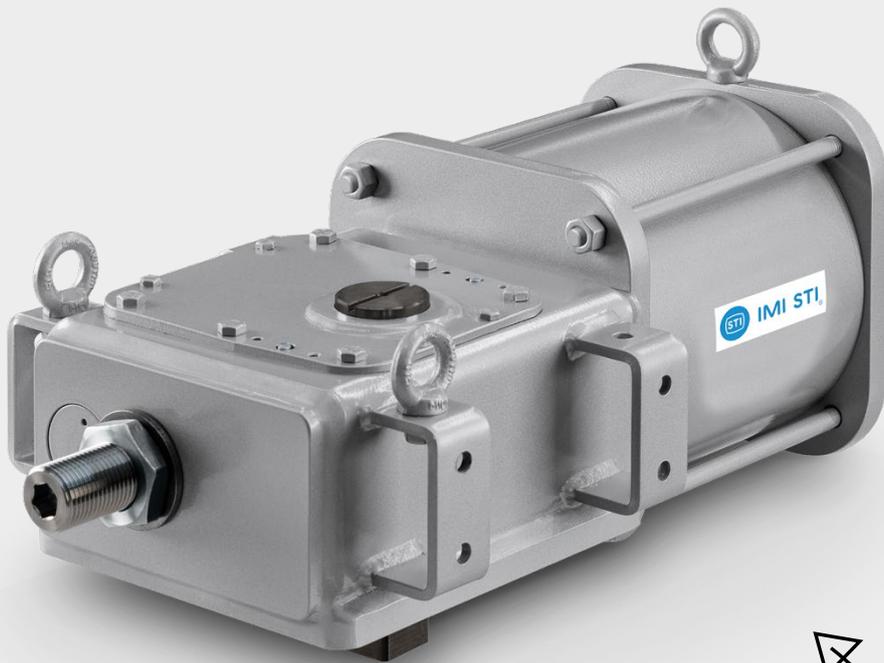


# RTC



  
*Engineering  
GREAT Solutions*

## Scotch Yoke Pneumatic Actuators

# RTC: Scotch Yoke Pneumatic Actuators

The RTC single/double acting pneumatic low-pressure actuators, are suitable for the operation of quarter turn valves (ball valves, butterfly valves and plug valves) for on-off and modulating heavy-duty service. The actuator is made up of a waterproof scotch yoke mechanism transforming the linear movement of the pneumatic cylinder (on closing or opening) into the rotary movement, which is necessary for valve operation.



*Total capability in valve actuation*

## Key features

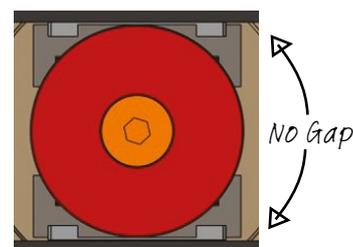
- > Double acting or spring return compact design
- > Totally sealed weatherproof housing that provides complete protection for all moving parts
- > Housing is manufactured in carbon steel material without any cast/grey/ductile iron or aluminum parts
- > Scotch yoke mechanism available in both canted or symmetrical executions
- > Chromium plated guide bar to absorb transversal forces
- > Bushings are made of PTFE-filled steel bronze (other materials on application)
- > Electroless nickel plated cylinder to minimise friction and prevent corrosion.
- > Power module safety design allows replacement of the cylinder seals without any danger
- > Multiple certified lifting lugs ideally located to balance center of gravity for safe lifting
- > ISO 5211 flange connection
- > Position indicator provided with VDI/VDE 3845 NAMUR drive slot
- > An integral or declutchable manual hand-wheel available on request
- > Full stainless steel version available on request



RTC model suitable for OFFSHORE applications

## Benefits

- > **Reliable**  
Rugged carbon steel housing and high-strength alloy steel scotch-yoke mechanism ensure safe and reliable operation. Heavy-duty nickel plated cylinder. Housing is not under pressure, reducing points of leakage and simplifying maintenance. For spring return, cylinder seals can be replaced safely without spring removal.
- > **Strong**  
The watertight housing is also coated internally to ensure long-lasting corrosion resistance. Stainless steel travel stops allow fine stroke adjustment between 82° and 98°.
- > **Compact**  
Designed to provide high torque with minimum space and weight. Symmetrical or canted scotch-yoke mechanism for ideal torque distribution. Spring package, if present, is installed inside the cylinder.
- > **Safe**  
For spring return maximum safety is ensured through the spring pack design which allows the spring compression to take place without removing the cylinder cap and tie rods.



Our innovative Zero Backlash mechanism improves performance and solves the wearing-related gap issues between the sliding block and the scotch yoke slot, maintaining friction at similar levels to even the most established technology. It is available on request, please contact us for more information.

