



With an operational design life of 25 years and a maintenance interval up to five years<sup>1</sup>, the LPC Limitorque Pneumatic Compact actuator is a complementary product to the new range of Limitorque LPS heavy-duty pneumatic Scotch yoke actuators.

Equipment performance and safety standards continue to evolve and increase across the infrastructure industries. These stringent demands are particularly dynamic in oil and gas, where perpetually increasing emphases on personnel safety and equipment uptime is the norm. To more aggressively meet these demands, Flowserve Limitorque is offering the LPC Pneumatic Compact Scotch yoke actuator—specifically designed to meet or exceed the latest and most rigorous of these requirements.

### Features and Benefits

- Available in standard single-acting spring return and double-acting configurations, in torque ranges up to 1600 Nm (1180 ft-lb)<sup>2</sup>
- Symmetrical and Canted Scotch yoke types to perfectly fit valve torque requirement
- Spring Return Single Acting (Fail Close CW and Fail Open CCW) and Double Acting (Fail Last / Fail-as-is) executions
- Easy field conversion from Fail Close CW to Fail Open CCW configuration or vice versa
- Upon request, available in balanced weight configuration, with cylinder and spring installed on opposite sides of central body<sup>2</sup>
- End mounted adjustable travel stop  $\pm 5^\circ$ , available also in an enclosed protected version upon request
- Housing constructed in Nodular Ductile Cast Iron or Carbon Steel; different materials of construction upon request

- Carbon Steel ENP lined Cylinders; Stainless Steel Cylinders, Tie Rods and Spool Pieces available upon request
- 12 barg (174 psig) maximum allowable working pressure (MAWP)
- -29°C to 100°C (-20°F to 212°F) standard operating temperature range; Low temperature -60°C (-76°F) and high temperature 160°C (320°F) ranges available upon request (polar, cold, arid and tropical temperature requirements in accordance with IEC 60721)
- Suitable for use in on/off, modulating and control valve application in general service, protective service and safety applications such as ESD or HIPPS
- Available for use in safety integrated systems up to and including SIL Level 3 in accordance with IEC 61508
- Full range of accessories: switchboxes, positioners; ESD and PST functionalities; custom control panels; fire protection; manual and hydraulic overrides

### Key Certifications and Standards Compliance

- Available according to ATEX 94/9/EC Ex II 2GD c IIC T6
- IP66/IP66M and IP67/IP67M configurations
- Available valve interface in compliance with ISO 5211
- Actuator spring design in compliance with EN 13906
- Corrosion protection in compliance with ISO 12944-2 and EN 15714-3; optionally available up to and including C5-M
- Available in compliance with NACE specification MR0175 for sour gas applications
- Available in compliance with PED 97/23/EC, ASME BPVC Sec. VIII Div. 1, EN 13445-3 Part 2 for Unfired Pressure Vessels
- Manufactured and tested in compliance with ISO 9001 and EN 15714-3

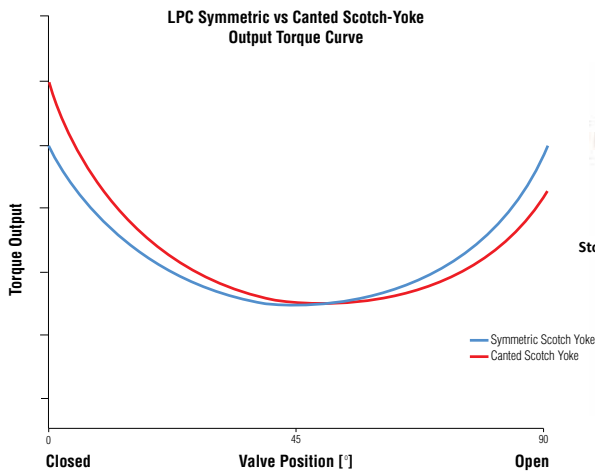
1. Depending on service conditions, proper installation, operation and maintenance.

2. Consult factory for other sizes or for more information.

Model	MOT Maximum Operating Torque Nm (ft-lb)	MOP Maximum Operating Pressure barg (PSIG)	MAWP Maximum Allowable Working Pressure barg (PSIG)
LPC-05	500 (369)	Variable for every cylinder size. Please refer to Technical Bulletin LFENTB0002	12 (174)
LPC-10	1600 (1180)		

Consult factory for other sizes.

### Output Torque Characteristics



Detailed Output Torque Characteristics are available for both Spring Return and Double Acting executions.

LPC range torque output and dimensions data are available in Technical Bulletin No. LFENTB0002 or directly from [www.flowserve.com](http://www.flowserve.com)

For quarter-turn actuator with output torques larger than LPC models, Limitorque Flowserve offers a wide range of pneumatic Scotch yoke actuators with outputs up to 800 kNm (590 000 ft-lb). Please consult LPS product brochure LFENBR0001.



Flowserve Corporation has established industry leadership in the design and manufacture of its products. When properly selected, this Flowserve product is designed to perform its intended function safely during its useful life. However, the purchaser or user of Flowserve products should be aware that Flowserve products might be used in numerous applications under a wide variety of industrial service conditions. Although Flowserve can (and often does) provide general guidelines, it cannot provide specific data and warnings for all possible applications. The purchaser/user must therefore assume the ultimate responsibility for the proper sizing and selection, installation, operation and maintenance of Flowserve products. The purchaser/user should read and understand the Installation Operation Maintenance (IOM) instructions included with the product, and train its employees and contractors in the safe use of Flowserve products in connection with the specific application.

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### Anatomy Limitorque LPC Actuator

