

PRECISION MEETS RELIABILITY

VM640-HS

VERTICAL MACHINING CENTER

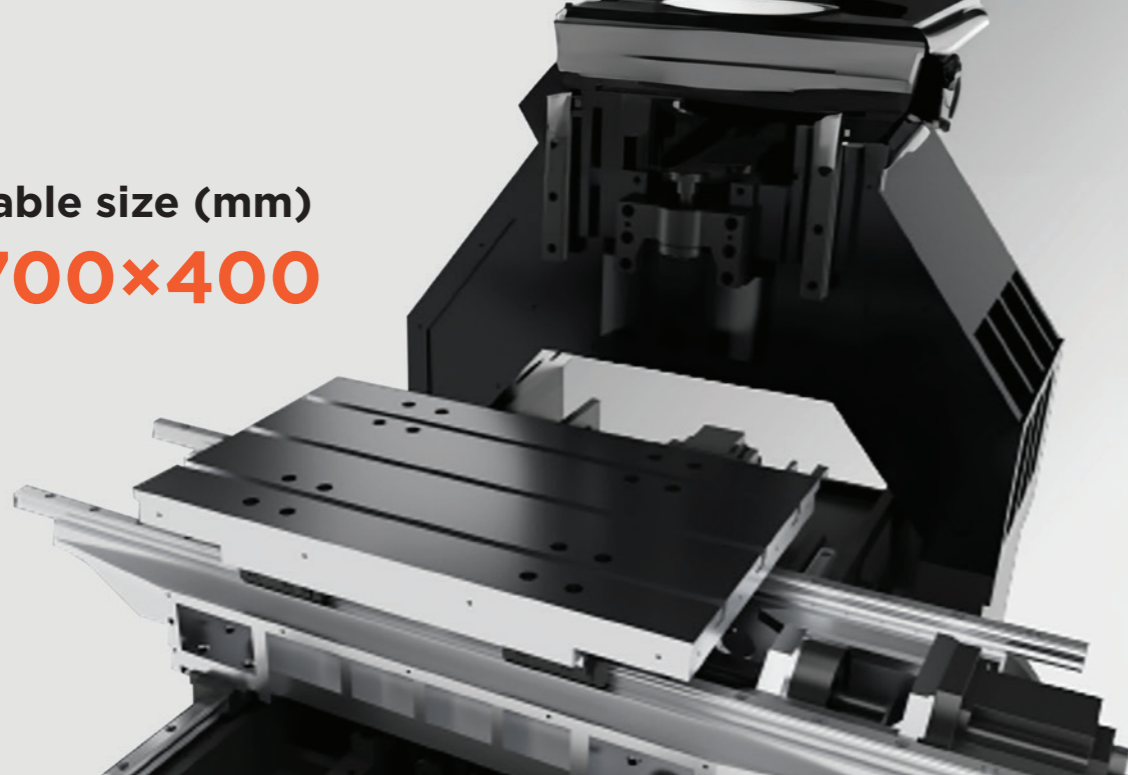


SETTING NEW STANDARDS HIGH SPEED VMC

Introducing the VM640-HS, Acceleron's sleek and efficient Vertical Machining Center (VMC) designed to meet your specific needs. It combines precision, quality, productivity, performance, reliability, and flexibility. Engineered with precision-machined cast iron parts to ensure high accuracy, each unit undergoes meticulous design, manufacturing, assembly, and testing to excel in demanding environments



Table size (mm)
700×400



PRECISION, DURABILITY AND VERSATILITY

The V640-HS High-Speed Vertical Machining Centre is engineered to excel in modern manufacturing settings. Featuring advanced technology and durable construction, it offers exceptional precision, speed, and reliability, making it perfect for diverse machining applications.

Max. table loading capacity 400 kg

The maximum table loading capacity has been increased to 350 kg. This expands choices of fixtures and promotes process integration.



Tool to Tool:
1.8 seconds
Chip to Chip:
2.4 seconds
Tool Change Time

Designed for High Performance

Highly efficient spindle motor

Standard equipped with an IPM motor that produces high torque in a wide rotation range.

