

HARDINGE GS SERIES

GS 150

GS 200

GS 250



800-843-8801
WWW.HARDINGE.COM



HARDINGE GS SERIES

GS-Series turning centers are rigid and reliable machines that feature a robust one-piece cast iron base, heavy-duty linear guideways and ballscrews, and many standard value-added features—heavy-duty dual-wound spindle motor, 40-psi through-tool and headwall coolant, foot switch, chip conveyor interface, air hose with air gun, a swing-out CNC control panel for ease of operation, and much more. Oi-TF CNC controls include many value-added features that are offered as options by other machine builders. Choose from the numerous productivity options and you'll have a truly versatile machine—and with the level of quality you would expect with any Hardinge product.

GS 150

- A2-5 spindle nose
- 11-kW (15hp) spindle drive system
- 175Nm (126.5ft-lb) torque
- 6,000-rpm spindle speed
- 150mm (6") jaw chuck standard

High Speed Windings

- 18.5Kw (24.7hp)
- 126Nm (93ft-lb)
- 6000rpm

Low Speed Windings

- 11Kw (15hp)
- 175Nm (126.5ft-lb)
- 1500rpm



GS 200

- A2-6 spindle nose
- 11-kW (15hp) spindle drive system
- 210Nm (154ft-lb) torque
- 5,000-rpm spindle speed
- 200mm (8") jaw chuck standard

High Speed Windings

- 18.5Kw (24.7hp)
- 151Nm (111.3ft-lb)
- 5000rpm

Low Speed Windings

- 11Kw (15hp)
- 210Nm (154ft-lb)
- 1250rpm



GS 250

- A2-8 spindle nose
- 18.5-kW (25-hp) spindle drive system
- 605Nm (445.6ft-lb) torque
- 3,500-rpm spindle speed
- 250mm (10") jaw chuck standard

High Speed Windings

- 26Kw (35hp)
- 386Nm (285ft-lb)
- 3500rpm

Low Speed Windings

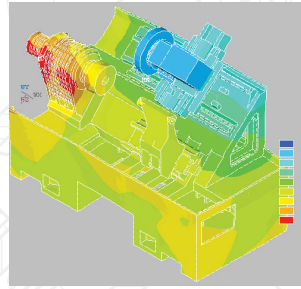
- 18.5Kw (24hp)
- 605Nm (445ft-lb)
- 875rpm



GS SERIES MACHINE CONSTRUCTION

GS 150, GS 200

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



STANDARD FEATURES

- 3-jaw wedge-style chuck
- One-degree spindle orient
- Spindle reference (servo lock)
- Rigid tapping
- Run time and parts counter
- Chuck/collet closer foot switch
- Chip conveyor Interface
- Swing-out CNC pendant
- Air hose with air gun
- Complete operator's, programmer's and maintenance documentation

