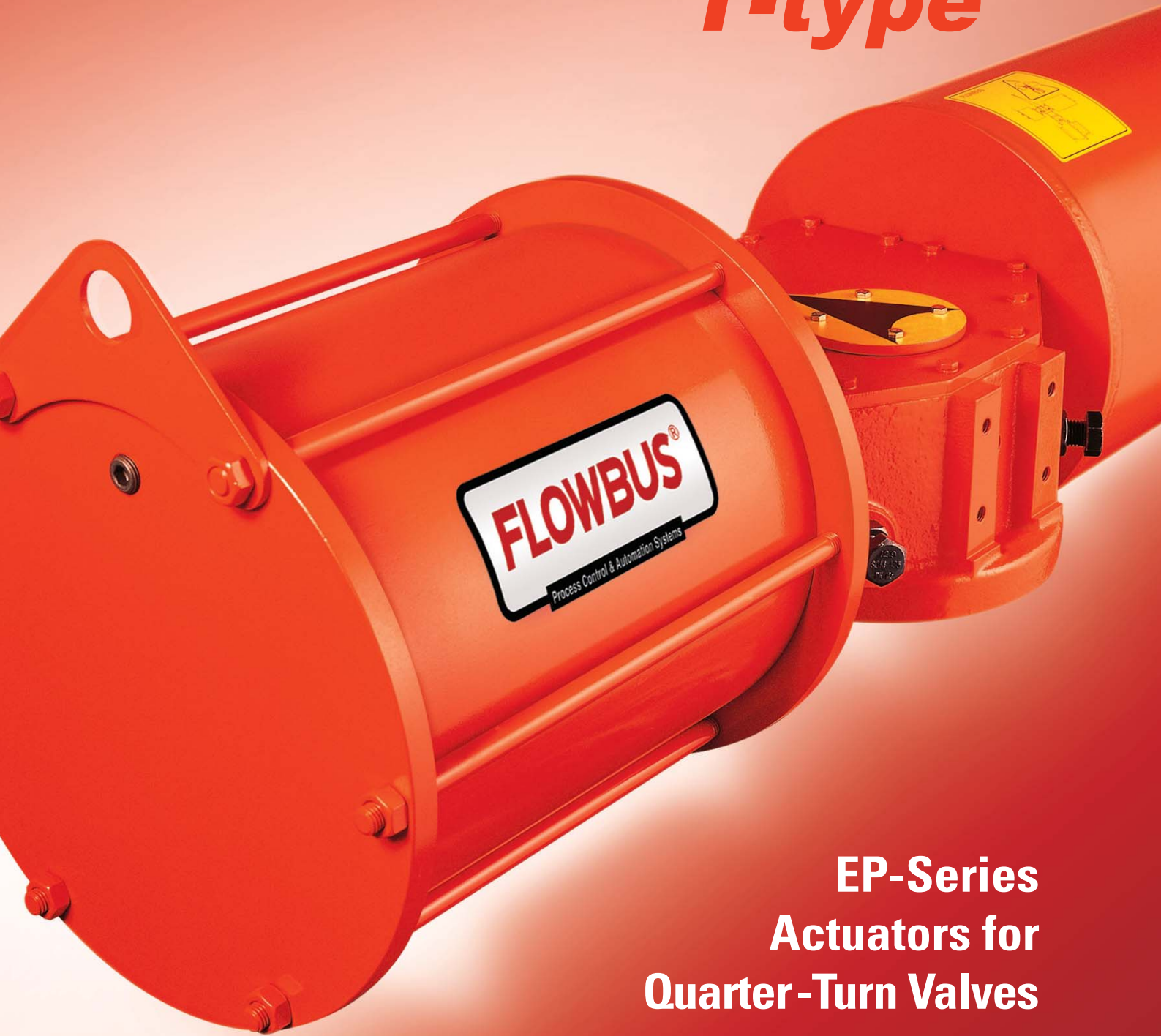


FLOWBUS[®]

