

Model 116-5MR ▲

The Model 116-5MR opens and controls outlet pressure supplied into a deluge system when the solenoid valve is activated. After a fire event, the main valve must be locally reset using the ball valve manual reset lever on the deluge valve.

## SERIES FEATURES

- ▶ Opens quickly for pressure control when the solenoid valve is activated
- ▶ Reduces a higher inlet pressure to a lower outlet pressure
- ▶ Constant outlet pressure over a wide flow range
- ▶ Outlet pressure is adjustable with single screw
- ▶ Adjustable opening speed control
- ▶ Manual override to open the valve fully
- ▶ Local ball valve manual reset assembly prevents closure using solenoid valve
- ▶ Visual indicator for indication of main valve position
- ▶ Large supply drain port to drain sprinkler main
- ▶ Factory tested
- ▶ Horizontal or vertical mounting in all sizes
- ▶ ANSI Flanged Class 150 or 300
- ▶ Wide range of materials available
- ▶ Basic 65FC Valve is UL listed for deluge service in globe pattern, sizes 3"-10" (250 psi Max UL WP)

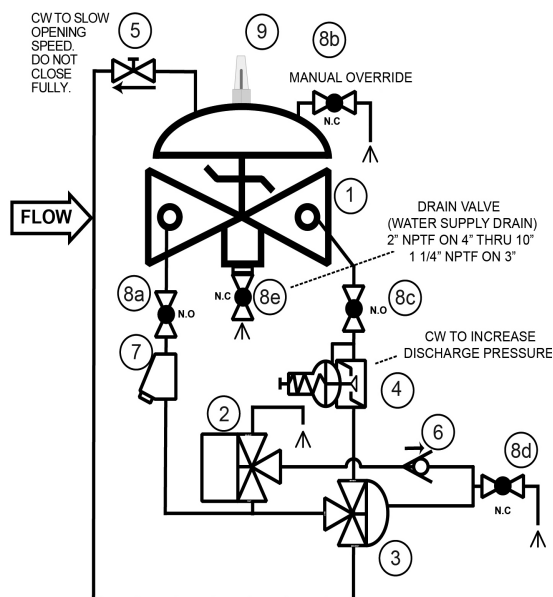
## OPERATION

During a fire event, the solenoid is activated, pressurizing the diaphragm chamber of the three-way auxiliary pilot valve. When the auxiliary pilot shifts, the main valve opens to admit water downstream into the sprinkler system. The fixed orifice inside the auxiliary pilot and the pressure reducing pilot work to control the position of the main valve to reduce a higher upstream pressure to a constant downstream sprinkler pressure. When the fire is extinguished, and the solenoid is deactivated, the main valve will not reclose until the ball valve Manual Reset lever is actuated locally at the deluge valve. The manual override lever can always be actuated locally at the valve. By operating the manual override, the deluge valve will go wide open and will override pressure regulation and solenoid.

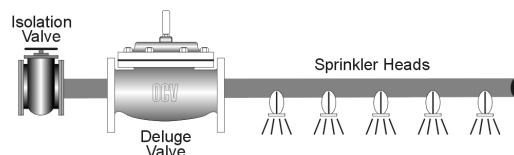
## COMPONENTS

1. **65FC Basic Control Valve**, a UL listed, hydraulically-operated, diaphragm-actuated globe valve which closes with an elastomer-on-metal seal.
2. **3-way Solenoid Valve**, acts to pressurize the diaphragm chamber of the three-way auxiliary pilot valve when activated, thus opening the main valve. "Energize to open" or "energize to close" may be specified. Consult Factory for Seawater Fluid applications.
3. **Model A224 or Model 3650S Three-Way Auxiliary Pilot Valve**, a three-way hydraulically-operated valve with an internal orifice for modulating service. Pressurizing the diaphragm causes the main valve to modulate and control downstream pressure.
4. **Model 1340 Pilot**, a two-way, normally-open pilot valve which senses downstream pressure under its diaphragm and balances it against an adjustable spring load. An increase in downstream pressure tends to make the pilot close.
5. **Model 141-3 Flow Control Valve**, controls the opening speed of the main valve while modulating to control downstream pressure.
6. **Model 141-1 Check Valve**, prevents re-closure of the main valve when the solenoid is deactivated after a fire event is over.
7. **Model 159 Y-Strainer**, protects the pilot system from solid contaminants in the line fluid.
8. **Model 141-4 Ball Valves**, serve to open or close hydraulic passages on the control valve pilot system. (a) Pilot supply side shut-off and is normally-opened. (b) Manual Override operation and is normally-closed. (c) Pilot discharge side shutoff and is normally-opened. (d) Manual reset lever used to re-close the valve after a fire event, normally Closed. (e) Drain valve connection for sprinkler system, normally closed.
9. **Model 155 Visual Indicator Assembly**, useful for indication of valve position at a glance.

