

## 115-1DV

### Electrically Actuated Deluge Valve

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

### CERTIFICATION & COMPLIANCE



- ANSI FCI 70-2 Class VI seat leakage class
- Fire tested to EN ISO 19921
- ABS type approval



\* General representation of valve

### FEATURES & BENEFITS

- Simple design utilizes a 3-way solenoid valve that directly operates the main valve
- Opens quickly when the solenoid valve is activated (specify energize-to-open or energize-to-close)
- Manual override to open the valve regardless of solenoid valve position
- Visual indicator for indication of valve position
- Large supply drain port to drain inlet side piping - globe only
- Solenoid operated main valve
- No adjustments necessary
- Factory tested
- Standard sizes 1.25" through 4"
- ANSI Flanged Class #150 or Class #300
- Wide range of materials available
- Options available include opening and/or closing speed controls, limit switch assembly and pressure gauge(s)

### 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

**OPERATION**

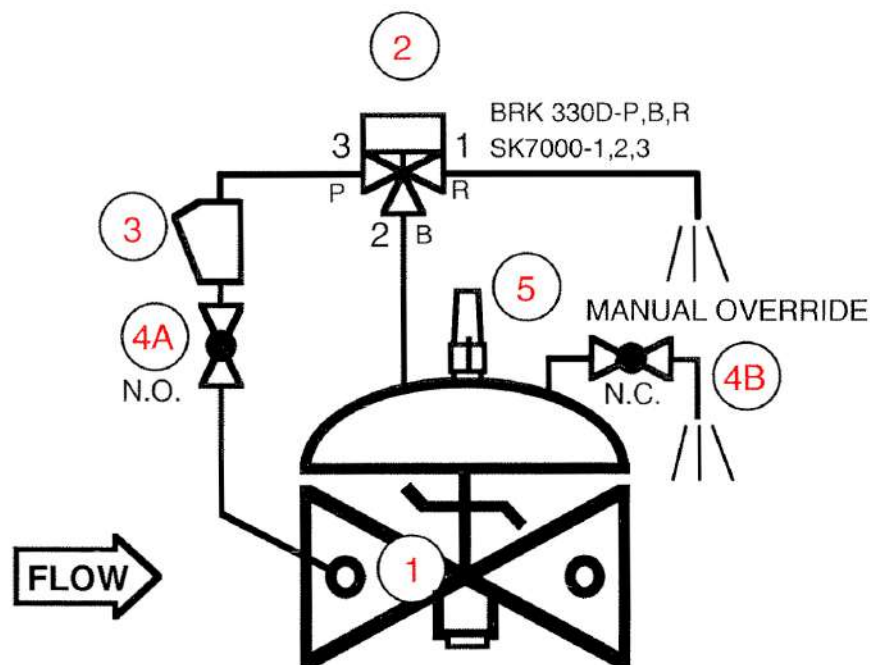
The basic control valve **[1]** used in this deluge system is a diaphragm actuated globe valve which closes with an elastomer-on-metal seal, hydraulically operated control valve engineered specifically for fire protection systems.

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 **[4A]**, a Y-type strainer **[3]** and a 3/2-way solenoid **[2]**.

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). Water is drained from the deluge valve's control chamber through the 3/2-way N.O. solenoid. 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 **[4B]**. The deluge valve opens instantly and allows water to flow into the pipeline and through the open sprinklers over the protected area.

