



SMOOTH
T E C H N O L O G Y

VORTEX **i**-800V/8

Mazak

Advanced features of the Mazak MAZATROL SmoothX CNC

Touch screen 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

High-precision machining of complex
contours at high-speed feedrates

Smooth user interface and support functions
for unsurpassed ease of operation

Easily configure machine parameters for different
workpiece materials and applications requirements

MTConnect®

— Convenient networking



MAZATROL SMOOTHX



Optimum 5-axis machining for medium/small parts

Compact spindle for excellent accessibility to workpiece

High productivity simultaneous 5-axis machining center

VORTEX i-800V/8

- ◆ 5-Axis simultaneous machining of complex contours
- ◆ Excellent accessibility to machining area
- ◆ 800 mm square pallet for large workpiece capacity
- ◆ Rigid machine construction for heavy-duty machining
- ◆ Roller linear guides utilized for X, Y, and Z axes
- ◆ Roller gear cams utilized for B and C rotary axes
- ◆ Wide range of spindle specifications available to meet the machining requirements of any workpiece material
- ◆ Can be integrated into PALLETECH with other VORTEX or horizontal machining centers



Standard machine specifications

Stroke	X-axis (table forward/backward)	1700 mm (66.93")
	Y-axis (spindle head travel right/left)	1500 mm (59.06")
	Z-axis (spindle head travel up/down)	1150 mm (45.28")
	B-axis (spindle head tilt)	150° (-30~+120°)
	C-axis (table rotate)	360° (Continuous)
	Distance between B-axis rotation center and pallet center (X-axis at home)	1690 mm (66.54")
	Distance between B-axis rotation center and pallet center (X-axis at -end)	-10 mm (-0.39")
	Distance between spindle end and pallet center (B-axis = +90°) (X-axis at home)	1340 mm (52.76")
	Distance between B-axis rotation center and pallet top face	100 mm~1250 mm*1 (3.94"~49.21")*1
Capacity	Distance between spindle end and pallet top face (B-axis = 0°)	-250 mm~900 mm (-9.84"~35.43")
	Max. workpiece size	ø1500 mm × 1500 mm*1 (ø59.06" × 59.06")*1
	Table size	800 mm × 800 mm (31.5" × 31.5"), 800 mm × 1000 mm (31.5" × 39.37"), 1000 mm × 1000 mm (39.37" × 39.37") (Optional)
	Table load capacity (evenly distributed)	2500 kg (5511 lbs) [without pallet weight]
Table	Rapid traverse rate (C-axis)	25 rpm
	Min. indexing angle increment (C-axis)	0.0001°
	Indexing time	2.1 sec/90°
Spindle	Max. spindle speed	10000 rpm
	Spindle taper	No.50
	Spindle bearing ID	ø100 mm (ø3.94")
	Spindle acceleration	4.9 sec [0~10000 rpm]
	Rapid traverse rate (B-axis)	30 rpm
	Min. indexing angle increment (B-axis)	0.0001°
	Indexing time	1.7 sec/90°
Rapid traverse rate*2	Rapid traverse rate (X-, Y-, Z-axes)	52000 mm/min (2047 IPM)
	Cutting feedrate (X-, Y-, Z-axes)	52000 mm/min (2047 IPM)
Automatic tool changer	Tool shank	No.50
	Pull stud	ANSI
	Tool storage capacity	43
	Max. tool diameter / Length (from guage line) / weight	ø125 mm (ø4.92") / ø650 mm (ø25.59") / 30 kg (66 lbs)
	Max. tool diameter with adjacent tool pockets empty	ø300 mm*3 (ø11.81")*3
	Tool selection method	Random selection / shortest path
	Tool change time (chip-to-chip) [H-to-H]	13.0 sec
Automatic pallet changer	Number of pallets	2
	Pallet change time	20 sec
	Change system	Rotary type
Motors	Milling spindle motor	AC37/30 kW (50 / 40 HP) [30 min / Cont.rating]
Electric and air requirement	Electrical power supply (30 min / Cont.rating)	50 Hz : 102.35 kVA / 92.6 kVA, 60 Hz : 104.24 kVA / 94.5 kVA
	Air supply (pressure / volume)	0.5 MPa (73PSI) / 600 L/min (21.19 ft³/min)
Tank capacity	Coolant tank capacity	1400 L (370 gal)
Machine size	Machine height	3983 mm (156.81")
	Required floor space	8750 mm × 5218 mm (344.49" × 205.43")
	Machine weight	4300 kg (9480 lbs)
CNC system		MAZATROL SmoothX

*1 With Ø800 mm (Ø31.5") tapped pallet *2 Limited feedrate with continuous axis movement *3 When adjacent pockets are empty and pockets next to them have tools less than ø300 mm (11.81")

Standard equipment

10000 rpm (No.50) milling spindle
NC rotary table
43-tool magazine
MAZA-CHECK (Rotary center compensation)
Flood coolant

Optional equipment

5000 rpm (No.50) milling spindle	120-tool magazine	Hydraulic pressure supply to fixture (supply from the top of pallet changer)
15000 rpm (HSK-A 100) milling spindle	160-tool magazine	Niagara coolant
Ø800 mm tapped pallet with location bore	180-tool magazine	Coolant through spindle system (0.5 MPa) 71PSI
800 × 1000 mm tapped pallet with location bore	240-tool magazine	Coolant through spindle system (1.5 MPa) 213PSI
Ø1000 mm tapped pallet with location bore	348-tool magazine	Coolant through spindle system (7.0MPa) 996PSI
Ø800 mm T-slot pallet with location bore	Automatic tool measurement & tool length measurement	Rear discharge chip conveyor (Consep II)
800 × 1000 mm T-slot pallet with location bore	Mazak measuring system	Scale feedback (X-, Y- and Z-axes)
Ø1000 mm T-slot pallet with location bore	External tool breakage detection system	B-and C-axes scale
80-tool magazine		

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