	Ø1800 mm
Max. cutting height	1200 mm

VTC2000	
Table dia.	Ø2000 mm
Max. swing dia.	Ø2500 mm
Max. cutting dia.	Ø2300 mm
Max. cutting height	1600 mm

VTC2500	
Table dia.	Ø2500 mm
Max. swing dia.	Ø3000 mm
Max. cutting dia.	Ø2800 mm
Max. cutting height	1600 mm

VTC3000	
Table dia.	Ø3000 mm
Max. swing dia.	Ø3400 mm
Max. cutting dia.	Ø3300 mm
Max. cutting height	1600 mm

VTC3500	
Table dia.	Ø3500 mm
Max. swing dia.	Ø4100 mm
Max. cutting dia.	Ø3800 mm
Max. cutting height	1600 mm

VTC4000	
Table dia.	Ø4000 mm
Max. swing dia.	Ø4600 mm
Max. cutting dia.	Ø4300 mm
Max. cutting height	1600 mm

VTC4500	
Table dia.	Ø4500 mm
Max. swing dia.	Ø5100 mm
Max. cutting dia.	Ø4800 mm
Max. cutting height	1600 mm

TECHNICAL PARAMETERS

VTC1250–4500 vertical turning center | standard configuration

Configuration / Model		Unit	VTC1250	VTC1600	VTC2000	VTC2500	VTC3000	VTC3500	VTC4000	VTC4500
Capacity	Max. swing dia.	mm	Ø1600	Ø2000	Ø2500	Ø3000	Ø3400	Ø4100	Ø4600	Ø5100
	Max. cutting dia.	mm	Ø1400	Ø1800	Ø2300	Ø2800	Ø3300	Ø3800	Ø4300	Ø4800
	Max. cutting height	mm	1200	1200	1600	1600	1600	1600	1600	1600
	Max. table load	kg	5000	8000	10000	15000	20000	20000	30000	30000
Spindle	Table dia.	mm	Ø1250	Ø1600	Ø2000	Ø2500	Ø3000	Ø3500	Ø4000	Ø4500
	Spindle max. speed	rpm	300	200	200	160	120	60	60	60
	Spindle motor power	kW	37/45	37/45	60/75	60/75	60/75	100/120	100/120	100/120
	Spindle max. torque	Nm	10000	20000	50000	62000	68000	280000	280000	280000
Axial feed	X axis travel, left	mm	−600	−800	−1000	−1250	−1500	−1500	−2000	−2000
	X axis travel, right	mm	+875	+1150	+1350	+1600	+1750	+2000	+2300	+2650
	Z axis travel (up/down)	mm	900	900	1200	1200	1500	1500	1500	1500
	Cross beam travel	mm	800	800	1200	1200	1200	1500	1500	1500
	X axis rapid traverse	m/min	12	10	10	10	6	6	6	6
	Z axis rapid traverse	m/min	10	10	10	10	8	8	8	8
Turret	Tool stations	/	12	12	12	12	16	16	16	16
	Tool shank type	/	BT50							
	Max. tool size	mm	Ø280	Ø280	Ø280	Ø280	Ø280	Ø380	Ø380	Ø380
	Max. tool weight	kg	30	30	30	30	30	50	50	50
	Max. tool magazine load	kg	360	360	360	360	480	800	800	800

* Values shown apply to the standard configuration. Options are available on request. The parameters are subject to the technical agreement.

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CONFIGURATIONS | VTC1250–4500

Standard configuration

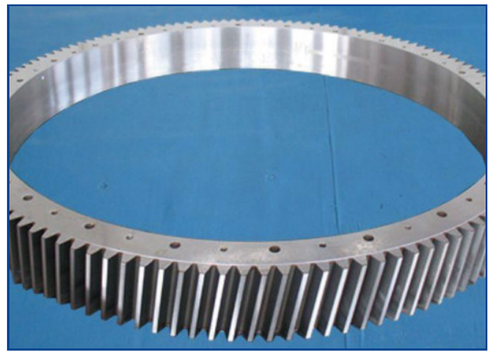
No.	Standard Configuration	No.	Standard Configuration
1	FANUC 0i-TF control system	7	Umbrella type tool magazine
2	Two-stage reduction gearbox	8	Manual chuck
3	Hydraulic system	9	Half-closed sheet metal guarding
4	Coolant system (water pump, water tank)	10	Working light
5	Automatic lubrication system	11	Foot pedal switch
6	Electric cabinet air conditioner	12	Chain type chip conveyor

Options

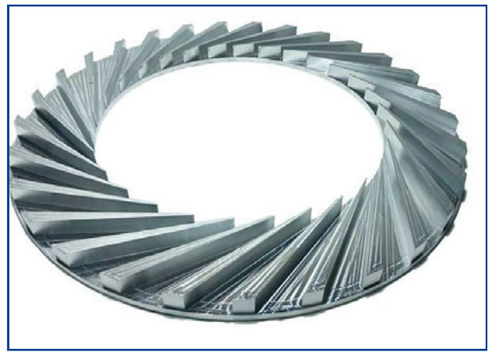
No.	Options	No.	Options
1	Other CNC control systems	7	Automatic power-off
2	Tool setter	8	Voltage stabilizer
3	Workpiece measurement	9	Door interlock
4	Oil-mist collector	10	Fully enclosed sheet metal guarding
5	Oil-water separator	11	Automation interface
6	Automatic door		

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APPLICATIONS







Gear rings, slewing rings, wheels, motor housings, valve and pump bodies and other disc and ring parts for aerospace, wind power, transportation, electric power and nuclear power.

NOTES

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