Z-axis motor

Max. acceleration 2.2 G helps reduce cycle time.

Machine table

Large enough so that up to 400 kg fixture can be mounted.

Column

Tilt rigidity has been improved by approx. 70% by making the column thicker than former models.

X/Y-axes motor

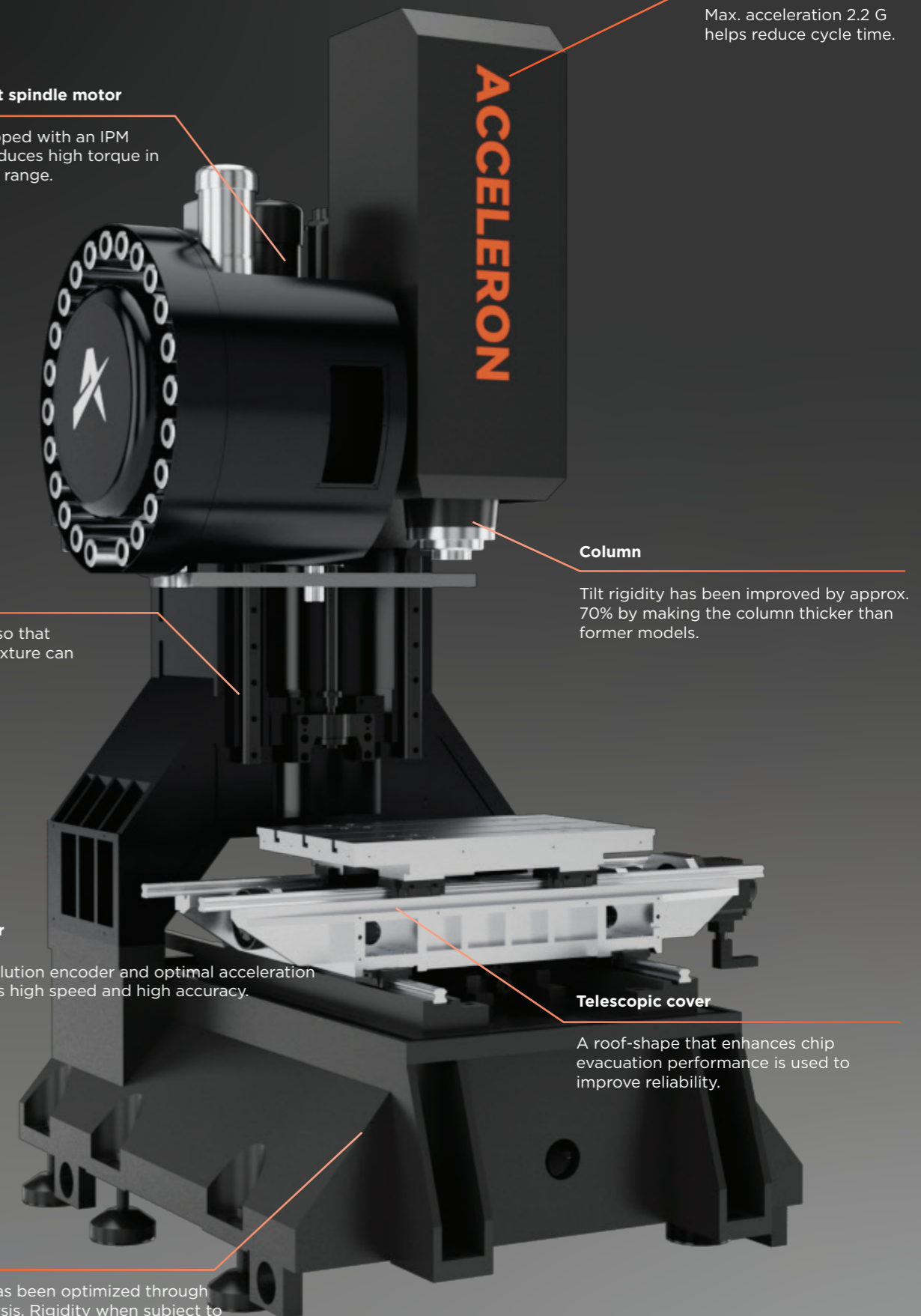
Using high resolution encoder and optimal acceleration setting achieves high speed and high accuracy.

