

# Extended Contact Ball Slide Goniometers

## Stage Size 40 × 40 mm

GOHT-40A

RoHS

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Others

15 × 15 mm

25 × 25 mm

40 × 40 mm

60 × 60 mm

65 × 65 mm

80 × 80 mm

100 × 100 mm

120 × 120 mm

Others

High precision goniometers with integrated bearing ways for superior stiffness, accuracy and durability.

- Centering accuracy 10x better than typical dovetail goniometers.
- Designed for use in a variety of orientations. Not limited to horizontal mounting.
- Integral-guide structure offers high performance of rotation center displacement  $\phi 0.007\text{mm}$ .
- Disc clamp improves the stability of clamping.
- Designed for use with precision alignment pins for ease of assembly.



### Guide

- ▶ Attachment pins (GOHT-AP) can be purchased separately.  
[Reference](#) E010 [Catalog Code](#) W7112
- ▶ Can be shipped as a preassembled  $\alpha\beta$  two axis stack.  
[WEB Reference](#) [Catalog Code](#) W7104
- ▶ Contact our Sales Division for information about custom center heights.
- ▶ Motorized version (OSMS-40A\*\*) also available.  
[Reference](#) G090 [Catalog Code](#) W9070



OSMS-40A\*\*

- ▶ For the surface finishing, the white coating of electroless nickel plating is also available. [WEB Reference](#) [Catalog Code](#) W7092



### Attention

- ▶ Locking mechanism is operated using thumbscrew on side of stage.

### Specifications

| Part Number                       | METRIC        | GOHT-40A20B                         | GOHT-40A40B          | GOHT-40A60B          | GOHT-40A75B          |
|-----------------------------------|---------------|-------------------------------------|----------------------|----------------------|----------------------|
|                                   | INCH          | GOHT-40A20BUU                       | GOHT-40A40BUU        | GOHT-40A60BUU        | GOHT-40A75BUU        |
| (Opposite Model)                  | METRIC        | GOHT-40A20BR                        | GOHT-40A40BR         | GOHT-40A60BR         | GOHT-40A75BR         |
|                                   | INCH          | GOHT-40A20BRUU                      | GOHT-40A40BRUU       | GOHT-40A60BRUU       | GOHT-40A75BRUU       |
| Stage Size [mm]                   |               | 40×40                               | 40×40                | 40×40                | 40×40                |
| Axes of Travel                    |               | $\alpha$ axis                       |                      |                      |                      |
| Rotation Center Height [mm]       |               | 20±0.1                              | 40±0.1               | 60±0.1               | 75±0.1               |
| Angle Range [°]                   |               | ±20                                 | ±10                  | ±8                   | ±6                   |
| Vernier Readable Resolution       |               | 0.1°                                | 0.1°                 | 0.1°                 | 0.1°                 |
| Travel per Knob Rotation [°]      |               | about 2.31                          | about 1.41           | about 1.08           | about 0.89           |
| Rotation Center Displacement [mm] |               | $\phi 0.007$ or less                | $\phi 0.007$ or less | $\phi 0.007$ or less | $\phi 0.007$ or less |
| Guide Method                      |               | Extended contact ball bearing guide |                      |                      |                      |
| Primary Material                  |               | SUS440C quench hardened             |                      |                      |                      |
| Finish                            |               | Super black chrome                  |                      |                      |                      |
| Load Capacity [N]                 |               | 58.8 (6.0kgf)                       | 58.8 (6.0kgf)        | 58.8 (6.0kgf)        | 58.8 (6.0kgf)        |
| Max. Moment Capacity              | Pitch [N·m]   | 2.0                                 | 2.0                  | 2.0                  | 2.0                  |
|                                   | Roll [N·m]    | 3.0                                 | 3.0                  | 3.0                  | 3.0                  |
|                                   | Yaw [N·m]     | 2.0                                 | 2.0                  | 2.0                  | 2.0                  |
| Moment Stiffness                  | Roll [°/N·cm] | 0.6                                 | 0.6                  | 0.6                  | 0.6                  |
|                                   | Yaw [°/N·cm]  | 0.6                                 | 0.6                  | 0.6                  | 0.6                  |
| Parallelism [ $\mu\text{m}$ ]     |               | 30                                  | 30                   | 30                   | 30                   |
| Weight [kg]                       |               | 0.2                                 | 0.2                  | 0.2                  | 0.2                  |



# $\alpha\beta$ Axis Extended Contact Ball Slide Goniometers

## Stage Size 40 × 40 mm

GOHT-40B

RoHS

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### Guide

- ▶ Attachment pins (GOHT-AP) can be purchased separately.  
[Reference](#) E010 [Catalog Code](#) W7112
- ▶ Contact our Sales Division for information about custom center heights.
- ▶ Motorized version (OSMS-40B\*\*\*) also available.  
[Reference](#) G094 [Catalog Code](#) W9098



OSMS-40B\*\*\*

- ▶ For the surface finishing, the white coating of electroless nickel plating is also available. [WEB Reference](#) [Catalog Code](#) W7104



### Attention

- ▶ Locking mechanism is operated using thumbscrew on side of stage.

### Specifications

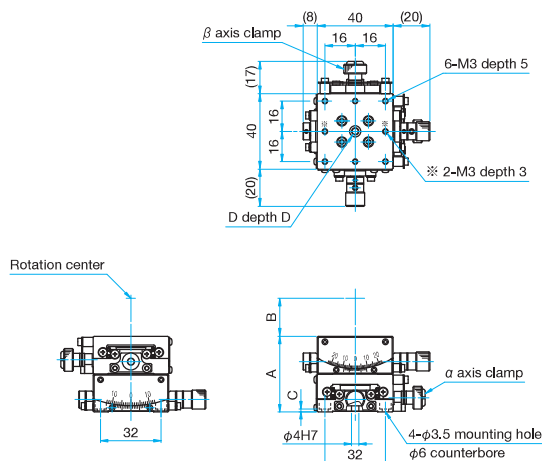
| Part Number                       | METRIC                | GOHT-40B20B                         | GOHT-40B40B          | GOHT-40B60B          |
|-----------------------------------|-----------------------|-------------------------------------|----------------------|----------------------|
|                                   | INCH                  | GOHT-40B20BUU                       | GOHT-40B40BUU        | GOHT-40B60BUU        |
| (Opposite Model)                  | METRIC                | GOHT-40B20BR                        | GOHT-40B40BR         | GOHT-40B60BR         |
|                                   | INCH                  | GOHT-40B20BRUU                      | GOHT-40B40BRUU       | GOHT-40B60BRUU       |
| Stage Size [mm]                   |                       | 40×40                               | 40×40                | 40×40                |
| Axes of Travel                    |                       | $\alpha\beta$ axis                  |                      |                      |
| Rotation Center Height [mm]       |                       | 20±0.2                              | 40±0.2               | 60±0.2               |
| Angle Range [°]                   | (Upper) $\beta$ axis  | ±20                                 | ±10                  | ±8                   |
|                                   | (Lower) $\alpha$ axis | ±10                                 | ±8                   | ±6                   |
| Vernier Readable Resolution       |                       | 0.1°                                | 0.1°                 | 0.1°                 |
| Travel per Knob Rotation [°]      | (Upper) $\beta$ axis  | about 2.31                          | about 1.41           | about 1.08           |
|                                   | (Lower) $\alpha$ axis | about 1.41                          | about 1.08           | about 0.89           |
| Rotation Center Displacement [mm] |                       | $\phi 0.007$ or less                | $\phi 0.007$ or less | $\phi 0.007$ or less |
| Guide Method                      |                       | Extended contact ball bearing guide |                      |                      |
| Primary Material                  |                       | SUS440C quench hardened             |                      |                      |
| Finish                            |                       | Super black chrome                  |                      |                      |
| Load Capacity [N]                 |                       | 58.8 (6.0kgf)                       | 58.8 (6.0kgf)        | 58.8 (6.0kgf)        |
| Max. Moment Capacity              | Pitch [N·m]           | 2.0                                 | 2.0                  | 2.0                  |
|                                   | Roll [N·m]            | 2.0                                 | 2.0                  | 2.0                  |
|                                   | Yaw [N·m]             | 2.0                                 | 2.0                  | 2.0                  |
| Parallelism [ $\mu$ m]            |                       | 30                                  | 30                   | 30                   |
| Weight [kg]                       |                       | 0.4                                 | 0.4                  | 0.4                  |



## Outline Drawing

### GOHT-40B\*\*B

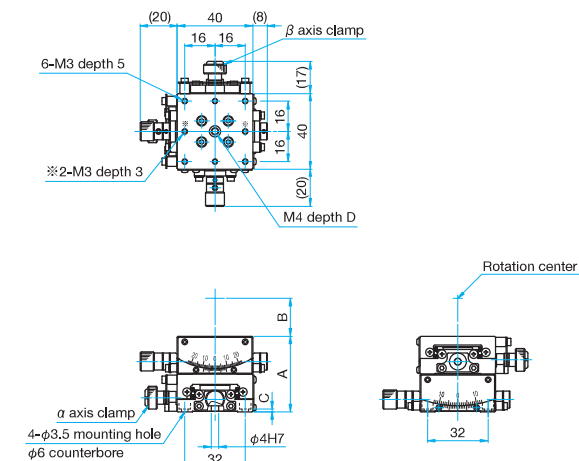
Hexagon socket head cap screw (stainless steel construction) M3×6...4 screws  
Attachment pins for M4...1 pin



| Part Number | A (mm) | B (mm) | C (mm) | D (mm) |
|-------------|--------|--------|--------|--------|
| GOHT-40B20B | 40     | 20     | 1.5    | 4      |
| GOHT-40B40B | 35     | 40     | 1      | 4      |
| GOHT-40B60B | 30     | 60     | 1      | 3      |

### GOHT-40B\*\*BR

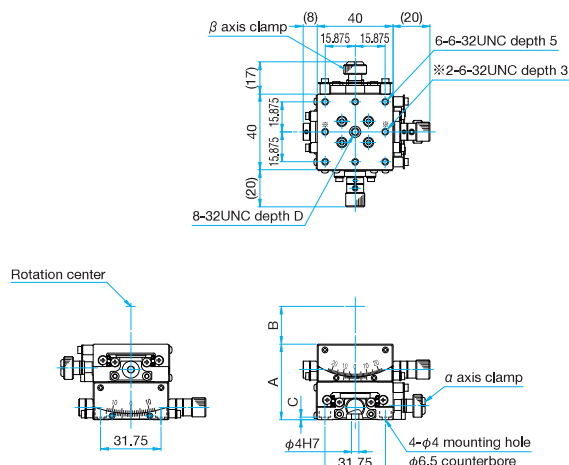
Hexagon socket head cap screw (stainless steel construction) M3×6...4 screws  
Attachment pins for M4...1 pin



| Part Number  | A (mm) | B (mm) | C (mm) | D (mm) |
|--------------|--------|--------|--------|--------|
| GOHT-40B20BR | 40     | 20     | 1.5    | 4      |
| GOHT-40B40BR | 35     | 40     | 1      | 4      |
| GOHT-40B60BR | 30     | 60     | 1      | 3      |

### GOHT-40B\*\*BUU

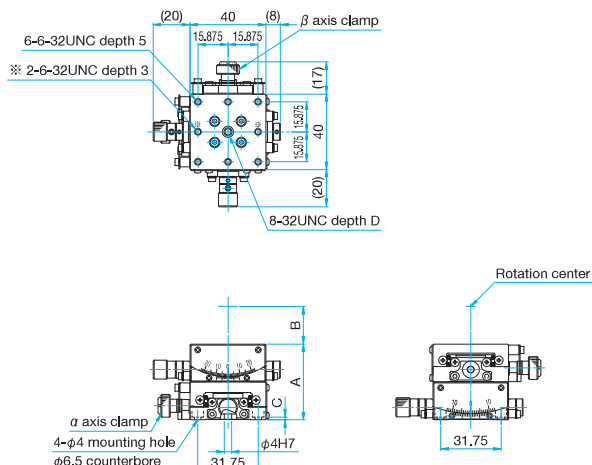
Low head hexagon socket head cap screw (stainless steel construction)  
6-32UNC×1/4...4screws, Attachment pins for 8-32UNC...1 pin



| Part Number   | A (mm) | B (mm) | C (mm) | D (mm) |
|---------------|--------|--------|--------|--------|
| GOHT-40B20BUU | 40     | 20     | 1.5    | 4      |
| GOHT-40B40BUU | 35     | 40     | 1      | 4      |
| GOHT-40B60BUU | 30     | 60     | 1      | 3      |

### GOHT-40B\*\*BRUU

Low head hexagon socket head cap screw (stainless steel construction)  
6-32UNC×1/4...4screws, Attachment pins for 8-32UNC...1 pin



| Part Number    | A (mm) | B (mm) | C (mm) | D (mm) |
|----------------|--------|--------|--------|--------|
| GOHT-40B20BRUU | 40     | 20     | 1.5    | 4      |
| GOHT-40B40BRUU | 35     | 40     | 1      | 4      |
| GOHT-40B60BRUU | 30     | 60     | 1      | 3      |

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Others

15 × 15 mm

25 × 25 mm

40 × 40 mm

60 × 60 mm

65 × 65 mm

80 × 80 mm

100 × 100 mm

120 × 120 mm

Others



# Extended Contact Ball Slide Goniometers

## $\alpha\beta$ Axis Extended Contact Ball Slide Goniometers

GOHT-60A

GOHT-60B

Stage Size 60 × 60 mm

RoHS

RoHS

High precision goniometers with integrated bearing ways for superior stiffness, accuracy and durability.

