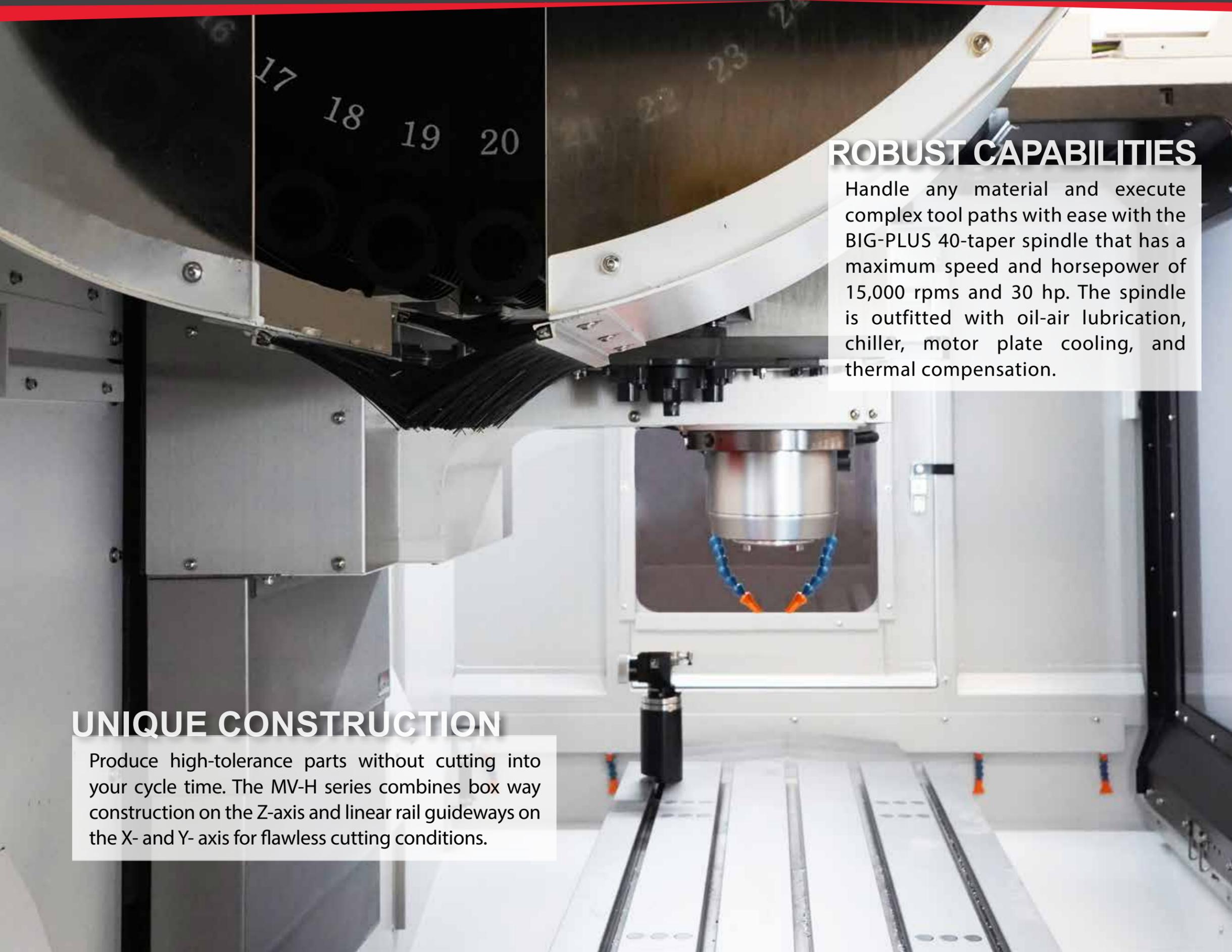


Methods

MV-H Series

Vertical Machining Centers





ROBUST CAPABILITIES

Handle any material and execute complex tool paths with ease with the BIG-PLUS 40-taper spindle that has a maximum speed and horsepower of 15,000 rpms and 30 hp. The spindle is outfitted with oil-air lubrication, chiller, motor plate cooling, and thermal compensation.

