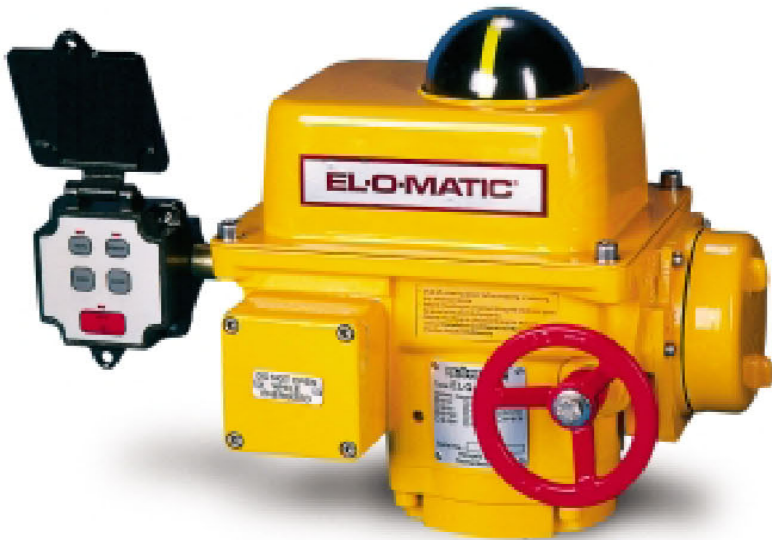
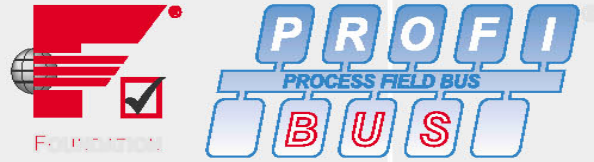


ELQ Series Electric Actuators



Modularity of Design for Maximum Operating Versatility

Modularity ...the key word that can best be used to describe EL-O-MATIC's ELQ Series electric actuators for quarter turn rotary valves.

From on/off applications to full control or use from one valve to another, ELQ Series Electric Actuators provide maximum operating versatility through easily changed “plug-in” modules designed to accommodate varying operating requirements and “splined” drive inserts for direct mounting to a wide range of valves.

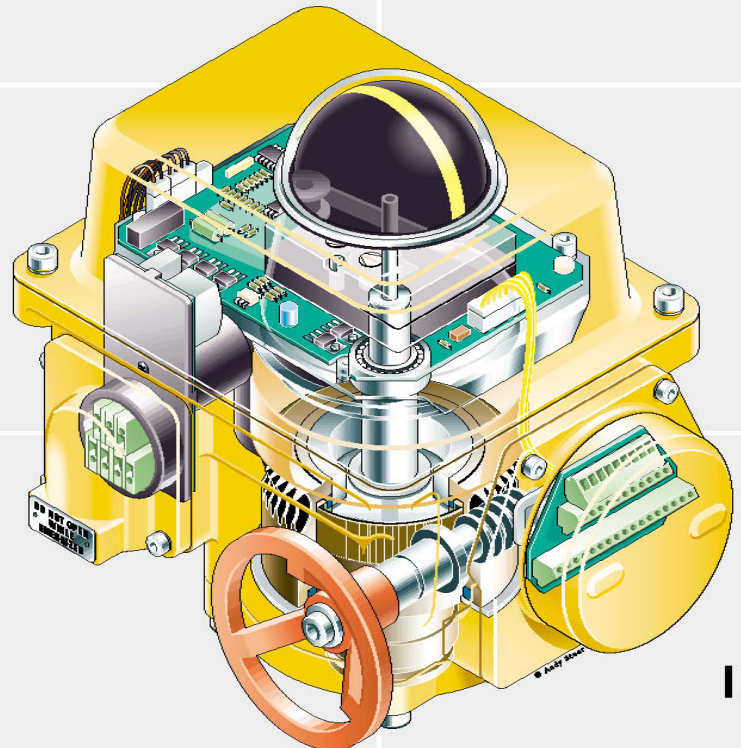
Available in five models from 445 to 7000 lb.in., ELQ Series Actuators feature a highly efficient flex-spline gear system for tight positioning control. Standard features include a manual override, mechanical travel stops, dome position indicator, and NEMA 4X, 6, 7, and 9 housings.

