

VTC-800

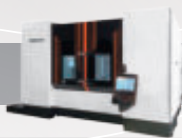
SERIES

820/20, 820/30, 800/20HD, 800/30HD, 800/20SR, 800/30SR, 800/20SDR, 800/30SDR, 800/30SLR



Contents

VTC-800 SERIES



VTC-820/20



VTC-820/30

04-05



VTC-800/20HD



VTC-800/30HD

06-07



VTC-800/20SR



VTC-800/30SR

08-09



VTC-800/20SDR



VTC-800/30SDR

10-11



VTC-800/30SLR

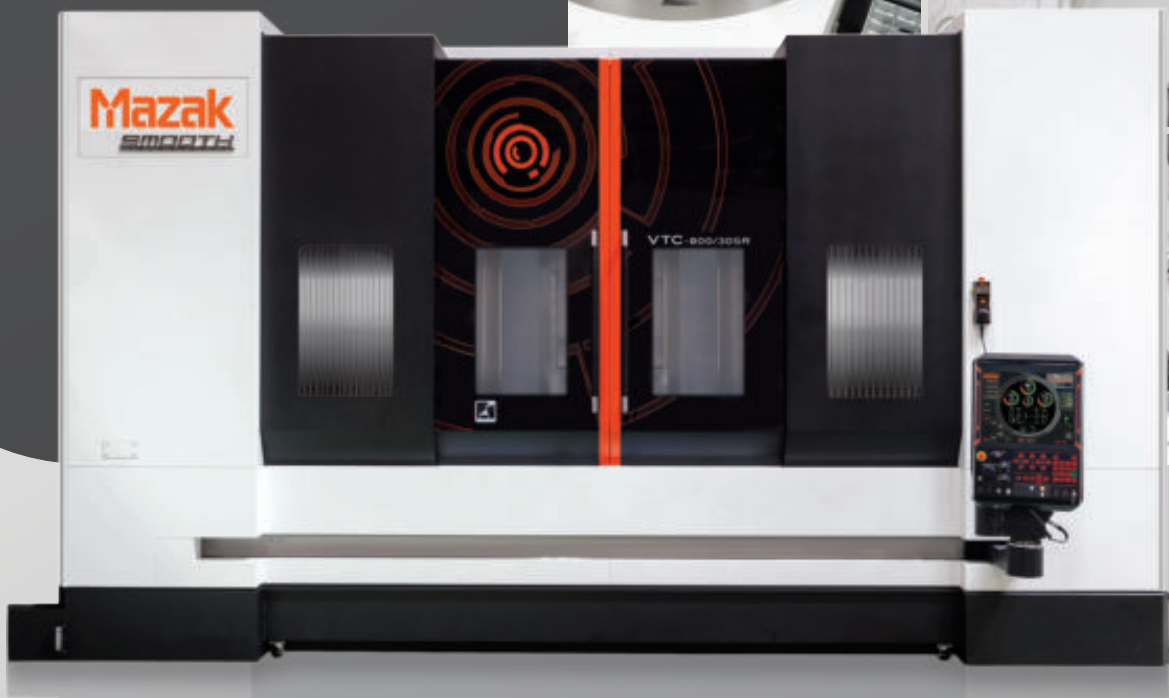
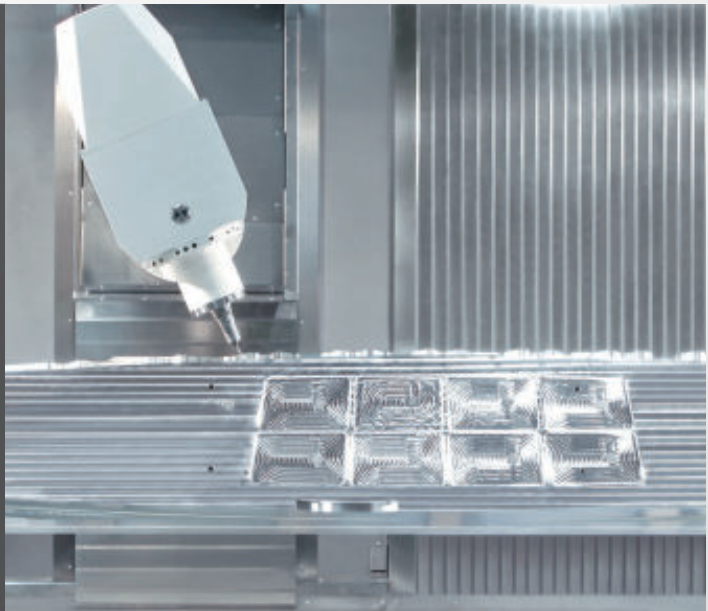
12-13

Mazak's Vertical Travelling Column (VTC) series of Vertical Machining Centres offers complete flexibility, combined with high quality and accuracy.

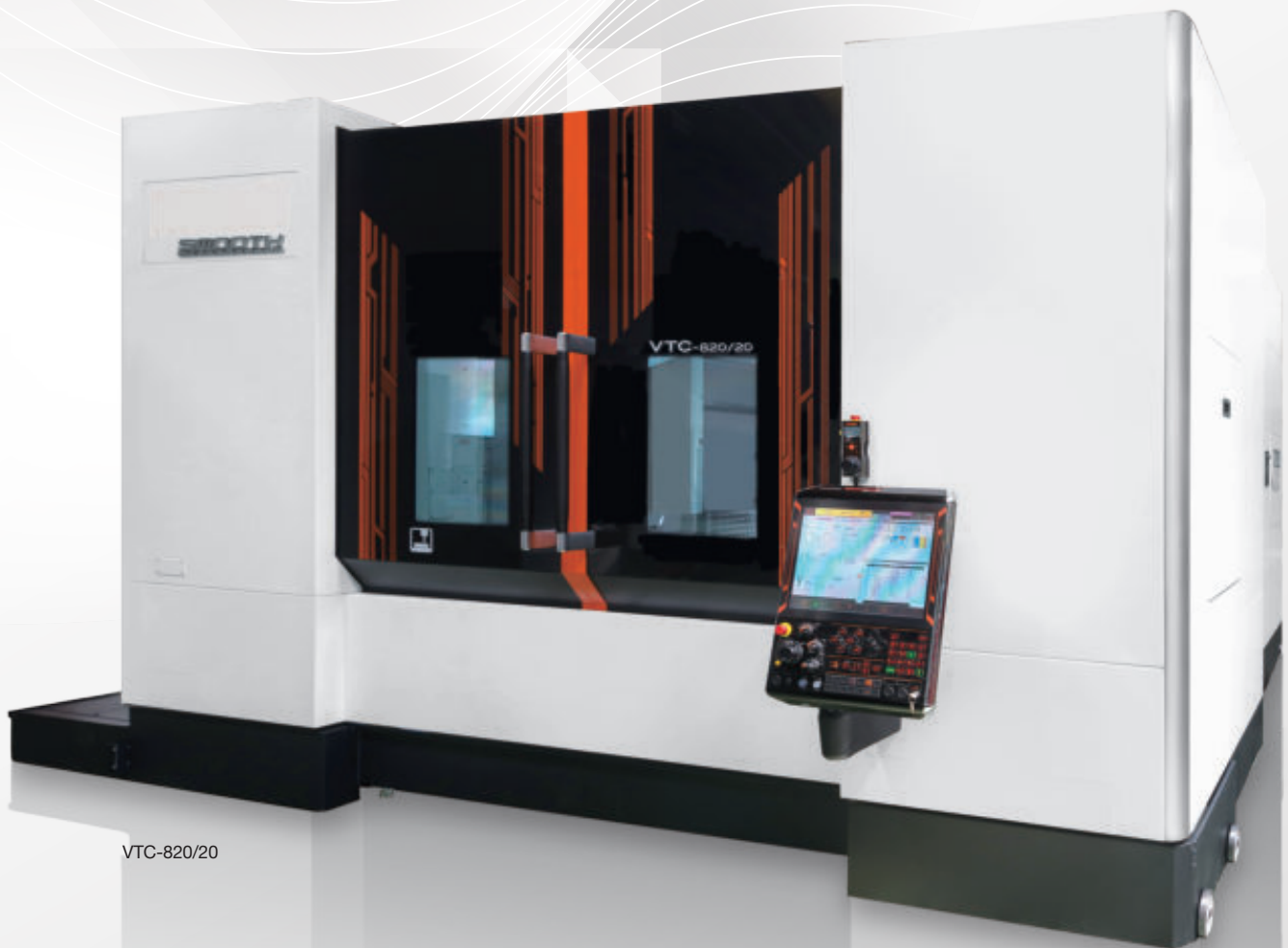
Vertical Travelling Column (VTC) range of machining centres has been designed to meet the needs for today's challenging and diverse range of manufacturing applications where performance, flexibility and precision are key product attributes. The flexible configuration of the VTC provides the capability to process an extensive range of components from medium to large workpieces across industries including aerospace, power generation, industrial equipment and general subcontract. The VTC range of products is available in either 3, 4, 5 and 6 axis configurations, which in conjunction with an extensive range of customer defined options and accessories delivers the ultimate platform for your application needs.

KEY FEATURES AND BENEFITS

- Integrated Mazak Technology delivers class leading accuracy and repeatability.
- Reduced load and unload time for maximum spindle utilisation.
- Flexibility to meet changing application needs.
- Enhanced productivity through easy to program Mazatrol CNC.
- Superior Operator Ergonomics.



Travelling Column Vertical Machining Centres



VTC-820/20

Versatility and performance are provided by the large **2 m** or **3 m** X-axis and **820 mm** Y-axis and the optional Mazak Rotary Table help to further reduce set-up times and increase productivity.

VTC-820 SERIES

Flexibility

Long table provides exceptional versatility

Large, long workpieces can be machined, even those that overhang the large stationary table.

