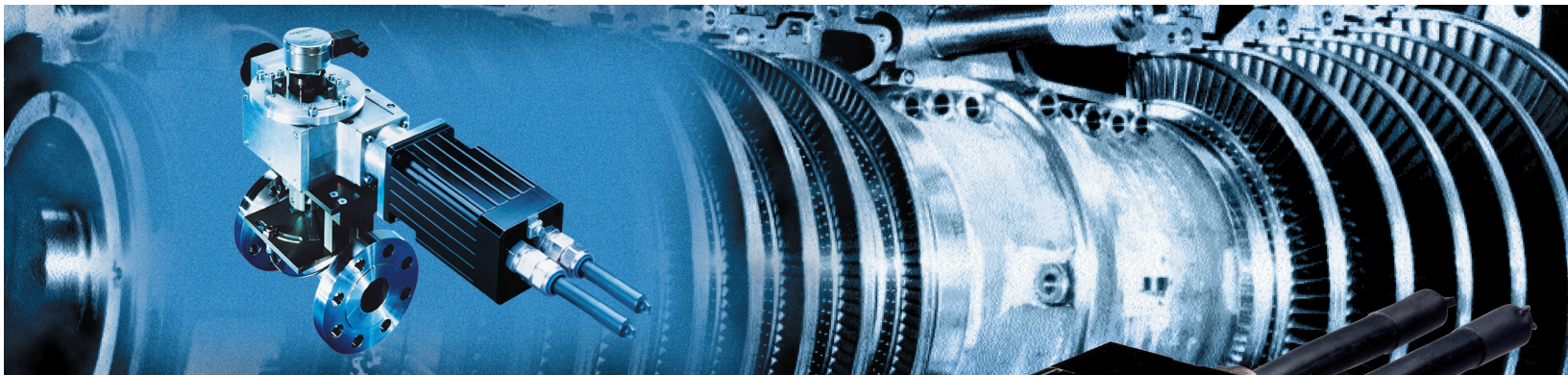


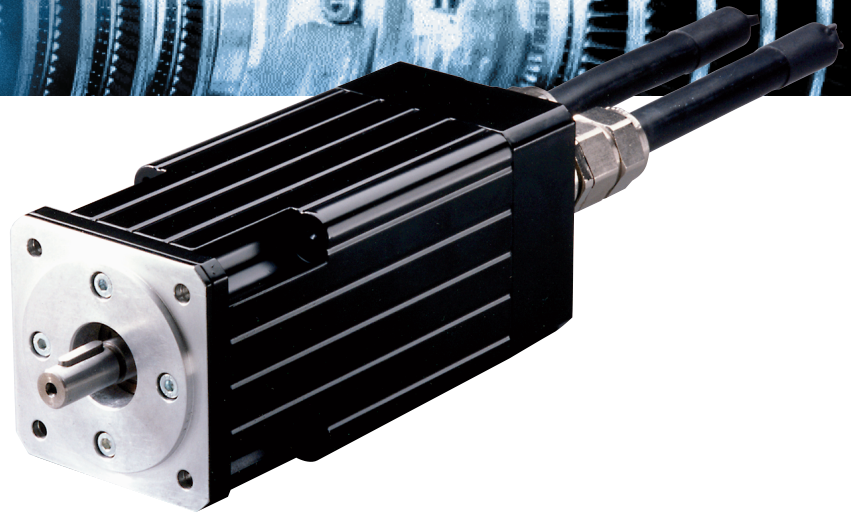
G493 Series Explosion-Proof Brushless Servo Motors



CENELEC Certified

Explosion-proof design for hazardous environments

Designed and tested for operation in environments where vapors or gasses form flammable or explosive environments. Flameproof housing has proven capable of withstanding internal explosions without bursting or allowing ignition to reach outside the motor frame.



SERVO MOTOR FEATURES:

- **International Acceptance.** Explosion-proof (Ex-d) design has proven capable of withstanding internal explosions without bursting or allowing ignition to reach outside the motor frame in compliance with:
 - CENELEC Group IIC for Class T4 environments
- **Compact Design.** Through the use of high energy magnets, high fill factor stators and a thermally efficient aluminum case; Moog's G493 series motors are among the industry's highest in power density. The compact package increases design flexibility by allowing you to put the power where you need it.
- **High Dynamics.** Combining the high power density package with a low inertia rotor allows G493 series motors to deliver rapid load acceleration and deceleration to reduce move time.
- **High Temperature Operation.** Use of SmCo magnets, resolver feedback and Class H winding insulation allows G493 series motors to be used in environments with high ambient temperatures. Fully rated performance available with ambient temperatures to 45°C. Reduced torque operations supported at ambient temperatures over 100°C. (For CENELEC Class T4 applications, performance will be derated at ambient temperatures above 35°C.)
- **Customized Solutions.** Custom shafts and windings available to match your special needs.
- **Flexible Drive Solutions.** Moog servo drives, available with integral motion control, can be used to fully satisfy your system solutions.