- Centering accuracy 10x better than typical dovetail goniometers.
- Designed for use in a variety of orientations. Not limited to horizontal mounting.
- Integral-guide structure offers high performance of rotation center displacement  $\phi 0.007$ mm.
- Disc clamp improves the stability of clamping.
- Designed for use with precision alignment pins for ease of assembly.



### Attention

- ▶ Locking mechanism is operated using thumbscrew on side of stage.

### Guide

- ▶ Attachment pins (GOHT-AP) can be purchased separately.  
Reference E010 Catalog Code W7112
- ▶ Contact our Sales Division for information about custom center heights.
- ▶ Motorized version (OSMS-60\*\*\*) also available.



OSMS-60A\*\*

Reference G092

Catalog Code W9080

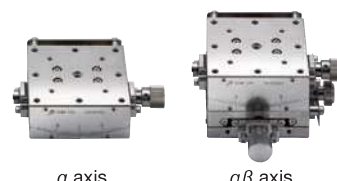
OSMS-60B\*\*

Reference G094

Catalog Code W9098

- ▶ For the surface finishing, the white coating of electroless nickel plating is also available.

WEB Reference Catalog Code W7093( $\alpha$  axis), W7105( $\alpha\beta$  axis)

 $\alpha$  axis $\alpha\beta$  axis

### Specifications

| Part Number                       | METRIC                | GOHT-60A35B                         | GOHT-60A60B          | GOHT-60A85B          | GOHT-60A105B         | GOHT-60B35B          | GOHT-60B60B          | GOHT-60B85B          |
|-----------------------------------|-----------------------|-------------------------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| (Opposite Model)                  | METRIC                | GOHT-60A35BR                        | GOHT-60A60BR         | GOHT-60A85BR         | GOHT-60A105BR        | GOHT-60B35BR         | GOHT-60B60BR         | GOHT-60B85BR         |
| Stage Size [mm]                   |                       | 60×60                               | 60×60                | 60×60                | 60×60                | 60×60                | 60×60                | 60×60                |
| Axes of Travel                    |                       | $\alpha$ axis                       |                      |                      |                      | $\alpha\beta$ axis   |                      |                      |
| Rotation Center Height [mm]       |                       | 35±0.1                              | 60±0.1               | 85±0.1               | 105±0.1              | 35±0.2               | 60±0.2               | 85±0.2               |
| Angle Range [°]                   | (Upper) $\beta$ axis  | —                                   | —                    | —                    | —                    | ±20                  | ±15                  | ±10                  |
|                                   | (Lower) $\alpha$ axis | ±20                                 | ±15                  | ±10                  | ±8                   | ±15                  | ±10                  | ±8                   |
| Vernier Readable Resolution       |                       | 0.1°                                | 0.1°                 | 0.1°                 | 0.1°                 | 0.1°                 | 0.1°                 | 0.1°                 |
| Travel per Knob Rotation [°]      | (Upper) $\beta$ axis  | —                                   | —                    | —                    | —                    | about 2.2            | about 1.46           | about 1.15           |
|                                   | (Lower) $\alpha$ axis | about 2.2                           | about 1.46           | about 1.15           | about 0.95           | about 1.46           | about 1.15           | about 0.95           |
| Rotation Center Displacement [mm] |                       | $\phi 0.007$ or less                | $\phi 0.007$ or less | $\phi 0.007$ or less | $\phi 0.007$ or less | $\phi 0.007$ or less | $\phi 0.007$ or less | $\phi 0.007$ or less |
| Guide Method                      |                       | Extended contact ball bearing guide |                      |                      |                      |                      |                      |                      |
| Primary Material                  |                       | SUS440C quench hardened             |                      |                      |                      |                      |                      |                      |
| Finish                            |                       | Super black chrome                  |                      |                      |                      |                      |                      |                      |
| Load Capacity [N]                 |                       | 98 (10.0kgf)                        | 98 (10.0kgf)         | 98 (10.0kgf)         | 98 (10.0kgf)         | 98 (10.0kgf)         | 98 (10.0kgf)         | 98 (10.0kgf)         |
| Max. Moment Capacity              | Pitch [N·m]           | 3.0                                 | 3.0                  | 3.0                  | 3.0                  | 3.0                  | 3.0                  | 3.0                  |
|                                   | Roll [N·m]            | 6.0                                 | 6.0                  | 6.0                  | 6.0                  | 3.0                  | 3.0                  | 3.0                  |
|                                   | Yaw [N·m]             | 3.0                                 | 3.0                  | 3.0                  | 3.0                  | 3.0                  | 3.0                  | 3.0                  |
| Moment Stiffness                  | Roll [°/N·cm]         | 0.25                                | 0.25                 | 0.25                 | 0.25                 | —                    | —                    | —                    |
|                                   | Yaw [°/N·cm]          | 0.1                                 | 0.1                  | 0.1                  | 0.1                  | —                    | —                    | —                    |
| Parallelism [ $\mu$ m]            |                       | 30                                  | 30                   | 30                   | 30                   | 30                   | 30                   | 30                   |
| Weight [kg]                       |                       | 0.6                                 | 0.6                  | 0.6                  | 0.6                  | 1.2                  | 1.2                  | 1.2                  |

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15 × 15 mm

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40 × 40 mm

60 × 60 mm

65 × 65 mm

80 × 80 mm

100 × 100 mm

120 × 120 mm

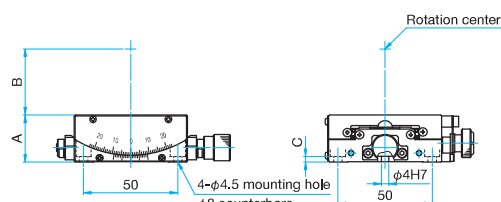
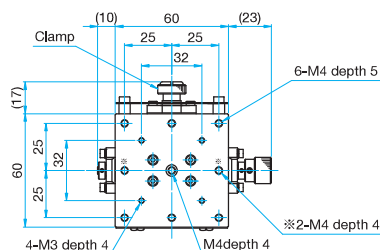
Others



## Outline Drawing

## GOHT-60A\*\*B

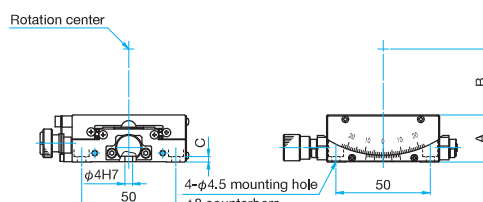
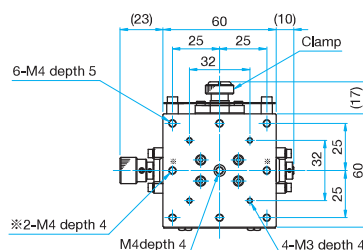
Hexagon socket head cap screw (stainless steel construction) M4x8...4 screws, Attachment pins for M4...1 pin



| Part Number  | A (mm) | B (mm) | C (mm) |
|--------------|--------|--------|--------|
| GOHT-60A35B  | 25     | 35     | 3      |
| GOHT-60A60B  | 25     | 60     | 3      |
| GOHT-60A85B  | 20     | 85     | 2      |
| GOHT-60A105B | 20     | 105    | 2      |

## GOHT-60A\*\*BR

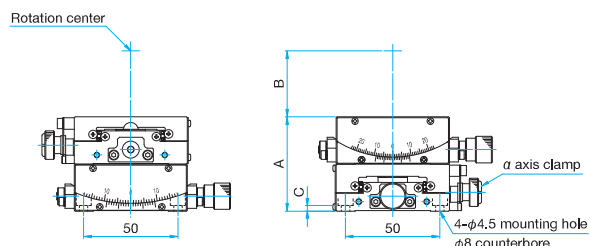
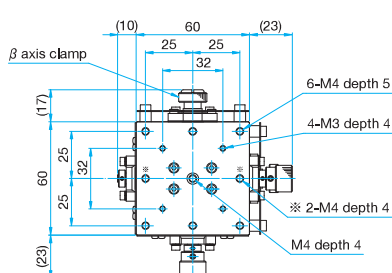
Hexagon socket head cap screw (stainless steel construction) M4x8...4 screws, Attachment pins for M4...1 pin



| Part Number   | A (mm) | B (mm) | C (mm) |
|---------------|--------|--------|--------|
| GOHT-60A35BR  | 25     | 35     | 3      |
| GOHT-60A60BR  | 25     | 60     | 3      |
| GOHT-60A85BR  | 20     | 85     | 2      |
| GOHT-60A105BR | 20     | 105    | 2      |

## GOHT-60B\*\*B

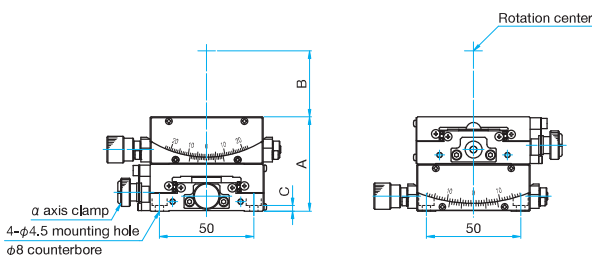
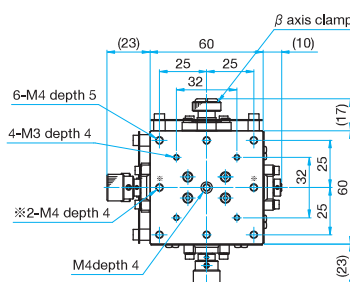
Hexagon socket head cap screw (stainless steel construction) M4x8...4 screws, Attachment pins for M4...1 pin



| Part Number | A (mm) | B (mm) | C (mm) |
|-------------|--------|--------|--------|
| GOHT-60B35B | 50     | 35     | 3      |
| GOHT-60B60B | 45     | 60     | 2      |
| GOHT-60B85B | 40     | 85     | 2      |

## GOHT-60B\*\*BR

Hexagon socket head cap screw (stainless steel construction) M4x8...4 screws, Attachment pins for M4...1 pin



| Part Number  | A (mm) | B (mm) | C (mm) |
|--------------|--------|--------|--------|
| GOHT-60B35BR | 50     | 35     | 3      |
| GOHT-60B60BR | 45     | 60     | 2      |
| GOHT-60B85BR | 40     | 85     | 2      |

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120 × 120 mm

Others

# Extended Contact Ball Slide Goniometers

## $\alpha\beta$ Axis Extended Contact Ball Slide Goniometers

GOHT-65A

Stage Size 65 x 65 mm

GOHT-65B

RoHS

RoHS

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- Designed for use in a variety of orientations. Not limited to horizontal mounting.
- Integral-guide structure offers high performance of rotation center displacement  $\phi 0.007$ mm.
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### Guide

- ▶ Attachment pins (GOHT-AP) can be purchased separately.  
Reference E010 Catalog Code W7112
- ▶ Contact our Sales Division for information about custom center heights.

### Attention

- ▶ Locking mechanism is operated using thumbscrew on side of stage.

