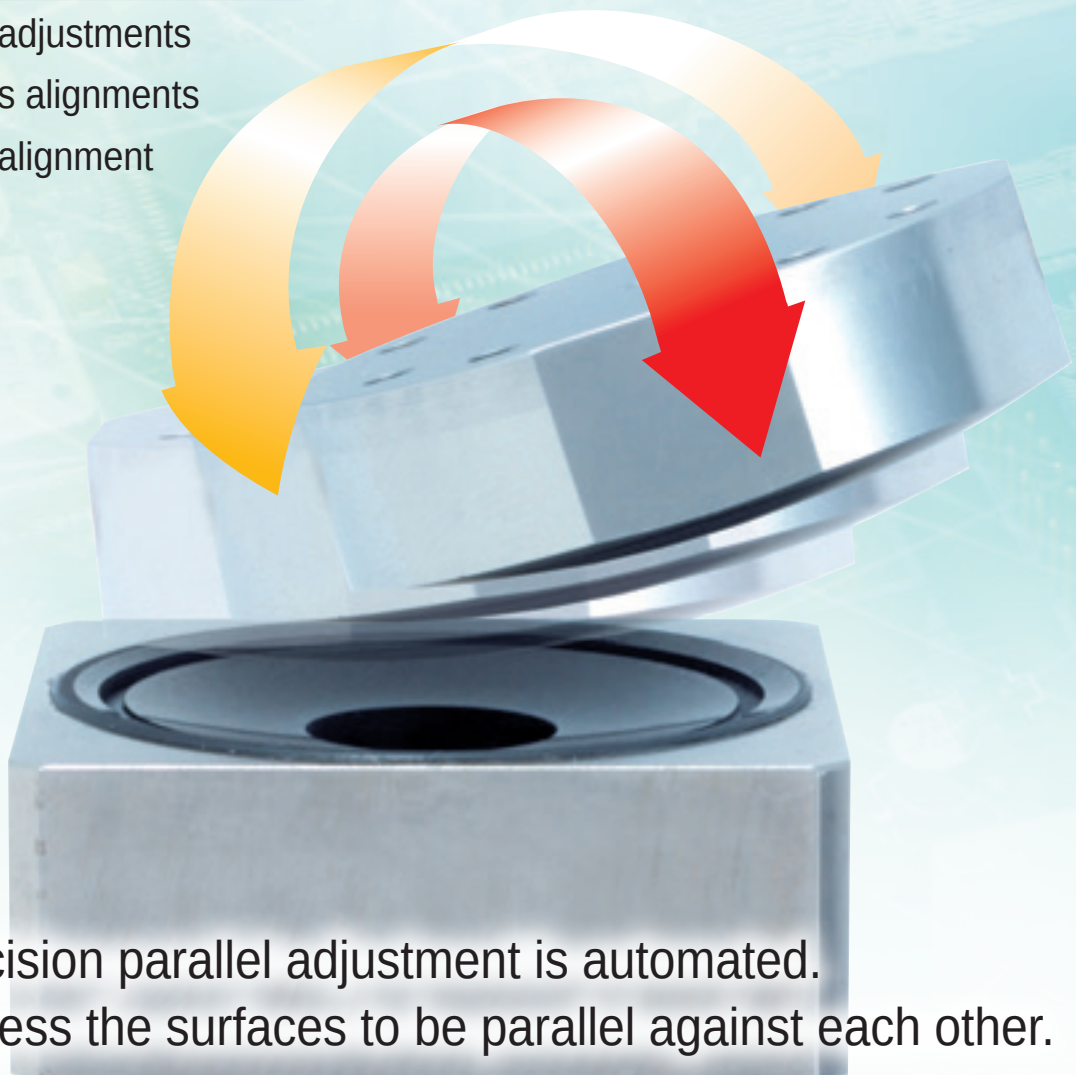


Instant Tracking! Perfect Parallelism

Are you still relying on skilled workers for equipment parallelism adjustments?

Air Gyro can adjust with one "tracking" motion

- Reduces adjustments
- Automates alignments
- Reduces alignment hours



High-precision parallel adjustment is automated.
Simply press the surfaces to be parallel against each other.

**High precision spherical tracking:
Aerostatic Bearing**

Air Gyro LBC-R Series

Parallel alignment unit with air bearing

Compact×High precision×High load resistance achieved!

