



MILLING

Bridgeport

Plug-n-Perform

Rotary Solutions



TURNING MILLING GRINDING WORKHOLDING ROTARY

www.hardinge.com

 **BRIDGEPORT**

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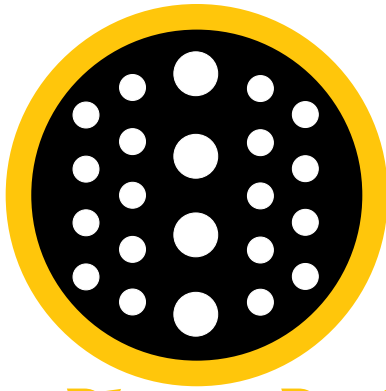
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GEAR-DRIVEN

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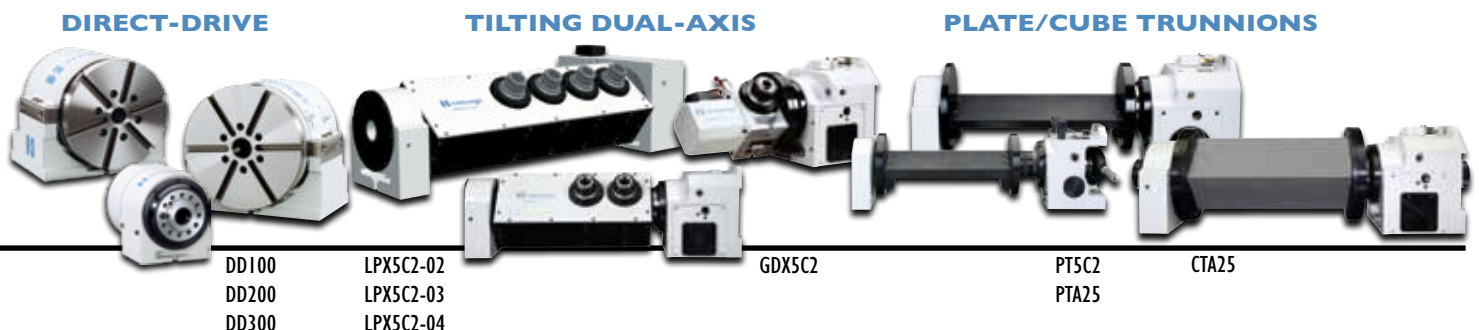
Hardinge and Bridgeport make it easy to select and connect a rotary to your machine for 4th or 4th and 5th-axis part positioning. Hardinge gives you the tools to increase your machine capability with rapid positioning speeds and fast changeover with the most flexible, quick-change workholding concept on the market! Hardinge rotary products incorporate a 5C threaded-nose or an A2-4 / A2-5 spindle that will accept collets, expanding collets and step chucks to expand part gripping capabilities for improved part accuracies.

Hardinge has a large selection of rotary products for all ranges of production. Choose from precision and SUPER PRECISION® positioning – single-spindle, multi-spindle and tilting, dual-axis configurations depending on the Bridgeport machining center capacity.

In the following pages, we've listed the compatible rotary systems by current model Bridgeport machines utilizing Fanuc controls. Rotary dimensions and specifications are shown in the back of this brochure along with rotary accessories.

The Hardinge rotary packages in this brochure include the Fanuc drive kit, motor and cables to connect via 4th-axis to a new, pre-wired Bridgeport vertical machining center with a Fanuc control. The new Bridgeport VMC must be prewired to accept the rotary package. For existing machines in the field, contact the Hardinge Rotary Group to establish what, if any, additional components may be required. Rotary systems can also be operated using just the Hardinge servo control if true 4th-axis is not required.

HARDINGE AND BRIDGEPORT... POSITIONING YOU FOR SUCCESS.



Bridgeport® Series I



Bridgeport Series I Standard Mill

1244 x 228mm / 49 x 9" Table

For more than 60 years, the Bridgeport Series I Standard Mill - the original, all-purpose mill - has been the "real thing" in milling, drilling, and boring for metalworking shops throughout the world. Today, the Series I Standard continues to fulfill the industry's need for an accurate, reliable, and versatile mill.

The Series I Standard features an innovative airflow cooling design (that uses no external fans) to prolong bearing life and prevent expansion from heat build-up. Its hand-scraped ways and precision-ground ram and turret ensure long-lasting reliability and performance. A full range of accessories are available, including optional chrome-plated ways and gibs to ensure that the machine will last a lifetime.

R8 collets and R8 (ER) tool holders are precision manufactured by Hardinge and are carburized and case hardened for maximum wear and strength.



Compatible Standalone Indexer Packages:



GD5C1MC

GD5C2 Indexer with Manual Collet Closer and Servo Control**



GD5C1HF

GD5C2 Indexer with High-Force Collet Closer and Servo Control**



GD5C1FS

GD5C2 Indexer with Fail-Safe Collet Closer and Servo Control**



GD16C1

GD16C2 Indexer with Pneumatic Collet Closer, Servo Control and Pneumatic Clamp** (3J spindle also available)

** Rotary packages include the Hardinge Servo Control and a 4-wire interface cable with Quill Switch to automate the indexing process.

GX 480 Vertical Machining Center (40 Taper)

600 x 400mm / 23.6 x 15.8" Table

The Bridgeport GX 480 VMC features fast rapid rates, high axis and spindle acceleration/deceleration and a powerful Fanuc control packed with standard features. From job-shop to high-production manufacturing, the GX 480 simply outperforms the average machine in its class. With its heavy-duty cast iron construction, 1410 ipm/36mm minimum rapids, 40-taper 10,000 rpm spindle, 10 hp/7.5Kw, 33 ft-lb/47Nm spindle torque and manual pulse generator (MPG), this competitively-priced machine wins "Best-in-Class".



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Compatible 4th-Axis Rotary Packages:

GD5C1FMC GD5C2 Rotary Table with Manual Collet Closer*

GD5C1FHF GD5C2 Rotary Table with High-Force Collet Closer*

GD5C1FFS GD5C2 Rotary Table with Fail-Safe Collet Closer*



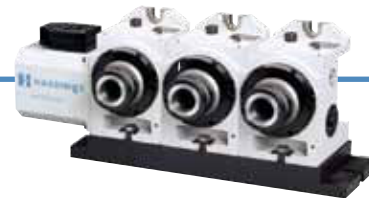
GD5C2FHF GD5C2-02 Dual-Spindle Rotary Table with High-Force Collet Closers*

GD5C2FFS GD5C2-02 Dual-Spindle Rotary with Fail-Safe Collet Closers*



GD5C3FHF GD5C2-03 Triple-Spindle Rotary Table with High-Force Collet Closers*

GD5C3FFS GD5C2-03 Triple-Spindle Rotary with Fail-Safe Collet Closers*



GD5C4FHF GD5C2-04 Quad-Spindle Rotary Table with High-force Collet Closers*

GD5C4FFS GD5C2-04 Quad-Spindle Rotary Table with Fail-Safe Collet Closers*



GD16C1F GD16C2 Rotary Table with Pneumatic Collet Closer and Pneumatic Clamp*
(3) spindle also available)

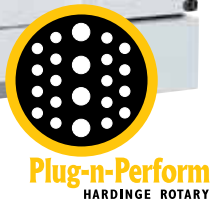


LP16F GD160LP 160mm Rotary Table with A2-4 (5C) Spindle Nose, Pneumatic Clamp and Slotted Face Plate*



* 4th-axis rotary packages include 4th-axis 20-amp drive kit and Fanuc motor and cable set to connect to the machine interface.

