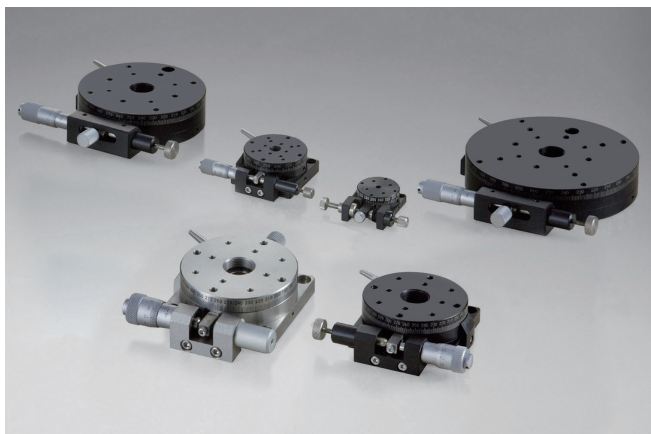


Manual Rotary Stage Guidance



Can be positioned a sample rotation from coarse to fine adjustment.
Available angle scales on the side for repeatability positioning.
(Square type excluded.)

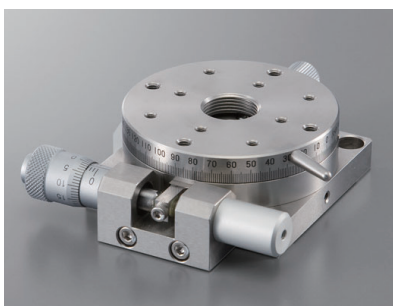
Features



Fitting type B43 [▶ P.2-171~](#)

Fitting stage allows coarse 360 degree rotation and fine-control (micrometer head).
Can be widely used for R&D and integration in devices.

Stage size	$\phi 24\text{mm}$	$\phi 38\text{mm}$	$\phi 60\text{mm}$	$\phi 85\text{mm}$	$\phi 110\text{mm}$
------------	--------------------	--------------------	--------------------	--------------------	---------------------



Cross roller bearing type B44/BS43 [▶ P.2-173~](#)

Stages that use crossed roller bearing allows coarse 360 degree rotation and fine-control (micrometer head).

The rigidity is higher than a fitting type.

Selectable stages made of aluminum or stainless steel.

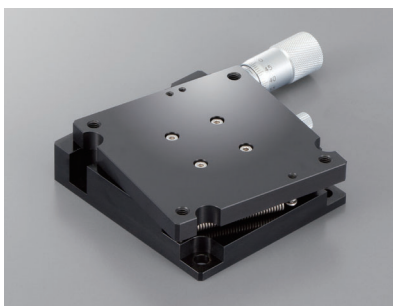
Stage size	$\phi 60\text{mm}$
------------	--------------------



Transmission hole type B47 [▶ P.2-173](#)

Stage that use crossed roller bearing allows coarse 360 degree rotation and fine-control (micrometer head). There is a transmission hole in the center of the stage for passing laser beam and organization of the wires.

Stage size	$\phi 100\text{mm}$
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Square type BRE [▶ P.2-169~](#)

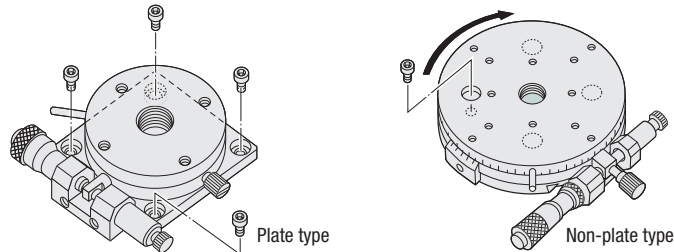
A square rotary stage that can be readily combined with a square linear stage and goniometer.

Stage size	40×40mm	60×60mm
------------	---------	---------

For use correctly

▽How to mount

- Plate type..... Fix by supplied screw to the 4 places hole on the lower plate.
- Non-plate type..... Move the bolt hole on the top surface roughly to align it with bolt holes on the lower surface of the stage.