T-type



**EP-Series
Actuators for
Quarter-Turn Valves**

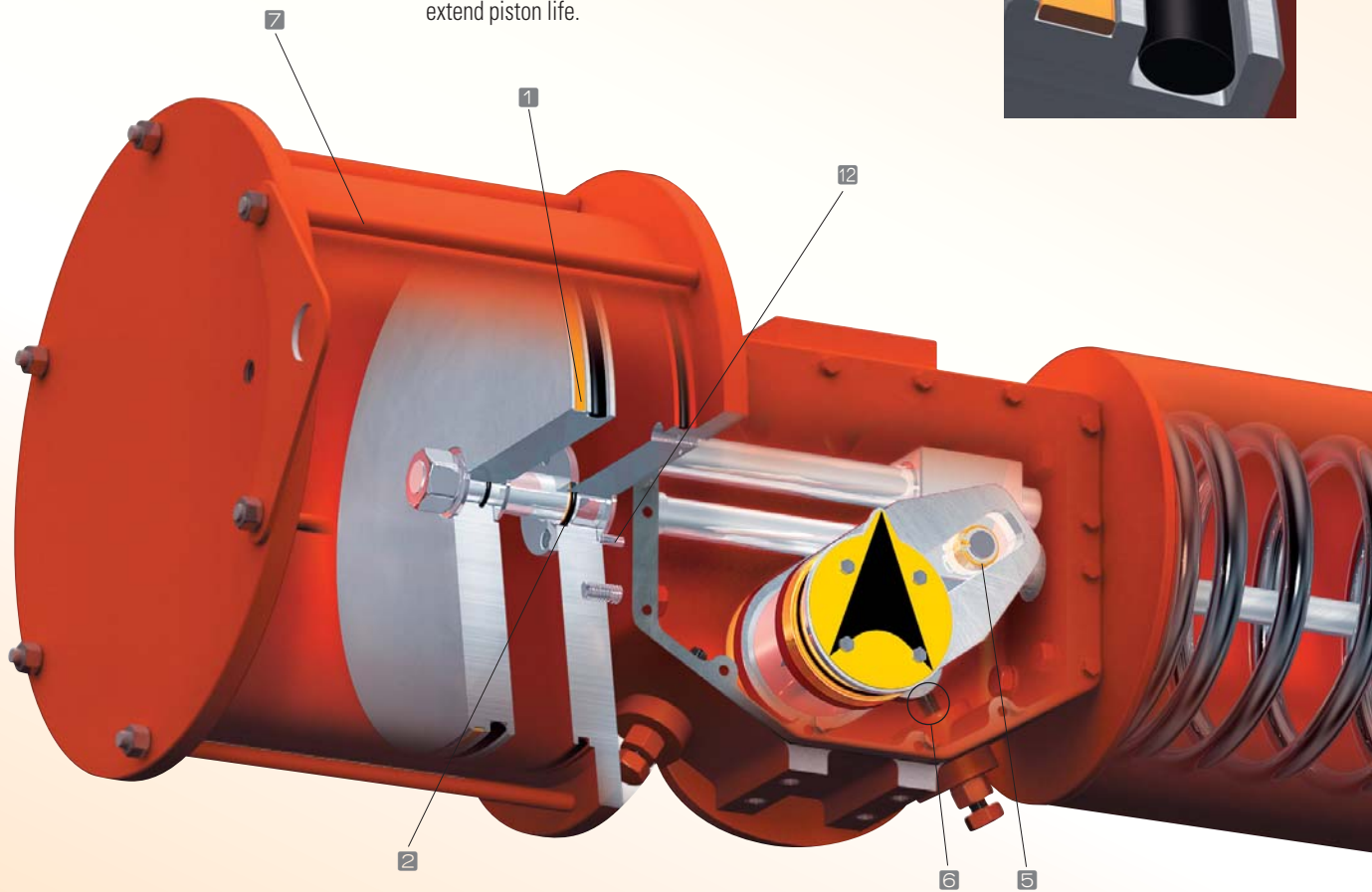
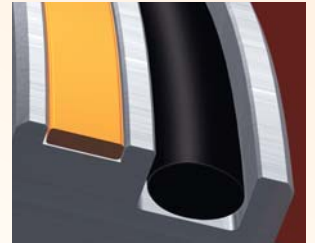
SIL
Applicable



Advantages

1 Piston Guide Ring

The T-type actuator has a guide ring fitted to the piston to prevent lateral deflection, ensure smooth, steady operation and extend piston life.



