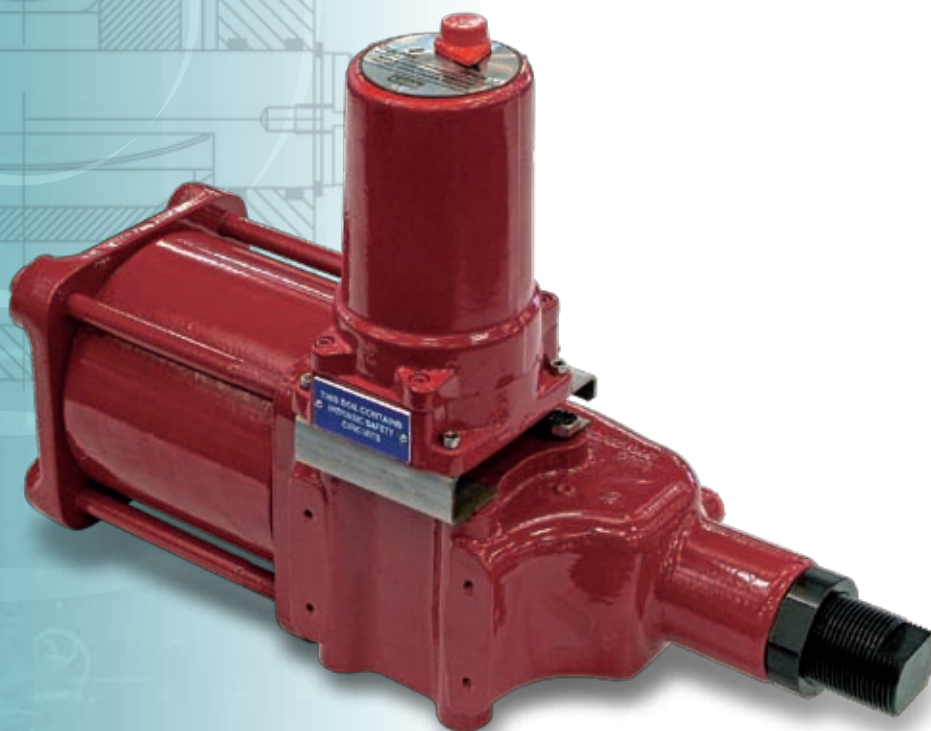


Fluid Power Actuators and Control Systems

rotork® Fluid Systems

Established Leaders in Valve Actuation



CP Range

Compact Pneumatic Actuators
for Quarter-Turn Valves

Rotork Actuators – Quality Controlled

In the 50 years since the company was founded, Rotork has become the standard for excellence in the field of valve and damper automation for the oil, gas, power, water and waste treatment industries around the world.

As established leaders in actuation technology, we owe our success to a commitment to quality at every stage, and at every level, of Rotork's operations.

At the heart of the company is an exceptional workforce – the highly trained, forward thinking engineers, technicians, and sales support staff who each play a crucial role in maintaining Rotork's unrivaled reputation for innovation, reliability and first class after sale support.

With several fluid power manufacturing facilities in Europe and the United States, and additional *Centres of Excellence* strategically located around the globe, we are able to offer solutions and design systems for virtually any application — from subsea hydraulics to the most sophisticated yet simple control system.

Contact Rotork for your operational or safety application requirements. We will work with you from conception, to design, to manufacture, to installation, and finally to maintenance and service support.



CP Range – Compact Pneumatic Actuators

Reliability by design

CP range actuators are a versatile, modular, scotch yoke design available in both double-acting and spring-return configurations. The compact and efficient design yields surprisingly high torques even at low pressures. The design concepts found in Rotork's large, heavy-duty actuators has been applied to the CP range, which brings heavy-duty actuator qualities to small, quarter-turn actuators.

