

# TECHNICAL DATA SHEET

for use by Architects & Engineers

## Deluge Valve

Model: A



### Technical & Environmental Specification

|                             |   |
|-----------------------------|---|
| Model                       | A   |
| Nominal size                | 200, 150, 100, 80 & 50NB  |
| Maximum service pressure    | 12 Bar (175 PSI) Pressure   |
| Threaded opening            | BSPT  |
| Mounting                    | 90° pattern inlet to outlet vertical mounting                           |
| Factory Test pressure       | 25 Kg./sq.cm. (350 PSI) HYDROSTATIC                                     |
| Flange Connection           | ANSI B 16.1 FF # 125 (Flange drilling matching to ANSI B 16.5 # 150)    |
| Trim                        | Galvanized Steel with Brass Valves                                      |
| Wet pilot height limitation | As per graph in the catalogue SPRINKLER                                 |
| Net weight without Trim     | 200NB 214 Kg<br>150NB 131 Kg<br>100NB 77 Kg<br>80NB 50 Kg<br>50NB 47 Kg |
| Finish                      | Red RAL 3000  |
| Approval                    | UL Listed<br>1) Size of valve<br>2) Trim type -                         |
| Ordering information        | Dry Pilot Wet Pilot<br>Electric Release Test & Alarm                    |

### Description

Deluge Valve is known as a system control valve in a deluge system, used for fast application of water in a spray system. Deluge valve protects areas such as power transformer installation, storage tank, conveyor protection and other industrial application etc. With the addition of foaming agent deluge valve can be used to protect aircraft hanger and inflammable liquid fire.

### Valve Operation

Deluge valve is a quick release, hydraulically operated diaphragm valve. It has three chambers, isolated from each other by the diaphragm operated clapper and seat seal. While in 'SET' position, water pressure is transmitted through an external bypass check valve and restriction orifice from the system supply side to the top chamber, so that supply pressure in the top chamber acts across the diaphragm operated clapper which holds the seat against the inlet supply pressure because of differential pressure design.

On detection of fire the top chamber is vented to atmosphere through the outlet port via opened actuation device(s). The top chamber pressure cannot be replenished through the restricted inlet port, thus it reaches less than half the supply pressure instantaneously and the upward force of the supply pressure lifts the clapper allowing water to enter the system piping network and alarm devices.

### Trim Description

#### BASIC TRIM

The basic trim is required on deluge valve regardless of the release system. It contains those components which are required in all types of installation, such as the main drain valve, priming connection, drip check valve, emergency release valve and pressure gauges.

#### DRY PILOT TRIM (PNEUMATIC RELEASE)

Dry pilot operation uses a pilot line of closed Sprinklers / QB detectors containing air under pressure, located in the area to be protected. It requires regulated dry air supply with main supply point through restricted orifice.

The pilot line is connected directly to the top of POSITIVE DRAIN ACTUATOR (PDA). The bottom of PDA is connected to the top chamber of the deluge valve. When the air pressure drops, due to release of any of the release devices on detection of fire, the diaphragm of PDA is lifted and allows the water to drain. This reduces the water pressure in the top chamber of the deluge valve and when the pressure in the top chamber reaches 50% of the supply pressure, the deluge valve opens.

The direct drain of PDA starts when the top chamber pressure of deluge valve reaches approximately 0.7 Kg/sq.cm. This positive drain will not permit the deluge valve to close unless the PDA is set manually. The recommended air supply pressure is as per TABLE-1

| LINE WATER PRESSURE<br>Kg./ Sq.cm.<br>MAXIMUM | AIR PRESSURE IN DETECTION<br>LINE Kg./ Sq.cm. |         |
|---|---|---------|
|   | MINIMUM                                       | MAXIMUM |
| 2   | 1.2   | 3.0     |
| 4   | 1.5   | 3.0     |
| 6   | 2.0   | 3.5     |
| 8   | 2.5   | 3.5     |
| 10  | 3.0   | 3.5     |
| 12  | 3.5   | 4.0     |

\*Table1

#### WET PILOT TRIM (HYDRAULIC RELEASE)

Wet pilot operation uses a pilot line of closed sprinklers containing pressurised water, supplied through the upstream side of the deluge valve, through a restricted orifice. All the release lines are connected to a common release line. Due to release of any one of the release devices, the water pressure in the top chamber of the deluge valve reaches 50% of the supply pressure, the deluge valve opens.

### Caution

While using a deluge valve in the wet pilot system the height and the length of the wet pilot detection line is to be limited as given in the wet pilot sprinkler height limitation graph

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### ELECTRIC RELEASE TRIM

To actuate a deluge valve electrically, a solenoid valve is provided to drain the water from the top chamber of the deluge valve. A pressure switch is provided to activate an electric alarm, to shut down the desired equipment or to give "Tripped" indication to the panel.

In addition to this two no's of pressure switches can be used to monitor "Low air pressure" and "Fire condition" when used in dry pilot airline.

### TEST AND ALARM TRIM WITH SPRINKLER ALARM

This trim is supplied with the sprinkler alarm bell, which bells on actuation of the deluge valve. A test valve is provided to test the normal operation of the sprinkler alarm bell.

Note: Trim without Test and Alarm trim, without Drain & drip valve can be supplied for which please contact marketing.

### Resetting Procedure

- Close the upstream side stop valve provide below the deluge valve.
- Open both the drain valves and close them when the flow of water has ceased.
- Inspect and release if required, or close the section of the detection system subjected to "Fire condition".
- In case of dry pilot detection system, open the air supply valve to build-up air pressure as shown in TABLE-1. Open the priming valve fully and press hold the knob of PDA till the water pressure gauge indicate full service line pressure, then release the PDA knob. Open the upstream side of the stop valve provided below the deluge valve. No water should flow into the system, this can be checked by depressing the drip check valve knob.

### Caution

- Do not close the priming valve, down stream and upstream stop valves, while the system is in service.
- The releasing device must be maintained in the open position, when actuated, to prevent the deluge valve from closure.
- While using a Deluge valve in the wet pilot system the height and the length of the wet pilot detection line is to be limited as shown in the wet pilot sprinkler limitation graph.
- Do not connect the Sprinkler Alarm outlet drainline to close a common drain as it may create back pressure and Sprinkler Alarm may not function.
- Deluge valve must have support to absorb sudden opening or closing vibration shock to the piping.
- The responsibility of maintenance of the protection system and devices in proper operating condition lies with the owner of the system.
- Deluge Valve & its trim shall be maintained at a minimum temperature of 4°C, Heat tracing is not permitted.
- Deluge Valve must be used in pressurized system

### System Testing Procedure

- Keep the upstream side of the stop valve partially open. Open the upstream side of the Drain valve, to maintain a minimum pressure of 3 Kg./sq. cm on the upstream side of the deluge valve. To avoid water damage close the system side stop valve. This valve is to be kept in open position after the testing is completed.

- Open the system side drain valve of the deluge valve.
- Let any of the release devices to trip. This will result in a sudden drop of water pressure in the deluge valve top chamber resulting the deluge valve to open. The water flowing through the downstream side drain valve confirms that the deluge valve has actuated, immediately close the upstream side stop valve.
- Once testing is over reset the valve as per procedure given under heading "RESETTING PROCEDURE FOR THE DELUGE VALVE".

### Inspection and Maintenance

All the newly installed system piping network must be flushed properly before placing the deluge valve in service. A qualified and trained person must commission the system. After few initial successful tests an authorized person must be trained to perform inspection and testing of the system. It is recommended to have regular inspection and test run the system as per NFPA guidelines or in accordance with the guideline laid down by the organization having local jurisdiction.