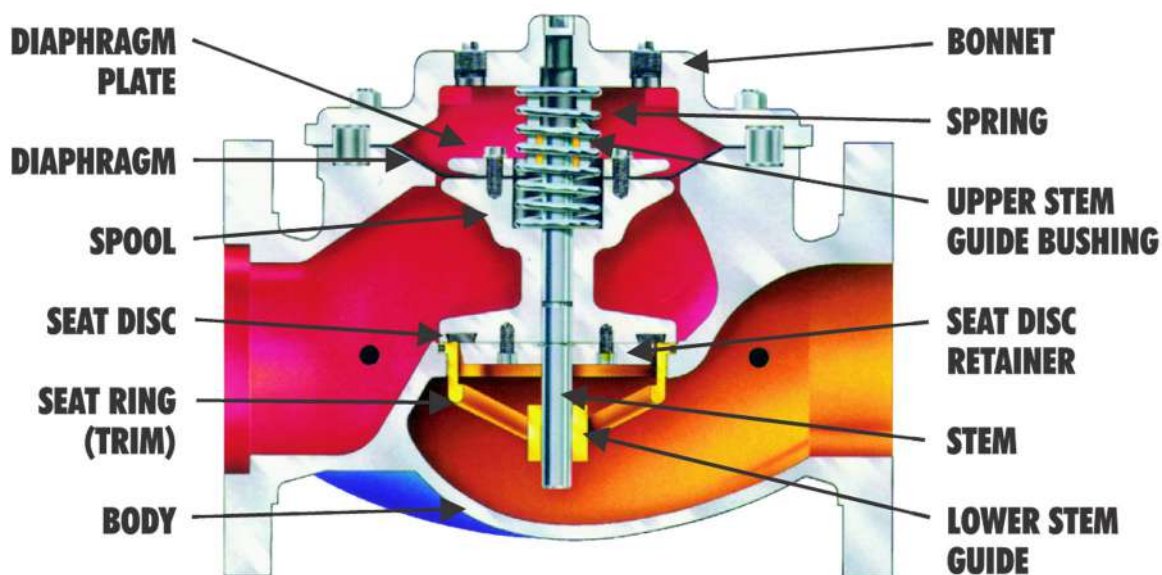
A visual indicator **[5]** provides indication of the valve's position at a glance.



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

## TYPICAL MATERIALS

DESCRIPTION	STANDARD	OPTIONAL
Valve Body	Ductile Iron	Cast Steel, Stainless Steel, NAB, Duplex Stainless Steel
Seat Ring	Bronze	Stainless Steel, NAB, Duplex Stainless Steel
Stem	Stainless Steel	Monel
Spring	Stainless Steel	Elgiloy/MP35N
Diaphragm	Nylon Reinforced Buna-N	E.P.D.M.
Solenoid Valve	Stainless Steel	---
Tubing/Fittings	Copper, Bronze/Brass	Stainless Steel, Monel



\* General representation of valve

## BASIC VALVE DIMENSIONS

### U.S. DIMENSIONS - INCHES

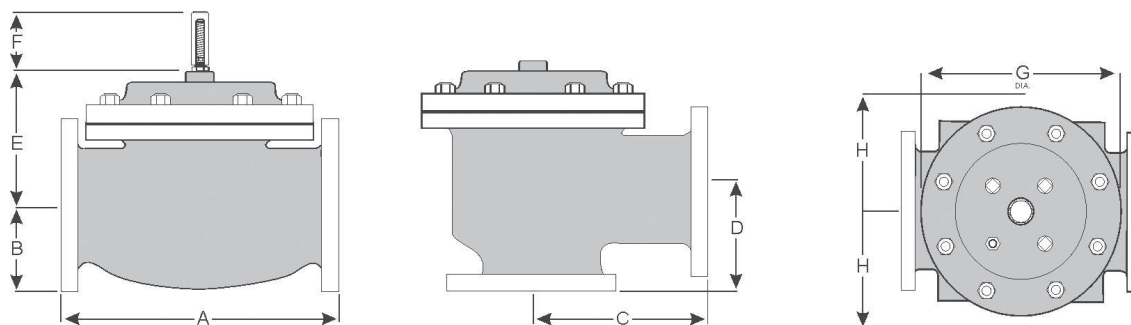
DIM	END CONN.	1 1/4" - 1 1/2"	2"	2 1/2"	3"	4"
A	150# FLGD	8 1/2	9 3/8	10 1/2	12	15
	300# FLGD	8 3/4	9 7/8	11 1/8	12 3/4	15 5/8
B	150# FLGD	2 5/16 - 2 1/2	3	3 1/2	3 3/4	4 1/2
	300# FLGD	2 5/8 - 3 1/16	3 1/4	3 3/4	4 1/8	5
C	150# FLGD	4 1/4	4 3/4	6	6	7 1/2
	300# FLGD	4 3/8	5	6 3/8	6 3/8	7 13/16
D	150# FLGD	3	3 7/8	4	4	5 1/2
	300# FLGD	3 1/8	4 1/8	4 3/8	4 3/8	5 13/16
E	ALL	6	6	7	6 1/2	8
F	ALL	3 7/8	3 7/8	3 7/8	3 7/8	3 7/8
G	ALL	6	6 3/4	7 11/16	8 3/4	11 3/4
H	ALL	10	11	11	11	12

