Mazak

VARIAXIS i-700 NEO

[5-axis vertical machining center]



VARIAXIS i-700 NEO

Manufacturing innovation – a high-accuracy 5-axis machining center with AI, digital twin and automation



Shown with optional equipment

The application of data and digital technology to transform production processes is progressing rapidly in the manufacturing sector. Mazak has developed the new VARIAXIS i-700 NEO to take production sites to the next level. The evolution of 5-axis machining centers provides highly efficient digital manufacturing solutions that incorporate AI and digital twin technology to respond quickly to ever-changing production demands.

MAZATROL SmoothAi



Shown with optional MAZATROL SmoothAi dual monitor

Ai

- AI analysis for optimal vibration compensation and thermal displacement control
- Stable high-accuracy and high-quality machining

Digital Twin

- Software uses digital twin technology to replicate digital screens on an office setup
- Reduces machine setup time and improves efficiency for machining initial products and prototypes



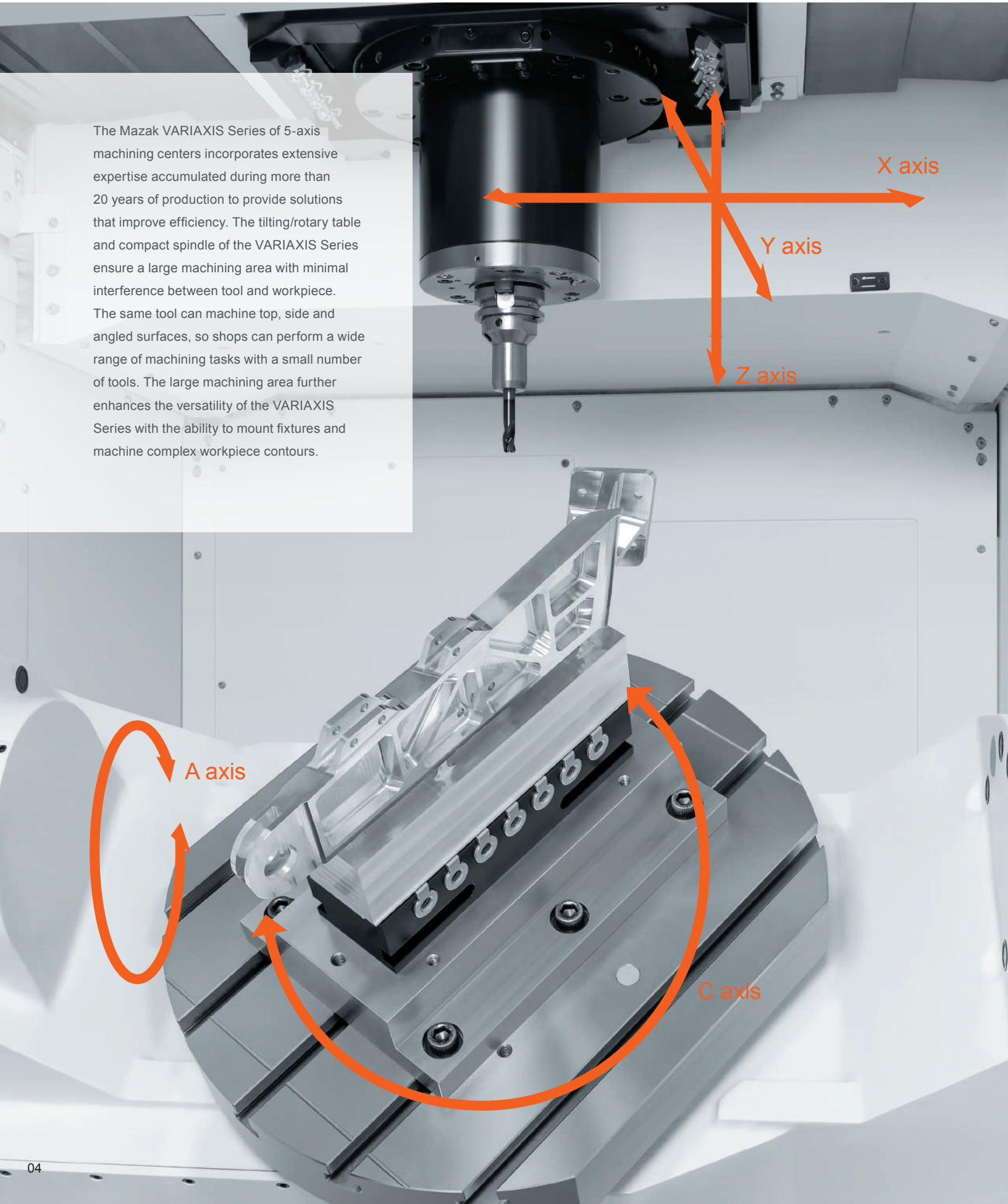
2-pallet changer
Shown with optional equipment

Automation

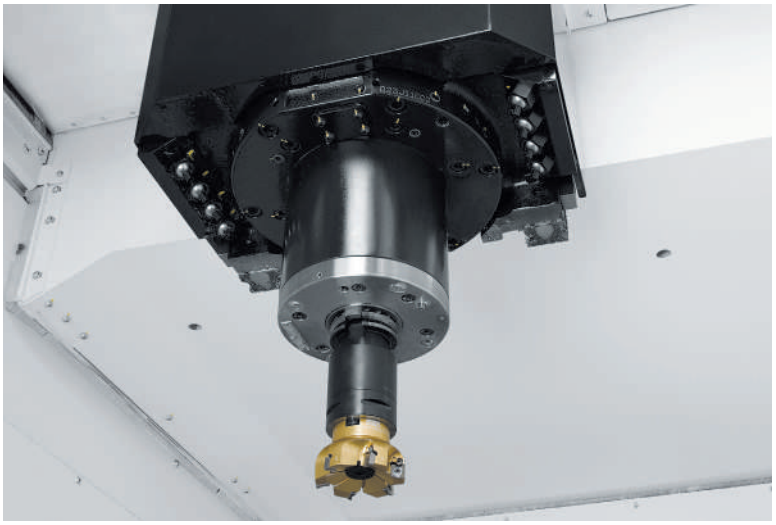
- Wide variety of automation equipment available, including a 2-pallet changer, MPP (MULTI PALLET POOL), modular PALLETECH flexible manufacturing system and a robot system

Main Features

The Mazak VARIAXIS Series of 5-axis machining centers incorporates extensive expertise accumulated during more than 20 years of production to provide solutions that improve efficiency. The tilting/rotary table and compact spindle of the VARIAXIS Series ensure a large machining area with minimal interference between tool and workpiece. The same tool can machine top, side and angled surfaces, so shops can perform a wide range of machining tasks with a small number of tools. The large machining area further enhances the versatility of the VARIAXIS Series with the ability to mount fixtures and machine complex workpiece contours.



