

Mazak

# POWER MASTER

SERIES

POWER MASTER SERIES

Mazak



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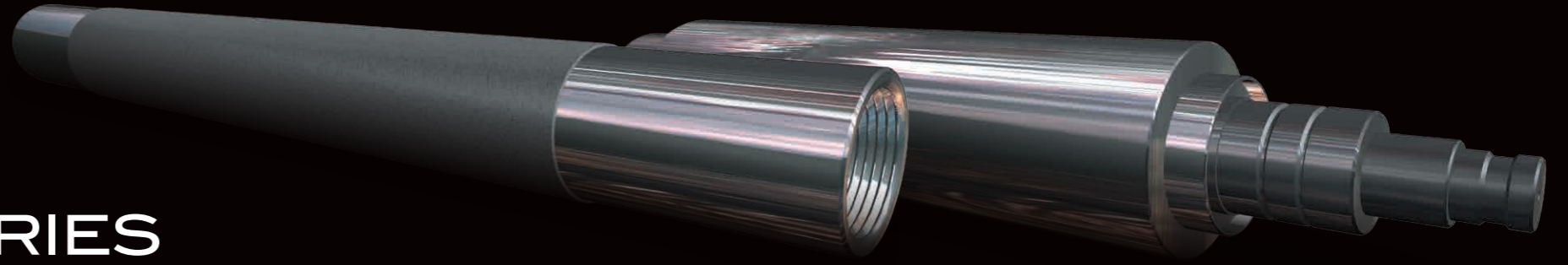
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POWER MASTER series 20.08.0 T 99J1A8420E0

Flatbed CNC turning center widely used in the oil industry for many years

# POWER MASTER SERIES



Wide range of available spindle bores :  
 Φ118 mm, Φ260 mm, Φ320 mm, Φ375 mm

Heavy duty machining thanks to AC 45 kW (60 HP)  
 spindle motor with 7280 N · m of torque

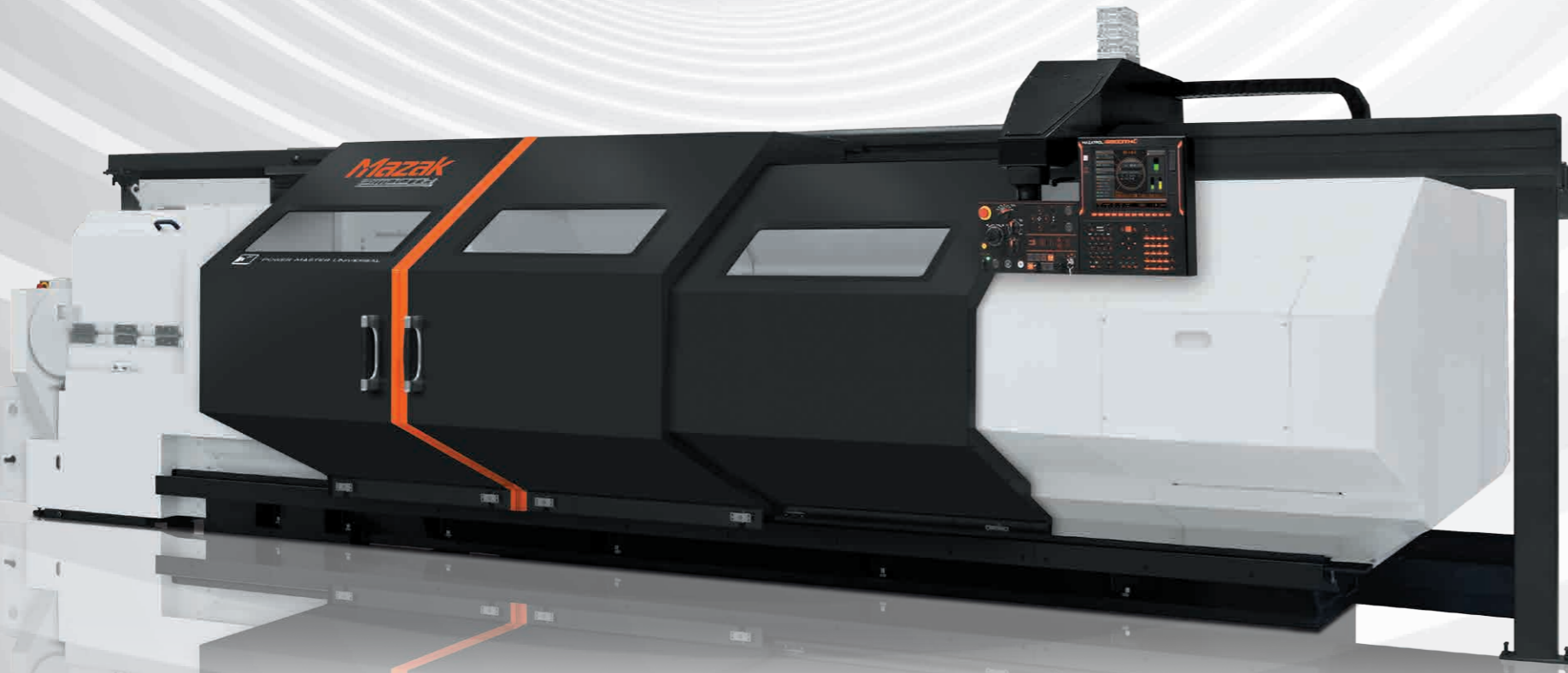
MAZATROL SmoothC CNC for  
 unsurpassed ease of operation



