

# ***GENOS M-5AX series***

***GENOS M460V-5AX / GENOS M560V-5AX***

5-AXIS VERTICAL MACHINING CENTER



## Our customers spoke.

And we heard them, loud and clear.

When our customers give us feedback, we take it seriously. Over the years, we've heard a common refrain: many Okuma customers would love to own a 5-axis machine, but it has simply been out of their price range. Today we are answering that call with the introduction of the new **GENOS M-5AX series** these are machines that offers unrivaled accuracy and productivity all at an affordable price point.

Made in Japan, the **GENOS M-5AX series** are machines saturated with Okuma DNA making it a technological marvel that delivers swift and efficient parts production for the tightest tolerances. With simultaneous 5-axis machining capability, our customers don't have to compromise to reduce costs.

Whether they're manufacturing complex aerospace components or performing one-chuck multi-sided operations, they get superior quality and capability. No matter your machining need, the **GENOS M-5AX series** comes with our intuitive, renowned OSP machine control.

That Okuma machines you've always wanted? It's now within reach.



**GENOS M460V-5AX**



**GENOS M560V-5AX**

## HIGH-CALIBER MACHINE CONSTRUCTION, FROM TOP TO BOTTOM.

# Robust performance in a smaller footprint.

With its innovative double-column structure, the GENOS M-5AX series are a sturdy next-generation vertical machining center, but one specifically designed to take up less floor space in your shop. With a full 5-axis simultaneous control system and a thermally stable design, you are granted the ability to process even the most challenging materials and geometry. This uncompromising construction is what makes the GENOS M-5AX series such a machining powerhouse.

### Pre-Tension Ball Screws: Exact Performance Standards

High-precision ball screws generate roller guide movement to all three axes. They are directly coupled to Okuma servomotors, which match the electrical and mechanical prerequisites to meet performance requirements with uncompromising precision.

### Auto Tuning System: Total Movement Accuracy

The auto tuning system measures geometric error using a touch probe and datum sphere, performing compensations using measurement results to fine-tune the movement precisely. The end result is a higher level of accuracy, scaled to perfection. In the past, this kind of tune-up required a visit from a service professional. Now you can easily tune-up the machine on your own!

*Optional Tool Breakage  
Detection Shown*

### Spindle: Match Your Application

From titanium, to aluminum and light alloy applications, to die/molds and small precision parts, the GENOS M-5AX series are versatile to meet your stringent application requirements. The spindle motor design produces less vibration and power loss at the tool tip, which yields excellent surface finishes and impressive metal removal rates.

### Solid Trunnion: Superior Accuracy and Machining Capabilities

Utilizing a hypoid gear drive, the first-rate trunnion construction offers excellent positioning accuracy, rigidity, and table rotation speed in a more durable design. The only thing more impressive than the resulting accuracy is the speed with which it's delivered.

### Thermo-Friendly Concept: Temperature-Regulating Design

The machine's thermo-friendly structure allows it to maintain high dimensional accuracy when the room temperature changes. Also, with capability to stabilize thermal deformation due to process or interruption, warm-up time is automatically shortened, and the burden of dimensional correction during machine restart is reduced, too.



## The most machine at the best price.

**We call this Affordable Excellence.** There are so much to love about the GENOS M-5AX series. To start, the Japanese-made machines offers the highest rigidity and stability possible with its double column cast iron machine bed and a high-speed spindle that comes with a two-year warranty with no shift or hour limitations. That same spindle delivers best-in-class performance, ensuring productivity and accuracy for jobs big and small. Of all the things to love most about the GENOS M-5AX series, it's probably the price point. In today's market, you simply can't get a machine that does more at a better value.

## JOIN THE OKUMA FAMILY.

While the purchase of an Okuma machine is an investment in quality and performance, there's another benefit to ownership that can't be overlooked: becoming a part of the Okuma family. Our vast service network, spindle & board repair facilities, and inventory of the OEM-certified original parts are just a few examples that illustrate the Okuma Difference. Soon you'll see that we're just as good at building relationships as we are at building machines.

