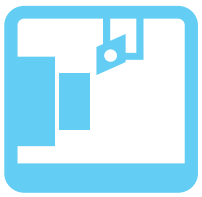


AW MILLER
TECHNICAL SALES, INC.

EAST AURORA, NY 716.652.8282 | HARMONY, PA 724.453.1690 | STE-LAURENT, QC 514.333.9174 | HARLEYSVILLE, PA 215.256.8281

Quick Turn Primos 100 S

Mazak

Compact, high-performance CNC turning center

QUICK TURN PRIMOS 100 S

Smaller footprint

Machine height is reduced while maintaining excellent functionality.

Integral spindle/motor for high-accuracy, high-speed machining

Increased ease of operation and maintenance

Large variety of options for increased productivity

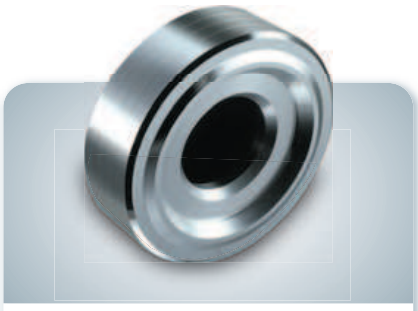
QUICK TURN PRIMOS 100 S

Chuck size	6"
Spindle speed	5000 rpm
Output (40% ED)	9 kW (12 HP)
(Cont. rating)	7.5 kW (10 HP)
Torque	75 Nm (55 ft·lb)
Spindle bore	ø45 mm (ø1.77")

Sample workpieces

Automotive component
Material/S10C Size/ø20 mm×40 mm (ø0.75"×1.57")

Automotive component
Material/Stainless Size/ø100 mm×20 mm (ø3.94"×0.75")

