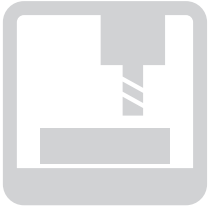




MEGA TURN 1600

S E R I E S



1600

1600M

Advanced features of the MAZATROL SmoothG CNC

Touch screen operation similar to your smartphone/tablet

PC with Windows® 8 embedded OS

Fastest CNC in the world with latest hardware and software for unprecedented speed and precision

Easy conversational programming of multiple-surface machining

Smooth graphical user interface and support functions for unsurpassed ease of operation

MTConnect® ready for convenient networking

Easily configure machine parameters for different workpiece materials and application requirements

Windows is a registered trademark of Microsoft Corporation in the United States and other countries.

MTConnect is a registered trademark of AMT in the United States and other countries.



MAZATROL SMOOTHG

Standard CNC system varies by market.

Designed for the heavy-duty machining of large workpieces



- Max. torque 10040 N • m (7405 ft • lbs)
- Max. output (40% ED/30-min. rating) 45 kW (60 HP)
- Max. machining diameter ø1650 mm (ø64.96")
- Max. machining height 900 mm*¹ (35.43")
*¹ With ø1250 mm (ø49.21") table
- Max. weight capacity 5000 kg*² (11023 lbs)
*² Including chuck weight

MEGA TURN 1600M shown

INTELLIGENT MACHINE®
Innovative support for operators

ergonomics

Ease of operation

eco-friendly

Designed with environmental considerations

- Heavy cast or forged workpieces are powerfully machined with the high-rigidity 12-position drum turret and high-torque/high output spindle
- Optional ATC prevents workpiece and tool interference
- **MEGA TURN 1600M** performs milling on workpiece face and outer diameter



MEGA TURN 1600 (MAZATROL SmoothC)
Shown with optional status light, ATC and chip conveyor

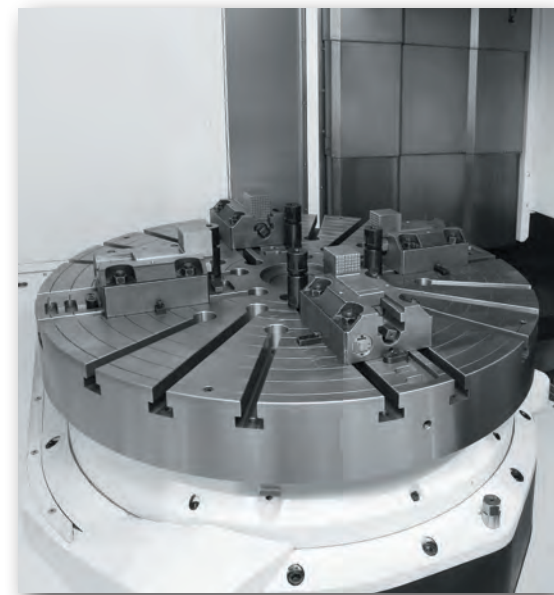
New generation vertical turning center

MEGA TURN 1600, 1600M

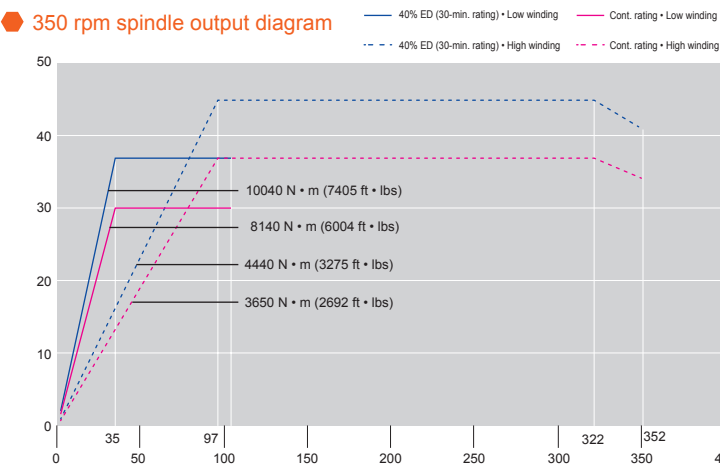
Higher Productivity

High-torque spindle and high-rigidity construction

Output: 45 kW (60 HP), Max. torque: 10040 N • m (7405 ft • lbs) (40% ED/30-min. rating),
Speed: 2 ~ 350 rpm



Gear drive without belts provides high-efficiency machining of large-diameter, difficult-to-cut workpiece materials over extended periods of operation.

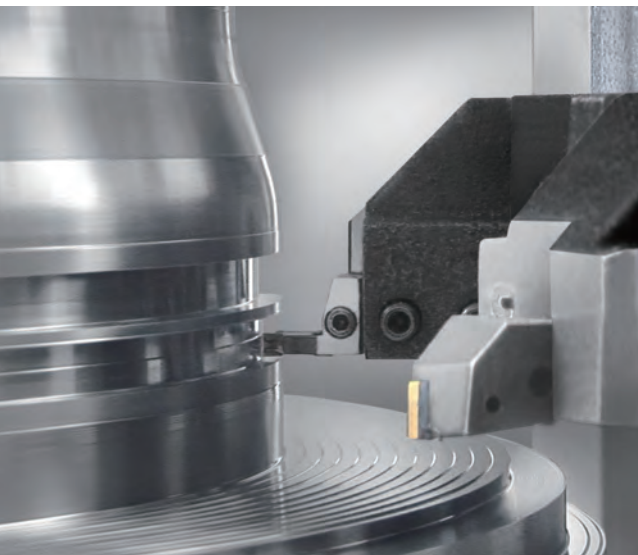


Powerful machining of large workpieces thanks to high-torque spindle and high-rigidity construction
Example: $\varnothing 950 \times 500H$ ($\varnothing 37.40'' \times H19.69''$) • S45C

