ON THE COVER

The Haas UMC-500 and UMC-500SS are the latest additions to our growing line of affordable, easy-to-use, 5-axis universal machining centers. With roughly the same footprint as a VF-2, these versatile machines pack a lot of capability into very little space, making them perfect solutions for 3+2 machining and simultaneous 5-axis machining of smaller parts. The UMC-500 is available in standard and Super Speed versions, with a wide selection of high-productivity options available, including high-speed HSK-A63 spindles.
EVERYBODY needs operators right now, and keeping your machines up and running can be a challenge. You could try to hire a person, but qualified operators are hard to find, and they’re not always 100% reliable.

You could buy a 6-axis robot to automate your processes, but that can be a complex, involved, and expensive proposition, often requiring extensive integration – at additional cost.

The Haas APL provides simple, affordable automation for your Haas small VMC or lathe, that is fully integrated with your machine, right out of the box.

WE’VE DONE ALL THE WORK: It’s built into the machine; it’s controlled by the machine; and there’s no additional setup – or cost.

Shift your mindset. The Haas APL is a simple “operator” that can help you get hours of extra production time after your other operators have gone home. Or, it can free up your skilled machinists for more complex tasks during the day.

And there’s no need for special training or additional software, our simple and intuitive templates built into the Haas control make job setup and programming fast and easy.

EASY SETUP

6-MONTH PAYBACK!
NEW PRODUCT FOCUS

Desktop Mill

The ultimate training machine, the Desktop Mill is controlled by a full-function Haas CNC control simulator. The mill is designed to cut plastics and machinable wax, and is perfect for teaching the basic principles of programming and operating a CNC mill. It boasts a 15,000-rpm electric spindle with ER11 collet chuck.

- The full Haas CNC control features 1 GB memory, Ethernet and WiFi connectivity, M130 Media Display M-code and HaasConnect remote monitoring.
- Available control options include the Haas Visual Part Programming System, High-Speed Machining, User-Definable Macros, and Coordinate Rotation & Scaling.

Touchscreen

Our touchscreen interface simplifies control navigation by allowing direct selection of screens, tabs, form fields, icons, and more — right on screen — reducing the number of button pushes, and saving time.

- Navigate directly to dozens of tabs (pages)
- Touch-and-drag functions make selecting text for editing functions, and scrolling through long pages, simpler and more precise
- Touch-and-hold functions pop up full descriptions of status icons and their meanings
- All keypad functions still work, so there is virtually no learning curve with the touchscreen
- Available starting in 2020

Mist Condenser

The Haas Mist Condenser keeps the machine’s enclosure clear of mist and smoke generated during the machining process, for improved visibility, reduced coolant consumption, and a cleaner machine and shop.

- Complete recirculation system does not require venting to the outside
- Dual filters condense the mist and return the coolant to the enclosure
- Reduces machine wait time; no waiting for mist to clear to change parts
- Provides a better work environment for operators

PulseJet

The Haas PulseJet System is a programmable tap/drill oiling system that provides precise, controllable lubrication directly to the cutting tool, for drilling, tapping, and other operations requiring targeted lubrication. PulseJet attaches to the Haas Programmable Coolant Nozzle, and is controlled by M-code.

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Haas Automation, Inc. / www.HaasCNC.com / Made with Pride in the USA
NEW PRODUCT FOCUS

SAFERUN

Like it or not, crashes are a fact of CNC machining. But what if the machine could detect a crash happening within a few milliseconds, and stop before significant damage occurs? Well, our Safe Run mode does exactly that! When in Safe Run, the machine’s rapids and accelerations are reduced, and an algorithm created by our software wizards monitors the servos for abnormal signals. If the control detects a servo abnormality caused by unexpected contact, the machine will stop, back off in the reverse direction of the approach, and alarm out – before significant damage can occur.

- Replaces Dry Run mode
- Reduces the chance of serious machine damage
- Does not prevent crashes
- Available on most product lines soon

ST-30L

The ST-30L is a long-bed version of our very popular ST-30 mid-size turning center. The machine’s whopping 60” of Z-axis travel make it perfectly suited for turning the long shafts, collars, pipes, and tubes found in the industrial printing, alternative energy, and oil & gas industries. To support long parts and prevent vibrations, a steady rest provision and programmable tailstock are available.

- 60” of Z-axis travel
- Steady rest provision and tailstock available
- Large double doors allow loading of long parts, and provide easy operator access

NEW PRODUCT FOCUS

LARGE ROTARY

Whether you’re machining large shafts for windmills, rethreading drill pipe, or machining blowout preventers, the extra-large HRT1000 rotary table has what you need to handle the big jobs. With its massive platter, generous torque, and large through-hole, this extra-large rotary table will easily handle even the biggest 4-axis jobs in your shop.

UMC-1600H

The UMC-1600H is a 50-taper 5-axis Universal Machining Center based on the heavy-duty Haas EC-1600 series HMC. Full 5-axis motion is provided by a robust right-angle rotary assembly mounted to a massive rotary platter integrated into the machine’s T-slot table. The C-axis has a 600 mm T-slot platter with a 257 mm through-hole, and provides 360° of rotation. The B-axis provides a 120° of rotation.
NEW PRODUCT FOCUS

**CM-136-POCKET TOOL CHANGER**

The new 36-pocket tool changer option for the CM-1 Compact Mill not only increases the machine’s tool capacity, but also results in significant improvements to the machine enclosure. While the enclosure got wider to accommodate the larger tool carousel, the additional width allowed us to upgrade the door configuration. The door now mounts internally and slides to open, rather than swinging open in a wide arc, like the previous design. We also were able to mount the standard tool rack and work table to the front of the enclosure for added operator convenience.