 Large, long workpiece



 Multiple parts from one piece of material




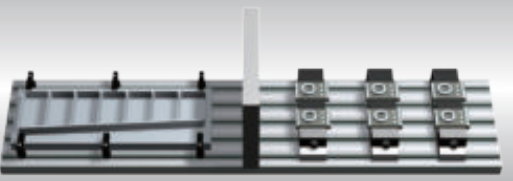
 Workpiece overhanging the table



 Multiple parts set-up



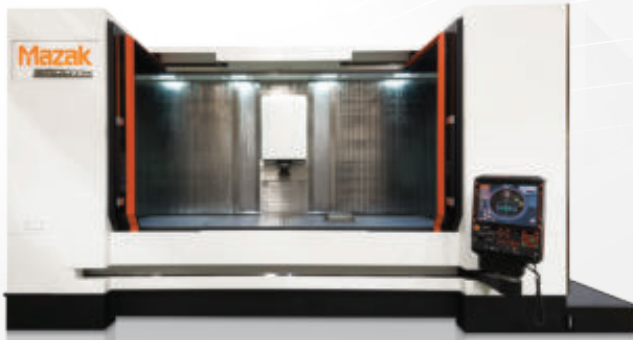
 Pendulum Machining
(with centre partition option)



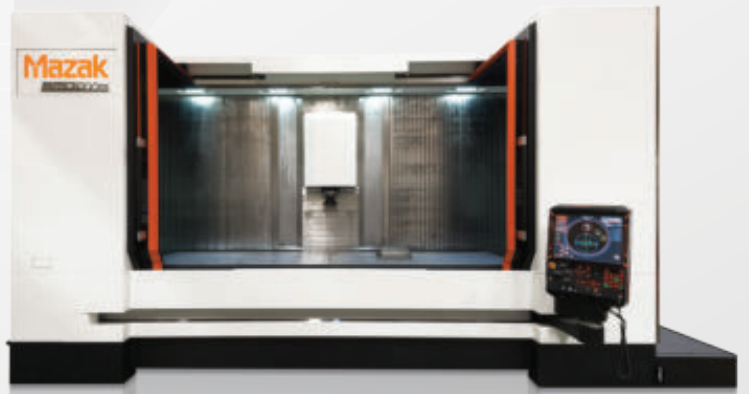
 **OPTION** centre partition



Make heavy duty parts precisely...
...every time



VTC-800/20HD



VTC-800/30HD

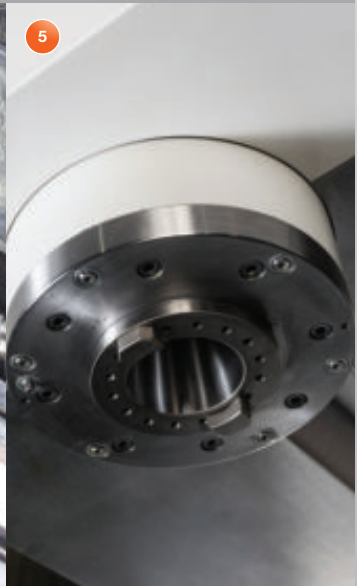
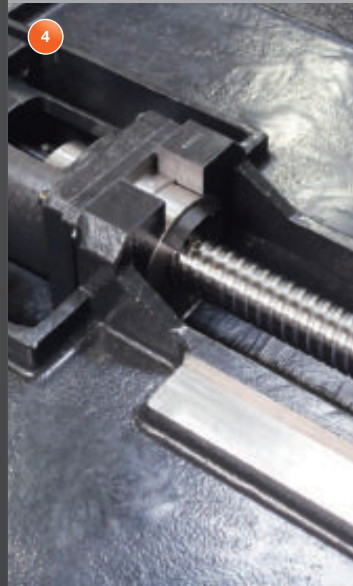
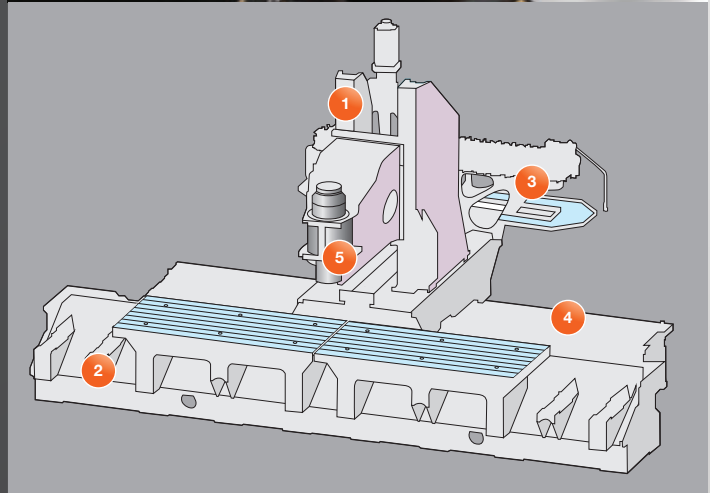
VTC-800/30HD and 20HD are heavy duty machining centres which feature a 50 taper system providing an ideal platform for cutting difficult to machine materials, such as inconel, cast iron and titanium. Machines are capable of outstanding cutting performance, with a Mazak designed and manufactured 10,000 rpm spindle delivering continuous power of 22 kW and continuous torque of 147 Nm. In production, the VTC 800/30HD will deliver a rapid feed rate of 50 m/min in the X-, Y- and Z-axes; 0.5G of acceleration and a 5.7 second chip-to-chip time. 36 tools are provided as standard.

VTC-800HD SERIES

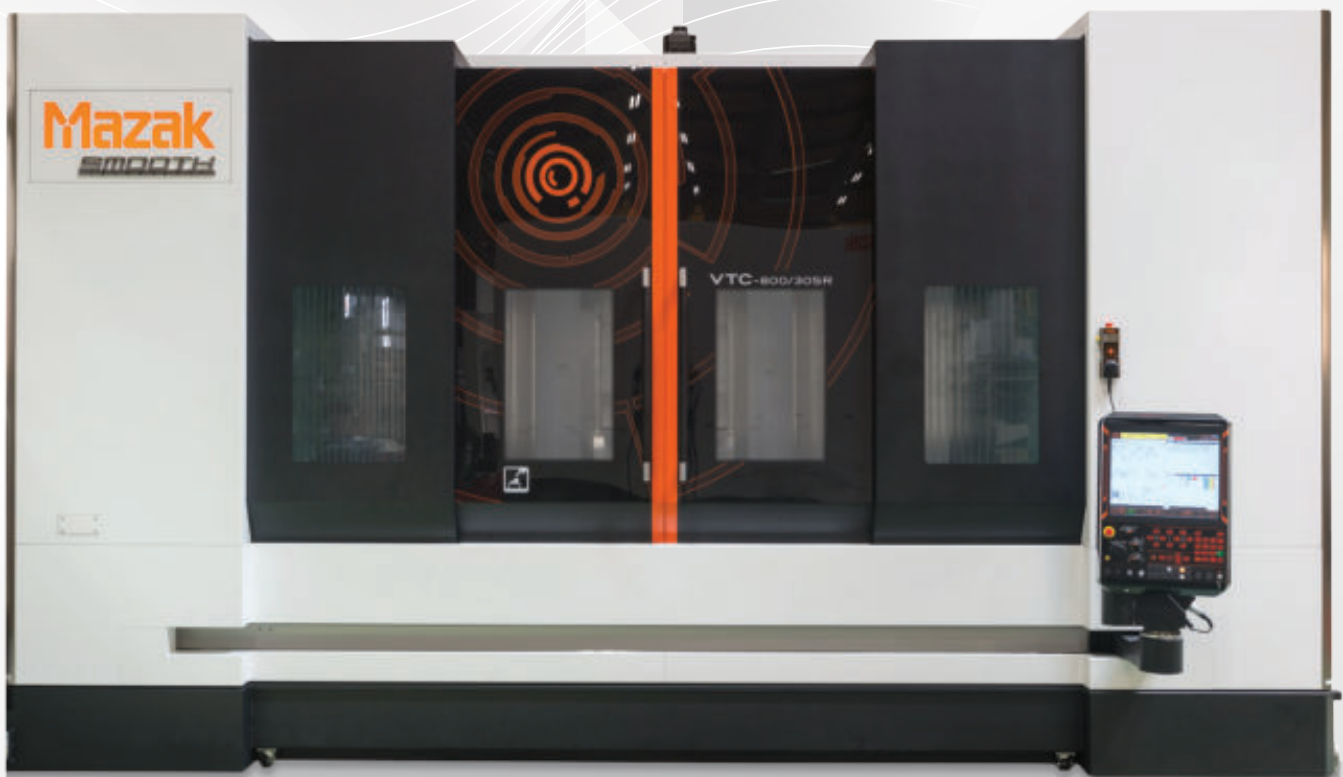
FEATURES AND BENEFITS

Compact travelling column design ensures that the maximum working area is achieved for the smallest floor space. Wide door opening for craned access of large workpieces combined with adjustable CNC pendant and large windows provide the ideal ergonomic platform to maximise machine utilisation.

- 1 Heavy Duty column incorporates Cross Rib Structure design, enhancing torsional stiffness delivering class leading cutting performance.
- 2 The FEA designed fully cast base structure provides the rigid platform required to deliver true 50 taper Heavy Duty machining performance, providing optimised thermal stability and vibration dampening characteristics for enhanced accuracy.
- 3 High Performance Automatic Tool Changer with intermediate tool change arm provides capacity for 36 tools upto 325 mm in length and 13 kg in weight.
- 4 Agility is assured with the incorporated direct drive ballscrews and roller linear guide technology delivering high performance axis motion with 50 m/min rapid traverse and 0.5G Acceleration.
- 5 Incorporating Mazak's proven spindle design technology, the integral motor driven spindle with air / oil cooling delivers impressive performance -10,000 rpm, 30 kW (40% ED.) power and 175 Nm torque, critical for machining hard to cut materials.



Configurable working area provides
enhanced application flexibility



VTC-800/30SR

This highly versatile machine is available with either 2 m or 3 m of X-axis and 800 mm Y-axis travel. The swivelling head provides B-axis movement for reduced set-up times and the optional Mazak NC Rotary Table makes available full simultaneous 5-axis machining of complex features and contours for further enhanced productivity

VTC-800SR SERIES

FLEXIBILITY

Configurable working area provides enhanced application flexibility.

Removable centre partition

The fixed table design of the VTC enables the working area to be configured into a wide range of flexible configurations. With X-axis range up to 3 m and Y-axis range of up to 820 mm large work pieces can be accommodated efficiently.

The introduction of the Centre Partition (optional) enables productivity to be maximised through pendulum loading. Further flexibility is achieved with the option to integrate the Mazak Rotary Table(s) on either side of the table.

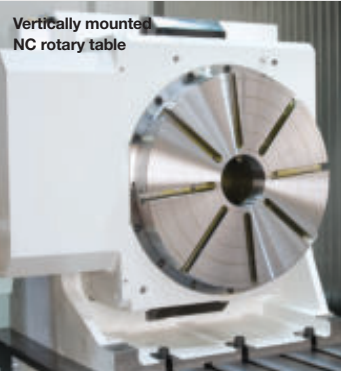
Mazak NC rotary table

Available in vertical or horizontal orientations on the left or the right side, for maximum flexibility and productivity. Optional tail spindle is available in conjunction with vertically orientated rotary table.

B-axis structure

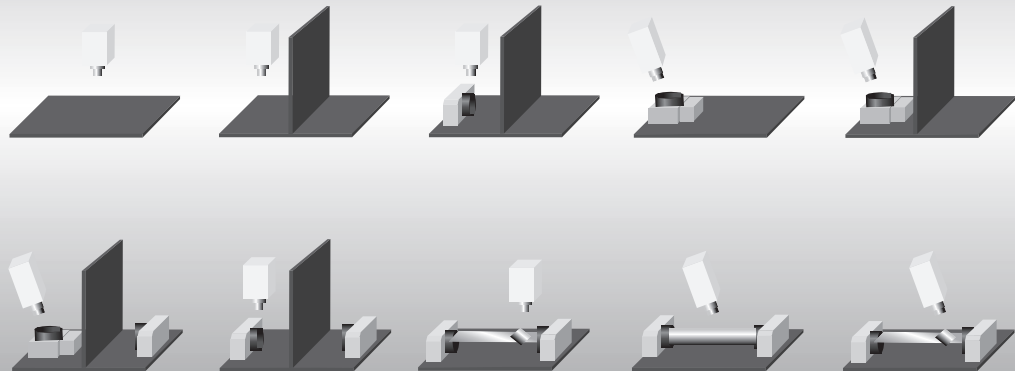
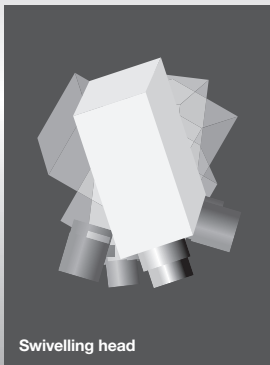
The B-axis swivel head integrated into the SR range can be positioned at 5 degree increments for heavy cutting when it is rigidly clamped via a multi-tooth Hirth coupling. Alternatively the coupling can be disengaged and the head positioned in 0.0001 degree increments via a backlash free roller gear cam and servo motor.

