



OKUMA 5-AXIS MILLING MACHINE - EX STOCK GERMANY

GENOS M460V-5AX



Thermo-Friendly
Concept

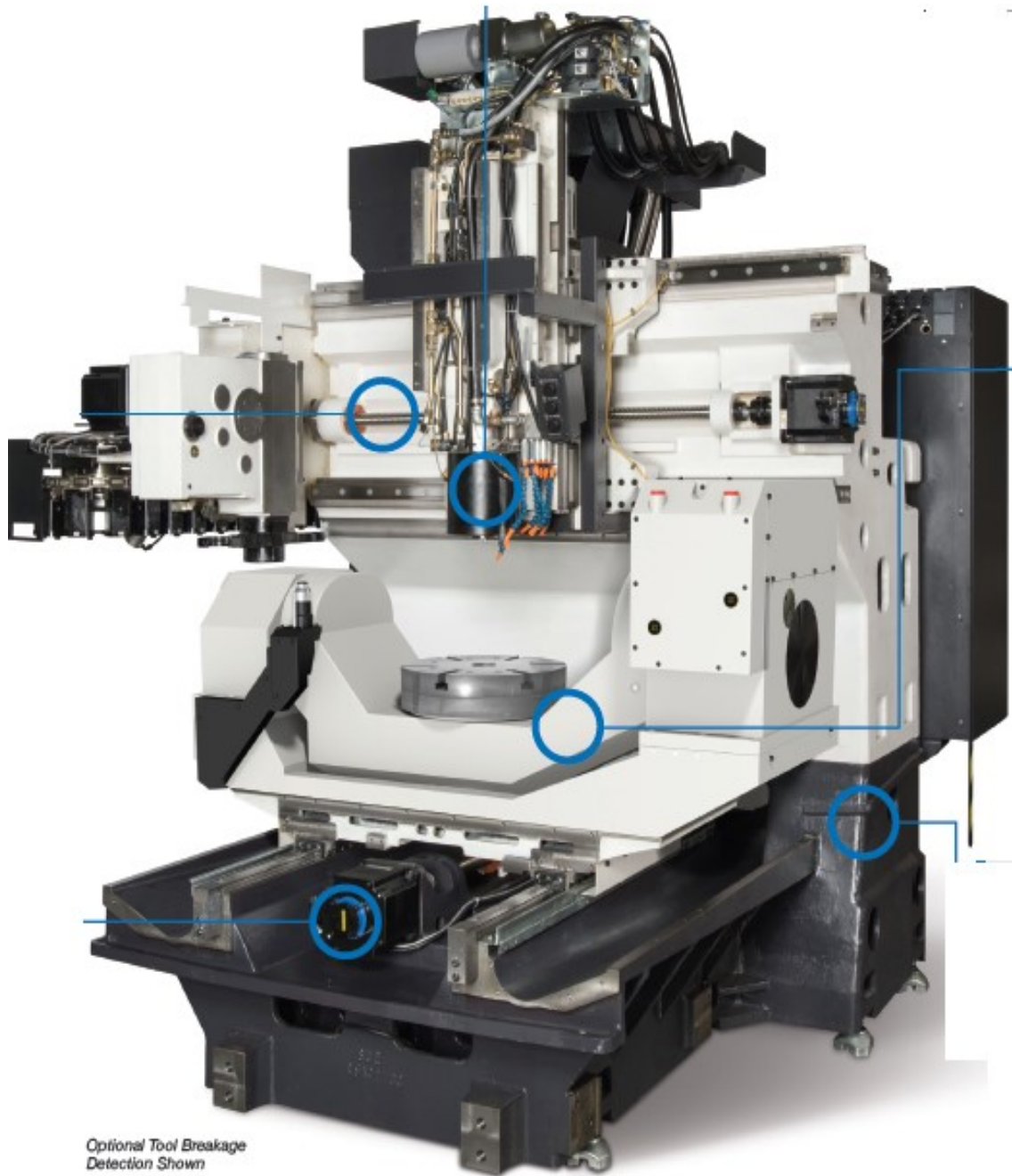


Collision Avoidance
System



Machining
Navi





Optional Tool Breakage
Detection Shown

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Standard Specification



- **SERVONAVI**

AI (Automatic Identification) = Work Weight Auto Setting and Auto Inertia Setting /

