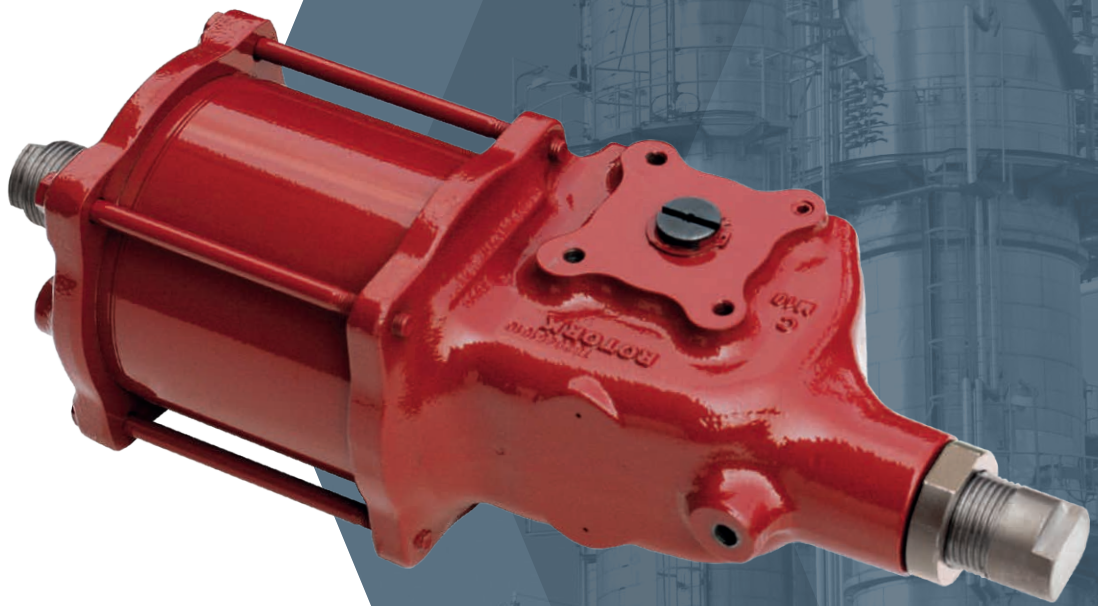


rotork®

Keeping the World Flowing
for Future Generations



CP Range

Compact pneumatic actuators
for quarter-turn valves

Compact heavy-duty modular scotch-yoke pneumatic actuators, designed to deliver safe and reliable operation in all environments.



Rotork is a market-leading global provider of mission-critical flow control and instrumentation solutions for the industrial actuation and flow control markets. These include oil and gas, water and wastewater, power, chemical, process and industrial applications.

Customers rely on us for innovative, high quality and dependable solutions for managing the flow of liquids, gases and powders. We help customers around the world to improve efficiency, reduce emissions, minimise their environmental impact and assure safety.

Our reliability record is second to none. Our products are designed with safety and performance at their core and are put through vigorous testing and certified to international standards. Our products are certified for use in the world's most dangerous and hazardous areas.

Partnering with us provides the following:

- Assured safety and reliability
- Industry leading accuracy and efficiency
- Proven technology that works with all network control systems
- Product range with solutions to suit every application
- Assistance with plant planning, development and maintenance through our local support services
- We have innovative research and development centers throughout the world

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Rotork has fluid power actuator manufacturing facilities in Italy, Sweden, China, India, the UK and the USA, providing the capacity to produce a high volume of products, ensuring that you deliver your projects on time.

We offer a wide range of fluid power actuators spanning the following categories:

- Pneumatic rotary and linear valve actuators
- Hydraulic rotary and linear valve actuators
- Electro-hydraulic valve actuators
- Subsea valve actuators
- Vane-type pneumatic valve actuators
- Control systems

Support centres

Wherever our clients are, we can support them. We have Support Centres strategically located around the world, with superior technical assistance, comprehensive resources, dedicated systems and hundreds of directly employed engineers all able to offer OEM level support.

Design and testing

We have dedicated research and development facilities around the world combined with test facilities that include bespoke specialist testing systems, ensuring reliable operation and lifetime functionality of our products.

