

The Model 216-3FC automatically opens to admit water through the main line when the pneumatic supply pressure is removed or the solenoid valve is activated. The 216-3FC is used in fire protection systems, such as deluge, pre-action, foam-water and other special applications.



▲ Pneumatic/Electric/Hydraulic Deluge Valve

SERIES FEATURES

- Opens quickly when pneumatic supply pressure is removed
- Opens quickly when solenoid valve is activated (Specify energize-to-open or energize-to-close)
- Manual override to open the valve regardless of pneumatic pilot or solenoid position
- UL Listed for deluge service in sizes 3" (DN80) through 10" (DN250)
- Large supply drain port to drain inlet (STD) and outlet (optional)
- One piece actuation design provides for an unobstructed flow passage with minimal maintenance
- Unique oval design optimizes both flow capacity and control while minimizing head loss
- Diaphragm design provides resistance to cavitation, erosion, and ensures smooth flow without turbulence or noise
- External resetting without opening any covers or repositioning of clappers or latch mechanisms
- Coating and material options to provide superior protection against seawater, brackish water supplies and other abrasive fluids
- Horizontal or vertical mounting in all sizes
- ANSI flanged Class 150 or Class 300
- Accurately controlled closing and opening at all flows with drip-tight sealing
- Stable and accurate control during shut-off and regulation provides versatile range ability and low flow control
- Easy inline maintenance is provided by top entry design
- Factory tested

OPERATION

The 216-3FC is an on/off elastomeric, normally closed valve. 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 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 restored again through the deactivated solenoid.

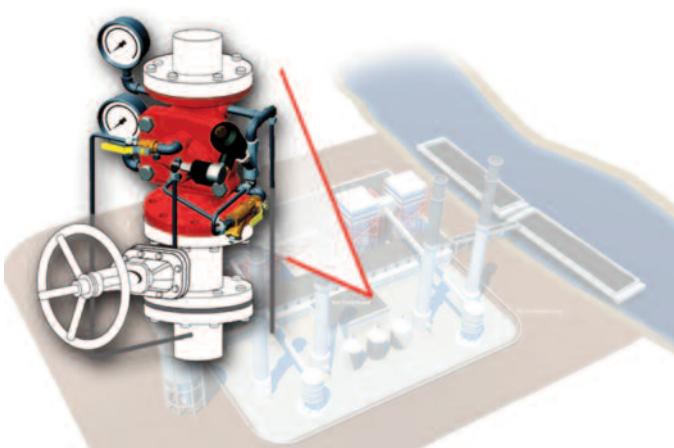
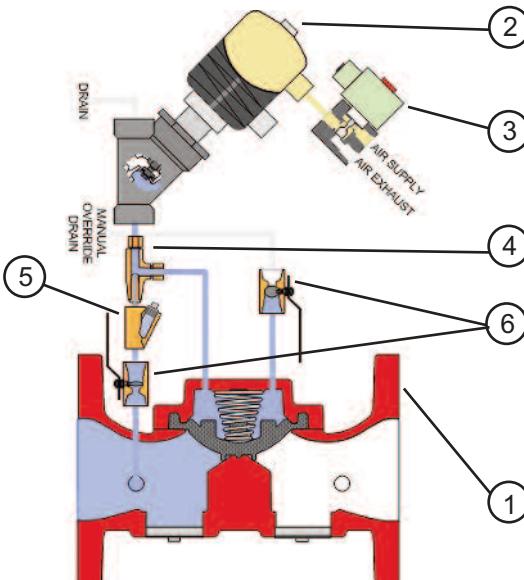
SCHEMATIC

COMPONENTS

- 1.) **Model 216-3FC Basic Control Valve**, a UL Listed, diaphragm seated, pilot controlled, elastomeric valve.
- 2.) **Model 550 Pneumatic Pilot**, a two-port, 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 140 psi.
- 3.) **Model SK7000 Solenoid Valve**, a three-port, 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 Valve**, one serves as pilot supply side shutoff and is normally open. The other serves as a manual override and is normally closed.

