

# EIM Product Selection Guide

Proven Valve Automation and Control Solutions





EIM electric actuators have been operating quarter-turn and multi-turn valves for more than 60 years.

EIM offers a broad range of frame sizes, horsepower ratings and output speeds designed to fit your applications.

EIM is ISO-9001 certified. Products are internationally qualified for various weathertight and hazardous environments.



EIM is a recognized brand leader from Emerson Process Management – Valve Automation. The EIM brand, established in 1949, has pioneered the industry with innovation and technical performance. EIM actuators and controls have myriad applications. They are found in virtually every part of the energy and hydrocarbon processing industries – oil and gas, power, refining chemical and petrochemical. In addition, EIM actuators and controls have established a significant track record for outstanding performance in water/wastewater, food and beverage, pulp and paper, and marine applications. After undergoing rigorous quality checks, EIM products are sold and serviced through Emerson’s strategically located World Area Configuration Centers, distribution partners and knowledgeable technical service teams.

### M2CP Electric

*The industry’s recognized electric actuator*

- Available in quarter-turn and multi-turn models
- Motor options available for 1-ph, 3-ph, AC and DC power
- Quarter-turn models from 400 to 400,000 Ft-Lbs (542 to 542,300 Nm)
- Multi-turn models from 130 to 16,000 Ft-Lbs (176 to 21,693 Nm)
- Multi-turn thrusts from 10 to 1,056K Lbs (44 to 4,700 KN)
- Ductile iron gear case
- Heat-treated alloy steel worm and spur gears, cast bronze worm gear drive sleeve
- Power gears operate in anti-friction bearings. Thrust components operate on tapered roller bearings
- Auxiliary, padlockable handwheel, motor preference, for emergency operation
- Gear driven limit switches in-step in motor and manual operation – no batteries required. Torque dial active during manual and motor operation
- M2CP modular control package for integral and non-integral requirements
- M2CP easy access, service and upgrade – standard discrete control, optional Futronic™ analog controllers, and Controlinc™ digital network communication



**TEC 2000 Electric**  
*Proven mechanical design based on EIM Series 2000 with Total Electronic Control In a non-intrusive design*



- Quarter-turn or multi-turn control using APD Absolute Position Detector continuously monitors valve position – no batteries required
- Torque measurement is responsive during motor and handwheel operation
- Separate, dual-sealed terminal chamber houses primary fuses. Automatic resetting secondary protection. Highly legible terminal blocks with pre-inserted, plated screws
- Local control knobs do not penetrate controls compartment
- Password protected set-up using local control knobs, PC or IrDA “Clicker”
- Same mechanical features as M2CP electric actuators
- Standard discrete control, optional Futronic™ analog controllers, and Controlinc™ digital network communication
- 1-ph and 3-ph models

**TEC 2000 IconoText Local and Remote Display**  
*Large easy-to read message screen*



- Local Display Module (LDM) with IconoText screen simultaneously shows simple language and icons for easy setup, diagnostics and parameter checks on two 16-character text lines
- Continuous position indication, torque bar graph, moving animation symbol, actuator direction moving and LED indication lamps
- Patented Remote Display Module (RDM) can network two modules up to 4000 feet (1.2 km) from actuator. Ideal for hazardous and inaccessible areas. RDM functions same as the Local Display Module (LDM). One RDM is powered by TEC 2000 24VDC power. Second RDM is powered by user 115/220 VAC

**G Series Gas Actuator**  
*Installed on almost every major pipeline system worldwide*



- First actuator to utilize direct natural gas pressure for valve operation
- Models for quarter-turn or multi-turn operation
- Improved gear-type motor with reduced gas consumption
- Recessed handwheel shaft for manual service
- Manual selector valve lever in stainless steel padlockable box
- End-of-travel poppet valves for improved shutoff
- Selector valve activated locally or remotely
- Operates up to 1480 psi (102 bar)
- Optional line-break, lubricators, mufflers, pilot operated devices

**2000LP**  
*Low pressure air/gas operation*



- Suitable for pipeline or industrial use requiring rapid response but lower torque output
- Operates on Instrument Air between 60 to 100 psi (4.1 to 6.9 Bar)
- Adaptable to quarter-turn or multi-turn applications
- Can mount directly to valves
- Features based on EIM 2000/M2CP actuators

**2000HP**  
*Designed to handle high pressure pipeline valve control*



- Utilizes pipeline pressure for operating large diameter valves
- Control pressure is regulated to 100 psi (6.9 Bar)
- Motor 400 to 1480 psi (27.6 to 102 Bar)
- Adaptable to quarter-turn or multi-turn valves
- Features based on EIM 2000/M2CP actuators

## HQ Series Electric

Quarter-turn actuators for butterfly, ball and plug valves and damper control



- Lightweight and compact
- Torque capacities from 40 to 2,170 Ft-Lbs (54 to 2,942 Nm)
- Conforms to AWWA C542
- Standard construction is rated NEMA 4 and 6, IP67 with optional IP68 and NEMA 7, EEx d IIB T4
- Declutchable handwheel which can be padlocked to prohibit unauthorized operation
- Has four limit switches
- Most units have double-reduction self-locking worm gear drives. No need for motor brakes
- Local and remote control stations
- Models available for 1-ph and 3-ph service 24VDC and 24VAC
- Discrete, analog and Modbus RTU network control

