

## Electrically Controlled Deluge Valve with Local Reset

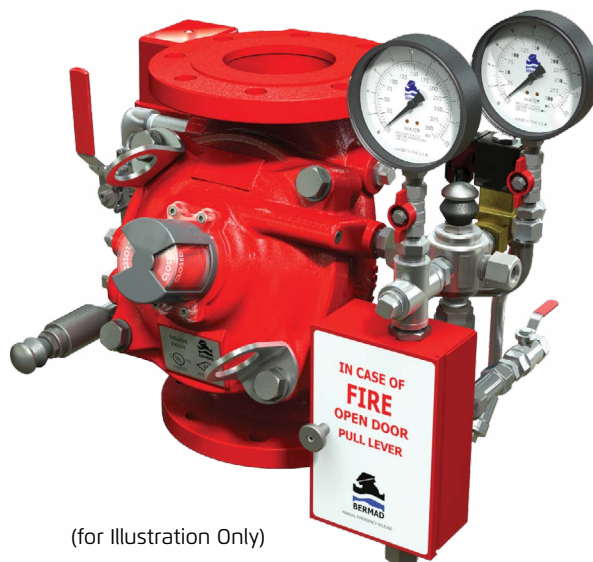
### Model FP 400Y - 2M

The BERMAD model 400Y-2M is an elastomeric, hydraulic, line pressure operated deluge valve, designed specifically for advanced fire protection systems and the latest industry standards.

The 400Y-2M is activated by a 2-Way solenoid valve. Once open the 400Y-2M latches open until locally reset.

The optional valve position indicator can include a limit switch suitable for Fire & Gas monitoring systems.

The 400Y-2M is ideal for systems with open nozzles for water or foam discharge and is available with electrical components to suit any hazardous location.



(for Illustration Only)

### Benefits and Features

#### ■ Safety and reliability

- Time proven, simple, fail-safe actuation
- Single piece, rugged elastomeric diaphragm seal - VRSD technology
- Obstacle-free, uninterrupted flow path
- No mechanical moving parts
- Latches open: remains open until reset locally
- Valve position limit switches (optional)
- Local valve position indicator beacon (optional)

#### ■ High performance

- Very high flow efficiency
- Straight through flow Y- type body
- Approved for PN25 / 365 psi

#### ■ Designed for fire protection

- Face-to-face length standardized to ISO 5752 / EN558-1
- Meets the requirements of the industry standards

#### ■ Quick and easy maintenance

- In-line serviceable
- Fast and easy cover removal
- Swivel mounted drain valves \*

\* not including 1½" & 2" valves

### Typical Applications

- Electric fire detection systems with control panels
- Automatic water spray
- Foam applications
- Corrosive water systems

### Approvals



UL-Listed  
Special System Water Control  
Valves, Deluge Type (VLFT)  
Sizes 1½" - 16"



FM Approved  
for Deluge Sprinkler Systems  
Sizes 1½" - 8"



Det Norske Veritas  
Type Approval



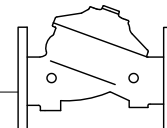
ABS  
American Bureau of Shipping  
Type Approval



Lloyd's Register  
Type Approval

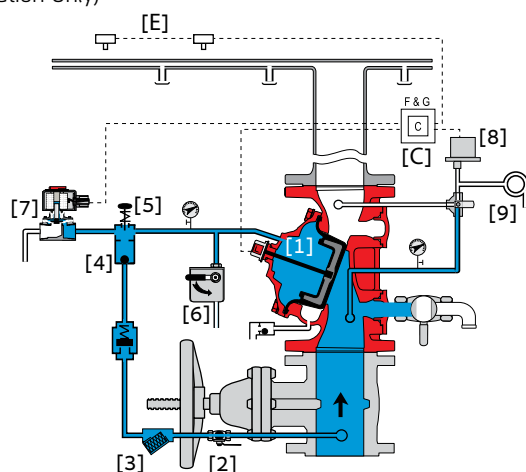
### Additional Features

- Valve position limit switches
- Local valve position indicator beacon
- Sea water compatibility
- Drain valve/s inlet/outlet

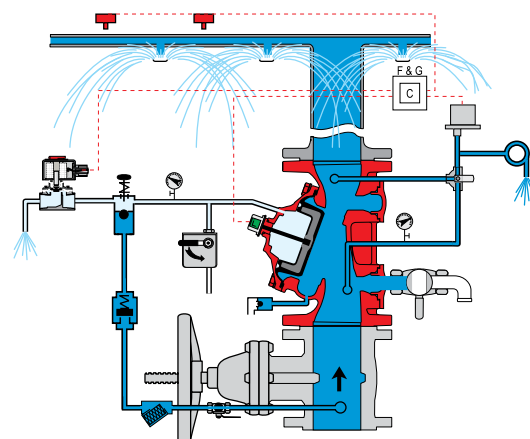


## Operation

(for Illustration Only)



**Valve Closed** (normal conditions)



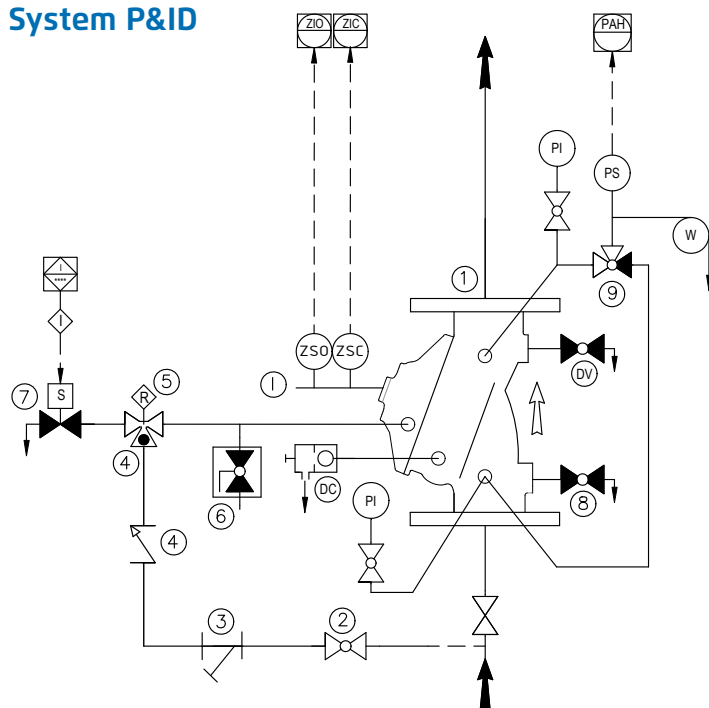
**Valve Open** (fire conditions)

The BERMAD model 400Y-2M is held closed by water pressure in the control chamber [1]. Upon release of pressure from the control chamber, the valve opens.

Under NORMAL conditions, water pressure is supplied to the control chamber via the priming line [2] and strainer [3], and is then trapped in the control chamber by the check valve feature [4] of the easy-lock manual reset [5], the closed manual emergency release [6], and the closed solenoid valve [7]. The water pressure trapped in the control chamber of the deluge valve holds the diaphragm against the valve seat, sealing it drip-tight and keeping the system pipes dry.

Under FIRE conditions, water pressure is released from the control chamber, either with the manual emergency release, or by the solenoid switching to the release position in response to a signal from the heat detection system [E] by way of the fire & gas control system [C]. This opens the deluge valve allowing water to flow into the system piping and to the alarm device. The 400Y 2M latches open until reset locally by depressing the Easy-Lock button.

## System P&ID



### Components

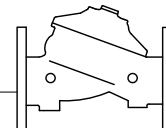
- 1 BERMAD 400Y Deluge Valve
- 2 Priming Ball Valve
- 3 Priming Strainer
- 4 Check Valve
- 5 Easy-Lock – Manual Reset
- 6 Manual Emergency Release
- 7 2-Way Solenoid

### Optional System Items

- ZS Limit Switch Assembly
- I Visual Indicator
- DV Additional Drain Valve
- PS Pressure Switch
- W Water Motor Alarm
- PI Pressure Gauge\*
- DC Automatic Drip Check Valve\*
- 8 Drain Valve\*
- 9 3-Way Alarm Ball Valve\*

See also Factory Fitted Options under the Valve Code Designations on the last page

\*Mandatory for FM approval (suffix A in code designations on page 4)



## System Installation

A typical installation of the BERMAD model 400Y-2M, features automatic actuation by way of a 2-Way solenoid. It can also be triggered electrically by a signal from a fire & gas control system or an on-site emergency pushbutton. When open and fitted with a limit switch the valve can send a feedback signal to a remote valve status monitoring system.

