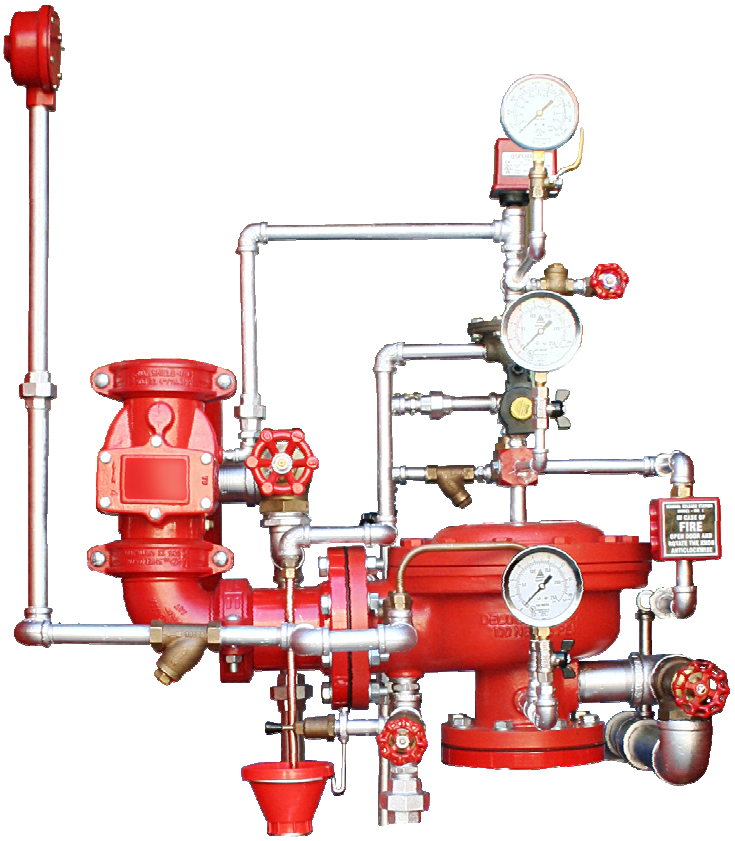
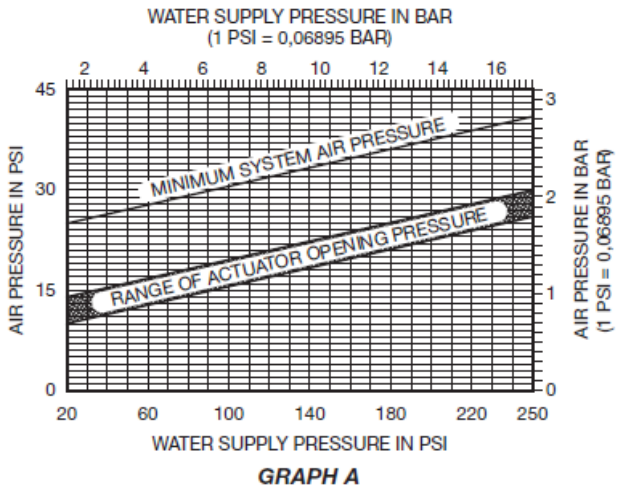
Technical Data:

Nominal Size	: 50, 80, 100, 150 & 200
Rated Working Pressure	: 12 BAR (175 PSI)
Threaded Opening	: BSPT/ NPT (Optional)
Mounting	: 90^0 Pattern inlet to outlet vertical Mounting.
Factory Hydrostatic Pressure	: 25 Kg/ Sq. Cm. (350PSI)
Flange Connection	: ANSI B 16.1 FF #125
Trim	: Galvanized Steel with Brass Valves
Recommended Flow Rate	: 200 NB - 300 to 1150 m3/hr : 150 NB - 170 to 550 m3/hr : 100 NB - 50 to 225 m3/hr : 80 NB - 30 to 110 m3/hr : 50 NB - 10 to 55 m3/hr
Frictional Loss In Terms of Evaluate Of Pipe (C-120)	: 200 NB - 26.00 meters : 150 NB - 19.00 meters : 100 NB - 11.00 meters : 80 NB - 5.50 meters : 50 NB - 1.80 meters
Net Weight With out trim	: 200 NB - 228Kg, : 150 NB - 145Kg, : 100 NB - 78Kg, : 80 NB - 52Kg, : 50 NB - 47Kg
Finish	: Red, PU Painted





GRAPH A

System Description:

Double Interlock Pre-Action system are designed for application such as refrigerated areas that require the maximum degree of protection against an areas where accidental water discharge would have serious consequences.

