

16C² and 3J² Indexers



Hardinge's world-renowned collet-ready A2-5 spindle is the heart of the system. The same accuracy, precision and reliability built into the Hardinge lathe extends to a large capacity rotary indexer. A variety of standard 16C or 3J spindle tooling will mount directly in or on the spindle without the use of an adapter. Common spindle tooling can now be shared between a rotary unit and a lathe.



Slotted faceplate sold separately.

Standard Features

- A2-5 16C or 3J spindle accepts standard collets, Sure-Grip[®] expanding collets, step chucks, fixture plates and power chucks
- Typical part handling of 5 x 7" (127 x 178) parts
- Rapid indexing speed up to 300° per second
- ±5 arc-sec Repeatability
- ±15 arc sec Accuracy
- .0002" (.005mm) Maximum runout (TIR)
- Robust, dual-bearing spindle accommodates heavy axial and radial loads with the ability to run a dual or triple unit with tailstocks
- Spindle clamp eliminates slippage when performing heavy off-center drilling
- Pneumatic collet closer provides 2792-pound (1266kg) draw bar pull at 70psi
- 6" (152.4) centerline to base
- .6248" (15.87) total drawbar travel suitable for 3-jaw power chucks
- Through-hole: 16C² - 1.624" (41.25), 3J² - 1.75" (4.45)
- Performs spiral, arc and linear milling as well as standard indexing operations
- Single, dual and triple spindle configurations

Options

- 5C adapter available for small part processing – Order part no. CJ 00002835CA
- Tailstocks, plate and cube trunnions
- Complete array of Hardinge spindle tooling

INDEXER CONTROL / PROGRAMMING

Indexer Control	Standard Indexer Control
Storage - Number of programs/steps	9999 / 500
RS-232 Interface	YES
Text Display	multiple lines
USB Port	YES
Baud Rate Capacity	19.2 bps

SPINDLE

Runout Maximum (TIR)	0.0002" (.005)
Backlash	40 arc-sec
Speed	0.001 to 300° per sec
Maximum RPM Rapid ^{Min-1}	50
Load Support Maximum part weight	Dual Angular Contact Bearing 150 lb / 68 kg
Spindle Type	A2-5
Collets	Standard 16C / Standard 3J
Spindle center to base	6.000" ± 0.001 (152.4 ± 0.254)

POSITIONING

Accuracy ¹	±15 arc-sec
Repeatability	±5 arc-sec
Resolution (degree)	0.001
Max Rotation/Step (degree) ²	9999.99
Gear Diameter (inch/mm)	6.2 (157)

MOTOR

Type (DC servo)	0.78 hp / 0.58kW
Clamping Torque ³	175 ft-lb / 237 Nm
Torque at Spindle	70 ft-lb / 95 Nm
Duty Cycle	90% at full speed

OPERATING SPECIFICATIONS

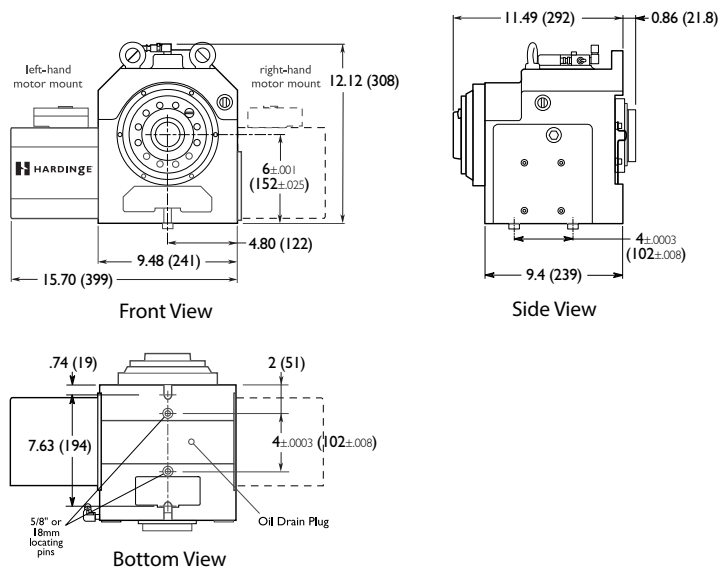
Gear Ratio (worm & gear)	60:1
Operating Temp. (maximum ambient)	120°F/49°C
Power Requirements (VAC)	115 +/- 5% @ 10 amps
Maximum Air Pressure	120 psi / 8.3 bar
Minimum Air Pressure	85 psi / 5.8 bar