### WARNING

Inspection and testing is to be carried out only by authorized and trained personnel. DO NOT TURN OFF the water supply or close any valve to make repair(s) or test the valve, without placing a roving fire patrol in the area protected by the system. Also inform the local security personnel and central alarm station, so that a false alarm is not signaled. It is recommended to carry out physical inspection of the system at least twice in a week.

The inspection should verify that all the control valves are in proper position as per the system requirement and no damage has taken place to any component.

### NORMAL CONDITION

- All main valves are open and are sealed with tamper proof seal.
- Drain valves must be kept closed.
- No leak or drip is detected from the drip valve.
- All the gauges except the system side water pressure gauge, should show the required pressure.
- There should be no leakage in the system.

### NORMAL CONDITION TEST

- The system should be checked for normal condition at least once a month.
- Test the sprinkler alarm bell or electric alarm by turning the alarm test valve to the test position. The alarm should sound. This test should be carried out at least once in a week.
- Depress the drip valve knob. Significant water accumulation indicates a possible seat leakage.
- Conduct the water flow test as per the procedure of system testing at least once in a month.

### PERIODIC CHECK

Conduct the water flow test by actuating few of the release devices provided in the system. Clean all strainer(s) and priming line restriction. This test is to be carried out at least once in six months.

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### Abnormal Condition

#### ALARM FAILS TO SOUND

- Check for any obstruction in the alarm test line, Ensure that the sprinkler alarm is freely operating.
- If an electric alarm is provided, check the electrical circuitry to the alarm.

#### FALSE TRIPS

- Check for clogging in priming line, restriction orifice check valve, priming valve & strainer.
- Leakage in the release system.
- The deluge air panel orifice clogged or low supply pressure.

#### LEAKAGE THROUGH THE DELUGE VALVE

- Damaged deluge valve seat or obstruction on the seat face by foreign object.
- Leakage in release system.
- Partly clogged priming line, restriction check valve.
- Low air pressure on system line or leakage in release system.
- PDA seat leakage due to seat damage or obstruction on seat face by foreign objects (in dry pilot system only)
- Leakage through bypass valve if installed in the system.

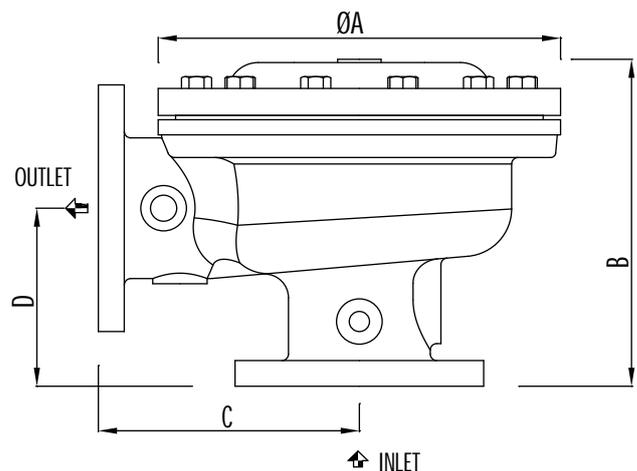
### Dimensions in mm

| NOMINAL SIZE OF VALVE | A   | B   | C   | D   |
|-----------------------|-----|-----|-----|-----|
| 200 NB                | 540 | 455 | 330 | 230 |
| 150 NB                | 464 | 382 | 300 | 200 |
| 100 NB                | 370 | 304 | 240 | 165 |
| 80 NB                 | 316 | 272 | 210 | 135 |
| 50 NB                 | 316 | 272 | 210 | 135 |

### Note

- UL Listing is valid only when Deluge Valve is installed with trim set as per trim drawing.
- The trip time of deluge valve on of device through detection network, will depend on volume of detection network. If the trip time of deluge valve is more, then it can be substantially reduced by installing check valve in branch of release line in the detection network. The check valve flow shall be towards releasing device.
- The pneumatic system must have restricted orifice at air or gas supply point. The restriction nozzle are supplied with HD dry pilot actuation trim.
- The Solenoid Valve provided for electric operation of the deluge valve and all released device must have minimum of 9.5mm orifice diameter, otherwise the deluge valve trip time will be quite high or deluge valve may not trip.

### Diagram



### Abnormal Condition

| ITEM | PART NO. |        |        |       |       | DESCRIPTION   | QTY.   |        |        |       |       | MATERIAL SPECIFICATION |
|------|----------|--------|--------|-------|-------|---------------|--------|--------|--------|-------|-------|------------------------|
|      | 200 NB   | 150 NB | 100 NB | 80 NB | 50 NB |               | 200 NB | 150 NB | 100 NB | 80 NB | 50 NB |                        |
| 1    | NA       | NA     | NA     | NA    | NA    | HOUSING       | 1      | 1      | 1      | 1     | 1     | CAST IRON              |
| 2    | 2028     | 2019   | 2010   | 2001  | 2001  | CLAPPER       | 1      | 1      | 1      | 1     | 1     | DUCTILE IRON *         |
| 3    | 2189     | 2109   | 2129   | 2149  | 2149  | RUBBER SEAT   | 1      | 1      | 1      | 1     | 1     | NEOPRENE RUBBER        |
| 4    | 2029     | 2020   | 2011   | 2002  | 2002  | RUBBER CLAMP  | 1      | 1      | 1      | 1     | 1     | DUCTILE IRON *         |
| 5    | 9102     | 9102   | 9102   | 9102  | 9102  | BOLT (M10X20) | 6      | 4      | 4      | 3     | 3     | STAINLESS STEEL        |
| 6    | 2188     | 2108   | 2128   | 2148  | 2148  | DIAPHRAGM     | 1      | 1      | 1      | 1     | 1     | NEOPRENE RUBBER        |
| 7    | 2030     | 2021   | 2012   | 2003  | 2003  | CLAMP RING    | 1      | 1      | 1      | 1     | 1     | DUCTILE IRON *         |
| 8    | NA       | NA     | NA     | NA    | NA    | COVER         | 1      | 1      | 1      | 1     | 1     | CAST IRON              |
| 9    | 9003     | 9003   | -      | -     | -     | BOLT (M20X70) | 14     | 14     | -      | -     | -     | CARBON STEEL           |
|      | -        | -      | 9009   | -     | -     | BOLT (M16X60) | -      | -      | 10     | -     | -     | CARBON STEEL           |
|      | -        | -      | -      | 9008  | 9008  | BOLT (M16X55) | -      | -      | -      | 10    | 12    | CARBON STEEL           |
| 10   | 9105     | 9105   | 9105   | 9105  | 9105  | BOLT (M10X30) | 12     | 12     | 8      | 8     | 8     | STAINLESS STEEL        |
|      | 9023     | 9023   | -      | -     | -     | BOLT (M20X50) | 2      | 2      | -      | -     | -     | CARBON STEEL           |
| 11   | -        | -      | 9007   | -     | -     | BOLT (M16X50) | -      | -      | 2      | -     | -     | CARBON STEEL           |
|      | -        | -      | -      | 9006  | -     | BOLT (M16X45) | -      | -      | -      | 2     | -     | CARBON STEEL           |

