High Precision SHA-CG Actuators
Compact, Hollow Shaft Design

Direct Drive Motor Performance
- ~ 80-90% less weight
- ~ 50% more compact
- High torque for fast acceleration and positioning

The SHA-CG delivers high precision with improved positioning accuracy and surface runout. Ideal for high precision rotary applications such as indexing tables.
### Product Features

- Improved output shaft runout accuracy (radial runout & axial runout: less than 0.010mm)
- Improved structure for high precision surface and shaft runout.
- Output shaft resolution is evenly divisible
- Indexing at 0.01° / 0.001° / 0.0001°
- Optional mounting stand available

### Outline Dimensions

#### SHA20A-CG

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<tr>
<td>20A</td>
<td>40A</td>
<td>120:1</td>
<td>107</td>
<td>4.6</td>
<td>2.1</td>
<td>60</td>
<td>15,107,700</td>
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*Value in parenthesis is with brake.

**Output Encoder Resolution = Encoder Resolution x Reduction Ratio.

(1) The dimension tolerances that are not specified vary depending on the manufacturing method. Please check the confirmation drawing or contact us for dimension tolerances not shown.

#### SHA32A-CG

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**Output Encoder Resolution = Encoder Resolution x Reduction Ratio.

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#### SHA40A-CG

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**Output Encoder Resolution = Encoder Resolution x Reduction Ratio.

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### Product Features

- Improved output shaft runout accuracy (side runout / shaft runout: less than 0.010mm)
- Improved structure for high precision surface and shaft runout.
- Ideal for index table application.

### Easily split output shaft resolution

Indexing at 0.01° / 0.001° / 0.0001° is possible.

### Vertical stand for index table is also available

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#### Outline Dimensions

**SHA20A-CG**

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**SHA32A-CG**

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**SHA40A-CG**
The SHA-CG Series actuators is compact, delivers high torque and features a hollow shaft that allows design versatility in demanding applications.

**Model Options**
- **Gearhead**
  - Standard: Harmonic Drive® Gear - CSG Series 50:1 - 160:1
- **Cable Orientation**
  - Standard: Rear exit
  - Option: Side exit
- **Encoder**
  - Standard: Magnetic Absolute Encoder (17 bit)
  - Option: Multi-Turn (76 bit) (Nikon - A Format)
  - Option: Absolute Encoder: Panasonic format, Mitsubishi format, BOS C format
  - Option: Incremental Encoder
- **Brake**
  - Standard: No Brake
  - Option: Motor Brake (regarded without clearance change)
- **Servomotor**
  - Standard: 20V DC
  - Option: 120V AC
  - Option: 72V DC, 48V DC
- **Environmental**
  - Standard: IP 54
  - Option: Temperature Range 0°C - 40°C
  - Option: UL, CE marking, RoHS

**Recommended Drivers**

<table>
<thead>
<tr>
<th>Size 20</th>
<th>Size 25</th>
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<th>Size 40</th>
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**Application Examples**
- **Theta Axis**
- **Wafer Dicing**
- **Precision Machining (Indexing Device)**