- Upgrades from 20- to 36-tool capacity
- Ergonomic door opening
- Convenient tool rack and work table mounted to the front of the machine
- Machine operating height and depth remain practically unchanged

**RJHTOUCH**

The Haas Remote Jog Handle with touchscreen display lets you to get up-close to the machine’s work area for part setup, changeover, and inspection, while still having control of the machine.

- Get close to the part, while controlling key machine functions
- Precisely control jogging speed
- Set work and tool offsets directly from the Remote Jog Handle
- Command tool changes directly from the Remote Jog Handle
- Cycle Start and Feed Hold programs while they’re running
- Touchscreen display

**HAASDROP**

HaasDrop is a fast and convenient method for sending images, videos, and even program files from a mobile device directly to a Haas NextGen Control. Simply download the free app for Android and iOS devices, and start transferring files directly to the Haas control.

- HaasDrop creates a peer-to-peer connection between the mobile device and the machine control using WiFi
- Select the files from your device and “drop” them to the My Media folder on the control
- Call up the images from within a CNC program using our Media Player M-code (M130), to provide setup information or instructions to the operator
- Editor features include simple, one-step functions to insert media filenames and M130 commands into your programs, without having to type them in

**HSK SPINDLE**

The Haas-designed 12,000-rpm and 15,000-rpm HSK-A63 spindles provide high rigidity and high stability for high-speed, extended-reach machining applications. The HSK tooling provides dual contact between the taper and the spindle face, creating a very rigid connection that offers excellent axial and radial accuracy, especially at high spindle speeds and with long tool lengths.

- Dual-contact taper for high rigidity and high accuracy
- More rigid toolholders for long-reach tools, as found in 5-axis work
- Available on VM Series, UMC-1000/SS, UMC-500/SS, and some VF models
WHY HAAS?

WHERE DO WE START? THERE ARE A THOUSAND WAYS TO ANSWER THAT QUESTION. BUT FOR THE SAKE OF SPACE (AND TIME), LET'S FOCUS ON JUST A FEW:

WE CAN CUT THAT. CHECK OUT THE FACTORY. HOW DO I PROGRAM. HOW DO I TROUBLESHOOT MY SOLENOID. WE HAVE PARTS. BUILD & PRICE.

NEW PRODUCT FOCUS

ELECTRIC VISE

The Haas Electric Vise uses a powerful DC motor and gear reduction to drive a traditional 4” vise, creating a simple, economical, automated workholding solution. The vise commands are integrated directly into the Haas control, and allow the operator to set a retract distance for the jaws, much like on a tailstock. The control uses current monitoring to sense when the vise is clamped, and clamp force is variable, to accommodate a variety of workpiece types and sizes.

- 4” CNC vise
- Direct integration with the Haas control and APL
- Programmable retract distance, similar to a tailstock
- Variable clamping force

HIGH-PRESSURE FLOOD COOLANT

The number one cause of premature tool failure is re-cutting chips. Our High-Pressure Flood Pump solves this problem by delivering up to 45% more coolant to the cutting zone – at higher pressure – to flush out chips and swarf. High-volume, high-pressure coolant is delivered through our multi-nozzle flood coolant ring to maximize efficiency.

- Produces up to 38 liters/minute (10 gpm) of coolant flow
- Provides up to 2 bar (30 psi) of coolant pressure to blast chips from the cutting zone
- Prevents premature tool failure and increases tool life by improving coolant flow

HAASCNC.COM/WHYHAAS

WE CAN CUT THAT. CHECK OUT THE FACTORY. HOW DO I PROGRAM. HOW DO I TROUBLESHOOT MY SOLENOID. WE HAVE PARTS. BUILD & PRICE.
Connecting your factory equipment to the Internet is the first step to becoming Industry 4.0 compliant, and the latest machine tools from Haas Automation are definitely Industry 4.0 ready. Connecting your Haas to the IIoT (Industrial Internet of Things) is easy.

All new Haas machines have the ability to send data from the machine’s CNC to a centralized data system, allowing them to integrate smoothly with new or existing Industry 4.0 environments.

Built-in Ethernet and WiFi connectivity provide a fast and reliable connection for file sharing and data exchange, and both wired and wireless networks are quickly set up through an easy-to-use interface in the Haas control.

All Haas machines also come standard with HaasConnect – a powerful mobile machine monitoring system that provides real-time alerts for machine status. HaasConnect gathers information from the control, and has the ability to send email notifications to designated recipients about the operating status of the Haas machine.

Setup is fast and easy through the MyHaas Portal at HaasCNC.com, and the account administrator can specify which machine events trigger an alert – alarms, feedrate overrides, spindle overrides, cycle start, and cycle stop – and who should get them.

The MyHaas Portal also lets you quickly set up and manage your fleet of machines, monitor the status of your machines, save and view machine quotes, and order parts – all online. MyHaas also provides detailed machine information, including serial numbers, build dates, warranty start/end, product details, and machine option details.

Industry 4.0 and Haas: Creating higher productivity and greater efficiency by connecting existing and new technologies with intelligent platforms – making life easier in a digital world.
The Haas Visual Programming System lets you quickly create G-code programs for basic and complex part features, like Y-axis milling and drilling, using graphical templates and a form-like interface. Simply define the feature in the template, and VPS then outputs working G-code at the touch of a button. VPS also includes a custom template generator, so you can create templates for your own part features or frequently used programs.
Haas Automation’s control continues to prove itself as the machine tool industry’s most user-friendly CNC. The Haas control is fast, smart, and powerful, with a simple user interface and consistent, intuitive navigation. For us, operator ease-of-use is always paramount, and our latest machines are packed with powerful features that simplify job setup and operation to make your shop more productive.

