

AMADA MACHINERY AMERICA, INC.



THE VISION OF PRECISION

High Precision Forming Grinders



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Amada Machinery America



With more than 70 years of industry experience, Amada Machinery America is committed to helping our customers deliver dependable service and top-quality work with exceptional grinding solutions.

Whether you need profile, forming, surface, or rotary grinding, we have the right solution for your specific needs.

Market-Leading Quality—We believe quality work begins with quality tools designed and built from the ground up to deliver outstanding performance, time after time.

Customer-Driven Innovation—Every feature, function and configuration we offer has been developed to address the needs of our customers.

Proven Accuracy—We help you take your work to the next level and exceed your customers' expectations.

Reliable Productivity—We understand productivity is the heart of your business, and we can help you optimize it in multiple ways.

A History of Cutting-Edge Manufacturing

Since we began building profile grinders back in the 1940s, our goals have always been to provide our customers with increased accuracy and productivity. Throughout our history, we've maintained our time-honored tradition of hand-fitting our grinders to deliver the ultimate in quality and precision.

And, as technology has evolved, we've embraced CNC automation as a core strength, improving throughput and helping new operators become productive more quickly.

Today, we are uniquely positioned to help you expand your capabilities and grow your business.

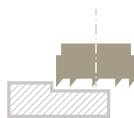
Solutions Designed Around Customer Needs

No two manufacturing needs are exactly alike. Finding the right solution means thoroughly understanding your objectives and configuring a solution to match them precisely. Our engineers bring decades of industry experience to help you achieve your specified goals with a process that fits—and enhances—your workflow.

TECHNOLOGIES OF AMADA



GRINDING



MILLING



SAWING

Amada Grinding Technology



When the tightest tolerances and accurate repeatability matter, Amada is a world leader in optical profile grinding and high-precision surface and profile work. Suppliers to high-tech electronics and semiconductor manufacturers have trusted Amada grinders for years to deliver the flexibility, precision and productivity they need to stay ahead in a rapidly changing industry.

- Integrated measuring technology
- Award-winning innovation
- Maximum accuracy optimized through use of the most modern construction/design
- High speed for increased efficiency
- Integrated automation for higher efficiency
- Automatic swiveling grinding head during the grinding cycle
- External programming software to optimize part production
- Modular construction for versatile and economic specification

Engineered to Perform

Optimum Balance Supports High-Reciprocating Grinding—As a pioneer in high-reciprocating grinding and processing, we have achieved a superb, dynamic balance between the machine and the grindstone to deliver superior performance with the widest range of work materials.

High-Quality Grinding that Exceeds Specifications—The accuracy of our grinding and processing work goes beyond simply measuring RZ to deliver mark-less and sharp-edge mirror finishes.

Reliable, High-Rigidity Structure—The form of the machine has been developed by advanced three-dimensional design and finalized through a comprehensive series of demonstration tests to create high-dimensional rigidity.

Consistent Repeatability—Through superior design and meticulous assembly practices, Amada grinders are engineered to account for thermal displacement, ensuring maximum accuracy throughout the working process.

Advanced, Easy-to-Use CNC Software—Every Amada grinder has dedicated software to allow your operators to take full advantage of each machine's capabilities.

From Surface Grinding to Molding to Profile—Amada's exclusive WAPS platform gives you complete control of all forming processes—rough, semi-finish, and finish processing. It also prepares charts for optical profile grinding and data for profile dressing.

Original Measurement Technology on Equipment—Save time and steps while ensuring maximum accuracy with built-in measurement technology.



GRINDING TECHNOLOGY

CNC Grinders

Amada's user-friendly software makes numeric control easy for operators with a wide range of experience. Coupled with the exceptional precision these machines deliver, Amada CNC grinders can help your business thrive.

Meister G3 and V3



Meister G3 and Meister V3 High-Precision Forming Grinders

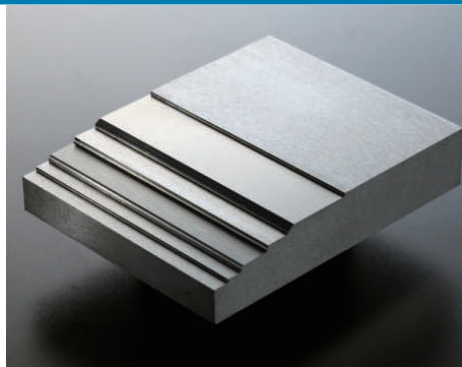
The Meister series of grinders offers outstanding versatility for every use—from simple to complex grinding tasks.

Steel, carbide, ceramics, and other materials can be ground in manual mode or in CNC mode. The machines come equipped with dressing and continuous path grinding technology and can be used for surface and profile grinding.