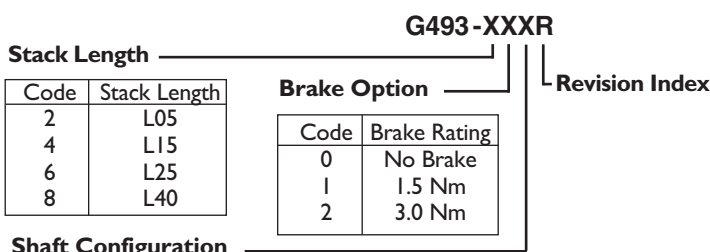
SPECIFICATIONS

| MOTOR | UNITS | MODELS | | | |
|----------------------------|---|-------------|--------------|--------------|-------------|
| | METRIC (ENGLISH) | G493-2xx | G493-4xx | G493-6xx | G493-8xx |
| PERFORMANCE | | | | | |
| △ Continuous Stall Torque | Nm (lb-in) | 0.60 (5.31) | 1.65 (14.60) | 2.55 (22.57) | 3.70 (32.8) |
| △ Continuous Stall Current | Arms | 1.60 | 3.20 | 3.40 | 4.20 |
| △ Peak Stall Torque | Nm (lb-in) | 1.50 (13.3) | 4.70 (41.60) | 8.50 (75.23) | 13.00 (115) |
| △ Peak Stall Current | Arms | 4.60 | 10.6 | 12.4 | 16.3 |
| △ Nominal Speed | rpm | 8800 | 6300 | 4800 | 3900 |
| △ Nominal Power | kW (hp) | 0.45 (0.60) | 0.95 (1.27) | 1.15 (1.54) | 1.40 (1.88) |
| △ Max Speed | rpm | 10500 | 8000 | 5500 | 4500 |
| 6 Torque Constant | Nm/Arms (lb-in/Arms) | 0.40 (3.54) | 0.53 (4.69) | 0.75 (6.64) | 0.90 (7.97) |
| △ Terminal Resistance | Ohm | 15.2 | 4.9 | 5.1 | 4.1 |
| △ Motor Inductance | mH | 18.8 | 8.5 | 10.3 | 8.9 |
| △ Electrical Time Constant | msec | 1.2 | 1.7 | 2.0 | 2.2 |
| Inertia – w/o brake | kg-cm ² (lb-in-sec ² x 10 ⁻⁴) | 0.16 (1.42) | 0.39 (3.45) | 0.62 (5.49) | 0.97 (8.59) |
| Weight – w/o brake | kg (lb) | 2.1 (4.6) | 2.7 (5.9) | 3.3 (7.3) | 4.2 (9.2) |

NOTES:

- △ With motor mounted on a 300 x 300 x 12 mm steel heat sink with a coil temperature 100°C over ambient (max. 45°C).
- △ For at least 1 second out of 10 with less than 15% saturation. Contact Moog for higher torque at lower duty cycles.
- △ K_t-line shows non-linearity between current and torque at high end.
- △ Nominal values at maximum continuous output power with conditions as in note 1.
- △ Speed where EMF is 360 volts.
- △ At 25°C (80°F) coil temperature.
- △ Currents are Arms per phase.
- 8. Specification tolerances are ±10%.

MODEL NUMBER DESIGNATION



Shaft Configuration

| Code | Shaft Type | Sealing | Cable Outlet |
|------|------------|---------|--------------|
| 0 | Slot & Key | No | Back |
| 1 | Slot & Key | Yes | Back |
| 2 | Plain | No | Back |
| 3 | Plain | Yes | Back |
| 4 | Slot & Key | No | Top |
| 5 | Slot & Key | Yes | Top |
| 6 | Plain | No | Top |
| 7 | Plain | Yes | Top |

