


RTQ




*Engineering
GREAT Solutions*

Scotch Yoke Pneumatic Actuators

RTQ - Scotch Yoke Pneumatic Actuators

The RTQ actuator belongs to the RT Series and it is a complete range of high torque pneumatic quarter turn actuators with materials selected to withstand the most hostile environmental conditions, suitable for all onshore and offshore applications, covering general ON-OFF and modulating valves. The RTQ Series is designed to provide maximum reliability and flexibility to cover a wide range of valves in all pressure classes.



*Total capability in
valve actuation*

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 transversel 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 or declutchable manual hand-wheel or hydraulic hand pump available on request
- > Full stainless steel cylinder, index and valve adaptation available on request

Benefits

- > **Reliable**
Welded carbon steel housing and high-strength scotch-yoke ensure safe and reliable operation. Low friction heavy-duty nickel plated cylinders allows high performance and long life of the pneumatic cylinder
- > **Safety**
Inherently safe design of spring pack ensures proper and high efficiency functionality and safe maintenance, preventing any accidental hazards due to corrosion of boltings
- > **Versatility**
Lightweight but rugged actuator series with both symmetrical or canted scotch-yoke for ideal torque distribution
- Interchangeable power and spring modules 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
- > **Efficiency**
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°



Materials selected to withstand the most hostile environmental conditions.

Technical specifications

Operating pressure

Up to 12 Bar

Standard supply medium

Air, nitrogen or sweet gas (special version for sour gas 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

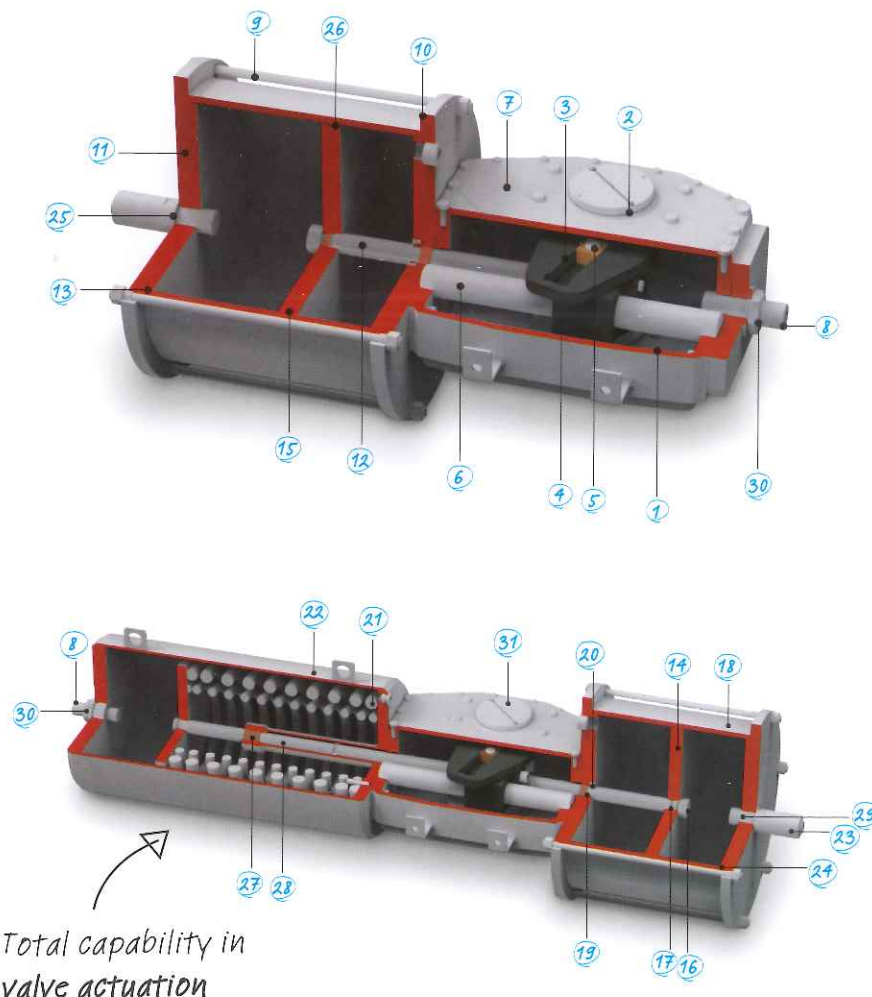
Spring Ending Torque

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
 EAC TR TS 012/2011
 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. O-ring	NBR
16. Nut	Alloy steel
17. O-ring	NBR
18. Cylinder tube	Carbon steel
19. Piston rod bushing	Steel/bronze/PTFE
20. O-ring	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 limit exposure to excess heat and vibrations. For more information, see dedicated brochure of accessories

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