T

CNC TURNING CENTERS

Haas Automation Inc.

Constant improvement is a way of life at Haas Automation. We're always looking for ways to improve our CNC products and give you – our customers – more value.

Our new generation turning centers incorporate a wide range of enhancements that make Haas lathes better than ever. Our engineers reviewed and improved all aspects of the machines – including motion control, coolant containment, chip evacuation, ergonomics, and serviceability – to create the highest quality, most reliable machine tools available.

In this brochure, you'll find all the latest technological advancements, new machines, and capabilities that Haas Automation has developed through constant research and ongoing product refinement.

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THE NEW GENERATION
HAAS TURNING CENTERS

The New Generation Haas turning centers were designed from the ground up to be extremely rigid, highly accurate, and very thermally stable. All castings were optimized using finite element analysis (FEA) to produce the most rigid designs, while improving chip and coolant flow, and simplifying maintenance and service. The spindle heads feature a compact, symmetrical design for thermal stability and rigidity, and the 45-degree wedge design greatly increases the tool-mounting envelope and improves chip flow. Standard equipment on the new generation machines includes rigid tapping, a 15" color LCD monitor, and a USB port. Other available equipment includes a belt-type chip conveyor, programmable tailstock, automatic tool presetter, live tooling with C axis, automatic parts catcher, high-pressure coolant systems, and much more.

Built in the USA by Haas, the new generation turning centers are backed by the worldwide network of Haas Factory Outlets – the most extensive system of support and service in the industry.

ST-10

ST-20

ST-30

ST-40

DS-30

includes rugged 2-axis lathes, dual-spindle, super speed, & Y-axis models:

New Generation Lathes

A Focus On Continuous Improvement

Accuracy, stability, productivity, and reliability are the cornerstones of a high-performance turning center. The new generation Haas turning centers combine years of machine tool building experience with cutting-edge digital design and analysis tools to create a line of rock-solid turning centers sure to outperform anything in their class.

Here are some of the many improvements the new generation turning centers incorporate:

- Redesigned base castings increase rigidity and improve chip and coolant flow.
- Compact, symmetrical spindle heads increase rigidity and improve thermal stability.
- Redesigned tailstocks with shorter geometry improve cutting performance.
- Redesigned enclosures provide easier service access.
- Cogged-style drive belts transfer power more efficiently, run cooler, and improve threading performance.
- Redesigned optional belt conveyors are installed at the factory and shipped attached to the machine.
- Optional automatic tool probes with intuitive interface simplify tool set up, and can be programmed to check for tool breakage during unattended operation.
- Redesigned live tooling systems are gear-driven for efficient power transmission and maximum continuous torque.
- Relocated hydraulic power units allow all adjustments to be made from the front of the machine.
- Minimal Lubrication Systems reduce tramp oil and lube waste.

TAKE CONTROL

The Haas CNC Control

The command center of your Haas machine tool.

Years of development have gone into designing the best control hardware and software in the industry. Our new generation turning centers pack even more innovation into what was already the industry's greatest overall CNC control.

To ensure smooth, precise motion control, Haas turning centers use next-generation digital servomotors and high-resolution encoders on all axes. Combined with significant software and motor-control advancements, these yield better performance than ever before.

Main Features

Closed System Our focus is to provide a robust, dependable control that is seamlessly integrated with the machine. Our closed system is optimized specifically for Haas machines, and does not rely on third-party NC suppliers. When you call Haas, you get a company that takes full responsibility for the entire machine.

Dedicated Keypad The Haas keypad has a full array of keys, including a complete alphanumeric keypad, and all common functions are clearly labeled for operator ease. If you've ever fumbled with hot keys, or had to page through screens looking for a specific function, you will appreciate the simplicity of the Haas control. There are no encrypted codes to memorize, and many functions can be performed with the push of a single button.

One-Button Features Common multi-step functions, such as setting tool offsets, have been reduced to the push of a single button. Other often-used functions, such as setting work offsets, homing the machine, and selecting the next tool during set up, are also one-button commands.

Multi-Function Jog Handle Most machines use the jog handle only to move the axes around. On Haas machines, the jog handle can also be used in other modes to cursor through the program for faster editing, override spindle speeds and feedrates, or scan through offsets, parameters, etc.

15" Color LCD Screen Our full-color, 15" TFT LCD display is designed to work in the machine shop environment. The high-intensity, high-contrast LCD features a very wide viewing angle, and will not fade out in bright light. The panel is mounted behind anti-glare, tempered glass for protection and easy viewing.

USB Port The built-in USB port allows the use of customer-supplied USB flash memory devices or external hard drives

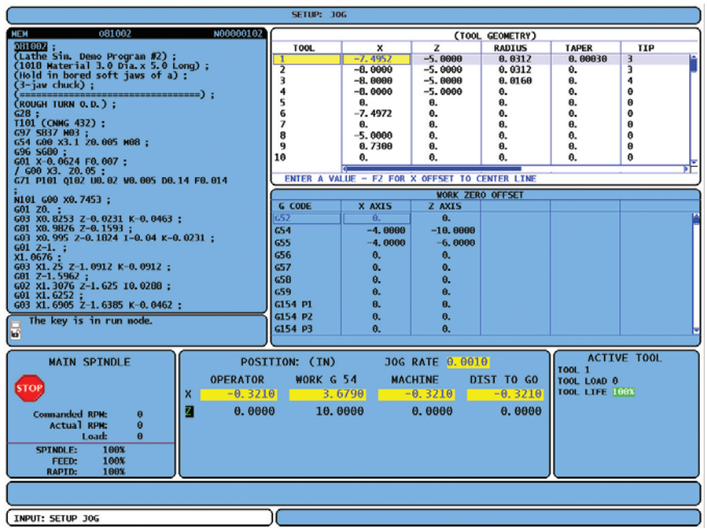
Memory Lock Keyswitch Locks memory to prevent accidental or unapproved program editing by unauthorized personnel. Can also be used to lock settings, parameters, offsets, and macro variables..

RETHINKING THE OBVIOUS

Three-mode simplicity

From the beginning, the Haas control was designed to be the industry's most user-friendly CNC available. Reliability and longevity have been its reputation, but the main thing you hear Haas owners tell other machinists is that a Haas is the easiest-to-operate CNC machine tool they have ever seen. It's what a Haas control is all about.

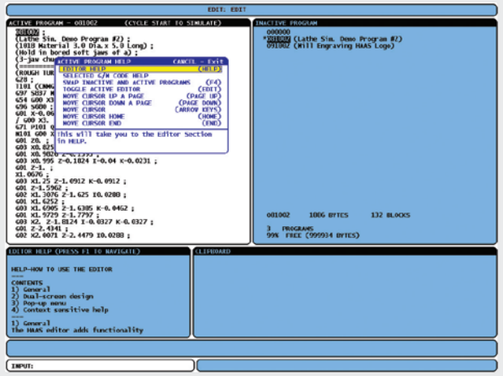
The Haas control's three-mode system gives users access to every control feature needed in each mode without having to leave the current display screen. Here are some examples of how the modes look and function.



The Setup Mode Above is the Setup mode. It's simple. This is where you do all your machine setups. Let's take a look at the information on the screen:

The Active Program box is displayed in the upper left. The Tool Offsets are displayed in the upper right. Below the tool offsets are the Work Zero Offsets. Below left, is the Spindle Information box displaying spindle speed, plus any override values for spindle speed, feedrate, and rapid rate. Next to that is the Position box, showing operator, work offset, machine, and distance-to-go coordinates. To the right of the position box is the Tool Management information.

Simple, clean, and easy to understand. Notice that the tool offset box (upper right) is white and the other boxes are colored. This indicates the box is active, and the cursor can be moved within the box by pressing the keypad arrow keys.



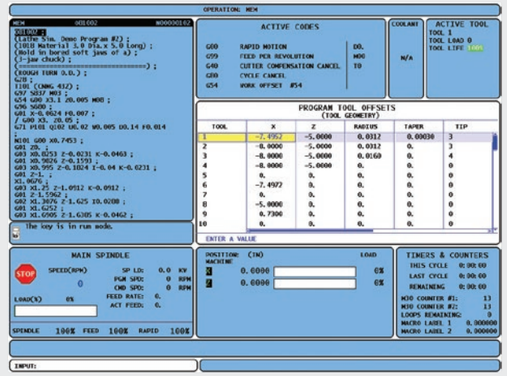
The Edit Mode After setting your offsets in the Setup mode, you'll probably need to load a program.

Pressing the List Programs button on the keypad brings up the Edit mode, where you can access programs from any of the devices attached to the machine (e.g., internal memory, USB stick, Ethernet, etc.).

A powerful feature in the Edit mode is the Quick-Key help menu, which offers a complete list and description of all functions, including List Programs and file navigation. In the Quick-Key help menu, you'll see the command name and the associated key for each function, along with a full description of how to perform each function. There are extensive Quick-Key help menus available from all three screens of the control interface.

In the lower-left corner of the Edit screen is the Editor Help box, which displays a description for each available topic. At the bottom-right side of the edit screen is a viewable Clipboard. Whenever you cut or copy a selection, it will be displayed in the Clipboard box.

Within the Edit mode are numerous other functions that relate to program editing, like Program Simulate (now with control over the draw speed), a secondary program display window for alternate programs, the MDI function, and Visual Quick Code capabilities.



The Operation Mode In the Operation mode, you'll find all the information needed to run the machine – organized and available for easy access. Here's a quick look: In the upper-left corner is the Program Display box. When executing programs containing sub-programs, both the main and the sub-program will be displayed in a split-screen box.

Just to the right are the Active G-Codes, with text descriptions, the Coolant Level Indicator, and the Active Tool information, including a graphic image of the tool type, as specified on the Tool Offsets page.

In the center of the screen is the Offset Window. Here, you can make adjustments to any offset while the machine is running. You don't have to exit the Operation screen to change an offset.

Along the bottom on the left, note the Spindle Information box, with the override displays. In the center is the Position display box, and to the right are the Timers and Counters.

Experienced machinists will really like the Remaining timer, which uses information from the Last Cycle timer to display the time remaining in a program. This lets the operator know how much time is remaining in the cycle, allowing better time-management decisions when leaving the machine unattended.

THE HIDDEN POWER IN THE HAAS CONTROL

Remote Jog Handle The patented Haas color remote jog handle features a 2.8" color graphic display, an 11-button keypad, a triple-knob motion-control system that allows infinitely variable jog speeds, and a built-in LED inspection light. You can set tool and work offsets, jog up to 9 axes, display machine position, show the current program running, and much more – all from the jog handle.

CURNT/COMDS The Current Commands page displays the current status of the machine, including the current program running, the current position, the active tool, the spindle and axis loads, the current spindle speed, and the feedrate. Additional screens show which commands and G-codes are being used in the current program; and a timer shows cycle time, cutting time, power-on time, and M30 count (number of parts). Other displays show which macro variables are being used, provide tool-life information, and show the minimum and maximum spindle load for each tool.

HELP/CALC The Help function is a built-in, searchable operator's manual that explains the various functions of a Haas machine. Simply press the HELP/CALC key in any mode to display a pop-up Help menu specific to that mode. Press the HELP/CALC key a second time to display the tabbed on-screen Help system, which includes content from the entire operator's manual. You'll also find build-in calculators for solving triangle equations, circle-circle-tangent equations, and circle-line-tangent equations, as well as a speeds-and-feeds calculator. Also included are a standard math calculator, a drill-and-tap chart, and a decimal-equivalent chart. These calculators simplify machining operations and speed math calculations, and the solution to any equation can be pasted into a program directly from the calculators.

The Power of a Single Button Some of the most powerful features of the Haas control – features every machinist will appreciate – take only the push of a single button. For example, you can set tool offsets with the push of a single button – without having to manually enter numbers into the control. Simply jog a tool to the surface of the part, push the Tool Offset Measure button, and the tool's length is automatically stored in the tool length register. Push the Next Tool button to repeat the process for each tool. That's it! Setting work offsets is just as easy. These time-consuming processes have been reduced to a few simple steps.

Tool-Load Monitoring Maximizing tool life is another key to increasing productivity. The Haas control can monitor the spindle load for each tool, and automatically adjust the feeds if the load exceeds a limit set by the operator. If a tool exceeds the preset limit, the control can be set to reduce the commanded feedrate, alert the operator, go into feed-hold mode, or generate a tool-overload alarm. The first time a program runs, the Haas control automatically records the highest load seen for each tool. Using this information and the Tool Load Monitoring feature of the control, the operator can set load limits for each tool. This maximizes tool life, and protects the workpiece and machine from the effects of tool wear.

Advanced Tool Management To maximize productivity, the Haas control has an integrated Advanced Tool Manager that allows you to create a group of redundant tools for use within a program. From a single screen, you can view the different tool groups and their parameters. Simply define which tool numbers are part of a group, and what parameter will determine when to change to a redundant tool. This can be based on feed time, the number of tool calls, the number of holes drilled or tapped, or a preset load limit. To use a group of redundant tools in a program, simply enter the group number as your tool call-out. The tool offsets you defined during set up are automatically loaded for each tool as it's called up.

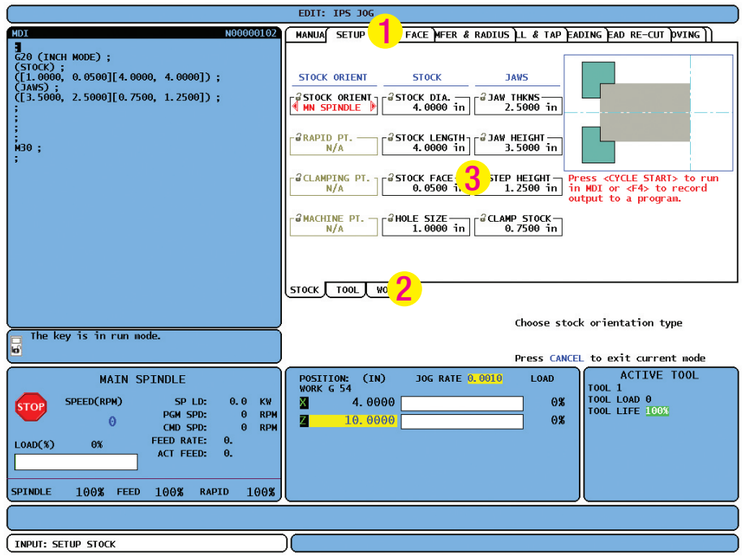
UPGRADES: options

Intuitive Programming System

With the Haas Intuitive Programming System, it's no longer necessary for a machine operator to know G-code to perform basic turning operations.

The Haas Intuitive Programming System is a proprietary conversational operating system that uses an easy-to-understand tabbed format with full-color graphics to guide the operator through the steps necessary to machine a part. First, the control leads the operator through basic job setup: setting tool and work offsets, selecting the tool type, and specifying the material being cut. The operator then selects an operation to perform and fills in basic information as prompted. Default values for spindle speed, depth of cut, and feedrate are filled in automatically, based on the information provided. The operator can change these conservative values if desired.

Once all necessary information is entered, pushing Cycle Start performs the desired operation. Multiple operations can be recorded and saved as a single G-code program that can be played back to duplicate the part. This program can be transferred to any other Haas turning center and run without editing. Help menus are available directly on screen, and a graphic dry-run feature allows operators to check their work before running a part.



1. Use the top tab menu to select the type of operation to perform.

2. Further define your specific cutting operation by choosing from the lower set of tabs.

3. Fill in the information when prompted by the control and press Cycle Start.

Using plain language, simple graphics, and easy-to-follow steps, the Haas Intuitive Programming System guides the operator through the steps necessary to machine a part.

Ethernet Interface

Transfer data between your Haas and a network or PC with the Ethernet interface. Transfer program files easily to and from the machine, and access large files with multiple machines. High-speed data transfers allow DNC of large files at up to 1000 blocks per second. Easily set up from the control screen.

User-Definable Macros

Create subroutines for custom canned cycles, probing routines, operator prompting, math equations or functions, and family-of-parts machining with variables.

8 M Functions

Adds 8 additional M functions for a total of up to 13 user interfaces. Use these to activate probes, auxiliary pumps, clamping devices, part loaders, etc.

Robot Ready Interface

A single-point interface that standardizes communication between the Haas control and a parts-loading robot, allowing easy integration into a robotic cell. The pre-engineered, Robot Ready Interface includes the necessary hardware, DeviceNet™ I/O module, and software to connect a Haas turning center to a machine-tending robot. This flexible solution allows machines to be added, removed, or exchanged as production changes or the machine shop grows.