A built-in, multi-voltage capability allows use of the ELQ with most common supply voltages such as 24 VDC, 110 VAC, 220 VAC or 380 VAC 3 Phase. Analog, digital, and bus communications facilitate simple integration into any process automation system.

Optional MOD positioners, speed controls, and position transmitters are available as “plug-in” modules to simplify installation and reduce initial or later upgrade costs.

Unique Features with Highly Cost-Effective Installation, Operation, and Upgrade Benefits

- 100% duty cycle motor for continuous operation
- Built-in, multi-voltage capability for direct connection to most common supply voltages
- Electronic motor control for precise, highly reliable operation
- Optional fieldbus communications provide interoperability between system devices
- “Splined” drive inserts for direct mounting to a wide range of valves
- Easy-to-set mechanical travel stop and limit switches
- Hand wheel override for manual valve operation
- Highly visible, domed valve position indicator
- Compact, lightweight durable construction through use of NEMA 4X, 6, 7, and 9 rated aluminum alloy housings



rotatable power entry (left)

terminal compartment with
plug connector (right)



Operation Ideally Suited for On/Off to Numerous Full Control Applications

While ideally suited for on/off and modulating applications, the flexibility offered by the EL-Q's numerous operating features and "plug-in" options makes it highly suitable for a wide range of control functions.

Depending upon the desired operating features or application, the EL-Q's optional modules can be simply plugged into the electronic control board—no tools are required. External control signals are sent to the control board via the actuator's modular terminal compartment.

Should the application parameters change, the terminal compartment along with the plug can be quickly removed and plugged into another EL-Q—totally eliminating the time and cost associated with hardwiring the control signals.

The electronic motor utilizes a soft-start principle to avoid high peak loads during starting and ensures smooth running. The actuator has two mechanical stops at 0° and 90° with adjustment bolts that allow adjustment of the setting $\pm 10^\circ$. Factory preset torque is 100% with available torque settings of approximately 50%, 75% or 100% using a jumper.

The limit switch unit is mounted on the control board containing the motor switches and auxiliary limit switches. These switches provide stepless setting with a conical blocking system to prevent drift and are easily set by using a slotted screwdriver.

The EL-Q's high ratio gearing and very high reduction ratio result in a compact, lightweight actuator with very low noise level and virtually no play. The hand-wheel allows for manual or emergency operation and automatically disengages if the motor is running.

Numerous "Plug-In" Options to Simplify Installation and Meet Most In-Field Operating Requirements

Positioner

Controllable via a 4-20 mA or 0-10 VDC signal to regulate position of the valve between the closed and open position.

Position Transmitter

Provides continuous position indication through a 4-20 mA signal proportional to the position of the output shaft.

Communication Card

Interface cards available for Foundation Fieldbus™ or Profibus™ DP bus communication protocols.

Speed Control

To control output shaft speed of the EL-Q actuator.

Local Control Station

Allows operation of the actuator locally or from a remote location.

Status Information

Provides feedback information on actuator operating modes including motor status, local/remote indication, and power supply connections.

High Power Limit Switches

For use when switch voltage is higher than 24 V (i.e. 110 or 220 V)



Available Models and Sizing Data

ELQ Series Electric Actuators are available in five models: ELQ100, ELQ200, ELQ300, ELQ500, and ELQ800.

Complete sizing data for all major valve manufacturers is on file and available from EL-O-MATIC's in-house database to ensure proper selection of the right actuator for the right valve.

Typical Applications

The new ELQ Series has been engineered to bridge the gap between electric actuators and today's challenging process automation applications.

In a variety of situations, electric actuators are actually preferable to pneumatic actuators. For example, when there is a large distance between valves, the cost of supplying compressed air is more expensive than laying electric cables. With its wide range of possibilities, the ELQ Series Electric Actuator is also highly suitable for applications where more extensive communication between the control room and actuator is required.

