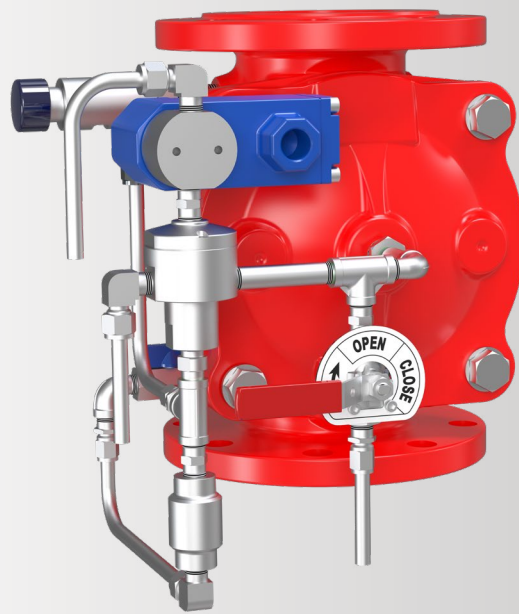




# ON/OFF VALVES

## MONITOR VALVES

FDV-R-3W-MH0	174
FDV-R-3W-MH1	178
FDV-R-3W-ME1	182



## Hydraulically Actuated, Local Reset, Monitor Valve

## FDV-R-3W-MH0

The FDV-R-3W-MH0 is a manually operated On-Off Fire Protection Monitor valve, designed to control the opening and closing of fire Monitors, in special hazard fire protection systems.

Assembled in horizontal or vertical position, the FDV-R-3W-MH0 Monitor valve is locally commanded to open/close by a manual emergency valve.

Operating this valve, commands the main valve by pressurizing or de-pressurizing its control chamber, enabling a quick and effortless operation

The globe pattern, line pressure operated FDV-R-3W-MH0 valve, features a direct elastomeric diaphragm seal, with no balancing spring or internal metallic wet components in the valve body.

The hydrodynamic pattern design, ensures high flow rates with minimum head loss.

This valve can be supplied upon request in a PRV configuration, were the monitor's pressure is reduced, to satisfy the system's design.



### MARKETS



Marine



P.O.G.



Airports



Industry



Storage

### TECHNICAL DATA

#### FLUID:

Water, Brackish water, Sea water, Foam

#### SIZE RANGE:

50mm to 200mm (2" to 8")

#### AVAILABLE CONNECTIONS ENDS:

Flange\*Flange, Groove\*Groove, Thread\*Thread

#### PRESSURE NOMINAL:

250 psi (17.2 bar)

### ADVANTAGES

- Only three parts: body, diaphragm & cover plate. No wet metal spring inside the control chamber.
- 3 way control principle ensure fast and reliable opening.
- Open fail safe valve in high ambient temperatures.
- Maintained in stand-by closed position.
- Low maintenance cost: the valve can be serviced in-line and includes only one replaceable part — a long-life elastomeric diaphragm.
- Complies with NFPA 25, the standard for the inspection, testing, and maintenance of water-based fire protection systems.

### CHARACTERISTICS

- Hydro-dynamic pattern design ensures high flowrates with minimum head loss.
- The valve trips open by manually opening a 3 way ball valve and draining the valve's control chamber.
- Closing the manual ball valve stops the control chamber's drainage and pressurizes it. By that, the monitor valve closes.
- Soft closing controlled pressurization of the valve's control chamber, prevents surges.

