Mazak

QT-Compact

SERIES

Advanced features of the MAZATROL SmoothC CNC

CNC system with the essentials for your programming requirements

Fastest CNC in the world - Latest hardware and software for unprecedented speed and precision

Operation control panel layout and process support home screen designed for unsurpassed ease of operation

MAZATROL
SMOOTH C

Designed to meet your production requirements and provide you the maximum value -

QT-COMPACT M SG	: Milling spindle
QT-COMPACT MY SG	: Milling spindle and Y-axis
QT-COMPACT MS SG	: Milling spindle and second spindle
QT-COMPACT MSY SG	: Milling spindle, second spindle and Y-axis

- Integral spindle / motor for high-performance and exceptional accuracy
  Spindle C-axis can be indexed in 0.0001° increments
- Linear roller guides on all axes assure high rigidity for high productivity machining
- Designed for ease of operation

QT-COMPACT 300MY SG (500U)
Shown with optional equipment

QT-COMPACT 300MY SG (1000U)
Shown with optional equipment

High-Performance CNC Turning Centers

QT-COMPACT SERIES

Extensive Series Range

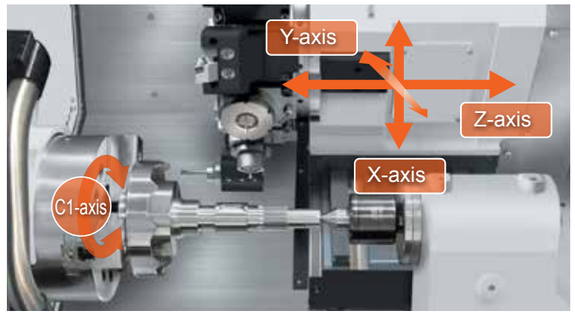
All QT-COMPACT models feature an integral spindle / motor and milling capability. Y-axis, second spindle and tailstock specifications are available to best meet your production requirements.

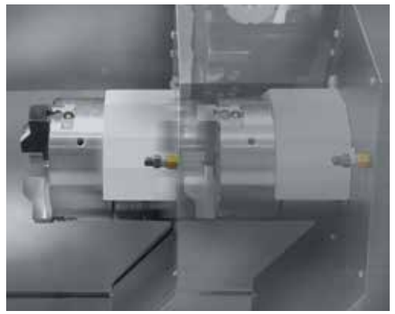
Perform high-productivity machining in a small space - floor space requirements for the 500U is just 4.39 m² and 5.96 m² for the 1000U.

	Chuck size	Main spindle	Turret	Y-axis	Second spindle	Tailstock	Universal
100M SG	6”	15.0 kW 167 N·m (17.03 kgf·m) 6000 min⁻¹ (rpm) spindle bore Φ61 mm	12 position bolt-on tool holders Rotary tool 5.5 kW 47 N·m (4.79 kgf·m) 4500 min⁻¹ (rpm)	100 (±50) mm	5” 53 N·m (5.40 kgf·m) 6000 min⁻¹ (rpm)	MT No.5 Dead center	500U
100MY SG				100 (±50) mm			
100MS SG							
100MSY SG							
200M SG	8” (10” OPTION)	15.0 kW 167 N·m (17.03 kgf·m) 5000 min⁻¹ (rpm) spindle bore Φ76 mm	12 position bolt-on tool holders Rotary tool 5.5 kW 47 N·m (4.79 kgf·m) 4500 min⁻¹ (rpm)	100 (±50) mm	6” 53 N·m (5.40 kgf·m) 6000 min⁻¹ (rpm)	MT No.5 Dead center MT No.4 Built in center (1000U)	500U 1000U
200MY SG				100 (±50) mm			
200MS SG							
200MSY SG							
300M SG	10”	15.0 kW 356 N·m (36.30 kgf·m) 4000 min⁻¹ (rpm) spindle bore Φ91 mm (AC 18.5 kW OPTION)	12 position bolt-on tool holders Rotary tool 5.5 kW 47 N·m (4.79 kgf·m) 4500 min⁻¹ (rpm)	100 (±50) mm	6” 53 N·m (5.40 kgf·m) 6000 min⁻¹ (rpm)	MT No.5 Dead center MT No.4 Built in center (1000U)	500U 1000U
300MY SG				100 (±50) mm			
300MS SG							
300MSY SG							

QT-COMPACT (500U)

Same 4.39 m² floor space requirement for all QT-COMPACT 500U models 100M SG to 300MSY SG.



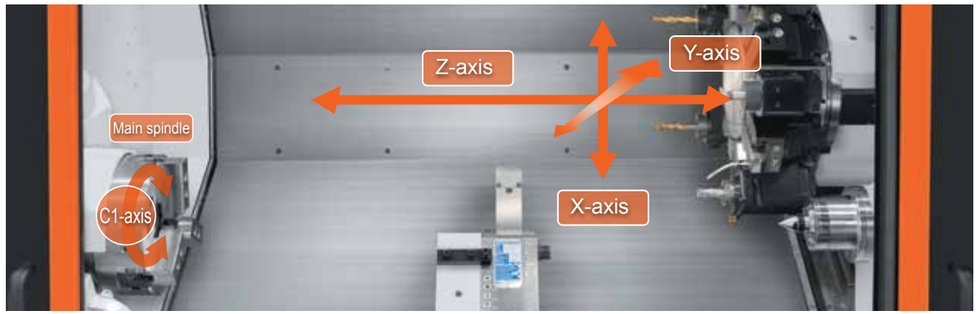


MS SG / MSY SG

QT-COMPACT (1000U)

200M SG, 200MY SG, 300M SG, 300MY SG

The 1000U is available for longer workpieces. 1000U machines have a floor space requirement of 5.96 m². (Except MS SG and MSY SG versions)

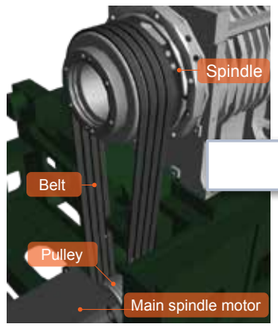


Higher Productivity

Main spindle - integral spindle / motor ensures high productivity and high accuracy

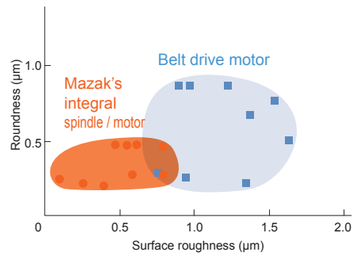
The QT-COMPACT 100, 200, and 300 models have different specifications of the integral spindle / motor to meet various machining requirements.
Thanks to its design, vibration is minimized during high-speed operation to ensure exceptional surface finishes and maximum tool life.
Since no transmission with belts, pulleys or gears is used, the higher efficiency of the integral spindle / motor delivers more power to the tool tip to be used for cutting. The spindle C-axis can be indexed by 0.0001°increments and can also perform contouring (standard equipment).