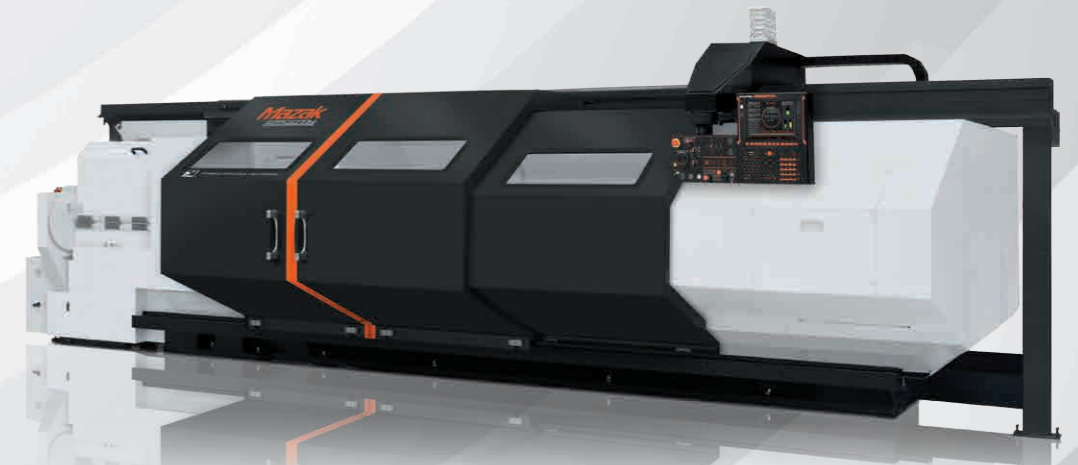
Shown with optional equipment

## POWER MASTER CHUCKER

- Maximum workpiece diameter Φ1000 mm
- Largest spindle in this turning center class
- Octagonal turret for heavy duty machining



POWER MASTER Universal  
 Shown with optional equipment



Shown with optional equipment

## POWER MASTER UNIVERSAL

- High efficiency machining of long shaft workpieces
- Exceptional versatility thanks to octagonal disk turret + 6-tool drum turret

# Higher Productivity

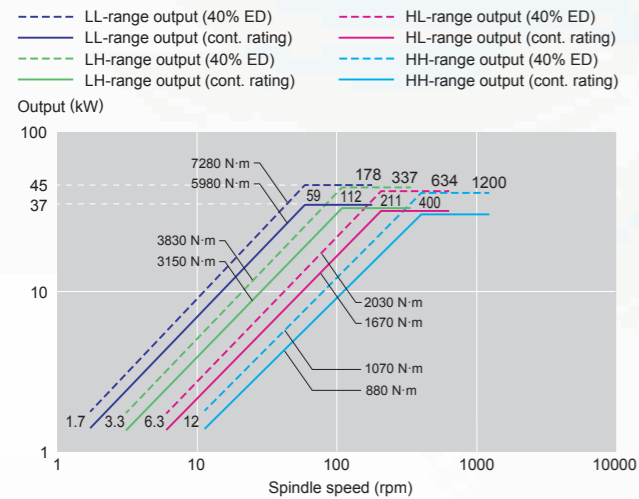
## Spindle

High torque for fast cycle times and heavy duty machining

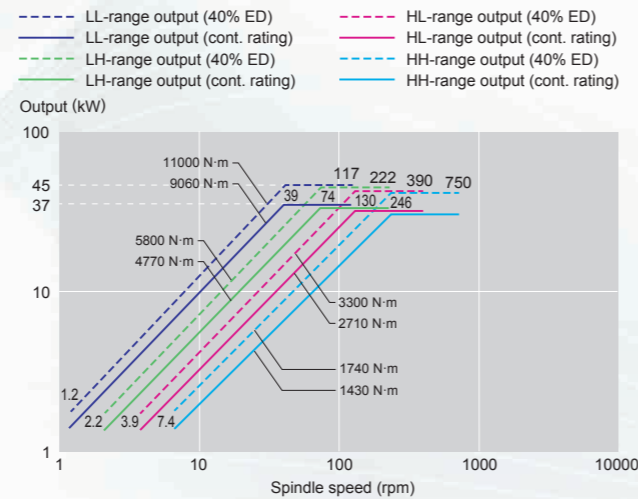
The 45 kW (60 HP) spindle motor produces a maximum torque of 7.28 kN · m and has 4 hydraulically shifted gear ranges for full power cutting on large diameter workpieces.