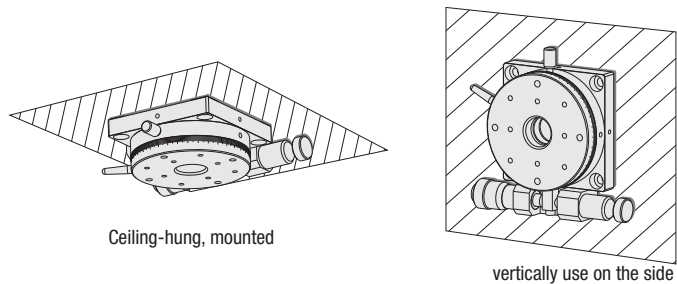


▽About object on the upper or lower stage.

Stage surface might be deformed and mounting unflat object and set to the unflat place can affect to be deformed stage surface and decreasing accuracy.

▽Position of stage mounting

All products SPEC shows must be shown flat setting condition.
 Pay attention to mount such as up side down, vertical on the side and horizontal on the side.
 Load capacity and accuracy might be changed by the positioning.
 Please feel free to ask us for more information.



• Posture characteristic list for each products

Travel guide	Inverted and reversed	Side horizontal	vertically use on the side
Fitting	△	△	△
Cross roller	○	△	△
Ball bearing	×	×	×

○:Available under limit of load or moment

△:Accuracy might be decreased under limit of load or moment

×:Not available

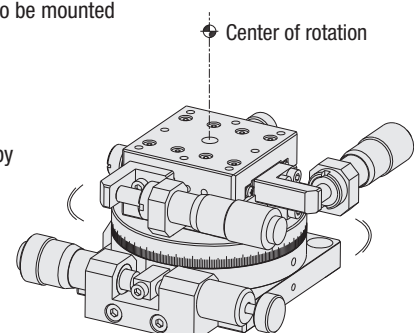
How to align rotating center axis

The stage deliver their inherent performance by aligning the center axis of another device or work to be mounted as much as possible.

We recommend that you align the center axis using the method shown below.

- Determine the position in which the center deviation becomes the smallest using the dial gauge by rotating the rotary stage.
- Fix the stage or work. The center of axis can be fine-adjusted easily by combining XY stages.

※No mounting reference surface on stage main body.



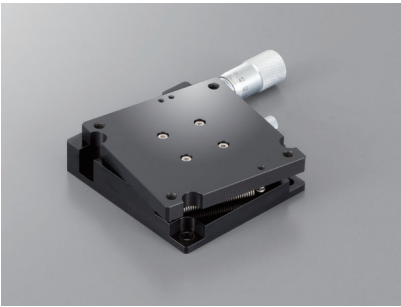
Rotary Stage BRE Series □40□60: BRE04020/BRE06020

