

Dry Pipe Valves

In buildings where it is impractical to keep temperatures above freezing, automatic sprinkler systems can be equipped with an FM Approved dry pipe valve. The sprinkler piping contains air under pressure, instead of water. When a sprinkler operates, air escapes, the dry pipe valve trips, and water is admitted automatically to the system. Dry pipe systems should be installed in accordance with FM Global Loss Prevention Data Sheet 2-8N, Installation of Sprinkler Systems. Additionally, if their use is intended for refrigerated storage, FM Global Loss Prevention Data Sheet 8-29 should be referred to. System calculations regarding required system air capacity should be performed if only one air pressure maintenance device is contemplated for several sprinkler systems.

Dry pipe valves are designed so that a moderate amount of air pressure will hold back a much greater water pressure. In the *differential type*, the air pressure holds the water clapper closed either by means of a difference in areas on which the water and air pressures act, or by a combination of this principal with a lever action. In the *mechanical type*, a clapper on the water seat is held closed by a system of levers which are controlled by a relatively small air clapper.

A suitable alarm is connected to the dry pipe valve so that a warning is given when the valve operates. This may be a mechanical alarm that operates by a hydraulic motor, or a hydraulic pressure switch that closes an electric circuit to operate a bell, horn, or remote signaling system. Unless otherwise noted in the listing, these dry pipe valves have 175 psi (1205 kPa) rated working pressure.

Model DDX-LP

Model DDX-LP Dry Pipe Valve System. 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 rated working pressure of the Model DDX-LP Dry Pipe Valve System is 250 psi (1724 kPa). Grooved inlet and outlet, installed vertically. Major trim components consist of the following:

- Model B emergency station / manual pull boxes
- System Main Drain Valve. For Model DDX automatic water control valves size 2, 2-1/2 and 3 inch NPS a 1-1/4 inch NPS drain valve is used. All other size Model DDX valves use a 2 inch NPS drain valve.

Optional system components include:

- Model B1 Accelerator
- System Sensor Model EPS40-2 low air pressure alarm switch
- Model A-2 pressure maintenance device
- 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
- Reliable nitrogen regulating device

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