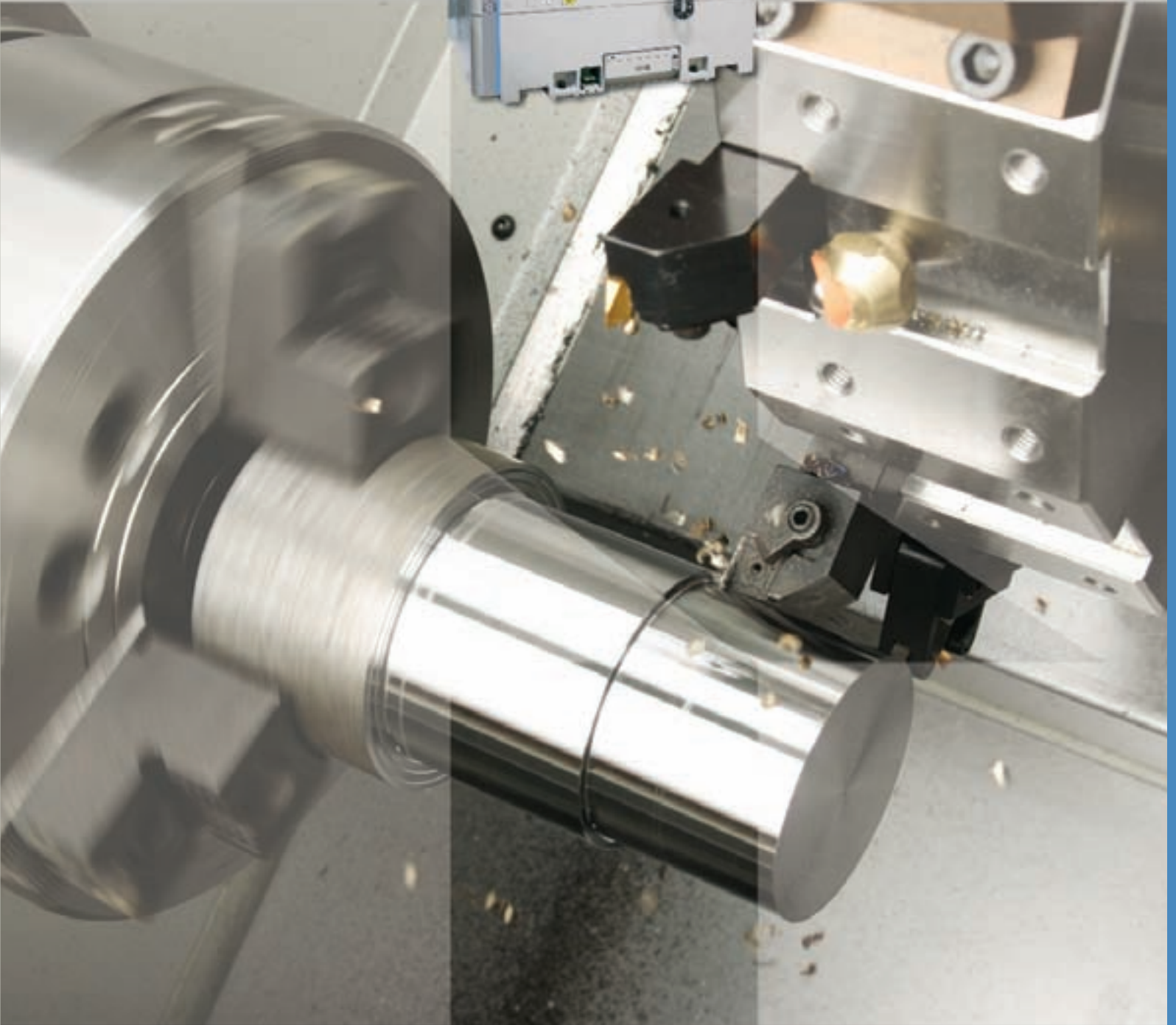


TURNING

SV-Series
Turning Centers



TURNING MILLING GRINDING WORKHOLDING
www.hardinge.com

HARDINGE
EXPECT MORE™

Hardinge® SV-Series CNC Turning Centers

Sharpen your competitive advantage with Hardinge's affordable SV-Series turning centers

