



# Limitorque MX Actuator

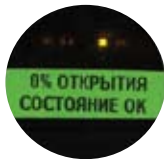
## Still 'No batteries required'

### The Next Generation in Smart Actuation

Flowserve Limitorque introduced the MX electronic actuator in 1997 as the first smart actuator providing uncompromised reliability and performance in an easy to use design. The MX innovations which were market firsts – patented absolute encoder that doesn't require battery back-up – patented Limigard technology – easy to use menus in six languages – the use of Hall-effect devices to eliminate potentially troublesome reed switches, have been improved. MX provides the user with predictable, reliable, and safe operation for years to come, in applications which are subject to the most rigorous customer requirements and extreme environments. Enhancements to MX include:



**Mandarin**



**Russian**



**German**

- Patented absolute encoder with increased span, improved diagnostics capability, and B.I.S.T. (Built In Self Test), part of Flowserve Limitorque's uncompromising commitment to "no batteries required."
- Optional MX Quik™ (MX-Q) uninterrupted power transfer when main power is lost to the actuator, configurable for several continuous minutes of "MX Quik time" and, once power is restored, available for the next unforeseen power outage.
- State of the art controls platform, which incorporates the B.I.S.T. and verifies and validates the integrity of its components, resulting in a design that aids the user in meeting the SIL (Safety Integrity Level) requirements of IEC 61508.
- Graphical dot matrix display that improves visibility, allows for 180° rotation of the text, displays diagnostic graphs, and permits the support of any language, including four new languages: Mandarin, Russian, Malay, and Katakana.
- Optional Bluetooth connectivity with a range of up to 10 meters, which can be used to easily transfer diagnostic information to a PDA, laptop computer or cell phone with Flowserve Limitorque's Windows™ CE or Mobile 5 for PocketPC based Dashboard.
- Improved network communications with the addition of DeviceNet to complement Modbus, Foundation Fieldbus H1, Proibus DP\_V1 and Profibus PA and offer the user bit strobe I/O messaging and a host of other benefits.

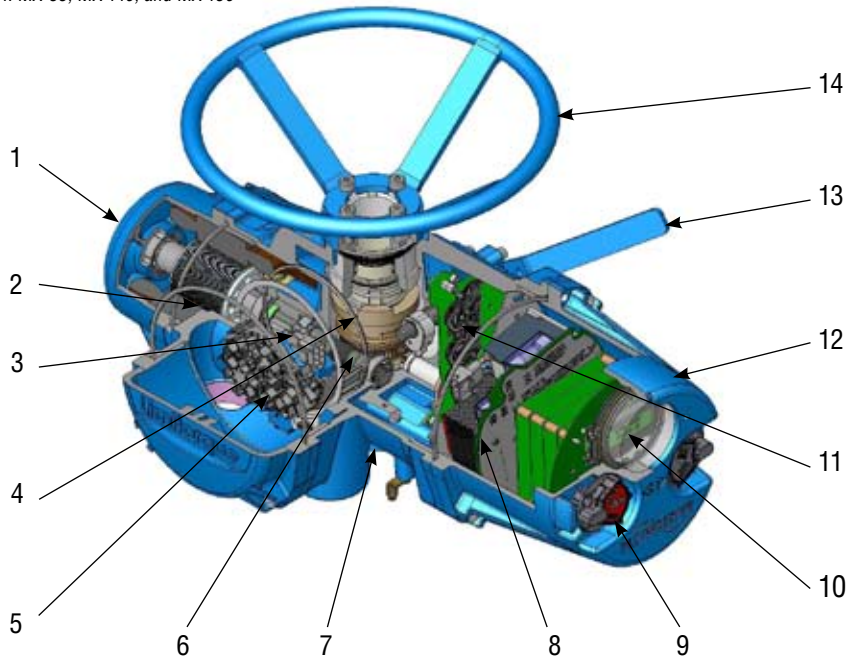


## MX Series Performance Ratings for Units 05-150

MX-05 through MX-40 (three-phase: 50 Hz/380, 400, and 415 Volt: 60 Hz/208/230, 380, 460, 575 Volt)  
 MX-85 through MX-150 (three-phase: 50 Hz/380, 400, and 415 Volt: 60 Hz/380, 460, 575 Volt)

Output Speed (RPM)		Rated Output Torque													
		MX-05		MX-10		MX-20		MX-40		MX-85		MX-140		MX-150	
60 Hz	50 Hz	ft-lb	N m	ft-lb	N m	ft-lb	N m	ft-lb	N m	ft-lb	N m	ft-lb	N m	ft-lb	N m
18	15	55	75	125	170	225	305	440	597	N/A	N/A	N/A	N/A	N/A	N/A
26	22	55	75	125	170	225	305	440	597	850	1153	1600	2036	N/A	N/A
40	33	55	75	125	170	225	305	440	597	1225	1662	1700	2307	N/A	N/A
52	43	55	75	125	170	225	305	440	597	1150	1561	1500	2171	N/A	N/A
77	65	48	65	107	145	178	241	345	468	850	1153	1200	1628	N/A	N/A
100 131 <sup>1</sup>	84 110 <sup>1</sup>	39	53	89	121	148	201	286	388	600	814	739	1003	1500	2036
155 170 <sup>1</sup>	127 143 <sup>1</sup>	41	56	89	121	140	190	260	353	450	611	650	882	1150	1561
200	165	34	46	73	99	114	155	210	285	N/A	N/A	N/A	N/A	N/A	N/A

Note 1: MX-85, MX-140, and MX-150



No.	Description
1	Three-phase motor
2	Motor gear attachment
3	Plug-in connectors
4	Termination chamber
5	External connection block
6	Gear set
7	Thrust base
8	Control chamber
9	Local control switches
10	Multilingual display
11	Absolute encoder
12	Cast aluminum housing
13	Declutch lever
14	Handwheel

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