(A similar backlash free roller gear cam is also used on the optional Mazak NC Rotary Table).



Complete flexibility for vertical machining

Examples of various configurations:



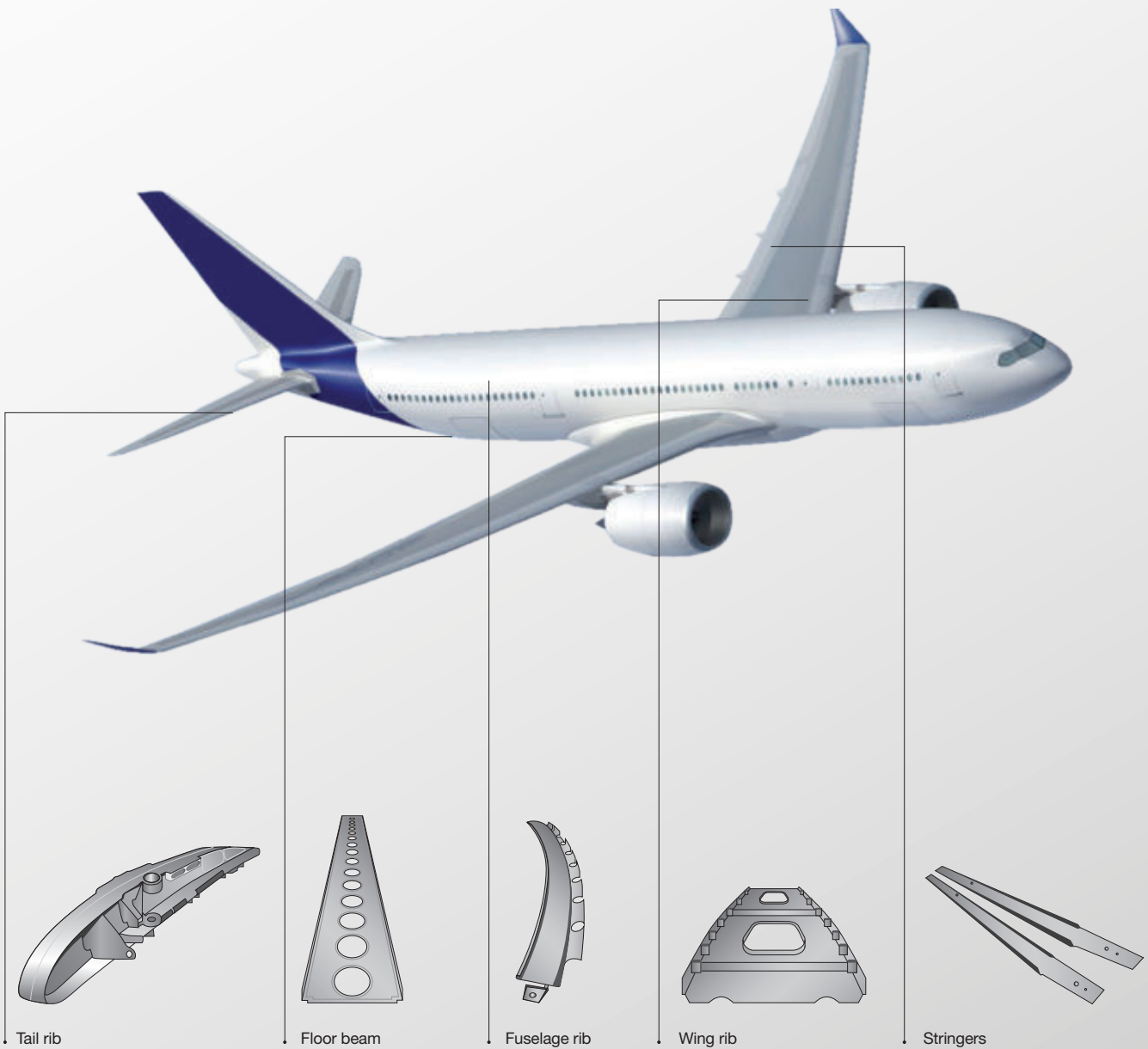
6-axis Tableless Design with Dual Synchronous NC Rotary Tables



VTC-800/30SDR

The VTC-800/30SDR is designed with class leading working envelope, integrated dual synchronised NC rotary tables, high performance 18000 rpm spindle and combined with a highly effective large volume chip disposal. The VTC-800/30SDR provides a simultaneous 6-axis platform that delivers the ideal solution for the efficient machining of structural components typically required within the aerospace industry where high accuracy and high metal removal rate are critical requirements.

VTC-800SDR SERIES



Tail rib

Floor beam

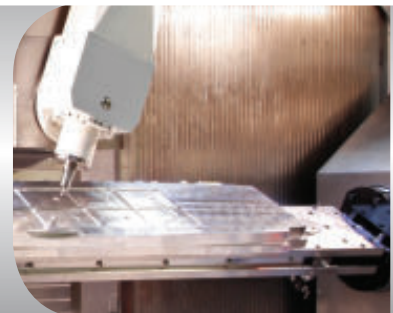
Fuselage rib

Wing rib

Stringers

Dual synchronous NC rotary tables

The VTC-800/30SDR is equipped with dual synchronous rotary tables, mounted vertically on the left and right side, for maximum stability of long workpieces or trunnion fixture applications.



B-axis structure

The B-axis swivel head integrated into the SR range can be positioned at 5 degree increments for heavy cutting when it is rigidly clamped via a multi tooth Hirth coupling. Alternatively the coupling can be disengaged and the head positioned in 0.0001 degree increments via a backlash free roller gear cam and servo motor. (A similar backlash free roller gear cam is also used on the Mazak NC Rotary Table).



5-axis with Large Integrated NC Rotary Table



VTC-800/30SLR

Featuring full 5-axis capability through the integrated large diameter rotary table and swivelling head, the VTC-800/30SLR delivers class leading performance and enhanced ergonomic design enabling a range of parts from medium to large across industries including aerospace, power generation, industrial equipment and general sub-contract to be machined efficiently in a single set up.

VTC-800/30SLR

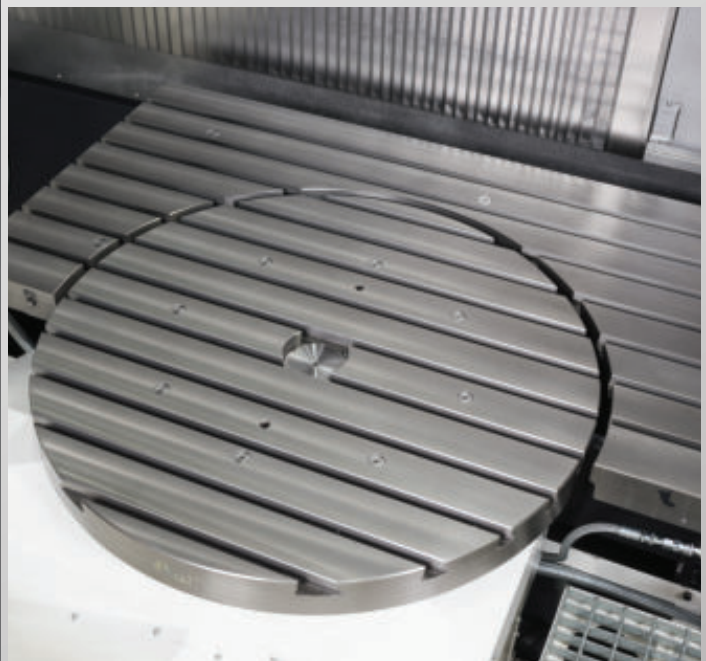
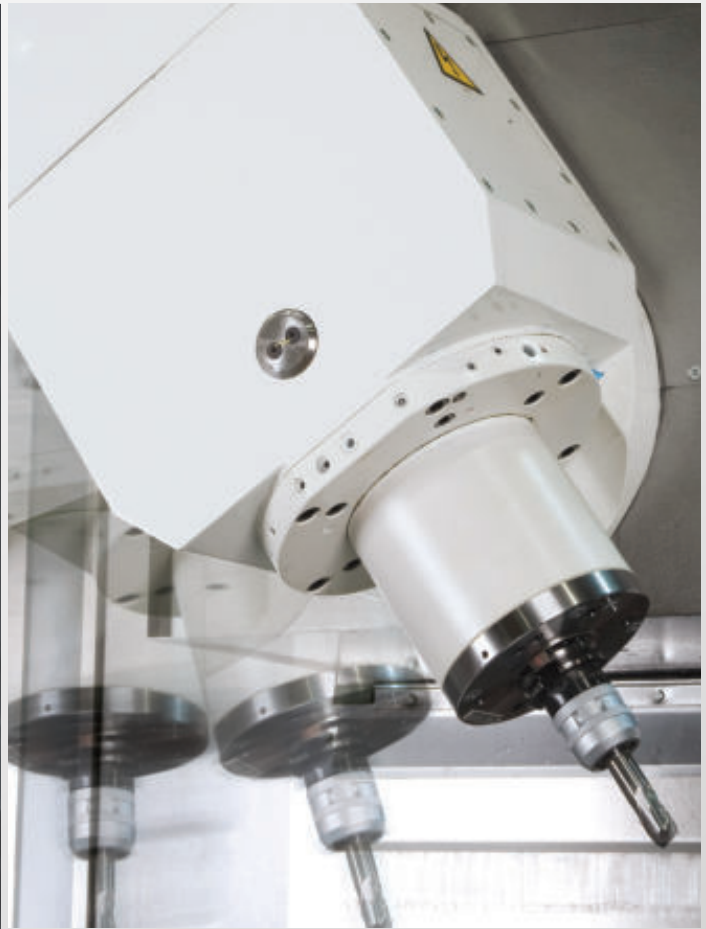
FEATURES AND BENEFITS

Travelling column design featuring full 5-axis capability.

Integrated $\phi 1000$ Mazak designed NC rotary table with roller gear drive technology provides machining capability for a range large diameter heavy components.

Large doors provide optimum operator access for load, set-up and unload.

