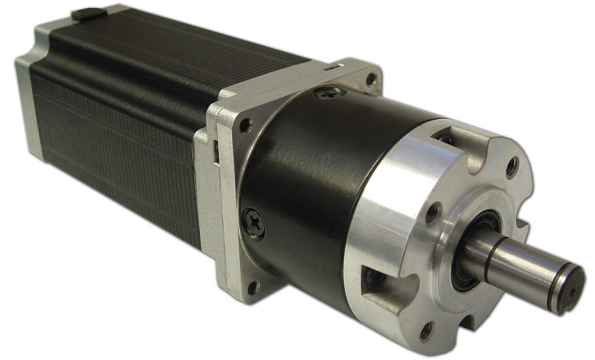


# 23YPG Series - High Torque Stepper Gearmotor



## FEATURES

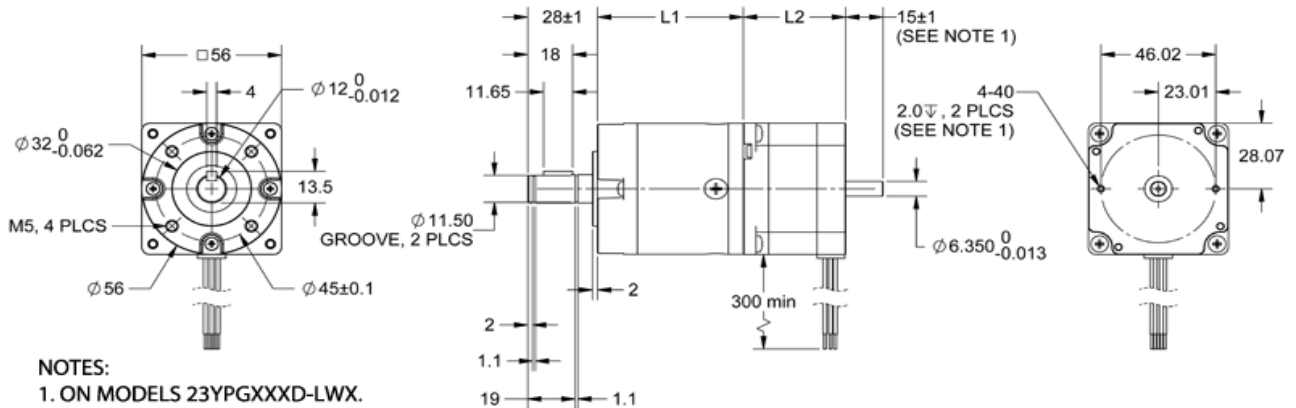
- NEMA Size 23 Integrated Gearmotor
- High-Torque Stepper Motor
- Economy Planetary Gearbox
- High Torque - Up to 2,083 oz-in
- 1.8° Step Angle
- Can be Customized for
  - Winding Currents
  - Shaft Options
  - Cables and Connectors
- CE Certified and RoHS Compliant



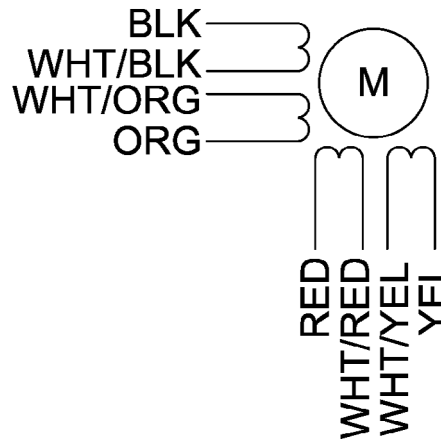
## DESCRIPTION

The 23YPG Series Gearmotor incorporates a High-Torque Stepper Motor and an Economic Planetary Gearbox to offer you an exceptional value. This compact package can deliver torque up to 2,083 oz-in. This gearmotor is ideal for applications that require high torque in a small package. The gearmotor can be customized to perfectly match your voltage, current, and maximum operating speed for maximum flexibility.