**Pallet Schedule Table**

The Pallet Schedule Table simplifies your lights-out manufacturing, by providing powerful yet simple tools for scheduling pallets, assigning pallet priorities, and defining which program runs when each pallet is loaded. Whether you load every pallet with the same component for high-volume manufacturing, or put a different component on each pallet for high-mix/low-volume production, the pallet schedule table easily handles the task.

**Machine Rotary Zero Point (MRZP)**

The Haas control can store the locations of the rotary axes centers of rotation (MRZP) for use with the Dynamic Work Offsets and Tool Center Point Control (DWO/TCPC) functions. The DWO/TCPC option greatly simplifies rotary setup by allowing you to set a simple XYZ work offset position on the workpiece, rather than having the center of rotation be the work zero position. This allows the same G-code program to be used, regardless of the workplace location with respect to the centers of rotation.

**Rotary Setup**

The Rotary Settings page allows you to quickly select which rotary model is connected as the fourth and fifth axes on the machine. You designate each rotary axis as A, B, or C based on its physical orientation to the linear axes, and then load the correct parameters for that model. This is also where you activate the Dynamic Work Offsets/Tool Center Point Control option, if purchased.

**HaasDrop**

HaasDrop is a fast and convenient method for sending images, videos, and even program files from a mobile device directly to the Next-Generation Control on a Haas CNC machine. Simply download the free app for Android and iOS devices, and start transferring files directly to the Haas control.

**STANDARD FEATURES**

- Dedicated Keypad
- Ethernet Interface
- One-Button Features
- M130 Media Player
- 1 GB Memory
- Build-in USB Port
- 15” Color LCD Screen
- WiFi Connectivity
- Advanced Tool Management
- Multi-Function Jog Handle
- HaasConnect Monitoring
- Power-Failure Detection
- Made in the USA
Haas EDU-Models are specially priced CNC machines exclusively for schools and educators. Available models:

- Mini MI-EDU
  - Education Model
  - 16” x 12” x 10” (xyz)
  - 406 x 305 x 254 mm

- TL-1-EDU
  - Education Model
  - 16” x 30” max capacity
  - 406 x 762 mm

---

**EMPOWERING THE FUTURE**

Haas Automation is 100% committed to education. Our passion for precision metal-cutting, engineering, and automation drive our mission to make industry-standard CNC machining and automation accessible to educational institutions worldwide.

Whether you teach in a high school, technical college, or university program, Haas has a cost-effective, high-quality solution for you!

---

**EDUCATION BENEFITS**

- Educational Pricing and Discounts
- Solutions that include free simulators & extended warranties
- More than 3450 educational institutions worldwide
- Industrial partner discounts and support
- Local Haas factory outlet (HFO) service and support

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**HTEC SUPPORT**

Recognizing the need for fully trained CNC instructors in Advanced Manufacturing programs, Haas Automation and the HTEC Network developed and support four Teacher Training Programs across the United States.

HTEC CNC Teacher Training Centers are dedicated to providing the highest quality teacher training available for Haas CNC machines and related technologies. They offer teacher training at all levels, to help HTEC educators take their programs to the next level!

---

**DEVELOPED WITH SCHOOLS IN MIND**

**DESKTOPMILL**

**3450 EDUCATION CENTERS**

**+100,000 HTEC STUDENTS**
EVERYONE LOVES RACING!

Watching a Formula One or NASCAR race in person is an experience of a lifetime. There’s nothing quite like the sounds, the smells, and the sense of community at a race event. High-performance machines and high-performance racing go hand-in-hand, and that’s why Haas is involved in motorsports. But it’s not just about the technical aspects of the machinery, or the adrenaline rush of the racing; it’s about connecting with machinists and fans alike. We want everyone’s experience – both in the shop and at the track – to be positive and valuable.

Haas and motorsports: It’s more than a sponsorship – it’s a way of life.
Done pricing out a machine, but not ready to buy just yet? That’s all right . . . just save your build to your MyHaas account, and come back to it later. Duplicate the quote, make changes, share it with a colleague – it’s all right there at your fingertips. Already a Haas owner? Add your machines to monitor activity and manage your fleet. Order parts directly from HaasCNC.com. In the shop or on the go, MyHaas puts everything you need to know about your CNC machines in one convenient place.

We’ve said it before and we’ll say it again: HaasCNC.com is more than a website. With new resources like MyHaas and Haas Certification, Haas is offering unmatched online training and support to machinists, as well as shop owners.
CREATE AN ACCOUNT
Create your free MyHaas account. This account provides a single login for the Haas CNC Certification Program at Learn.HaasCNC.com, as well as for MyHaas, HaasConnect, and Parts.HaasCNC.com.

WATCH CHAPTER LESSONS
The Haas certification coursework consists of 12 chapters, with the content presented in video format. Watch each video at your own pace, and rewind as needed. We want to ensure you get the most from your Haas certification.

PASS ONLINE QUIZZES
Each video is followed by a short quiz to ensure you have a full understanding of the concepts presented in the video. You must score 100% on each quiz to gain access to the next video.

IN-PERSON, HANDS-ON FINAL EXAM AT YOUR LOCAL HFO
Once you have completed all of the videos and quizzes, you may schedule an in-person exam at your local HFO. During this hands-on exam, you will be asked to demonstrate some of the concepts presented in the videos. Students who pass the hands-on exam will receive a certificate acknowledging completion of the Haas CNC Certification Program.

BECOME A CERTIFIED OPERATOR
Stand out in the industry as a qualified CNC operator, or ensure your team has the skills they need to properly and safely operate a CNC machine – by becoming Haas Certified. Our online CNC Certification Program provides you – or your employees – with the knowledge and skills necessary for basic CNC machine operation.

