

VTC series

Vertical Machining Centres

VTC 200 B

VTC 200 C

VTC 300 C

TECNOIN

MACCHINE UTENSILI

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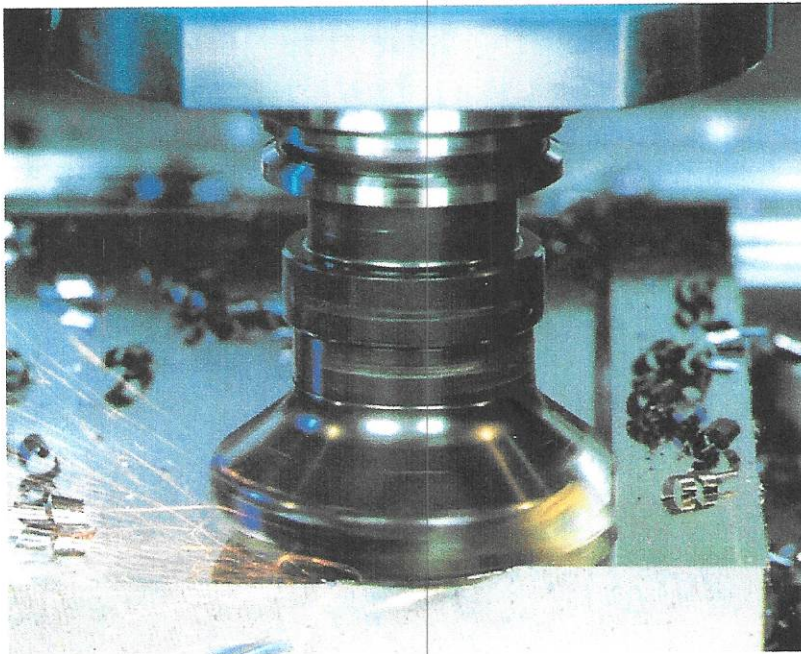
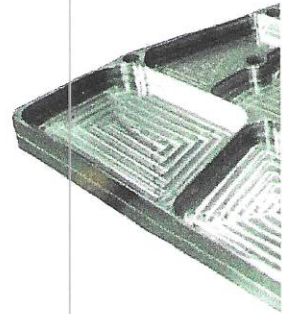
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MAZAK SYSTEM INTEGRATION

 **Mazak**
EUROPE

VTC series

There's no compromising on performance with the economical Mazak Vertical Machining Centre.



For prototype or production runs the VTC Series is the answer.

- Spindle Torque for Milling Steel ...
- Speed for Cutting Aluminium
- Fixed Table Allows Heavy, Oversize and Off Centre Parts
- Large Tool Capacity and Excellent Operator Access
- Extra Long Table Models for Very Long Parts
- Mazatrol Fusion 640M Easy to Learn - Conversational Control
- Offline Programming

