

## Model 68 DE\HM

### Hydraulically Actuated Deluge Valve



### Certification & compliance by design



- ANSI FCI 70-2 Class VI seat leakage class
- UL listed under VLFT category
- Fire tested to EN ISO 6182-5:2006
- Lloyd's & ABS type approvals

### Designed for

- High-pressure (PN25/375psi), high-flow deluge systems
- Automatic or local manual emergency actuation
- Hazardous-flammable and explosion classified area fire suppression
- Onshore & Offshore, Naval, Industrial, Commercial & Residential fire suppression

### Features

- Superior design featuring exceptionally low pressure losses at high flow rates
- Low to negligible lifelong maintenance costs thanks to no wetted metallic and mechanical moving parts design
- Simple, comprised of 3 main parts, no expertise required for maintenance
- Fresh or Brackish water, seawater and foam
- Out of box fully assembled & tested valves
- All valves are factory trimmed for both vertical & horizontal installations without modification
- Extensive valve & trim materials selection and corrosion protection coating to EN12944 C4, C5 & C5M

### Typical applications



Automatic or Manual actuated  
Fire Suppression Systems



Petrochemical,  
Oil & Gas Installations



Tunnels



Power Generation, Transformer  
& Transmission Plants



Flammable Storage



Hangars & Airport terminals



Onshore-offshore



Mining

### General description and operation modes

This hydraulically actuated deluge valve is designed for fire protection systems controlled and actuated by a wet pilot line up to 7m above the valve (for hydraulically actuated anti-collumning valves having pilot lines higher than 7m above the valve, choose the Dorot DE\HRV model). The basic control valve type used in this deluge system is a direct-sealing elastomeric diaphragm, hydraulically operated control valve engineered specifically for fire protection systems.

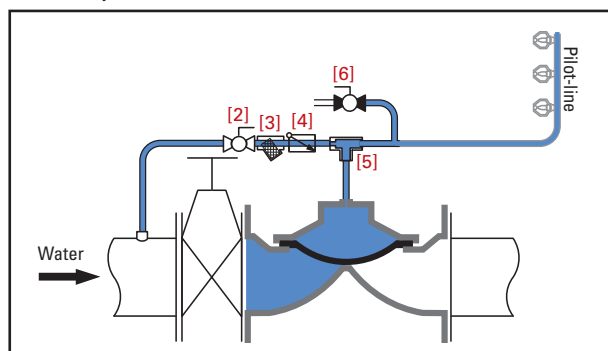
In the standby position, the deluge valve is held closed by the upstream water pressure, trapped in the valve's control chamber. The water pressure enters the control chamber through the priming line ball valve [2], a Y-Type strainer [3], a check valve [4] and a T restrictor [5].

Under fire conditions, one (or more) of the automatic sprinklers on the wet pilot-line burst, after reaching a preset temperature. The pressure in the valve's control chamber is relieved through the burst sprinklers. The deluge valve opens instantly and allows water to flow into the pipeline and through the open sprinklers over the protected area.

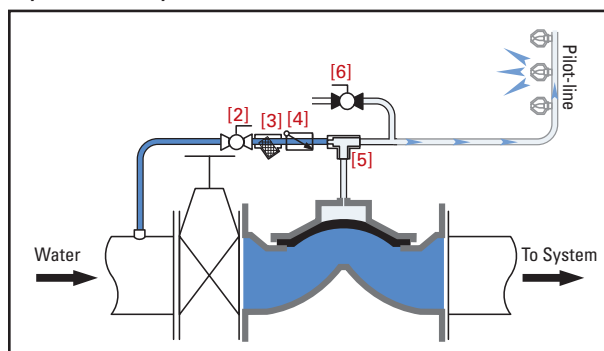
Manual emergency actuation is enabled by opening the emergency manual activation valve [6]. The deluge valve opens instantly and allows water to flow into the pipeline and through the open sprinklers over the protected area.

Resetting, maintenance and periodic testing instructions must be followed as described in detail in the relevant Dorot DE\HM model's IOM (Installation, Operation & Maintenance) manual.