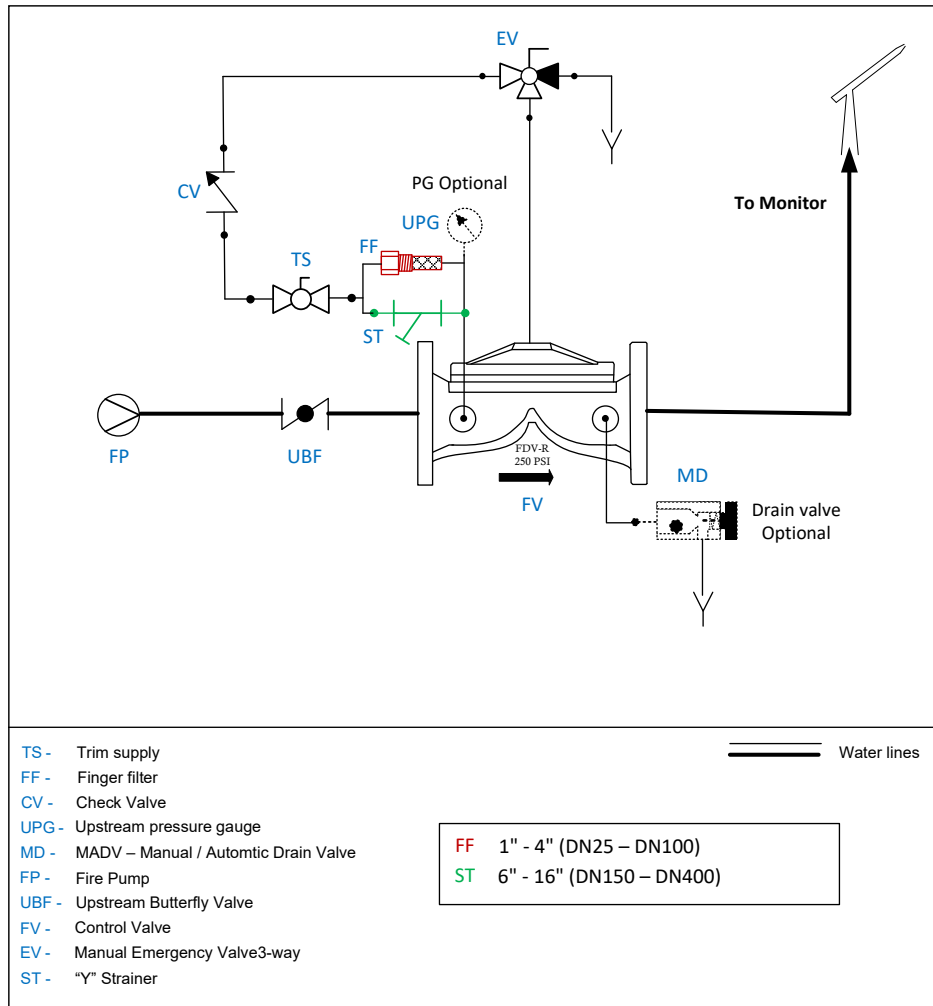
### APPROVALS



Schematic drawing:

FDV-R-3W-MH0

Set position



OPERATION

SET POSITION

Pressurized water in the valve’s control chamber is trapped by the Check Valve (CV), forces the valve’s diaphragm against its seat and maintains the FDV-R valve close.

FIRE SITUATION

Opening the Manual Operation valve (EV), drains the FDV-R’s control chamber and opens the valve (FR).

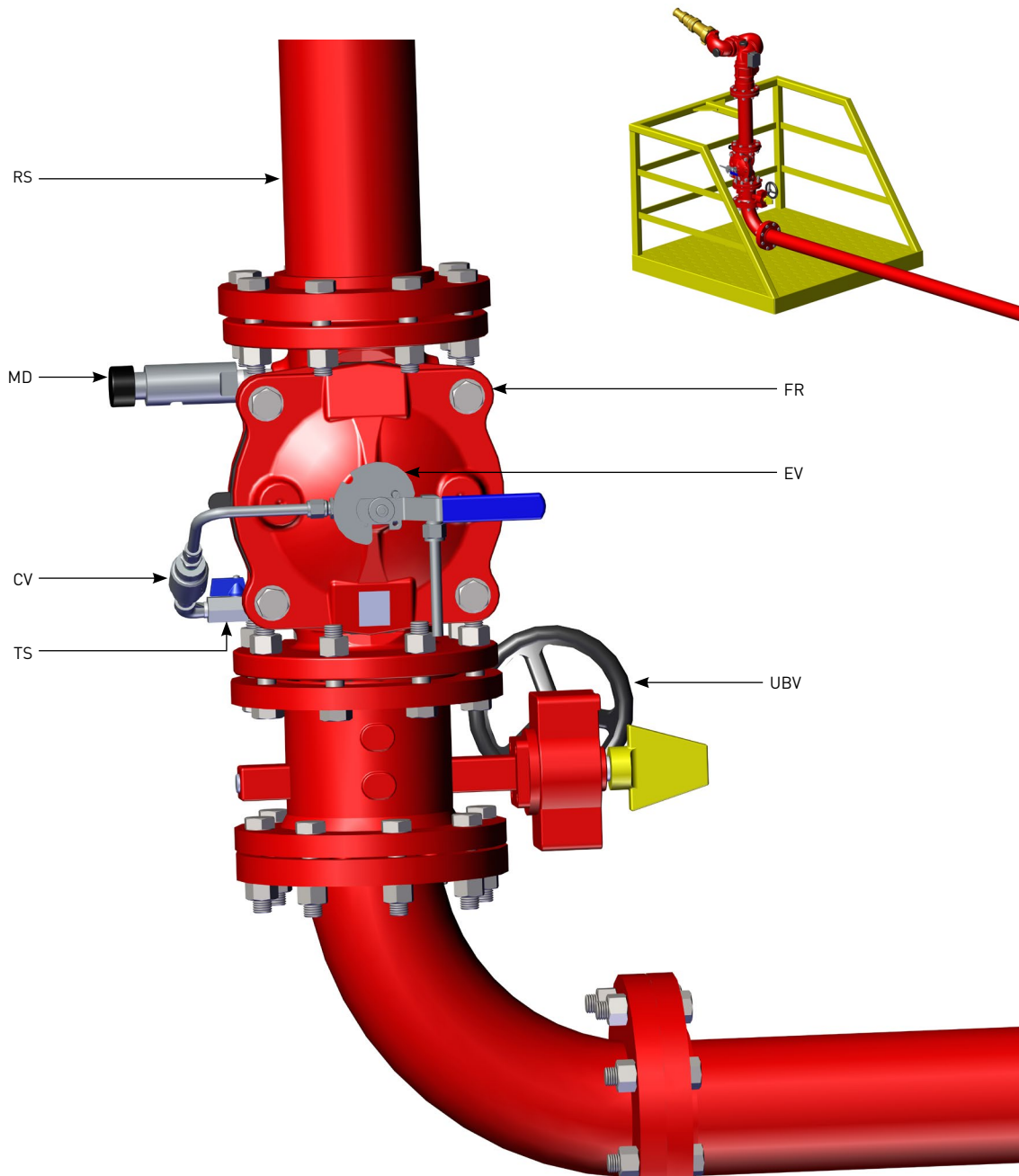
RESET POSITION

Closing the Manual Operation valve, blocks the FDV-R’s control chamber drainage to atmosphere, admits upstream pressure and pressurizes it. Consequently, the valve’s diaphragm is forced to its seat and the valve closes.

When closed the riser pipe (RS) is drained by the Manual / Automatic drain valve (MD) – if equipped, to the atmosphere.