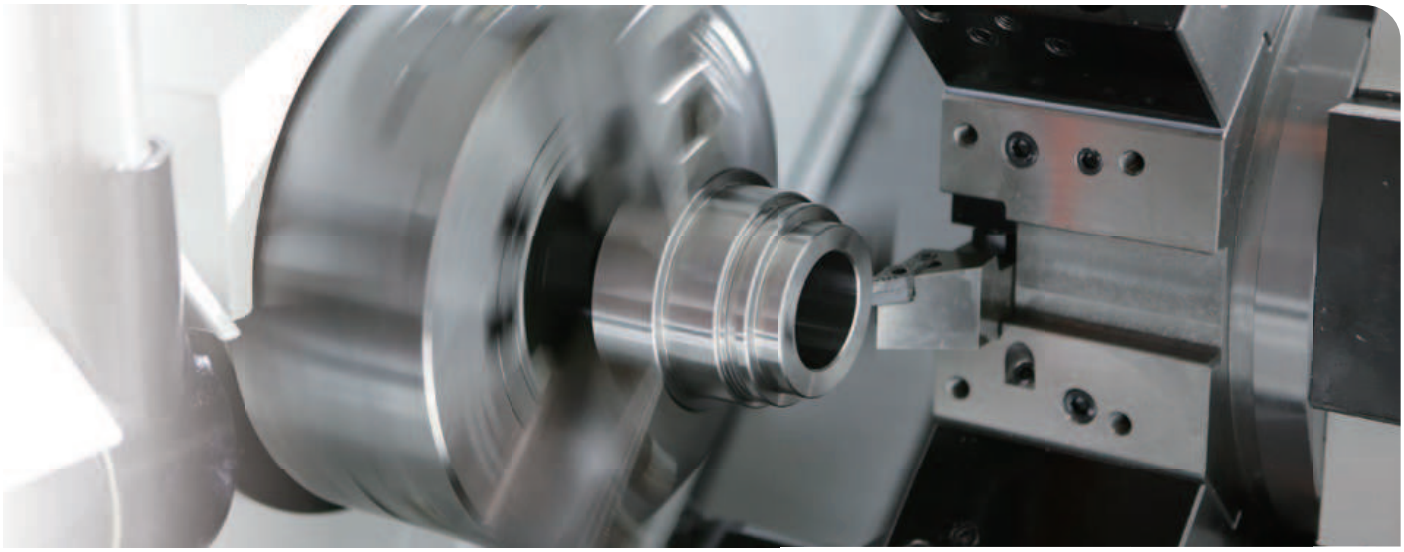


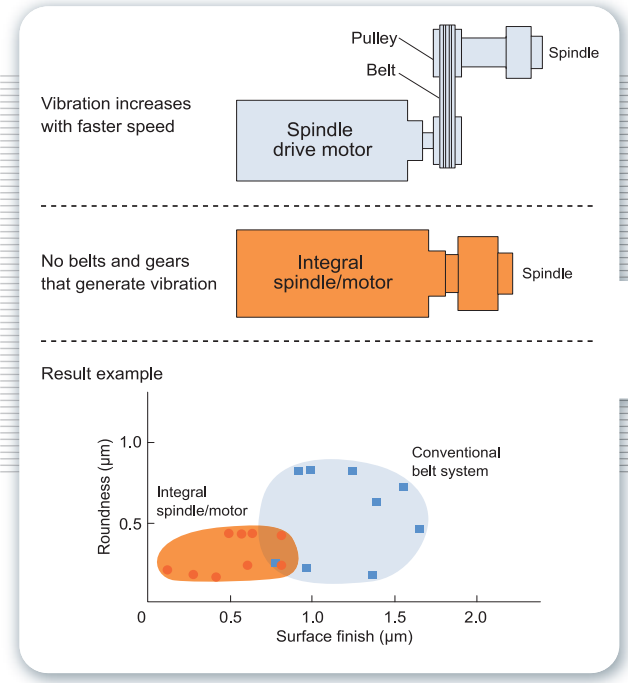
Automotive component
Material/S45C Size/ø60 mm×30 mm (ø2.36"×1.18")

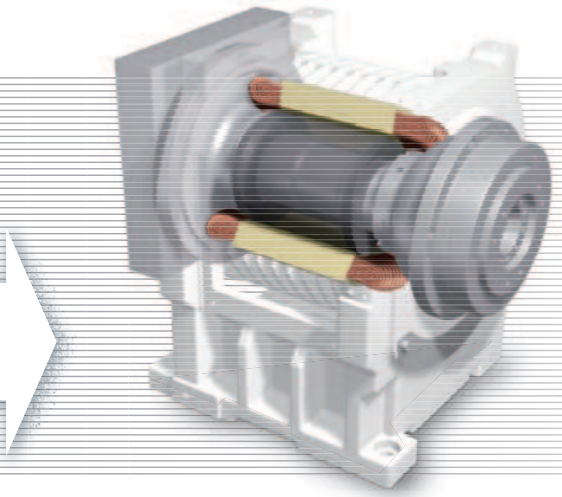
Higher Productivity

Rigid integral spindle/motor for unsurpassed machining performance

The integral spindle motor does not use gears or belts, which can cause vibration during machining.
With no need for replacement or maintenance on belt-drive parts, long periods of maintenance-free operation is assured.







With no source of vibration (from gears or belts), high-speed, high-accuracy machining can be performed by the integral spindle/motor. In addition, high-speed spindle acceleration/deceleration rates contribute to increased overall efficiency and productivity.

Designed for high-performance

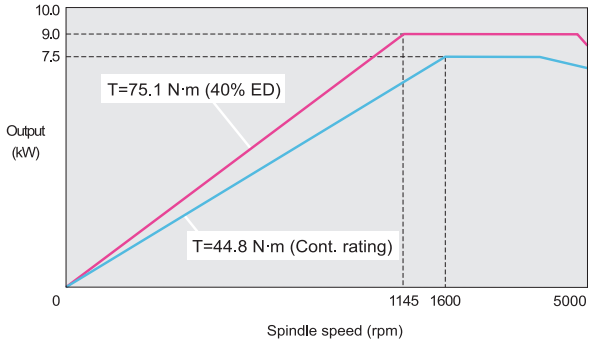
The spindle is designed to provide high-rigidity machining thanks to its high-torque capability in the low-speed range.

QUICK TURN PRIMOS 100 S

Spindle speed: 5000 rpm

Output (40% ED): 9 kW (12 HP)
Output (Cont. rating): 7.5 kW (10 HP)

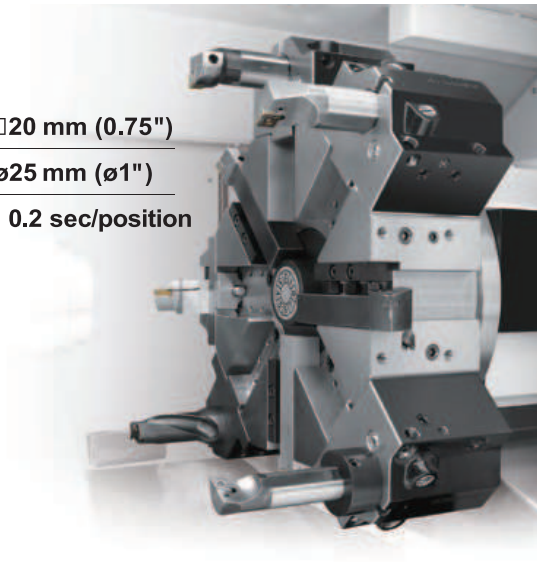
Torque: 45 N·m (33 ft·lb)
Spindle acceleration: 0→5000 rpm (1.29 sec)