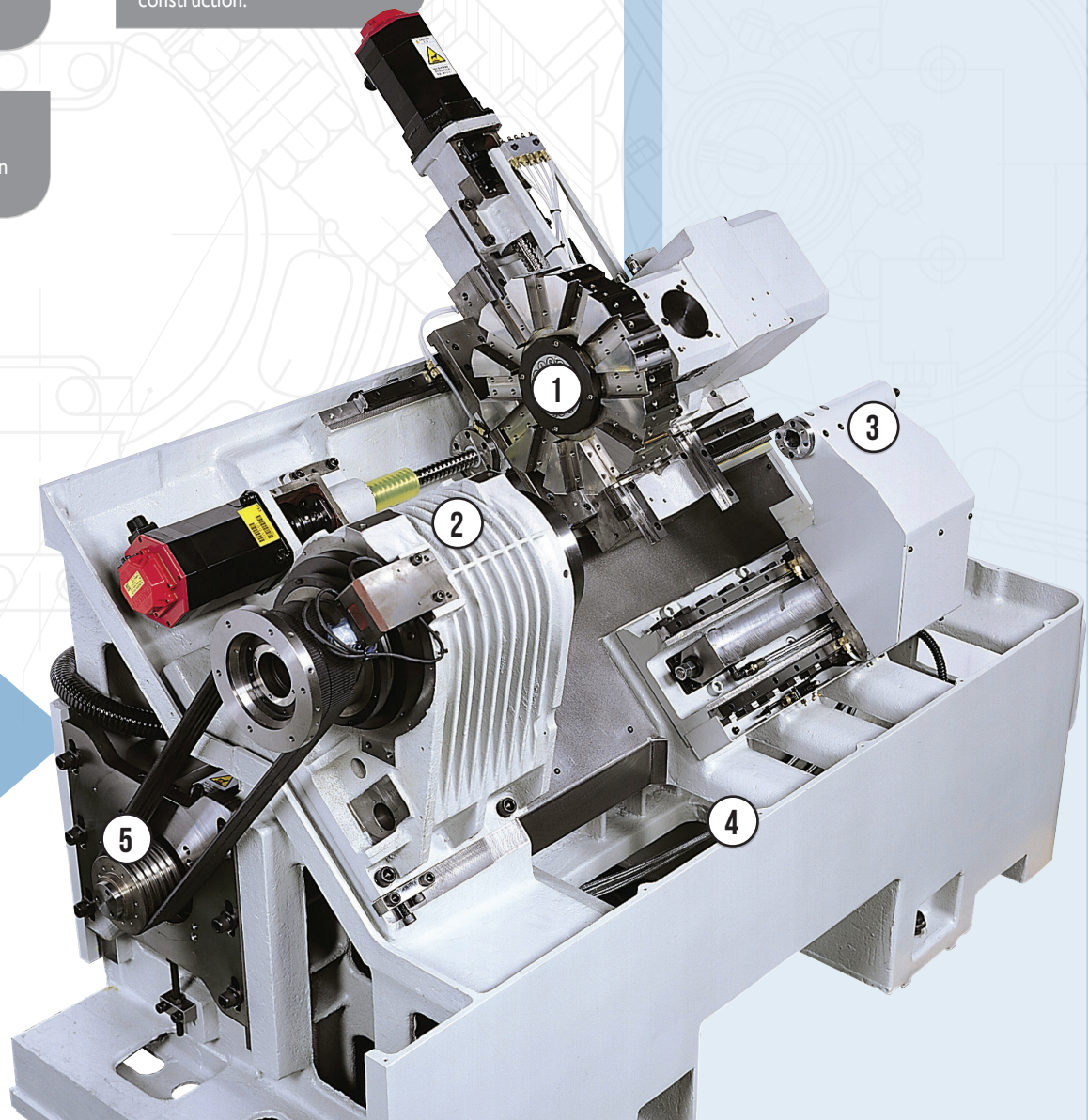
1 12-station vertical block top plate standard.

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

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

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

3 Fully-programmable #4 MT hydraulic tailstock option eliminates human intervention compared to competition



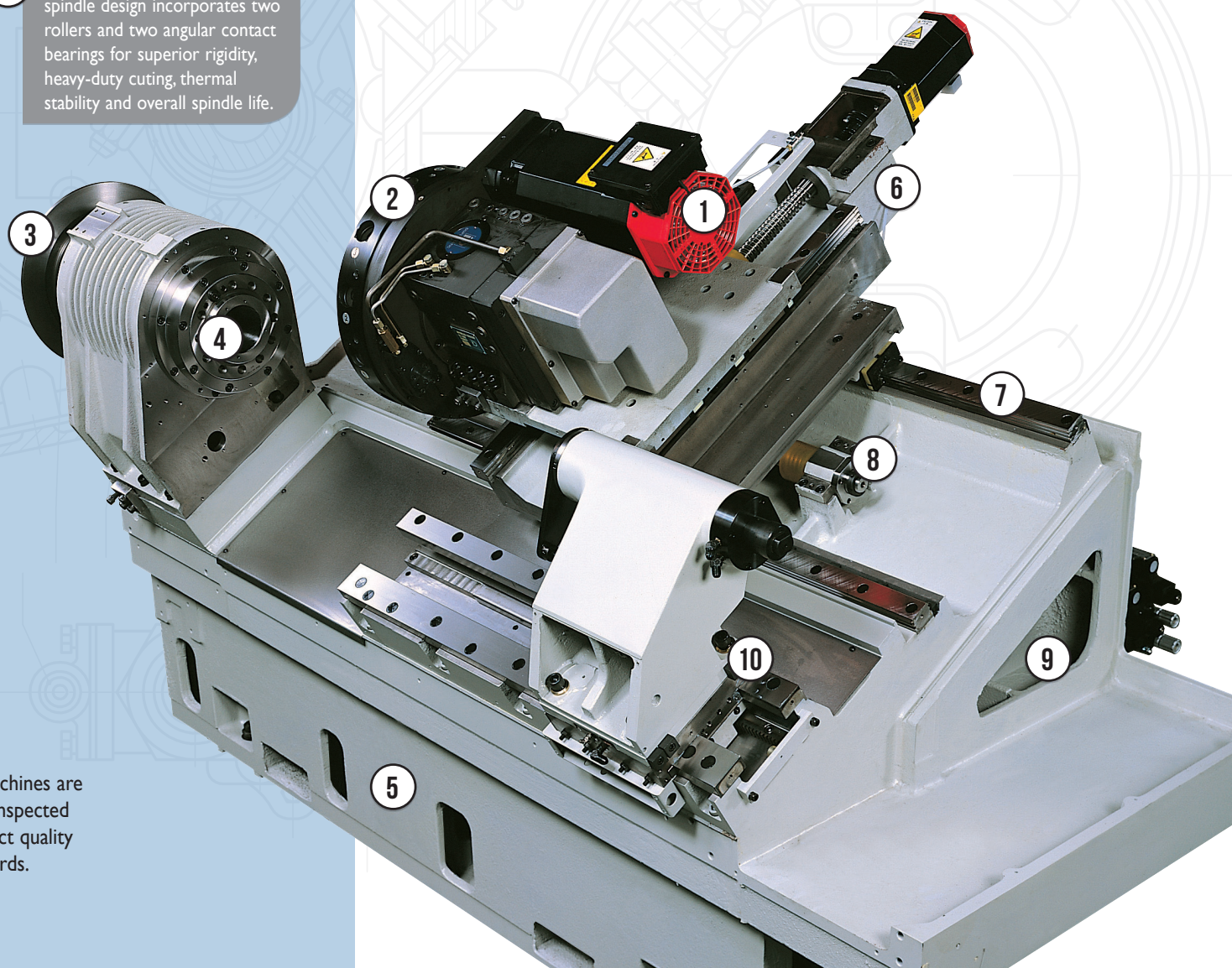
All machines are laser inspected to strict quality standards.