## Typical installation

## FDV-R-3W-MH0

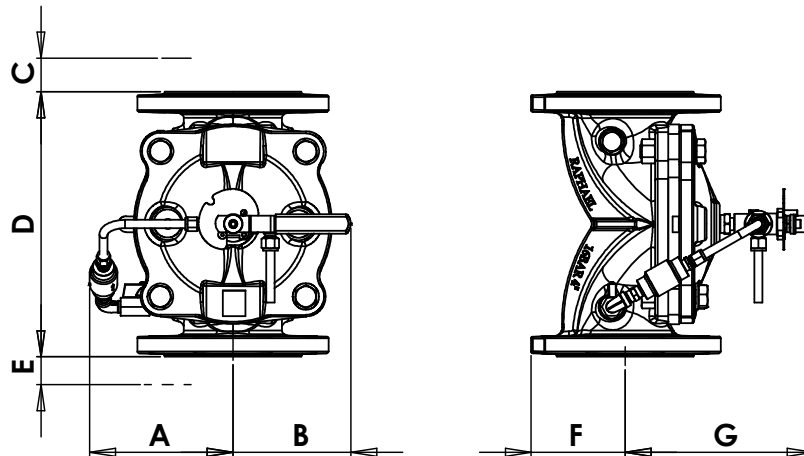


**RS** - Riser pipe  
**TS** - Trim supply valve  
**CV** - Check valve  
**EV** - Emergency Valve

**UBV** - Upstream Butterfly Valve  
**FR** - FDV-R control valve  
**MD** - MADV - Manual Automatic Drain valve (optional).

Parametric drawing:

FDV-R-3W-MH0



Dimensions Table

Size	2"		3"		4"		6"		8"		10"	
	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch
A	121	4.7	135	5.3	166	6.5	192	7.5	235	9.2	267	10.5
B	136	5.3	133	5.2	137	5.4	150	5.9	177	7	233	9.1
C	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
D	190	7.5	283	11.1	305	12	406	16	470	18.5	645	25.4
E	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
F	83	3.3	100	3.9	109	4.3	142	5.6	160	6.3	197	7.7
G	168	6.6	197	7.7	218	8.6	264	10.4	335	13.1	343	13.5
Kg/lb	8.1	17.8	17.7	39	23.4	51.5	47.7	105	55.6	123	107	235

Factory Standard

MAIN VALVE

BODY & COVER

- Ductile iron
- Cast Steel WCB
- Stainless Steel CF8
- Stainless Steel CF8M
- Nickel Aluminum Bronze

ELASTOMERS:

- NR, fabric reinforced Natural Rubber
- EPDM, fabric reinforced
- NBR, fabric reinforced Nitrile Rubber

COATING:

- Base layer – high built Epoxy FBE  
Top layer – electrostatic Polyester powder RAL 3000
- Rilsan Polyamide based (Nylon 11)
- Internal – vitreous Enamel  
External – Epoxy/Polyester powder RAL 3000

TRIM

PIPING & TUBING:

- Stainless Steel 316
- Copper/Brass
- Cupro-Nickel
- Monel®

FITTINGS:

- Stainless Steel 316
- Brass
- Super Duplex
- Cupro-Nickel
- Monel®

ACCESSORIES:

- Stainless steel CF8M / 316
- Brass
- Nickel Aluminum Bronze
- SMO-245
- Monel®

PLEASE SPECIFY

- Working Media
- Ambiental conditions
- Min/Max operating flow
- Min/Max operating pressure
- System installation orientation
- Valve's flanges standard
- Additional accessories needed:
  - Drain Ball valve
  - Automatic Drain valve (MADV)
  - Pressure gauge (size)

For more detailed technical information, please refer to chapter Engineering Data.

## Hydraulically Actuated, Remote Reset, Monitor Valve

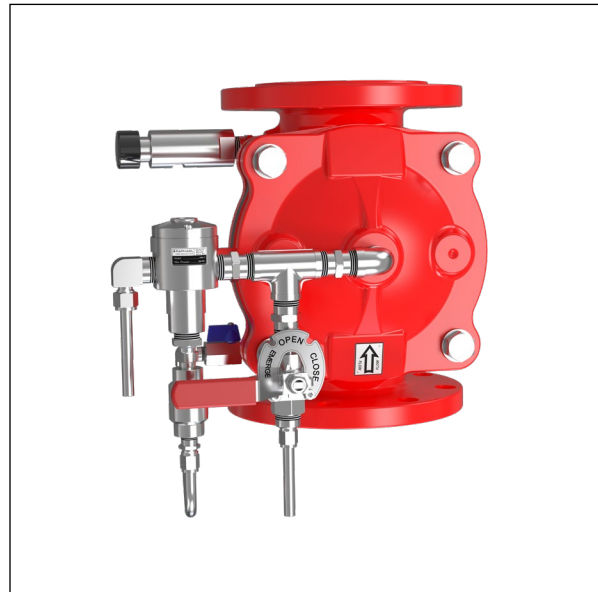
## FDV-R-3W-MH1

The FDV-R-3W-MH1 is a hydraulic controlled On-Off Fire Protection Monitor valve, designed to control the opening and closing of fire Monitors, in special hazard fire protection systems.

Assembled in horizontal or vertical position, the FDV-R-3W-MH1 Monitor valve can hydraulically commanded to open/close from a control panel, control room, or by a wet pilot line. When exposed to flames heat, its automatic sprinklers will shutter open, drain the pilot line and operate the actuator. The actuator in turns, commands the valve by pressurizing or de-pressurizing the main valve's control chamber, enabling a quick and effortless operation.

The FDV-R-3W-MH1 incorporates an emergency valve, bypassing all terms for a manual operation.