RESOLVER-TRANSMITTER

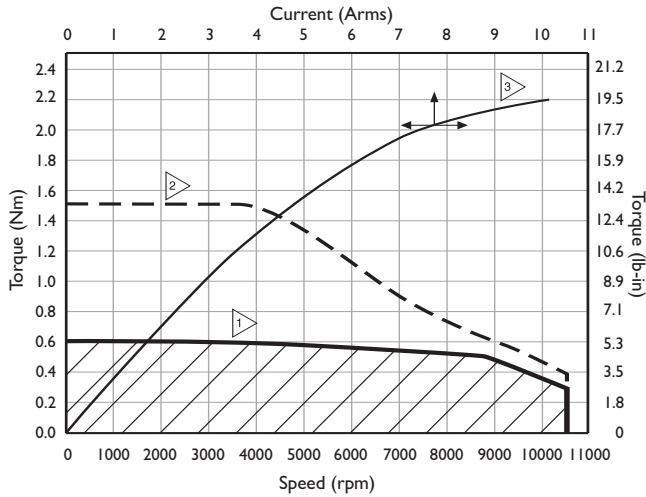
| | SPECIFICATIONS |
|----------------------|-------------------|
| Pole Count | 2 |
| Input voltage | 4.0 Vrms |
| Input frequency | 3400 Hz - 8000 Hz |
| Input current | ≤ 35 mA rms |
| Transformation Ratio | 0.5 |

OPTIONAL BRAKE (Supply 24 Volts ±10%)

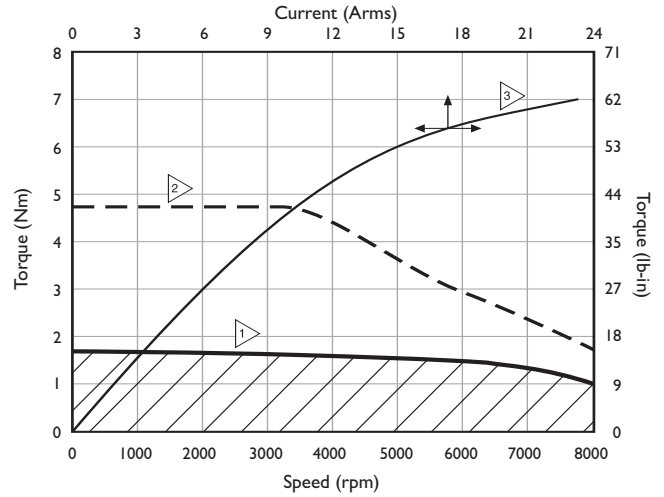
| | Units | 1 | 2 |
|----------------------|---|-------------|-------------|
| Torque (min) | Nm (lb - in) | 1.5 (13.3) | 3.0 (26.6) |
| Power Input (max) | Watt | 11 | 10 |
| Inertia (additional) | kg-cm ² (lb-in-sec ² x 10 ⁻⁴) | 0.07 (0.62) | 0.18 (1.59) |
| Weight (additional) | kg (lb) | 0.20 (0.44) | 0.32 (0.70) |