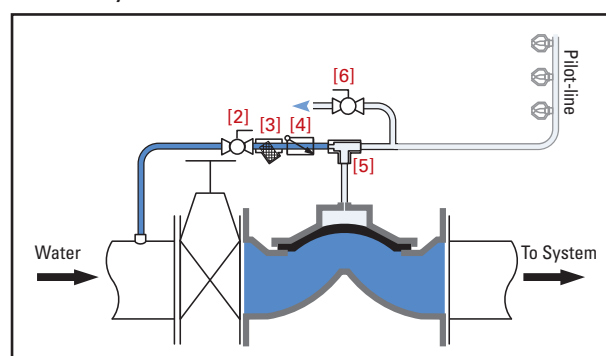
Standby Position



Hydraulically Actuated



Manually Actuated



## Deluge Valve

### Model 68 DE\HM

#### Typical control trim materials for POG<sup>(1)</sup> applications

ID	Description	Material (2)
1	Dorot deluge valve body	See Engineering data model (2b)
2	Ball valve	SST316
3	Y-Type strainer	SST316
4	Check valve	SST316
5	T restrictor	SST316
6	Manual emergency valve	SST316
7	Drip valve	SST316
8	Pressure gauge	SST

(1) Petrochemical, Oil & Gas

(2) Refer to material selection guidelines,  
Engineering Data - Valves & Control Trims

(2b) Basic Valve material options:

Ductile Iron A-536 65-45-12;

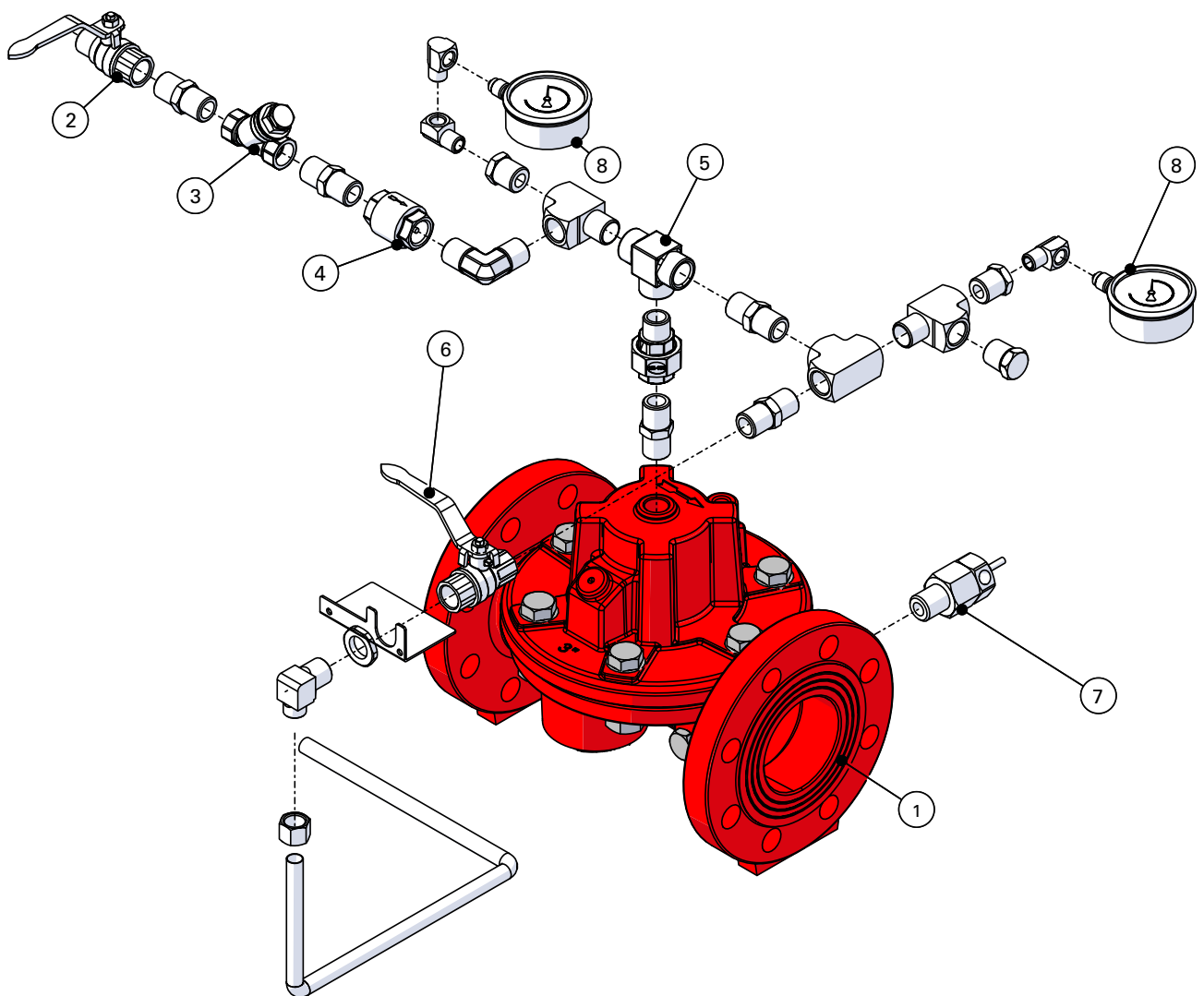
Cast Steel WCB A-216;