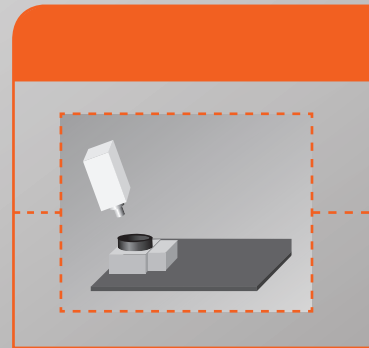
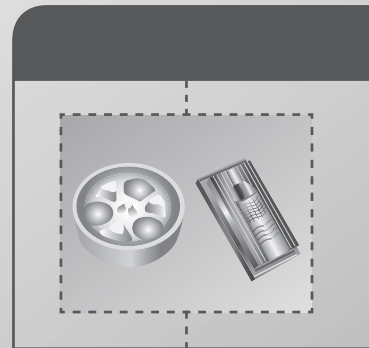
Movable pendant ensures efficient workpiece set-up.



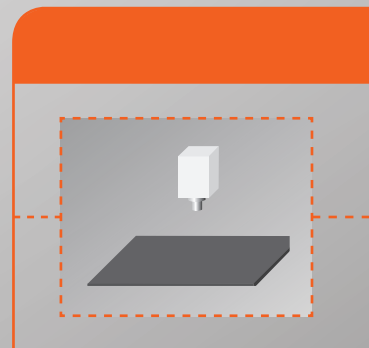
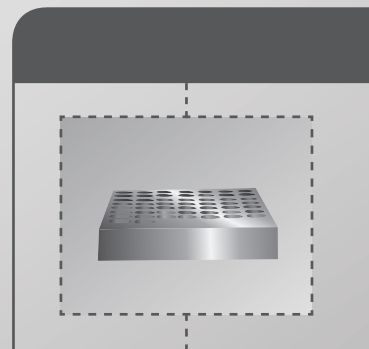
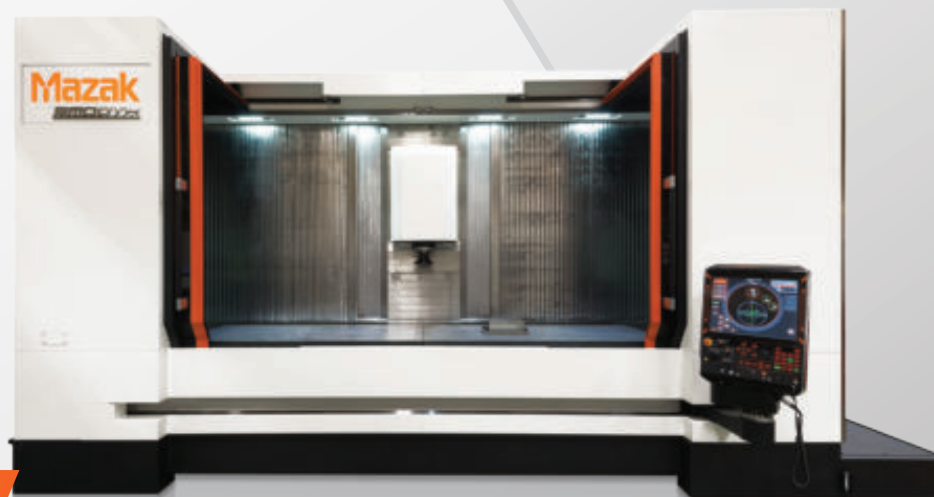
Configurations

Complete flexibility for vertical machining with the VTC series.

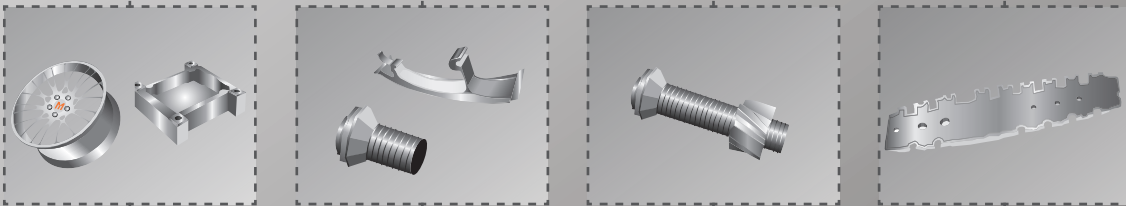
VTC-800 SR series



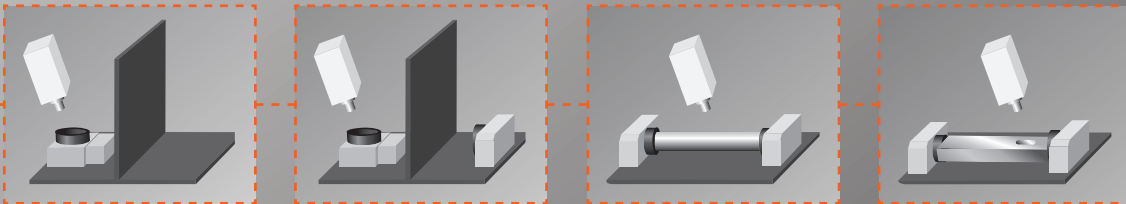
VTC-820 series



EXAMPLES OF PART PRODUCTION WITH THE **VTC-800/20SR** AND **VTC-800/30SR**



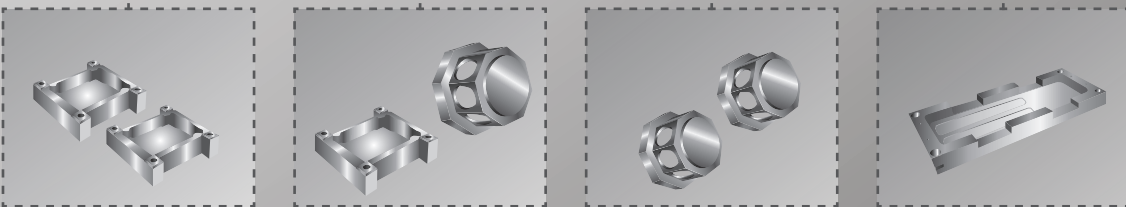
EXAMPLES OF VARIOUS CONFIGURATIONS WITH THE **VTC-800/20SR** AND **VTC-800/30SR**



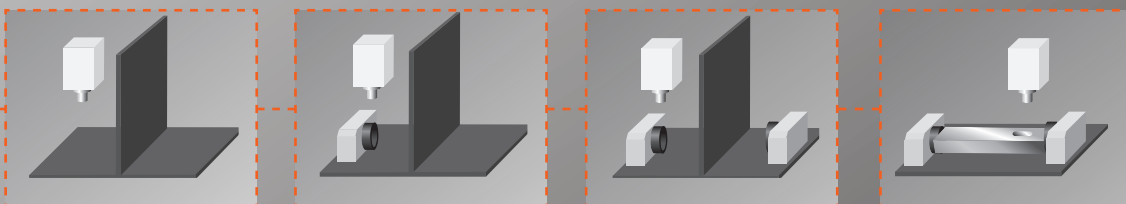
Swivelling Head



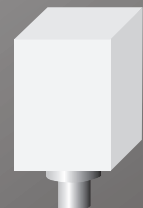
EXAMPLES OF PART PRODUCTION WITH THE **VTC-820/20** AND **VTC-820/30**



EXAMPLES OF VARIOUS CONFIGURATIONS WITH THE **VTC-820/20** AND **VTC-820/30**



Fixed Head



Configurations subject to model.

Please consult your local Mazak centre for configuration options.

Increased Productivity

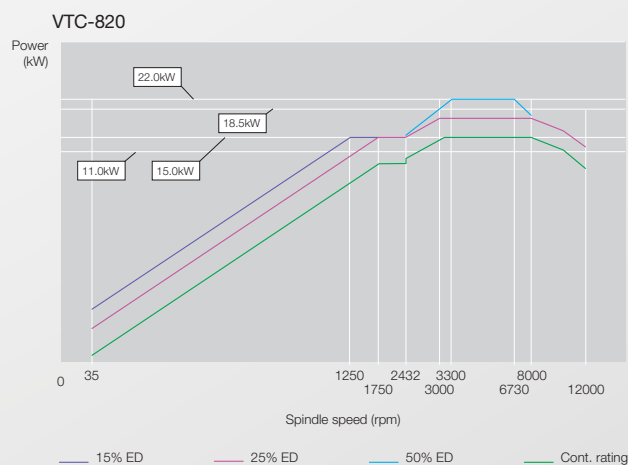
Performance spindles to meet your application needs

Designed, developed and manufactured by Mazak, the latest generation spindles with hybrid ceramic bearing technology deliver high performance machining capability with outstanding reliability.

Milling Spindle Capacity

VTC-800 SR, SDR, SLR models	(Mazatrol)
Maximum milling spindle speed	18,000 rpm
Milling spindle power	35 kW (50% ED)
Maximum torque	168 Nm

VTC-820 models	(Mazatrol)
Maximum milling spindle speed	12,000 rpm (18,000 rpm option)
Milling spindle power	22 kW (15% ED)
Maximum torque	115 Nm



Class-leading axis performance

Complementing the high performance spindles, the VTC provides class leading axis performance through integration of the latest drive, motor and roller linear guide technology delivering high speed rapid and feed traverse rates.

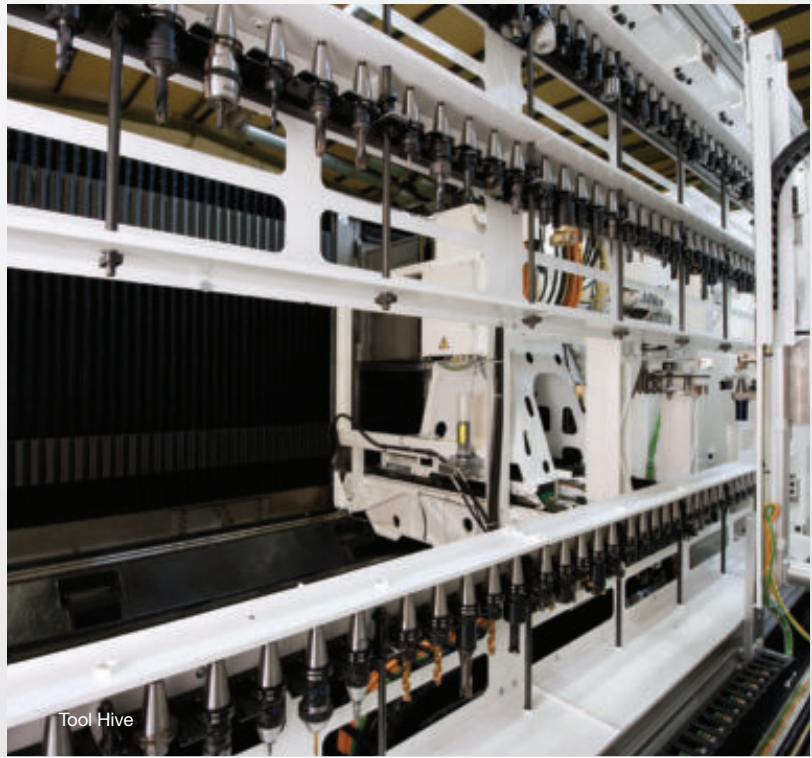
Class-leading axis performance

Axis	Rapid Traverse rate	Feed rate
X-axis	50 m/min	1-50,000 mm/min
Y-axis		
Z-axis		
B-axis (SR, SDR, SLR only)	50 min ⁻¹	
C-axis (*)	25 min ⁻¹	

* SR option, SLR standard
SDR A1 & A2 axes standard



Automatic Tool Changer



Tool Hive

Enhanced productivity through minimised tool change time and configurable capacity.