Control Features

- User-friendly
- Advanced program editor
- Brushless AC servo drives
- Up to 1200 ipm cutting feedrates
- Triple 32-bit processors
- Executes up to 1000 blocks/second
- ISO standard G-code compatibility
- Haas one-button tool offset entry
- 50 tool offsets
- 105 work coordinates
- Tool load monitoring
- Tool life management
- Helical interpolation
- Background editing
- Split-screen program review
- Trig calculator
- Arc & tangent calculators
- Speeds-and-feeds calculator
- Run/stop/jog/continue
- RS-232 / DNC / USB / optional Ethernet
- Mid-program restart
- Inch or metric programming
- Message page
- More than 20 selectable languages
- More than 200 user-definable settings
- Self-diagnostics
- Fully descriptive alarms
- Bolt-hole drilling
- Graphic dry run
- 5 spare M functions
- Made in the USA

Control Specifications

General	
Microprocessor	Triple high-speed 32-bit
Program execution speed	1000 blocks/sec standard
Axis control	2 axes linear, C and Y axes optional (B Axis on ST-40/40L)
Interpolation	G01, G02, G03 Cartesian-to-polar mapping (with optional C axis)
Min. input increment	– inch mode 0.0001"
	– metric mode 0.001 mm
Min. output resolution	0.0000072" (0.000 18 mm)
Feed Functions	
Rapid Traverse Override	5%, 25%, 50%, 100%
Feedrate Override	0% to 999% in 1% increments
Jog Handle Resolution	– inch mode 0.0001"/0.001"/0.01"/0.1" per handle division
	– metric mode 0.001/0.01/0.1/1.0 mm per handle division
Jog Feeds	– inch mode 0.1/1.0/10.0/100.0 ipm
	– metric mode 1.0/10/100/1000 mm/min.
Zero Return	One key (G28)
Spindle Functions	
Speed Command	S = 1 to max spindle rpm
Override	0% to 999% in 1% increments
Tool Functions	
Length Compensation	50 sets, geometry & wear
Diameter/Radius Compensation	50 sets, geometry & wear
Length Measurement	Automatic length storage
Life Management	50 sets w/alarms
Selection	Txx command
Programming	
Compatibility	ISO standard G code
Positioning	X, Z Absolute (G90); U,W incremental (G91); Y, V optional
Canned Cycles	20 functions standard
Inch/Metric	Switchable
Work Coordinates	105 sets
Part Zero Set	Automatic storage
M Code Outputs	5 spare †
Tool Nose Compensation	G40, G41, G42
Cutter Compensation (live tool)	G40, G41, G42
Data Input/Output	
Communications Port	RS-232, USB, optional 100Base-T Ethernet
Data Rate	To 115,200 baud ‡
Memory Capacity	
Standard	1 MB; up to 750 MB optional
Number of Programs	500

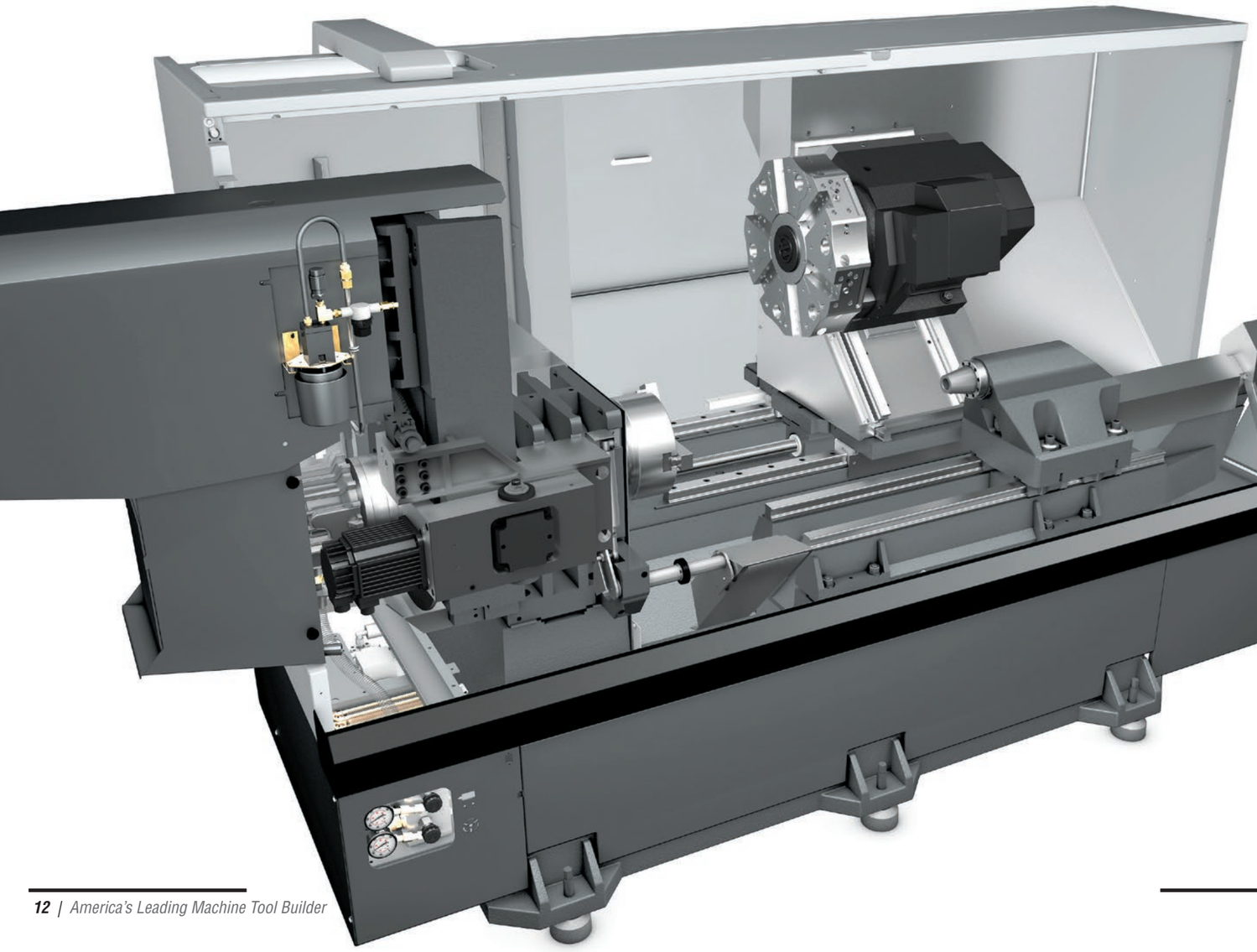
† May be used by options. ‡ With 6' or shorter cable.

THE FOUNDATION FOR SUCCESS

Heavy-Duty, Cast-Iron Base and Components

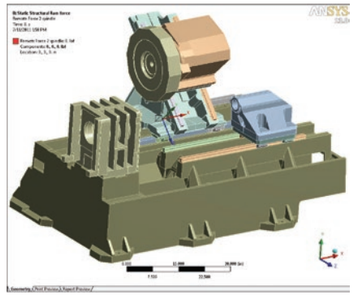
Cast iron is more expensive to buy and machine, but it provides up to 10 times the damping capacity of steel. That's why Haas uses cast iron for all major components. Castings are FEA optimized to resist flex and damp vibrations, and each casting is thoroughly inspected before and after machining to ensure it is free of flaws.

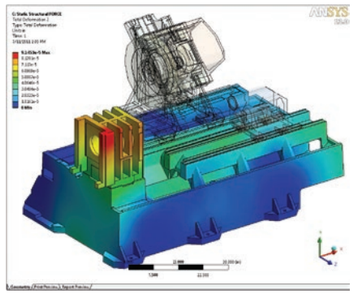
ST and DS series lathe castings feature heavy ribs that increase rigidity and improve thermal stability. Compact, symmetrical headstock and tailstock castings further increase rigidity, ensuring high accuracy and precise repeatability.



Cutting-Edge Design Tools Make it Possible

At Haas, we've learned that it's less about the total mass of the machine's structure that gives the best results, and more about exactly where the mass is positioned. By utilizing the most modern, cutting-edge design and analysis tools, our engineers have put the mass exactly where it's needed to provide a rock-solid base that absorbs vibration and harmonics, while providing smooth surface finishes and great repeatability. For the Haas ST/DS series turning centers, all structural components were optimized using finite element analysis (FEA) to produce the most rigid designs and superior cutting.

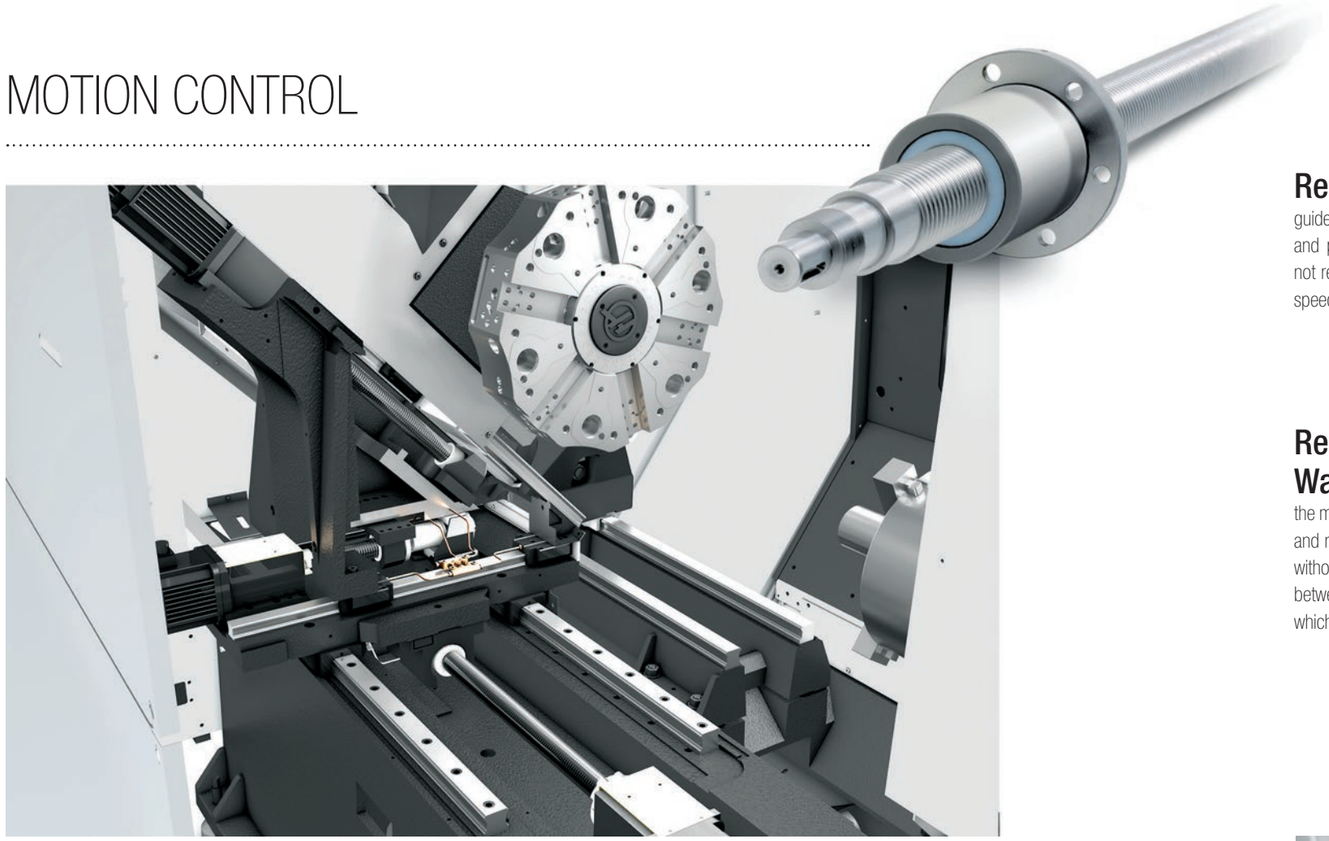




Single Setup, Top-Down Machining

Haas ST/DS series base castings are machined in a single setup, using top-down machining on Haas VS-3 vertical machining centers. Each casting's spindle head mount, Z-axis rails, and tailstock mounts are machined in a single setup, which provides higher accuracies and smoother production. Our ability to precisely machine all critical features of each casting eliminates alignment errors in final assembly. High-accuracy, in-process inspection guarantees that every machined casting meets our stringent quality standards.

MOTION CONTROL



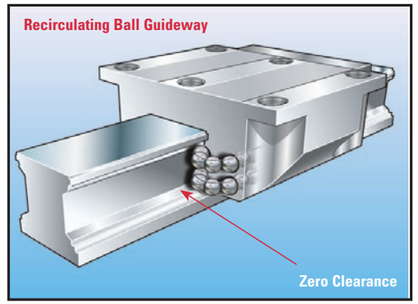
Double-Anchored Ballscrews Haas uses only premium-quality ballscrews and guides from the world's top manufacturers. Although more expensive, their premium quality is the only way to achieve the high accuracy and long life that our customers demand. Ballscrews are anchored at both ends, and inspected for 100% parallelism to the axis guides. Preloaded ball nuts eliminate backlash.

Brushless Servomotors Haas uses state-of-the-art, energy-efficient brushless servomotors that offer more torque in a smaller frame than almost any other motors available. These high-performance servos provide more power for heavy cuts, and higher acceleration/deceleration rates to reduce cycle times. High-resolution encoders and closed-loop digital feedback ensure ultra-precise positioning.

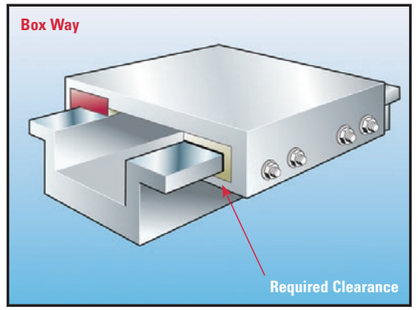
Direct-Coupled Servomotors Our servomotors are coupled directly to the ballscrews with steel disc couplings to eliminate windup, even under severe loading. This greatly improves positioning accuracy, and provides more accurate threading and contouring. And they don't wear out or lose accuracy over time.

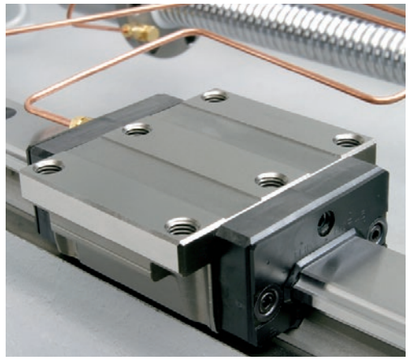
100% Ballbar Tested Haas uses a state-of-the-art ballbar test to check the linear positioning and geometry of every machine. The ultra-precise ballbar tracks movement as the machine is put through a series of moves to certify synchronous movement and verify machine geometry This generates a chart illustrating machine condition and performance data. Any deviations in geometry or position show up as distortions that are very easy to spot. A copy of this chart ships with each Haas lathe as assurance that the machine is accurate and properly aligned.

Recirculating Ball Guideways Haas uses recirculating ball guideways for each axis of every lathe. These guideways are preloaded for zero clearance, and provide full load-carrying capacity in all directions. They consume less power, do not require adjustment, and are proven to outperform sliding box ways for accuracy and speed. Each guideway is automatically lubricated to guarantee long life.



Recirculating Ball Guideways Outperform Box Ways Recirculating ball guideways are preloaded to provide zero clearance between the moving surfaces. This increases rigidity in all directions, while providing higher accuracy and reliability. They have a very low coefficient of friction, which allows faster movements without sacrificing repeatability or positioning accuracy. Box ways require clearance between the moving surfaces in order to operate. They have a high coefficient of friction, which produces stick-slip effects that can lead to machine errors.





Minimal Lubrication System The Haas Minimal Lubrication System consists of two sub-systems that optimize the amount of lubrication to the machine components. The system supplies lubrication only when it is needed, thus reducing the amount of lube required for the machine, and limiting the chance of excess lube contaminating the coolant.

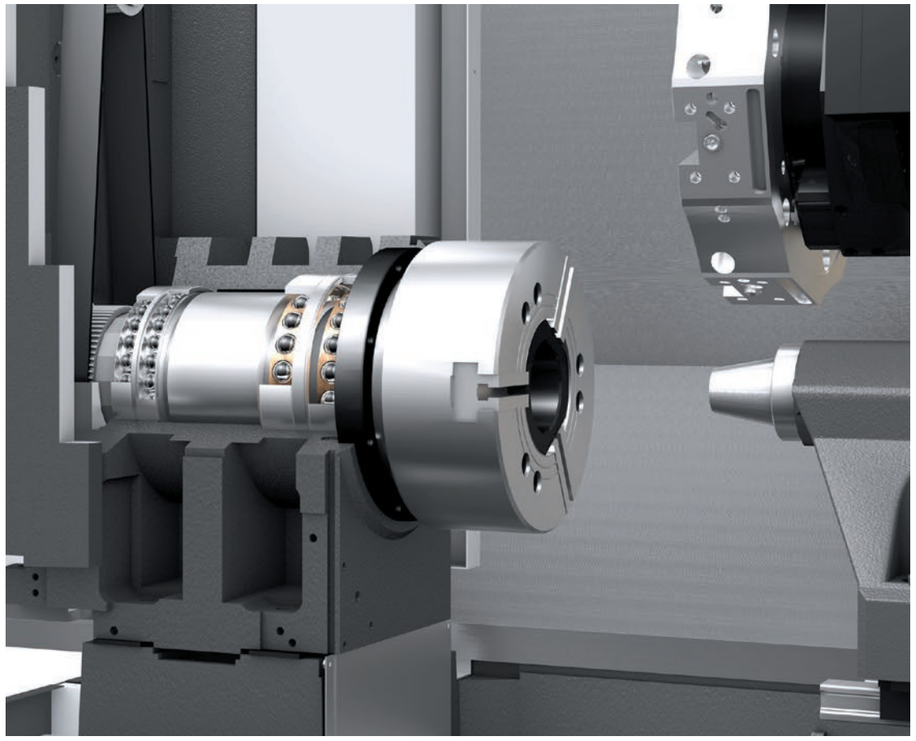
The lube system for the linear guides and ballscrews is based on the distance the axes travel, rather than on time. Lubricant is injected once any of the axes has traveled the distance specified in the control.

The lube system for the spindle is based on the number of actual revolutions of the spindle. During low-speed spindle operation, a timed injection cycle is also used to ensure adequate lubrication is delivered.

One fill of each system should last a minimum of 1 year of continuous operation.

Synchronized Tapping An encoder attached to the Haas high-performance spindle synchronizes Z-axis motion with the spindle's rotation. Synchronized tapping eliminates the need for expensive floating tap holders, and prevents lead-thread distortion and start-thread pullout. The tap can also reverse out of a rigid-tapped hole up to four times faster than it went in, which can reduce cycle times.

