

Precision Servo Gearboxes

SureGear® Servo Gearbox Overview

PGA In-line Series

The SureGear PGA series of high-precision servo gear reducers is an excellent choice for applications that require good accuracy and reliability at an exceptional value. This in-line planetary gear reducer has a thread-in mounting style, along with a level of precision and torque capacity that is best in its class. Offered in a concentric shaft design with a maximum seven arc-min backlash rating, the SureGear PGA series is an accurate, high-performance, and cost effective solution for any OEM.

The machining quality of the SureGear PGA helical planetary gears provides a very quiet and more efficient reducer than other competitive products that are similarly priced. The SureGear PGA series easily mates to SureServo motors, and is the perfect solution for applications such as gantries, injection-molding machines, pick-and-place automation, and linear slides.

PGB Right-angle Series

The SureGear PGB series of high-precision right-angle servo gear reducers is an excellent choice for applications that require a more compact footprint.

The PGB right-angle planetary gear reducers offer similar technical specifications to the PGA series in-line gear reducers, and provides the customer with an excellent solution when space and clearance requirements are limited.

Offered with a six arc-min backlash rating for 2-stage and nine arc-min backlash for 3-stage, the SureGear PGB series performs to OEMs' demanding expectations.

PGD Hub Style In-line Series

The SureGear PGD series sets a new standard in applications requiring extremely high-torque ratings and rigidity. The compact design and hub-style output is ideal for equipment that requires high-speed, high-precision indexing movement. The remarkable torsion stiffness and the low backlash of the planetary gearing combine to provide outstanding positioning accuracy.

With a backlash rating less than 3 arc-minutes and exceptional torque handling capabilities, the PGD series offers a high performance robust planetary solution for OEM customers. The PGD reducer is often used for larger indexing applications and dial tables commonly found in packaging and filling equipment and assembly automation systems.

Features

- Thread-in mounting style
- Best-in-class backlash
- Four gear ratios available (5:1, 10:1, 15:1, 25:1), Two additional for PGD models (35:1 and 50:1)
- Mounting hardware included for attaching to SureServo motors
- Helical-cut planetary gears for quiet operation and reduced vibration
- Right-angle reducer utilizes a spiral bevel gear; motor can be located at a 90° position from the reducer, providing a more compact footprint
- Uncaged needle roller bearings for high rigidity and torque
- Adapter bushing connection for simple and effective attachment to most servo motors
- High-viscosity, anti-separation grease does not migrate away from the gears; no leakage through the seal
- Maintenance free: No need to replace the grease for the life of the unit
- At nominal speed, service life is 20,000 hours
- Can be positioned in any orientation
- IP55 environmental rating
- 5-year warranty



**SureGear
PGA Gearbox**



SureGear PGB Gearbox



**SureGear
Hub Style PGD Gearbox**



**SureGear
2-Stage Cutaway View**

Applications

- Gantries
- Injection-molding machines
- Pick-and-place automation
- Linear slides
- Packaging machines
- Conveyors



