

Dual-Axis 5C² Systems

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Add efficiency to your table with dual-axis, multiple part machining and flexible part gripping options. Eliminate the need for second or third operations or expensive fixturing. Accepts standard collets, Sure-Grip[®] expanding collets, step chucks, jaw chucks and face or fixture plates in the 5C spindles.

GDX5C2
LPX5C2-01
LPX5C2-02
LPX5C2-03
LPX5C2-04



LPX5C2-01CC

GDX5C2

Standard Features

Single-Spindle:

- 5th-axis base unit has a total 360° tilt (±180° from the 12-o'clock position)
- Adjustable hardware limit switches to limit travel to reduce risk of possible crash included when purchased with Servo Control (limit switch not available on LPX5C2-01CC with a collet closer)
- Units are precision aligned to the spindle center
- Two units in one – quick release for separate use of indexers (do not disassemble multiple-spindle models)

Multi-Spindle Configurations:

- Robust dual-bearing trunnion support
- Dual pneumatic clamp system for increased rigidity
- 5" (127) spindle center-to-center
- Pneumatic collet closers
- Overall Trunnion length:
 - dual 32.24" (819)
 - triple 37.24" (946)
 - quad 42.25" (1073)

All Configurations:

- 5C threaded-nose spindle accepts standard collets, step chucks, expanding collets and jaw chucks
- Operate with indexer control boxes – GDX5C2 will also operate as 4th-axis connection, tilt only
- Single, dual, triple and quad spindle configurations

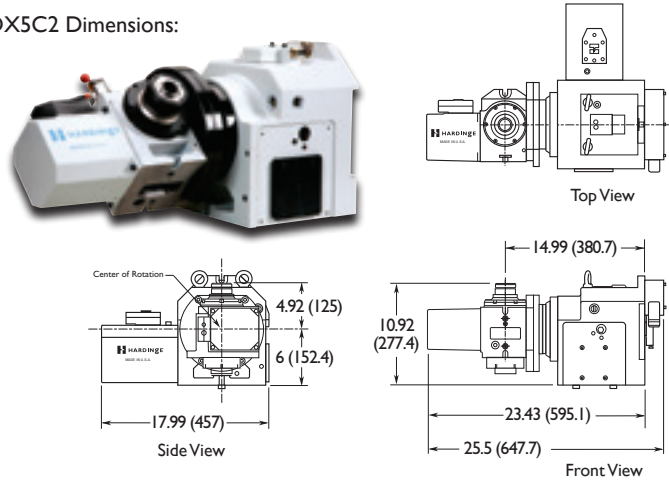
Optional Features

Multi-Spindle Configurations:

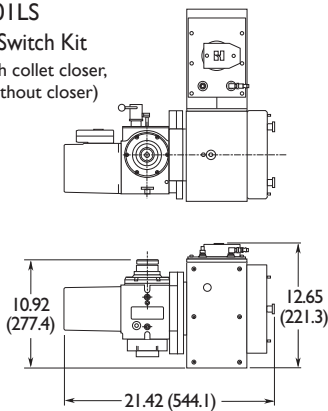
- Adjustable hardware limit switches to limit travel to reduce risk of possible crash (using control box only)
- Two individual indexer controls are required for operation (capable of 4th- or 4th- & 5th-axis interfacing on some machines)
- Manual drawbar turns by hand for reduced-cost option

INDEXER CONTROL / PROGRAMMING	4th-Axis 5C Spindles	Tilting 5th-Axis
Indexer Control Model	Standard Indexer Control	
Storage - Number of programs/steps	9999/500	
RS-232 Interface	YES	
Text Display	multiple lines	
USB 2.0 Upload/Download	YES	
Baud Rate Capacity	19.2 BPS	
SPINDLE		
Runout Maximum (TIR)	0.0002" (.005)	
Backlash	40 arc-sec	40 arc-sec
Maximum RPM Rapid ^{Min-1}	30	10
Load Support – max. part weight	Dual Bearing 17.6 lb / 8 kg	Dual Bearing
Spindle Type	2 ³ / ₁₆ – 10 threaded nose	A2-5
Collets	Standard 5C	
Table Height at Collet Nose	12.62" (320.5)	
Spindle center to base	7.25" ± 0.001 (184.2 ± 0.254) (90°)	7.25" ± 0.001 (184.2 ± 0.254)
POSITIONING		
Tilting Range	—	-180° to +180°
Accuracy	±30 arc-sec	±15
Repeatability	±5 arc-sec	
Max Rotation/Step (degree)	9999.99 ¹	±180.00
Minimum Increment	.001	
Gear Diameter	2.8" (71.1)	6.2" (157.0)
MOTOR		
Clamping System	—	Pneumatic
Clamping Torque ²	—	(single) 275 ft-lb / 373 Nm (multi) 550 ft-lb / 745 Nm
Working Torque at Spindle	(single) 54 ft-lb / 73 Nm (multi) 34 ft-lb / 46 Nm	(16C) 70 ft-lb / 95 Nm (210LP) 90 ft-lb / 122 Nm
Duty Cycle	90% at full speed	
OPERATING SPECIFICATIONS		
Speed Reduction Ratio	60:1	90:1
Operating Temp. (maximum ambient)	104°F / 40°C	
Power Requirements (VAC)	115 +/- 5% @ 10 amps	
Max Air Pressure	100 psi / 6.9 bar	
WEIGHT		
Single Spindle	265 lb / 120 kg	
Dual Spindle	460 lb / 208 kg	
Triple Spindle	525 lb / 238 kg	
Quad Spindle	590 lb / 268 kg	
Control – standard or enhanced	9.54 lb / 4.34 kg	
Notes: 1 – continuous rotation available	2 – maximum torque applied before slipping occurs	