The standard 30 tool or optional 48 tool or 84 tool capacity magazine and servo-driven Automatic Tool Changer deliver reliable class-leading high speed tool change cycles.

Magazine Unit		
Standard capacity	30 tools	
Optional capacity	48 tools	84 tools
Tool change time		
Chip to chip	4.7 seconds	8.4 seconds
Tool to tool	1.5 seconds	1.5 seconds
Tool Specification		
Maximum tool length	350 mm	350 mm
Maximum tool diameter	80 mm	80 mm
Maximum tool mass	8 kg	8 kg

Tool Hive

To further enhance the flexibility and productivity of the VTC range, extended tool capacity is available through the integration of the Mazak Tool Hive system. The compact and ergonomic unit provides capacity of up to 155 tools giving you the flexibility to meet diverse and changing application needs.

Magazine Unit	
Tool Hive capacity	125 / 155
Tool Hive Specification	
Maximum tool length	350 mm
Maximum tool diameter	80 mm
Maximum tool mass	8 kg

High Accuracy

High accuracy machining by design.

The VTC series incorporates advanced design and technology to meet the high accuracy machining requirements of a variety of industries. Designed using the latest FEM structural analysis techniques, the fully cast travelling column configuration of the VTC series combines high static and dynamic stiffness giving optimised machining performance and accuracy.



Roller gear cam
on rotary axes



Roller guides

The latest Roller Guide technology is utilised on all linear axes delivering high rigidity and minimum vibration to provide stable high accuracy machining performance.

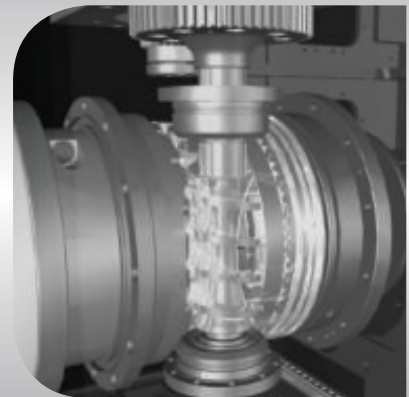
SR, SDR, SLR models only

Machine Cooling Systems

Low viscosity oil is used as the cooling medium in conjunction with a temperature controlled chiller to remove heat in order to ensure high accuracy machining.

Roller Gear Cam

The VTC SR, SDR, SLR models' B-axis and Mazak NC Rotary Tables incorporate Roller Gear Cam technology. The unique rolling motion design delivers enhanced torque delivery and rigidity whilst also eliminating backlash, resulting in high performance and high accuracy contouring capability.



Two times better than ISO accuracy standard

MAZAK Precision Standard	
Bi-directional positioning accuracy	Bi-directional positioning repeatability
X-axis 21 µm	X-axis 10 µm
Y-axis 12 µm	Y-axis 7 µm
Z-axis 12 µm	Z-axis 7 µm
B-axis 14 arc seconds	B-axis 8 arc seconds

*Above figures are the machine accuracies according to the MAZAK PRECISION STANDARD that is certified before shipment. The inspection is conducted according to ISO-230 on a recommended foundation with room temperature controlled to 22°C ±1°C after machine has reached operation temperature.

Ergonomics

Ease of operation and maintenance.
Designed for convenient operation.

OPERATOR DOOR WITH TOP COVER OPENING

The double door construction, with a large opening section, allows convenient machine table access when using an overhead crane for the loading/unloading of heavy workpieces and fixtures.



LARGE WINDOW

The large front door windows allow the operator to easily monitor workpiece machining.



MAINTENANCE AREA

Items requiring frequent access for machine maintenance are located on a single panel.



TOUCH PANEL OPERATION

Similar to smartphone or tablet.

ROTARY DIAL SWITCHES

Changes to feedrate override and axes selection can be detected by feel for more convenient operation.

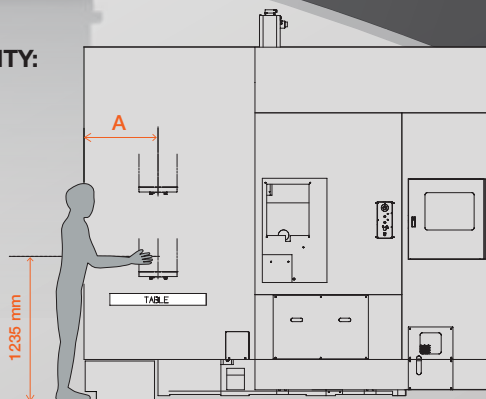
MOVABLE CNC PANEL

The CNC operation panel position can be adjusted to enable efficient set up and tool inspection.



ACCESSIBILITY:

A = 630 mm
(VTC-800 SR)



MAZATROL CNC System

The seventh generation MAZATROL CNC system
- the core of Smooth Technology

Touch panel operation

Similar to your smartphone or tablet.

Dials

For frequently-used axes
selection and feed-rate changes.

USB Port

Interface for peripheral
equipment of USB ports:
1.0 and 2.0 standard.

SD Card Slot

Transfer program
and tool data.

Operation switches

Large switches
- colour changes
from orange to green
when turned on.

From set-up to machining

Designed for unsurpassed ease of operation.

MAZATROL **SMOOTH G**

Process home screens

Five different home process screens

Each home screen displays the appropriate data in an easy-to-understand manner. Icons can be touched in each process display for additional screen displays.



New interface with touch screen operation ensures convenient data processing.

- Programming, confirmation, editing and tool data registration

Pop-up windows

Pop-up windows enable efficient entry of programming and machine set-up data.



Ease of programming



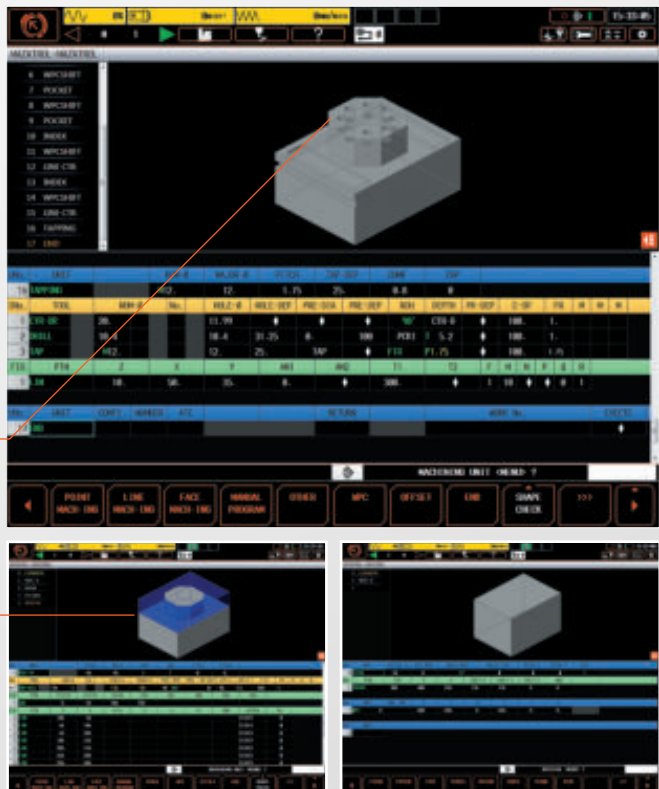
Visible programming screen

Quick MAZATROL

The MAZATROL program, unit list and 3D workpiece shape are linked to each other. After defining a machining unit in a MAZATROL program, the 3D shape is immediately displayed to easily and quickly check for any programming error.

Quickly move to the corresponding section in the MAZATROL program by touching a feature in the 3D model

3D model in the process list is displayed with updated programming in real time



MAZATROL **SMOOTHG**

3D Assist

Workpiece and coordinates data can be imported from 3D CAD data to a MAZATROL program. No coordinate value inputs are required. Can reduce input errors and time for program checking.

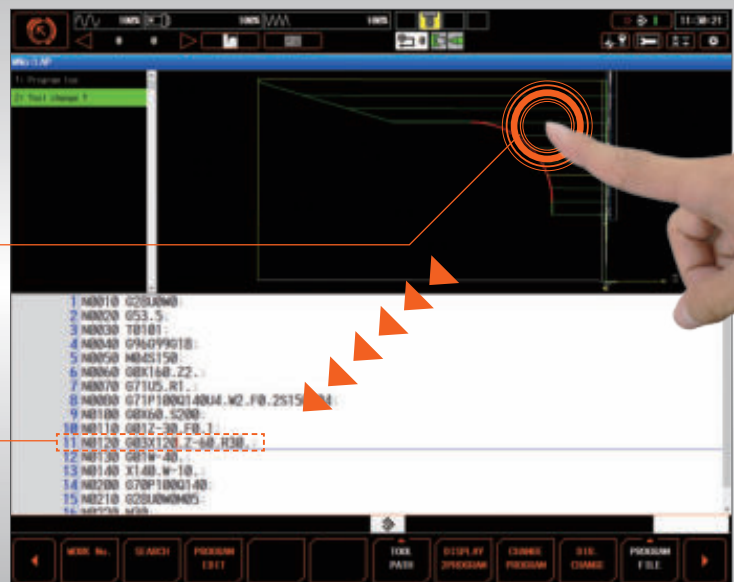


Quick EIA

The program, process list and 3D tool path display are linked to each other. A visible search on the touch screen can reduce the time for program checking.

Select tool path by touching the screen

Move to the corresponding EIA program line



MAZATROL CNC System



19" touch panel

USB port

SD card slot

Operation switches

Dials

Unsurpassed ease of operation with touch screen

MAZATROL **SMOOTHX**

5 process home screens

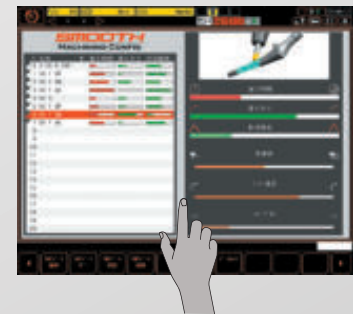
Programming, confirmation, editing and tool data registration



Convenient Parameter Setting and Fine Tuning Function

SMOOTH MACHINING CONFIGURATION

Machining features including cycle time, finished surface and machining shape can be adjusted by slider switches on the display according to material requirements and machining methods. This is especially effective for complex workpiece contours defined in small program increments. Once the desired results are obtained, the settings can be stored in memory so that they can be easily used again in the future.