8-position turret

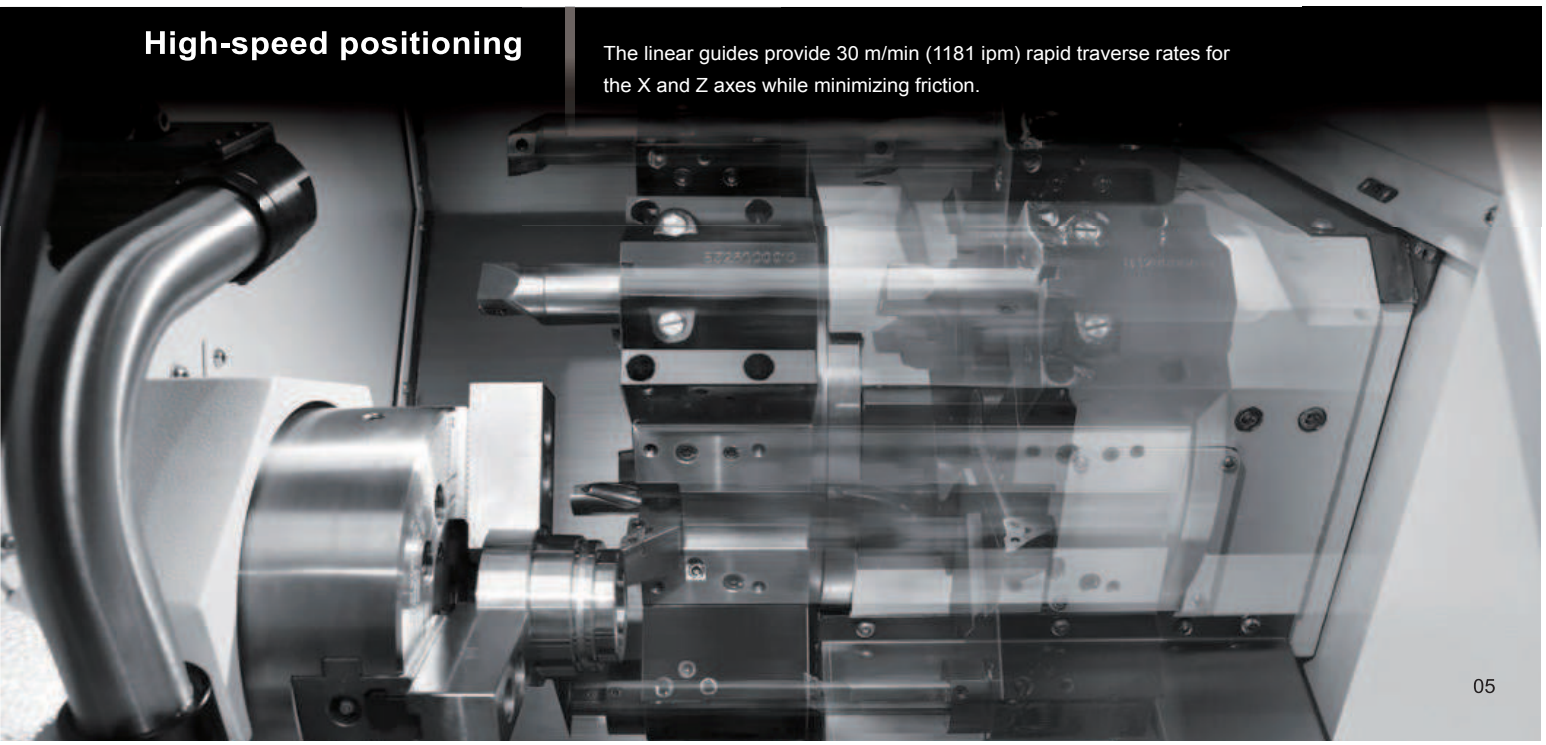
The QUICK TURN PRIMOS is equipped with a servomotor-driven, 8-position drum turret that features high-speed, non-lift turret indexing.

OD turning, facing tool	□20 mm (0.75")
Boring bar	ø25 mm (ø1")
Indexing time	0.2 sec/position



High-speed positioning

The linear guides provide 30 m/min (1181 ipm) rapid traverse rates for the X and Z axes while minimizing friction.