Bridgeport® GX 600



GX 600 Vertical Machining Center 750 x 540mm / 29.5 x 21.25" Table

Superior design characteristics deliver many years of accurate and reliable machining performance to the Bridgeport 40-taper spindle GX-Series vertical machining centers.

These VMCs include a stiff and thermally-stable spindle, a rigid C-frame fixed column design and fixed pre-tensioned double-nut ball screws on all axes. The unique Bridgeport-designed linear guide and guide truck configuration provides added stiffness, damping and surface contact area. The unit is configured with three guideways and five guide trucks on both the X- and Y-axis with two guideways and six guide trucks on the Z-axis.



The most flexible quick-change workholding concept on the market...

Hardinge's 5C threaded-nose, A2-4 (5C) and A2-5 (16C) rotary spindle nose designs allow quick changeover between collets, expanding collets, step chucks, 3-jaw chucks and face plates. Common spindle tooling can be shared between the Hardinge rotary system and a lathe. The gripping is in the spindle, closest to the spindle bearings, unlike surface-mounted adapters used on traditional rotary tables. Multiple workholding options provide alternate gripping solutions for increased precision and capability.



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AND
CNC TOOLING**

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Compatible 4th-Axis Rotary Packages:

GD5C1FAMC

GD5C2 Rotary Table with Manual Collet Closer*

GD5C1FAHF

GD5C2 Rotary Table with High-Force Collet Closer*

GD5C1FAFS

GD5C2 Rotary Table with Fail-Safe Collet Closer*



GD5C2FAHF

GD5C2-02 Dual-Spindle Rotary Table with High-Force Collet Closers*

GD5C2FAFS

GD5C2-02 Dual-Spindle Rotary Table with Fail-Safe Collet Closers*



GD5C3FAHF

GD5C2-03 Triple-Spindle Rotary Table with High-Force Collet Closers*

GD5C3FAFS

GD5C2-03 Triple-Spindle Rotary Table with Fail-Safe Collet Closers*



GD5C4FAHF

GD5C2-04 Quad-Spindle Rotary Table with High-force Collet Closers*

GD5C4FAFS

GD5C2-04 Quad-Spindle Rotary Table with Fail-Safe Collet Closers*



GD16C1FA

GD16C2 Rotary Table with Pneumatic Collet Closer and Pneumatic Clamp* (3) spindle also available)



LP16FA

GD160LP 160mm Rotary Table with A2-4 (5C) Spindle Nose, Pneumatic Clamp and Slotted Face Plate*



LP21FA

GD210LP 210mm Rotary Table with A2-5 (16C) Spindle Nose, Pneumatic Clamp and Slotted Face Plate*



* 4th-axis rotary packages include 4th-axis 20-amp drive kit and Fanuc motor and cable set to connect to the machine interface.

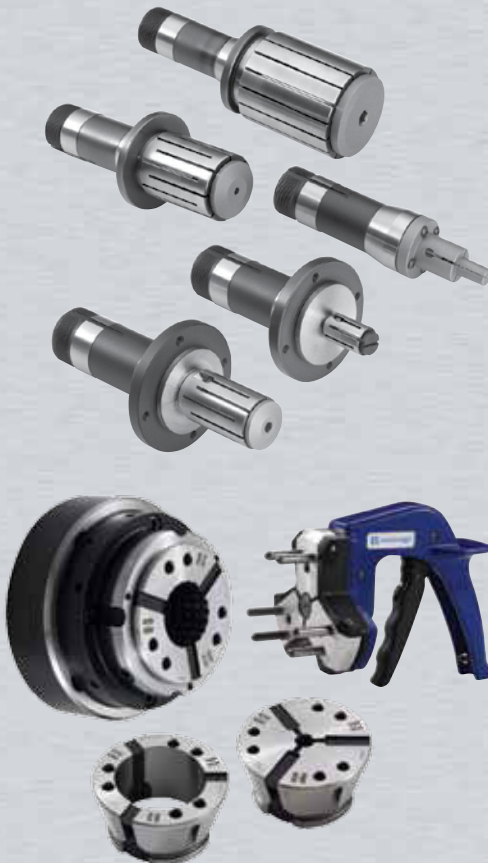
Bridgeport® GX 710



GX 710 Vertical Machining Center 800 x 400mm / 31.5 x 15.8" Table

Superior design characteristics ensure that Bridgeport 40-taper spindle GX-Series vertical machining centers deliver many years of accurate and reliable machining performance.

These VMCs include a stiff and thermally-stable spindle, a rigid C-frame fixed-column design and fixed pre-tensioned, double-nut ball screws on all axes. The unique Bridgeport-designed linear guide and guide truck configuration provides added stiffness, damping and surface contact area. This unit is configured with three guideways and five guide trucks on both the X- and Y-axis and two guideways and six guide trucks on the Z-axis.



Hardinge Sure-Grip® Expanding Collet Systems

Expanding collets are available in 5C, 16C and 3J styles to fit various rotary tables. They mount directly in the collet angle of the spindle. The expanding arbor instantly locates on center without any adjustments for internal gripping of parts with quick changeover and built-in part-length control.

Hardinge FlexC™ Vulcanized Collet Systems

Vulcanized collet systems can be mounted on the rotary table while the heads can be interchanged with FlexC Collet Blocks. Benefits include special accuracy within .0004" (.010mm) TIR and collet changeover in seconds. Standard and S-master styles are stocked in 42 and 65mm sizes.

Compatible 4th-Axis Rotary Packages:

GD5C1FHF GD5C2 Rotary Table with High-Force Collet Closer*

GD5C1FFS GD5C2 Rotary Table with Fail-Safe Collet Closer*



GD5C2FHF GD5C2-02 Dual-Spindle Rotary Table with High-Force Collet Closers*

GD5C2FFS GD5C2-02 Dual-Spindle Rotary Table with Fail-Safe Collet Closers*



GD5C3FHF GD5C2-03 Triple-Spindle Rotary Table with High-Force Collet Closers*

GD5C3FFS GD5C2-03 Triple-Spindle Rotary Table with Fail-Safe Collet Closers*



GD5C4FHF GD5C2-04 Quad-Spindle Rotary Table with High-force Collet Closers*

GD5C4FFS GD5C2-04 Quad-Spindle Rotary Table with Fail-Safe Collet Closers*



GD16C1F GD16C2 Rotary Table with Pneumatic Collet Closer and Pneumatic Clamp* (3) spindle also available)



LP16F GD160LP 160mm Rotary Table with A2-4 (5C) Spindle Nose, Pneumatic Clamp and Slotted Face Plate*



* 4th-axis rotary packages include 4th-axis 20-amp drive kit and Fanuc motor and cable set to connect to the machine interface.

Bridgeport® GX 1000, 1300, 1600



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GX 1000 Vertical Machining Center 1120 x 540 / 44.09 x 21.25" Table

Superior design characteristics deliver many years of accurate and reliable machining performance to the Bridgeport 40-taper spindle GX-Series vertical machining centers.