Our test systems incorporate the following features:

- Static continuous and dynamic analysis on a full range of torques throughout the complete stroke of the actuator
- Cyclic and repetitive tests, with variable parameters such as load, cycle times and temperature
- Automatic or manual setting and recording of pressure, position and temperature parameters
- Hydraulic filtration and flushing capabilities
- Torque testing up to 600,000 Nm (442,537 lbf.ft)
- Thrust testing up to 98,066 N (22,046 lbf)
- Pneumatic pressures up to 120 bar (1,740 psi)
- Hydraulic pressures up to 360 bar (5,220 psi)

Most comprehensive range of pneumatic, hydraulic and electro-hydraulic actuators available.

Superior performance actuators for on / off duty, ESD, HIPPS, protective service and special valve applications.



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.

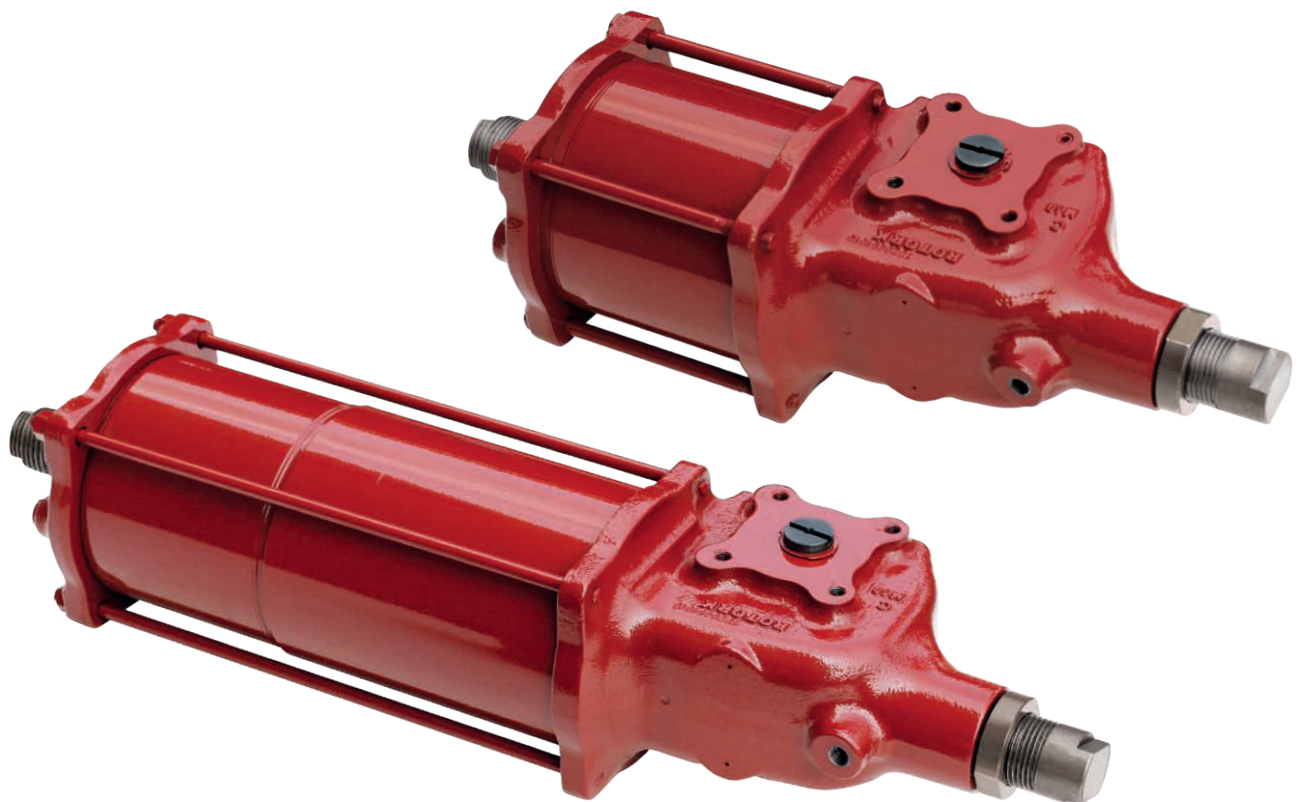
High Performance by Design

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



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.