\* Approximate dimensions

### METRIC DIMENSIONS - M.M.

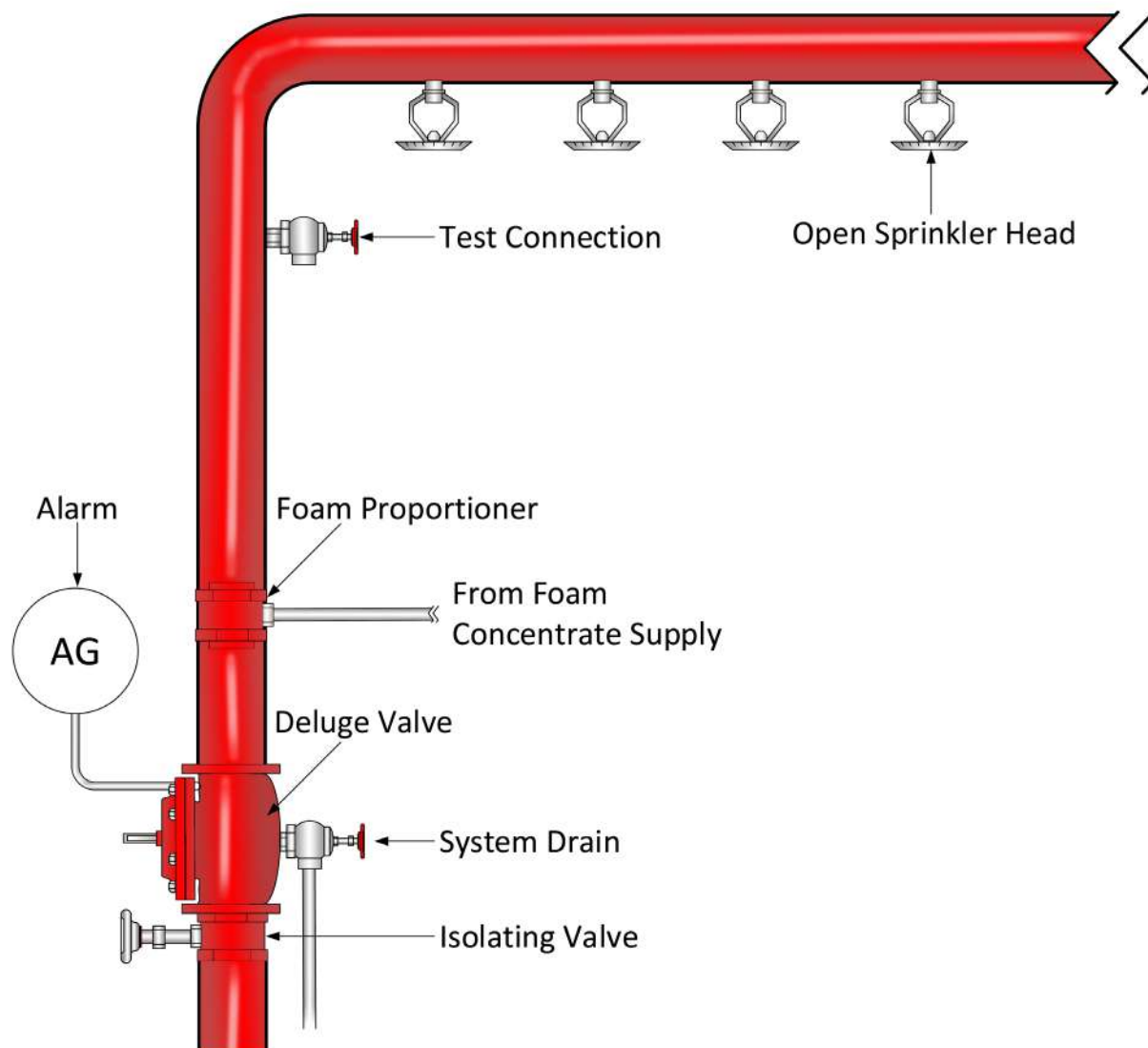
DIM	END CONN.	DN32-DN40	DN50	DN65	DN80	DN100
A	150# FLGD	216	238	267	305	381
	300# FLGD	222	251	283	324	397
B	150# FLGD	59-64	76	89	95	114
	300# FLGD	67-78	83	95	105	127
C	150# FLGD	108	121	152	152	191
	300# FLGD	111	127	162	162	198
D	150# FLGD	76	98	102	102	140
	300# FLGD	79	105	111	111	148
E	ALL	152	152	178	165	203
F	ALL	98	98	98	98	98
G	ALL	152	171	195	222	298
H	ALL	254	279	279	279	305

