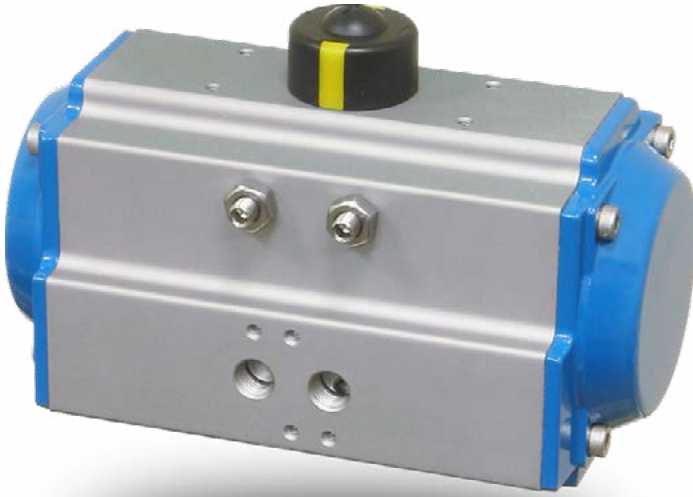


C Series

Dual Rack-n-Pinion Pneumatic Valve Actuators



Installation, Operation, & Maintenance Manual



Scan for more product information
Doc. AA-CACT-IOM-2022.03.24

1. Basic Actuator:

The C series pneumatic actuators are 90 degree rotating actuators, suitable for quarter-turn valves. Spring return and double acting units are available.

All C series actuators have pre-drilled and tapped standard namur connections for direct mounting of integral solenoids and for brackets mounting valves and controls.

Maximum supply pressure is 150 PSIG. Pressure regulators may be used to control pressure over 150 PSIG down to optimum range.

2. Double Acting Models:

The air is introduced to port "A" (left port) forcing the pistons apart and towards the end positions, resulting in a counter-clockwise rotation of valve stem. When valve opens, exhaust air will exit at port "B" (right port). Air supplied to port "B" forces pistons toward the center resulting in a clock-wise rotation of valve stem and causing the valve to close. The exhaust air will exit at port "A".

3. Spring Return Models:

The air is introduced to port "A" (left port) forcing pistons apart and towards end position, compressing springs and resulting in a counter-clockwise rotation of valve stem, which will open or close valve as required. Exhaust air will exit at port "B" (right port) when air supply to center chamber of actuator is depressurized due to air or electrical failure. The compressed springs will force piston towards the center position and will rotate valve stem clockwise 90 degrees, which will open or close valve as required.

4. Seal Replacement:

1) Important! Prior to removing actuator from valve, all operating pressure from actuator should be removed and all electric service lines to actuator are to be disconnected!

2) Remove the actuator from mounting bracket or mounting pads.

3) Remove end caps after removing end bolts.

4) Rotate the drive-shaft (pinion) until pistons travel outward and are flush with body end. To ease reassembly position, mark drive shaft until pistons become disengaged. Remove pistons from body.

5) If your unit comes equipped with limit switch cam (optional), remove hex bolt and washer, holding cam in place.

6) Remove spring clip and thrust washer and push drive shaft down through body.

7) Remove and discard old seals (o-ring) and bearing and replace with new components from actuator designated repair kits.

8) Examine the inside walls of body housing for any wear or scoring. Barely visible scoring or wear is acceptable.

9) Re-assembly to be done in reverse order of disassembly.

10) Prior to re-assembly, all seals and internal components should be lightly coated with a PTFE filled lubricant.

11) Set inward piston travel stops before replacing end caps.

12) Should adjustments of inward piston be required after assembly, adjustment should be made per internal travel stroke adjustment.

5. Technical Data:

1. Operating media:

Dry or lubricated air; **NO GAS OR HYDRAULIC FLUID ALLOWED.**

2. Air supply:

Double acting from 40 to 150 PSIG. Spring return from 50-150 PSIG.

3. Temperature:

from -4° F to 175° F

4. Lubrication:

Factory lubricated for the life of the actuator under normal working conditions.