CP Range Quarter-Turn Pneumatic Actuators

Every Rotork actuator is built to provide long and efficient service with minimum 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 to +100 °C	(-22 to +212 °F)
Low:	-40 to +100 °C	(-40 to +212 °F)
Extreme Low:	-60 to +100 °C	(-76 to +212 °F)

For high temperature range up to 160 °C (320 °F), please contact Rotork.

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 as well as excellent wear resistance are provided by treating all wearing surfaces with either electroless-nickel/chromium plating or a nitro-oxidation process. These processes provide increased surface hardness, reduced surface roughness and 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

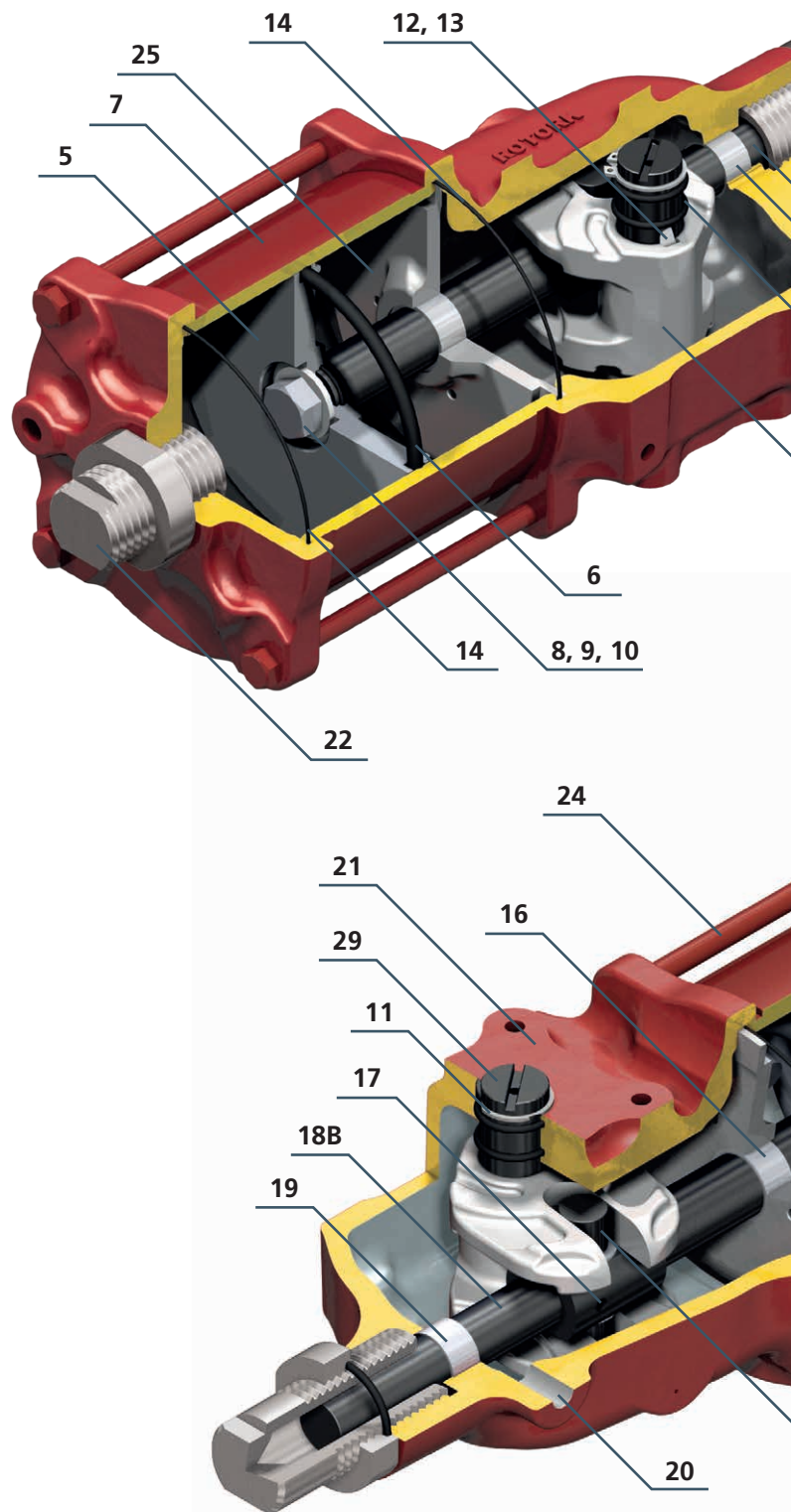
O-ring sealing provides protection certified to IEC IP66M, IP67M.