## Optional System Items



Water Motor Alarm



Limit Switch



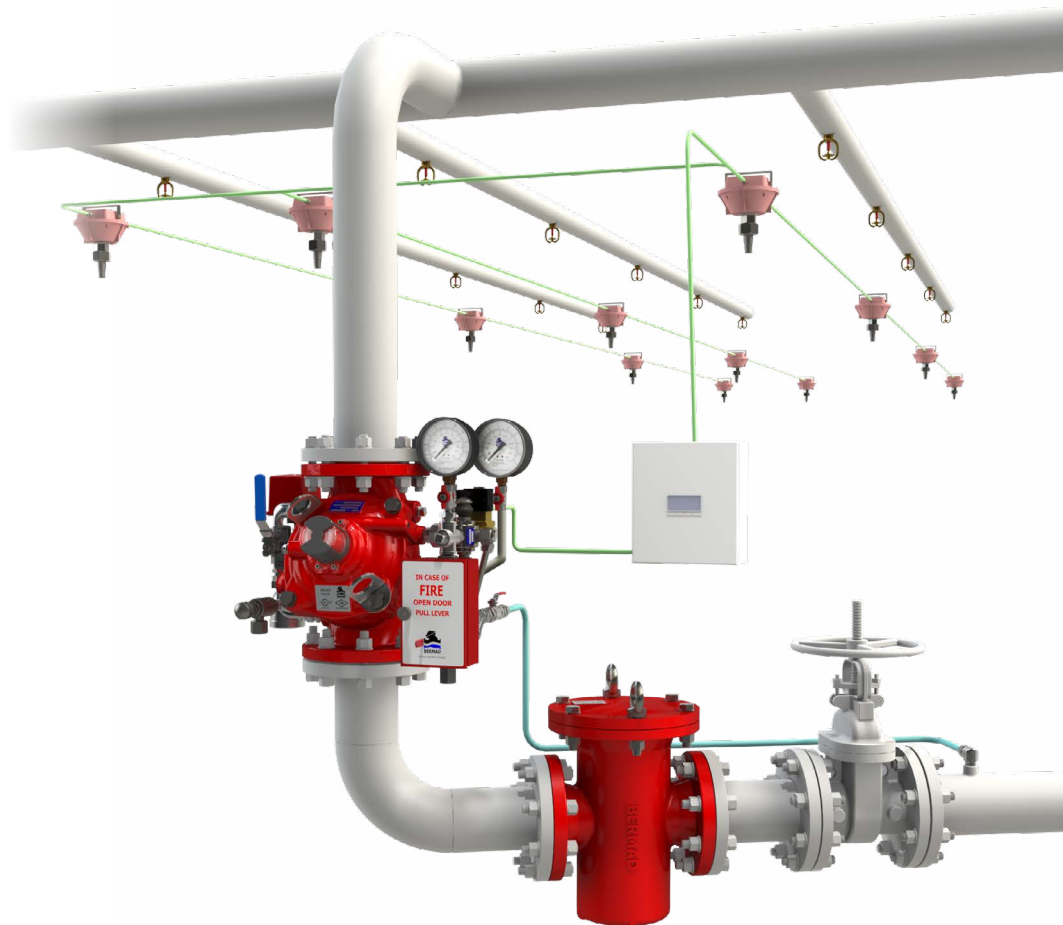
Valve Position Indicator



Pressure Switch



Strainer



(for Illustration Only)

## Suggested Specifications

The deluge valve shall be UL-listed and FM-approved, 25-bar/365-psi rated, with a straight-through, Y-type-body.

The valve shall have an unobstructed flow path, with no stem guide or supporting ribs.

Valve actuation shall be accomplished by a single-piece, rolling diaphragm bonded with a rugged radial seal disk. The diaphragm assembly shall be the only moving part.

The deluge valve shall include an Easy-Lock latching valve, an FM approved 2-Way solenoid valve with a tolerance of 35% below the rated voltage, a Y-type strainer, a ball drain valve, an automatic drip-check with manual override, 4-inch pressure gauges, and a manual emergency release housed in a stainless steel box.

The valve drain socket shall be flanged and have 360-degree swivel.

The valve shall be equipped with a protective-covered, dual-color, rotational position indicator, readable from 50 meters, and with two limit switches enclosed in a protective switch box.

Removing the valve cover for inspection or maintenance shall be in-line and shall not require the removal of the control trim.

The deluge valve and its entire control trim shall be supplied pre-assembled and hydraulically tested by a factory certified to ISO 9000 and 9001 standards.

# BERMAD Fire Protection

Model FP 400Y - 2M

400Y Series

## Technical Data

### Available Sizes (inch)

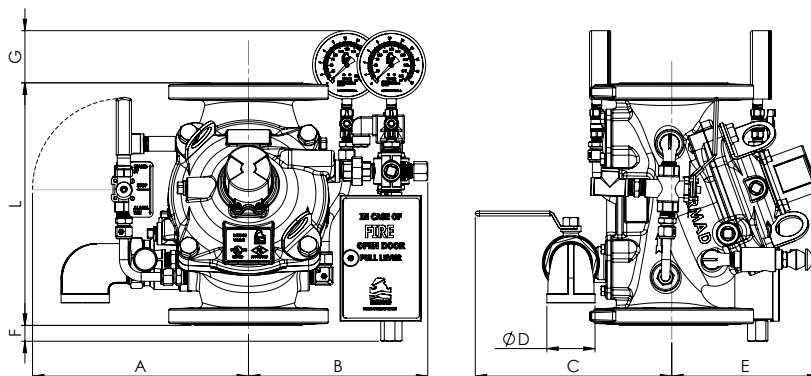
- Flanged - 1½, 2, 3, 4, 6, 8, 10, 12, 14 & 16"
- Grooved - 1½, 2, 3, 4, 6 & 8"

### Pressure Rating

- ANSI#150 - 16 bar / 235 psi
- ANSI#300 - 1½" to 10" 25 bar / 365 psi  
12" to 16" 20 bar / 300 psi
- Grooved - 25 bar / 365 psi

### Elastomer

- HTNR - Fabric Reinforced High Temperature Compound - See engineering data



| Valve Size                | 1½" DN40    |      | 2" DN50     |      | 3" DN80     |      | 4" DN100   |      | 6" DN150   |      | 8" DN200    |      | 10" DN250   |      | 12" DN300   |      | 14" DN350   |      | 16" DN400   |      |
|---------------------------|-------------|------|-------------|------|-------------|------|------------|------|------------|------|-------------|------|-------------|------|-------------|------|-------------|------|-------------|------|
| Unit                      | mm          | in   | mm          | in   | mm          | in   | mm         | in   | mm         | in   | mm          | in   | mm          | in   | mm          | in   | mm          | in   | mm          | in   |
| L <sup>(1)</sup>          | 230         | 9.1  | 230         | 9.1  | 310         | 12.2 | 350        | 13.8 | 480        | 18.9 | 600         | 23.6 | 730         | 28.7 | 850         | 33.5 | 980         | 38.6 | 1,100       | 43.3 |
| L <sup>(2)</sup>          | 230         | 9.1  | 238         | 9.4  | 326         | 12.8 | 368        | 14.5 | 506        | 19.9 | 626         | 24.6 | 730         | 28.7 | 888         | 35   | 980         | 38.6 | 1,100       | 43.3 |
| A                         | 279         | 11.0 | 279         | 11.0 | 339         | 13.3 | 347        | 13.7 | 400        | 15.7 | 430         | 16.9 | 430         | 16.9 | 543         | 21.4 | 543         | 21.4 | 543         | 21.4 |
| B                         | 191         | 7.5  | 191         | 7.5  | 249         | 9.8  | 247        | 9.7  | 314        | 12.4 | 342         | 13.5 | 342         | 13.5 | 455         | 17.9 | 455         | 17.9 | 455         | 17.9 |
| C                         | 241         | 9.5  | 241         | 9.5  | 274         | 10.8 | 290        | 11.4 | 305        | 12.0 | 320         | 12.6 | 320         | 12.6 | 383         | 15.1 | 383         | 15.1 | 408         | 16.1 |
| ØD                        | ¾"          |      | ¾"          |      | 1½"         |      | 2"         |      | 2"         |      | 2"          |      | 2"          |      | 2"          |      | 2"          |      | 2"          |      |
| E                         | 120         | 4.7  | 120         | 4.7  | 146         | 5.7  | 158        | 6.2  | 228        | 9.0  | 295         | 11.6 | 295         | 11.6 | 441         | 17.4 | 441         | 17.4 | 415         | 16.3 |
| F                         | 120         | 4.7  | 120         | 4.7  | 50          | 2.0  | 23         | 0.9  | -          | -    | -           | -    | -           | -    | -           | -    | -           | -    | -           | -    |
| G                         | 101         | 4.0  | 101         | 4.0  | 91          | 3.6  | 78         | 3.1  | 30         | 1.2  | -           | -    | -           | -    | -           | -    | -           | -    | -           | -    |
| Kv / Cv                   | 68 / 79     |      | 80 / 92     |      | 190 / 219   |      | 345 / 398  |      | 790 / 912  |      | 1160 / 1340 |      | 1355 / 1565 |      | 2370 / 2737 |      | 2850 / 3292 |      | 3254 / 3758 |      |
| Leq <sup>(3)</sup> : m/ft | 2 / 7       |      | 5 / 16      |      | 7 / 23      |      | 9 / 30     |      | 15 / 49    |      | 27 / 89     |      | 62 / 203    |      | 52 / 171    |      | 59 / 194    |      | 88 / 289    |      |
| kg / lb Approx            | 21.2 / 46.7 |      | 22.6 / 49.8 |      | 37.3 / 98.2 |      | 47.3 / 104 |      | 90.6 / 200 |      | 154 / 340   |      | 184 / 405   |      | 327 / 721   |      | 360 / 793   |      | 406 / 895   |      |