Safety by design

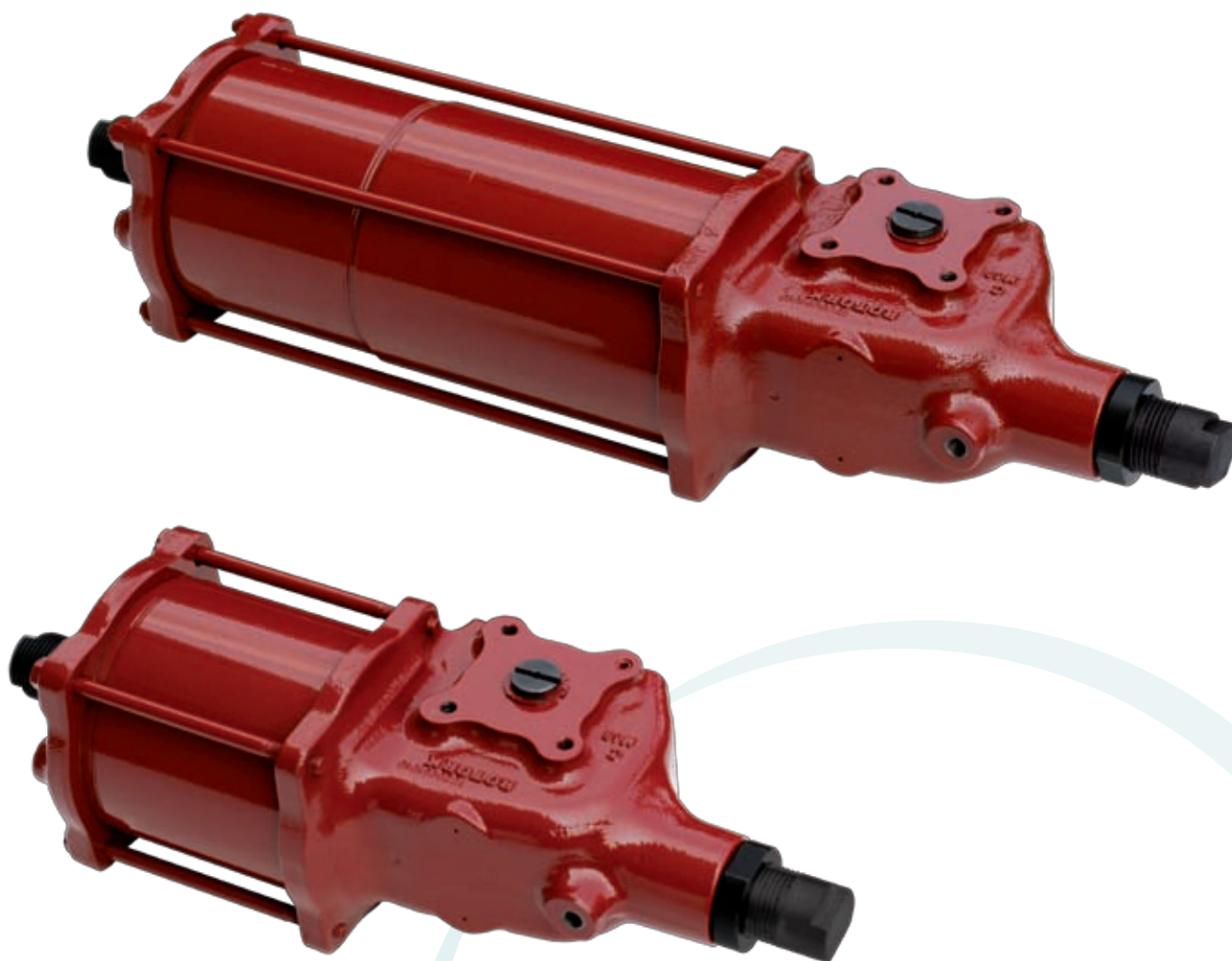
The CP range has been designed to be inherently safe and serviceable. The springs, within the cartridge on the inboard side of the pneumatic cylinder, are contained by the piston and piston rod thus eliminating the possibility of inadvertent release of spring force. The design also allows access to the piston seal without disassembly of the spring cartridge.

High Performance by design

Product enhancements have resulted in an even more compact and lighter actuator that produces more torque output while retaining a robust, dependable design.

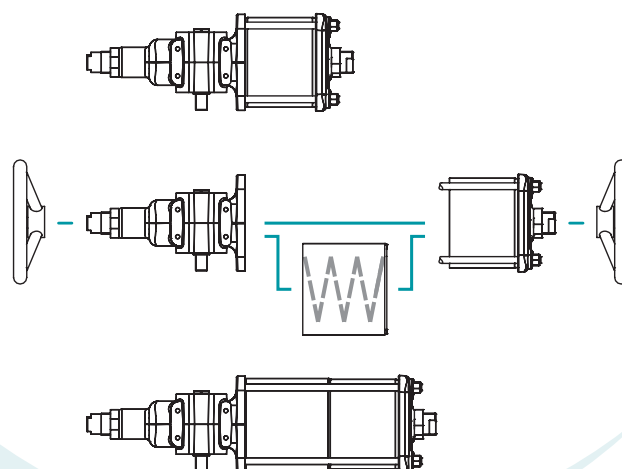


CP Range Quarter-Turn Pneumatic Actuators



Versatility

The CP range modular design enables complete actuators to be easily configured for a variety of applications. Most components are common to both double-acting and spring-return configurations. Different springs may be used with the same spring container to yield different torque characteristics and can be changed with ease if necessary. Jackscrew manual overrides may be easily fitted at any time, even in the field. The centrebody may be fitted with cylinders of a variety of materials and configurations to meet specific application requirements.