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

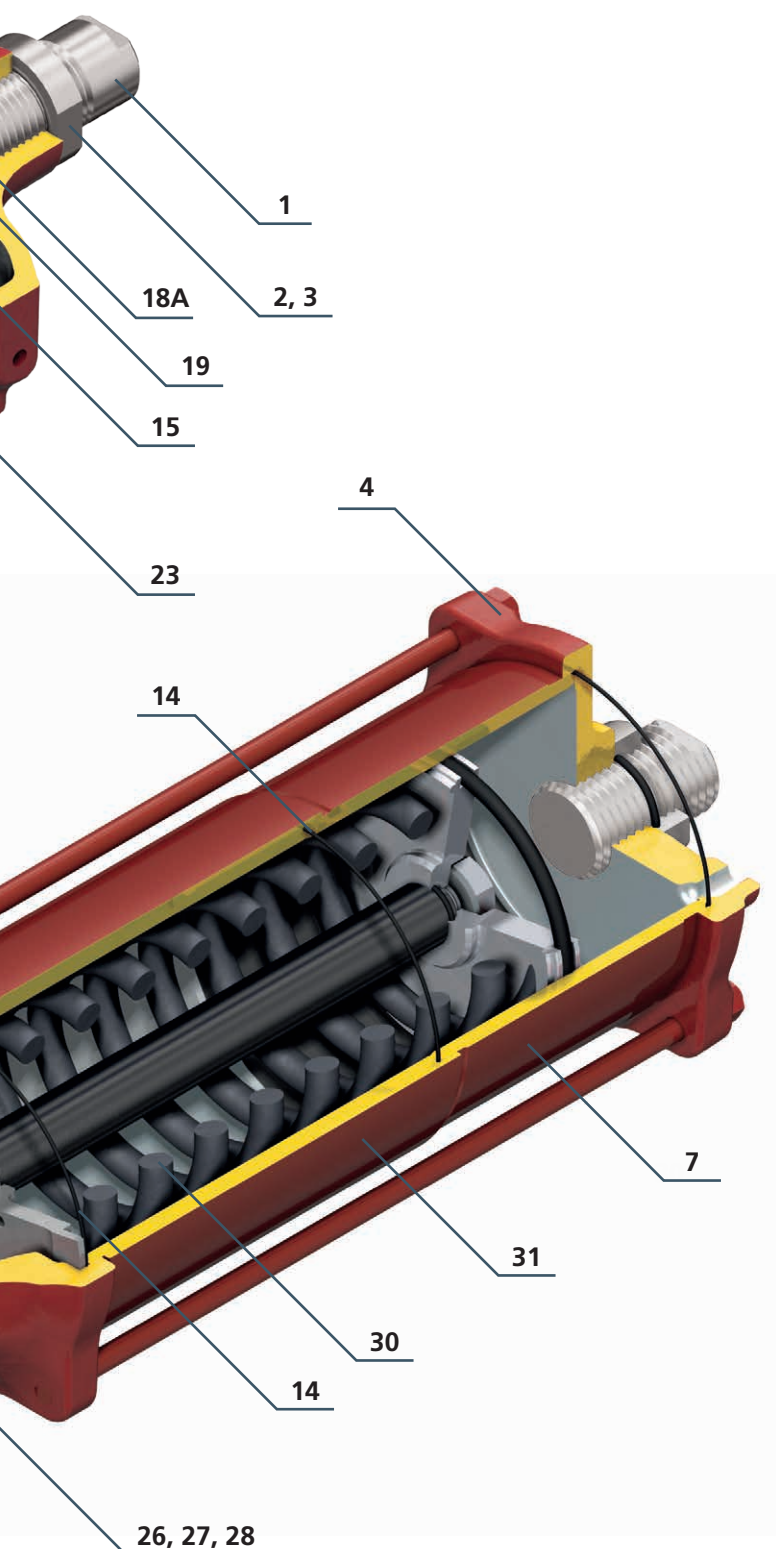
- Integral manual override
- Control systems
- Custom actuator-to-valve adaptors and stem couplings
- Custom paint specifications