Compact body

Despite being extremely compact with a minimum product height of 30 mm, it is capable of position control of 2 axes in the α and β directions simply by mirroring. ★Reference value for LBC-R40.

High load resistance

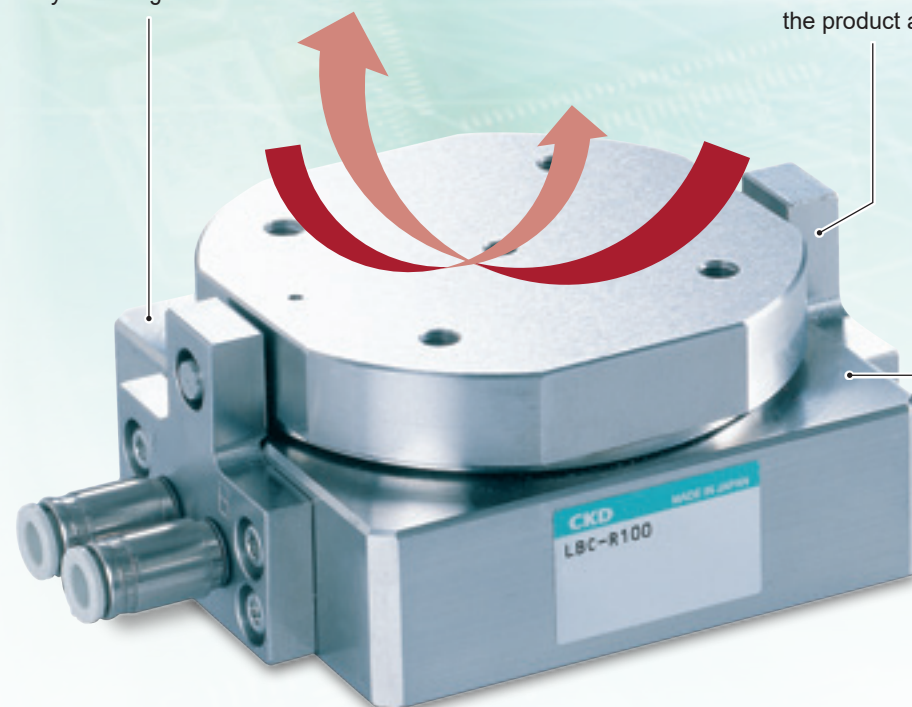
When held in position, it has a maximum load capacity of 8,000 N and can directly receive loads such as bonding.

★load resistance varies depending on the size of the product and where it is pressurized.

High precision

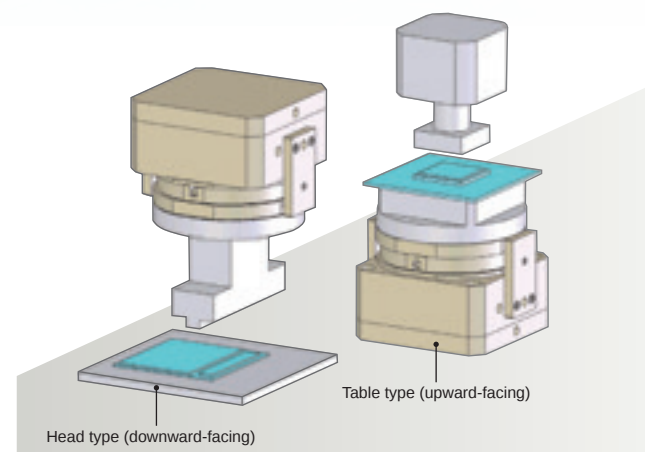
High-precision parallel adjustment with parallelism of less than 1 μm is realized by ultra-precision machining technology and zero friction by spherical aerostatic bearings (air bearings).

(Under CKD test conditions)



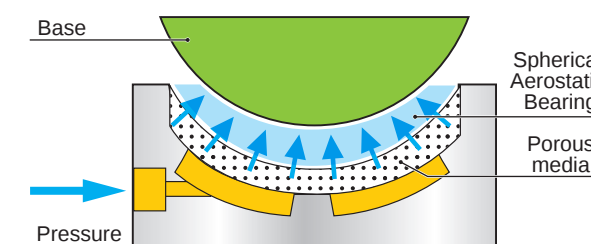
Can also be used face down

In addition to upward use, the magnetized dropout prevention mechanism enables downward use as well. Can be placed on either the table side or the head side of the machine, greatly increasing design flexibility.