Cast Steel A-352 LCB;

Austenitic Stainless Steel A-351/CF8M;

Super Duplex 2507;

Nickel-Aluminium-Bronze B-148 UNS C95800



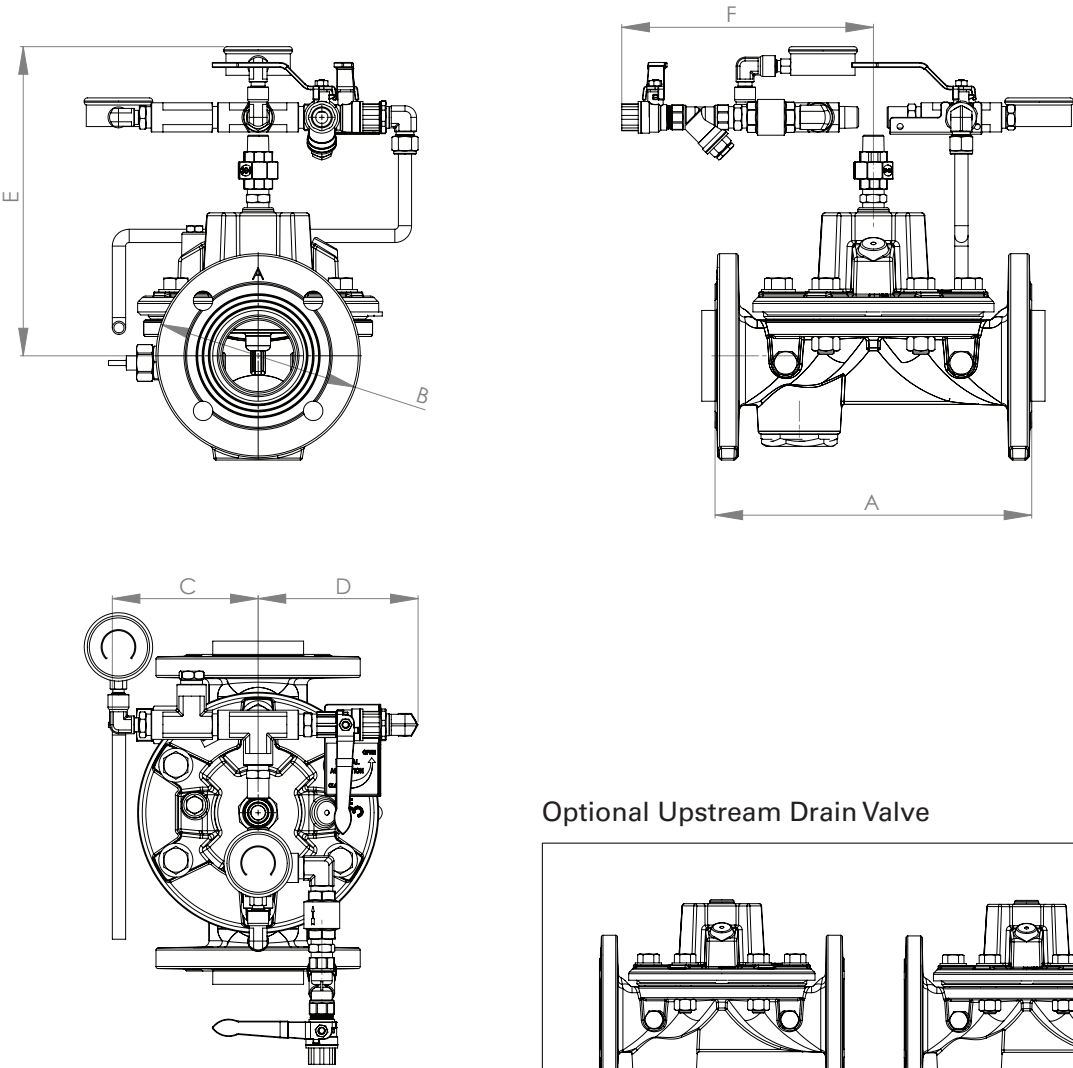
# Deluge Valve Model 68 DE\HM



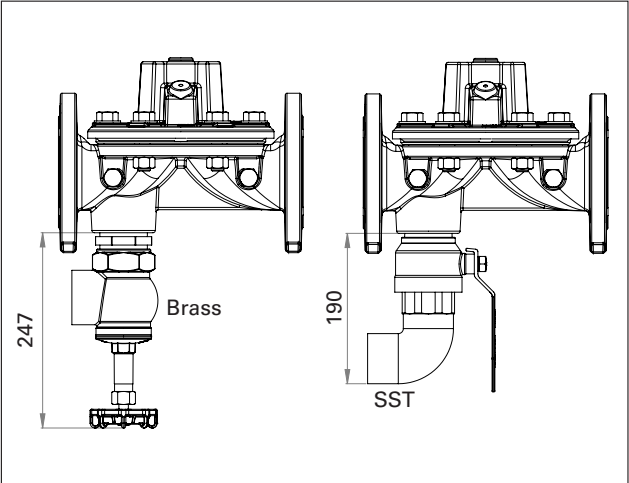
## Valve dimensions

Valve	2 (50)		3 (80)		4 (100)		6 (150)		8 (200)		10 (250)	
	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm
A	10	254	12 <sup>3</sup> / <sub>16</sub>	310	14	355	17 <sup>3</sup> / <sub>8</sub>	443	20 <sup>13</sup> / <sub>16</sub>	530	25	635
B	6 <sup>5</sup> / <sub>8</sub>	168	7 <sup>7</sup> / <sub>8</sub>	200	9 <sup>3</sup> / <sub>8</sub>	238	12 <sup>1</sup> / <sub>8</sub>	306	14 <sup>3</sup> / <sub>16</sub>	360	16 <sup>7</sup> / <sub>8</sub>	430
C	5 <sup>5</sup> / <sub>8</sub>	143	5 <sup>5</sup> / <sub>8</sub>	143	5 <sup>5</sup> / <sub>8</sub>	143	6 <sup>5</sup> / <sub>16</sub>	160	7 <sup>7</sup> / <sub>8</sub>	200	9 <sup>13</sup> / <sub>16</sub>	249