UNIQUE CONSTRUCTION

Produce high-tolerance parts without cutting into your cycle time. The MV-H series combines box way construction on the Z-axis and linear rail guideways on the X- and Y- axis for flawless cutting conditions.

MEET THE PRODUCT MANAGER

DARREN WALL



“When we created the MV-H series, we set out to design an innovative machine. We wanted to push the envelope without breaking the bank. We created a high-end line of machines with quality components, bring a new level of speed and rigidity to the shop floor at an affordable price.

We've analyzed customer feedback and utilized more than 60 years of machine tool design to give you more standard features and high-quality components on day one, making the MV-H series the most sophisticated product in its class. The result is a comprehensive workhorse that can perform in any machine shop, from job shops to precision mold manufactures.”

**Methods Machining Center
Product Manager**

☎ 303-885-6397

✉ dwall@methodsmachine.com

A New Level of Quality

Methods Machine Tools designed the MV-H product line for ultimate versatility. The MV-H series is the backbone of a machine shop, capable of handling any job, from roughing to finishing.

Crafted with meticulous attention to detail and more features than any product line in its class, MV-H machines give you everything you need right out of the box.

As with all Methods products, Methods Machining Centers are backed by our industry-leading service, support, installation and application teams who are dedicated to keeping your spindles running.

Remarkable hybrid design allows you to slice through the hardest materials at high speeds. The MV-H series features box way construction on the Z-axis with Turcite B – a low-friction material that reduces chatter and allows a higher load capacity – while the X- and Y-axes are constructed with linear roller guideways for greater speed.

Remain cool under the most challenging machining conditions thanks to a spindle outfitted with oil air lubrication and a chiller, enabling you to overcome adverse machining conditions, maximize your spindle life, as well as maintain thermal stability and accuracy.

19 hand-scraped surfaces for unmatched accuracy. Hand scraping is the foundation of precision, creating a perfectly flat surface within millionths of an inch and up to 10 contact points per square inch.

Take charge and change your cutting environment with the thermal compensation system that automatically compensates for temperature changes.

Cut above the competition with the heavyweight champion. Weighing up to 40% more than other machines in its class, the MV-H series provides better rigidity and prevents distortions from reaching the workpiece.

Achieve mirror-like finishes on the toughest materials. The machines are equipped with direct-drive, 30 horsepower, (max) hollow-shaft spindle motors with coolant through spindle (CTS) capability for better tool surface finishes and higher feed rates.

Key Benefits

- ▶ FANUC Oi-MF control with 10.4" LCD screen, 2 megabyte part program storage, 100 megabits per second Ethernet, and 200 block look ahead
- ▶ Box way Z-axis constructed with Turcite B for rigidity and vibration dampening
- ▶ Linear rail X- and Y-axes for better accuracy and speed
- ▶ BIG-PLUS 40-taper 15,000 rpm (max.) spindle with oil-air lubrication, chiller, motor plate cooling, and thermal compensation
- ▶ FANUC Alpha Series direct-drive, 30 hp (max.), hollow-shaft spindle motor
- ▶ 1.8 second tool-to-tool change time
- ▶ Extra set of 8 M-functions
- ▶ Dual chip augers*
- ▶ Independent manual pulse generator (MPG) handwheel gives you greater control and increases the ease of use
- ▶ Chain/hinge type chip conveyor 41.3"(1,050 mm) Drop-off Ht. Speed 55 ipm (1,400 mm/min)
- ▶ Prepared for quick connection to CTS and 4th axis
- ▶ Max X/Y/Z rapid travel of 2,362/2,362/1,181 inches per minute (60/60/30 m/min)
- ▶ Enclosed machine cabinet with preparation for mist collection system
- ▶ Methods Safety Spec (CE Mark Modified)
- ▶ Two-year machine and control warranty

