



D200Z

5-Axis Vertical Machining Centre

Simultaneous 5-axis machining for mould finishing

Outstanding fast-response motion provides excellent surface quality that is comparable to 3-axis machining.



Conventional machine



D200Z

**Corner machining
with R0.2 ball end mill**

- Pocket size: 20 x 20 x 20 mm



Working chamber

New 30,000 rpm spindle

Deflection and vibration are significantly reduced during high-speed rotation. The spindle guarantees a superior machining surface and long tool life. The cooling system, comprising a spindle core and jacket, minimises thermal distortion even at high rotational speeds.

Its simple oil-and-air lubrication system helps ensure trouble-free continuous operation.

- Speed range:
300–30,000 rpm
- Interface:
HSK-E50



B-axis: 91°

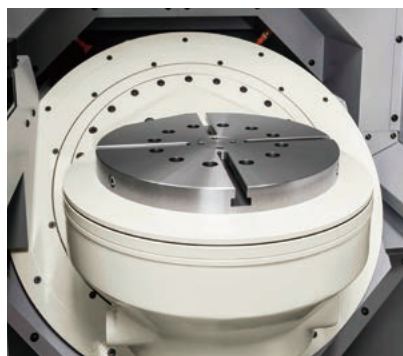
Agile, minimal-interference table

The D200Z has adopted a light-weight structure for the B-axis, which supports the C-axis with an inclined face.

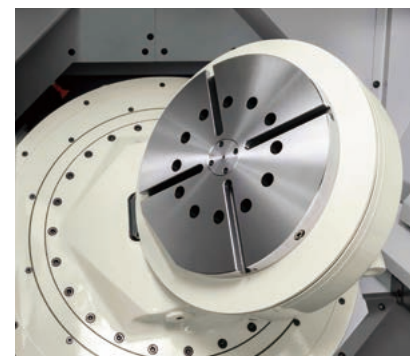
DD (direct drive) motors provide the fast-response agile motion of the B- and C-axes. The interference-free design of the 300 mm diameter table gives the operator easy access to workpieces.

In addition, its axis configuration simplifies programming as the operator can grasp the motion of fixtures clearly.

The spindle head is compact enough to come close to the table surface.

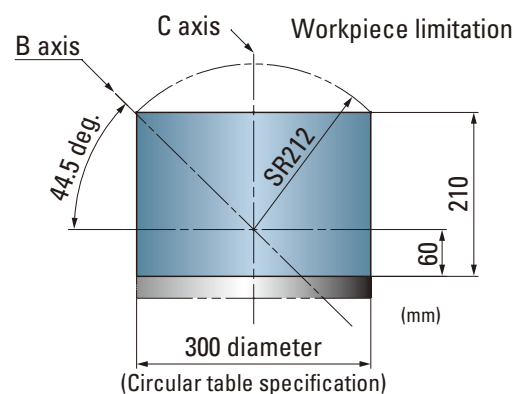


B-axis: 0°



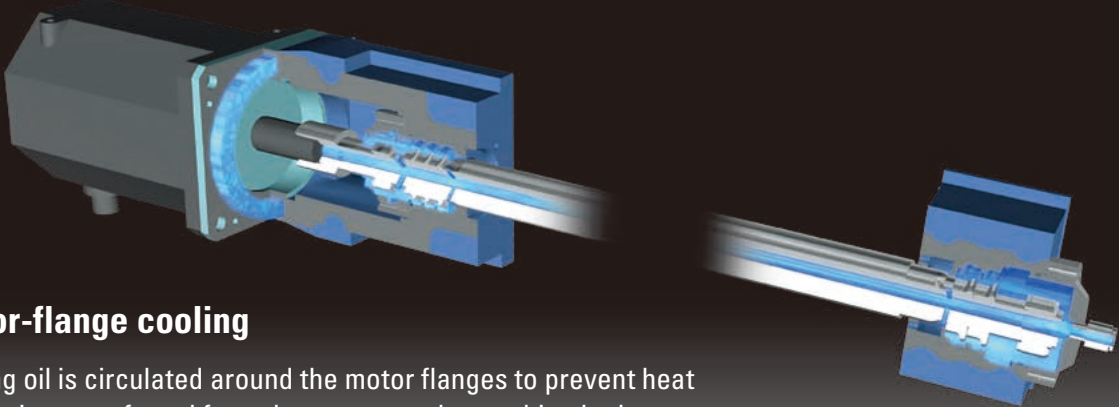
B-axis: 45°

- Rapid traverse
X/Y/Z axes: 60,000 mm/min
B axis: 36,000 mm/min
C axis: 54,000 mm/min
- Max. payload: 75 kg



Ball screw core cooling

Cooling oil at a temperature synchronized with the machine temperature is circulated inside the ball screws to prevent heat from being produced during high-speed movement. Support bearings are also cooled down in order to keep preloaded.