Value and performance

We know how important it is to get a quality turning center at a great price! That's why we're pleased to offer the Hardinge designed and built SV-Series turning centers. Compared to the other brands of well-known, low-priced lathe manufacturers, SV-Series machines are outstanding turning centers that rival—and in some cases beat—all of them when it comes to features and price! The SV-Series models offer many of the same key components that have made our popular TALENT lathes a big seller...rigid and robust one-piece cast iron base, a swing-out CNC control panel for ease of operation and more.



SV 150

- A2-5 spindle nose
- Spindle horsepower – 20-hp/15-kW
- Spindle speed – 6,000-rpm
- Spindle torque – 70ft-lb/95Nm
- Standard tooling package included

SV 200

- A2-6 spindle nose
- 20-hp/15-kW spindle drive system
- 84.3ft-lb/114.3Nm torque
- 5,000-rpm spindle speed
- Standard tooling package included



SV 200/66

- A2-6 spindle nose
- 25-hp/18-kW spindle drive system
- 150.5ft-lb/204Nm torque
- 4,200-rpm spindle speed
- Standard tooling package included

SV 250

- A2-8 spindle nose
- 25-hp/18-kW spindle drive system
- 176.6ft-lb/240Nm torque
- 3,500-rpm spindle speed
- Standard tooling package included



Built the Hardinge® way for long lasting performance

SV 200/66 and SV 250

Non-contact magnetic spindle encoder eliminates the need for belted encoder, increasing overall reliability. One-degree spindle orient included.

Best in class spindle design incorporates 2-roller and 2-angular contact bearing for superior rigidity, thermal stability and overall spindle life.

Machine base and all major castings are made with high quality grey cast iron for superior rigidity, durability, and thermal stability.

All machines are laser inspected to strict quality standards.

Industry's most reliable motors and drives. Heavy-duty axis motors and drives provide superior machine capability.

Environmentally friendly grease lubrication minimizes overall maintenance cost. Conventional oil lubrication contaminates coolant.

Heavy-duty linear guideways provide optimum stiffness and rigidity, resulting in heavier cutting capability and longer machine life.

Heavy-duty, fixed pre-tensioned double-nut ballscrews provide superior rigidity, machine accuracy and repeatability.

Strategically ribbed 30-degree slant bed design of one piece construction.

High class double-nut ball screws provide superior machine accuracy and repeatability.

Strategically ribbed 45-degree slant bed design of one piece construction.

Fully-programmable #5 MT hydraulic tailstock option features robust boxway design for optimum tailstock rigidity.

SV 150 and SV 200

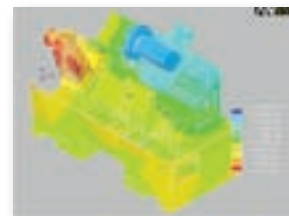
All of the features and benefits listed above that are not called out below also apply to the SV 150 and 200 models.

Fully-programmable #4 MT hydraulic tailstock option eliminates human intervention compared to competitive designs.

High quality linear guideways provide greater positioning accuracy, faster traverse rates, less machine wear, longer machine life and overall machining consistency.

One piece base construction allows for easy chip and coolant management.

FEA-qualified structural components



Best in class features

Superior features for affordable machining capabilities



The unique headstock design provides optimum thermal control for continuous machining accuracy and feature the most horsepower in their class.

Heavy-duty roller bearings combined with angular contact bearings provide superior radial and axial stiffness, allowing heavy turning and drilling operations.