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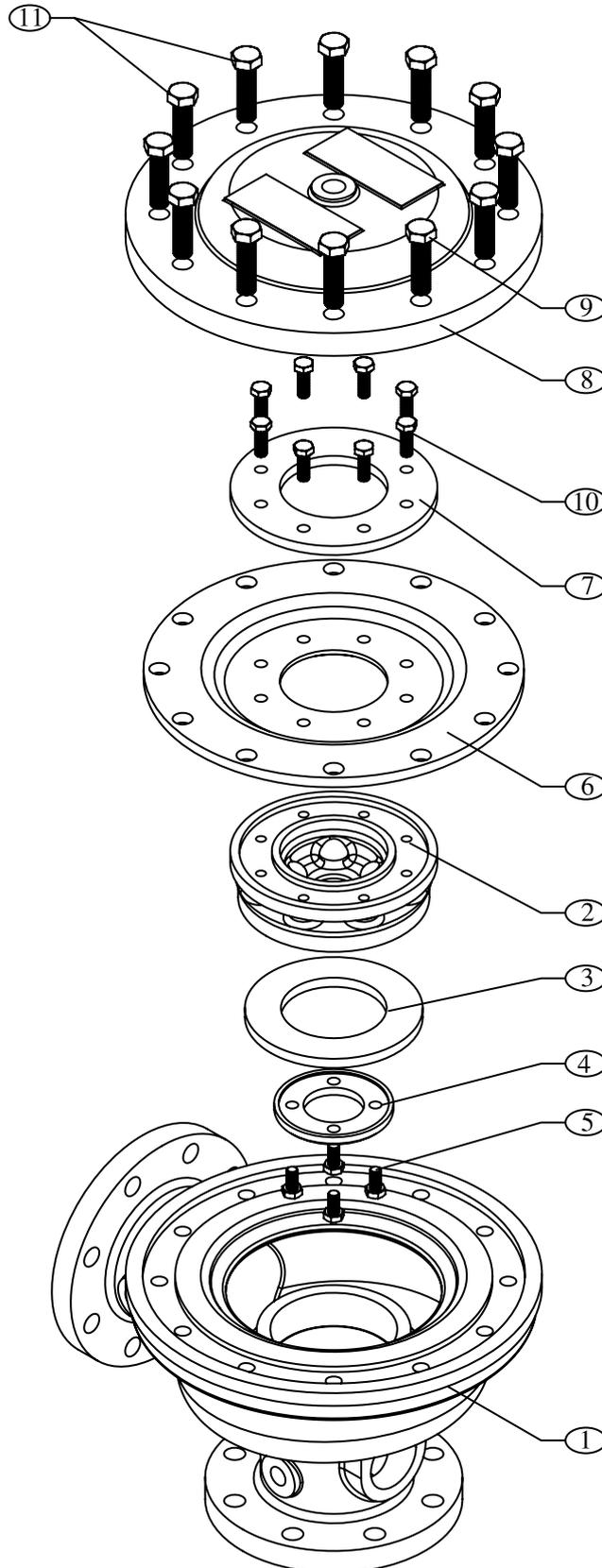
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## Deluge Valve

Model: A



Deluge Valve Model - A SIZE 200 / 150 / 100 / 80/ 50 NB



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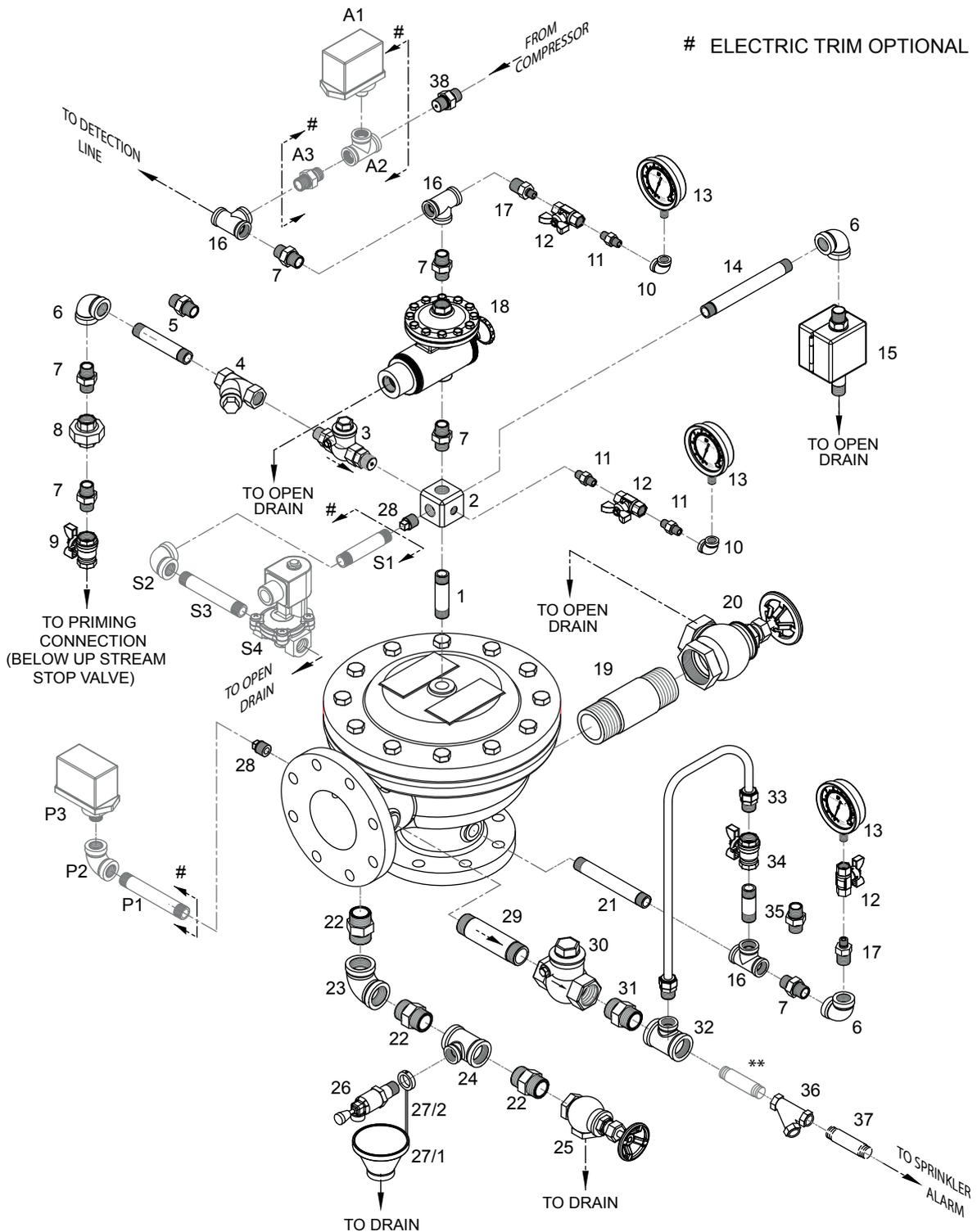
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## Deluge Valve

Model: A



### Pneumatic & Electric Release Trim with Test & Alarm Trim for Deluge Valve Model - A



\* DUCTILE IRON IS STANDARD SUPPLY, BRONZE & STAINLESS STEEL IS OPTIONAL SUPPLY. NA - PARTS REPLACEMENT NOT AVAILABLE

NOTE: WHEN ELECTRIC TRIM IS SUPPLIED THEN SL.NO.28 PLUG NOT REQUIRED.