Inside the CP Range Actuator

Every Rotork Fluid Systems actuator is built to provide long and efficient service with a minimum of maintenance. The design, engineering and materials used in their construction ensure optimum performance even in the harshest of environments.

Operating Pressure: Up to 12 bar (174 psi)

Torque Output: Up to 4,500 Nm (39,828 lbf-in)

Temperature Ranges:

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

Efficiency and Long Life

Extended service life is provided by precisely aligned and balanced steel/bronze/teflon piston rod support bearings. These bearings eliminate the misalignment, higher friction and wear found in other designs.

Corrosion Resistance

Enhanced seal and bearing life and excellent wear resistance are provided by Nit-ox® treatment of all wearing surfaces. The process provides increased surface hardness, reduced surface roughness as well as extremely high resistance to corrosion.

Easy Mounting of Accessories

NAMUR topworks mounting interface facilitates easy installation of industry standard switch box and positioner assemblies. Likewise, the valve interface conforms to ISO 5211.

Environmental Protection

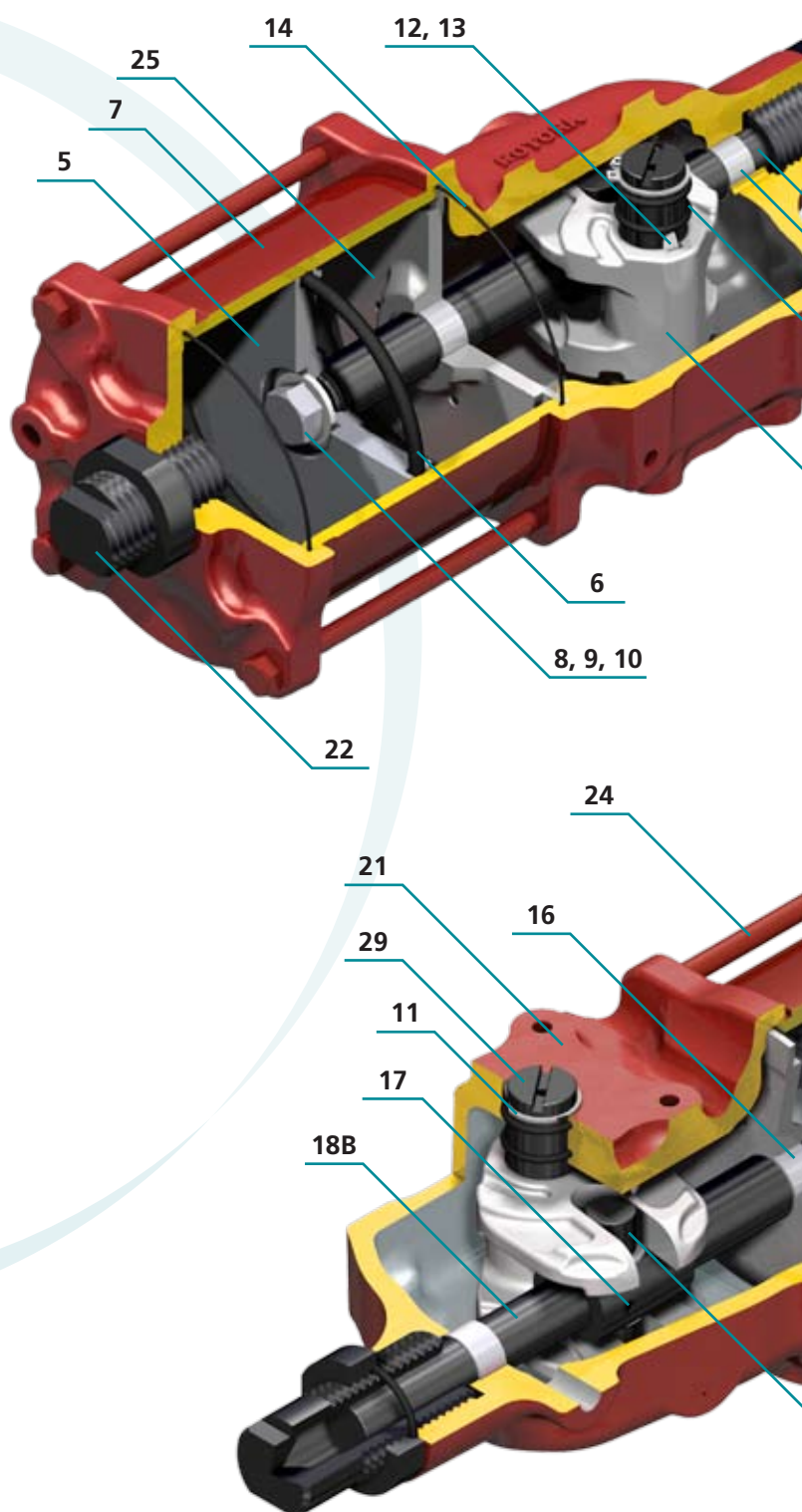
O-ring sealing provides protection certified to IEC IP66M, IP67M.

