

CG type

| Model | | SHA32A | | | | | |
|--|--------------------|--|------------|------------|------------|------------|-----|
| | | 50 | 80 | 100 | 120 | 160 | |
| Servo Drive | | REL-230-18 REL-230-36 HA-800□-6D/E-200 | | | | | |
| Max. torque* ¹ | Nm | 281 | 395 | 433 | 459 | 484 | |
| | kgf·m | 28.7 | 40.3 | 44.2 | 46.8 | 49.4 | |
| Allowable continuous torque* ^{1,2} | Nm | 90 | 151 | 178 | 178 | 178 | |
| | kgf·m | 9.2 | 15.4 | 18.2 | 18.2 | 18.2 | |
| Max. rotational speed* ¹ | r/min | 96 | 60 | 48 | 40 | 30 | |
| Torque constant* ¹ | Nm/A | 20 | 33 | 41 | 49 | 66 | |
| | kgf·m/A | 2.1 | 3.4 | 4.2 | 5.0 | 6.7 | |
| Max. current* ¹ | A | 17.7 | 15.4 | 13.7 | 12.2 | 10 | |
| Allowable continuous current* ^{1,2} | A | 6.0 | 6.0 | 5.7 | 5.0 | 4.1 | |
| EMF constant* ³ | V/(rpm) | 2.3 | 3.7 | 4.6 | 5.5 | 7.4 | |
| Phase resistance (20°C) | Ω | 0.33 | | | | | |
| Max. current* ¹ | mH | 1.4 | | | | | |
| Inertia moment (without brake) | GD ² /4 | kg·m ² | 1.7 | 4.3 | 6.7 | 9.7 | 17 |
| | J | kgf·cm·s ² | 17 | 44 | 68 | 99 | 175 |
| Inertia moment (with brake) | GD ² /4 | kg·m ² | 2.0 | 5.1 | 7.9 | 11 | 20 |
| | J | kgf·cm·s ² | 20 | 52 | 81 | 116 | 207 |
| Reduction ratio | | 50:1 | 80:1 | 100:1 | 120:1 | 160:1 | |
| Permissible moment load | Nm | 580 | | | | | |
| | kgf·m | 59.2 | | | | | |
| Moment stiffness | Nm/rad | 100 × 10 ⁴ | | | | | |
| | kgf·m/arc min | 29.6 | | | | | |
| One-way positional accuracy | Sec | 40 | 30 | 30 | 30 | 30 | |
| Repeatability | Sec | ±4 | | | | | |
| Bi-directional repeatability | Sec | 60 | 25 | 25 | 25 | 25 | |
| Encoder type | | Magnetic absolute encoder | | | | | |
| Single motor revolution Encoder resolution | | 2 ¹⁷ (131,072) | | | | | |
| Motor multi revolution counter | | 2 ¹⁶ (65,536) | | | | | |
| Output resolution | Pulse/rev | 6,553,600 | 10,485,760 | 13,107,200 | 15,728,640 | 20,971,520 | |
| Mass (without brake) | kg | 7.7 | | | | | |
| Mass (with brake) | kg | 8.0 | | | | | |
| Environmental conditions | | Operating temperature: 0 to 40°C/Storage temperature: -20 to 60°C Operating humidity/storage humidity: 20 to 80%RH (no condensation) Resistance to vibration: 25 m/s ² (frequency: 10 to 400Hz)/Shock resistance: 300 m/s ² * ⁴ No dust, no metal powder, no corrosive gas, no inflammable gas, no oil mist To be used indoors, no direct sunlight Altitude: less than 1,000 m above sea level | | | | | |
| Motor insulation | | Insulation resistance: 100MΩ or more (by DC500V insulation tester) Dielectric strength: AC1,500V/1 min Insulation class: A | | | | | |
| Mounting direction | | Can be installed in any direction. | | | | | |
| Protection structure | | Totally enclosed self-cooled type (IP54) | | | | | |

The table shows typical output values of actuators.

*1: Typical characteristics when used with HA-800.

*2: Value after temperature rise and saturation when the 400 x 400 x 20 [mm] aluminum radiation plate is installed.

*3: Value of phase induced voltage constant multiplied by 3.

*4: For testing conditions, refer to [1-12 Shock resistance] (P49) and [1-13 Vibration resistance] (P50).