

## Autonomous Fire Suppression DV-5 Deluge Valve with Remote-Resetting Trim 2 to 8 Inch (DN50 to D200)

### Features

- Remote-resetting feature provides the ability to reset the valve from one or more locations.
- Compact, space-saving design reduces valve room footprint and construction costs.
- Electric actuation is compatible with many types of automatic and manual release options.
- Actuation of fire alarms upon system operation is provided.

### Description

The SPRAYSAFE Autonomous Fire Suppression (AFS) System is installed on the exterior of buildings and other structures to suppress fires. It typically includes a combination of robotic monitors, extension beams, a programmable logic controller (PLC), water control valves and piping, and flame detectors

The DV-5 Deluge Valve with Remote-Resetting Trim is a quick-opening, hydraulically operated, differential-type valve designed for fire protection system service. For use as an automatic water control valve in the SPRAYSAFE AFS System or another deluge fire protection system, this diaphragm-style valve can be opened and closed during a full-flow condition from a remote location.

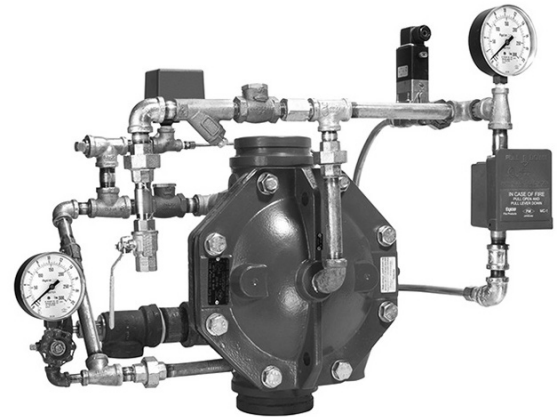
The automatic resetting feature of this valve provides for easy, remote resetting of a deluge system without having to open a valve hand-hole cover. Simply re-pressurizing the diaphragm chamber resets the valve.

Operation of the DV-5 Deluge Valve with Remote-Resetting Trim is provided by an automatic electric detection system or remote manual electric activation. The easily installed trim configuration for the DV-5 Deluge Valve with Remote-Resetting Trim provides for emergency (manual) release of the valve at the valve location.

### NOTICE

The DV-5 Deluge Valve with Remote-Resetting Trim described herein must be installed and maintained in compliance with the applicable installation and testing standards (e.g., NFPA 13 and 25), in addition to the standards of any local authorities having jurisdiction. Failure to do so may impair the performance of these devices.

The owner is responsible for maintaining their fire protection system and devices in proper operating condition. Contact the installing contractor or product manufacturer with any questions.



### Approvals

- UL Listed when trimmed.

The trim forms a part of the laboratory listings and is necessary for proper operation of this deluge valve.

### Technical Specifications

<b>Nominal sizes</b>
2 in. (50.8 mm) (DN50), 3 in. (76.2 mm) (DN80)
4 in. (101.6 mm) (DN100), 6 in. (152.4 mm) (DN150)
8 in. (203.2 mm) (DN200)
<b>Flange drilling specifications</b>
Refer to Table B
<b>Valve maximum service pressure</b>
250 psi (17.2 bar)
<b>Pressure loss</b>
Refer to Graph A
<b>Threaded ports</b>
NPT per ANSI Standard B1.20.1
ISO 7-1

## Materials of Construction

### NOTICE

The RILSAN coating for the DV-5 Deluge Valve with Remote-Resetting Trim provides corrosion resistance and is intended to extend the life of the Valve when exposed to internal and external corrosive conditions. Although the RILSAN coating is intended to resist corrosion, it is recommended that the end user or other technical expert familiar with conditions at the proposed installation be consulted with respect to the suitability of this coating for a given corrosive condition.

Deluge systems using a seawater or brackish water supply require special considerations in order to extend the life of the valve and trim. This type of system ideally should be configured with a primary source of clean fresh water and only upon system operation is the secondary water supply (seawater or brackish water) allowed to enter the system.