### Spindle output / torque diagram

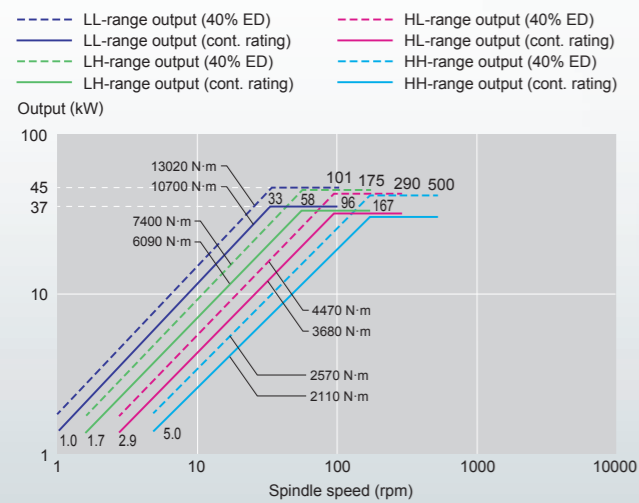
Φ118 mm spindle bore (45 kW)



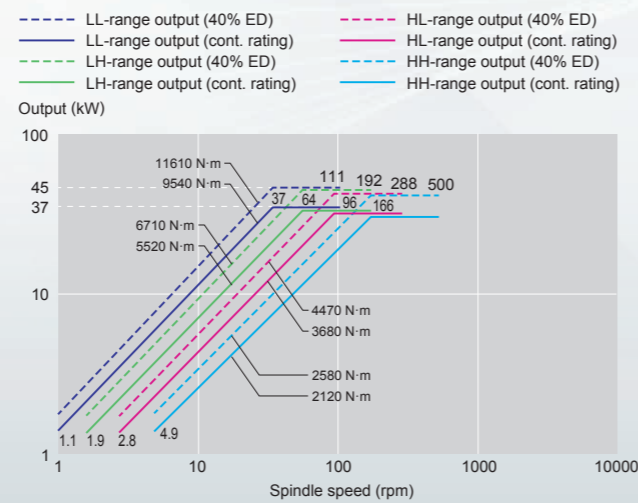
Φ260 mm spindle bore (45 kW) **OPTION**



Φ320 mm spindle bore (45 kW) **OPTION**

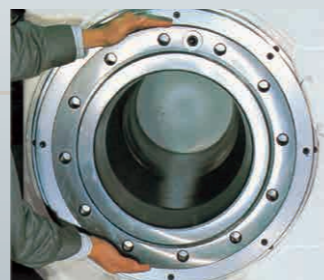


Φ375 mm spindle bore (45 kW) **OPTION**



### Large spindle bores

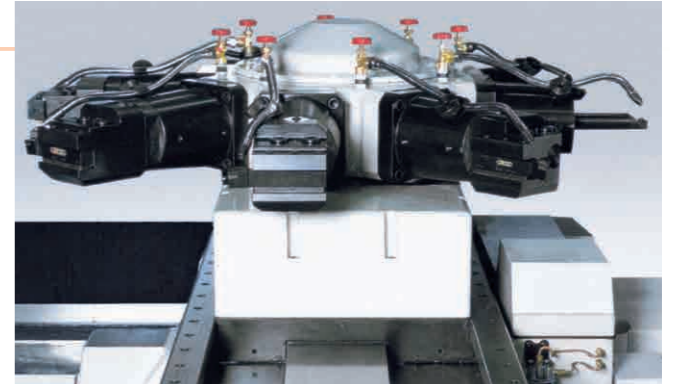
The standard spindle bore is Φ118 mm. Φ260 mm, Φ320 mm, Φ375 mm spindle bores are optionally available.



## Turret

### Octagonal turret (Chucker)

In order to have a large cutting diameter and to prevent workpiece interference the tool holder mounting face is shifted 75 mm from the turret centerline. This provides a maximum cutting diameter of Φ1000 mm with standard tooling, the largest for this machine class. The maximum distance from the spindle face to the holder mounting face is 1600 mm resulting in an extremely large machining envelope.



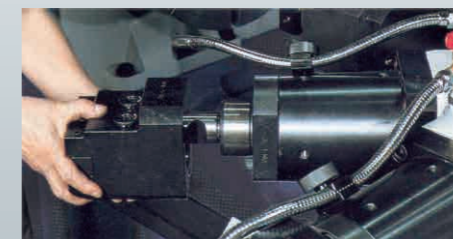
### Octagonal disk turret + 6-tool drum turret (Universal)

The front 8-station disk turret can mount 8 tools □32 mm × 160 mm and the back turret can mount 6 tools - I.D., O.D. and facing tool holders.