For more product details, please visit [www.okuma.eu](http://www.okuma.eu)



## MACHINE SPECIFICATIONS

Item	Unit	M460V-5AX	M560V-5AX	
<b>Travels</b>	X-axis (saddle left/right)	mm	762	1,050
	Y-axis (pallet front/back)	mm	460	560
	Z-axis (spindle up/down)	mm	460	460
	A-axis	deg	+20 to -110	+20 to -110
	C-axis	deg	360	360
	Table surface to spindle nose	mm	100 to 560	160 to 620 (6.30 to 24.41)
<b>Table</b>	Table size	mm	ø400	ø500
	Max work size	mm	ø600 x h400	ø700 x h500
	Floor to table top	mm	1,050	1,090
	Max load capacity	kg	300	400
<b>Spindle</b>	Spindle speed	min <sup>-1</sup>	15,000	15,000
	No. of spindle ranges		Infinitely Variable	Infinitely variable
	Spindle taper		7/24 taper No. 40	7/24 taper No. 40
	Bearing dia	mm	ø70	ø70
<b>Feed</b>	Rapid traverse	m/min	X, Y: 40 Z: 32	X, Y: 40, Z: 32
	Rapid traverse (A-C)	deg/min	A: 14,400, C: 18,000	A: 14,400, C: 18,000
	Cutting feedrate	mm/min	X, Y, Z: 32,000	X, Y, Z: 32,000
<b>Motors</b>	Spindle (10min/cont)	kW	22/18.5, 30/25	22/18.5
	Feed axes	kW	X, Y, Z: 3.5 A: 4.2, C: 3.0	X, Y, Z: 3.5 A: 4.2, C: 3.0
<b>ATC</b>	Tool shank		MAS BT40	MAS BT40
	Pull stud	tools	JIS-specified with though hole	JIS-specified with though hole
	Tool capacity	mm	48	60
	Max tool dia (with adjacent tool)	mm	ø90	ø90
	Max tool dia (without adjacent tool)	mm	ø125	ø125
	Max tool length	kg	240	300
	Max tool weight	N-m	8	8
	Max tool moment		7.8 [8 kg x 100 mm]	7.8 [8 kg x 100 mm]
	Tool selection		Memory random	Memory random
	<b>Machine size</b>	Height	mm	2,946
Floor space W x D		mm	2,160 x 2,810	2,515 x 3,750
Weight		kg	8,300	10,300
<b>Controller</b>		OSP-P300MA-H	OSP-P300MA-H	

## STANDARD SPECIFICATIONS / ACCESSORIES

Item	Remarks
Spindle speed 50 to 15,000 min	BT 40, 22/18.5 kW
Rapids X-Y: 40, Z: 32 m/min	
Spindle/Spindlehead cooling system	Oil controller
Air cleaner (filter)	Including regulator
Spindle oil-air lubrication system	
A/C axis rotary table	0.0001 deg, includes DD encoders
C axis table	ø400, T groove 18H7 6-tool
Auto tool changer M460V-5AX	48-tool
Auto tool changer M560V-5AX	60-tool
ATC magazine shutter	
Coolant supply system	Tank: 170 L [Effective: 100 L], pump: 250W
Coolant nozzle	Flexible nozzle 5-tool
Chip flusher system	Table left/right

Item	Remarks
Chip pan	Effective capacity: 60 L
ATC air blower (blast)	
Chip air blower (blast)	Nozzle type
Foundation blocks (with jack bolts)	8 pcs (with jack bolts)
3-lamp status indicator	Type C (LED signal tower)
Work lamp	LED
Full enclosure shielding	With ceiling
Tapered bore cleaning bar	
Hand tools	
Tool box	
CNC	OSP-P300MA-H
Operation panel with color LCD	
Pulse handle	



## TAKE CONTROL WITH THE OSP CONTROL TECHNOLOGY

Our OSP control lets you follow your instincts.

Okuma's OSP suite is an award-winning system that merges our Intelligent Technologies with various software applications to create a remarkable user experience. Designed by Okuma for Okuma machines, the OSP control is packed with maximum flexibility and efficiency, including:

- **Durable user interface**
- **Individually configurable for up to three operators**
- **One-touch access to the suite app**
- **Documentation stored on the control**

The evolution of our Intelligent Technology is also a bonus for operators. The following innovations can be managed through the OSP control:

- **Thermo-Friendly Concept**
- **Collision Avoidance System\***
- **Machining Navi\***
- **5-Axis Auto Tuning System\*\***
- **SERVONAVI®**

When combined with our suite of apps, as well as the energy-saving techniques of our ECO suite, the OSP control is yet another way Okuma provides unparalleled value to our customers.

\*Optional

\*\*Optional, Basic specification

**OSP suite**