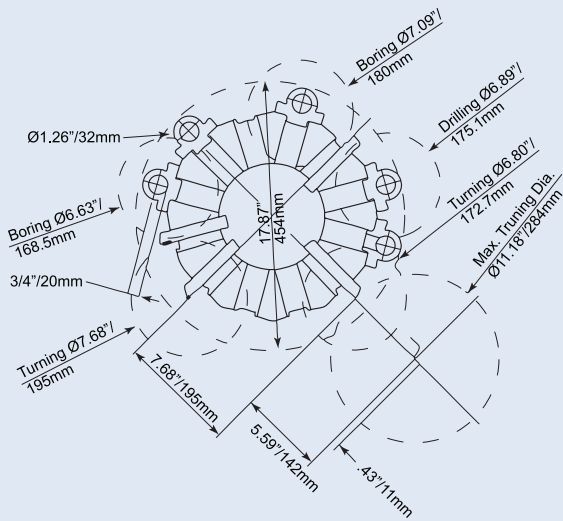
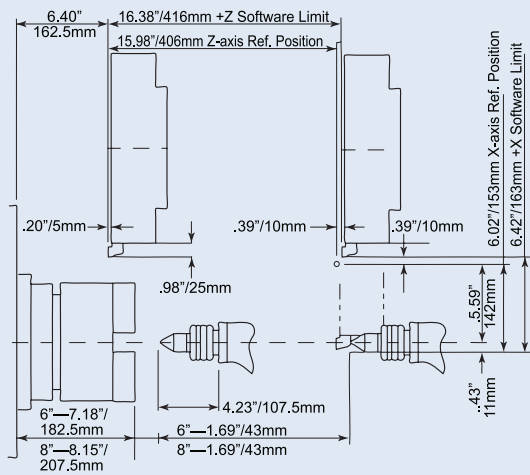


Standard 3-jaw chuck

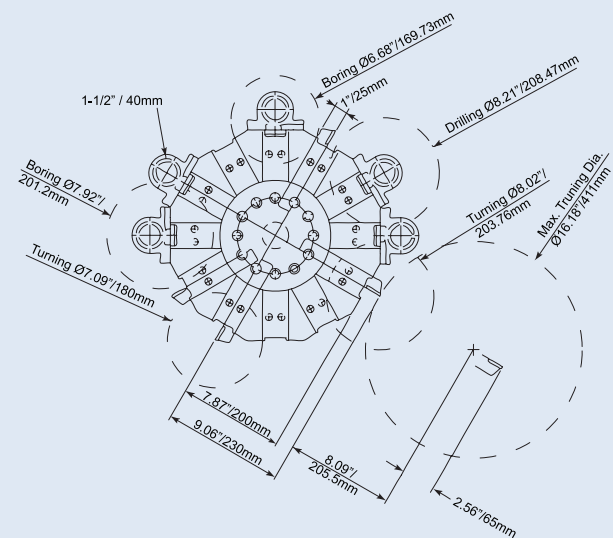
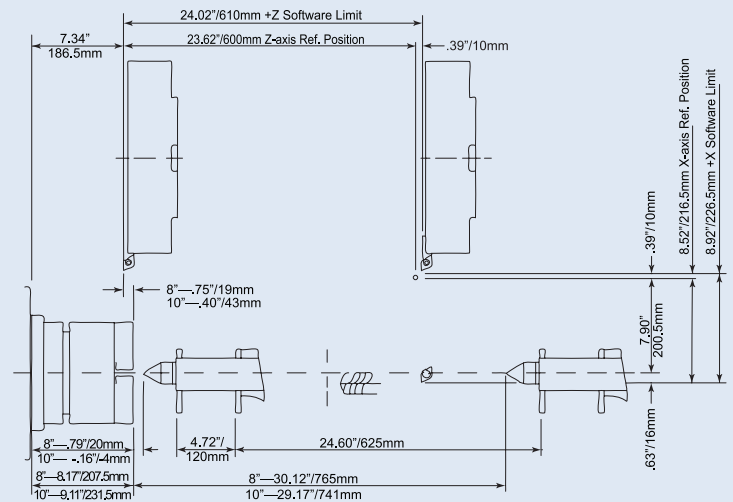


Standard 12-station turret top plate permits very rigid tool positioning

SV 150 and SV 200



SV 200/66 and SV 250



All the control you'll ever need right at your fingertips

As you might expect with advanced technology from Hardinge, the SV machines are powered by the latest generation control systems from Fanuc. The Fanuc *i* Series SV control offers over 200 standard features that are designed to increase your productivity and offer long term reliability over the life of your investment.