### Quick tool change

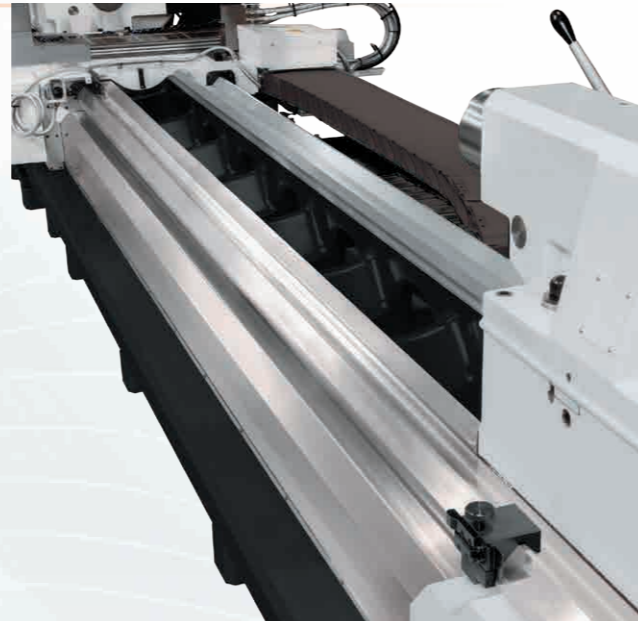
Facing and O.D. tool holders on the 6-tool turret can be changed quickly by operating two cam lock pins.



# Machine Design

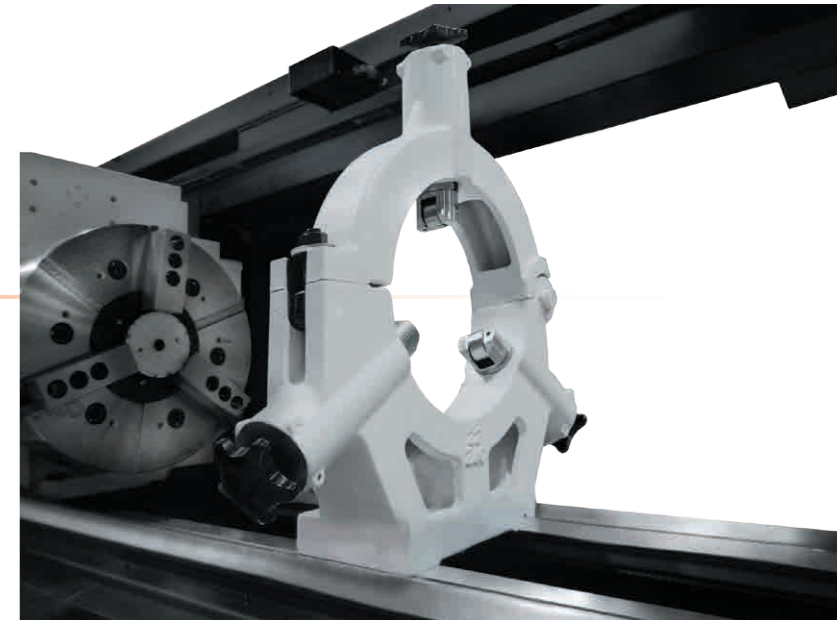
## High rigidity bed

The wide machine base is a rigid foundation for heavy duty machining thanks to the reinforcement ribs. The V-shaped sideways are precision ground after heat treatment for durability. Additionally, machined chips are smoothly removed from the machining area by the inclined chutes in the machine bed.



## Steady rest OPTION

Various sizes of steady rests  $\Phi 20 \text{ mm} \sim \Phi 250 \text{ mm}$ ,  $\Phi 150 \text{ mm} \sim \Phi 350 \text{ mm}$ ,  $\Phi 250 \text{ mm} \sim \Phi 450 \text{ mm}$  and  $\Phi 350 \text{ mm} \sim \Phi 550 \text{ mm}$  are optionally available to support long shaft workpieces.



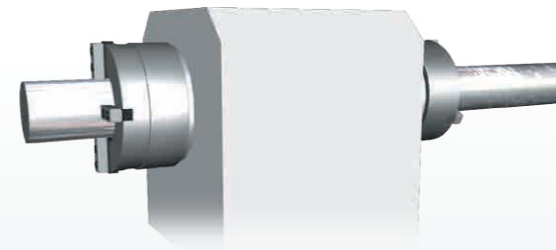
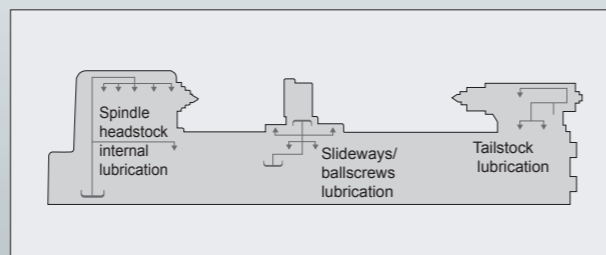
## Tailstock with built-in center

The tailstock has a large 150 mm diameter quill with built-in MT No.5 center. The tailstock is clamped to the bed with 12-tons of force and can support workpieces up to 3-tons. The tailstock body is easily positioned by the carriage.