MACHINE CONSTRUCTION

GS SERIES

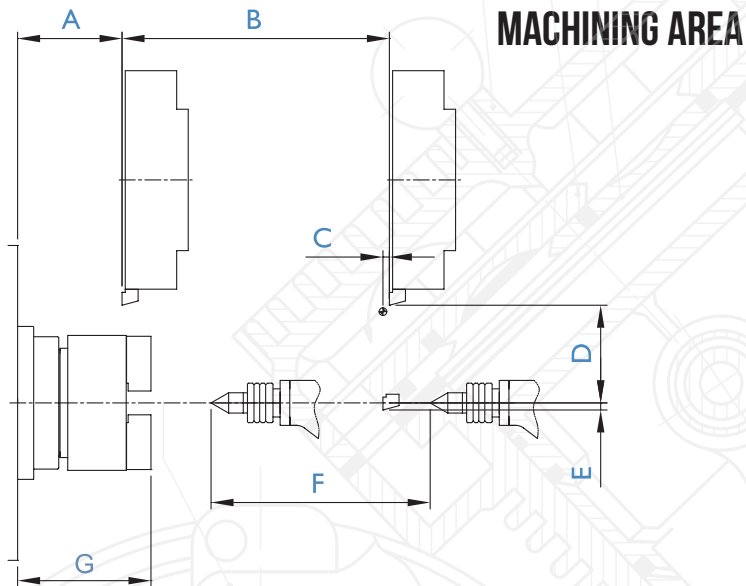
GS 250

- 1 Industry's most reliable motors and drives. Heavy-duty axis motors and drives provide superior machine capability.
- 2 12-Station vertical block top plate standard.
- 3 Non-contact magnetic spindle encoder eliminates the need for belted encoder, increasing overall reliability. One-degree spindle orient included.
- 4 Best-in-class dual-wound spindle design incorporates two rollers and two angular contact bearings for superior rigidity, heavy-duty cutting, thermal stability and overall spindle life.
- 5 Machine base and all major castings are made with high quality grey cast iron for superior rigidity, durability, and thermal stability.
- 6 Environmentally friendly grease lubrication minimizes overall maintenance cost.
- 7 Heavy-duty linear roller guideways provide optimum stiffness and rigidity, resulting in heavier cutting capability and longer machine life.
- 8 Heavy-duty, fixed pre-tensioned double-nut C2-class ballscrews provide superior rigidity, machine accuracy and repeatability.
- 9 Strategically ribbed 30-degree slant bed design of one piece construction.
- 10 Fully-programmable #5 MT hydraulic tailstock option features robust boxway design for optimum tailstock rigidity.



All machines are laser inspected to strict quality standards.

