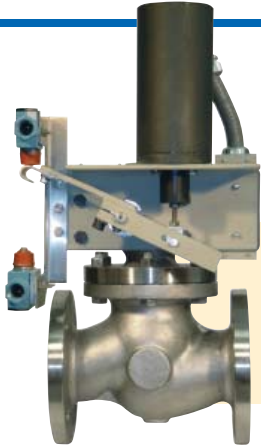


# 2-WAY VALVE DESIGN

## APPLICATION:

Clark-Cooper's Rotary Shaft Style Solenoid Valves are used to control the flow of **Extremely Corrosive Fluids • Dirty Fluids • Viscous Fluids • Cryogenics • Fuel Oils • Flammable Liquids and Gases • Steam • High Temperature Liquids and Gases • Heat Transfer Liquids**. The valves are used for applications where it is desirable to have the solenoid and all its magnetic components isolated from the process fluid.

## FULLY ELECTRIC



Valve Shown is a 4" - Full Port, 316 Stainless Steel, 150# ANSI Flanged, Fully Electric Valve.  
Type: Normally Closed, Energize to Open  
Options:  
• (2) SPDT Position Indicating Switches  
• Terminal Box mounted on back of bracket

**FULLY ELECTRIC VALVE** controls process liquids and gases without ancillary pneumatic or hydraulic systems.

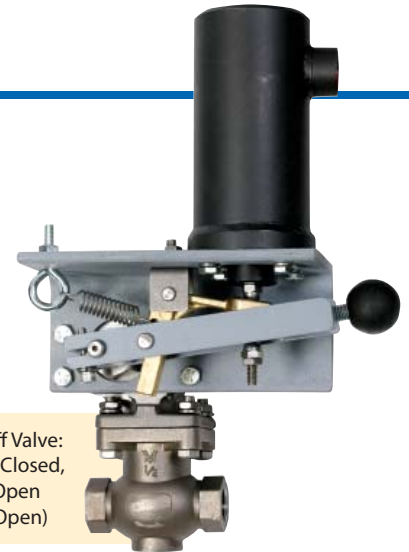
- **NORMALLY CLOSED, ENERGIZE TO OPEN:** Valve opens when energized and closes when de-energized.
- OR**
- **NORMALLY OPEN, ENERGIZE TO CLOSE:** Valve closes when energized and opens when de-energized.

## EMERGENCY TRIP VALVES

**MANUALLY RESET, EMERGENCY SHUT OFF VALVE** immediately stops the flow of fluid when an emergency or shutdown condition exists.

- **ELECTRICALLY TRIPPED CLOSED:** Valve immediately closes upon electrical signal. **MANUALLY RESET OPEN.**
- OR**
- **TRIPS CLOSED ON LOSS OF POWER:** Valve immediately closes on loss of power. **MANUALLY RESET OPEN.**
- OR**
- **HEAT ACTUATED CLOSED:** Valve immediately closes at 135°F, 165°F, 212°F, 286°F or 386°F. **MANUALLY RESET OPEN.**

When the emergency condition has passed, the valve **MUST BE** manually reset to the open position.



Emergency Shut-off Valve:  
Electrically Tripped Closed,  
Manually Reset Open  
(Shown Latched Open)

**MANUALLY RESET, EMERGENCY DISCHARGE VALVE** immediately releases fluid when an emergency condition exists. Used for emergency dump, deluge or purge systems.

- **ELECTRICALLY TRIPPED OPEN:** Valve immediately opens upon electrical signal. **MANUALLY RESET CLOSED.**
- OR**
- **TRIPS OPEN ON LOSS OF POWER:** Valve immediately opens on loss of power. **MANUALLY RESET CLOSED.**
- OR**
- **HEAT ACTUATED OPEN:** Valve immediately opens at 135°F, 165°F, 212°F, 286°F or 386°F. **MANUALLY RESET CLOSED.**

When the emergency condition has passed, the valve **MUST BE** manually reset to the closed position.



Emergency Discharge Valve: Electrically Tripped Open, Manually Reset Closed (Shown Tripped Open)



# 2-WAY VALVES 1/2" TO 6" PIPE SIZE • FULL PORT

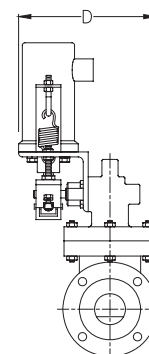
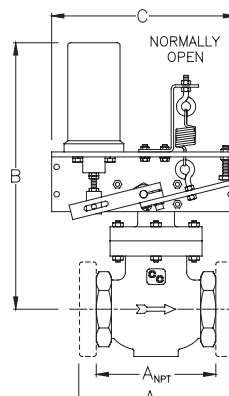
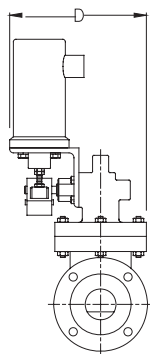
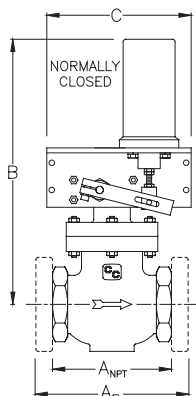
## 2-Way Valve Characteristics

