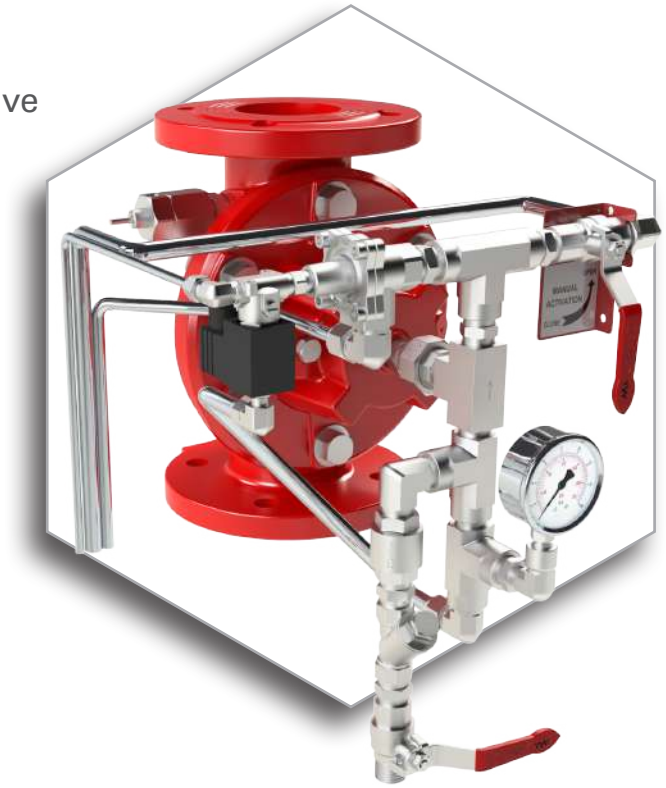
DELUGE
MODEL 77 DE\RC

DE\RC

Electrically Actuated, Remote Reset Deluge Valve
3/2 Solenoid

Also available with manual reset DE\RC-MR.

Electrically controlled deluge/pre-action valve, actuated by the pipeline pressure. The valve is closed in its normal, set position and opens when a 3w solenoid valve is energized. It closes drip-tight when the solenoid valve is de-energized. An emergency manual release valve is fitted as standard.



* General illustration

CERTIFICATION & COMPLIANCE

Lloyd's Register

- ANSI FCI 70-2 Class VI seat leakage class
- Lloyd's Type Approval

FEATURES & BENEFITS

- High pressure high flow deluge systems
- Automatic or local manual emergency actuation
- Hazardous, flammable & explosion classified area fire suppression
- Superior design featuring exceptionally low pressure losses at high flow rates
- Low lifelong maintenance costs due to straightforward design
- Applicable for fresh or brackish water, seawater & foam
- Out of box fully assembled & tested valves
- Factory trimmed for vertical & horizontal installations without modification
- Extensive valve & trim materials selection and corrosion protection coating

TYPICAL APPLICATIONS

- Automatic or Manual Actuated Fire Suppression Systems
- Petrochemical, Oil & Gas Installations
- Tunnels
- Power Generation, Transformer & Transmission Plants
- Flammable Storage
- Hangars & Airport Terminals
- Onshore / Offshore
- Mining

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OPERATION

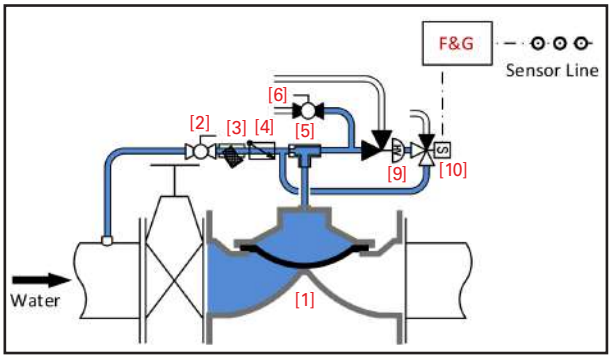
The basic control valve [1] used in this deluge system is a direct sealing elastomeric diaphragm, hydraulically operated control valve engineered specifically for fire protection systems. The system includes a 3/2-way N.O. solenoid [10] as the interface between the fire alarm control panel - monitoring heat, smoke or flames - and the deluge valve.

In the standby position, the deluge valve is held closed by the upstream water pressure, trapped in the valve's control chamber. The water pressure enters the control chamber through the priming line ball valve [2], a Y-type strainer [3], a check valve [4] and a T-restrictor [5].