The globe pattern, line pressure operated FDV-R-3W MH1 valve features a direct elastomeric diaphragm seal, with no balancing spring or internal metallic wet components in the valve body. The hydrodynamic pattern design ensures high flow rates with minimum head loss.



### MARKETS



Marine



P.O.G.



Airports



Industry



Storage

### TECHNICAL DATA

#### FLUID:

Water, Brackish water, Sea water, Foam

#### SIZE RANGE:

50 mm to 400 mm (2" to 12")

#### AVAILABLE CONNECTIONS ENDS:

Flange\*Flange, Groove\*Groove, Thread\*Thread

#### PRESSURE NOMINAL:

250 psi (17.2 bar)

### ADVANTAGES

- Only three parts: body, diaphragm & cover plate. No wet metal spring inside the control chamber.
- 3 way control principle ensure fast and reliable opening.
- Open fail safe valve in high ambient temperatures.
- Maintained in stand-by closed position.
- Low maintenance cost: the valve can be serviced in-line and includes only one replaceable part — a long-life elastomeric diaphragm.
- Complies with NFPA 25, the standard for the inspection, testing, and maintenance of water-based fire protection systems.

### CHARACTERISTICS

- Hydro-dynamic pattern design ensures high flowrates with minimum head loss.
- The valve trips open automatically upon a gradual release of water pressure from its control chamber.
- The trip is actuated directly by a hydraulic command pressure transferred by a pilot pipeline, operating a 3-way actuator.
- Soft closing by controlled pressurization of the valve's control chamber, prevents surges.

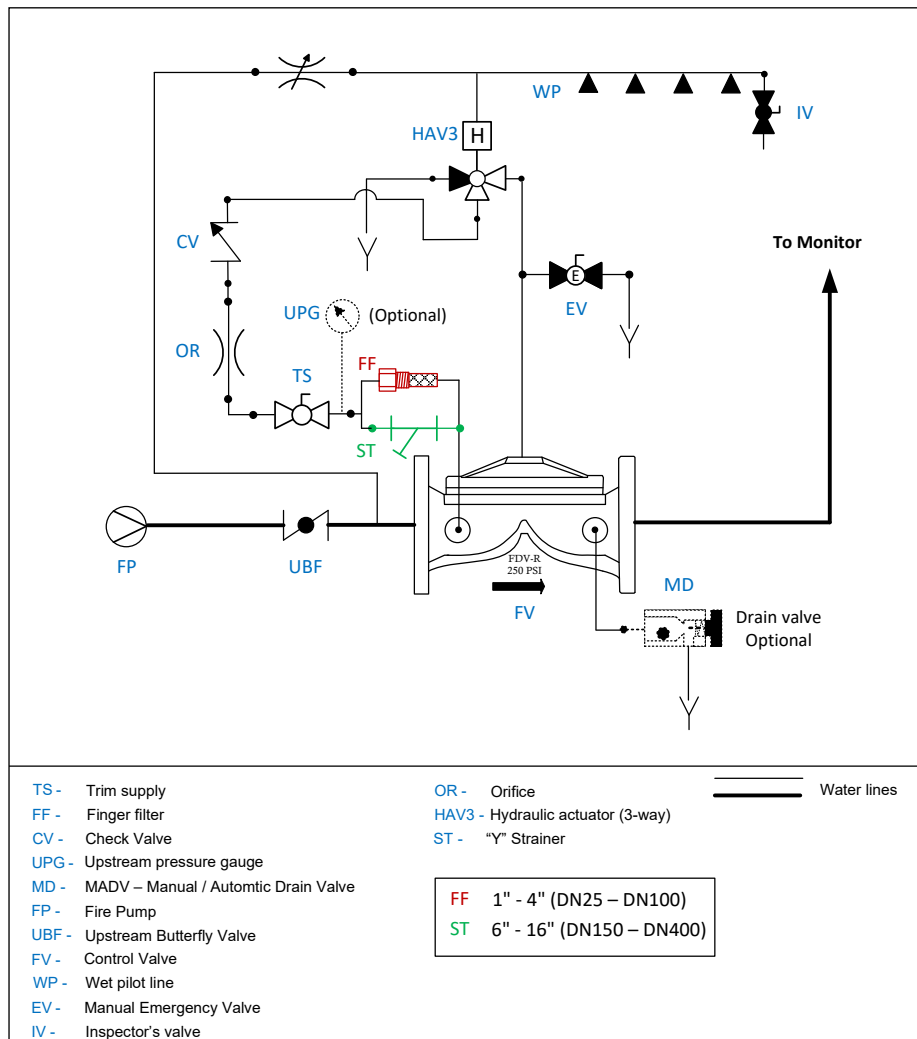
### APPROVALS



Schematic drawing:

FDV-R-3W-MH1

Set position



OPERATION

SET POSITION

Pressurized water supplied by the hydraulic actuator (HAV3) valve's control chamber, is trapped by the Check Valve (CV), forces the valve's dia-phragm against its seat and maintains the FDV-R valve (FR), close.

FIRE SITUATION

A remote hydraulic command transferred by a wet pilot pipeline, de-pressurizes the Hydraulic Actuator valve's (HAV3) control Chamber.

Consequently, the actuator change state and drains the FDV-R's Control Chamber. The valve opens and admits water to the monitor riser pipeline.