Precision Servo Gearboxes

| SureGear® Servo Gearbox Selection | | | | | | | | | | | | | |
|-----------------------------------|------------|-----------------------------|-----------------|-----------------------------|-------|-----------------------------|--------|------------------------------|--------------------------|---|----------|---------|--------|
| Servo Motor | Gear Ratio | SureGear Gearbox | Frame Size (mm) | Motor Nominal Output Torque | | Combo Nominal Output Torque | | Nominal Output Speed (rpm) | Max Output Speed (rpm) | Available Load Inertia @ 5:1 Mismatch * | | | |
| | | | | N-m | lb-in | N-m | lb-in | | | kg-cm2 | lb-in-s2 | | |
| SV2L-201(x) APMC-FAL01xxx | 5:1 | PGD047-05A1 | 47 | 0.32 | 2.83 | 1.52 | 13.44 | 600 | 1200.00 | 6.76 | 0.006 | | |
| | | PGA050-05A1 | 50 | | | | | | | 6.94 | 0.006 | | |
| | | PGA070-05A1 | 70 | | | | | | | 5.91 | 0.005 | | |
| | | PGB070-05A1 | 70 | | | | | | | 1.59** | 0.001** | | |
| | 10:1 | PGD047-10A1 | 47 | | | 3.04 | 26.89 | | | 300 | 600.00 | 28.15 | 0.025 |
| | | PGA050-10A1 | 50 | | | | | | | | | 28.35 | 0.025 |
| | | PGA070-10A1 | 70 | | | | | | | | | 25.75 | 0.023 |
| | | PGB070-10A1 | 70 | | | | | | | | | 2.98 | 26.32 |
| | 15:1 | PGA050-15A1 | 50 | | | 4.32 | 38.21 | 200 | 400.00 | 62.66 | 0.055 | | |
| | | PGA070-15A1 | 70 | | | | | | | 58.16 | 0.051 | | |
| | | PGB070-15A1 | 70 | | | | | | | 4.22 | 37.36 | 54.11 | 0.048 |
| | 25:1 | PGD047-25A1 | 47 | | | 7.20 | 63.68 | | | 120 | 240.00 | 174.69 | 0.155 |
| | | PGA050-25A1 | 50 | | | | | | | | | 174.69 | 0.155 |
| | | PGA070-25A1 | 70 | | | | | | | | | 162.81 | 0.144 |
| | | PGB070-25A1 | 70 | | | | | 7.04 | 62.26 | | | 151.56 | 0.134 |
| | 50:1 | PGD064-50A1 | 64 | | | 14.40 | 127.35 | 60 | 120.00 | 661.25 | 0.585 | | |
| SV2L-202(x) | 5:1 | PGD064-05A2 | 64 | 0.64 | 5.7 | 3.04 | 27.08 | 600 | 1200.00 | 28.75 | 0.025 | | |
| | | PGA070-05A2 | 70 | | | | | | | 29.33 | 0.026 | | |
| | | PGB070-05A2 | 70 | | | | | | | 2.98 | 26.51 | 25.00 | 0.022 |
| | 10:1 | PGD064-10A2 | 64 | | | 6.08 | 54.15 | | | 300 | 600.00 | 118.80 | 0.105 |
| | | PGA070-10A2 | 70 | | | | | | | | | 119.40 | 0.106 |
| | | PGB070-10A2 | 70 | | | | | | | | | 5.95 | 53.01 |
| | 15:1 | PGA070-15A2 | 70 | | | 8.64 | 76.95 | 200 | 400.00 | 268.88 | 0.238 | | |
| | | PGB070-15A2 | 70 | | | | | | | 8.45 | 75.24 | 264.83 | 0.234 |
| | | PGB090-15A2 | 90 | | | | | | | 204.75 | 0.181 | | |
| | 25:1 | PGD064-25A2 | 64 | | | 14.40 | 128.25 | 120 | 240.00 | 747.50 | 0.662 | | |
| | | PGA070-25A2 | 70 | | | | | | | 748.13 | 0.662 | | |
| | | PGB070-25A2 | 70 | | | | | | | 14.08 | 125.40 | 736.88 | 0.652 |
| | | PGB090-25A2 | 90 | | | | | | | 581.25 | 0.514 | | |
| | | PGD090-25A2 | 90 | | | | | | | 14.40 | 128.25 | 700.00 | 0.620 |
| | 50:1 | PGD090-50A2 | 90 | | | 28.80 | 256.50 | 60 | 120.00 | 2875.00 | 2.544 | | |
| | | PGD110-50A2 | 110 | | | | | | | 2125.00 | 1.881 | | |
| SV2L-204(x) | 5:1 | PGD064-05A2 | 64 | 1.27 | 11.2 | 6.03 | 53.20 | 600 | 1200.00 | 53.75 | 0.048 | | |
| | | PGA070-05A2 | 70 | | | | | | | 54.33 | 0.048 | | |
| | | PGB070-05A2 | 70 | | | | | | | 5.91 | 52.08 | 50.00 | 0.044 |
| | 10:1 | PGD064-10A2 | 64 | | | 12.07 | 106.40 | | | 300 | 600.00 | 218.80 | 0.194 |
| | | PGA070-10A2 | 70 | | | | | | | | | 219.40 | 0.194 |
| | | PGB070-10A2 | 70 | | | | | | | | | 11.81 | 104.16 |
| | 15:1 | PGA070-15A2 | 70 | | | 17.15 | 151.20 | 200 | 400.00 | 493.88 | 0.437 | | |
| | | PGB070-15A2 | 70 | | | | | | | 16.76 | 147.84 | 489.83 | 0.433 |
| | | PGB090-15A2 | 90 | | | | | | | 429.75 | 0.380 | | |
| | 25:1 | PGD064-25A2 | 64 | | | 28.58 | 252.00 | 120 | 240.00 | 1372.50 | 1.215 | | |
| | | PGA070-25A2 | 70 | | | | | | | 1373.13 | 1.215 | | |
| | | PGB070-25A2 | 70 | | | | | | | 27.94 | 246.40 | 1361.88 | 1.205 |
| | | PGB090-25A2 | 90 | | | | | | | 1206.25 | 1.068 | | |
| | | PGD090-25A2 | 90 | | | | | | | 28.58 | 252.00 | 1325.00 | 1.173 |
| | 50:1 | PGD090-50A2 | 90 | | | 57.15 | 504.00 | 60 | 120.00 | 5375.00 | 4.757 | | |
| | | PGD110-50A2 | 110 | | | | | | | 4625.00 | 4.093 | | |

* Available load inertia is calculated based on servo motor inertia using the formula: Available Inertia = (5 x Motor Inertia – Gearbox Inertia) x (Gear Ratio)² A 5:1 inertia mismatch is a good target for design purposes. Systems with lower or higher mismatch may be possible, depending on operating conditions.

** This gearbox is NOT a suitable choice at a 5:1 mismatch. If inertia balancing is a selection criteria for your end use, please use a mismatch of 8:1 to 10:1.