MAIN SPINDLE FEATURES



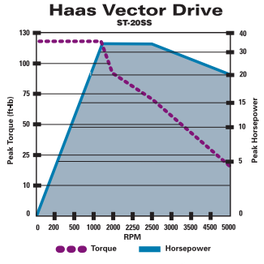
Unique Spindle Head Design

The spindle heads of the ST/DS series turning centers are compact and robust, with heavy symetrical ribs for extreme rigidity and better thermal stability. To prevent motor heat from affecting the head casting, the spindle motor is mounted above the spindle, and a high-flow fan draws air up and out of the spindle head area.

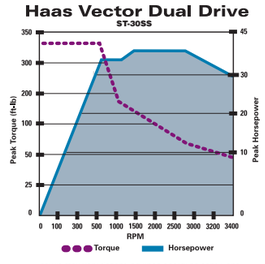
The ST/DS spindles use a new bearing arrangement that is 20% stiffer than previous models, with 50% less thermal expansion. The bearings are lubricated automatically by a proprietary minimal lubrication system for increased reliability and simplified service. Cogged-style drive belts are easily adjusted to the proper tension, which increases bearing life and minimizes noise. Cogged belts also last longer, transmit power more efficiently, and generate less heat.

Powerful Vector Spindle Drives

The Haas-designed vector spindle drive uses closed-loop, digital servo technology to provide precise speed control and peak performance under heavy cutting loads. The system optimizes the slip angle between the rotor and stator of the spindle motor to greatly increase low-speed torque and accelerations, resulting in the fastest, most powerful spindle ever. These drives allow you to push the spindle to 150 percent of the motor's continuous power rating for 15 minutes, and to 200 percent for 3 minutes. That's more performance headroom than other spindle drives on the market.



Results may vary depending upon operating conditions
230 VAC 3Ø / 100 AMP Service



Results may vary depending upon operating conditions
230 VAC 3Ø / 100 AMP Service

Built for Extra Torque

This Haas-built, two-speed gearbox is standard on the ST-40, ST-40L, ST-30 Big Bore and ST-30Y Big Bore. It is optional on the standard ST-30 and ST-30Y. Designed and manufactured entirely in-house to ensure superior quality and precision, Haas gears are CNC machined and hobbed out of 8620 steel, then heat-treated to 60 Rc and precision ground to AGMA Class 13 quality.

The standard ST-40/40L gearbox yields 1400 ft-lb of spindle torque at 150 rpm for low-speed, heavy cutting – and allows speeds to 2400 rpm for finish cuts and turning aluminum.

The optional gearbox for the ST-30 and ST-30Y yields 1000 ft-lb of torque at 150 rpm, and allows speeds to 3400 rpm.

Big-Bore Capacity

The Haas Big Bore option provides larger bar capacity and more power, without moving up to a larger machine.

Bar Capacity

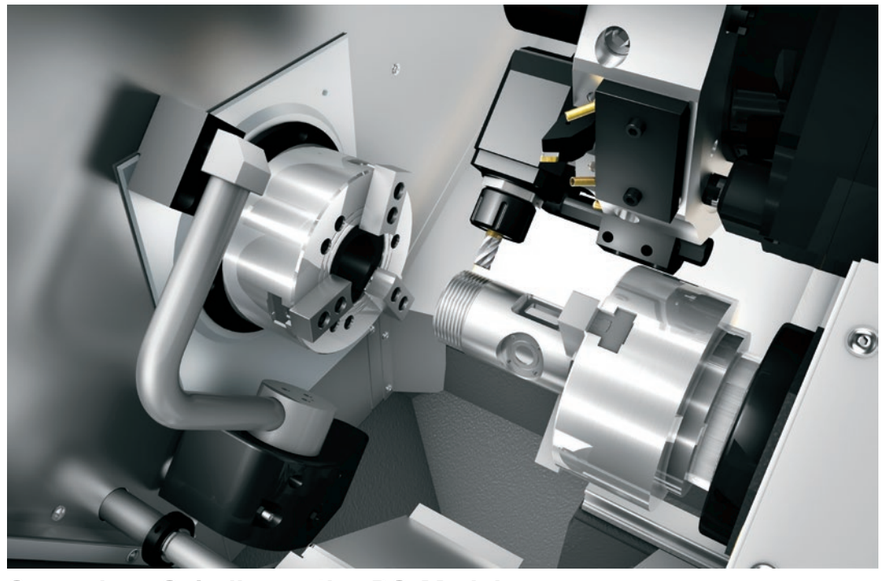
Model	ST-20/20Y	ST-30/30Y	ST-40/40L
Std Bore	2.0" 51 mm	3.0" 76 mm	4.0" 102 mm
Big Bore	2.5" 64 mm	4.0" 102 mm	7.0"* 178 mm

**Spindle bore is 7.0"; capacity is 6.5" with optional chuck and drawtube.*

55-hp Extra-Performance Option

Available for the ST-40 and ST-40L Long Bed, this option boosts spindle power to 55 hp, with 2100 ft-lb of torque. It includes a larger servomotor on the Z axis for a maximum thrust of 6750 lb.

DS SERIES SECONDARY SPINDLE

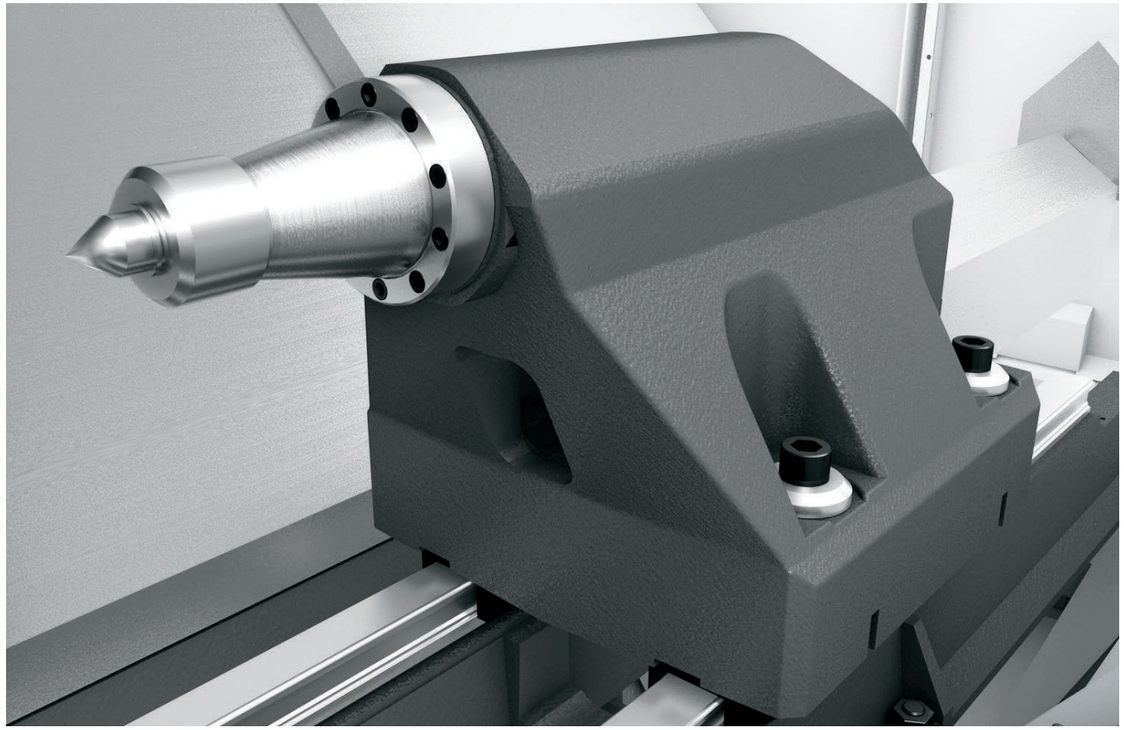


Secondary Spindle on the DS Models

The secondary spindle on the DS series machines provides the ability to turn both ends of a part in a single setup to minimize operator handling, increase throughput, and reduce work in-process. The opposed spindle supports fully synchronized turning, and allows on-the-fly part pass-off to reduce cycle times. The A2-5 secondary spindle has an 8.3" hydraulic chuck with a 2.0" bar capacity, and is powered by a 20 hp vector drive system that provides up to 135 ft-lb of cutting torque.

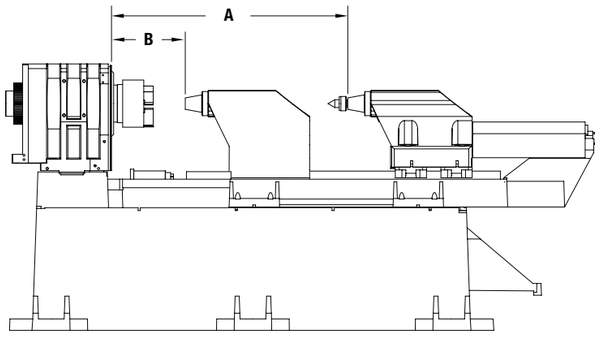
(See pages 40-43 for more information)

QUICK SETUP AND PART SUPPORT SYSTEMS



Programmable Hydraulic Tailstock

The optional Haas programmable hydraulic tailstock can be activated via the part program, or controlled directly with the standard foot switch. Closed-loop positioning allows you to stop the tailstock anywhere along its travel. Compact, robust castings provide superior rigidity, and a proprietary quill design damps vibration. (The optional tailstock for the ST-10 has manual coarse adjustment and a hydraulic quill.)

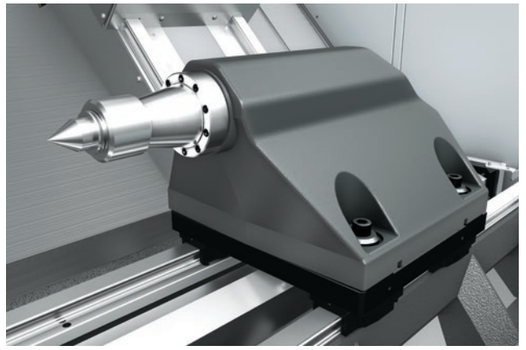


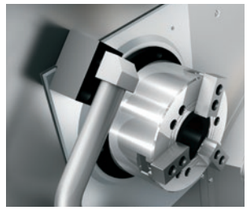
Tailstock Travels

	ST-10/Y	ST-20/Y	ST-30/Y
A Maximum	27.0" 686 mm	32.0" 813 mm	41.5" 1 054 mm
B Minimum	10.0" 254 mm	11.0" 279 mm	13.0" 330 mm

Programmable Servo-Driven Tailstock for the ST-40 and ST-40L

The ST-40 and ST-40L feature a fully programmable servo-driven tailstock that can be activated by the part program, or controlled via the standard foot switch. It is optional on the ST-40 and standard on the ST-40L. The tailstock features an MT5 taper, and provides up to 4000 lb of thrust.





Hydraulic Chuck Workholding

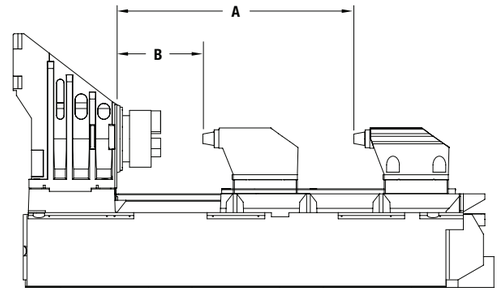
Every Haas turning center comes equipped with a hydraulic, through-hole chuck. Sizes range from 6.5" for the compact ST-10 to 15" for the large-frame ST-40, with optional sizes available. Bar capacities range from 1.75" for the standard ST-10 to 7.0" for the ST-40 Big Bore*.

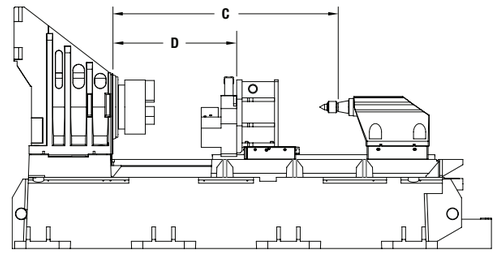
**Spindle bore is 7.0"; capacity is 6.5" with optional chuck and drawtube.*

Haas Lathe Workholding

Model	ST-10/Y	ST-20/Y	ST-30/Y	DS-30/Y	SL-40	SL-40L
Standard Chuck	6.5" 165 mm	8.3" 210 mm	10" 254 mm	8.3" 210 mm	15" 381 mm	15" 381 mm
Big Bore Upgrade		10" 254 mm	12" 305 mm	10"[1] 254 mm	18"[2] 457 mm	18"[2] 457 mm

[1] Increased bar capacity only; main spindle. [2] Optional, not included.





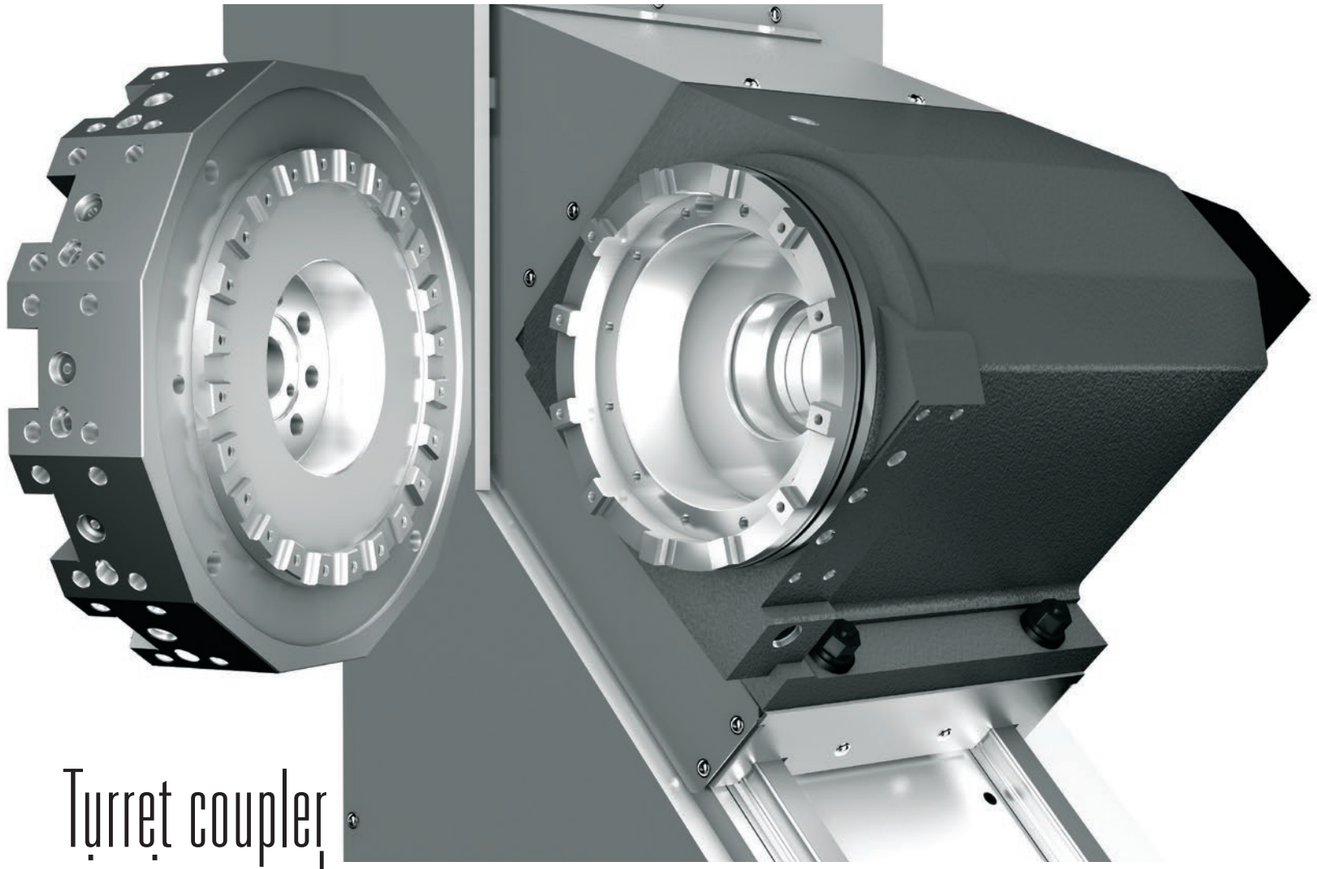
Tailstock and Steady Rest Travels

	ST-40	ST-40L
A TS Maximum	61.25" 1 556 mm	98.75" 2 508 mm
B TS Minimum	21.25" 540 mm	22.75" 578 mm
C TS Minimum w/steady rest	34.75" 883 mm	36.25" 921 mm
D SR Minimum	30.00" 762 mm	30.20" 762 mm
D SR Maximum w/ Tailstock	55.00" 1 397 mm	91.00" 2 311 mm

Steady Rest Provision

The Haas steady rest platform provides increased support for turning and boring long shafts on the ST-40 and ST-40L. It accepts a variety of aftermarket automatic hydraulic steady rests. Hydraulic power is provided by the lathe, and the gripper is activated by M code.

The steady rest provision is not available without the tailstock, and does not include the gripper. Minimum and maximum part diameters are dependent on the size and style of gripper unit mounted on the platform. Minimum and maximum travel limits are measured from the spindle bulkhead, and do not include chuck dimensions or other workholding.



Turret coupler size increased

46%

Heavy-Duty Integral Coupler

The turrets for Haas ST/DS series turning centers have been redesigned to use a much larger coupler than before. In fact, it is 46% larger in diameter than on previous models.