GS SERIES MACHINE CONSTRUCTION



MACHINING AREA

GS 150 and GS 200

A	162.5mm (6.398")
B	406.0mm (15.984")
C	10.0mm (0.394")
D	152.0mm (5.984")
E	11.0mm (0.433")
F	341.0mm (13.425")

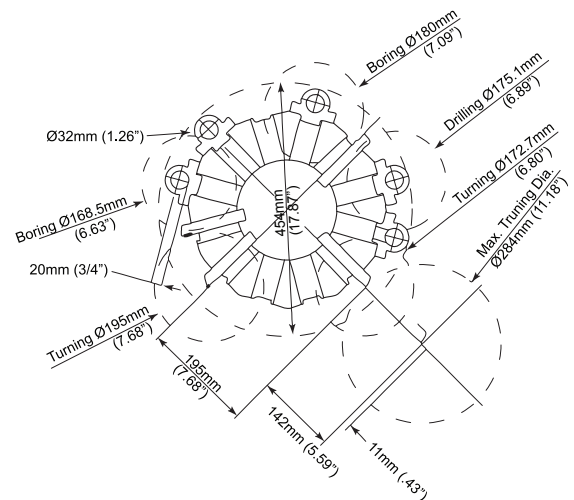
GS 250

A	188.5mm (7.421")
B	600.0mm (23.622")
C	10.0mm (0.394")
D	210.5mm (8.287")
E	16.0mm (0.630")
F	625.0mm (24.606")

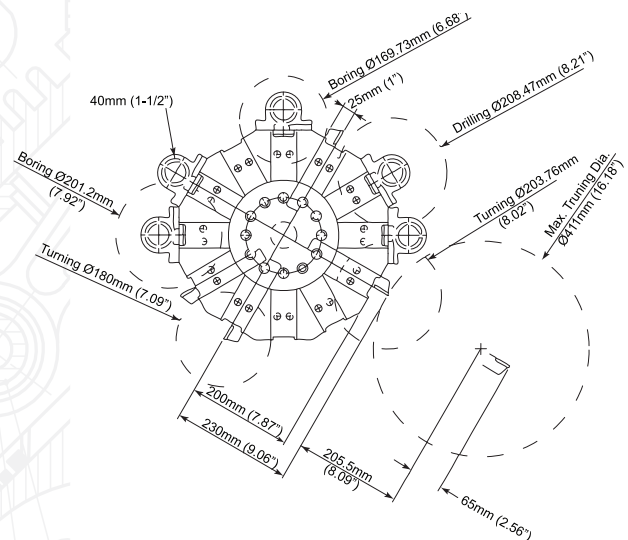
* plus 120mm(4.724") quill stroke

RIGID TAPPING

Synchronization between the main spindle and the Z-axis motion provides precise and fast rigid tapping operations.



GS 150, GS 200



GS 250

MINIMAL TOOL INTERFERENCE

Bidirectional turret indexing allows shortest path indexing for reduced non-cut time. The non-lift turret indexing ensures contaminant-free operation indexing is by a brushless servomotor with positive hydraulic clamping on a 3-piece curvic coupling. The turret pivot (safety shear) feature helps prevent damage to the machine. Coolant is fed through round shank tool holders via turret ports, allowing coolant to be precisely directed to the machining operation. Live tooling is not available.

MACHINE OPTIONS

GS SERIES

AUTOMATIC TOOL TOUCH PROBE

The retractable probe arm provides quick setup and easy use, enabling automatic insertion of tool offsets. The four-direction probe makes it possible to touch off both internal and external working tools. The machine can also be programmed to automatically touch off tools and be used for in-cycle tool wear and breakage detection. The probe arm swings up to storage position on the headwall.



PARTS CATCHER & PROBE

The catcher option allow the operator to conveniently retrieve finished workpieces from outside the machining area during the machining cycle.

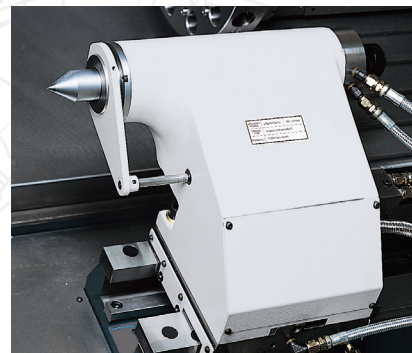
The part probe with macros allows in-process workpiece size verifications and automatic CNC adjustment of work offsets. The probe is capable of performing rapid first-off inspection, in-process reporting and allows "lights out" machining.

20-BAR (280-PSI) THRU-TOOL COOLANT

This high capacity coolant option provides direct flow of coolant to the active tool cutting operation, providing enhanced chip management, higher permissible feeds and speeds, cooler machining conditions for longer tool life and optimum surface finishes.

ROBUST HYDRAULIC

Our servo tailstock is fully programmable and controlled through the part program. This allows for precise part engagement and applied force.