\*\* TO SUIT AT SITE BY INSTALLER

\* SUPPLIED FITTED TOGETHER

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## Deluge Valve

Model: A



### Pneumatic & Electric Release Trim with Test & Alarm Trim for Deluge Valve Model - A

| ITEM NO.                                     | CODE NO. | DESCRIPTION                 | SIZE                 | QUANTITY PER DELUGE VALVE SIZE |        |        |       |       |
|--|----------|-----------------------------|----------------------|--------------------------------|--------|--------|-------|-------|
|  |          |                             |                      | 200 NB                         | 150 NB | 100 NB | 80 NB | 50 NB |
| 1  | 9480     | PIPE NIPPLE                 | 1/2" X 80 mm LONG    | 1                              | 1      | 1      | 1     | 1     |
| 2  | 6251     | 6 WAY MANIFOLD              | -                    | 1                              | 1      | 1      | 1     | 1     |
| 3  | 9455     | CHECK VALVE                 | 1/2"                 | 1                              | 1      | 1      | 1     | 1     |
| 4  | 9381     | "Y" TYPE STRAINER           | 1/2"                 | 1                              | 1      | 1      | 1     | 1     |
| 5  | 9416     | PIPF NIPPI F                | 1/2" X 110 mm LONG   | 1                              | 1      | -      | -     | -     |
| 5  | 8624     | HEX NIPPLE                  | 1/2"                 | -                              | -      | 1      | 1     | 1     |
| 6  | 8616     | ELBOW                       | 1/2"                 | 3                              | 3      | 3      | 3     | 3     |
| 7  | 8624     | HEX NIPPLE                  | 1/2"                 | 7                              | 7      | 7      | 7     | 7     |
| 8  | 8627     | UNION                       | 1/2"                 | 1                              | 1      | 1      | 1     | 1     |
| 9  | 9423     | BALL VALVE                  | 1/2"                 | 1                              | 1      | 1      | 1     | 1     |
| 10   | 8357     | ELBOW                       | 1/4"                 | 2                              | 2      | 2      | 2     | 2     |
| 11   | 8698     | HEX NIPPLE                  | 1/4"                 | 3                              | 3      | 3      | 3     | 3     |
| 12   | 9477     | GAUGE VALVE                 | 1/4"                 | 3                              | 3      | 3      | 3     | 3     |
| 13   | 9526     | PRESSURE GAUGE              | 1/4"                 | 3                              | 3      | 3      | 3     | 3     |
| 14   | 9564     | PIPE NIPPLE                 | 1/2" X 300 mm LONG   | 1                              | -      | -      | -     | -     |
| 14   | 9565     | PIPE NIPPLE                 | 1/2" X 255 mm LONG   | -                              | 1      | -      | -     | -     |
| 14   | 9403     | PIPE NIPPLE                 | 1/2" X 210 mm Long   | -                              | -      | 1      | -     | -     |
| 14   | 9401     | PIPE NIPPLE                 | 1/2" X 180 mm Long   | -                              | -      | -      | 1     | 1     |
| 15   | -        | EMERGENCY RELEASE STATION   | -                    | 1                              | 1      | 1      | 1     | 1     |
| 16   | 8619     | TEE                         | 1/2"                 | 3                              | 3      | 3      | 3     | 3     |
| 17   | 8631     | REDUCING HEX NIPPLE         | 1/2" X 1/4"          | 2                              | 2      | 2      | 2     | 2     |
| 18   | 1436     | POSITIVE DRAINACTUATOR      | -                    | 1                              | 1      | 1      | 1     | 1     |
| 19   | 9566     | PIPE NIPPLE                 | 2" X 110 mm LONG     | 1                              | 1      | 1      | -     | -     |
| 19   | 9562     | PIPE NIPPLE                 | 1-1/4" X 110 mm LONG | -                              | -      | -      | 1     | 1     |
| 20   | 9394     | ANGLE VALVE                 | 2"                   | 1                              | 1      | 1      | -     | -     |
| 20   | 9392     | ANGLE VALVE                 | 1-1/4"               | -                              | -      | -      | 1     | 1     |
| 21   | 9414     | PIPE NIPPLE                 | 1/2" X 150 mm LONG   | 1                              | 1      | -      | -     | -     |
| 21   | 9399     | PIPE NIPPLE                 | 1/2" X 130 mm LONG   | -                              | -      | 1      | 1     | 1     |
| 22   | 8626     | HEX NIPPLE                  | 1"                   | 3                              | 3      | 3      | -     | -     |
| 22   | 8625     | HEX NIPPLE                  | 3/4"                 | -                              | -      | -      | 3     | 3     |
| 23   | 8618     | ELBOW                       | 1"                   | 1                              | 1      | 1      | -     | -     |
| 23   | 8617     | ELBOW                       | 3/4"                 | -                              | -      | -      | 1     | 1     |
| 24   | 8623     | REDUCING TEE                | 1" X 1/2" X 1"       | 1                              | 1      | 1      | -     | -     |
| 24   | 8622     | REDUCING TEE                | 3/4" X 1/2" X 3/4"   | -                              | -      | -      | 1     | 1     |
| 25   | 9391     | ANGLE VALVE                 | 1"                   | 1                              | 1      | 1      | -     | -     |
| 25   | 9393     | ANGLE VALVE                 | 3/4"                 | -                              | -      | -      | 1     | 1     |
| 26   | 1911     | DRIP VALVE                  | 1/2"                 | 1                              | 1      | 1      | 1     | 1     |
| 27/1   | 6005     | FUNNEL                      | -                    | 1                              | 1      | 1      | 1     | 1     |
| 27/2   | 6006     | FUNNEL HOLDER               | -                    | 1                              | 1      | 1      | 1     | 1     |
| 28   | 8629     | PLUG                        | 1/2"                 | 2                              | 2      | 2      | 2     | 2     |
| 29   | 9406     | PIPE NIPPLE                 | 3/4" X 100 mm LONG   | 1                              | 1      | 1      | 1     | 1     |
| 30   | 9421     | SWING CHECK VALVE           | 3/4"                 | 1                              | 1      | 1      | 1     | 1     |
| 31   | 8625     | HEX NIPPLE                  | 3/4"                 | 1                              | 1      | 1      | 1     | 1     |
| 32   | 8622     | REDUCING TEE                | 3/4" X 1/2" X 3/4"   | 1                              | 1      | 1      | 1     | 1     |
| 33   | 2198     | COPPER TUBE ASSEMBLY        | 1/2"                 | 1                              | -      | -      | -     | -     |
| 33   | 2119     | COPPER TUBE ASSEMBLY        | 1/2"                 | -                              | 1      | -      | -     | -     |
| 33   | 2135     | COPPER TUBE ASSEMBLY        | 1/2"                 | -                              | -      | 1      | -     | -     |
| 33   | 2157     | COPPER TUBE ASSEMBLY        | 1/2"                 | -                              | -      | -      | 1     | 1     |
| 34   | 9423     | BALL VALVE                  | 1/2"                 | 1                              | 1      | 1      | 1     | 1     |
| 35   | 8664     | PIPE NIPPLE                 | 1/2" X 60 mm LONG    | 1                              | -      | -      | -     | -     |
| 35   | 8624     | HEX NIPPLE                  | 1/2"                 | -                              | 1      | 1      | 1     | 1     |
| 36   | 9382     | "Y" TYPE STRAINER           | 3/4"                 | 1                              | 1      | 1      | 1     | 1     |
| 37   | 9441     | PIPE NIPPLE                 | 3/4" X 80 mm LONG    | 1                              | 1      | 1      | 1     | 1     |
| 38   | 1960     | ORIFICE NOZZLE (Priming)    | 1/2"                 | 1                              | 1      | 1      | 1     | 1     |
| 39   | 1959     | ORIFICE NOZZLE (Air Line)   | 1/2"                 | 1                              | 1      | 1      | 1     | 1     |
| ELECTRIC TRIM FOR PRESSURE SWITCH (OPTIONAL) |          |                             |                      |                                |        |        |       |       |
| P1   | 9400     | PIPE NIPPI F                | 1/2" X 135 mm LONG   | 1                              | 1      | 1      | 1     | 1     |
| P2   | 8616     | ELBOW                       | 1/2"                 | 1                              | 1      | 1      | 1     | 1     |
| P3   | -        | PRESSURE SWITCH (DV Outlet) | 1/2" (M)             | 1                              | 1      | 1      | 1     | 1     |
| A1   | -        | PRESSURE SWITCH (Air Line)  | 1/2" (M)             | 1                              | 1      | 1      | 1     | 1     |
| A2   | 8619     | TEE                         | 1/2"                 | 1                              | 1      | 1      | 1     | 1     |
| A3   | 8624     | HEX NIPPI F                 | 1/2"                 | 1                              | 1      | 1      | 1     | 1     |
| ELECTRIC TRIM FOR SOLENOID VALVE (OPTIONAL)  |          |                             |                      |                                |        |        |       |       |
| S1   | 9399     | PIPE NIPPLE                 | 1/2" X 130 mm LONG   | 1                              | 1      | 1      | -     | -     |
| S1   | 9400     | PIPE NIPPLE                 | 1/2" X 135 mm LONG   | -                              | -      | -      | 1     | 1     |
| S2   | 8616     | ELBOW                       | 1/2"                 | 1                              | 1      | 1      | 1     | 1     |
| S3   | 9401     | PIPE NIPPLE                 | 1/2" X 180 mm LONG   | 1                              | 1      | 1      | -     | -     |
| S3   | 9400     | PIPE NIPPLE                 | 1/2" X 135 mm LONG   | -                              | -      | -      | 1     | 1     |
| S4   | -        | SOLENOID VALVE              | 1/2" SIZE, TWO WAY   | 1                              | 1      | 1      | 1     | 1     |