Notes: <sup>(1)</sup> Refers to the length dimensions for Raised Face ANSI #150, ISO 16 Flanged, Threaded and Grooved valves

<sup>(2)</sup> Refers to the length dimensions for Raised Face ANSI #300 and ISO 25 Flanged valves

<sup>(3)</sup> Leq (Equivalent Pipe Length) refers to turbulent flow in new steel pipe schedule 40, values given for general consideration only

<sup>(4)</sup> Exact dimensions for the trim envelope may vary with specific component positioning - allow a tolerance of at least ±10%.

## Valve Code Designations

| FP   | 6"     | 400Y-2M    | 03   | V        | C     | A5       | PR    | 4DC              | NN    | P99RI  |        |              |        |          |        |            |        |  |        |                                      |        |                                  |        |   |   |                     |      |                         |    |                       |    |   |    |         |      |  |    |   |    |              |     |  |     |                        |      |   |     |   |     |  |     |                                  |     |                                    |     |  |      |  |      |   |    |  |    |                                     |    |                    |    |             |    |   |    |  |   |                      |      |                     |    |                          |    |                                     |    |                          |   |  |   |
|--|--------|------------|------|----------|-------|----------|-------|------------------|-------|--|--------|--------------|--------|----------|--------|------------|--------|--|--------|--------------------------------------|--------|----------------------------------|--------|---|---|---------------------|------|-------------------------|----|-----------------------|----|---|----|---------|------|--|----|---|----|--------------|-----|--|-----|------------------------|------|---|-----|---|-----|--|-----|----------------------------------|-----|------------------------------------|-----|--|------|--|------|---|----|--|----|-------------------------------------|----|--------------------|----|-------------|----|---|----|--|---|----------------------|------|---------------------|----|--------------------------|----|-------------------------------------|----|--------------------------|---|--|---|
| <table><tr><th>Category</th><th>Code</th></tr><tr><td>Standard</td><td>FP</td></tr><tr><td>Seawater</td><td>FS</td></tr><tr><td>Foam Concentrate</td><td>FC</td></tr></table>  |        | Category   | Code | Standard | FP    | Seawater | FS    | Foam Concentrate | FC    | <table><tr><th>Installation</th><th>Code</th></tr><tr><td>Vertical</td><td>V</td></tr><tr><td>Horizontal</td><td>H</td></tr></table> |        | Installation | Code   | Vertical | V      | Horizontal | H      | <table><tr><th>Material Body &amp; Cover<sup>(1)</sup></th><th>Code</th></tr><tr><td>Ductile Iron A356<sup>(2)</sup></td><td>C</td></tr><tr><td>Steel ASTM A216 WCB<sup>(2)</sup></td><td>S</td></tr><tr><td>Stainless Steel 316</td><td>N</td></tr><tr><td>Nickel Al Bronze C95800</td><td>U</td></tr><tr><td>Super Duplex Grade 5A</td><td>D</td></tr></table> |        | Material Body & Cover <sup>(1)</sup> | Code   | Ductile Iron A356 <sup>(2)</sup> | C      | Steel ASTM A216 WCB <sup>(2)</sup>  | S | Stainless Steel 316 | N    | Nickel Al Bronze C95800 | U  | Super Duplex Grade 5A | D  | <table><tr><th>Coating</th><th>Code</th></tr><tr><td>Polyester Red</td><td>PR</td></tr><tr><td>High Build Epoxy</td><td>ER</td></tr><tr><td>Uncoated</td><td>UC</td></tr></table> |    | Coating | Code | Polyester Red  | PR | High Build Epoxy                                | ER | Uncoated     | UC  | <table><tr><th>Factory Fitted Options</th><th>Code</th></tr><tr><td>Pressure Switch, General Purpose<sup>(3)</sup></td><td>P</td></tr><tr><td>Ex Proof NEC Div.1 Pressure Switch<sup>(3)</sup></td><td>P7</td></tr><tr><td>Ex d ATEX Pressure Switch<sup>(3)</sup></td><td>P9</td></tr><tr><td>Limit Switch Box General Purpose</td><td>RS</td></tr><tr><td>Single Ex d Proximity Limit Switch</td><td>RS9</td></tr><tr><td>Double EExd Proximity Limit Switch</td><td>RSS9</td></tr><tr><td>Pressure Gauge Assembly<sup>(3)</sup></td><td>6</td></tr><tr><td>S.S Glycerin Pressure Gauge Assembly<sup>(3)</sup></td><td>6n</td></tr><tr><td>Monel Pressure Gauge Assembly<sup>(3)</sup></td><td>6m</td></tr><tr><td>Ex Proof NEC Class 1 Div 1 Solenoid</td><td>7</td></tr><tr><td>Ex d ATEX Solenoid</td><td>9</td></tr><tr><td>Drain valve</td><td>DV</td></tr><tr><td>Water Motor Alarm Assembly<sup>(3)</sup></td><td>W</td></tr><tr><td>Special Elastomer</td><td>E</td></tr><tr><td>Large Control Filter</td><td>F</td></tr><tr><td>S.S Solenoid Valve</td><td>K</td></tr><tr><td>S.S 316 Trim Accessories</td><td>N</td></tr><tr><td>Pressure Transmitter<sup>(3)</sup></td><td>Q</td></tr><tr><td>Stainless Steel 316 Seat</td><td>T</td></tr><tr><td>Drain and Indicating Components<sup>(5)</sup></td><td>A</td></tr></table> |     | Factory Fitted Options | Code | Pressure Switch, General Purpose <sup>(3)</sup> | P   | Ex Proof NEC Div.1 Pressure Switch <sup>(3)</sup> | P7  | Ex d ATEX Pressure Switch <sup>(3)</sup> | P9  | Limit Switch Box General Purpose | RS  | Single Ex d Proximity Limit Switch | RS9 | Double EExd Proximity Limit Switch   | RSS9 | Pressure Gauge Assembly <sup>(3)</sup> | 6    | S.S Glycerin Pressure Gauge Assembly <sup>(3)</sup> | 6n | Monel Pressure Gauge Assembly <sup>(3)</sup> | 6m | Ex Proof NEC Class 1 Div 1 Solenoid | 7  | Ex d ATEX Solenoid | 9  | Drain valve | DV | Water Motor Alarm Assembly <sup>(3)</sup> | W  | Special Elastomer  | E | Large Control Filter | F    | S.S Solenoid Valve  | K  | S.S 316 Trim Accessories | N  | Pressure Transmitter <sup>(3)</sup> | Q  | Stainless Steel 316 Seat | T | Drain and Indicating Components <sup>(5)</sup> | A |
| Category   | Code   |            |      |          |       |          |       |                  |       |  |        |              |        |          |        |            |        |  |        |                                      |        |                                  |        |   |   |                     |      |                         |    |                       |    |   |    |         |      |  |    |   |    |              |     |  |     |                        |      |   |     |   |     |  |     |                                  |     |                                    |     |  |      |  |      |   |    |  |    |                                     |    |                    |    |             |    |   |    |  |   |                      |      |                     |    |                          |    |                                     |    |                          |   |  |   |
| Standard   | FP     |            |      |          |       |          |       |                  |       |  |        |              |        |          |        |            |        |  |        |                                      |        |                                  |        |   |   |                     |      |                         |    |                       |    |   |    |         |      |  |    |   |    |              |     |  |     |                        |      |   |     |   |     |  |     |                                  |     |                                    |     |  |      |  |      |   |    |  |    |                                     |    |                    |    |             |    |   |    |  |   |                      |      |                     |    |                          |    |                                     |    |                          |   |  |   |
| Seawater   | FS     |            |      |          |       |          |       |                  |       |  |        |              |        |          |        |            |        |  |        |                                      |        |                                  |        |   |   |                     |      |                         |    |                       |    |   |    |         |      |  |    |   |    |              |     |  |     |                        |      |   |     |   |     |  |     |                                  |     |                                    |     |  |      |  |      |   |    |  |    |                                     |    |                    |    |             |    |   |    |  |   |                      |      |                     |    |                          |    |                                     |    |                          |   |  |   |
| Foam Concentrate   | FC     |            |      |          |       |          |       |                  |       |  |        |              |        |          |        |            |        |  |        |                                      |        |                                  |        |   |   |                     |      |                         |    |                       |    |   |    |         |      |  |    |   |    |              |     |  |     |                        |      |   |     |   |     |  |     |                                  |     |                                    |     |  |      |  |      |   |    |  |    |                                     |    |                    |    |             |    |   |    |  |   |                      |      |                     |    |                          |    |                                     |    |                          |   |  |   |
| Installation   | Code   |            |      |          |       |          |       |                  |       |  |        |              |        |          |        |            |        |  |        |                                      |        |                                  |        |   |   |                     |      |                         |    |                       |    |   |    |         |      |  |    |   |    |              |     |  |     |                        |      |   |     |   |     |  |     |                                  |     |                                    |     |  |      |  |      |   |    |  |    |                                     |    |                    |    |             |    |   |    |  |   |                      |      |                     |    |                          |    |                                     |    |                          |   |  |   |
| Vertical   | V      |            |      |          |       |          |       |                  |       |  |        |              |        |          |        |            |        |  |        |                                      |        |                                  |        |   |   |                     |      |                         |    |                       |    |   |    |         |      |  |    |   |    |              |     |  |     |                        |      |   |     |   |     |  |     |                                  |     |                                    |     |  |      |  |      |   |    |  |    |                                     |    |                    |    |             |    |   |    |  |   |                      |      |                     |    |                          |    |                                     |    |                          |   |  |   |
| Horizontal   | H      |            |      |          |       |          |       |                  |       |  |        |              |        |          |        |            |        |  |        |                                      |        |                                  |        |   |   |                     |      |                         |    |                       |    |   |    |         |      |  |    |   |    |              |     |  |     |                        |      |   |     |   |     |  |     |                                  |     |                                    |     |  |      |  |      |   |    |  |    |                                     |    |                    |    |             |    |   |    |  |   |                      |      |                     |    |                          |    |                                     |    |                          |   |  |   |
| Material Body & Cover <sup>(1)</sup>   | Code   |            |      |          |       |          |       |                  |       |  |        |              |        |          |        |            |        |  |        |                                      |        |                                  |        |   |   |                     |      |                         |    |                       |    |   |    |         |      |  |    |   |    |              |     |  |     |                        |      |   |     |   |     |  |     |                                  |     |                                    |     |  |      |  |      |   |    |  |    |                                     |    |                    |    |             |    |   |    |  |   |                      |      |                     |    |                          |    |                                     |    |                          |   |  |   |