GETTING CERTIFIED

CREATE AN ACCOUNT
Create your free MyHaas account. This account provides a single login for the Haas CNC Certification Program at Learn.HaasCNC.com, as well as for MyHaas, HaasConnect, and Parts.HaasCNC.com.

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STAND OUT IN THE INDUSTRY
PROVE YOUR CNC KNOWLEDGE
PROFESSIONAL CREDIBILITY
EASILY ACCESSIBLE
STANDARDIZED TRAINING
UP-TO-DATE INFORMATION

All students who pass the final HFO exam will receive a Haas Certificate of Completion.
## Optimize Your Cutting Conditions:

### COOLANT MANAGEMENT

<table>
<thead>
<tr>
<th>STANDARD</th>
<th>UPGRADE</th>
<th>SPECIALTY</th>
<th>COOLANT CARE</th>
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<tr>
<td>Flood Coolant</td>
<td><strong>High-Flow Flood Coolant</strong></td>
<td>Through-Tool Air Blast</td>
<td><strong>Automatic Coolant Refill System</strong>&lt;br&gt;Monitors coolant level, and automatically adds correctly mixed coolant to the tank.</td>
</tr>
<tr>
<td>Flood Coolant Ring</td>
<td><strong>Through-Spindle Coolant</strong></td>
<td><strong>Automatic Air Gun</strong>&lt;br&gt;Provides a constant air blast to the cutting tool to clear chips during dry machining.</td>
<td></td>
</tr>
<tr>
<td>Operator Air Gun</td>
<td><strong>Programmable Coolant Nozzle</strong></td>
<td><strong>Minimum Quantity Lubrication</strong>&lt;br&gt;Delivers an air/oil mist to the cutting tool for near-dry machining.</td>
<td></td>
</tr>
<tr>
<td>Washdown Hose</td>
<td></td>
<td><strong>Coolant Chiller</strong>&lt;br&gt;Reduces the temperature of the machine’s coolant to increase thermal stability.</td>
<td></td>
</tr>
<tr>
<td>Window Air Blast</td>
<td></td>
<td><strong>Coolant Mist Condenser</strong>&lt;br&gt;Removes coolant mist from the machine enclosure, separates it from the air, and returns the condensed coolant to the machine.</td>
<td></td>
</tr>
<tr>
<td>Coolant Level Sensor</td>
<td></td>
<td><strong>Coolant Tank Oil Skimmer</strong>&lt;br&gt;Keeps your coolant tank free of tramp and tap oils.</td>
<td></td>
</tr>
</tbody>
</table>

### STANDARD

- **Flood Coolant**<br>Standard flood coolant system with spindle coolant ring.
- **Flood Coolant Ring**<br>Wraparound manifold that delivers 360° of forceful coolant to the cutting area.
- **Operator Air Gun**<br>Conveniently located under the pendant, with easy-access holster.
- **Washdown Hose**<br>Conveniently located at the front of the machine, and drains directly into the enclosure.

### UPGRADE

- **High-Flow Flood Coolant**<br>Provides higher coolant flow and pressure for better chip clearing.
- **Through-Spindle Coolant**<br>High-pressure coolant through the tool for deep-hole drilling, pocketing, and heavy cuts. Available in 300 psi (21 bar) or 1000 psi (69 bar) configurations.
- **Programmable Coolant Nozzle**<br>Automatically directs coolant precisely at the cutting tool.

### SPECIALTY

- **Through-Tool Air Blast**<br>High-flow, high-pressure air through the tool to clear chips.
- **Automatic Air Gun**<br>Provides a constant air blast to the cutting tool to clear chips during dry machining.
- **Minimum Quantity Lubrication**<br>Delivers an air/oil mist to the cutting tool for near-dry machining.

### COOLANT CARE

- **Automatic Coolant Refill System**<br>Monitors coolant level, and automatically adds correctly mixed coolant to the tank.
- **Coolant Mist Condenser**<br>Removes coolant mist from the machine enclosure, separates it from the air, and returns the condensed coolant to the machine.
- **Coolant Chiller**<br>Reduces the temperature of the machine’s coolant to increase thermal stability.
- **Coolant Tank Oil Skimmer**<br>Keeps your coolant tank free of tramp and tap oils.

---

**With more than 200,000 Haas machines in the field, and more than 300 Haas machines in our own machine shop, there isn’t a coolant-management issue we haven’t seen. And our solutions to those issues become features and options on Haas machine tools. Whether you cut steel, aluminum, high-temp alloys, or even non-metallic materials, there’s a Haas solution to suit your application.**

---

**95-Gallon Coolant Tank (360 L)**

*Haunted Automation, Inc. / www.HaasCNC.com / Made with Pride in the USA*
Nobody does small and medium VMCs better than Haas. Nobody.
And we have the numbers to prove it:
More than 50% of all small and medium VMCs currently sold in the U.S. are Haas.
### Vertical Mills

**VF SERIES**

#### AVAILABLE MODELS

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
<th>X Travels</th>
<th>Y Travels</th>
<th>Z Travels</th>
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<tbody>
<tr>
<td>VF-1</td>
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**SMALL**

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<th>Z Travels</th>
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<td>VF-3YT</td>
<td>Super Speed</td>
<td>40&quot; x 20&quot; x 25&quot; (xyz)</td>
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<tr>
<td>VF-3SSYT</td>
<td>Super Speed</td>
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<td>VF-4</td>
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**MEDIUM**

<table>
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<th>Z Travels</th>
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<td>VF-6SSS</td>
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**LARGE**

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<th>X Travels</th>
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<td>3810 x 813 x 762 mm</td>
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</tbody>
</table>

**INDEXERS & BARFEED**

**VF SERIES**

**X TRAVELS FROM 20" TO 150"**
DON'T WASTE ANOTHER DAY WITHOUT IT.

The fastest way to increase the productivity of your Haas mill is to add a Haas dual-axis rotary product for 5-axis capability. You can reduce or totally eliminate setups, and easily handle multi-sided parts.