## Lubrication system

In order to maintain high accuracy over a long service life, the ballscrews, sideways and Z-axis feed gearbox are lubricated by oil supplied by a pump located in the headstock. The turret gearbox and X-axis feed gearbox are lubricated by an oil bath system. Tailstock lubrication is performed by manually operating a push lever.



## Rear chuck mounting preparation OPTION

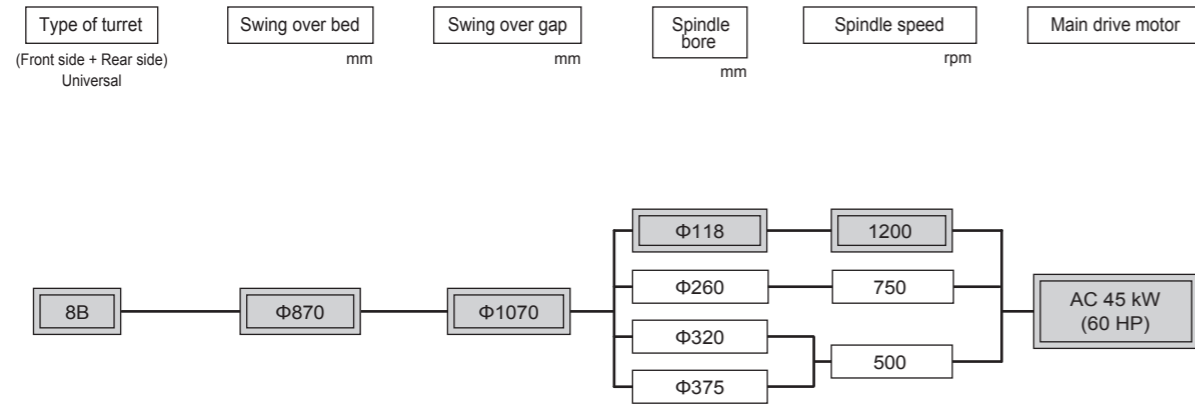
Rear chuck mounting preparation allows a chuck to be mounted on the rear of the spindle. This includes covers that are easily opened for access to the rear chuck for mounting or unmounting. For safety, a switch detects if the covers are opened and prevents machine operation. ( $\Phi 375 \text{ mm}$  bore shown)



