AMADA MACHINE TOOLS AMERICA, INC.

THE VISION OF PRECISION

CNC Surface Grinders

AMADA®

Contents

Amada Machine Tools America

With more than 70 years of industry experience, Amada Machine Tools 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.

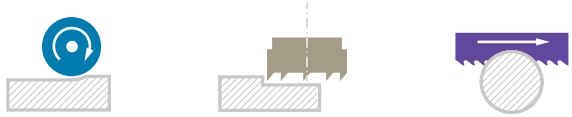
And, as technology has evolved, we've embraced CNC automation as a core strength, improving throughput and helping new operators become productive more quickly.

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.

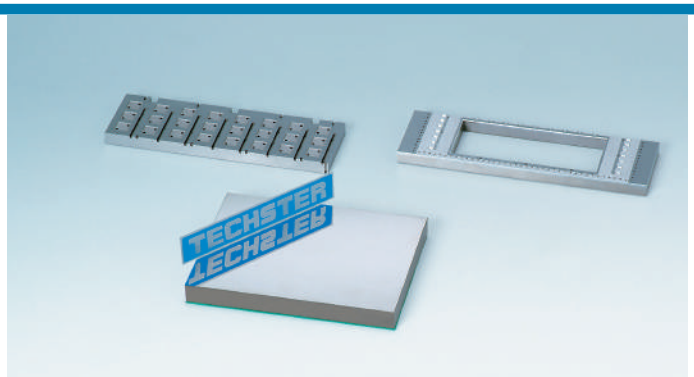
GRINDING TECHNOLOGY

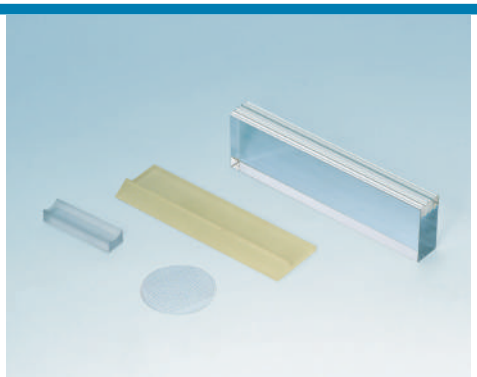
CNC Surface Grinders

With the smallest footprint in their class, Amada surface grinders can boost your shop's productivity and efficiency. Integrated operation handles and a compact control panel allow for easy accessibility, while processing efficiency is enhanced by Amada's proven software.

Techster 52 and 52S

Techster 52 and 52S
High-Capacity, Multi-Purpose
High-Speed CNC Surface Grinders





Techster 52 and 52S

Column—Built for high rigidity and exceptional straightness, the high column (4" higher than the Meister G3) provides greater flexibility in processing.

Table—V-V sliding surface structure provides high-precision operation while the rapid reciprocation rate allows for quick stock removal.

Bed and Saddle—The optimized rib layout and high-rigidity bed structure (with a low center of gravity) were developed through extensive structural analysis. The massive bed and thick saddle support heavier workpieces with outstanding precision and flatness.

Front-Side Operation—Axis movement can be controlled from the front of the machine, making column operations easy.

Wheel Spindle—A 5 HP (3.7 kW) spindle motor supports efficient stock removal with a 10" (254 mm) wheel. An 8" (203.2 mm) wheel is optional.