THERMAL STABILIZATION PACKAGE

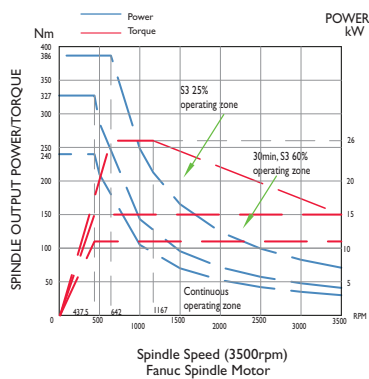
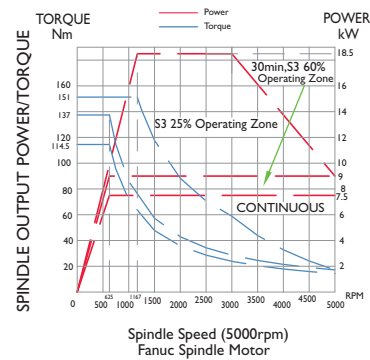
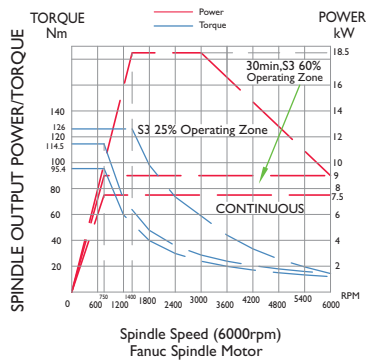
GS 150 and GS 200 includes a spindle chiller, circulation fan and, X & Z-axis scales. The X-axis scale can be installed as a factory fit option on the GS250 machine. This option will improve the overall thermal stability and minimize the warm up period. This productivity option makes the machine more thermally stable, requiring less human intervention for offset changes during the warm up period.

MACHINE OPTIONS

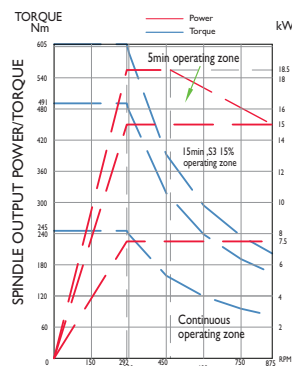
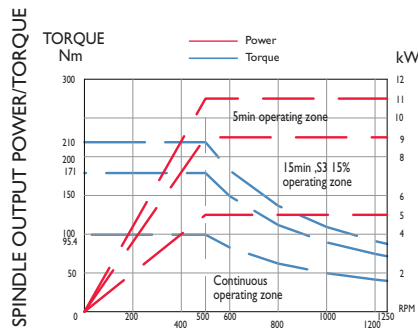
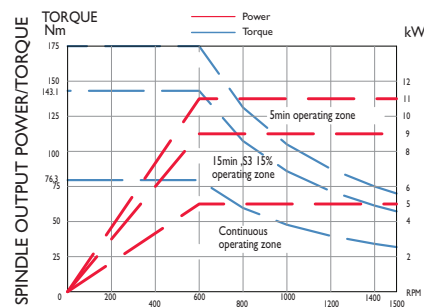
- Chip conveyor
- Bar feed interface
- Power transformers
- Stack light
- Mist collector

SPINDLE DRIVES

HARDINGE/FANUC HIGH WINDING



HARDINGE/FANUC LOW WINDING



GS 150



GS 200



GS 250

MACHINE CONTROL

General	
213mm (8.4") Color LCD Display	●
Two Interpolating Axes	●
Programmable Resolution—0.001mm (0.0001")	●
Tool Offset Capability—0.001mm (0.0001")	●
Tool Geometry and Tool Wear Offsets (64 pair each)	◆
Inch/Metric Data Selection by G-Code	●
1280 Meters (512 KB) Part Program Storage	◆
Flash Card Slot Capability (up to 128 MB)	◆
Data Input/Output	
MDI (Manual Data Input) Operation	●
Reader/Punch Interface Connection (RS-232 Software/Hardware)	●
DNC (Remote Buffer)	◆
Embedded Ethernet	●
Single USB Port	●
Programming Functions	
Absolute/Incremental Programming	●
Additional Tool Offsets (64 pair total)	◆
Additional Custom Macro Variables	◆
AI Contour Control	●
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	◆
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)	◆
Multiple Repetitive Canned Cycles II (Pockets)	◆
Nano Interpolation	●
Registered Part Programs (200 total)	◆
Rigid Tapping	◆
Single Block Operation	●
Spare M-Codes (3)	◆
Thread, Synchronous Cutting	●
Tool Life Management	◆
Tool Nose Radius Compensation	●
Variable Lead Thread Cutting	◆