These VMCs include a stiff and thermally-stable spindle, a rigid C-frame fixed-column design and fixed pre-tensioned, double-nut ball screws on all axes. The unique Bridgeport-designed linear guide and guide truck configuration provides added stiffness, damping and surface contact area. The unit is configured with three guideways and five guide trucks on both the X- and Y-axis with two guideways and six guide trucks on the Z-axis.



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GX 1300 Vertical Machining Center 1425 x 700 / 56 x 27.55" Table

GX 1600 Vertical Machining Center 1700 x 700mm / 66.93 x 27.55" Table

These machining centers are loaded with features and benefits that are unlike any competitive machine tool and are ideal whether you are doing frequent changeovers or long-run production. The machines are designed with flexibility and throughput in mind.

- Designed for rugged, heavy cutting
- Available in 40- or 50-taper spindle
- Heavy-duty cast iron base for added stiffness, superior damping characteristics and added thermal stability
- Large pretension and stretched double-nut ball screws
- Advanced Fanuc i series control with productivity enhancing options

Compatible 4th-Axis Rotary Packages:

- GD5C1FAMC** GD5C2 Rotary Table with Manual Collet Closer*
- GD5C1FAHF** GD5C2 Rotary Table with High-Force Collet Closer*
- GD5C1FAFS** GD5C2 Rotary Table with Fail-Safe Collet Closer*



- GD5C2FAHF** GD5C2-02 Dual-Spindle Rotary Table with High-Force Collet Closers*
- GD5C2FAFS** GD5C2-02 Dual-Spindle Rotary Table with Fail-Safe Collet Closers*



- GD5C3FAHF** GD5C2-03 Triple-Spindle Rotary Table with High-Force Collet Closers*
- GD5C3FAFS** GD5C2-03 Triple-Spindle Rotary Table with Fail-Safe Collet Closers*



- GD5C4FAHF** GD5C2-04 Quad-Spindle Rotary Table with High-force Collet Closers*
- GD5C4FAFS** GD5C2-04 Quad-Spindle Rotary Table with Fail-Safe Collet Closers*



- GD16C1FA** GD16C2 Rotary Table with Pneumatic Collet Closer and Pneumatic Clamp* (3) spindle also available)



- LP16FA** GD160LP 160mm Rotary Table with A2-4 (5C) Spindle Nose, Pneumatic Clamp and Slotted Face Plate*



- LP21FA** GD210LP 210mm Rotary Table with A2-5 (16C) Spindle Nose, Pneumatic Clamp and Slotted Face Plate*



* 4th-axis rotary packages include 4th-axis 20-amp drive kit and Fanuc motor and cable set to connect to the machine interface.

Bridgeport® XR 760



XR 760 Vertical Machining Center 900 x 600mm / 35.4 x 23.6" Table

When you need extra capacity and additional capability, it's clear you need a strong and reliable solution. Welcome to the XR 760 VMC. The XR 760 combines power with versatility and is engineered to make a big impression across a range of high-precision manufacturing sectors.

Features include a compact design, high-performance 12,000rpm spindle with the new grease replenishing system, 30 ATC capability and through-spindle-coolant delivery.

(see additional rotary packages on the following two pages)

Compatible 4th-Axis Rotary Packages:



GD5C1FAMC

GD5C2 Rotary Table with Manual Collet Closer*

GD5C1FAHF

GD5C2 Rotary Table with High-Force Collet Closer*

GD5C1FAFS

GD5C2 Rotary Table with Fail-Safe Collet Closer*



GD5C2FAHF

GD5C2-02 Dual-Spindle Rotary Table with High-Force Collet Closers*

GD5C2FAFS

GD5C2-02 Dual-Spindle Rotary Table with Fail-Safe Collet Closers*



GD5C3FAHF

GD5C2-03 Triple-Spindle Rotary Table with High-Force Collet Closers*

GD5C3FAFS

GD5C2-03 Triple-Spindle Rotary Table with Fail-Safe Collet Closers*



GD5C4FAHF

GD5C2-04 Quad-Spindle Rotary Table with High-force Collet Closers*

GD5C4FAFS

GD5C2-04 Quad-Spindle Rotary Table with Fail-Safe Collet Closers*

* 4th-axis rotary packages include 4th-axis 20-amp drive kit and Fanuc motor and cable set to connect to the machine interface.

Compatible 4th-Axis Rotary Packages:

GD16C1FA

GD16C2 Rotary Table with Pneumatic Collet Closer and Pneumatic Clamp*
(3J spindle also available)



LP16FA

GD160LP 160mm Rotary Table with A2-4 (5C) Spindle Nose, Pneumatic Clamp and Slotted Face Plate*



LP21FA

GD210LP 210mm Rotary Table with A2-5 (16C) Spindle Nose, Pneumatic Clamp and Slotted Face Plate*



RT1FA

DD100 Direct-Drive, High-Speed Rotary Positioner without Collet Closer*

RT1FAC

DD100 Direct-Drive, High-Speed Rotary Positioner with Pneumatic Clamp, without Collet Closer*

RT1FAHF

DD100 Direct-Drive, High-Speed Rotary Positioner with High-Force Collet Closer*

RT1FACHF

DD100 Direct-Drive, High-Speed Rotary Positioner with High-Force Collet Closer and Pneumatic Clamp*

RT1FAFS

DD100 Direct-Drive, High-Speed Rotary Positioner with Fail-Safe Collet Closer*

RT1FACFS

DD100 Direct-Drive, High-Speed Rotary Positioner with Fail-Safe Collet Closer and Pneumatic Clamp*

Super-Precision®

DIRECT-DRIVE

gearless, zero backlash
rotary systems for high-speed parts positioning.



RF2FA

DD200 Rotary Table with 10" Faceplate and Pneumatic Clamp, without Collet Closer**

RF2FAWC

DD200 Rotary Table with 10" Faceplate, Pneumatic Clamp and Collet Closer**



RT3FA

DD300 Rotary Table with 12" Faceplate and Pneumatic Clamp, without Collet Closer**

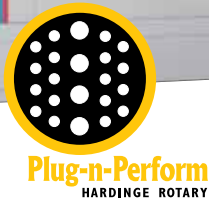
RT3FAWC

DD300 Rotary Table with 12" Faceplate, Pneumatic Clamp and Collet Closer**



* 4th-axis rotary packages include 4th-axis 20-amp (** or 40-amp) drive kit and Fanuc motor and cable set to connect to the machine interface. Direct Drive models include all required Fanuc options.

Bridgeport® XR 1000



XR 1000 Vertical Machining Center 1200 x 600mm / 47.2 x 23.6" Table

If you are looking for a high-specification vertical machining center that carries that extra punch (especially when machining larger workpieces), you will be more than impressed with the XR 1000 VMC.

The XR 1000 is more than a match for all your production requirements. Features include high-performance spindle technology with the new grease replenishing system, a 30-position ATC, latest generation controls, tried-and-tested through-spindle coolant delivery and a swarf management system that includes a chip conveyor.