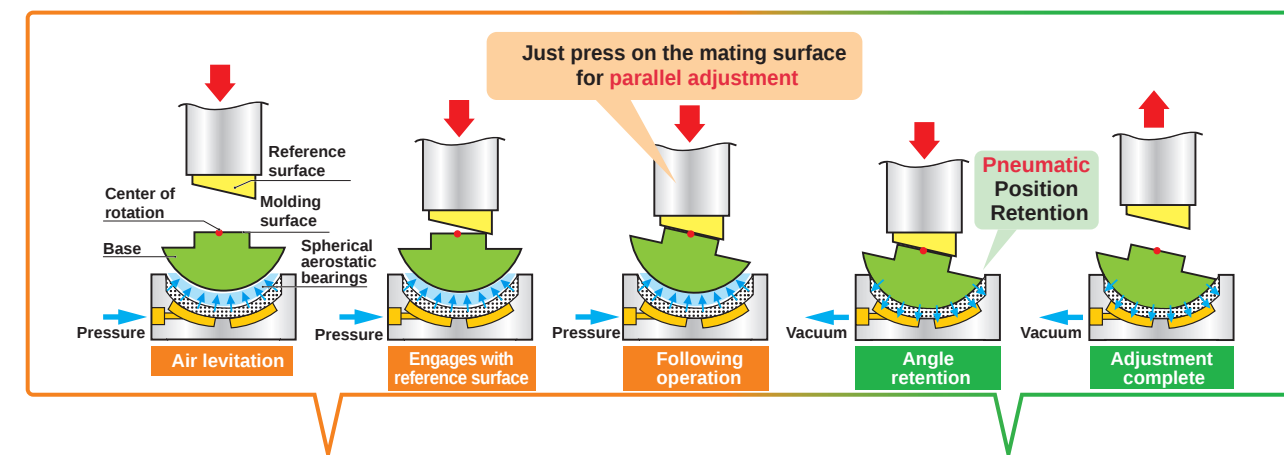


What is the spherical aerostatic bearing (air bearing)?

Aerostatic film generated on the surface of the porous material floats the base and eliminates frictional resistance. The spherical shape allows free movement in the α and β directions.



Operational Explanation



Single-Action Parallel Alignment with 'Surface Following'

After pressurizing the air bearing to raise the base, the surfaces to be parallel are pressed against each other, and in a few seconds, the mirroring adjustment is complete.

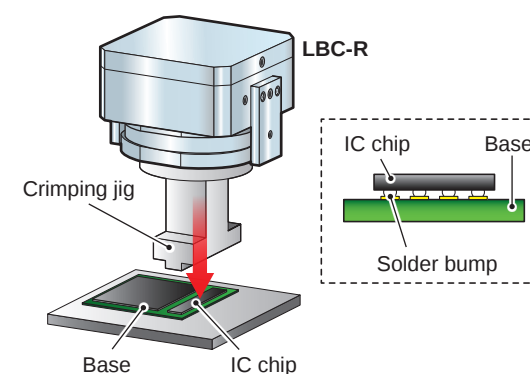
Powerful Position Lock at 'Followed' Position

Vacuum suction from the air bearing holds the base in the copied position. High holding type with pneumatic actuator is also available.

Examples of applications

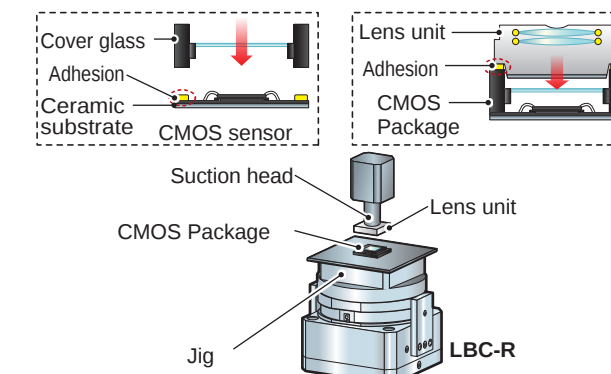
Semiconductor post-processing

Flip Chip Bonder Crimp Head Angle Adjustment



Precision part assembly process

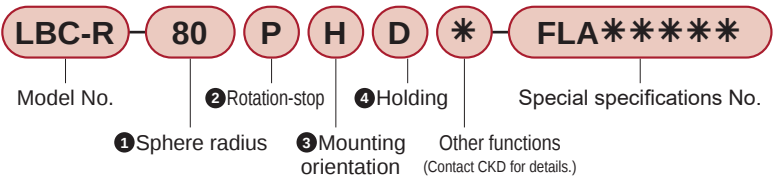
CMOS Package Assembly Camera Module Assembly