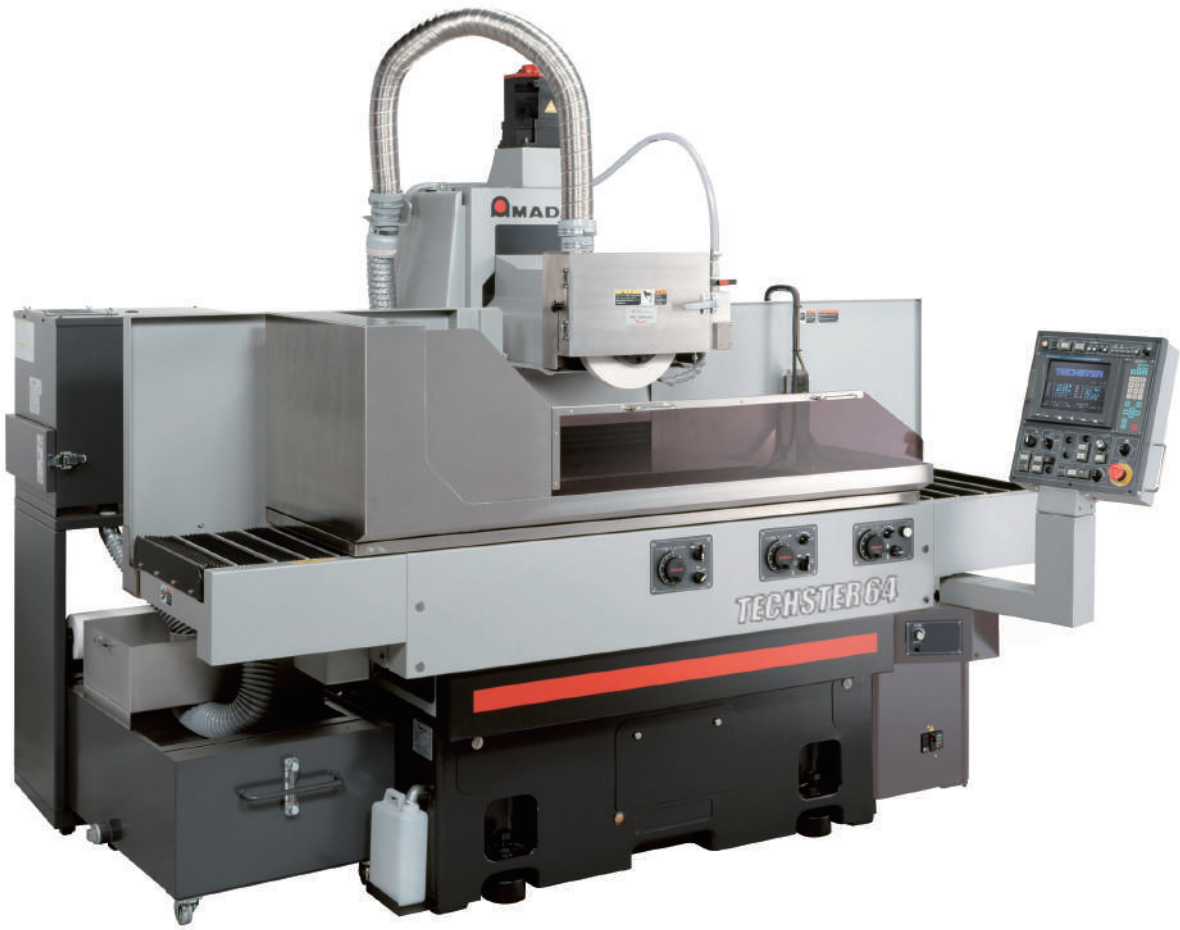
User-Friendly Control Panel—The space-saving control panel with Amada software improves overall efficiency.

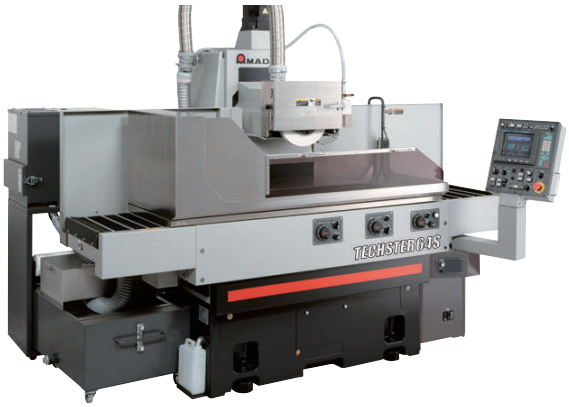
- Large table traverse: 23.62" x 9.84" (600 mm x 250 mm)
- Table traverse way: double-V
- Servo valve-controlled traverse drive system

TECHSTER 52 CONTROL FANUC 32 IB

Two-axis simultaneous plus programmable table. The Meister operating system supports all canned cycle and G-code programming of the Meister series. Supports multiwork canned cycles and all dressing canned cycles.

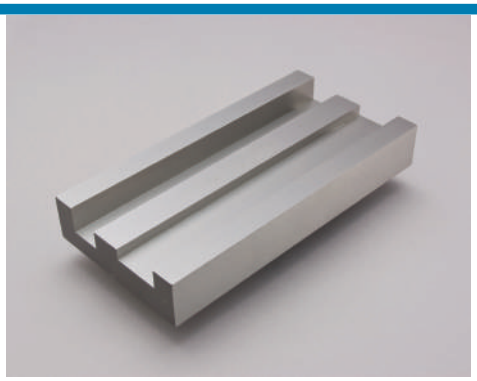
Techster 64 and 64S





Techster 64 and 64S
Saddle Type Precision Surface CNC Grinders

Mirror Finish Sample



Slot Grinding Sample

Crowning Sample

Techster 64 and 64S

Column—The unique, isolated three-way sliding column on the Techster 64 and 64S was optimized through structural analysis to deliver maximum performance while requiring minimal floor space.

Table—The ball screw drive and no-overhang V-V sliding surface deliver high-precision operation in both high- and low-speed use. The non-hydraulic system is extremely environmentally friendly.

Bed and Saddle—The optimized rib layout and high-rigidity bed structure (with a low center of gravity) were developed through extensive structural analysis. The massive bed and thick saddle support heavier workpieces with outstanding precision and flatness.