Manual linear stage

RoHS



BRE04020



BRE06020

X

XY

Z

Horizontal
Z

XZ

Horizontal
XZ

XYZ

Horizontal
XYZ

Goniometer

Rotary

Unit

Accessories

Linear
Ball

Cross
Roller

Dovetail

□25

□30

□40

□50

□60

□70

□80

□100

□120

Other

1 Model
BRE04020
1 **2**

1 Stage table size

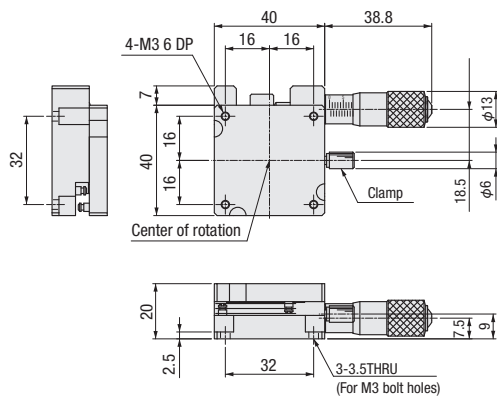
04	40mm
06	60mm

2 Travel distance

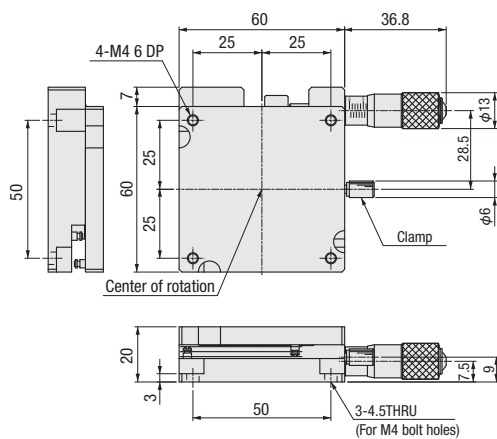
020	20°
-----	-----

SPEC		
Model	BRE04020	BRE06020
Stage table size	40×40mm	60×60mm
Travel distance	±10°	±10°
Minimum reading of micrometer	≒1'51"	≒1'12"
Travel guide	Fitting method	Fitting method
Load capacity	1kgf [9.8N]	3kgf [29.4N]
Parallelism	50μm	50μm
Weight	0.14kg	0.26kg
Main material—Surface finishing	Aluminum—Black alumite processing	Aluminum—Black alumite processing
Provided screws (Hex socket screws)	3 of M3—6	3 of M4—8

BRE04020



BRE06020



X

XY

Z

Horizontal
Z

XZ

Horizontal
XZ

XYZ

Horizontal
XYZ

Goniometer

Rotary

Unit

Accessories

Linear Ball

Cross Roller

Dovetail

25

☐ 30

40

50

60

70

80

100

120

Other

2

170

Rotary Stage (Fitting Type) $\phi 24 \sim 110$: B43 Series

B43-25



B43-38N



B43-60N



B43-85N



B43-110N



■ Cross roller bearing stage that is available a rough motion 360 deg. rotation and micromotion (micrometer head).
Low price.
Ideal for use in R&D, integrating device and much more.

- Square rotation type (BRE series)

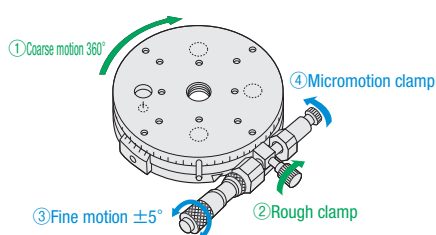


▶ P.2-169~

How to use a rotary stage

Micromotion positioning after rough positioning

- ① A rough adjustment to the target angle with feeding knob
- ② Squeeze a rough clamp and fix.
- ③ A micromotion adjustment to the target angle with micrometer.
- ④ Squeeze a micromotion clamp and fix.

