

## Refrigerated Area Sprinkler Systems

A refrigerated area sprinkler system affords fire protection in refrigerated rooms or buildings and includes special safeguards against accidental filling with water and subsequent freezing of the system. A fire detection system shall actuate and one or more automatic sprinklers in the piping shall operate before water will enter the sprinkler system. An alarm sounds if the detection system only is actuated while pneumatic pressure is maintained in the sprinkler piping. An alarm also sounds if the pneumatic pressure in the sprinkler piping is not properly maintained. In either case, water does not enter the system piping. These systems should be installed in accordance with FM Global Loss Prevention Data Sheet 8-29, "Refrigerated Storage". System calculations regarding required system air capacity should be performed if only one air maintenance device is contemplated for several sprinkler systems.

Refrigerated area sprinkler systems which are operated pneumatically/hydraulically are FM Approved as complete systems. Only the listed components for a given system may be used in combination.

Fire detection systems which are operated electrically are FM Approved on a component basis. Only compatible components may be used in combination. Compatible FM Approved Release Control Panels for use with electric release refrigerated area sprinkler system(s) are listed under RELEASE CONTROL PANEL COMPATIBILITY.

## Type F Double Interlock Preaction System

Type F Double Interlock Preaction System, pneumatic/electric. 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:

- Model B emergency station / manual pull boxes
- Model LP dry valve actuator
- System Sensor Model EPS10-2 supervisory low air pressure switch
- Any compatible FM Approved Fire Alarm/Releasing Control Panel and associated batteries
- Water flow alarm switch
- FM Approved thermal detector
- Solenoid valve:

o Solenoid part number 6871020000 for systems rated at 175 psi (1205 kPa)

o Solenoid part number 6871020020 for systems rated at 250 psi (1725 kPa)

- System Main Drain Valve:

o 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.

o Model DDX automatic water control valves in sizes 4, 6 and 8 inch NPS a 2 inch NPS drain valve is used.

Optional components include:

- Reliable nitrogen regulating device
- Model A-2 pressure maintenance device
- Model B1 accelerator.
- Model C mechanical sprinkler alarm
- Butterfly or OS&Y water supply control valve
- Tamper switch for water supply control valve
- System Sensor EPS10-2 waterflow alarm pressure switch
- Trouble & alarm enunciators

- Tank mounted air compressor

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