1. The illustration and parts list contained on p6-7 are relevant for CP/D 35, 45, 55, 65 (double-acting) and CP/S 55, 65 (spring-return). See page 8 for equivalent information on CP/S 35 and 45.

CP range torque output and dimensional data are available for download on www.rotork.com

Inside the CP Range Actuator



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	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	1
18B	Axial Bar - Spring-Return	Alloy Steel	1
19	Bushing	Steel/Bronze/Teflon	1
20	Housing Breather	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	1
29	Output Shaft	Alloy Steel	1
30	Spring	Spring Steel	1**
31	Spring Container	Carbon Steel	1**

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

** Spring-return units only.

Approvals and Industry Standards

- Actuators certified in accordance with ATEX 94/9/EC
- Actuators certified in accordance with PED Directive
- TR TS 010 and TR TS 012 Certificates of Conformity
- Complies with EN60529 (1991) + (A1:2000) for IP66M/67M
- Management system in accordance with ISO 9001:2008
- Certified suitable for use at SIL3 as a single device in accordance with IEC 61508

See publication PUB000-012 or rotork.com for SIL data.

Inside the CP Range Actuator

The illustration and parts list on this page are applicable only to body size 35 and 45 spring-return units.

Operating Pressure: Up to 12 bar (174 psi)

Torque Output: Up to 800 Nm (7,000 lbf.in)

Temperature Ranges:

Standard: -30 to +100 °C (-22 to +212 °F)

Low: -40 to +100 °C (-40 to +212 °F)

Extreme Low: -60 to +100 °C (-76 to +212 °F)

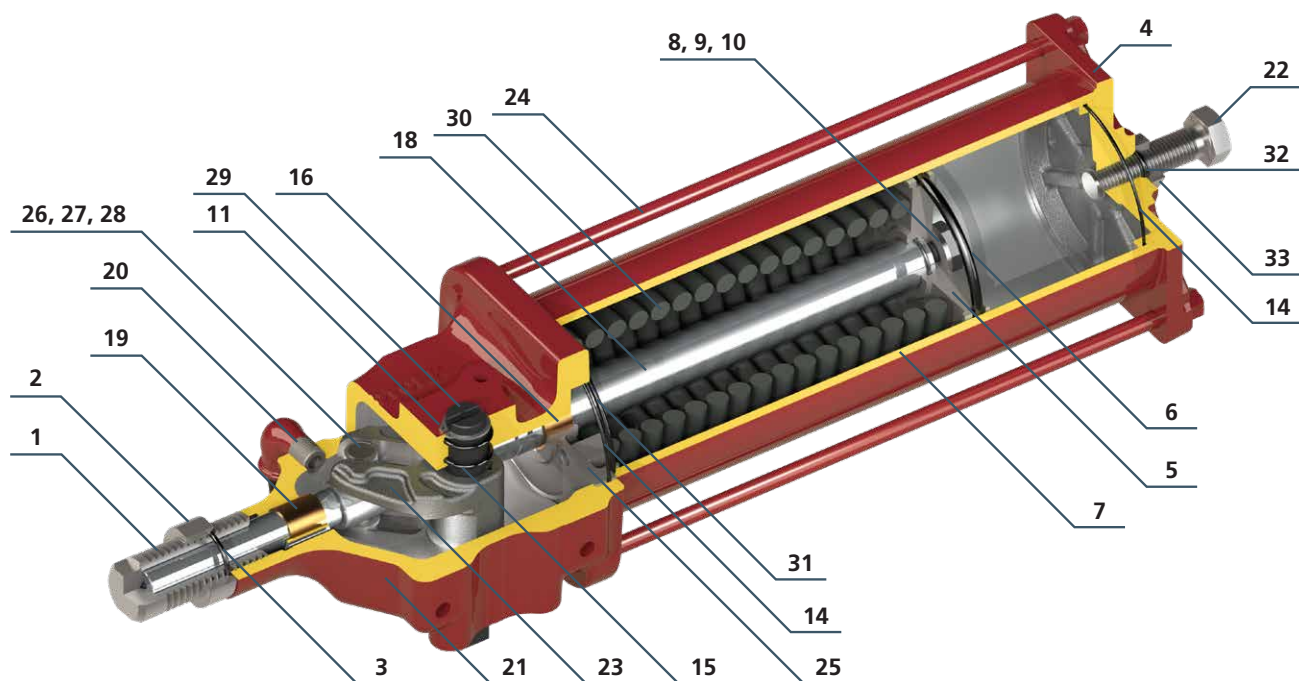
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See publication PUB000-012 or rotork.com for SIL data.