### Specifications

| Part Number                       | METRIC                | GOHT-65A50B-M6                      | GOHT-65A75B-M6       | GOHT-65A100B-M6      | GOHT-65B50B-M6       | GOHT-65B75B-M6       |
|-----------------------------------|-----------------------|-------------------------------------|----------------------|----------------------|----------------------|----------------------|
|                                   | INCH                  | GOHT-65A50BUU                       | GOHT-65A75BUU        | GOHT-65A100BUU       | GOHT-65B50BUU        | GOHT-65B75BUU        |
| (Opposite Model)                  | METRIC                | GOHT-65A50BR-M6                     | GOHT-65A75BR-M6      | GOHT-65A100BR-M6     | GOHT-65B50BR-M6      | GOHT-65B75BR-M6      |
|                                   | INCH                  | GOHT-65A50BRUU                      | GOHT-65A75BRUU       | GOHT-65A100BRUU      | GOHT-65B50BRUU       | GOHT-65B75BRUU       |
| Stage Size [mm]                   |                       | 65×65                               | 65×65                | 65×65                | 65×65                | 65×65                |
| Axes of Travel                    |                       | $\alpha$ axis                       |                      |                      | $\alpha\beta$ axis   |                      |
| Rotation Center Height [mm]       |                       | 50±0.1                              | 75±0.1               | 100±0.1              | 50±0.2               | 75±0.2               |
| Angle Range [°]                   | (Upper) $\beta$ axis  | —                                   | —                    | —                    | ±20                  | ±15                  |
|                                   | (Lower) $\alpha$ axis | ±20                                 | ±15                  | ±10                  | ±15                  | ±10                  |
| Vernier Readable Resolution       |                       | 0.1°                                | 0.1°                 | 0.1°                 | 0.1°                 | 0.1°                 |
| Travel per Knob Rotation [°]      | (Upper) $\beta$ axis  | —                                   | —                    | —                    | about 1.70           | about 1.22           |
|                                   | (Lower) $\alpha$ axis | about 1.70                          | about 1.22           | about 0.95           | about 1.22           | about 0.95           |
| Rotation Center Displacement [mm] |                       | $\phi 0.007$ or less                | $\phi 0.007$ or less | $\phi 0.007$ or less | $\phi 0.007$ or less | $\phi 0.007$ or less |
| Guide Method                      |                       | Extended contact ball bearing guide |                      |                      |                      |                      |
| Primary Material                  |                       | SUS440C quench hardened             |                      |                      |                      |                      |
| Finish                            |                       | Super black chrome                  |                      |                      |                      |                      |
| Load Capacity [N]                 |                       | 98 (10kgf)                          | 98 (10kgf)           | 98 (10kgf)           | 98 (10kgf)           | 98 (10kgf)           |
| Max. Moment Capacity              | Pitch [N·m]           | 3.5                                 | 3.5                  | 3.5                  | 3.5                  | 3.5                  |
|                                   | Roll [N·m]            | 6.5                                 | 6.5                  | 6.5                  | 3.5                  | 3.5                  |
|                                   | Yaw [N·m]             | 3.5                                 | 3.5                  | 3.5                  | 3.5                  | 3.5                  |
| Moment Stiffness                  | Roll [°/N·cm]         | 0.3                                 | 0.3                  | 0.3                  | —                    | —                    |
|                                   | Yaw [°/N·cm]          | 0.3                                 | 0.3                  | 0.3                  | —                    | —                    |
| Parallelism [ $\mu$ m]            |                       | 30                                  | 30                   | 30                   | 30.0                 | 30.0                 |
| Weight [kg]                       |                       | 0.75                                | 0.75                 | 0.75                 | 1.5                  | 1.5                  |

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Others

15 × 15 mm

25 × 25 mm

40 × 40 mm

60 × 60 mm

65 × 65 mm

80 × 80 mm

100 × 100 mm

120 × 120 mm

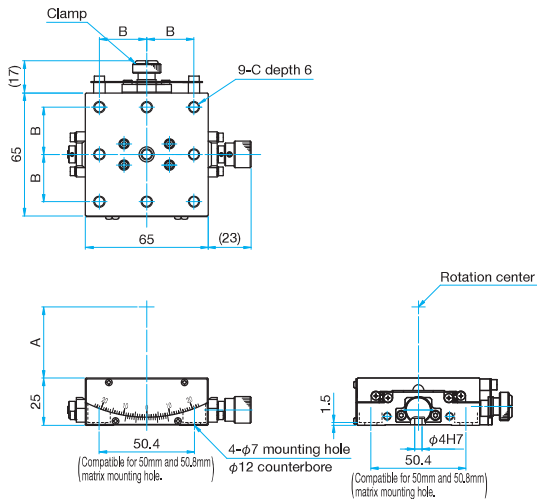
Others



## Outline Drawing

## GOHT-65A\*\*B-M6/65A\*\*BUU

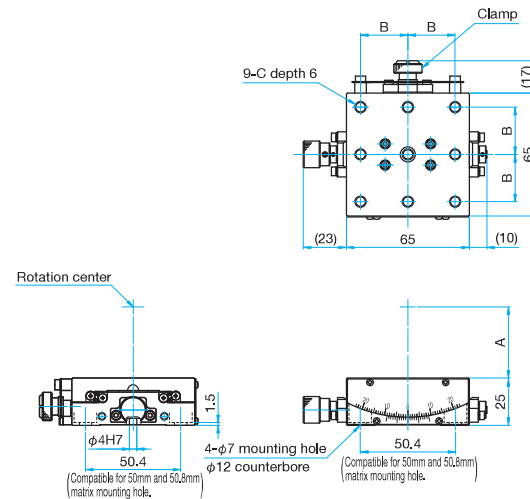
- Low head hexagon socket head cap screw (stainless steel construction)  
M6×6...4 screws, Attachment pins for M6...1 pin (M6)  
Low head hexagon socket head cap screw (stainless steel construction)  
1/4-20UNC×1/4...4 screws, Attachment pins for 1/4-20UNC...1 pin (UU)



| Part Number     | A (mm) | B (mm) | C         |
|-----------------|--------|--------|-----------|
| GOHT-65A50B-M6  | 50     | 25     | M6 P1     |
| GOHT-65A50BUU   | 50     | 25.4   | 1/4-20UNC |
| GOHT-65A75B-M6  | 75     | 25     | M6 P1     |
| GOHT-65A75BUU   | 75     | 25.4   | 1/4-20UNC |
| GOHT-65A100B-M6 | 100    | 25     | M6 P1     |
| GOHT-65A100BUU  | 100    | 25.4   | 1/4-20UNC |

## GOHT-65A\*\*BR-M6/65A\*\*BRUU

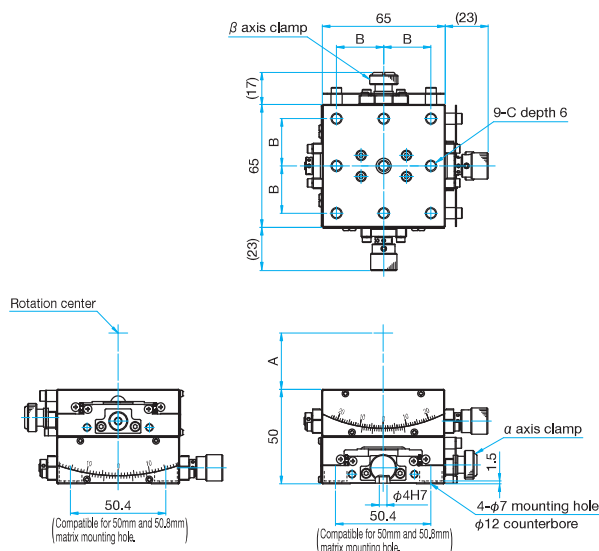
- Low head hexagon socket head cap screw (stainless steel construction)  
M6×6...4 screws, Attachment pins for M6...1 pin (M6)  
Low head hexagon socket head cap screw (stainless steel construction)  
1/4-20UNC×1/4...4 screws, Attachment pins for 1/4-20UNC...1 pin (UU)



| Part Number      | A (mm) | B (mm) | C         |
|------------------|--------|--------|-----------|
| GOHT-65A50BR-M6  | 50     | 25     | M6 P1     |
| GOHT-65A50BRUU   | 50     | 25.4   | 1/4-20UNC |
| GOHT-65A75BR-M6  | 75     | 25     | M6 P1     |
| GOHT-65A75BRUU   | 75     | 25.4   | 1/4-20UNC |
| GOHT-65A100BR-M6 | 100    | 25     | M6 P1     |
| GOHT-65A100BRUU  | 100    | 25.4   | 1/4-20UNC |

## GOHT-65B\*\*B-M6/65B\*\*BUU

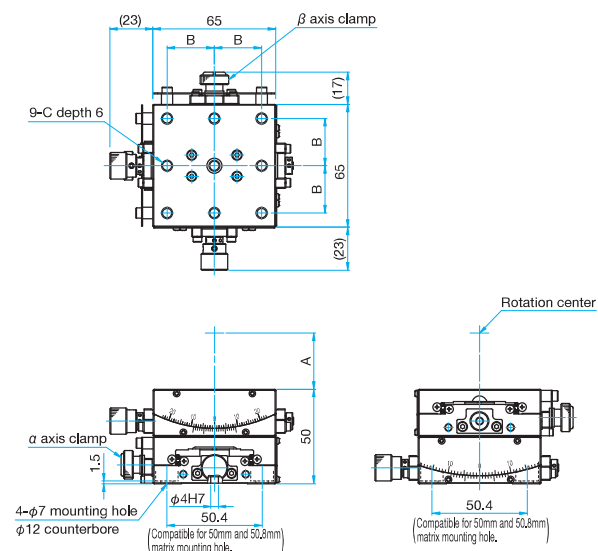
- Low head hexagon socket head cap screw (stainless steel construction)  
M6×6...4 screws, Attachment pins for M6...1 pin (M6)  
Low head hexagon socket head cap screw (stainless steel construction)  
1/4-20UNC×1/4...4 screws, Attachment pins for 1/4-20UNC...1 pin (UU)



| Part Number    | A (mm) | B (mm) | C         |
|----------------|--------|--------|-----------|
| GOHT-65B50B-M6 | 50     | 25     | M6 P1     |
| GOHT-65B50BUU  | 50     | 25.4   | 1/4-20UNC |
| GOHT-65B75B-M6 | 75     | 25     | M6 P1     |
| GOHT-65B75BUU  | 75     | 25.4   | 1/4-20UNC |

## GOHT-65B\*\*BR-M6/65B\*\*BRUU

- Low head hexagon socket head cap screw (stainless steel construction)  
M6×6...4 screws, Attachment pins for M6...1 pin (M6)  
Low head hexagon socket head cap screw (stainless steel construction)  
1/4-20UNC×1/4...4 screws, Attachment pins for 1/4-20UNC...1 pin (UU)



| Part Number     | A (mm) | B (mm) | C         |
|-----------------|--------|--------|-----------|
| GOHT-65B50BR-M6 | 50     | 25     | M6 P1     |
| GOHT-65B50BRUU  | 50     | 25.4   | 1/4-20UNC |
| GOHT-65B75BR-M6 | 75     | 25     | M6 P1     |
| GOHT-65B75BRUU  | 75     | 25.4   | 1/4-20UNC |

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Others

15 × 15 mm

25 × 25 mm

40 × 40 mm

60 × 60 mm

65 × 65 mm

80 × 80 mm

100 × 100 mm

120 × 120 mm

Others

# Extended Contact Micrometer Goniometers

## Stage Size 40 × 40 mm

GOHT-40A-S

RoHS

High precision goniometers with integrated bearing ways for superior stiffness, accuracy and durability.

- Integrated Extended Contact Bearing Ways for simpler construction, higher load and durability, and lower cost.
- Centering accuracy 10x better than typical dovetail goniometers.
- Designed for use in a variety of orientations. Not limited to horizontal mounting.
- Designed for use with precision alignment pins for ease of assembly.