VTC 200 B VTC 200 C VTC 300 C



VTC 200 B

Table size: 1460 x 510 mm



VTC 200 C

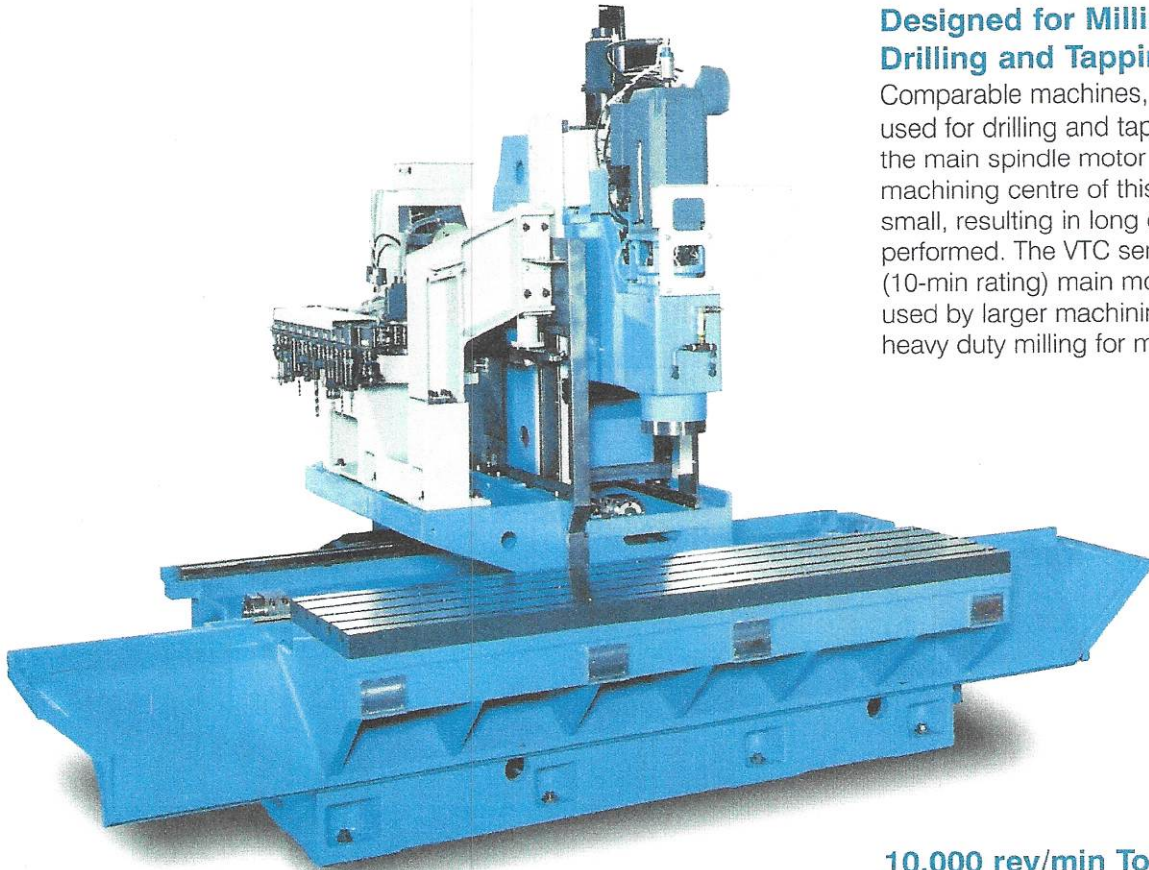
Table size: 2000 x 510 mm

VTC 300 C

Table size: 2000 x 760 mm

VTC series

*High speed - 10,000 rev/min Spindle
High power 15 kW (10-min rating)
Rigid Structure & Fixed Table*



Designed for Milling as well as Drilling and Tapping

Comparable machines, of this size are primarily used for drilling and tapping. For this reason, the main spindle motor of a conventional vertical machining centre of this class is typically quite small, resulting in long cycle times if milling is performed. The VTC series has a powerful 15 kW (10-min rating) main motor equivalent to that used by larger machining centres, allowing heavy duty milling for minimum cycle times.

10,000 rev/min Top Spindle Speed allows High-Speed Cutting of Aluminium and Copper Alloy

The top spindle speed of 10,000 rev/min ensures exceptional surface finishes when cutting aluminium and copper alloy workpieces. The high power range extends from 3,300 to 10,000 rev/min providing optimum cutting conditions for a wide variety of materials.

Spindle Dual winding motor produces high torque and rev/min for high and low speed range. Standard rev/min 10,000.