Conventional belt drive



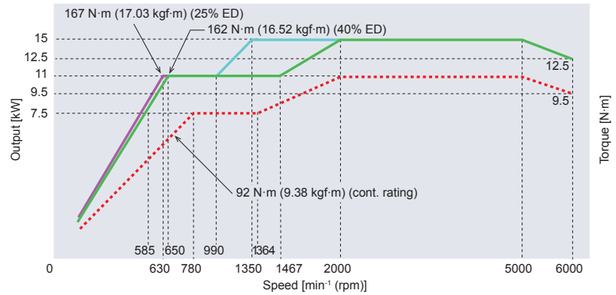
QT-COMPACT Integral spindle / motor

Example results of roundness and surface roughness



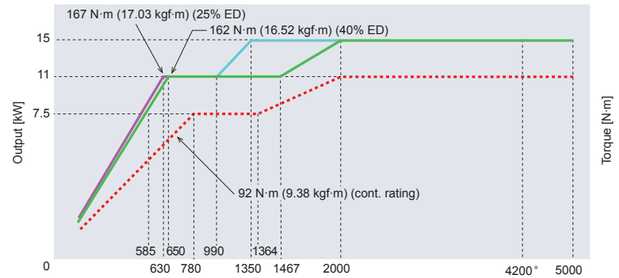
QT-COMPACT 100 series

Speed	6000 min^{-1} (rpm)
Output (40% ED)	15.0 kW
Torque (25% ED)	167 N·m (17.03 kgf·m)
Chuck size	6”
Spindle bore	Φ61 mm



QT-COMPACT 200 series

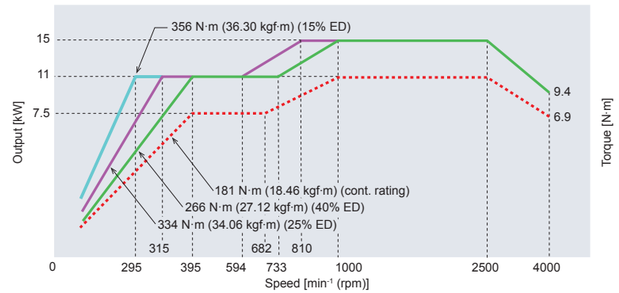
Speed	5000 min^{-1} (rpm)
Output (40% ED)	15.0 kW
Torque (25% ED)	167 N·m (17.03 kgf·m)
Chuck size	8”(10” : option)
Spindle bore	Φ76 mm



※Max. spindle speed for 10” chuck is 4200 min^{-1} (rpm)

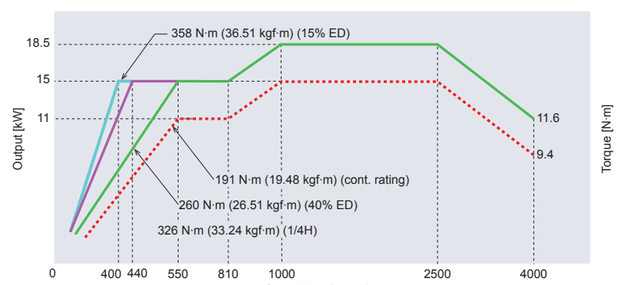
QT-COMPACT 300 series

Speed	4000 min^{-1} (rpm)
Output (40% ED)	15.0 kW
Torque (15% ED)	356 N·m (36.30 kgf·m)
Chuck size	10”
Spindle bore	Φ91 mm



Higt output 18.5 kW spindle OPTION

Speed	4000 min^{-1} (rpm)
Output (40% ED)	18.5 kW
Torque (15% ED)	358 N·m (36.51 kgf·m)
Chuck size	10”
Spindle bore	Φ91 mm



Higher Productivity

12 position turret with high speed indexing

12 position drum turret is designed to provide reduced tool interference. Thanks to the non-lift rotary indexing, clamping and unclamping can be done at high speed to realize minimum chip-to-chip time.

Turret type		Bolt-on type
Tool capacity		12 tools
OD turning, facing tool		□25 mm × 150 mm
Boring bar shank		Φ40 mm
Turret indexing time	1 step	0.23 sec
	6 steps	0.63 sec

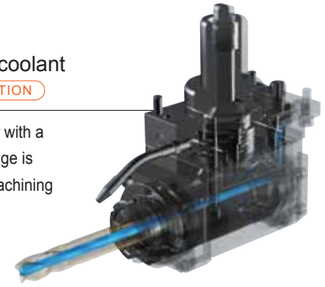
The bolt-on tool holders are easily mounted on the turret by 4 bolts. The wide space between adjacent tools provides a large interference-free machining diameter when end milling and OD turning.
24 position turret is optionally avairable.

Milling

Rotary tools can be mounted at any turret position for tool layout flexibility. Since the spindle C-axis can be indexed in 0.0001°increments, high accuracy milling can be performed at any angle.

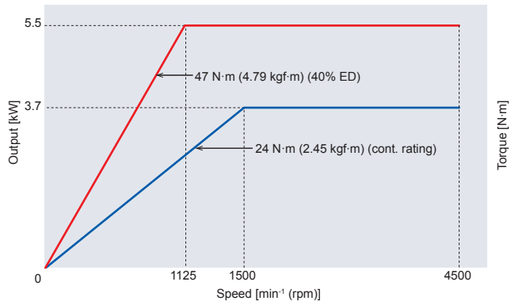
Milling holder with coolant through-tool OPTION

The optional milling holder with a coolant through tool passage is effective for a variety of machining applications such as deep hole-drilling.