The Double Interlock Pre-Action system with Electric/Pneumatic actuation utilizes automatic sprinklers and a supplemental detection system. Detection system consists of pre-action control panel, heat / smoke / multi sensor, manual release station, etc. The release (Detection) system shall be designed to operate prior to sprinkler operation. The followings are the main advantages of double interlock pre-action system over wet pipe system.

- Pre-alarm fire condition will occur prior to the sprinkler operation which allows extinguishing the fire by alternate fire suppression means. (Handheld fire extinguisher etc,)
- Sprinkler system can be monitored by a supervisory low air pressure switch. In case of drop in air pressure will give annunciation signal in the pre action control panel. However no water will flow in the sprinkler pipe line.
- In the event of a fire the delay of water delivery time can be avoided because of the detection system is designed to operate prior to sprinkler operation.

In supervised Double Interlock Pre-Action system air is introduced into the system piping at a pressure of approximately 40 PSI (2.8 Bar) from an air or nitrogen source such as:

- Air compressor.
- Centralized plant air system.
- Air supply from nitrogen cylinder.

Any of the above sources can be used to fill the required system pressure in 30 minutes. Suitable automatic air maintenance devices are used to control the system pressure in the Pre-Action system. This air pressure supervises the sprinkler piping to detect major leaks. The pressure switches are used for detection of low air pressure and/ or fire condition during discharge of water.

System operation:

Double Interlock Electric/Pneumatic actuation pre-action system utilizes two separate and distinct events caused by fire condition must occur:

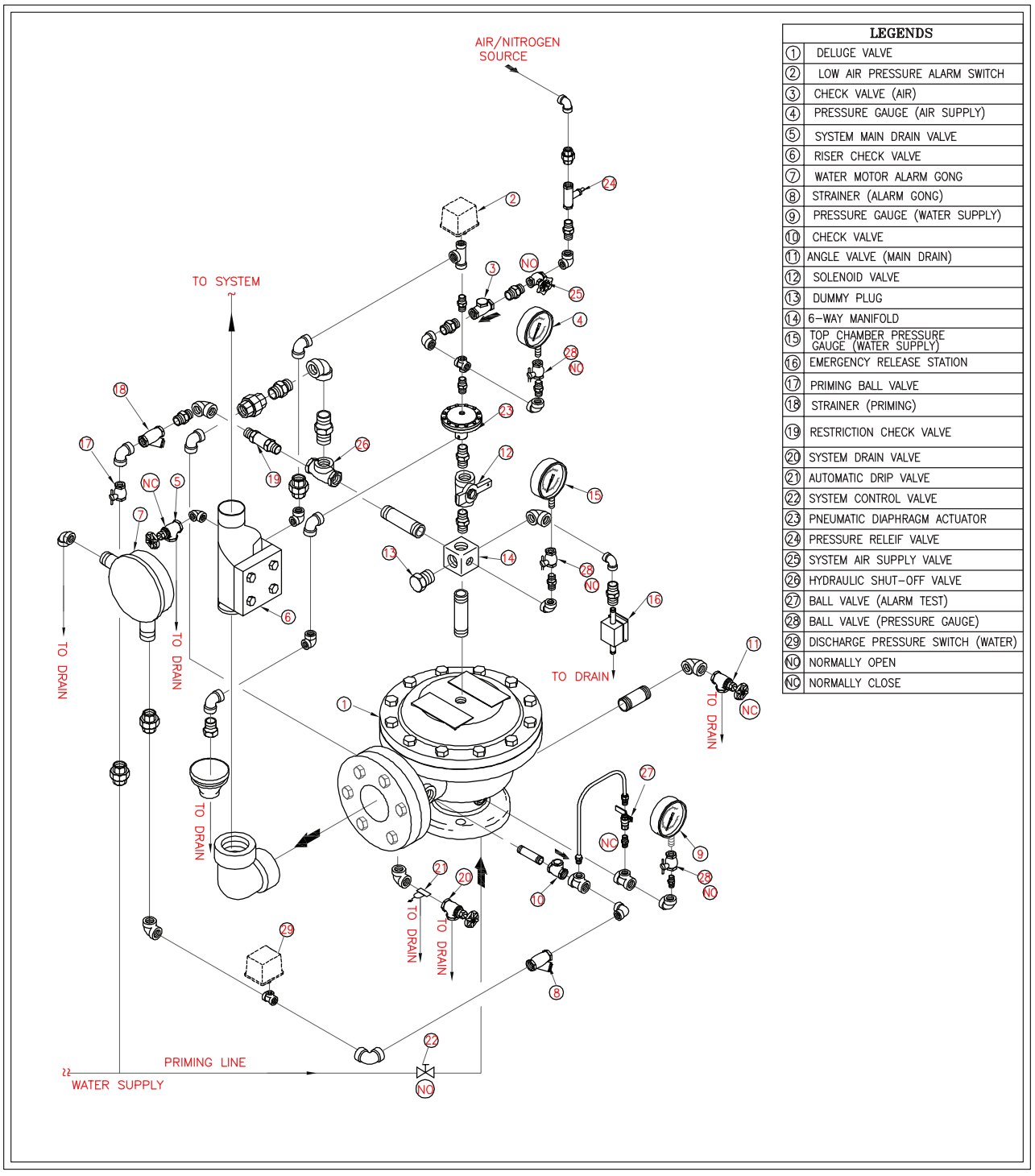
1) An automatic operation of the electric fire detection initiating circuit or upon manual operation of electric - manual pull station.

