

# SCFA – Training Bulletin 24-01

## Fire Sprinkler Systems Water Flow

System types include Wet (always contain water) for conditioned areas and Dry (pipes contain air until system activates) for unconditioned or exterior areas

Systems will flow water in the event of fire, or mechanical damage to sprinkler head or piping

Wet system piping must be properly insulated if passing through unconditioned space such as an attic. Inadequate insulation can result in freezing and pipe breaks during winter months

Dry systems use a compressor to keep air pressure in piping within a specified pressure range to keep dry valve closed

Dry systems may contain some water from moisture condensation at low point drains- failure of system owner to drain condensed water often leads to freezing and pipe breaks in cold conditions

Failure of the air compressor to maintain air pressure in piping due to a significant air leak, compressor malfunction, or power loss can cause a drop in air pressure that causes the dry pipe valve to open and flood the system. Alarm for water flow will activate, but no visible water flow outside the system is observed



### Fire Department Actions

- Perform a 360 degree size up
- Any smoke or fire visible? Is any water flowing from the building doors or drain pipe by sprinkler room? Is water flow bell and fire alarm system activated? Occupants providing info?
- Check building for reason for the water flow
- If activation is due to a fire, supply the FDC
- If activation is due to a malfunction or system damage, locate where water is flowing from and close the appropriate system valve. Open appropriate drain valve
- TIC can be useful to show sprinkler piping that has been filled with water or is flowing water. It will appear colder compared to surroundings
- In fire situation, avoid premature system shutdown
- Notify AHJ CEO (ie. fire marshal or building inspector)



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