Variable Acceleration Control Function

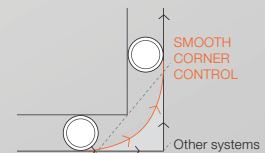
● VARIABLE ACCELERATION CONTROL

Variable acceleration control is a new function which permits the faster acceleration capability of linear axes to be used whenever possible. The slower acceleration of the rotary axes is not used for all program commands, resulting in faster machining cycle times

Seamless Corner Control

● SMOOTH CORNER CONTROL

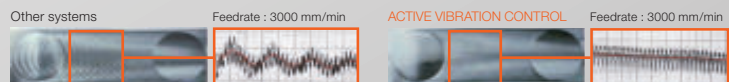
Improved finished surfaces and reduced cycle times by optimised acceleration / deceleration when machining corners



Minimized Vibration

● ACTIVE VIBRATION CONTROL

Minimised vibration function for high speed, high accuracy machining and longer tool life



Cycle time reduced by **10 ~ 20 %**

(Test results for reference only)



Ease of programming



Visible programming screen

Quick MAZATROL

The MAZATROL program, unit list and 3D workpiece shape are linked to each other. After defining a machining unit in a MAZATROL program, the 3D shape is immediately displayed to easily and quickly check for any programming error.

Quickly move to the corresponding section in the MAZATROL program by touching a feature in the 3D model.

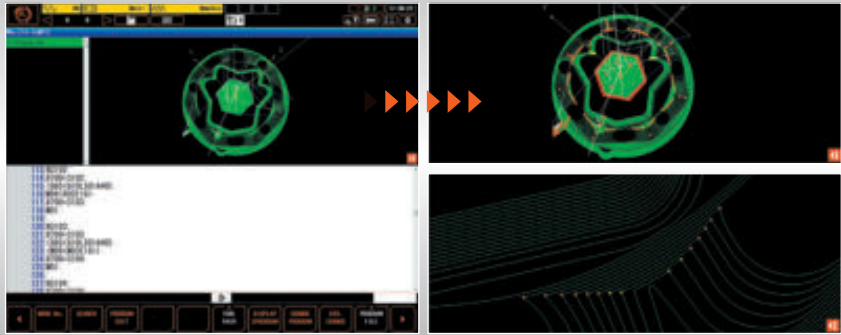
3D model in the process list is displayed with updated programming in real time.



MAZATROL **SMOOTHX**

View surf

By analysing tool path, any predictable failure on the finished surface can be visualised. Program modification can be done before machining to minimise the time for test cutting.

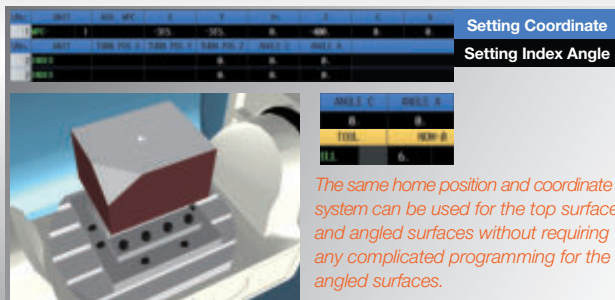


Easy programming

Multiple-surface machining

Easy programming of multiple-surface machining which normally requires complex machining programs.

Program origin automatic calculation workpiece coordinate shift



The same home position and coordinate system can be used for the top surface and angled surfaces without requiring any complicated programming for the angled surfaces.



No complicated calculations required when changing program coordinate system.

3D Assist

Workpiece coordinates data can be imported from 3D CAD data to a MAZATROL program. No coordinate value inputs are required. Can reduce input errors and time for program checking.

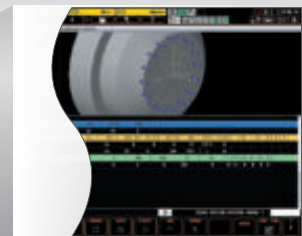
CAD model importing



Shape selection



Automatic input to MAZATROL program

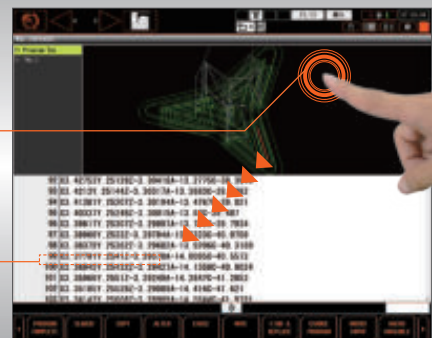


Quick EIA

The program, process list and 3D tool path display are linked to each other. A visible search on the touch screen can reduce the time for program checking.

Select tool path by touching the screen

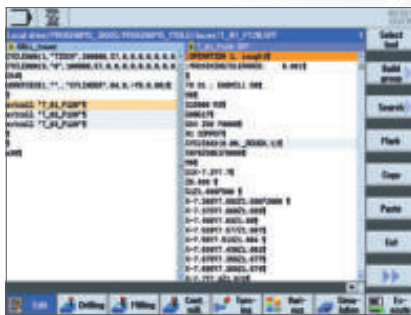
Move to the corresponding EIA program line



Siemens - 840D sl

SINUMERIK is simple to operate and offers many innovative functions and technology cycles for even more cost-efficient manufacturing.

The programming method is always the right one for your requirements – be it for small or large batch production, for simple or complex workpieces. SINUMERIK is a productive CNC system for every technology application.



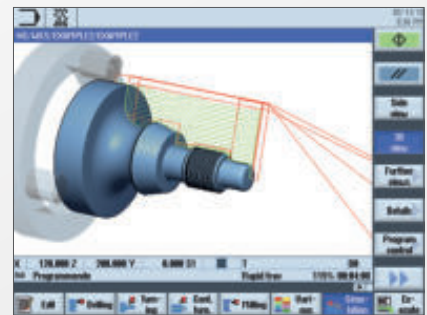
programGuide.

Designed for maximum flexibility and shortest machining time.



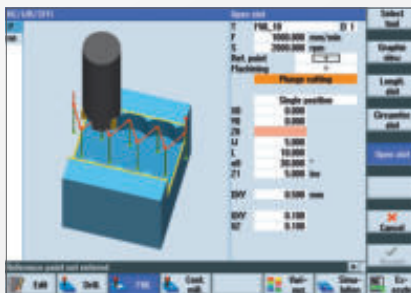
ShopMill workstep programming.

Designed for shortest programming time.



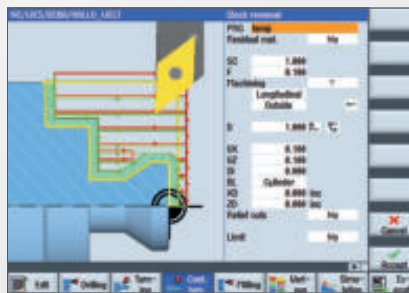
CNC simulation for reliable and safe processes.

Quick View for moldmaking.

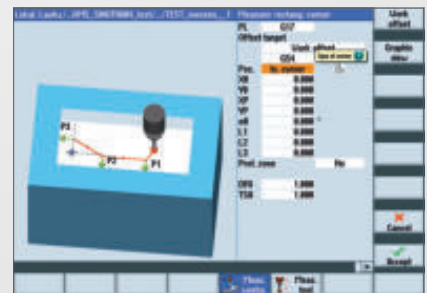


Technology cycles for all machining operations.

Multiple clamping for ShopMill machining step programming.

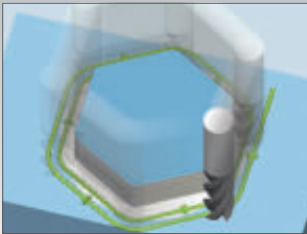
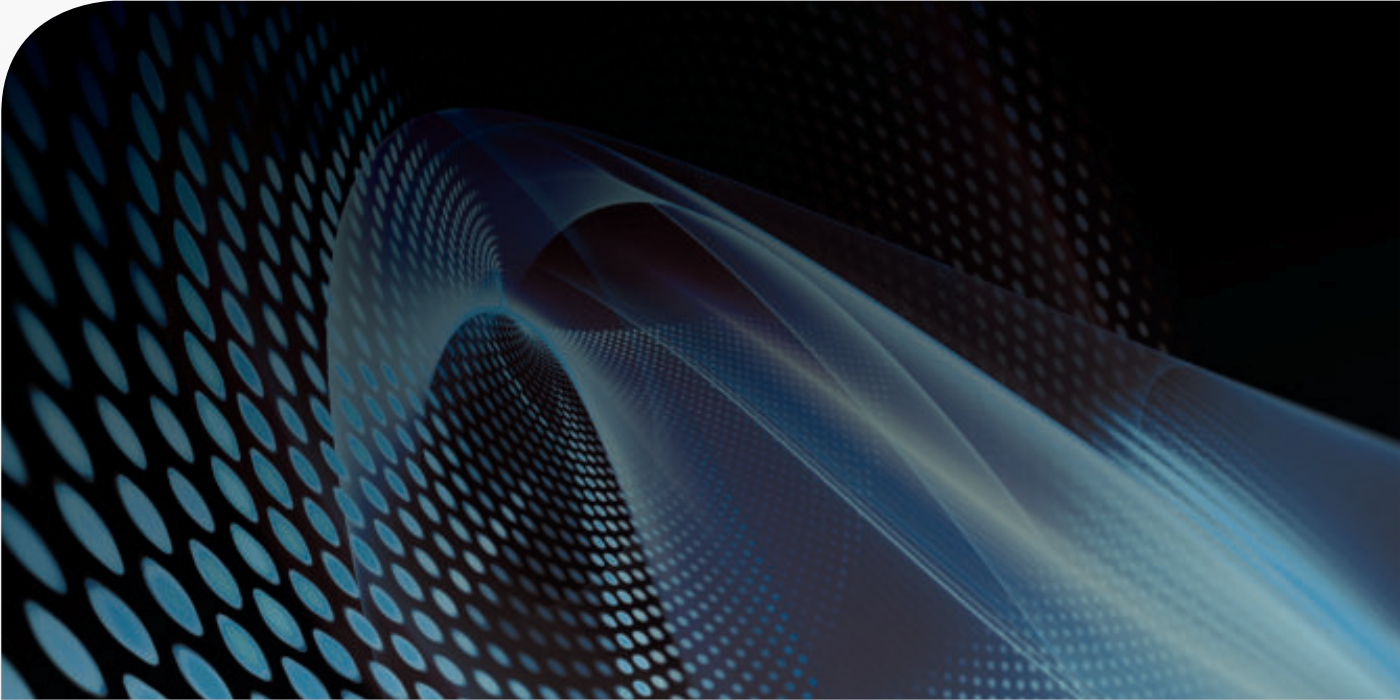


Solid machining and stock removal with residual material detection.



Measuring cycles for the highest precision.

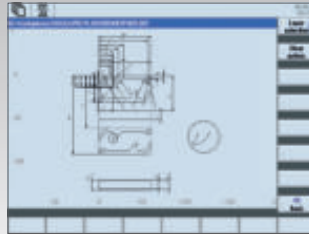
SIEMENS



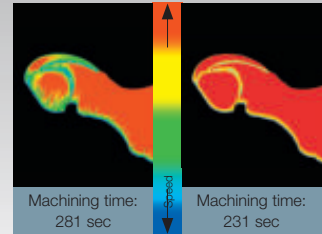
Innovative details for user-friendly operation.



Program Manager for a better overview.



Simple data transfer using an integrated DXF reader.



Advanced surface.



