



Pneumatic components

Safety precautions

Always read this section before starting use.

Refer to Ending 69 for cylinders and to Ending 78 for cylinder switches.

RRC
GRC
RV3*
NHS
HR
LN
FH100
HAP
BSA2
BHA/BHG
LHA
LHAG
HKP
HLA/HLB
HLG/HLBG
HEP
HCP
HMF
HMFB
HFP
HLC
HGP
FH500
HBL
HDL
HMD
HJL
BHE
CKG
CK
CKA
CKS
CKF
CKJ
CKL2
CKL2-*.HC
CKH2
CKLB2
NCK/SCK/FCK
FJ
FK
Ending

Rotary actuator rack & pinion RRC Series

Design & Selection

⚠ WARNING

- Do not brake or hold by sealing pneumatics into the product.

If no stopping device is provided outside the product and braking is applied by sealing air in with valves, the stop position may not be held because of air leakage, possibly resulting in injury or damage to operator, component, or device.

⚠ CAUTION

- Do not apply torque exceeding rated output to the product.

If force exceeding rated output is applied, the product could be damaged.

- If oscillation angle repeatability is required, directly stop external load.

The initial oscillation angle could change even with products provided with adjustable angles.

- If axial load (thrust) on the shaft exceeds the tolerable value, operation faults could occur. If such a load is unavoidable, use a structure with thrust bearing as shown in Fig. 1.

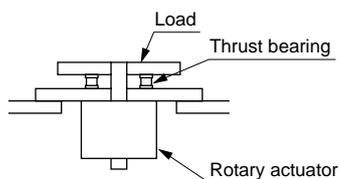


Fig.1

- Avoid applying bending (radial) load exceeding the allowable value onto the shaft end, or operation faults could occur.

If such a load is unavoidable, use a structure conveying only rotation as shown in Fig. 2.

When connecting the shaft end and load at any position in the oscillation range, use flexible coupling, etc., that will not twist off to prevent the shaft from breaking and bearings from wearing or seizure.

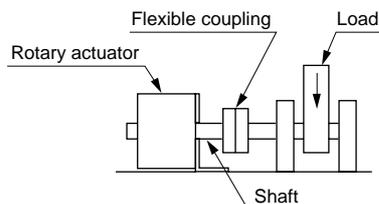


Fig.2 Radial load

- Install the external stopper away from the rotary shaft.

If the stopper is installed near the rotary shaft, a torque generated by the product could be applied on the rotary shaft. This reaction on the stopper may cause damaging the rotary shaft or bearings, and possibly resulting in injury or damage to operator, equipment, or device.

- If the load weight is large and oscillation is fast, large inertia could be generated and allowable absorption exceeded, possibly damaging the rotary actuator.

Install a shock absorber to absorb inertia.

- When installing a load or jig, etc., on the rotary actuator shaft, check that load is not applied as shown in Fig. 3.

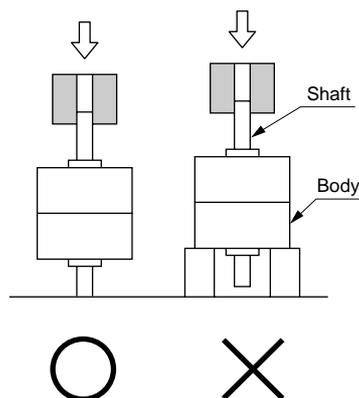


Fig.3

- Avoid seizure at rotating sections.

Apply grease to rotating sections (pins, etc.) to prevent seizing.

- Holding torque at the oscillation end is half the effective torque, so use with a load factor of 50% or less.

Installation & Adjustment

⚠ CAUTION

- When adjusting the angle by supplying pressure, do not rotate the device more than necessary beforehand.

When adjusting while supplying pressure, the device could rotate and drop during adjustment, depending on how it is installed, possibly resulting in operator, component, or device injury or damage.

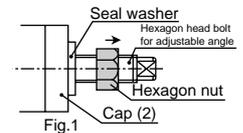
- Do not loosen the angle adjustment hexagon bolt beyond the adjustment range.

If the bolt is loosened beyond the adjustment range, the angle adjustment hexagon bolt could be dislocated, possibly resulting in injury or damage to operator, component or device. The cylinder's oscillation angle will decrease when the angle adjustment hexagon bolt is rotated clockwise.

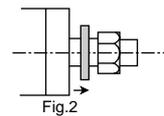
- Observe steps (1) to (5) when adjusting the angle. If the angle is not adjusted this way, the seal washer may break after one or two adjustments.

Angle adjustment procedures:

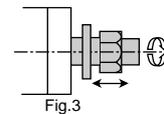
- (1) First loosen the hexagon nut as shown in Fig. 1.



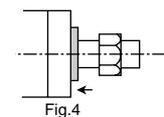
- (2) Separate the seal washer from the cap (2) as shown in Fig. 2.



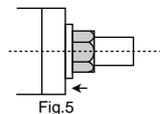
- (3) Turn the angle adjustment hexagon bolt, hexagon nut, and seal washer together as shown in Fig. 3, and adjust the angle. Check that the rubber section of the seal washer does not bite into the screw.



- (4) After adjusting the angle, move the seal washer near the cap (2) by hand as shown in Fig. 4.



- (5) Tighten as shown in Fig. 5 with the hexagon nut. Check that the rubber section of the seal washer does not bite into the screw section.



- Securely tighten the hexagon nut after adjusting the angle. The hexagon nut may loosen and cause external leakage in prolonged use.

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HDL
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HJL
BHE
CKG
CK
CKA
CKS
CKF
CKJ
CKL2
CKL2 *-HC
CKH2
CKLB2
NCK/ SCK/FCK
FJ
FK
Ending

Rotary actuator
Oscillation, rotation drive type