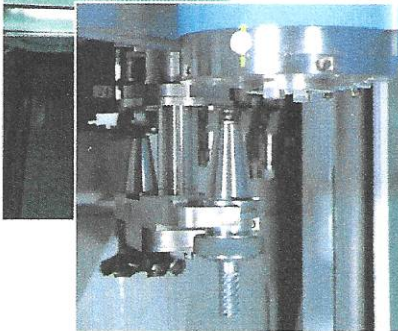
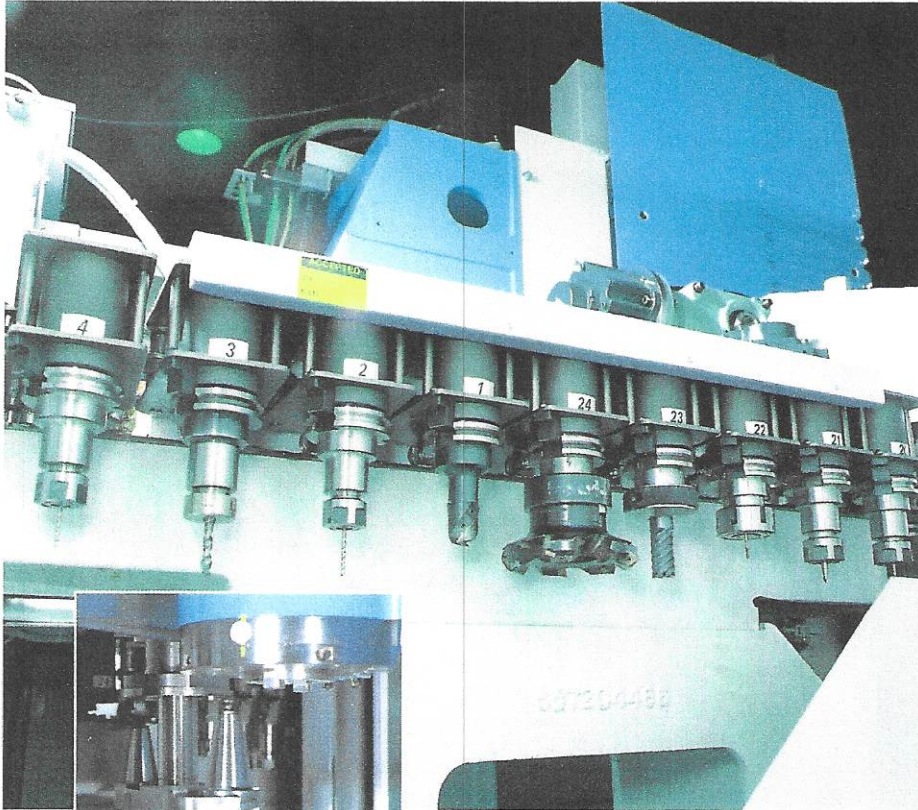
High Axis Motion Minimises Non-cutting Time 30m/min rapid traverse in the X,Y and Z Axes.

Adaptive Feedrate The programmed feedrate is automatically adjusted to compensate for variations in spindle motor loads.

Digital AC Servo Motor Spindle and feed motors deliver high torque with consistent feed control. Also less maintenance than DC servos. Direct drive gives you positive no-backlash operation.

VTC Construction Base frame and headstock are rigid, massive castings with heavy internal bracing to maximise rigidity. Supports heavy cutting to produce better surface finishes and provides long term precision for accuracy. Work table is fixed to the bed frame. Precision is unaffected by oversize or off-centre parts. Travelling column provides X,Y and Z motions.

*High-Speed, High-Performance 30 m/min
Rapid Traverse Rate
Fast Tool Changes 4.7 sec Chip to Chip*



*High speed double-arm
tool change mechanism*

Covers removed for clarity

24 or 30 TOOL
Magazine

Higher Productivity - Output up by 35%.

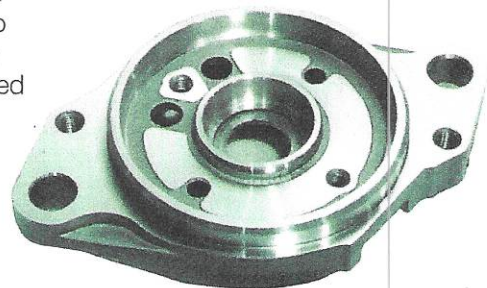
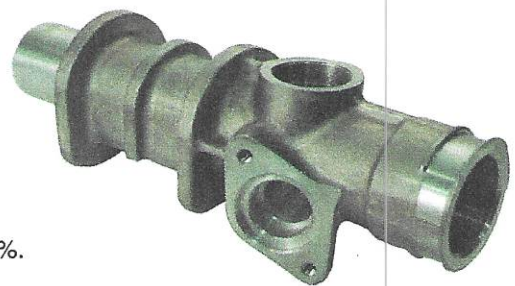
The higher power and faster spindle reduces cutting times. New features, which substantially reduce non-cutting time, add to this productivity. Practical machining tests have demonstrated productivity increases of 35%.