## DIMENSIONS



## WIRING



L010588

- Speed of the output shaft (after gearbox) = (Motor Speed)/(Gear Ratio)
- Torque of the output shaft (after gearbox) = (Motor Torque/) X (Gear Ratio)
- Rotor Inertia of the output (shaft after gearbox) = (Rotor Motor Inertia) X (Gear Ratio)<sup>2</sup>

**Create a complete Model Number by selecting a motor from Table 1 and Gearbox from Table 2**

## 23YPG002S - LW8 - R3.6

Table 1	Output Shaft of Motor Before Gearbox									
Model #	NEMA Size	Bipolar Torque (oz-in)	Bipolar Series Current (A)	Bipolar Series Voltage (V)	Bipolar Series Resistance Per Phase (ohm)	Bipolar Inductance (mH)	Rotor Inertia (oz-in-sec <sup>2</sup> )	# of Lead Wires	Weight (lbs)	"L2" Length (mm)
23YPG002S-LW8	23	76	0.7	8.1	11.4	21.6	0.0017	8	1.00	41
23YPG004S-LW8	23	76	1.4	4.0	2.8	5.6	0.0017	8	1.00	41
23YPG006S-LW8	23	76	2.1	2.7	1.3	2.4	0.0017	8	1.00	41
23YPG104S-LW8	23	175	1.4	5.1	3.2	12.0	0.0042	8	1.55	56
23YPG106S-LW8	23	175	2.1	3.2	1.5	4.4	0.0042	8	1.55	56
23YPG108S-LW8	23	175	2.8	2.8	1	2.6	0.0042	8	1.55	56
23YPG202S-LW8	23	262	0.7	10.5	17.2	56.0	0.0068	8	2.21	76
23YPG204S-LW8	23	262	1.4	5.1	4.5	14.4	0.0068	8	2.21	76

Gearbox Ratio (R)	Exact Reduction Ratio	Rated Torque (oz-in)	Max Torque (oz-in)	Efficiency	L1 (mm)	Weight (lbs)
R3.6	3.6	212	637	90%	47	1.46
R4.3	4.25	212	637	90%	47	1.46
R13	12.96	708	2124	81%	47	1.64
R15	15.30	708	2124	81%	47	1.64
R18	18.06	708	2124	81%	47	1.64
R47	46.66	2266	4166	73%	70.0	2.03
R55	55.08	2266	4166	73%	70.0	2.03
R65	65.03	2266	4166	73%	70.0	2.03
R77	76.77	2266	4166	73%	70.0	2.03
R168	167.96	2083	6250	66%	90.0	2.42
R198	198.29	2083	6250	66%	90.0	2.42
R234	234.09	2083	6250	66%	90.0	2.42
R276	276.36	2083	6250	66%	90.0	2.42
R326	326.25	2083	6250	66%	90.0	2.42

SPECIFICATION CONVERSION TABLE

Connection	Current (A)	Resistance (R)	Inductance (L)
Series Standard	A	R	L
Parallel	2A	R / 4	L / 4
Unipolar	1.414A	R / 2	L / 4

Housing Material:	Metal	Radial Play at Shaft:	0.04mm
Bearing at Output:	Ball Bearing	Thrust Play at Shaft:	0.3mm
Radial Load:	11.02lbs	Backlash, at No-Load:	3°
Shaft Axial Load:	7.72lbs	Shaft Press Fit Force, Max:	33.07lbs
Step Angle Accuracy:	± 5% (Full Step, No Load)	Ambient Temperature:	-20° to +50° C
Resistance Accuracy:	± 10%	Insulation Type:	Class B (130°C Internal)
Inductance Accuracy:	± 20%	Insulation Resistance:	100M Ohm Min, 500VDC
Temperature Rise:	80°C Max (2 Phases On)	Dielectric Strength:	500VDC for 1 minute
Gearbox Shaft Diameter:	8mm		

Note: Custom leadwires, cables, connectors, and windings are available upon request.