Cross Roller Parallel Grip with Rubber Cover

Key Features

- **Protective rubber cover for use in dusty and harsh environments**
  Rubber cover prevents substances and particulates such as mist and dusts from penetrating into the interior of the unit.
- **High accuracy and smooth operation with cross roller guide**
  Cross roller bearing retention structure used in the sliding material provides high accuracy and smooth motion.
- **Compact body and high rigidity**
  Telescopic slides and bearing retainers to provide high moments to size ratio.
- **Clean room compliant types available**
  Clean Room Class 10 and Class 1000 types available.

How To Order

**Standard**

**BHG-01AS**

**Option**

**BHG-01AS - ET3S2 - GH**

**Option**

**BHG-01AS-GH** (BHG-01AS with oil-proof rubber cover) with 2 of ET3 non-contact reed switches

### Size

- **01AS**
- **03AS**
- **04AS**
- **05AS**
- **06AS**

### Sensor, Quantity

- **ET3**: Contact 2-lead
- **ET3L**: Contact 2-lead
- **ET2**: Contact 2-lead
- **ET2L**: Contact 2-lead
- **E24**: Contact 2-lead

### Specification

<table>
<thead>
<tr>
<th>Model</th>
<th>BHG-01AS</th>
<th>BHG-03AS</th>
<th>BHG-04AS</th>
<th>BHG-05AS</th>
<th>BHG-06AS</th>
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<tbody>
<tr>
<td>Size</td>
<td>01AS</td>
<td>03AS</td>
<td>04AS</td>
<td>05AS</td>
<td>06AS</td>
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<tr>
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<td>ET2</td>
<td>ET2L</td>
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<td>01AS</td>
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<td>ET3L</td>
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<td>ET2L</td>
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<td>03AS</td>
<td>ET3</td>
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<td>ET2</td>
<td>ET2L</td>
<td>E24</td>
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<td>06AS</td>
<td>ET3</td>
<td>ET3L</td>
<td>ET2</td>
<td>ET2L</td>
<td>E24</td>
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</tbody>
</table>

### Performance Data

#### Grip Force

The graph shows grip force in opening and closing with effective external finger lengths $f$ from gripper cover surface under different air pressure (MPa).

**Open** (○)  **Closed** (●)

**BHG-04AS**

**BHG-05AS**

**BHG-06AS**

### Parts List

<table>
<thead>
<tr>
<th>No.</th>
<th>Name</th>
<th>Material</th>
<th>No.</th>
<th>Name</th>
<th>Material</th>
<th>No.</th>
<th>Name</th>
<th>Material</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>Body</td>
<td>Aluminum</td>
<td>10</td>
<td>Arm</td>
<td>Carbon Steel</td>
<td>19</td>
<td>NC Piston</td>
<td>Stainless Steel</td>
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<tr>
<td>2</td>
<td>Piston</td>
<td>Stainless Steel</td>
<td>11</td>
<td>Cross Roller A</td>
<td>Stainless Steel</td>
<td>20</td>
<td>NC Spring</td>
<td>Stainless Steel</td>
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</tbody>
</table>
Cross Roller Parallel Gripper with Rubber Cover

**Key Features**

- **Protective rubber cover for use in dusty and harsh environments**
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- **High accuracy and smooth operation with cross roller guide**
  - Cross roller bearing retention structure used in the sliding material provides high accuracy and smooth motion.
- **Compact body and high rigidity**
  - Telescopic slides and bearing retainers to provide high moments to size ratio.
- **Clean room compliant types available**
  - Clean Room Class 10 and Class 1000 types available.

**How To Order**

**Standard** BHG-01AS

**Option** BHG-01AS - ET3S2 - GH

**Sensor, Quantity** BHG-01AS-GH (BHG-01AS with oil-proof rubber cover) with 2 of ET3 non-contact reed switches.

**Specification**

<table>
<thead>
<tr>
<th>Model</th>
<th>Working Pressure</th>
<th>Lubrication</th>
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</thead>
<tbody>
<tr>
<td>BHG-01AS</td>
<td>pneumatic: 0.1 to 0.7 MPa (0.3 to 0.7MPa for NO &amp; NC types)</td>
<td>not required or turbine oil class 1 (ISO VG32)</td>
</tr>
</tbody>
</table>

**Performance Data**

**Grip Force**

The graph shows grip force in opening and closing with effective external finger lengths L from gripper cover surface under different air pressure (MPa).