## HQ RBB Electric

Brings new level of security to EIM's time-tested HQ product line



- Uses rechargeable lithium battery and 24VDC motor for fail-safe operation during power loss
- Can operate locally or remote five times/hour in fail-safe Mode. Discrete or analog control
- Operates on single-phase 115 or 230V, 50/60Hz power
- Highly visible LED status lamps
- Padlockable local control station
- Declutchable manual override for emergency handwheel operation
- Mechanical position indicator continually confirms valve position
- Double-reduction, self-locking worm gears with no need for motor brakes
- Standard NEMA 4X and 6, IP67 enclosure, Optional 6P/ IP68 submersible

## MultiPort Actuator (MPA)

Controls and monitors the operation of the Bettis MultiPort Flow Selector



- Provides precise positioning to within +/- one degree of selected port
- Configurable port selection from 3 to 8 ports
- Retains position even with power loss
- Provides manual override if power is lost
- Capable of working with wide range of voltages, AC and DC
- Certified explosion proof, Class I, Div. I, Groups C&D
- Operating Temperatures: -58° F to +149° F (-50° C to +65° C)
- Supports network protocols (ModBus, Profibus, Foundation Fieldbus)

## Manual worm gear and bevel gear actuators suitable for motorization

Worm gears for butterfly, ball and plug valves, and dampers. Bevel gears for multi-turn rising and non-rising stem valves and gates.

- Ductile iron gear cases standard
- Worm gear actuators to 400,000 Ft-Lbs (542,328 Nm)
  - Heat treated one-piece alloy steel worm supported on tapered roller thrust bearings, self-locking ductile iron or bronze worm gears
- Removable splined bushing for easy positioning and machining
- Adjustable, sealed end of travel stops
- For above ground and buried service
- Optional rotations for 135° and 180° with end of travel stops, and 360°
- Bevel gear actuators to 13,680 Ft-Lbs (18,548 Nm) and 1,056,602 Lbs. (4,700 KN) thrust
  - Top entry removable stem nut. Heavy duty series uses add-on thrust base and bottom entry stem nut.
  - Alloy steel bevel pinion and bevel gear are precision cut
  - Ductile iron drive sleeve
  - All drive components supported on anti-friction bearings





Complete test lab with range of equipment allows EIM to load test any actuator at any electrical supply.

Quality assurance standards are strictly followed at all stages of manufacture.

EIM has an extensive network of field service personnel using factory-approved parts.



## Controlinc™ Network Controls

*The Ultimate network control systems from EIM*



- No proprietary protocols
- Foundation Fieldbus, Profibus DP with RedCom, DeviceNet, Modbus RTU, Ethernet TCP/IP
- Reduces installation and commissioning time and wiring cost
- Improved efficiency with real-time diagnostics and alarming
- Easily expand system and upgrade existing EIM M2CP and TEC 2000 actuators
- For Block and modulation service

## Optional Controlinc™ Modbus RTU Master Stations

*Capabilities Matching the Needs of Process Control*

- Enhances system performance by off-loading process and network management from the host computer
- Functions as network manager, data concentrator, improving performance and reliability
- Supports parallel, ring, and fully redundant networks
- M250 redundant hot-standby Master Station with touchscreen supports 250 actuators up to 200 miles. Rack or desktop mounted
- M124 redundant hot-standby Master Station with key pad and LCD screen supports 124 actuators up to 200 miles. Rack, desktop or NEMA 4X stainless steel cabinet



**Contact us: Emerson Process Management, Valve Automation facilities at your nearest location:**

***NORTH & SOUTH AMERICA***

13840 Pike Road  
Missouri City, Texas 77489 USA  
T+1 800 679 1561 (Toll Free USA)  
T+1 281 499 1561  
F+1 281 499 8445  
info.missouricity@emerson.com

***MIDDLE EAST & AFRICA***

P. O. Box 17033  
Dubai  
United Arab Emirates  
T +971 4 811 8100  
F +971 4 886 5465

***EUROPE***

Asveldweg 11  
7556 BR Hengelo (O)  
The Netherlands  
T +31 74 256 1010  
F +31 74 291 0938

Via Montello 71/73  
20038 Seregno (Milan)  
Italy  
T +39 0362 2285 207  
F +39 0362 2436 55

***ASIA PACIFIC***

No. 9 Gul Road  
#01-02 Singapore 629361  
T +65 6501 4600  
F +65 6268 0028

1277 Xin Jin Qiao Road  
Jin Qiao Export Processing Zone  
Shanghai 201206  
P.R.China  
T +86 21 2892 9000  
F +86 21 2892 9001

**For technical data and local representation, please check our website: [www.eim-co.com](http://www.eim-co.com)**

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