Front-Side Operation—Axis movement can be controlled from the front of the machine, making column operations easy.

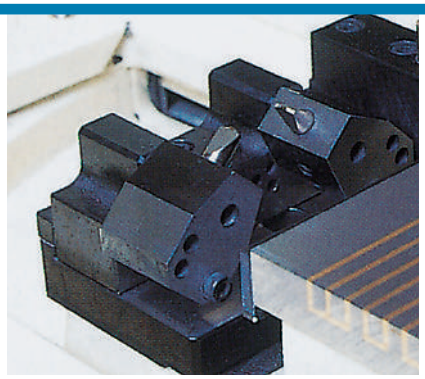
Wheel Spindle—The Ø4.93" (100 mm) high-rigidity spindle with quill ensures high-efficiency grinding.

User-Friendly Control Panel—The space-saving control panel with Amada software improves overall efficiency.

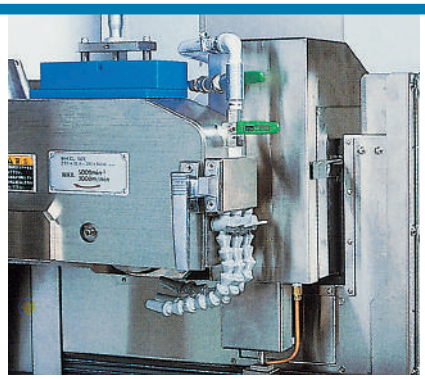
TECHSTER 64 CONTROL FANUC 32 IB

Three- axis control, two-axis simultaneous Meister operating system. Supports all canned cycles and G-code programming of the Meister series. Supports multiwork canned cycles and all dressing canned cycles. Supports creep feed canned cycle, providing high-precision, low-power creep feed.

CNC Profile Dresser



Simplified Profile Dresser



Automatic Measuring Device

Delivering a Wide Range of Processing Features and Dressing Systems

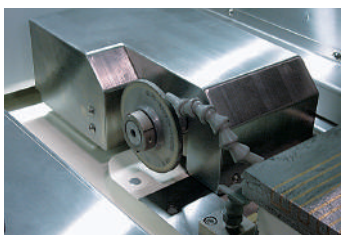
CNC Profile Dresser—The built-in servo motor swivels the dresser during wheel forming. With the simultaneous three-axis control of the machine's X and Y, the dresser angle can be kept constant for normal line control. This makes it possible to dress a wheel with only one point of the dresser, providing high-precision profiles.

Simplified Profile Dresser—Two forming diamond tools are fitted to perform wheel form dressing at a fixed dresser angle.

Automatic Measuring Device (Touch Sensor)—After grinding to the specified dimensions during automatic (canned) cycle operation, this device measures the finished work and reference block, compares the results, and automatically performs follow-up grinding for correction if the workpiece size is out of tolerance. Tolerance for the pass/fail criteria can be set arbitrarily. As the machine's Y-axis is used for measurement, the measuring resolution of this device is 0.000002" (0.05 µm).

HIGH-PRECISION SINGLE/TWIN ROTARY DRESSERS

- With a maximum 3,000 RPM, the high-precision single rotary dresser can be used for coarse dressing as well as for finish dressing of simple forms.
- The twin rotary dresser can accommodate two diamond rolls. One can be used for coarse and the other for fine dressing. Dresser width and form can also be changed to widen the scope of form dressing. The dresser spindle is supported on both sides for increased rigidity. It can also accommodate formed diamond rolls for wheel forming in plunge cut operations.