\* Approximate dimensions



\* General representation of valve

## TYPICAL INSTALLATION



## FLOW CHARACTERISTICS

VALVE SIZE		1.25" (DN32)	1.5" (DN40)	2" (DN50)	2.5" (DN65)	3" (DN80)	4" (DN100)
GLOBE Cv	US	23	27	47	68	120	200
GLOBE Kv	METRIC	20	23.3	40.6	58.8	103.8	173

\* Not all items pictured reflect products sold by OCV

## TECHNICAL DATA

**Temperature:**

- Buna-N 32°F to 180°F
- EPDM 32°F to 230°F

**Solenoid Valve Voltage:**

- 24VDC standard (all other standard voltages available, AC and DC)

**Sizes:**

- Globe: 1.25", 1.5", 2", 2.5", 3", 4"

**End Connections:**

- Flanged: ANSI Class #150 and #300

**Pressure Rating (at 100°F):**

- 250 psi for class #150 ANSI flanged Ductile Iron
- 285 psi for Steel & Stainless Steel
- #300 ANSI flanges are available

**Body and Cover Material:**

- Ductile Iron
- Cast Steel
- NAB
- Stainless Steel
- Duplex Stainless Steel

**Trim Material:**

- Copper Tubing
- Bronze/Brass Trim Connections
- Stainless Steel
- Monel

**Optional Components:**

- Alarm Test Trim
- Upstream Drain Valve
- Pressure Switch
- Limit/Proximity Switch

**Items to Specify:**

- Serial Number
- Valve Size
- Globe or Angle
- Flanged #150 or #300 ANSI
- Trim Material
- Special Needs/Installation Requirements
- If explosion proof accessories are required, please define classification

## ENGINEERING SPECIFICATIONS

The deluge valve shall be a single-seated, line pressure operated, diaphragm actuated, globe valve. The deluge valve shall seal by means of a corrosion resistant seat and resilient, rectangular seat disc. 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. The stem of the main valve shall be guided top and bottom by integral bushings. Alignment of the body, bonnet and diaphragm assembly shall be by precision dowel pins. The diaphragm shall not be used as a seating surface, nor shall pistons be used as an operating means. The deluge valve shall be fully trimmed, hydrostatically and operationally tested at the factory. The 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 main valve seat ring shall be bronze (other materials available upon request). Elastomers (diaphragms, resilient seats, and O-rings) shall be Buna-N or E.P.D.M. The solenoid valve shall be Stainless Steel. The control line tubing shall be copper (other materials available upon request). Additional coatings and special materials are available upon request. The deluge valve shall be a Model 115-1DV as manufactured by OCV Fluid Solutions, Tulsa, OK, USA.

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