Robust Yet Lightweight Design

A ductile iron housing provides an excellent strength to weight ratio. The intelligent CAD/CAM design eliminates all unnecessary mass yet allows for higher operating pressures than competitive designs.

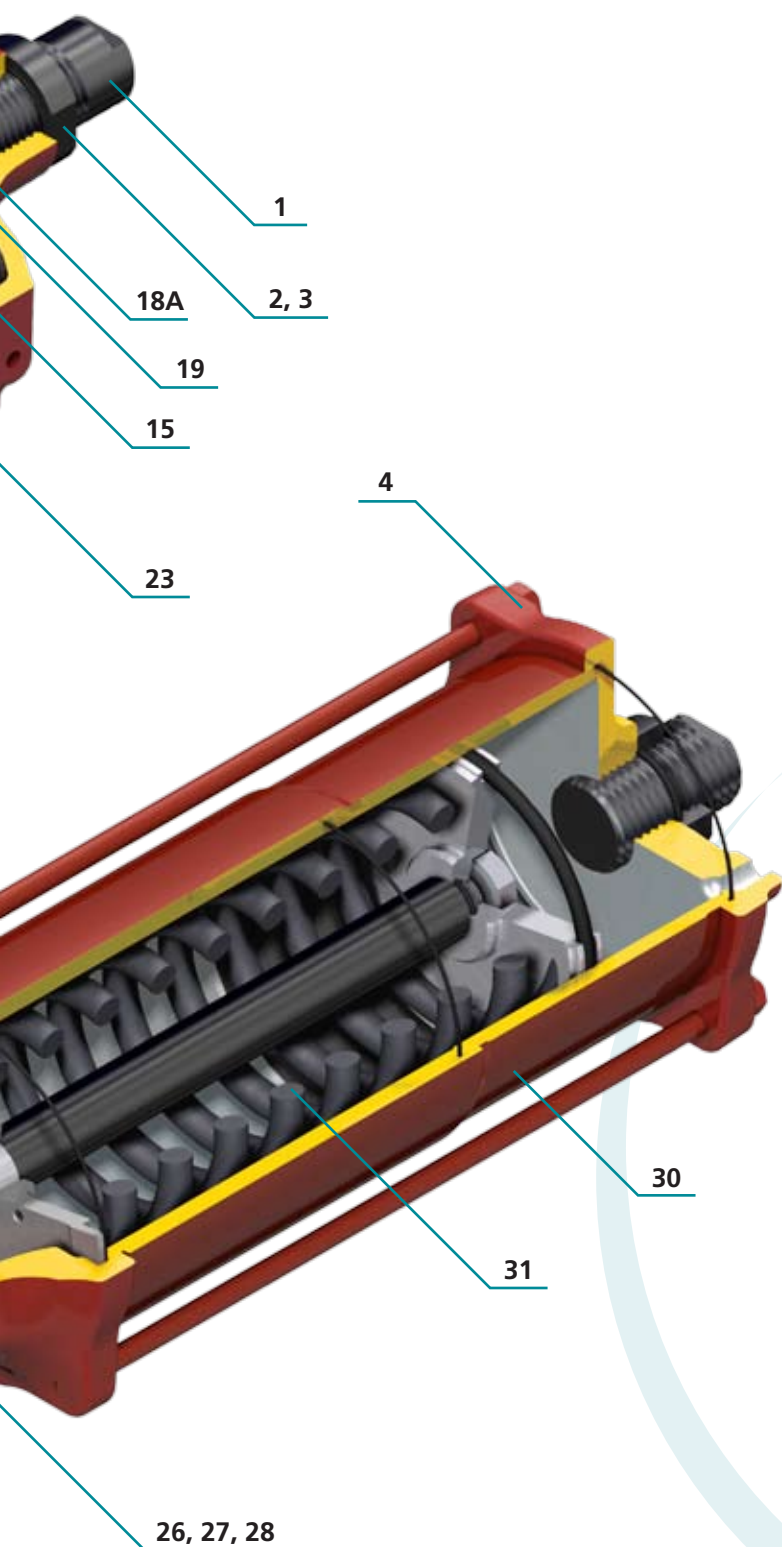
Available Options

Integral manual override.
Stainless steel (316) cylinders and tie rods.
Custom paint specifications.
Electroless nickel-plated cylinders.



CP range torque output and dimensional data are available directly from www.rotork.com

For quarter-turn applications with torque requirements beyond that of the CP range, Rotork Fluid Systems offers a larger series of scotch yoke actuators with outputs up to 600,000 Nm (5.3 million lbf-in). Consult GP/GH range brochure F100E.



ITEM	DESCRIPTION	MATERIAL	QTY.
1	Stop Screw - Housing	Carbon Steel	1
2	Stop Nut	Carbon Steel	2
3	O-ring	Buna-N	2
4	End Flange	Ductile Iron	1
5	Piston	Carbon Steel	1