FANUC Oi-TF



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 (0 to 1260 mm/min)	●
Machine Lock	●
Manual Pulse Generator (MPG Handwheel)	●
On-Screen Spindle & Axis Load Meters	●
Option Stop	●
Rapid Traverse Override (Low-25-50-100%)	●
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

SPECIFICATIONS

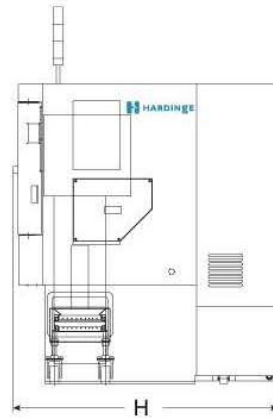
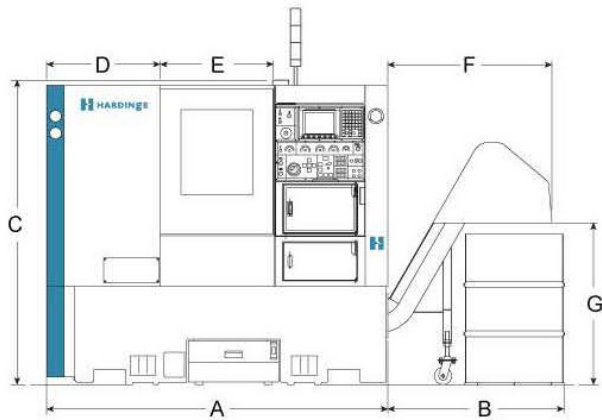
	GS 150	GS 200	GS 250
Spindle			
Chuck-Ready Spindle Config.—ANSI 1	A2-5	A2-6	A2-8
Draw Tube Type	Hydraulic	Hydraulic	Hydraulic
Through Draw Tube Capacity	1.77" (45mm)	2.05" (52mm)	3.07" (78mm)
Jaw Chuck Size—Max.	6" (150mm)	8" (200mm)	10" (250mm)
Gripping Capacity	5.31" (135mm)	7.28" (185mm)	9.00" (288.6mm)
Machining Diameter—Max.	11.10" (284mm)	11.10" (284mm)	14.015" (356mm)
Turning Length—Max. 2, 3	15.98" (406mm)	15.98" (406mm)	23.62" (600mm)
Hang Weight with Device and Part	75lb (34kg)	105lb (48kg)	258lb (117kg)
Spindle Centerline Height	39.40" (1,000mm)	39.40" (1,000mm)	41.00" (1,041mm)
Operator's Reach to Spindle	11" (280mm)	11" (280mm)	17" (432mm)
AC Digital Spindle Drive System 4 Fanuc Control (S3)—High Winding			
Peak Power Rating	24.7hp (18.5kW)	18.5kW (24.7hp)	35hp (26kW)
Torque Rating	93ft-lb (126Nm)	111.3ft-lb (151Nm)	285ft-lb (386Nm)
Base Speed	750 rpm	625 rpm	438 rpm
Max. Speed-l-rpm Steps	6000 rpm	5000 rpm	3500 rpm
Fanuc Control (S3)—Low Winding *			
Peak Power Rating	15hp (11kW)	15hp (11kW)	24.8hp (18.5kW)
Torque Rating	128.4ft-lb (175Nm)	154ft-lb (210Nm)	605ft-lb (445Nm)
Base Speed	500 rpm	417 rpm	292 rpm
Max. Speed-l-rpm Steps	1500 rpm	1250 rpm	875 rpm
Carriage and Cross Slide			
Swing Dia. Over Way Cover—Max.	18.00" (457mm)	18.00" (457mm)	23.42" (595mm)
Travel—Max.—X Axis	6.023" (153mm)	6.023" (153mm)	8.2" (209mm)
Z Axis	16.00" (406mm)	16.00" (406mm)	23.62" (600mm)
Traverse Rates—Max.			
X and Z Axes	1,181ipm (30m/min)	1,181ipm (30m/min)	1,181ipm (30m/min)
Z-Axis Thrust—Max.			
With Fanuc Control	4,026lb (17,907N)	17,907N (4,026lb)	21,991N (4,944lb)
Ball Screw Diameter—X Axis	1.102" (28mm)	1.102" (28mm)	1.417" (36mm)
Ball Screw Diameter—Z Axis	1.102" (28mm)	1.102" (28mm)	1.575" (40mm)
Accuracy			
Evaluation Standard	ISO 230-2	ISO 230-2	ISO 230-2
Repeatability—X and Z Axes (ISO)	.0001" (.0025mm)	.0001" (.0025mm)	.0001" (.0025mm)