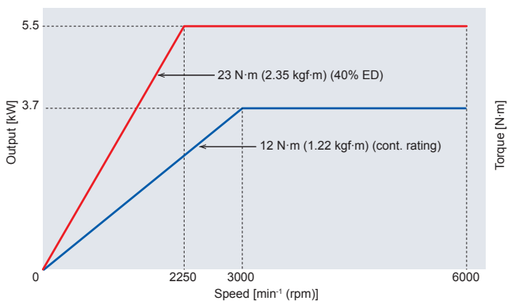
4500 min^{-1} (rpm) milling spindle

Max. milling spindle speed	4500 min^{-1} (rpm)
Output	5.5 kW
Max. torque	47 N·m (4.79 kgf·m)
Drill / endmill	Φ20 mm
Tap	M20 × 2.5



6000 min^{-1} (rpm) milling spindle OPTION

Max. milling spindle speed	6000 min^{-1} (rpm)
Output	5.5 kW
Max. torque	23 N·m (2.35 kgf·m)
Drill / endmill	Φ20 mm
Tap	M20 × 2.5



Y-axis (MY SG, MSY SG)

Thanks to the Y-axis double-slide design, large diameter multi-tasking machining can be performed even in a compact machine. Long Y-axis stroke:100 (±50) mm allows machining of complex and large workpieces.

Higher Productivity

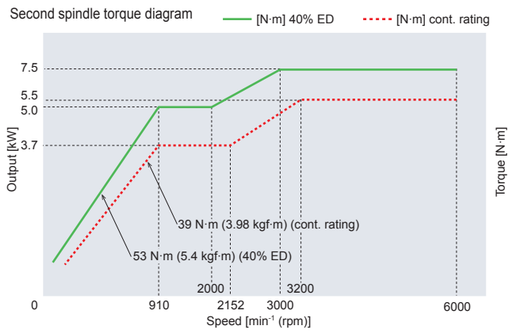
Second spindle (MS SG, MSY SG)

The second spindle, with Integral spindle / motor construction, allows the workpiece to be transferred from the main spindle for continuous 1st to 2nd processing machining. The second spindle C-axis can be indexed by 0.0001° increments, with contouring optionally available.

Second spindle (MS SG, MSY SG) specifications

Spindle speed		6000 min^{-1} (rpm)
Output		7.5 kW
Max. torque		53 N·m (5.4 kgf·m)
Chuck size	100MS SG, 100MSY SG	5”
	200MS SG, 200MSY SG 300MS SG, 300MSY SG	6”

Second spindle torque diagram



Advanced machine and control technology ensures high productivity for a wide variety of applications

QT-COMPACT 300MS SG
chuck workpiece
machining example

Workpiece	Industrial machinery component
Material	Carbon steel (S45C)
Size	Φ180 mm × 80 mm
Cycle time	4 minutes 15 seconds

QT-COMPACT 300MSY SG shaft
workpiece machining example

Workpiece	Industrial machinery component
Material	Carbon steel (S45C)
Size	Φ65 mm × 230 mm
Cycle time	15 minutes 45 seconds

NC Tailstock (M SG, MY SG)

Since the tailstock is equipped with servo motor control, the tailstock travel and thrust can be set by program for ease of operation. Thrust can be set by 0.1 kN increments while pushing the workpiece for optimum thrust according to workpiece material, shape and diameter.

Models	Tailstock center
100M SG (500U) 100MY SG (500U)	MT No.5 Dead center
	MT No.4 Built-in center OPTION
200M SG, 300M SG (500U) 200MY SG, 300MY SG (500U)	MT No.5 Dead center
	MT No.4 Built-in center OPTION
200M SG, 300M SG (1000U) 200MY SG, 300MY SG (1000U)	No.4 Built-in center

Steady rest (1000U) OPTION

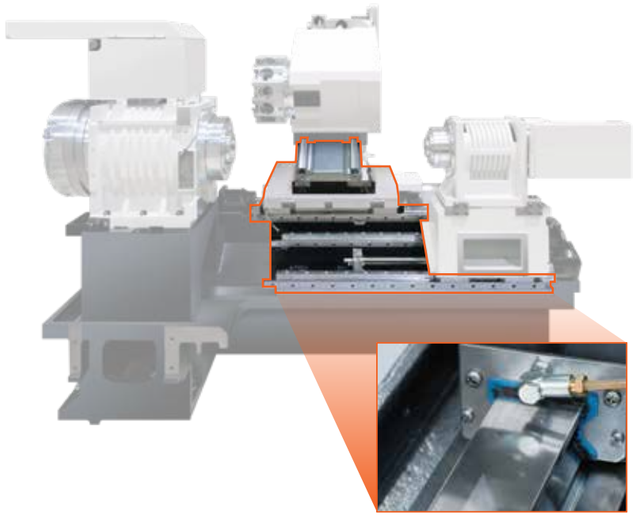
A steady rest provides safe machining of long workpieces. It can be moved automatically by connecting to the turret unit by a coupling pin.

Models	Steady rest	Max. workpiece diameter
1000U	SMW SLUA-3.1Z	Φ22 mm ~ Φ150 mm
	SMW SLUX-3.1Z	Φ20 mm ~ Φ165 mm

Higher Accuracy

Roller guides utilized on all axes

The highly rigid linear roller guides utilized by the QT-COMPACT series on all the axes provide higher accuracy positioning with lower friction.