**Internal Structure / Parts & Seals**

- **Standard (Double-Acting) & NO (Single Acting - Normally Open)**
- **NC (Single Acting - Normally Closed)**

**Parts List**

<table>
<thead>
<tr>
<th>No.</th>
<th>Name</th>
<th>Material</th>
<th>No.</th>
<th>Name</th>
<th>Material</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>Body</td>
<td>Aluminum</td>
<td>10</td>
<td>Arm</td>
<td>Carbon Steel</td>
</tr>
<tr>
<td>2</td>
<td>Piston</td>
<td>Stainless Steel</td>
<td>11</td>
<td>Cross Roller A</td>
<td>Stainless Steel</td>
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<tr>
<td>3</td>
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<td>Resin</td>
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<td>Cross Roller B</td>
<td>Magnet</td>
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<tr>
<td>4</td>
<td>Master (Base) Jaw</td>
<td>Carbon Steel</td>
<td>13</td>
<td>Piston Seal</td>
<td>Retainer A</td>
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<tr>
<td>5</td>
<td>Bearing Guide A</td>
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<td>Rod Seal</td>
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<tr>
<td>6</td>
<td>Bearing Guide B</td>
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<td>Cylinder Seal</td>
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<tr>
<td>7</td>
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<td>Snap Ring</td>
<td>Rubber</td>
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<tr>
<td>8</td>
<td>Operating Shaft A</td>
<td>Bearing Shaft</td>
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<td>NO Spring</td>
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<tr>
<td>9</td>
<td>Operating Shaft B</td>
<td>Bearing Shaft</td>
<td>18</td>
<td>NC Body</td>
<td>Aluminum</td>
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**Seals List**

<table>
<thead>
<tr>
<th>No.</th>
<th>Name</th>
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<th>Name</th>
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<tr>
<td>13</td>
<td>PSD-12</td>
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<td>MYA-12</td>
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<td>PSD-32</td>
<td>MYA-16</td>
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</table>

**Hand Grip 2-Jaw**

Cross roller bearing retention structure used in the sliding material provides high accuracy and smooth motion.

Rubber cover prevents substances and particulates such as mists and dusts from penetrating into the interior of the unit.

Protective rubber cover for use in dusty and harsh environments.
**BHG Series** Compact Cross Roller Parallel Hand

**Layout Drawing**

### BHG-01AS (Optimal Grip Force 15N to 30N)

**BHG-01AS Standard • NO • NC**

- Values inside [ ] are for NC (Normally Closed) type

![BHG-01AS Diagram](image)

**BHG-01AS-E_S**

- Values inside [ ] are for NC (Normally Closed) type

![BHG-01AS-E_S Diagram](image)

### BHG-03AS (Optimal Grip Force 30N to 50N)

**BHG-03AS Standard • NO • NC**

- Values inside [ ] are for NC (Normally Closed) type

![BHG-03AS Diagram](image)

**BHG-03AS-E_S**

- Values inside [ ] are for NC (Normally Closed) type

![BHG-03AS-E_S Diagram](image)

### BHG-04AS (Optimal Grip Force 40N to 80N)

**BHG-04AS Standard • NO • NC**

- Values inside [ ] are for NC (Normally Closed) type

![BHG-04AS Diagram](image)

**BHG-04AS-E_S**

- Values inside [ ] are for NC (Normally Closed) type

![BHG-04AS-E_S Diagram](image)

### BHG-05AS (Optimal Grip Force 80N to 150N)

**BHG-05AS Standard • NO • NC**

- Values inside [ ] are for NC (Normally Closed) type

![BHG-05AS Diagram](image)

**BHG-05AS-E_S**

- Values inside [ ] are for NC (Normally Closed) type

![BHG-05AS-E_S Diagram](image)

For CAD data, please go to [Link]
BHG Series Compact Cross Roller Parallel Hand

**Layout Drawing**

- **BHG-01AS** (Optimal Grip Force 15N to 30N)
  - **BHG-01AS Standard • NO • NC**
  - **BHG-01AS-ES**

  *Values inside ( ) are for NC (Normally Closed) type*

- **BHG-03AS** (Optimal Grip Force 30N to 50N)
  - **BHG-03AS Standard • NO • NC**
  - **BHG-03AS-ES**

  *Values inside ( ) are for NC (Normally Closed) type*

- **BHG-04AS** (Optimal Grip Force 40N to 80N)
  - **BHG-04AS Standard • NO • NC**
  - **BHG-04AS-ES**

  *Values inside ( ) are for NC (Normally Closed) type*

- **BHG-05AS** (Optimal Grip Force 80N to 150N)
  - **BHG-05AS Standard • NO • NC**
  - **BHG-05AS-ES**

  *Values inside ( ) are for NC (Normally Closed) type*
BHG Series  Compact Cross Roller Parallel Hand

BHG-01AS/03AS/04AS/05AS/06AS

Layout Drawing

**BHG-06AS** (Optimal Grip Force 100N to 250N)

**BHG-06AS Standard • NO • NC**

*Values inside ( ) are for NO (Normally Open) and NC (Normally Closed) type.*

For CAD data, please go to [link]
BHG Series  Compact Cross Roller Parallel Hand

Layout Drawing

BHG-06AS (Optimal Grip Force 100N to 250N)

BHG-06AS  Standard • NO • NC

Values inside () are for NO (Normally Open) and NC (Normally Closed) type.