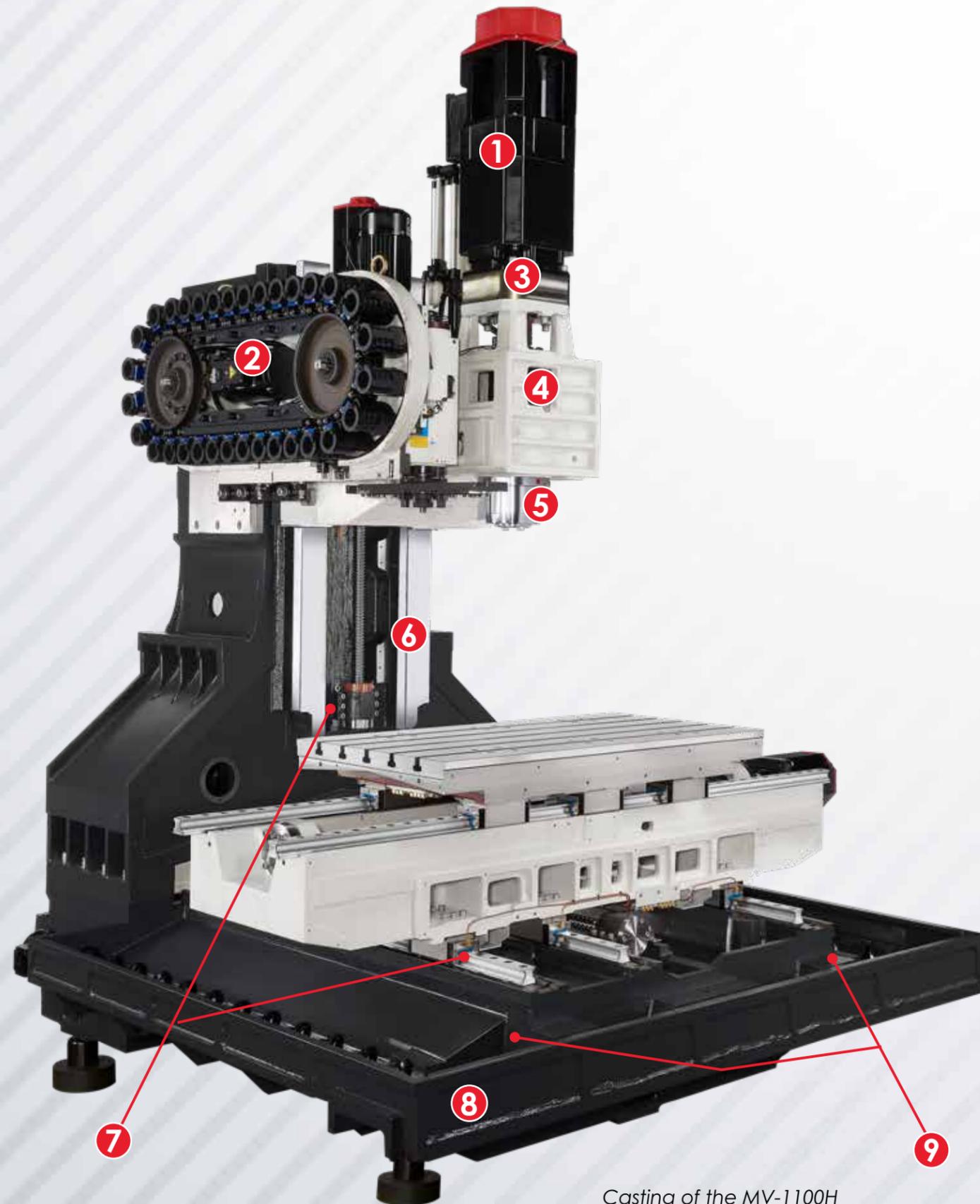
*optional on the MV-600H



MV-H Tech Specs

Feature	Unit	MV 600H	MV 800H	MV 1000H
TRAVEL				
X/Y-Axis	in (mm)	X: 24.0 (610) Y: 17.7 (450)	X: 31.5(800) Y: 20.5(520)	X: 39.4 (1,000) Y: 20.5(520)
Z-Axis	in (mm)	20.1 (510)	20.7 (525)	
Encoder Resolutions	-	4 million pulse		
Axis Motor	-	a22i		
TABLE				
Table Size	in (mm)	27.6 x 17.7 (700 x 450)	37.4 x 20.5 (950 x 520)	45.3 x 20.5 (1,150 x 520)
Max Table Load	lbs (kg)	771.6 (350)	1,102 (500)	
Number of T-Slots	qty	5		
T-Slot Width	in (mm)	.708 (18)		
SPINDLE				
Spindle Speed	rpm	12,000	15,000	
Spindle Type	Dual contact/Direct drive	BIG-PLUS 40 Taper		
Spindle Power	hp (kW) 15 min	30 (22)		
Spindle Torque	.ft-lb (nm) 15 min	111 (150)		
Spindle Cooling	-	Chiller		
AUTOMATIC TOOL CHANGER				
Maximum Number of Tools	-	24	30	
Maximum Tool Weight	lbs (kg)	15.4 (7)		
Maximum Tool Length	in (mm)	7.9 (200)	11.8 (300)	
GENERAL				
Floor Space	in (mm)	86.6 x 116.1 (2,200 x 2,950)	109.1 x 136.6 (2,770 x 3,467)	96.5 x 154.3 (2,450 x 3,920)
Weight	lbs (kg)	10,361 (4,700)	15,101 (6,850)	15,763 (7,150)
Height	in (mm)	114.6 (2,910)	118.1 (3,000)	

MV 1100H	MV 1300H	MV 1600H
TRAVEL		
X: 43.3 (1,100) Y: 24.0 (610)	X: 51.2 (1,300) Y: 24.0 (610)	X: 63.0 (1,600) Y: 35.4 (900)
23.6 (600)		31.5 (800)
4 million pulse		
a22i		
TABLE		
47.2 x 23.6 (1,200 x 600)	55.9 x 23.6 (1,420 x 600)	66.9 x 33.5 (1,700 x 850)
2,204 (1,000)		3,306 (1,500)
5		7
.708 (18)		
SPINDLE		
15,000		
BIG-PLUS 40 Taper		
30 (22)		
111 (150)		
Chiller		
AUTOMATIC TOOL CHANGER		
32	30 (40 optional)	
15.4 (7)		
13.8 (350)		12.6 (320)
GENERAL		
102.2 x 160.2 (2,595 x 4,070)	102.2 x 178.5 (2,595 x 4,535)	185.0 x 183.9(4,700 x 4,670)
16,424 (7,450)	17,637 (8,000)	41,888 (19,000)
123.6 (3,140)	123.6 (3,140)	128.0 (3,250)



Casting of the MV-1100H

A Solid Foundation 60+ Years in the Making

