



### 3-Way Universal Relay Valve Model URV-3-0

The BERMAD URV-3-0 is a 3-way Spring Return Balanced Poppet type, pressure operated diaphragm actuated pilot valve.

The URV changes its position from open to close in response to pressure being supplied to its control chamber.

The URV pilot valve is used as a relay device designed for BERMAD Deluge and Remote Control Monitor Valves, commonly used to actuate the BERMAD main valve upon pressure release from the URV (the main valve will be "pressure to close").

The URV's balanced-poppet design enables safe reliable operation with a low control pressure using compact dimensions. The URV is specifically designed for Fire Safety systems in that it has no mechanical friction of the internal parts, greatly increasing reliability. This also makes it ideal for use with corrosive fluids such as firewater, brackish water or seawater.



Stainless Steel



Nickel Aluminium Bronze  
(or high alloys)  
(for illustration Only)

#### Features and Benefits

- **3-Way control:** No continuous release from main valve control trim, suitable for foam systems and pit installations.
- **Frictionless operation:** The isolating membranes eliminate mechanical friction enhancing safety and reliability, well suited for use with sea-water and corrosive fluids.
- **Balanced Poppet Shaft:** Enables a low control pressure, regardless of water line supply pressure.
- **Heavy duty construction:** Suitable for on-shore as well as the severe conditions of offshore facilities.
- **Corrosion resistant construction materials:** For use with corrosive media and harsh environments

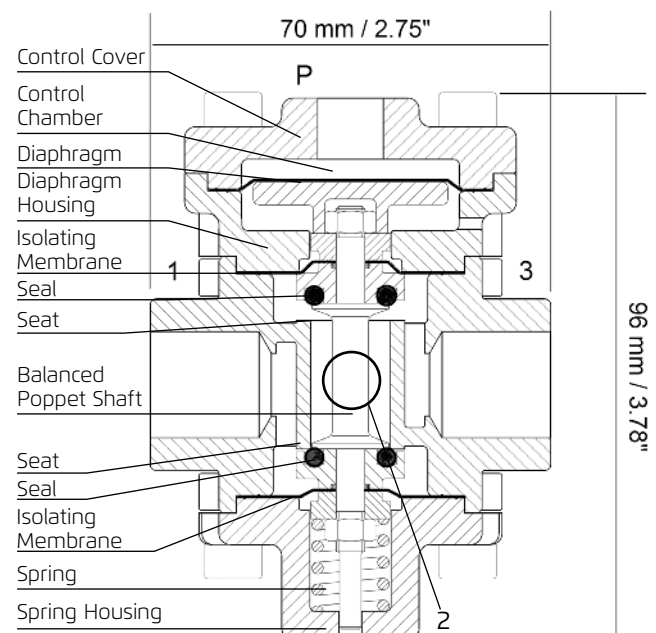
#### Technical Data

- **Pressure Rating:** 25 bar / 360 psi
- **Minimum Recommended Pilot Line Pressure:** 2.5 bar / 36 psi
- **Temperature Rating:** 80°C / 180°F
- **Flow Factor:** Kv 1.5 / Cv 1.7
- **Port Connections:** Line pressure ½" NPT Control ¼" NPT
- **Weight:** 1.1kg / 2.4lbs

#### Standard Materials

- **Body:** Stainless Steel 316, CF8M
- **Wetted Parts:** Stainless Steel 316
- **Covers (dry parts):** Stainless Steel 316, CF8M
- **Elastomers:** NBR (Buna-N)

\* Optional materials: See Model codes and material options on next page





## Principle of Operation

The URV utilizes a control chamber and three operational ports

Actuation or position change is achieved by applying a relatively low control pressure (air or water) to the Control Port (P)

Port 2 is the common port

When the control chamber is depressurized  
 The passage between ports 2 and 3 is open  
 The passage Between ports 2 and 1 is closed  
 When the control chamber is pressurized  
 The passage between ports 2 and 1 is open  
 The passage between ports 2 and 3 is closed