PERFORMANCE CURVES

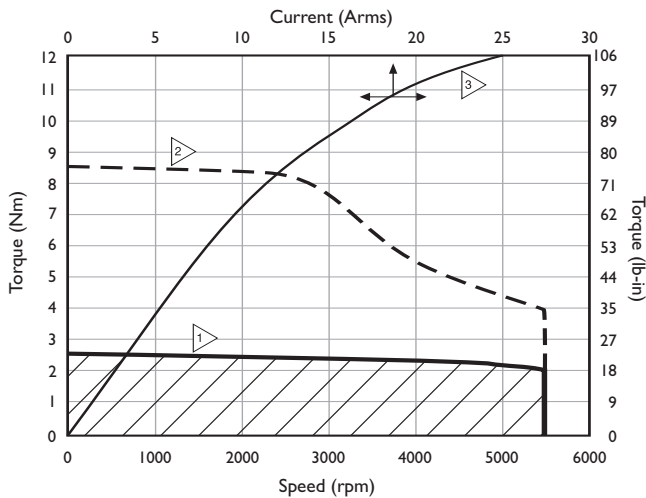
MODEL G493-2xx



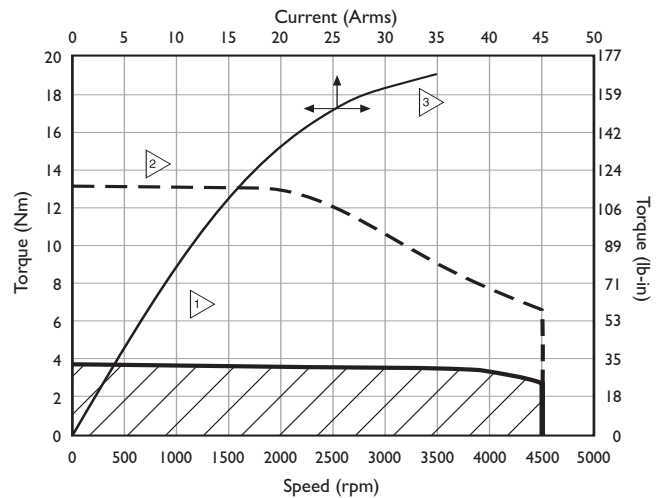
MODEL G493-4xx



MODEL G493-6xx



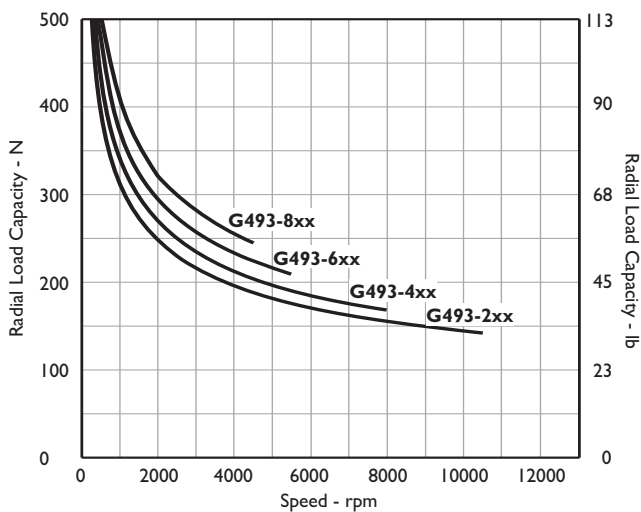
MODEL G493-8xx



Conditions : See notes $\triangle 1$, $\triangle 2$ and $\triangle 3$.

 Designates Continuous Operating Area.

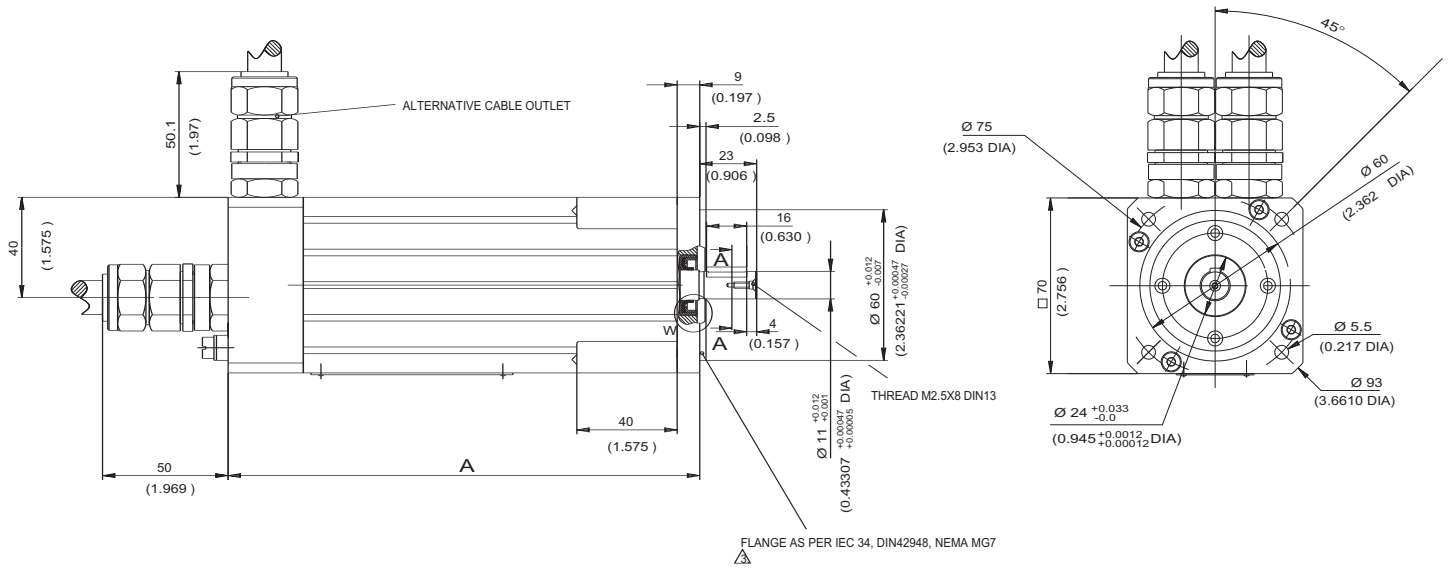
BEARINGS - RADIAL LOAD CAPACITY



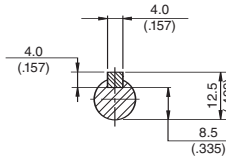
Contact Moog for applications with elevated ambient temperatures.