Heavy duty O.D. turning
Cutting speed: 150 m/min (492 SFM) (Spindle speed = 100 rpm)
DOC: 10 mm (0.39'') Feedrate: 0.9 mm/rev (0.035 IPR)



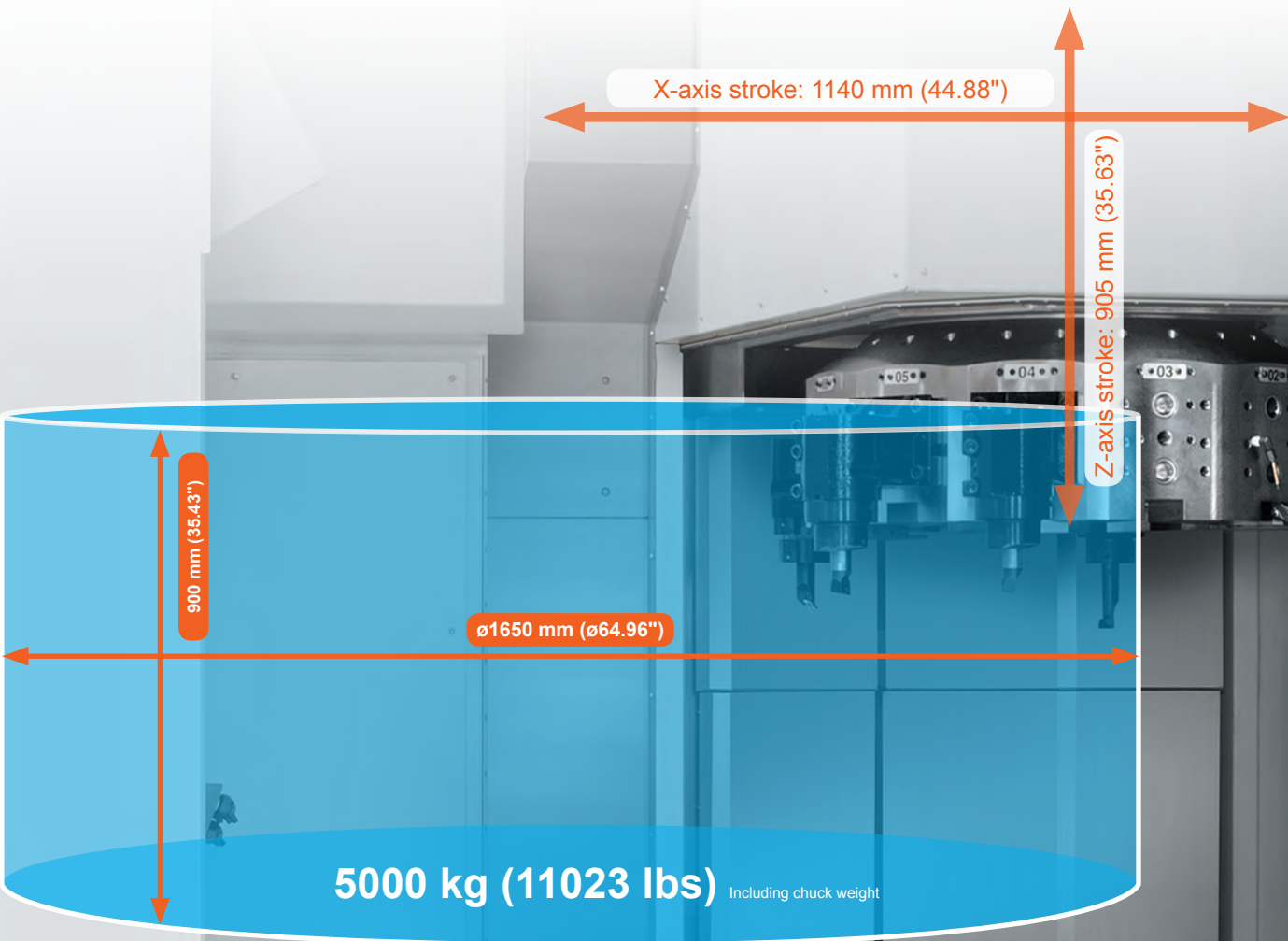
Groove turning
Cutting speed: 180 m/min (591 SFM) (Spindle speed = 62 rpm)
DOC: 10 mm (0.39'') Feedrate: 0.3 mm/rev (0.012 IPR)



Above results for reference only.

Unique design for large machining area

The MEGA TURN traveling column design with no cross rail interference provides a larger machining area than that of comparable machines.