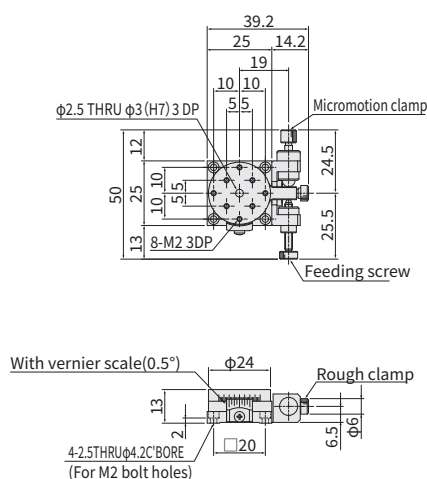


SPEC

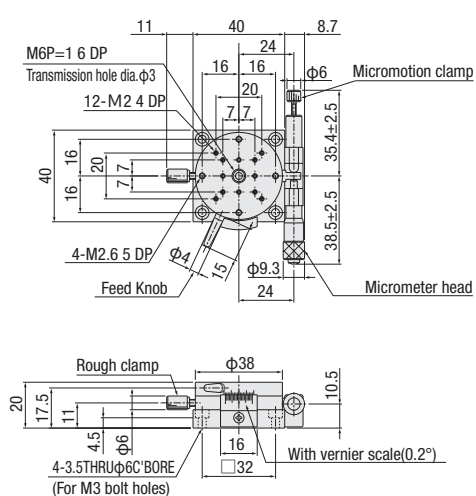
Model	B43-25	B43-38N	B43-60N	B43-85N	B43-110N
(Opposite hand)	B43-25R	B43-38NR	B43-60NR	B43-85NR	B43-110NR
Stage table size	$\phi 24$ mm	$\phi 38$ mm	$\phi 60$ mm	$\phi 85$ mm	$\phi 110$ mm
Travel distance	Coarse motion 360° Fine motion $\pm 3^\circ$		Coarse motion 360° Fine motion $\pm 5^\circ$		
Vernier minimum reading	Vernier scale 0.5°	Vernier scale 0.2°		Vernier scale 0.1°	
Minimum reading capability	$\approx 1.50^\circ/\text{Rotation}$	$\approx 1'26''/\text{Scale}$	$\approx 55''/\text{Scale}$	$\approx 43''/\text{Scale}$	$\approx 34''/\text{Scale}$
Guide	Fitting method				
Load capacity	1.0kgf [9.8N]		3.0kgf [29.4N]	4.0kgf [39.2N]	5.0kgf [49.0N]
Allowable load for moment	0.12N · m	0.3N · m	0.7N · m	1.2N · m	1.5N · m
Moment rigidity	8.11"/N · cm	3.56"/N · cm	0.41"/N · cm	0.22"/N · cm	0.17"/N · cm
Parallelism	50 μ m	20 μ m			
Eccentricity amount	50 μ m	50 μ m			
Runout amount	20 μ m	20 μ m			
Weight	0.03kg	0.09kg	0.28kg	0.48kg	0.75kg
Main material—Surface finishing	Aluminum—Black alumite processing				
Provided screws (Hex socket screws)	4 of M2—6	4 of M3—8	4 of M4—10	4 of M4—8	4 of M4—8

