



QUICK RESPONSE

Saving life and property through effective licensing, plan review, and inspection of fire protection systems.

September 2011

Auxiliary Drain – Dry System

To prevent freezing, dry system **auxiliary drains** shall be provided where a change in piping direction prevents drainage of system piping (trapped piping) through the main drain valve. The type of a dry system **auxiliary drain**, its size, and its arrangement depend on the capacity (volume) of trapped piping.

In a dry system where the capacity of trapped section of pipe is **5 gallons or less**, the **auxiliary drain** shall consist of a valve ½-inch or larger and a plug (**Exhibit 1**) or a nipple and cap (**Exhibit 2**).

Dry system **auxiliary drains** are not required for pipe drops supplying dry-pendent sprinklers provided the water-filled pipe above the dry-pendent sprinkler is not subject to freezing and where the length of the dry-pendent sprinkler has the minimum exposure length as listed by the manufacturer. An **auxiliary drain** is also not required when pendent sprinklers located in heated areas are supplied by piping that is also in a heated area.

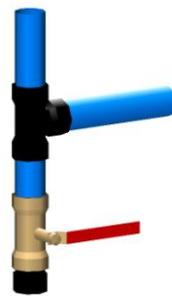


Exhibit 1



Exhibit 2

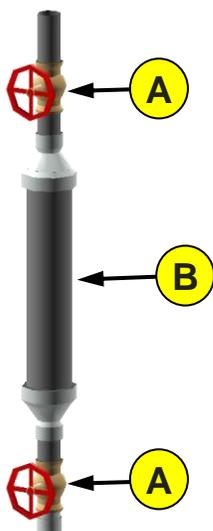


Exhibit 3

In a dry system where the capacity of trapped section of pipe is **more than 5 gallons**, the **auxiliary drain** shall consist of two 1-inch valves (**A**) and one 2-inch by 12-inch nipple (**B**), (**Exhibit 3**). This type of **auxiliary drain** is commonly known as a “drum drip” (refer to the June 2011 edition of **Quick Response**).

An **auxiliary drain** called “tie-in drains” is utilized when two or more adjacent branch lines in a dry system are trapped. The ends of the branch lines are to be piped together and run to a low-point drain. The piping for tie-in drains shall only be 1-inch in size and be pitched at a minimum of ½-inch per 10-feet. Tie-in drains should be avoided if possible because their use in effect creates a dry gridded system (dry gridded systems are prohibited). The gridded pipe arrangement slows the evacuation of air from the dry system and delays a steady flow of water to operating sprinklers. As such, the 1-inch pipe size restriction helps minimize delays.