6	O-ring	Buna-N	1
7	Cylinder Tube	Carbon Steel (Nit-ox® treated)	1
8	Washer	Carbon Steel	1
9	O-ring	Buna-N	1
10	Piston Retaining Bolt	Alloy Steel	1
11	Retaining Ring	Spring Steel	1
12	Key	Carbon Steel	1
13	Spring	Spring Steel	1
14	O-ring	Buna-N	*
15	O-ring	Buna-N	4
16	Bushing	Steel/Bronze/Teflon	1
17	Spring Pin	Spring Steel	1
18A	Axial Bar - Double-Acting	Alloy Steel (Nit-ox® treated)	1
18B	Axial Bar - Spring-Return	Alloy Steel (Nit-ox® treated)	1
19	Bushing	Steel/Bronze/Teflon	1
20	Housing Plug (not shown)	Carbon Steel	1
21	Housing	Ductile Iron	1
22	Stop Screw - End Flange	Carbon Steel	1
23	Yoke	Ductile Iron	1
24	Tie Rod	Alloy Steel	4
25	Adapter Plate	Ductile Iron	1
26	Washer	Carbon Steel	2
27	Bushing	Steel/Bronze/Teflon	2
28	Yoke Pin	Alloy Steel (Nit-ox® treated)	1
29	Shaft	Alloy Steel (Nit-ox® treated)	1
30	Spring Container	Carbon Steel	1**
31	Spring	Spring Steel	1**

* Quantity (2) for double-acting, (3) for spring-return.