General

- 8.4" Color LCD Display ●
- Two Interpolating Axes ●
- Programmable Resolution—0.0001"/0.001mm ●
- Tool Offset Capability—0.0001"/0.001mm ●
- Tool Geometry and Tool Wear Offsets (64 pair each) †
- Inch/Metric Data Selection by G-Code ●
- 640 Meters (256 KB) Part Program Storage †
- Flash Card Slot Capability (up to 1 GB) †

Data Input/Output

- MDI (Manual Data Input) Operation ●
- Reader/Punch Interface Connection (RS-232 Software/Hardware) ●
- DNC (Remote Buffer) †

Programming Functions

- Absolute/Incremental Programming ●
- Additional Tool Offsets (64 pair total) †
- Additional Custom Macro Variables †
- Background Editing ●
- Blueprint Programming †
- Canned Cycles (Drilling) ●
- Chamfer/Corner Rounding ●
- Constant Surface Speed Programming ●
- Continual Thread Cutting ●
- Coordinate System Setting (G50) ●
- Custom Macro B †
- Diameter/Radius Programming ●
- Extended Part Program Edit (Copy/Replace) †
- Graphic Display †

Programming Functions (Continued)

- Hardinge Safe Start Format ●
- Input of Offset Value by Programming (G10) ●
- Interpolation (Linear and Circular) ●
- Manual Guide (G-code Assist) †
- Multiple Repetitive Canned Cycles I (Turning) †
- Registered Part Programs (200 total) †
- Rigid Tapping †
- Single Block Operation ●
- Thread, Synchronous Cutting ●
- Tool Life Management †
- Tool Nose Radius Compensation ●
- Variable Lead Thread Cutting †

Operation

- Block Delete ●
- Clamp/Unclamp Indicator Light Switch ●
- Coolant Control ●
- Dry Run ●
- Dwell Time ●
- Emergency Stop ●
- Feedhold ●
- Feedrate Override (0 to 150%) ●
- Incremental Jog ●
- Jog Feed Override (50 to 120%) ●
- Machine Lock ●
- Manual Pulse Generator (MPG Handwheel) ●
- On-Screen Spindle & Axis Load Meters ●
- Option Stop ●
- Rapid Traverse Override (Low-25-50-100%) ●



Operation (Continued)

- Single Block ●
- Spindle Speed and T-Code Displays on All Screens ●
- Spindle Speed Override (50 to 120%) ●

Miscellaneous

- Alarm Display ●
- English Color LCD Display with Full Keyboard ●
- French/German, Italian or Spanish ○
- On-Screen "HELP" Functions for Alarms †
- Program Protect ●
- Run Time and Parts Counter †
- Self-Diagnosis Function †
- Spindle Lock (Servo) ●
- Spindle Orient—One-Degree †
- Stored Pitch Error Compensation ●

† Standard value-added features that may be offered as options by other machine builders
● Standard
○ Optional

Accessories to increase your productivity

Standard features include:

- 12-Station bi-directional turret and top plate
- 3-Jaw chuck
- Pendant-mounted control
- Air hose with air gun
- Tooling package
- Complete operator's, programmer's and maintenance documentation
- Full 1-year warranty

Optional features include:

- Programmable Tailstock
- Parts Catcher
- Tool Probe
- Chip Auger (SV 150 & SV 200 only)
- Chip Conveyor
- High-Pressure Through-Tool Coolant
- Top plate tooling
- Bar Feed Systems
- Power Transformers



User-friendly features

Optional accessories



Parts Catcher
(SV 150 & SV 200 shown)



Chip Auger
(SV 150 & SV 200 only)



Chip Conveyor



Fully-programmable MT No. 4
Tailstock (SV 150 & SV 200)



Fully-programmable MT No. 5
Tailstock (SV 200/66 & SV 250)