SPECIFICATIONS

	GS 150	GS 200	GS 250
Turret Top Plate - Bi-Directional			
Vertical Block Type	I	I	I
Number of Stations	12	12	12
Square Shank Tool Size	0.79" (20mm) or 3/4"	0.79" (20mm) or 3/4"	0.98" (25mm) or 1"
Round Shank Tool Size	1.26" (32mm) or 1 1/4"	1.26" (32mm)	1.57" (40mm) or 1 1/2"
Index Time - Adjacent Station			
Vertical Block	0.65 second	0.65 second	0.30 second
Tailstock - (Fully Programmable Option)			
Positioning	Hydraulic	Hydraulic	Hydraulic
Morse Taper	MT No.4	MT No.4	MT No.5
Travel of Tailstock Base	15.98" (406mm)	15.98" (406mm)	24.60" (625mm)
Feed Rate - Max.	216.54 ipm (5.5 m/min)	216.54 ipm (5.5 m/min)	216.54 ipm (5.5 m/min)
Thrust - Max.	780 ft/lbs (3,470 N)	780 ft/lbs (3,470 N)	2102 ft/lbs (9,354 N)
Part Catcher - (Option)			
Workpiece Dia. x Length - Max.	2.01 x 3.94" (51 x 100mm)	2.01 x 3.94" (51 x 100mm)	2.56 x 6.30" (65 x 160mm)
Miscellaneous			
Power Supply Requirements			
Fanuc Control	220v/67FLA/3phase	220v/67FLA/3phase	220v/74FLA/3phase
Coolant Tank Capacity	33 gal (125 litre)	33 gal (125 litre)	76 gal (290 litre)
Coolant Pressure - Standard	40 psi (2.8 bar)	40 psi (2.8 bar)	40 psi (2.8 bar)
Through Tool Coolant - (Option)	290 psi (20 bar)	290 psi (20 bar)	290 psi (20 bar)
Machine Weight - Approx.	5940 lbs (2694 kg)	6160 lbs (2794 kg)	11,583 lbs (5265 kg)
Shipping Weight - Approx.	6739 lbs (3057 kg)	6959 lbs (3157 kg)	12,356 lbs (56050 kg)
Machine Dimensions			
Length	78.66" (1998mm)	78.66" (1998mm)	117.64" (2988mm)
Length w/Chip Conveyor Option	116.46" (2958mm)	116.46" (2958mm)	144.57" (3672mm)
Depth	65" (1650mm)	65" (1650mm)	84.33" (2142mm)
Depth w/Control Unit at Max. Swivel	84.76" (2153mm)	84.76" (2153mm)	96.57" (2453mm)
Height	70.12" (1781mm)	70.12" (1781mm)	71.34" (1812mm)
Floor Area - Approx.	35.3 sq ft (3.3 m ²)	35.3 sq ft (3.3 m ²)	68.89 sq ft (6.4 m ²)

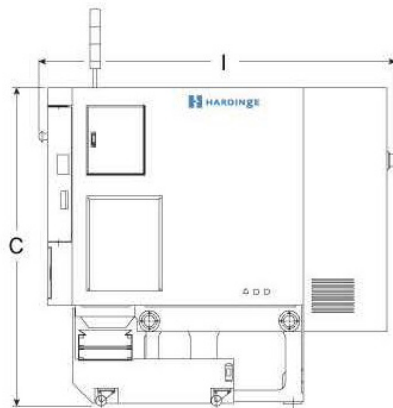
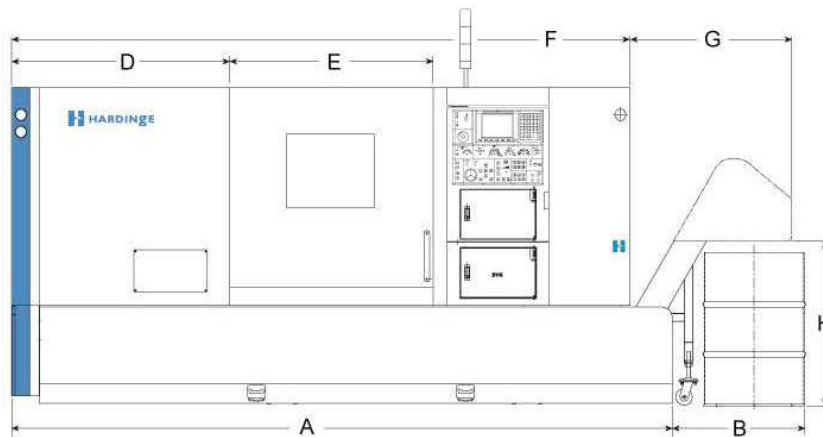
FLOOR PLAN