| Ductile Iron A356 <sup>(2)</sup>   | C      |            |      |          |       |          |       |                  |       |  |        |              |        |          |        |            |        |  |        |                                      |        |                                  |        |   |   |                     |      |                         |    |                       |    |   |    |         |      |  |    |   |    |              |     |  |     |                        |      |   |     |   |     |  |     |                                  |     |                                    |     |  |      |  |      |   |    |  |    |                                     |    |                    |    |             |    |   |    |  |   |                      |      |                     |    |                          |    |                                     |    |                          |   |  |   |
| Steel ASTM A216 WCB <sup>(2)</sup>   | S      |            |      |          |       |          |       |                  |       |  |        |              |        |          |        |            |        |  |        |                                      |        |                                  |        |   |   |                     |      |                         |    |                       |    |   |    |         |      |  |    |   |    |              |     |  |     |                        |      |   |     |   |     |  |     |                                  |     |                                    |     |  |      |  |      |   |    |  |    |                                     |    |                    |    |             |    |   |    |  |   |                      |      |                     |    |                          |    |                                     |    |                          |   |  |   |
| Stainless Steel 316  | N      |            |      |          |       |          |       |                  |       |  |        |              |        |          |        |            |        |  |        |                                      |        |                                  |        |   |   |                     |      |                         |    |                       |    |   |    |         |      |  |    |   |    |              |     |  |     |                        |      |   |     |   |     |  |     |                                  |     |                                    |     |  |      |  |      |   |    |  |    |                                     |    |                    |    |             |    |   |    |  |   |                      |      |                     |    |                          |    |                                     |    |                          |   |  |   |
| Nickel Al Bronze C95800  | U      |            |      |          |       |          |       |                  |       |  |        |              |        |          |        |            |        |  |        |                                      |        |                                  |        |   |   |                     |      |                         |    |                       |    |   |    |         |      |  |    |   |    |              |     |  |     |                        |      |   |     |   |     |  |     |                                  |     |                                    |     |  |      |  |      |   |    |  |    |                                     |    |                    |    |             |    |   |    |  |   |                      |      |                     |    |                          |    |                                     |    |                          |   |  |   |
| Super Duplex Grade 5A  | D      |            |      |          |       |          |       |                  |       |  |        |              |        |          |        |            |        |  |        |                                      |        |                                  |        |   |   |                     |      |                         |    |                       |    |   |    |         |      |  |    |   |    |              |     |  |     |                        |      |   |     |   |     |  |     |                                  |     |                                    |     |  |      |  |      |   |    |  |    |                                     |    |                    |    |             |    |   |    |  |   |                      |      |                     |    |                          |    |                                     |    |                          |   |  |   |
| Coating  | Code   |            |      |          |       |          |       |                  |       |  |        |              |        |          |        |            |        |  |        |                                      |        |                                  |        |   |   |                     |      |                         |    |                       |    |   |    |         |      |  |    |   |    |              |     |  |     |                        |      |   |     |   |     |  |     |                                  |     |                                    |     |  |      |  |      |   |    |  |    |                                     |    |                    |    |             |    |   |    |  |   |                      |      |                     |    |                          |    |                                     |    |                          |   |  |   |
| Polyester Red  | PR     |            |      |          |       |          |       |                  |       |  |        |              |        |          |        |            |        |  |        |                                      |        |                                  |        |   |   |                     |      |                         |    |                       |    |   |    |         |      |  |    |   |    |              |     |  |     |                        |      |   |     |   |     |  |     |                                  |     |                                    |     |  |      |  |      |   |    |  |    |                                     |    |                    |    |             |    |   |    |  |   |                      |      |                     |    |                          |    |                                     |    |                          |   |  |   |
| High Build Epoxy   | ER     |            |      |          |       |          |       |                  |       |  |        |              |        |          |        |            |        |  |        |                                      |        |                                  |        |   |   |                     |      |                         |    |                       |    |   |    |         |      |  |    |   |    |              |     |  |     |                        |      |   |     |   |     |  |     |                                  |     |                                    |     |  |      |  |      |   |    |  |    |                                     |    |                    |    |             |    |   |    |  |   |                      |      |                     |    |                          |    |                                     |    |                          |   |  |   |
| Uncoated   | UC     |            |      |          |       |          |       |                  |       |  |        |              |        |          |        |            |        |  |        |                                      |        |                                  |        |   |   |                     |      |                         |    |                       |    |   |    |         |      |  |    |   |    |              |     |  |     |                        |      |   |     |   |     |  |     |                                  |     |                                    |     |  |      |  |      |   |    |  |    |                                     |    |                    |    |             |    |   |    |  |   |                      |      |                     |    |                          |    |                                     |    |                          |   |  |   |
| Factory Fitted Options   | Code   |            |      |          |       |          |       |                  |       |  |        |              |        |          |        |            |        |  |        |                                      |        |                                  |        |   |   |                     |      |                         |    |                       |    |   |    |         |      |  |    |   |    |              |     |  |     |                        |      |   |     |   |     |  |     |                                  |     |                                    |     |  |      |  |      |   |    |  |    |                                     |    |                    |    |             |    |   |    |  |   |                      |      |                     |    |                          |    |                                     |    |                          |   |  |   |
| Pressure Switch, General Purpose <sup>(3)</sup>  | P      |            |      |          |       |          |       |                  |       |  |        |              |        |          |        |            |        |  |        |                                      |        |                                  |        |   |   |                     |      |                         |    |                       |    |   |    |         |      |  |    |   |    |              |     |  |     |                        |      |   |     |   |     |  |     |                                  |     |                                    |     |  |      |  |      |   |    |  |    |                                     |    |                    |    |             |    |   |    |  |   |                      |      |                     |    |                          |    |                                     |    |                          |   |  |   |
| Ex Proof NEC Div.1 Pressure Switch <sup>(3)</sup>  | P7     |            |      |          |       |          |       |                  |       |  |        |              |        |          |        |            |        |  |        |                                      |        |                                  |        |   |   |                     |      |                         |    |                       |    |   |    |         |      |  |    |   |    |              |     |  |     |                        |      |   |     |   |     |  |     |                                  |     |                                    |     |  |      |  |      |   |    |  |    |                                     |    |                    |    |             |    |   |    |  |   |                      |      |                     |    |                          |    |                                     |    |                          |   |  |   |
| Ex d ATEX Pressure Switch <sup>(3)</sup>   | P9     |            |      |          |       |          |       |                  |       |  |        |              |        |          |        |            |        |  |        |                                      |        |                                  |        |   |   |                     |      |                         |    |                       |    |   |    |         |      |  |    |   |    |              |     |  |     |                        |      |   |     |   |     |  |     |                                  |     |                                    |     |  |      |  |      |   |    |  |    |                                     |    |                    |    |             |    |   |    |  |   |                      |      |                     |    |                          |    |                                     |    |                          |   |  |   |