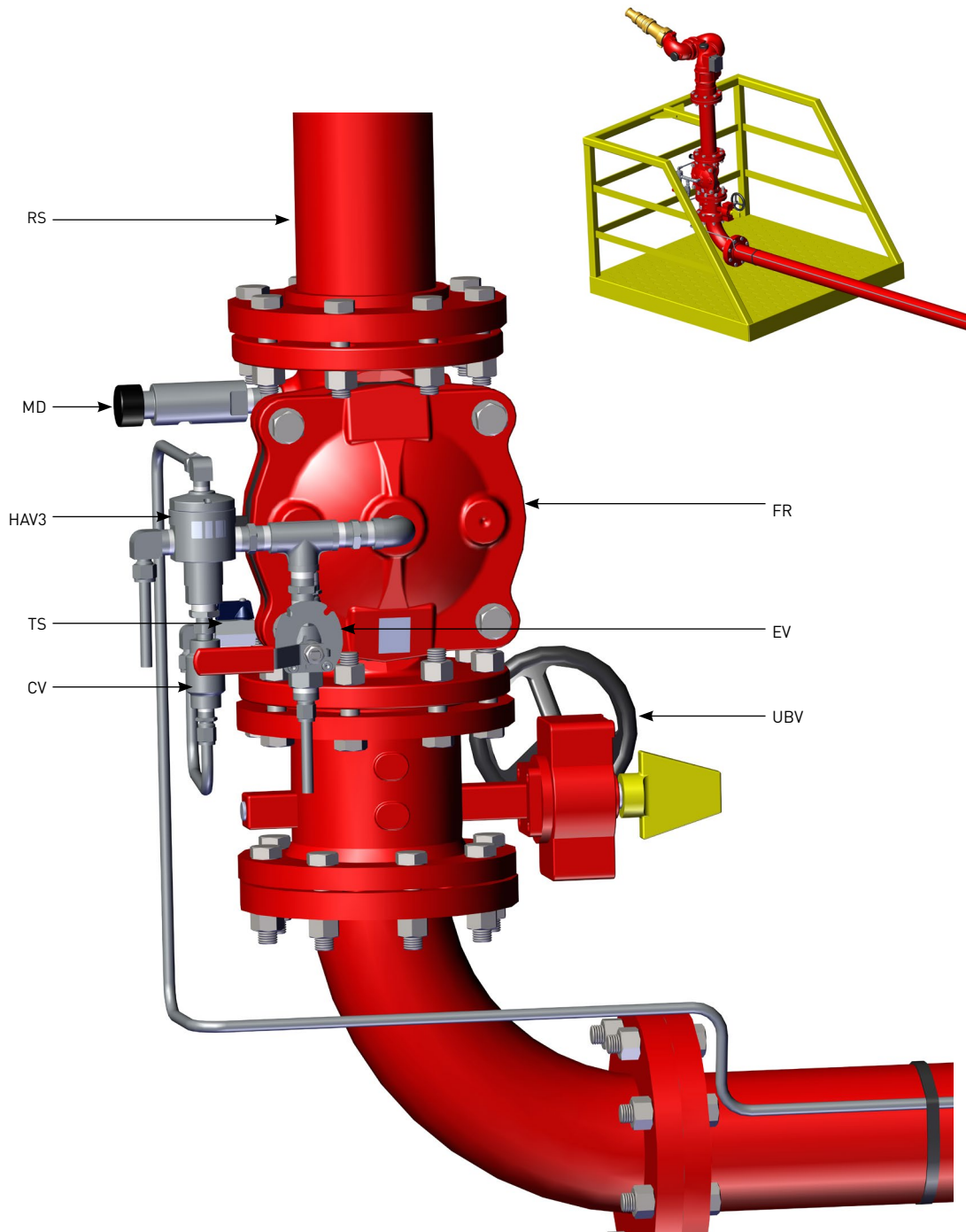
Opening the Manual Operation valve (EV), bypasses all term, drains the FDV-R's control chamber and opens the valve.

RESET POSITION

As the pilot pipeline command pressure increases, the Hydraulic Actuator stops the FDV-R's control chamber drainage and admits upstream to the VDV-R's control chamber. Consequently, the valve's diaphragm is forces against its seat and the valve closes.

## Typical installation

## FDV-R-3W-MH1

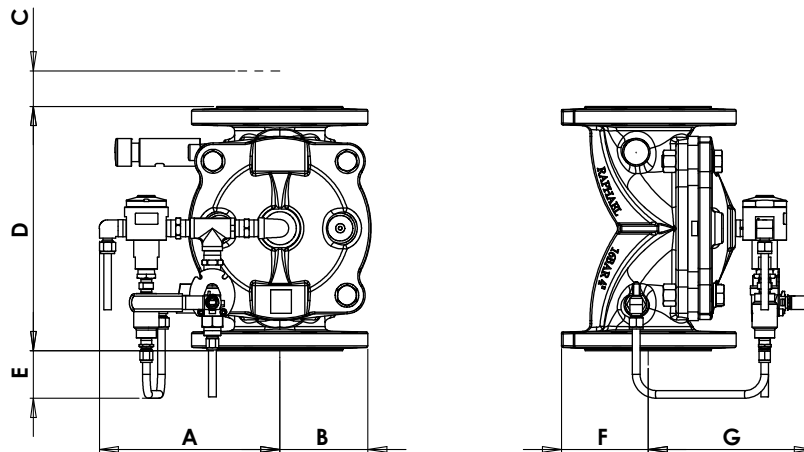


**RS** - Riser pipe  
**TS** - Trim supply valve  
**CV** - Check valve  
**EV** - Emergency Valve

**HAV3** - Hydraulic Actuator Valve (3 way)  
**UBV** - Upstream Butterfly Valve  
**FR** - FDV-R control valve  
**MD** - MADV - Manual Automatic Drain valve (optional).

