

# rotork®

Keeping the World Flowing  
for Future Generations

## GO Range



**Gas-over-Oil  
Valve Actuators**

## Reliability in critical flow control applications



### › **Reliable operation** when it matters

Assured reliability for critical applications and environments. Whether used 24/7 or infrequently, Rotork products will operate reliably and efficiently when called upon.

### › **Quality-driven** global manufacturing

Products designed with 60 years of industry and application knowledge. Research and development across all our facilities ensures cutting edge products are available for every application.

### › **Customer-focused service** worldwide support

Solving customer challenges and developing new solutions. From initial enquiry through to product installation, long-term after-sales care and Client Support Programmes (CSP).

### › **Low cost** of ownership

Long-term reliability prolongs service life. Rotork helps to reduce long term cost of ownership and provides greater efficiency to process and plant.

# GO Range

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## Comprehensive product range serving multiple industries

Improved efficiency, assured safety and environmental protection.

Rotork products and services are used throughout industry inclusive of Power, Oil & Gas, Water & Wastewater, HVAC, Marine, Mining, Pulp & Paper, Food & Beverage, Pharmaceutical and Chemical industries around the world.

## Global presence local service

Global company with local support.

Manufacturing sites, service centres, sales offices and *Centres of Excellence* throughout the world provide unrivalled customer services and fast delivery.

## Market leader technical innovator

The recognised market leader for 60 years.

Our customers have relied upon Rotork for innovative solutions to safely manage the flow of liquids, gases and powders.

## Corporate social responsibility

A responsible business leads to being the best business.

We are socially, ethically, environmentally responsible and committed to embedding CSR across all our processes and ways of working.

## GO Range – Gas-over-Oil Actuators

The GO Range of pipeline actuators is designed to use pipeline gas as the motive power source. Gas is delivered to oil tanks that convert it into hydraulic pressure. This pressurised hydraulic oil is used to drive our industry recognised scotch yoke quarter-turn or linear actuators.

Using pressurised oil as the driving fluid provides powerful and smooth actuator control and isolates the cylinder from pipeline gas. This prevents contaminants from entering the hydraulic cylinder, eliminating corrosion and seal deterioration, and extending actuator life.

The compact, modular gas control manifolds employ poppet style control valves – a reliable design trusted throughout the industry – and are available in fail-safe versions. The standard gas control systems are complemented with a variety of Rotork designed optional equipment and functions including Line Break, Low Pressure Close, and High Differential Inhibit. Operation is simple and intuitive.

Rotork provides GO actuators for a wide variety of end users in some of the most demanding environments. We have experience designing and supplying direct gas actuators to many end-user specifications including: NIGC, BOTAS, NIOC, GSPL KOC, PEMEX and BP.

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

The modular construction of our actuators allows global stocking and fast delivery due to a minimal number of components being required to meet a wide range of output performance.

As a global leader in valve actuation technology, we provide a comprehensive range of valve actuators, controls and associated equipment. We also supply a variety of valve actuator services including commissioning, preventive maintenance and retrofit solutions.

Rotork specialises in the production and support of fluid power actuators and control systems. We are dedicated to providing the marketplace with the latest technology, consistently high quality, innovative design, excellent reliability and superior performance.

We maintain dedicated engineering groups for Applications, Product Improvement and New Product Development so that our customers can gain all the benefits that ever advancing technologies have to offer and to ensure our efforts are in step with the continually evolving needs of our customers.

Most importantly, we have a long-standing commitment to meeting the special needs of a wide range of applications including: oil and gas exploration and transportation; municipal water and wastewater treatment; power generation; and the chemical and process industries.

With over 60 years of engineering and manufacturing expertise, we have tens of thousands of successful valve actuator installations throughout the world.



# GO Range – Quarter-Turn and Linear Actuators

## Quarter-Turn Actuators



## Linear Actuators



### Output

Quarter-turn maximum torque 600,000 Nm / 5,300,000 lbf.in.

Linear maximum thrust 5,500,000 N / 1,236,450 lbf.

Higher torque and thrust outputs are available upon request.

### Temperature Range

Standard: -29 to +60 °C (-20 to +140 °F).

Low Option: -46 to +40 °C (-50 to +104 °F).

Other temperature ranges are available upon request.

### Hazardous Area Approvals

ATEX/IECEX II 2 G Ex e, d, ia IIB T4 IP65 as minimum

UL/CSA Class I, Div 1, Group C and D NEMA 3 as minimum, Class II, Div1, Group E, F and G NEMA 3 as minimum

Other approvals are available upon request.

### Standard Features and Benefits

- Double acting rack and pinion and scotch yoke quarter-turn actuators (either symmetric or canted yoke designs) for quarter-turn valves
- Double acting piston type actuators for linear valves
- Working pressure 10 to 105 barg (145 to 1,500 psig) – higher on application
- Controls designed to operate at full pipeline pressure, eliminating possible pressure regulator failure
- Modular and compact integrated manifold design reduces fittings and potential leakage
- Local control via lever-operated poppet valves on the multi-function manifold
- Manual hand pump to operate the actuator in case of pneumatic supply pressure loss
- Stainless steel pressure gauge to measure gas supply pressure with psi/bar scale
- Stroke time is adjusted via two hydraulic flow control valves providing smooth and precise speed control

### Optional Features

- Lockable high pressure ball valve to provide system isolation during maintenance
- High/low inlet pressure select
- Custom particulate gas filtration
- Dehydrator filter to facilitate removal of water from incoming power gas
- Back up gas tank to operate the actuator in case of gas supply failure
- Electric pressure switch placed in the circuit to provide electrical indication when the pressure drifts from a set point
- A second inlet gas connection that allows the user to connect an alternative supply
- Local/remote selector to allow the user to place the actuator in local mode (either pneumatically or electrically), thus taking priority over remote signals
- Manual hand pump locking device
- Manual hand pump indication switch to provide electrical indication when the actuator has been placed in local hand-pump mode
- Lockable control cabinet in 316 stainless steel

The modular design of GO actuators allows customisation to meet user requirements. Many adaptations and innovative features can be added upon request.

