



# QUICK RESPONSE

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

May 2010

## DRY PIPE VALVE – PRESSURE SWITCH

In dry pipe systems, **pressure switches** are used to monitor the air pressure in the fire sprinkler system.

When the air pressure within the sprinkler system drops 10 psi from normal working pressure, the **low air pressure switch (A)** will activate and send a supervisory signal. This is an indication that there is low pressure in the system. This may be an indication of a sprinkler(s) operating or possible air compressor failure. This **pressure switch** will activate before the dry pipe valve trips.

When the system air pressure drops low enough the dry pipe valve will open (Fig. 2). This allows water to fill the system piping and discharge through open sprinklers. The water also fills the alarm line piping activating the **waterflow pressure switch (B)**. Note that dry systems must utilize **pressure type flow switches**. Per NFPA 13, paddle-type waterflow devices **(C)** are prohibited on dry pipe systems. This is due to when a dry pipe valve opens, water rushes into the system with such force the paddle-type flow switch might be damaged or the paddle may disengage completely, be carried into the system, and become lodged in the piping causing an obstruction.

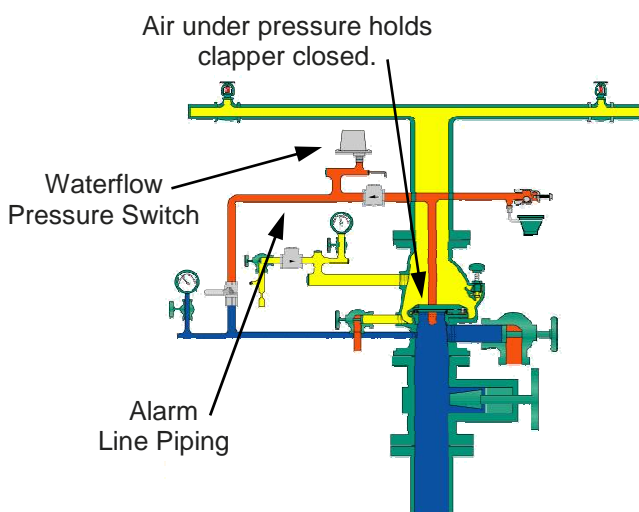
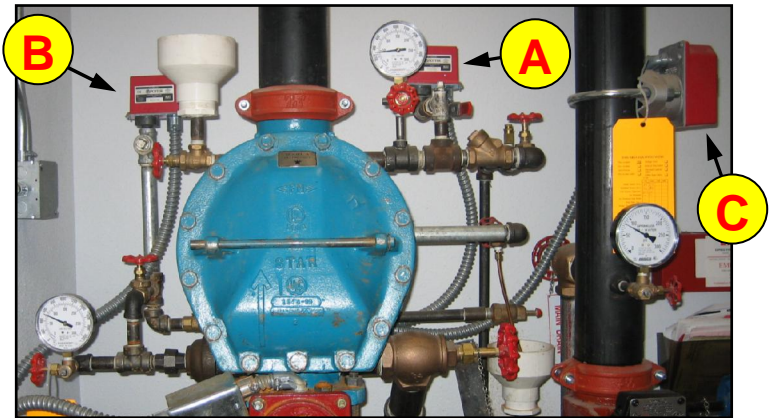


Fig. 1 Dry Pipe Valve ready for operation

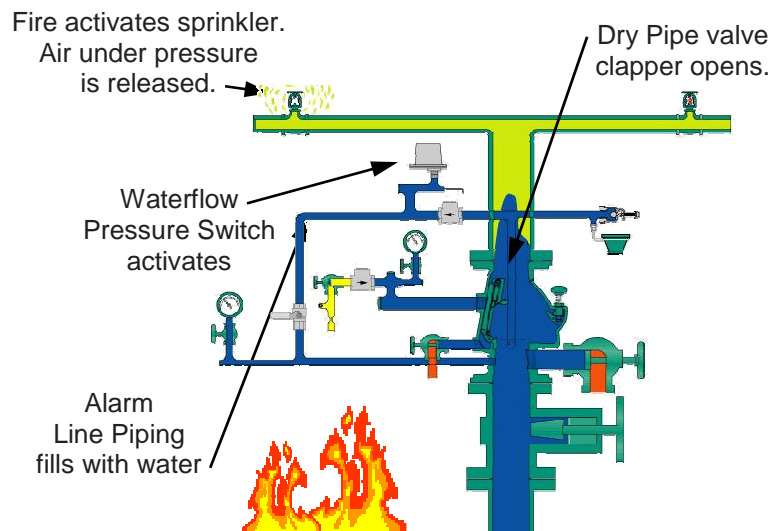


Fig. 2 Dry Pipe Valve clapper opens