Spindle specifications to meet a wide variety of machining requirements



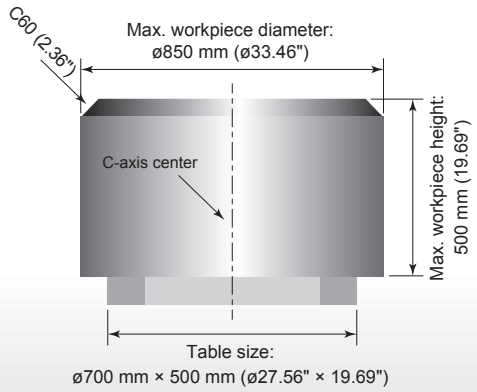
The highly rigid spindle can perform heavy-duty machining of steel as well as high-speed machining of non-ferrous materials such as aluminum. High-speed and high-torque options are available.

VARIAXIS i-700 NEO

Speed	Standard	High torque·high speed OPTION		
	18000 rpm	15000 rpm	20000 rpm	20000 rpm
Output [40% ED (30-min. rating)]	30 kW (40 HP)	46 kW (62 HP)	30 kW (40 HP)	42 kW (56 HP)
Max. torque [40% ED (30-min. rating)]	120 N·m (89 ft·lbs)	200 N·m (148 ft·lbs)	120 N·m (89 ft·lbs)	161 N·m (119 ft·lbs)
Tool shank	CAT-40/BBT-40*/ HSK-A63*	CAT-40/BBT-40/ HSK-A63	CAT-40/BBT-40/ HSK-A63	CAT-40/BBT-40/ HSK-A63

*Option

Maxiumum workpiece size and travel



Travel
X axis: 630 mm (24.80")
Y axis: 1100 mm (43.31")
Z axis: 600 mm (23.62")

A axis: -120° ~ + 30° (table tilt)
C axis: ±360° (table rotation)

Max. load: 700 kg (1543 lbs)

Tool magazine



The standard tool magazine accommodates 30 tools, with 40, 80 and 120-tool options available. This generous capacity provides ample storage for complex workpieces and high-mix production, as well as spare tools for prolonged continuous operations.

Machine Design

Full gantry construction ensures stable machining accuracy

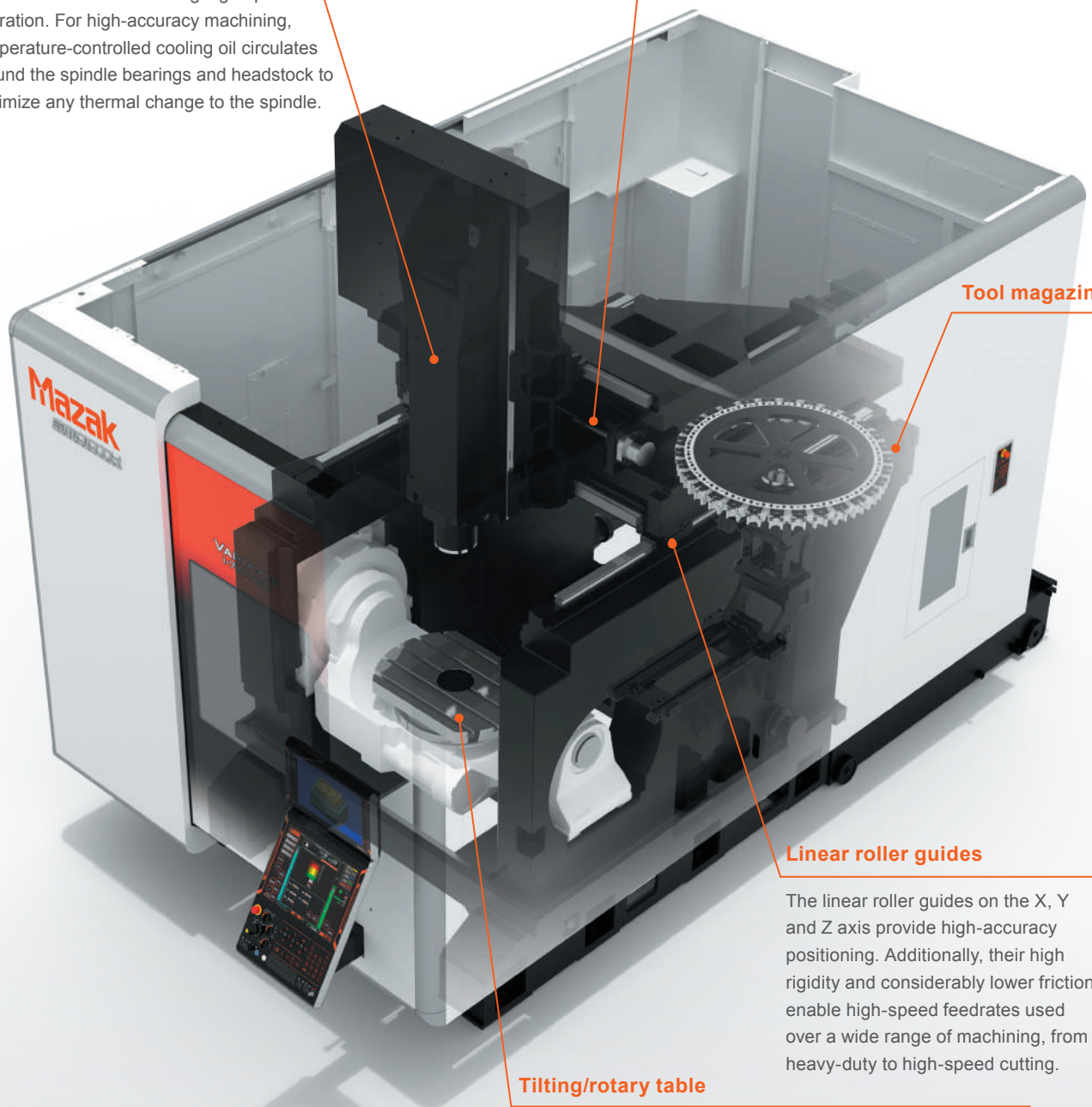
Machine construction was designed utilizing FEA. Minimized vibration during acceleration/deceleration ensures stability for high-accuracy machining.

Integral spindle/motor

Vibration is minimized during high-speed operation. For high-accuracy machining, temperature-controlled cooling oil circulates around the spindle bearings and headstock to minimize any thermal change to the spindle.