5. Construction:

Suitable for indoor or outdoor installations.

6. External travel stop:

+ or - 4 degrees adjustment on 90-degree stroke.

7. Internal travel stop:

+ or - 4 degrees adjustment on 90-degree stroke.

8. Rotation:

Pressurized port "A" (left port) produces counter-clockwise rotation.

Pressurized port "B", or spring return, produces clockwise rotation.

9. Angle rotation: 90 degrees with + or - 4 degrees over-travel or less travel each end.

6. Repair Kits:

Size	NBR (standard)	FKM (High Temp)	LNBR (Low Temp)
40	RK-C-40-NBR	RK-C-40-FKM	RK-C-40-LNBR
52	RK-C-52-NBR	RK-C-52-FKM	RK-C-52-LNBR
63	RK-C-63-NBR	RK-C-63-FKM	RK-C-63-LNBR
75	RK-C-75-NBR	RK-C-75-FKM	RK-C-75-LNBR
83	RK-C-83-NBR	RK-C-83-FKM	RK-C-83-LNBR
92	RK-C-92-NBR	RK-C-92-FKM	RK-C-92-LNBR
105	RK-C-105-NBR	RK-C-105-FKM	RK-C-105-LNBR
125	RK-C-125-NBR	RK-C-125-FKM	RK-C-125-LNBR
140	RK-C-140-NBR	RK-C-140-FKM	RK-C-140-LNBR
160	RK-C-160-NBR	RK-C-160-FKM	RK-C-160-LNBR
190	RK-C-190-NBR	RK-C-190-FKM	RK-C-190-LNBR
210	RK-C-210-NBR	RK-C-210-FKM	RK-C-210-LNBR
240	RK-C-240-NBR	RK-C-240-FKM	RK-C-240-LNBR
270	RK-C-270-NBR	RK-C-270-FKM	RK-C-270-LNBR
300	RK-C-300-NBR	RK-C-300-FKM	RK-C-300-LNBR
350	RK-C-350-NBR	RK-C-350-FKM	RK-C-350-LNBR

6. Accessories:

Solenoid Valves:



Either 3-way for Spring return or 4-way for double acting. Each is available with various coils and connectors that are either NEMA 4/4X Weatherproof, NEMA 7 Explosion proof.

For complete details visit:

<https://assuredautomation.com/NAMUR-solenoid-valves>

Limit Switches:



We offer a wide range of limit switches that includes proximity sensors and mechanical switches. Our offering includes NEMA 4/4X Weatherproof, NEMA 7 Explosion proof.

For complete details visit:

<https://assuredautomation.com/limit-switches>

7. Warranty:

C Series Actuators are warranted for twelve months from the shipment date to be free from defects in materials and workmanship. If an actuator fails to perform as warranted, Assured Automation will repair it free of charge subject to the terms of this warranty. Assured Automation's liability under this performance warranty is expressly limited to the repair or replacement of the meter upon the customer's returning the complete actuator prepaid to:

**Assured Automation
263 Cox Street
Roselle, NJ 07203**

This performance guarantee is not applicable to actuators which have been damaged by, misapplication, willful misconduct, negligence, vandalism, act of God, improper installation, frost/freeze damage or using the actuator outside of its specific operating parameters (especially temperature and pressure ranges).

In no event shall Assured Automation be liable for incidental or consequential damages of any kind, including but not limited to loss of profits or revenue, loss of use, cost of capital, cost of substitute equipment, facilities or services, downtime costs, delays and claims of customers of the customer or other third parties.

Positioners:



Pneumatic and Electro-pneumatic positioners are available. Electro-pneumatic models are available as standard, intrinsically safe, and explosion proof. All units are available with or without feedback units.

For complete details visit:

<https://assuredautomation.com/valve-positioners>

FireChek®:



This revolutionary product turns any spring return pneumatic actuator into a thermally activated shut-off valve. Not only does it vent the actuator allowing for the springs to return the valve to fail-safe, it also shuts off the supply air which would feed oxygen to the fire. Sizes are available for ANY size actuator.

For complete details visit:

<https://assuredautomation.com/firechek>