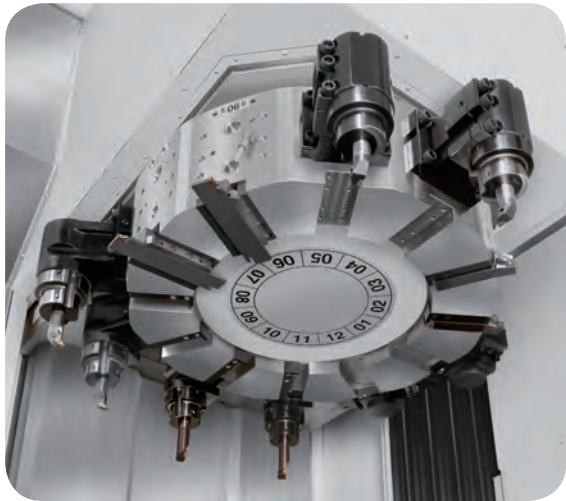
MEGA TURN 1600 (with $\varnothing 1250 \text{ mm } (\varnothing 49.21'')$ face plate) shown

Higher Productivity

12-position drum turret for heavy-duty machining

12-position non-lift indexing turret

MEGA TURN 1600



12 bolt-on toolholders can be mounted on the drum turret. The turret is rigidly clamped on the $\varnothing 330$ mm (12.99") hi-index coupling by 195.5 kN (43950 lbf) of force to ensure stable cutting accuracy over extended periods of operation.

Number of tools	12 (bolt-on tool holder)
Turning and facing tool shank size	$\square 32$ mm x 170 mm ($\square 1.25$ x 6.69")
Boring bar shank diameter	$\varnothing 50$ mm ($\varnothing 2.5$ ")
Tool selection method	Random selection, shortest path Manual
Turret indexing time	0.5 sec./1 step

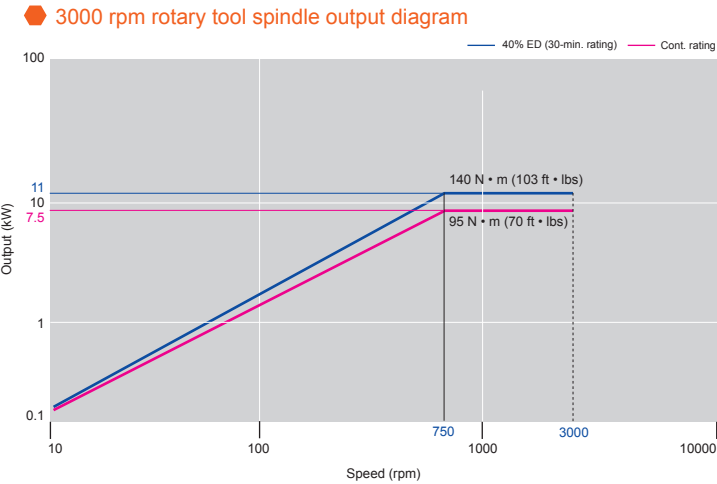
12-position turret with rotary tool spindle

MEGA TURN 1600M

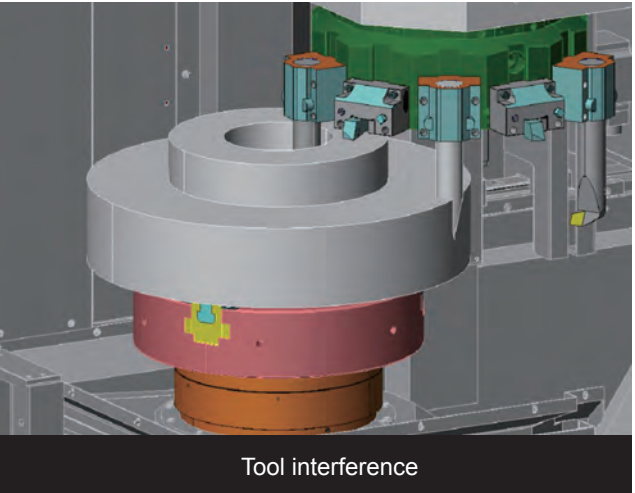
Drill: $\varnothing 25$ mm ($\varnothing 0.98$ "), end mill: $\varnothing 25$ mm (0.98"), tap: M24



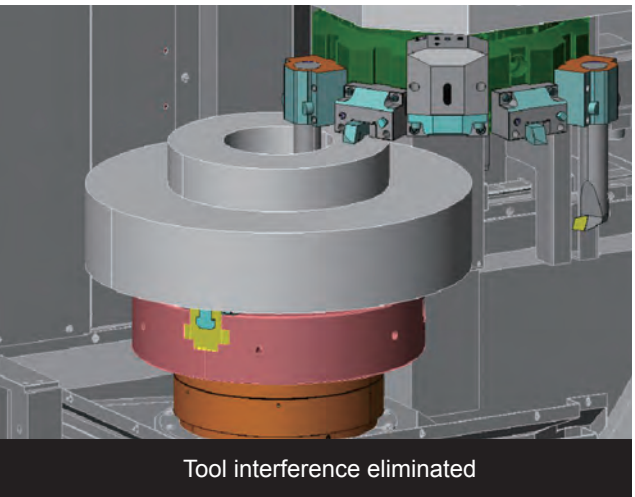
Rotary tools are driven by an 11 kW (40% ED/30-min. rating) motor with a top speed of 3000 rpm for performance comparable to a machining center. As a result, turning and milling operations can be completed on large workpieces in a single setup for substantial reductions of in-process time.



12-position drum turret for heavy-duty machining



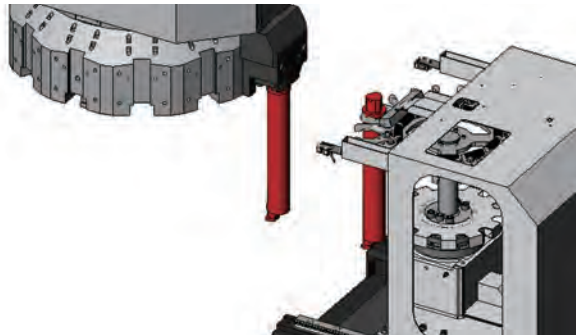
Tool interference



Tool interference eliminated

The system eliminates interference with adjacent tools for extremely convenient tool setup. By increasing the number of tools that can be stored, permanent set tooling can be established to meet the requirements of a wide variety of workpieces. Higher productivity is realized by minimizing tool setup when changing workpieces.