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	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 (not shown)	Carbon Steel	1
13	Spring (not shown)	Spring Steel	1
14	O-ring	Buna-N	2
15	O-ring	Buna-N	4
16	Bushing	Steel/Bronze/Teflon	1
18	Axial Bar	Alloy Steel	1
19	Bushing	Steel/Bronze/Teflon	1
20	Housing Breather	Carbon Steel	1
21	Housing	Ductile Iron	1
22	Stop Screw - End Flange	Stainless 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	1
29	Output Shaft	Alloy Steel	1
30	Spring	Spring Steel	1
31	O-ring	Buna-N	1
32	O-ring	Buna-N	1
33	Stop Nut	Stainless Steel	1



Model Number Designation

Example Model Number **C** **P** / **S** **055** - **100** **A** / **CB** - **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

SEALS

A = NBR: -30 to +100 °C (-22 to +212 °F)

B = Viton: -20 to +100 °C (-4 to +212 °F)

C = Fluorosilicone: -40 to +100 °C (-40 to +212 °F)

E = Fluorosilicone: -60 to +100 °C (-76 to +212 °F)

EXECUTION TYPE

A = Double-Acting

AA-EA = Spring-Return 55, 65 without spacer

CB, DB = Spring-Return 55, 65 with spacer

AL-EL = Spring-Return 35, 45 without spacer

CM, DM = Spring-Return 35, 45 with spacer

MANUAL OVERRIDE TYPE

M, MH

Extensive Product Range

Rotork 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 applications. Rotork also offers complete lines of electric actuators and gearboxes.



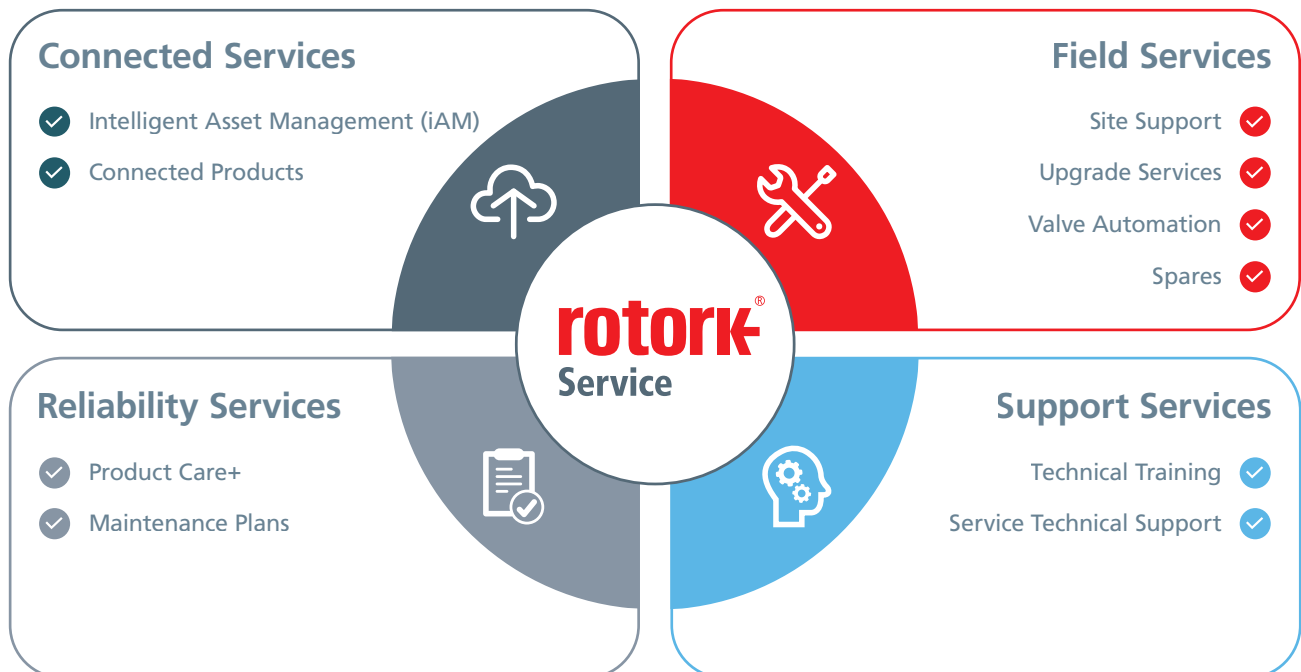
We offer specialist expertise to support mission-critical flow control and instrumentation solutions across oil and gas, water and power, and chemical, process and industrial markets.