## Connections

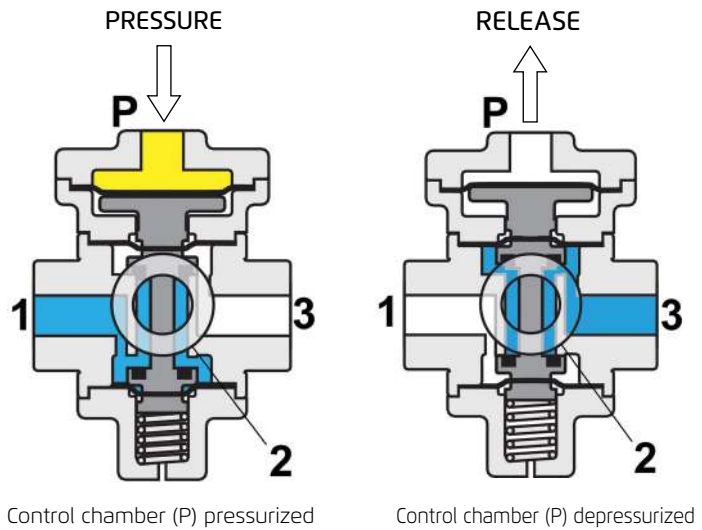
The URV-3-0 maybe configured as Normally Open or Normally Closed, according to the port connections

### For the deluge valve to be Normally Closed - Pressure to Open.

The URV should be Normally Open N.O.  
 Connect supply pressure to to port 3  
 Connect the deluge vane control chamber to port 2 (common)  
 Port 1 will be the vent

### For the deluge valve to be Normally Open - Pressure to Close.

The URV should be Normally Closed N.C.  
 Connect supply pressure to to port 1  
 Connect the deluge vane control chamber to port 2 (common)  
 Port 3 will be the vent

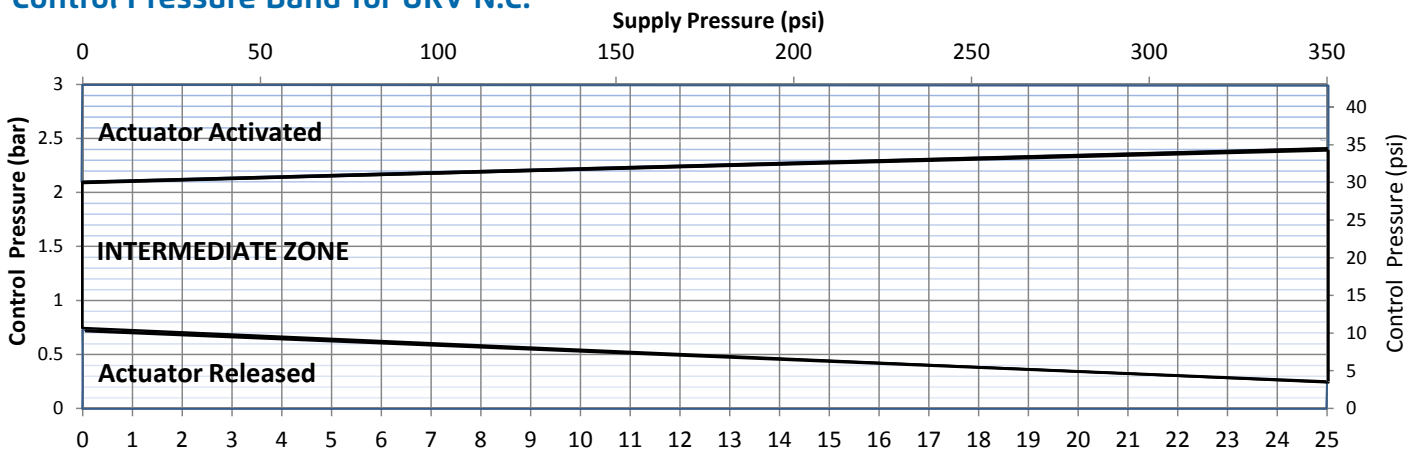


Control chamber (P) pressurized

Control chamber (P) depressurized

Configuration	Function	Port	Symbol
N.O. (pressure to open main valve)	Supply	3	
	Common	2	
	Vent	1	
	Control	P	
N.C. (pressure to close main valve)	Supply	1	
	Common	2	
	Vent	3	
	Control	P	

## Control Pressure Band for URV N.C.



## Model Codes and Material Options

Model Code	Body and Wetted Parts	Control Cover	Diaphragm & Spring Housing (dry)
URV-3-0-N-N	Stainless Steel 316	Stainless Steel 316	Stainless Steel 316
URV-3-0-U-N	Ni.Aluminium Bronze (monel shaft)	Stainless Steel 316	
URV-3-0-U-U	Ni.Aluminium Bronze (monel shaft)	Ni.Aluminium Bronze	
URV-3-0-D-N	Super-Duplex	Stainless Steel 316	
URV-3-0-D-D	Super-Duplex	Super-Duplex	

\*For other material options/combinations consult BERMAD