Automatic tool changer



The boring tools can be stored automatically in the adjacent tool magazine. (Turning tools only)

Tool shank CAPTO C8 ATC tool holder

Max. tool length:
450 mm (17.72")

12 tools can be stored in the magazine.



Ergonomics

Ergonomic design for convenient operation



630 mm (24.80")

Wide door opening

The wide overhead door opening provides convenient workpiece loading/unloading when using a crane.

Large automatic door

The large front door automatically opens and closes for ease of operation.

Adjustable CNC touch panel

MAZATROL *SMOOTHG*

Touch panel tilts to the optimum position for any operator's height to ensure ease of operation.

Convenient access

The distance between floor to top of bed is 630 mm (24.8") for convenient access to machining area.

Convenient access

The tool eye retracts from the machining area when not in use. This allows tools to be measured with a large-diameter workpiece on the machine table.

Rotating operation panel

MAZATROL *SMOOTHG*

The operation panel easily rotates to each operator's preferred position.



Operation panel width 435 mm (17.13")

Operation panel height 563 mm (22.17")

Center of gravity height 1000 mm (39.37")

MEGA TURN 1600M shown

Intelligent Machine

Yamazaki Mazak has developed a variety of functions for improved productivity, high-accuracy machining and operator support. A variety of unique technologies incorporates the expertise of experienced machine operators to realize unsurpassed productivity and higher-accuracy machining.



Advanced Intelligent+ Functions

A variety of Intelligent+ Functions provide incomparable operator support for exceptional ease of operation and optimum machine efficiency.

Machining

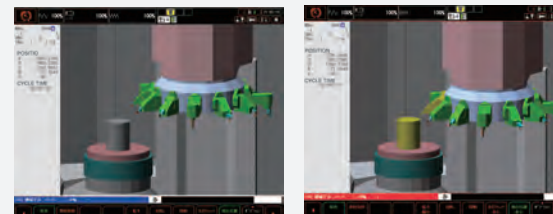
ITS+ Heat Displacement Control
INTELLIGENT THERMAL SHIELD
Unique Mazak heat displacement compensation system

VAC Variable Acceleration Control Function
VARIABLE ACCELERATION CONTROL (1600M only)
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.

SCC Seamless Corner Control
SMOOTH CORNER CONTROL
Improved finished surfaces and reduced cycle times by optimized acceleration/deceleration when machining corners.

Setup


ISS+ Machine Interference Prevention
INTELLIGENT SAFETY SHIELD
For safe operation



MVA+ Verbal Message System
MAZAK VOICE ADVISER
Verbal support for machine setup and safe conditions confirmation (SmoothG only)

Maintenance

IMS+ Comprehensive Maintenance Monitor
INTELLIGENT MAINTENANCE SUPPORT
Useful information for improved preventive maintenance to eliminate unexpected machine downtime



MAINTENANCE	DAILY CHECK	WEEK CHECK	MONTH CHECK	QUARTER CHECK	HALF YEAR CHECK	YEAR CHECK	CORNER CHECK	LAST WORKLOG
1. OIL SPRAY	ON	ON	ON	ON	ON	ON	ON	2014.10.17
2. OIL SPRAY	ON	ON	ON	ON	ON	ON	ON	2014.10.17
3. OIL SPRAY	ON	ON	ON	ON	ON	ON	ON	2014.10.17
4. OIL SPRAY	ON	ON	ON	ON	ON	ON	ON	2014.10.17
5. OIL SPRAY	ON	ON	ON	ON	ON	ON	ON	2014.10.17
6. OIL SPRAY	ON	ON	ON	ON	ON	ON	ON	2014.10.17
7. OIL SPRAY	ON	ON	ON	ON	ON	ON	ON	2014.10.17
8. OIL SPRAY	ON	ON	ON	ON	ON	ON	ON	2014.10.17
9. OIL SPRAY	ON	ON	ON	ON	ON	ON	ON	2014.10.17
10. OIL SPRAY	ON	ON	ON	ON	ON	ON	ON	2014.10.17
11. OIL SPRAY	ON	ON	ON	ON	ON	ON	ON	2014.10.17
12. OIL SPRAY	ON	ON	ON	ON	ON	ON	ON	2014.10.17
13. OIL SPRAY	ON	ON	ON	ON	ON	ON	ON	2014.10.17
14. OIL SPRAY	ON	ON	ON	ON	ON	ON	ON	2014.10.17
15. OIL SPRAY	ON	ON	ON	ON	ON	ON	ON	2014.10.17

MAZATROL CNC System

The seventh generation MAZATROL CNC system –
the core of SMOOTH TECHNOLOGY

MAZATROL *SMOOTHG*

From setup to machining, designed for
unsurpassed ease of operation



19" touch panel
Touch panel operation
similar to your smartphone or tablet

USB port
Interface for peripheral equipment
USB 1.0+2.0

SD card slot
Transfer programs and tool data

Operation switches
Large switches change color from
orange to green when activated

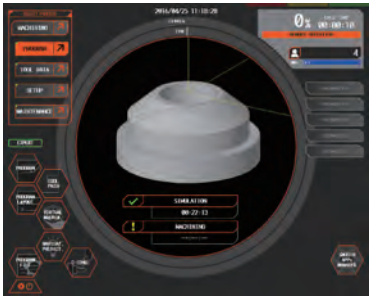
Dials
Select frequently used axes and
change feedrates

Interface with touch operation ensures convenient data processing,
programming, confirmation, editing and tool data registration

Process home screens

Five different home screens
display the appropriate data
in an easy-to-understand
manner. Touch icons in each
process display for additional
screen displays.

