


# RTQH



  
*Engineering  
GREAT Solutions*

## Scotch Yoke Hydraulic Actuators

# RTQH: Scotch Yoke Hydraulic Actuators

The RTQH Series is a range of high torque hydraulic quarter turn actuators with materials selected to withstand the most hostile environmental conditions. They are suitable for all onshore and offshore applications, covering the majority of on-off and modulating valves. The RTQH Series is designed to provide maximum reliability and flexibility to cover a wide range of valves in all pressure classes.

## Key features

- > Double acting or spring return modular design
- > Totally sealed weatherproof housing provides complete protection for all moving parts
- > Housing is manufactured in carbon steel material without any cast/grey/ductile iron or aluminum parts
- > Scotch yoke mechanism available in both canted or symmetrical executions
- > Chromium plated guide bar to absorb transversal forces
- > Bushings are made of high-strength bronze alloy (other materials on application)
- > Electroless nickel plated cylinder to minimise friction and prevent corrosion.
- > Multiple lifting lugs ideally located to balance center of gravity for safe lifting
- > Position indicator provided with VDI/VDE 3845 NAMUR drive slot
- > ISO 5211 flange connection
- > An integral hand-pump available on request
- > Full stainless steel cylinder, index and valve adaptation available on request



*Total capability in valve actuation*



*RTQHS model suitable for offshore applications*

## Benefits

- > **Reliable**  
Welded carbon steel housing and high-strength scotch yoke ensure safe and reliable operation. Low friction heavy-duty nickel plated cylinders provide high performance and the long life of the pneumatic cylinder.
- > **Versatile**  
Lightweight but rugged actuator with both symmetrical or canted scotch yoke for ideal torque distribution. Interchangeable power and spring modules allow for easy and quick reversal of the fail-safe mode without any danger. Cylinder design allows easy replacement of all pneumatic seals in the field.
- > **Efficient**  
Internally coated waterproof housing, for long-lasting corrosion resistance. Selected material and surface treatments for best-in-class performance, reducing wear and power loss during life cycle. Controlled tightening torque for all threaded coupling and zero-clearance between mechanical components. Stainless steel travel stops allow fine angular stroke adjustments between 82° and 98°.
- > **Safe**  
The inherently safe design of the spring pack ensures high efficiency functionality and safe maintenance, preventing any accidental hazards due to corrosion of boltings.

## Technical specifications

### Operating pressure

Up to 350 Bar

### Standard supply medium

Hydraulic oil (special version for fire resistant fluids on request)

### Standard operating temperature

-30°C to 100°C (high/low temperature design available on request)

### Output torque

From 2,000 Nm up to 600,000 Nm for double acting version

### Spring Ending Torque

From 1.650 Nm up to 165.000 Nm for single acting version (higher values on request)

### Certifications / approvals

PED 97/23/EC

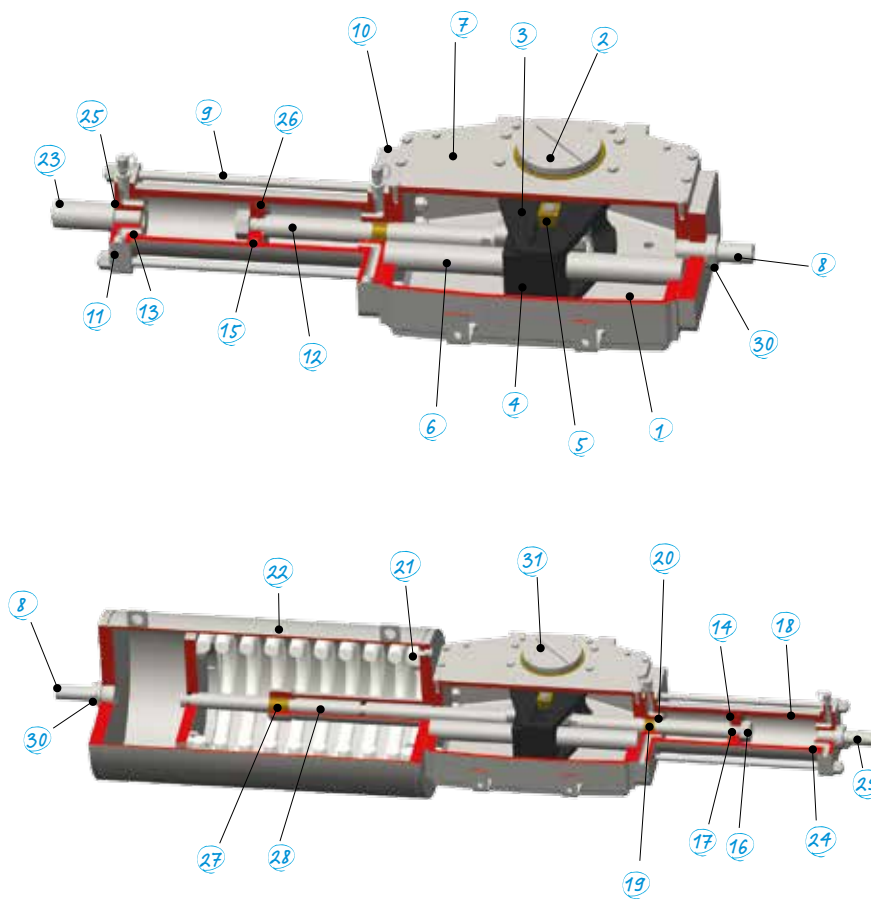
ATEX 94/9/EC

MACHINERY DIRECTIVE 2006/42/EC  
IP66/67M according to IEC/EN 60529  
SIL3 certified (IEC 61508) as a "single device"

Designed and tested in accordance with EN 15714-3

Further certifications are available please contact IMI STI for updated list.

## Product breakdown



	Description	Material
1.	Housing	Carbon steel
2.	Yoke bushing	Bronze alloy
3.	Scotch yoke	Carbon steel
4.	Guiding block	Carbon steel
5.	Sliding block	Bronze alloy
6.	Guide bar	Alloy steel (chromium plated)
7.	Cover	Carbon steel
8.	Stop screw	Stainless steel
9.	Tie rod	Alloy steel
10.	Head flange	Carbon steel
11.	End flange	Carbon steel
12.	Piston rod	Alloy steel (chromium plated)
13.	O-ring	NBR
14.	Piston	Carbon steel
15.	Piston seal	PTFE/NBR
16.	Nut	Alloy steel
17.	O-ring	NBR
18.	Cylinder tube	Carbon steel
19.	Piston rod bushing	Steel/bronze/PTFE
20.	Rod seal	PTFE/NBR
21.	Spring	Spring steel
22.	Spring container	Carbon steel
23.	Stop screw protection	Stainless steel
24.	O-ring	NBR
25.	O-ring	NBR
26.	Sliding ring	PTFE/bronze
27.	Spring rod bushing	Steel/bronze/PTFE
28.	Spring rod	Alloy steel (chromium plated)
29.	Stop Screw	Alloy steel
30.	Lock nut c/w gasket	Stainless steel/PTFE
31.	Position indicator	Aluminium

## Optional accessories

IMI STI designs and produces a wide range of accessories and control systems to ensure superior performances and satisfy the most demanding requirements in modulating, on/off and heavy duty service. Control systems panels/cabinets can be installed on the actuators or supplied loose for remote mounting i.e. for easy access and to limit exposure to excess heat and vibrations. For more information, see our dedicated brochure of accessories.

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