Haas plug-and-play dual-axis rotary tables and indexers make 5-axis machining easier than ever, and there are models available to fit any Haas mill and application.

All Haas mills can have the necessary axis drives added in the field to gain 5-axis capability. To find the right drives for your machine, simply visit parts.HaasCNC.com.

5-AXIS MACHINING IS EASIER AND LESS EXPENSIVE THAN YOU THINK, AND CAN DRAMATICALLY INCREASE YOUR PROFITS

WWW.HAASCNC.COM/5AXIS
Five-axis machining is the fastest way to reduce setups and increase accuracy on multi-sided and complex parts, and Haas Universal Machining Centers offer the best-value 5-axis solutions available today.

Leveraging more than 30 years of rotary product knowledge, Haas Universal Machining Centers are purpose-built for 5-axis machining. They can quickly position parts to nearly any angle for 3+2 machining, or provide full simultaneous 5-axis motion for contouring and complex machining.

WHAT DO YOU WANT TO CREATE TODAY?

Five-axis machining is no longer out of reach.
Haas UMC-500 Series Universal Machining Centers combine shorter travels and compact footprints to create the perfect solutions for 3+2 machining and simultaneous 5-axis machining of smaller parts.

- 5-AXIS SIMULTANEOUS MACHINING
- POWERFUL DIRECT-DRIVE SPINDLE
- LARGE-CAPACITY SIDE-MOUNT TOOL CHANGER

**BIG CAPABILITIES IN A SMALL SHOP SPACE**

**UMC-500**

The UMC-500 expands the Haas lineup of 5-axis universal machining centers with a larger work envelope, a larger integrated dual-axis trunnion, and an available 50+1 side-mount tool changer.

**IF YOU THINK BIG 5-AXIS CAPABILITY REQUIRES BIG SHOP SPACE, THINK AGAIN.**

**THE UMC-500 GETS YOU INTO THE WORLD OF 5-AXIS MACHINING FOR ABOUT THE SPACE OF A VF-2!**

**UMC-1000**

The UMC-1000 is also available in a Super Speed version, with spindle speeds to 15,000 rpm, faster rapids, and rotary axis speeds to 170°/sec.

**AND IF YOU NEED SOMETHING BIGGER**
Haas Mini Mills are the industry standard for compact machining centers. They are perfect for schools, start-up shops, or as a first step into CNC machining. Loaded with full-size features, they are valuable additions for shops needing a "second-op" machine, or an additional spindle where space is limited.

**Mini in Name and Price Only**
High-Performance VMCs for Mold Making and Tool & Die

Making molds has never been easier than with a Haas Mold Machine. We’ve taken our industry-leading VF Series and created custom configurations just for mold making, tool & die work, and other high-precision industries. Mold Machines are also ideal for high-performance job shops looking to increase their versatility.

**MOLD MACHINES**
- **VM-2** 30” x 20” x 20” (xyz)
- **VM-3** 40” x 26” x 25” (xyz)
- **VM-6** 64” x 32” x 30” (xyz)

**AVAILABLE MODELS**

**STANDARD FEATURES**
- 12,000-RPM SPINDLE
- 30+1 SIDE-MOUNT TOOL CHANGER
- PROGRAMMABLE COOLANT NOZZLE
- AUTOMATIC AIR GUN
- WINDOW AIR BLAST
- CHIP AUGER
- MEDIA DISPLAY M-CODE, M130
- HAASCONNECT REMOTE MONITORING
- POWER-FAILURE DETECTION MODULE
- ETHERNET INTERFACE
- WIFI CONNECTIVITY
- REMOTE JOG HANDLE WITH COLOR LCD
- RIGID TAPPING
- USER-DEFINABLE MACROS
- COORDINATE ROTATION AND SCALING
- HIGH-SPEED MACHINING

**3/4/5 AXIS**
- 40 or HSK TAPER
- 12k-30k RPM
- 30-50 TOOL CAPACITY

**NEW HSK SPINDLE AVAILABLE**

**ACCURACY, RIGIDITY, AND THERMAL STABILITY FOR THE MOLD INDUSTRY**

Haas Automation, Inc. / www.HaasCNC.com / Made with Pride in the USA
Drill/Tap/Mill Series machines are high-speed, lean-style machining centers with compact footprints that make very efficient use of valuable shop floor space.

Add a TRT100 dual-axis rotary table to create a high-speed 5-axis powerhouse. The TRT100 easily fits on one end of the table, leaving the remainder open for additional fixtures or vises.
Vertical Mills

GANTRY SERIES

AVAILABLE MODELS

Gantry Series
GR-510  121" x 61" x 11" (xyz)
3073 x 1549 x 279 mm
GR-712  145" x 85" x 11" (xyz)
3683 x 2159 x 279 mm
GM-2-5AX  145" x 87.5" x 39" (xyz)
3683 x 2223 x 1000 mm

STANDARD FEATURES

- 5-AXIS
- 10-30 INDEXERS & BARFEED
- 3/4/5 AXES
- 40/HSK TAPER
- 8.1k-20k RPM
- 10-30 TOOL CAPACITY

READY FOR YOUR LARGE-SCALE TASKS

The Haas GR Series gantry routers have the power to cut aluminum and other metals, as well as the speed to cut plastics and other light materials. These machines easily handle large sheets, or can machine small parts by the thousand.
New Product!

**GM-2-5AX**

The GM-2-5AX is a 5-axis gantry mill designed for complex, large-part machining, such as airframe components, layup molds, and composite structures. The machine’s dual-axis spindle head provides ±245 degrees of C-axis rotation and ±120 degrees of B-axis tilt for complex surfacing, or to access any angle of a part.