Higher Productivity

Compact design = maximum floor space utilization

A compact design for convenient operation even when one operator is handling multiple operations

Reduced machine height for excellent visibility

Designed for convenient maintenance

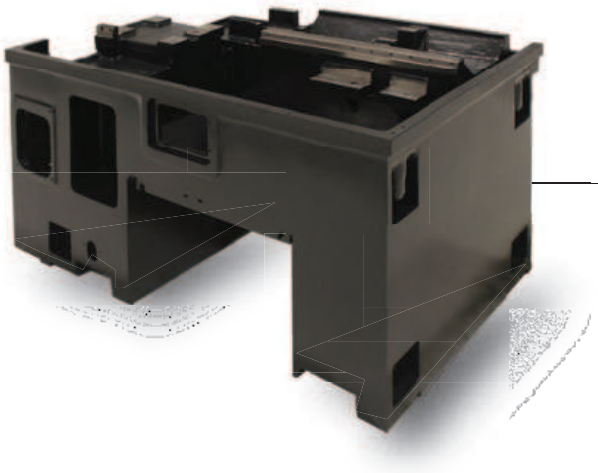
The lubrication oil tank is located in front of the machine. Other items requiring daily checking are also conveniently located in front and back of the machine for easy maintenance.

*Rear disposal oil pan (manual) is an option.

Higher Accuracy

Large capacity coolant tank

The large capacity coolant tank reduces coolant temperature to ensure high-accuracy machining.
The coolant tank and bed are separated to prevent heat transmission from chips and cutting coolant.



High-rigidity bed

THE QUICK TURN PRIMOS' accuracy is assured through the highly-rigid, box-shaped bed design.

In addition to the reliable electrical technology and machine construction, the INTELLIGENT THERMAL SHIELD ensures high-accuracy machining in cool to hot environments.

ITS

Heat Displacement Control

INTELLIGENT THERMAL SHIELD

The QUICK TURN PRIMOS features enhanced continuous machining accuracy. By performing extensive testing in a variety of environments and temperature-controlled rooms, Mazak has developed a control system that automatically compensates for temperature changes in the machining area.

Automation

Gantry loader

Unmanned operation system for a wide range of applications

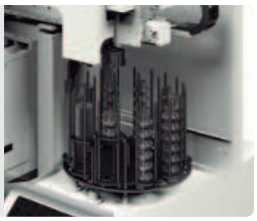
QUICK TURN PRIMOS 100 S+GL 01

- An optional turn-over unit can be attached to the machine
- The material/finished workpiece can be loaded on the pallet up to 350 mm (13.78") to increase unmanned operation
- Teaching function for gantry loader operation

Work conveyor

Depending on requirements, two sizes of work conveyors are available.

- 10 pallets
- 20 pallets



Production check

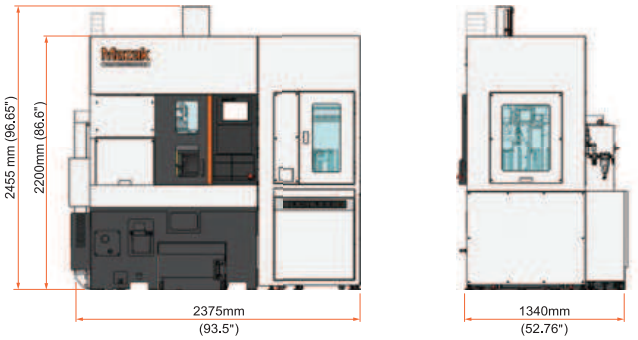
With the push of a button, a finished part can be called out, via a gravity chute, to be inspected.

Gantry loader specifications

		Gantry loader
Type		GL 01
Workpiece	Reference diameter	ø20~ø90 mm (ø0.75"~ø3.54")
	Weight (per 1 hand)	1.5 kg (3.3 lb.)
Axis feed rate	Horizontal axis	180 m/min (7087 ipm)
Acceleration/deceleration	Vertical axis	140 m/min (5512 ipm)
Work conveyor	Pallet height	350 mm (13.78")
	Workpiece diameter	ø20~ø90 mm (ø0.75"~ø3.54")
	Pallet weight	15 kg/pallet (33 lb./pallet)

Gantry Loader dimensions

■ QUICK TURN PRIMOS 100 S GL 01



Ease of Maintenance

Ergonomic design for convenient operation

Large front window

The front window, reclined at 45°, allows machining operation to be easily monitored by the operator.

Small, lightweight front door

The front door is designed for easy opening and closing while providing a large opening to enable ample operator accessibility.

Convenient access

The spindle center line is a short distance from the front of the machine.

Designed for smooth chip disposal

The bottom of the machining area is completely open to facilitate chip disposal.

Option

Chip disposal

Machined chips can be removed from the rear of the machine.

