rotork®
Fluid Systems

CQ Range

Compact Actuators

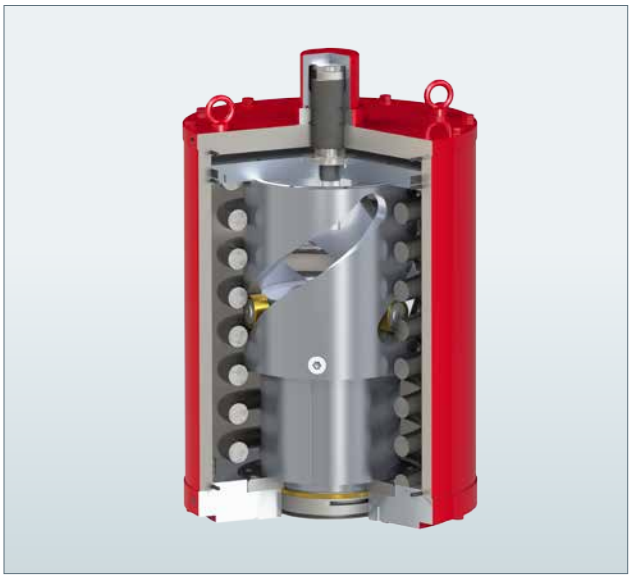
CQ Range actuators provide a unique solution for confined installations

The CQ range provides an innovative fully-concentric and balanced actuator design for quarter-turn valves. The design features a helical mechanism that transforms linear piston motion into quarter-turn valve stem rotation. CQ actuators provide a much higher torque output for a given footprint than scotch-yoke designs typically utilised to operate many quarter-turn valve types. It is therefore ideally suited for installation in confined spaces. Further, Rotork's unique helical cam follower bearing design provides higher efficiency than a helical gear mechanism utilised by other valve actuator manufacturers.

As standard, the CQ torque output profile, like that of a scotch-yoke actuator, is engineered to parallel the torque demand profile typically found with popular quarter-turn valve types. The CQ design however is unique in that the torque profile can be custom engineered and manufactured to meet non-standard valve torque requirements.

The standard CQ range is designed for applications requiring a pneumatically powered actuator with a torque demand of up to 150,000 Nm. Upon request we can also provide CQ actuators with higher torque outputs for both pneumatic or hydraulic supplies where required.

A variety of options and accessories are available to make the CQ range a perfect choice for virtually any quarter-turn application with challenging space requirements.



Supply Medium

- Instrument air; mineral oil; sweet, clean and dry natural gas; nitrogen

Operating Pressure

- Pneumatic: Up to 7 bar (101.5 psi)

Torque Output

- Standard: 150,000 Nm (1.3m lbf.in)
  Higher outputs upon request

Temperature Range

- Standard: -30 to 100 °C (-22 to 212 °F)
- PED Compliant: -20 to 160 °C (-4 to 320 °F)
- Low: -40 to 160 °C (-40 to 320 °F)
- Extreme Low: -60 to 160 °C (-76 to 320 °F)

Stroke Adjustment

- Standard: 90° ±5°
  Custom rotations beyond 90° upon request

Certification

- IP66/IP68, PED, ATEX, IEC Ex, EAC
- Suitable for use at SIL3 as a single device in accordance with IEC 61508.

Environmental Protection

- The completely enclosed design provides optimum resistance to corrosive environments. Epoxy paint is standard. Power cylinders are internally coated to further enhance corrosion protection.

rotork®

Keeping the World Flowing

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Design Benefits

- **High Torque Output For Package Size**

  The smallest footprint and envelope dimensions of any actuator type for a given torque output. Valve adaption is normally accommodated within the actuator envelope further reducing space requirements.

- **Ease of Installation and Removal**

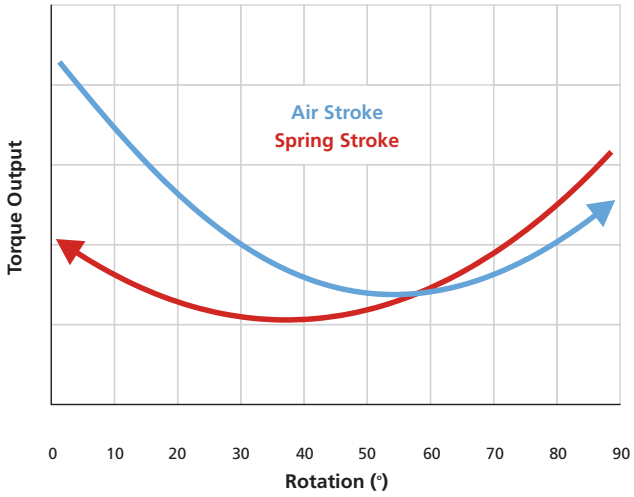
  The concentric design provides even weight distribution that facilitates installation and removal as well as minimal load stress on the valve.

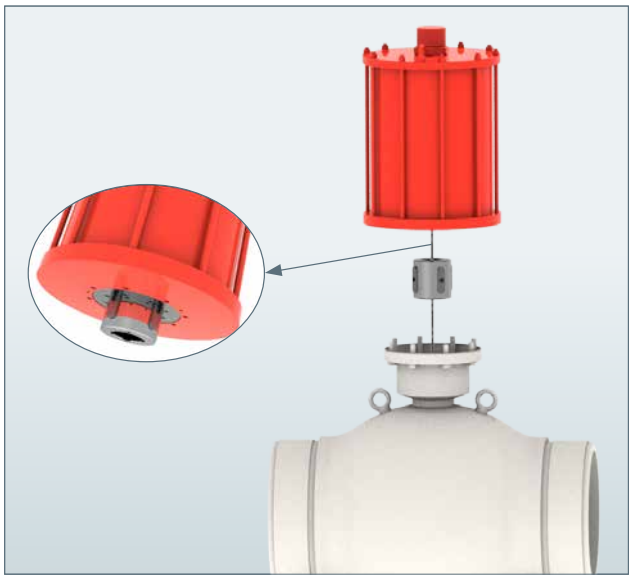
- **Ease of Maintenance**

  Designed with maintenance in mind, disassembly and access to internal components is safe and easy.

See publication PUB119-011 for further details.

CQ Range Actuator Typical Torque Output Profile





A full listing of the Rotork sales and service network is available on our website.

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