SF (Surface Fine-Tuning) = Reversal Spike Auto Adjustment and Vibration Auto Adjustment



- **5-Axis Auto Tuning System [Standard Kit]**

Geometric error gauging / Geometric error compensation /

Straightness compensation / Auto work gauging Renishaw touch probe RMP60

- **Simultaneous 5-axis KIT**

SUPER NURBS 5-axis / Tool Center Point Control II (incl. tool posture compensation) /

Anchored tool tip manual feed / Table origin coordinate system manual feed /

Slope machining function / Inverse time feed / DNC-DT / Tool posture command

Thermo Friendly Concept (TFC)

- **Thermo Active Stabilizer-Construction TAS - C**

- Symmetric box built double column cast iron construction

- 5 temperature-sensors

- Active Compensations System

- No negative influence from the heat of coolant/chips, due to the thermo-shield design

- **Thermo Active Stabilizer-Spindle TAS – S**

- Specialized design

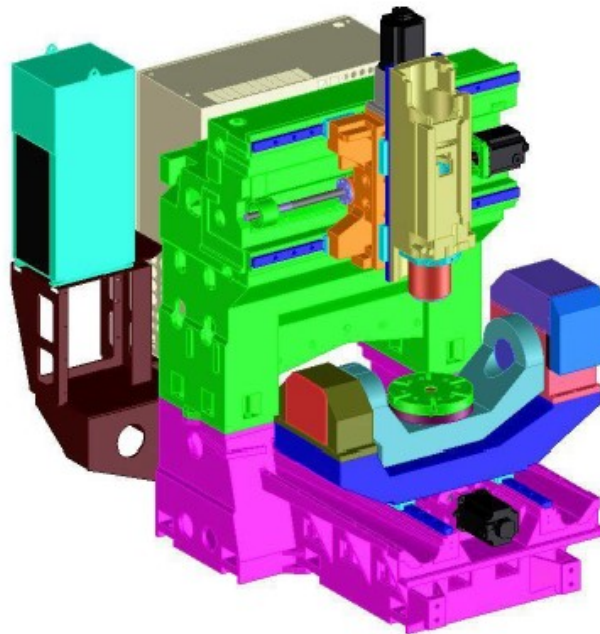
- 3 temperature-sensors



Rigid and proven linear X/Y/Z axis / Absoscale

- Benefits
 - Direct driven ball screws
 - Oversized high precision roller guide
 - Oversized high precision preloaded ball screws
 - High speed linear axis
 - X/Y-axis 40m/min
 - Z-axis 32m/min
 - High accuracy linear axis
 - Absoscale (X/Y/Z-axis)
 - Positioning +/- 0,0014 (X/Y/Z-axis)*
 - Repeatability +/- 0,0009 (X/Y/Z-axis)*

Rigid and proven double column bed construction

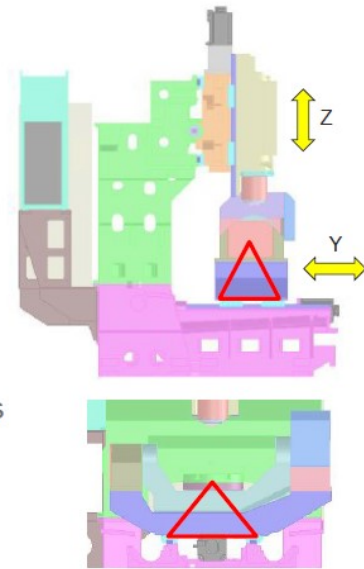


MU-400VII / GENOS M460V-5AX



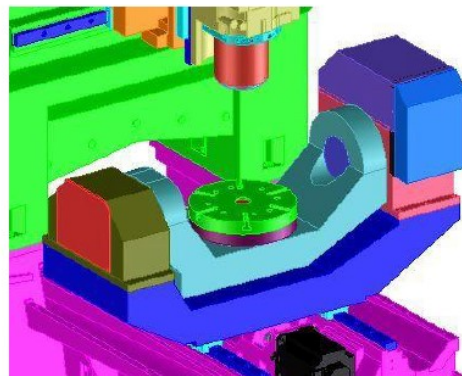
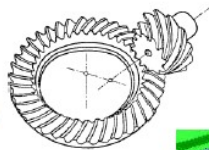
Rigid and proven double column bed construction