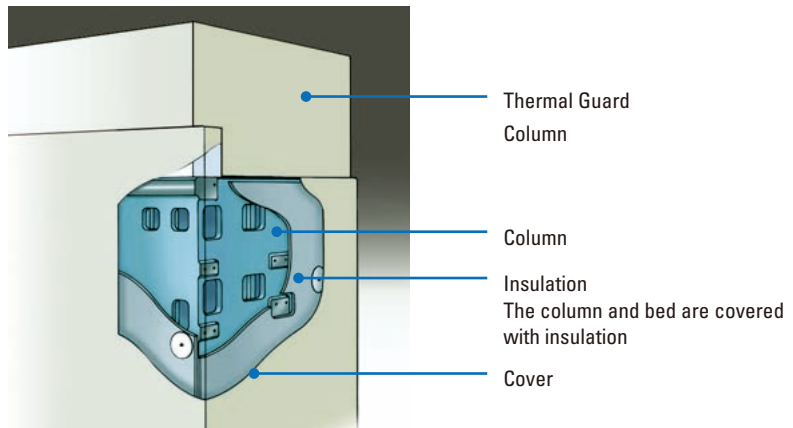
Motor-flange cooling

Cooling oil is circulated around the motor flanges to prevent heat from being transferred from the motors to the machine body.

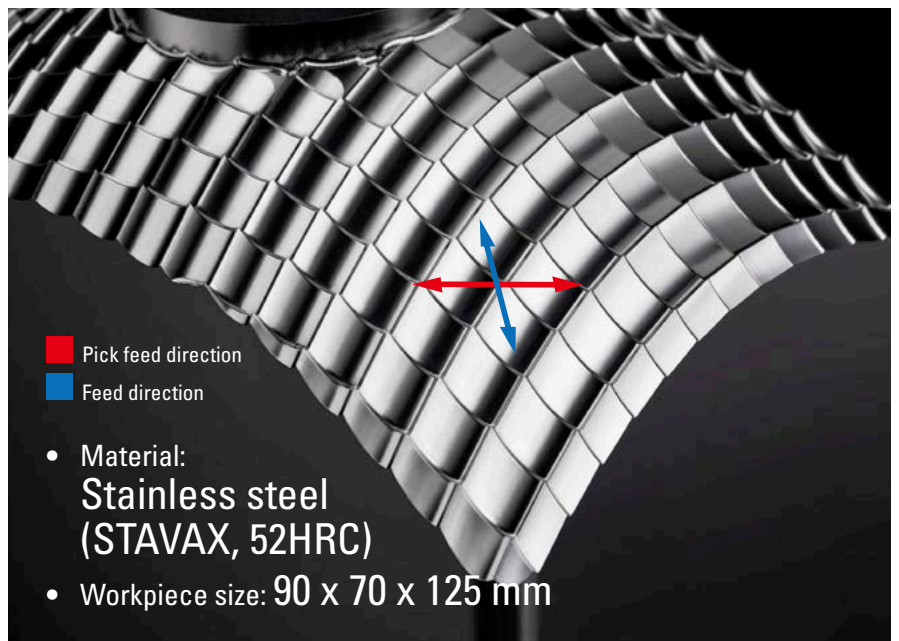
Note: the D200Z has a temperature controller for the feed axis cooling oil for exclusive use.

Thermal Guard®

The Thermal Guard covers the entire machine to keep out ambient air, thus minimising changes in machine behaviour caused by the ambient temperature.



Mirror surface finish with PCD tools



Layout

Compact machine

The machine is only 1,500 mm wide. Peripheral equipment – such as hydraulics, pneumatics, etc. – is mounted on the rear part of the machine body. The compact design provides fastest machining times on smallest footprint in its class.