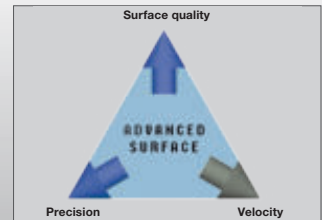
Intelligent JOG mode.



Measuring tools and workpieces.



Transparent tool management.



High speed cutting functions.

Network integration

Convenient connection to automation equipment.

Smooth Process Support Software for efficient factory management

Data sharing between Smooth CNC and office PCs for improved production efficiency.

Option

SMOOTH
PROCESS SUPPORT
SOFTWARE

SMOOTH
CAM RS

MAZATROL CAM-conversational programming. High-speed simulation software including 5-axis programs



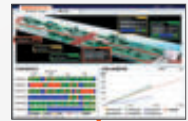
SMOOTH
SCHEDULER

Production scheduling software



SMOOTH
MONITOR AX

Machining-operation monitor / maintenance information management software



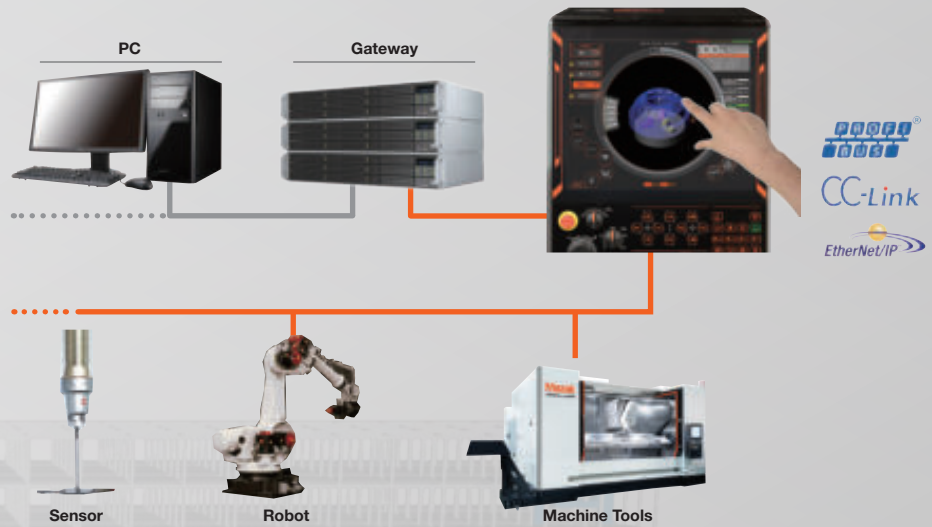
MTConnect is a registered trademark of AMT (Association for Manufacturing Technology).



Networking to peripheral equipment

Option

Convenient network connection to peripheral equipment thanks to industrial network standards.



EtherNet/IP is a trademark of ODVA (Open Device Net Vendor Association).

PROFIBUS is a trademark of PROFIBUS User Organization.



Specifications

VTC-800/20SR & VTC-800/30SR

MAZATROL **SMOOTHX**

	Specification	Unit	VTC-800/20SR	VTC-800/30SR
Travel	X-axis travel	mm	2000	3000
	Y-Axis travel	mm	800	800
	Z-axis travel	mm	720	720
	B-axis travel	deg.	+/- 110	+/- 110
	C-axis travel (option)	deg.	360	360
	Distance from table top to spindle nose	mm	140 - 860	140 - 860
	Distance from spindle C/L to cover face	mm	115 - 915	115 - 915
Table	Table size	mm	2500 x 820	3500 x 820
	Table load capacity (evenly distributed)	kg	1700	2500
	T-slot size	mm	18	18
	Number of slots	-	7	7
	T-slot pitch	mm	100	100
Spindle	Max. spindle speed	rpm	18000	18000
	Spindle taper	-	ISO 40 (HSK-A63)*	ISO 40 (HSK-A63)*
	Power (50% ED)	kW	35	35
	Max. torque	Nm	168	168
Feedrate	Rapid traverse rate: X-, Y-, Z-axes	m/min	50	50
	Rapid traverse rate: B-axis	rpm	50	50
	Rapid traverse rate: C-axis (option)	rpm	25	25
	Cutting feedrate: X-, Y-, Z-axes	mm/min	1 to 50000	1 to 50000
Automatic tool changer	Tool storage capacity	-	30 (48, 84, 125)*	30 (48, 84, 155)*
	Max. tool diameter	mm	ø80	ø80
	Max. tool diameter with adjacent pockets empty	mm	130	130
	Max. tool length	mm	350	350
	Max. tool weight	kg	8	8
	Tool selection method	-	Random selection / shortest path	Random selection / shortest path
	Tool change time (chip to chip)	sec	4.7 (30 & 48 Tool only)	4.7 (30 & 48 Tool only)
Power requirements	Electrical power supply (cont. / 50% ED)	kVA	67.02 / 79.82	69.02 / 81.92
	Air supply - Pressure	MPa	0.5 to 0.9	0.5 to 0.9
	Air supply - Volume	L/min	520	520
Coolant	Pressure	Mpa	0.5	0.5
	Tank capacity	L	450	500
Machine size	Height (standard specification)	mm	3340	3340
	Width (standard specification)	mm	3585	3605
	Length (standard specification)	mm	4250	5250
	Machine weight (standard specification)	kg	14000	16300
Sound	Equivalent continuous sound pressure level at operator position (dependent on equipment options)	dB (A)	less than 80	

* optional specification

VTC-800/20SR & VTC-800/30SR



	Specification	Unit	VTC-800/20SR	VTC-800/30SR
Travel	X-axis travel	mm	2000	3000
	Y-Axis travel	mm	800	800
	Z-axis travel	mm	720	720
	B-axis travel	deg.	+/- 110	+/- 110
	C-axis travel (option)	deg.	360	360
	Distance from table top to spindle nose	mm	140 - 860	140 - 860
	Distance from spindle C/L to cover face	mm	115 - 915	115 - 915
Table	Table size	mm	2500 x 820	3500 x 820
	Table load capacity (evenly distributed)	kg	1700	2500
	T-slot size	mm	18	18
	Number of slots	-	7	7
	T-slot pitch	mm	100	100
Spindle	Max. spindle speed	rpm	18000	18000
	Spindle taper	-	ISO 40 (HSK-A63)*	ISO 40 (HSK-A63)*
	Power (S6-25% / S1 rating)	kW	44.4 / 35	44.4 / 35
	Max. torque	Nm	114	114
Feedrate	Rapid traverse rate: X-, Y-, Z-axes	m/min	50	50
	Rapid traverse rate: B-axis	rpm	50	50
	Rapid traverse rate: C-axis (option)	rpm	25	25
	Cutting feedrate: X-, Y-, Z-axes	mm/min	1 to 50000	1 to 50000
Automatic tool changer	Tool storage capacity	-	30 (48, 84, 125)*	30 (48, 84, 155)*
	Max. tool diameter	mm	80	80
	Max. tool diameter with adjacent pockets empty	mm	130	130
	Max. tool length	mm	350	350
	Max. tool weight	kg	8	8
	Tool selection method	-	Random selection / shortest path	Random selection / shortest path
	Tool change time (chip to chip)	sec	4.7 (30 & 48 Tool only)	4.7 (30 & 48 Tool only)
Power requirements	Electrical power supply (continuous)	kVA	89.77	92.15
	Air supply - Pressure	MPa	0.5 to 0.9	0.5 to 0.9
	Air supply - Volume	L/min	520	520
Coolant	Pressure	Mpa	0.5	0.5
	Tank capacity	L	450	500
Machine size	Height (standard specification)	mm	3340	3340
	Width (standard specification)	mm	3585	3605
	Length (standard specification)	mm	4250	5250
	Machine weight (standard specification)	kg	14000	16300
Sound	Equivalent continuous sound pressure level at operator position (depend on equipment options)	dB (A)	less than 80	

* optional specification

Specifications

VTC-820/20 & VTC-820/30

MAZATROL **SMOOTHG**

	Specification	Unit	VTC-820/20	VTC-820/30
Travel	X-axis travel	mm	2000	3000
	Y-Axis travel	mm	820	820
	Z-axis travel	mm	720	720
	C-axis travel (option)	deg.	360	360
	Distance from table top to spindle nose	mm	140 - 860	140 - 860
	Distance from spindle C/L to cover face	mm	115 - 935	115 - 935
Table	Table size	mm	2500 x 820	3500 x 820
	Table load capacity (evenly distributed)	kg	1700	2500
	T-slot size	mm	18	18
	Number of slots	-	7	7
	T-slot pitch	mm	100	100
Spindle	Max. spindle speed	rpm	12000 (18000)*	12000 (18000)*
	Spindle taper	-	ISO 40 (HSK-A63)*	ISO 40 (HSK-A63)*
	Power (15% ED)	kW	22	22
	Max. torque	Nm	115	115
Feedrate	Rapid traverse rate: X-, Y-, Z-axes	m/min	50	50
	Rapid traverse rate: C-axis (option)	rpm	25	25
	Cutting feedrate: X-, Y-, Z-axes	mm/min	1 to 50000	1 to 50000
Automatic tool changer	Tool storage capacity	-	30 (48, 84, 125)*	30 (48, 84, 155)*
	Max. tool diameter	mm	80	80
	Max. tool diameter with adjacent pockets empty	mm	130	130
	Max. tool length	mm	350	350
	Max. tool weight	kg	8	8
	Tool selection method	-	Random selection / shortest path	Random selection / shortest path
	Tool change time (chip to chip)	sec	4.7 (30 & 48 Tool only)	4.7 (30 & 48 Tool only)
Power requirements	Electrical power supply (cont. / 50% ED) 12k rpm	kVA	54.06 / 64.06	57.61 / 67.61
	Electrical power supply (cont. / 50% ED) 18k rpm*	kVA	71.69 / 84.49	75.24 / 88.04
	Air supply - Pressure	MPa	0.5 to 0.9	0.5 to 0.9
	Air supply - Volume	L/min	440	440
Coolant	Pressure	Mpa	0.5	0.5
	Tank capacity	L	450	500
Machine size	Height (standard specification)	mm	3340	3340
	Width (standard specification)	mm	3585	3605
	Length (standard specification)	mm	4250	5250
	Machine weight (standard specification)	kg	14000	16300
Sound	Equivalent continuous sound pressure level at operator position (depend on equipment options)	dB (A)	less than 80	