NOTE: WHEN ELECTRIC TRIM IS SUPPLIED THEN SL.NO.28 PLUG NOT REQUIRED.

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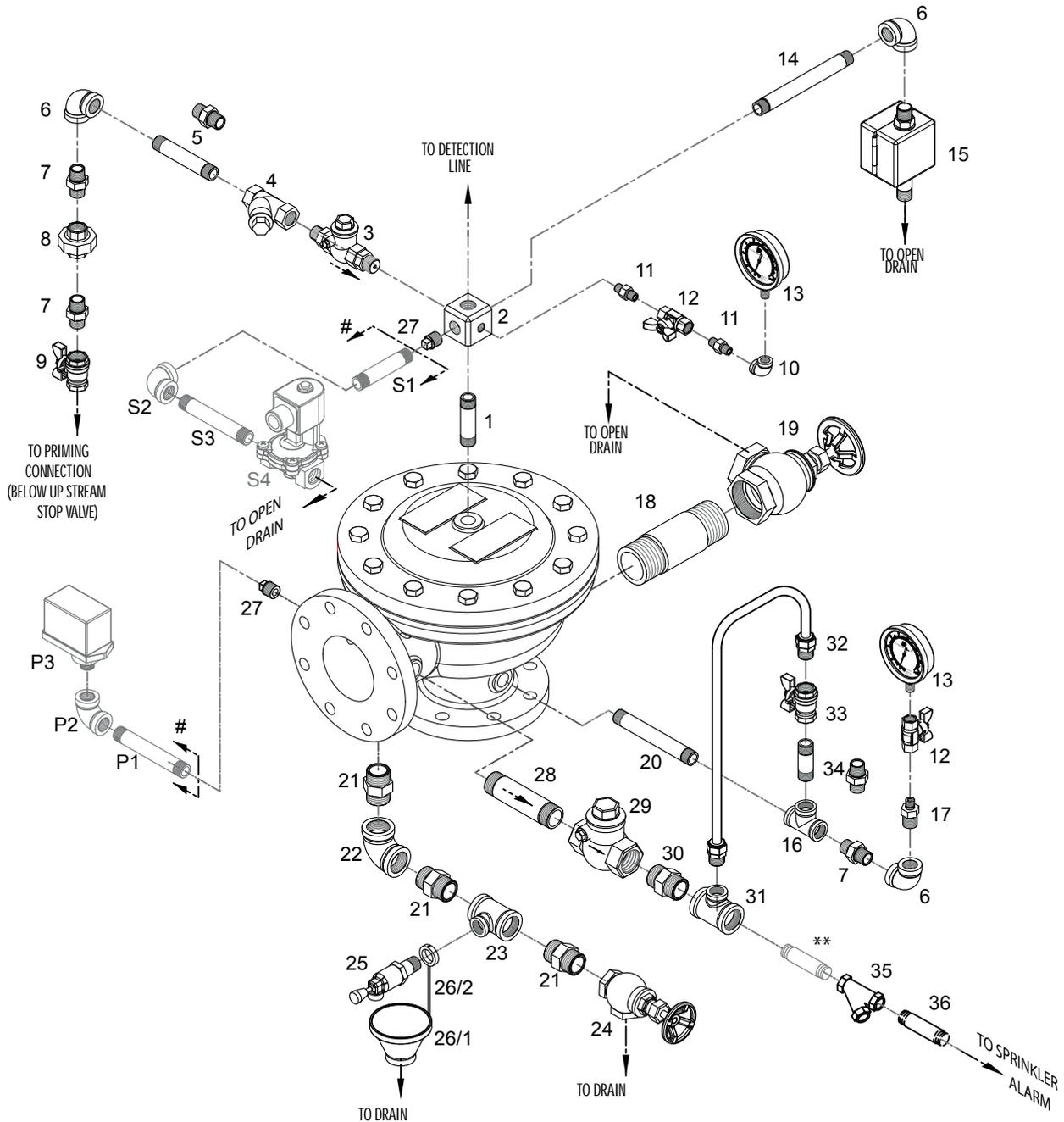
## Deluge Valve

Model: A



Hydraulic & Electric Release Trim with Test & Alarm Trim for Deluge Valve Model - A