## Parametric drawing:

## FDV-R-3W-MH1



## Dimensions Table

Size	2"		3"		4"		6"		8"		10"	
	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch
<b>A</b>	210	8.2	210	8.2	210	8.2	245	9.6	264	10.3	281	11.6
<b>B</b>	82	3.2	100	3.9	111	4.3	142	5.6	180	7	233	9.1
<b>C</b>	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<b>D</b>	190	7.5	283	11.1	305	12	406	16	470	18.5	645	25.4
<b>E</b>	118	4.6	71	2.79	60	2.6	43	1.7	36	1.4	N/A	N/A
<b>F</b>	82	3.2	100	3.9	109	4.3	142	5.6	159	6.2	197	7.7
<b>G</b>	147	5.7	176	6.9	196	7.7	242	9.5	315	12.4	364	14.3
<b>Kg/lb</b>	9.8	21.6	18.8	41.4	25.5	56.2	50	110.	57.4	126	109	240

## Factory Standard

### MAIN VALVE

#### BODY & COVER

- Ductile iron
- Cast Steel WCB
- Stainless Steel CF8
- Stainless Steel CF8M
- Nickel Aluminum Bronze

#### ELASTOMERS:

- NR, fabric reinforced Natural Rubber
- EPDM, fabric reinforced
- NBR, fabric reinforced Nitrile Rubber

#### COATING:

- Base layer – high built Epoxy FBE  
Top layer – electrostatic Polyester powder RAL 3000
- Rilsan Polyamide based (Nylon 11)
- Internal – vitreous Enamel  
External – Epoxy/Polyester powder RAL 3000

### TRIM

#### PIPING & TUBING:

- Stainless Steel 316
- Copper/Brass
- Cupro-Nickel
- Monel®

#### FITTINGS:

- Stainless Steel 316
- Brass
- Super Duplex
- Cupro-Nickel
- Monel®

#### ACCESSORIES:

- Stainless steel CF8M / 316
- Brass
- Nickel Aluminum Bronze
- SMO-245
- Monel®

### PLEASE SPECIFY

- Working Media
- Ambiental conditions
- Min/Max operating flow
- Min/Max operating pressure
- System installation orientation
- Valve's flanges standard
- Additional accessories needed:
- Drain Ball valve
- Automatic Drain valve (MADV)
- Pressure gauge (size)

For more detailed technical information, please refer to chapter Engineering Data.

## Electrically Actuated, Remote Reset, Monitor Valve

## FDV-R-3W-ME1

The FDV-R-3W-ME1 is an electric controlled On-Off Fire Protection Monitor valve, designed to control the opening and closing of fire Monitors, in special hazard fire protection systems.

Assembled in horizontal or vertical position, the FDV-R-3W-ME1 Monitor valve is commanded to open/close from a control panel or control room, by a solenoid valve. The Solenoid in turns, commands the valve by pressurizing or de-pressurizing directly the main valve's control chamber or, a hydraulic actuator's control chamber. By that, it enables a quick and effortless operation assures a full valve's opening and maximum rate of flow.

The globe pattern, line pressure operated FDV-R-3W-ME1 valve, features a direct elastomeric diaphragm seal, with no balancing spring or internal metallic wet components in the valve body. The hydrodynamic pattern design, en-sures high flow rates with minimum head loss.



### MARKETS



Marine



P.O.G.



Airports



Industry



Storage

### TECHNICAL DATA

#### FLUID:

Water, Brackish water, Sea water, Foam

#### SIZE RANGE:

50 mm to 400 mm (2" to 12")

#### AVAILABLE CONNECTIONS ENDS:

Flange\*Flange, Groove\*Groove, Thread\*Thread

#### PRESSURE NOMINAL:

250 psi (17.2 bar)

### ADVANTAGES

- Only three parts: body, diaphragm & cover plate. No wet metal spring inside the control chamber.
- 3 way control principle ensure fast and reliable opening.
- Open fail safe valve in high ambient temperatures.
- Maintained in stand-by closed position.
- Low maintenance cost: the valve can be serviced in-line and includes only one replaceable part — a long-life elastomeric diaphragm.
- Complies with NFPA 25, the standard for the inspection, testing, and maintenance of water-based fire protection systems.