** Spring-return units only.

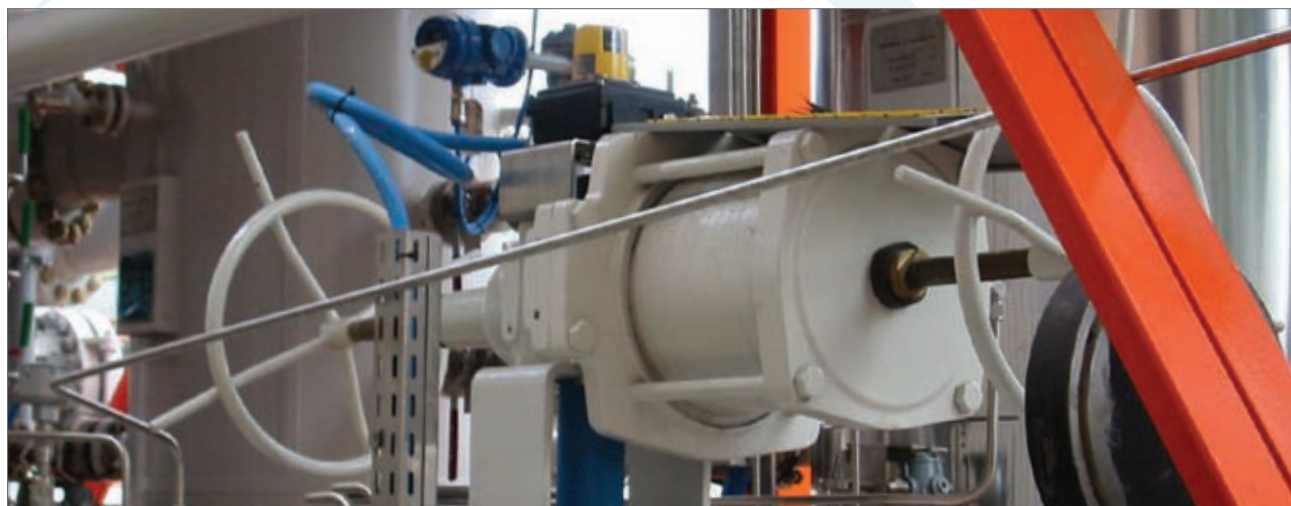
Approvals and Industry Standards

- Actuators certified in accordance with PED 97/23/EC.
- Actuators certified in accordance with ATEX 94/9/EC.
- Actuators certified to IEC IP66M/67M for environmental protection.
- Suitable for use in SIL2 & SIL3 rated safety systems.
- ISO 9001-2000 certified design and manufacturing process.
- Design life tested in accordance with CEN/TC69/WG1/SG 10.
- Actuators and controls in accordance with UK health and safety requirements for pipeline safety (regulation SI 825 1996).

Manual Override Option

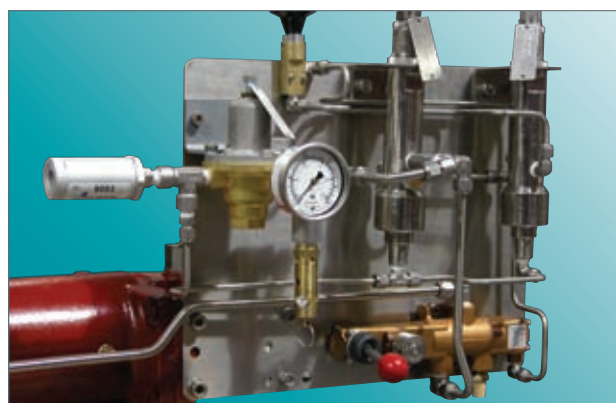
CP range actuators have an integral jackscrew manual override option available. The override may also be easily retrofitted to standard units. A single jackscrew is supplied for spring-return units. Double-acting actuators are supplied

with jackscrews at each end for manual operation in either direction. Jackscrews are designed with wrench flats and may also be fitted with handwheels.



Complete Control Solutions

Control component packages are a part of any actuator/valve installation. Rotork has extensive experience in the design and assembly of all types of fluid power control systems to satisfy any customer requirement for on/off, modulating or ESD (emergency shut down) service. Packages can be mounted on a panel or in a cabinet and mounted either on the actuator or at a remote location. Rotork offers components from all leading industry suppliers as well as those of our own design including limit switch housings, quick exhaust valves, pneumatic and hydraulic manifolds, shuttle valves, linebreak safety systems and a torque limiting device.



Model Number Designation

Example Model Number	C	P	/	S	035	-	100	A	/	BA	-	MH
ACTUATOR TYPE C = Compact Scotch Yoke												
SUPPLY TYPE P = Pneumatic												
EXECUTION TYPE S = Spring-Return D = Double-Acting												
CENTRE BODY SIZE Nominal movement arm (mm) 035, 045, 055, 065												
CYLINDER SIZE												
TEMPERATURE A = Standard B = High C = Low D = Very Low E = Extreme Low												
SPRING CONFIGURATION A, B, C, D, E												
BUILD VARIANT A, B												
MANUAL OVERRIDE TYPE M, MH, MHD												

Extensive Product Range

Rotork Fluid Systems offers the world's most extensive line of fluid power valve actuators. Products include low- and high-pressure pneumatic, hydraulic and electro-hydraulic actuators. Scotch yoke, linear and rack and pinion designs are available in both double-acting and spring-return configurations. We also manufacture special build actuators for subsea and nuclear power applications and specialty products including a hydraulic damper for swing check valves and a manual/hydraulic power handwheel. Through other divisions, Rotork also offers complete lines of electric actuators and gearboxes.





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

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Fluid Systems

Fluid Power Actuators and Control Systems

Controls

Electric Actuators and Control Systems

Gears

Gearboxes and Gear Operators

Site Services

Projects, Services and Retrofit

www.rotork.com

All Rotork Fluid Systems actuators are manufactured under a third party accredited ISO9001:2000 quality assurance programme. As we are continually developing our products, their design is subject to change without notice.

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