Ball screw core cooling

For sustained high-speed operation, temperature-controlled cooling oil circulates through the ball screw cores.



Tool magazine

Linear roller guides

The linear roller guides on the X, Y and Z axis provide high-accuracy positioning. Additionally, their high rigidity and considerably lower friction enable high-speed feedrates used over a wide range of machining, from heavy-duty to high-speed cutting.

Tilting/rotary table

The A axis features a trunnion design for high rigidity. Additionally, the A and C axes use a roller gear cam for high-speed and high-accuracy machining.

Standard 30-tool magazine and optional MAZATROL SmoothAi dual monitor shown.

Applications

High-accuracy machining of multiple and inclined surfaces/Simultaneous 5-axis machining of complex contours

High-speed machining of aluminum with 20000 rpm high-speed spindle

· Machine complex contours with small diameter tools at high-speed rotation
· Machine multiple surfaces
· Simultaneous 5-axis machining, including inclined and curved surfaces

Material: Aluminum (A5052)
Part: Transmission housing
Size: ø370 mm × 350 mm (ø14.57" × 13.78")
Spindle: 20000 rpm high-speed spindle

Drill small diameters

Multiple surface machining with
A and C axis high-speed positioning:
ø12 mm (ø0.47") flat drill
ø6 mm (ø0.24") drill

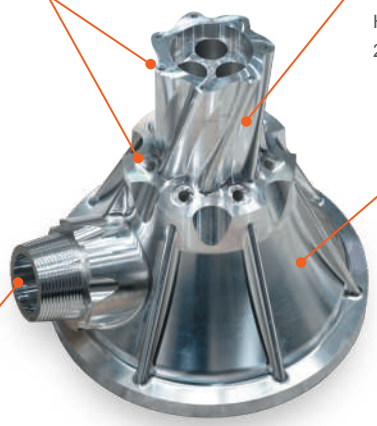
Simultaneous 5-axis machining

Finish machining of curved surface: R3 ball endmill
High-speed, high-quality machining with
20000 rpm spindle

High-efficiency pocket milling

High-speed rough machining:
ø100 mm (ø3.94") face mill
Spindle speed: 6366 rpm
Material removal rate: 2860 cm^3/min (174.53 $in.^3$/min)

Pocket milling: ø50 mm (ø1.97") face mill
Spindle speed: 20000 rpm
Material removal rate: 2660 cm^3/min (162.32 $in.^3$/min)



Drill inclined surfaces

Drill large diameters:
ø32 mm (ø1.26") insert drill

■ Machining benefits

· Reduce rough machining time with high-speed machining
· Enable rough machining to finish machining of complex contour in one process with process integration through 5-axis machining
· Reduce number of machine setups

SMOOTH MACHINING CONFIGURATION

Easily adjust machining time, finished surface smoothness and machining shape for improved productivity, even with complex curved surfaces.



Machining shape priority

■ Extensive machining applications with high-accuracy 5-axis machining



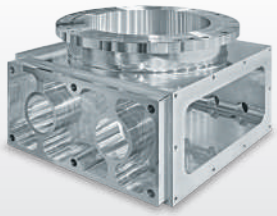
Automotive component
Control arm



Industrial machinery
Industrial camera body



Construction machinery component
Housing



Semiconductor production equipment
Vacuum chamber

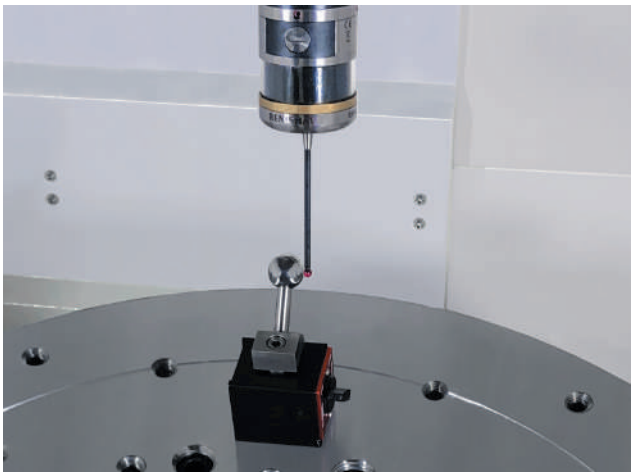


Aerospace component
Impeller

Higher Accuracy

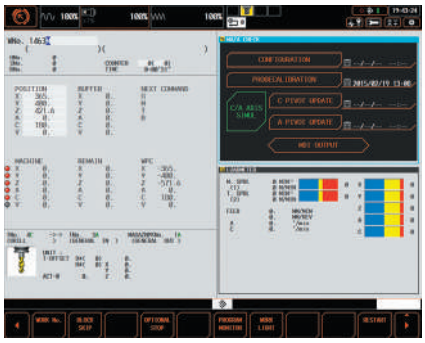
High-accuracy 5-axis calibration – MAZA-CHECK

Automatically measure and compensate for position misalignment and incline of the rotary axes for high-accuracy 5-axis machining. This applies to the centers of rotation of both the C and B axes.

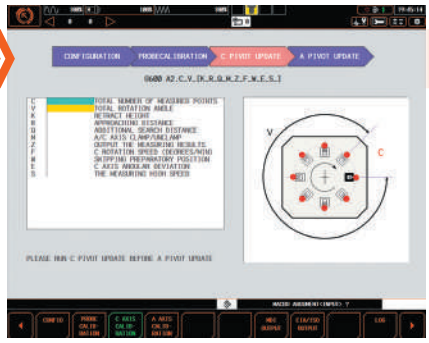


Wireless touch probe RMP600 (optional equipment)

Measurement item selection



Measurement information setting



Automatic measurement program generation



Convenient screen display assists in measurement operation.

Ai Thermal Shield

For even-higher machining accuracy, new algorithms automatically determine and apply compensation according to temperature changes.