Precision Servo Gearboxes

| SureGear® Servo Gearbox Selection | | | | | | | | | | | |
|-----------------------------------|------------|-----------------------------|-----------------|-----------------------------|-------|-----------------------------|---------|----------------------------|------------------------|---|----------------------|
| Servo Motor | Gear Ratio | SureGear Gearbox | Frame Size (mm) | Motor Nominal Output Torque | | Combo Nominal Output Torque | | Nominal Output Speed (rpm) | Max Output Speed (rpm) | Available Load Inertia @ 5:1 Mismatch * | |
| | | | | N·m | lb·in | N·m | lb·in | | | kg·cm ² | lb·in·s ² |
| SV2L-207(x) | 5:1 | PGA070-05A3 | 70 | 2.39 | 21.2 | 11.35 | 100.70 | 600 | 1200.00 | 186.83 | 0.165 |
| | | PGB090-05A3 | 90 | | | 11.11 | 98.58 | | | 143.75 | 0.127 |
| | | PGD090-05A3 | 90 | | | 11.35 | 100.70 | | | 174.25 | 0.154 |
| | 10:1 | PGA090-10A3 | 90 | | | 22.71 | 201.40 | 300 | 600.00 | 726.00 | 0.643 |
| | | PGB090-10A3 | 90 | | | 22.23 | 197.16 | | | 586.00 | 0.519 |
| | | PGD090-10A3 | 90 | | | 22.71 | 201.40 | | | 722.00 | 0.639 |
| | 15:1 | PGA090-15A3 | 90 | | | 32.27 | 286.20 | 200 | 400.00 | 1669.50 | 1.478 |
| | | PGB090-15A3 | 90 | | | 31.55 | 279.84 | | | 1622.25 | 1.436 |
| | | PGD110-25A3 | 110 | | | 53.78 | 477.00 | | | 4643.75 | 4.110 |
| | 25:1 | PGB090-25A3 | 90 | | | 52.58 | 466.40 | 120 | 240.00 | 4518.75 | 3.999 |
| | | PGD110-25A3 | 110 | | | 53.78 | 477.00 | | | 4281.25 | 3.789 |
| | | PGD110-50A3 | 110 | | | 107.55 | 954.00 | | | 17875.00 | 15.819 |
| SV2L-210(x) | 5:1 | PGA090-05A4 | 90 | 3.18 | 28.15 | 15.11 | 133.69 | 600 | 1000.00 | 321.25 | 0.284 |
| | | PGB090-05A4 | 90 | | | 14.79 | 130.88 | | | 286.25 | 0.253 |
| | | PGD090-05A4 | 90 | | | 15.11 | 133.69 | | | 319.25 | 0.283 |
| | 10:1 | PGA090-10A4 | 90 | | | 30.21 | 267.38 | 300 | 500.00 | 1296.00 | 1.147 |
| | | PGB090-10A4 | 90 | | | 29.57 | 261.75 | | | 1156.00 | 1.023 |
| | | PGD090-10A4 | 90 | | | 30.21 | 267.38 | | | 1292.00 | 1.143 |
| | 15:1 | PGA120-15A4 | 120 | | | 42.93 | 379.96 | 200 | 333.33 | 2884.50 | 2.553 |
| | | PGB120-15A4 | 120 | | | 41.98 | 371.52 | | | 2475.00 | 2.190 |
| | | PGD110-25A4 | 110 | | | 71.55 | 633.27 | | | 7843.75 | 6.942 |
| | 25:1 | PGA120-25A4 | 120 | | | 69.96 | 619.20 | 120 | 200.00 | 8043.75 | 7.119 |
| | | PGB120-25A4 | 120 | | | 69.96 | 619.20 | | | 6918.75 | 6.123 |
| | | PGD110-50A4 | 110 | | | 143.10 | 1266.54 | | | 32125.00 | 28.431 |
| SV2M-210(x) | 5:1 | PGA090-05A5 | 90 | 4.77 | 42.22 | 22.66 | 200.54 | 400.00 | 600.00 | 1041.25 | 0.922 |
| | | PGD090-05A5 | 90 | | | 22.18 | 196.31 | | | 1039.25 | 0.920 |
| | | PGB120-05A5 | 120 | | | 22.18 | 196.31 | | | 925.75 | 0.819 |
| | 10:1 | PGA090-10A5 | 90 | | | 45.32 | 401.07 | 200.00 | 300.00 | 4176.00 | 3.696 |
| | | PGD110-10A5 | 110 | | | 44.36 | 392.63 | | | 4172.00 | 3.692 |
| | | PGB120-10A5 | 120 | | | 44.36 | 392.63 | | | 3759.00 | 3.327 |
| | 15:1 | PGA120-15A5 | 120 | | | 64.40 | 569.94 | 133.33 | 200.00 | 9364.50 | 8.288 |
| | | PGB120-15A5 | 120 | | | 62.96 | 557.28 | | | 8955.00 | 7.925 |
| | | PGD110-25A5 | 110 | | | 107.33 | 949.91 | | | 25843.75 | 22.872 |
| | 25:1 | PGA120-25A5 | 120 | | | 104.94 | 928.80 | 80.00 | 120.00 | 26043.75 | 23.049 |
| | | PGB120-25A5 | 120 | | | 104.94 | 928.80 | | | 24918.75 | 22.053 |
| | | PGD110-35A5 | 110 | | | 150.26 | 1329.87 | | | 50653.75 | 44.829 |

* Available load inertia is calculated based on servo motor inertia using the formula: Available Inertia = (5 x Motor Inertia – Gearbox Inertia) x (Gear Ratio)² A 5:1 inertia mismatch is a good target for design purposes. Systems with lower or higher mismatch may be possible, depending on operating conditions.