2) The sprinkler system piping must lose air or nitrogen pressure due to operation of one or more sprinklers. The loss of air pressure activating the low pressure switch sending second signal to the pre action control panel. Electric/ Pneumatic actuation automatically actuates only when pneumatic diaphragm actuator and the solenoid valve are open at the same time.

Energized solenoid valve will drain the water from the top chamber of the deluge valve and allowing water to flow into the piping. The flow of water converts the dry system into a wet system subsequently operates the discharge pressure switch fixed on the water motor alarm sending signal to the control panel indicating the fire signal. When the fire produces enough heat to operate one or more sprinkler heads, water will flow from the operated sprinkler heads and control or suppress the fire.

A riser check valve provides air check to the system and pressurized with a nominal supervisory air pressure of approximately 40 Psi. The supervisory low pressure alarm switch is set to transfer its contacts at approximately 6 PSI (0.4 Bar) below the air pressure requirement described in Graph A.

Shield UL Listed Deluge valve is a quick release, hydraulically operated diaphragm actuated type of 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 hydraulic shut-off valve from the system supply side to the top chamber, so that supply pressure in the top chamber act across the diaphragm operated clapper which holds the seat against the inlet supply pressure because of the 2: 1 differential pressure design. On detection of fire the top chamber is vented to atmosphere through the outlet port via opened actuation devices (solenoid valve). If the top chamber pressure reaches less than half the supply pressure instantaneously, the upward force of the supply pressure lifts the clapper allowing water to enter the system piping network and alarm devices. As water flows into the system, the hydraulic shut-off valve becomes pressurized and automatically shuts off the top chamber supply flow (Priming line).Shutting off the top chamber supply flow prevents the **Shield Pre-Action valve** from becoming re-pressurized, thereby preventing inadvertent closing of the pre-action valve during a fire.



LEGENDS	
1	DELUGE VALVE
2	LOW AIR PRESSURE ALARM SWITCH
3	CHECK VALVE (AIR)
4	PRESSURE GAUGE (AIR SUPPLY)
5	SYSTEM MAIN DRAIN VALVE
6	RISER CHECK VALVE
7	WATER MOTOR ALARM GONG
8	STRAINER (ALARM GONG)
9	PRESSURE GAUGE (WATER SUPPLY)
10	CHECK VALVE
11	ANGLE VALVE (MAIN DRAIN)
12	SOLENOID VALVE
13	DUMMY PLUG
14	6-WAY MANIFOLD
15	TOP CHAMBER PRESSURE GAUGE (WATER SUPPLY)
16	EMERGENCY RELEASE STATION
17	PRIMING BALL VALVE
18	STRAINER (PRIMING)
19	RESTRICTION CHECK VALVE
20	SYSTEM DRAIN VALVE
21	AUTOMATIC DRIP VALVE
22	SYSTEM CONTROL VALVE
23	PNEUMATIC DIAPHRAGM ACTUATOR
24	PRESSURE RELEIF VALVE
25	SYSTEM AIR SUPPLY VALVE
26	HYDRAULIC SHUT-OFF VALVE
27	BALL VALVE (ALARM TEST)
28	BALL VALVE (PRESSURE GAUGE)
29	DISCHARGE PRESSURE SWITCH (WATER)
NO	NORMALLY OPEN
NC	NORMALLY CLOSE

NOTICE:
The equipment presented in this bulletin is to be installed in accordance with the latest publication standards of NFPA or other similar organizations and also with the provision of government codes or ordinances wherever applicable.

The information provided by us is to the best of our knowledge and belief and are general guidelines only. Site handling and installation control is beyond out reach. Hence we give no guarantee for result and take no liability for damages, loss or penalties whatsoever resulting from our suggestion, information, recommendation or damages due to our product.

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