DBB (test results)

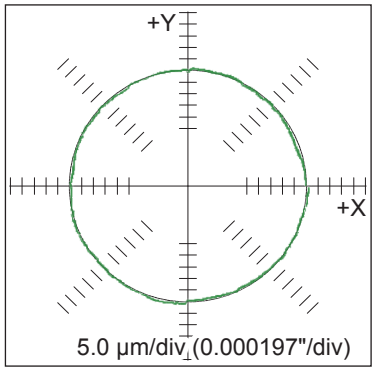
X-Y plane measured results

3.0 µm (CW) (0.00012")

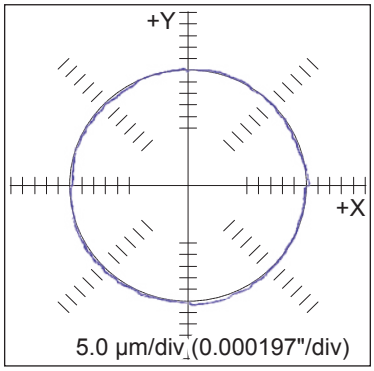
2.7 µm (CCW) (0.00011")

Machine	VARIAXIS i-700 NEO
Diameter	100 mm (3.94")
Feedrate	560 mm/min (22 IPM)

3.0 µm (CW) (0.00012")



2.7 µm (CCW) (0.00011")



Positioning accuracy and repeatability (test results)

Mazak precision results (ISO)

Positioning accuracy	X axis	1.24 µm (0.000049")
	Y axis	2.38 µm (0.000094")
	Z axis	1.12 µm (0.000044")

Positioning repeatability	X axis	0.86 µm (0.000034")
	Y axis	1.36 µm (0.000054")
	Z axis	1.02 µm (0.000040")

Mazak precision results (previous JIS)

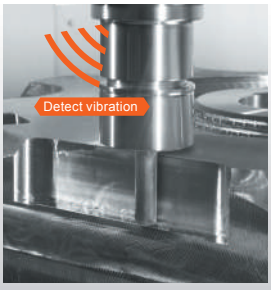
Positioning accuracy	X axis	± 0.70 µm (±0.000028")
	Y axis	± 1.01 µm (±0.000040")
	Z axis	± 0.89 µm (±0.000035")

Note: The inspection is conducted according to ISO and previous JIS on a recommended foundation with room temperature controlled to 22°C±1°C after the machine has reached operating temperature.

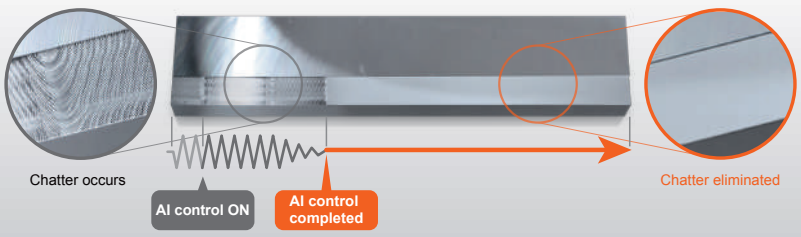
Smooth Ai Spindle

OPTION

SMOOTH AI SPINDLE



The VARIAXIS i-700 NEO uses AI to detect milling spindle vibration and adjust machining conditions automatically to produce unsurpassed surface finishes and high productivity. With AI, even a less-skilled operator can make adjustments easily in a short time.

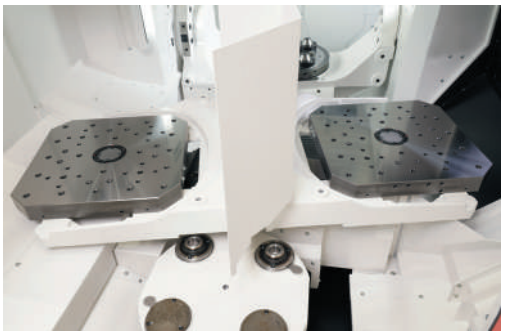


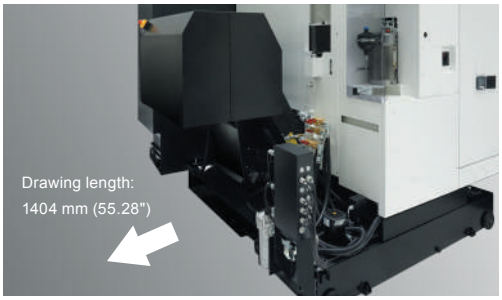
Automation

2-pallet changer

OPTION

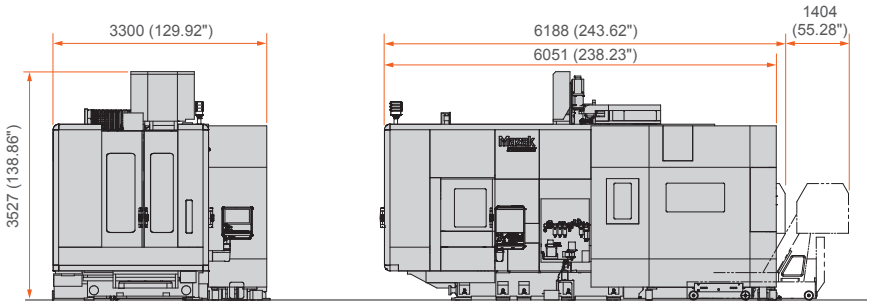






For higher productivity, set up the next workpiece during machining of the current workpiece. The 2-pallet changer offers a compact design and is suitable for mass production. Reduced length to pull out the rear conveyor saves space in the maintenance area.

Pallet size	□500 mm (□19.69")
Max. workpiece size	ø730 mm × 500 mm (ø28.74" × 19.69")
Max. load	600 kg (1323 lbs)



Dimensions of 80-tool magazine

Unit: mm (inch)

MPP (MULTI PALLET POOL)

OPTION

This compact multiple pallet stocker system is designed for high productivity with small lots of a wide variety of parts. 6, 12 and 18-pallet storage capacities are available after initial installation.
Pallet size: □500 mm (□19.69")



PALLETECH SYSTEM

OPTION

The PALLETECH system offers the highest flexibility, with a wide range of configurations to meet individual production demands, and can integrate the VARIAXIS i-700 NEO with other machines, such as horizontal machining centers. The system enables long-term automatic operation and improved output.
Pallet size: □500 mm (□19.69")



PALLETECH with Horizontal Machining Center

Preparation for hydraulic fixtures

OPTION

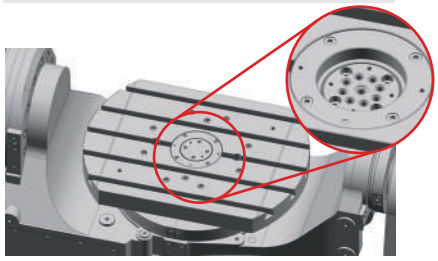
Continuous power is supplied through the pallet for hydraulic fixtures. Pneumatic fixtures also are available.