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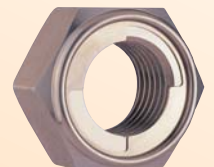
2 Advanced Sealing Compounds

The T-type actuator utilizes both PTFE and rubber seals. The PTFE seal offers a high level of sealing performance and is self lubricating, ensuring smooth operation of moving parts. The rubber seal offers long term, high performance sealing with no tendency to set or creep.



3 Spring Rod Nut

The spring rod nut locks the spring to prevent accidental release under repetitive spring impacts.

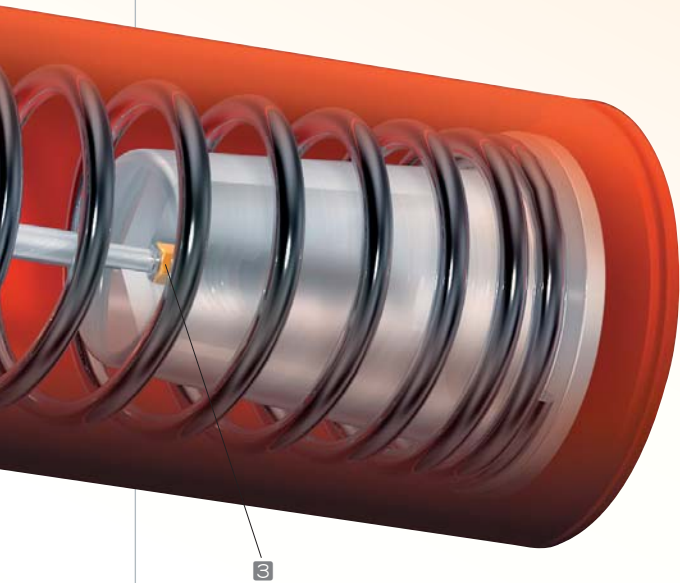


4 Simple Actuator Mounting

The T-type actuator yoke is designed with two full-length keyways. This not only simplifies assembly but also allows for ease of modification to the actuator orientation to accommodate last minute pipe work changes, in addition to providing easier visual confirmation of alignment, thus reducing maintenance and assembly time.

5 Replaceable Bearing

Low friction, permanently lubricated, high performance bearings protect all components, extending actuator life by ensuring smooth operation. Bearing replacement is simple and instructions can be found in the operating & maintenance manual.



7 External Tie Rods

The external tie rods protect the cylinder tube from accidental damage during piping work and prevent deformation.

8 High Efficiency

The T-type piston rod is locked by a guide block, supported by a high strength alloy steel guide rod with a self-lubricating bearing. This ensures efficient operation and improves the transfer of energy from the actuator to the valve stem.

9 Wear Resistance

The T-type actuator guide rod has an advanced surface treatment, which, combined with self-lubricating bearings, provides superior wear resistance and extends the life of all sliding components.

10 Corrosion Resistance

T-type actuators incorporate four stages of internal and external corrosion resistant coating to resist severe weather, chemical and petroleum environments.

11 Safe Spring Module

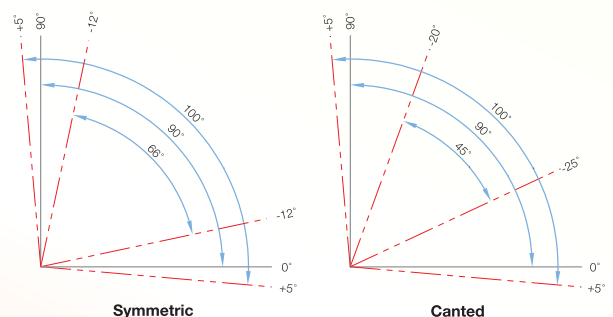
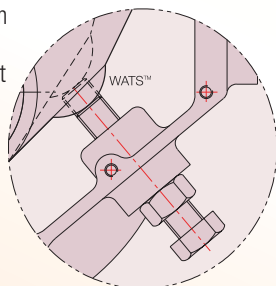
To ensure the safety of personnel during installation and maintenance, and prevent accidental release of the spring force, the spring module has been designed so that it can only be removed from the power module with the spring in the fully extended position.

12 Simple Assembly

Specially designed dowel pins in the main actuator drive module ensure simple and accurate alignment of modules when assembling the actuator or performing maintenance.

