

▲ Pneumatic / Electric / Hydraulic Deluge Valve

The Model 116-3FC automatically opens to admit water through the main line when the pneumatic supply pressure is removed or the solenoid valve is activated.

## SERIES FEATURES

- ▶ Opens quickly when the pneumatic supply pressure is removed
- ▶ Opens quickly when the solenoid valve is activated (Specify energize-to-open or energize-to-close)
- ▶ Manual override to open the valve regardless of pneumatic pilot or 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) thru 10" (DN250)
- ▶ Horizontal or vertical mounting in all sizes
- ▶ ANSI Flanged Class 150 or Class 300
- ▶ Wide range of materials available

## OPERATION

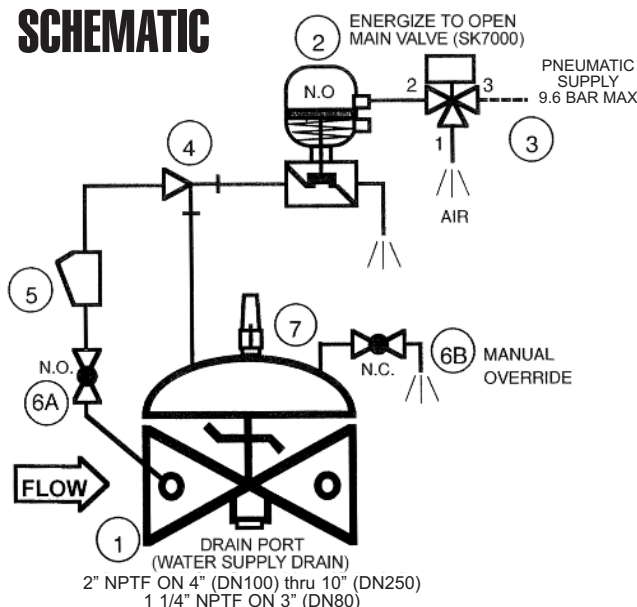
The spring loaded pneumatic pilot opens when its air supply pressure is removed. This action allows the main valve to open fully, admitting water through the main line. The main valve will also open fully by activating the solenoid valve. The valve may also be opened by utilizing the manual override ball valve on the bonnet, which allows opening of the main valve regardless of pneumatic pilot position. The valve closes when the air supply pressure to the pneumatic pilot is pressurized again and the solenoid valve is de-activated.

## COMPONENTS

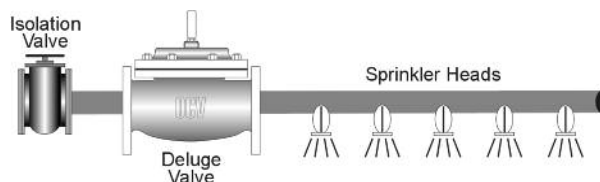
The Model 116-3FC consists of the following components, arranged as shown on the schematic diagram:

- 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 550 Pneumatic Pilot**, a two-way, normally-open pilot valve which senses pneumatic supply pressure over its piston. Removal of the pneumatic supply pressure causes it to open. Maximum pneumatic pressure is 9.6 bar.
- 3.) **Model SK7000 Solenoid Valve**, a three-way, universal type solenoid valve. The solenoid valve acts to relieve pneumatic supply pressure when activated, thus opening the main valve. "Energize to open" or "energize to close" may be specified.
- 4.) **Model 126 Ejector**, a simple "tee" fitting with a fixed orifice in its inlet port. It provides the proper pressure to the diaphragm chamber of the main valve depending on the position of the pneumatic pilot.
- 5.) **Model 159 Y-Strainer**, the strainer protects the pilot system from solid contaminants in the line fluid.
- 6.) **Two Model 141-4 Ball Valves**, one serves as pilot supply side shut-off and is normally open. The other serves as a manual override and is normally closed.
- 7.) **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" DN80	4" DN100	6" DN150	8" DN200	10" DN250
FLOW @ 7.6 m/s M <sup>3</sup> /HR	130	227	511	886	1391

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

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Model 116-3FC Pneumatic/Electric/Hydraulic Deluge Valve METRIC

## SIZES

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

## MAX. WORKING PRESSURE

(at 37.78°C)

17.2 bar

## FLUID OPERATING TEMPERATURE RANGE

Buna-N 0°C to 82.22°C\*

EPDM 0°C to 110°C\*

## 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\*

### Pneumatic Pilot:

Stainless Steel (standard)

### Solenoid Valve:

Stainless Steel

### Tubing/Fittings:

Copper/Brass (standard)

Stainless Steel (optional)

Monel (optional)

\*Others available upon request

## SPECIFICATIONS

The deluge valve shall function to admit water through the main line when pneumatic supply pressure is removed or 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 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

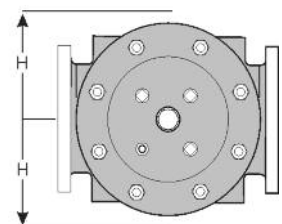
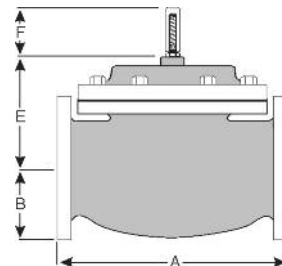
The main valve body and bonnet shall be ductile iron (or other materials. Refer to the materials chart). All internal ferrous surfaces shall be coated with 4 mils of epoxy. External surfaces shall be coated with 4 mils of epoxy followed by a coat of fire red enamel paint. The main valve seat ring shall 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 Stainless Steel. 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 116-3FC, 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 116-3FC,

please provide:

Series Number - Valve size - Globe

(consult factory for Angle) - Flanged

150# or 300# ANSI - Trim Material -

Voltage - Special needs / or Installation

Requirements

Represented by:

QUALITY SYSTEM  
REGISTERED TO  
ISO 9001