GS 150 & GS 200

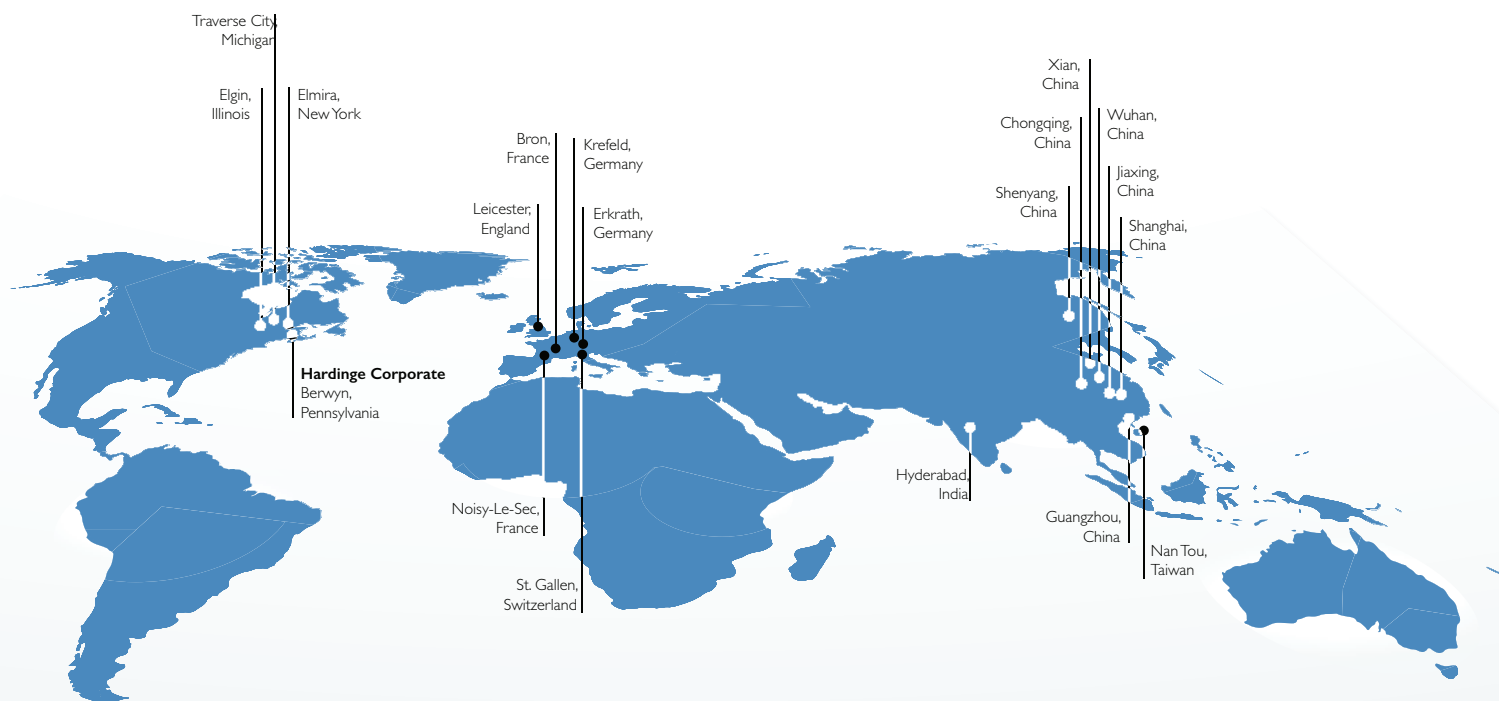


A	78.66" (1998mm)
B	40.55" (1030mm)
C	70.12" (1781mm)
D	26.13" (663.80mm)
E	26.57" (675mm)
F	37.80 (960.10)
G	37.21" (945mm)
H	61.06" (1551mm)

GS 250



A	117.64" (2988mm)
B	29.88" (759mm)
C	71.34" (1812mm)
D	38.54" (979mm)
E	34.72" (882mm)
F	108.03 (2744mm)
G	36.54" (928mm)
H	37.24" (946mm)
I	84.33 (2142mm)



HARDINGE COMPANIES WORLDWIDE

Hardinge is a leading international provider of advanced metal-cutting solutions. We provide a full spectrum of highly reliable CNC turning, milling, and grinding machines as well as technologically advanced workholding accessories.

The diverse products we offer enable us to support a variety of market applications in industries including aerospace, agricultural, automotive, construction, consumer products, defense, energy, medical, technology, transportation and more.

We've developed a strong global presence with manufacturing operations in North America, Europe, and Asia. Hardinge applies its engineering and applications expertise to provide your company with the right machine tool solution and support every time.

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