Standard and optional equipment

●: Standard equipment ○: Optional equipment

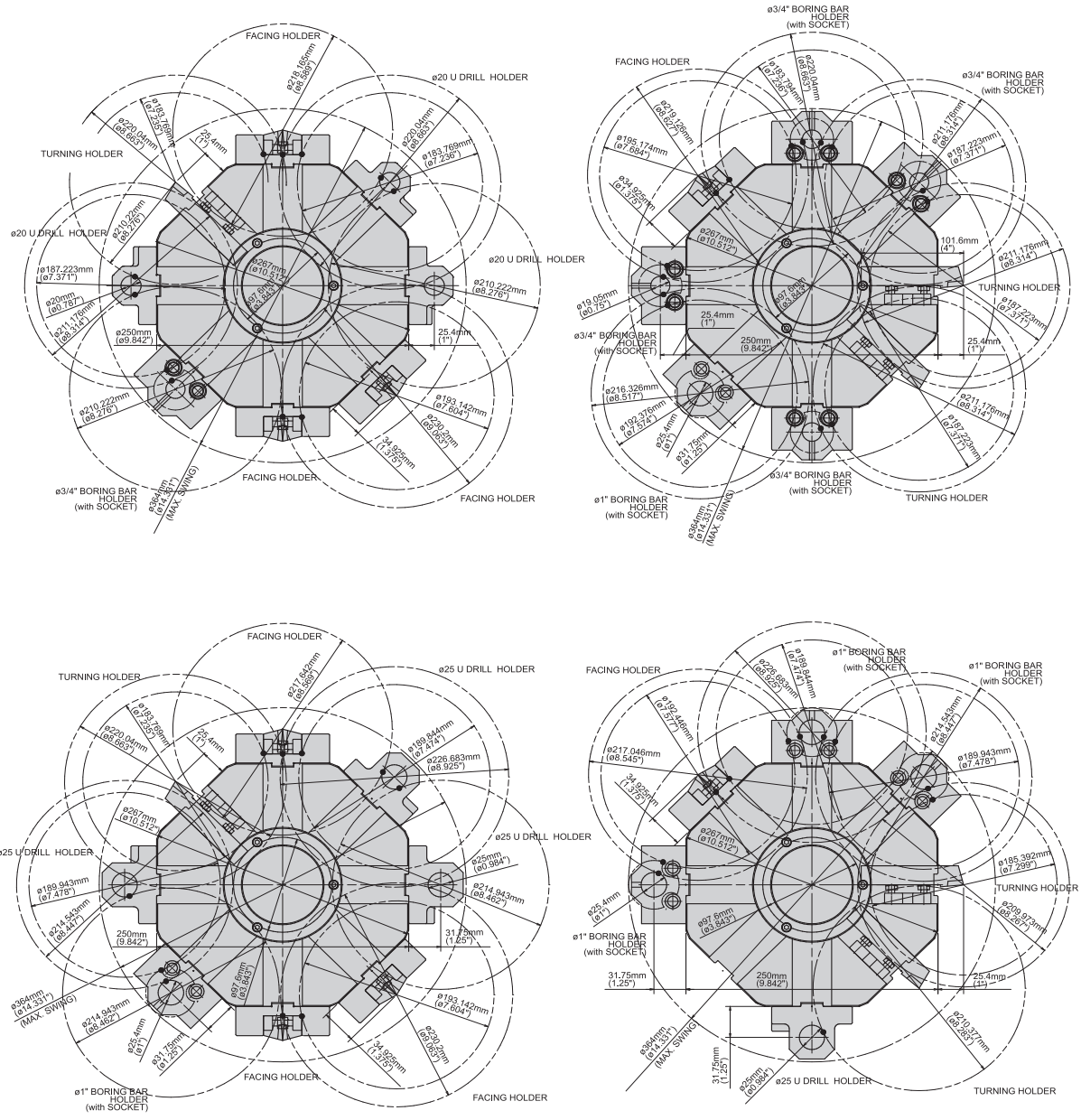
			QTP 100 S
Machine	6" non through-hole chuck	N-06	○
	6" through-hole chuck	B-206	●
	Collet chuck	SAD-40	○
	Tailstock	MT No. 3	○
	Live center	MT No. 3	○
	LED work light		●
	Tooling package		●
	Set of adjusting tools		●
	Multi-tap transformer		●
	Special machine color		○
Factory automation	Absolute positioning system		●
	Spindle orient		○
	Tool eye	Automatic	○
	Automatic chuck jaws open/close		○
	Chuck air blast		○
	Bar feeder interface		○
	Automatic parts catcher		○
	Automatic parts output conveyor		○
	Automatic front door		○
	Gantry loader		○

				QTP 100 S
Factory automation	Automatic power off			○
	Operation end buzzer			○
	Work counter			○
	Status light	1 color		○
		3 colors		○
Safety equipment	Chuck open/close confirmation			●
	Hydraulic pressure interlock			●
	Foot pedal switch for chuck			●
	Air pressure interlock			○
	Current leakage circuit breaker (200 mA)			○
	Overload detection system			○
	Feed axes emergency stop function			●
Coolant/ Chip disposal	Oil pan	Oil pan without conveyor		●
		Manual disposal (rear)		○
	Chip conveyor	Hinge	Preparation	○
			Rear disposal	○
	Chip bucket	Fixed		○
		Swing		○
	Coolant system	250 W		●
	High power coolant	520 W		○
	Additional coolant nozzle (headstock side)			○
	Turret air blast			○
	Mist collector			○
	Coolant temperature control			○

