
MV1000L

Vertical Machining Center



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FULL SPEED AHEAD

Boost your shop's throughput, take on more jobs, and churn out more parts in less time with the MV 1000L's exceptional speed. Powered by FANUC's Alpha Series spindle motor, the machine outputs 12,000 rotations per minute (RPM).

HEAVY HITTER

Maintain superior cut quality, speed, and tool life. Weighing in at 15,432 pounds, the MV 1000L is the heavyweight champion that delivers superior vibration dampening properties. Heavier machines absorb and dissipate vibrations better than their lightweight counterparts, lessening the wear on critical machine components.

MEET THE PRODUCT MANAGER

DARREN WALL



“ We listen to our customers and take what they say to heart.

So, when we heard many of the three-axis vertical machines weren't living up to expectations, we decided to design a better machine from the ground up.

We created the MV 1000L with every shop owner in mind. No matter what type of job you throw at it, this machine will deliver.

This is the cornerstone of a machine shop, a Swiss army knife crafted with high-quality components and design features. ”

Methods Machining Center
Product Manager

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Designed for productivity and efficiency.

Methods' brand 3-axis vertical machining centers are made to Methods' design and engineering standards by Litz Hitech Corp., a well-established, quality machine tool builder and are fully backed by Methods industry-leading technical service and parts support. Methods Machining Centers are affordable, mid-range, best-in-class products providing durability, accuracy and long term reliability.

19 hand-scraped surfaces, including saddle, column, and motors, create the ideal machining environment. Hand scraping is the foundation of accuracy, forming a perfectly flat surface within millionths of an inch and up to 10 contact points per square inch. Hand scraping limits chatter, prolongs machine life, and eliminates the need for electronic compensation.

Run high-speed rapids without the chatter. The MV 1000L boasts rapids of 60/60/30 meters/minute on the X/Y/Z axes. Weighing 15,432 pounds — thousands more than comparable machines — the machine lets you run rapids without the risk of destroying your tool, Z-axis, or distorting the workpiece.

Built to a higher standard by machinists, for machinists. We develop our machine above and beyond major ISO and ANSI standards and execute rigorous tests to ensure the machine performs as promised. The results speak for themselves; the MV 1000L exceeds some industry standards by more than 50%.

12,000 RPM, BIG-PLUS, dual-contact, 40-taper spindle backed by 20 horsepower gives you the versatility to tackle any job in your shop, from roughing to finishing. The direct-drive spindle motor allows you to machine tough materials and achieve a flawless surface finish. The spindle is ready for coolant through spindle (CTS) capability.

Linear guideways provide higher speed, improved accuracy, and better durability compared to other machine constructions. Linear guideways also offer higher traverse speeds and eliminate stick-slip.

Key Features

- ▶ FANUC 0i-MF Plus Control, 10.4" LCD, MGI, AICC II, 2.0ms BPT, 200 block look ahead, 2MB Part Program Storage, Ethernet 100 mbps, USB, PCMCIA, RS232C
- ▶ Linear rail-type guideways in the X/Y/Z-axes
- ▶ BIG-PLUS, 40-taper, 12,000 RPM spindle with grease lubrication, chiller, spindle motor plate cooling, and thermal compensation
- ▶ Have the right tool for the right job, no matter what, with the 30 tool capacity automatic tool changer (ATC)
- ▶ FANUC Alpha Series direct-drive, hollow-shaft spindle motor with 20 hp (15 min.)
- ▶ 1.8 second tool-to-tool change time
- ▶ Dual chip augers
- ▶ Prepared for quick connection to 4th axis (does not include drives) and 1,000 psi (70 bar) coolant through spindle (does not include pump)
- ▶ 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)
- ▶ X/Y/Z Rapid Travel at 2362/2362/1181 in/min (60/60/30 m/min)
- ▶ Fully enclosed machine cabinet with preparation for mist collection
- ▶ Methods Safety Spec (CE Mark Modified)
- ▶ 2-Year Machine and Control Warranty