| Limit Switch Box General Purpose   | RS     |            |      |          |       |          |       |                  |       |  |        |              |        |          |        |            |        |  |        |                                      |        |                                  |        |   |   |                     |      |                         |    |                       |    |   |    |         |      |  |    |   |    |              |     |  |     |                        |      |   |     |   |     |  |     |                                  |     |                                    |     |  |      |  |      |   |    |  |    |                                     |    |                    |    |             |    |   |    |  |   |                      |      |                     |    |                          |    |                                     |    |                          |   |  |   |
| Single Ex d Proximity Limit Switch   | RS9    |            |      |          |       |          |       |                  |       |  |        |              |        |          |        |            |        |  |        |                                      |        |                                  |        |   |   |                     |      |                         |    |                       |    |   |    |         |      |  |    |   |    |              |     |  |     |                        |      |   |     |   |     |  |     |                                  |     |                                    |     |  |      |  |      |   |    |  |    |                                     |    |                    |    |             |    |   |    |  |   |                      |      |                     |    |                          |    |                                     |    |                          |   |  |   |
| Double EExd Proximity Limit Switch   | RSS9   |            |      |          |       |          |       |                  |       |  |        |              |        |          |        |            |        |  |        |                                      |        |                                  |        |   |   |                     |      |                         |    |                       |    |   |    |         |      |  |    |   |    |              |     |  |     |                        |      |   |     |   |     |  |     |                                  |     |                                    |     |  |      |  |      |   |    |  |    |                                     |    |                    |    |             |    |   |    |  |   |                      |      |                     |    |                          |    |                                     |    |                          |   |  |   |
| Pressure Gauge Assembly <sup>(3)</sup>   | 6      |            |      |          |       |          |       |                  |       |  |        |              |        |          |        |            |        |  |        |                                      |        |                                  |        |   |   |                     |      |                         |    |                       |    |   |    |         |      |  |    |   |    |              |     |  |     |                        |      |   |     |   |     |  |     |                                  |     |                                    |     |  |      |  |      |   |    |  |    |                                     |    |                    |    |             |    |   |    |  |   |                      |      |                     |    |                          |    |                                     |    |                          |   |  |   |
| S.S Glycerin Pressure Gauge Assembly <sup>(3)</sup>  | 6n     |            |      |          |       |          |       |                  |       |  |        |              |        |          |        |            |        |  |        |                                      |        |                                  |        |   |   |                     |      |                         |    |                       |    |   |    |         |      |  |    |   |    |              |     |  |     |                        |      |   |     |   |     |  |     |                                  |     |                                    |     |  |      |  |      |   |    |  |    |                                     |    |                    |    |             |    |   |    |  |   |                      |      |                     |    |                          |    |                                     |    |                          |   |  |   |
| Monel Pressure Gauge Assembly <sup>(3)</sup>   | 6m     |            |      |          |       |          |       |                  |       |  |        |              |        |          |        |            |        |  |        |                                      |        |                                  |        |   |   |                     |      |                         |    |                       |    |   |    |         |      |  |    |   |    |              |     |  |     |                        |      |   |     |   |     |  |     |                                  |     |                                    |     |  |      |  |      |   |    |  |    |                                     |    |                    |    |             |    |   |    |  |   |                      |      |                     |    |                          |    |                                     |    |                          |   |  |   |
| Ex Proof NEC Class 1 Div 1 Solenoid  | 7      |            |      |          |       |          |       |                  |       |  |        |              |        |          |        |            |        |  |        |                                      |        |                                  |        |   |   |                     |      |                         |    |                       |    |   |    |         |      |  |    |   |    |              |     |  |     |                        |      |   |     |   |     |  |     |                                  |     |                                    |     |  |      |  |      |   |    |  |    |                                     |    |                    |    |             |    |   |    |  |   |                      |      |                     |    |                          |    |                                     |    |                          |   |  |   |
| Ex d ATEX Solenoid   | 9      |            |      |          |       |          |       |                  |       |  |        |              |        |          |        |            |        |  |        |                                      |        |                                  |        |   |   |                     |      |                         |    |                       |    |   |    |         |      |  |    |   |    |              |     |  |     |                        |      |   |     |   |     |  |     |                                  |     |                                    |     |  |      |  |      |   |    |  |    |                                     |    |                    |    |             |    |   |    |  |   |                      |      |                     |    |                          |    |                                     |    |                          |   |  |   |
| Drain valve  | DV     |            |      |          |       |          |       |                  |       |  |        |              |        |          |        |            |        |  |        |                                      |        |                                  |        |   |   |                     |      |                         |    |                       |    |   |    |         |      |  |    |   |    |              |     |  |     |                        |      |   |     |   |     |  |     |                                  |     |                                    |     |  |      |  |      |   |    |  |    |                                     |    |                    |    |             |    |   |    |  |   |                      |      |                     |    |                          |    |                                     |    |                          |   |  |   |
| Water Motor Alarm Assembly <sup>(3)</sup>  | W      |            |      |          |       |          |       |                  |       |  |        |              |        |          |        |            |        |  |        |                                      |        |                                  |        |   |   |                     |      |                         |    |                       |    |   |    |         |      |  |    |   |    |              |     |  |     |                        |      |   |     |   |     |  |     |                                  |     |                                    |     |  |      |  |      |   |    |  |    |                                     |    |                    |    |             |    |   |    |  |   |                      |      |                     |    |                          |    |                                     |    |                          |   |  |   |
| Special Elastomer  | E      |            |      |          |       |          |       |                  |       |  |        |              |        |          |        |            |        |  |        |                                      |        |                                  |        |   |   |                     |      |                         |    |                       |    |   |    |         |      |  |    |   |    |              |     |  |     |                        |      |   |     |   |     |  |     |                                  |     |                                    |     |  |      |  |      |   |    |  |    |                                     |    |                    |    |             |    |   |    |  |   |                      |      |                     |    |                          |    |                                     |    |                          |   |  |   |
| Large Control Filter   | F      |            |      |          |       |          |       |                  |       |  |        |              |        |          |        |            |        |  |        |                                      |        |                                  |        |   |   |                     |      |                         |    |                       |    |   |    |         |      |  |    |   |    |              |     |  |     |                        |      |   |     |   |     |  |     |                                  |     |                                    |     |  |      |  |      |   |    |  |    |                                     |    |                    |    |             |    |   |    |  |   |                      |      |                     |    |                          |    |                                     |    |                          |   |  |   |
| S.S Solenoid Valve   | K      |            |      |          |       |          |       |                  |       |  |        |              |        |          |        |            |        |  |        |                                      |        |                                  |        |   |   |                     |      |                         |    |                       |    |   |    |         |      |  |    |   |    |              |     |  |     |                        |      |   |     |   |     |  |     |                                  |     |                                    |     |  |      |  |      |   |    |  |    |                                     |    |                    |    |             |    |   |    |  |   |                      |      |                     |    |                          |    |                                     |    |                          |   |  |   |
| S.S 316 Trim Accessories   | N      |            |      |          |       |          |       |                  |       |  |        |              |        |          |        |            |        |  |        |                                      |        |                                  |        |   |   |                     |      |                         |    |                       |    |   |    |         |      |  |    |   |    |              |     |  |     |                        |      |   |     |   |     |  |     |                                  |     |                                    |     |  |      |  |      |   |    |  |    |                                     |    |                    |    |             |    |   |    |  |   |                      |      |                     |    |                          |    |                                     |    |                          |   |  |   |