Air Gyro LBC-R Series

How to Order

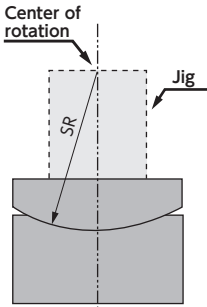
This Special-order product is compatible with customer specifications.
Check the specifications and determine the model No. and dimensions.



① Sphere radius (SR)

Code	Description
40 to 120	40 mm (per 10mm) to 120mm
140	140 mm

The jig height determines the spherical radius (SR).



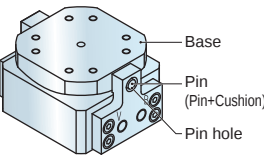
② Rotation-stop

Code	Description
Blank	Without non-rotation function
P	Basic A (pin)
S	Basic B (pin + cushion)
O	High precision (Oldham)

Restricts movement in the θ direction.

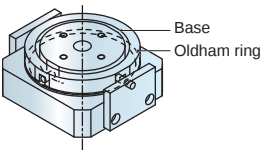
Basic

Rotation-stop accuracy $\pm 1^\circ$ to 3°



High precision

Rotation-stop accuracy $\pm 0.1^\circ$ to 0.5°



③ Mounting orientation

Code	Description
H	Head type (downward-facing)
T	Table type (upward-facing)

Head type (downward-facing)

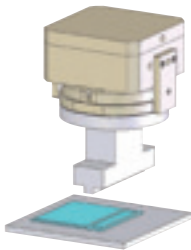


Table type (upward-facing)



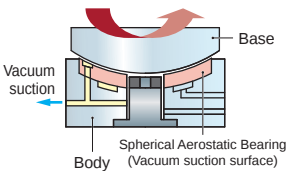
④ Holding

Code	Description
Blank	Basic (vacuum retention)
D	High holding (vacuum holding + pressurization holding)

Position holding method against load.

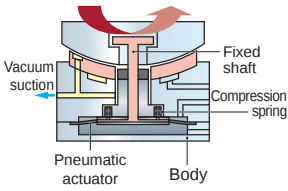
Basic

The base is suctioned and held by vacuum suction.



High holding

In addition to vacuum suction, it's held by pneumatic actuators.



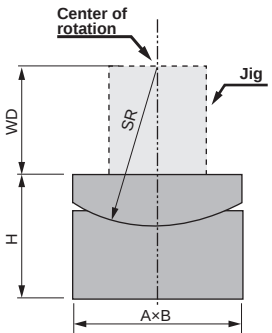
Size variation (example)

Model No.	SR (mm)	A (mm)	B (mm)	H (mm)	WD (mm)	Max. holding load Basic holding (N)	Max. holding load High holding (N)
LBC-R40	40	45	55	30	25	500	1000
LBC-R60	60	60	70	30	45	1000	2500
LBC-R80	80	80	92	35	60	1000	4000
LBC-R100	100	100	112	38	77	1400	6000
LBC-R120	120	117	129	45	95	2000	8000
LBC-R140	140	117	129	45	115	2000	8000

* With the reference dimensions of the basic rotation-stop type and the basic holding type, the actual dimensions differ according to the specifications.

* The holding load is calculated according to the distance of the load point, so it differs from the actual load.

* Smaller and larger types can be made depending on the conditions.



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CKD Corporation

[Website]
<https://www.ckd.co.jp/en/>

Head Office • Plant
Tokyo Office

Osaka Office

2-250, Ouji, Komaki, Aichi 485-8551
4F, Bunkahousou Media Plus, 1-31-1, Hamamatsu-cho,
Minato-ku, Tokyo 105-0013
6F, PMO EX Shin-Osaka, 4-2-10 Miyahara,
Yodogawa-ku, Osaka 532-0003

TEL(0568)77-1111 FAX(0568)77-1123
TEL(03)5402-3620 FAX(03)5402-0120

TEL(06)6396-9630 FAX(06)6396-9631