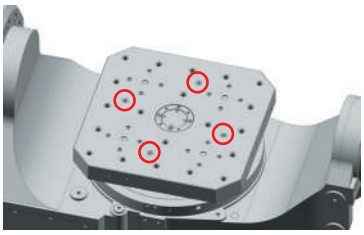
Maximum number of ports: 9 (single table)

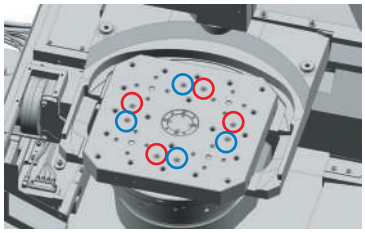
· 4 ports inside the machine (2-pallet changer)

· 8 ports on workpiece setup station (2-pallet changer)

Single table (9 ports)	2-pallet changer (4 ports inside the machine)	2-pallet changer (8 ports on workpiece setup station)



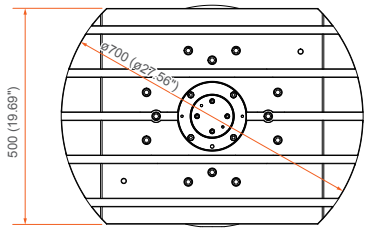




○ Hydraulic pressure supply port (retain continuously) ○ Hydraulic pressure supply port (retain at only setup station)

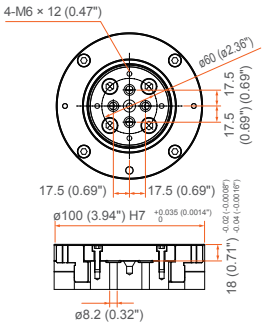
■Single table

Hydraulic fixture dimensions

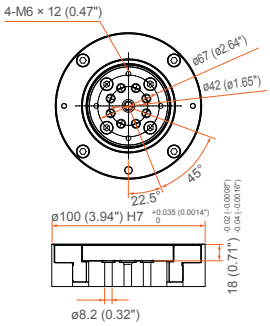


Details

4 ports

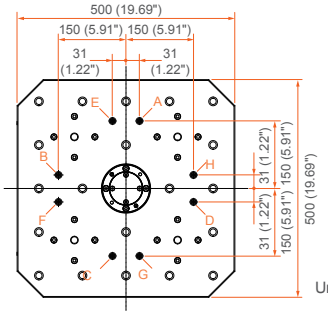


9 ports



■2-pallet changer

Hydraulic fixture dimensions



Unit: mm (inch)

Compact tool magazine with large storage capacity

OPTION

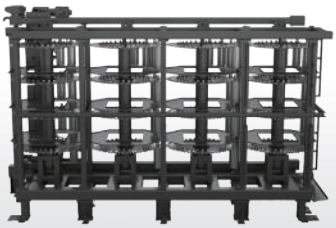
The compact multiple drum tool magazine with large storage capacity meets the requirements for small-lot machining of a wide variety of workpieces. Tools load automatically from the multiple-drum tool magazine to the magazine next to the machining area. The new shifter mechanism reduces tool waiting time and improves productivity by positioning the tool to be used after the next tool in advance. Select the tool magazine size that best meets your production requirements.



Shown with optional equipment



265-tool drum magazine



Store up to a maximum of 505 tools

Tool storage capacity

#40	205, 265, 325, 385, 445, 505



■ Magazine operation panel

Load/unload tools and edit tool data to reduce the time required for tool setup.

Ergonomics – Setup Support

Design focus on ergonomics provides unsurpassed ease of operation

Excellent accessibility

The operator has excellent access to the table from the front of the machine for convenient workpiece loading/unloading and machine setup.



Convenient loading by crane

The VARIAXIS i-700 NEO has unsurpassed access to the machine table for convenient workpiece loading/unloading. An overhead crane can be easily used for the loading/unloading of heavy workpieces and fixtures thanks to the automatic retractable top cover.



Maintenance area

Items that require frequent access for machine maintenance are arranged in one central location.



Setup support functions for high-accuracy machining

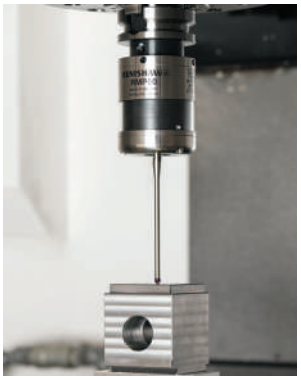
Tool-length measurement

Tool-length measurement and tool-breakage detection

Tool length is measured and registered automatically in the CNC system. Tool breakage can be detected during automatic operation.



Coordinate value/workpiece measurement



Touch sensor RMP60
(Mazak monitoring system B)

OPTION

A touch sensor mounted in the machine spindle probes the workpiece to shift coordinate values automatically.

SMOOTH OMM*

OPTION

Move the touch probe manually to a measurement point and make a measurement program after the point is registered. Use measurement results to update of work coordinates and tool compensation automatically. Additionally, measure geometric tolerances of workpiece features.



*All functions available for a free 120-day trial period.

Coolant – Chip Disposal

SMOOTH SET AND INSPECT* OPTION

Easy make inspection programs. Automatically update work coordinates and tool compensation using measurement results.



*Optional Mazak API is required.

Coolant

Workpiece washing coolant OPTION

Discharge a large volume of coolant from nozzles to remove machined chips efficiently from the workpiece and fixture. This option is effective for machines equipped with a pallet changer or robot to minimize the accumulation of machined chips during automatic operation.



Flood coolant (standard)

Coolant discharges from nozzles on the spindle housing to cool the workpiece and remove chips.

Coolant through spindle OPTION

For lower tool tip temperatures, improved chip-control and lubrication, coolant feeds to the tool tip by passages through the tool. 0.5 MPa (73 PSI) and 1.5 MPa (218 PSI) pump pressure specifications are available as options.

SUPERFLOW coolant system OPTION

The SUPERFLOW coolant system features improved chip-control and lubrication, along with lower tool-tip temperatures.

- High-performance cyclone filter with minimum maintenance requirements
- Easily set coolant pressure by M-code [pressure range from 0 to 7 MPa (0 to 1015 psi)]



Coolant temperature control OPTION

Control coolant temperature to prevent heat displacement for higher machining accuracy.

Mist collector OPTION

Remove coolant mist generated by machining from the machining area to maintain a safe and clean working environment.

Chip disposal

Chip conveyor (hinge) OPTION

Chips are removed by hinge-plate belt and discharged from the side of the machine. Very suitable for curly shaped steel chips from 30 mm (1.18") ~ 150 mm (5.91") long.

Chip conveyor (ConSep 2000II WS) OPTION

Chip conveyor with internal coolant filtration removes small as well as long, curly chips effectively.