Programming



Tool data



Setup



Machining



Maintenance



Pop-up windows

Easily input/select values and items on pop-up windows.

Side menu



List menu



Screen keyboard



Ease of Programming

Programming screen links tool path, workpiece shape and programming to save time

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 displayed immediately so an operator can check for any programming error quickly and easily.

UNIT	PART	CPT-X	CPT-Z	FIN-X	FIN-Z
BAR	OUT	20.	0.	0.	0.

SNo.	TOOL	NOM.	No.	PAT.	DEP-1	DEP-2/NUM.	DEP-3	FIN-X	FIN-Z	C-SP	FR	M	M
R1	GENERAL	OUT	1.	A				0	0.3			100.	0.1

FIG	PTN	S-CH	SPT-X	SPT-Z	FPT-X	FPT-Z	F-CH/\$	R/th	Rgt
1	TPR		12.	0.	19.03	3.51			
2	TPR		19.03	3.51	19.03	9.			

UNIT	TURN POS X	TURN POS Y	TURN POS Z	ANGLE C	ANGLE A
5	INDEX	0.	0.	0.	0.

UNIT	SHIFT-X	SHIFT-Y	SHIFT-Z	SHIFT-C	SHIFT-A	COORD th
6	WPCSHIFT	0.	0.	0.	0.	0.

3D ASSIST

Import workpiece and coordinate data from a 3D CAD file to a MAZATROL program. No coordinate value inputs are required, which can reduce input errors and time required for program checking.

3D ASSIST

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

1	NO010	G28U000.
2	NO020 <th>G53.5</th>	G53.5
3	NO030 <th>T0101</th>	T0101
4	NO040 <th>G96G99G18.</th>	G96G99G18.
5	NO050 <th>M04S150.</th>	M04S150.
6	NO060 <th>G0X160.Z2.</th>	G0X160.Z2.
7	NO070 <th>G71U5.R1.</th>	G71U5.R1.
8	NO080 <th>G71P1000I40U4.W2.F0.25S150M04.</th>	G71P1000I40U4.W2.F0.25S150M04.
9	NO100 <th>G0X60.S200.</th>	G0X60.S200.
10	NO110 <th>G01Z-30.F0.1</th>	G01Z-30.F0.1
11	NO120 <th>G0X120.Z-60.R30.</th>	G0X120.Z-60.R30.
12	NO130 <th>G01W-40.</th>	G01W-40.
13	NO140 <th>X140.W-10.</th>	X140.W-10.
14	NO200 <th>G70P1000I40.</th>	G70P1000I40.
15	NO210 <th>G28U000M05.</th>	G28U000M05.
16	M1220 <th>M30.</th>	M30.

MAZATROL CNC System

MAZATROL *SMOOTHC*

Following traditional conversational MAZATROL programming, this system is designed for ease of operation with simplified key input operation and classic display style.



USB interface allows users to transfer program and tool data and connect peripheral equipment

SD card slot enables program and tool data transfer

Press menu keys under the display to go to other pages for program data input and editing

Home screen key goes to the home screen from any display

Compact keypad with unique design for ease of operation

Home screen

The home screen displays overall process status in an easy-to-understand manner.

Comprehensive status display on one screen

Machining

Axes in operation and load on motors

Programming

Simulation time and machining time

Tool data

Status of tool layout

Setup

Status of workpiece coordinate setting

Maintenance

Overview of the status of items that require maintenance



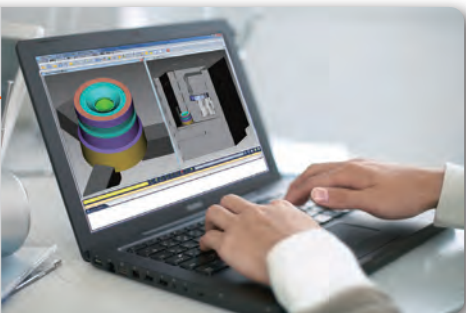
MAZATROL conversational programming

MAZATROL interactive programming uses conversational language to determine cutting conditions, M codes and G codes automatically. Even a novice operator can make programs quickly.



3D machine model

A 3D machine model is available to perform program interference checks with other CAD/CAM simulation software (MAZATROL SmoothG, MAZATROL SmoothC).