- 1 Be ready for anything** with the powerful 30 horsepower, 15,000 RPM direct-drive BIG PLUS 40-taper spindle. The versatile, hollow-shaft spindle can handle any job, from roughing to finishing, and comes CTS ready.
- 2 24 | 30 | 32 | 40-Tool ATC** with fast 1.8 second tool-to-tool change time.
- 3 Keep cool under pressure** even under the most extreme conditions, thanks to the spindle chiller and motor plate cooler.
- 4 Adapt and adjust** with the thermal compensation system, utilizing thermo-couples for real-time temperature feedback.
- 5 Dual-contact spindle offers endless benefits**, including extended tool life, superior ATC reliability, and ultimate rigidity.
- 6 Best of both construction methods** with an unyielding box guideway on the Z-axis using Turcite B and linear rails on the X- and Y- axes for absolute precision and speed.
- 7 Maximize uptime** thanks to the auto oil lubrication system equipped on all axes.
- 8 Simulated conditions for natural machining.** The machine was designed using finite element analysis (FEA) techniques – complex mathematical simulations – creating a natural machining experience.
- 9 Clean machine, clear results.** The comprehensive chip management system, consisting of augers, a chip conveyor, coolant wash down and a coolant flush gun clean every crevice of the work area for better uptime, better precision, and better throughput.



Rest Assured with Time-Tested, Industry-Trusted Quality Control

- Methods Machine Tools sets rigid quality requirements that ensure our machines and inspection equipment are calibrated, monitored and controlled using industry-standard systems and methods.
- Our team of seasoned machining experts, programmers, electrical engineers and application specialists pour over every schematic and check every detail. We conduct rigorous tests and comb through every specification so you don't have to.