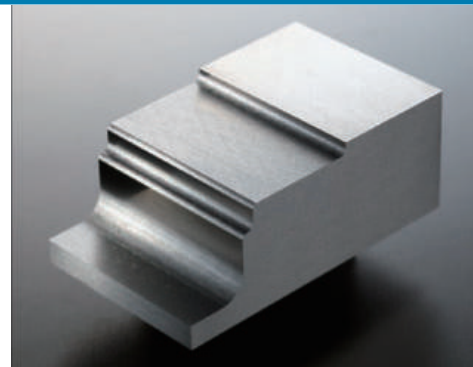
Meister G3 and V3 HIGH-PRECISION FORMING GRINDERS



Core Pin Parts



Contour Grinding



Contour Grinding

The Universally Recognized Masterpieces

The Meister G3 and Meister V3 deliver ultra-precision surface and profile grinding with a fast-stroke mechanism. Advanced standard equipment includes CNC units, high-precision dressing and continuous path grinding technology for Y and X axes, spindle and hydraulic cooling, ceramic spindle bearings, and full enclosures.

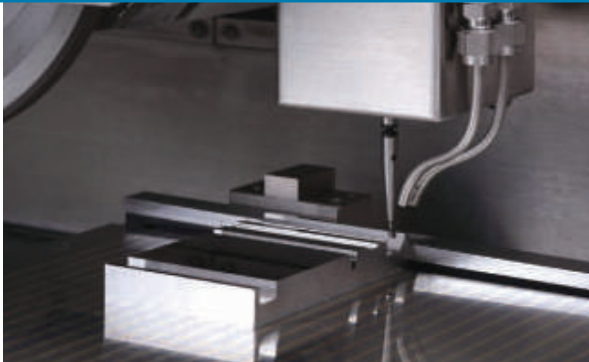
The control units of the Meister Series grinders offer optimum operability. Sophisticated macros make programming extremely convenient, even for inexperienced CNC users.

A touch probe mounted on the grinding head measures the workpiece. Residual grinding allowances are automatically calculated and the machine will repeat the grinding cycle in unattended operation until the finish dimension has been reached—quickly and safely. And, the touch probe can now determine the start position of the grinding wheel on the workpiece.

Four-Fold Increase in Productivity

By way of direct comparison, users analyzed the machining time for a pair of mold and die parts made of carbide. Thanks to the convenient programming of the Amada grinding software and the fast-stroke mechanism, time savings of 75% can be reached compared to a CNC profile grinding machine.

Meister G3 and V3 HIGH-PRECISION FORMING GRINDERS



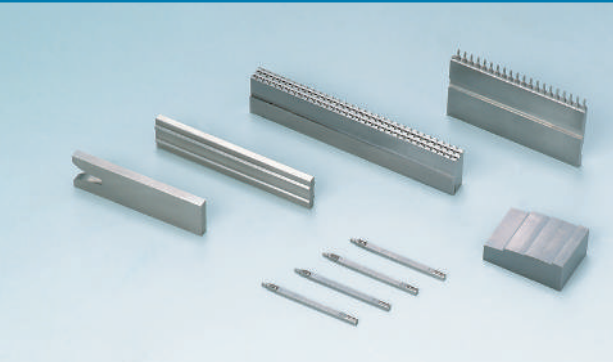
Automatic Measurement Equipment



Ultra-Precision Parts

Meister G3 and V3 Features

- Grinding area
 - Meister V3: 6" x 14" (152 mm x 355 mm)
 - Meister G3: 8" x 16" (203 mm x 406 mm)
- High-quality equipment for surface, plunge-cut, and continuous path grinding as well as dressing
- Fast-stroke system
- Spindle available with ceramic bearings and 8,000 RPM capacity (option)
- High-resolution measuring systems
- Contour dressing and contour grinding with external programming software
- Built-in touch probe technology
- Three separate hand wheels for easy setup and manual operation
- Built-in coolant system for increased thermal stability



Mold Tool Parts

Vertical Feed System—The column has a symmetrical structure to minimize thermal deformation and is covered with heat-insulating materials for protection against changes in temperature and other environmental factors.

The fully enclosed loop feedback system with the linear scale of 0.05 μ m resolution is standard for the Meister G3 (optional for others).

Wheel Spindle—The 3 HP (2.2 kW) spindle motor and inverter is standard on all models.

The spindle cooling system with oil color ($\pm 1^{\circ}\text{C}$) is standard on the Meister G3 (optional for others).

Table—The table features “V-V” slideways for exceptional straightness and features a servo-valve-controlled transverse drive system with teaching function.

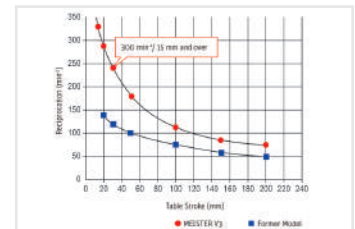
The Meister V3 features V-flat slideways with hollow runners for high speed and high accuracy.

Bed—The position of the jack bolts and ribs on the bed are optimized to support high-speed table reciprocation.

New Model Control/Operation Panel—The space-saving control panel with original software can improve machining efficiency.

RAPID RECIPROCATION TABLE

Meister Series grinders support reciprocation speeds two to three times faster than any former model, greatly improving machining efficiency.