APPLICATION EXAMPLE

Coal Processing Plant Fire Protection System



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

TOLL FREE 1.888.628.8258 • phone: (918)627.1942 • fax: (918)622.8916 • 7400 East 42nd Place, Tulsa, Ok 74145
 email: sales@controlvalves.com • website: www.controlvalves.com

Model 216-3FC



SIZES

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

FLUID OPERATING TEMPERATURE RANGE

Buna-N 32°F to 180°F* (0°C to 82.22°C*)
EPDM 32°F to 230°F* (0°C to 110°C*)

MATERIALS

Consult factory for others.

Body/Bonnet:

Ductile Iron - epoxy coated (standard)

Cast Steel - epoxy coated

Stainless Steel

Nickel-Aluminum Bronze

Spring:

Stainless Steel

Diaphragm:

Nylon Reinforced Buna-N*

Nylon Reinforced EPDM*

Pneumatic Pilot:

Stainless Steel (standard)

Solenoid Valve:

Stainless Steel

Tubing/Fittings:

Copper/Brass (standard)

Stainless Steel (optional)

Monel (optional)

MAX WORKING PRESSURE:

(at 100°F/37.78°C)

250 psi

*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 deluge valve shall be a line pressure operated, sealing-diaphragm seated, pilot controlled, elastomeric globe valve. The valve shall seal by a single diaphragm to metal seat. No other elastomers shall be used internally. No pistons or spools shall be used as an operating means. Internal parts shall be replaceable without removing the valve from the line. The pilot systems 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; reference materials chart). The control line tubing shall be copper (or other materials. Refer to the materials chart). All ferrous surfaces shall be coated with 4 mils of epoxy followed by a coat of fire red enamel paint. The epoxy coating on the 216-3FC provides corrosion resistance and extended valve life. Special considerations should be made for deluge valves being used in seawater or brackish water supply systems. The end user and system technical expert should consult factory to ensure optimized valve protection.

ACCEPTABLE PRODUCTS

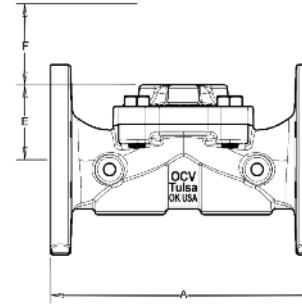
The deluge valve shall be a Model 216-3FC, UL Listed, as designed by OCV Control Valves, Tulsa, OK, USA.

INSTALLATION NOTE

Failure to install and maintain the 216-3FC deluge valve in compliance with OCV procedures and standards described in the operation and maintenance manual as well as the applicable standards of the National Fire Protection Association and other appropriate authorities may impair the valve's performance.

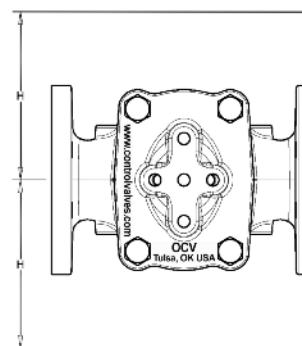
US DIMENSIONS - INCHES

		3"	4"	6"	8"	10"
A	150#	10 1/8	12 19/32	16 11/32	19 11/16	23 13/16
	300#	10 11/16	12 19/32	16 11/32	19 11/16	23 13/16
	SE	10 1/16	X	X	X	X
	Grooved	9 13/16	12 19/32	17 7/32	X	X
E	ALL	2 7/8	3 9/16	5 1/4	4 3/4	8 1/2
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 - MILLIMETERS

		DN80	DN100	DN150	DN200	DN250
A	150#	257	320	415	500	605
	300#	272	320	415	500	605
	SE	255	X	X	X	X
	Grooved	250	320	437	X	X
E	ALL	73	90	133	121	216
F	ALL	98	98	98	162	162
H	ALL	279	305	330	356	432



Represented by:

QUALITY SYSTEM
REGISTERED TO
ISO 9001

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 216-3FC,
please provide:

Model Number - Valve size - Globe (consult factory for Angle) - Flanged 150# or 300# ANSI - Trim Material - Special needs / or Installation Requirements

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