

With  
the latest  
CNC system

# VARIAXIS i-600 / i-700

Next generation 5-axis machining center with the latest CNC system for high accuracy and high productivity



VARIAXIS i-600  
Shown with optional equipment

■ Spindle specifications to meet a wide variety of machining requirements

**12000 min<sup>-1</sup> (rpm)**  
22 kW (30 HP)

Standard (No. 40 / BBT-40 / HSK-A63)  
Max. torque (40% ED (30 min.rating)) : 71.6 N·m (53 ft·lbs)

**18000 min<sup>-1</sup> (rpm)**  
35 kW (47 HP)

High-speed, High-torque (No. 40 / BBT-40 / HSK-A63)  
Max. torque (40% ED (30 min.rating)) : 134 N·m (99 ft·lbs)

**12000 min<sup>-1</sup> (rpm)**  
22 kW (30 HP)

High-torque (No. 40 / BBT-40 / HSK-A63)  
Max. torque (40% ED (30 min.rating)) : 118 N·m (87 ft·lbs)

**25000 min<sup>-1</sup> (rpm)**  
23 kW (31 HP)

High-speed (HSK-A63)  
Max. torque (40% ED (30 min.rating)) : 22 N·m (16 ft·lbs)

Spindle output rating is 40% ED (30 min. rating)

- Tilting / rotary table plus high rigidity machine construction ensures high-accuracy machining over extended periods of time
- VARIAXIS i series can be integrated to other machines such as horizontal machining centers using PALLETECH SYSTEM. MPP (MULTI PALLET POOL) is also available for compact space automation



## MAZATROL *SMOOTH*Ai**

Next generation MAZATROL SmoothCNC system for higher productivity

- Advanced programming and simulation system to support all process from making programs to machining
- Vibration control and heat displacement compensation utilizing AI ensure improvement on machining surface and stable, high accuracy-machining
- Digital Twin - duplicate the operation of machines on your factory on office PCs and make programs in office
- Robot set up assist - make robot programs easily and automatically

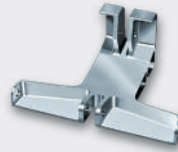
Shown with optional MAZATROL SmoothAi second monitor

# Effective process integration by 5-axis to reduce cycle times

Thanks to the tilting table with minimum interference, a wide variety of workpiece can be machined



Aerospace component (impeller)



Food transportation industry component (bracket)



Semiconductor production equipment component (vacuum chamber)



Automotive component (control arm)

## Standard Machine Specifications

		VARIAXIS i-600	VARIAXIS i-700
Stroke	X-axis travel (spindle head left / right)	510mm (20.08")	630mm (24.8")
	Y-axis travel (spindle head back / forth)	910mm (35.83")	1100mm (43.31")
	Z-axis travel (spindle head up / down)	510mm (20.08")	600mm (23.62")
	A-axis travel (table tilt)	-120° ~ +30°	
	C-axis travel (table rotation)	±360°	
Table	Distance from table top to spindle nose	70 mm ~ 580 mm (2.76" ~ 22.83") (table horizontal) <sup>*)</sup>	100 mm ~ 700 mm (3.94" ~ 27.56") (table horizontal)
	Table size	Φ600 mm (Φ23.62") × Width 500mm (19.69")	Φ700 mm (Φ27.56") × Width 500 mm (19.69")
	Max. workpiece size	Φ700 mm (Φ27.56")×450 mm (17.72")	Φ850 mm (Φ33.46")×500 mm (19.69")
	Table load capacity (evenly distributed)	500 kg (1102 lbs)	700 kg (1543 lbs)
	Milling Spindle	Max. spindle speed	12000 min <sup>-1</sup> (rpm)
Spindle taper		7/24 taper No.40	
Spindle bearing I.D.		Φ80 mm (Φ3.15")	
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)	18000"/min	
	Min. indexing increment (A-, C-axis)	0.0001°	
Automatic tool changer	Tool shank configuration	No. 40	
	Tool storage capacity	30	
	Max. tool diameter	Φ90 mm (Φ3.54")	
	Length (from gauge line) / weight	300 mm (11.81") / 8 kg (18 lbs)	360 mm (14.17") / 8 kg (18 lbs)
	Max. tool diameter with adjacent tool pockets empty	Φ130 mm (Φ5.12")	
	Tool selection method	Random selection, shortest path (fixed pocket assignment)	
Motors	Tool change time (chip-to-chip)	3.4 sec.	3.6sec.
	Spindle motor (40% ED / cont. rating)	22 kW (30 HP) / 15 kW (20 HP)	
	Electrical power requirement (40% ED / cont. rating)	61.04 kVA / 51.3 kVA	62.70 kVA / 52.95 kVA
	Air supply	360 NL/min (13.72 ft <sup>3</sup> /min)	
Coolant	Coolant tank capacity	500 L (132.1 gal)	
Machine size	Height	3187 mm (125.47")	3457 mm (136.1")
	Width×Length	2200 mm (86.61") × 3980 mm (156.69")	2400 mm (94.49") × 4295 mm (169.09")
	Machine weight	13000 kg (28660 lbs)	15000 kg (333069 lbs)
Sound	Equivalent continuous sound pressure level at operator position (dependant on equipment options)	Less than 80 dB (A)	

<sup>\*)</sup> Specifications are different for 2-pallet changer

## 2-pallet changer OPTION

The next workpiece can be setup during the machining of the current workpiece for higher productivity.



VARIAXIS i-700 (2-pallet changer)  
Shown with optional equipment

## Standard and Optional Equipment

● : Standard ○ : Option

		VARIAXIS i-600	VARIAXIS i-700	VARIAXIS i-600	VARIAXIS i-700
Machine	12000 min <sup>-1</sup> (rpm) No. 40 spindle	●	●		
	Ai THERMAL SHIELD	●	●		
Factory Automation	Tool length measurement & tool breakage detection	○	○		
	Laser tool measurement system	○	○		
	Ball screw core coolong (X-,Y-,Z-axis)	●	●		
	30 tool magazine	●	●		
	40,80,120 tool magazine	○	○		
	Scale feedback	○	○		
	Absolute positioning system	●	●		
	Remote manual pulse generator	○	○		
	Automatic power ON/OFF + warm-up operation	●	●		
	Automatic front door	○	○		
	Status light (3 colors)	○	○		
	2-pallet changer	○	○		
	Preparation for hydraulic fixtures	○	○		
	Factory Automation	Wireless touch probe RMP600			○
Safety Equipment	Operator door interlock			●	●
High Accuracy	MAZA-CHECK (software, reference sphere) <sup>*)</sup>			●	●
Coolant / Chip	Coolant system			●	●
Disposal	Work air blast			○	○
	Oil skimmer (RB-200)			○	○
	Mist collector			○	○
	Coolant temperature control			○	○
	Coolant through spindle system 0.5 MPa (73 PSI)			○	○
	High pressure coolant through spindle 1.5, 7.0 MPa (218, 1015 PSI)			○	○
	Flood coolant 0.44 MPa, 30 L/min (64 PSI, 8 gal/min)			●	●
	Chip conveyor (hinge) rear discharge			○	○
Chip conveyor (ConSep II WS) rear discharge			○	○	
Chip bucket (swing type)			○	○	

<sup>\*)</sup> MAZA-CHECK requires optional RMP600 wireless touch probe

# Mazak

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