

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.*

FESCO Model PPD

Single Interlock Preaction Sprinkler System with Electric Release. Consists of FESCO Model PPD automatic water control valves in sizes 4 and 6 inch (100 and 150 mm) NPS. The system rated working pressure is 175 psi (1205 kPa). Flanged end connections. Vertical installations only. Major trim components consist of the following:

- Solenoid valve: ASCO Model 8210P007
- Any compatible FM Approved Fire Alarm/Releasing Control Panel and associated batteries
- Emergency station / manual pull boxes
- 2 inch NPS System Main Drain Valve

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