MAZATROL SmoothG Specifications

	MAZATROL	EIA
Number of controlled axes	Simultaneous 4 axes	
Minimum input increment	0.0001 mm, 0.00001 inch, 0.0001 deg	
High-speed, high-precision control	Shape of error designation, SMOOTH CORNER CONTROL, Rapid traverse overlap	
Interpolation	Positioning (linear interpolation), Positioning (independent interpolation), Linear interpolation, Circular interpolation, Cylindrical coordinate interpolation, Polar coordinate interpolation, Equal pitch threading, Re-Threading*, Override threading*, Override variable threading*, Synchronized milling spindle tapping*	Positioning (linear interpolation), Positioning (independent interpolation), Linear interpolation, Circular interpolation, Spiral interpolation, Helical interpolation, Equal pitch threading, Variable pitch threading, Threading (C axis interpolation type), Cylindrical coordinate interpolation*, NURBS interpolation*, Polar coordinate interpolation*, Re-Threading*, Override threading*, Override variable threading*, Synchronized milling spindle tapping*
Feedrate	Rapid traverse, Cutting feed, Cutting feed (per minute), Cutting feed (per revolution), Dwell (specified time, specified number of rotations), Rapid traverse override, Cutting feed override, GO speed variable control, Feedrate clamp, Variable acceleration/deceleration control, Constant control for GO tilting*	Rapid traverse, Cutting feed, Cutting feed (per minute), Cutting feed (per revolution), Inverse time feed, Dwell (specified time, specified number of rotations), Rapid traverse override, Cutting feed override, GO speed variable control, Feedrate clamp, Time constant changing for G1, Variable acceleration/deceleration control, Constant control for GO tilting*
Program registration	Max. number of programs: 960, Program storage: 2MB, Program storage expansion: 8MB*, Program storage expansion: 32MB*	
Control display	Display: 19" touch panel, Resolution: SXGA	
Spindle functions	S code output, Spindle speed clamp, Spindle speed override, Spindle speed reaching detection, Multiple position orient, Constant surface speed, Spindle speed command with decimal digits, Synchronized spindle control, Max. speed control for spindle	
Tool functions	Tool offset pairs: 4000, T code output for tool number, Tool life monitoring (time), Tool life monitoring (number of machined workpieces)	Tool offset pairs: 4000, T code output for tool number, Tool 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 nose shape offset, Tool wear offset, Fixed amount offset, Simple wear offset	
Coordinate system	Machine coordinate system, Work coordinate system, Local coordinate system, MAZATROL coordinate system, Additional work coordinates (300 set)	
Machine functions	—	Polygon cutting*, Hobbing*
Machine compensation	G0/G1 independent backlash compensation, Pitch error compensation	
Protection functions	Emergency stop, Interlock, Stroke check before traveling, Barrier, INTELLIGENT SAFETY SHIELD (manual mode), INTELLIGENT SAFETY SHIELD (automatic mode)*, MAZAK VOICE ADVISOR	
Automatic operation mode	Memory operation	Memory operation, Tape operation, MDI operation, Ethernet operation*
Automatic operation mode	Optional stop, Dry run, Automatic handle control, MDI control, TPS, Restart, Single process, Machine lock	Optional block skip, Optional stop, Dry run, Automatic handle control, MDI control, TPS, Restart, Restart 2, Collation stop, Machine lock
Manual measuring functions	Tool-setting data teach, Tool length and tip teach, Touch sensor coordinates measurements, Workpiece offset measurement, Tool eye measurement	Tool-setting data teach, Tool length and tip teach, Touch sensor coordinates measurement, Workpiece offset measurement, Tool eye measurement
Automatic measuring functions	Worpiece measurement, Sensor calibration, Tool eye auto tool measurement, Tool breakage detection	
Interface	PROFIBUS-DP*, Ethernet I/P*, CC-Link*	
Card interface	SD card interface, USB	
Ethernet	10M/100M/1Gbps	

*: Option

MAZATROL SmoothC Specifications

	MAZATROL	EIA
Number of controlled axes	Simultaneous 4 axes	
Minimum input increment	0.0001 mm, 0.00001 inch, 0.0001 deg	
High-speed, high-precision control	Shape of error designation, SMOOTH CORNER CONTROL, Rapid traverse overlap	
Interpolation	Positioning (linear interpolation), Positioning (independent interpolation), Linear interpolation, Circular interpolation, Cylindrical coordinate interpolation, Polar coordinate interpolation, Equal pitch threading, Re-Threading*, Override threading*, Override variable threading*, Synchronized milling spindle tapping*	Positioning (linear interpolation), Positioning (independent interpolation), Linear interpolation, Circular interpolation, Spiral interpolation, Helical interpolation, Equal pitch threading, Variable pitch threading, Threading (C axis interpolation type), Cylindrical coordinate interpolation*, NURBS interpolation*, Polar coordinate interpolation*, Re-Threading*, Override threading*, Override variable threading*, Synchronized milling spindle tapping*
Feedrate	Rapid traverse, Cutting feed, Cutting feed (per minute), Cutting feed (per revolution), Dwell (time/rotation), Rapid traverse override, Cutting feed override, GO speed variable control, Feedrate clamp, Variable acceleration/deceleration control, Constant control for GO tilting*	Rapid traverse, Cutting feed, Cutting feed (per minute), Cutting feed (per revolution), Inverse time feed, Dwell (time/rotation), Rapid traverse override, Cutting feed override, GO speed variable control, Feedrate clamp, Time constant changing for G1, Variable acceleration/deceleration control, Constant control for GO tilting*
Program registration	Max. number of programs: 960, Program storage: 2MB, Program storage expansion: 8MB*, Program storage expansion: 32MB*	
Control display	Display: 10.4" touch panel, Resolution: VGA	
Spindle functions	S code output, Spindle speed clamp, Spindle speed override, Spindle speed reaching detection, Multiple position orient, Constant surface speed, Spindle speed command with decimal digits, Synchronized spindle control, Max. speed control for spindle	
Tool functions	Tool offset pairs: 4000, T code output for tool number, Tool life monitoring (time), Tool life monitoring (number of machined workpieces)	Tool offset pairs: 4000, T code output for tool number, Tool 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 nose shape offset, Tool wear offset, Fixed amount offset, Simple wear offset	
Coordinate system	Machine coordinate system, Work coordinate system, Local coordinate system, MAZATROL coordinate system, Additional work coordinates (300 set)	
Machine functions	—	Polygon cutting*, Hobbing*
Machine compensation	G0/G1 independent backlash compensation, Pitch error compensation	
Protection functions	Emergency stop, Interlock, Stroke check before traveling, Barrier	
Automatic operation mode	Memory operation	Memory operation, Tape operation, MDI operation, Ethernet operation*
Automatic operation mode	Optional stop, Dry run, Automatic handle control, MDI control, TPS, Restart, Single process, Machine lock	Optional block skip, Optional stop, Dry run, Automatic handle control, MDI control, TPS, Restart, Restart 2, Collation stop, Machine lock
Manual measuring functions	Tool-setting data teach, Tool length and tip teach, Touch sensor coordinates measurements, Workpiece offset measurement, Tool eye measurement	Tool-setting data teach, Tool length and tip teach, Touch sensor coordinates measurement, Workpiece offset measurement, Tool eye measurement
Automatic measuring functions	Worpiece measurement, Sensor calibration, Tool eye auto tool measurement, Tool breakage detection	
Interface	PROFIBUS-DP*, Ethernet I/P*, CC-Link*	
Card interface	SD card interface, USB	
Ethernet	10M/100M/1Gbps	