Innovation for higher productivity

New MAZATROL SmoothCNC system

MAZATROL SMOOTH Ai

Designed to provide unsurpassed productivity through even faster and higher-precision control while it elevates your production to the next level with AI and digital twin technology

Ease of operation

· Touch screen operation – similar to using your smartphone and tablet
· MAZATROL Smooth graphical user interface for unsurpassed ease of operation

High-performance programming

Advanced programming and simulation provide extensive support at every step of the process, from programming to machining

AI

Vibration control and heat displacement compensation with AI ensure improved machining surfaces as well as stable high-accuracy machining

Digital Twin

Digital Twin - Create virtual machines on an office PC for efficient setup and further enhanced productivity

Automation

Equipped with support functions for easy configuration of automated systems



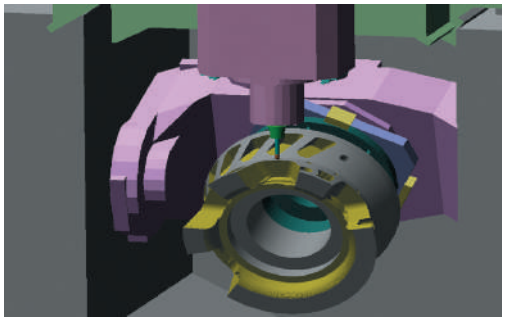
Shown with optional MAZATROL SmoothAi dual monitor

Innovative functions improve productivity from programming to machining

High-speed machining simulation

Virtual machining

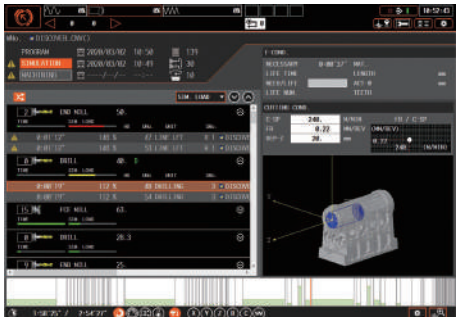
High-speed machining simulation with 3D models performed on the CNC display to check programs and interference accurately.



Test cutting (machining analysis, optimization)

Cutting adviser

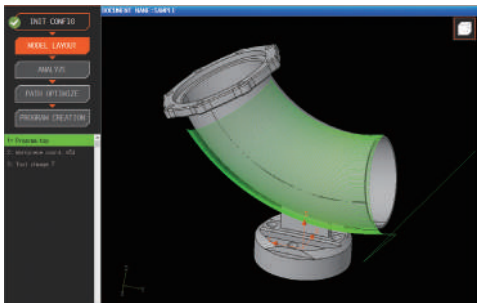
Optimize machining conditions through simulation and visualization of machining processes from accumulated machining results.



Test cutting (machining analysis, optimization)

SMC PLUS OPTION

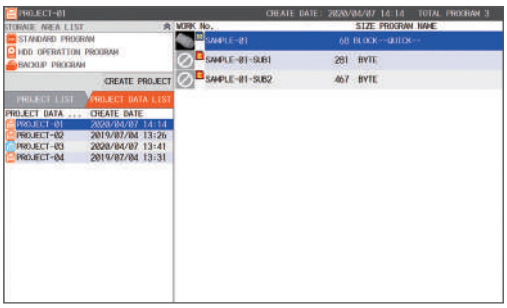
Compares the cutting point of the EIA program with the 3D model to change the correct command point for correct tool paths and high-accuracy finished surfaces.



Setup

Project function

Manage data required to execute machining as project data. Export project data to the machine, drastically reducing data input time.



Digital twin (software) for high productivity OPTION

Efficient machining setup in an office utilizing digital twin technology

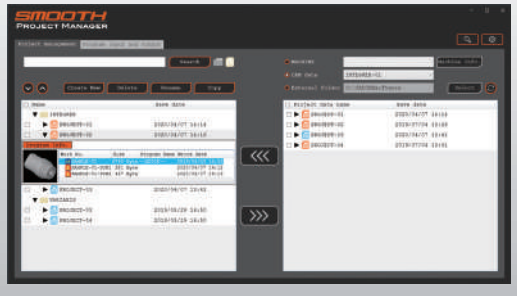
SMOOTH CAM Ai

Make and edit programs, and perform simulation and analysis, on SMOOTH CAM Ai for multiple machines. Send this data to machines in the factory for fast and accurate setups.



SMOOTH Project Manager

Manage project data, and synchronize it between machines in the factory and office PCs.



Environmentally Friendly

Decarbonization-related technology for Mazak products

We are committed to developing technology for decarbonization through productivity improvements. Mazak promotes the following three comprehensive approaches to the reduction of our environmental impact and toward achieving a sustainable society.

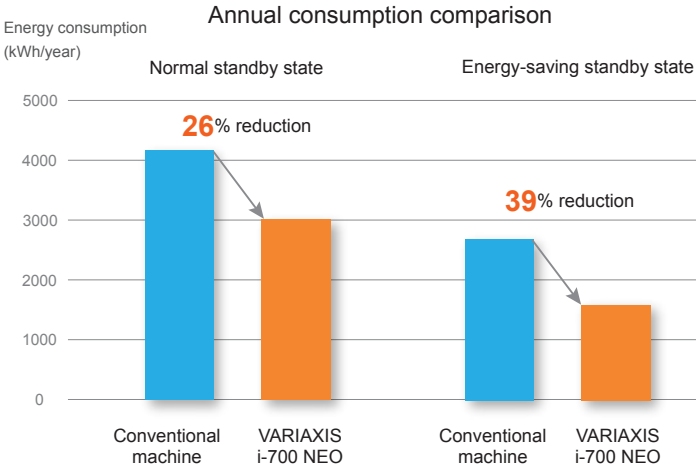
Mazak Go GREEN



Reduced energy consumption

Hydraulic units use an accumulator as well as an inverter-type chiller unit for considerable reduction of energy consumption in standby mode.

Annual energy consumption:
Up to **39** % reduction



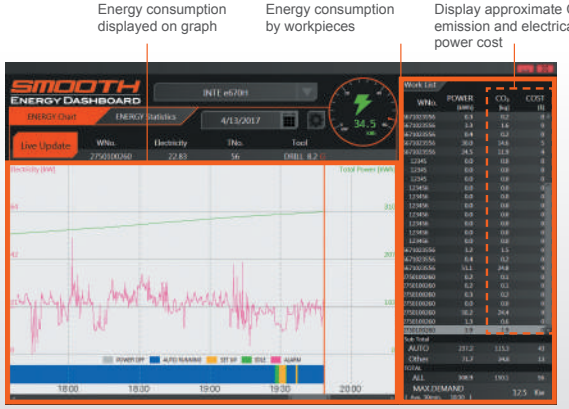
Energy Dashboard OPTION

Convenient visual monitoring and analys of energy consumption.