Telescopic cover

A roof-shape that enhances chip evacuation performance is used to improve reliability.

Base

Rib structure has been optimized through topology analysis. Rigidity when subject to external vibration is better than former models by 40% or more.



Key Features

The exceptionally rigid machine structure, combined with an efficient spindle motor, facilitates a broad spectrum of machining capabilities. Tailored spindles are suitable for applications across diverse industries, including automotive, semiconductor, precision parts, and IT equipment. The enhanced NC system, boasting increased processing speed, delivers exceptional precision and high-speed performance, even in complex three-dimensional machining tasks.

High-speed Spindle



Equipped with a high-speed spindle, the High speed VMC delivers exceptional cutting performance and rapid machining speeds, reducing cycle times and increasing productivity.

Precision Engineering



Built with precision-engineered components and advanced CNC technology, this machine ensures unmatched accuracy and repeatability, meeting the stringent quality standards of precision machining.

Fast Feed Rates



The VMC's 12m/min feed rate on X, Y, and Z axes boosts productivity with fast, precise tool movements, reducing cycle times and ensuring high-quality finishes.



High Speed Automatic Tool Changer



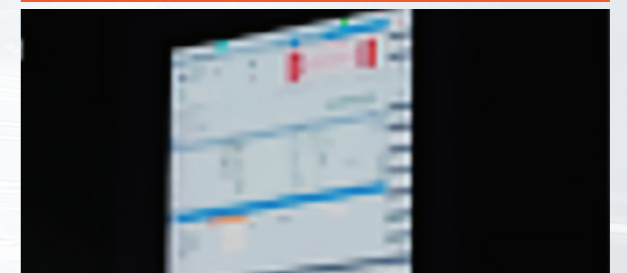
The VMC's excellent coolant and chip management system efficiently removes chips and maintains coolant flow, reducing heat, preventing tool wear, and ensuring optimal machining performance.

Excellent Coolant and Chip Control



The VMC's excellent coolant and chip management system efficiently removes chips and maintains coolant flow, reducing heat, preventing tool wear, and ensuring optimal machining performance.

Advanced and User-friendly Control System



The advanced and user-friendly control systems optimize operations with precise tool paths, real-time monitoring, and enhanced efficiency, ensuring consistent manufacturing quality.

Superior Automation Capabilities



Automation capabilities streamline production by integrating robotic arms or automated tool changers, reducing manual intervention, increasing efficiency, and ensuring consistent manufacturing quality.

ENGINEERED FOR SEAMLESS AUTOMATION

Tailored for seamless integration into automated workflows, the V640-HS boasts a compact design and user-friendly layout, ensuring hassle-free machine tending operations. Our Quick and Simple Startup Packages further simplify the process of integrating tending robots, facilitating swift deployment and maximizing productivity.



ACCELERON Mobile Cobot

The Acceleron Mobile Cobot is a high-end collaborative robot with autonomous driving and Industry 4.0 technology. It excels in tasks like handling, assembly, and machine tending, using advanced mapping, path planning, obstacle avoidance, object recognition, and voice control. Widely used in smart manufacturing, lab testing, inspection, and material sorting, it enhances production efficiency and supports intelligent transformation.