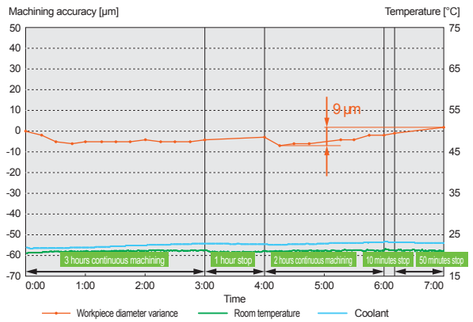


THERMAL SHIELD

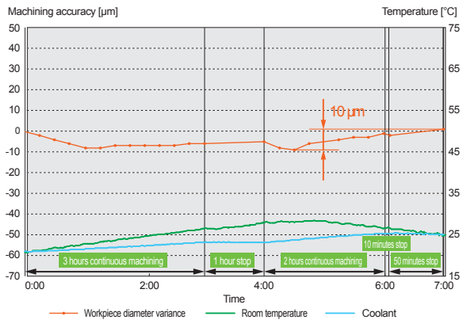
The THERMAL SHIELD is an automatic compensation for room temperature changes, which realizes enhanced continuous machining accuracy. Mazak has performed extensive testing in a variety of environments in a temperature controlled room and has used the results to develop a control system that automatically compensates for temperature changes in the machining area. Changes in the room temperature and compensation data are shown visually.

Machine : QT-COMPACT 300MY SG

Controlled Room Temperature



Room temperature change : 8 °C



Operator Friendly

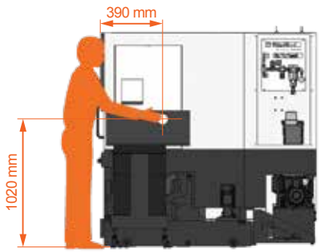
Design focus on ergonomics provides unsurpassed ease of operation and maintenance

Ease of maintenance

All the items that require frequent access, such as hydraulic and pneumatic valves and lubrication inlets, are at one central location for convenient daily maintenance.

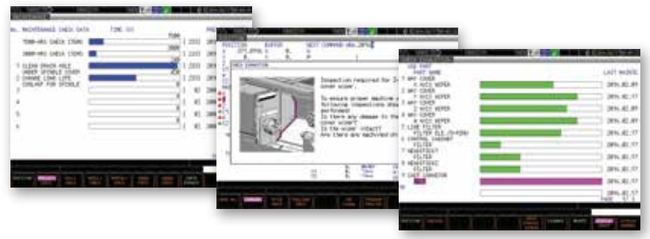
Convenient setup

The distance from the front cover to the spindle center line is short for convenient setup and workpiece loading / unloading.



MAINTENANCE SUPPORT

Useful information for improved preventative maintenance to prevent unexpected machine downtime



Ease of Programming

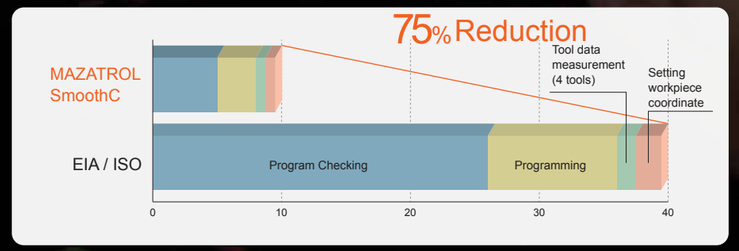
The MAZATROL SmoothC CNC incorporates the latest advanced hardware and software as well as the expertise accumulated in the production of MAZATROL CNC systems for more than 35 years. It is designed to provide high-productivity performance in the machining of your production requirements. Unsurpassed ease of operation is provided by conversational MAZATROL programming which makes it possible for even an inexperienced operator to quickly and easily make machining programs.

Process home screen

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

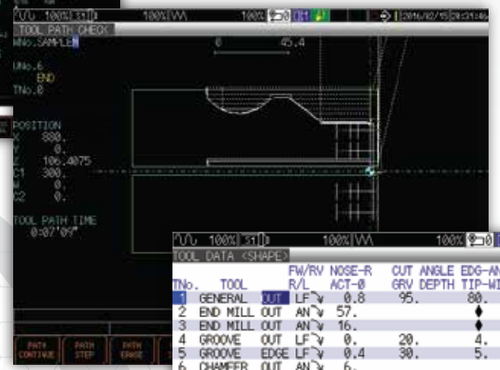
75% reduction of setup time for the first workpiece

With the MAZATROL SmoothC, setup of the first workpiece from programming to tool path check, tool setup, and work coordinate setup can be conducted in a very short period of time. Compared with other CNC systems, setup of the first workpiece can be reduced by as much as 75%. Short setup times are especially effective for the production of a wide variety of parts in small size lots. Additionally, MAZATROL programs are smaller than EIA / ISO programs, so that checking, saving and editing can be done easily.