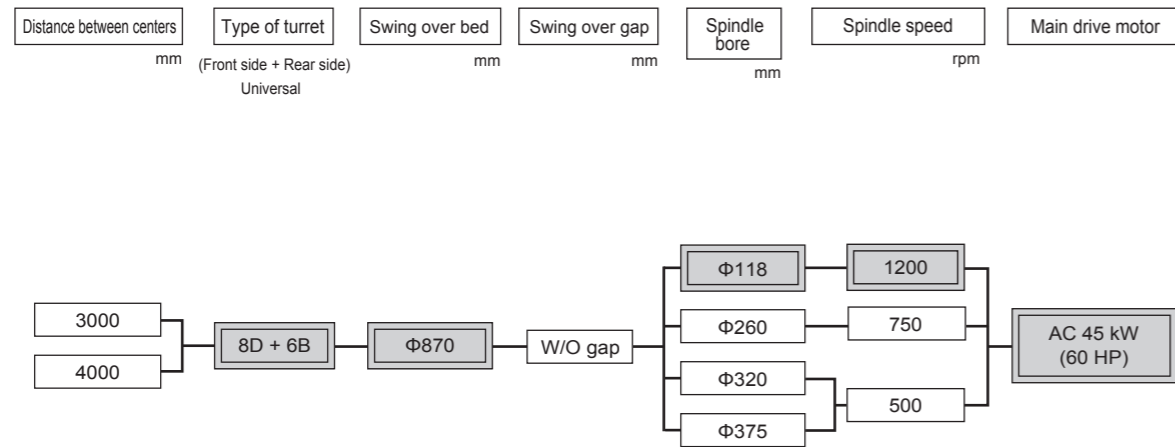


## Wide range of specifications

### Chucker



### Universal



STD

8B : Octagonal turret 8D : Octagonal disk 6B : Hexagonal turret

## Standard Machine Specifications

		Chucker	Universal	
			3000U	4000U
Capacities	Swing over bed	Φ870 mm	Φ870 mm	
	Swing over carriage	Φ920 mm	Φ840 mm	
	Swing over cross-side	-	Φ450 mm	
	Max. machining diameter	Φ1000 mm	Φ840 mm	
	Max. machining length	1055 mm	2985 mm	4005 mm
	Swing over gap	Φ1070 mm	-	
	Width of gap	510 mm	-	
Travel	X-axis stroke	635 mm	670 mm	
	Z-axis stroke	1170 mm	3075 mm	4095 mm
Turret	Type of turret	8-tool turret	8-tool disk turret & 6-tool turret	
Traverse rate	Rapid traverse rate	X : 12000 mm/min. Z : 12000 mm/min.		
Tailstock	Diameter of tailstock quill	-	Φ150 mm	
	Tailstock center	-	MT. No.5 (built-in center)	
	Travel of tailstock	-	160 mm	
Motor	Spindle motor	AC 45 kW (60 HP) (40% ED) / 37 kW (50 HP) (cont. rating)		
Power source	Electric power supply	74.6 kVA (40% ED) / 63.3 kVA (cont. rating)		
	Air supply	0.5 MPa (5kgf/cm <sup>2</sup> )		
Machine size	Machine height	2179 mm	2275.3 mm	
	Floor space requirements	5692 mm × 3267 mm	7621 mm × 2950 mm	8641 mm × 2950 mm
	Machine weight	9450 ~ 10585 kg	15500 ~ 16635 kg	16500 ~ 17635 kg
Sound	Equivalent continuous sound pressure level at operator position (dependant on equipment options)	Less than 80 db (A)		

### Spindle (Chucker and Universal)

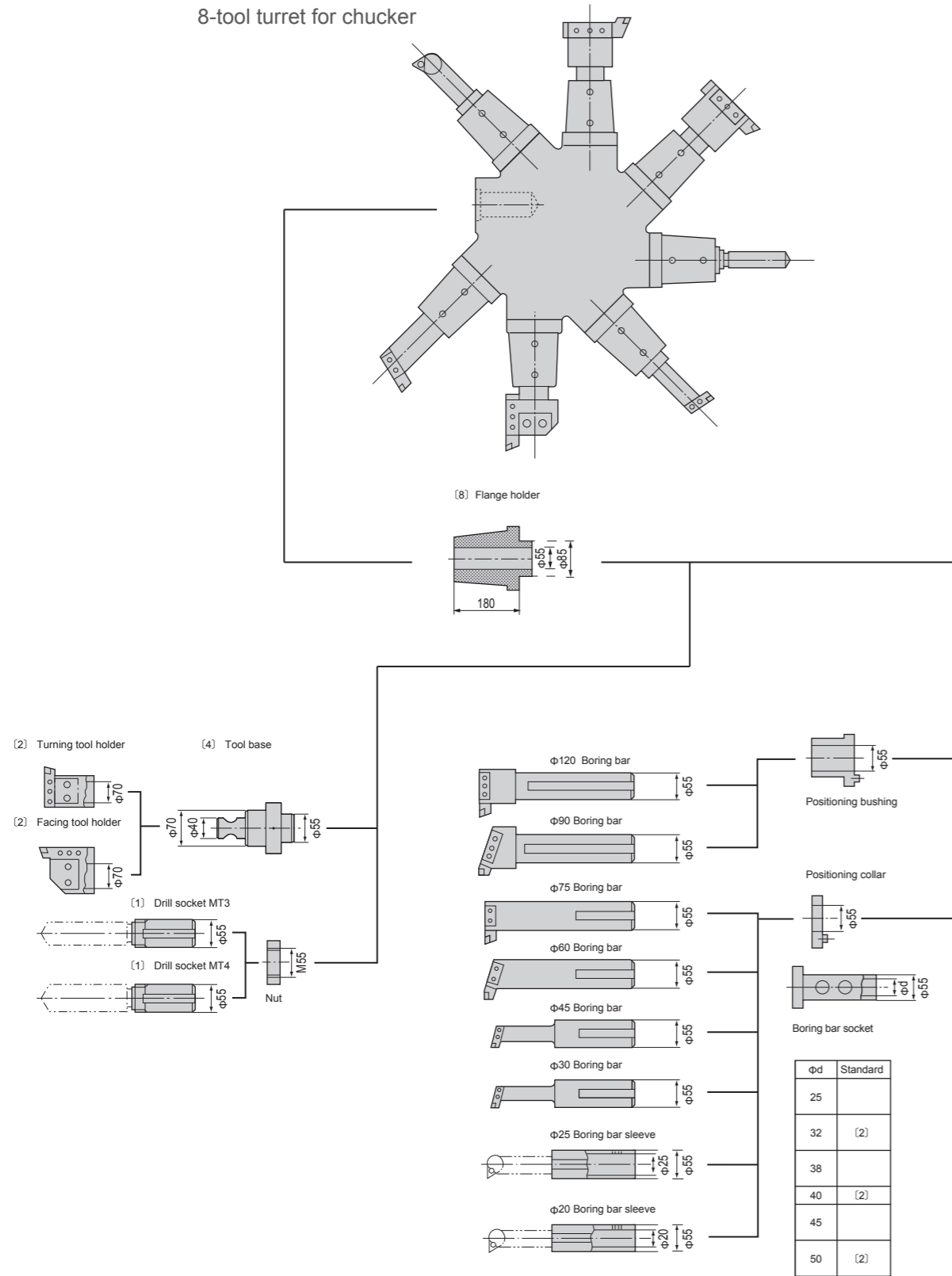
Spindle speed	1200 rpm	750 rpm*	500 rpm*
Spindle nose	A2-11	A2-15*	A2-20*
Spindle bore	Φ118 mm	Φ260 mm*	Φ320 mm*, Φ375 mm*