### Guide

- ▶ Attachment pins (GOHT-AP) can be purchased separately.  
**Reference** E010 **Catalog Code** W7112
- ▶ Contact our sales team for information about custom center heights.
- ▶ Motorized version (OSMS-40A\*\*\*) also available.  
**Reference** G090 **Catalog Code** W9079

### Attention

- ▶ Locking mechanism is operated using thumbscrew on side of stage.
- ▶ When assembled to an  $\alpha\beta$  axis stage, the micrometer head of the  $\alpha$  axis stage interferes. Please contact our Sales Division for more information.

| Specifications                    |               |                                     |                  |                  |                  |
|-----------------------------------|---------------|-------------------------------------|------------------|------------------|------------------|
| Part Number                       | METRIC        | GOHT-40A20BMS                       | GOHT-40A40BMS    | GOHT-40A60BMS    | GOHT-40A75BMS    |
|                                   | INCH          | GOHT-40A20BMSUU                     | GOHT-40A40BMSUU  | GOHT-40A60BMSUU  | GOHT-40A75BMSUU  |
| (Opposite Model)                  | METRIC        | GOHT-40A20BMSR                      | GOHT-40A40BMSR   | GOHT-40A60BMSR   | GOHT-40A75BMSR   |
|                                   | INCH          | GOHT-40A20BMSRUU                    | GOHT-40A40BMSRUU | GOHT-40A60BMSRUU | GOHT-40A75BMSRUU |
| Stage Size [mm]                   |               | 40×40                               | 40×40            | 40×40            | 40×40            |
| Axes of Travel                    |               | $\alpha$ axis                       |                  |                  |                  |
| Micrometer Position               |               | Side                                | Side             | Side             | Side             |
| Rotation Center Height [mm]       |               | 20±0.1                              | 40±0.1           | 60±0.1           | 75±0.1           |
| Angle Range [°]                   |               | ±11                                 | ±7               | ±5.5             | ±4.5             |
| Travel per Knob Rotation [°]      |               | about 0.9                           | about 0.55       | about 0.42       | about 0.35       |
| Rotation Center Displacement [mm] |               | φ0.007 or less                      | φ0.007 or less   | φ0.007 or less   | φ0.007 or less   |
| Guide Method                      |               | Extended contact ball bearing guide |                  |                  |                  |
| Primary Material                  |               | SUS440C quench hardened             |                  |                  |                  |
| Finish                            |               | Super black chrome                  |                  |                  |                  |
| Load Capacity [N]                 |               | 58.8 (6.0kgf)                       | 58.8 (6.0kgf)    | 58.8 (6.0kgf)    | 58.8 (6.0kgf)    |
| Max. Moment Capacity              | Pitch [N·m]   | 2.0                                 | 2.0              | 2.0              | 2.0              |
|                                   | Roll [N·m]    | 3.0                                 | 3.0              | 3.0              | 3.0              |
|                                   | Yaw [N·m]     | 2.0                                 | 2.0              | 2.0              | 2.0              |
| Moment Stiffness                  | Roll [°/N·cm] | 0.6                                 | 0.6              | 0.6              | 0.6              |
|                                   | Yaw [°/N·cm]  | 0.6                                 | 0.6              | 0.6              | 0.6              |
| Parallelism [μm]                  |               | 30                                  | 30               | 30               | 30               |
| Weight [kg]                       |               | 0.2                                 | 0.2              | 0.2              | 0.2              |

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Others

15 × 15 mm

25 × 25 mm

40 × 40 mm

60 × 60 mm

65 × 65 mm

80 × 80 mm

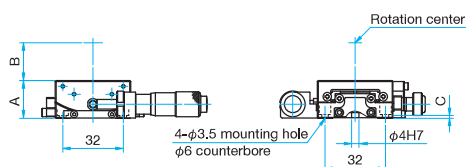
100 × 100 mm

120 × 120 mm

Others

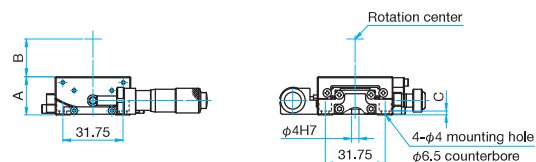


(8) 40  
16 16 Clamp  
6-M3 depth 5  
M4 depth D  
※2-M3 depth 3  
(17)  
40  
16  
16  
(20)  
(80,5)



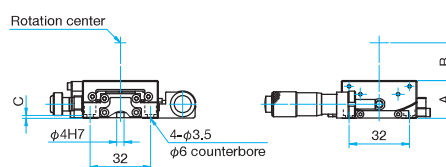
| Part Number   | A<br>(mm) | B<br>(mm) | C<br>(mm) | D<br>(mm) |
|---------------|-----------|-----------|-----------|-----------|
| GOHT-40A20BMS | 20        | 20        | 2         | 4         |
| GOHT-40A40BMS | 20        | 40        | 1.5       | 4         |
| GOHT-40A60BMS | 15        | 60        | 1         | 3         |
| GOHT-40A75BMS | 15        | 75        | 1         | 3         |

Technical drawing of the front view of a 4-way valve assembly. The drawing shows a square body with four ports. Dimensions include: overall width 80.5, overall height 17, port diameter 15.875, and various thread specifications: 6-6-32UNC depth 5, 8-32UNC depth D, and 2-6-32UNC depth 3. A clamp is shown on the top port.

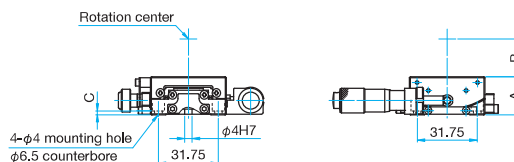


| Part Number     | A<br>(mm) | B<br>(mm) | C<br>(mm) | D<br>(mm) |
|-----------------|-----------|-----------|-----------|-----------|
| GOHT-40A20BMSUU | 20        | 20        | 2         | 4         |
| GOHT-40A40BMSUU | 20        | 40        | 1.5       | 4         |
| GOHT-40A60BMSUU | 15        | 60        | 1         | 3         |
| GOHT-40A75BMSUU | 15        | 75        | 1         | 3         |

Technical drawing of the front view of a 4-hole 100mm square flange. The drawing shows a square flange with a central hole and four surrounding holes. Dimensions include a total width of 100mm (80.5mm for the main body), a central hole diameter of 16mm, and four surrounding holes with a diameter of 16mm. The flange has a thickness of 17mm. Mounting holes are specified as 6-M3 depth 5, 2-M4 depth D, and 2-M3 depth 3. A clamp is shown attached to the side.



| Part Number    | A<br>(mm) | B<br>(mm) | C<br>(mm) | D<br>(mm) |
|----------------|-----------|-----------|-----------|-----------|
| GOHT-40A20BRMS | 20        | 20        | 2         | 4         |
| GOHT-40A40BRMS | 20        | 40        | 1.5       | 4         |
| GOHT-40A60BRMS | 15        | 60        | 1         | 3         |
| GOHT-40A75BRMS | 15        | 75        | 1         | 3         |



| Part Number      | A<br>(mm) | B<br>(mm) | C<br>(mm) | D<br>(mm) |
|------------------|-----------|-----------|-----------|-----------|
| GOHT-40A20BMSRUU | 20        | 20        | 2         | 4         |
| GOHT-40A40BMSRUU | 20        | 40        | 1.5       | 4         |
| GOHT-40A60BMSRUU | 15        | 60        | 1         | 3         |
| GOHT-40A75BMSRUU | 15        | 75        | 1         | 3         |



# Extended Contact Micrometer Goniometers

## Stage Size 60 × 60 mm

GOHT-60A-S

RoHS

High precision goniometers with integrated bearing ways for superior stiffness, accuracy and durability.

- Integrated Extended Contact Bearing Ways for simpler construction, higher load and durability, and lower cost.
- Centering accuracy 10x better than typical dovetail goniometers.
- Designed for use in a variety of orientations. Not limited to horizontal mounting.
- Designed for use with precision alignment pins for ease of assembly.



### Guide

- ▶ Attachment pins (GOHT-AP) can be purchased separately.  
**Reference** E010 **Catalog Code** W7112
- ▶ Contact our sales team for information about custom center heights.
- ▶ Motorized version (OSMS-60A\*\*\*) also available.  
**Reference** G092 **Catalog Code** W9080

### Attention

- ▶ Locking mechanism is operated using thumbscrew on side of stage.
- ▶ When assembled to an  $\alpha\beta$  axis stage, the micrometer head of the  $\alpha$  axis stage interferes. Please contact our Sales Division for more information.

### Specifications

| Part Number                       | METRIC        | GOHT-60A35BMS                       | GOHT-60A60BMS  | GOHT-60A85BMS  | GOHT-60A105BMS  |
|-----------------------------------|---------------|-------------------------------------|----------------|----------------|-----------------|
| (Opposite Model)                  | METRIC        | GOHT-60A35BMSR                      | GOHT-60A60BMSR | GOHT-60A85BMSR | GOHT-60A105BMSR |
| Stage Size [mm]                   |               | 60×60                               | 60×60          | 60×60          | 60×60           |
| Axes of Travel                    |               | $\alpha$ axis                       |                |                |                 |
| Micrometer Position               |               | Side                                | Side           | Side           | Side            |
| Rotation Center Height [mm]       |               | 35±0.1                              | 60±0.1         | 85±0.1         | 105±0.1         |
| Angle Range [°]                   |               | ±7                                  | ±4.5           | ±3.5           | ±3              |
| Travel per Knob Rotation [°]      |               | about 0.38                          | about 0.38     | about 0.3      | about 0.25      |
| Rotation Center Displacement [mm] |               | φ0.007 or less                      | φ0.007 or less | φ0.007 or less | φ0.007 or less  |
| Guide Method                      |               | Extended contact ball bearing guide |                |                |                 |
| Primary Material                  |               | SUS440C quench hardened             |                |                |                 |
| Finish                            |               | Super black chrome                  |                |                |                 |
| Load Capacity [N]                 |               | 98 (10.0kgf)                        | 98 (10.0kgf)   | 98 (10.0kgf)   | 98 (10.0kgf)    |
| Max. Moment Capacity              | Pitch [N·m]   | 3.0                                 | 3.0            | 3.0            | 3.0             |
|                                   | Roll [N·m]    | 6.0                                 | 6.0            | 6.0            | 6.0             |
|                                   | Yaw [N·m]     | 3.0                                 | 3.0            | 3.0            | 3.0             |
| Moment Stiffness                  | Roll [°/N·cm] | 0.25                                | 0.25           | 0.25           | 0.25            |
|                                   | Yaw [°/N·cm]  | 0.1                                 | 0.1            | 0.1            | 0.1             |
| Parallelism [μm]                  |               | 30                                  | 30             | 30             | 30              |
| Weight [kg]                       |               | 0.6                                 | 0.6            | 0.6            | 0.6             |

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Others

15 × 15 mm

25 × 25 mm

40 × 40 mm

60 × 60 mm

65 × 65 mm

80 × 80 mm

100 × 100 mm

120 × 120 mm

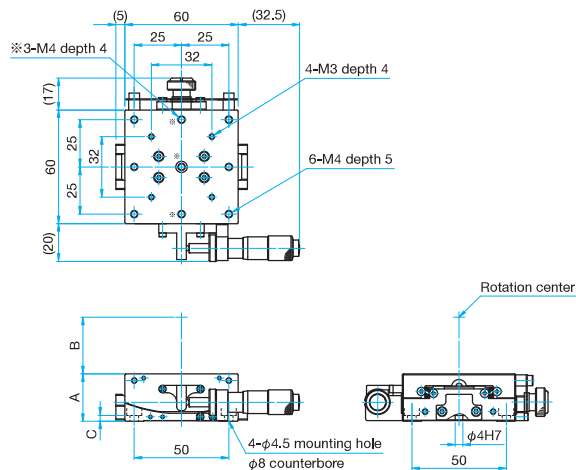
Others



## Outline Drawing

### GOHT-60A\* \*BMS

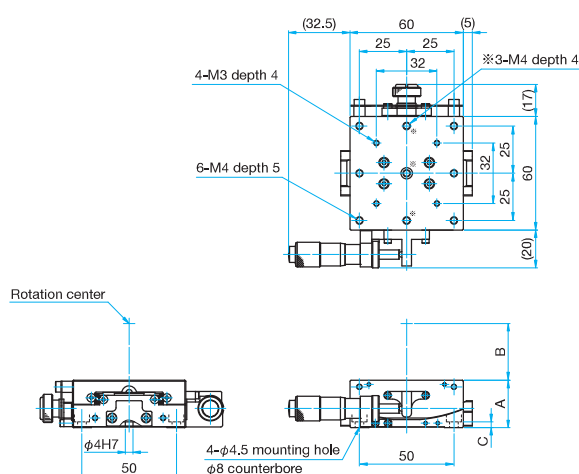
Hexagon socket head cap screw (stainless steel construction) M4x8...4 screws  
Attachment pin for M4...1 pin



| Part Number    | A (mm) | B (mm) | C (mm) |
|----------------|--------|--------|--------|
| GOHT-60A35BMS  | 25     | 35     | 3      |
| GOHT-60A60BMS  | 25     | 60     | 3      |
| GOHT-60A85BMS  | 20     | 85     | 2      |
| GOHT-60A105BMS | 20     | 105    | 2      |

### GOHT-60A\* \*BMSR

Hexagon socket head cap screw (stainless steel construction) M4x8...4 screws  
Attachment pin for M4...1 pin



| Part Number     | A (mm) | B (mm) | C (mm) |
|-----------------|--------|--------|--------|
| GOHT-60A35BMSR  | 25     | 35     | 3      |
| GOHT-60A60BMSR  | 25     | 60     | 3      |
| GOHT-60A85BMSR  | 20     | 85     | 2      |
| GOHT-60A105BMSR | 20     | 105    | 2      |

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Dovetail

Lapping

V Groove Screw

Others

15 × 15 mm

25 × 25 mm

40 × 40 mm

60 × 60 mm

65 × 65 mm

80 × 80 mm

100 × 100 mm

120 × 120 mm

Others

# Extended Contact Micrometer Goniometers

## Stage Size 65 × 65 mm

GOHT-65A-S

RoHS

High precision goniometers with integrated bearing ways for superior stiffness, accuracy and durability.

- Integrated Extended Contact Bearing Ways for simpler construction, higher load and durability, and lower cost.
- Centering accuracy 10x better than typical dovetail goniometers.
- Designed for use in a variety of orientations. Not limited to horizontal mounting.
- Designed for use with precision alignment pins for ease of assembly.