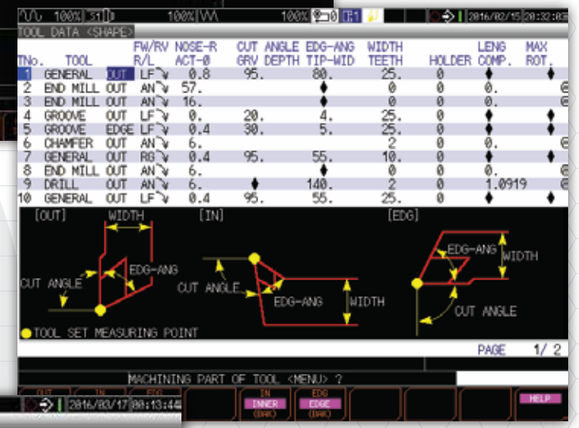
Programming

Ease of programming by MAZATROL conversational programming



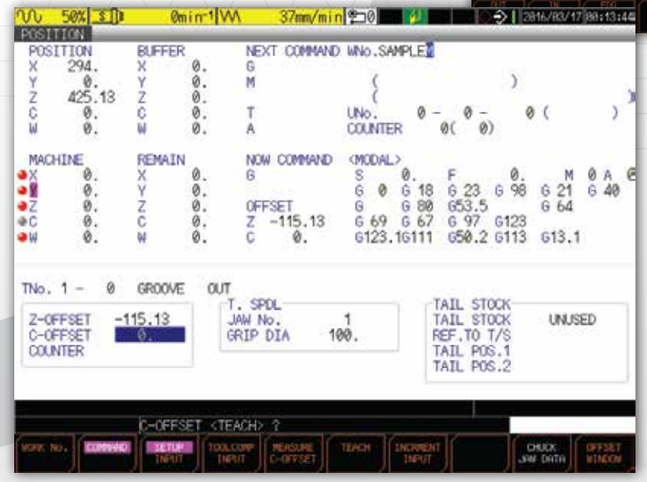
Tool path check

By tool path simulation, the accurate machining cycle time is quickly obtained



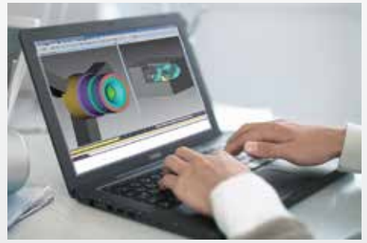
Tool data

Tool data can be easily input by using the graphical help display



Position Screen

Data such as the Z offset and C offset can be easily input



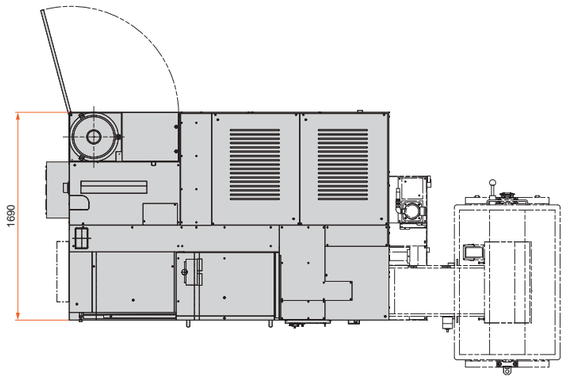
3D machine model

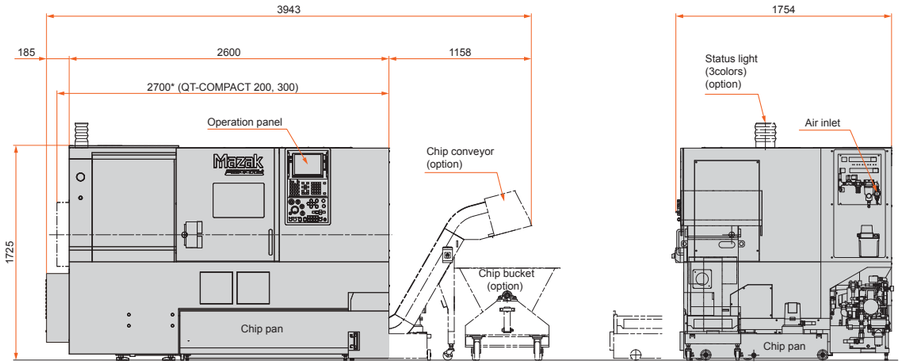
A 3D machine model is available to perform program interference checks with other CAD / CAM simulation software.

Machine Dimensions

Unit : mm

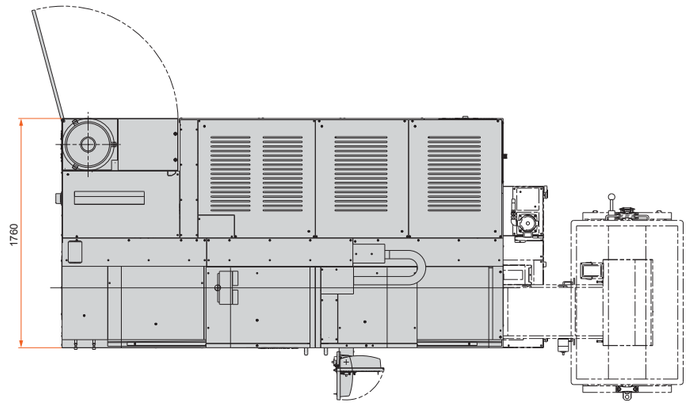
QT-COMPACT 100M SG, 100MY SG, 100MS SG, 100MSY SG (500U)
200M SG, 200MY SG, 200MS SG, 200MSY SG (500U)
300M SG, 300MY SG, 300MS SG, 300MSY SG (500U)

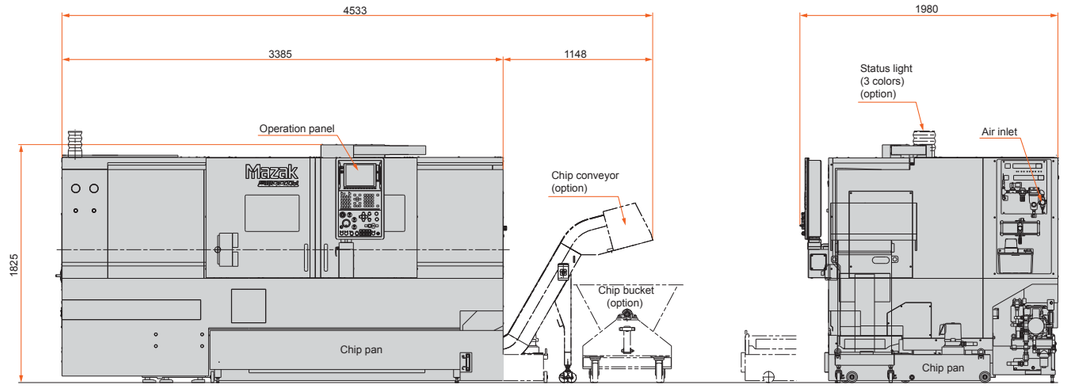




200M SG, 200MY SG, 300M SG, 300MY SG, 300MS SG, 300MSY SG with standard chuck

QT-COMPACT 200M SG, 200MY SG (1000U)
300M SG, 300MY SG (1000U)