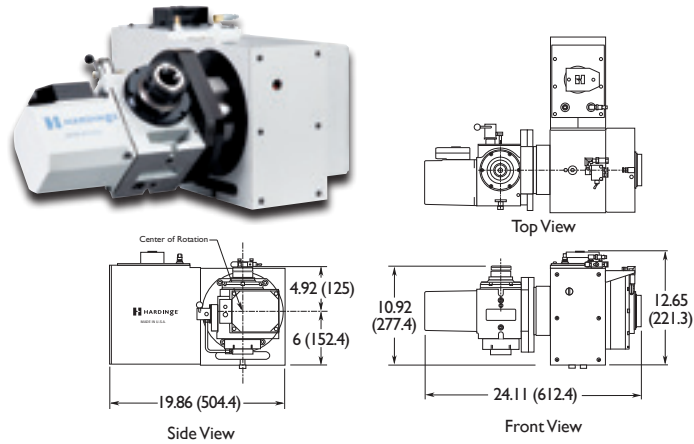
GDX5C2 Dimensions:



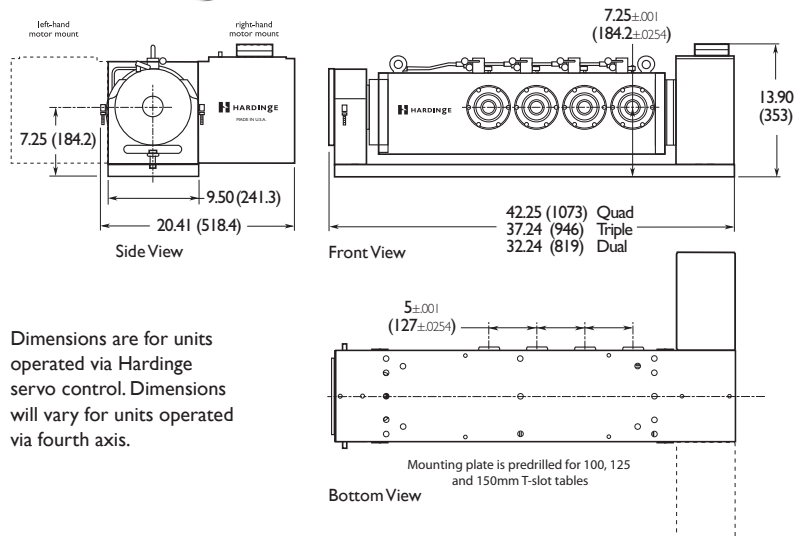
LPX5C2-01LS
with Limit Switch Kit
(GD5C2 with collet closer,
GD210LP without closer)



LPX5C2-01CC with Collet Closers (no limit switch kit)



LPX5C2-02, -03, and -04 Dimensions:



Dimensions are for units operated via Hardinge servo control. Dimensions will vary for units operated via fourth axis.

(millimeters in parentheses)

Workholding Capacities

Collets – Round (max. capacity)	1 1/16" (26.98)
Collets – Hex (max. capacity)	29/32" (23.01)
Collets – Square (max. capacity)	3/4" (19.05)
Step Chucks – Regular Depth	up to 6" (152.4)
Step Chucks – Extra Depth	up to 6" (152.4)
3-Jaw Chuck	5" (127)
3-Jaw Chuck	6" (152.4)
Sure-Grip® Expanding Collets	1/8" - 3" (3.17 - 76.2)
Fixture Plate – Spindle Mount	3" (76.2)
Fixture Plate – Spindle Mount	5" (127)
Fixture Plate – Collet Style	3 3/8" (85.72)
Fixture Plate – Collet Style	4 3/8" (111.12)
Collet Stops for part positioning	YES

(Multi-spindle units limited by 5" (127) spindle-to-spindle centers)