



## Limitorque QXM smart valve actuator

The full measure of safety and reliability found in the next-generation smart quarter-turn actuator is now available in a limited multi-turn version.

The Flowserve Limitorque QX quarter-turn, smart electronic valve actuator mimics the state-of-the-art, non-intrusive, multi-turn MX actuator by including an absolute encoder for tracking position without the use of troublesome batteries. The QX design provides enhanced safety and reduced downtime through improved diagnostics and built-in self-test (BIST) features. In addition, LimiGard™ fault protection is standard on every QX.

The industry-leading feature set of the QX has been extended to a multi-turn version, the QXM. The QXM is available for up to 20 turns with increased speed ranges from 6 to 24 rpm. When combined with faster speeds, the torque ranges are consistent with the speed required for limited linear travel. All of the MX and QX features are included in the QXM. In fact, an A1 base can be attached to the QXM for travel up to 70 mm.

### Features of the Limitorque QXM include:

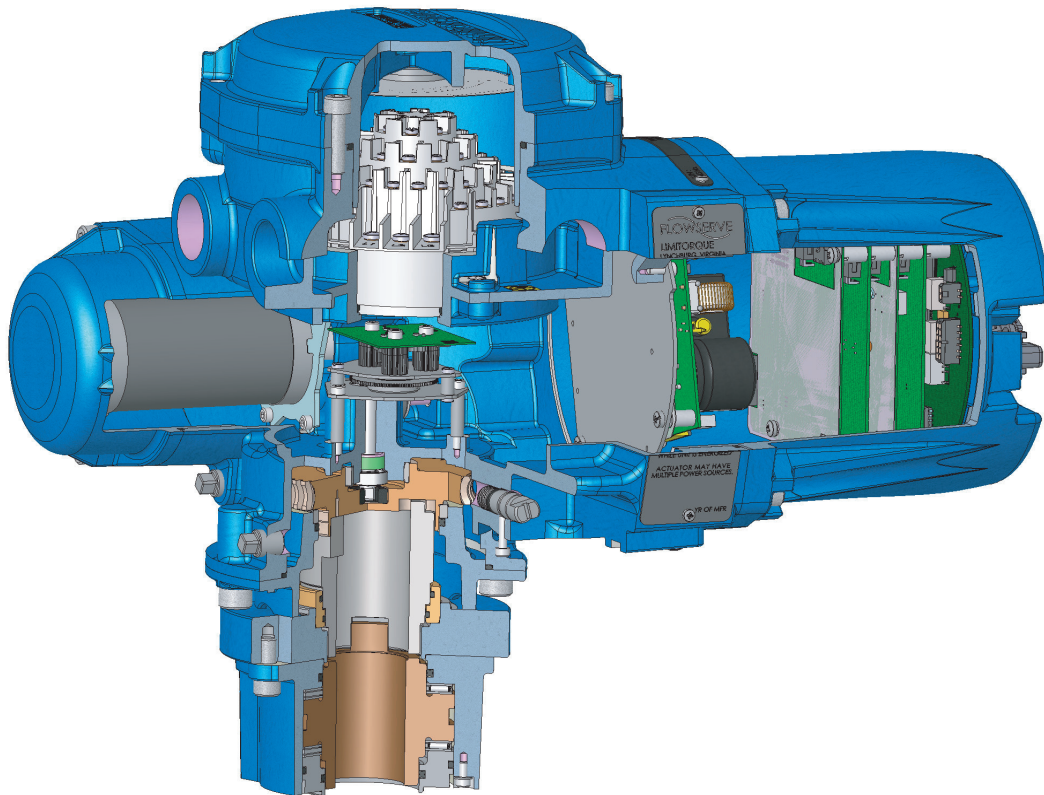
- An absolute encoder that simplifies valve automation from configuration and setup into normal operations, diagnostics and troubleshooting. The QXM encoder employs system-on-chip technology using a contactless magnet that excites Hall effect devices to provide redundant, 12-bit resolution over either 6.5 or 20 turns. This redundancy, part of the BIST feature, means the device can continue to function reliably until a number of faults has been accumulated.
- Advanced brushless DC motors eliminate sparks, reduce mechanical and electrical noise, and dissipate heat better than motors with brushes. Unique to the industry, the brushless

actuator design lasts longer than conventional motors and allows for more accurate positioning while permitting a global range of voltages (single-phase and three-phase ACV and DCV) to be connected without modification.

- Graphical dot-matrix display allows 180° rotation of text, diagnostic graphs and supports 10 languages: English, Spanish, French, Italian, German, Portuguese, Japanese (Katakana), Mandarin, Russian and Malay.
- Optional Bluetooth® wireless connectivity with a range up to 10 meters. When used with Flowserve Limitorque Dashboard™ Windows®-based software, diagnostic information is easily transferred to a PDA, laptop computer or cell phone.
- Network communications such as Modbus, Foundation Fieldbus H1, DeviceNet, Profibus DP\_V1 with redundancy and Profibus PA offer the user bit strobe I/O messaging and a host of other benefits. A Device Type Manager (DTM) is also available for Profibus and Foundation Fieldbus.
- Available with two distinct motors (“H” version is “high” torque and “L” version is “low” torque) to offer a broad torque and speed range, from 18 ft-lb (24 Nm) to an industry-leading 250 ft-lb (337 Nm). The motors have H class insulation as standard and are rated to IEC 34 as S2\_15 min\_40%.
- The QXM is available with all pertinent global explosion and weatherproof certifications: FM, FM Canada, ATEX and IECEx.



Size	Speed (rpm)	Torque		Time to Close (sec)	
		(ft-lb)	(N m)	6.5 Turns	20 Turns
QXM-1	3	100	135	130	400
QXM-2	2	250	337	195	600
QX-1/MH - 6	6	128	172	65	200
QX-1/ML - 6	6	65	87	65	200
QX-1/MH - 12	12	84	113	33	100
QX-1/ML - 12	12	40	54	33	100
QX-1/MH - 18	18	60	81	22	67
QX-1/ML - 18	18	30	40	22	67
QX-1/MH - 24	24	43	58	16	50
QX-1/ML - 24	24	18	24	16	50
Stem Capacity with MX-10 Thrust Base		1.57 inches (40 mm)			
Travel Above Thrust Nut with MX-10 Thrust Base		2.75 inches (70 mm)			
Thrust Rating with MX-10 Thrust Base		15,000 lb. (66.7 kN)			



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.

While the information and specifications contained in this literature are believed to be accurate, they are supplied for informative purposes only and should not be considered certified or as a guarantee of satisfactory results by reliance thereon. Nothing contained herein is to be construed as a warranty or guarantee, express or implied, regarding any matter with respect to this product. Because Flowserve is continually improving and upgrading its product design, the specifications, dimensions and information contained herein are subject to change without notice. Should any question arise concerning these provisions, the purchaser/user should contact Flowserve Corporation at any one of its worldwide operations or offices.

© 2010 Flowserve Corporation, Irving, Texas, USA. Flowserve is a registered trademark of Flowserve Corporation.

**To find your local Limitorque representative:**

Visit [www.limitorque.com](http://www.limitorque.com) or call USA 434 528 4400

FCD LMENFL3310-00 Printed in USA.

**United States**  
 Flowserve Corp.  
 Flow Control  
 Limitorque Actuation Systems  
 5114 Woodall Road  
 Lynchburg, VA 24506 USA  
 Telephone: 434 528 4400  
 Fax: 434 845 9736