**NO DIFFERENTIAL PRESSURE REQUIRED TO OPEN**  
All valves operate from zero to maximum pressure listed in table.

| Pipe Size (inches) | C <sub>v</sub> | Solenoid Series | MOPD* (PSIG)    |               |                 |               | Shipping Wt. (lbs.) (for NPT) | Dimensions (inches) |               |               |      |      |      |
|--------------------|----------------|-----------------|-----------------|---------------|-----------------|---------------|-------------------------------|---------------------|---------------|---------------|------|------|------|
|                    |                |                 | Direct Operated |               | Pilot Assisted  |               |                               | A NPT               | A 150# Flange | A 300# Flange | B    | C    | D    |
|                    |                |                 | Normally Closed | Normally Open | Normally Closed | Normally Open |                               |                     |               |               |      |      |      |
| 1/2                | 5.6            | 400             | 500             | 400           | 2160            | 2160          | 13                            | 3.3                 | 4.3           | 5.5           | 12.5 | 7.0  | 5.0  |
|                    |                | 800             | 2160            | 2000          | NA              | NA            | 18                            |                     |               |               | 14.5 |      |      |
| 3/4                | 8.5            | 400             | 125             | 100           | 1200            | 1200          | 15                            | 3.5                 | 7.0           | 7.6           | 12.8 | 8.5  | 5.5  |
|                    |                | 800             | 800             | 720           | NA              | NA            | 20                            |                     |               |               | 14.8 |      |      |
| 1                  | 11.9           | 400             | 50              | 50            | 1200            | 1200          | 18                            | 4.2                 | 7.3           | 7.8           | 13.0 | 9.2  | 5.5  |
|                    |                | 800             | 375             | 300           | NA              | NA            | 23                            |                     |               |               | 15.0 |      |      |
| 1-1/2              | 46.4           | 400             | 10              | 10            | 500             | 450           | 25                            | 4.9                 | 6.5           | 7.5           | 15.5 | 12.0 | 7.0  |
|                    |                | 800             | 75              | 75            | 1200            | 1200          | 30                            |                     |               |               | 17.5 |      |      |
| 2                  | 67.2           | 400             | 5               | 5             | 200             | 200           | 45                            | 6.0                 | 8.0           | 9.0           | 16.0 | 14.0 | 8.0  |
|                    |                | 800             | 25              | 25            | 720             | 720           | 50                            |                     |               |               | 18.0 |      |      |
| 3                  | 152            | 800             | NA              | NA            | 275             | 275           | 78                            | NA                  | 9.5           | NA            | 20.5 | 20.0 | 10.0 |
| 4                  | 215            | 800             | NA              | NA            | 150             | 150           | 135                           | NA                  | 11.5          | NA            | 22.0 | 21.5 | 11.0 |
| 6                  | 468            | 800             | NA              | NA            | 75              | 60            | 275                           | NA                  | 16.0          | NA            | 24.0 | 22.0 | 11.5 |

\*MOPD = Maximum Operating Pressure Differential  
NOTE: Use higher (800 Series) MOPD for all Trip Valves.

Weights and dimensions are approximate.  
Maximum Fluid Temperature 550°F



Available Construction Materials are listed on Page 3.

## Solenoid Characteristics

Solenoid Coil: Class H, Continuous Duty  
18" long, 18 gage wire leads

Solenoid Enclosure: NEMA 4X, Watertight and Corrosion Resistant and NEMA 7, Explosion-proof, Class I, Groups B, C and D, Division 1

Conduit Connection: 1/2" NPT

AC voltages suitable with 50 and 60 Hertz

| Solenoid Series | Voltage    | Amps Inrush † | Amps Holding |
|-----------------|------------|---------------|--------------|
| 400             | 24V AC/DC  | 18.0          | 1.0          |
|                 | 48V DC     | 12.0          | 0.6          |
|                 | 120V AC/DC | 5.0           | 0.3          |
|                 | 240V AC/DC | 4.0           | 0.1          |
| 800             | 24V AC/DC  | 27.0          | 2.0          |
|                 | 48V DC     | 25.0          | 1.0          |
|                 | 120V AC/DC | 16.0          | 0.5          |
|                 | 240V AC/DC | 8.0           | 0.2          |

† Amps inrush duration of approximately 1 second.

NOTE: Trip valves use the 400 Series solenoid.

ETL LISTED



Conforms to  
UL Std. 1203  
Certified to CAN/CSA Std.  
C22.2 No.30

Consult Factory for  
Listing Details.