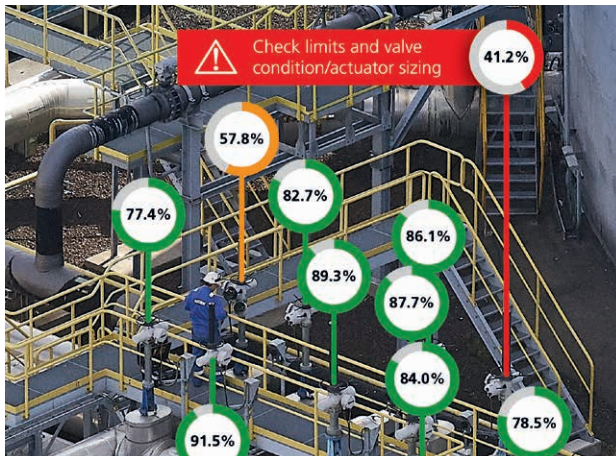
With a global presence and decades of experience, we offer services including installation, commissioning, Reliability Services, Intelligent Asset Management (iAM), product upgrades, spare parts, and overhauls.

Our engineers are highly trained, ensuring consistent, high-quality service worldwide. We operate dedicated workshops for the repair, calibration and testing of our products and only use genuine parts to guarantee top-level performance and reliability.

Our service offering covers four key areas:

- **Connected Services** including Rotork's Intelligent Asset Management (iAM) system
- **Field Services** including site support, upgrade solutions, valve automation and spares
- **Reliability Services** including health checks and product maintenance
- **Support Services** including technical training and support





Connected Services

Intelligent Asset Management (iAM) is a cloud-based system for intelligent Rotork actuators and the flow control equipment they operate. Effective asset management and maintenance are essential for maintaining site uptime.



Reliability Services

Reliability Services is a customisable approach to maintenance, with options that provide progressively increased levels of coverage and support. Our tailor-made programmes increase reliability and availability and allow customers to have flexibility about what services are most appropriate for them.



Field Services

Site Support

Benefit from our on-site support, from installation to emergency repairs.

Upgrade Solutions

Make sure your assets are prepared for the future with suitable upgrade options.

Valve Automation

Achieve precise and consistent flow control with automation of existing valves and replacement actuator/valve packages.

Spares

Maximise performance and reliability with genuine OEM spare parts.



Support Services

Technical Training

Our products and solutions are used in mission-critical applications and it is critical that any workforce is highly trained to ensure a safe and efficient plant. We provide advanced technical training from our strategically located facilities around the world.

Technical Support

We provide expert technical support exactly when you need it – trusted by global industries for over 60 years. Our technical experts draw on decades of our experience to provide you with the right answers and solutions.



Contact us now

mail@rotork.com

www.rotork.com

PUB013-001-00

Issue 06/26