| Pressure Transmitter <sup>(3)</sup>  | Q      |            |      |          |       |          |       |                  |       |  |        |              |        |          |        |            |        |  |        |                                      |        |                                  |        |   |   |                     |      |                         |    |                       |    |   |    |         |      |  |    |   |    |              |     |  |     |                        |      |   |     |   |     |  |     |                                  |     |                                    |     |  |      |  |      |   |    |  |    |                                     |    |                    |    |             |    |   |    |  |   |                      |      |                     |    |                          |    |                                     |    |                          |   |  |   |
| Stainless Steel 316 Seat   | T      |            |      |          |       |          |       |                  |       |  |        |              |        |          |        |            |        |  |        |                                      |        |                                  |        |   |   |                     |      |                         |    |                       |    |   |    |         |      |  |    |   |    |              |     |  |     |                        |      |   |     |   |     |  |     |                                  |     |                                    |     |  |      |  |      |   |    |  |    |                                     |    |                    |    |             |    |   |    |  |   |                      |      |                     |    |                          |    |                                     |    |                          |   |  |   |
| Drain and Indicating Components <sup>(5)</sup>   | A      |            |      |          |       |          |       |                  |       |  |        |              |        |          |        |            |        |  |        |                                      |        |                                  |        |   |   |                     |      |                         |    |                       |    |   |    |         |      |  |    |   |    |              |     |  |     |                        |      |   |     |   |     |  |     |                                  |     |                                    |     |  |      |  |      |   |    |  |    |                                     |    |                    |    |             |    |   |    |  |   |                      |      |                     |    |                          |    |                                     |    |                          |   |  |   |
| <table><tr><th>Valve Size</th><td></td></tr><tr><td>1½"</td><td>40 mm</td></tr><tr><td>2"</td><td>50 mm</td></tr><tr><td>3"</td><td>80 mm</td></tr><tr><td>4"</td><td>100 mm</td></tr><tr><td>6"</td><td>150 mm</td></tr><tr><td>8"</td><td>200 mm</td></tr><tr><td>10"</td><td>250 mm</td></tr><tr><td>12"</td><td>300 mm</td></tr><tr><td>14"</td><td>350 mm</td></tr><tr><td>16"</td><td>400 mm</td></tr></table> |        | Valve Size |      | 1½"      | 40 mm | 2"       | 50 mm | 3"               | 80 mm | 4"   | 100 mm | 6"           | 150 mm | 8"       | 200 mm | 10"        | 250 mm | 12"  | 300 mm | 14"                                  | 350 mm | 16"                              | 400 mm | <table><tr><th>Speed Control</th><th>Code</th></tr><tr><td>Opening speed</td><td>02</td></tr><tr><td>Closing speed</td><td>01</td></tr><tr><td>Opening &amp; Closing speed</td><td>03</td></tr><tr><td>None</td><td>-</td></tr></table> |   | Speed Control       | Code | Opening speed           | 02 | Closing speed         | 01 | Opening & Closing speed   | 03 | None    | -    | <table><tr><th>Voltage<sup>(4)</sup> - Main Valve N.O or N.C*</th><td></td></tr><tr><td>24VDC - N.C.</td><td>4DC</td></tr><tr><td>24VDC - N.O.</td><td>4DO</td></tr><tr><td>110VDC - N.C.</td><td>5DC</td></tr><tr><td>110VDC - N.O.</td><td>5DO</td></tr><tr><td>110-120/AC - N.C.</td><td>5AC</td></tr><tr><td>110-120/AC - N.O.</td><td>5AO</td></tr><tr><td>220-240/AC - N.C.</td><td>2AC</td></tr><tr><td>220-240/AC - N.O.</td><td>2AO</td></tr></table> |    | Voltage <sup>(4)</sup> - Main Valve N.O or N.C* |    | 24VDC - N.C. | 4DC | 24VDC - N.O.   | 4DO | 110VDC - N.C.          | 5DC  | 110VDC - N.O.                                   | 5DO | 110-120/AC - N.C.                                 | 5AC | 110-120/AC - N.O.                        | 5AO | 220-240/AC - N.C.                | 2AC | 220-240/AC - N.O.                  | 2AO | <table><tr><th>End Connections</th><th>Code</th></tr><tr><td>ANSI#150RF</td><td>A5</td></tr><tr><td>ANSI#150FF</td><td>A5</td></tr><tr><td>ANSI#300RF</td><td>A3</td></tr><tr><td>ISO PN16</td><td>16</td></tr><tr><td>ISO PN25</td><td>25</td></tr><tr><td>Grooved ANSI C606</td><td>VI</td></tr></table> |      | End Connections                        | Code | ANSI#150RF  | A5 | ANSI#150FF                                   | A5 | ANSI#300RF                          | A3 | ISO PN16           | 16 | ISO PN25    | 25 | Grooved ANSI C606                         | VI | <table><tr><th>Tubing &amp; Fittings</th><th>Code</th></tr><tr><td>Stainless Steel 316</td><td>NN</td></tr><tr><td>Monel 400</td><td>MM</td></tr><tr><td>Super Duplex</td><td>DD</td></tr></table> |   | Tubing & Fittings    | Code | Stainless Steel 316 | NN | Monel 400                | MM | Super Duplex                        | DD |                          |   |  |   |
| Valve Size   |        |            |      |          |       |          |       |                  |       |  |        |              |        |          |        |            |        |  |        |                                      |        |                                  |        |   |   |                     |      |                         |    |                       |    |   |    |         |      |  |    |   |    |              |     |  |     |                        |      |   |     |   |     |  |     |                                  |     |                                    |     |  |      |  |      |   |    |  |    |                                     |    |                    |    |             |    |   |    |  |   |                      |      |                     |    |                          |    |                                     |    |                          |   |  |   |
| 1½"  | 40 mm  |            |      |          |       |          |       |                  |       |  |        |              |        |          |        |            |        |  |        |                                      |        |                                  |        |   |   |                     |      |                         |    |                       |    |   |    |         |      |  |    |   |    |              |     |  |     |                        |      |   |     |   |     |  |     |                                  |     |                                    |     |  |      |  |      |   |    |  |    |                                     |    |                    |    |             |    |   |    |  |   |                      |      |                     |    |                          |    |                                     |    |                          |   |  |   |
| 2"   | 50 mm  |            |      |          |       |          |       |                  |       |  |        |              |        |          |        |            |        |  |        |                                      |        |                                  |        |   |   |                     |      |                         |    |                       |    |   |    |         |      |  |    |   |    |              |     |  |     |                        |      |   |     |   |     |  |     |                                  |     |                                    |     |  |      |  |      |   |    |  |    |                                     |    |                    |    |             |    |   |    |  |   |                      |      |                     |    |                          |    |                                     |    |                          |   |  |   |
| 3"   | 80 mm  |            |      |          |       |          |       |                  |       |  |        |              |        |          |        |            |        |  |        |                                      |        |                                  |        |   |   |                     |      |                         |    |                       |    |   |    |         |      |  |    |   |    |              |     |  |     |                        |      |   |     |   |     |  |     |                                  |     |                                    |     |  |      |  |      |   |    |  |    |                                     |    |                    |    |             |    |   |    |  |   |                      |      |                     |    |                          |    |                                     |    |                          |   |  |   |
| 4"   | 100 mm |            |      |          |       |          |       |                  |       |  |        |              |        |          |        |            |        |  |        |                                      |        |                                  |        |   |   |                     |      |                         |    |                       |    |   |    |         |      |  |    |   |    |              |     |  |     |                        |      |   |     |   |     |  |     |                                  |     |                                    |     |  |      |  |      |   |    |  |    |                                     |    |                    |    |             |    |   |    |  |   |                      |      |                     |    |                          |    |                                     |    |                          |   |  |   |
| 6"   | 150 mm |            |      |          |       |          |       |                  |       |  |        |              |        |          |        |            |        |  |        |                                      |        |                                  |        |   |   |                     |      |                         |    |                       |    |   |    |         |      |  |    |   |    |              |     |  |     |                        |      |   |     |   |     |  |     |                                  |     |                                    |     |  |      |  |      |   |    |  |    |                                     |    |                    |    |             |    |   |    |  |   |                      |      |                     |    |                          |    |                                     |    |                          |   |  |   |
| 8"   | 200 mm |            |      |          |       |          |       |                  |       |  |        |              |        |          |        |            |        |  |        |                                      |        |                                  |        |   |   |                     |      |                         |    |                       |    |   |    |         |      |  |    |   |    |              |     |  |     |                        |      |   |     |   |     |  |     |                                  |     |                                    |     |  |      |  |      |   |    |  |    |                                     |    |                    |    |             |    |   |    |  |   |                      |      |                     |    |                          |    |                                     |    |                          |   |  |   |
| 10"  | 250 mm |            |      |          |       |          |       |                  |       |  |        |              |        |          |        |            |        |  |        |                                      |        |                                  |        |   |   |                     |      |                         |    |                       |    |   |    |         |      |  |    |   |    |              |     |  |     |                        |      |   |     |   |     |  |     |                                  |     |                                    |     |  |      |  |      |   |    |  |    |                                     |    |                    |    |             |    |   |    |  |   |                      |      |                     |    |                          |    |                                     |    |                          |   |  |   |