Precise

±0.02mm

Highest Repeat Positioning Accuracy

±0.13mm

3D Vision Spatial Compensation Accuracy

Intelligent

TOS Operating System

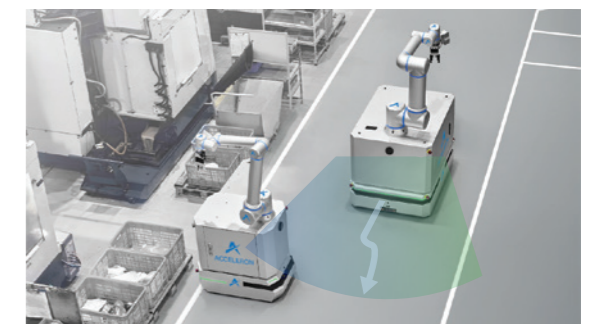
Integrates the original four independent modules into one harmonized controlling system.

Hand (robotic arm), Foot (AMR), Eye (vision), Brain (AI)



Data Interconnection with other production equipments

Resolve the problem of data/information isolation



Autonomous Navigation

Actively avoiding obstacles and optimize path planning in real time

Technical Specification

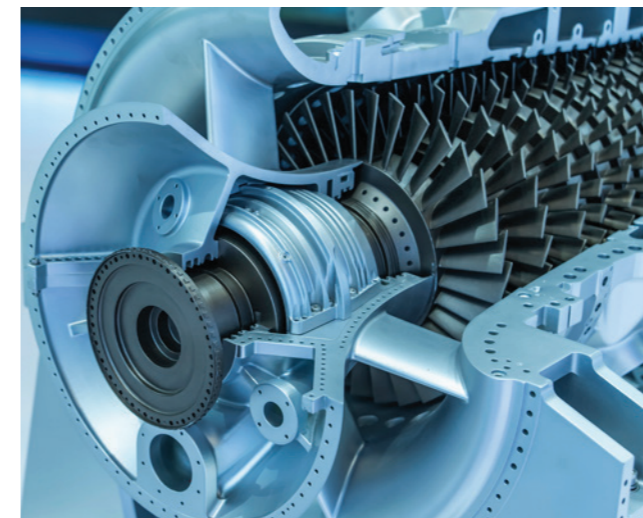
| Description | | V640-HS | |
|---------------------|-------------------------------------|---------|----------------------------------|
| Table | Table Size | mm | 700 X 400 |
| | Max. Load Capacity | kg | 400 |
| | T-Slots | mm | 3 X 18 - 100 |
| | Dist. Table Surface to Spindle | mm | 100 - 550 |
| Spindle | Spindle Taper | | BBT 40 |
| | Spindle Speed [Options] | rpm | 12000 [15000] |
| | Spindle Driving Method | | Direct |
| | Main Spindle Power Output [Options] | kw | 7.5 / 11 |
| | Max. Spindle Torque [Options] | nm | 95.5nm@1500rpm [70nm@1800rpm] |
| Feed | Travel (X/Y/Z) | mm | 600 / 400 / 450 |
| | Rapid Rate (X/Y/Z) | m/min | 48 / 48 / 48 |
| | Feed Rate (X/Y/Z) | m/min | 12 |
| | Guideways | | Ball |
| ATC | Number of Tools | nos. | 24 |
| | Max. Tool Dia. (W.T / W.O) | mm | Ø80 / Ø150 |
| | Max. Tool Length | mm | 300 |
| | Max. Tool Weight | kg | 8 |
| | Tool Change Time | T-T | sec |
| C-C | | sec | 2.4 |
| Power Supply | Air Consumption | bar | 6-8 |
| | Electric Power Supply | kva | 20 |
| | Voltage | v/hz | 380v±10% 50hz |
| Machine | Machine Dimensions | mm | 2000 X 2410 X 2400 |
| | Machine Weight | kg | 3500 |

Technical specifications and optional items may be subject to change without prior notice.

ENSURES HIGH PRODUCTIVITY ACROSS DIVERSE APPLICATIONS



Automotive: Precision machining of engine components, transmission parts, and other critical components.



Aerospace: High-speed machining of complex aerospace parts with tight tolerances.



Medical Devices: Manufacturing high-precision medical implants and instruments.



Mold & Die: Production of small molds, dies & electrodes for various industries.



General Manufacturing: Versatile machining capabilities for a wide range of industrial applications.

ENGINEERED FOR YOUR SUCCESS



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