(See additional rotary packages on the following page)

Compatible 4th-Axis Rotary Packages:



GD5C1FAMC

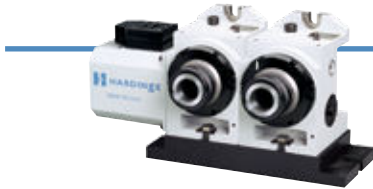
GD5C2 Rotary Table with Manual Collet Closer*

GD5C1FAHF

GD5C2 Rotary Table with High-Force Collet Closer*

GD5C1FAFS

GD5C2 Rotary Table with Fail-Safe Collet Closer*



GD5C2FAHF

GD5C2-02 Dual-Spindle Rotary Table with High-Force Collet Closers*

GD5C2FAFS

GD5C2-02 Dual-Spindle Rotary Table with Fail-Safe Collet Closers*



GD5C3FAHF

GD5C2-03 Triple-Spindle Rotary Table with High-Force Collet Closers*

GD5C3FAFS

GD5C2-03 Triple-Spindle Rotary Table with Fail-Safe Collet Closers*



GD5C4FAHF

GD5C2-04 Quad-Spindle Rotary Table with High-Force Collet Closers*

GD5C4FAFS

GD5C2-04 Quad-Spindle Rotary Table with Fail-Safe Collet Closers*

* 4th-axis rotary packages include 4th-axis 20-amp drive kit and Fanuc motor and cable set to connect to the machine interface.

Compatible 4th-Axis Rotary Packages:

GD16C1FA

GD16C2 Rotary Table with Pneumatic Collet Closer and Pneumatic Clamp*
(3) spindle also available)



LP16FA

GD160LP 160mm Rotary Table with A2-4 (5C) Spindle Nose, Pneumatic Clamp and Slotted Face Plate*



LP21FA

GD210LP 210mm Rotary Table with A2-5 (16C) Spindle Nose, Pneumatic Clamp and Slotted Face Plate*



RT1FA

DD100 Direct-Drive, High-Speed Rotary Positioner without Collet Closer*

RT1FAC

DD100 Direct-Drive, High-Speed Rotary Positioner with Pneumatic Clamp, without Collet Closer*

RT1FAHF

DD100 Direct-Drive, High-Speed Rotary Positioner with High-Force Collet Closer*

RT1FACHF

DD100 Direct-Drive, High-Speed Rotary Positioner with High-Force Collet Closer and Pneumatic Clamp*

RT1FAFS

DD100 Direct-Drive, High-Speed Rotary Positioner with Fail-Safe Collet Closer*

RT1FACFS

DD100 Direct-Drive, High-Speed Rotary Positioner with Fail-Safe Collet Closer and Pneumatic Clamp*

Super-Precision®

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gearless, zero backlash rotary systems for high-speed parts positioning.



RF2FA

DD200 Rotary Table with 10" Faceplate and Pneumatic Clamp, without Collet Closer**

RF2FAWC

DD200 Rotary Table with 10" Faceplate, Pneumatic Clamp and Collet Closer**



RT3FA

DD300 Rotary Table with 12" Faceplate and Pneumatic Clamp, without Collet Closer**

RT3FAWC

DD300 Rotary Table with 12" Faceplate, Pneumatic Clamp and Collet Closer**

* 4th-axis rotary packages include 4th-axis 20-amp (**40-amp) drive kit and Fanuc motor and cable set to connect to the machine interface. Direct Drive models include all required Fanuc options.

Rotary Accessories



Plate and Cube Trunnions:

CI 0002483A (PT5C2) 4 x 10" (101.6 x 254mm) Plate Trunnion fits GD5C2, GD160LP and DD100 Rotary Units (1" Riser required for GD160LP)

Compatible with GX 600, GX 710, GX 1000, GX 1300, GX 1600, XR 760 and XR 1000



CJA0002483AL (PTA25) 7 x 16.73" (177.8 x 425mm) Plate Trunnion fits GD16C2, GD210LP and DD200

Compatible with GX 710 (GD210LP rotary unit only), GX 1000, GX 1300, GX 1600, XR 750 and XR 1000



RT 0002483A (PTA25) Plate Trunnion fits DD300 only – compatible with VMCs listed above

CJ 0002483A6 (CTA25-4IN) 4 x 18" (101.6 x 457mm) Cube Trunnion fits GD16C2, GD210LP and DD200

CJ 0002483A4 (CTA25-6IN) 6 x 18" (152.4 x 457mm) Cube Trunnion fits GD16C2, GD210LP and DD200

Compatible with GX 1000, GX 1300, GX 1600, XR 760 (GDLP210 rotary unit only) and XR 1000



Tailstocks:

CI 0000003M GD5C2 and DD100 Manual Tailstock

CJ 0000003M GD16C2, GD3J2 and GD210LP Manual Tailstock

LI 0000003M GD160LP Manual Tailstock



CI 0000003 GD5C2 and DD100 Pneumatic Tailstock with valving

CJ 0000003 GD16C2, GD3J2, GD210LP and DD200 Pneumatic Tailstock with valving

LI 0000003 GD160LP Pneumatic Tailstock with valving

Collet Blocks for Trunnions and Towers



Rotary Specifications



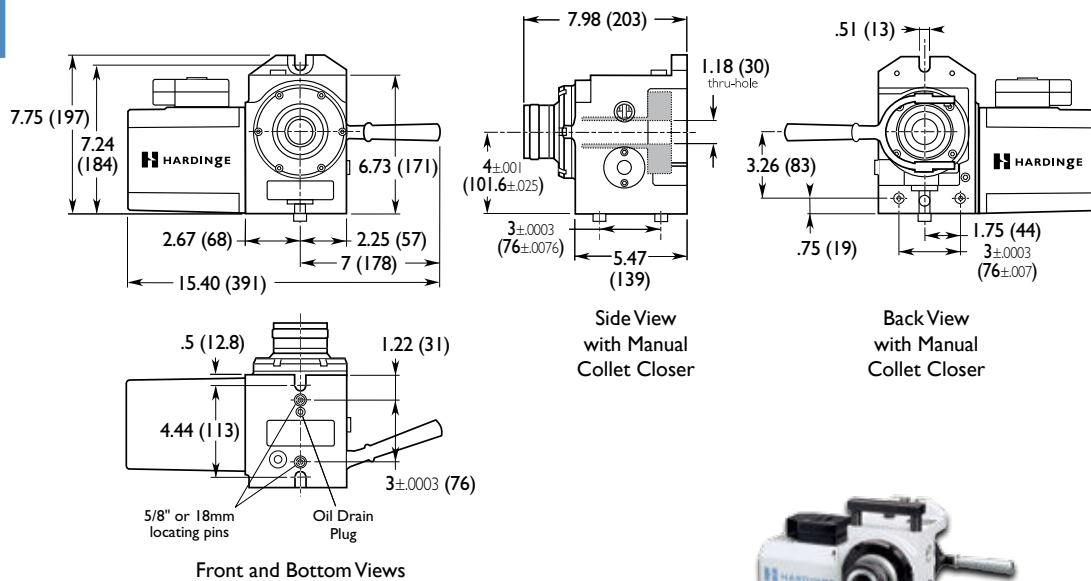
	GD5C2	GD16C2	GD3J2	GD160LP	GD210LP	DD100	DD200	DD300
SPINDLE								
Runout Maximum (TIR)	0.0002" (.005)	0.0002" (.005)		0.0002" (.005)		0.0002" (.005)		
Backlash	40 arc-sec	40 arc-sec		40 arc-sec		ZERO		
Speed	0.001 to 360° /sec	0.001 to 300° /sec		0.001 to 240° /sec		—		
Maximum RPM Rapid ^{Min-1}	60	50		40		600 ² {450/700 ³ }	250 ² {175/350 ⁴ }	250 ²
Load Support	Dual Bearing	Dual Angular Contact Bearing		Dual Bearing		Cross Roller Bearing		
Maximum Part Weight	50lb/23kg	150lb/68kg		100lb/45kg	220lb/100kg	92lb/42kg	215lb/97kg	230lb/104kg
Spindle Type	2 ³ / ₁₆ —10 threaded nose	A2-5		A2-4	A2-5	A2-4	A2-5	A2-5
Table Diameter	—	—		6.299" (160)	8.267" (210)	—	8.89" (225) 10" (254)	8.89" (225), 10" (254), 12" (305)
Thru Diameter (maximum)	.311-1.18" (7.9-30.0) ⁸	1.62" (41.27) ⁸	1.75" (44.4) ⁸	1-1.08" (25.4-27.4) ⁸	1.625-2.00" (41.27-50.4)	.311-1.18" (7.9-30.0) ⁸	1.68" (42.8)	1.68" (42.8)
Collets	Standard 5C	Std. 16C	Std. 3J	Standard 5C	Standard 16C	Standard 5C	Standard 16C	Standard 16C
Spindle Center-to-Base	4.000" ± 0.001 (101.6 ± .0254)	6.000" ± 0.001 (152.4 ±.0254)		5.000" ± 0.001 (127 ±.0254)	6.000" ± 0.001 (152.4 ±.0254)	4.000" ± 0.001 (101.6 ± .0254)	6.000" ± 0.001 (152.4 ± .0254)	7.000" ± 0.001 (177.8 ± .0254)
POSITIONING								
Accuracy	±25 arc-sec	±15 ⁶ arc-sec		±20 ⁶ arc-sec	±15 ⁶ arc-sec	±3 arc-sec		
Repeatability	10 arc-sec	10 arc-sec		10 arc-sec		4 arc-sec		
Resolution (degree)	0.001	0.001		0.001		0.001		
Max Rotation / Step (degree)	9999.99 ⁶	9999.99 ⁶		9999.99 ⁶		CONTINUOUS		
Gear Diameter	2.8" (71.1)	6.2" (157)		3.7" (94)	6.2" (157)	NO GEAR		
MOTOR								
Type (DC servo)	0.78hp/0.58KW	0.78hp/0.58kW		0.78hp/0.58kW	1.25hp/0.93kW	Rare-earth, permanent magnet torque motor		
Clamping Torque ¹ (option DD100)	—	233ft-lb 315Nm		103ft-lb 140 Nm	233ft-lb 315 Nm	103ft-lb 140Nm	233ft-lb 315Nm	421ft-lb 570Nm
Torque at Spindle	54ft-lb 73Nm	70ft-lb 95Nm		73ft-lb 99Nm	90ft-lb 122Nm	28ft-lb 38Nm	118ft-lb 160Nm ³	245ft-lb 332Nm ³
Continuous Air-Cooled ²	—	—		—		3.8ft-lb 5Nm	27ft-lb 37Nm ³	68ft-lb 92Nm ³
Continuous Water-Cooled ²	—	—		—		7.5ft-lb 10Nm	56ft-lb 76Nm ³	131ft-lb 177Nm ³
Gear Ratio (Worm & Gear)	60:1	60:1		90:1 worm, gear and timing belt		NO GEAR		
Speed Reduction Ratio	—	—		—		—		
Duty Cycle	90% at full speed	90% at full speed		90% at full speed		All 100%		
OPERATING SPECS								
Operating Temp. (Max.Amb.)	104°F/40°C	104°F/40°C		104°F/40°C		104°F/40°C		
Power Requirements (VAC)	115 +/- 5% @10 amps	115 +/- 5% @ 10 amps		115 +/- 5% @ 10 amps		115 +/- 5% @10 amps ⁹	varies ⁷	varies ⁷
Maximum Air Pressure	120psi/8.3bar	120psi/8.3bar		100psi/6.9bar		120psi/8.3 bar	120psi/8.3 bar	120psi/8.3 bar
Minimum Air Pressure	85psi/5.8bar	85psi/5.8bar		85psi/5.8 bar		85psi/5.8 bar	85psi/5.8 bar	85psi/5.8 bar
WEIGHT								
Single Unit	55lb/25 kg	200lb/90.7kg		120lb/54kg	200lb/90.7kg	50lb/22.7kg	203lb/92kg	345lb/156.6kg
Dual Unit	119lb/54 kg	520lb/235.8kg		—		—		
Triple Unit	179lb/81kg	627lb/284.4kg		—		—		
Quad Unit	240lb/109kg	—		—		—		

- Notes: 1 – maximum torque applied before slipping occurs
2 – from standard GE Fanuc H104 amplifier (results vary when using servo control box or 220V power source)
3 – 450 @ 120V, 700 @ 230V Single Phase
4 – 175 @ 120V, 350 @ 230V Single Phase
5 – accuracies can be improved with electronic compensation
6 – continuous rotation available
7 – will vary according to motor requirements of 4th-axis interface
8 – will vary depending on use of different collet closer styles vs. slotted face plate