6 WATS™ Wide Adjustable Stopper

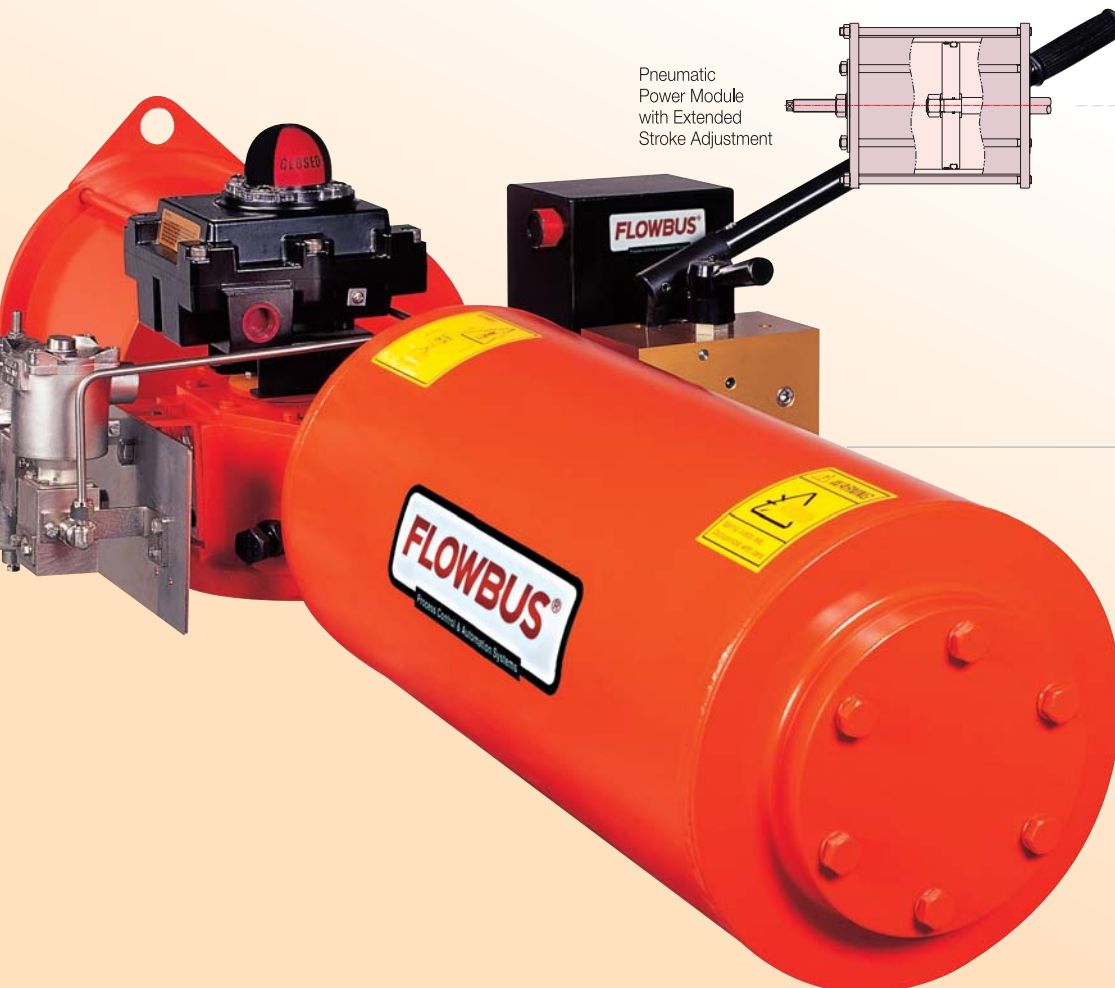
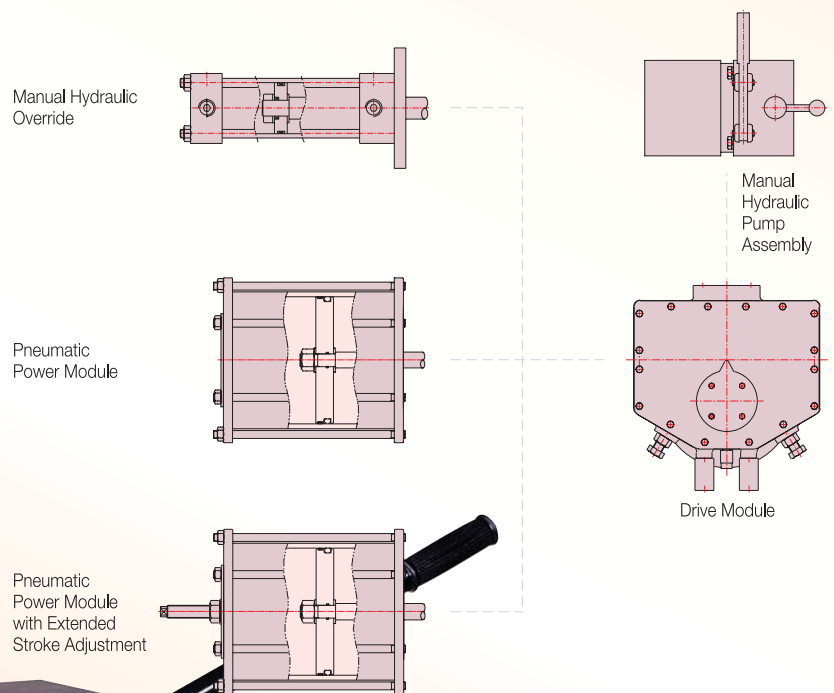
In order to set the actuator travel to give an accurate valve open/close point, two adjustable travel bolts are installed in front of the drive module. The unique shape of the yoke arm gives right-angled contact between bolt and yoke preventing deflection or damage. This unique design extends the adjustable range from -25 to +5 degrees.