D	6 <sup>1</sup> / <sub>8</sub>	156	6 <sup>1</sup> / <sub>8</sub>	156	6 <sup>1</sup> / <sub>8</sub>	156	6 <sup>5</sup> / <sub>16</sub>	160	7 <sup>7</sup> / <sub>8</sub>	200	9 <sup>13</sup> / <sub>16</sub>	249
E	9 <sup>3</sup> / <sub>16</sub>	234	11 <sup>13</sup> / <sub>16</sub>	300	11 <sup>5</sup> / <sub>8</sub>	296	14 <sup>7</sup> / <sub>8</sub>	379	15 <sup>11</sup> / <sub>16</sub>	399	16 <sup>5</sup> / <sub>8</sub>	422
F	9 <sup>11</sup> / <sub>16</sub>	247	9 <sup>11</sup> / <sub>16</sub>	247	9 <sup>11</sup> / <sub>16</sub>	247	9 <sup>11</sup> / <sub>16</sub>	247	10 <sup>3</sup> / <sub>8</sub>	265	12 <sup>1</sup> / <sub>2</sub>	317
Approx. Weight	lbs	kg	lbs	kg	lbs	kg	lbs	kg	lbs	kg	lbs	kg
	29	13	73	33	90	41	172	78	278	126	425	193