Precision Servo Gearboxes

| SureGear® Servo Gearbox Selection | | | | | | | | | | | |
|-----------------------------------|------------|-----------------------------|-----------------|-----------------------------|--------|-----------------------------|---------|----------------------------|------------------------|---|----------|
| Servo Motor | Gear Ratio | SureGear Gearbox | Frame Size (mm) | Motor Nominal Output Torque | | Combo Nominal Output Torque | | Nominal Output Speed (rpm) | Max Output Speed (rpm) | Available Load Inertia @ 5:1 Mismatch * | |
| | | | | N-m | lb-in | N-m | lb-in | | | kg-cm2 | lb-in-s2 |
| SV2M-215(x) | 5:1 | PGA090-05A5 | 90 | 7.16 | 63.37 | 34.01 | 301.01 | 400.00 | 600.00 | 1390.00 | 1.230 |
| | | PGD090-05A5 | 90 | | | | | | | 1388.00 | 1.228 |
| | | PGB120-05A5 | 120 | | | | | | | 1274.50 | 1.128 |
| | 10:1 | PGA090-10A5 | 90 | | | 68.02 | 602.03 | 200.00 | 300.00 | 5571.00 | 4.930 |
| | | PGD110-10A5 | 110 | | | | | | | 5567.00 | 4.927 |
| | | PGB120-10A5 | 120 | | | | | | | 5154.00 | 4.561 |
| | 15:1 | PGA120-15A5 | 120 | | | 96.66 | 855.51 | 133.33 | 200.00 | 12503.25 | 11.065 |
| | | PGB120-15A5 | 120 | | | | | | | 12093.75 | 10.703 |
| | | PGD110-25A5 | 110 | | | | | | | 34562.50 | 30.588 |
| | 25:1 | PGA120-25A5 | 120 | | | 161.10 | 1425.86 | 80.00 | 120.00 | 34762.50 | 30.765 |
| | | PGB120-25A5 | 120 | | | | | | | 33637.50 | 29.769 |
| | | PGD110-35A5 | 110 | | | | | | | 225.54 | 1996.20 |
| SV2M-220(x) | 5:1 | PGD110-05A6 | 110 | 9.55 | 84.52 | 45.36 | 401.49 | 400.00 | 600.00 | 4280.00 | 3.788 |
| | | PGA120-05A6 | 120 | | | | | | | 4297.50 | 3.803 |
| | | PGB120-05A6 | 120 | | | | | | | 4212.00 | 3.728 |
| | | PGB155-05A6 | 155 | | | | | | | 3914.75 | 3.465 |
| | 10:1 | PGD110-10A6 | 110 | | | 90.73 | 802.98 | 200.00 | 300.00 | 17240.00 | 15.257 |
| | | PGA120-10A6 | 120 | | | | | | | 17255.00 | 15.271 |
| | | PGB120-10A6 | 120 | | | | | | | 16904.00 | 14.960 |
| | | PGB155-10A6 | 155 | | | | | | | 15884.00 | 14.057 |
| | 15:1 | PGA155-15A6 | 155 | | | 128.93 | 1141.08 | 133.33 | 200.00 | 38745.00 | 34.289 |
| | | PGB155-15A6 | 155 | | | | | | | 126.06 | 1115.73 |
| | 25:1 | PGA155-25A6 | 155 | | | 214.88 | 1901.80 | 80.00 | 120.00 | 107750.00 | 95.359 |
| | | PGB155-25A6 | 155 | | | | | | | 210.10 | 1859.54 |
| SV2M-230(x) | 5:1 | PGD110-05A6 | 110 | 17.55 | 155.33 | 83.36 | 737.80 | 340.00 | 600.00 | 6817.50 | 6.033 |
| | | PGA120-05A6 | 120 | | | | | | | 6835.00 | 6.049 |
| | | PGB120-05A6 | 120 | | | | | | | 6749.50 | 5.973 |
| | | PGB155-05A6 | 155 | | | | | | | 6452.25 | 5.710 |
| | 10:1 | PGD110-10A6 | 110 | | | 166.73 | 1475.68 | 170.00 | 300.00 | 27390.00 | 24.240 |
| | | PGA120-10A6 | 120 | | | | | | | 27405.00 | 24.253 |
| | | PGB120-10A6 | 120 | | | | | | | 27054.00 | 23.943 |
| | | PGB155-10A6 | 155 | | | | | | | 26034.00 | 23.040 |
| | 15:1 | PGA155-15A6 | 155 | | | 236.93 | 2097.01 | 113.33 | 200.00 | 61582.50 | 54.501 |
| | | PGB155-15A6 | 155 | | | | | | | 231.66 | 2050.36 |
| | 25:1 | PGA155-25A6 | 155 | | | 394.88 | 3494.98 | 68.00 | 120.00 | 171187.50 | 151.501 |
| | | PGB155-25A6 | 155 | | | | | | | 386.10 | 3417.27 |

* Available load inertia is calculated based on servo motor inertia using the formula: Available Inertia = (5 x Motor Inertia – Gearbox Inertia) x (Gear Ratio)² A 5:1 inertia mismatch is a good target for design purposes. Systems with lower or higher mismatch may be possible, depending on operating conditions.