### Guide

- ▶ Attachment pins (GOHT-AP) can be purchased separately.  
Reference E010 Catalog Code W7112
- ▶ Contact our Sales Division for information about custom center heights.

### Attention

- ▶ Locking mechanism is operated using thumbscrew on side of stage.
- ▶ When assembled to an  $\alpha\beta$  axis stage, the micrometer head of the  $\alpha$  axis stage interferes. Please contact our Sales Division for more information.

### Specifications

| Part Number                       | METRIC        | GOHT-65A50BMS-M6                    | GOHT-65A75BMS-M6  | GOHT-65A100BMS-M6  |
|-----------------------------------|---------------|-------------------------------------|-------------------|--------------------|
|                                   | INCH          | GOHT-65A50BMSUU                     | GOHT-65A75BMSUU   | GOHT-65A100BMSUU   |
| (Opposite Model)                  | METRIC        | GOHT-65A50BMSR-M6                   | GOHT-65A75BMSR-M6 | GOHT-65A100BMSR-M6 |
|                                   | INCH          | GOHT-65A50BMSRUU                    | GOHT-65A75BMSRUU  | GOHT-65A100BMSRUU  |
| Stage Size [mm]                   |               | 65×65                               | 65×65             | 65×65              |
| Axes of Travel                    |               | $\alpha$ axis                       |                   |                    |
| Micrometer Position               |               | Side                                | Side              | Side               |
| Rotation Center Height [mm]       |               | 50±0.1                              | 75±0.1            | 100±0.1            |
| Angle Range [°]                   |               | ±10                                 | ±7                | ±6                 |
| Travel per Knob Rotation [°]      |               | about 0.44                          | about 0.32        | about 0.25         |
| Rotation Center Displacement [mm] |               | φ0.007 or less                      | φ0.007 or less    | φ0.007 or less     |
| Guide Method                      |               | Extended contact ball bearing guide |                   |                    |
| Primary Material                  |               | SUS440C quench hardened             |                   |                    |
| Finish                            |               | Super black chrome                  |                   |                    |
| Load Capacity [N]                 |               | 98 (10.0kgf)                        | 98 (10.0kgf)      | 98 (10.0kgf)       |
| Max. Moment Capacity              | Pitch [N·m]   | 3.0                                 | 3.0               | 3.0                |
|                                   | Roll [N·m]    | 6.0                                 | 6.0               | 6.0                |
|                                   | Yaw [N·m]     | 3.0                                 | 3.0               | 3.0                |
| Moment Stiffness                  | Roll [°/N·cm] | 0.25                                | 0.25              | 0.25               |
|                                   | Yaw [°/N·cm]  | 0.1                                 | 0.1               | 0.1                |
| Parallelism [μm]                  |               | 30                                  | 30                | 30                 |
| Weight [kg]                       |               | 0.7                                 | 0.7               | 0.7                |

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Lapping

V Groove Screw

Others

15 × 15 mm

25 × 25 mm

40 × 40 mm

60 × 60 mm

65 × 65 mm

80 × 80 mm

100 × 100 mm

120 × 120 mm

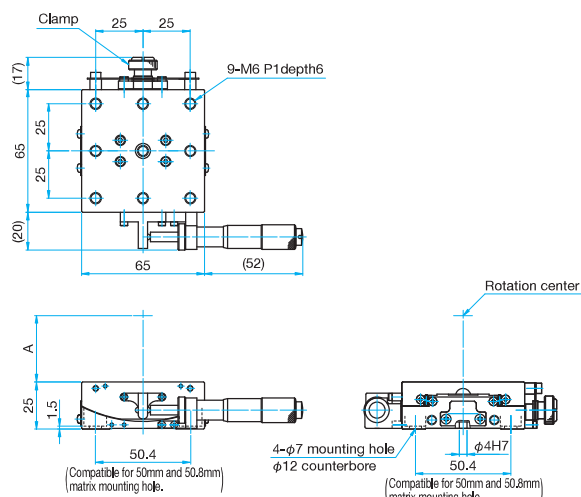
Others



## Outline Drawing

### GOHT-65A\* \*BMS

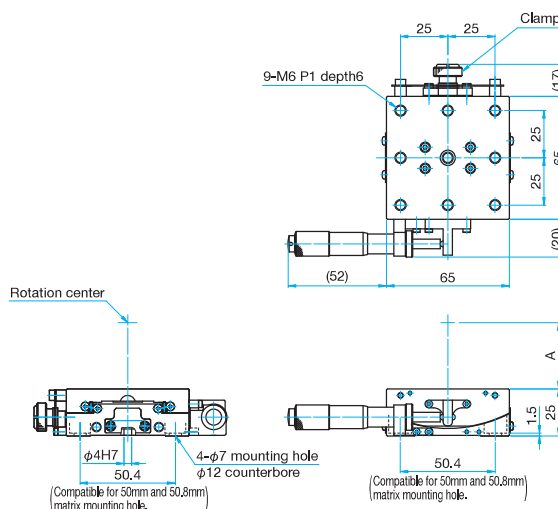
**f** Hexagon socket head cap screw (stainless steel construction) M6×8...4 screws  
Attachment pins for M6...1 pin



| Part Number       | A<br>(mm) |
|-------------------|-----------|
| GOHT-65A50BMS-M6  | 50        |
| GOHT-65A75BMS-M6  | 75        |
| GOHT-65A100BMS-M6 | 100       |

### GOHT-65A\* \*BMSR

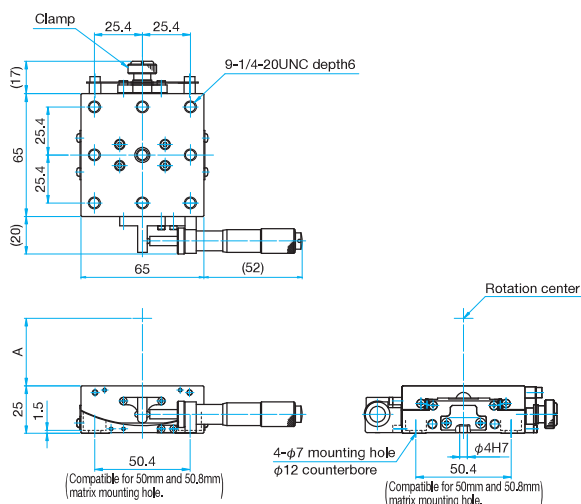
**f** Hexagon socket head cap screw (stainless steel construction) M6×8...4 screws  
Attachment pins for M6...1 pin



| Part Number        | A<br>(mm) |
|--------------------|-----------|
| GOHT-65A50BMSR-M6  | 50        |
| GOHT-65A75BMSR-M6  | 75        |
| GOHT-65A100BMSR-M6 | 100       |

### GOHT-65A\* \*BMSUU

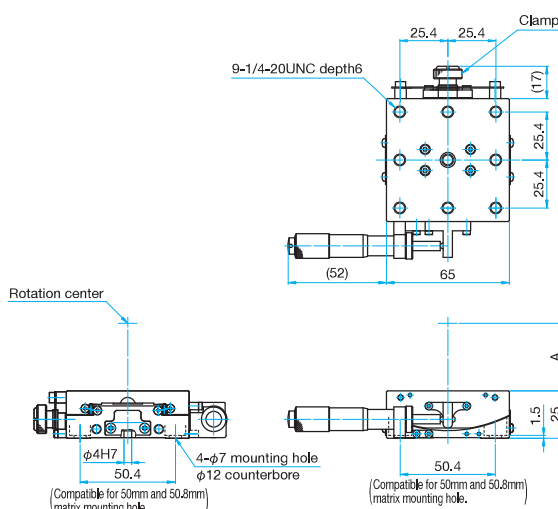
**f** Low head hexagon socket head cap screw (stainless steel construction)  
1/4-20UNC×1/4...4 screws, Attachments pin for 1/420UNC...1 pin



| Part Number      | A<br>(mm) |
|------------------|-----------|
| GOHT-65A50BMSUU  | 50        |
| GOHT-65A75BMSUU  | 75        |
| GOHT-65A100BMSUU | 100       |

### GOHT-65A\* \*BMSRUU

**f** Low head hexagon socket head cap screw (stainless steel construction)  
1/4-20UNC×1/4...4 screws, Attachment pins for 1/420UNC...1 pin



| Part Number       | A<br>(mm) |
|-------------------|-----------|
| GOHT-65A50BMSRUU  | 50        |
| GOHT-65A75BMSRUU  | 75        |
| GOHT-65A100BMSRUU | 100       |

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Crossed Roller

Dovetail

Lapping

V Groove Screw

Others

15 × 15 mm

25 × 25 mm

40 × 40 mm

60 × 60 mm

65 × 65 mm

80 × 80 mm

100 × 100 mm

120 × 120 mm

Others

# $\alpha$ Axis Goniometers

## $\alpha$ Axis Goniometers / $\alpha\beta$ Axis Goniometers

GOH-15A

Stage Size 15 × 15 mm

RoHS

GOH-25A/25B

Stage Size 25 × 25 mm

RoHS

**Goniometers with dovetail slide and worm gear construction for angular adjustment of heavy loads.**

- GOH-15A model : Smallest Goniometer available, exclusively from OptoSigma.
- GOH-25A model : Vernier scales for reading angular position. Locking mechanism clamps dovetail to minimize movement.



### Guide

- ▶ To operate the GOH-15A10, a 2.5mm hex wrench is required and is included with stage.

### Attention

- ▶ Due to size limitations, the GOH-15A10 does not include a scale or clamping mechanism.
- ▶ Locking mechanism is operated using thumbscrew on side of stage.

| Specifications                    |                       |                       |               |               |               |                    |               |  |
|-----------------------------------|-----------------------|-----------------------|---------------|---------------|---------------|--------------------|---------------|--|
| Part Number                       | METRIC                | GOH-15A10             | GOH-25A18     | GOH-25A30     | GOH-25A40     | GOH-25B18          | GOH-25B30     |  |
| (Opposite Model)                  | METRIC                | —                     | GOH-25A18R    | GOH-25A30R    | GOH-25A40R    | GOH-25B18R         | GOH-25B30R    |  |
| Stage Size [mm]                   |                       | 15×15                 | 25×25         | 25×25         | 25×25         | 25×25              | 25×25         |  |
| Axes of Travel                    |                       | $\alpha$ axis         |               |               |               | $\alpha\beta$ axis |               |  |
| Rotation Center Height [mm]       |                       | 10±0.1                | 18±0.1        | 30±0.1        | 40±0.1        | 18±0.1             | 30±0.1        |  |
| Angle Range [ ° ]                 | (Upper) $\beta$ axis  | —                     | —             | —             | —             | ±20                | ±15           |  |
|                                   | (Lower) $\alpha$ axis | ±20                   | ±20           | ±15           | ±10           | ±15                | ±10           |  |
| Vernier Readable Resolution       |                       | —                     | 12′           | 12′           | 12′           | 12′                | 12′           |  |
| Travel per Knob Rotation [ ° ]    | (Upper) $\beta$ axis  | —                     | —             | —             | —             | about 3.1          | about 2.17    |  |
|                                   | (Lower) $\alpha$ axis | about 5               | about 3.1     | about 2.17    | about 1.67    | about 2.17         | about 1.67    |  |
| Rotation Center Displacement [mm] |                       | φ0.1 or less          | φ0.1 or less  | φ0.1 or less  | φ0.1 or less  | φ0.1 or less       | φ0.1 or less  |  |
| Guide Method                      |                       | Dovetail slide method |               |               |               |                    |               |  |
| Primary Material                  |                       | Brass                 |               |               |               |                    |               |  |
| Finish                            |                       | Super black chrome    |               |               |               |                    |               |  |
| Load Capacity [N]                 |                       | 9.8 (1.0kgf)          | 19.6 (2.0kgf) | 19.6 (2.0kgf) | 19.6 (2.0kgf) | 19.6 (2.0kgf)      | 19.6 (2.0kgf) |  |
| Max. Moment Capacity              | Pitch [N·m]           | 0.03                  | 0.35          | 0.35          | 0.35          | 0.35               | 0.35          |  |
|                                   | Roll [N·m]            | 0.05                  | 0.4           | 0.4           | 0.4           | 0.35               | 0.35          |  |
| Moment Stiffness                  | Roll [°/N·cm]         | —                     | 1.0           | 1.0           | 1.0           | —                  | —             |  |
| Parallelism [μm]                  |                       | 50                    | 50            | 50            | 50            | 100                | 100           |  |
| Weight [kg]                       |                       | 0.02                  | 0.07          | 0.06          | 0.06          | 0.13               | 0.12          |  |

