

ERF Series Fast Acting Electric Actuators



for Chemline ball valves
up to 2"

SERIES: ERF20 – 180 in.lb.

VOLTAGES: 12 VAC/VDC, 24 VAC/VDC

ENCLOSURE: Polyamide 6.6
NEMA 4X



Declutchable Manual Override/
Position Indicator



ERF Series on Type 21
True Union Ball Valve

The Chemline **ERF Series** Fast Acting Electric Actuator is a reversible rotary unit with output torques up to 180 in.-lb. These units are ideal for all Chemline ball valves up to 2". The ERF Series is compact, light weight and has a plastic housing. A large black handle provides manual override and position indicator.

Chemline also offers complete actuated ball valves, assembled and bench tested. Actuation service is also available for all quarter-turn metal valves.

Features

Special Inspection Labelled by CSA

(Canadian Standards Association)

Approvals and Compliances

- CE
- EAC
- RoHS

Multiple Operation/Control Options

- 2 & 3-wire
- Adjustable Travel
- Manual Override
- Cold Weather Heater/Thermostat

Multiple Feedback Options¹

- Visual
- Feedback Switches

NEMA 4X Enclosure

- Waterproof, corrosion proof with high impact Polyamide 6.6 housing and stainless steel fasteners

No Maintenance

- Permanently lubricated gear train
- Designed for 250,000 + cycles

Thermal Overload Protection

- Thermal switch embedded onto control board

Extended Operating Temperature Range

- -10 to 60C (15 to 140°F) (standard)

Irreversible Gearing

- No accidental backing off fully closed position
- No need for supplementary braking

Multi-Voltage Operation

- 12 VDC/VAC
- 24 VDC/VAC

External DIN Connectors

- No need to open actuator enclosure for wiring
- 2 removeable grommets (standard)
- 2 x 1/2" removeable NPT (optional)

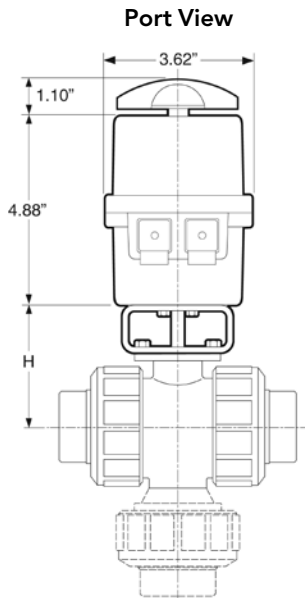
Standard Mounting Dimensions

- ISO-5211 mounting bolt circle and drive

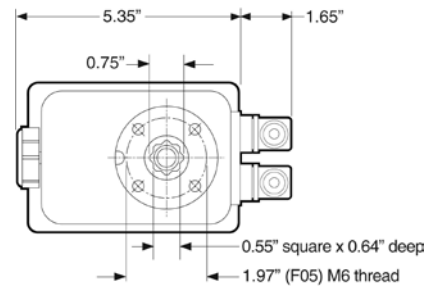
¹For feedback options, see page 2



DIMENSIONS INCHES



Bottom View



Type 21 True Union and
Type 23 Multi Port Ball Valves

DIMENSION "H" INCHES

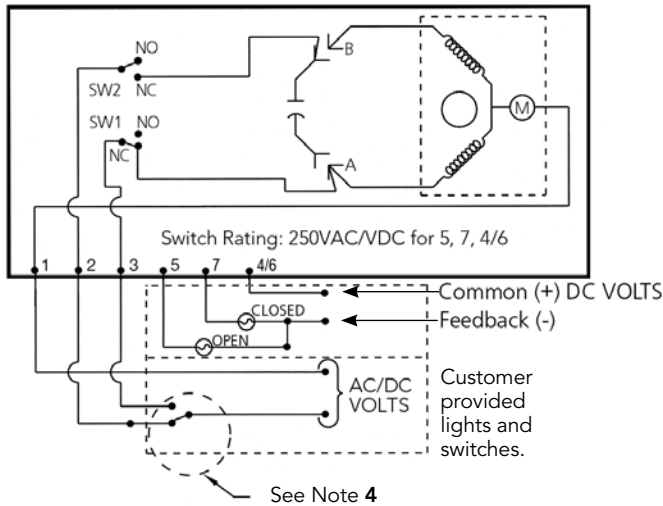
Valve Size	Valve Type	
	Type 21 Ball/Type 23 Multiport Ball	
1/2"	2.76	
3/4"	3.01	
1"	3.29	
1-1/4"	3.64	
1-1/2"	3.98	
2"	4.43	

Valves not to scale. For valve dimensions and parts refer to separate valve data sheets.

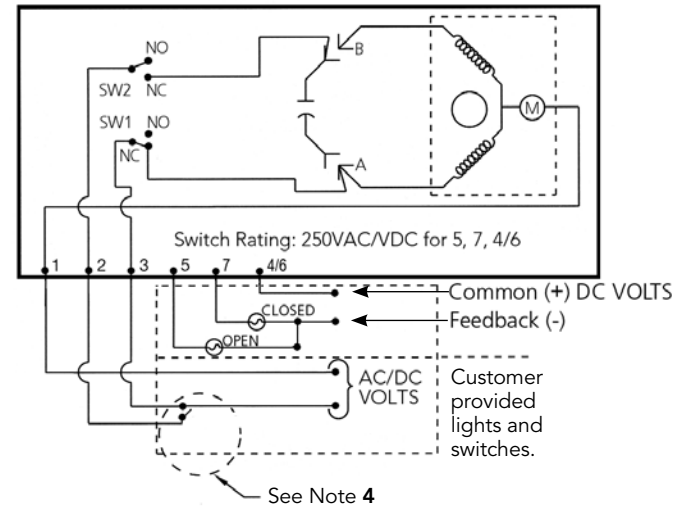
FEEDBACK OPTIONS

- **Extra Feedback Switches** – For extra end-of-travel position feedback. Rated up to 250VAC/VDC.
- **Feedback Potentiometer** – To feedback the precise valve position to a remote location, or to allow "jogging" control. 1,000 ohms rating.
- **Feedback Transmitter** – A circuit board coupled with a feedback potentiometer provides 4 to 20 mA output used by other equipment (PLC, data logger, etc.). Can be installed as a standalone module. No positioner required.

WIRING, 3-WIRE CONTROL



WIRING, 2-WIRE CONTROL



3-WIRE OPERATION

- Negative** – To Terminal 1 (Constant)
- To Open** – Positive to Terminal 2
- To Close** – Positive to Terminal 3

2-WIRE OPERATION

- Negative** – To Terminal 1 (Constant)
- To Open** – Jumper between Terminal 2 and Terminal 3
- To Close** – Positive to Terminal 3 (Constant)

NOTES:

1. Actuator shown in counter clockwise extreme of travel, or 'open' position.
2. Motor has a thermal protector as shown by (M) in the diagram.
3. ON-OFF actuator wiring shown. For other versions (Positioning, Failsafe) see operating manual.
4. Each actuator must be powered through its own individual switch contacts to avoid cross feeds.

SPECIFICATIONS

Model	Running Torques		12 VAC / VDC (x=.35)			24 VAC & 24 VDC (x=.46)			Weight (lbs.)
	(in.-lbs.)	Nm	Power Draw (Watts) ¹	Duty Cycle	Cycle Time/90° (fixed sec.)	Power Draw (Watts) ¹	Duty Cycle	Cycle Time/90° (fixed, sec.)	
ERF20	180	20	15W	30%	6.0	15W	30%	3.5	3.0

¹Power draw values are for actuators with locked rotors.

Motor Direction • Reversing