The Hardinge® Group

Bridgeport® milling machines, Hardinge turning centers, Hauser, Kellenberger®, Tripet and Tschudin grinding machines, and Workholding and industrial products

Hardinge produces more than just the SV-Series turning centers shown in this brochure...we build a full range of value-packed and high-precision turning centers; vertical and horizontal machining centers; high-speed and 5-axis milling machines; creep-feed, jig, universal cylindrical and ID/OD grinding machines; and workholding systems and equipment. Hardinge machine tool technology is not only the most comprehensive on the market, it's also creating new benchmarks for quality, productivity and reliability.

Whether you are an OEM or sub-contract precision engineering company—regardless of the sectors you serve (aerospace, automotive, medical, autosport, mold tool and die or general engineering)—the Hardinge product portfolio will interest you.

Our advanced manufacturing technologies in combination with our range of after-sales and support services (maintenance and service contracts; operator training; technical and applications support) have been designed to help you improve your performance and maintain your competitive advantage.

If you would like to know more about our manufacturing solutions, call us at 800.843.8801 or 607.734.2281 and request our Pocket Guide #1325. You can also e-mail us at info@hardinge.com or visit our web site at www.hardinge.com.

Hardinge precision and Super-Precision® CNC turning centers

We can help you turn your business around. From our competitively-priced SV-Series range of machines to our TALENT® and ELITE® Series II range of quick-changeover bar and chucking machines right through to our high-productivity RS-Series and SR-Series multi-tasking turning centers and QUEST® GT gang tool machines, we can provide you with the optimum turning solution.



Milling machines and machining centers

Our comprehensive line of Bridgeport milling machines have been designed to meet any manufacturing challenge you might be facing today or in the future. Our market-leading XR range of vertical machining centers continue to grow in popularity—and we have similar expectations with our new competitively-priced XV and GX VMCs as well. For heavy-duty, high metal removal we offer our HMC range of Horizontal Machining Centers and for increased manufacturing flexibility and improved productivity there's our 5-axis (5AX) model that is well worthy of consideration. If you are making your first step up to CNC machining, you will find that our entry-level GX 480 and GX 480 DT machines provide the



ideal solution. For high-speed machining applications, our HSC machining centers are second to none.

Grinding machines

The Hardinge grinding companies include Hauser, Kellenberger, Tripet, Tschudin and, most recently, Bridgeport. Collectively we have all the technology, experience and know-how you need to transform your manufacturing operations.



From high-performance cylindrical and jig grinding machines through to multi-functional ID/OD and universal machines—not to mention Bridgeport's state-of-the-art Flexible Grinding Centers (FGC 2). It doesn't get more comprehensive than this.

Workholding

Because we design and manufacture market-leading, technically-excellent machine tools it's no surprise that we know more than a thing or two about workholding solutions.

From our extensive portfolio of CNC toolholders, collets and chucks—right through to our 5C Indexing systems—our workholding and fixturing technology will improve your performance when and where it matters most.