# ELECTRIC TRIM OPTIONAL



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## Deluge Valve

Model: A



### Hydraulic & Electric Release Trim with Test & Alarm Trim for Deluge Valve Model - A

| ITEM NO.                                     | CODE NO. | DESCRIPTION                   | SIZE                 | QUANTITY PER DELUGE VALVE SIZE |        |        |       |       |
|--|----------|-------------------------------|----------------------|--------------------------------|--------|--------|-------|-------|
|  |          |                               |                      | 200 NB                         | 150 NB | 100 NB | 80 NB | 50 NB |
| 1  | 9480     | PIPE NIPPLE                   | 1/2" X 80 mm LONG    | 1                              | 1      | 1      | 1     | 1     |
| 2  | 6251     | 6 WAY MANIFOLD                | -                    | 1                              | 1      | 1      | 1     | 1     |
| 3  | 9455     | CHECK VALVE                   | 1/2"                 | 1                              | 1      | 1      | 1     | 1     |
| 4  | 9381     | "Y" TYPE STRAINER             | 1/2"                 | 1                              | 1      | 1      | 1     | 1     |
| 5  | 9416     | PIPE NIPPLE                   | 1/2" X 110 mm LONG   | 1                              | 1      | -      | -     | -     |
| 5  | 8624     | HEX NIPPLE                    | 1/2"                 | -                              | -      | 1      | 1     | 1     |
| 6  | 8616     | ELBOW                         | 1/2"                 | 3                              | 3      | 3      | 3     | 3     |
| 7  | 8624     | HEX NIPPLE                    | 1/2"                 | 4                              | 4      | 4      | 4     | 4     |
| 8  | 8627     | UNION                         | 1/2"                 | 1                              | 1      | 1      | 1     | 1     |
| 9  | 9423     | BALL VALVE                    | 1/2"                 | 1                              | 1      | 1      | 1     | 1     |
| 10   | 8357     | ELBOW                         | 1/4"                 | 1                              | 1      | 1      | 1     | 1     |
| 11   | 8698     | HEX NIPPLE                    | 1/4"                 | 2                              | 2      | 2      | 2     | 2     |
| 12   | 9477     | GAUGE VALVE                   | 1/4"                 | 2                              | 2      | 2      | 2     | 2     |
| 13   | 9526     | PRESSURE GAUGE                | 1/4"                 | 2                              | 2      | 2      | 2     | 2     |
| 14   | 9564     | PIPE NIPPLE                   | 1/2" X 300 mm LONG   | 1                              | -      | -      | -     | -     |
| 14   | 9565     | PIPE NIPPLE                   | 1/2" X 255 mm LONG   | -                              | 1      | -      | -     | -     |
| 14   | 9403     | PIPE NIPPLE                   | 1/2" X 210 mm LONG   | -                              | -      | 1      | -     | -     |
| 14   | 9401     | PIPE NIPPLE                   | 1/2" X 180 mm LONG   | -                              | -      | -      | 1     | 1     |
| 15   | -        | EMERGENCY RELEASE STATION     | -                    | 1                              | 1      | 1      | 1     | 1     |
| 16   | 8619     | TEE                           | 1/2"                 | 1                              | 1      | 1      | 1     | 1     |
| 17   | 8631     | REDUCING HEX NIPPLE           | 1/2" X 1/4"          | 1                              | 1      | 1      | 1     | 1     |
| 18   | 9566     | PIPE NIPPLE                   | 2" X 110 mm LONG     | 1                              | 1      | 1      | -     | -     |
| 18   | 9562     | PIPE NIPPLE                   | 1-1/4" X 110 mm LONG | -                              | -      | -      | 1     | 1     |
| 19   | 9394     | ANGLE VALVE                   | 2"                   | 1                              | 1      | 1      | -     | -     |
| 19   | 9392     | ANGLE VALVE                   | 1-1/4"               | -                              | -      | -      | 1     | 1     |
| 20   | 9414     | PIPE NIPPLE                   | 1/2" X 150 mm LONG   | 1                              | 1      | -      | -     | -     |
| 20   | 9399     | PIPE NIPPLE                   | 1/2" X 130 mm LONG   | -                              | -      | 1      | 1     | 1     |
| 21   | 8626     | HEX NIPPLE                    | 1"                   | 3                              | 3      | 3      | -     | -     |
| 21   | 8625     | HEX NIPPLE                    | 3/4"                 | -                              | -      | -      | 3     | 3     |
| 22   | 8618     | ELBOW                         | 1"                   | 1                              | 1      | 1      | -     | -     |
| 22   | 8617     | ELBOW                         | 3/4"                 | -                              | -      | -      | 1     | 1     |
| 23   | 8623     | REDUCING TEE                  | 1" X 1/2" X 1"       | 1                              | 1      | 1      | -     | -     |
| 23   | 8622     | REDUCING TEE                  | 3/4" X 1/2" X 3/4"   | -                              | -      | -      | 1     | 1     |
| 24   | 9391     | ANGLE VALVE                   | 1"                   | 1                              | 1      | 1      | -     | -     |
| 24   | 9393     | ANGLE VALVE                   | 3/4"                 | -                              | -      | -      | 1     | 1     |
| 25   | 1911     | DRIP VALVE                    | 1/2"                 | 1                              | 1      | 1      | 1     | 1     |
| 26/1   | 6005     | FUNNEL                        | -                    | 1                              | 1      | 1      | 1     | 1     |
| 26/2   | 6006     | FUNNEL HOLDER                 | -                    | 1                              | 1      | 1      | 1     | 1     |
| 27   | 8629     | PLUG                          | 1/2"                 | 2                              | 2      | 2      | 2     | 2     |
| 28   | 9406     | PIPE NIPPLE                   | 3/4" X 100 mm LONG   | 1                              | 1      | 1      | 1     | 1     |
| 29   | 9421     | SWING CHECK VALVE             | 3/4"                 | 1                              | 1      | 1      | 1     | 1     |
| 30   | 8625     | HEX NIPPLE                    | 3/4"                 | 1                              | 1      | 1      | 1     | 1     |
| 31   | 8622     | REDUCING TEE                  | 3/4" X 1/2" X 3/4"   | 1                              | 1      | 1      | 1     | 1     |
| 32   | 2198     | COPPERTUBE ASSEMBLY           | 1/2"                 | 1                              | -      | -      | -     | -     |
| 32   | 2119     | COPPERTUBE ASSEMBLY           | 1/2"                 | -                              | 1      | -      | -     | -     |
| 32   | 2135     | COPPERTUBE ASSEMBLY           | 1/2"                 | -                              | -      | 1      | -     | -     |
| 32   | 2157     | COPPERTUBE ASSEMBLY           | 1/2"                 | -                              | -      | -      | 1     | 1     |
| 33   | 9423     | BALL VALVE                    | 1/2"                 | 1                              | 1      | 1      | 1     | 1     |
| 34   | 8664     | PIPE NIPPLE                   | 1/2" X 60 mm LONG    | 1                              | -      | -      | -     | -     |
| 34   | 8624     | HEX NIPPLE                    | 1/2"                 | -                              | 1      | 1      | 1     | 1     |
| 35   | 9382     | "Y" TYPE STRAINER             | 3/4"                 | 1                              | 1      | 1      | 1     | 1     |
| 36   | 9441     | PIPE NIPPLE                   | 3/4" X 80 mm LONG    | 1                              | 1      | 1      | 1     | 1     |
| 37   | 1960     | ORIFICE NOZZLE (Priming Line) | 1/2"                 | 1                              | 1      | 1      | 1     | 1     |
| ELECTRIC TRIM FOR PRESSURE SWITCH (OPTIONAL) |          |                               |                      |                                |        |        |       |       |
| P1   | 9400     | PIPE NIPPLE                   | 1/2" X 135 mm LONG   | 1                              | 1      | 1      | 1     | 1     |
| P2   | 8616     | ELBOW                         | 1/2"                 | 1                              | 1      | 1      | 1     | 1     |
| P3   | -        | PRESSURE SWITCH (DV Outlet)   | 1/2" (M)             | 1                              | 1      | 1      | 1     | 1     |
| ELECTRIC TRIM FOR SOLENOID VALVE (OPTIONAL)  |          |                               |                      |                                |        |        |       |       |
| S1   | 9399     | PIPE NIPPLE                   | 1/2" X 130 mm LONG   | 1                              | 1      | 1      | -     | -     |
| S1   | 9400     | PIPE NIPPLE                   | 1/2" X 135 mm LONG   | -                              | -      | -      | 1     | 1     |
| S2   | 8616     | ELBOW                         | 1/2"                 | 1                              | 1      | 1      | 1     | 1     |
| S3   | 9401     | PIPE NIPPLE                   | 1/2" X 180 mm LONG   | 1                              | 1      | 1      | -     | -     |
| S3   | 9400     | PIPE NIPPLE                   | 1/2" X 135 mm LONG   | -                              | -      | -      | 1     | 1     |
| S4   | -        | SOLENOID VALVE                | 1/2" SIZE, TWO WAY   | 1                              | 1      | 1      | 1     | 1     |