- Machine size

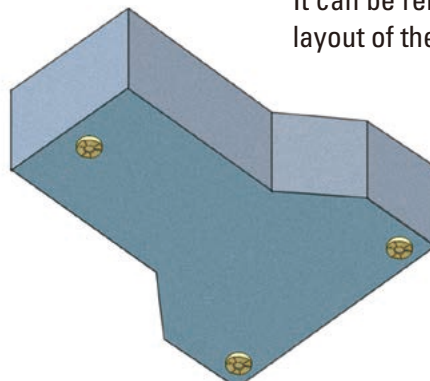
- Height: 2,300 mm
- Width: 1,500 mm
- Depth: 2,200 mm

Tool setting is performed with the double sliding doors open. All tasks, including workpiece setting, can be performed at the front of the machine.



Three-point support

The process for installing the machine is smooth and easy. It can be relocated quickly if the layout of the factory changes.



Excellent accessibility

The machine is just as accessible as a 3-axis machine. The distance between the front of the machine and the spindle is 560 mm. Tools can easily be changed manually. The distance between the front of the machine and the centre of the table is only 430 mm.

The structure of the table is simple compared to a trunnion-type table. Full overhead clearance also allows easy workpiece loading by crane.

Workpiece loading is easy, thanks to the full overhead clearance for crane.



Automation

Tool magazine

A 21-tool magazine is supplied as standard. A 40-tool magazine can easily be retrofitted.

The machine space required for a 40-tool magazine is the same as for a 21-tool magazine, and only an "option kit" is needed. A modular large-capacity tool magazine with 100 storage positions can also be selected.



21-tools magazine (standard)



40-tool magazine

Specifications for automation

- Robot shutter
- Loader interface
- ER0WA chuck specification
- System 3R chuck



100-tool magazine



Work changer

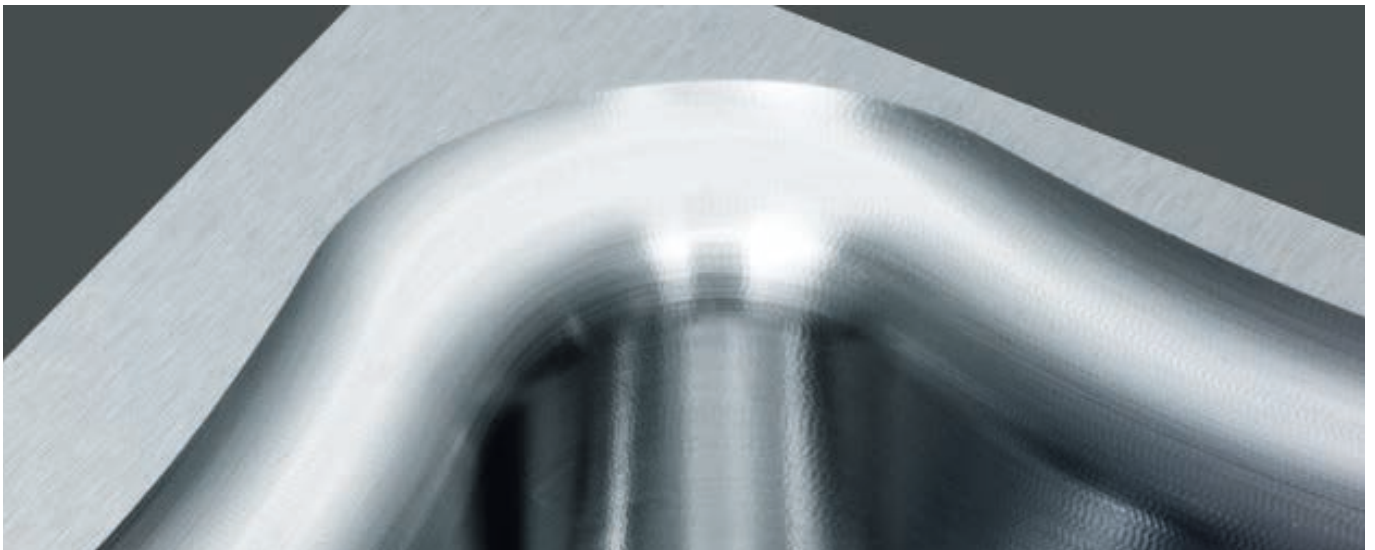
Professional 6

The controller that maximises machine performance

Collision Safeguard: avoids spindle crashes



Super G1.5 Control: no more scratches



Intuitive operation

i Setup (Option)

- Quick and easy measuring for setup via intuitive operation
- Code-free programming on dialogue screen



