

HCN-5000/50



AW MILLER
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AWMILLER.COM

Advanced features of the Mazak MAZATROL SmoothG CNC

Touchscreen operation

— Operates similar to your smartphone/tablet

PC with Windows® 8 embedded OS

Fastest CNC in the world

— 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

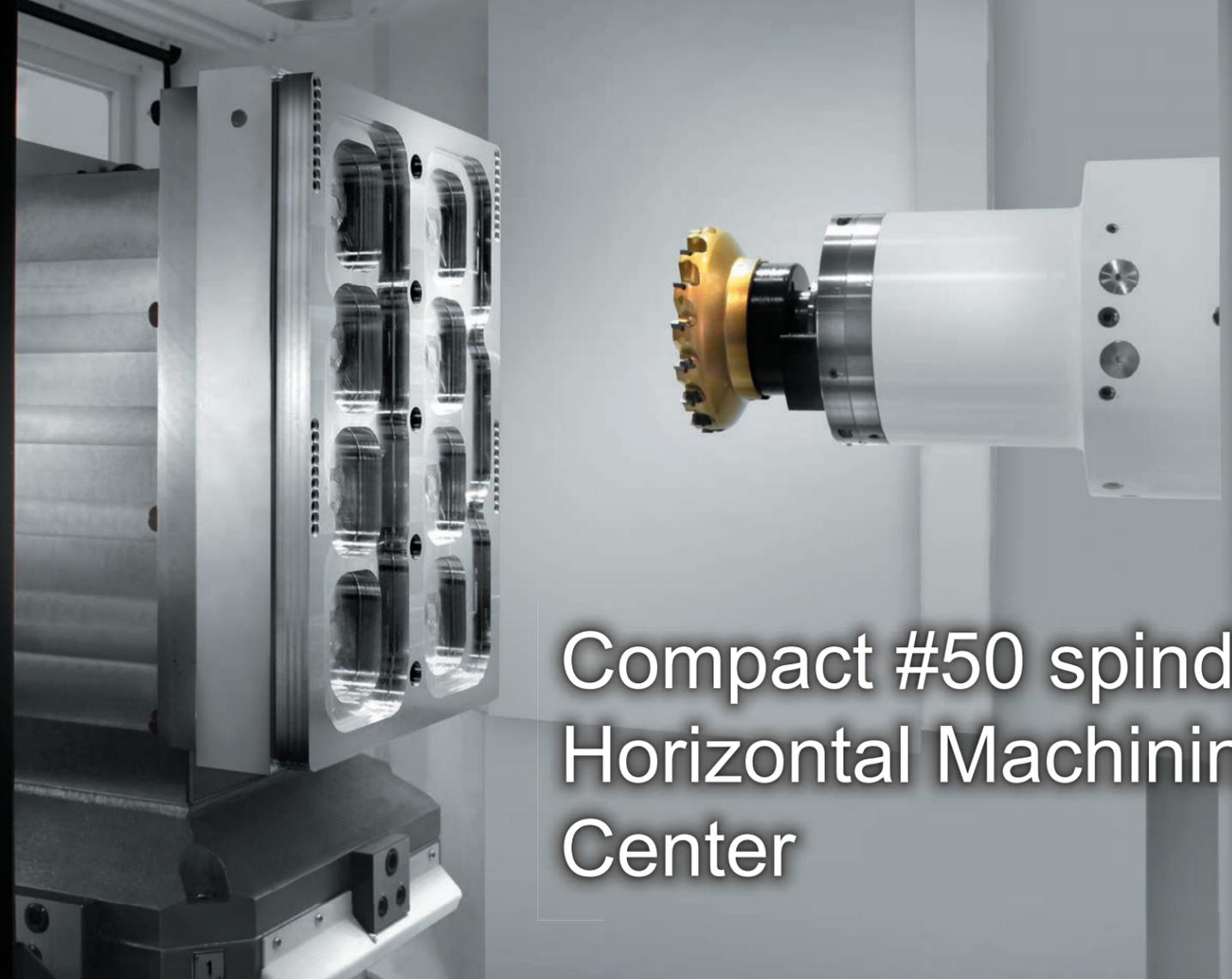
Easily configure machine parameters for different workpiece materials and applications requirements

MTConnect® ready
— Convenient networking

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MAZATROL
SMOOTHG
The MAZATROL SmoothC is standard equipment



Compact #50 spindle Horizontal Machining Center

High-speed, high-accuracy Horizontal Machining Center

HCN-5000/50

Designed for large-volume production

50-taper spindle for large-diameter and long tools

Can be integrated into production lines composed of HCN-5000 (#40 taper) machines thanks to same pallet height



Shown with optional machine status light and MAZATROL SmoothG

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Standard machine specifications