| 12"  | 300 mm |            |      |          |       |          |       |                  |       |  |        |              |        |          |        |            |        |  |        |                                      |        |                                  |        |   |   |                     |      |                         |    |                       |    |   |    |         |      |  |    |   |    |              |     |  |     |                        |      |   |     |   |     |  |     |                                  |     |                                    |     |  |      |  |      |   |    |  |    |                                     |    |                    |    |             |    |   |    |  |   |                      |      |                     |    |                          |    |                                     |    |                          |   |  |   |
| 14"  | 350 mm |            |      |          |       |          |       |                  |       |  |        |              |        |          |        |            |        |  |        |                                      |        |                                  |        |   |   |                     |      |                         |    |                       |    |   |    |         |      |  |    |   |    |              |     |  |     |                        |      |   |     |   |     |  |     |                                  |     |                                    |     |  |      |  |      |   |    |  |    |                                     |    |                    |    |             |    |   |    |  |   |                      |      |                     |    |                          |    |                                     |    |                          |   |  |   |
| 16"  | 400 mm |            |      |          |       |          |       |                  |       |  |        |              |        |          |        |            |        |  |        |                                      |        |                                  |        |   |   |                     |      |                         |    |                       |    |   |    |         |      |  |    |   |    |              |     |  |     |                        |      |   |     |   |     |  |     |                                  |     |                                    |     |  |      |  |      |   |    |  |    |                                     |    |                    |    |             |    |   |    |  |   |                      |      |                     |    |                          |    |                                     |    |                          |   |  |   |
| Speed Control  | Code   |            |      |          |       |          |       |                  |       |  |        |              |        |          |        |            |        |  |        |                                      |        |                                  |        |   |   |                     |      |                         |    |                       |    |   |    |         |      |  |    |   |    |              |     |  |     |                        |      |   |     |   |     |  |     |                                  |     |                                    |     |  |      |  |      |   |    |  |    |                                     |    |                    |    |             |    |   |    |  |   |                      |      |                     |    |                          |    |                                     |    |                          |   |  |   |
| Opening speed  | 02     |            |      |          |       |          |       |                  |       |  |        |              |        |          |        |            |        |  |        |                                      |        |                                  |        |   |   |                     |      |                         |    |                       |    |   |    |         |      |  |    |   |    |              |     |  |     |                        |      |   |     |   |     |  |     |                                  |     |                                    |     |  |      |  |      |   |    |  |    |                                     |    |                    |    |             |    |   |    |  |   |                      |      |                     |    |                          |    |                                     |    |                          |   |  |   |
| Closing speed  | 01     |            |      |          |       |          |       |                  |       |  |        |              |        |          |        |            |        |  |        |                                      |        |                                  |        |   |   |                     |      |                         |    |                       |    |   |    |         |      |  |    |   |    |              |     |  |     |                        |      |   |     |   |     |  |     |                                  |     |                                    |     |  |      |  |      |   |    |  |    |                                     |    |                    |    |             |    |   |    |  |   |                      |      |                     |    |                          |    |                                     |    |                          |   |  |   |
| Opening & Closing speed  | 03     |            |      |          |       |          |       |                  |       |  |        |              |        |          |        |            |        |  |        |                                      |        |                                  |        |   |   |                     |      |                         |    |                       |    |   |    |         |      |  |    |   |    |              |     |  |     |                        |      |   |     |   |     |  |     |                                  |     |                                    |     |  |      |  |      |   |    |  |    |                                     |    |                    |    |             |    |   |    |  |   |                      |      |                     |    |                          |    |                                     |    |                          |   |  |   |
| None   | -      |            |      |          |       |          |       |                  |       |  |        |              |        |          |        |            |        |  |        |                                      |        |                                  |        |   |   |                     |      |                         |    |                       |    |   |    |         |      |  |    |   |    |              |     |  |     |                        |      |   |     |   |     |  |     |                                  |     |                                    |     |  |      |  |      |   |    |  |    |                                     |    |                    |    |             |    |   |    |  |   |                      |      |                     |    |                          |    |                                     |    |                          |   |  |   |
| Voltage <sup>(4)</sup> - Main Valve N.O or N.C*  |        |            |      |          |       |          |       |                  |       |  |        |              |        |          |        |            |        |  |        |                                      |        |                                  |        |   |   |                     |      |                         |    |                       |    |   |    |         |      |  |    |   |    |              |     |  |     |                        |      |   |     |   |     |  |     |                                  |     |                                    |     |  |      |  |      |   |    |  |    |                                     |    |                    |    |             |    |   |    |  |   |                      |      |                     |    |                          |    |                                     |    |                          |   |  |   |
| 24VDC - N.C.   | 4DC    |            |      |          |       |          |       |                  |       |  |        |              |        |          |        |            |        |  |        |                                      |        |                                  |        |   |   |                     |      |                         |    |                       |    |   |    |         |      |  |    |   |    |              |     |  |     |                        |      |   |     |   |     |  |     |                                  |     |                                    |     |  |      |  |      |   |    |  |    |                                     |    |                    |    |             |    |   |    |  |   |                      |      |                     |    |                          |    |                                     |    |                          |   |  |   |
| 24VDC - N.O.   | 4DO    |            |      |          |       |          |       |                  |       |  |        |              |        |          |        |            |        |  |        |                                      |        |                                  |        |   |   |                     |      |                         |    |                       |    |   |    |         |      |  |    |   |    |              |     |  |     |                        |      |   |     |   |     |  |     |                                  |     |                                    |     |  |      |  |      |   |    |  |    |                                     |    |                    |    |             |    |   |    |  |   |                      |      |                     |    |                          |    |                                     |    |                          |   |  |   |
| 110VDC - N.C.  | 5DC    |            |      |          |       |          |       |                  |       |  |        |              |        |          |        |            |        |  |        |                                      |        |                                  |        |   |   |                     |      |                         |    |                       |    |   |    |         |      |  |    |   |    |              |     |  |     |                        |      |   |     |   |     |  |     |                                  |     |                                    |     |  |      |  |      |   |    |  |    |                                     |    |                    |    |             |    |   |    |  |   |                      |      |                     |    |                          |    |                                     |    |                          |   |  |   |
| 110VDC - N.O.  | 5DO    |            |      |          |       |          |       |                  |       |  |        |              |        |          |        |            |        |  |        |                                      |        |                                  |        |   |   |                     |      |                         |    |                       |    |   |    |         |      |  |    |   |    |              |     |  |     |                        |      |   |     |   |     |  |     |                                  |     |                                    |     |  |      |  |      |   |    |  |    |                                     |    |                    |    |             |    |   |    |  |   |                      |      |                     |    |                          |    |                                     |    |                          |   |  |   |
| 110-120/AC - N.C.  | 5AC    |            |      |          |       |          |       |                  |       |  |        |              |        |          |        |            |        |  |        |                                      |        |                                  |        |   |   |                     |      |                         |    |                       |    |   |    |         |      |  |    |   |    |              |     |  |     |                        |      |   |     |   |     |  |     |                                  |     |                                    |     |  |      |  |      |   |    |  |    |                                     |    |                    |    |             |    |   |    |  |   |                      |      |                     |    |                          |    |                                     |    |                          |   |  |   |