After system operation, the system should then be thoroughly flushed with clean fresh water. Following this recommendation can increase the service life of the DV-5 Deluge Valve with Remote-Resetting Trim.

### DELUGE VALVE

<b>Body and hand-hole cover</b>
RILSAN coated ductile iron per ASTM A 536-77, Grade 65-45-12
<b>Diaphragm</b>
Nylon fabric reinforced, natural rubber per ASTM D 2000
<b>V-Ring</b>
Applies only to 4 in. (101.6 mm) /DN100, 6 in. (152.4) /DN150 and 8 in. (203.2) /DN200 Natural rubber per ASTM D2000
<b>Diaphragm cover fasteners</b>
Galvanized carbon steel

### Design Criteria

The following items must be considered and applied accordingly for TYCO DV-5 Deluge Valve with Remote-Resetting Trim installations.

### NOTICE

The owner is responsible to design into the system a releasing circuit such that a solenoid valve is properly configured to enable remote resetting.

The building owner must be informed of the capabilities and limitations of a remote-resetting system as it pertains to the possibility of an inadvertent manual closing of the DV-5 Deluge Valve during a fire condition. Therefore, personnel responsible for the fire protection system must be fully trained on system components and required actions in the case of an alarm.

The control panel, detectors, and pull stations are to be installed in accordance with their laboratory listings and approval.

System piping is to be installed so that it is self-draining. TYCO Model AD-2 Automatic Drain Valves can be used to drain low sections of pipe as necessary. For more information, refer to technical data sheet TFP1632.

### Operation

The TYCO Remote-Resetting System includes a differential valve that uses water pressure in the diaphragm chamber to hold the diaphragm closed against the water supply pressure.

When the DV-5 Valve with Remote-Resetting Trim is set for service, the diaphragm chamber is pressurized through the trim connections from the inlet side of the system's main control/shut-off valve, for example an O.S.&Y. gate valve or butterfly valve.

Opening of the solenoid valve in the Remote-Resetting Trim releases water from the diaphragm chamber faster than it can be replenished through the restriction in the diaphragm chamber supply connection provided in the trim. This release results in a rapid pressure drop in the diaphragm chamber, and the force differential applied through the diaphragm that holds it in the set position is reduced below the valve trip point.

The water supply pressure then forces the diaphragm open, permitting water to flow into the system piping, as well as through the alarm port to actuate system alarms.

Closing of the solenoid valve in the Remote-Resetting Trim permits the diaphragm chamber to repressurize. This repressurizing results in a pressure increase in the diaphragm chamber. The resulting force repressurizes the diaphragm chamber, closing the valve and stopping the flow of water into the system piping.

### Limited Warranty

For warranty terms and conditions, visit [www.tyco-fire.com](http://www.tyco-fire.com).

### Ordering Information

Contact your local distributor for availability. When placing an order, indicate the full product description and Part Number (P/N).

#### Fully Assembled DV-5 Deluge Valve with Remote-Resetting Trim (Valve Included)

Note that "galvanized" material is standard. Refer to the Separately Ordered Parts section for parts that are required but ordered separately.

- UL Trim and Valve
- Specify (size), TYCO Fully Assembled DV-5 Deluge Valve with Remote-Resetting Trim, and P/N (Table C)

#### Semi-Preassembled DV-5 Deluge Valve with Remote-Resetting Trim (Valve Ordered Separately)

Specify Trim and Valve as follows. Refer to the Separately Ordered Parts section for parts that are required but ordered separately.

- Specify (size) Semi-Preassembled DV-5 Deluge Valve with Remote-Resetting Trim, and P/N (specify). Note that "galvanized" material is standard.