Stroke	X-axis stroke (column right/left)	730 mm (28.74")
	Y-axis stroke (spindle up/down)	730 mm (28.74")
	Z-axis stroke (table back/forth)	800 mm (31.50")
	Distance from table top to spindle nose	100 mm ~ 830 mm (3.94" ~ 32.68")
	Distance from pallet to spindle center	70 mm ~ 870 mm (2.76" ~ 34.25")
Table	Table size	500 mm x 500 mm (19.69" x 19.69")
	Max. workpiece dimensions	Φ 800 mm x 1000 mm (Φ 31.50" x 39.37")
	Pallet load capacity (evenly distributed)	500 kg (1102.31 lbs)
	Pallet top surface	M16 x P2.0 (5/8-11 UNC) 25 places 100mm (3.94") pitch
	Minimum indexing angle increment	1°
	Indexing time	1.4 sec/90°
Spindle	Max. spindle speed	10000 rpm
	Spindle speed range	2-step (Electric)
	Spindle taper	No.50
	Spindle bearing ID	Φ 90 mm (3.54")
	Spindle acceleration	1.20 sec (0→10000 rpm)
Feed rate	Rapid traverse rate (X-, Y-, Z-axes)*1	60000 mm/min (2362.20 IPM)
	Max. cutting feed rate (X-, Y-, Z-axes)*1	60000 mm/min (2362.20 IPM)
	Axis acceleration/deceleration	X-, Y-axis: 0.9 G/Z-axis: 1.0 G
Automatic tool changer	Tool shank	No.50
	Tool storage capacity	43
	Max. tool diameter/length (from gauge line)/weight	Φ 125 mm/510 mm/30 kg (Φ 4.92"/20.08"/66.14 lbs)
	Max. tool diameter with adjacent pockets empty	Φ 250 mm (Φ 9.84")
	Tool selection method	Random selection/shortest path
Automatic pallet changer	Tool change time (chip to chip)	3.5 sec
	Number of pallets	2
	Changing system	Rotary type
	Pallet change time	8.0 sec
Motors	Spindle motor (40% ED/Cont. rating)	30 kW/22 kW (40 HP/30 HP)
Electrical and air requirements	Electrical power supply (40% ED/Cont. rating)	65.7 kVA/54.4 kVA (50Hz)
	Air supply (pressure/flow rate)	0.5 MPa ~ 0.9 MPa (70 psi ~ 130 psi)/210 L/min (7.42 ft ³ /min")
Machine size	Machine height (from floor)	2813 mm (110.75")
	Floor space requirement*2	2544 mm x 5804 mm (100.16" x 228.39") (with ConSep 2000)
	Machine weight*3	12830 kg (28285.02 lbs)
CNC		MAZATROL SmoothC

*1 Limited feed rate with continuous axis movement

*2 Including rear coolant tank and chip conveyor

*3 Including rear coolant tank

Standard and optional equipment

● : Standard ○ : Option

Spindle	10000 rpm No.50	●	Setup assisting function	Automatic tool measurement & tool breakage detection	●
	10000 rpm BBT-50	○		External tool breakage detection	○
	10000 rpm HSK-A100	○		Mazak monitoring system B	○
Table	1" x 360 indexing table	●	Factory automation	Visual tool ID/preparation for data management	○
	0.0001" x 3600000 NC rotary table	○		Hydraulic fixture preparation A (hydraulic power supplied from the top of the machine)	○
	0.0001" x 3600000 DDM rotary table	○		Hydraulic fixture preparation B (hydraulic power supplied through pallet/2 P/C)	○
Pallet Changer	2-pallet changer [max. load: 500kg (1102.31 lbs)]	●	Coolant/Chip disposal	Automatic door (with area sensor)	○
	2-pallet changer [max. load: 700kg (1543.24 lbs)]	○		Automatic door (with double hand switch)	○
	6-pallet changer	○		ROBOT interface	○
	2-pallet changer for PALLETECH	○		Chip conveyor (rear disposal-ConSep 2000)	○
Tool magazine	43-tool magazine	●	High accuracy	Chip conveyor (rear disposal-Hinge-MT10)	○
	80-, 120-, 160-tool magazine	○		Secondary process filter for aluminum coolant	○
	180-, 240-, 348-tool hive	○		Scale feedback (X-, Y-, Z-axis)	○
CNC	MAZATROL SmoothC	●	Tool runout detection (due to chip contamination between spindle & tool holder)	Coolant temperature control	○
	MAZATROL SmoothG	○			

Mazak

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- This product is subject to all applicable export control laws and regulations.
- The accuracy data and other data presented in this catalog were obtained under specific conditions. They may not be duplicated under different conditions (room temperature, workpiece materials, tool material, cutting conditions, etc.).



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