## 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 40 Nm up to 6.000 Nm for double acting version

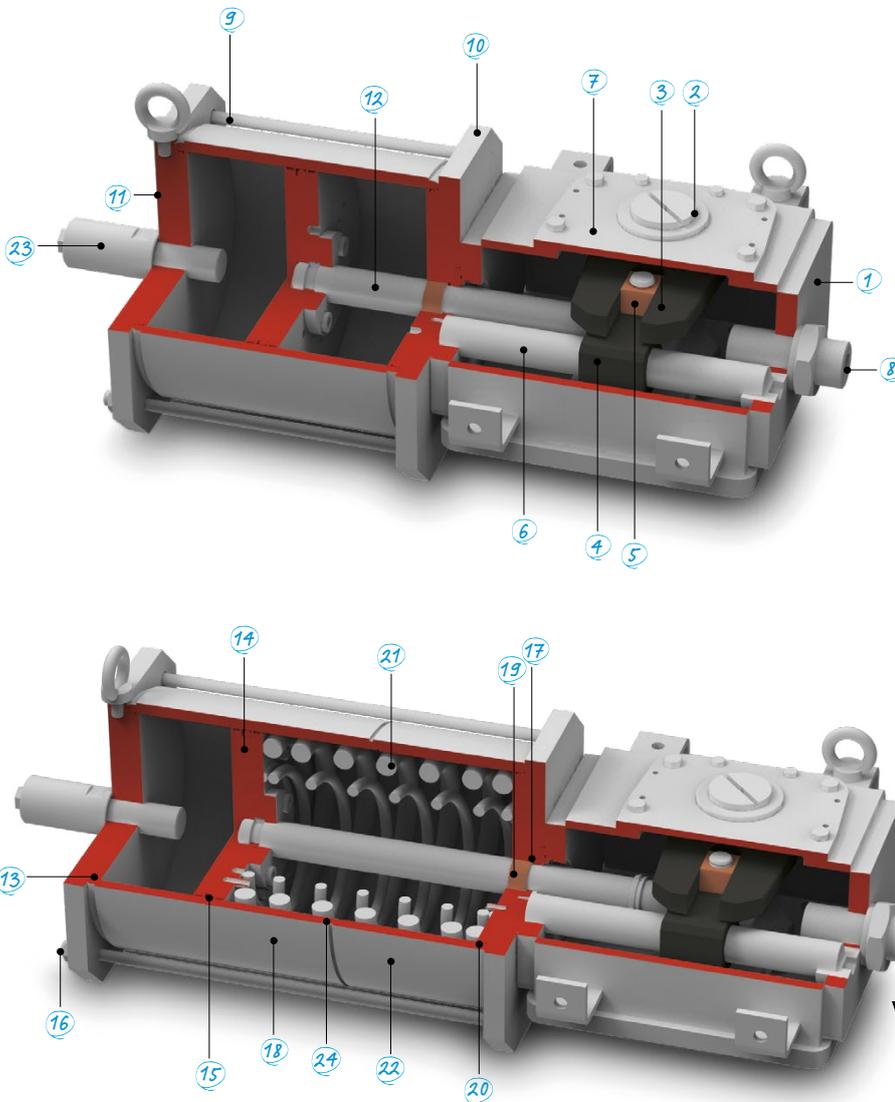
### Spring Ending Torque

From 40 Nm up to 2.500 Nm for single acting version

### Certifications / approvals

PED 2014/68/EU  
ATEX 2014/34/EU  
EAC TR TS 012/2011  
MACHINERY DIRECTIVE 2006/42/EC  
IP66/67M according to IEC/EN 60529  
SIL3 (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	Steel/bronze/PTFE
3. Scotch yoke	Alloy steel
4. Guiding block	Carbon steel
5. Sliding block	Bronze
6. Guide bar	Alloy steel
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
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. Spacer tube	Carbon steel
23. Stopper protection	Stainless steel
24. O-ring	NBR

Total capability in valve actuation

## Optional accessories

IMI STI designs and produces a wide range of accessories and control systems to ensure superior performance and to 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 which allows for easy access and limits exposure to excess heat and vibration. For more information, see dedicated brochure of accessories.

**IMI STI - Headquarters**

Via Dei Caravaggi 15  
24040 Levate (BG)  
Italy

Tel. +39 035 2928.2  
Fax +39 035 2928.247

**IMI STI - Sales Office**

Via San Francesco 18  
29017 Fiorenzuola d'Arda (PC)  
Italy

Tel. +39 035 2928.2  
Fax +39 0523 1715.295

**IMI Critical Engineering**

Lakeside, Solihull Parkway  
Birmingham Business Park  
Birmingham B37 7XZ  
United Kingdom

Tel: +44 (0)121 717 3700  
Fax: +44 (0)121 717 3701

[www.imi-critical.com](http://www.imi-critical.com)  
[imisti.sales@imi-critical.com](mailto:imisti.sales@imi-critical.com)