Radial Load Capacity (for 20,000 hr. B10 life) applied at shaft extension mid-point.
Consult factory for other loading conditions.

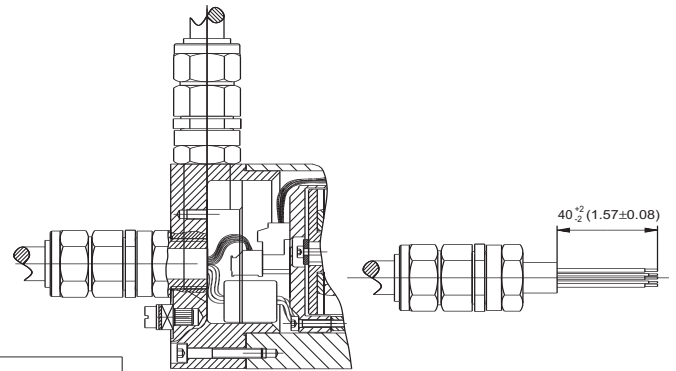
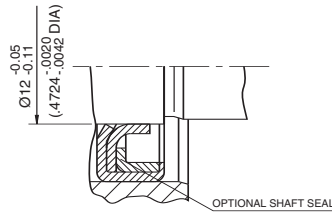
INSTALLATION DRAWING



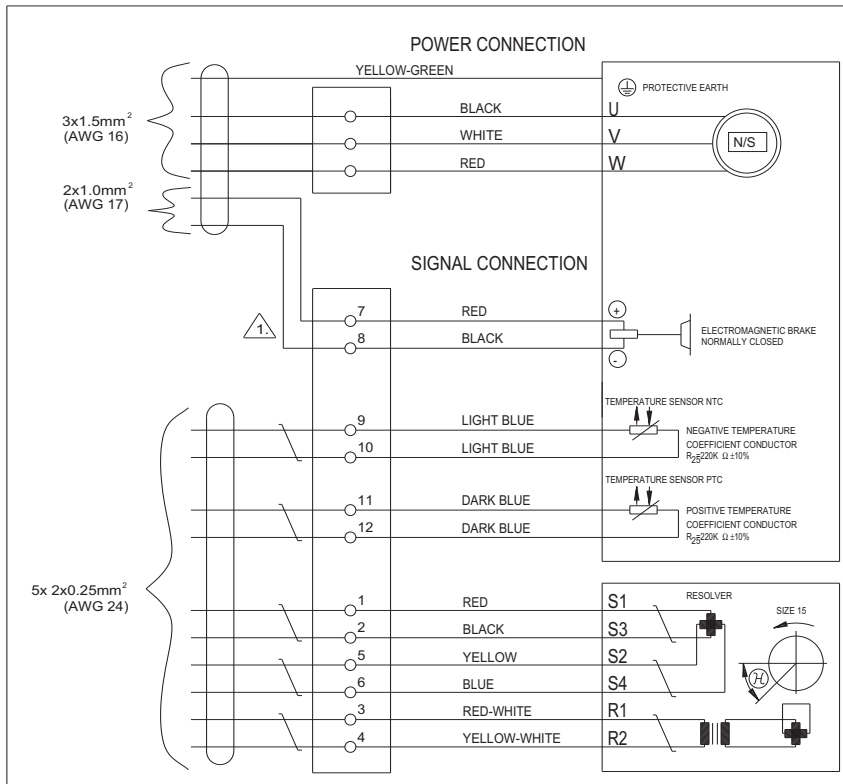
SECTION A-A



DETAIL W



SCREW TERMINAL



| MODEL NO. | "A" | "A" with brake |
|-----------|---------------|----------------|
| G493-2xx | 162.0 (6.378) | 188.0 (7.402) |
| G493-4xx | 187.5 (7.382) | 213.5 (8.405) |
| G493-6xx | 213.0 (8.386) | 239.0 (9.409) |
| G493-8xx | 251.0 (9.882) | 277.0 (10.905) |

NOTES:

- △ MOTOR WITHOUT BRAKE
PIN 7 AND 8 NOT CONNECTED
- △ DIMENSIONS IN PARENTHESIS ARE IN INCHES
- △ NEMA/IEC METRIC MOUNTING