Cutting Area Diagram

Unit: mm (inch)

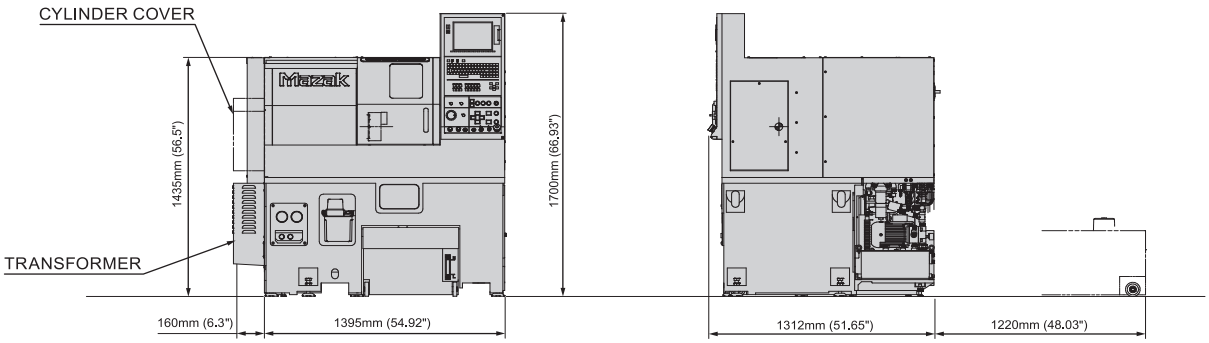
QUICK TURN PRIMOS 100 S



Machine dimensions

Unit: mm (inch)