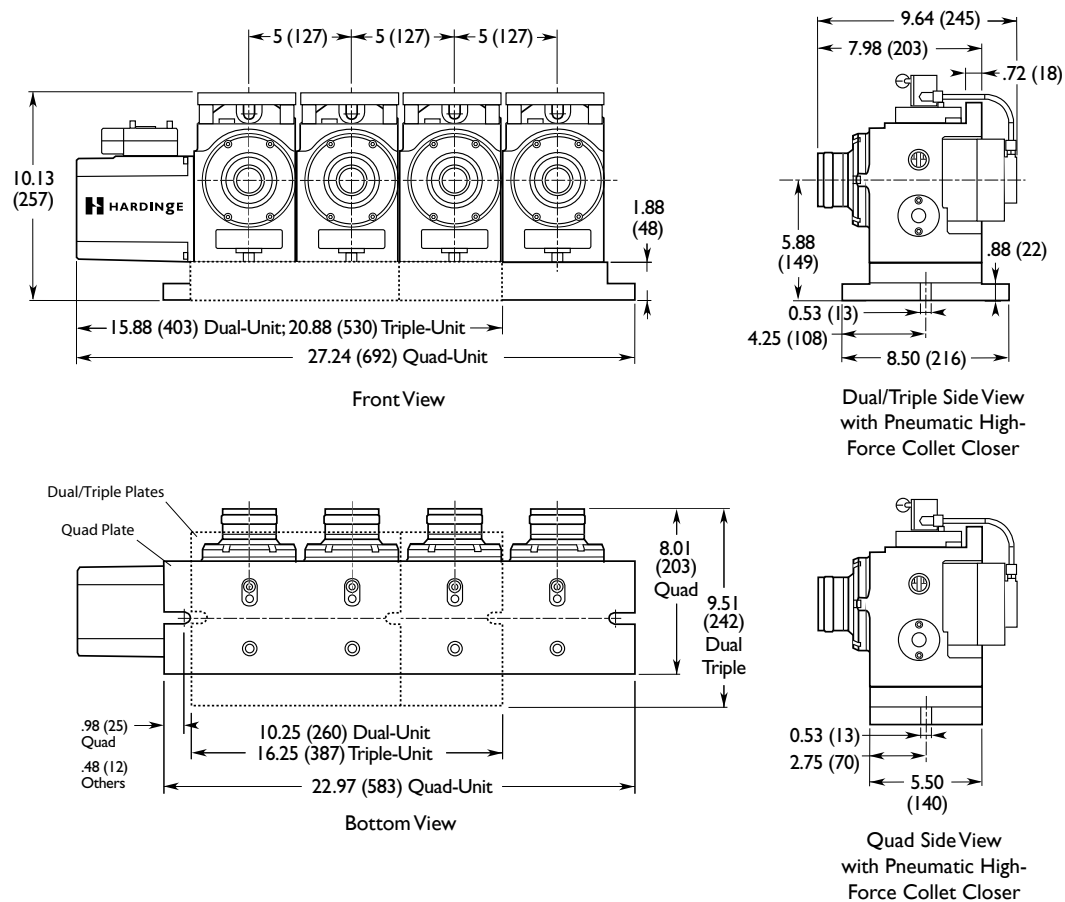
Millimeters in parentheses

Rotary Dimensions

GD5C2 Gear-Driven Indexer Dimensions

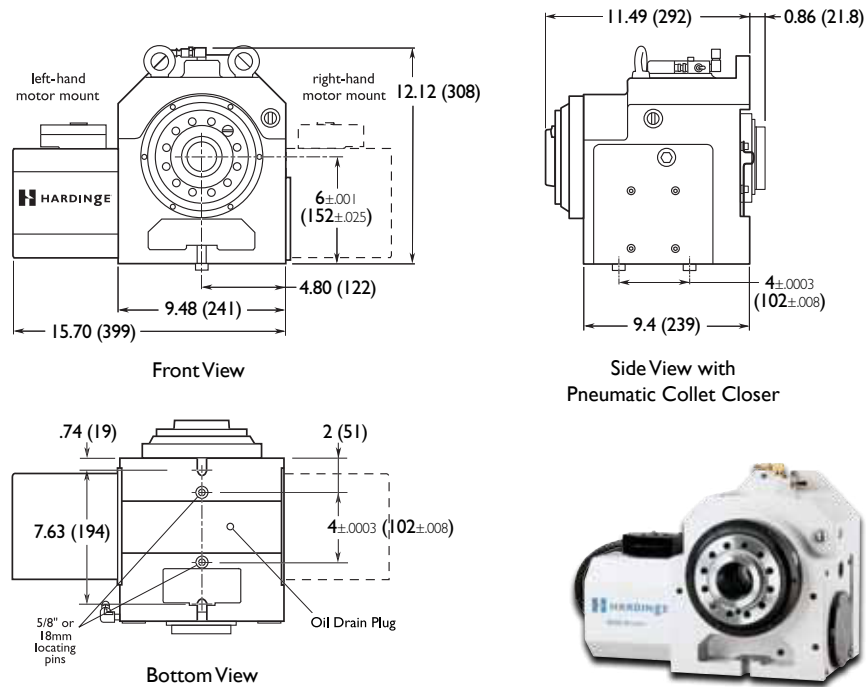


GD5C2-02, -03 and -04 Multi-Spindle Dimensions

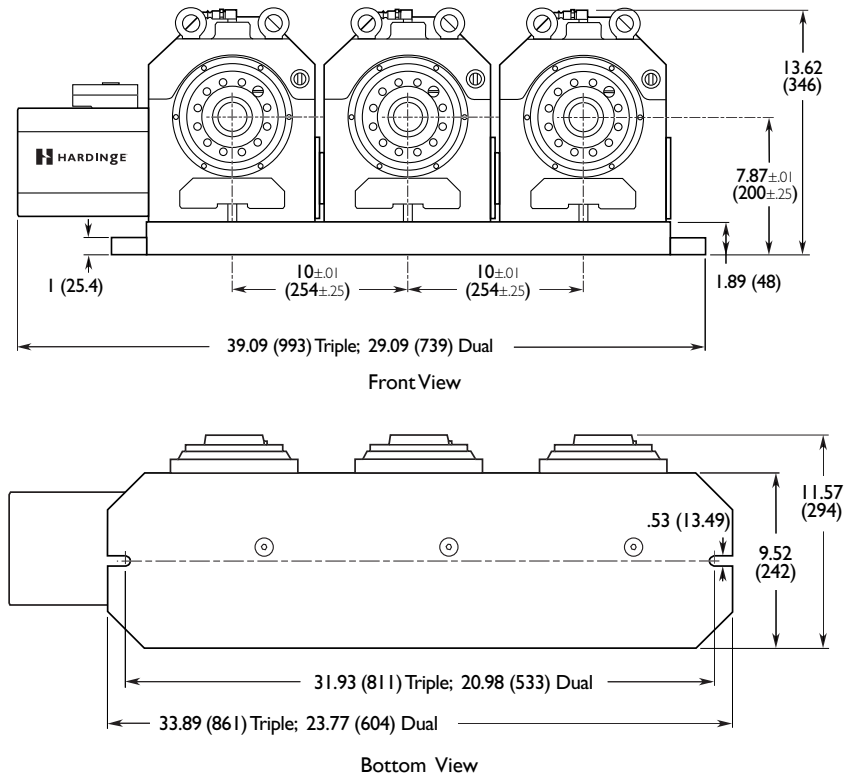


(millimeters in parentheses)

GD16C2/GD3J2 Gear-Driven Rotary Table Dimensions



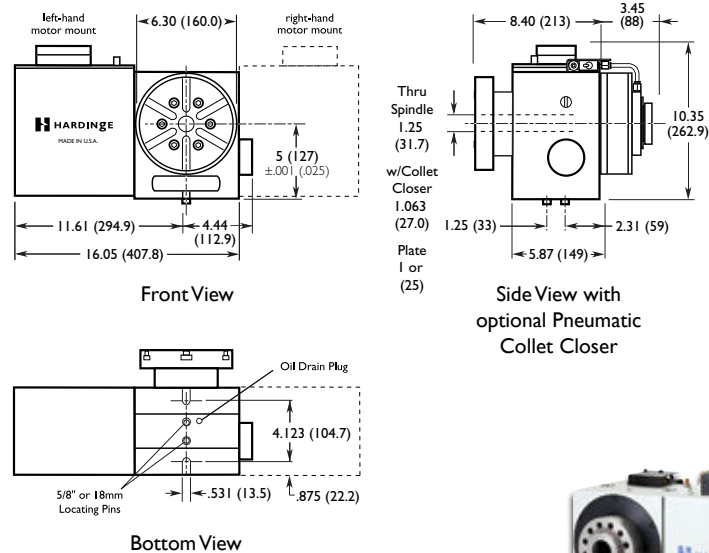
GD16C2-02 and -03 Multi-Spindle Dimensions