- Benefits
 - Heavy weight cast iron machine bed construction
 - Most rigid and proven double column bed construction in its class
 - More then 10.000 sets installed world wide
 - Total weight 8.300kg
 - Fixed/calculated hangover of spindle (X/Y) axis
 - Most ridged double side support NC table in its class



Rigid and proven double side supported table

- Benefits
 - Hypoid gear driven (A/C axis)
 - High speed rotary table
 - C-axis 50 min^{-1}
 - A-axis 40 min^{-1}
 - High accuracy rotary table
 - DD Encoder (A/C axis)
 - Indexing positioning $\pm 0,00055^\circ$ (A/C axis)*
 - Repeatability $\pm 0,00013^\circ$ (A/C axis)*
 - Max work piece
 - $\varnothing 600 \times h400\text{mm}$
 - 300 kg



* Actual values

Example of work pieces

Blisk: needs full 5 axis capability



Turret disk: 5 face machining





MACHINE SPECIFICATIONS

	Item	Unit	M460V-5AX
Travels	X-axis (saddle left/right)	mm (in.)	762 (30.00)
	Y-axis (pallet front/back)	mm (in.)	460 (18.11)
	Z-axis (spindle up/down)	mm (in.)	460 (18.11)
	A-axis	deg	+20 to -110
	C-axis	deg	360
	Table surface to spindle nose	mm (in.)	100 to 560 (3.94 to 22.05)
Table	Table size	mm (in.)	ø400 (ø15.75)
	Max work size	mm (in.)	ø600 x h400 (ø23.62 x h15.75)
	Floor to table top	mm (in.)	1,050 (41.34)
	Max load capacity	kg (lb)	300 (660)
Spindle	Spindle speed	min ⁻¹	15,000
	No. of spindle ranges		Infinitely Variable
	Spindle taper		7/24 taper No. 40
	Bearing dia	mm	ø70
Feed	Rapid traverse	m/min (ipm)	X-Y: 40 (1,575) Z: 32 (1,260)
	Rapid traverse (A-C)	deg/min	A: 14,400 C: 18,000
	Cutting feedrate	mm/min (ipm)	X-Y-Z: 32,000 (1,260)
Motors	Spindle (10min/cont)	kW (hp)	22/18.5, (30/25)
	Feed axes	kW	X-Y-Z: 3.5 A: 4.2 C:3.0
ATC	Tool shank		MAS BT40
	Pull stud		MAS 2 [-]
	Tool capacity	tools	32
	Max tool dia (with adjacent tool)	mm (in.)	ø90 (ø3.54)
	Max tool dia (without adjacent tool)	mm (in.)	ø125 (ø4.92)
	Max tool length	mm (in.)	240 (9.45)
	Max tool weight	kg (lb)	8 (18)
	Max tool moment	N-m (ft-lbf)	7.8 [8 kg x 100 mm] (5.7 [17.6 lb x 3.94 in.])
	Tool selection		Memory random
Machine size	Height	mm (in.)	2,946 (115.98)
	Floor space W x D	mm (in.)	2,160 x 2,810 (85.04 x 110.63)
	Weight	kg (lb)	7,700 (16,975)