Fast Tool Change

- New double arm change mechanism pre-selects the next tool during machining
- Bi-directional magazine enables shortest path for tool selection
- Tool change takes just 1.5 sec
- Tool magazine travels with the spindle keeping positioning times short.
- Chip-to-chip times of less than 5 sec

30 m/min Rapid Traverse

- High performance digital AC servo motors provide fast acceleration to the rapid traverse rate of 30m/min
- Linear guideways permit high speed traverse rates, precise positioning and heavy duty cutting



VTC series

Large Work Envelope

VTC 200 B Table 1460 x 510mm

X : 1120mm

Y : 510mm

Z : 510mm

VTC 200 C Table 2000 x 510mm

X : 1660mm

Y : 510mm

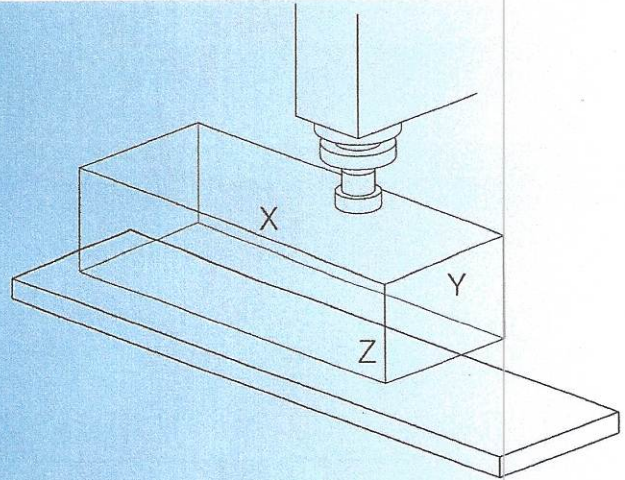
Z : 510mm

VTC 300 C Table 2000 x 760mm

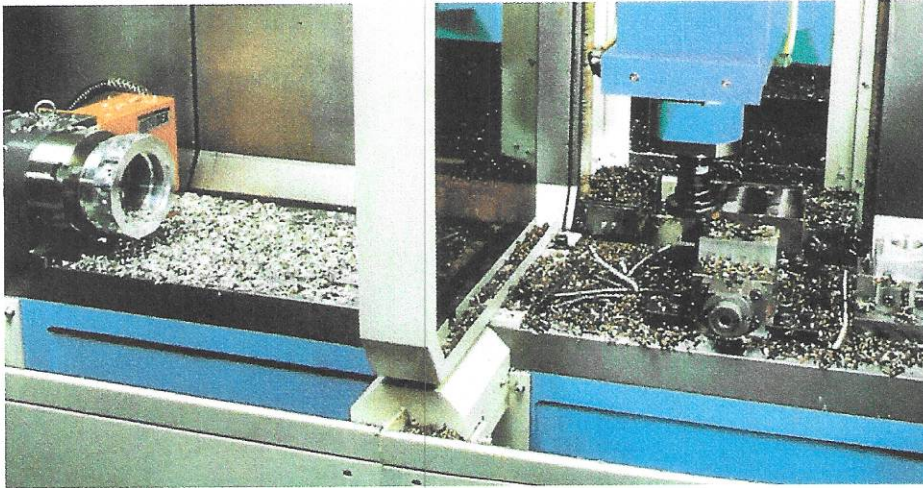
X : 1740mm

Y : 760mm

Z : 660mm



Advantage of Long Fixed Tables VTC 200C and VTC 300C



Pendulum Machining

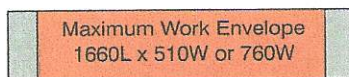
Centre Partition System permits prolonged unmanned operation with set-up changes during machining. Mounting the removable centre partition on the long table makes it possible to remove/mount workpieces and set up tools at one end of the table while a workpiece is being machined at the other. This unique feature enables productivity higher than that of machining centres equipped with a 2-pallet APC.

When the centre partition is mounted on the table, X-axis travel limit and interlocks are automatically set and the machine area is divided into right and left areas.