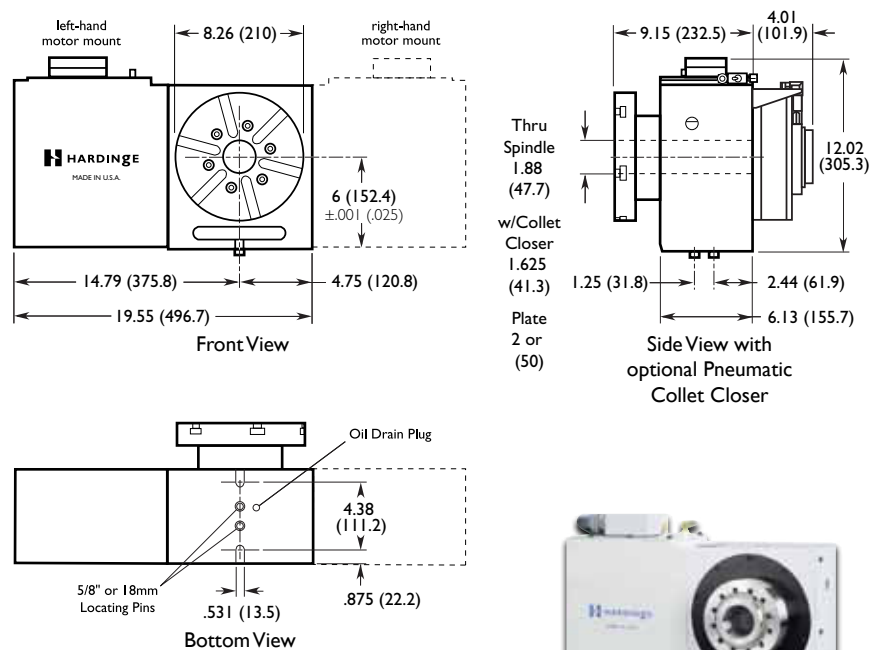
(millimeters in parentheses)

Rotary Dimensions

GD160LP Gear-Driven Low-Profile Rotary Table Dimensions

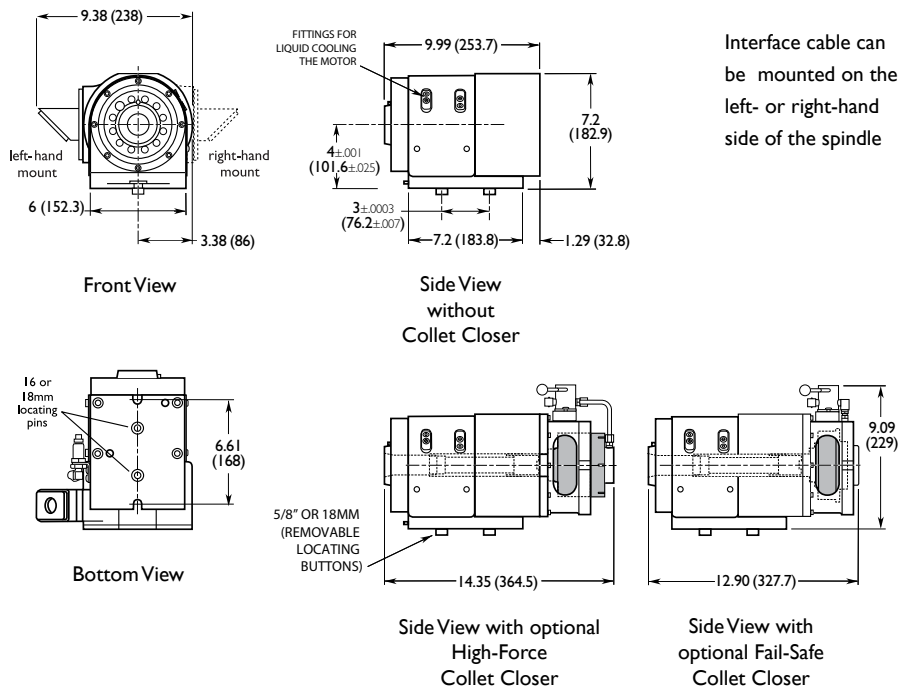


GD210LP Gear-Driven Low-Profile Rotary Table Dimensions

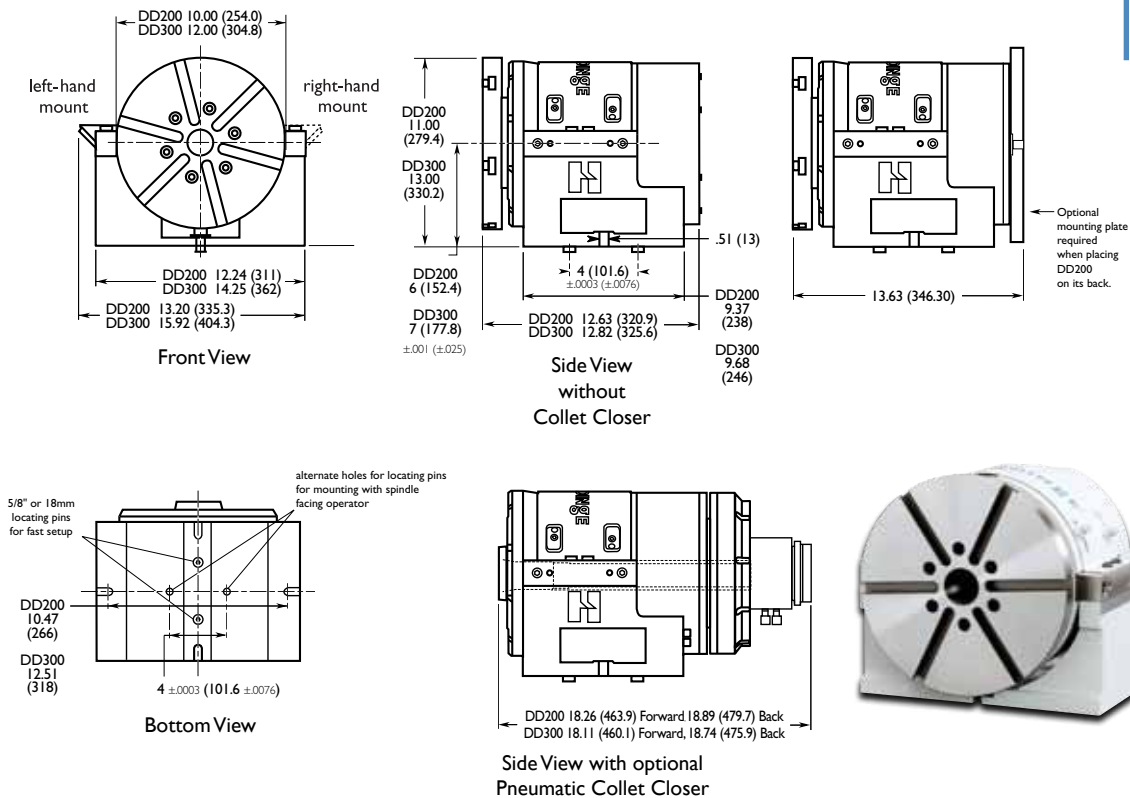


(millimeters in parentheses)