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V Groove Screw

Others

15 × 15 mm

25 × 25 mm

40 × 40 mm

60 × 60 mm

65 × 65 mm

80 × 80 mm

100 × 100 mm

120 × 120 mm

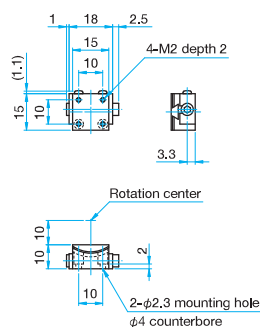
Others



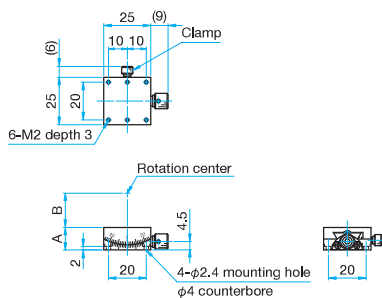


## Outline Drawing

**GOH-15A10** Pan head screw M2×5...2 screws 2.5mm

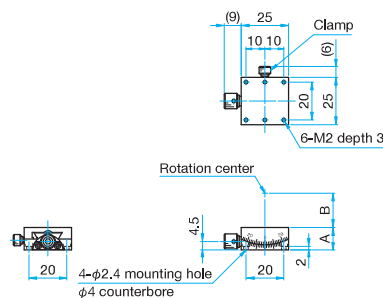


**GOH-25A\*\*** Pan head screw M2×4...4 screws 2.5mm



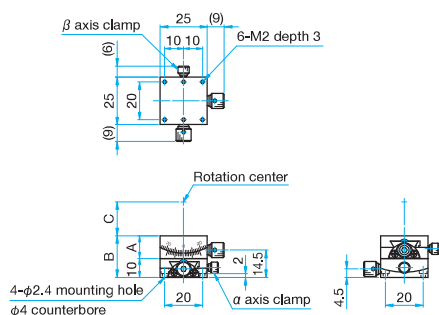
| Part Number | A (mm) | B (mm) |
|-------------|--------|--------|
| GOH-25A18   | 12     | 18     |
| GOH-25A30   | 10     | 30     |
| GOH-25A40   | 10     | 40     |

**GOH-25A\*\* R** Pan head screw M2×4...4 screws 2.5mm



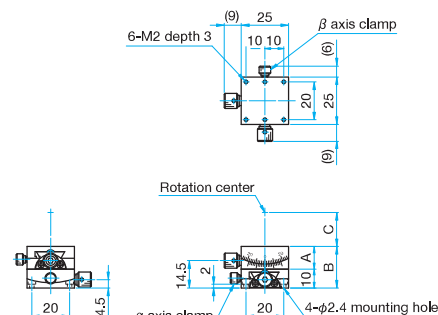
| Part Number | A (mm) | B (mm) |
|-------------|--------|--------|
| GOH-25A18R  | 12     | 18     |
| GOH-25A30R  | 10     | 30     |
| GOH-25A40R  | 10     | 40     |

**GOH-25B\*\*** Pan head screw M2×4...4 screws



| Part Number | A (mm) | B (mm) | C (mm) |
|-------------|--------|--------|--------|
| GOH-25B18   | 12     | 22     | 18     |
| GOH-25B30   | 10     | 20     | 30     |

**GOH-25B\*\* R** Pan head screw M2×4...4 screws



| Part Number | A (mm) | B (mm) | C (mm) |
|-------------|--------|--------|--------|
| GOH-25B18R  | 12     | 22     | 18     |
| GOH-25B30R  | 10     | 20     | 30     |

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V Groove Screw

Others

15 × 15 mm

25 × 25 mm

40 × 40 mm

60 × 60 mm

65 × 65 mm

80 × 80 mm

100 × 100 mm

120 × 120 mm

Others

# $\alpha$ Axis Goniometers $\alpha\beta$ Axis Goniometers

GOH-40A  
GOH-40B

Stage Size 40 × 40 mm

RoHS  
RoHS

Goniometers with dovetail slide and worm gear construction for angular adjustment of heavy loads.

- Vernier scales for reading angular position.
- Locking mechanism clamps dovetail to minimize movement.



## Guide

► Vacuum-compatible stainless steel stages (GOHS-40A/40B) are also available.

GOHS-40A ( $\alpha$  axis) [Reference](#) E221 [Catalog Code](#) W7099

GOHS-40B ( $\alpha\beta$  axis) [Reference](#) E221 [Catalog Code](#) W7107

## Attention

► Locking mechanism is operated using thumbscrew on side of stage.

## Specifications

| Part Number                       | METRIC                | GOH-40A15             | GOH-40A35     | GOH-40A51     | GOH-40B15          | GOH-40B35     |
|-----------------------------------|-----------------------|-----------------------|---------------|---------------|--------------------|---------------|
|                                   | INCH                  | GOH-40A15UU           | GOH-40A35UU   | GOH-40A51UU   | GOH-40B15UU        | GOH-40B35UU   |
| (Opposite Model)                  | METRIC                | GOH-40A15R            | GOH-40A35R    | GOH-40A51R    | GOH-40B15R         | GOH-40B35R    |
|                                   | INCH                  | GOH-40A15RUU          | GOH-40A35RUU  | GOH-40A51RUU  | GOH-40B15RUU       | GOH-40B35RUU  |
| Stage Size [mm]                   |                       | 40×40                 | 40×40         | 40×40         | 40×40              | 40×40         |
| Axes of Travel                    |                       | $\alpha$ axis         |               |               | $\alpha\beta$ axis |               |
| Rotation Center Height [mm]       |                       | 15±0.1                | 35±0.1        | 51±0.1        | 15±0.1             | 35±0.1        |
| Angle Range [°]                   | (Upper) $\beta$ axis  | —                     | —             | —             | ±20                | ±20           |
|                                   | (Lower) $\alpha$ axis | ±20                   | ±20           | ±15           | ±20                | ±15           |
| Vernier Readable Resolution       |                       | 12′                   | 12′           | 12′           | 12′                | 12′           |
| Travel per Knob Rotation [°]      | (Upper) $\beta$ axis  | —                     | —             | —             | about 2.83         | about 1.74    |
|                                   | (Lower) $\alpha$ axis | about 2.83            | about 1.74    | about 1.27    | about 1.74         | about 1.27    |
| Rotation Center Displacement [mm] |                       | φ0.1 or less          | φ0.1 or less  | φ0.1 or less  | φ0.1 or less       | φ0.1 or less  |
| Guide Method                      |                       | Dovetail slide method |               |               |                    |               |
| Primary Material                  |                       | Brass                 |               |               |                    |               |
| Finish                            |                       | Super black chrome    |               |               |                    |               |
| Load Capacity [N]                 |                       | 68.7 (7.0kgf)         | 68.7 (7.0kgf) | 68.7 (7.0kgf) | 68.7 (7.0kgf)      | 68.7 (7.0kgf) |
| Max. Moment Capacity              | Pitch [N·m]           | 0.9                   | 0.9           | 0.9           | 0.9                | 0.9           |
|                                   | Roll [N·m]            | 1.2                   | 1.2           | 1.2           | 0.9                | 0.9           |
| Moment Stiffness                  |                       | 0.51                  | 0.51          | 0.51          | —                  | —             |
| Parallelism [μm]                  |                       | 50                    | 50            | 50            | 100                | 100           |
| Weight [kg]                       |                       | 0.25                  | 0.20          | 0.18          | 0.45               | 0.38          |

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V Groove Screw

Others

15 × 15 mm

25 × 25 mm

40 × 40 mm

60 × 60 mm

65 × 65 mm

80 × 80 mm

100 × 100 mm

120 × 120 mm

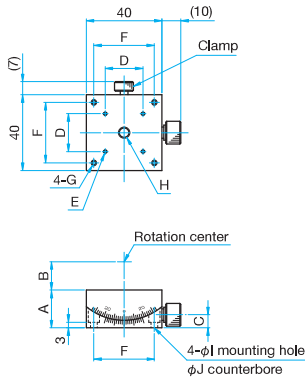
Others



## Outline Drawing

## GOH-40A\*\*/GOH-40A\*\*UU

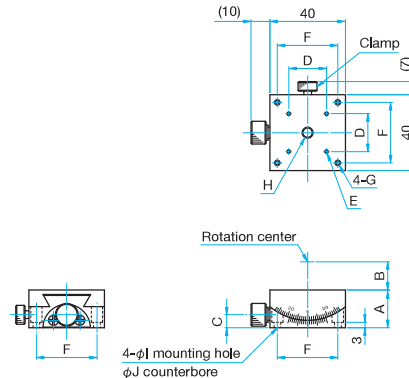
Pan head screw M3×6...4 screws  
 Pan head screw 6-32UNC×5/16...4 screws, Custom head (φ6×H2) (UU) 2.5mm



| Part Number | A (mm) | B (mm) | C (mm) | D (mm) | E            | F (mm) | G               | H                 | I (mm) | J (mm) |
|-------------|--------|--------|--------|--------|--------------|--------|-----------------|-------------------|--------|--------|
| GOH-40A15   | 20     | 15     | 7      | 20     | 4-M2 depth 3 | 32     | M3 depth 5      | M6 P1 depth 6     | φ3.5   | φ6     |
| GOH-40A35   | 16     | 35     | 7      | 20     | 4-M2 depth 3 | 32     | M3 depth 5      | M4 depth 4        | φ3.5   | φ6     |
| GOH-40A51   | 15     | 51     | 6.5    | 20     | 4-M2 depth 3 | 32     | M3 depth 5      | M4 depth 4        | φ3.5   | φ6     |
| GOH-40A15UU | 20     | 15     | 7      |        |              | 31.75  | 6-32UNC depth 5 | 1/4-20UNC depth 6 | φ4     | φ6.5   |
| GOH-40A35UU | 16     | 35     | 7      |        |              | 31.75  | 6-32UNC depth 5 | 8-32UNC depth 4   | φ4     | φ6.5   |
| GOH-40A51UU | 15     | 51     | 6.5    |        |              | 31.75  | 6-32UNC depth 5 | 8-32UNC depth 4   | φ4     | φ6.5   |

## GOH-40A\*\*R/GOH-40A\*\*RUU

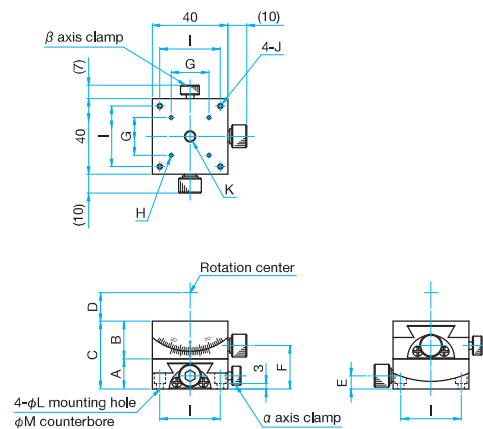
Pan head screw M3×6...4 screws  
 Pan head screw 6-32UNC×5/16...4 screws, Custom head (φ6×H2) (UU) 2.5mm



| Part Number  | A (mm) | B (mm) | C (mm) | D (mm) | E            | F (mm) | G               | H                 | I (mm) | J (mm) |
|--------------|--------|--------|--------|--------|--------------|--------|-----------------|-------------------|--------|--------|
| GOH-40A15R   | 20     | 15     | 7      | 20     | 4-M2 depth 3 | 32     | M3 depth 5      | M6 P1 depth 6     | φ3.5   | φ6     |
| GOH-40A35R   | 16     | 35     | 7      | 20     | 4-M2 depth 3 | 32     | M3 depth 5      | M4 depth 4        | φ3.5   | φ6     |
| GOH-40A51R   | 15     | 51     | 6.5    | 20     | 4-M2 depth 3 | 32     | M3 depth 5      | M4 depth 4        | φ3.5   | φ6     |
| GOH-40A15RUU | 20     | 15     | 7      |        |              | 31.75  | 6-32UNC depth 5 | 1/4-20UNC depth 6 | φ4     | φ6.5   |
| GOH-40A35RUU | 16     | 35     | 7      |        |              | 31.75  | 6-32UNC depth 5 | 8-32UNC depth 4   | φ4     | φ6.5   |
| GOH-40A51RUU | 15     | 51     | 6.5    |        |              | 31.75  | 6-32UNC depth 5 | 8-32UNC depth 4   | φ4     | φ6.5   |