Precision Servo Gearboxes

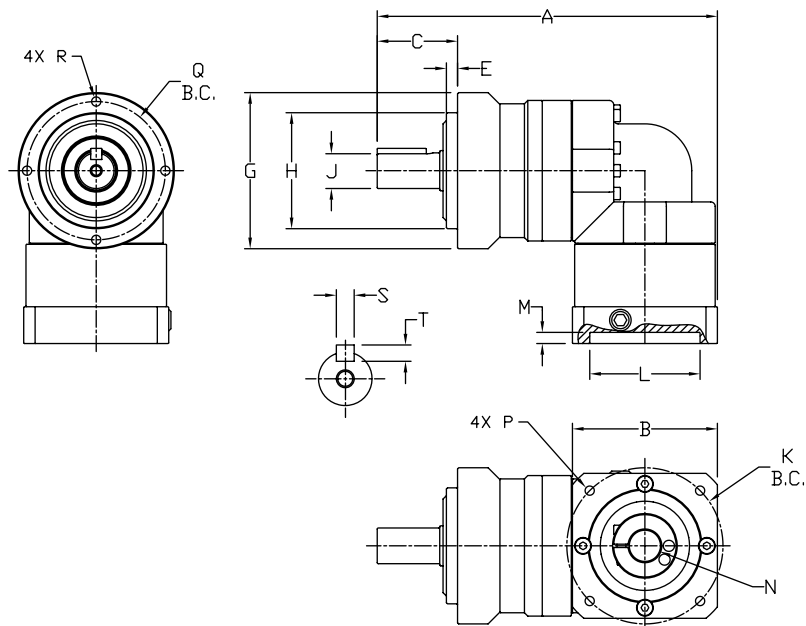
Pricing & Specifications – Right-Angle Shaft PGB Series