* optional specification

	Specification	Unit	VTC-800/20HD	VTC-800/30HD
Travel	X-axis travel	mm	2000	3000
	Y-Axis travel	mm	800	800
	Z-axis travel	mm	720	720
	C-axis travel (option)	deg.	360	360
	Distance from table top to spindle nose	mm	140 - 860	140 - 860
	Distance from spindle C/L to cover face	mm	135 - 935	135 - 935
Table	Table size	mm	2500 x 820	3500 x 820
	Table load capacity (evenly distributed)	kg	1700	2500
	T-slot size	mm	18	18
	Number of slots	-	7	7
	T-slot pitch	mm	100	100
Spindle	Max. spindle speed	rpm	10000	10000
	Spindle taper	-	ISO 50	ISO 50
	Power (40% ED)	kW	30	30
	Max. torque	Nm	302	302
Feedrate	Rapid traverse rate: X-, Y-, Z-axes	m/min	50	50
	Rapid traverse rate: C-axis (option)	rpm	25	25
	Cutting feedrate: X-, Y-, Z-axes	mm/min	1 to 50000	1 to 50000
Automatic tool changer	Tool storage capacity	-	36	36
	Max. tool diameter	mm	125	125
	Max. tool diameter with adjacent pockets empty	mm	210	210
	Max. tool length	mm	325	325
	Max. tool weight	kg	13	13
	Tool selection method	-	Random selection / shortest path	Random selection / shortest path
	Tool change time (chip to chip)	sec	5.7	5.7
Power requirements	Electrical power supply (cont. / 50% ED)	kVA	68.61 / 80.01	69.21 / 80.61
	Air supply - Pressure	MPa	0.5 to 0.9	0.5 to 0.9
	Air supply - Volume	L/min	440	440
Coolant	Pressure	Mpa	0.5	0.5
	Tank capacity	L	450	500
Machine size	Height (standard specification)	mm	3368	3368
	Width (standard specification)	mm	3815	3835
	Length (standard specification)	mm	4250	5250
	Machine weight (standard specification)	kg	15200	17500
Sound	Equivalent continuous sound pressure level at operator position (dependend on equipment options)	dB (A)	less than 80	

* optional specification

Specifications

VTC-800/20SDR & VTC-800/30SDR

MAZATROL **SMOOTHX**

	Specification	Unit	VTC-800/20SDR	VTC-800/30SDR
Travel	X-axis travel	mm	2000	3000
	Y-Axis travel	mm	800	800
	Z-axis travel	mm	720	720
	B-axis travel	deg.	+/- 110	+/- 110
	A-axis travel (A1 and A2)	deg.	360	360
Dual synchronised NC rotary tables (C1 and C2 axes)	NC rotary table diameter	mm	500	500
	Maximum support weight (including fixture)	kg	4000	4000
	NC rotary table centre height	mm	1170	1170
	Distance between NC rotary table face plates	mm	2690	3690
	T-slot size	mm	18	18
	Number of slots	-	8	8
	T-slot pitch	deg.	45	45
Spindle	Max. spindle speed	rpm	18000	18000
	Spindle taper	-	ISO 40 (HSK-A63)*	ISO 40 (HSK-A63)*
	Power (50% ED)	kW	35	35
	Max. torque	Nm	168	168
Feedrate	Rapid traverse rate: X-, Y-, Z-axes	m/min	50	50
	Rapid traverse rate: B-axis	rpm	50	50
	Rapid traverse rate: A-axis (A1 and A2)	rpm	25	25
	Cutting feedrate: X-, Y-, Z-axes	mm/min	1 to 50000	1 to 50000
Automatic tool changer	Tool storage capacity	-	30 (48, 84, 125)*	30 (48, 84, 155)*
	Max. tool diameter	mm	80	80
	Max. tool diameter with adjacent pockets empty	mm	130	130
	Max. tool length	mm	350	350
	Max. tool weight	kg	8	8
	Tool selection method	-	Random selection / shortest path	Random selection / shortest path
	Tool change time (chip to chip)	sec	4.7 (30 & 48 Tool only)	4.7 (30 & 48 Tool only)
Power requirements	Electrical power supply (cont. / 50% ED)	kVA	77.04 / 90.83	77.04 / 90.83
	Air supply - Pressure	MPa	0.5 to 0.9	0.5 to 0.9
	Air supply - Volume	L/min	520	520
Coolant	Pressure	Mpa	0.5	0.5
	Tank capacity	L	450	500
Machine size	Height (standard specification)	mm	3340	3340
	Width (standard specification)	mm	3585	3605
	Length (standard specification)	mm	4250	5250
	Machine weight (standard specification)	kg	15700	18000
Sound	Equivalent continuous sound pressure level at operator position (dependent on equipment options)	dB (A)	less than 80	

* optional specification

VTC-800/20SDR & VTC-800/30SDR



	Specification	Unit	VTC-800/20SDR	VTC-800/30SDR
Travel	X-axis travel	mm	2000	3000
	Y-Axis travel	mm	800	800
	Z-axis travel	mm	720	720
	B-axis travel	deg.	+/- 110	+/- 110
	A-axis travel (A1 and A2)	deg.	360	360
Dual synchronised NC rotary tables (C1 and C2 axes)	NC rotary table diameter	mm	500	500
	Maximum support weight (including fixture)	kg	4000	4000
	NC rotary table centre height	mm	1170	1170
	Distance between NC rotary table face plates	mm	2690	3690
	T-slot size	mm	18	18
	Number of slots		8	8
	T-slot pitch	deg.	45	45
Spindle	Max. spindle speed	rpm	18000 rpm	18000
	Spindle taper	-	ISO 40 (HSK-A63)*	ISO 40 (HSK-A63)*
	Power (S6-25% / S1 rating)	kW	44.4 / 35	44.4 / 35
	Max. torque	Nm	114	114
Feedrate	Rapid traverse rate: X-, Y-, Z-axes	m/min	50	50
	Rapid traverse rate: B-axis	rpm	50	50
	Rapid traverse rate: A-axis (A1 and A2)	rpm	25	25
	Cutting feedrate: X-, Y-, Z-axes	mm/min	1 to 50000	1 to 50000
Automatic tool changer	Tool storage capacity	-	30 (48, 84, 125)*	30 (48, 84, 155)*
	Max. tool diameter	mm	80	80
	Max. tool diameter with adjacent pockets empty	mm	130	130
	Max. tool length	mm	350	350
	Max. tool weight	kg	8	8
	Tool selection method	-	Random selection / shortest path	Random selection / shortest path
	Tool change time (chip to chip)	sec	4.7 (30 & 48 Tool only)	4.7 (30 & 48 Tool only)
Power requirements	Electrical power supply (continuous)	kVA	90.63	93.01
	Air supply - Pressure	MPa	0.5 to 0.9	0.5 to 0.9
	Air supply - Volume	L/min	520	520
Coolant	Pressure	Mpa	0.5	0.5
	Tank capacity	L	450	500
Machine size	Height (standard specification)	mm	3340	3340
	Width (standard specification)	mm	3585	3605
	Length (standard specification)	mm	4250	5250
	Machine weight (standard specification)	kg	15700	18000
Sound	Equivalent continuous sound pressure level at operator position (depend on equipment options)	dB (A)	less than 80	

* optional specification

Specifications

VTC-800/30SLR

MAZATROL **SMOOTHX**

	Specification	Unit	VTC-800/30SLR
Travel	X-axis travel	mm	3000
	Y-Axis travel	mm	800
	Z-axis travel	mm	720
	B-axis travel	deg.	+/- 110
	C-axis travel	deg.	360
	Distance from table top to spindle nose		140 - 860
	Distance from spindle C/L to cover face		115 - 915
Table fixed	Table size	mm	3500 x 820
	Table load capacity (evenly distributed)	kg	2500
	T-slot size	mm	18
	Number of slots	-	7
	T-slot pitch	mm	100
Integral NC rotary table (C-axis)	Table diameter	mm	1000
	Contouring torque (30% ED)	Nm	3000
	Max. workpiece diameter	mm	1500
	Max. workpiece height	mm	850
	Table load capacity (evenly distributed)	kg	2200
	T-slot size	mm	18
	Number of slots	-	10
Spindle	Max. spindle speed	rpm	18000
	Spindle taper	-	ISO 40 (HSK-A63)*
	Power (50% ED)	kW	35
	Max. torque	Nm	168
Feedrate	Rapid traverse rate: X-, Y-, Z-axes	m/min	50
	Rapid traverse rate: B-axis	rpm	50
	Rapid traverse rate: C-axis	rpm	25
	Cutting feedrate: X-, Y-, Z-axes	mm/min	1 to 50000
Automatic tool changer	Tool storage capacity	-	30 (48, 84, 155)*
	Max. tool diameter	mm	80
	Max. tool diameter with adjacent pockets empty	mm	130
	Max. tool length	mm	350
	Max. tool weight	kg	8
	Tool selection method	-	Random selection / shortest path
Power requirements	Tool change time (chip to chip)	sec	4.7 (30 & 48 Tool only)
	Electrical power supply (cont. / 50% ED)	kVA	71.02 / 83.92
	Air supply - Pressure	MPa	0.5 to 0.9
Coolant	Air supply - Volume	L/min	520
	Pressure	Mpa	0.5
Machine size	Tank capacity	L	500
	Height (standard specification)	mm	3340
Machine size	Width (standard specification)	mm	4250
	Length (standard specification)	mm	5250
	Machine weight (standard specification)	kg	19000
Sound	Equivalent continuous sound pressure level at operator position (dependend on equipment options)	dB (A)	less than 80

* optional specification

	Specification	Unit	VTC-800/30SLR
Travel	X-axis travel	mm	3000
	Y-Axis travel	mm	800
	Z-axis travel	mm	720
	B-axis travel	deg.	+/- 110
	C-axis travel	deg.	360
	Distance from table top to spindle nose	mm	140 - 860
	Distance from spindle C/L to cover face	mm	115 - 915
Table fixed	Table size	mm	3500 x 820
	Table load capacity (evenly distributed)	kg	2500
	T-slot size	mm	18
	Number of slots	-	7
	T-slot pitch	mm	100
Integral NC rotary table (C-axis)	Table diameter	mm	1000
	Contouring torque (30% ED)	Nm	3000
	Max. workpiece diameter	mm	1500
	Max. workpiece height	mm	850
	Table load capacity (evenly distributed)	kg	2200
	T-slot size	mm	18
	Number of slots	-	10
Spindle	Max. spindle speed	rpm	18000
	Spindle taper	-	ISO 40 (HSK-A63)*
	Power (S6-25% / S1 rating)	kW	44.4 / 35
	Max. torque	Nm	114
Feedrate	Rapid traverse rate: X-, Y-, Z-axes	m/min	50
	Rapid traverse rate: B-axis	rpm	50
	Rapid traverse rate: C-axis	rpm	25
	Cutting feedrate: X-, Y-, Z-axes	mm/min	1 to 50000
Automatic tool changer	Tool storage capacity	-	30 (48, 84, 155)*
	Max. tool diameter	mm	80
	Max. tool diameter with adjacent pockets empty	mm	130
	Max. tool length	mm	350
	Max. tool weight	kg	8
	Tool selection method	-	Random selection / shortest path
Power requirements	Tool change time (chip to chip)	sec	4.7 (30 & 48 Tool only)
	Electrical power supply (continuous)	kVA	92.01
	Air supply - Pressure	MPa	0.5 to 0.9
Coolant	Air supply - Volume	L/min	520
	Pressure	Mpa	0.5
Machine size	Tank capacity	L	500
	Height (standard specification)	mm	3340
Machine size	Width (standard specification)	mm	4250
	Length (standard specification)	mm	5250
	Machine weight (standard specification)	kg	19000
Sound	Equivalent continuous sound pressure level at operator position (dependend on equipment options)	dB (A)	less than 80

* optional specification



Notes

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