MAZATROL SmoothC Specifications

	MAZATROL	EIA
Number of controlled axes	Simultaneous 2 ~ 4 axes	
Least input increment	0.0001 mm, 0.00001 inch, 0.0001 deg	
High speed,high precision control	Shape compensation, Smooth corner control, Rapid traverse overlap	
Interpolation	Positioning (interpolation), Positioning (non-interpolation), CLinear interpolation, Circular interpolation, Cylindrical interpolation, Polar coordinate interpolation, Constant lead threading, Re-threading*, Thread start point compensation*, Thread cut-speed override, Synchronous tapping	Positioning (interpolation), Positioning (non-interpolation), Linear interpolation, Circular interpolation, Cylindrical interpolation*, Spiral interpolation, Helical interpolation, Fine spline interpolation*, NURBS interpolation*, Polar coordinate interpolation*, Constant lead threading, Variable lead threading, Threading (C-axis interpolation type), Re-threading*, Thread start point compensation*, Thread cut-speed override*, 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, G0 slope constant*, Variable acceleration control	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, G0 slope constant*, Variable acceleration control
Program registration	Number of programs : 256 (Standard) / 960 (Max.), Program memory : 2 MB, Program memory expansion : 8 MB*, Program memory expansion : 32 MB*	
control display	Display : 19" touch panel / Display : 10.4" touch panel, Resolution : SXGA / Resolution : VGA	
Spindle functions	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), Tool life monitoring (wear)	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), Tool life monitoring (wear)
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	Tool position offset, Tool length offset, Tool diameter / tool nose R 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	—	Polygonal machining*, Hobbing*
Machine compensation	Backlash compensation, Pitch error compensation	
Protection functions	Emergency stop, Interlock, Pre-move stroke check, Barrier	
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 functions	Tool-setting data teach, Tool length teach, Touch sensor coordinates measurement, Workpiece offset measurement, Tool eye measurement	Tool-setting data teach, Tool length teach, Tool offset teach, Touch sensor coordinates measurement, Workpiece offset measurement, Tool eye measurement
Automatic measuring functions	Workpiece measurement, Sensor calibration, Tool eye auto tool measurement, Tool breakage detection	
Interface	PROFIBUS-DP*, EtherNet/IP*, CC-Link*	
Card interface	SD card interface, USB	
EtherNet	10 M / 100 M / 1 Gbps	

* Option

Standard Machine Specifications

QT-COMPACT 100 SERIES

		100M SG	100MY SG	100MS SG	100MSY SG
Universal		500U			
Capacity	Max. swing	Φ695 mm			
	Max. machining diameter	Φ340 mm			
	Max. machining length*1	554 mm		—	
	Distance between chuck top jaw faces*1	—		596 mm	
	Bar work capacity*2	Φ52 mm			
Travel	X-axis	215 mm			
	Y-axis	—	100 mm (±50 mm)	—	100 mm (±50 mm)
	Z-axis	605 mm			
Main spindle	Chuck size	6”			
	Spindle speed*1	6000 min^{-1} (rpm)			
	Number of spindle speed ranges	1-stepless			
	Spindle nose	A2-5			
	Spindle bore	Φ61 mm			
Second spindle	Chuck size	—		5”	
	Spindle speed*1	—		6000 min^{-1} (rpm)	
	Number of spindle speed ranges	—		1-stepless	
	Spindle nose	—		A2-5	
	Spindle bore	—		Φ53 mm	
Turret	Turret type	12 position drum turret (bolt-on)			
	Number of tools	12 tools			
	Tool shank height	25 mm			
	Boring bar shank diameter	Φ40 mm			
	Turret indexing time	0.23 sec / 1 step			
Rotary tool spindle	Spindle speed	4500 min^{-1} (rpm)			
	Milling capacity	Drill : Φ20 mm Endmill : Φ20 mm Tap : M20 × 2.5			
Feedrate	Rapid traverse rate : X-axis	30000 mm/min			
	Rapid traverse rate : Y-axis	—	10000 mm/min	—	10000 mm/min
	Rapid traverse rate : Z-axis	30000 mm/min			
	Rapid traverse rate : C-axis	555 min^{-1} (rpm)			
Tailstock	Tailstock stroke	565 mm		—	
	Tailstock center	MT No.5 (Dead-center)		—	
Motors	Main spindle motor (40% ED / cont. rating)	15 kW (20 HP) / 11 kW (15 HP)			
	Second spindle motor (40% ED / cont. rating)	—		7.5 kW (10 HP) / 5.5 kW (7.5 HP)	
	Rotary tool spindle motor (40% ED / cont. rating)	5.5 kW (7.5 HP) / 3.7 kW (5 HP)			
Power requirement	Required power capacity (cont. rating)	20.24 kVA	20.71 kVA	20.60 kVA	21.07 kVA
	Air supply	0.5 MPa (5 kgf/cm^2) 150 L/min			
Tank capacity	Coolant tank capacity	185 L			
Machine size	Machine height	1725 mm			
	Width × length*3	2600 mm × 1690 mm			
	Weight	4400 kg	4600 kg		4800 kg
CNC		MAZATROL SmoothC			

*1 Depends on chuck specifications
*2 When using through-hole chuck BB206A515 + SR1453C
*3 Operation panel not included