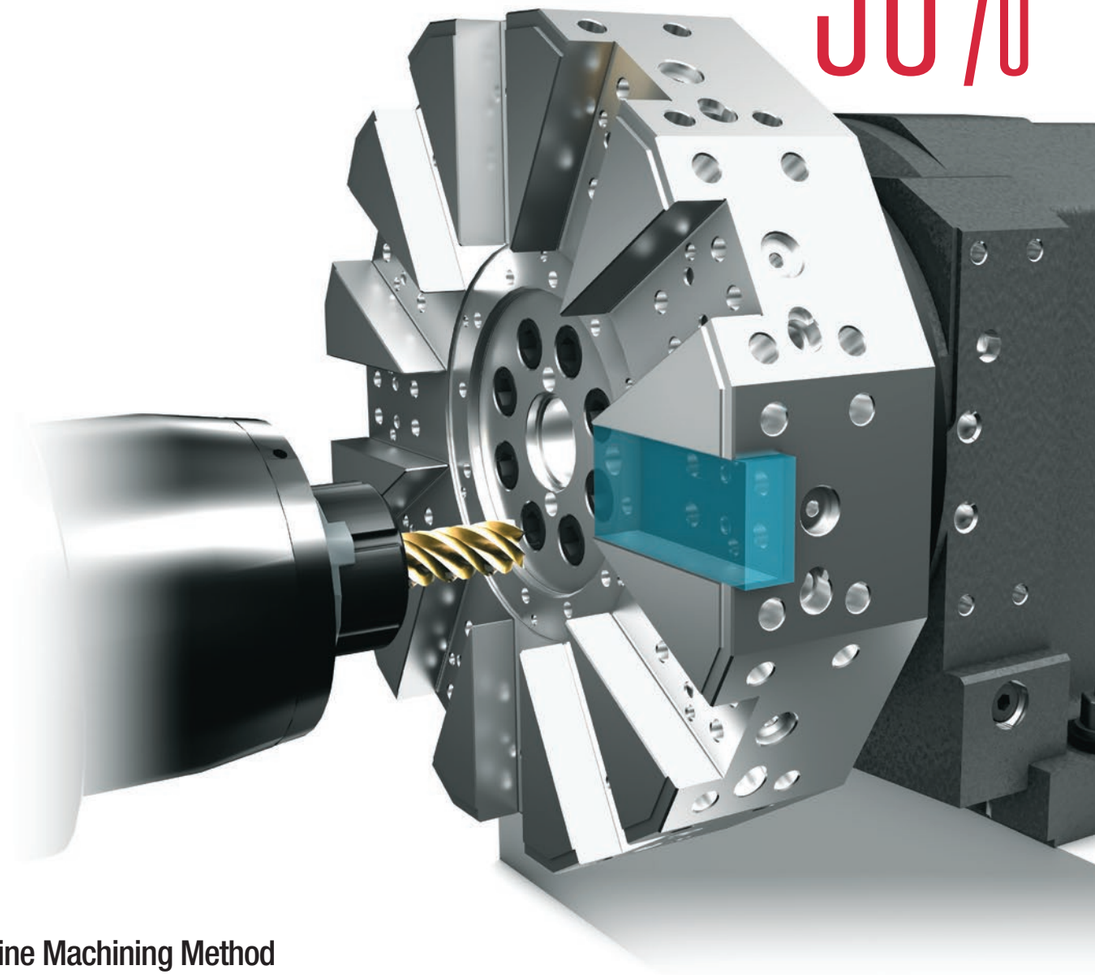
The teeth of the integral coupler are machined directly into the turret and turret housing to create a system that is more compact and robust than ever.

The turrets use a dual-clamping system that combines pneumatics* and mechanical springs to provide 4200 lb (18,683 N) of clamping force – 20% more than previous models – and a servo-driven spur gear drive system reduces indexing time by 25%.

* The ST-40 uses a hydraulic/mechanical clamping system.

Reduced Tool Position Variation

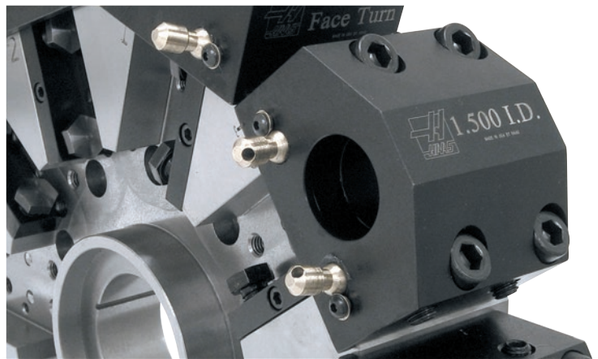
More Than 90%



Centerline Machining Method

The turrets for Haas ST/DS series turning centers are finish-machined as a complete unit – assembled with the coupling, gearbox, and drive system. Keying off the turret's centerline, all critical features of each station are machined using single-axis moves, and then the turret is indexed to the next station. This ensures the absolute concentricity of each station with the turret's true center. Compared to machining the turret before assembly, this reduces positioning variation from tool to tool by more than 90%. The results are easier job set up, higher accuracy, and better repeatability.

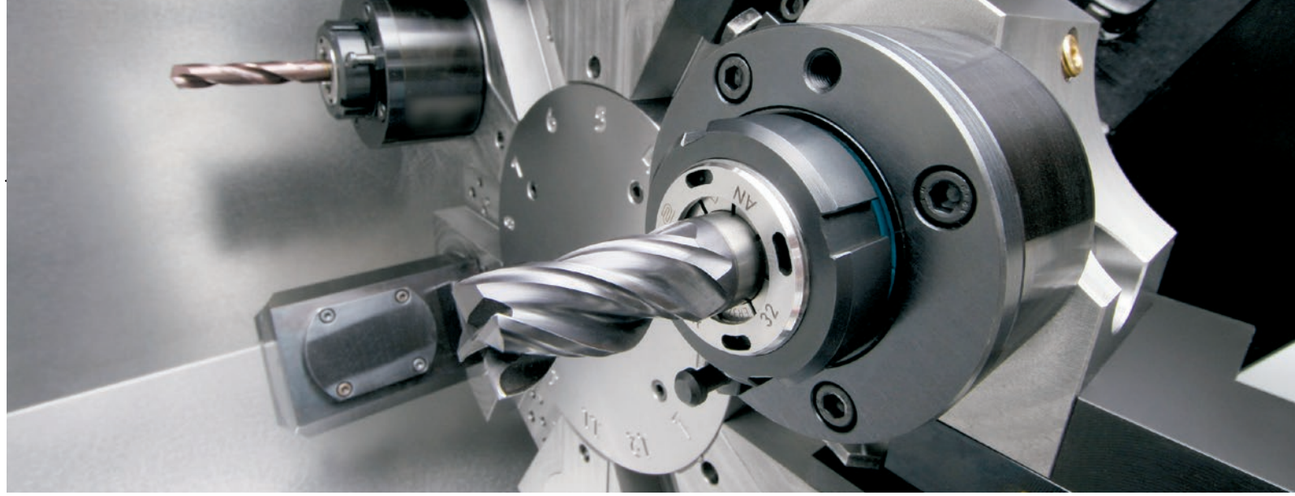
SPECIAL TURRET DESIGNS



On-The-Fly Indexing

This standard feature allows tool changes on the fly as the axes retract from the part. Combined with high-speed rapid movements, this results in faster tool changes and shorter cycle times by reducing non-cutting time.

Improve your cycle times by keeping the machine in constant motion.



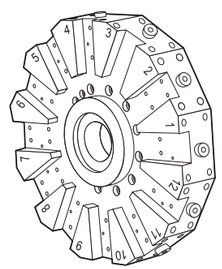
FOUR TYPES OF TURRET

The Haas 12-station bolt-on tool turret provides super-rigid mounting of turning tools and boring bars. The turret accepts tools around the perimeter, and has radial slots for mounting turning tools in either the right- or left-hand direction.

The 12-station Haas VDI turret accepts standard VDI40 tools, including axial and radial live tools when combined with the live tooling option.

The Haas 12-station hybrid turret accepts VDI40 tools (including live tools), as well as standard bolt-on tools. The turret has 6 VDI stations and 6 bolt-on stations (radial slots for turning tools and perimeter stations for ID tools).

The Haas 24-station hybrid turret is standard on all Super Speed (SS) models. It accepts VDI40 tools (including live tools), as well as standard bolt-on tools. The turret has 12 VDI stations and 12 bolt-on stations (radial slots for turning tools and perimeter stations for ID tools). Not available as an option.



12-station BOT

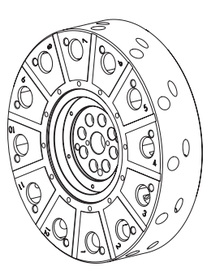
Standard: [1]

ST-10

ST-20

ST-30

ST-40

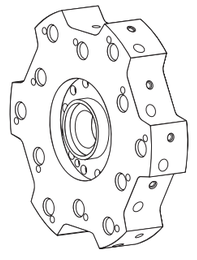


12-station Haas VDI

Optional:

ST-20

ST-30



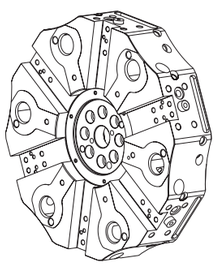
12-station Haas VDI

Standard:

ST-10Y

Optional:

ST-10



12-station hybrid turret

Standard:

ST-20Y

ST-30Y

DS-30

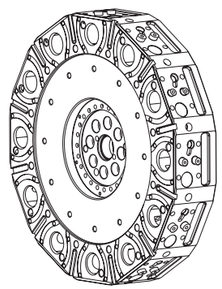
DS-30Y

Optional:

ST-20

ST-30

ST-40



24-station hybrid turret

Standard:

ST-20SS

ST-20SSY

ST-30SS

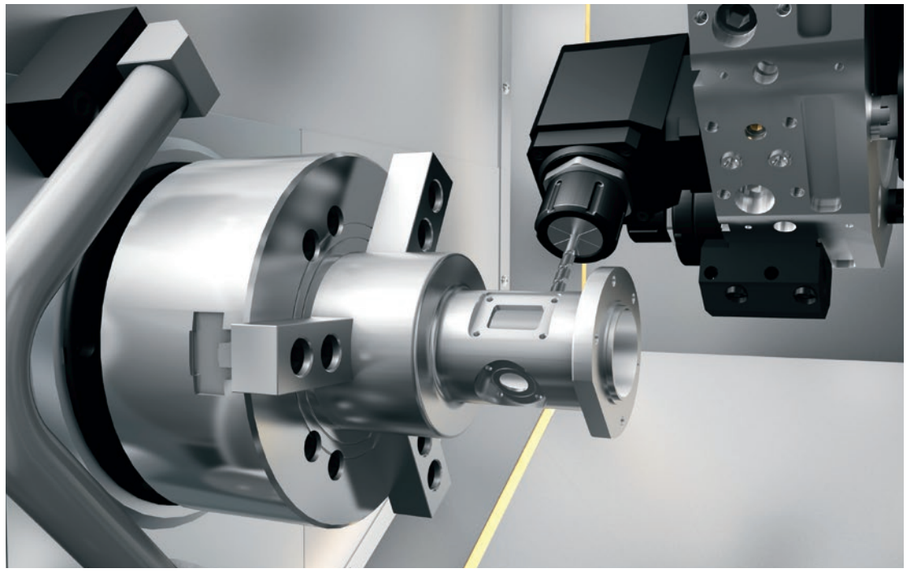
ST-30SSY

DS-30SS

DS-30SSY

[1] Standard configuration may vary by region.

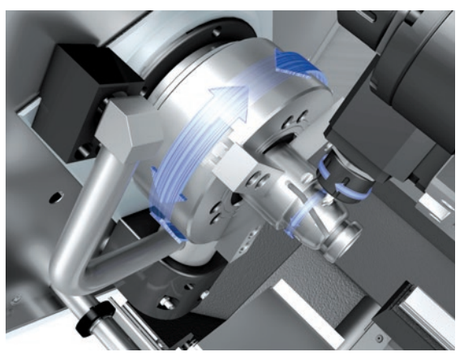
LIVE TOOLING



High-Torque Live Tooling with C Axis

The Haas high-torque live tooling option provides 50% more torque than on previous models. It features a robust gear-drive system that provides efficient power transmission and maximum continuous torque. It accepts standard VDI40 axial or radial driven tools to perform secondary operations – milling, drilling, flatting, and tapping – on the face of the part and around the diameter. The option includes a full C axis that provides interpolated bidirectional motion at precise speeds and feeds for part positioning and repeatability. A powerful hydraulic brake locks the main spindle during secondary operations.

Live tooling requires the VDI or VB Hybrid turret.



C-Axis Motion

The C axis provides high-precision (±0.01 degree) bidirectional spindle motion that is fully interpolated with X and/or Z motion. It is servo driven through a back-gear reduction to provide outstanding torque for precision milling. Speeds are programmable from 0.1 to 60 rpm, and Cartesian-to-polar interpolation allows programming of face machining operations using traditional X and Y coordinates.

Cartesian-to-polar coordinate programming converts X,Y position commands into rotary C-axis and linear X-axis moves, which greatly reduces the amount of code required to command complex moves. In the polar coordinate system, milling a straight line on the face of the part would require many points to define the path, but in Cartesian, only the end points are necessary.

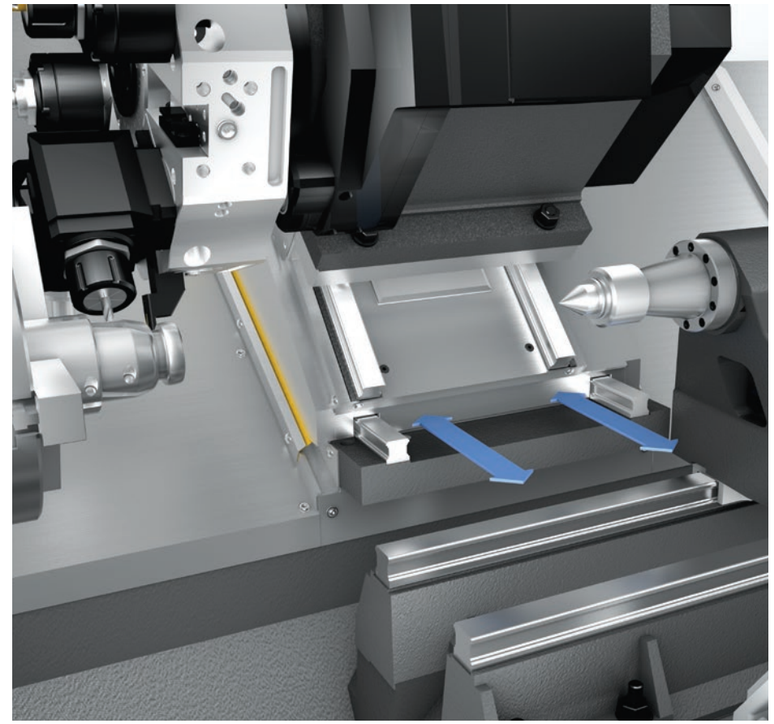
Simple, Modular Live Tool Drive System

The live tooling drive system is a simple, modular design with the motor outside of the tool turret mechanism. This simplifies maintenance and service, and is robust and reliable.

Live Tools

The live tooling option accepts radial and axial driven toolholders. These tools can be used on both the VDI turret and the VB Hybrid turret.

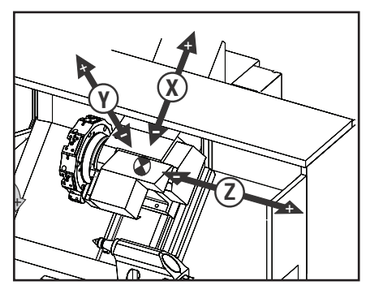
Y-AXIS MOTION

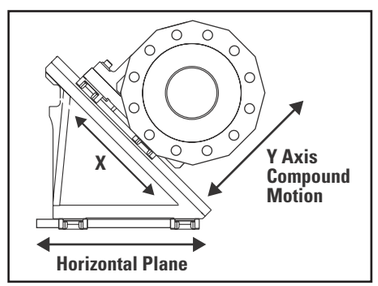


Y-Axis Motion for ST and DS Models

The Haas Y-axis turning centers provide 4" of Y-axis travel (±2" from the centerline) for off-center milling, drilling, and tapping. The Y-axis models come standard with high-torque live tooling and a servo-driven C axis to create a powerful solution for secondary machining of turned parts.

Because the Y axis provides interpolated motion on the G17 and G19 planes, it's possible to use built-in canned cycles for such off-center feature machining as radial and axial drilling, boring, tapping, and grooving.

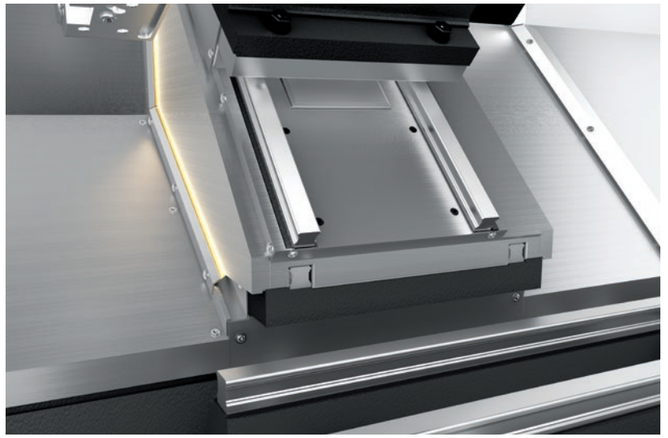




CHIP AND COOLANT MANAGEMENT

Chip Removal Systems People buy CNC machines to make parts faster, so the last thing they want is to waste time removing chips from the machine. All Haas turning centers are available with an optional belt-type chip conveyor that removes chips from the enclosure and conveniently discharges them at barrel height.