Graphite specification

Advantages of graphite as an electrode material

- Easy to cut
- Outstanding performance of rough EDM machining
 - Machining speed: 1.5 to 3 times faster than copper electrodes
 - Specific gravity: 1/5 of copper
- Easy to polish
- Small thermal expansion rate
 - 1/4 of copper

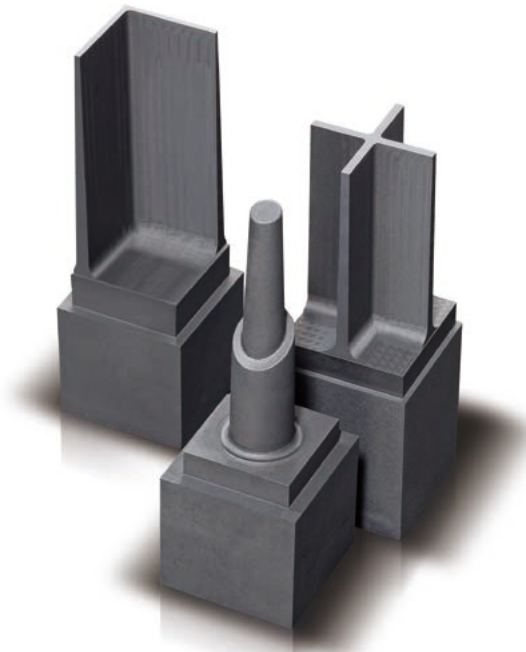
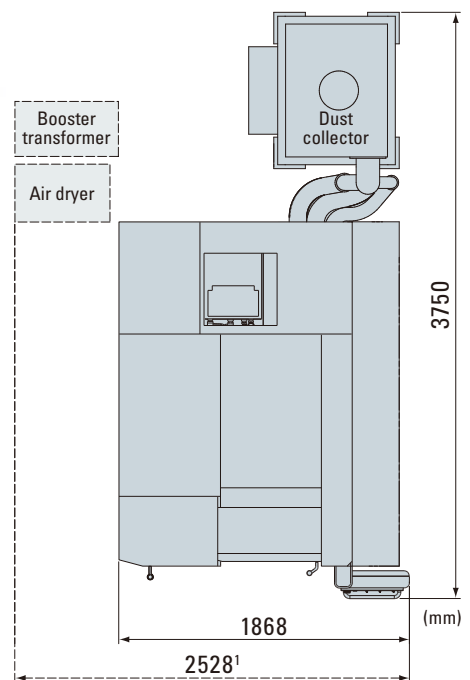
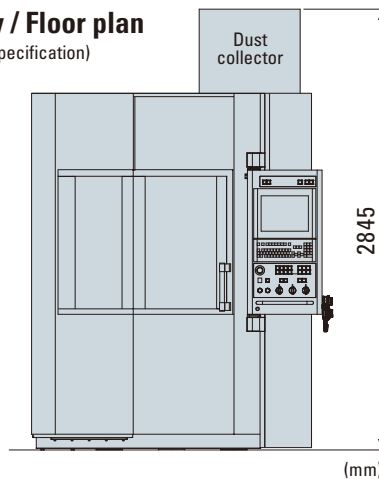


Photo: Robot shutter specification



Front view / Floor plan
(Robot shutter specification)



- Machine size
 - Height: 2,845 mm
 - Width: 1,868 mm
 - Depth: 3,750 mm
 - Weight: 4,900 kg
- Floor space
 - Width: 2,733 mm
 - Depth: 3,750 mm

1 Optional equipment: Dimensions when an air dryer and booster transformer are selected

Specifications

D200Z

	Description	Specification	
Axis travels	X x Y x Z	350 x 300 x 250 mm	
	B / C	91° (0° to +91°) / 360° (continuous rotation)	
Table	Size	300 mm	
	Maximum workpiece size	∅ 300 x 210 mm	
	Maximum payload	75 kg	
	Surface configuration	T-slot, 12H8 x 4 slots (radial)	
Spindle	Speed range	300–30,000 rpm	
	Motor power	15 / 11 kW (25% ED/cont.)	
	Torque	23.8 / 21.0 Nm (25% ED/cont.)	
	Interface	HSK-E50	
	Bearing diameter (inner)	60 mm	
	Cooling / Lubrication	Spindle core and jacket cooling / Oil air	
Feedrate	Rapid traverse	X, Y, Z	60,000 mm/min
		B	36,000°/min
		C	54,000°/min
	Cutting feedrate	X, Y, Z	1–60,000 mm/min
		B	1–36,000°/min
		C	1–54,000°/min
Automatic tool changer	Tool storage capacity	21 tools	
	Maximum tool diameter (with adjacent tools / without adjacent tools)	50 / 80 mm	
	Maximum tool length	200 mm	
	Maximum tool weight (without limitation / with limitation)	3 / 5 kg	
Machine	Height	2,300 mm	
	Width x Depth	1,868 x 3,030 mm	
	Weight (including NC unit)	4,600 kg	
Floor space	Width x Depth	2,733 x 3,750 mm	

