

Preaction Sprinkler Systems

Preaction sprinkler systems are equipped with automatic sprinklers and are used where it is important to prevent the accidental discharge of water. These systems may also be used where an alarm is desired in advance of sprinkler operation or where it is desired to minimize the water delivery delay inherent in a standard dry-pipe system. For this reason, the following factors shall be carefully assessed: detector spacing and sensitivity, sprinkler piping arrangement and ceiling construction.

Supervisory pressure is maintained in the sprinkler piping of a preaction sprinkler system. A trouble alarm sounds if the supervisory pressure is not maintained; however, such a condition will not cause the automatic water control valve to operate. Generally, a single check valve is installed downstream of the automatic water control valve to contain the supervisory pressure. Except for the addition of a single check valve and the use of automatic sprinklers, components of preaction sprinkler systems are identical or similar to those of deluge sprinkler systems.

The water supply is held back by a water control valve which is operated manually or automatically by the actuation of a fire detection system. The fire detection system is required to be one of the following types: hydraulic rate-of-rise, pneumatic rate-of-rise or electric. Compatible FM Approved Release Control Panels for use with electric release preaction sprinkler system(s) are listed under RELEASE CONTROL PANEL COMPATIBILITY.

Electrically operated preaction sprinkler systems are FM Approved on a component basis. Only the major, compatible components noted in the sprinkler system listing shall be used in designing an FM Approved system. FM Global installation acceptance may stipulate that only heat-actuated fire detection devices be used. Acceptance criteria by other jurisdictional authorities may vary.

Preaction sprinkler systems are FM Approved as complete systems. *Only the listed components for a specific manufacturer shall be used in an FM Approved system.*

Single Interlock Preaction Sprinkler System with Electric Release

Single Interlock Preaction Sprinkler System with Electric Release. Consists of Model DDX automatic water control valves in sizes 2, 2-1/2, 3, 4, 6 and 8 inch (50, 65, 80, 100, 150 and 200 mm) NPS. The system rated working pressure is dependent on the solenoid valve used. Grooved inlet and outlet, installed vertically. Major trim components consist of the following:

- Solenoid valve:
 - Solenoid part number 6871020000 for systems rated at 175 psi (1205 kPa)
 - Solenoid part number 6871020020 for systems rated at 250 psi (1725 kPa)
- Any compatible FM Approved Fire Alarm/Releasing Control Panel and associated batteries
- Model A or B emergency station / manual pull boxes
- System Main Drain Valve:
 - Model DDX automatic water control valves in sizes 2, 2-1/2, and 3 inch NPS a 1-1/4 inch NPS drain valve is used.
 - Model DDX automatic water control valves in sizes 4, 6 and 8 inch NPS a 2 inch NPS drain valve is used.

Optional system components include:

- Model C mechanical sprinkler alarm
- Butterfly or OS&Y water supply control valve
- Tamper switch for water supply control valve
- System Sensor Model EPS10-2 water flow pressure alarm switch
- Trouble & alarm annunciators
- Model B air compressor panel
- Model C pressure maintenance device

Single Interlock Preaction Systems are available factory assembled in the Reliable Pre-Pak enclosure in sizes 2, 2-1/2, 3, 4 and 6 inch NPS. Consists of a cabinet containing all system components and accessories, and requires only the connection to the water supply inlet, water outlet (to system), main drain, the alarm and detection connections, and the electrical power supply. Integral components of the Single Interlock Preaction System in a Pre-Pak enclosure consist of the following:

- Emergency Pull Station, Water Supply Control Valve, and Alarm Test Valve
 - Main Drain Valve, trim shutoff ball valves, and ball drip valve
 - 120/220 VAC terminal box for control panel and air compressor with internal factory wired connections
 - 24 VDC terminal box with internal factory wired connections for solenoid release valve, low system air pressure switch, supply valve position indicator switch, backup power, heat and smoke detector initiating circuits, and alarm pressure switch
 - Model DDX automatic water control valve in size 2, 2-1/2, 3, 4, or 6 inch (50, 65, 80, 100, and 150 mm) NPS with Type D Double Interlock Preaction Trim set configured as a single interlock preaction system
 - One Gast air compressor as shown below:
 - Model 1HAB-11T-M100X 1/6 hp air compressor for the 2 and 2-1/2 inch (50 and 65 mm) NPS sizes
 - Model 3HEB-13T-M345 1/3 hp air compressor for the 3 inch (80 mm) NPS size
 - Model 5HCD-108-M550NGX 3/4 hp air compressor for the 4 or 6 inch (100 or 150 mm) size
 - Optional Gast Model 7HDD-16-M750X 1-1/2 hp air compressor for the 6 inch (150 mm) NPS size
 - One air tank:
 - 2 gallon (9.1 liters) for the 2, 2-1/2, and 3 inch (50, 65, or 80 mm) NPS sizes
 - 8 gallons (30.3 liters) for the 4 and 6 inch (100 and 150 mm) NPS sizes
 - One Potter Model PFC-4410-RC Releasing/Control Panel
 - One Pressure Maintenance Device for system air supervision (contains regulator, check valve, strainer, and rapid-fill option).
- All required fittings, gauges, electrical connectors, and electrical devices to utilize the system in single interlock, single interlock cross-zoned, double interlock, and double interlock cross-zoned applications.

Company Name:	Rapidrop Global Limited
Company Address:	Rutland Business Park, Newark Rd, Peterborough PE15WA, United Kingdom
Company Website:	http://www.rapidrop.com
New/Updated Product Listing:	No
Listing Country:	United Kingdom
Certification Type:	FM Approved