\* SUPPLIED FITTED TOGETHER



# TECHNICAL DATA SHEET

for use by Architects & Engineers

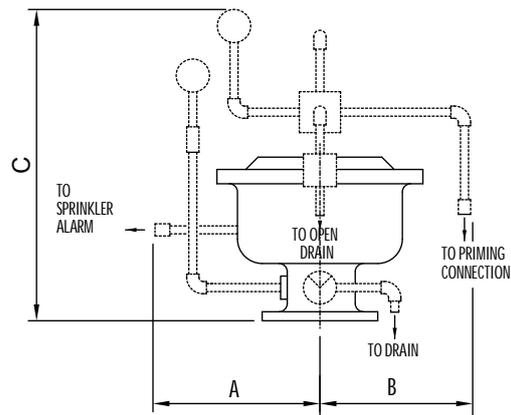
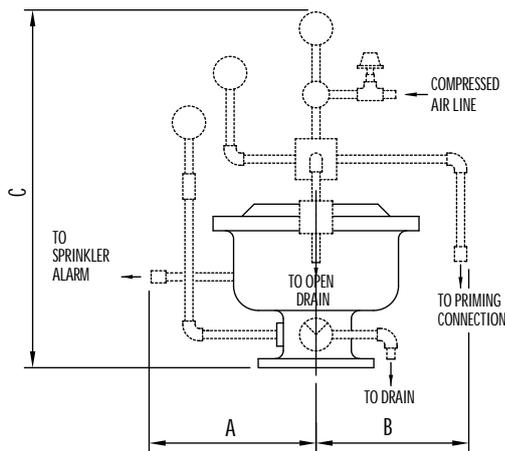
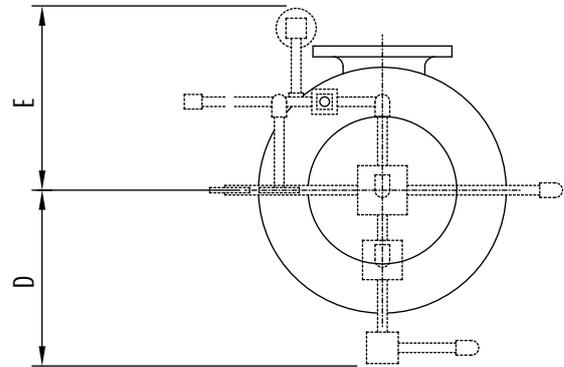
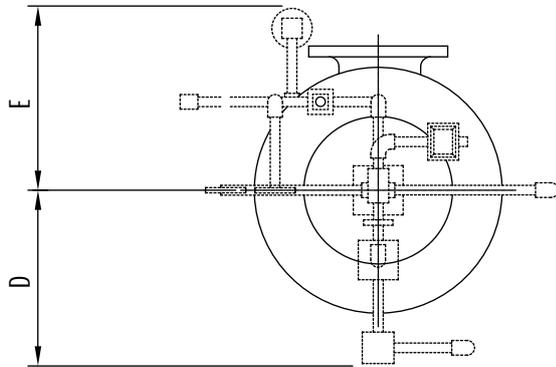
## Deluge Valve

Model: A



### Pneumatic & Electric Release Trim

### Hydraulic & Electric Release Trim



### Installation Measurement in mm

| SIZE | 200NB | 150NB | 100NB | 80NB | 50NB |
|------|-------|-------|-------|------|------|
| A    | 390   | 370   | 370   | 350  | 350  |
| B    | 525   | 500   | 450   | 450  | 450  |
| C    | 1050  | 1025  | 950   | 930  | 930  |
| D    | 510   | 500   | 450   | 450  | 450  |
| E    | 500   | 480   | 420   | 410  | 410  |

### Installation Measurement in mm

| SIZE | 200NB | 150NB | 100NB | 80NB | 50NB |
|------|-------|-------|-------|------|------|
| A    | 390   | 370   | 370   | 350  | 350  |
| B    | 525   | 500   | 450   | 450  | 450  |
| C    | 875   | 800   | 750   | 700  | 700  |
| D    | 510   | 500   | 450   | 450  | 450  |
| E    | 500   | 480   | 420   | 410  | 410  |

# TECHNICAL DATA SHEET

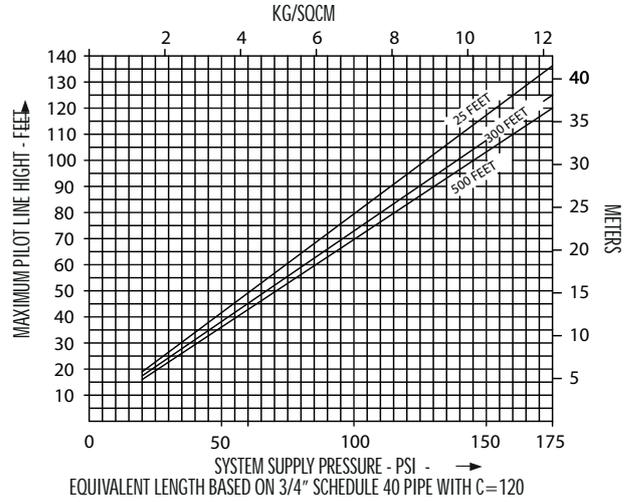
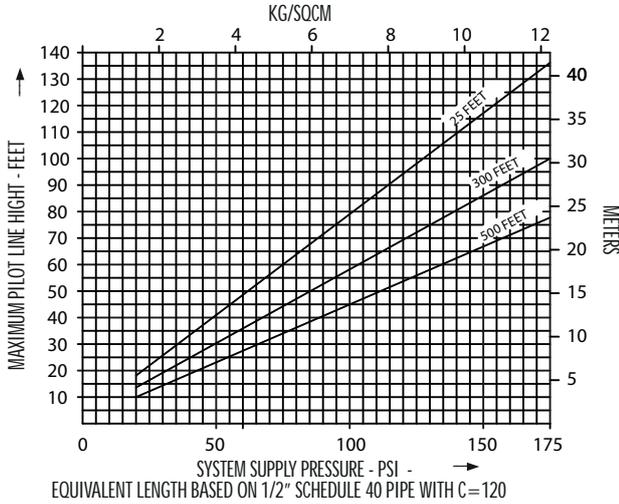
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## Deluge Valve

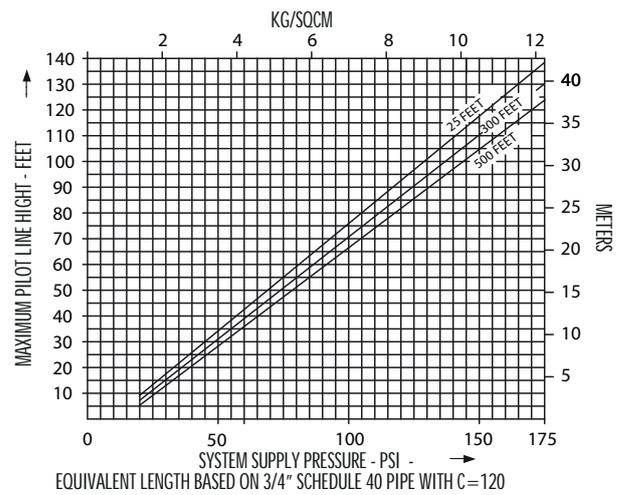
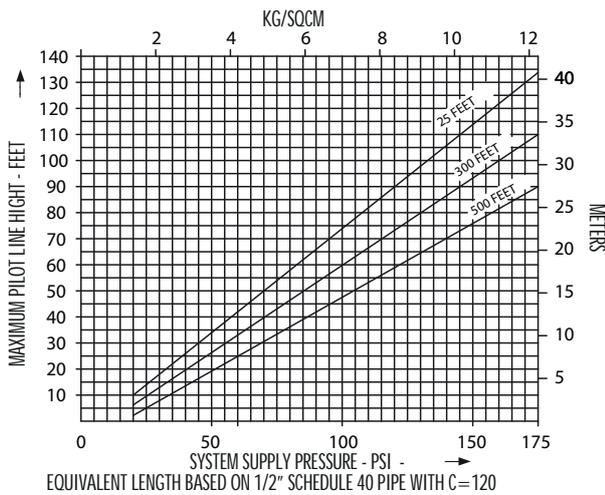
Model: A