2 in. (50.8 mm) (DN50) Galvanized	52-477-2-111
3 in. (76.2 mm) (DN80) Galvanized	52-477-2-112
4 in. (101.6 mm) (DN100) Galvanized	52-477-2-114
6 in. (152.4 mm) (DN150) Galvanized	52-477-2-115
8 in. (203.2 mm) (DN200) Galvanized	52-477-2-116

## Ordering Information (Continued)

- Specify (size) DV-5 Deluge Valve. Refer to technical data sheet TFP1331 for ordering information on this valve, which must be ordered separately for the Semi-Preassembled DV-5 Deluge Valve with Remote-Resetting Trim.

### Separately Ordered Parts

The following parts for use with the DV-5 Deluge Valve with Remote-Resetting Trim are required but ordered separately.

Specify: (description) for use with DV-5 Deluge Valve with Remote-Resetting Trim, P/N (specify):

Latching Solenoid Valve* (Bürkert)	2460566
Model PS10-1 Waterflow Pressure Alarm Switch (Potter)	25700
Model PS10-2 Dual-Contact Waterflow Pressure Alarm Switch (Potter)	25710
600 psi Water Pressure Gauge	92-343-1-004
*For additional solenoid valve options, refer to Technical Data Sheet TFP2180.	

### Vertical Valve Trim (Ordered Separately for the Americas)

The Solenoid Valve and Waterflow Pressure Alarm Switch are separately ordered parts for the UL Trim.

### Accessories

Specify: (description) for use with DV-5 Deluge Valve with Remote-Resetting Trim, P/N (specify):

Model AD-2 Automatic Drain (Ball Drip) Valve (TFP1632)	52-789-1-004
Model WMA-1 Water Motor Alarm Red Finish Gong (TFP921)	52-630-1-001P
Model WMA-1 Water Motor Alarm Aluminum Finish Gong (TFP921)	52-630-2-001P

## Replacement Parts

Specify: (description) for use with DV-5 Deluge Valve with Remote-Resetting Trim, P/N (specify):

Model AD-1 Automatic Drain Valve (TFP1630)	52-793-2-004
Model MC-1 Manual Control Station (TFP1382)	52-289-2-001
Model PS10-1 Waterflow Pressure Alarm Switch (Potter)	25700
Model PS10-2 Dual-Contact Waterflow Pressure Alarm Switch (Potter)	25710
Water Pressure Gauge, 300 psi/2000 kPa	92-343-1-005
"Y" Strainer	52-353-1-005

For further ordering information, refer to technical data sheet TFP1331 on [www.tyco-fire.com](http://www.tyco-fire.com)

**Note:** The converted values in this document are provided for dimensional reference only and do not reflect an actual measurement.

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Deluge valve		Size		Trim		Main control/shut-off valve		Switch		Accessories	
80	Flange x Flange*, PN 16	2	2 in. (DN50)* (50.8 mm)	80	UL	00	Ordered separately	2	PS10-2	61	Remote-Resetting Latching Solenoid Valve*
81	Flange x Flange**, ANSI	3	3 in. (DN80)** (76.2 mm)			01	Shut off valve included				
82	Flange x Groove*, PN 16	4	4 in. (DN100)** (101.6 mm)								
83	Flange x Groove**, ANSI	6	6 in. (DN150) (152.4 mm)**								
84	Groove x Groove*	8	8 in. (DN200)** (203.2 mm)								
86	Thread x Thread*, ISO 7-1										
88	Flange x Flange**, PN 16										
89	Flange x Groove**, PN 16										
90	Groove x Groove**										
92	Thread x Thread**, NPT										

\*Flange x Groove, Flange x Flange are not applicable  
\*\*Thread x Thread is not applicable

\* Other solenoid valves are available on request. Refer to TFP2180.

**TABLE A**  
**DV-5 WITH REMOTE-RESETTING TRIM**  
**FULLY ASSEMBLED PART NUMBERS FOR UL TRIM**

\* ISO Ports

\*\* NPT Ports