## GOH-40B\*\*/GOH-40B\*\*UU

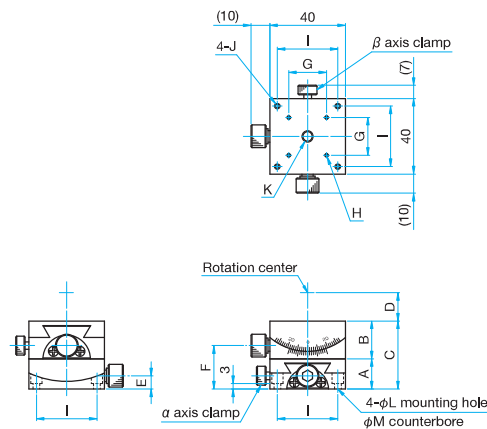
Pan head screw M3×6...4 screws  
 Pan head screw 6-32UNC×5/16...4 screws, Custom head (φ6×H2) (UU) 2.5mm



| Part Number | A (mm) | B (mm) | C (mm) | D (mm) | E (mm) | F (mm) | G (mm) | H            | I (mm) | J               | K                 | L (mm) | M (mm) |
|-------------|--------|--------|--------|--------|--------|--------|--------|--------------|--------|-----------------|-------------------|--------|--------|
| GOH-40B15   | 16     | 20     | 36     | 15     | 7      | 23     | 20     | 4-M2 depth 3 | 32     | M3 depth 5      | M6 P1 depth 6     | φ3.5   | φ6     |
| GOH-40B35   | 15     | 16     | 31     | 35     | 6.5    | 22     | 20     | 4-M2 depth 3 | 32     | M3 depth 5      | M4 depth 4        | φ3.5   | φ6     |
| GOH-40B15UU | 16     | 20     | 36     | 15     | 7      | 23     |        |              | 31.75  | 6-32UNC depth 5 | 1/4-20UNC depth 6 | φ4     | φ6.5   |
| GOH-40B35UU | 15     | 16     | 31     | 35     | 6.5    | 22     |        |              | 31.75  | 6-32UNC depth 5 | 8-32UNC depth 4   | φ4     | φ6.5   |

## GOH-40B\*\*R/GOH-40B\*\*RUU

Pan head screw M3×6...4 screws  
 Pan head screw 6-32UNC×5/16...4 screws, Custom head (φ6×H2) (UU) 2.5mm



| Part Number  | A (mm) | B (mm) | C (mm) | D (mm) | E (mm) | F (mm) | G (mm) | H            | I (mm) | J               | K                 | L (mm) | M (mm) |
|--------------|--------|--------|--------|--------|--------|--------|--------|--------------|--------|-----------------|-------------------|--------|--------|
| GOH-40B15R   | 16     | 20     | 36     | 15     | 7      | 23     | 20     | 4-M2 depth 3 | 32     | M3 depth 5      | M6 P1 depth 6     | φ3.5   | φ6     |
| GOH-40B35R   | 15     | 16     | 31     | 35     | 6.5    | 22     | 20     | 4-M2 depth 3 | 32     | M3 depth 5      | M4 depth 4        | φ3.5   | φ6     |
| GOH-40B15RUU | 16     | 20     | 36     | 15     | 7      | 23     |        |              | 31.75  | 6-32UNC depth 5 | 1/4-20UNC depth 6 | φ4     | φ6.5   |
| GOH-40B35RUU | 15     | 16     | 31     | 35     | 6.5    | 22     |        |              | 31.75  | 6-32UNC depth 5 | 8-32UNC depth 4   | φ4     | φ6.5   |

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V Groove Screw

Others

15 × 15 mm

25 × 25 mm

40 × 40 mm

60 × 60 mm

65 × 65 mm

80 × 80 mm

100 × 100 mm

120 × 120 mm

Others

# $\alpha$ Axis Goniometers $\alpha\beta$ Axis Goniometers

GOH-60A

GOH-60B

Stage Size 60 × 60 mm

RoHS

RoHS

Goniometers with dovetail slide and worm gear construction for angular adjustment of heavy loads.

- Vernier scales for reading angular position.
- Locking mechanism clamps dovetail to minimize movement.



### Attention

- Locking mechanism is operated using thumbscrew on side of stage.

| Specifications                    |                       |                       |              |              |                    |              |
|-----------------------------------|-----------------------|-----------------------|--------------|--------------|--------------------|--------------|
| Part Number                       | METRIC                | GOH-60A50             | GOH-60A84    | GOH-60A115   | GOH-60B50          | GOH-60B84    |
| (Opposite Model)                  | METRIC                | GOH-60A50R            | GOH-60A84R   | GOH-60A115R  | GOH-60B50R         | GOH-60B84R   |
| Stage Size [mm]                   |                       | 60×60                 | 60×60        | 60×60        | 60×60              | 60×60        |
| Axes of Travel                    |                       | $\alpha$ axis         |              |              | $\alpha\beta$ axis |              |
| Rotation Center Height [mm]       |                       | 50±0.1                | 84±0.1       | 115±0.1      | 50±0.1             | 84±0.1       |
| Angle Range [°]                   | (Upper) $\beta$ axis  | —                     | —            | —            | ±20                | ±15          |
|                                   | (Lower) $\alpha$ axis | ±20                   | ±15          | ±10          | ±15                | ±10          |
| Vernier Readable Resolution       |                       | 5′                    | 5′           | 5′           | 5′                 | 5′           |
| Travel per Knob Rotation [°]      | (Upper) $\beta$ axis  | —                     | —            | —            | about 1.03         | about 0.71   |
|                                   | (Lower) $\alpha$ axis | about 1.03            | about 0.71   | about 0.58   | about 0.71         | about 0.58   |
| Rotation Center Displacement [mm] |                       | φ0.1 or less          | φ0.1 or less | φ0.1 or less | φ0.1 or less       | φ0.1 or less |
| Guide Method                      |                       | Dovetail slide method |              |              |                    |              |
| Primary Material                  |                       | Brass                 |              |              |                    |              |
| Finish                            |                       | Super black chrome    |              |              |                    |              |
| Load Capacity [N]                 |                       | 98 (10.0kgf)          | 98 (10.0kgf) | 98 (10.0kgf) | 98 (10.0kgf)       | 98 (10.0kgf) |
| Max. Moment Capacity              | Pitch [N·m]           | 1.6                   | 1.6          | 1.6          | 1.6                | 1.6          |
|                                   | Roll [N·m]            | 2.2                   | 2.2          | 2.2          | 1.6                | 1.6          |
| Moment Stiffness                  | Roll [°/N·cm]         | 0.3                   | 0.3          | 0.3          | —                  | —            |
| Parallelism [μm]                  |                       | 50                    | 50           | 50           | 100                | 100          |
| Weight [kg]                       |                       | 1.0                   | 0.9          | 0.85         | 1.9                | 1.75         |

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Others

15 × 15 mm

25 × 25 mm

40 × 40 mm

60 × 60 mm

65 × 65 mm

80 × 80 mm

100 × 100 mm

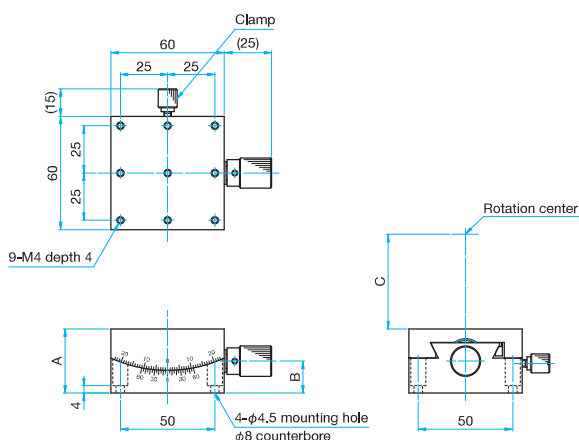
120 × 120 mm

Others



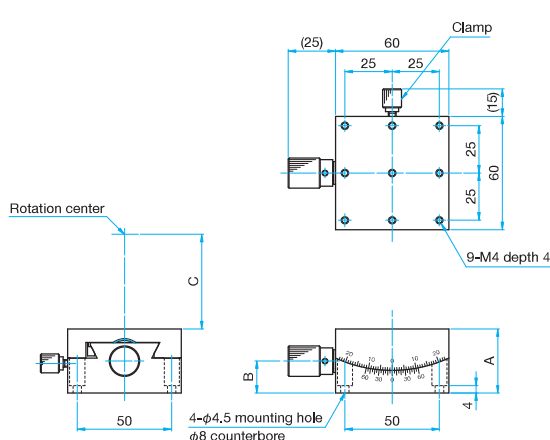
## Outline Drawing

GOH-60A\*\* Hexagonal socket head cap screw M4x8...4 screws



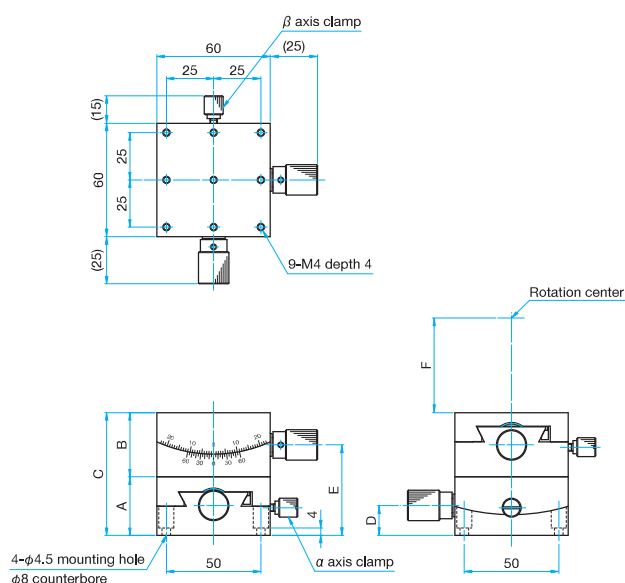
| Part Number | A (mm) | B (mm) | C (mm) |
|-------------|--------|--------|--------|
| GOH-60A50   | 34     | 16.9   | 50     |
| GOH-60A84   | 31     | 15.9   | 84     |
| GOH-60A115  | 24     | 10     | 115    |

GOH-60A\*\*R Hexagonal socket head cap screw M4x8...4 screws



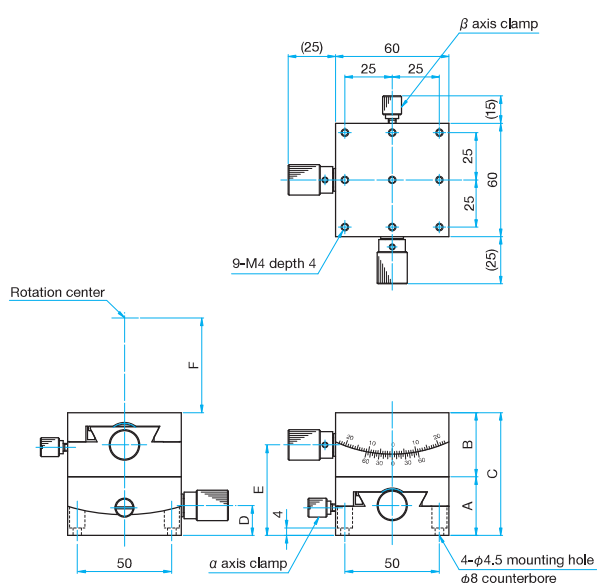
| Part Number | A (mm) | B (mm) | C (mm) |
|-------------|--------|--------|--------|
| GOH-60A50R  | 34     | 16.9   | 50     |
| GOH-60A84R  | 31     | 15.9   | 84     |
| GOH-60A115R | 24     | 10     | 115    |

GOH-60B\*\* Hexagonal socket head cap screw M4x8...4 screws



| Part Number | A (mm) | B (mm) | C (mm) | D (mm) | E (mm) | F (mm) |
|-------------|--------|--------|--------|--------|--------|--------|
| GOH-60B50   | 31     | 34     | 65     | 15.9   | 47.9   | 50     |
| GOH-60B84   | 24     | 31     | 55     | 10     | 39.9   | 84     |

GOH-60B\*\*R Hexagonal socket head cap screw M4x8...4 screws



| Part Number | A (mm) | B (mm) | C (mm) | D (mm) | E (mm) | F (mm) |
|-------------|--------|--------|--------|--------|--------|--------|
| GOH-60B50R  | 31     | 34     | 65     | 15.9   | 47.9   | 50     |
| GOH-60B84R  | 24     | 31     | 55     | 10     | 39.9   | 84     |

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Others

15 × 15 mm

25 × 25 mm

40 × 40 mm

60 × 60 mm

65 × 65 mm

80 × 80 mm

100 × 100 mm

120 × 120 mm

Others

# $\alpha$ Axis Goniometers –M6– $\alpha\beta$ Axis Goniometers –M6–

GOH-65A  
GOH-65B

Stage Size 65 × 65 mm

RoHS  
RoHS

Goniometers with dovetail slide and worm gear construction for angular adjustment of heavy loads.

- Vernier scales for reading angular position.
- Locking mechanism clamps dovetail to minimize movement.



## Attention

- Locking mechanism is operated using thumbscrew on side of stage.