The spindle head can be shifted from one area to the other very simply: just write an M71 or M72 command in the program. The interlock functions ensure safe set-up changes while machining is in progress in the other area.

Advantage of Long Fixed Tables

VTC 200C and VTC 300C Setup Examples



Full Table: One Part
 • Single large part production.



Full Table: Many Identical Parts
 • Multiple part production.



Split Table: Two Parts
 • First and second operations.
 • Different operation each side.

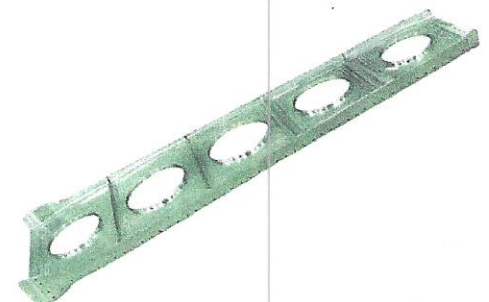


Split Table: Different Setups
 • Different operation each side.
 • or retain rotary axis to one end.



Split Table:
 • Large part and matrix of parts.

 **Workpiece**





By fusing a personal computer with the CNC system, the next generation of machine controllers is born.

The Mazatrol CNC, which has earned a reputation as the most advanced conversational programming CNC system, has been fused with a personal computer while retaining the exceptional Mazatrol functions. The result is a controller that can respond

to inquiries from external locations. It can also make suggestions, such as for faster cutting conditions, and report the operation record. These features give it a level of unexcelled performance and versatility.

Innovative Mazatrol Functions

- Programming is carried out in the Mazatrol conversational format. Shortens programming compared with EIA/ISO code.
- A program written in EIA/ISO code prepared for another manufacturer's CNC machine tool can be used with only slight editing.
- EIA/ISO programs used as subprograms can be used in tandem with Mazatrol programs.

Unique New Mazatrol Fusion 640 Functions

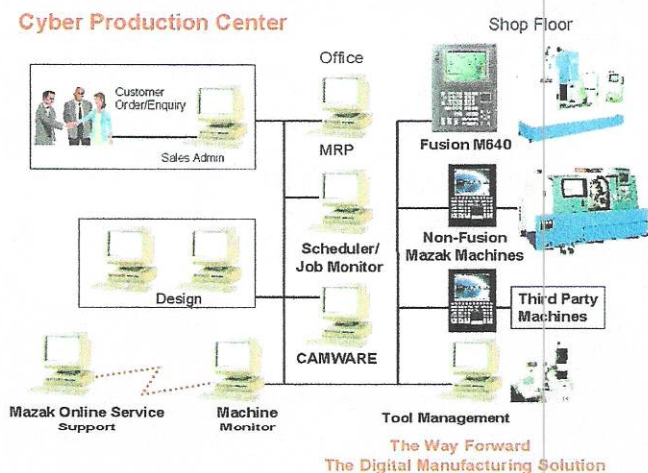
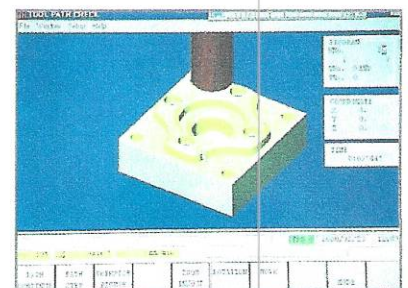
■ New Functions Achieved by Fusing a PC with a CNC

- Machining navigation to improve cutting condition.
- Operating status management ... daily and weekly.
- New cutting condition automatic determination function
- Cutting condition learning function
- Tool path 3D solid model ...
- MAZACC 3D high-speed contouring software -

■ Communication Between Mazatrol Fusion 640 and the Mazak Production Center

The CNC is accessible through an intranet, a telephone line, or through the Internet, from the office or any external location. The following can be performed by connecting the Mazatrol Fusion 640 and the optional Mazak production in a LAN:

- Generate programs
- Required tool preparation suggestion
- Required fixture preparation suggestion
- Production management
(*production record, schedule*)
- Network, remote control function
- On-line Service Support