## SCHEMATIC



## RECOMMENDED INSTALLATION



## FLOW CHARACTERISTICS

flow rate at maximum velocity = 25 fps (sizes 3" - 10")

VALVE SIZE	3"	4"	6"	8"	10"
FLOW @ 25ft/sec	575	1,000	2,250	3,900	6,125

VALVE SIZE		3"	4"	6"	8"	10"
		DN80	DN100	DN150	DN200	DN250
GLOBE Cv	US	120	200	450	760	1250
	Metric	28.7	47.9	108	182	299

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email: sales@controlvalves.com • website: www.controlvalves.com

## SIZES

Globe - 3", 4", 6", 8", 10"

\*others available sizes, please consult factory

## MAX. WORKING PRESSURE

(at 100°F) 250 psi

\*other available pressures, please consult factory

## FLUID OPERATING TEMPERATURE RANGE

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)

## MATERIALS

### Body/Bonnet:

Ductile Iron - epoxy coated (standard)

Cast Steel - epoxy coated

Stainless Steel

Cast Bronze

Nickel Aluminum Bronze

Duplex Stainless Steel

### Seat Ring:

Bronze (standard)

Stainless Steel (optional)

Nickel Aluminum Bronze (optional)

Duplex Stainless Steel (optional)

### Stem:

Stainless Steel (standard)

Monel (optional)

### Spring:

Stainless Steel (standard)

Inconel (optional)

### Diaphragm:

Nylon Reinforced Buna-N\*

EPDM\*

### Three-Way Auxiliary Pilot:

Bronze (standard)

Stainless Steel (optional)

Duplex Stainless Steel (optional)

### Solenoid Valve:

Stainless Steel

### Tubing/Fittings:

Copper/Brass (standard)

Stainless Steel (optional)

Monel (optional)

\*Others available upon request

## SPECIFICATIONS

The pressure reducing deluge valve shall function to admit water through the main line when the solenoid valve has been activated. After solenoid activation, the pressure reducing pilot and main valve shall function to reduce a higher upstream pressure to a constant, lower downstream pressure regardless of fluctuations in supply or demand. Ball Manual reset lever and check valve shall be provided to prevent closure of the deluge valve when solenoid is deactivated after a fire event has occurred.

## DESIGN

The valve shall be a single-seated, line pressure operated, diaphragm actuated, pilot controlled globe valve. The valve shall seal by means of a corrosion-resistant seat and a resilient, rectangular seat disc. These and other parts shall be replaceable without removing 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 pilot system shall be furnished complete, installed on the main valve and shall include a Y-strainer.

## MATERIALS OF CONSTRUCTION

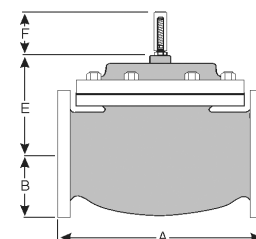
The main valve body and bonnet shall be ductile iron (or other materials. Refer to the materials chart). All internal ferrous surfaces shall be coated with 4 mils of epoxy. External surfaces shall be coated with 4 mils of epoxy followed by a coat of fire red enamel paint. The main valve seat ring shall be bronze (or other materials. Refer to the materials chart). Elastomers (diaphragms, resilient seats, and O-rings) shall be Buna-N. Control pilot shall be Bronze (or other materials. Refer to the materials chart). The solenoid valve shall be Stainless Steel. The control line tubing shall be copper (or other materials. Refer to the materials chart).

## ACCEPTABLE PRODUCTS

The deluge valve shall be a Model 116-5MR, as manufactured by OCV Control Valves, Tulsa, OK, USA

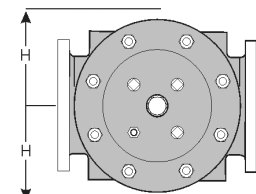
U.S. DIMENSIONS - INCHES

DIM	END CONN.	3	4	6	8	10
A	150# FLGD	12	15	17 3/4	25 3/8	29 3/4
	300# FLGD	12 3/4	15 5/8	18 5/8	26 3/8	31 1/8
B	150# FLGD	3 3/4	4 1/2	5 1/2	6 3/4	8
	300# FLGD	4 1/8	5	6 1/4	7 1/2	8 3/4
E	ALL	6 1/2	8	10	11 7/8	15 3/8
F	ALL	3 7/8	3 7/8	3 7/8	6 3/8	6 3/8
H	ALL	11	12	13	14	17



METRIC DIMENSIONS - M.M.

DIM	END CONN.	DN80	DN100	DN150	DN200	DN250
A	150# FLGD	305	381	451	645	756
	300# FLGD	324	397	473	670	791
B	150# FLGD	95	114	140	171	203
	300# FLGD	105	127	159	191	222
E	ALL	165	203	254	302	391
F	ALL	98	98	98	162	162
H	ALL	279	305	330	356	432



OCV deluge valves are UL Listed for mounting in the horizontal or vertical position. Space should be taken into consideration when mounting valves and their pilot systems.

A routine inspection & maintenance program should be established and conducted yearly by a qualified technician. Consult our factory @ **1-888-628-8258** for parts and service.

## When ordering your 116-5MR,

please provide:

Series Number - Valve size - Globe (consult factory for Angle) - Flanged 150# or

300# ANSI - Trim Material - Voltage -

Special needs / or Installation

Requirements

QUALITY SYSTEM  
REGISTERED TO  
ISO 9001

Represented by:

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