Raising the Bar for Excellence

- All MV-H machines are laser-interferometer and ballbar-tested to certify perfect positioning while delivering practical data and benchmarks. These systems assess and confirm the static and dynamic accuracy of the machine.
- Ballbar testing monitors spindle movement across a programmed path and compares the results to a perfect circle. The test considers all the variables in machining such as machine geometry, temperature fluctuations, and tool wear to produce accurate parts and give you actionable data.
- Ballbar tests are recognized by international standards such as ISO 230-4 and ANSI/ASME B5.54.



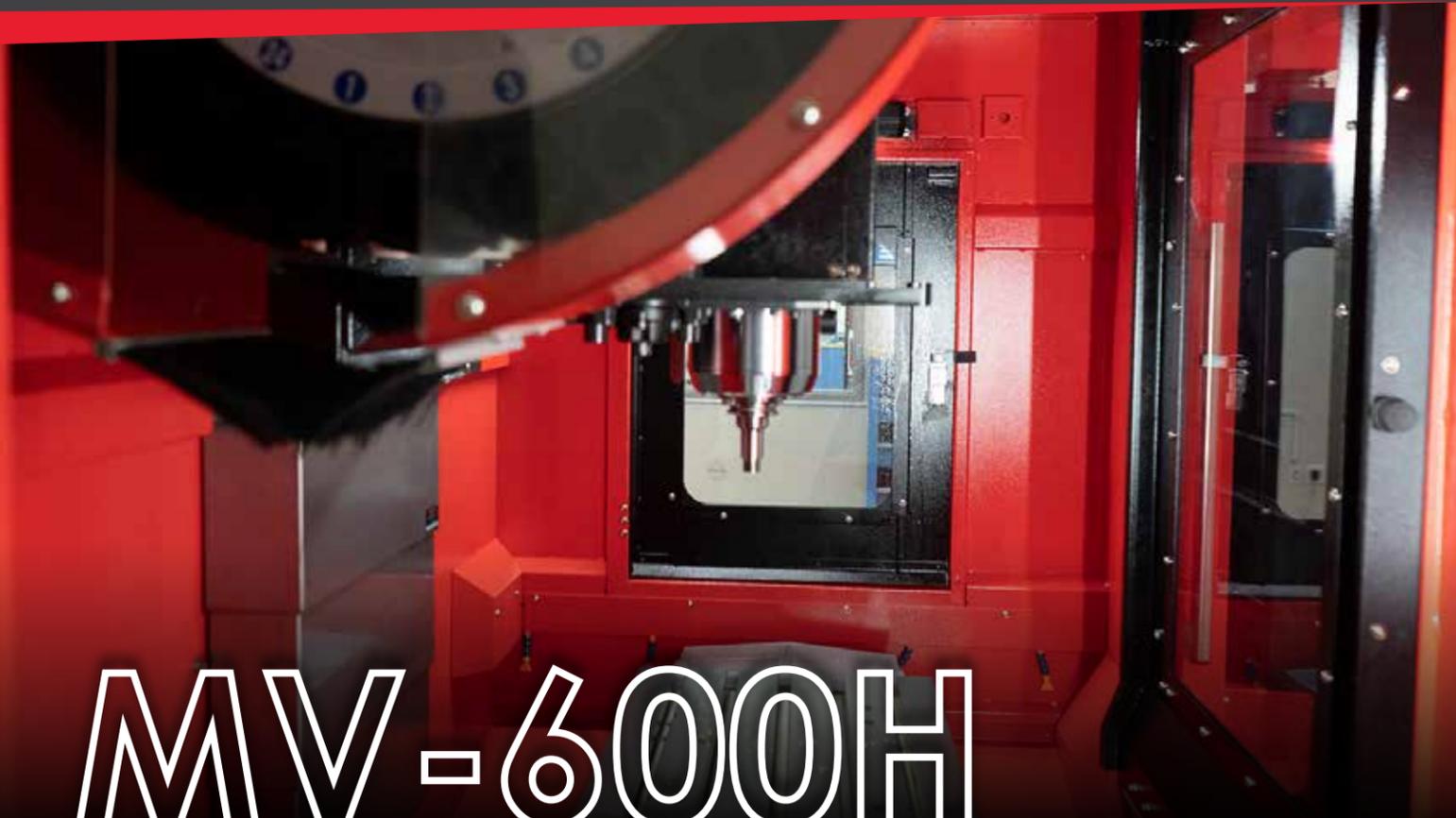
ENGINEERED BY EXPERTS

Methods applied more than 60 years of hands-on manufacturing and programming experience to design the MV-H series with machinists in mind. That's why we equipped each machine with a 15,000 RPM BIG-PLUS 40-taper spindle for versatility and advanced lubrication and thermal compensation systems for machine longevity.



HAND SCRAPED TO PERFECTION

The MV-H series features 19 hand-scraped surfaces, the most in its class, for unmatched accuracy and attention to detail.



The **MV-600H** is a part of the MV-H Series which are 3-Axis Vertical Machining Center engineered & built to strict Methods specifications and quality standards. This new product line is packed with standard features and benefits that will exceed the expectations of our customers looking for quality, reliability, accuracy and longevity at a competitive price.

- ▶ Reliable FANUC 0i-MF Plus Control with 10.4" LCD Screen
- ▶ Includes Manual Guide I, AICC II, 2ms BPT, and 200 Block Look Ahead
- ▶ 12,000 RPM Big Plus, 40-Taper Spindle with Air-Oil Lubrication, Spindle Chiller
- ▶ Powerful 30 HP (15 min.) Direct Drive Hollow Shaft Spindle Motor w/1000 psi CTS Prep
- ▶ Rigid Box-Way Construction in the Z-Axis
- ▶ Robust Roller Guideways in the X and Y-Axis Feature 2362 IPM Rapid Rate
- ▶ 24 Tool ATC
- ▶ Thermal Compensation



ABOUT METHODS

Make a **Difference** to the Bottom Line



Methods Machine Tools was established in 1958 with three employees and a handful of refurbished machines. Since then, the company has become one of the largest privately-owned machine tool importers in North America. Methods designs and implements custom machining setups, including machine tool selection, automation integration, and turnkey automation cells. The corporate campus in