Process screen display

· Total energy consumption (of workpiece in operation)
· Current energy consumption





Standard and Optional Equipment

●: Standard ○: Option

		VARIAXIS i-700 NEO
Table	ø700 mm × 500 mm (ø27.56" × 19.69") T-slot table	●
Machine	Work light	●
	Ai THERMAL SHIELD	●
	15000 rpm high-torque spindle	○
	18000 rpm	●
	20000 rpm	○
	20000 rpm high-output spindle	○
Automation	Automatic tool length measurement & tool breakage detection (RENISHAW PRIMO LTS)	●
	Laser-type tool-length measurement	○
	30-tool magazine	●
	40-tool magazine	○
	80-tool magazine	○
	120-tool magazine	○
	Workpiece measurement printout (printer not included)	○
	Absolute positioning system	●
	Remote manual pulse generator	○
	Automatic front door	○
	Automatic power ON/OFF + warm-up operation	●
	Operation end buzzer	○
	Status light (3 colors)	○
	2-pallet changer	○
	Wireless touch probe RMP600	○
	Preparation for hydraulic fixtures	○
Safety equipment	Operator door interlock	●
High accuracy	MAZA-CHECK (software, reference sphere)*1	●
	Ball screw core cooling (X-, Y-, Z-axis)	●
	Scale feedback (X-, Y-, Z-axis)	○
	Scale feedback (A-, C-axis)	○
	Coolant temperature control	○
Coolant/Chip disposal	Coolant system	●
	Workpiece air blast	○
	Oil skimmer	○
	Mist collector	○
	Hand held coolant nozzle*2	○
	Coolant through spindle system 0.5 MPa (73 PSI)	○
	Workpiece washing coolant	○
	High-pressure coolant through spindle 1.5 MPa (218 PSI)	○
	SUPERFLOW coolant system 0 ~ 7.0 MPa (0 ~ 1015 PSI)	○
	Flood coolant 0.44 MPa (64 PSI) 30 L/min (1.06 ft^3/min)	●
	Coolant through spindle pressure switch	○
	Top cover	●
	Chip conveyor (hinge) rear discharge	○
	Chip conveyor (ConSep II WS) rear discharge for single machine	○
	Chip conveyor (ConSep 2000) rear discharge for 2-pallet changer	○
	Chip bucket (swing type)	○
	Chip bucket (fixed type)	○
Tooling	Pull stud bolt	○
Miscellaneous	Manual	●
	Additional manuals	○
	MAZATROL SmoothAi dual monitor	○

*1 MAZA-CHECK requires optional RMP600 wireless touch probe.
*2 Not available with 2-pallet changer

Standard Machine Specifications

		VARIAXIS i-700 NEO
Stroke	X-axis travel (spindle head left/right)	630 mm (24.80")
	Y-axis travel (spindle head back/forth)	1100 mm (43.31")
	Z-axis travel (spindle head up/down)	600 mm (23.62")
	A-axis travel (table tilt)	-120° ~ + 30°
	C-axis travel (table rotation)	±360°
Table	Distance from table top to spindle nose	100 mm ~ 700 mm (3.94" ~ 27.56") (table horizontal)
	Table size	ø700 mm (ø27.56") × Width 500 mm (19.69")
	Maximum workpiece size	ø850 mm × 500 mm (ø33.46" × 19.69")
	Table load capacity (evenly distributed)	700 kg (1543 lbs)
	Table surface configuration	18 mm (0.71") T-slot × 5 100 mm (3.94") pitch
Milling spindle	Maximum spindle speed	18000 rpm
	Spindle taper	7/24 taper No. 40
	Spindle bearing I.D.	ø80 mm (ø3.15")
Feedrate	Rapid traverse rate (X, Y, Z axis)	60 m/min, 60 m/min, 56 m/min (2362 IPM, 2362 IPM, 2205 IPM)
	Rapid traverse rate (A, C axis)	11520°/min, 18000°/min
	Cutting feedrate*1 (X, Y, Z axis)	56 m/min (2205 IPM)
	Cutting feedrate*1 (A, C axis)	9000°/min
	Simultaneously controlled axes	5
	Min. indexing increment (A, C axis)	0.0001°
	Indexing time (A axis; clamp/unclamp time not included)	0.66 sec./90°
Automatic tool changer	Tool shank configuration	BT-40
	Tool storage capacity	30
	Maximum tool diameter/length (from gauge line)/weight	ø90 mm/360 mm/8 kg (ø3.54"/14.17"/18 lbs)
	Maximum tool diameter with adjacent tool pockets empty	ø130 mm (ø5.12")
	Tool selection method	Random selection, shortest path (fixed pocket assignment)
	Tool change time (chip-to-chip)	3.6 sec.
Motors	Spindle motor (40% ED (30-min. rating)/cont. rating)	30 kW (40 HP)/26 kW (35 HP)
	Electrical power requirement (40% ED (30-min. rating)/cont. rating)	60.83 kVA/55.26 kVA
	Air supply	360 NL/min (12.71 ft^3/min)
Coolant	Coolant tank capacity	500 L (132 gal)
Machine size	Height	3455 mm (136.02")
	Width	2400 mm (94.49")
	Length*2	4455 mm (175.39")
	Machine weight*3	15000 kg (33,069 lbs)

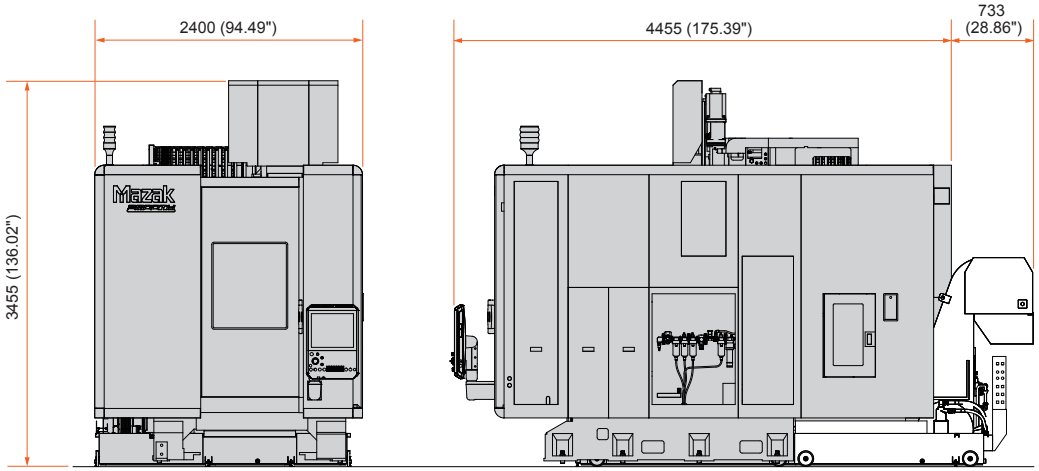
*1 Limited feedrate with continuous axis movement