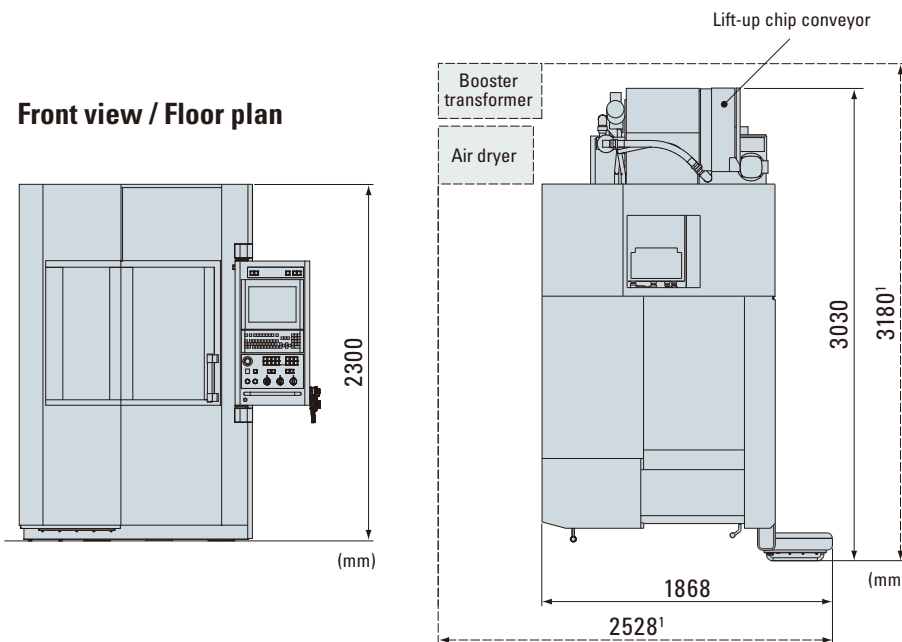
Standard specifications

- 33,000 rpm spindle
- Spindle temperature controller
- 300 mm diameter T-slot circular table
- 21 tools magazine
- Base coolant²
- Nozzle coolant²
- Lift-up chip conveyor H1050² (scraper type)
- Air blower
- Through spindle air
- Operator door lock (operation mode)
- Lighting device for machining area
- Portable manual pulse generator (with the handle enable button)
- Scale feedback X, Y, Z axis 0.0125 µm
- Tilted working plane indexing command
- High-Speed Smooth TCP
- 3-dimensional cutter compensation
- Standard tool length function
- Super G1.5 control
- ECO mode functions
- Collision Safeguard (Pro. 6 screen display) specification
- Automatic power-off
- Automatic fire extinguisher interface
- MRDF (Machine Retransfer Detect Function)

Optional specifications / Optional equipment

- ★ A40 and 100 tools magazine
- EROWA /System 3R chuck specification
- Additional pneumatic piping
- ★ Coolant temperature controller³(with heater)
- ★ Shower coolant system³
- ★ Mist collector (including connection port)³
- ★ MQL unit²
- ★ Air dryer
- Robot shutter (Requires robot interface)
- Loader interface (System 3R L type)
- Loader interface (EROWA L type)
- Loader interface (EROWA A type)
- ★ i Setup
- ★ Automatic non-contact tool measuring device
- ★ Automatic workpiece measuring device
- ★ Portable manual pulse generator with position display function
- ★ Simultaneous 5-axis G1-Smoothing
- ★ 3-dimensional coordinate conversion
- ★ Signal light 3 layer
- ★ Booster transformer
- ★ MTConnect interface
- ★ OPC UA interface

Front view / Floor plan



¹ Optional equipment: Dimensions when an air dryer and booster transformer are selected

² Not available with graphite specification.
³ Not selectable with graphite specification.

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