Machine Specifications

			TECHSTER 52	TECHSTER 52S
CAPACITY	Table working surface (L x W)		21.6" x 7.8" (550 x 200 mm)	
	Max. longitudinal travel		23.6" (600 mm)	
	Max. cross travel		9.8" (250 mm)	
	Spindle center height from table		19.6" (500 mm)	
	Standard chuck size (L x W x H)		15.7" x 7.8" x 2.7" (400 x 200 x 70 mm)	
TRAVEL	Longitudinal feed		32~98 ft/min (1~30 m/min)	
	Max. no. of reciprocation (15 mm stroke)		150 min^{-1}	
CROSS	Rapid cross feed (jog)		0~1300, 1600, 3200 ft/min (0~400, 500, 1000 m/min)	0~3200 ft/min (0~1000 m/min)
	Handle feed	Per rev.	0.0004", 0.004", 0.04", 0.15" (0.01, 0.1, 1.0, 4.0 mm)	0.004", 0.15" (0.1, 4.0 mm) (OP)
		Per grad.	0.000004", 0.00004", 0.0004", 0.0015" (0.0001, 0.001, 0.01, 0.04 mm)	0.00004", 0.0015" (0.001, 0.04 mm) (OP)
	Minimum input increment		0.000010" (0.0001 mm)	–
	Position detection system		Glass scale/0.05 µm (OP)	–
WHEEL HEAD	Rapid wheel head feed (jog)		3.9, 39"/min (100, 1000 mm/min) (2 steps)	
	Handle feed	Per rev.	0.0004", 0.004", 0.04", 0.15" (0.01, 0.1, 1.0, 4.0 mm)	
		Per grad.	0.000004", 0.00004", 0.0004", 0.0015" (0.0001, 0.001, 0.01, 0.04 mm)	
	Minimum input increment		0.000010" (0.0001 mm)	Manual 0.000010" (0.0001 mm) Counter 0.000039" (0.001 mm)
	Position detection system		Linear scale 0.05 µm (OP)	–
WHEEL SPINDLE	Size (OD x width x bore)		Ø10 x 0.25~1 x Ø2" (Ø255 x 6.4~25 x Ø50.8 mm)	
	Wheel spindle speed		500~5000 min^{-1}	
	Motor requirement		5 HP~2 P (3.7~2 kW-P)	
NC CONTROL AXIS			Singly 2 axis	Singly 1 axis
FLOOR SPACE (W X L X H)			88" x 72"x 78" (2240 x 1840 x 2000 mm)	88" x 69" x 78" (2240 x 1770 x 2000 mm)
MACHINE NET WEIGHT			5280 lb (2400 kg)	

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

Machine Specifications

			TECHSTER 64	TECHSTER 64S
CAPACITY	Table working surface (L x W)		27" x 15.7" (700 x 400 mm)	
	Max. longitudinal travel		30.7" (780 mm)	
	Max. cross travel		17.7" (450 mm)	
	Spindle center height from table		19.6" (500 mm)	
	Standard chuck size (L x W x H)		23.6" x 15.7" x 3.9" (600 x 400 x 100 mm)	
TRAVEL	Longitudinal feed		3.2~98 ft/min (1~30 m/min)	
	Max.no. of reciprocation (15 mm stroke)		150 min^{-1}	
CROSS	Rapid cross feed (jog)		0~1300, 1600, 3200, 6400, 9800 ft/min (0~400, 500, 1000, 2000, 3000 m/min)	16~9800 ft/min (5~3000 m/min) (21 steps)
	Handle feed	Per rev.	0.0004", 0.004", 0.04", 0.4" (0.01, 0.1, 1.0, 10.0 mm)	0.0004", 0.004", 0.04", 0.15" (0.01, 0.1, 1.0, 4.0 mm) (OP)
		Per grad.	0.000004", 0.00004", 0.0004", 0.0015" (0.0001, 0.001, 0.01, 10.0 mm)	0.000004", 0.00004", 0.0004", 0.0015" (0.0001, 0.001, 0.01, 0.04 mm) (OP)
	Minimum input increment		0.0" (0.0001 mm)	–
	Position detection system		Glass scale/0.05 µm (OP)	–
WHEEL HEAD	Rapid wheel head feed (jog)		3.9, 39"/min (100, 1000) (2 steps)	
	Handle feed	Per rev.	0.0004", 0.004", 0.04", 0.15" (0.01, 0.1, 1.0, 4.0 mm)	
		Per grad.	0.000001", 0.00001", 0.0001", 0.0015" (0.0001, 0.001, 0.01, 0.04 mm)	
	Minimum input increment		0.000010" (0.0001 mm)	Manual 0.000010" (0.0001 mm) Counter 0.000039" (0.001 mm)
	Position detection system		Linear scale 0.05 µm (OP)	–
WHEEL SPINDLE	Size (OD x width x bore)		Ø14 x 1.5~2 x Ø5" (Ø355 x 38~50 x Ø127 mm)	
	Wheel spindle speed		1500/1800 min^{-1} (50/60Hz)	
	Motor requirement		5 HP~4P (3.7~4 kW-P)	
NC CONTROL AXIS			Simultaneously 2 axis	Singly 1 axis
FLOOR SPACE (W X L X H)			94" x 88" x 81" (2400 x 2240 x 2080 mm)	96" x 85" x 81" (2440 x 2180 x 2080 mm)
MACHINE NET WEIGHT			8800 lb (4000 kg)	

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

See Amada Grinders at Work

The AMTA Technical Center was created to provide a unique environment for visitors to experience the latest manufacturing technology in action. This stunning 40,000-square-foot facility houses the latest Amada technology in each product group. Much more than just an exhibit, every machine, automation accessory, and software program in the facility is fully operational and ready to empower customers to solve their most challenging manufacturing applications.

At **AMADA MACHINE TOOLS AMERICA**, we're committed to your success. More than just a provider of precision metalworking solutions, we're a partner who can help you meet the advanced engineering and manufacturing challenges unique to your industry. Together, we can create the right solution to meet your needs today and empower you to build your business for the future.

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