Power supply	AC - 115V, 230V, or 400 V 50/60 Hz DC - 24V
Control signal	24VDC ($\pm 10\%$)
Limit Switches	2 x SPDT, 500mA at 30VDC/VAC
Temperature	-4°F (-20°C) to 158°F (70°C), low and high temp versions available on request
Nominal rotation	90°, adjustable limit switches at each end $\pm 10^\circ$
Enclosure	NEMA 4X / IP65 (optional: NEMA 6 / IP67)
External steel parts	Stainless steel
Finish	Two part polyurethane
Heater	Standard 10 Watt
Torque control	Electronic, manually adjustable

Standards

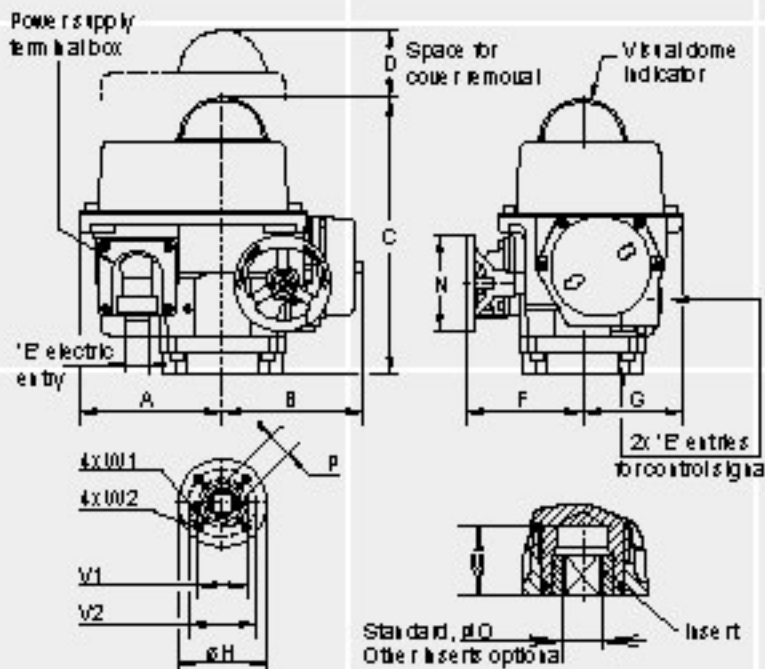
ELQ Series Electric Actuators are manufactured in accordance with ISO 9001 and also comply with the following international standards:

- Water Proof NEMA 4X/IP65
(optional NEMA 6/IP67)
- Explosion Proof FM, Class I, Div. 1, Groups C & D
ATEX, II 2 G EEx d IIB T4
- Flanges ISO 5211 or DIN 3337

positioner option



Performance		ELQ100	ELQ200	ELQ300	ELQ500	ELQ800
Torque (lb.in.)		885	1770	2655	4425	7081
Speed/90° (sec.)	Max Load	10	14	18	22	36
	No Load	6	8	13	17	28
Current (A) Max.	115VAC	1	1	1	1.7	1.7
	230VAC	0.5	0.5	0.5	0.9	0.9
	400VAC	0.3	0.3	0.3	0.5	0.5
	24VDC	4.1	4.3	4	5.3	5.1
Power (W) Normal		98	102	96	130	125
Weight (lb.)		29	31	32	62	66



Dim. in In.	ELQ100	ELQ200	ELQ300	ELQ500	ELQ800
A	5.83	5.83	5.83	7.17	7.17
B	5.79	5.79	5.79	7.36	7.36
C	11.30	11.30	11.30	13.19	13.19
C1	10.24	10.24	10.24	12.01	12.01
D	3.94	3.94	3.94	3.94	3.94
E	1/2"NPT	1/2"NPT	1/2"NPT	1/2"NPT	1/2"NPT
F	4.65	6.14	6.14	8.62	10.08
G	4.06	4.06	4.06	5.20	5.20
H	4.92	4.92	4.92	6.89	6.89
M	1.97	1.97	1.97	2.36	2.36
O max.	0.752	0.752	0.871	1.068	1.424
O min.	0.748	0.748	0.866	1.063	1.417
P	0.99	0.99	1.11	1.43	1.90
V1	2.756	2.756	2.756	4.016	4.016
V2	4.016	4.016	4.016	5.512	5.512
W1	3/8-16 x .53	3/8-16 x .53	3/8-16 x .53	3/8-16 x .63	3/8-16 x .63
W2	3/8-16 x .63	3/8-16 x .63	3/8-16 x .63	5/8-11 x .79	5/8-11 x .79

C1: Height of actuator with NEMA 7 cover