Machine specifications

		VTC 200 B	VTC 200 C	VTC 300 C
Travel	X-axis	1120 mm	1660 mm	1740mm
	Y-axis	510 mm	510 mm	760 mm
	Z-axis	510mm	510mm	660mm
	Distance from table top to spindle nose	180mm - 690 mm	180mm - 690 mm	180 mm- 840 mm
Table	Table size	1460mm x 510 mm	2000mm x 510mm	2000mm x 760m
	Weight capacity	800 kg	1000 kg	1400 kg
Spindle	Spindle speed	10000 rev/min	10000 rev/min	10000 rev/min
	Number or ranges	Stepless	Stepless	Stepless
	Spindle taper	ISO No 40	ISO No 40	ISO No 40
	Spindle motor (10min rating)	15 kW	15 kW	15 kW
	Spindle motor (30min rating)	11kW	11kW	11kW
	Spindle motor (cont. rating)	7.5kW	7.5kW	7.5kW
Feedrate	Rapid traverse rate (X/Y/Z axes)	30m/min	30m/min	30m/min
	Cutting feedrate (opt)	8m/min (30m/min)	8m/min (30m/min)	8m/min (30m/min)
Automatic Tool changer	Tool magazine capacity (option)	24 (30)	30	30
	Max. tool dia. (with adjacent pockets empty)	80 (110)mm	80 (110)mm	80 (110)mm
	Max. tool length	350 mm	350 mm	350 mm
	Max. tool weight	8 kg	8 kg	8 kg
	Tool selection method	Random selection - shortest path		
	Tool change cycle	4.7 sec	4.7 sec	4.9 sec
Power requirements	Electrical power supply (30min rating)	31.5 kVA	32.3 kVA	33.1 kVA
	Air supply: pressure - volume (max)	5-7 bar - 280 L/min	5-7 bar - 280 L/min	5-7 bar - 280 L/min
Coolant	Pressure	5 bar	5 bar	5 bar
	Tank capacity	250	300	360
Machine size	Height	2759	2759	3442
	Machine weight (including NC unit) approx	6,000 kg	9,100 kg	10,500 kg

Equivalent continuous sound Pressure level

at operator position(dependant on equipment options)	less than 85dB(A)	less than 85dB(A)	less than 85dB(A)
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The accuracy data and other data presented in this publication were obtained under specific conditions and cannot be guaranteed to be repeated under different conditions (room temperature, workpiece material, tool material, cutting conditions, etc.)

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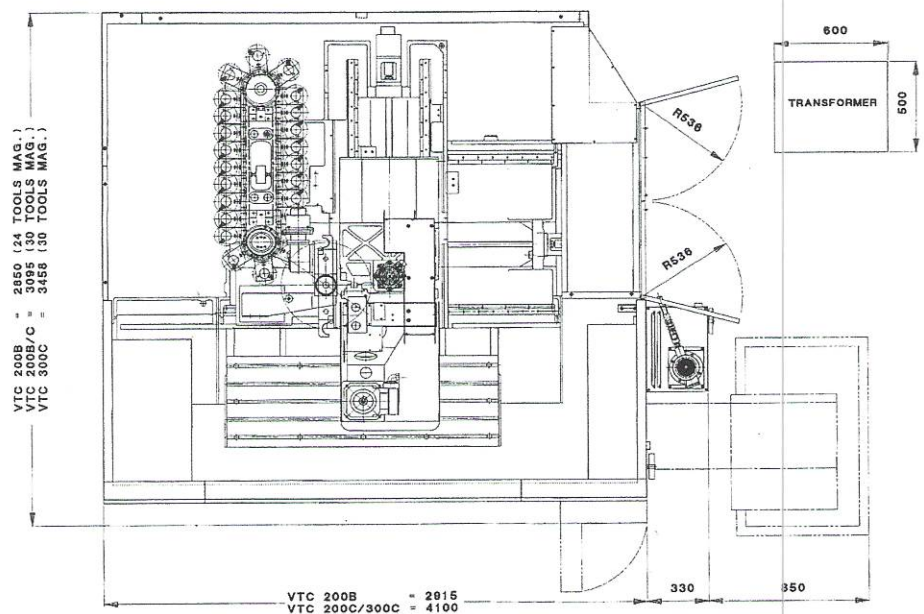
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