*: Option

Standard Machine Specifications

		1600	1600M
Capacity	Faceplate	ø1250 mm ^{*1}	
	Max. swing	ø1650 mm (ø64.96")	
	Max. machining diameter	ø1650 mm (ø64.96")	
	Max. machining height ^{*1}	900 mm ^{*1} (35.43")	
	Max. loading capacity ^{*2}	5000 kg ^{*2} (11023 lbs)	
Stroke	X axis	1140 mm (44.88")	
	Z axis	905 mm (35.63")	
	Distance from spindle face to turret face	1093 mm (43.03")	1057 mm (41.61")
Table	Max. speed	2 ~ 350 rpm ^{*3}	
	Max. torque	10040 N • m (7405 ft • lbs)	
	Number of gear range	1	
	Min. indexing increment (C axis)	—	0.0001°
Turret	Type	12-position drum turret (Bolt-on)	
	Number of tools	12 tools	
	Tool shank (O.D.)	32 mm (1.5")	
	Tool shank (I.D.)	ø50 mm (ø2")	
	Turret indexing time	0.5 sec/1 step	
Rotary tool spindle	Spindle speed	—	3000 rpm
	Max. torque	—	140 N • m (103 ft • lbs)
	Max. capability	—	Drill: ø25 mm (ø1")
			Endmill: ø25 mm (ø1") Tap: M24
Feedrate	Rapid traverse rate: X axis	24 mm/min (945 IPM)	
	Rapid traverse rate: Z axis	24 mm/min (945 IPM)	
	Rapid traverse rate: C axis	—	20 rpm
Motors	Spindle motor (40% ED/30-min. rating/Cont. rating)	45/37 kW (60/50 HP)	
	Rotary tool spindle motor (40% ED/30-min. rating/Cont. rating)	—	11/7.5 kW (15/10 HP)
	Coolant pump motor	1.04 kW (1.4 HP)	
Power requirement	Required power capacity (30-min. rating/Cont. rating)	87.8/76.5 kVA	
	Air supply	0.5 MPa (71 psi) 30 L/min (1.06 ft³/min)	0.5 MPa (71 psi) 70 L/min (2.47 ft³/min)
Coolant	Tank capacity ^{*4}	329 L (87 gal)	
Machine size	Height	3692 mm	
	Floor space ^{*5}	4140 mm X 3222 mm ^{*6} (162.99' x 126.8")	
	Machine weight	24600 kg (54234 lbs)	25100 kg (55336 lbs)

^{*1} Optional ø1250 mm (ø49.21") face plate
^{*2} Including chuck weight
^{*3} Depending on chuck specifications
^{*4} When equipped with chip conveyor (side discharge/hinge)
^{*5} CNC not included

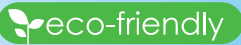
Standard and Optional Equipment

		1600	1600M			1600	1600M
Table	ø1250 mm (ø49.21") faceplate (including 4 jaws)	○	○	Coolant/ chip disposal	Chip conveyor (side discharge)	○	○
					Chip conveyor (rear discharge)	○	○
Machine	Automatic tool changer (turning: C8)	○	○	Coolant system	Coolant system	●	●
	Standard tooling package	●	●		High-pressure coolant	○	○
Factory automation	Tool eye	●	●		Magnum coolant system	○	○
	Automatic front door open/close	●	●		SUPERFLOW coolant system	○	○
	Robot interference	○	○		Turret air blast	○	○
	Calendar automatic power ON/OFF + warm-up operation	○ ^{*1}	○ ^{*1}		Oil skimmer	○	○
	Status light	○	○		Coolant temperature control	○	○
	Spindle orient	○	○		Mist collector	○	○
Safety equipment	Overload detection	○	○	CNC	Detachable manual pulse generator	○	○
	Double foot-pedal	○	○				
	Front door interlock	●	●				
	Hydraulic pressure interlock	●	●				

^{*1} Standard equipment with MAZATROL SmoothG
Standard CNC system varies by market
The above specifications are for American market. Standard and optional equipment vary by market.

