



QUICK RESPONSE

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

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DRY PIPE VALVE - OPERATION

Dry systems are designed for situations in which there is a potential for freezing conditions. Under normal conditions, instead of being filled with water, the system is filled with air under pressure. Air pressure is maintained in the system by means of an air compressor. The compressed air in the sprinkler system holds the **dry pipe valve** closed, preventing water from entering the sprinkler piping (Fig 1). This valve acts on a pressure differential principle. The surface area of the clapper face on the "air" side is greater than the surface area on the "water" side.

Figure 2 shows a dry system ready for operation. When a fire occurs, one or more sprinklers will operate. The system air pressure escapes through the open sprinklers. Due to the loss of air pressure, the water pressure is now able to push the **dry pipe valve** clapper open (Fig. 3).

Once the **dry pipe valve** is open, water is admitted into the sprinkler system piping, fills the piping network and water will discharge from any sprinklers that have operated (Fig. 4).

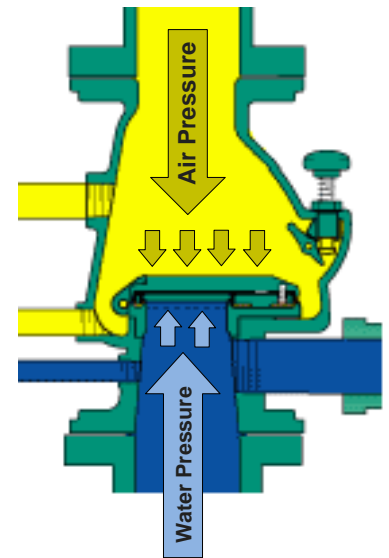


Fig. 1 Dry Pipe Valve

Illustrations courtesy of Tyco Fire Suppression & Building Products

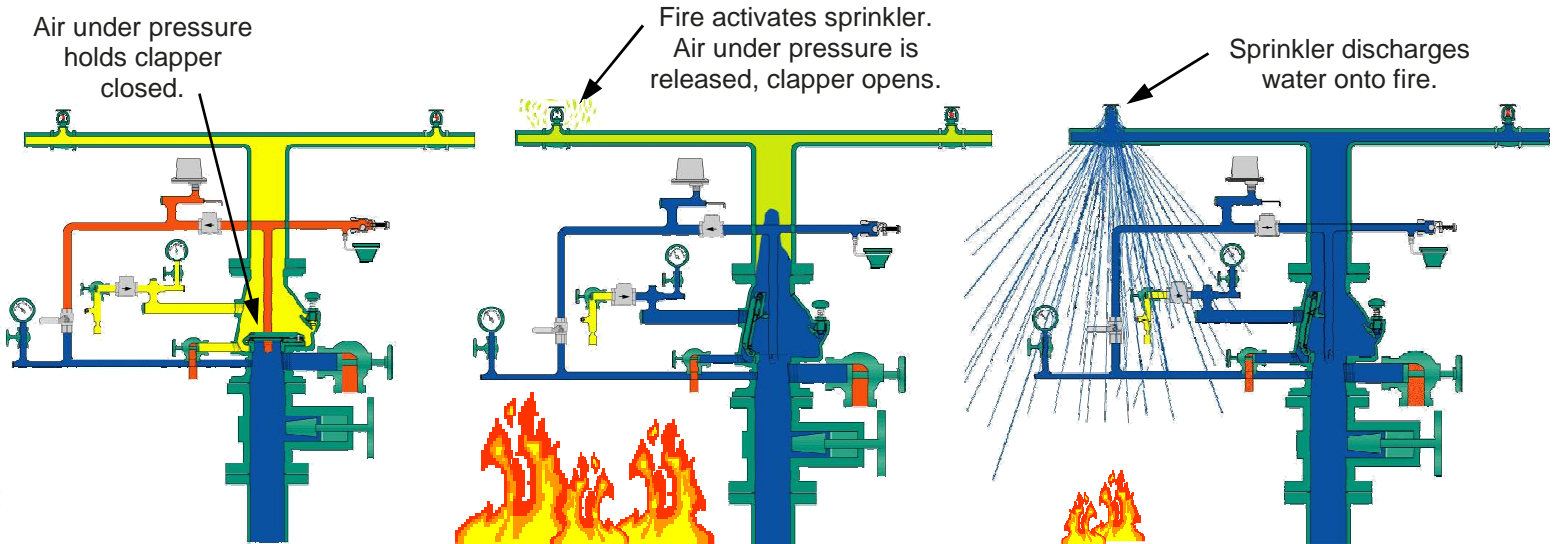


Fig. 2 Dry Pipe Valve ready for operation

Fig. 3 Dry Pipe Valve clapper opens

Fig. 4 Dry Pipe Valve water fills sprinkler system