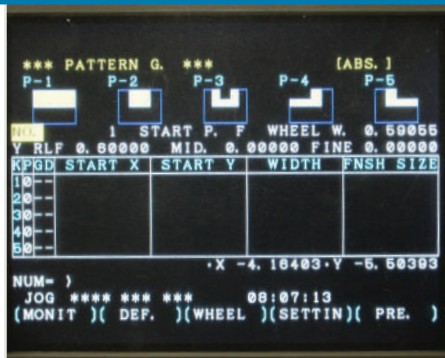


PROVISIONS TO PREVENT THERMAL DISPLACEMENT

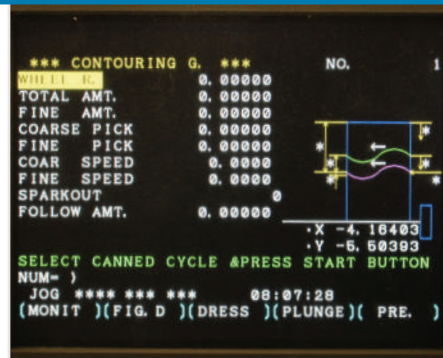


The hydraulic unit is isolated from the main body and the hydraulic oil temperature is maintained at $\pm 1^{\circ}\text{C}$ by the built-in oil temperature controller.

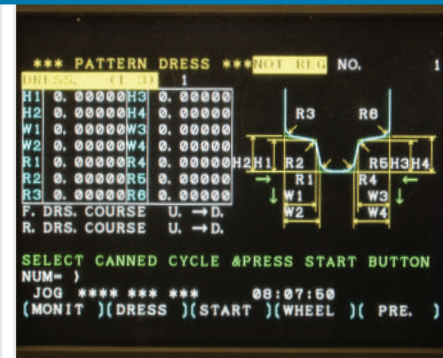
Meister G3 and V3 HIGH-PRECISION FORMING GRINDERS



Pattern Grinding



Contour Grinding



Pattern Dressing

Original Software

The software of Meister G3 and V3 grinders enables your operators to become productive without having to know complex NC programming.

Pattern Grinding—Complex shapes can be processed easily by combining five patterns. The combination of plunge and traverse options makes selecting the appropriate processing easy.

Contour Grinding—Molding grinding can be implemented by inputting the graphic data of arbitrary shapes. Rough grinding by plunge grinding can also be implemented, and the created data can be saved in the NC program area.

Pattern Dressing—By inputting the dimensions required for the basic shape on the screen, the grindstones perform the molding using a simple profile dresser, NC profile dresser, or high-speed wafer dresser. The grindstones can also perform the molding during processing and interrupt dressing.

Machine Specifications

		MEISTER G3	MEISTER V3
CAPACITY	Table working surface (L x W)	21.6" x 7.8" (550 mm x 200 mm)	17.7" x 5.9" (450 mm x 150 mm)
	Max. longitudinal travel	23.6" (600 mm)	19.6" (500 mm)
	Max. cross travel	9.8" (250 mm)	7.8" (200 mm)
	Spindle center height from table	15.7" (400 mm)	15.7" (400 mm)
	Standard chuck size (L x W x H)	15.7" x 7.8" x 3.9" (400 mm x 200 mm x 100 mm)	13.7" x 5.9" x 3.9" (350 mm x 150 mm x 100)
TRAVEL	Longitudinal feed	3~131 ft/min*	
	Max. no. of reciprocation (15 mm stroke)	250 min ⁻¹ *	250 min ⁻¹ *
SADDLE	Rapid cross feed (jog)	0~1312 ft/min, 1640 ft/min, 3280 ft/min	
	Handle feed	0.0004", 0.004", 0.04", 0.15" (0.01 mm, 0.1 mm, 1.0 mm, 4.0 mm)	
		0.000004", 0.00004", 0.0004", 0.0015" (0.0001 mm, 0.001 mm, 0.01 mm, 0.04 mm)	
	Minimum input increment	0.000010" (0.0001 mm)	
	Position detection system	Glass scale/0.05µm	
WHEEL HEAD	Rapid wheel head feed (jog)	3.9"/min, 39"/min (100 mm/min, 1000 mm/min) (2 steps)	
	Handle feed	0.0004", 0.004", 0.04", 0.15" (0.01 mm, 0.1 mm, 1.0 mm, 4.0 mm)	
		0.000004", 0.00004", 0.0004", 0.0015" (0.0001 mm, 0.001 mm, 0.01 mm, 0.04 mm)	
	Minimum input increment	0.000010" (0.0001 mm)	
	Position detection system	Linear scale 0.05 µm (standard)	Linear scale 0.05 µm (OP)
WHEEL SPINDLE	Size (OD x width x bore)	Ø8" x 0.25"-1" x Ø1.25" (Ø205 mm x 6.4 mm~25 mm x Ø31.75 mm)	
	Wheel spindle speed	500 min ⁻¹ ~5000 min ⁻¹	
	Motor requirement	3 HP~2 P (22~2 kW-P)	
NC CONTROL AXIS		Simultaneously 2 axis	
FLOOR SPACE (W X L X H)		105" x 80" x 74" (2670 mm x 2040 mm x 1900mm)	74" x 58" x 74" (1880 mm x 1475 mm x 1900mm)
MACHINE NET WEIGHT		5280 lb (2400 kg)	4840 lb (2200 kg)

* The table speed depends on work load on the table.