

▲ Electric / Hydraulic Deluge Valve

The Model 116-4FC automatically opens to admit water through the main line when the solenoid valve is activated.

## SERIES FEATURES

- ▶ 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
- ▶ Pilot operated main valve
- ▶ No adjustments are necessary
- ▶ Factory tested
- ▶ UL Listed for deluge service in sizes 3" (DN80) - 10" (DN250)
- ▶ Horizontal or vertical mounting in all sizes
- ▶ ANSI Flanged Class 150 or Class 300
- ▶ Wide range of materials available

## OPERATION

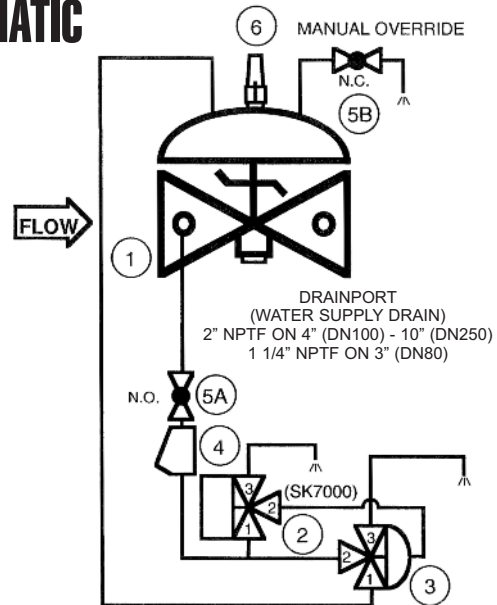
Activating the solenoid valve pressurizes the diaphragm chamber of the three-way auxiliary pilot valve. The pilot valve then shifts to relieve pressure from the diaphragm chamber of the main valve, allowing the main valve to open fully and admit water through the main line. The valve may also be opened by utilizing the manual override ball valve on the bonnet, which allows opening of the main valve regardless of solenoid pilot activation. The valve closes when the solenoid valve is de-activated.

## COMPONENTS

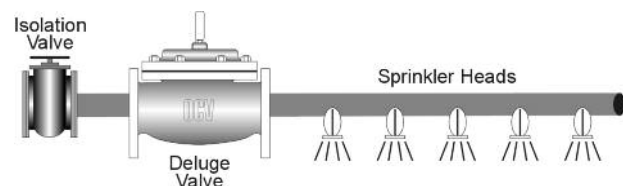
The Model 116-4FC consists of the following components, arranged as shown on the schematic diagram:

- 1.) **Model 65FC Basic Control Valve**, a UL Listed, hydraulically-operated, diaphragm-actuated globe valve which closes with an elastomer-on-metal seal.
- 2.) **Model SK7000 Solenoid Valve**, a three-way, universal type solenoid valve. The 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.
- 3.) **Model 330P or Model 3600S Three-Way Auxiliary Pilot Valve**, a three-way hydraulically-operated valve. Pressurizing its diaphragm chamber causes the main valve to open.
- 4.) **Model 159 Y-Strainer**, the strainer protects the pilot system from solid contaminants in the line fluid.
- 5.) **Two Model 141-4 Ball Valves**, one serves as pilot supply side shutoff and is normally open. The other serves as a manual override and is normally closed.
- 6.) **Model 155 Visual Indicator Assembly**, useful for indication of valve position at a glance.

## SCHEMATIC



## RECOMMENDED INSTALLATION



## FLOW CHARACTERISTICS

flow rate at maximum velocity = 7.6 m/s (Sizes 3" (DN80) - 10" (DN250))

VALVE SIZE	3"	4"	6"	8"	10"
	DN80	DN100	DN150	DN200	DN250
FLOW @ 7.6 m/s M <sup>3</sup> /HR	130	227	511	886	1391

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

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

## SIZES

Globe - 3" (DN80), 4" (DN100), 6" (DN150), 8" (DN200), 10" (DN250)

## MAX. WORKING PRESSURE

12 bar

## TEMPERATURE RANGE

(Buna-N Elastomers)

0°C - 82°C

## SOLENOID VALVE VOLTAGE

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

## MATERIALS

### Body/Bonnet:

-Ductile Iron ASTM A536-epoxy coated (standard)

-Cast Steel ASTM A216 Grade WCB-epoxy coated

-Stainless Steel ASTM A743 CF8M

-Cast Bronze

-Nickel Aluminum Bronze ASTM B148

Alloy C95800

-Duplex Stainless Steel

### Seat Ring:

-Bronze (standard)

-Stainless Steel ASTM A743 CF8M (optional)

-Nickel Aluminum Bronze ASTM B148

Alloy C95800 (optional)

-Duplex Stainless Steel (optional)

### Stem:

Stainless Steel AISI 303 (standard)

Monel (optional)

### Spring:

Stainless Steel AISI 302 (standard)

Inconel (optional)

### Diaphragm:

Nylon Reinforced Buna-N

### Three-Way Auxiliary Pilot:

-Bronze (standard)

-Stainless Steel AISI 316 (optional)

-Duplex Stainless Steel (optional)

### Solenoid Valve:

-Stainless Steel AISI 430F

### Tubing/Fittings:

-Copper/Brass (standard)

-Stainless Steel (optional)

-Monel (optional)

## SPECIFICATIONS

The deluge valve shall function to admit water through the main line when the solenoid valve has been activated.

## 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

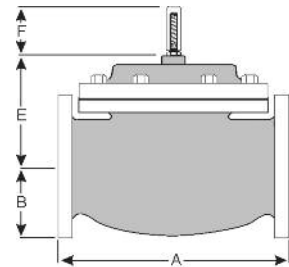
The main valve body and bonnet shall be ductile iron per ASTM A536, Grade 65-45-12 (or other materials. Refer to the materials chart). All internal ferrous surfaces shall be coated with 4 mils of epoxy. External surfaces shall be coated with 4 mils of epoxy followed by a coat of fire red enamel paint. 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 per AISI 430F. The control line tubing shall be copper (or other materials. Refer to the materials chart).

## ACCEPTABLE PRODUCTS

The deluge valve shall be a Model 116-4FC, UL Listed, as manufactured by OCV Control Valves, Tulsa, OK, USA

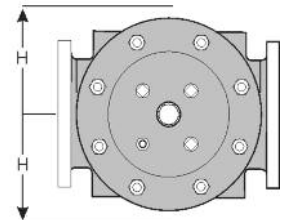
U.S. DIMENSIONS - INCHES

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 116-4FC,** 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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