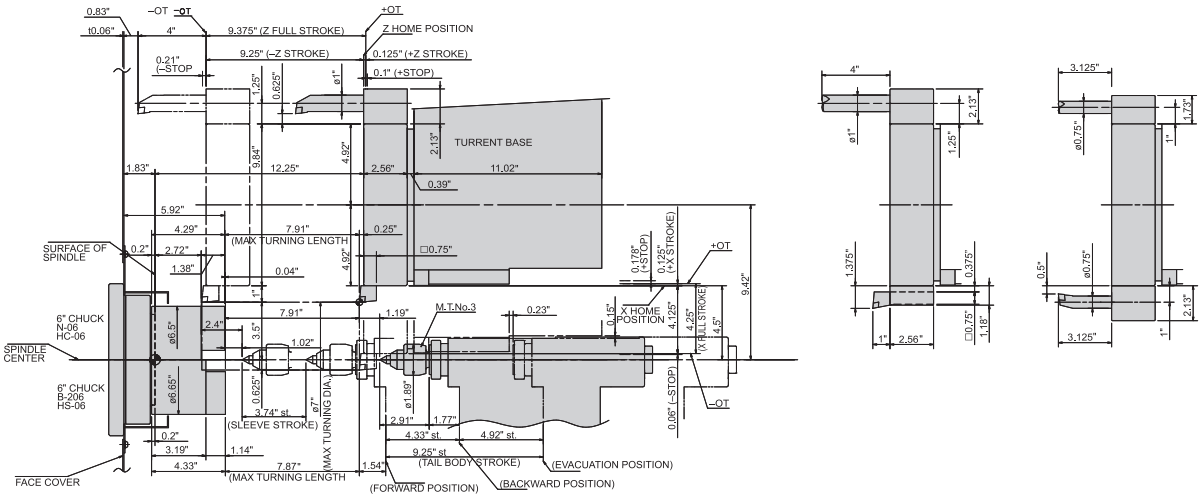
QUICK TURN PRIMOS 100 S



Cutting area diagram

Unit: inch

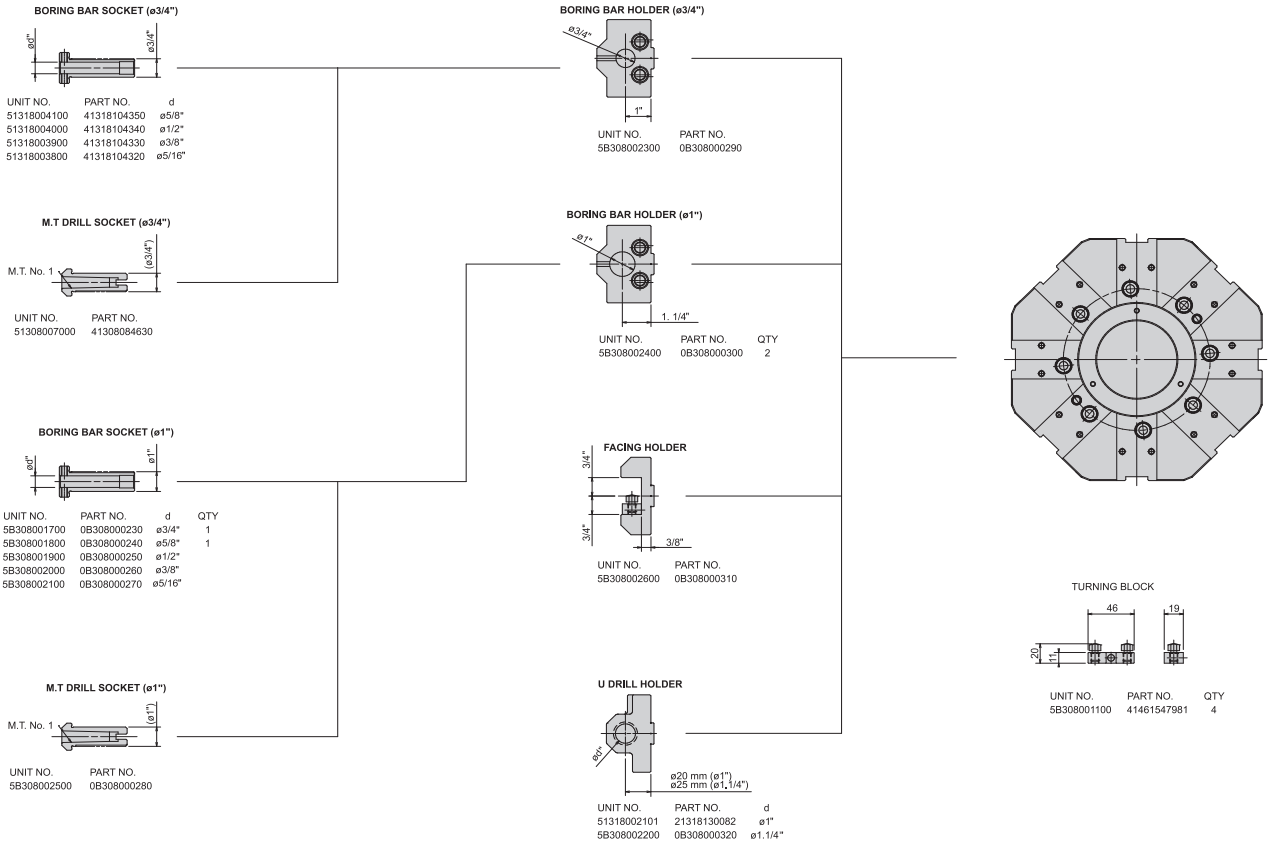
QUICK TURN PRIMOS 100 S



Tooling system

Unit: mm (inch)