| SureGear® Precision Servo Gearboxes – Right-Angle Shaft PGB Series | | | | | | | | | | | | | | | | | | |
|--|------------|-----------------|-------|-----------|-------------------------------------|--|-------------------------------------|--------------------|---------------------------|------------------------|--------------------------------|--------------------------------|---|----------------|--------------------------|--------------------------------|----------------------|---------------------------------------|
| Part Number | Price | Frame Size (mm) | Ratio | Reduction | Nominal Output Torque (N·m [lb-in]) | Max. Acceleration Torque (N·m [lb-in]) | Emergency Stop Torque (N·m [lb-in]) | Backlash (arc-min) | Nominal Input Speed (rpm) | Max. Input Speed (rpm) | Allowable Radial Load (N [lb]) | Allowable Thrust Load (N [lb]) | Moment of Inertia (kg-cm ²) | Efficiency (%) | Max. Housing Temperature | Approx Weight (kg [lb]) | Environmental Rating | Fits SureServo Servo Motor (SV & SV2) |
| PGB070-05A1 | \$788.00 | 70 | 5:1 | double | 22 [195] | 40 [354] | 80 [708] | 6 | 3000 | 6000 | 510 [115] | 390 [88] | 0.250 | 90 °C [194 °F] | 1.9 [4.2] | IP55 | SV(2)L-201(B) | |
| PGB070-10A1 | \$788.00 | | 10:1 | double | 16 [142] | 32 [283] | 65 [575] | | | | 9 | 640 [144] | 530 [119] | | | | | 0.230 |
| PGB070-15A1 | \$997.00 | | 15:1 | triple | 16 [142] | 32 [283] | 65 [575] | 6 | | | | 740 [166] | 630 [142] | | | | | 0.073 |
| PGB070-25A1 | \$997.00 | | 25:1 | triple | 24 [212] | 45 [398] | 90 [797] | | | | 9 | 870 [196] | 790 [178] | | | | | 0.071 |
| PGB070-05A2 | \$788.00 | | 5:1 | double | 22 [195] | 40 [354] | 80 [708] | 6 | | | | 510 [115] | 390 [88] | | | | | 0.320 |
| PGB070-10A2 | \$788.00 | | 10:1 | double | 16 [142] | 32 [283] | 65 [575] | | | | 9 | 640 [144] | 530 [119] | | | | | 0.300 |
| PGB070-15A2 | \$997.00 | | 15:1 | triple | 16 [142] | 32 [283] | 65 [575] | 6 | | | | 740 [166] | 630 [142] | | | | | 0.118 |
| PGB070-25A2 | \$997.00 | | 25:1 | triple | 24 [212] | 45 [398] | 90 [797] | | | | 9 | 870 [196] | 790 [178] | | | | | 0.115 |
| PGB090-15A2 | \$1,217.00 | 90 | 15:1 | triple | 45 [398] | 65 [575] | 170 [1505] | 9 | 1400 [314] | 1900 [427] | | 0.410 | 90 °C [194 °F] | 4.3 [9.5] | IP55 | SV(2)L-202(B) SV(2)L-204(B) | | |
| PGB090-25A2 | \$1,217.00 | | 25:1 | triple | 65 [575] | 110 [974] | 220 [1947] | | 6 | 1600 [360] | 2200 [495] | 0.400 | | | | | | |
| PGB090-05A3 | \$932.00 | | 5:1 | double | 65 [575] | 90 [797] | 220 [1947] | 9 | | 960 [216] | 1200 [270] | 2.130 | | | | | | |
| PGB090-10A3 | \$932.00 | | 10:1 | double | 45 [398] | 65 [575] | 170 [1505] | | 6 | 1200 [270] | 1600 [360] | 2.020 | | | | | | |
| PGB090-15A3 | \$1,217.00 | | 15:1 | triple | 45 [398] | 65 [575] | 170 [1505] | 9 | | 1400 [314] | 1900 [427] | 0.600 | | | | | | |
| PGB090-25A3 | \$1,217.00 | | 25:1 | triple | 65 [575] | 110 [974] | 220 [1947] | | 6 | 1600 [360] | 2200 [495] | 0.590 | | | | | | |
| PGB090-05A4 | \$932.00 | | 5:1 | double | 65 [575] | 90 [797] | 220 [1947] | 9 | | 960 [216] | 1200 [270] | 4.260 | | | | | | |
| PGB090-10A4 | \$932.00 | | 10:1 | double | 45 [398] | 65 [575] | 170 [1505] | | 6 | 1200 [270] | 1600 [360] | 4.150 | | | | | | |
| PGB120-15A4 | \$1,512.00 | 120 | 15:1 | triple | 110 [974] | 200 [1770] | 450 [3983] | 9 | | 2300 [517] | 3000 [674] | 4.700 | 90 °C [194 °F] | 10 [22] | IP55 | SV(2)L-210(B) | | |
| PGB120-25A4 | \$1,512.00 | | 25:1 | triple | 150 [1328] | 300 [2655] | 550 [4868] | | 6 | 2700 [607] | 3700 [832] | 4.640 | | | | | | |
| PGB120-05A5 | \$1,217.00 | | 5:1 | double | 120 [1062] | 240 [2124] | 500 [4425] | 9 | | 1600 [360] | 1900 [427] | 6.610 | | | | | | |
| PGB120-10A5 | \$1,217.00 | | 10:1 | double | 110 [974] | 200 [1770] | 450 [3983] | | 6 | 2000 [450] | 2500 [562] | 6.050 | | | | | | |
| PGB120-15A5 | \$1,512.00 | | 15:1 | triple | 110 [974] | 200 [1770] | 450 [3983] | 9 | | 2300 [517] | 3000 [674] | 4.700 | | | | | | |
| PGB120-25A5 | \$1,512.00 | | 25:1 | triple | 150 [1328] | 300 [2655] | 550 [4868] | | 6 | 2700 [607] | 3700 [832] | 4.640 | | | | | | |
| PGB120-05A6 | \$1,217.00 | | 5:1 | double | 120 [1062] | 240 [2124] | 500 [4425] | 9 | | 1600 [360] | 1900 [427] | 13.690 | | | | | | |
| PGB120-10A6 | \$1,217.00 | | 10:1 | double | 110 [974] | 200 [1770] | 450 [3983] | | 6 | 2000 [450] | 2500 [562] | 13.120 | | | | | | |
| PGB155-15A6 | \$1,770.00 | 155 | 15:1 | triple | 200 [1770] | 400 [3540] | 750 [6638] | 9 | | 5400 [1214] | 4900 [1102] | 15.070 | 90 °C [194 °F] | 20.4 [45.0] | IP55 | SV(2)M-220(B) | | |
| PGB155-25A6 | \$1,770.00 | | 25:1 | triple | 300 [2655] | 600 [5310] | 1100 [9736] | | 6 | 6400 [1439] | 6100 [1371] | 14.820 | | | | | | |
| PGB155-05A6 | \$1,401.00 | | 5:1 | double | 200 [1770] | 400 [3540] | 1100 [9736] | 9 | | 3800 [854] | 3000 [674] | 21.280 | | | | | | |
| PGB155-10A6 | \$1,401.00 | | 10:1 | double | 200 [1770] | 400 [3540] | 750 [6638] | | 6 | 4700 [1057] | 4100 [922] | 19.030 | | | | | | |