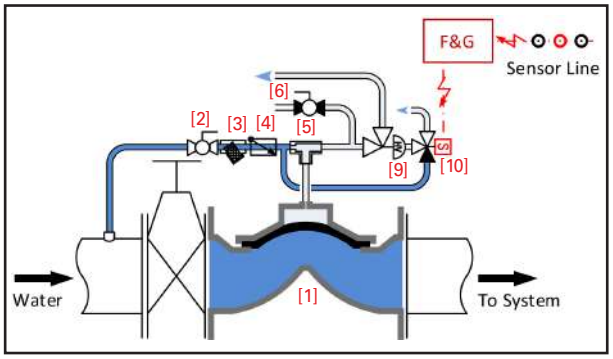
Under fire conditions, a fire alarm control panel energizes the 3/2-way N.O. solenoid (or de-energizes the coil of a continuously energized ED 100% normally closed solenoid for SIL 3-4 rated systems). The pressure in the relay valve [9] drops, causing it to open and allowing the water to drain from the deluge valve's control chamber. The deluge valve opens instantly and allows water to flow into the pipeline and through the open sprinklers over the protected area.

Manual emergency actuation is enabled by opening the emergency manual activation valve [6]. The deluge valve opens instantly and allows water to flow into the pipeline and through the open sprinklers over the protected area.