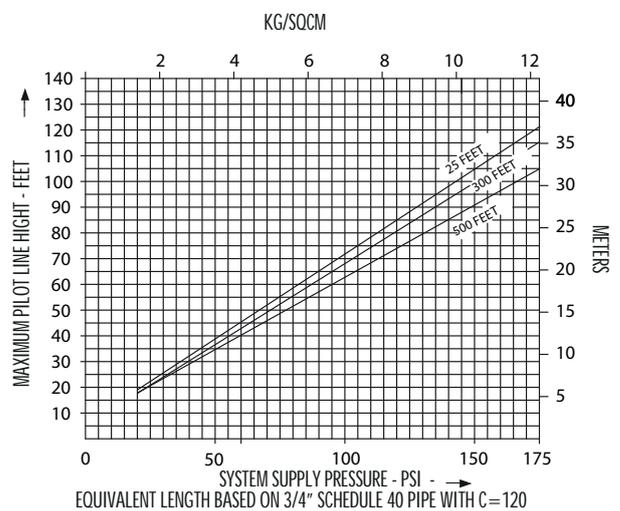
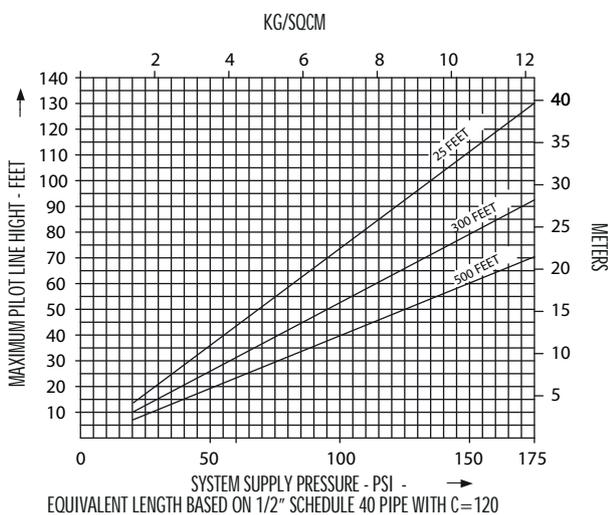
### Wet Pilot Sprinkler Height Limitation of 200NB



### Wet Pilot Sprinkler Height Limitation of 150NB



### Wet Pilot Sprinkler Height Limitation of 100NB



# TECHNICAL DATA SHEET

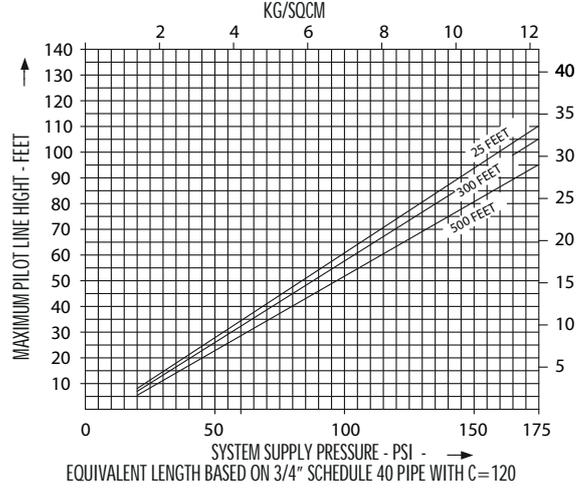
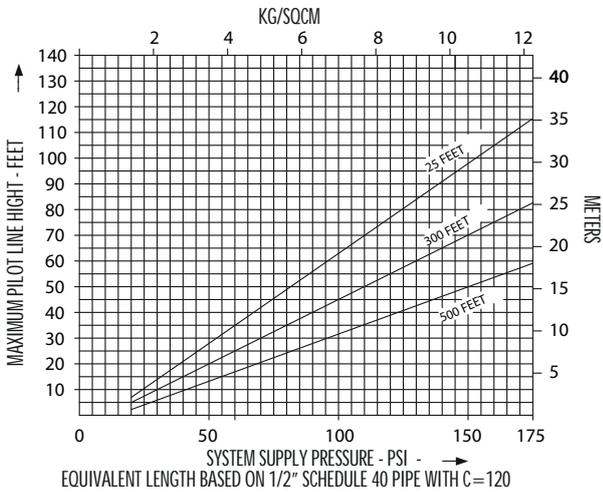
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## Deluge Valve

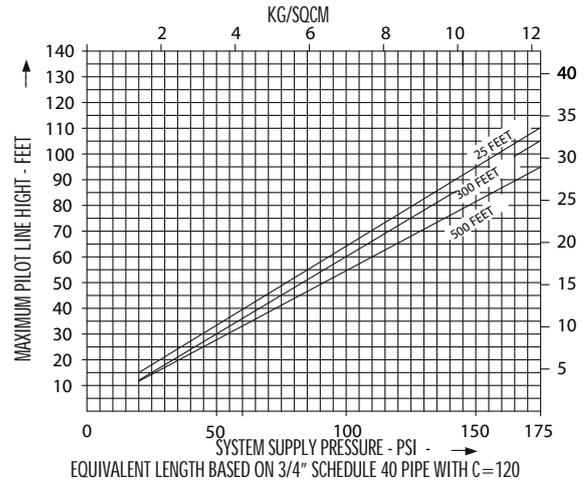
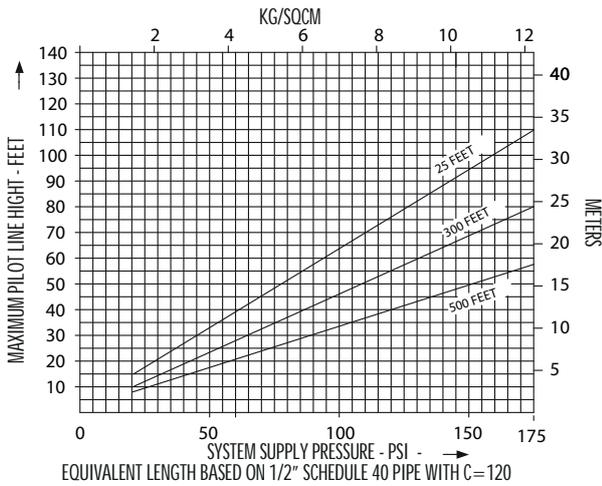
Model: A



### Wet Pilot Sprinkler Height Limitation of 80NB



### Wet Pilot Sprinkler Height Limitation of 50NB



## Deluge Valve

Model: A



### Nominal Pressure Loss vs Flow - Deluge Valve Model A