Design and Construction

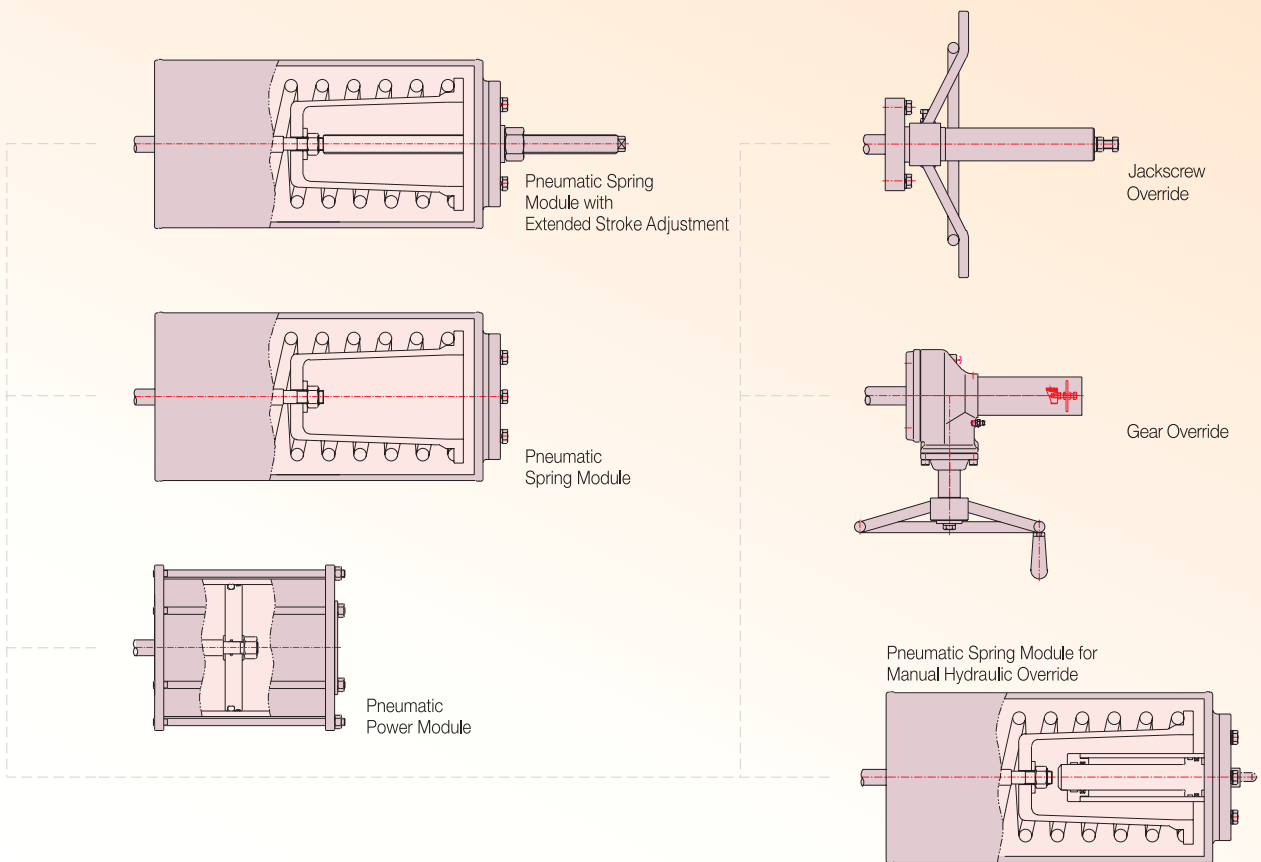
Versatility

The T-type modular design consists of spring, power and drive modules. The modules have been designed for easy disassembly and this allows the actuator to be quickly and easily converted from double acting to single acting configuration, or for the addition of ancillaries such as a manual override unit. The modular design allows these modifications to be performed without removing the actuator from the valve.



Weather Proof

T-type actuators comply with IP66 and IP67 specifications and are rated for high-pressure water deluge resistance.



High Visibility Position Indicator

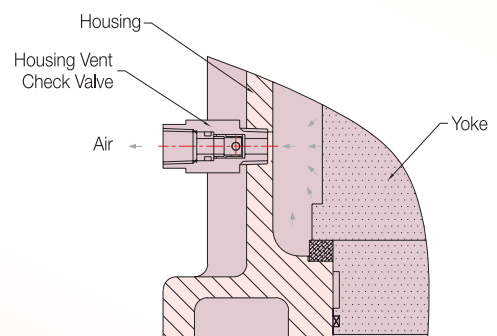
A high visibility position indication beacon is available as an optional feature on the T-type actuator. The indicator is impact resistant and weather proof to IP67

High Torque and Compact Design

The T-type actuator is smaller in comparison with other actuators offering similar torque outputs. This reduces the overall valve package envelope providing a more compact design.

Integral Housing Vent

The main actuator housing incorporates an integral check valve in order to release overpressure while preventing ingress of foreign objects or water.



Features

ISO or MSS Mounting

T-type actuators have valve mounting pads in accordance with MSS SP -101 or ISO 5211 standard.

Torque Outputs

T-type actuators have torque outputs ranging from 398N.m (3,526inch-lb) up to 800,000N.m (7,088,000inch-lb) and are rated for continuous operation at pneumatic pressures from 3Bar (40psig) to 12Bar (170psig).

Temperature Range

Standard range: -20°C to +80°C (-30°F to +144°F)

Special Low Temperature (optional): -45°C to +80°C (-81°F to +144°F)

Special High Temperature (optional): -20°C to +177°C (-30°F to +318.6°F)

Spring Unit

To avoid accidental release of spring force the spring units are supplied as fully welded modules. The spring and spring retainer are self-centered and bearing guided within the spring module, ensuring accurate alignment and extending spring life. The spring is compressed towards the drive module during operation, provides no impact on the spring end cover, reducing stresses and increasing safety. The spring tension can be adjusted to give optimum torque outputs.