| 110-120/AC - N.O.  | 5AO    |            |      |          |       |          |       |                  |       |  |        |              |        |          |        |            |        |  |        |                                      |        |                                  |        |   |   |                     |      |                         |    |                       |    |   |    |         |      |  |    |   |    |              |     |  |     |                        |      |   |     |   |     |  |     |                                  |     |                                    |     |  |      |  |      |   |    |  |    |                                     |    |                    |    |             |    |   |    |  |   |                      |      |                     |    |                          |    |                                     |    |                          |   |  |   |
| 220-240/AC - N.C.  | 2AC    |            |      |          |       |          |       |                  |       |  |        |              |        |          |        |            |        |  |        |                                      |        |                                  |        |   |   |                     |      |                         |    |                       |    |   |    |         |      |  |    |   |    |              |     |  |     |                        |      |   |     |   |     |  |     |                                  |     |                                    |     |  |      |  |      |   |    |  |    |                                     |    |                    |    |             |    |   |    |  |   |                      |      |                     |    |                          |    |                                     |    |                          |   |  |   |
| 220-240/AC - N.O.  | 2AO    |            |      |          |       |          |       |                  |       |  |        |              |        |          |        |            |        |  |        |                                      |        |                                  |        |   |   |                     |      |                         |    |                       |    |   |    |         |      |  |    |   |    |              |     |  |     |                        |      |   |     |   |     |  |     |                                  |     |                                    |     |  |      |  |      |   |    |  |    |                                     |    |                    |    |             |    |   |    |  |   |                      |      |                     |    |                          |    |                                     |    |                          |   |  |   |
| End Connections  | Code   |            |      |          |       |          |       |                  |       |  |        |              |        |          |        |            |        |  |        |                                      |        |                                  |        |   |   |                     |      |                         |    |                       |    |   |    |         |      |  |    |   |    |              |     |  |     |                        |      |   |     |   |     |  |     |                                  |     |                                    |     |  |      |  |      |   |    |  |    |                                     |    |                    |    |             |    |   |    |  |   |                      |      |                     |    |                          |    |                                     |    |                          |   |  |   |
| ANSI#150RF   | A5     |            |      |          |       |          |       |                  |       |  |        |              |        |          |        |            |        |  |        |                                      |        |                                  |        |   |   |                     |      |                         |    |                       |    |   |    |         |      |  |    |   |    |              |     |  |     |                        |      |   |     |   |     |  |     |                                  |     |                                    |     |  |      |  |      |   |    |  |    |                                     |    |                    |    |             |    |   |    |  |   |                      |      |                     |    |                          |    |                                     |    |                          |   |  |   |
| ANSI#150FF   | A5     |            |      |          |       |          |       |                  |       |  |        |              |        |          |        |            |        |  |        |                                      |        |                                  |        |   |   |                     |      |                         |    |                       |    |   |    |         |      |  |    |   |    |              |     |  |     |                        |      |   |     |   |     |  |     |                                  |     |                                    |     |  |      |  |      |   |    |  |    |                                     |    |                    |    |             |    |   |    |  |   |                      |      |                     |    |                          |    |                                     |    |                          |   |  |   |
| ANSI#300RF   | A3     |            |      |          |       |          |       |                  |       |  |        |              |        |          |        |            |        |  |        |                                      |        |                                  |        |   |   |                     |      |                         |    |                       |    |   |    |         |      |  |    |   |    |              |     |  |     |                        |      |   |     |   |     |  |     |                                  |     |                                    |     |  |      |  |      |   |    |  |    |                                     |    |                    |    |             |    |   |    |  |   |                      |      |                     |    |                          |    |                                     |    |                          |   |  |   |
| ISO PN16   | 16     |            |      |          |       |          |       |                  |       |  |        |              |        |          |        |            |        |  |        |                                      |        |                                  |        |   |   |                     |      |                         |    |                       |    |   |    |         |      |  |    |   |    |              |     |  |     |                        |      |   |     |   |     |  |     |                                  |     |                                    |     |  |      |  |      |   |    |  |    |                                     |    |                    |    |             |    |   |    |  |   |                      |      |                     |    |                          |    |                                     |    |                          |   |  |   |
| ISO PN25   | 25     |            |      |          |       |          |       |                  |       |  |        |              |        |          |        |            |        |  |        |                                      |        |                                  |        |   |   |                     |      |                         |    |                       |    |   |    |         |      |  |    |   |    |              |     |  |     |                        |      |   |     |   |     |  |     |                                  |     |                                    |     |  |      |  |      |   |    |  |    |                                     |    |                    |    |             |    |   |    |  |   |                      |      |                     |    |                          |    |                                     |    |                          |   |  |   |
| Grooved ANSI C606  | VI     |            |      |          |       |          |       |                  |       |  |        |              |        |          |        |            |        |  |        |                                      |        |                                  |        |   |   |                     |      |                         |    |                       |    |   |    |         |      |  |    |   |    |              |     |  |     |                        |      |   |     |   |     |  |     |                                  |     |                                    |     |  |      |  |      |   |    |  |    |                                     |    |                    |    |             |    |   |    |  |   |                      |      |                     |    |                          |    |                                     |    |                          |   |  |   |
| Tubing & Fittings  | Code   |            |      |          |       |          |       |                  |       |  |        |              |        |          |        |            |        |  |        |                                      |        |                                  |        |   |   |                     |      |                         |    |                       |    |   |    |         |      |  |    |   |    |              |     |  |     |                        |      |   |     |   |     |  |     |                                  |     |                                    |     |  |      |  |      |   |    |  |    |                                     |    |                    |    |             |    |   |    |  |   |                      |      |                     |    |                          |    |                                     |    |                          |   |  |   |
| Stainless Steel 316  | NN     |            |      |          |       |          |       |                  |       |  |        |              |        |          |        |            |        |  |        |                                      |        |                                  |        |   |   |                     |      |                         |    |                       |    |   |    |         |      |  |    |   |    |              |     |  |     |                        |      |   |     |   |     |  |     |                                  |     |                                    |     |  |      |  |      |   |    |  |    |                                     |    |                    |    |             |    |   |    |  |   |                      |      |                     |    |                          |    |                                     |    |                          |   |  |   |
| Monel 400  | MM     |            |      |          |       |          |       |                  |       |  |        |              |        |          |        |            |        |  |        |                                      |        |                                  |        |   |   |                     |      |                         |    |                       |    |   |    |         |      |  |    |   |    |              |     |  |     |                        |      |   |     |   |     |  |     |                                  |     |                                    |     |  |      |  |      |   |    |  |    |                                     |    |                    |    |             |    |   |    |  |   |                      |      |                     |    |                          |    |                                     |    |                          |   |  |   |
| Super Duplex   | DD     |            |      |          |       |          |       |                  |       |  |        |              |        |          |        |            |        |  |        |                                      |        |                                  |        |   |   |                     |      |                         |    |                       |    |   |    |         |      |  |    |   |    |              |     |  |     |                        |      |   |     |   |     |  |     |                                  |     |                                    |     |  |      |  |      |   |    |  |    |                                     |    |                    |    |             |    |   |    |  |   |                      |      |                     |    |                          |    |                                     |    |                          |   |  |   |

**Notes:**

<sup>(1)</sup> Other materials available, see engineering data

<sup>(2)</sup> Coated internally and externally

<sup>(3)</sup> Supplied loose

<sup>(4)</sup> FM approved with 24VDC only

<sup>(5)</sup> Mandatory for FM approved valves

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