Sudbury, Mass., comprises a showroom/technical center spanning 125,000 square feet, which contains automation, applications, and a full range of cutting-edge machines. Methods has more than 300 employees, nine sales/technology centers, one high-precision machining center, and has installed in excess of 40,000 machines throughout North America. Methods' founder, Mr. Clement McIver, Sr., established the core principle

that sets Methods apart from the competition. "Anyone can sell a machine," he said, "but not everyone provides the extra effort that makes a difference in the company's bottom line."

Methods delivers that extra effort in the form of world-class customer service, peerless industry knowledge, innovative technology, and unique relationships with builders. We are dedicated to crafting the right tool for the right job.

SERVICE

Methods earned its unique reputation by developing a comprehensive umbrella of support and sales services utilizing decades of hands-on experience and expertise. Our sales and support staff work with an extensive national network of distributors and dealers to offer specific solutions for machine shop owners.

The unique blend of seasoned engineers, young talent, and an average level of experience of 15 years guarantees customer satisfaction.



APPLICATIONS

Method's applications engineering team is dedicated to solving challenges by integrating modifications and developing machining configurations. Our engineers analyze your needs and develop the best solution to elevate your business and help you reach your goals.

Methods has taken application engineering and technology to the next level, offering precise machine selection, programming, and automation. We stay ahead of the curve to keep you ahead of the competition.



AUTOMATION

Automation offers the greatest potential for increased productivity. Methods has more than 30 automation specialists nationwide and includes design, control, integration/assembly, and field service/installation engineers. Methods recognizes there is no one-size-fits-all solution. That's why all of our automation and integration specialists develop customer-specific solutions that reduce costs and increase throughput.



**Specifications are subject to change without notice*

Showrooms and Technical Centers

Boston ■ Charlotte ■ Chicago ■ Dallas ■ Detroit ■ Houston
Los Angeles ■ Memphis ■ Milwaukee ■ Phoenix ■ San Francisco

 **Methods**

877.668.4262 | methodsmachine.com