The conveyors are installed at the factory and ship attached to the machine, which reduces shipping costs, and simplifies machine installation.



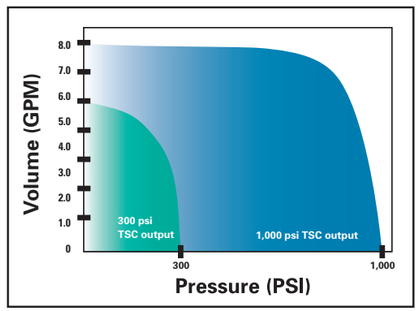
One-Piece Way Covers The Z-axis way covers on the ST/DS series turning centers are contructed of a single sheet of heavy-gauge sheetmetal on each side of the wedge. Solid way covers eliminate numerous moving parts, and the one-piece design prevents chips and coolant from getting behind the covers.

The ST-40 and ST-40L use telescopic waycovers, with scissor-style internal guides for smooth, quiet operation and precise alignment.

Auxiliary Coolant Filter This 25-micron, #2 bag-type filter system removes contamination and minute particles from the coolant before they can be recirculated through the coolant pump.

High-Pressure Coolant Our high-pressure coolant systems provide up to 300 psi or 1000 psi of coolant to the cutting edge for deep-hole drilling, heavy cuts, faster feedrates, and better surface finishes. The standard HPC option provides up to 300 psi at a flow rate of 1.5 gallons per minute, and 250 psi at 4 gpm. The 1000 psi option has a max flow rate of 6 gpm, and requires separate (customer-supplied) 3-phase power.

Flow Rate Dynamics For both high-pressure coolant options, the highest pressure occurs at the lowest flow rate. The actual pressure delivered to the cutting edge depends on the size of the coolant passages in the tool. Smaller coolant passages restrict the flow, causing the pressure to increase (up to the maximum provided by the system). Conversely, larger coolant passages in the tool allow more fluid to pass through, resulting in lower pressure at the cutting edge.

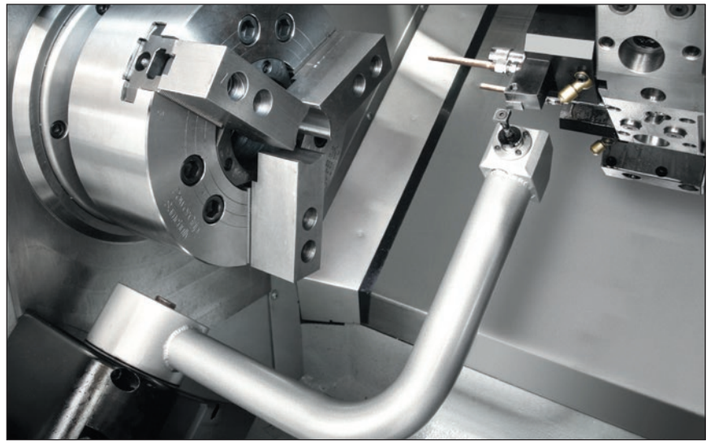


Coolant Level Sensor A sensor in the coolant tank allows you to monitor coolant level directly on the control screen, preventing damaged tools and saving time.

OPERATOR CONVENIENCE

Automatic Tool Setting Probe

The automatic tool setting probe allows the operator to quickly and easily set tool offsets using the automatic probe arm and the control's intuitive interface. After initial set up, the system can be used to automatically update offsets when changing inserts, or in-process to compensate for tool wear and detect broken tools.



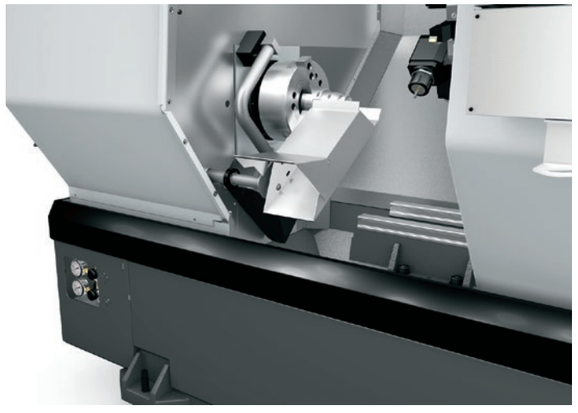
Work Probing The Haas work probing option incorporates a turret probe, receiver, and macros. It can be used for rapid first-off part inspection, in-process reporting, and monitoring unattended machining operations. It can also be used to update work offsets to account for tool wear and ensure ultimate part accuracy.

Auto Jet Blast An M-code activated air blast clears chips and coolant from the chuck and workpiece while the doors are closed.

High-Intensity Lighting Halogen lights provide bright, even illumination of the work area for part inspection, job set up, and changeovers. Lights turn on and off automatically when doors open and close, or can be activated manually via switch.

Servo Auto Door This option opens and closes the machine doors automatically via the part program. This reduces operator fatigue during repetitive machining operations, or allows for unattended operation when used with a robotic loader.

Pendant Storage Cabinet Our thin control pendant is lighter, more stable, and easier to maneuver. A large cabinet behind the pendant provides plenty of storage for tools, gauges, spare inserts, and much more. A convenient "glove box" below the pendant provides additional storage, and the hinged door folds down to form a convenient shelf.



Parts Catcher For bar feed applications, or when using a bar puller, the parts catcher rotates into position to catch the finished part and direct it into a bin located on the front door. There's no need to stop the machine and open the door to retrieve parts.

Spindle Orientation This option enables orientation of the main spindle for automatically loading non-round bar stock (hex, square, etc.) via a bar feeder. Spindle orientation is included with the Live Tooling option, and standard on DS models.

Haas Servo Bar 300 Automatic Bar Feeder

Designed to boost productivity and streamline turning operations, this servo-driven bar feeder is built by Haas exclusively for Haas CNC lathes. It runs directly from the Haas control, making it the only "smart" bar feeder on the market. Unique features make setup and operation simple, like a large access door for spindle liner change-out and a single adjustment for setting bar diameter. All bar feed parameters are set at the lathe control. Unlike with other bar feeders, the bar feed interface and a set of spindle liners are included with the Servo Bar 300.

Available for all ST and DS turning center models

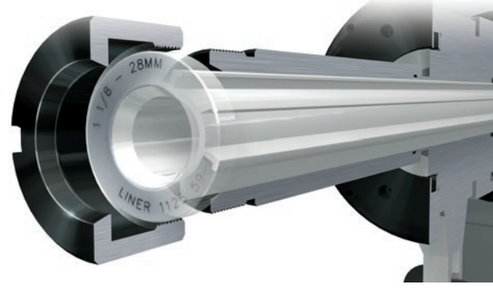
Capacity	3/8" to 3 1/8" dia., up to 60" length (9.5 mm to 79 mm, up to 1524 mm)
Control	Via the Haas CNC control
Pushers	Standard 3/8" and 3/4"
Tray capacity	1" (25 mm) dia. bars x 30 pcs.
Spindle liner	Most sizes available; depends on lathe model.
Weight	900 lb (408 kg)

Note: Specifications subject to change.
Maximum bar diameter and length determined by lathe model.

Haas Extruded Spindle Liners

The patented Haas extruded spindle liners are an inexpensive, easily installed option that provides extra stability to bar stock during turning operations, producing better results.

The innovative design allows a smaller liner to nest inside a larger one for fast setup, and easy changeover between different-sized bar stock. The lightweight material and extruded design add very little mass to the rotating system, and a liner rack that mounts to the Haas Servo Bar 300 is available to keep liners organized when not in use.



COMPACT TURNING
ST-10 TURNING CENTER

The ST-10 is the smallest Haas new generation turning center. It has a small footprint, yet provides a maximum capacity of 14" x 14", with a 16.25" swing over the cross slide. The 6.5" hydraulic chuck spins to 6000 rpm, and the 15 hp vector drive system provides 75 ft-lb of cutting torque. The A2-5 spindle nose has a 2.31" bore, with a bar capacity of 1.75". Rapids are 1200 ipm on the Z axis, and the 12-station BOT turret indexes tools quickly.

a small footprint with big capabilities – fast rapids and crisp tool indexing are all part of the package

Standard Features

- 6.5" Hydraulic Chucking System
- A2-5 Spindle Nose
- 1.75" Bar Capacity
- 15" Color LCD Monitor
- Built-In USB Port
- 1 MB Program Memory
- Rigid Tapping
- User-Friendly Haas Control
- ISO Standard G-Code Programming
- Made in the USA

Options *(partial list)*

- Tailstock w/Hydraulic Quill
- Automatic Tool Presetter System
- Belt-Type Chip Conveyor
- Spindle Orientation
- Ethernet Interface
- Remote Jog Handle w/Color LCD
- User-Definable Macros
- Haas Intuitive Programming System
- Servo Bar Feeder
- Parts Catcher

Warranty: 1 Year Parts and Labor

ST-10 Performance

- 14" x 14" Max Capacity
- 6000-rpm Spindle
- 15 hp Vector Drive
- 12-Station Bolt-On Style Turret (optional VDI)
- 1200 ipm Z-Axis Rapids

ST-10Y Performance

- 9" x 14" Max Capacity
- ±2.0" Y-Axis Travel
- Live Tooling with C Axis
- 6000-rpm Spindle
- 15 hp Vector Drive
- 12-Station VDI Turret
- 1200 ipm Z-Axis Rapids

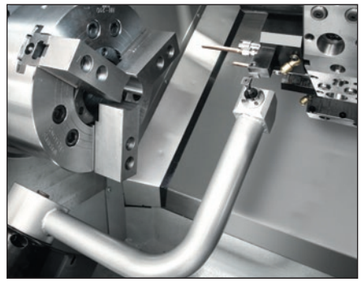
Specifications subject to change without notice. Not responsible for typographical errors.
Machines shown with optional equipment.

THE NEW GENERATION
ST-20 AND ST-20SS TURNING CENTERS

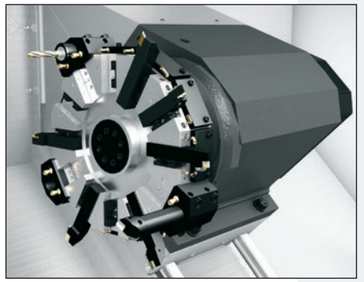
The Haas ST-20 series high-performance turning centers were designed from the ground up to provide set-up flexibility, extreme rigidity, and high thermal stability. Available in standard and Super Speed models, these 8" chuck machines offer the best performance for the money – the best value – in their class.

The ST-20 has a maximum capacity of 15" x 21", and features a 20 hp spindle that turns to 4000 rpm and yields 150 ft-lb of torque. A 12-station BOT turret is standard, and rapids are 945 ipm.

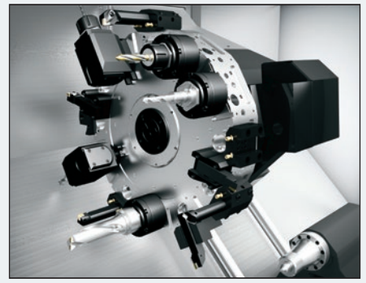
The ST-20SS has a maximum capacity of 10" x 21", and features a 30 hp spindle that turns to 5000 rpm and yields 140 ft-lb of torque. A 24-station hybrid BOT/VDI turret is standard, and Z-axis rapids are 1200 ipm.



Both machines are available with an automatic tool presetter system for setting tool offsets, as well as for in-process tool inspection and breakage detection.



The ST-20 is equipped with a 12-station bolt-on style turret standard, with options for a 12-station VDI turret or a 12-station hybrid BOT/VDI turret.



The ST-20SS is equipped with a 24-station hybrid turret that accepts BOT tools, 3/4" OD tools and VDI 40 tools.

Standard Features

- 8.3" Hydraulic Chucking System
- A2-6 Spindle Nose
- 2.0" Bar Capacity
- 15" Color LCD Monitor
- Built-In USB Port
- 1 MB Program Memory
- Rigid Tapping
- User-Friendly Haas Control
- ISO Standard G-Code Programming
- Made in the USA

Options *(partial list)*

- Programmable Hydraulic Tailstock
- Live Tooling with C Axis
- 300 psi High-Pressure Coolant
- 1000 psi High-Pressure Coolant
- Automatic Tool Presetter System
- Belt-Type Chip Conveyor
- Spindle Orientation
- Servo Auto Door
- Ethernet Interface
- Haas Intuitive Programming System
- Servo Bar Feeder
- Parts Catcher

Warranty: 1 Year Parts and Labor

ST-20 Performance

- 15" x 21" Max Capacity
- 12-Station Bolt-On Style Turret (optional VDI or hybrid)
- 4000-rpm High-Torque Spindle
- 20 hp Vector Drive
- 945 ipm Rapids

ST-20SS Enhancements

- 10" x 21" Max Capacity
- 24-Station Hybrid BOT/VDI Turret
- 5000-rpm High-Speed Spindle
- 30 hp Vector Drive
- 1200 ipm Z-Axis Rapids

Specifications subject to change without notice. Not responsible for typographical errors.
Machines shown with optional equipment.

MID-RANGE Y-AXIS
ST-20Y & ST-20SSY TURNING CENTERS

The ability to turn and mill complex parts and perform multiple operations on one machine increases throughput, reduces handling, and improves accuracy. The Haas ST-20 series Y-axis turning centers provide 4" of Y-axis travel (±2" from the centerline) for off-center milling, drilling, and tapping, and come standard with high-torque live tooling and a servo-driven C axis for versatile 4-axis capability.

The ST-20Y has a maximum capacity of 12" x 21", and features a 20 hp spindle that turns to 4000 rpm and yields 150 ft-lb of torque. A 12-station hybrid BOT/VDI turret is standard, and rapids are 945 ipm on the Z axis.

The ST-20SSY has a maximum capacity of 10" x 21", and features a 30 hp spindle that turns to 5000 rpm and yields 140 ft-lb of torque. A 24-station hybrid BOT/VDI turret is standard, and Z-axis rapids are 1200 ipm.

Standard Features

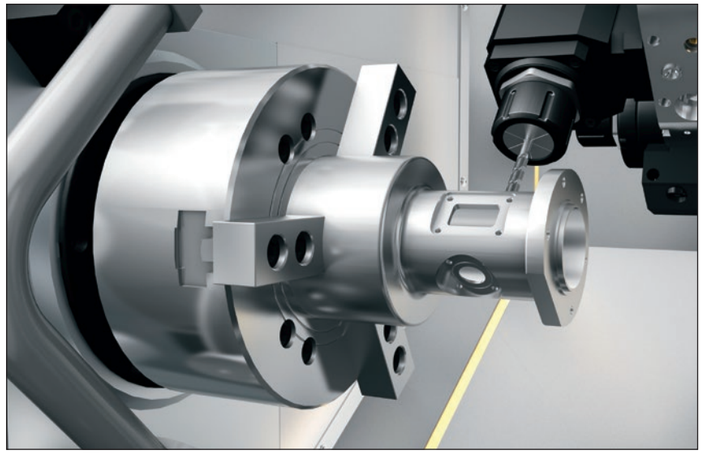
- 8.3" Hydraulic Chucking System
- A2-6 Spindle Nose
- 2.0" Bar Capacity
- 15" Color LCD Monitor
- Built-In USB Port
- 1 MB Program Memory
- Rigid Tapping
- Spindle Orientation
- User-Friendly Haas Control
- ISO Standard G-Code Programming
- Made in the USA

Options *(partial list)*

- Programmable Hydraulic Tailstock
- 300 psi High-Pressure Coolant
- 1000 psi High-Pressure Coolant
- Automatic Tool Presetter System
- Belt-Type Chip Conveyor
- Servo Auto Door
- Ethernet Interface
- Remote Jog Handle w/Color LCD
- User-Definable Macros
- Haas Intuitive Programming System
- Servo Bar Feeder
- Parts Catcher

Warranty: 1 Year Parts and Labor

Haas turning centers with Y-axis capabilities



ST-20Y Performance

- 12" x 21" Max Capacity
- ±2.0" Y-Axis Travel
- Live Tooling with C Axis
- 4000-rpm Spindle
- 20 hp Vector Drive
- 12-Station Hybrid BOT/VDI Turret
- 945 ipm Z-Axis Rapids

ST-20SSY Performance

- 10" x 21" Max Capacity
- ±2.0" Y-Axis Travel
- Live Tooling with C Axis
- 5000-rpm Spindle
- 30 hp Vector Drive
- 24-Station Hybrid BOT/VDI Turret
- 1200 ipm Z-Axis Rapids

Specifications subject to change without notice. Not responsible for typographical errors.
Machines shown with optional equipment.

THE NEW GENERATION
ST-30 AND ST-30SS TURNING CENTERS

The Haas ST-30 series high-performance turning centers were designed to provide heavy cutting ability, extreme rigidity, and high thermal stability. These versatile 10" chuck machines are available in standard and Super Speed models.

The ST-30 has a maximum capacity of 21" x 26", and features a 30 hp spindle that turns to 3400 rpm and yields 300 ft-lb of torque. An available 2-speed gearbox boosts torque to 1000 ft-lb. A 12-station BOT turret is standard, and rapids are 945 ipm.

The ST-30SS has a maximum capacity of 16" x 26", and features a 30 hp spindle that turns to 4500 rpm and yields 275 ft-lb of torque. A 24-station hybrid BOT/VDI turret is standard, and Z-axis rapids are 1200 ipm.