Environmentally Friendly

Designed with environmental considerations

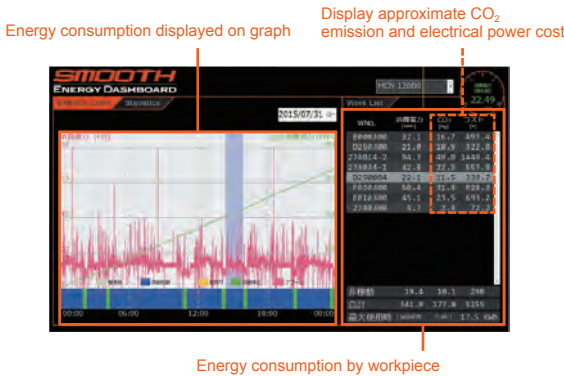


The environment and our impact on natural surroundings have always been important concerns for Yamazaki Mazak. All factories in Japan that produce Mazak machine tools are ISO 14001 certified, an international standard confirming that the operation of our production facilities does not adversely affect air, water or land.

LED worklights are standard equipment. The chip conveyor automatically stops operation five minutes after cycle completion for reduced electrical power consumption.

Energy dashboard (MAZATROL SmoothG)

The Energy Dashboard provides convenient visual monitoring of energy consumption and analysis.



Process screen display

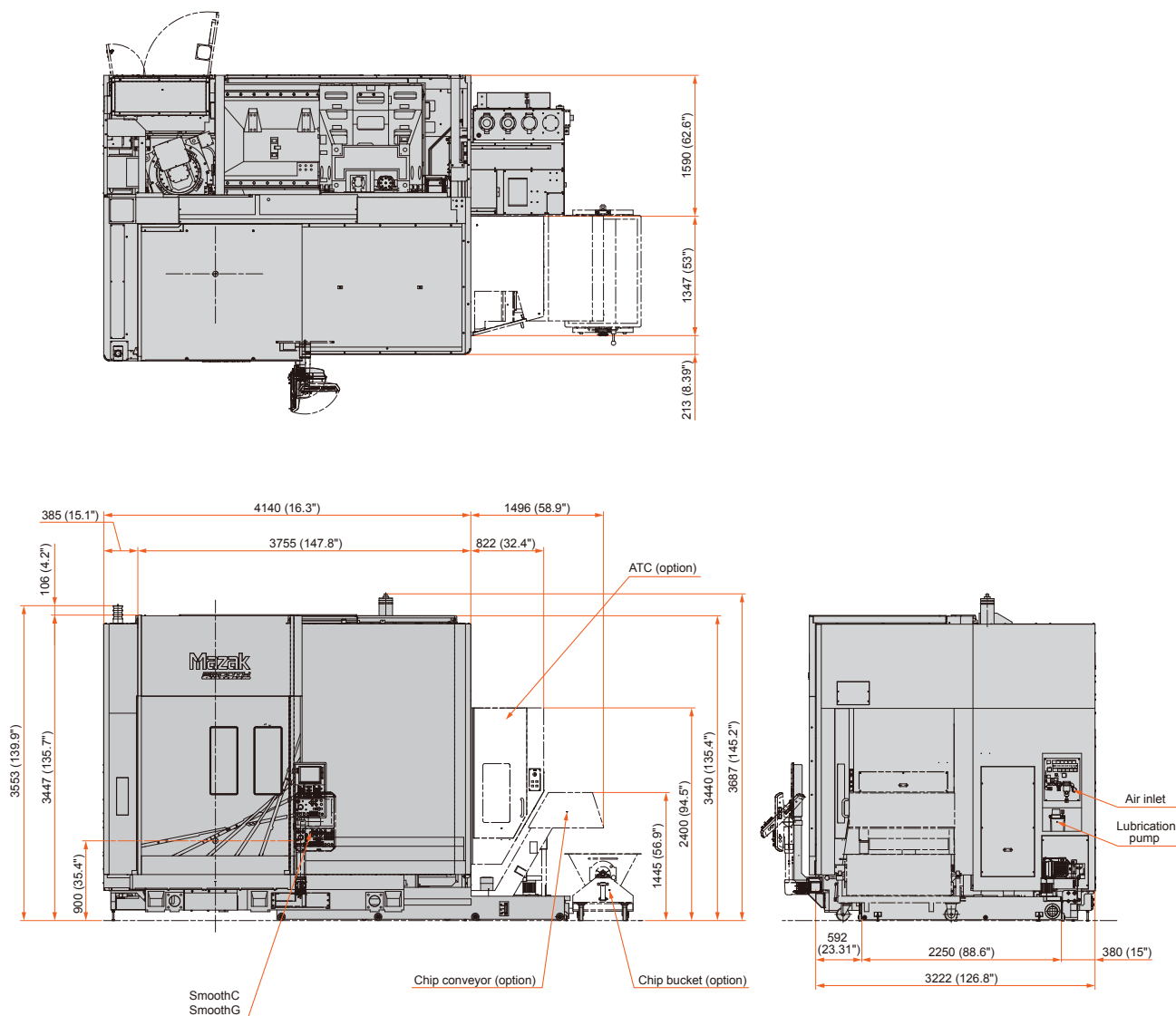
- Total energy consumption (of workpiece in operation)
- Current energy consumption



MEGA TURN 1600 (MAZATROL SmoothG)
Shown with optional status light and automatic tool changer

Machine Dimensions

Unit: mm (inch)



Mazak

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- Specifications are subject to change without notice.
- This product is subject to all applicable export control laws and regulations.
- The accuracy data and other data presented in this catalogue were obtained under specific conditions. They may not be duplicated under different conditions (room temperature, workpiece materials, tool material, cutting conditions, etc.).