- **DUAL-AXIS SPINDLE HEAD**
- **20,000-RPM HSK-63F SPINDLE**
- **30+1 SIDE-MOUNT TOOL CHANGER**
- **RIGID-STEEL CONSTRUCTION**
- **TRAVELING CHIP AND COOLANT GUARD**
- **1” THICK ALUMINUM TABLE**

**COMPLEX MADE SIMPLE**

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- **20,000-RPM HSK-63F SPINDLE**
- **30+1 SIDE-MOUNT TOOL CHANGER**
- **RIGID-STEEL CONSTRUCTION**
- **TRAVELING CHIP AND COOLANT GUARD**
- **1” THICK ALUMINUM TABLE**
Vertical Mills

**COMPACT MILLS**

**AVAILABLE MODELS**

Compact Mills
CM-1  12" x 10" x 12" (xyz)
305 x 254 x 305 mm

**STANDARD FEATURES**

- 30,000 RPM SPINDLE
- WINDOW AIR BLAST
- 13-GALLON COOLANT TANK
- MEDIA DISPLAY M-CODE; M130
- HAASCONNECT REMOTE MONITORING
- POWER-FAULURE DETECTION MODULE

- ETHERNET INTERFACE
- WIFI CONNECTIVITY
- RIGID TAPPING
- USER-DEFINABLE MACROS
- COORDINATE ROTATION AND SCALING
- HIGH-SPEED MACHINING
- STANDARD PROGRAM MEMORY, 1 GB
- LIFTING PROVISION
- 1-YEAR STANDARD WARRANTY

**AVAILABLE MODELS**

**4TH AXIS**

HRT100

**5TH AXIS**

TRT70

The Haas HRT100 and TRT70 are perfect ways to take the CM-1 to the next level of capability and productivity. Both rotaries were built specifically for the work envelope of the CM-1. Step up your business with these easy and inexpensive 4th- and 5th-axis solutions.

**SMALL BUT MIGHTY**

The Compact Mill is a small-footprint, high-accuracy solution for prototyping and producing small, high-precision, 2D and 3D parts, such as those found in the communications, aerospace, medical, and dental industries. It’s small enough to fit into most freight elevators, and can easily be moved with a pallet jack or equipment dolly.

Small-Footprint, High-Performance Mill for Production and Prototyping
Haas Toolroom Mills are found everywhere – from schools to high-end production shops. Their versatility is a result of our commitment to using common components across all Haas machine tools. This results in all machines, including the Toolroom Mills, benefiting from improvements in reliability and performance.

### Standard Features

- **40-Taper Spindle**
- **Coolant Pump Kit**
- **Media Display M-Code; M130**
- **HaasConnect Remote Monitoring**
- **Power-Failure Detection Module**
- **Ethernet Interface**
- **WiFi Connectivity**
- **Standard Program Memory, 1 GB**
- **Visual Part Programming System**
- **Work Light**
- **Lifting Provision**
- **1-Year Standard Warranty**

### Available Models

<table>
<thead>
<tr>
<th>Toolroom Mills</th>
<th>30” x 12” x 16” (xyz)</th>
<th>762 x 305 x 406 mm</th>
<th>Tool Changer 762 x 305 x 406 mm</th>
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<td>Tool Changer 1016 x 508 x 406 mm</td>
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</tbody>
</table>

### Specifications

- **4k-10k RPM**
- **3/4/5 Axis**
- **40 Taper**
- **1-20 Tool Capacity**
WHY FINANCE?

3 EASY STEPS TO FINANCING A MACHINE

• Preserve capital  • Preserve cash flow
• Match monthly payments to revenue generated by the machine
• Flexible payment terms, based on your needs and credit

DON'T LET THE SMALL FOOTPRINTS FOOL YOU

THESE ARE BIG-BOY MACHINE TOOLS, NOT DESKTOP OR HOBBY MACHINES.

You can buy BOTH the TM-1P and the TL-1 for just $983 a month!

1) Select the machine and options.
2) Fill out the easy online credit application.
3) Select the rate and terms you need, based on your situation.*

COMPLETE MACHINE SHOP

TL-1 Starting at $27,995

TM-1P Starting at $33,995

*Longer terms and smaller down payments yield higher rates.
Toolroom Lathes

**TL SERIES**

**AVAILABLE MODELS**

- **Toolroom Lathes**
  - **TL-1**  16" x 30" (max cap)
  - **TL-2**  16" x 48" (max cap)
  - **TL-1-EDU**  16" x 30" (max cap)

**STANDARD FEATURES**

- 1800-RPM SPINDLE, A2-5
- COOLANT PUMP KIT*
- HAASCONNECT REMOTE MONITORING
- POWER-FAILURE DETECTION MODULE
- ETHERNET INTERFACE
- WIFI CONNECTIVITY

**FEATURES**

- VISUAL PART PROGRAMMING SYSTEM
- WORK LIGHT
- CHIP ENCLOSURE
- CROSS-SLIDE, TOOLING READY
- 1-YEAR STANDARD WARRANTY

*Except TL-1-EDU

**8"-10" CHUCK SIZE**

**2.3"-3.5" BORE**

**1.8k-3k RPM**

**10HP POWER**

**FROM SCHOOLS TO LARGE TOOLROOMS**

The Haas TL Series Toolroom Lathes are affordable, easy to use, and offer the precision control and flexibility of the Haas CNC system. Because they are very easy to learn and operate—even without knowing G-code—they are perfect for start-up shops, or as a first step into CNC machining.