\* Approximate dimensions



Optional Upstream Drain Valve

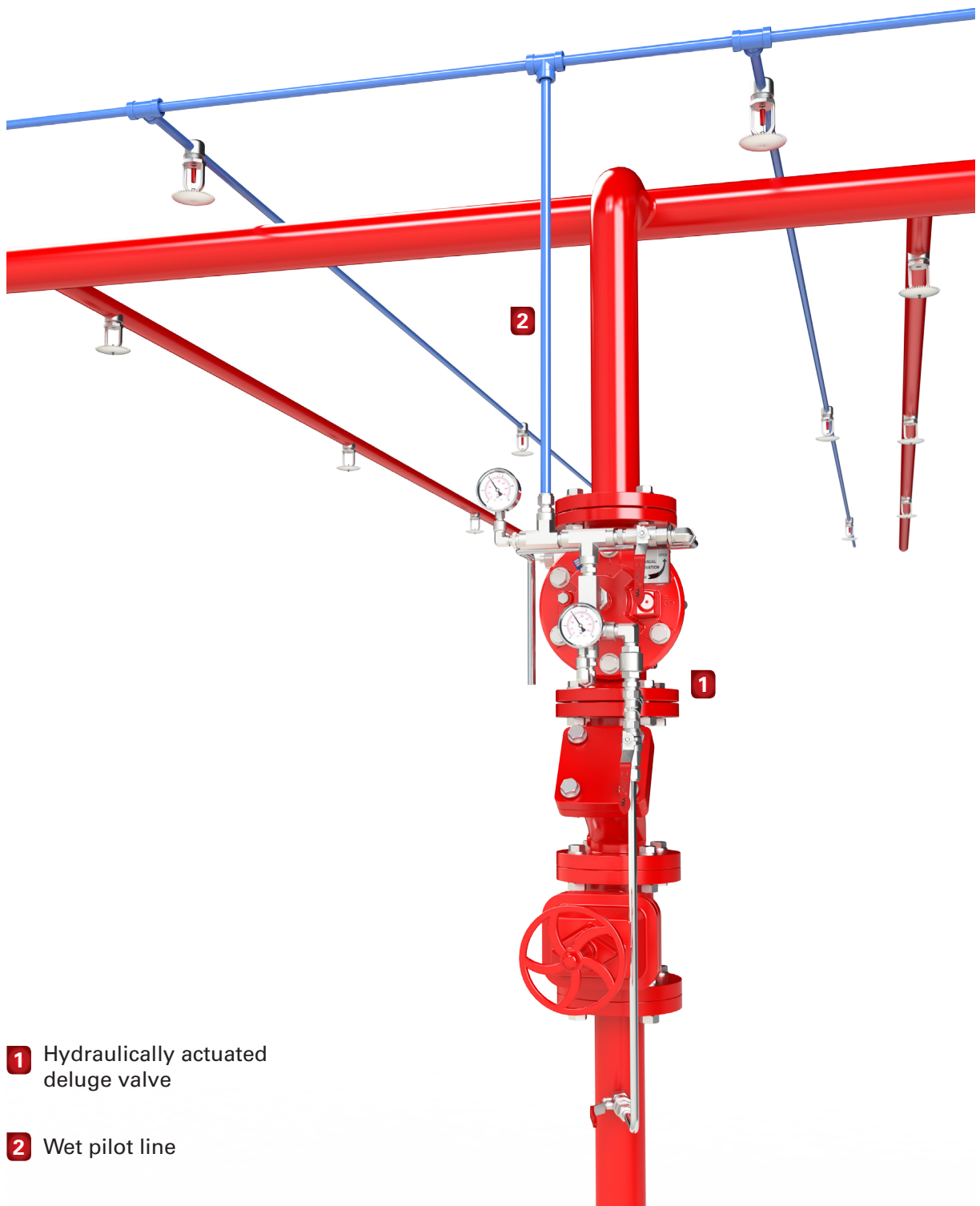


# Deluge Valve Model 68 DE\HM



## Typical system layout

Dorot's DE\HM, hydraulically actuated deluge valve, is held shut drip-tight in its standby position. When one (or more) of the automatic sprinklers on the pilot-line burst, the pressure in the valve's control chamber is relieved through the burst sprinklers. The deluge valve opens instantly and allows water to flow into the pipeline and through the open sprinklers over the protected area.



**1** Hydraulically actuated deluge valve

**2** Wet pilot line

# Deluge Valve Model 68 DE\HM

## Ordering guide

	68	-	SS	-		-	3	-	AN150RF	-	DE\HM	-	/PI/HA/...		
Model 68	68													Optional add-on	
Material															
Ductile Iron			-										UV	Upstream drain valve	
Cast Steel			CS										HA	Hydraulic alarm loop	
SST316			SS										LS	Limit switch	
NAB			NAB										Ex	Explosion-proof *	
													PI	Pressure switch	
Optional add-on														Control function	
Indicator rod				I										End connection standard	
Spring				P											
Size (inch)							2"-24"								
Technical data:															
<ul style="list-style-type: none"><li>Media up to 80°C = 176°F</li><li>Elastomers suitable for extreme climates are available upon request.</li></ul>															
Sizes:															
AN15RF															ANSI #150 (FF or RF)
AN30RF															ANSI #300 (FF or RF)
V															Grooved
ISO16															ISO PN16
ISO25															ISO PN25
xxx															Other (specify)