Precision Servo Gearboxes

Dimensions – Right-Angle Shaft PGB Series



SureGear PGB Series Right-Angle Shaft Gearboxes Dimension Drawing

| SureGear® Precision Servo Gearbox Dimensions – Right-Angle Shaft PGA Series (dimensions = mm [in]) | | | | | | | | | | | | | | | | |
|--|------------------|-----------------|----------------|----------------|-------------------|-------------------|------------------|-------------------|-------------------|---------------|--------------------|-------------|-------------------|------------|----------------|---------------|
| Part Number | A | B | C | E | G | H | J | K | L | M | N | P | Q | R | S | T |
| PGB070-05A1 | 151.5 [5.96] | 52.0 [2.05] | 36.0 [1.42] | 5.0 [0.20] | Ø70.0 [Ø2.76] | Ø52.0 [Ø2.05] | Ø16.0 [Ø0.63] | Ø46.0 [Ø1.81] | Ø30.0 [Ø1.18] | 5.0 [0.20] | Ø8.0 [Ø0.31] | M4-0.7x9 | Ø62.0 [Ø2.44] | M5-0.8x10 | 5.0 [0.20] | 5.0 [0.20] |
| PGB070-10A1 | | | | | | | | | | | | | | | | |
| PGB070-05A2 | 163.5 [6.44] | 65.0 [2.56] | 36.0 [1.42] | 5.0 [0.20] | Ø70.0 [Ø2.76] | Ø52.0 [Ø2.05] | Ø16.0 [Ø0.63] | Ø70.0 [Ø2.76] | Ø50.0 [Ø1.97] | 5.0 [0.20] | Ø14.0 [Ø0.55] | M5-0.8x11 | Ø62.0 [Ø2.44] | M5-0.8x10 | 5.0 [0.20] | 5.0 [0.20] |
| PGB070-10A2 | | | | | | | | | | | | | | | | |
| PGB070-15A1 | 158.0 [6.22] | 52.0 [2.05] | 36.0 [1.42] | 5.0 [0.20] | Ø70.0 [Ø2.76] | Ø52.0 [Ø2.05] | Ø16.0 [Ø0.63] | Ø46.0 [Ø1.81] | Ø30.0 [Ø1.18] | 5.0 [0.20] | Ø8.0 [Ø0.31] | M4-0.7x9 | Ø62.0 [Ø2.44] | M5-0.8x10 | 5.0 [0.20] | 5.0 [0.20] |
| PGB070-25A1 | | | | | | | | | | | | | | | | |
| PGB070-15A2 | 163.5 [6.44] | 65.0 [2.56] | 36.0 [1.42] | 5.0 [0.20] | Ø70.0 [Ø2.76] | Ø52.0 [Ø2.05] | Ø16.0 [Ø0.63] | Ø70.0 [Ø2.76] | Ø50.0 [Ø1.97] | 5.0 [0.20] | Ø14.0 [Ø0.55] | M5-0.8x11 | Ø62.0 [Ø2.44] | M5-0.8x10 | 5.0 [0.20] | 5.0 [0.20] |
| PGB070-25A2 | | | | | | | | | | | | | | | | |
| PGB090-15A2 | 204.5 [8.05] | 80.0 [3.15] | 46.0 [1.81] | 7.0 [0.28] | Ø90.0 [Ø3.54] | Ø68.0 [Ø2.68] | Ø22.0 [Ø0.87] | Ø90.0 [Ø3.54] | Ø70.0 [Ø2.76] | 6.0 [0.24] | Ø19.0 [Ø0.75] | M6-1.0x13 | Ø80.0 [Ø3.15] | M6-1.0x12 | 6.0 [0.24] | 6.0 [0.24] |
| PGB090-25A2 | | | | | | | | | | | | | | | | |
| PGB090-05A3 | 205.5 [8.09] | 80.0 [3.15] | 46.0 [1.81] | 7.0 [0.28] | Ø90.0 [Ø3.54] | Ø68.0 [Ø2.68] | Ø22.0 [Ø0.87] | Ø90.0 [Ø3.54] | Ø70.0 [Ø2.76] | 6.0 [0.24] | Ø19.0 [Ø0.75] | M6-1.0x13 | Ø80.0 [Ø3.15] | M6-1.0x12 | 6.0 [0.24] | 6.0 [0.24] |
| PGB090-10A3 | | | | | | | | | | | | | | | | |
| PGB090-05A4 | 205.5 [8.09] | 100.0 [3.94] | 46.0 [1.81] | 7.0 [0.28] | Ø90.0 [Ø3.54] | Ø68.0 [Ø2.68] | Ø22.0 [Ø0.87] | Ø115.0 [Ø4.53] | Ø95.0 [Ø3.74] | 8.0 [0.31] | Ø22.0 * [Ø0.87] | M8-1.25x17 | Ø108.0 [Ø4.25] | M8-1.25x16 | 10.0 [0.39] | 8.0 [0.31] |
| PGB090-10A4 | | | | | | | | | | | | | | | | |
| PGB120-15A4 | 272.0 [10.71] | 130.0 [5.12] | 70.0 [2.76] | 9.0 [0.35] | Ø120.0 [Ø4.72] | Ø90.0 [Ø3.54] | Ø32.0 [Ø1.26] | Ø145.0 [Ø5.71] | Ø110.0 [Ø4.33] | 8.0 [0.31] | Ø22.0 * [Ø0.87] | M8-1.25x17 | Ø108.0 [Ø4.25] | M8-1.25x16 | 10.0 [0.39] | 8.0 [0.31] |
| PGB120-25A4 | | | | | | | | | | | | | | | | |
| PGB120-05A5 | 272.0 [10.71] | 130.0 [5.12] | 70.0 [2.76] | 9.0 [0.35] | Ø120.0 [Ø4.72] | Ø90.0 [Ø3.54] | Ø32.0 [Ø1.26] | Ø145.0 [Ø5.71] | Ø110.0 [Ø4.33] | 8.0 [0.31] | Ø22.0 * [Ø0.87] | M8-1.25x17 | Ø108.0 [Ø4.25] | M8-1.25x16 | 10.0 [0.39] | 8.0 [0.31] |
| PGB120-10A5 | | | | | | | | | | | | | | | | |
| PGB120-15A5 | 272.0 [10.71] | 130.0 [5.12] | 70.0 [2.76] | 9.0 [0.35] | Ø120.0 [Ø4.72] | Ø90.0 [Ø3.54] | Ø32.0 [Ø1.26] | Ø145.0 [Ø5.71] | Ø110.0 [Ø4.33] | 8.0 [0.31] | Ø22.0 * [Ø0.87] | M8-1.25x17 | Ø108.0 [Ø4.25] | M8-1.25x16 | 10.0 [0.39] | 8.0 [0.31] |
| PGB120-25A5 | | | | | | | | | | | | | | | | |
| PGB120-05A6 | 268.5 [10.57] | 180.0 [7.09] | 97.0 [3.82] | 12.0 [0.47] | Ø155.0 [Ø6.10] | Ø120.0 [Ø4.72] | Ø40.0 [Ø1.57] | Ø200.0 [Ø7.87] | Ø114.0 [Ø4.50] | 8.0 [0.31] | Ø35.0 * [Ø1.38] | M12-1.75x25 | Ø140.0 [Ø5.51] | M10-1.5x20 | 12.0 [0.47] | 8.0 [0.31] |
| PGB120-10A6 | | | | | | | | | | | | | | | | |
| PGB155-05A6 | 341.0 [13.43] | 180.0 [7.09] | 97.0 [3.82] | 12.0 [0.47] | Ø155.0 [Ø6.10] | Ø120.0 [Ø4.72] | Ø40.0 [Ø1.57] | Ø200.0 [Ø7.87] | Ø114.0 [Ø4.50] | 8.0 [0.31] | Ø35.0 * [Ø1.38] | M12-1.75x25 | Ø140.0 [Ø5.51] | M10-1.5x20 | 12.0 [0.47] | 8.0 [0.31] |
| PGB155-10A6 | | | | | | | | | | | | | | | | |
| PGB155-15A6 | 364.0 [14.33] | 180.0 [7.09] | 97.0 [3.82] | 12.0 [0.47] | Ø155.0 [Ø6.10] | Ø120.0 [Ø4.72] | Ø40.0 [Ø1.57] | Ø200.0 [Ø7.87] | Ø114.0 [Ø4.50] | 8.0 [0.31] | Ø35.0 * [Ø1.38] | M12-1.75x25 | Ø140.0 [Ø5.51] | M10-1.5x20 | 12.0 [0.47] | 8.0 [0.31] |
| PGB155-25A6 | | | | | | | | | | | | | | | | |