\*Option

Tooling system POWER MASTER Chucker

Unit : mm

8-tool turret for chucker

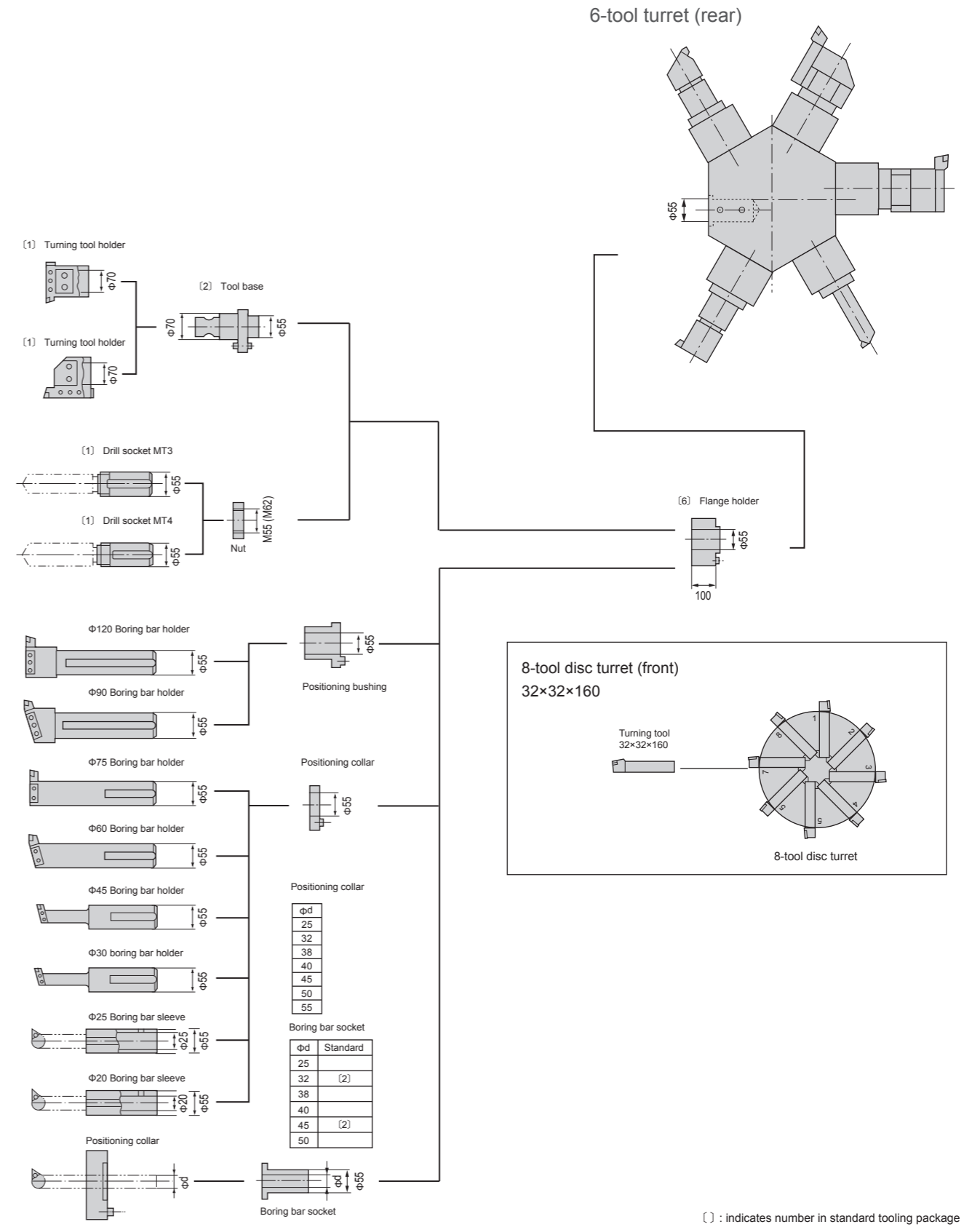


( ) : indicates number in standard tooling package

Tooling system POWER MASTER Universal

Unit : mm

6-tool turret (rear)