## Specification for engineers

The deluge valve shall be hydraulically operated, direct elastomeric diaphragm-seal, single chamber weir type. The valve shall consist of three major components: the body, cover and the diaphragm assembly. The diaphragm shall be the only moving part. The diaphragm forms a sealed control chamber in the upper portion of the valve, separating operating pressure from line pressure. Packing glands' stuffing boxes and dynamic o-ring seals are not permitted and there shall be no shafts, discs, bearings or pistons operating the main valve. No hourglass-shaped disc retainers shall be permitted and no V-type, U-type or other slotted type disc guides shall be used. The valve shall contain a nylon reinforced rubber diaphragm, elastic & resilient through its entire surface without vulcanized radial discs and/or reinforcements. The diaphragm shall not be guided by any shafts or bearings and shall not be in close contact with other valve parts except for its sealing surface. Maintenance, disassembly and reassembly of all the valve's components shall be made possible on site and in-line, without the need to remove the valve from the line. Standard material valves such as Ductile Iron (ASTM A-536 65-45-12) and Cast Steel (WCB A-216) should be coated with high-built fusion-bonded epoxy (FBE) and a UV protective topcoat conforming to EN12944 C4 & C5 high & very high corrosivity protection grades. Naval quality/very high corrosivity protection grade conforming to EN12944 C5M is available upon request. Other coating standards such as NORSOK or ANSI/NACE as well as coatings for special material valves such as austenitic Stainless Steel (CF8M/ASTM A-316) and Nickel Aluminum Bronze (ASTM B-148) can be supplied upon request. The valve should be UL listed under category VLFT for fire protection service.