OPEN POSSIBILITIES

STANDARD SPECIFICATIONS: GENOS M460V-5AX

1.	OKUMA 5-axis Vertical Machining Center Model GENOS M460V-5AX with OSP-P300MA-H (15-inch OSP suite) and European Standard Accessories	1	set
1-1.	Rapid traverse speed; 40 m/min. in X / Y-axis and 32 m/min. in Z-axis	1	set
1-2.	Cutting feedrate; max. 32 m/min.	1	set
1-3.	Spindle head cooling with oil controller	1	set
1-4.	Hydraulic power pack for the tool unclamping only	1	set
1-5.	Coolant supply system, 170 L (Effective 100L) tank and 0.25kW pump motor	1	set
1-6.	X, Y, Z-axis ball screw lubrication, Lube LHL	1	set
1-7.	ATC air blower	1	set
1-8.	Chip air blower, nozzle type	1	set
1-9.	Main spindle speed, 50 - 15,000 min-1, Max Torque :199N-m	1	set
1-10.	Main spindle motor VAC 22/18.5 kW (10 min./cont.)	1	set
1-11.	Main spindle NT40 (Spindle bore dia. 70mm)	1	set
1-12.	Okuma Trunnion-type High speed 2-axis rotary table	1	set
	-Table size: dia400mm,A-axis speed 40 min-1, C-axis speed 50min-1		
1-13.	48-tool ATC (*)	1	set
1-14.	Status indicator lamp, 2-layer type (Blue: Operation end lamp / Yellow: Alarm lamp)	1	set
1-15.	Foundation washers	1	set
1-16.	ATC specification: MAS BT40 + JIS Special pull stud (with through hole)	1	set
1-17.	Coil type chip conveyor, 0.1kw x 2pcs	1	set
1-18.	Pre-arrange for Lift-up chip conveyor floor type M-A type (incl. Harting socket for Mayfran & standard chip pan)	1	set
1-19.	Chip pan	1	set
1-20.	Through-the-spindle coolant supply system, middle pressure 1.5MPa / 20L/min (Large volume) / BT40 (Pull stud bolt std.: Through JIS)	1	set
	Separate placement type unit for through spindle coolant		
1-21.	Thermo Active dimension Stabilizer-Spindle (TAS-S)	1	set
1-22.	Thermo Active dimension Stabilizer-Construction (TAS-C)	1	set
1-23.	Totally enclosed guard (CE mark application)	1	set
1-24.	CE-mark / EMC	1	set
1-25.	IEC regulation	1	set
1-26.	Electrical Power Source Application to suite local power source at each countries (CE transformer)	1	set

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1-27.	Hydraulic power unit	1	set
1-28.	Shower coolant supply	1	set
1-29.	Absoscale X/Y/Z-axis	1	set
1-30.	5-Axis Auto Tuning System [Standard Kit] *Geometric error gauging *Geometric error compensation *Straightness compensation *Auto work gauging Renishaw touch probe RMP60	1	set
1-31.	No grid on front door window	1	set
1-32.	OSP-P300MA CNC Controller with 15" colour display, touch panel	1	set
1-33.	Easy-to-operate functions	1	set
1-34.	Program storage capacity, 4GB in tape length	1	set
1-35.	Operation buffer Standard 2MB	1	set
1-36.	999 sets each of tool length offset and cutter radius compensation	1	set
1-37.	OSP-P300MA 3D-E kit specifications	1	set
(1)	*Auto program schedule update	(1)	set
(2)	*Work coordinate system selection, 100 sets	(1)	set
(3)	*Helical cutting function, within 360 degrees	(1)	set
(4)	*Synchronized tapping II	(1)	set
(5)	*Arbitrary angle chamfering	(1)	set
(6)	*Programmable travel limit	(1)	set
(7)	*Interactive MAP function (I-MAP)	(1)	set
(8)	*3D simulation function	(1)	set
(9)	*Simple load monitor	(1)	set
(10)	*NC operation monitor	(1)	set
(11)	*Tool life management function	(1)	set
(12)	*Manual gauging function (sensor excluded)	(1)	set
(13)	*Auto power shutoff function	(1)	set
(14)	*Cycle time reduction	(1)	set
(15)	*Sequence stop	(1)	set
(16)	*SERVONAVI	(1)	set
1-38.	Fixture offset II	1	set
1-39.	Simultaneous 5-axis KIT -Hyper-Surface 5-axis -Tool center point control II (incl. tool posture compensation) -Anchored tool tip manual feed -Table origin coordinate system manual feed -Slope machining function -Inverse time feed -DNC-DT -Tool posture command	1	set