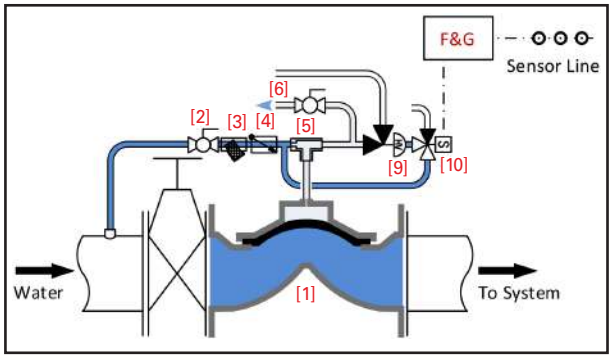
Standby Position



Electrically Actuated

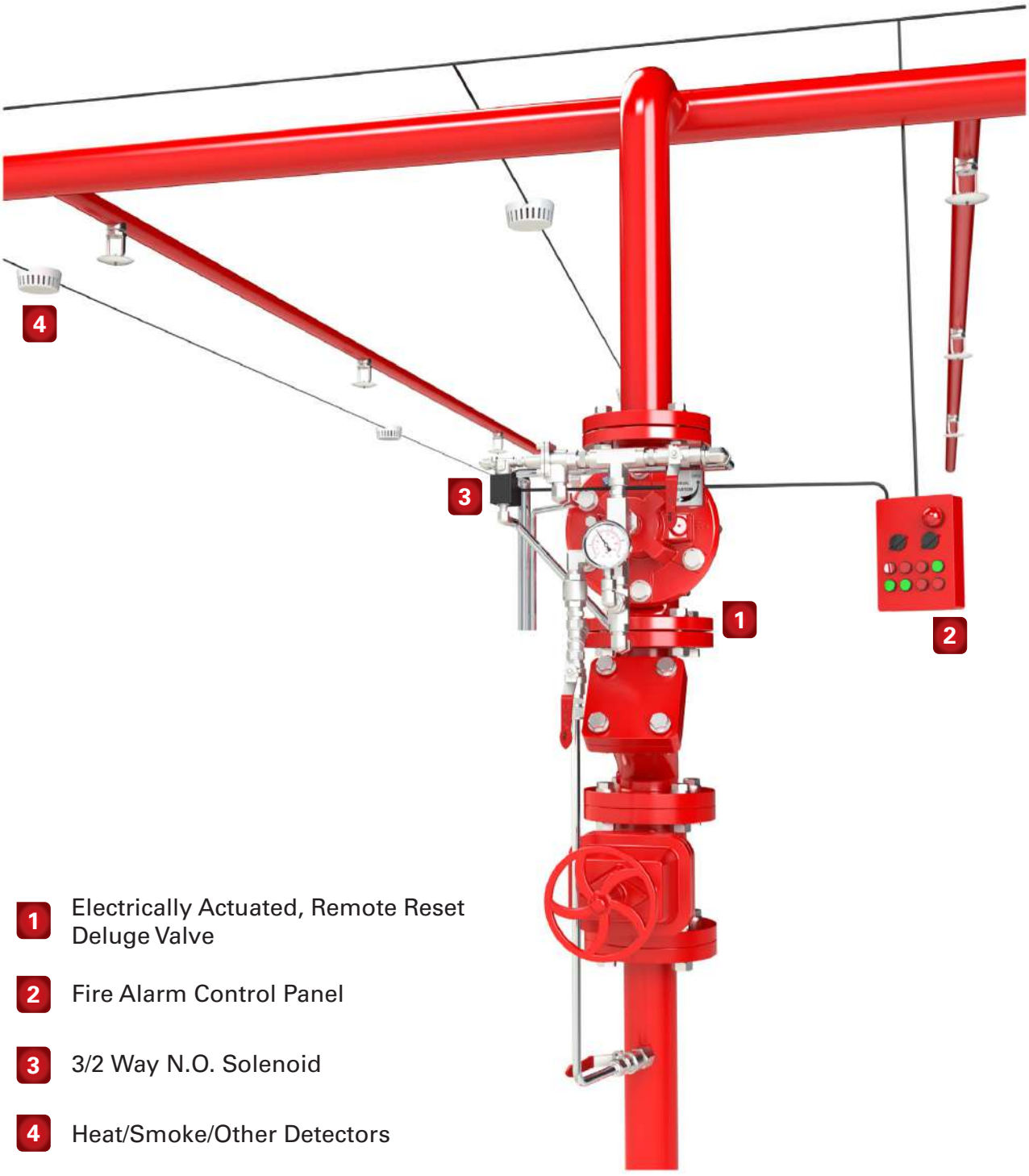


Manually Actuated



Resetting, maintenance and periodic testing instructions must be followed as described in detail in the applicable OCV IOM (Installation, Operation & Maintenance) Manual.

TYPICAL INSTALLATION



1. Electrically Actuated, Remote Reset Deluge Valve
2. Fire Alarm Control Panel
3. 3/2 Way N.O. Solenoid
4. Heat/Smoke/Other Detectors

* Not all items pictured reflect products sold by OCV

DELUGE
MODEL 77 DE\RC

TECHNICAL DATA

Temperature:
- Media up to 80°C = 176°F
- Elastomers suitable for extreme climates available upon request

Sizes:
- Lloyd's Type Approved Sizes: 2"- 24"

End Connections:
- Flanged:
  ISO-PN16
  ANSI B16.42 & B16.5 Class #150
  Additional options available upon request
- Grooved:
  Sizes: 2"- 6"

Pressure Rating:
- 230 psi / 16 bars

Body and Cover Material:
- Ductile Iron
- Cast Steel
- Stainless Steel
- NAB

Trim Material:
- Bronze/Brass - Copper
- Stainless Steel
- Monel

Optional Components:
- Position Indicator
- Pressure Switch
- Alarm Test Trim
- Upstream Drain Valve
- Limit/Proximity Switch

Items to Specify:
- Electrical features other than standard (24VDC, IP65/NEMA4)
- If explosion proof accessories are required such as solenoids, pressure switches, etc., please define classification
- Control trim material other than standard
- Required standards, certifications and approvals

ENGINEERING SPECIFICATIONS

The deluge valve shall be hydraulically operated, direct elastomeric diaphragm-seal, single chamber weir type. The valve shall consist of three major components: the body, the cover and the diaphragm assembly. The diaphragm assembly shall be the only moving part. The diaphragm forms a sealed control chamber in the upper portion of the valve, separating operating pressure from line pressure. Packing glands, stuffing boxes and dynamic O-ring seals are not permitted and there shall not be shafts, discs, bearings or pistons operating the valve. No hourglass shaped disc retainers shall be permitted, and no V-type, U-type or other slotted type disc guides shall be used. The valve shall contain a nylon reinforced rubber diaphragm, elastic & resilient through its entire surface without vulcanized radial seals and/or reinforcements. The diaphragm assembly shall not be guided by any shafts or bearings and shall not be in close contact with other valve parts except for its sealing surface. The deluge valve shall be fully trimmed, hydrostatically and operationally tested at the factory. Maintenance, disassembly and reassembly of all the valve's components shall be made possible on-site and in-line, without the need to remove the valve from the line. Main valve body and bonnet standard material shall be Ductile Iron or Cast Steel. Main valve body and bonnet surfaces shall include a fire red epoxy coating. Other materials and coatings available upon request. The deluge valve shall be a Model 77 DE\RC, Lloyd's Type Approved.

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