### CHARACTERISTICS

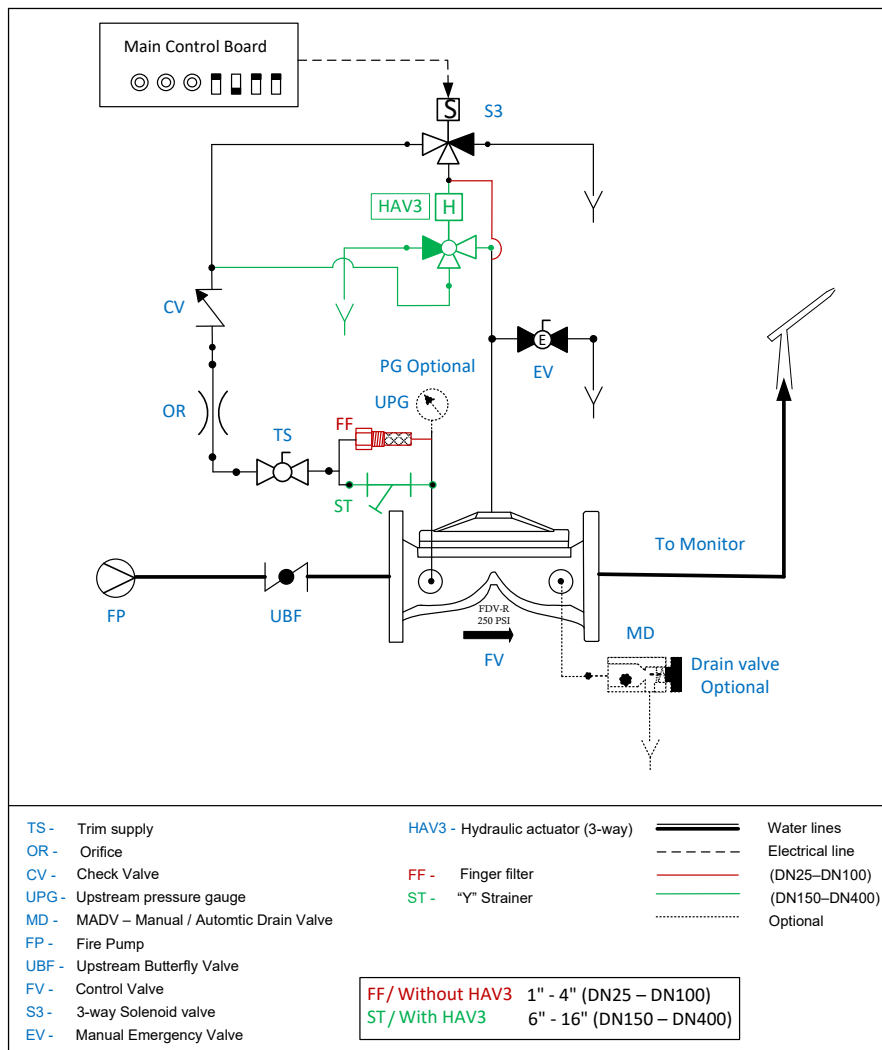
- Hydro-dynamic pattern design ensures high flowrates with minimum head loss.
- The valve trips open automatically upon a gradual release of water pressure from its control chamber.
- The trip is actuated directly by a solenoid (DN50 – DN75 valves) or indirectly, by a solenoid operating an actuator (DN100 – DN400 valves).
- Soft closing by controlled pressurization of the valve's control chamber, prevents surges.

### APPROVALS



Schematic drawing:

Set position



OPERATION

SET POSITION

Pressurized water in the valve's control chamber (FR) is trapped by the Check Valve (CV), the hydraulic actuator (HAV3) and the Emergency Valve (EV) forces the valve's diaphragm against its seat and maintains the FDV-R valve (FR) close.

FIRE SITUATION

(DN50-DN80 valves) An electric signal transmitted commands the 3-way solenoid valve (S3) to drain the FDV-R's control chamber. The valve opens and admits water to the monitor pipeline.

(DN150-DN400 valves) An electric signal transmitted commands the 3-way solenoid valve (S3) to open and drain the Hydraulic actuator's control chamber. Consequently, the actuator change state and drains the FDV-R's Control Chamber. The valve opens and admits water to the monitor pipeline.

Opening the Manual Operation valve (EV), bypasses all term, drains the FDV-R's control chamber and opens the valve.