DD100 High-Speed, Direct-Drive Rotary Positioner Dimensions

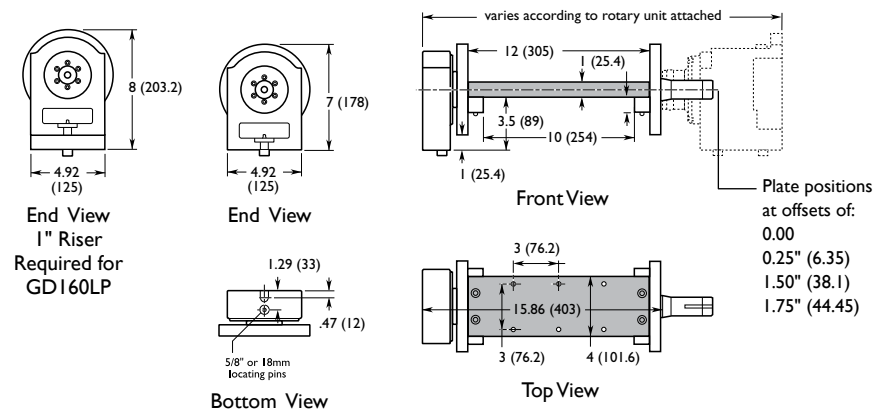


DD200 and DD300 Direct-Drive Rotary Table Dimensions

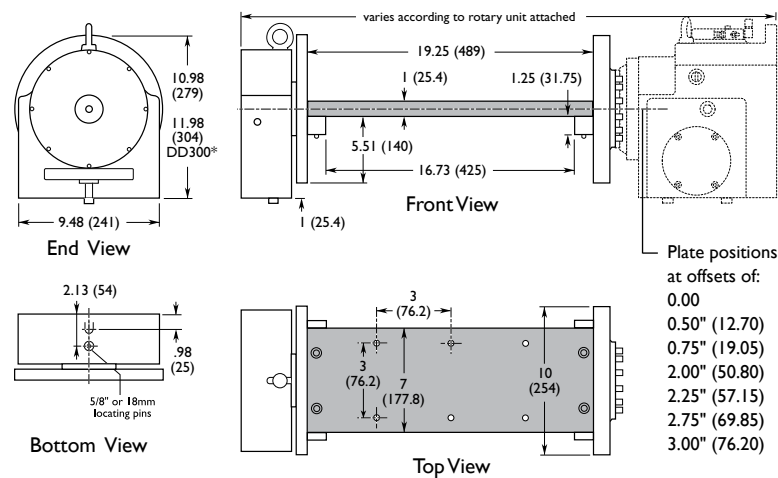


Rotary Dimensions

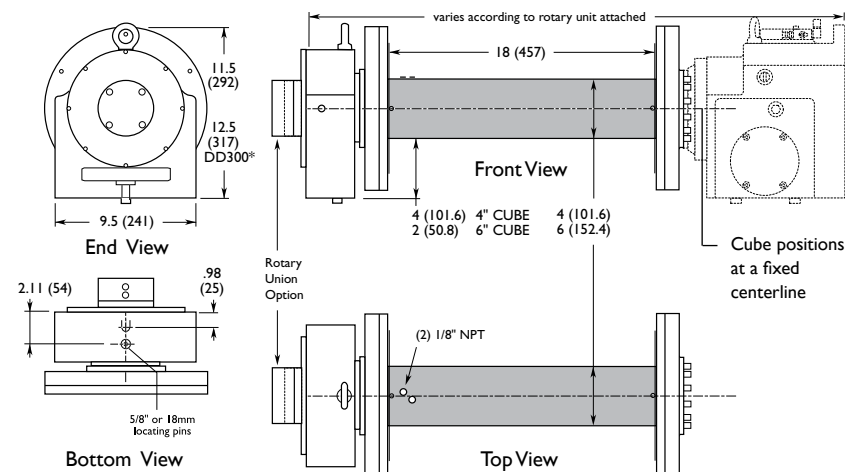
PT5C2 Tilting Plate Trunnion for GD5C2, GD160LP and DD100 Rotary Tables – Dimensions



PTA25 Tilting Plate Trunnion for GD16C2, GD3J2, GD210LP, DD200 and DD300 Rotary Tables – Dimensions



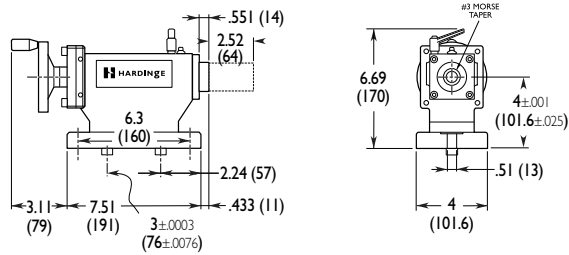
CTA25-4IN and CTA25-6IN 4" and 6" Cube Trunnions for GD16C2, GD210LP and DD200 Rotary Tables – Dimensions



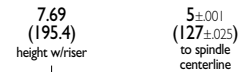
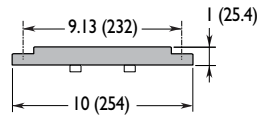
(millimeters in parentheses)

Manual Tailstock Dimensions

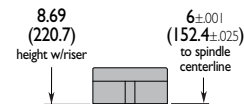
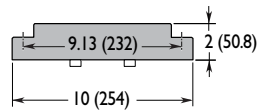
GD5C2 and DD100



1" Tailstock Riser included for GD160LP

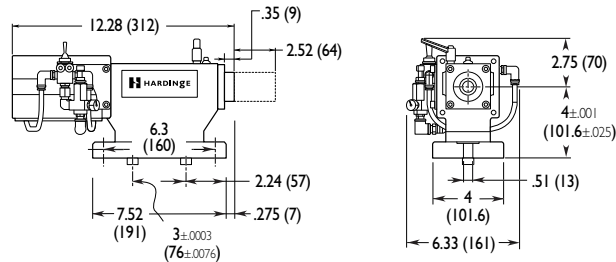


2" Tailstock Riser included for GD16C2, GD3J2 and GD210LP

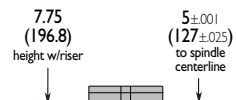
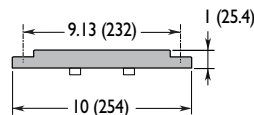


Pneumatic Tailstock Dimensions

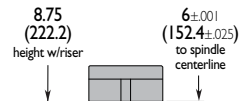
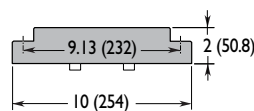
GD5C2 and DD100



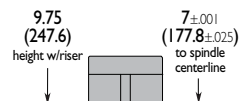
1" Tailstock Riser included for GD160LP



2" Tailstock Riser included for GD16C2, GD3J2, GD210LP and DD200



3" Tailstock Riser included for DD300



(millimeters in parentheses)



Over the years, The Hardinge Group™ steadily diversified both its product offerings and operations. Today, the company has grown into a globally diversified player with manufacturing operations in North America, Europe and Asia. 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, and Jones & Shipman 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.

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