Standard Features

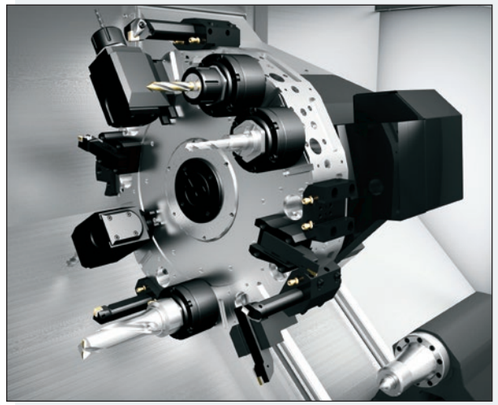
- 10" Hydraulic Chucking System
- A2-6 Spindle Nose
- 3.0" Bar Capacity
- 15" Color LCD Monitor
- Built-In USB Port
- 1 MB Program Memory
- Rigid Tapping
- User-Friendly Haas Control
- ISO Standard G-Code Programming
- Made in the USA

Options *(partial list)*

- Programmable Hydraulic Tailstock
- Live Tooling with C Axis
- 300 psi High-Pressure Coolant
- 1000 psi High-Pressure Coolant
- Automatic Tool Presetter System
- Belt-Type Chip Conveyor
- Spindle Orientation
- Servo Auto Door
- Ethernet Interface
- Remote Jog Handle w/Color LCD
- User-Definable Macros
- Haas Intuitive Programming System
- Servo Bar Feeder
- Parts Catcher

3-inches through, 26" length, and up to 1000 ft-lb of torque

The ST-30SS is equipped with a 24-station hybrid BOT/VDI turret that accepts BOT tools, 3/4" OD tools and VDI40 tools.



ST-30 Performance

- 21" x 26" Max Capacity
- 12-Station Bolt-On Style Turret (optional VDI or hybrid)
- 3400-rpm High-Torque Spindle
- 30 hp Vector Drive
- 945 ipm Rapids

ST-30SS Performance

- 16" x 26" Max Capacity
- 24-Station Hybrid BOT/VDI Turret
- 4500-rpm High-Speed Spindle
- 30 hp Vector Drive
- 1200 ipm Z-Axis Rapids

Specifications subject to change without notice. Not responsible for typographical errors.
Machines shown with optional equipment.

LARGE SIZE Y-AXIS
ST-30Y & ST-30SSY TURNING CENTERS

The ability to turn and mill complex parts and perform multiple operations on one machine increases throughput, reduces handling, and improves accuracy. The Haas ST-30 series Y-axis turning centers provide 4" of Y-axis travel (±2" from the centerline) for off-center milling, drilling, and tapping, and come standard with high-torque live tooling and a servo-driven C axis for versatile 4-axis capability.

The ST-30Y has a maximum capacity of 18" x 23", and features a 30 hp spindle that turns to 3400 rpm and yields 300 ft-lb of torque. An available 2-speed gearbox boosts torque to 1000 ft-lb. A 12-station hybrid BOT/VDI turret is standard, and rapids are 945 ipm on the Z axis.

The ST-30SSY has a maximum capacity of 16" x 23", and features a 30 hp spindle that turns to 4500 rpm and yields 275 ft-lb of torque. A 24-station hybrid BOT/VDI turret is standard, and Z-axis rapids are 1200 ipm.

Standard Features

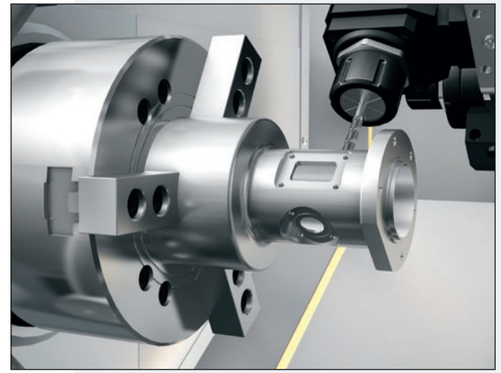
- 10" Hydraulic Chucking System
- A2-6 Spindle Nose
- 3.0" Bar Capacity
- 15" Color LCD Monitor
- Built-In USB Port
- 1 MB Program Memory
- Rigid Tapping
- Spindle Orientation
- User-Friendly Haas Control
- ISO Standard G-Code Programming
- Made in the USA

Options *(partial list)*

- Programmable Hydraulic Tailstock
- 300 psi High-Pressure Coolant
- 1000 psi High-Pressure Coolant
- Automatic Tool Presetter System
- Belt-Type Chip Conveyor
- Ethernet Interface
- Remote Jog Handle w/Color LCD
- Haas Intuitive Programming System
- Servo Bar Feeder
- Parts Catcher

Y-axis capabilities on our shop-proven ST-30 series machines

The ST-30 series Y-axis turning centers come standard with Y axis, C axis, and live tooling to provide a powerful 4-axis solution for secondary machining of turned parts.



ST-30Y Performance

- 18" x 23" Max Capacity
- ±2.0" Y-Axis Travel
- Live Tooling with C Axis
- 3400-rpm Spindle
- 30 hp Vector Drive
- 12-Station Hybrid BOT/VDI Turret
- 945 ipm Z-Axis Rapids

ST-30SSY Performance

- 16" x 23" Max Capacity
- ±2.0" Y-Axis Travel
- Live Tooling with C Axis
- 4500-rpm Spindle
- 30 hp Vector Drive
- 24-Station Hybrid BOT/VDI Turret
- 1200 ipm Z-Axis Rapids

DUAL SPINDLE
DS-30 AND DS-30SS TURNING CENTERS

The Haas DS-30 series dual-spindle turning centers provide the ability to turn both ends of a part in a single setup to minimize operator handling, increase throughput, and reduce work-in-process. The opposed spindles support fully synchronized turning, and allow on-the-fly part pass-off to reduce cycle times.

The DS-30 has a maximum capacity of 18" x 26", with a 30 hp main spindle and 20 hp secondary spindle. Both spindles turn to 4000 rpm, and have a 2" bar capacity. A 12-station hybrid BOT/VDI turret is standard, and rapids are 945 ipm.

The DS-30SS has a maximum capacity of 16" x 26", with a 30 hp main spindle and 20 hp secondary spindle. Both spindles turn to 4800 rpm, and have a 2" bar capacity. A 24-station hybrid BOT/VDI turret is standard, and Z-axis rapids are 1200 ipm.

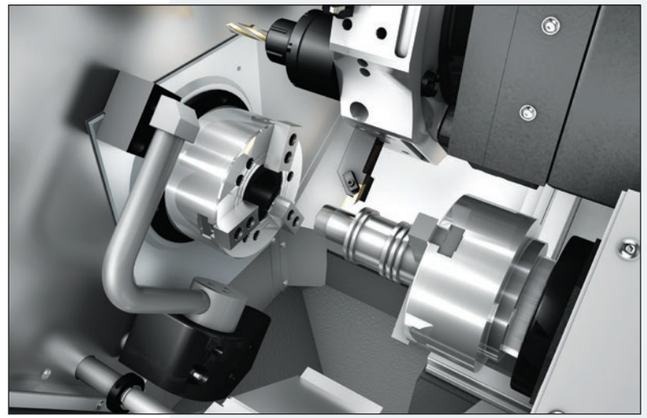
Standard Features

- Dual 8.3" Hydraulic Chucking Systems
- A2-6 Main Spindle Nose
- A2-5 Secondary Spindle Nose
- 2.0" Bar Capacity (both spindles)
- Synchronous Turning Capability
- On-The-Fly Pass-Off Capability
- 15" Color LCD Monitor
- Built-In USB Port
- 1 MB Program Memory
- Rigid Tapping
- Spindle Orientation
- Made in the USA

Options *(partial list)*

- Live Tooling with C Axis
- High-Pressure Coolant Systems
- Automatic Tool Presetter System
- Belt-Type Chip Conveyor
- Servo Auto Door
- Ethernet Interface
- Haas Intuitive Programming System
- Servo Bar Feeder
- Parts Catcher

powerful dual-spindle capabilities



DS-30 Performance

- 18" x 26" Max Capacity
- 4000-rpm Main Spindle, 30 hp
- 4000-rpm Secondary Spindle, 20 hp
- 12-Station Hybrid BOT/VDI Turret
- 945 ipm Rapids

DS-30SS Performance

- 16" x 26" Max Capacity
- 4800-rpm Main Spindle, 30 hp
- 4800-rpm Secondary Spindle, 20 hp
- 24-Station Hybrid BOT/VDI Turret
- 1200 ipm Z-Axis Rapids

Specifications subject to change without notice. Not responsible for typographical errors.
Machines shown with optional equipment.

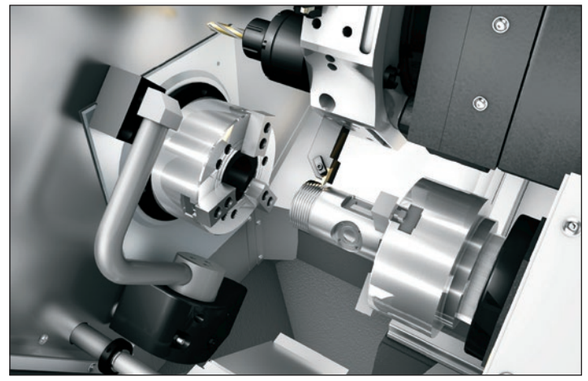
DUAL SPINDLE Y-AXIS

DS-30Y & DS-30SSY TURNING CENTERS

The Haas DS-30 series Y-axis turning centers combine dual-spindle turning with Y axis, C axis, and live tooling to create powerful “done-in-one” machining solutions for any shop. The opposed spindles support fully synchronized turning, and allow on-the-fly part pass-off to reduce cycle times. The machines provide 4" of Y-axis travel (±2" from the centerline) for off-center milling, drilling, and tapping, and come standard with high-torque live tooling and a servo-driven C axis for versatile 4-axis capability.

The DS-30Y has a maximum capacity of 18" x 23", with a 30 hp main spindle and 20 hp secondary spindle. Both spindles turn to 4000 rpm, and have a 2" bar capacity. A 12-station hybrid BOT/VDI turret is standard, and rapids are 945 ipm on the Z axis.

The DS-30SSY has a maximum capacity of 16" x 23", with a 30 hp main spindle and 20 hp secondary spindle. Both spindles turn to 4800 rpm, and have a 2" bar capacity. A 24-station hybrid BOT/VDI turret is standard, and Z-axis rapids are 1200 ipm.



Standard Features

- Dual 8.3" Hydraulic Chucking Systems
- A2-6 Main Spindle Nose
- A2-5 Secondary Spindle Nose
- 2.0" Bar Capacity (both spindles)
- Synchronous Turning Capability
- On-The-Fly Pass-Off Capability
- 15" Color LCD Monitor
- Built-In USB Port
- 1 MB Program Memory
- Rigid Tapping
- Spindle Orientation
- Made in the USA

Options *(partial list)*

- High-Pressure Coolant Systems
- Automatic Tool Presetter System
- Belt-Type Chip Conveyor
- Servo Auto Door
- Ethernet Interface
- Haas Intuitive Programming System
- Servo Bar Feeder
- Parts Catcher

Warranty: 1 Year Parts and Labor

all-new dual-spindle turning with Y-axis capabilities

The DS-30Y and DS-30SSY are versatile dual-spindle turning centers equipped with Y axis, C axis, and live tooling to create powerful “done-in-one” machining solutions.

DS-30Y Performance

- 18" x 23" Max Capacity
- 4000-rpm Main Spindle, 30 hp
- 4000-rpm Secondary Spindle, 20 hp
- ±2.0" Y-Axis Travel
- Live Tooling with C Axis
- 12-Station Hybrid BOT/VDI Turret
- 945 ipm Z-Axis Rapids

DS-30SSY Performance

- 16" x 23" Max Capacity
- 4800-rpm Main Spindle, 30 hp
- 4800-rpm Secondary Spindle, 20 hp
- ±2.0" Y-Axis Travel
- Live Tooling with C Axis
- 24-Station Hybrid BOT/VDI Turret
- 1200 ipm Z-Axis Rapids

Specifications subject to change without notice. Not responsible for typographical errors.
Machines shown with optional equipment.

ST-40 & ST-40L LONG BED
SUPER-SIZE TURNING CENTERS

The Haas ST-40 series high-performance turning centers provide heavy cutting ability, extreme rigidity, and high thermal stability. These large-capacity machines offer the best combination of performance and value in their class, and are available with a wide selection of high-productivity options, including high-torque live tooling and C axis. The long-bed ST-40L provides nearly double the cutting length for turning and boring long shafts and tubing.

Standard Features

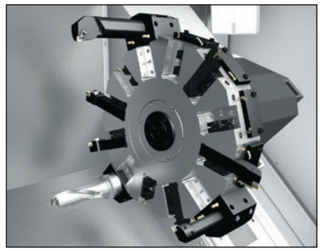
- 15" Hydraulic Chucking System
- 4.0" Bar Capacity
- A2-8 Spindle Nose
- 15" Color LCD Monitor
- Built-In USB Port
- Rigid Tapping
- 1 MB Program Memory
- User-Friendly Haas Control
- ISO Standard G-Code Programming
- Made in the USA

Options *(partial list)*

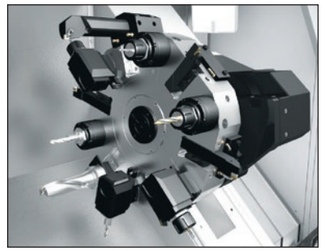
- 7.0" Big-Bore Spindle Option
- 55 hp Extra-Perfrormance Option
- Programmable Servo Tailstock[1]
- Live Tooling with C Axis
- 300 psi High-Pressure Coolant
- 1000 psi High-Pressure Coolant
- Automatic Tool Presetter System
- Belt-Type Chip Conveyor
- Spindle Orientation

[1]Standard on ST-40L

Up to 80 inches of turning capacity



The ST-40 and ST-40L are equipped with a massive 12-station bolt-on style turret that accepts 1.25" stick tools, and is clamped hydraulically.



Both machines are also available with a 12-station hybrid turret that accepts both BOT tools and VDI tools, including driven tools.

ST-40 Performance

- 25.5" x 44" Max Capacity
- 12-Station Bolt-On Style Turret (optional hybrid)
- 2400-rpm High-Torque Spindle
- 40 hp Vector Drive

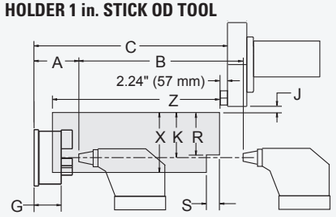
ST-40L Performance

- 25.5" x 80" Max Capacity
- 12-Station Bolt-On Style Turret (optional hybrid)
- 2400-rpm High-Torque Spindle
- 40 hp Vector Drive
- Programmable Servo Tailstock