**Simplify the Transition from Manual to CNC**
Haas turning centers offer a wide range of capabilities, including toolroom lathes, big-bore versions, dual-spindle models, live tooling with C-axis, and Y-axis capability.
ST SERIES

AVAILABLE MODELS

STANDARD
ST-10 14" x 16" (max cap) 356 x 406 mm
ST-15 14" x 16" (max cap) 356 x 406 mm
ST-20 15" x 22.5" (max cap) 381 x 572 mm
ST-25 15" x 22.5" (max cap) 381 x 572 mm
ST-30 21" x 26" (max cap) 533 x 660 mm
ST-35 21" x 26" (max cap) 533 x 660 mm
ST-40 25.5" x 44" (max cap) 648 x 1118 mm
ST-40L 25.5" x 44" (max cap) 648 x 1118 mm
ST-45 25.5" x 44" (max cap) 648 x 1118 mm
ST-45L 25.5" x 44" (max cap) 648 x 1118 mm
ST-50 25.5" x 80" (max cap) 648 x 2032 mm
ST-55 25.5" x 80" (max cap) 648 x 2032 mm

LARGE-THROUGH-BORE
ST-40 25.5" x 44" (max cap) 648 x 1118 mm
ST-40L 25.5" x 44" (max cap) 648 x 1118 mm
ST-45 25.5" x 80" (max cap) 648 x 2032 mm
ST-45L 25.5" x 80" (max cap) 648 x 2032 mm
ST-50 25.5" x 80" (max cap) 648 x 2032 mm
ST-55 25.5" x 80" (max cap) 648 x 2032 mm

DUAL-SPINDLE
DS-30Y 18" x 23" (max cap) 457 x 584 mm

The Best-Value Turning Centers in the Industry

Haas ST Series high-performance turning centers are designed to provide setup flexibility, extreme rigidity, and high thermal stability. These machines offer the best performance for the money – the best value – in their class.

6.5”-15” CHUCK SIZE
1.75”-12.5” BORE
1k-6k RPM
15-55HP POWER

Haas Automation, Inc. / www.HaasCNC.com / Made with Pride in the USA
The Haas Automatic Parts Loader (APL) is designed with today’s job shop in mind, providing simple and affordable automation on Haas turning centers. The APL integrates seamlessly with the Haas control, and is set up using an intuitive interface that uses graphics, animations, and detailed text to guide the operator through the steps necessary to quickly set up and program the APL. The operator enters basic information by either positioning the part grippers and pushing a single button, or by entering basic numeric dimensions.

- All-inclusive design, with plug-and-play capabilities to Haas ST-10 through ST-25 lathes, including Y-axis models
- Direct interface to the Haas control
- Light curtain for safe operation
- Simple, effective, affordable automation

**DO THE MATH.** Run just four extra hours per day with the APL, and you could generate enough output to pay for your investment in as little as 6 months. Looking at it another way, the APL is roughly half the cost of an operator’s wages for a full year!
Haas ST Series Y-axis turning centers are designed to provide setup flexibility, extreme rigidity, and high thermal stability. The addition of Y-axis, C-axis, and live tooling allows milling, drilling, and tapping for increased machine capabilities.

### BEST VALUE IN THEIR CLASS

- 12-Station BMT65 Turret
- 4000-RPM Live Tooling with C Axis
- ±2.0" Y-Axis Travel
- 55-Gallon Coolant Tank
- Media Display M-Code: M130
- HaasConnect Remote Monitoring
- Power-Failure Detection Module
- Ethernet Interface
- WiFi Connectivity
- Rigid Tapping
- Standard Program Memory, 1 GB
- BMT65 Standard Toolholder Kit
- BMT65 Driven Toolholder Kit
- 1-Year Standard Warranty

### STANDARD FEATURES

- 6.5"-15" Chuck Size
- 1.75"-4" Bore
- 2.4k-6k RPM
- 15-40HP Power
The innovative Haas CL-1 is an ultra-compact CNC chucker lathe that comes standard with an 8-station automatic turret, making it perfect for high-volume production of small, precision parts, such as those found in the communications, aerospace, medical, and dental industries. The CL-1 can be moved easily with a pallet jack or equipment dolly, and is small enough to fit into most freight elevators.

**Ultra-Compact Chucker Lathe for Small, High-Production Parts**
Haas horizontal machining centers offer superior capabilities at affordable prices. With renowned ruggedness and reliability, Haas HMCs are the perfect job shop machines for anyone looking to make more money in less time than ever before.
The highly popular Haas EC-1600 Series HMCs offer large work cubes and a maximum part capacity of 10,000 lb (454 kg), making them perfect solutions for your large-part machining requirements. Models are available with an integrated 4th-axis rotary platter.

**AVAILABLE MODELS**

<table>
<thead>
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<th>Model</th>
<th>XYZ Dimensions (mm)</th>
<th>Swing (mm)</th>
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<td>EC-1600 Series</td>
<td>1626 x 1270 x 813</td>
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<td>EC-1600ZT</td>
<td>1626 x 1270 x 1016</td>
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<tr>
<td>EC-1600ZT-5AX</td>
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</table>

**EC-1600 SERIES**

**Horizontal Workhorse**

**The Perfect Solution for Large-Part Machining**

30-50 Tool Capacity

50 Taper

7.5k-10k RPM

3/4/5 Axis
DON’T CALL IT A COMEBACK

All-New HMC with Pallet Changer

Designed for high-volume production and unattended operation, the all-new EC-400 is faster, more compact, more rigid, and more capable than ever before. It features a larger work envelope, faster rapids, full 4th-axis pallet indexing, and much better chip management. For extended production and true “lights out” capability, a 6-station pallet pool and high-capacity tool changer are available.

