



Automatic Sprinklers: Low Point Drain Assemblies

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Learning Objective: The student shall be able to explain the operation of a low point drain assembly on an automatic sprinkler system.

Dry-pipe sprinkler systems are intended for protecting low-temperature environments such as unheated loading docks, cold storage facilities, or any property where the ambient temperature is less than 40 °F (4.4 °C). These systems contain pressurized air or dry nitrogen that is released when the sprinkler system operates.

In those pipe networks that contain air, there is a concern that moisture in the form of condensation can freeze inside the pipes and block the water flow to one or more sprinklers. Dry sprinkler system pipes are hung so they will drain to low points where the moisture can be removed.

This low point drain assembly, also called a drum drip, is typical of what will be found where the water can drain. It consists of two valves, a piece of pipe and bored-out caps at either end of the pipe. The control valves do not have to be supervised, nor do they have to be indicating valves like these quarter turn valves. This assembly also has a plug at the lower end.

In the normal, or “ready,” the upper control valve remains in the “open” position. This allows condensation to drain into the larger pipe and collect there. Periodically, a service technician will drain the assembly to remove excess water. This is accomplished by first closing the upper valve (by turning it 90° [1.5 rad]), then removing the plug and opening the lower valve to let the water drain.

It is important that the upper valve is closed first. This prevents excess air from leaking from the system and tripping the dry-pipe valve.

Once the water is drained from the assembly, the process is reversed: first close the lower valve, insert the plug, and then open the upper valve to allow the condensate to drain.

For additional information, refer to National Fire Protection Association (NFPA) 13, *Standard for the Installation of Sprinkler Systems*.



The low point drain assembly also may be called a “drum drip.”