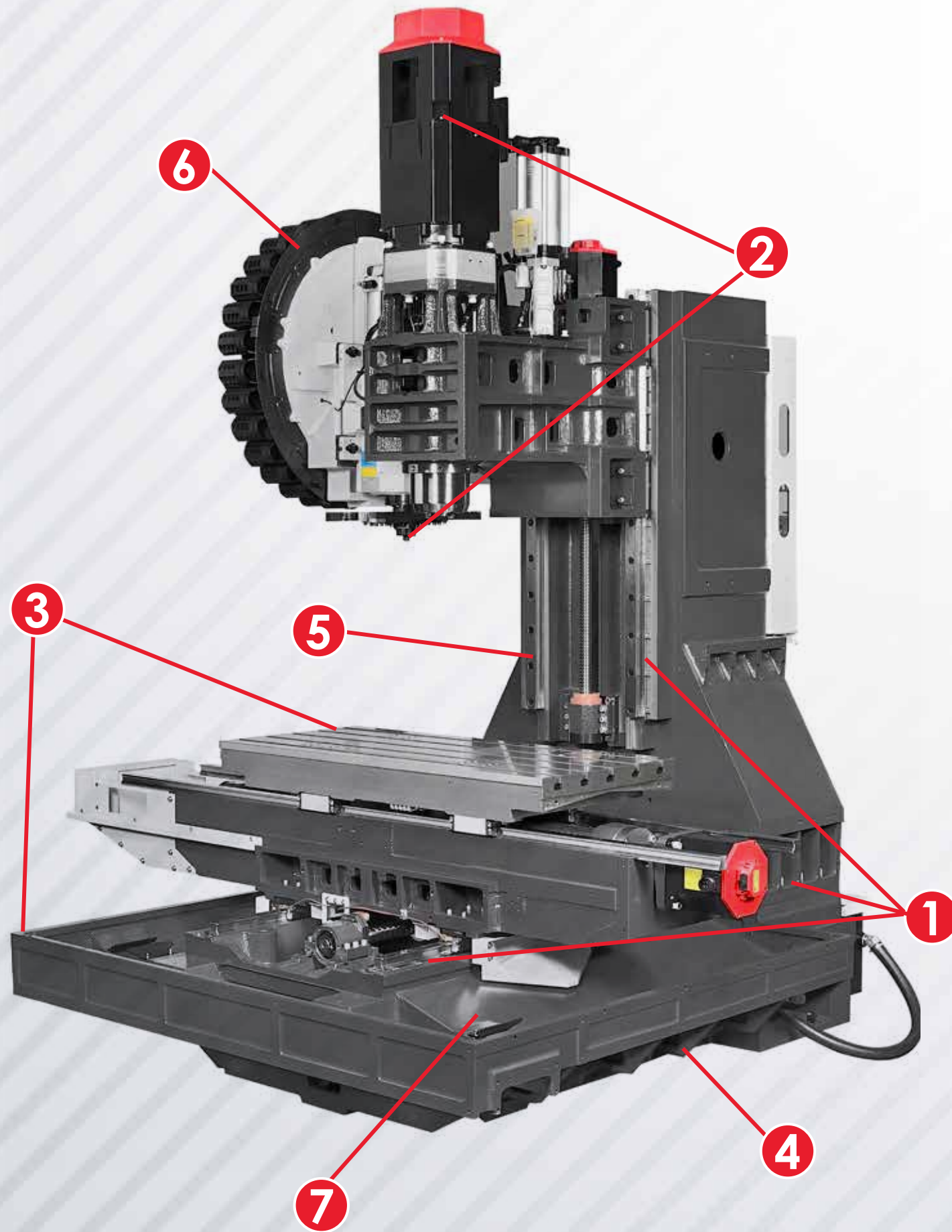
MV 1000L Tech Specs

Technical specifications and features are more than numbers on a page; they tell you what a machine tool can accomplish and how it will perform in your shop. We designed the MV 1000L to withstand the most demanding machining conditions and adapt to any manufacturing environment. The MV 1000L is constructed to perform at the highest levels without fail. This machine will stand the test of time.



MV 1000L

Description	Unit	Specifications
Travel		
X/Y/Z Axis Travel	in (mm)	X- 39.4in (1000mm) Y- 20.47in (520mm) Z- 20.7in (525mm)
Spindle Nose to Table Surface	in (mm)	3.9in -24.6in (100mm-625mm)
Spindle Center to Column Surface	in (mm)	22.4in (570mm)
Table Surface to Floor	in (mm)	38.2in (970mm)
Table		
Table Size	in (mm)	X- 45.3in (1150mm) Y- 20.5in (520mm)
Max. Load	lbs (kg)	882lbs (400kg)
Working Area	in (mm)	X- 39.4in (1000mm) Y- 20.5in (520mm)
T Slot Width	in (mm)	0.7in (18mm)
No. of T Slot		5
Distance Between T-Slot	in (mm)	3.9in (100mm)
Spindle		
Spindle Driven Type		DDS
Spindle R.P.M.		12,000
Spindle Motor		AT12i 15KW
Coolant Through Spindle Prep.		70 bar provision
Tool Shank		40 taper, BIG-PLUS
Retention Knob Type		P-40T(45)
Spindle Lubrication Type		Grease
Automatic Tool Changer		
Number of Tools		30
Maximum Tool Weight	lbs (kg)	15.4 (7)
Maximum Tool Length	in (mm)	11.8in (300mm)
Floor Space		
Depth	in (mm)	96.5in (2450mm)
Width	in (mm)	107.3in (2725mm)
Height	in (mm)	118.1in (3000mm)
Net Weight	lbs (kg)	15,432lbs (7000kg)
Power Requirements		
Power Capacity	KVA	25KVA
Voltage	Voltage	220V 3 Phase
Braker Size	Amperage	100 Amp
Wire Size	Gauge	14mm



A Solid Foundation 60+ Years in the Making

- 1** **19 hand-scaped surfaces**, including mating surfaces, for better stiffness, accuracy, and tool life.
- 2** **Take on any job, anytime from 1 part to 1,000:** The versatile BIG-PLUS, dual-contact, 12,000 RPM spindle powered by the FANUC Alpha Series motor allows you to tackle any challenge, from high-production contracts to one-offs and everything in between.
- 3** Weighing in at 15,432 pounds, the MV 1000L is the heavyweight champion that delivers **superior vibration dampening, cut quality, speed, and tool life**. The heavier the machine, the better it can absorb and dissipate vibrations.
- 4** **Simulated conditions for natural machining.** We designed the machine using finite element analysis (FEA) techniques – complex mathematical simulations – creating a natural machining experience. Castings meet Meehanite engineering standards, giving the machine dependable mechanical properties.
- 5** **Fast, robust, linear roller guideways give you rigidity and speed.** Linear roller guideways provide more rigidity compared to other guideways and can handle varied loads without distorting the workpiece. With 2,362ipm (60m/min) on the X & Y, 1,181ipm (30m/min) on the Z-axis, you have the speed you need to keep the chips flying.
- 6** The automatic tool changer has a capacity of 30 tools, giving you the option for **redundant tooling and the ability to machine multiple jobs**, and is equipped with big and heavy tool functionality.
- 7** **Maintain pristine part quality and preserve tool life** with the comprehensive chip management system, comprised of a hinge-style conveyor, coolant wash down, and coolant flush gun.

Equipped with FANUC *θiMF Plus*



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

- The MV 1000L is 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.



**Specifications are subject to change without notice*

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