Standard Machine Specifications

QT-COMPACT 200 series

		200M SG	200MY SG	200MS SG	200MSY SG
Universal		500U / 1000U		500U	
Capacity	Max. swing	Φ695 mm / Φ728 mm		Φ695 mm	
	Max. machining diameter	Φ340 mm			
	Max. machining length*1	535 mm / 1085 mm		—	
	Distance between chuck top jaw faces*1	—		575 mm	
	Bar work capacity*2	Φ65 mm			
Travel	X-axis	215 mm			
	Y-axis	—	100 mm (±50 mm)	—	100 mm (±50 mm)
	Z-axis	605 mm / 1155 mm		605 mm	
Main spindle	Chuck size	8”			
	Spindle speed*1	5000 min^{-1} (rpm)			
	Number of spindle speed ranges	1-stepless			
	Spindle nose	A2-6			
	Spindle bore	Φ76 mm			
Second spindle	Chuck size	—		6”	
	Spindle speed*1	—		6000 min^{-1} (rpm)	
	Number of spindle speed ranges	—		1-stepless	
	Spindle nose	—		A2-5	
	Spindle bore	—		Φ53 mm	
Turret	Turret type	12 position drum turret (Bolt-on)			
	Number of tools	12 tools			
	Tool shank height	25 mm			
	Boring bar shank diameter	Φ40 mm			
	Turret indexing time	0.23 sec / 1 step			
Rotary tool spindle	Spindle speed	4500 min^{-1}(rpm)			
	Milling capacity	Drill : Φ20 mm Endmill : Φ20 mm Tap : M20 × 2.5			
Feedrate	Rapid traverse rate : X-axis	30000 mm/min			
	Rapid traverse rate : Y-axis	—	10000 mm/min	—	10000 mm/min
	Rapid traverse rate : Z-axis	30000 mm/min			
	Rapid traverse rate : C-axis	555 min^{-1} (rpm)			
Tailstock	Tailstock stroke	565 mm / 900 mm		—	
	Tailstock center	MT No.5 (Dead-center) / MT No.4 (Built-in center)		—	
Motors	Main spindle motor (40% ED / cont. rating)	15 kW (20 HP) / 11 kW (15 HP)			
	Second spindle motor (40% ED / cont. rating)	—		7.5 kW (10 HP) / 5.5 kW (7.5 HP)	
	Rotary tool spindle motor (40% ED / cont. rating)	5.5 kW (7.5 HP) / 3.7 kW (5 HP)			
Power requirement	Required power capacity (cont. rating)	20.44 kVA	20.91 kVA	20.60 kVA	21.07 kVA
	Air supply	0.5 MPa (5 kgf/cm^2) 150 L/min			
Tank capacity	Coolant tank capacity	185 L / 280 L		185 L	
Machine size	Machine height	1725 mm / 1825 mm		1725 mm	
	Width × length*3	2600 mm × 1690 mm / 3385 mm × 1760 mm		2600 mm × 1690 mm	
	Weight	4450 kg / 5150 kg	4650 kg / 5350 kg	4650 kg	4850 kg
CNC		MAZATROL SmoothC			

*1 Depends on chuck specifications
*2 When using through-hole chuck BB208A615 + SR1566C
*3 Operation panel and cylinder cover not included

QT-COMPACT 300 series

		300M SG	300MY SG	300MS SG	300MSY SG
Universal		500 U / 1000 U		500 U	
Capacity	Max. swing	Φ695 mm / Φ728 mm		Φ695 mm	
	Max. machining diameter	Φ340 mm			
	Max. machining length*1	504.5 mm / 1054.5 mm		—	
	Distance between chuck top jaw faces*1	—		539.5 mm	
	Bar work capacity*2	Φ77 mm			
Travel	X-axis	215 mm			
	Y-axis	—	100 mm (±50 mm)	—	100 mm (±50 mm)
	Z-axis	605 mm / 1155 mm		605 mm	
Main spindle	Chuck size	10”			
	Spindle speed*1	4000 min^{-1} (rpm)			
	Number of spindle speed ranges	1-stepless			
	Spindle nose	A2-8			
	Spindle bore	Φ91 mm			
Second spindle	Chuck size	—		6”	
	Spindle speed*1	—		6000 min^{-1} (rpm)	
	Number of spindle speed ranges	—		1-stepless	
	Spindle nose	—		A2-5	
	Spindle bore	—		Φ53 mm	
Turret	Turret type	12 position drum turret (Bolt-on)			
	Number of tools	12 tools			
	Tool shank height	25 mm			
	Boring bar shank diameter	Φ40 mm			
	Turret indexing time	0.23 sec / 1 step			
Rotary tool spindle	Spindle speed	4500 min^{-1} (rpm)			
	Milling capacity	Drill : Φ20 mm Endmill : Φ20 mm Tap : M20 × 2.5			
Feedrate	Rapid traverse rate : X-axis	30000 mm/min			
	Rapid traverse rate : Y-axis	—	10000 mm/min	—	10000 mm/min
	Rapid traverse rate : Z-axis	30000 mm/min			
	Rapid traverse rate : C-axis	555 min^{-1} (rpm)			
Tailstock	Tailstock stroke	565 mm / 900 mm		—	
	Tailstock center	MT No.5 (Dead-center) / MT No.4 (Built-in center)		—	
Motors	Main spindle motor (40 % ED / cont. rating)	15 kW (20 HP) / 11 kW (15 HP)			
	Second spindle motor (40 % ED / cont. rating)	—		7.5 kW (10 HP) / 5.5 kW (7.5 HP)	
	Rotary tool spindle motor (40 % ED / cont. rating)	5.5 kW (7.5 HP) / 3.7 kW (5 HP)			
Power requirement	Required power capacity (cont. rating)	20.56 kVA	21.03 kVA	20.72 kVA	21.19 kVA
	Air supply	0.5 MPa (5 kgf/cm^2) 150 L/min			
Tank capacity	Coolant tank capacity	185 L / 280 L		185 L	
Machine size	Machine height	1725 mm / 1825 mm		1725 mm	
	Width × length*3	2600 mm × 1690 mm / 3385 mm × 1760 mm		2600 mm × 1690 mm	
	Weight	4600 kg / 5300 kg	4800 kg / 5500 kg	4800 kg	5000 kg
CNC		MAZATROL SmoothC			

*1 Depends on chuck specifications
*2 When using through-hole chuck BB210A815 + SR1781C
*3 Operation panel and cylinder cover not included

Optional Equipment

Automatic opening / closing front door

The automatic opening / closing front door operates in 3 speed steps. If an operator inadvertently places a hand in the opening, operation will automatically stop when the door contacts his hand.

Tool eye

The tool eye can be programmed for automatic tool measurement and compensation as well as inspection for tool breakage. In addition, since tool setup is done by simply bringing the tool tip into contact with the tool eye, tool setup time is considerably reduced.

Auto parts catcher

Auto parts catcher automatically moves workpiece to outside of the machine. By using a bar feeder and work conveyor, automatic operation can be performed.

Automatic workpiece measurement

Touch sensor on turret automatically measures workpiece I.D. , O.D., and step height, and compensates tools to ensure high machining accuracy.