The completely redesigned EC-400 has been improved from the ground up:

• Stiffer spindle, with options to 15,000 rpm
• Faster rapids for reduced cycle times
• Available 100-pocket tool changer for high-volume production
• 5” (127 mm) additional Y-axis travel for more capacity
• Stiffer castings and stepped column design for greater stability
• Center conveyor with rear discharge for improved chip evacuation
• Available pallet pool for unattended operation

EC-400 Series

EC-400
Pallet Pool Available
22” x 25” x 22” (xyz)  559 x 635 x 559 mm

30-100 TOOL CAPACITY
40 TAPER
8.1k-15k RPM
4 AXIS

5-AXIS SERIES
INDEXERS & BARFEED

Designed for high-volume production and unattended operation, the all-new EC-400 is faster, more compact, more rigid, and more capable than ever before. It features a larger work envelope, faster rapids, full 4th-axis pallet indexing, and much better chip management. For extended production and true “lights out” capability, a 6-station pallet pool and high-capacity tool changer are available.

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EC-400 Series

EC-400
Pallet Pool Available
22” x 25” x 22” (xyz)  559 x 635 x 559 mm

30-100 TOOL CAPACITY
40 TAPER
8.1k-15k RPM
4 AXIS
Haas high-precision rotary products provide powerful 4th- and 5th-axis capabilities for every shop – boosting productivity through affordable, plug-and-play simplicity.
When you need to hold medium to large parts for multi-side machining or complex contouring, the Haas HRT Series rotary tables are the perfect solutions. These rugged, heavy-duty rotary tables can be mounted vertically or horizontally, and they feature precision T-slots and large through-holes for versatile fixturing.

**PERFECT FOR MEDIUM TO LARGE PARTS**

- **35-830°/sec** MAX SPEED
- **100-1000 mm** PLATTER SIZE
- **35-2000 ft-lb** MAX TORQUE
Adding an Axis:

5-AXIS ROTARY

AVAILABLE MODELS

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<th>TRUNNION</th>
<th>TILTING ROTARY</th>
<th>TILTING INDEXER</th>
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<td>TRT70</td>
<td>T5C</td>
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</tr>
<tr>
<td>TR210</td>
<td>TRT210</td>
<td>T5C4</td>
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</table>

Reduce Setups & Increase Accuracy

When you need to add 5-axis capability to your 3-axis mill, Haas dual-axis rotary tables and indexers are the perfect bolt-on solutions for machining complex parts. These dual-axis rotaries bolt directly to the mill’s table to provide simultaneous 5-axis motion, or position parts to nearly any angle for 3+2 multi-side machining.

Five-axis machining is the fastest way to reduce setups, boost throughput, and increase accuracy on complex parts. And Haas plug-and-play dual-axis rotary tables and indexers make 5-axis machining easier than ever, allowing you to reduce or totally eliminate multiple setups, and easily handle multi-sided parts.

5C-310 mm

1-4 SPINDLES

16-300 ft-lb

MAX TORQUE

50-1000°/sec

MAX SPEED

POWERFUL 5-AXIS SOLUTIONS FOR 3-AXIS MILLS

TRUNNION TILTING ROTARY TILTING INDEXER
TR160 TRT70 T5C
TR160-2 TRT100 T5C2
TR200Y TRT160 T5C3
TR210 TRT210 T5C4

Max Speed

Max Torque

16-300 ft-lb
Haas Automation, Inc. / www.HaasCNC.com / Made with Pride in the USA

INDEXERS

The Product That Started It All

Gene Haas founded Haas Automation in 1983 to manufacture the machine tool industry’s first fully programmable collet indexer – the Haas HA5C. Needless to say, it was a complete success. Today, Haas offers more than 35 different high-productivity rotary products to help you succeed.

Haas HA5C Series rotary indexers are the ideal choice for holding smaller parts. They are easy to program, interface, and set up; and our precision in-house manufacturing and machining processes ensure high quality, and years of dependable operation.

With more than three decades of refinement, Haas rotary indexers are the industry benchmark for quality, accuracy, and dependability. We offer a selection that is almost endless, with single- and multiple-head units available, and various speed options to choose from.

BAR FEEDER

The Haas Bar Feeder is a simple and affordable way to automate part production and boost productivity on Haas turning centers. Designed and built for use with Haas ST and DS series CNC turning centers, the Haas Bar Feeder connects directly to the Haas control. Our innovative roll-away design provides easy access to the rear of the lathe spindle for quick liner adapter and liner changes, while the twin storage racks put the liners right where you need them – up-front and ready for quick swaps.

- All-inclusive design, with plug-and-play capabilities to Haas lathes
- Interfaces directly with the Haas control
- Includes patented Haas spindle liners
- Purpose-Built for Haas Lathes
- Made in the USA

Turning Automation

AVAILABLE MODELS

SINGLE SPINDLE

HA5C

HA5C-T

HA5CS

HA5C4

HA2TS

MULTIPLE SPINDLE

HA5C2

HA5C3

HA5C4

HA2TS

MAX SPEED

1-4 SPINDLES

200-725°/sec

MAX TORQUE

20-60 ft-lb

COLLET SIZE

5C

200 lb

MAX BAR WEIGHT

30 X 1” TRAY CAPACITY

48” MAX BAR LENGTH

±0.01” FEED LENGTH ACCURACY

80 lb

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MAX BAR WEIGHT
LOW RISK.

WITH HAAS, YOU KNOW YOU GET:

- You know you can get a great machine for the price
- You know you can get service and support
- You know you get direct access to all of Haas’ product and application knowledge, via their online resources and instructional videos
- You know you can find an operator, as there are more than 200k machines in the field, and our support for manufacturing education is second to none
- You know Haas has long-standing relationships and presence in the machining communities
- You know Haas machines have the highest resale value
- You know you can get financing

YOU KNOW HAAS IS REAL VALUE.
WHAT’S THE RISK WITH OTHER MACHINES?