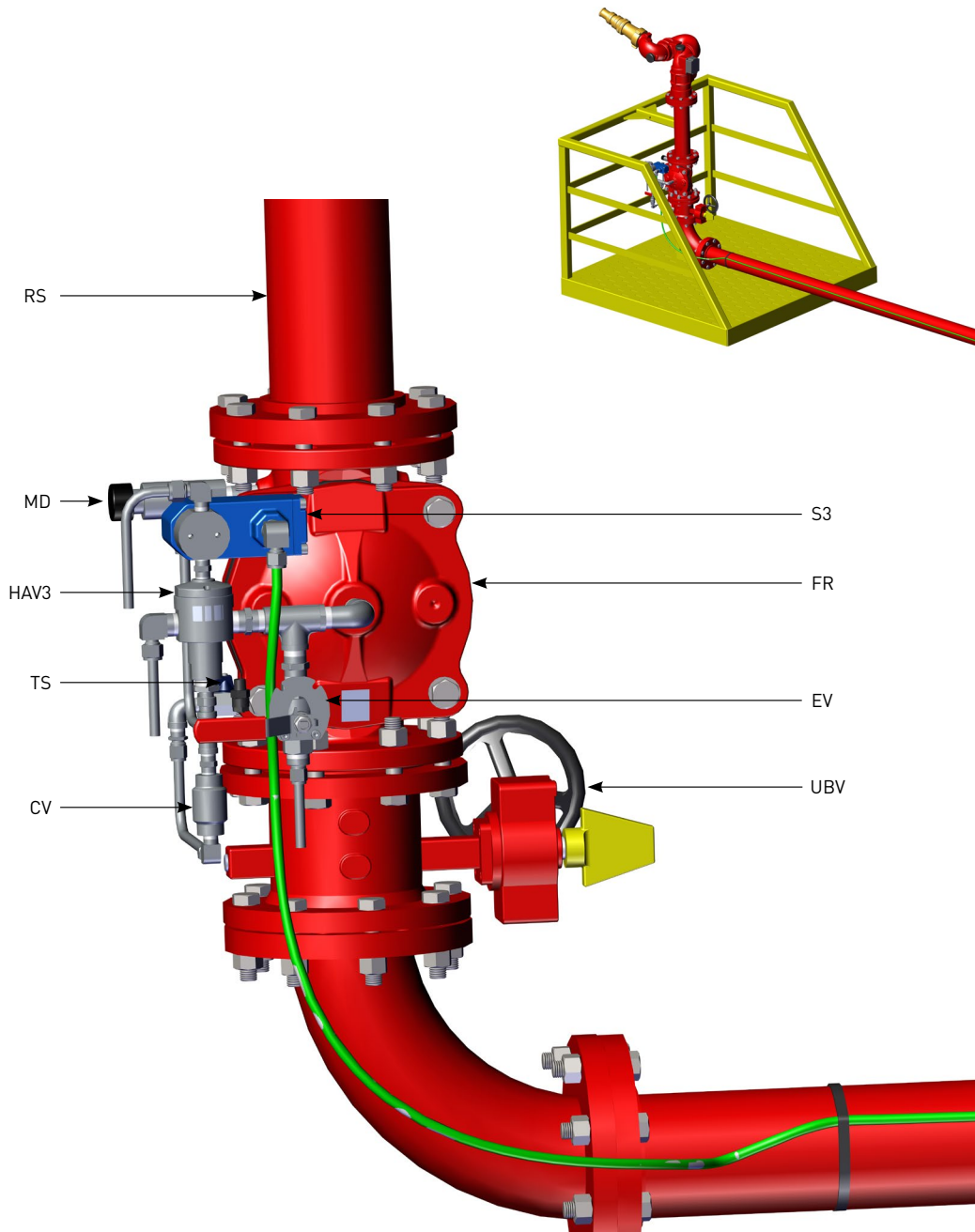
RESET POSITION

(DN50-DN100 valves) De-energizing the solenoid admits upstream to pressurize the FDV-R control chamber, forcing the valve's diaphragm against its seat and close the FDV-R valve.

(DN150-DN200 valves) De-energizing the solenoid admits upstream to hydraulic actuator control chamber (HAV3) that in turn, stops the valve's control chamber drainage and pressurizes it. Consequently, the valve's diaphragm is forces to its seat and the valve closes.

## Typical installation

## FDV-R-3W-ME1



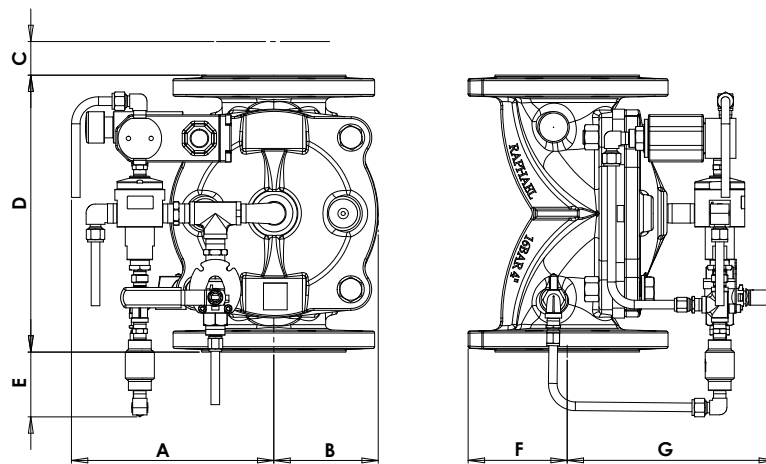
**RS** - Riser pipe  
**TS** - Trim supply valve  
**CV** - Check valve  
**S3** - Solenoid valve (3 way)

**EV** - Emergency Valve  
**HAV3** - Hydraulic Actuator Valve (3- way)  
**UBV** - Upstream Butterfly Valve

**FR** - FDV-R control valve  
**MD** - MADV - Manual Automatic Drain valve (optional).

Parametric drawing:

FDV-R-3W-ME1



Dimensions Table

Size	2"		3"		4"		6"		8"		10"	
	mm	inch	mm	inch	mm	inch	mm	inch	mm	Inch	mm	inch
A	132	5.2	194	7.6	155	6.1	260	10.2	284	11.2	300	11.8
B	81	3.1	100	3.9	111	4.3	142	5.6	177	6.7	233	9.2
C	117	4.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
D	190	7.5	283	11.1	305	12	406	16	470	18.5	645	25.4
E	94	3.7	74	2.9	36	1.4	43	1.7	36	1.4	N/A	N/A
F	83	3.3	100	3.9	110	4.3	142	5.6	160	6.3	194	7.6
G	170	6.7	197	7.7	207	8.1	270	10.6	313	12.3	365	14.3
Kg/lb	9.2	20.3	18.2	40.1	24.8	55	51.2	113	59	130	110	242

Factory Standard

MAIN VALVE

BODY & COVER

- Ductile iron
- Cast Steel WCB
- Stainless Steel CF8
- Stainless Steel CF8M
- Nickel Aluminum Bronze

ELASTOMERS:

- NR, fabric reinforced Natural Rubber
- EPDM, fabric reinforced
- NBR, fabric reinforced Nitrile Rubber

COATING:

- Base layer – high built Epoxy FBE  
Top layer – electrostatic Polyester powder RAL 3000
- Rilsan Polyamide based (Nylon 11)
- Internal – vitreous Enamel  
External – Epoxy/Polyester powder RAL 3000

TRIM

PIPING & TUBING:

- Stainless Steel 316
- Copper/Brass
- Cupro-Nickel
- Monel®

FITTINGS:

- Stainless Steel 316
- Brass
- Super Duplex
- Cupro-Nickel
- Monel®

ACCESSORIES:

- Stainless steel CF8M / 316
- Brass
- Nickel Aluminum Bronze
- SMO-245
- Monel®

PLEASE SPECIFY

- Working Media
- Ambiental conditions
- Min/Max operating flow
- Min/Max operating pressure
- Solenoid Voltage
- Solenoid Enclosure
- Solenoid Protection
- Valves flanges standard
- System installation orientation
- Additional accessories needed:
  - Pressure gauges
  - Drain ball valve
  - Automatic drain valve

For more detailed technical information, please refer to chapter Engineering Data.