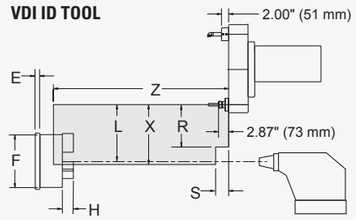
SPECIFICATIONS

Standard ST Series and ST Super Speed Series

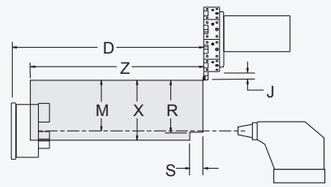
VDI HOLDER 1 in. STICK OD TOOL



VDI ID TOOL

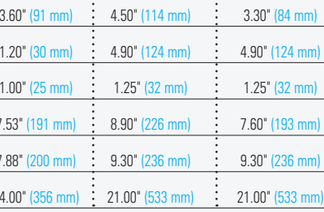


FACE MOUNT 1 in. STICK OD TOOL



BOT ID TOOL

LIVE RADIAL TOOL



LIVE AXIAL TOOL

Dimension Description		ST-10	ST-10Y	ST-20	ST-20SS	ST-20Y	ST-20SSY	ST-30	ST-30SS	ST-30Y	ST-30SSY	DS-30	DS-30SS	DS-30Y	DS-30SSY	ST-40	ST-40L
A	Tailstock at Full Travel	10.00" (254 mm)	10.00" (254 mm)	11.00" (279 mm)	11.00" (279 mm)	11.00" (279 mm)	11.00" (279 mm)	13.00" (330 mm)	13.00" (330 mm)	13.00" (330 mm)	13.00" (330 mm)	—	—	—	—	21.25" (540 mm)	22.75" (578 mm)
B	Tailstock Travel	17.00" (432 mm)	17.00" (432 mm)	21.00" (533 mm)	21.00" (533 mm)	21.00" (533 mm)	21.00" (533 mm)	28.50" (724 mm)	28.50" (724 mm)	28.50" (724 mm)	28.50" (724 mm)	—	—	—	—	40.00" (1 016 mm)	76.00" (1 930 mm)
C	Turret Home VDI	18.50" (470 mm)	18.50" (470 mm)	27.40" (696 mm)	—	27.40" (696 mm)	—	32.00" (813 mm)	—	29.00" (737 mm)	—	—	—	—	—	52.55" (1 335 mm)	52.55" (1 335 mm)
C	Turret Home VB	—	—	27.40" (696 mm)	27.40" (696 mm)	27.40" (696 mm)	27.40" (696 mm)	32.00" (813 mm)	32.00" (813 mm)	29.00" (737 mm)	29.00" (737 mm)	32.00" (813 mm)	32.00" (813 mm)	29.00" (737 mm)	29.00" (737 mm)	52.55" (1 335 mm)	52.55" (1 335 mm)
D	Turret Home BOT	17.90" (455 mm)	—	27.40" (696 mm)	—	—	—	32.00" (813 mm)	—	—	—	—	—	—	—	52.50" (1 334 mm)	52.50" (1 334 mm)
E	Spindle Face	1.50" (38 mm)	1.50" (38 mm)	1.00" (25 mm)	1.00" (25 mm)	1.00" (25 mm)	1.00" (25 mm)	1.25" (32 mm)	1.25" (32 mm)	1.25" (32 mm)	1.25" (32 mm)	1.00" (25 mm)	1.00" (25 mm)	1.00" (25 mm)	1.00" (25 mm)	1.50" (38 mm)	1.50" (38 mm)
F	Chuck Diameter	6.50" (165 mm)	6.50" (165 mm)	8.27" (210 mm)	8.27" (210 mm)	8.27" (210 mm)	8.27" (210 mm)	10.00" (254 mm)	10.00" (254 mm)	10.00" (254 mm)	10.00" (254 mm)	8.27" (210 mm)	8.27" (210 mm)	8.27" (210 mm)	8.27" (210 mm)	15.00" (381 mm)	15.00" (381 mm)
G	Chuck Face	5.00" (127 mm)	5.00" (127 mm)	5.00" (127 mm)	5.00" (127 mm)	5.00" (127 mm)	5.00" (127 mm)	5.75" (146 mm)	5.75" (146 mm)	5.75" (146 mm)	5.75" (146 mm)	5.00" (127 mm)	5.00" (127 mm)	5.00" (127 mm)	5.00" (127 mm)	7.75" (197 mm)	7.75" (197 mm)
H	Chuck Jaws	1.25" (32 mm)	1.25" (32 mm)	1.50" (38 mm)	1.50" (38 mm)	1.50" (38 mm)	1.50" (38 mm)	1.75" (44 mm)	1.75" (44 mm)	1.75" (44 mm)	1.75" (44 mm)	1.50" (38 mm)	1.50" (38 mm)	1.50" (38 mm)	1.50" (38 mm)	3.00" (76 mm)	3.00" (76 mm)
J	VDI 1" Stick OD Tool Stickout	1.00" (25 mm)	1.00" (25 mm)	1.25" (32 mm)	1.40" (36 mm)	1.25" (32 mm)	1.40" (36 mm)	1.25" (32 mm)	1.40" (36 mm)	1.25" (32 mm)	1.40" (36 mm)	1.25" (32 mm)	1.40" (36 mm)	1.25" (32 mm)	1.40" (36 mm)	1.30" (33 mm)	1.30" (33 mm)
J	Face Mount 1" Stick OD Tool Stickout	1.00" (25 mm)	1.00" (25 mm)	1.25" (32 mm)	1.00" (25 mm)	1.25" (32 mm)	1.00" (25 mm)	1.25" (32 mm)	1.00" (25 mm)	1.25" (32 mm)	1.00" (25 mm)	1.25" (32 mm)	1.00" (25 mm)	1.25" (32 mm)	1.00" (25 mm)	1.50" (38 mm)	1.50" (38 mm)
K	VDI 1" Stick OD Tool Home	4.50" (114 mm)	4.50" (114 mm)	6.50" (165 mm)	5.25" (133 mm)	6.50" (165 mm)	5.25" (133 mm)	9.15" (232 mm)	7.80" (198 mm)	9.15" (232 mm)	7.80" (198 mm)	9.15" (232 mm)	7.80" (198 mm)	9.15" (232 mm)	7.80" (198 mm)	11.60" (295 mm)	11.60" (295 mm)
L	VDI ID Toolholder Home	7.53" (191 mm)	7.53" (191 mm)	8.90" (226 mm)	7.60" (193 mm)	8.90" (226 mm)	7.60" (193 mm)	12.02" (305 mm)	10.88" (276 mm)	12.02" (305 mm)	10.88" (276 mm)	12.02" (305 mm)	10.88" (276 mm)	12.02" (305 mm)	10.88" (276 mm)	15.80" (401 mm)	15.80" (401 mm)
M	Face Mount 1" Stick OD Tool Home	7.00" (178 mm)	—	7.50" (191 mm)	5.00" (127 mm)	6.00" (152 mm)	5.00" (127 mm)	10.50" (267 mm)	8.00" (203 mm)	9.00" (229 mm)	8.00" (203 mm)	9.00" (229 mm)	8.00" (203 mm)	9.00" (229 mm)	8.00" (203 mm)	12.75" (324 mm)	12.75" (324 mm)
N	Bolt-On ID Toolholder Home	7.25" (184 mm)	—	7.50" (191 mm)	4.75" (221 mm)	4.60" (117 mm)	4.75" (221 mm)	10.50" (267mm)	7.75" (197 mm)	7.60" (193 mm)	7.75" (197 mm)	7.60" (193 mm)	7.75" (197 mm)	7.60" (193 mm)	7.75" (197 mm)	13.10" (333 mm)	13.10" (333 mm)
P	Radial Live Tool Home	4.77" (121 mm)	4.77" (121 mm)	6.14" (156 mm)	4.84" (123 mm)	6.14" (156 mm)	4.84" (123 mm)	9.26" (235 mm)	8.12" (206 mm)	9.26" (235 mm)	8.12" (206 mm)	9.26" (235 mm)	8.12" (206 mm)	9.26" (235 mm)	8.12" (206 mm)	8.84" (225 mm)	8.84" (225 mm)
R	Tailstock Zone X-Axis Clearance Distance	3.60" (91 mm)	3.60" (91 mm)	4.50" (114 mm)	3.30" (84 mm)	4.50" (114 mm)	3.30" (84 mm)	7.25" (184 mm)	7.25" (184 mm)	7.25" (184 mm)	7.25" (184 mm)	5.00" (127 mm)	5.00" (127 mm)	5.00" (127 mm)	5.00" (127 mm)	11.00" (279 mm)	11.00" (279 mm)
S	Tailstock Zone Z-Axis Clearance Distance	1.20" (30 mm)	1.20" (30 mm)	4.90" (124 mm)	4.90" (124 mm)	4.90" (124 mm)	4.90" (124 mm)	2.50" (64 mm)	2.50" (64 mm)	—	—	—	—	—	—	3.15" (80 mm)	—
T	Radial Live Tool Stickout	1.00" (25 mm)	1.00" (25 mm)	1.25" (32 mm)	1.25" (32 mm)	1.25" (32 mm)	1.25" (32 mm)	1.50" (38 mm)	1.50" (38 mm)	1.50" (38 mm)	1.50" (38 mm)	1.50" (38 mm)	1.50" (38 mm)	1.50" (38 mm)	1.50" (38 mm)	2.00" (51 mm)	2.00" (51 mm)
U	Axial Live Tool Home	7.53" (191 mm)	7.53" (191 mm)	8.90" (226 mm)	7.60" (193 mm)	8.90" (226 mm)	7.60" (193 mm)	12.02" (305 mm)	10.88" (276 mm)	12.02" (305 mm)	10.88" (276 mm)	12.02" (305 mm)	10.88" (276 mm)	12.02" (305 mm)	10.88" (276 mm)	15.80" (401 mm)	15.80" (401 mm)
X	X-Axis Travel	7.88" (200 mm)	7.88" (200 mm)	9.30" (236 mm)	9.30" (236 mm)	9.30" (236 mm)	9.30" (236 mm)	12.50" (318 mm)	12.50" (318 mm)	12.50" (318 mm)	12.50" (318 mm)	12.50" (318 mm)	12.50" (318 mm)	12.50" (318 mm)	12.50" (318 mm)	17.00" (432 mm)	17.00" (432 mm)
Z	Z-Axis Travel	14.00" (356 mm)	14.00" (356 mm)	21.00" (533 mm)	21.00" (533 mm)	21.00" (533 mm)	21.00" (533 mm)	26.00" (660 mm)	26.00" (660 mm)	23.00" (584 mm)	23.00" (584 mm)	26.00" (660 mm)	26.00" (660 mm)	23.00" (584 mm)	23.00" (584 mm)	44.00" (1 118 mm)	80.00" (2 032 mm)

Specifications subject to change without notice. Not responsible for misprints or typographical errors.

SPECIFICATIONS

Standard ST Series and ST Super Speed Series

Capacities	ST-10	ST-20	ST-20SS	ST-30	ST-30SS
Chuck Size	6.5" 165 mm	8.3" 210 mm	8.3" 210 mm	10" 254 mm	10" 254 mm
Max Cutting Dia.	14"[1] 356 mm	15"[1] 381 mm	10" 254 mm	21"[1] 533 mm	16 406 mm
Max Cutting Length without workholding	14" 356 mm	21" 533 mm	21" 533 mm	26" 660 mm	26" 660 mm
Std. Bar Capacity	1.75" 44 mm	2.0" 51 mm	2.0" 51 mm	3.0" 76 mm	3.0" 76 mm
Spindle					
Max Speed	6000 rpm	4000 rpm	5000 rpm	3400 rpm	4500 rpm
Max Motor Rating	15 hp 11.2 kW	20 hp 14.9 kW	30 hp 22.4 kW	30 hp 22.4 kW	30 hp 22.4 kW
Max Torque	75 ft-lb @ 1300 rpm 102 Nm @ 1300 rpm	150 ft-lb @ 500 rpm 203 Nm @ 500 rpm	140 ft-lb @ 1450 rpm 190 Nm @ 1450 rpm	300 ft-lb @ 500 rpm 407 Nm @ 500 rpm	275 ft-lb @ 600 rpm 373 Nm @ 600 rpm
Max Torque w/ Opt. Gearbox	—	—	—	1000 ft-lb @ 150 rpm 1 356 Nm @ 150 rpm	—
Spindle Nose	A2-5	A2-6	A2-6	A2-6	A2-6
Spindle Bore	Ø2.31" Ø58.7 mm	Ø3.50" Ø88.9 mm	Ø3.50" Ø88.9 mm	Ø3.50" Ø88.9 mm	Ø3.50" Ø88.9 mm
Swing Diameter					
Over Front Apron	25.25" 641 mm	31.75" 806 mm	31.75" 806 mm	31.75" 806 mm	31.75" 806 mm
Over Cross Slide	16.25" 413 mm	20.75" 527 mm	20.75" 527 mm	20.75" 527 mm	20.75" 527 mm
Over Tailstock	23.5" 597 mm	23.0" 584 mm	23.0" 584 mm	23.0" 584 mm	23.0" 584 mm
Travels & Feedrates					
X Axis	7.88" 200 mm	9.3" 236 mm	9.3" 236 mm	12.5" 318 mm	12.5" 318 mm
Z Axis	14" 356 mm	21" 533 mm	21" 533 mm	26" 660 mm	26" 660 mm
X-Axis Max Thrust	3300 lb 14 679 N	4100 lb 18 238 N	4100 lb 18 238 N	4100 lb 18 238 N	4100 lb 18 238 N
Z-Axis Max Thrust	3300 lb 14 679 N	5100 lb 22 686 N	4050 lb 18 015 N	5100 lb 22 686 N	4050 lb 18 015 N
X-Axis Rapids	1200 ipm 30.5 m/min	945 ipm 24.0 m/min	945 ipm 24.0 m/min	945 ipm 24.0 m/min	945 ipm 24.0 m/min
Z-Axis Rapids	1200 ipm 30.5 m/min	945 ipm 24.0 m/min	1200 ipm 30.5 m/min	945 ipm 24.0 m/min	1200 ipm 30.5 m/min
General					
Power – 3-Phase	195 - 260 V	195 - 260 V	195 - 260 V	195 - 260 V	195 - 260 V

[1] Max diameter with standard BOT turret; diameter is less with VDI or VB turret.

NOTE: FLA/kVA requirements determined by motor horsepower. Check with your Haas distributor for various requirements. Differing VAC/kVA options available. Specifications subject to change without notice. Not responsible for misprints or typographical errors.

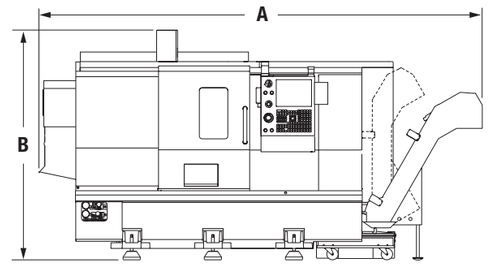
Large Capacity

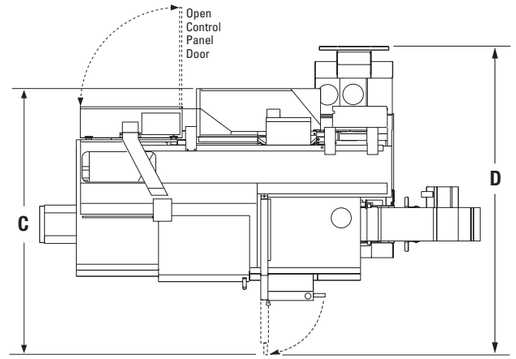
Capacities	ST-40	ST-40L
Chuck Size	15" 381 mm	15" 381 mm
Max Cutting Dia.	25.5"[1] 648 mm	25.5"[1] 648 mm
Max Cutting Length without workholding	44" 1 118 mm	80" 2 032 mm
Std. Bar Capacity	4.0" 102 mm	4.0" 102 mm
Spindle		
Max Speed	2400 rpm	2400 rpm
Max Motor Rating	40 hp 29.8 kW	40 hp 29.8 kW
Max Torque	1400 ft-lb @ 150 rpm 1 898 Nm @ 150 rpm	1400 ft-lb @ 150 rpm 1 898 Nm @ 150 rpm
Spindle Nose	A2-8	A2-8
Spindle Bore	Ø4.62" Ø117.3 mm	Ø4.62" Ø117.3 mm
Extra-Performance Spindle Option w/high-torque Z-axis servo		
Max Speed	2400 rpm	2400 rpm
Max Motor Rating	55 hp 41.0 kW	55 hp 41.0 kW
Max Torque	2100 ft-lb @ 150 rpm 2 847 Nm @ 150 rpm	2100 ft-lb @ 150 rpm 2 847 Nm @ 150 rpm
Z-Axis Max Thrust	6750 lb 30 025 N	6750 lb 30 025 N
Swing Diameter		
Over Front Apron	34.5" 876 mm	34.5" 876 mm
Over Cross Slide	25.5" 648 mm	25.5" 648 mm
Over Tailstock	25.5" 648 mm	25.5" 648 mm
Travels & Feedrates		
X Axis	17" 432 mm	17" 432 mm
Z Axis	44" 1 118 mm	80" 2 032 mm
X-Axis Max Thrust	5500 lb 24 465 N	5500 lb 24 465 N
Z-Axis Max Thrust	5500 lb 24 465 N	5500 lb 24 465 N
X-Axis Rapids	710 ipm 18.0 m/min	710 ipm 18.0 m/min
Z-Axis Rapids	710 ipm 18.0 m/min	320 ipm 8.1 m/min
General		
Power – 3-Phase	195 - 260 V @ 100 A	195 - 260 V @ 100 A

[1] Max diameter with standard BOT turret; diameter is less with VDI or VB turret.

DIMENSIONS

Machine Installation





Dim.	ST-10	ST-20	ST-30	DS-30	ST-40	ST-40L
A	126" 3 200 mm	165" 4 191 mm	178"* 4 521 mm	178" 4 521 mm	229" 5 817 mm	262" 6 655 mm
B	71" 1 803 mm	77" 1 956 mm	83" 2 108 mm	83" 2 108 mm	89" 2 261 mm	89" 2 261 mm
C	83" 2 108 mm	97" 2 464 mm	99" 2 515 mm	99" 2 515 mm	103" 2 616 mm	103" 2 616 mm
D	N/A –	115" 2 921 mm	120" 3 048 mm	120" 3 048 mm	N/A –	N/A –

* With optional two-speed gearbox add 12" (305 mm). With Big Bore option add 14" (356 mm).

Dimensions for SS and Y models are the same as the standard models.

Allow an additional 36" (914 mm) at the rear of the machine for back panel access to the control box.

SPECIFICATIONS

Standard Y Axis and Super Speed Y Axis

Capacities	ST-10Y	ST-20Y	ST-20SSY	ST-30Y	ST-30SSY
Chuck Size	6.5" 165 mm	8.3" 210 mm	8.3" 210 mm	10" 254 mm	10" 254 mm
Max Cutting Dia. [2]	9.0" 229 mm	12" 305 mm	10" 254 mm	18" 457 mm	16" 406 mm
Max Cutting Length without workholding	14.0" 356 mm	21" 533 mm	21" 533 mm	23" 584 mm	23" 584 mm
Std. Bar Capacity	1.75" 44 mm	2.0" 51 mm	2.0" 51 mm	3.0" 76 mm	3.0" 76 mm
Main Spindle					
Max Speed	6000 rpm	4000 rpm	5000 rpm	3400 rpm	4500 rpm
Max Motor Rating	15 hp 11.2 kW	20 hp 14.9 kW	30 hp 22.4 kW	30 hp 22.4 kW	30 hp 22.4 kW
Max Torque	75 ft-lb @ 1300 rpm 102 Nm @ 1 300 rpm	150 ft-lb @ 500 rpm 203 Nm @ 500 rpm	140 ft-lb @ 1450 rpm 190 Nm @ 1 450 rpm	300 ft-lb @ 500 rpm 407 Nm @ 500 rpm	275 ft-lb @ 600 rpm 373 Nm @ 600 rpm
Max Torque w/ Opt. Gearbox	—	—	—	1000 ft-lb @ 150 rpm 1 356 Nm @ 150 rpm	—
Spindle Nose	A2-5	A2-6	A2-6	A2-6	A2-6
Spindle Bore	Ø2.31" Ø58.7 mm	Ø3.50" Ø88.9 mm	Ø3.50" Ø88.9 mm	Ø3.50" Ø88.9 mm	Ø3.50" Ø88.9 mm
Swing Diameter					
Over Front Apron	25.25" 641 mm	31.75" 806 mm	31.75" 806 mm	31.75 806 mm	31.75 806 mm
Over Cross Slide	16.25" 413 mm	20.75" 527 mm	20.75" 527 mm	20.75" 527 mm	20.75" 527 mm
Over Tailstock	23.5" 597 mm	23.0" 584 mm	23.0" 584 mm	23.0" 584 mm	23.0" 584 mm
Travels & Feedrates					
X Axis	7.88" 200 mm	9.3" 236 mm	9.3" 236 mm	12.5" 318 mm	12.5" 318 mm
Y Axis	± 2.0" ± 51 mm	± 2.0" ± 51 mm	± 2.0" ± 51 mm	± 2.0 " ± 51 mm	± 2.0 " ± 51 mm
Z Axis	14" 356 mm	21" 533 mm	21" 533 mm	23" 584 mm	23" 584 mm
X-Axis Rapids	472 ipm 12 m/min	472 ipm 12 m/min	472 ipm 12 m/min	472 ipm 12 m/min	472 ipm 12 m/min
Y-Axis Rapids	472 ipm 12 m/min	472 ipm 12 m/min	472 ipm 12 m/min	472 ipm 12 m/min	472 ipm 12 m/min
Z-Axis Rapids	1200 ipm 30.5 m/min	945 ipm 24.0 m/min	1200 ipm 30.5 m/min	945 ipm 24.0 m/min	1200 ipm 30.5 m/min
General					
Power – 3-Phase	195 - 260 V	195 - 260 V	195 - 260 V	195 - 260 V	195 - 260 V

[1] Max diameter with standard BOT turret; diameter is less with VDI or VB turret. [2] With Y axis at Ø.