Standard and Optional Equipment

● : Standard ○ : Option — : N/A

		100M SG	100MY SG	100MS SG	100MSY SG	200M SG	200MY SG	200MS SG	200MSY SG	300M SG	300MY SG	300MS SG	300MSY SG
Machine	Main spindle 6" non through-hole chuck N-06	●	●	—	—	—	—	—	—	—	—	—	—
	Main spindle 6" through-hole chuck B-206	○	○	●	●	—	—	—	—	—	—	—	—
	Main spindle 6" through-hole chuck BB-206	○	○	○	○	—	—	—	—	—	—	—	—
	Main spindle 8" non through-hole chuck N-08	—	—	—	—	●	●	—	—	—	—	—	—
	Main spindle 8" through-hole chuck B-208	—	—	—	—	○	○	●	●	—	—	—	—
	Main spindle 8" through-hole chuck BB-208	—	—	—	—	○	○	○	○	—	—	—	—
	Main spindle 10" non through-hole chuck N-10	—	—	—	—	○	○	○	○	●	●	—	—
	Main spindle 10" through-hole chuck B-210	—	—	—	—	○	○	○	○	○	○	●	●
	Main spindle 10" through-hole chuck BB-210	—	—	—	—	—	—	—	—	○	○	○	○
	Main spindle 0.0001°indexing, C-axis contouring control	●	●	●	●	●	●	●	●	●	●	●	●
	Second spindle 0.0001°indexing	—	—	●	●	—	—	●	●	—	—	●	●
	Second spindle 0.0001°indexing, C-axis contouring control	—	—	○	○	—	—	○	○	—	—	○	○
	Second spindle 5" through-hole chuck B-205	—	—	●	●	—	—	—	—	—	—	—	—
	Second spindle 6" through-hole chuck B-206	—	—	—	—	—	—	●	●	—	—	●	●
	12 position turret (Bolt-on tool holders)	●	●	●	●	●	●	●	●	●	●	●	●
	4500 min^{-1} (rpm) rotary tool	●	●	●	●	●	●	●	●	●	●	●	●
	6000 min^{-1} (rpm) rotary tool	○	○	○	○	○	○	○	○	○	○	○	○
	Tailstock center (MT No.5 dead center)	●	●	—	—	●	●	—	—	●	●	—	—
	Tailstock center (MT No.4 built-in center)*1	—	—	—	—	○	○	—	—	○	○	—	—
	Tailstock thrust automatic change	●	●	—	—	●	●	—	—	●	●	—	—
	Rotary center LC-5SW	○	○	—	—	○	○	—	—	○	○	—	—
	Rotary center LC-5A	○	○	—	—	○	○	—	—	○	○	—	—
	Work light	●	●	●	●	●	●	●	●	●	●	●	●
Factory automation	Absolute position detection	●	●	●	●	●	●	●	●	●	●	●	●
	Spindle orient	○	○	○	○	○	○	○	○	○	○	○	○
	Tool eye (automatic)	○	○	○	○	○	○	○	○	○	○	○	○
	Automatic chuck jaws open / close	○	○	●	●	○	○	●	●	○	○	●	●
	Chuck jaws air blast (main spindle)	○	○	○	○	○	○	○	○	○	○	○	○
	Chuck jaws air blast (second spindle)	—	—	○	○	—	—	○	○	—	—	○	○
	Bar feeder interface kit	○	○	○	○	○	○	○	○	○	○	○	○
	Auto parts catcher	○	○	○	○	○	○	○	○	○	○	○	○
	Work discharge conveyor	○	○	○	○	○	○	○	○	○	○	○	○
	Automatic opening / closing front door	○	○	○	○	○	○	○	○	○	○	○	○
	Calendar automatic power ON / OFF + warm-up operation	○	○	○	○	○	○	○	○	○	○	○	○
	Automatic power OFF	●	●	●	●	●	●	●	●	●	●	●	●
	Machining finish buzzer	○	○	○	○	○	○	○	○	○	○	○	○
	Status light (3colors)	○	○	○	○	○	○	○	○	○	○	○	○
Safety equipment	Chuck jaw open / close confirmation	●	●	●	●	●	●	●	●	●	●	●	●
	Hydraulic pressure interlock	●	●	●	●	●	●	●	●	●	●	●	●
	2 pedal chuck foot switch	○	○	○	○	○	○	○	○	○	○	○	○
	Overload detection system	○	○	○	○	○	○	○	○	○	○	○	○
Coolant / Chip disposal	Chip pan	●	●	●	●	●	●	●	●	●	●	●	●
	Chip conveyor side discharge	○	○	○	○	○	○	○	○	○	○	○	○
	Chip conveyor rear discharge	○	○	—	—	○	○	—	—	○	○	—	—
	Preparation for chip conveyor (side discharge)	○	○	○	○	○	○	○	○	○	○	○	○
	Preparation for chip conveyor (rear discharge)	○	○	—	—	○	○	—	—	○	○	—	—
	Chip bucket (rotary)	○	○	○	○	○	○	○	○	○	○	○	○
	Chip bucket (fixed)	○	○	○	○	○	○	○	○	○	○	○	○
	Coolant temperature control	○	○	○	○	○	○	○	○	○	○	○	○
	Turret air blast	○	○	○	○	○	○	○	○	○	○	○	○
	Additional coolant nozzle on headstock side	○	○	○	○	○	○	○	○	○	○	○	○
	Mist collector	○	○	○	○	○	○	○	○	○	○	○	○
	Coolant system (250 W)	●	●	●	●	●	●	●	●	●	●	●	●
	Powerful coolant (520 W)	○	○	○	○	○	○	○	○	○	○	○	○
	Powerful coolant (1.1 kW)	○	○	○	○	○	○	○	○	○	○	○	○
	Superflow coolant system	○	○	○	○	○	○	○	○	○	○	○	○
Others	Manuals	●	●	●	●	●	●	●	●	●	●	●	●
	Set of adjusting tools	○	○	○	○	○	○	○	○	○	○	○	○

*1: Standard equipment on 200M SG, 200MY SG, 300M SG, 300MY SG (1000U).

QT-COMPACT SERIES

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