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Dovetail

Lapping

V Groove Screw

Others

15 × 15 mm

25 × 25 mm

40 × 40 mm

60 × 60 mm

65 × 65 mm

80 × 80 mm

100 × 100 mm

120 × 120 mm

Others

## Specifications

| Part Number                       | METRIC                | GOH-65A50-M6          | GOH-65A76-M6  | GOH-65A100-M6  | GOH-65B50-M6       | GOH-65B76-M6  |
|-----------------------------------|-----------------------|-----------------------|---------------|----------------|--------------------|---------------|
|                                   | INCH                  | GOH-65A50UU           | GOH-65A76UU   | GOH-65A100UU   | GOH-65B50UU        | GOH-65B76UU   |
| (Opposite Model)                  | METRIC                | GOH-65A50R-M6         | GOH-65A76R-M6 | GOH-65A100R-M6 | GOH-65B50R-M6      | GOH-65B76R-M6 |
|                                   | INCH                  | GOH-65A50RUU          | GOH-65A76RUU  | GOH-65A100RUU  | GOH-65B50RUU       | GOH-65B76RUU  |
| Stage Size [mm]                   |                       | 65×65                 | 65×65         | 65×65          | 65×65              | 65×65         |
| Axes of Travel                    |                       | $\alpha$ axis         |               |                | $\alpha\beta$ axis |               |
| Rotation Center Height [mm]       |                       | 50±0.1                | 76±0.1        | 100±0.1        | 50±0.1             | 76±0.1        |
| Angle Range [°]                   | (Upper) $\beta$ axis  | —                     | —             | —              | ±20                | ±15           |
|                                   | (Lower) $\alpha$ axis | ±20                   | ±15           | ±10            | ±15                | ±10           |
| Vernier Readable Resolution       |                       | 5′                    | 5′            | 5′             | 5′                 | 5′            |
| Travel per Knob Rotation [°]      | (Upper) $\beta$ axis  | —                     | —             | —              | about 1.16         | about 0.84    |
|                                   | (Lower) $\alpha$ axis | about 1.16            | about 0.84    | about 0.65     | about 0.84         | about 0.65    |
| Rotation Center Displacement [mm] |                       | φ0.1 or less          | φ0.1 or less  | φ0.1 or less   | φ0.1 or less       | φ0.1 or less  |
| Guide Method                      |                       | Dovetail slide method |               |                |                    |               |
| Primary Material                  |                       | Brass                 |               |                |                    |               |
| Finish                            |                       | Super black chrome    |               |                |                    |               |
| Load Capacity [N]                 |                       | 98 (10.0kgf)          | 98 (10.0kgf)  | 98 (10.0kgf)   | 98 (10.0kgf)       | 98 (10.0kgf)  |
| Max. Moment Capacity              | Pitch [N·m]           | 1.0                   | 1.0           | 1.0            | 1.0                | 1.0           |
|                                   | Roll [N·m]            | 1.5                   | 1.5           | 1.5            | 1.5                | 1.5           |
| Moment Stiffness                  |                       | 0.3                   | 0.3           | 0.3            | —                  | —             |
| Parallelism [μm]                  |                       | 50                    | 50            | 50             | 100                | 100           |
| Weight [kg]                       |                       | 0.88                  | 0.86          | 0.86           | 1.74               | 1.72          |





# $\alpha$ axis Leadscrew Goniometers with V-Groove Guide Stage Size 40 × 40 mm

GOHB-40A

RoHS

Catalog  
Code

W7102

Aluminum goniometers incorporating a V-groove guide and leadscrew drive for enhanced durability.



- Rotation center is larger than the conventional goniometers (GOH).

## Guide

- Contact our Sales Division if you desire a rotation center height not listed in the catalog.

## Attention

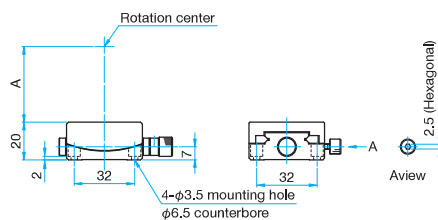
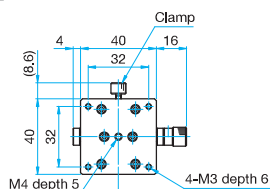
- The vernier scale is not attached.



## Outline Drawing

### GOHB-40A\*\*

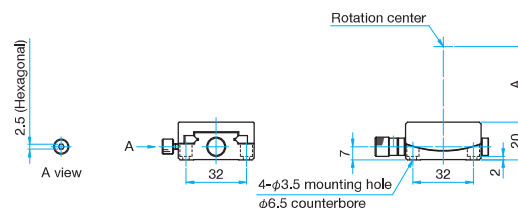
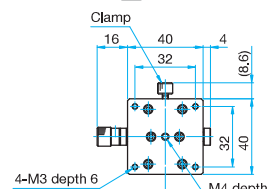
Hexagonal socket head cap screw M3×6...4 screws 2.5mm



| Part Number | A (mm) |
|-------------|--------|
| GOHB-40A40  | 40     |
| GOHB-40A60  | 60     |
| GOHB-40A100 | 100    |
| GOHB-40A120 | 120    |

### GOHB-40A\*\*R

Hexagonal socket head cap screw M3×6...4 screws 2.5mm



| Part Number  | A (mm) |
|--------------|--------|
| GOHB-40A40R  | 40     |
| GOHB-40A60R  | 60     |
| GOHB-40A100R | 100    |
| GOHB-40A120R | 120    |

## Specifications

| Part Number                       | METRIC         | GOHB-40A40         | GOHB-40A60    | GOHB-40A100   | GOHB-40A120   |
|-----------------------------------|----------------|--------------------|---------------|---------------|---------------|
| (Opposite Model)                  | METRIC         | GOHB-40A40R        | GOHB-40A60R   | GOHB-40A100R  | GOHB-40A120R  |
| Stage Size [mm]                   |                | 40×40              | 40×40         | 40×40         | 40×40         |
| Axes of Travel                    |                | $\alpha$ axis      |               |               |               |
| Rotation Center Height [mm]       |                | 40±0.1             | 60±0.1        | 100±0.1       | 120±0.1       |
| Angle Range [°]                   |                | ±8                 | ±6            | ±4            | ±3            |
| Travel per Knob Rotation [°]      |                | about 0.54         | about 0.39    | about 0.25    | about 0.22    |
| Rotation Center Displacement [mm] |                | φ0.05 or less      | φ0.05 or less | φ0.05 or less | φ0.05 or less |
| Guide Method                      |                | V groove method    |               |               |               |
| Primary Material                  |                | Brass              |               |               |               |
| Finish                            |                | Super black chrome |               |               |               |
| Load Capacity [N]                 |                | 39.2 (4.0kgf)      | 39.2 (4.0kgf) | 39.2 (4.0kgf) | 39.2 (4.0kgf) |
| Max. Moment Capacity              | Pitch [N·m]    | 1.0                | 1.0           | 1.0           | 1.0           |
|                                   | Roll [N·m]     | 2.0                | 2.0           | 2.0           | 2.0           |
|                                   | Yaw [N·m]      | 2.0                | 2.0           | 2.0           | 2.0           |
| Moment Stiffness                  | Pitch [°/N·cm] | 0.5                | 0.5           | 0.5           | 0.5           |
|                                   | Roll [°/N·cm]  | 0.4                | 0.4           | 0.4           | 0.4           |
|                                   | Yaw [°/N·cm]   | 0.35               | 0.35          | 0.35          | 0.35          |
| Weight [kg]                       |                | 0.25               | 0.25          | 0.25          | 0.25          |

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Others

15 × 15 mm

25 × 25 mm

40 × 40 mm

60 × 60 mm

65 × 65 mm

80 × 80 mm

100 × 100 mm

120 × 120 mm

Others

Aluminum goniometers incorporating a V-groove guide and leadscrew drive for enhanced durability.



- Rotation center is larger than the conventional goniometers (GOH).

## Guide

- ▶ Contact our Sales Division if you desire a rotation center height not listed in the catalog.

## Attention

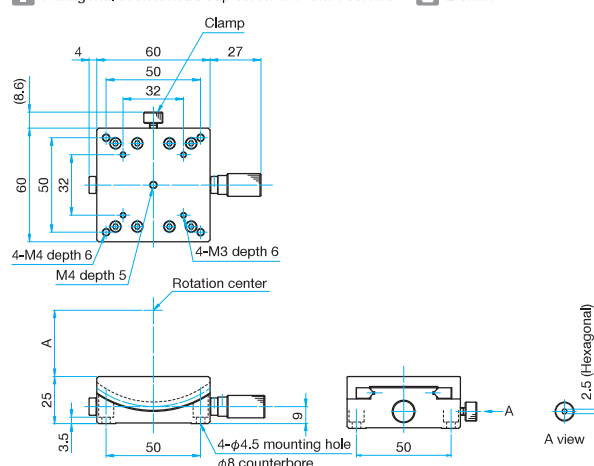
- ▶ The vernier scale is not attached.



## Outline Drawing

### GOHB-60A\*\*

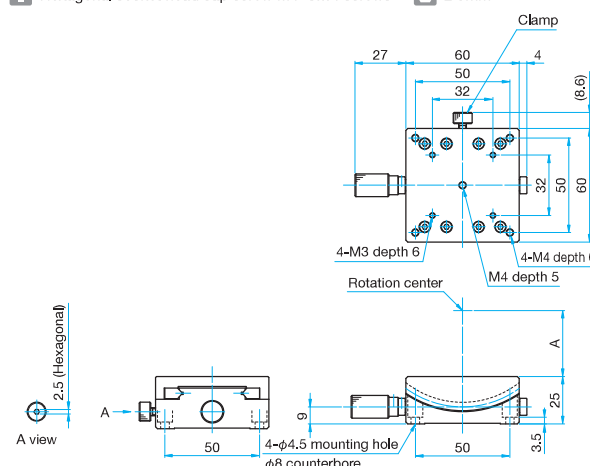
Hexagonal socket head cap screw M4×8...4 screws 2.5mm



| Part Number | A (mm) |
|-------------|--------|
| GOHB-60A35  | 35     |
| GOHB-60A50  | 50     |
| GOHB-60A75  | 75     |
| GOHB-60A100 | 100    |
| GOHB-60A125 | 125    |

### GOHB-60A\*\*R

Hexagonal socket head cap screw M4×8...4 screws 2.5mm



| Part Number  | A (mm) |
|--------------|--------|
| GOHB-60A35R  | 35     |
| GOHB-60A50R  | 50     |
| GOHB-60A75R  | 75     |
| GOHB-60A100R | 100    |
| GOHB-60A125R | 125    |

## Specifications

| Part Number                       | METRIC         | GOHB-60A35         | GOHB-60A50    | GOHB-60A75    | GOHB-60A100   | GOHB-60A125   |
|-----------------------------------|----------------|--------------------|---------------|---------------|---------------|---------------|
| (Opposite Model)                  | METRIC         | GOHB-60A35R        | GOHB-60A50R   | GOHB-60A75R   | GOHB-60A100R  | GOHB-60A125R  |
| Stage Size [mm]                   |                | 60×60              | 60×60         | 60×60         | 60×60         | 60×60         |
| Axes of Travel                    |                | $\alpha$ axis      |               |               |               |               |
| Rotation Center Height [mm]       |                | 35±0.1             | 50±0.1        | 75±0.1        | 100±0.1       | 125±0.1       |
| Angle Range [°]                   |                | ±11                | ±8            | ±6            | ±4.5          | ±4            |
| Travel per Knob Rotation [°]      |                | about 0.56         | about 0.43    | about 0.31    | about 0.25    | about 0.2     |
| Rotation Center Displacement [mm] |                | φ0.05 or less      | φ0.05 or less | φ0.05 or less | φ0.05 or less | φ0.05 or less |
| Guide Method                      |                | V groove method    |               |               |               |               |
| Primary Material                  |                | Brass              |               |               |               |               |
| Finish                            |                | Super black chrome |               |               |               |               |
| Load Capacity [N]                 |                | 58.8 (6.0kgf)      | 58.8 (6.0kgf) | 58.8 (6.0kgf) | 58.8 (6.0kgf) | 58.8 (6.0kgf) |
| Max. Moment Capacity              | Pitch [N·m]    | 2.0                | 2.0           | 2.0           | 2.0           | 2.0           |
|                                   | Roll [N·m]     | 3.0                | 3.0           | 3.0           | 3.0           | 3.0           |
|                                   | Yaw [N·m]      | 3.0                | 3.0           | 3.0           | 3.0           | 3.0           |
| Moment Stiffness                  | Pitch [°/N·cm] | 0.4                | 0.4           | 0.4           | 0.4           | 0.4           |
|                                   | Roll [°/N·cm]  | 0.3                | 0.3           | 0.3           | 0.3           | 0.3           |
|                                   | Yaw [°/N·cm]   | 0.2                | 0.2           | 0.2           | 0.2           | 0.2           |
| Weight [kg]                       |                | 0.65               | 0.65          | 0.65          | 0.65          | 0.65          |

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