NOTE: FLA/kVA requirements determined by motor horsepower. Check with your Haas distributor for various requirements. Differing VAC/kVA options available. Specifications subject to change without notice. Not responsible for misprints or typographical errors.

Dual Spindle and DS Super Speed

Capacities	DS-30	DS-30SS
Max Cutting Dia.	18" 457 mm	16" 406 mm
Max Cutting Length without workholding	26" 660 mm	26" 660 mm
Std. Bar Capacity	2.0" 51 mm	2.0" 51 mm
Main Spindle		
Chuck Size	8.3" 210 mm	8.3" 210 mm
Max Speed	4000 rpm	4800 rpm
Max Motor Rating	30 hp 22.4 kW	30 hp 22.4 kW
Max Torque	300 ft-lb @ 500 rpm 407 Nm @ 500 rpm	275 ft-lb @ 600 rpm 373 Nm @ 600 rpm
Spindle Nose	A2-6	A2-6
Spindle Bore	Ø3.50" Ø88.9 mm	Ø3.50" Ø88.9 mm
Secondary Spindle		
Chuck Size	8.3" 210 mm	8.3" 210 mm
Max Speed	4000 rpm	4800 rpm
Max Motor Rating	20 hp 14.9 kW	20 hp 14.9 kW
Max Torque	135 ft-lb @ 700 rpm 183 Nm @ 700 rpm	110 ft-lb @ 700 rpm 149 Nm @ 700 rpm
Spindle Nose	A2-5	A2-5
Spindle Bore	Ø2.44" Ø61.9 mm	Ø2.44" Ø61.9 mm
Swing Diameter		
Over Front Apron	31.75" 806 mm	31.75" 806 mm
Over Cross Slide	20.75" 527 mm	20.75" 527 mm
Over Secondary Spindle	21.75" 552 mm	21.75" 552 mm
Travels & Feedrates		
X Axis	12.5" 318 mm	12.5" 318 mm
Z Axis	26" 660 mm	26" 660 mm
X-Axis Rapids	945 ipm 24.0 m/min	945 ipm 24.0 m/min
Z-Axis Rapids	945 ipm 24.0 m/min	1200 ipm 30.5 m/min
General		
Power – 3-Phase	195 - 260 V	195 - 260 V

[1] Max diameter with standard BOT turret; diameter is less with VDI or VB turret. [2] With Y axis at Ø.

Dual Spindle and DS Super Speed Y Axis

Capacities	DS-30Y	DS-30SSY
Max Cutting Dia. [2]	18" 457 mm	16" 406 mm
Max Cutting Length without workholding	23" 584 mm	23" 584 mm
Std. Bar Capacity	2.0" 51 mm	2.0" 51 mm
Main Spindle		
Chuck Size	8.3" 210 mm	8.3" 210 mm
Max Speed	4000 rpm	4800 rpm
Max Motor Rating	30 hp 22.4 kW	30 hp 22.4 kW
Max Torque	300 ft-lb @ 500 rpm 407 Nm @ 500 rpm	275 ft-lb @ 600 rpm 373 Nm @ 600 rpm
Spindle Nose	A2-6	A2-6
Spindle Bore	Ø3.50" Ø88.9 mm	Ø3.50" Ø88.9 mm
Secondary Spindle		
Chuck Size	8.3" 210 mm	8.3" 210 mm
Max Speed	4000 rpm	4800 rpm
Max Motor Rating	20 hp 14.9 kW	20 hp 14.9 kW
Max Torque	135 ft-lb @ 700 rpm 183 Nm @ 700 rpm	110 ft-lb @ 700 rpm 149 Nm @ 700 rpm
Spindle Nose	A2-5	A2-5
Spindle Bore	Ø2.44" Ø61.9 mm	Ø2.44" Ø61.9 mm
Swing Diameter		
Over Front Apron	31.75" 806 mm	31.75" 806 mm
Over Cross Slide	20.75" 527 mm	20.75" 527 mm
Over Secondary Spindle	21.75" 552 mm	21.75" 552 mm
Travels & Feedrates		
X Axis	12.5" 318 mm	12.5" 318 mm
Y Axis	± 2.0" ± 51 mm	± 2.0" ± 51 mm
Z Axis	23" 584 mm	23" 584 mm
X-Axis Rapids	472 ipm 12 m/min	472 ipm 12 m/min
Y-Axis Rapids	472 ipm 12 m/min	472 ipm 12 m/min
Z-Axis Rapids	945 ipm 24.0 m/min	1200 ipm 30.5 m/min
General		
Power – 3-Phase	195 - 260 V	195 - 260 V

GOING GREEN

Long before "Green" meant lessening one's carbon footprint, Haas machines had the ability to save you money by reducing electricity usage while the machine was in idle mode.

SAVING ENERGY MEANS SAVING MONEY

- Auto Power-Off setting turns the machine off after a specified number of minutes idle
- Power-Off at M30 sets the control to start a 30-second timer that will turn off all power unless interrupted
- Sleep Mode puts the machine into a low-power mode for a programmed length of time
- LCD Backlight Off setting blanks the LCD after a specified number of minutes idle
- Conveyor Off setting automatically turns off the chip conveyor after a specified number of minutes idle
- Servos and Hydraulics Off setting automatically turns off the servos and hydraulic pump after a specified number of minutes idle

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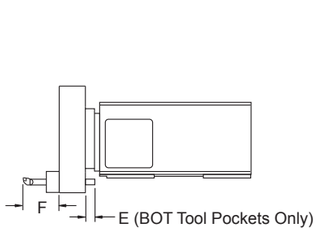
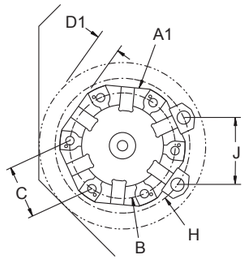
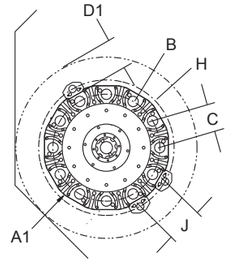
SPECIFICATIONS

Standard ST Series and ST Super Speed Series Turrets

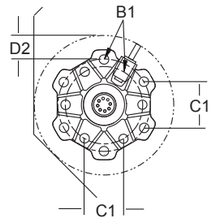




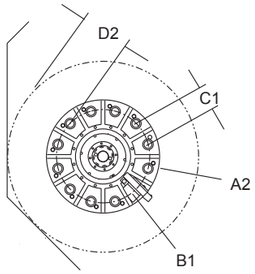
VB12, HYBRID TURRET



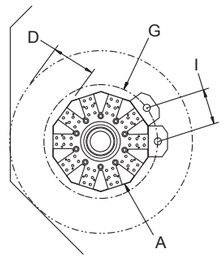
ALL SS MODELS, VB24 HYBRID TURRET



ST-10 VDI TURRET



VDI TURRET



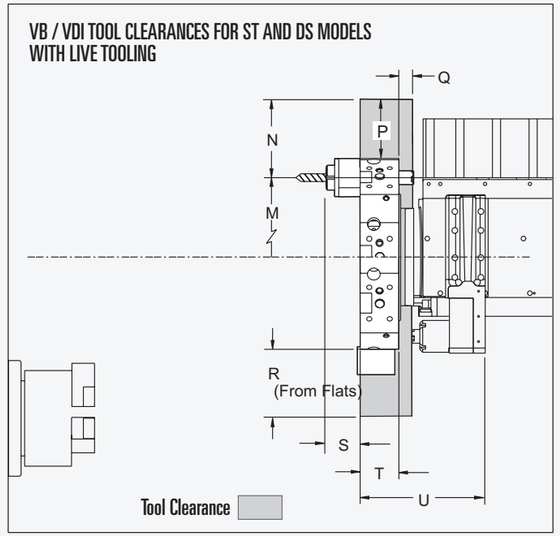
BOT TURRET

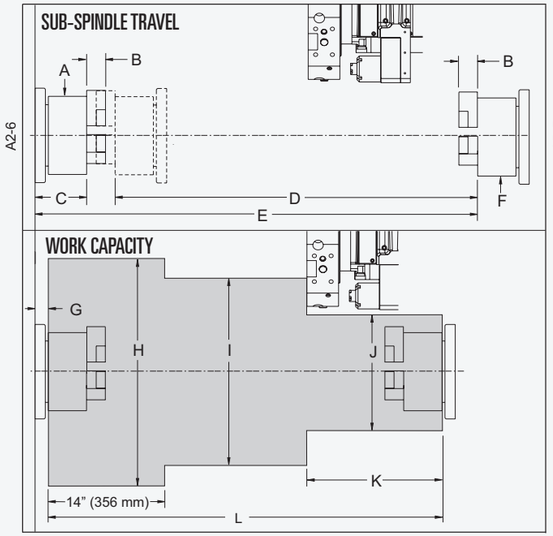
Description		ST-10	ST-10Y	ST-20 ST-20Y	ST-30 ST-30Y	ST-20SS ST-20SSY	DS-30 DS-30Y	ST-30SS, ST-30SSY DS-30SS, DS-30SSY	ST-40 ST-40L
A	BOT Turret OD Diameter (flats)	13.28" (337 mm)	—	16.16" (410 mm)	16.16" (410 mm)	—	—	—	22.27" (566 mm)
A1	VB12 / 24 Turret OD Diameter (flats)	—	—	18.95" (481 mm)	18.95" (481 mm)	21.20" (538 mm)	18.95" (481 mm)	21.20" (538 mm)	22.27" (566 mm)
A2	VDI Turret OD Turret Diameter	—	—	19.00" (483 mm)	19.00" (483 mm)	—	—	—	23.75" (603 mm)
B	VB12 / 24 Turret VDI40 Pocket Circle	—	—	15.63" (397 mm)	15.63" (397 mm)	18.25" (464 mm)	15.63" (397 mm)	18.25" (464 mm)	20.00" (508 mm)
B1	* VDI Turret VDI40 Pocket Circle	14.54" (115 mm) 17.03" (433 mm)	14.54" (115 mm) 17.03" (433 mm)	15.63" (397 mm)	15.63" (397 mm)	—	15.63" (397 mm)	—	20.00" (508 mm)
C	VB12 / 24 Turret VDI40 Pocket Spacing	—	—	7.81" (198 mm)	7.81" (198 mm)	4.69" (119 mm)	7.81" (198 mm)	4.69" (119 mm)	10.00" (254 mm)
C1	* VDI Turret VDI40 Pocket spacing	7.30" (185 mm) 8.50" (216 mm)	7.30" (185 mm) 8.50" (216 mm)	4.04" (103 mm)	4.04" (103 mm)	—	—	—	5.17" (131 mm)
D	BOT Turret – from flats TC clearance	9.00" (229 mm)	9.00" (229 mm)	6.90" (175 mm)	8.00" (203 mm)	—	—	—	9.00" (229 mm)
D1	VB12 / 24 Turret – from flats TC clearance	—	—	5.50" (140 mm)	6.85" (174 mm)	4.50" (114 mm)	6.85" (174 mm)	5.85 (149 mm)	9.00" (229 mm)
D1	VB12 / 24 Turret – from VDI40 center TC clearance	—	—	7.00" (178 mm)	8.35" (212 mm)	6.00" (152 mm)	8.35" (212 mm)	7.35" (187 mm)	10.00" (254 mm)
D2	VDI Turret – from VDI40 center TC clearance	6.75" (171 mm)	6.75" (171 mm)	7.00" (178 mm)	8.35" (212 mm)	—	—	—	10.00" (254 mm)
E	BOT Turret Bolt-On Tool Max Rear Stickout	0.75" (19.1 mm)	0.75" (19.1 mm)	4.00" (102 mm)	4.00" (102 mm)	—	—	—	4.37" (111 mm)
E	VB12 / 24 Bolt-On Tool Max Rear Stickout	—	—	4.00" (102 mm)	4.00" (102 mm)	4.00" (102 mm)	4.00" (102 mm)	4.00" (102 mm)	4.37" (111 mm)
E	VDI Turret VDI40 Pocket Max Tool Rear Stickout	0.40" (10.2 mm)	0.40" (10.2 mm)	0.40" (10.2 mm)	0.40" (10.2 mm)	0.40" (10.2 mm)	0.40" (10.2 mm)	0.40" (10.2 mm)	0.40" (10.2 mm)
F	** Reccomended Max Tool Stickout from face of turret @ full Z travel.	4.50" (114 mm)	4.50" (114 mm)	5.00" (127 mm)	5.00" (127 mm)	5.00" (127 mm)	5.00" (127 mm)	6.00" (152 mm)	***
G	BOT Turret ID Tool Pocket Diameter	15.28" (388 mm)	—	18.66" (474 mm)	—	—	—	—	25.42" (646 mm)
H	VB12 / 24 Turret ID Tool Pocket Diameter	—	—	21.45" (545 mm)	21.45" (545 mm)	23.20" (589 mm)	21.45" (545 mm)	23.20" (589 mm)	25.42" (646 mm)
I	BOT Turret ID Tool Pocket Spacing	3.96" (101 mm)	—	4.80" (122 mm)	—	—	—	—	6.60" (168 mm)
J	VB12 / 24 Turret ID Tool Pocket Spacing	—	—	10.72" (272 mm)	10.72" (272 mm)	6.00" (152 mm)	10.72" (272 mm)	6.00" (152 mm)	12.76" (324 mm)

* ST-10 VDI pockets are staggered. ** Exceeding this stickout may result in collision with the front bulkhead
*** A 25" (635 mm) deep pocket in the ST-40 and ST-40L provides clearance for boring bars and long tools.

DIMENSIONS

DS Series Secondary Spindle





Warning: There are many work envelope restrictions on the DS machines, depending on the tooling being used. A complete set of work envelope drawings is available from Haas or your local Haas Factory Outlet.

Dim	DS-30	DS-30SS	DS-30Y	DS-30SSY
A	8.27" (210 mm)	8.27" (210 mm)	8.27" (210 mm)	8.27" (210 mm)
B	3.00" (76 mm)	3.00" (76 mm)	3.00" (76 mm)	3.00" (76 mm)
C	5.00" (127 mm)	5.00" (127 mm)	5.00" (127 mm)	5.00" (127 mm)
D	40.00" (1 016 mm)	40.00" (1 016 mm)	40.00" (1 016 mm)	40.00" (1 016 mm)
E	48.00" (1 219 mm)	48.00" (1 219 mm)	48.00" (1 219 mm)	48.00" (1 219 mm)
F	8.27" (210 mm)	8.27" (210 mm)	8.27" (210 mm)	8.27" (210 mm)
G	1.00" (25 mm)	1.00" (25 mm)	1.00" (25 mm)	1.00" (25 mm)
H	31.75" (806 mm)	31.75" (806 mm)	31.75" (806 mm)	31.75" (806 mm)
I	21.75" (552 mm)	21.75" (552 mm)	21.75" (552 mm)	21.75" (552 mm)
J	18.00" (457 mm)	16.00" (406 mm)	18.00" (457 mm)	16.00" (406 mm)
K	19.00" (483 mm)	19.00" (483 mm)	19.00" (483 mm)	19.00" (483 mm)
L	48.00" (1 219 mm)	48.00" (1 219 mm)	48.00" (1 219 mm)	48.00" (1 219 mm)

Dim	DS-30	DS-30SS	DS-30Y	DS-30SSY
M	7.80" (198 mm)	9.13" (232 mm)	7.80" (198 mm)	9.13" (232 mm)
N	8.35" (212 mm)	7.35" (187 mm)	8.35" (212 mm)	7.35" (187 mm)
P	6.85" (174 mm)	5.85" (149 mm)	6.85" (174 mm)	5.85" (149 mm)
Q	0.40" (10 mm)	0.40" (10 mm)	0.40" (10 mm)	0.40" (10 mm)
R	6.85" (174 mm)	5.85" (149 mm)	6.85" (174 mm)	5.85" (149 mm)
S	2.90" (74 mm)	2.90" (74 mm)	2.90" (74 mm)	2.90" (74 mm)
T	4.20" (107 mm)	4.20" (107 mm)	4.20" (107 mm)	4.20" (107 mm)
U	10.25" (260 mm)	10.25" (260 mm)	10.25" (260 mm)	10.25" (260 mm)

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