Dimensional outline drawings

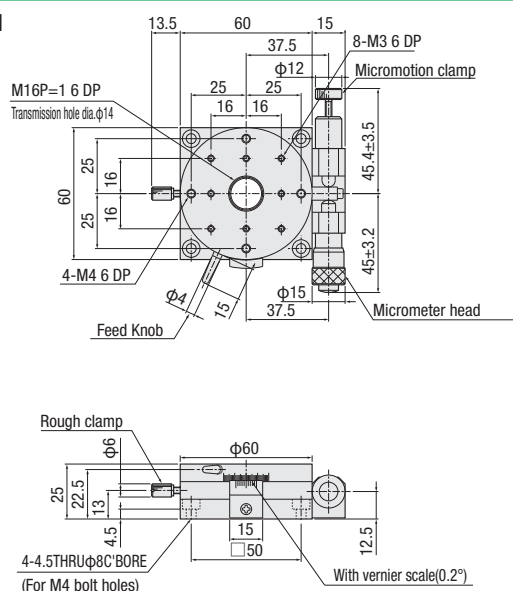
B43-25



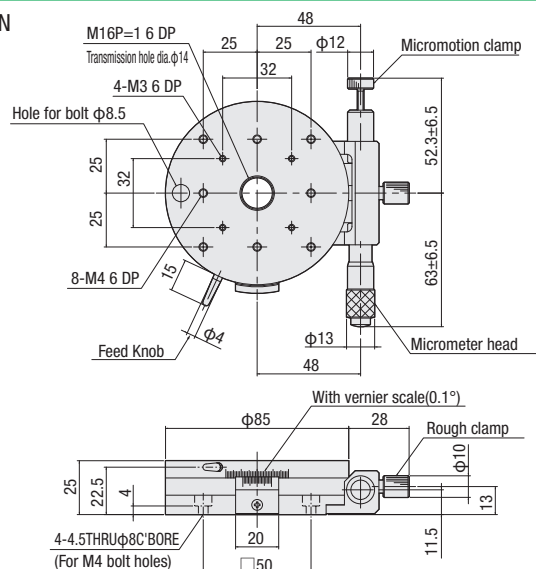
B43-38N



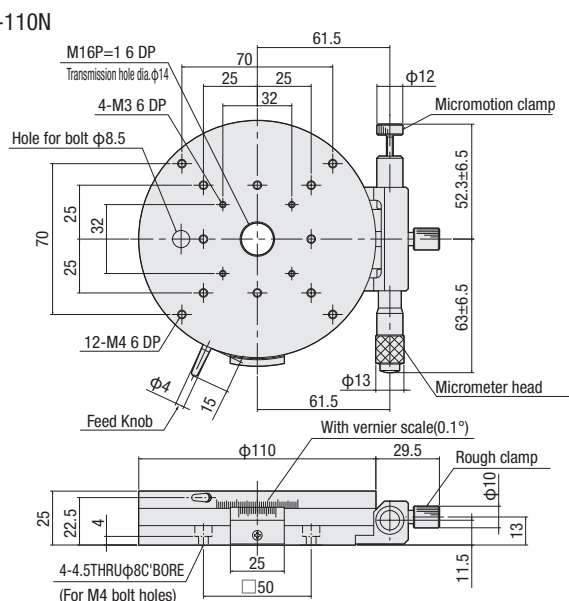
B43-60N



B43-85N



B43-110N



Manual rotation stage

X

XY

Z

Horizontal
Z

XZ

Horizontal
XZ

XYZ

Horizontal
XYZ

Goniometer

Rotary

Unit

Accessories

Fitting
Type

Cross
Roller

φ 24

φ 38

φ 60

φ 85

φ 100

φ 110

2

172

Rotary Stage (Cross Roller Bearing Type) $\phi 85 \cdot 100$: B44/B47 Series

B44-85N



B47-100AN



Available coarse motion 360degree and fine motion(micrometer head). Rigidity is better than fitting type.

RoHS

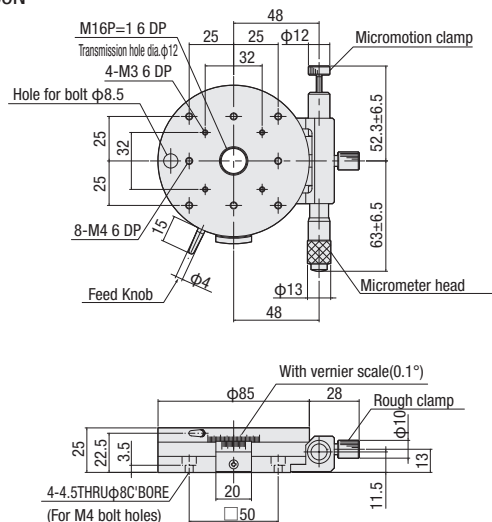
Transmission hole XY-axis cross roller guide B27 series P.2-077~

Dimensional outline drawings

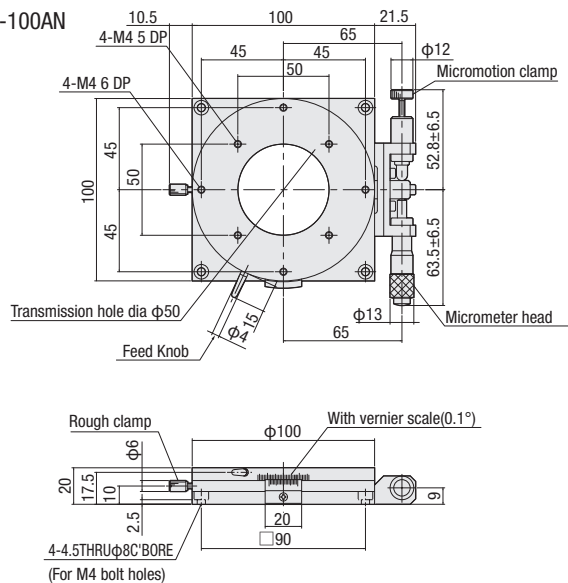
SURUGA SEIKI

CAD
3D·2D

B44-85N



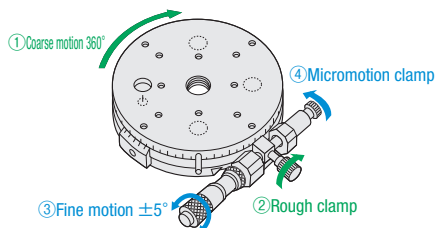
B47-100AN



How to use a rotary stage

Micromotion positioning after rough positioning

- ①A rough adjustment to the target angle with feeding knob
- ②Squeeze a rough clamp and fix.
- ③A micromotion adjustment to the target angle with micrometer.
- ④Squeeze a micromotion clamp and fix.