WEIGHT

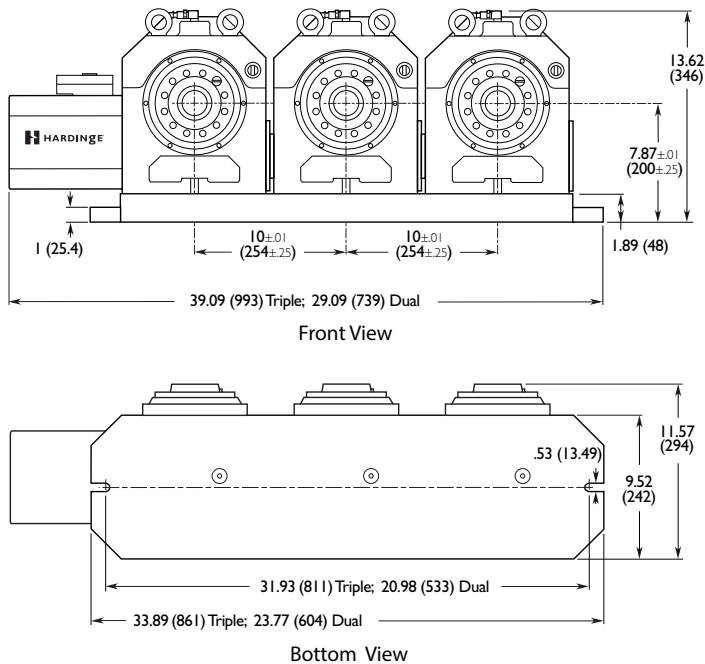
Single Indexer	200 lb / 90.7 kg
Dual Indexer	520 lb / 235.8 kg
Triple Indexer	780 lb / 353 kg
Control	9.54 lb / 4.34 kg

Notes: 1 – accuracies can be improved with electronic compensation
 2 – continuous rotation available
 3 – maximum torque applied before slipping occurs

GD16C2 and GD3J2 Dimensions:



GD16C2-02, -03, and GD3J2-02, -03 Dimensions:



(millimeters in parentheses)



Top view of 16C2 Rotary Indexer – Configure for either left- or right-hand application.



GD16C2 Workholding Capacities

Collets – Round (max. capacity)	1 ⁵ / ₈ " (41.27)
Collets – Hex (max. capacity)	1 ¹³ / ₃₂ " (35.71)
Collets – Square (max. capacity)	1 ⁹ / ₆₄ " (28.97)
Step Chucks – Regular Depth	up to 6" (152.4)
Step Chucks – Extra Depth	up to 6" (152.4)
FlexC Collet System - Style D	2 ⁹ / ₁₆ " (65.00)
3-Jaw Chucks (diameter)	5", 6", 8"
Sure-Grip [®] Expanding Collets	
Collet Style	1/2" - 4" (12.70 - 101.6)
Spindle Style	1/8" - 4" (3.17 - 101.6)
Fixture Plates	
Spindle Mount	5 1/2" (139.70)
Spindle Mount	8 7/8" (225.42)
Collet Style	6 3/8" (161.92)
Slotted Face Plate	8.85" (225)
Slotted Face Plate	10" (254)
Collet Stops for part positioning	YES

GD3J2 Workholding Capacities

Collets – Round (max. capacity)	1 ³ / ₄ " (44.45)
Collets – Hex (max. capacity)	1 ¹⁷ / ₃₂ " (38.89)
Collets – Square (max. capacity)	1 ¹ / ₄ " (31.75)
Step Chucks – Regular Depth	up to 6" (152.4)
FlexC Collet System - Style D	2 ⁹ / ₁₆ " (65.00)
3-Jaw Chucks	5", 6"
Sure-Grip [®] Expanding Collets	
Collet Style	1/2" - 4" (12.70 - 101.6)
Spindle Style	1/8" - 4" (3.17 - 101.6)
Fixture Plates	
Spindle Mount	5 1/2" (139.70)
Spindle Mount	8 7/8" (225.42)
Slotted Face Plate	8.85" (225)
Slotted Face Plate	10" (254)
Collet Stops for part positioning	YES



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