## Key Control Components

Complementing the modular design of our gas-over-oil systems are the Rotork designed and manufactured control options ranging from simple local/remote pilot operated valves to pressure sensing and linebreak controls.

At the centre of our gas-over-oil systems is our multi-function manifold block. Integrating gas control functions, the high-pressure, high-flow manifold system allows us to configure a wide variety of control options. GO actuators are equipped with gas/oil tanks that contain oil which is pressurised by gas when a stroke is performed. Emergency manual override can be operated using two independent hydraulic hand pumps (one each per actuator direction) to prevent leakage or contamination.



### Multi-function Manifold Block

- Modular compact design
- Leak-free high-flow poppet valve design
- Anodised aluminium construction

### Gas/Oil Tanks

- The tanks are constructed from externally painted carbon steel and are high pressure rated (volume of gas/oil tanks depends on the actuator cylinder volume)
- They are equipped with a dip stick, removable oil filter and magnetic ring
- Available with PED, ASME VIII Div.1, U stamped or not stamped
- Other certification upon request

### Hand Pump Override

- Volume and effort required selected to suit actuator and valve
- Two displacements available to suit actuator size
- Selector valves to permit local operation
- Dual hand pumps eliminate leakage between GO tanks
- Flow control valves included to adjust stroke time in each direction



## Available Functions

### Local Control

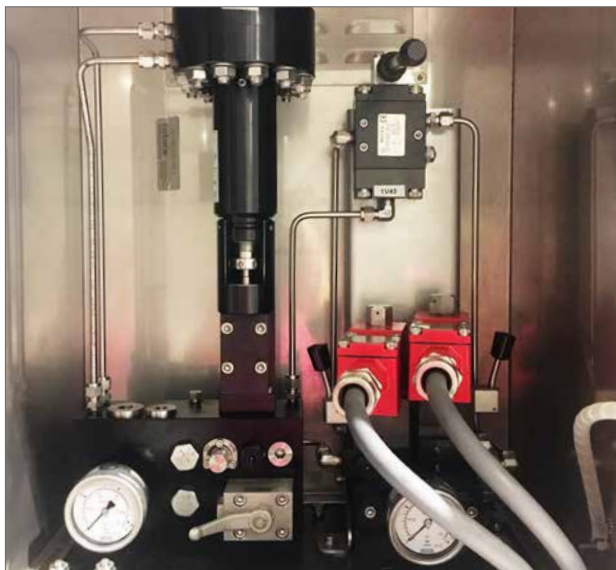
The actuator can be operated locally via dedicated local levers in the gas block or via the solenoid valves local override when present.

### Remote Control

The actuator can be operated remotely (via control room) by means of solenoid valves. Standard configuration applies two solenoid valves; one for the opening operation and one for the closing operation.

### Manual Control

The actuator is provided with a set of two hand pumps (one for close and one for open stroke) to operate the actuator in case of pneumatic supply pressure loss.



### Torque Limit

The actuator's maximum torque output can be limited to protect the actuator and/or valve stem from damage in the event of a valve becoming stuck.

### High Differential Open Inhibit

Automatic inhibition of opening, when the difference of pressure between upstream and downstream sides of the valve exceeds a set point. This can be achieved pneumatically or electrically.

### Low Pressure Close

Automatic closure of the valve when the pressure in the pipeline drops below a set point.

### Electric ESD

A special ESD solenoid valve is added to the circuit; when it is de-energised, the actuator moves to the fail-safe position.

### Pneumatic Line Break

Automatic closing of the valve when the rate of pressure drop in the pipeline is greater than a set point.

### Electronic Line Break – ELB

Robust self-contained electronic pipeline monitoring system designed to provide early detection of pipeline breaks and initiate automatic valve actuator movement to an emergency position based upon user-defined parameters.

Configurable functions are:

- Rate of Pressure Drop (RoD) and Rate of Pressure Rise (RoR)
- Low Pressure (PSL) Close/Open, High Pressure (PSH) Close/Open
- High Differential Open Inhibit (requires two pressure sensors to be fitted)
- Process Shut Down (PSD) with option to override all functions
- Partial stroke
- Manual reset option after any emergency operation

For further details, please refer to the *ELB Product Specification* – PUB127-002, available on [www.rotork.com](http://www.rotork.com)

### Opposite Movement Inhibit

Once the required stroke has begun, strokes in the opposite direction are automatically inhibited.

### Pneumatic Partial Stroke Test

This function allows a pneumatic partial stroke through the use of pneumatic and mechanical devices.

The modular design of GO actuators allows customisation to meet user requirements. Many adaptations and innovative features can be added upon request.

# rotork®

[www.rotork.com](http://www.rotork.com)

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

Rotork plc  
Brassmill Lane, Bath, UK  
*tel* +44 (0)1225 733200  
*fax* +44 (0)1225 333467  
*email* [mail@rotork.com](mailto:mail@rotork.com)

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