( ) : indicates number in standard tooling package

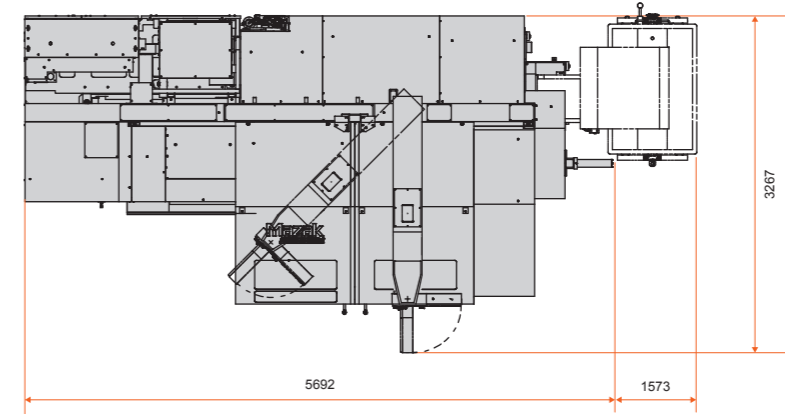
## Standard and Optional Equipment

		● : Standard ○ : Option - : N/A	
		Chucker	Universal
Machine	Work light	●	●
	8 disk + 6 boring turret	-	●
	8 position boring turret	●	-
	Programmable quill	-	○
	Manual tailstock	-	●
	Tailstock built-in live center MT5	-	●
	Tailstock MT5 (dead center type)	-	○
	Spindle bore Φ118 mm / 1200 rpm	●	●
	Spindle bore Φ260 mm / 750 rpm	○	○
	Spindle bore Φ320 mm / 500 rpm	○	○
	Spindle bore Φ375 mm / 500 rpm	○	○
	15", 18" non through-hole chuck (Kitagawa)	○	○
	15", 18" through-hole chuck (Kitagawa)	○	○
	Chuck foot-switch (rotary system)	●	●
	Steady rest / roller-j / Φ20-Φ250 mm	-	○
	Steady rest / roller-j / Φ150-Φ350 mm	-	○
	Steady rest / roller-j / Φ250-Φ450 mm	-	○
	Steady rest / roller-j / Φ350-Φ550 mm	-	○
	Rear chuck mounting preparation	○	○
	Automation	Tool eye (manual)	○
Automatic chuck jaws open / close		○	○
Auto power off (breaker trip)		●	●
Auto power ON / OFF + warm-up operation		○	○
Status light (3 colors, square)		○	○
Safety Equipment	Hydraulic pressure interlock	●	●
	Mist collector (GP2000) req. total cover	○	○
	Overload detection system	○	○
	Total cover	●	●
	Relocation detector	●	●
Coolant / chip Disposal	Complete coolant system	●	●
	Full coverage chip and coolant guard	●	●
	High pressure coolant 5 kg, 20 L/min	○	○
	High volume coolant 2.7 kg, 60 L/min	○	○
	Chip conveyor side discharge	○	○
	Chip bucket (swing type)	○	○
Other	One set of manuals (CD)	●	●
	One set of adjusting tools	●	●
	Manual pulse generator (wired / detachable)	○	○
CNC	MAZATROL SmoothC CNC	●	●

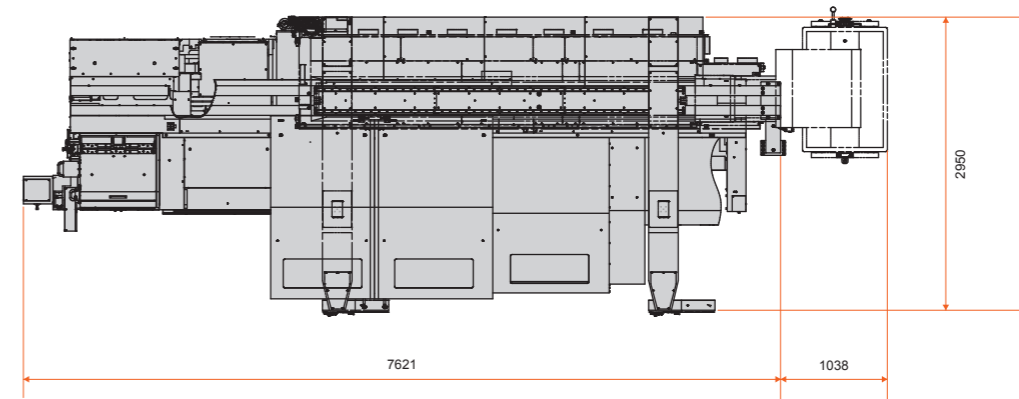
## Machine Dimensions

Unit : mm

### Chucker



### Universal 3000U



### Universal 4000U