Specifications

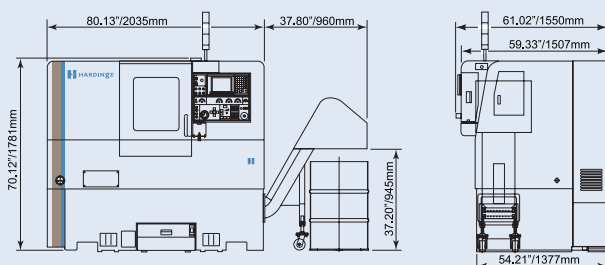
	SV 150	SV 200	SV 200/66	SV 250
Chuck-Ready Spindle Configuration (ANSI) ¹	A2-5	A2-6	A2-6	A2-8
Draw Tube Type	Hydraulic	Hydraulic	Hydraulic	Hydraulic
Through Draw Tube Capacity	1.77"/45mm	2.05"/52mm	2.60"/66mm	3.07"/78mm
Jaw Chuck Size (Max.)—Option	6.65"/169mm	8.26"/210mm	8.26"/210mm	10.00"/254mm
(Gripping Capacity)	5.31"/135mm	7.28"/185mm	7.28"/185mm	9.00"/229mm
Machining Diameter (Max.)	11.10"/284mm	11.10"/284mm	14.00"/356mm	14.00"/356mm
Turning Length (Max.) ^{5,7}	16.00"/406mm	16.00"/406mm	23.60"/600mm	23.60"/600mm
Hang Weight with Device and Part	75lb/34kg	105lb/48kg	154lb/70kg	258lb/117kg
Spindle Centerline Height	39.40"/1,000mm	39.40"/1,000mm	41.50"/1,053mm	41.50"/1,053mm
Operator's Reach to Spindle	11"/280mm	11"/280mm	17"/431mm	17"/431mm
AC Digital Spindle Drive System ²				
Peak Horsepower Rating	20hp/15kW	20hp/15kW	25hp/18kW	25hp/18kW
Torque Rating	70ft-lb/95Nm	84.3ft-lb/114.3Nm	150.5ft-lb/204Nm	176.6ft-lb/240Nm
Base Speed	1,500 rpm	1,250 rpm	840 rpm	700 rpm
Max. Speed (1-rpm Steps)	6,000 rpm	5,000 rpm	4,200 rpm	3,500 rpm
Carriage and Cross Slide				
Swing Dia. Over Way Cover (Max.)	18.00"/457mm	18.00"/457mm	23.42"/595mm	23.42"/595mm
Travel (Max.)				
X Axis	6.02"/153mm	6.02"/153mm	8.20"/209mm	8.20"/209mm
Z Axis	16.00"/406mm	16.00"/406mm	23.60"/600mm	23.60"/600mm
Traverse Rates (Max.)				
X and Z Axes	1,181ipm / 30m/min	1,181ipm / 30m/min	945ipm / 24m/min	945ipm / 24m/min
Thrust				
X and Z Axes (Max.)	3,813lb/16,964N	3,813lb/16,964N	5,297lb/23,562N	5,297lb/23,562N
Ball Screw Diameter				
X Axis	1.102"/28mm	1.102"/28mm	1.417"/36mm	1.575"/40mm
Z Axis	1.102"/28mm	1.102"/28mm	1.575"/40mm	1.575"/40mm
Accuracy —All Machines Laser Inspected				
Evaluation Standard	ANSI/ASME B5.57	ANSI/ASME B5.57	ANSI/ASME B5.57	ANSI/ASME B5.57
Positioning—X and Z Axes	±.0002"/±.005mm	±.0002"/±.005mm	±.0002"/±.005mm	±.0002"/±.005mm
Repeatability—X and Z Axes	±.0001"/±.0025mm	±.0001"/±.0025mm	±.0001"/±.0025mm	±.0001"/±.0025mm
Turret (Bidirectional)				
Vertical Block				
Number of Stations	12	12	12	12
Square Shank Tool Size (Max.)	3/4" or 20mm	3/4" or 20mm	1" or 25mm	1" or 25mm
Round Shank Tool Size (Max.)	1-1/4" or 32mm	1-1/4" or 32mm	1-1/2" or 40mm	1-1/2" or 40mm
Index Time (Adjacent Station) ³	1 Second	1 Second	1 Second	1 Second
Tailstock (Fully-Programmable) Option ⁴				
Positioning	Hydraulic	Hydraulic	Hydraulic	Hydraulic
Morse Taper Center	MT No. 4	MT No. 4	MT No. 5	MT No. 5
Travel of Tailstock Base	13.42"/341mm	13.42"/341mm	24.61"/625mm	24.61"/625mm
Part Length (Max.) ^{5,7}	13.42"/341mm	13.42"/341mm	22.75"/578mm	21.46"/545mm
(Min.) ⁵	.80"/20mm	.80"/20mm	.80"/20mm	.80"/20mm
Traverse Rate (Max.)	216ipm / 5m/min	216ipm / 5m/min	216ipm / 5m/min	216ipm / 5m/min
Thrust (Max.)	779lb/3,470N	779lb/3,470N	2,100lb/9,354N	2,100lb/9,354N
Parts Catcher Option (Sliding-Type)				
Workpiece Dia. x Length (Max.)	1.97 x 39.3"/50 x 100mm	1.97 x 39.3"/50 x 100mm	2.56 x 6.30"/65 x 160mm	2.56 x 6.30"/65 x 160mm
Miscellaneous				
Power Supply Requirement	220v/67FLA/3phase	220v/67FLA/3phase	220v/88FLA/3phase	220v/88FLA/3phase
Coolant Tank Capacity	33gal/125liter	33gal/125liter	77gal/290liter	77gal/290liter
Coolant Pressure—Standard	40psi/2.8bar	40psi/2.8bar	40psi/2.8bar	40psi/2.8bar
Thru-Tool Coolant Option	280psi/20bar	280psi/20bar	280psi/20bar	280psi/20bar
Machine Weight (Approx.)	5,940lb/2,694kg	6,160lb/2,794kg	10,915lb/4,950kg	11,025lb/5,000kg
Shipping Weight (Approx.)	6,739lb/3,057kg	6,959lb/3,157kg	11,715lb/5,314kg	11,825lb/5,364kg
Machine Dimensions				
Length	80.13"/2,035mm	80.13"/2,035mm	117.64"/2,988mm	117.64"/2,988mm
Length w/Chip Conveyor Option	117.93"/2,995mm	117.93"/2,995mm	144.57"/3,672mm	144.57"/3,672mm
Depth	61.02"/1,550mm	61.02"/1,550mm	73.62"/1,870mm	73.62"/1,870mm
Depth w/Control Unit at Max. Swivel	74.71"/1,898mm	74.71"/1,898mm	88.71"/2,253mm	88.71"/2,253mm
Height	70.12"/1,781mm	70.12"/1,781mm	71.34"/1,812mm	71.34"/1,812mm
Floor Area (Approx.)	35.5ft ² /3.3m ²	35.5ft ² /3.3m ²	52.7ft ² /4.9m ²	52.7ft ² /4.9m ²