SPEC

Model	B44-85N	B47-100AN
(Opposite hand)	B44-85NR	B47-100ANR
Stage table size	$\phi 85\text{mm}$	$\phi 100\text{mm}$
Travel distance	Coarse motion 360° Fine motion $\pm 5^\circ$	
Vernier minimum reading	Vernier scale 0.1°	
Minimum reading of micrometer	$\approx 43''/\text{Scale}$	$\approx 32''/\text{Scale}$
Guide	Cross roller bearing	
Load capacity	6.0kgf [58.8N]	
Allowable load for moment	5.0N · m	
Moment rigidity	0.36''/N · cm	0.13''/N · cm
Parallelism	50 μm	
Eccentricity amount	50 μm	
Runout amount	20 μm	
Weight	0.43kg	0.45kg
Main material—Surface finishing	Aluminum—Black alumite processing	
Provided screws (Hex socket screws)	4 of M4—8	4 of M4—6

Rotary Stage (Cross Roller Bearing Type (Stainless Type)) $\phi 60$: BS43 Series

BS43-60

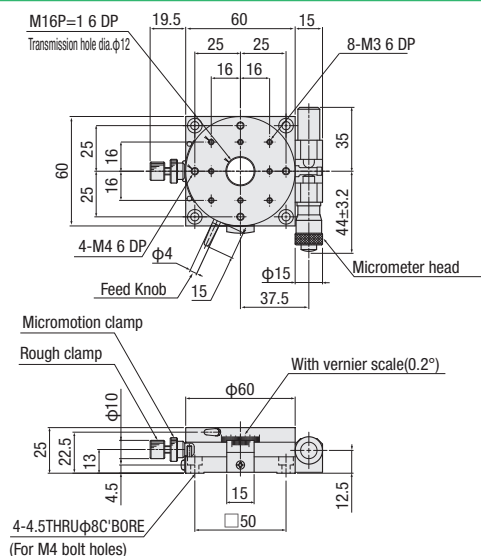


RoHS

■ Available coarse motion 360 degree and fine motion (micrometer head).
High rigidity of materials because of stainless made.

SURUGA
SEIKICAD
3D・2D

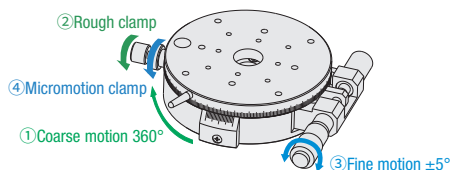
BS43-60



How to use a rotary stage

Micromotion positioning after rough positioning

- ① A rough adjustment to the target angle with feeding knob
- ② Squeeze a rough clamp and fix.
- ③ A micromotion adjustment to the target angle with micrometer.
- ④ Squeeze a micromotion clamp and fix.



SPEC

Model	BS43-60
(Opposite hand)	BS43-60R
Stage table size	$\phi 60$ mm
Travel distance	Coarse motion 360° Fine motion $\pm 5^\circ$
Vernier minimum reading	Vernier scale 0.2°
Minimum reading of micrometer	$\approx 55''/\text{Scale}$
Guide	Cross roller bearing
Load capacity	5.0kgf [49.0N]
Allowable load for moment	5.0N · m
Moment rigidity	0.15''/N · cm
Parallelism	50 μ m
Eccentricity amount	50 μ m
Runout amount	20 μ m
Weight	0.58kg
Main material—Surface finishing	Stainless
Provided screws (Hex socket screws)	4 of M4—8

Manual rotation stage

X

XY

Z

Horizontal
Z

XZ

Horizontal
XZ

XYZ

Horizontal
XYZ

Goniometer

Rotary

Unit

Accessories

Fitting
TypeCross
Roller $\phi 24$ $\phi 38$ $\phi 60$ $\phi 85$ $\phi 100$ $\phi 110$

2

174