* Dimension with supplied bushing

NOTE: See our website: www.AutomationDirect.com for complete engineering drawings.



Precision Servo Gearboxes

SureGear® Servo Gearbox Replacement Parts



| SureGear® Precision Servo Gearboxes – Replacement Parts | | |
|---|---------|---|
| Part Number | Price | Description |
| <u>PG050-KEY</u> | \$4.50 | Output Shaft Key, replacement, 4 x 4 x 14 mm, for SureGear PGA050 series gearboxes. |
| <u>PG070-KEY</u> | \$4.50 | Output Shaft Key, replacement, 5 x 5 x 22 mm, for SureGear PGA070 and PGB070 series gearboxes. |
| <u>PG090-KEY</u> | \$4.50 | Output Shaft Key, replacement, 6 x 6 x 28 mm, for SureGear PGA090 and PGB090 series gearboxes. |
| <u>PG120-KEY</u> | \$4.50 | Output Shaft Key, replacement, 10 x 8 x 45 mm, for SureGear PGA120 and PGB120 series gearboxes. |
| <u>PG155-KEY</u> | \$4.50 | Output Shaft Key, replacement, 12 x 8 x 65 mm, for SureGear PGA155 and PGB155 series gearboxes. |
| <u>PGA4-A5-BUSH</u> | \$22.50 | Input Shaft Bushing, replacement, 28 x 22 x 30.5 mm, for all SureGear gearboxes using SV(2)L-210(B) and SV(2)M-210(B) SureServo motors. |
| <u>PGA6-BUSH</u> | \$22.50 | Input Shaft Bushing, replacement, 38 x 35 x 36 mm, for all SureGear gearboxes using SV(2)M-220(B) and SV(2)M-230(B) SureServo motors. |