The FDV is a Fire Protection control valve for Deluge fire sprinkler systems, designed for installations in hazardous environments.

The FDV-DC0 Deluge system is actuated electrically or pneumatically and resets locally. Two detection systems, can independently activate an actuator to open the deluge valve: a pneumatic Dry Pilot detection Line and/or an electric solenoid, connected to sensors through a control Panel. The Deluge system incorporates an emergency valve, bypassing the fire detection systems for manual operation.

Designed for vertical or horizontal installation, a globe pattern, line pressure operated FDV-DC0 valve features a direct elastomeric diaphragm seal. It has no balancing spring or internal metallic wet components in the valve body. The hydrodynamic pattern design, ensures high flow rates with minimum head loss.

**ADVANTAGES**

- Only three parts: body, diaphragm & cover plate, no wet metal spring inside the control chamber
- Full bore unobstructed
- Simple manual reset of the valve to standby position without draining or opening the valve itself, neither closing service valves in the system
- Open fail safe valve, maintained in stand-by closed position
- Low maintenance cost: the main valve is serviced in-line and only one replaceable part which is long life elastomeric diaphragm


**CHARACTERISTICS**

- Hydro-dynamic pattern design ensures high flowrates with minimum head loss
- The valve trips open automatically upon a gradual release of water pressure from its control chamber. The valve is actuated by an electric signal conveyed to the valve’s solenoid or by Dry Pilot Line’s pneumatic pressure release due to its exposure to flame heat
- Soft closing upon pressurization of the valve’s control chamber, by line pressure or other independent water source, prevents surges

The FDV-DC0 resets to stand-by close position by de-energizing the alarm system solenoid’s coil through the main control panel or, pressurizing the Dry Pilot Line and manually operating the PSA device.
OPERATION

SET position
Pressurized water in the valve’s control chamber is trapped by the check-valve (5), by the closed PA-PTC actuator (9) and by the closed emergency valve (8), maintaining the deluge valve in its closed position. The air pressure accumulated in the Dry pilot Detection line is conveyed to the PA-PTC actuator, through a 3 way solenoid valve, maintaining the Deluge valve closed.

FIRE situation
When some of the Wet pilot detection line’s automatic fire sprinklers are subjected to the predetermined temperature levels and shutter-open, the pilot line de-pressurizes, tripping open the PA-PTC. Alternatively, an electric detection system senses heat and triggers the main control board that in turn, energizes the 3 way solenoid valve. The solenoid valve bypasses the Dry pilot detection line depressurizing the PA-PTC. The FDV-DC0’s control chamber is then drains and the Deluge valve opens.

RESET position
System reset requires the replacement of all Shattered-open Fire sprinklers in the Detection pilot line. Alternatively, the electrical alarm system has to be reset and the solenoid de-energized. Resetting both Detection line and solenoid valve, the PA-PTC actuator pressurizes and closes the FDV deluge valve.

### Schematic drawing

#### Set position

- **DL** - FDV Deluge valve
- **UD** - Upstream drain valve
- **DD** - Downstream drain valve
- **AL** - Acoustic & Electric alarms
- **TS** - FDV Deluge valve
- **SR** “Y” strainer
- **CV** - Check valve

#### Fire position

- **PS** - PSA – Pressure Supply Arrestor
- **MD** - MADV – Manual Automatic Drain Valve
- **TV** - Alarm test valve
- **EU** - Emergency Manual Unit
- **PC** - PA-PTC – Pneumatic Actuator-Pressure to Close
- **S3** - Solenoid 3 way

---

**Fire Protection**

TALIS FP RANGE
FDV - DC0

Typical installation

DL - FDV Deluge valve
UD - Upstream drain valve
DD - Downstream drain valve
AL - Acoustic & Electric alarms
TS - FDV Deluge valve
SR - "Y" strainer
CV - Check valve
PS - PSA – Pressure Supply Arrester
MD - MADV – Manual Automatic Drain Valve
TV - Alarm test valve
EU - Emergency Manual Unit
PC - PA-PTC – Pneumatic Actuator-Pressure to Close
S3 - Solenoid 3 way
## Dimensions Table

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## Factory Standard

### MAIN VALVE:
- **BODY & COVER**
  - Ductile iron
  - Cast Steel WCB
  - Stainless Steel CF8
  - Stainless Steel CF8M
  - Nickel Aluminum Bronze
- **ELASTOMERS:**
  - NBR, 3 layer reinforced natural rubber
  - EPDM, 3 layer reinforced
- **COATING:**
  - Rilsan Polyamide based (Nylon 11)
  - Polyester based EPC
  - High built Epoxy FBE
  - Vitreous Enamel (internal only)

### TRIM
- **PIPING & TUBING:**
  - Stainless Steel 316
  - Copper/Brass
  - Cupro-Nickel
  - Monel®
- **FITTINGS:**
  - Stainless Steel 316
  - Brass
  - Super Duplex
  - Cupro-Nickel
  - Monel®

### PLEASE SPECIFY
- Working Media
- Ambient conditions
- Min/Max operating flow
- Min/Max operating pressure
- Energize to Open/Close valve
- Solenoid Voltage
- Solenoid Enclosure
- Solenoid Protection
- Pneumatic working pressure
- System installation orientation
- Additional accessories needed

For more detailed technical information, please refer to chapter Engineering Data.