*2 Chip conveyor and coolant tank not included

*3 Chip conveyor not included

Machine Dimensions

Unit: mm (inch)



* Shown with optional ConSep II WS chip conveyor (rear discharge)

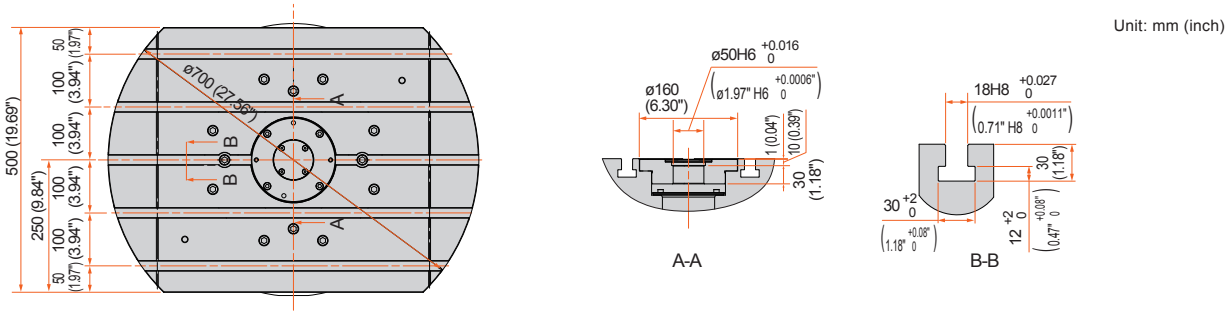
MAZATROL SmoothAi Specifications

	MAZATROL	EIA
Number of controlled axes	Simultaneous 2 ~ 4 axes	Simultaneous 5 axes
Mimimum input increment	0.0001 mm, 0.00001", 0.0001°	
High-speed, high-precision control	Shape compensation, Smooth corner control, Rapid traverse overlap, Rotary axis shape compensation	Shape compensation, Smooth corner control, Rapid traverse overlap, Rotary axis shape compensation, High-speed machining mode, High-speed smoothing control, 5-axis spline*, Path error suppression control*, Tool path optimization*
Interpolation	Positioning (interpolation), Positioning (non-interpolation), Linear interpolation, Circular interpolation, Cylindrical interpolation, Polar coordinate interpolation, Synchronous tapping*	Positioning (interpolation), Positioning (non-interpolation), Linear interpolation, Circular interpolation, Spiral interpolation, Helical interpolation, Cylindrical interpolation*, Involute interpolation*, Fine spline interpolation*, NURBS interpolation*, Polar coordinate interpolation*, Synchronous tapping*
Feedrate	Rapid traverse, Cutting feed, Cutting feed (per minute), Cutting feed (per revolution), Dwell (time/rotation), Rapid traverse override, Cutting feed override, G0 speed variable control, Feedrate limitation, Variable acceleration control, G0 slope constant*	Rapid traverse, Cutting feed, Cutting feed (per minute), Cutting feed (per revolution), Inverse time feed, Dwell (time/rotation), Rapid traverse override, Cutting feed override, G0 speed variable control, Feedrate limitation, Time constant changing for G1, Variable acceleration control, G0 slope constant*
Program registration	Number of programs: 256 (Standard)/960 (Max.), Program memory: 2MB, Program memory expansion: 8MB*, Program memory expansion: 32MB*	
Control display	Display: 19" touch panel, Resolution: SXGA	
Spindle function	S code output, Spindle speed limitation, Spindle speed override, Spindle speed reaching detection, Multiple position orient, Constant surface speed, Spindle speed command with decimal digits, Synchronized spindle control, Spindle speed range setting	
Tool functions	Number of tool offset: 4000; T code output for tool number, Tool life monitoring (time), Tool life monitoring (number of machined workpieces)	Number of tool offset: 4000; T code output for tool number, T code output for group number, Tool life monitoring (time), Tool life monitoring (number of machined workpieces)
Miscellaneous functions	M-code output, Simultaneous output of multiple M codes	
Tool offset functions	Tool position offset, Tool length offset, Tool diameter/tool nose R offset, Tool wear offset	
Coordinate system	Machine coordinate system, Work coordinate system, Local coordinate system, Additional work coordinates (300 set)	
Machine functions	—	Rotary axis prefilter, Tilted working plane, Hobbing II*, Shaping function*, Dynamic compensation II*, Tool center point control*, Tool radius compensation for 5-axis machining*, Workpiece positioning error compensation*
Machine compensation	Backlash compensation, Pitch error compensation, Geometric deviation compensation, Ai Thermal shield, Volumetric compensation*	
Protection functions	Emergency stop, Interlock, Pre-move stroke check, SAFETY SHIELD (manual mode), SAFETY SHIELD (automatic mode), VOICE ADVISER	
Automatic operation mode	Memory operation	Memory operation, Tape operation, MDI operation, Ethernet operation*
Automatic operation control	Optional stop, Dry run, Manual handle interruption, MDI interruption, TPS, Restart, Single process, Machine lock	Optional block skip, Optional stop, Dry run, Manual handle interruption, MDI interruption, TPS, Restart, Restart 2, Collation stop, Machine lock
Manual measuring function	Tool length teach, Touch sensor coordinates measurement, Workpiece offset measurement, WPC coordinate measurement, Measurement on machine	Tool length teach, Tool offset teach, Touch sensor coordinates measurement, Workpiece offset measurement, Measurement on machine
Automatic measuring function	WPC coordinate measurement, Automatic tool length measurement, Sensor calibration, Tool breakage detection, External tool breakage detection*	Automatic tool length measurement, Sensor calibration, Tool breakage detection, External tool breakage detection*
MDI measurement	Semi-automatic tool-length measurement, Full-automatic tool-length measurement, Coordinate measurement	
Peripheral network	PROFIBUS-DP*, EtherNet/IP*, CC-Link*, CC-Link IE Field Basic	
Memory	SD card interface, USB	
Ethernet	10M/100M/1Gbps	
Security function	Security software	

* Option

Table Dimensions

Unit: mm (inch)



VARIAXIS i-700 NEO

Mazak

YAMAZAKI MAZAK CORPORATION
1-131 Takeda, Oguchi-cho, Niwa-gun, Aichi-Pref., Japan
TEL: +(81)587-95-1131
www.mazak.com

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