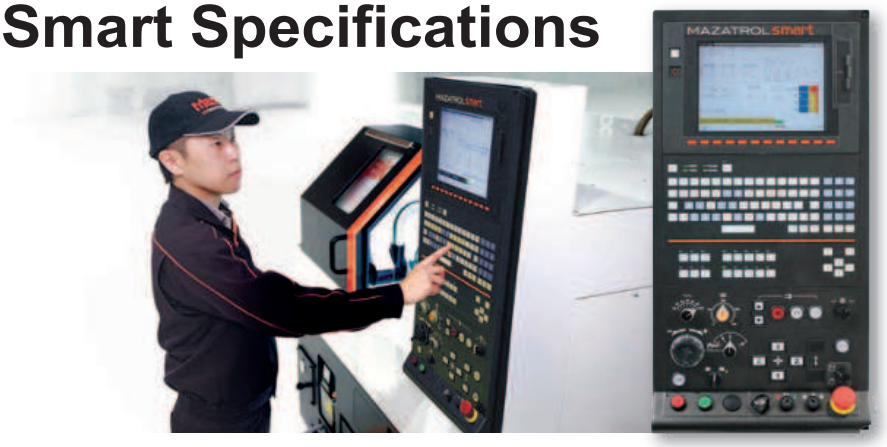
QUICK TURN PRIMOS 100 S



Standard machine specifications

		QUICK TURN PRIMOS 100 S
Capacity	Universal	200 U
	Max. swing	ø444 mm (ø17.48")
	Max. machining diameter	ø180 mm (ø7.09")
	Max. machining length	200 mm (7.87")
	Bar work capacity	ø36 mm (ø1.42")
Travel	X axis	110 mm (4.33")
	Z axis	240 mm (9.45")
Spindle	Chuck size	6"
	Spindle speed	5000 rpm
	Number of spindle speed ranges	1-Stepless
	Spindle nose	ø140 mm (ø5.51")
	Spindle bore	ø45 mm (ø1.77")
Turret	Turret type	8 position drum turret
	Number of tools	8 tools
	Tool shank height	20 mm (0.75")
	Boring bar shank diameter	25 mm (1")
	Turret indexing time	0.2 sec
Feed rate	Rapid traverse rate: X axis	30 m/min (1181 ipm)
	Rapid traverse rate: Z axis	30 m/min (1181 ipm)
Tailstock (OP)	Positioning	Manual
	Tailstock center	MT-No.3 (Dead center)
Motors	Spindle motor (40% ED./Cont. rating)	9/7.5 kW (12/10 HP)
	Coolant pump motor	0.25kW (0.34HP) [0.52kW (0.94HP) (option)]
Power requirement	Required power capacity (Cont. rating)	17.15 kVA
Coolant	Tank capacity	130 L (34 gallons)
Machine size	Machine height	1700mm (66.93")
	Floor space requirement	1395 mm × 1230 mm (54.92" × 48.43")
	Weight	2000 kg (4400 lb.)
Noise	Equivalent continuous sound pressure level at operator position (dependent on equipment options)	Less than 80 dB (A)

MAZATROL Smart Specifications



	MAZATROL	EIA/ISO
Number of controlled axes	Max. 2 axes (simultaneous 2 axes)	Max. 2 axes (simultaneous 2 axes)
Least input increment	0.0001mm, 0.00001 inch, 0.0001°	
Max. programmable value	±99999.9999 mm, ±9999.99999 inch, ±99999.9999°	
High precision control	Smooth high gain control, Absolute position detection	
Interpolation	Positioning (Independent axes control), Linear interpolation	
	—	Thread cutting (equal pitch, variable pitch)
Feed function	Rapid traverse, Cutting feed (per revolution, per minute), Feed rate clamp, Override	
	(Rapid traverse, Cutting feed, External override, 2nd override, Override cancel)	
	Automatic acceleration/deceleration feed rate (Linear acc./dec., time constant), Constant tangential speed control, Dry run	
Program registration	256,˙512	
Program storage capacity	320 KB	
Display	10.4 inch color TFT	
NC display languages	English, German, French, Italian, Spanish, Dutch, Norwegian, Swedish, Finnish, Danish, Portuguese, Turkish, Polish, Czech, Romanian	
	Chinese simplified form, Chinese traditional form, Korean, Slovakian, Russian, Hungarian, Bulgarian, Japanese, (one touch language switching)	
Data input/output	USB	
Spindle function	S code output (8-digit binary output, Analog output, Actual revolution speed binary output), Constant surface speed	
	Spindle revolution control (RPM clamp, high speed indication/speed change detection, Rotary speed display), Spindle override (0 - 150%)	
Tool function	T code output (8-digit binary data, next tool, used tool), Tool life monitoring (Number of workpieces, time and wear compensation)	
	Spare tool exchange, Tool management (Group number, Pocket number)	
Tool compensation	Tool tip R compensation, Tool tip shape compensation, Tool position compensation, Tool wear compensation, Tool radius compensation	
Number of registered tools	Max. 64	
Tool offset pairs	128	
Miscellaneous functions	M code output (M3-digit), simultaneous output of four 3-digit M codes, Second miscellaneous functions (B 3-digit output), High speed MSTB interface	
Coordinate system control	MAZATROL coordinate system	Machine coordinate system (System shift, Zero point shift)
	—	Work coordinate system (System shift)
Manual operation	Rapid traverse, Cutting feed, Handle feed, Zero-point return, Manual control (machine lock, gear shift, barrier cancel)	
	Manual spindle control (spindle start, stop, reverse, jogging)	
Automatic operation	Memory operation, MDI operation, Cycle start, NC reset, Single block, Feed hold, Single process	
	Optional block skip, Optional stop, Machine lock, Barrier cancel	
	Feed override, Spindle control, Dry run, Manual handle control, Tool path storage (TPS)	
Background function	During automatic operation (Programming, Data input/output, Tool path check)	
Machine compensation	Backlash compensation, Pitch error compensation, Rotational axis pitch error compensation, Thermal displacement compensation,	
Protection function	Emergency stop, Over travel, Barrier (stored stroke limit, tool barrier, chuck barrier, tail barrier)	
	Interlock (cutting start, axis interlock), Alarm	
Measuring function	Manual measurement (Tool set measurement, Z-offset measurement), Automatic measurement	
	(Work measurement, Z-offset measurement, Tool tip point measurement, External measurement)	

*Option

QUICK TURN PRIMOS 100S

Mazak

www.MazakUSA.com

MAZAK CORPORATION
NORTH AMERICAN MANUFACTURING HEADQUARTERS
8025 Production Drive, Florence, KY 41042
Tel: (859) 342-1700 Fax: (859) 342-1865

10_15_MOD_QTP100S_B