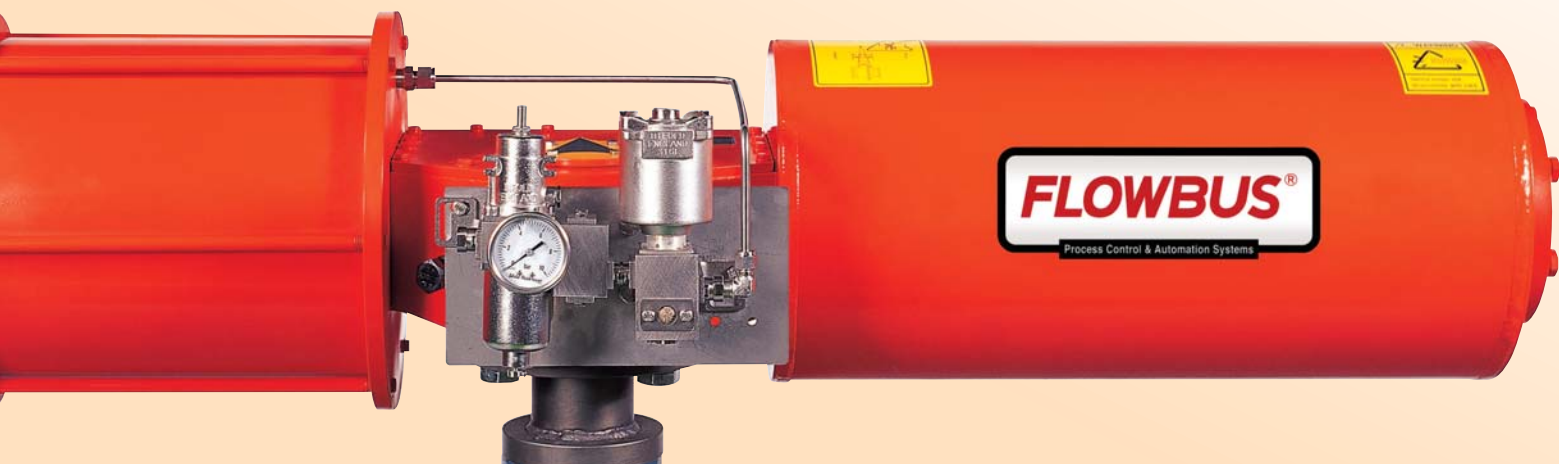
External Tie Rods

Externally mounted tie rods secure the piston cylinder assembly. These tie rods are designed to maintain cylinder integrity in the case of over pressurization by the pneumatic supply. Also external tie rods help to protect the cylinder from accidental damage.

Ancillary Bracket

A multi function bracket is available for ancillaries. The bracket can be assembled in various configurations to provide optimum mounting of ancillary equipment

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Optional NAMUR Standard

T-type actuators have an optional VDI/VDE 3845 mounting interface enabling simple mounting of ancillary equipment.

Optional Visual Indicator

A high visibility position indicator is available as an option.

Spring Safety Lock

Spring tension can be adjusted. The spring module is designed with a tension lock ensuring that the spring force cannot be accidentally released during disassembly from the drive module.

Lifting Eyes

Lifting eyes are factory installed making transportation, installation and assembly simple and safe.

Optional Manual Override

Optional manual overrides such as jackscrew, gear and hydraulic override can be incorporated in accordance with customer's requirements. The specially designed hydraulic override cylinder is installed inside the spring module; this standardizes actuator overall length and isolates the hydraulic fluid to eliminate contamination and spillage.

Approvals and Industry Standards

Actuators manufactured in conformity with CE certification to PED 97/23/EC

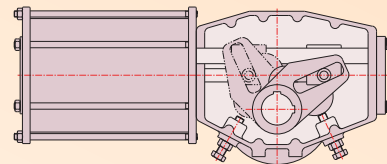
Actuators certified in accordance with ATEX 94/9/EC

Actuators certified to IP66/IP67

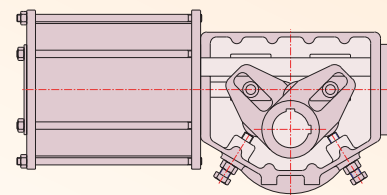
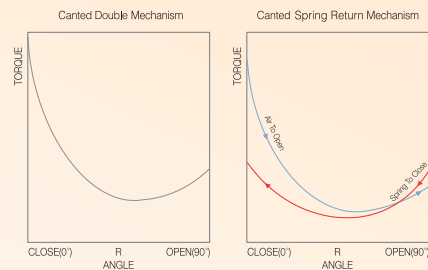
Actuators designed and manufactured under a third party accredited

ISO 9001:2000 quality assurance program.

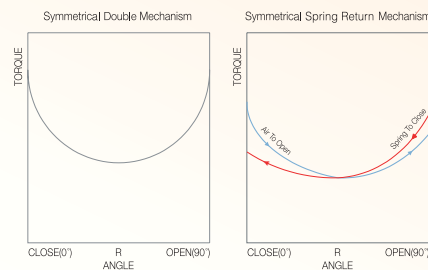
Symmetrical & Canted Torque Outputs



CANTED



SYMMETRICAL





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