1—Optional collet adaptation chucks available in many configurations, including 5C, 16C, 20C, 3J, S15, S20, B42 and B60.
2—15-minute intermittent ratings used for power and torque specifications.

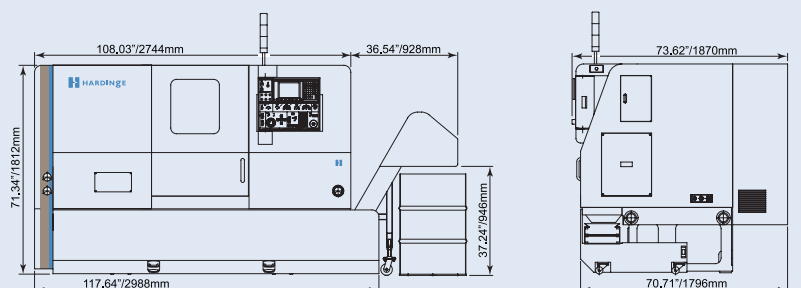
3—Index time (includes unclamp and clamp).
4—Original equipment only.
5—Dependent on type of live center used.

6—Balanced, 3-phase.
7—Minimum turning length with tailstock option.

SV 150 and SV 200



SV 200/66 and SV 250





Over the past 10 years Hardinge steadily diversified both its product offerings and operations. Today, the company has grown into a globally diversified player with manufacturing operations in the U.S., Switzerland, China and Taiwan. In addition to designing and building turning centers and collets, Hardinge is a world leader in grinding solutions with the addition of the Kellenberger, Hauser, Tripet and Tschudin brands to the Hardinge family. The company also manufactures Bridgeport machining centers and other industrial products for a wide range of material cutting, turnkey automation and workholding needs.

Expect more from your Hardinge products. Choose Hardinge precision and reliability for increased productivity and value!

Call us today, we've got your answer.

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