

Priority Demand Valve

General Description

Rapidrop Priority Demand valve for use with mains water supply or stored water supply residential sprinkler systems. Designed to isolate domestic supply in the event of sprinkler activation. Upon activation of a flow switch / alarm relay, the valve will automatically close the domestic supply allowing all water to flow to the sprinkler system.

The priority demand valve is available in ball or butterfly type body (depending on connection and size) attached to a specific actuator. The appropriate control box will need to be ordered separately to suit the relevant design standard.

Rapidrop priority demand valve can also activate multiple valves simultaneously through a single flow switch / single alarm relay.

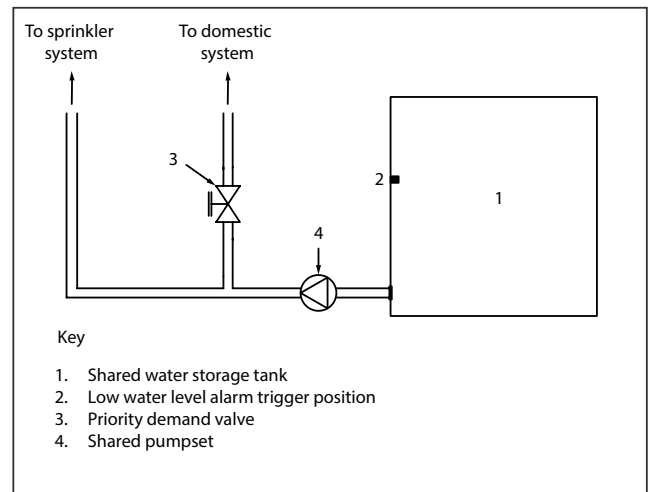


Main features/benefit of Rapidrop PDV

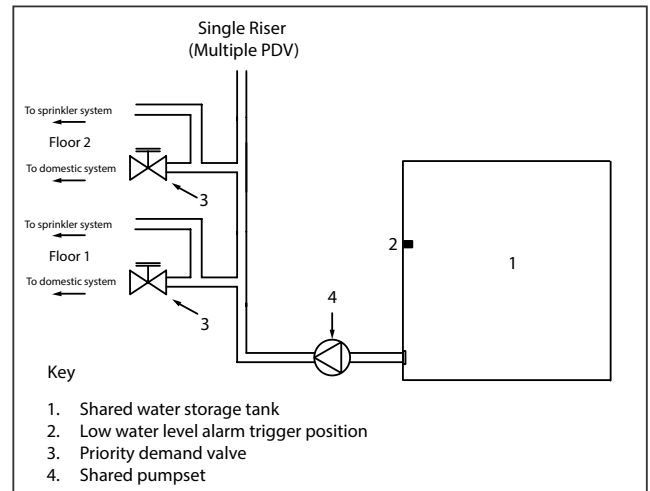
- Purposely designed actuator :
 - Rapidrop PDV is a Power to open Power to close type valve with built in battery back-up. Once the valve is in the correct position the actuator will revert to 'sleep mode'. It will only periodically revert to 'power mode' when activating or to trickle charge the internal battery.
 - In comparison, solenoid valve type PDVs overheat due to permanently being powered open (energising the coil, typically referred as spring return)
- Very low Power Consumption – Maximum of 5W when charging the internal battery.
40mW when in 'sleep mode' (for valve sizes up to 2 1/2")
- Differentiate a flow switch signal from tank low-level signal (when using Rapidrop appropriate control box) A shared tank supply should never be shut off for long periods due to stagnant water in the tank.

Priority Demand Valve Simple Schematic

Typical shared pump and water supply (Single PDV - Seperate Riser Feed)



Typical shared pump and water supply (Multiple PDV - Single Riser Feed)





Priority Demand Valve

Design Standards

BS9251-2014 Priority Demand Valve

Features:

- Failsafe; PDV will automatically CLOSE on power loss and OPEN after power is restored
- PDV will CLOSE after activation of the flowswitch. It will automatically return to OPEN position after the water flow stops.
- PDV will CLOSE after activation of the low level tank monitoring switch but will automatically return to OPEN position after water returns to normal level

BS9251-2021 Priority Demand Valve

Features:

- Failsafe; PDV will automatically CLOSE on power loss and OPEN after power is restored
- PDV will CLOSE and **latch** after activation of the flowswitch. It will remain shut until the RESET button is pressed (manual reset).
- PDV will CLOSE after activation of the low level tank monitoring switch but will automatically return to OPEN position after water returns to normal level

Isolation Valve type, sizes and connections

Ball Valves

Connections: BSP female thread according to ISO 228/1

- DN25 (1")
- DN32 (1-1/4")
- DN40 (1-1/2")
- DN50 (2")

Butterfly valves

Connections: Semi lug wafer pattern to suit PN16 Flange according to BS EN 1092 and Table D/E flanges (BS 10)

- DN50 (2")
- DN65 (2-1/2")
- DN80 (3")
- DN100 (4")
- DN125 (5")
- DN150 (6")
- DN200 (8")

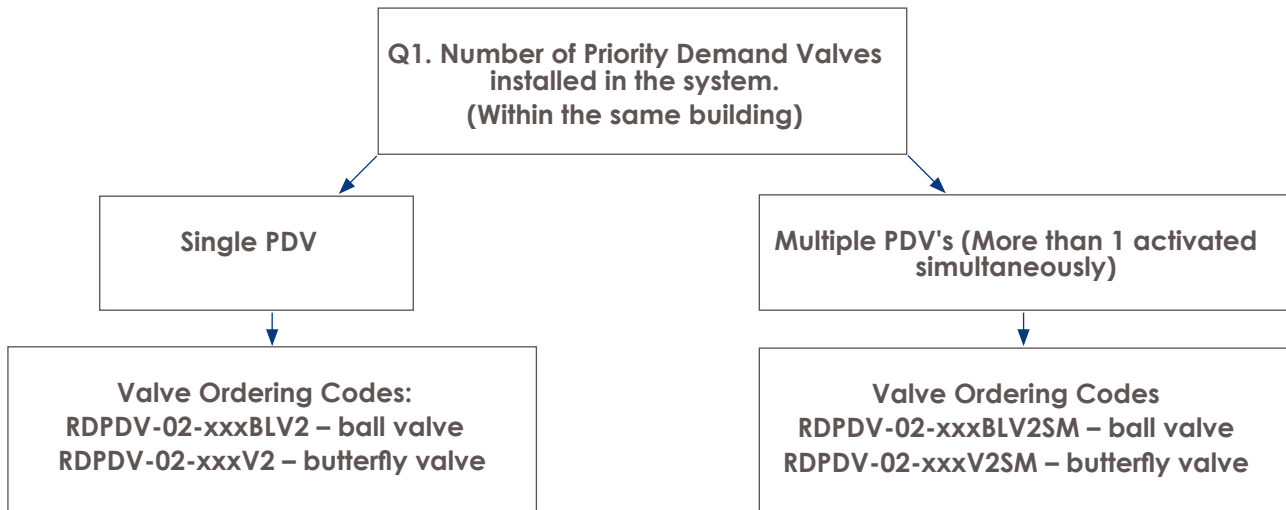
Installing PDV in copper pipe systems

Appropriate size adapters must be used to connect the PDV to copper pipe systems. Copper-thread adapters for sizes DN25-DN50 and copper-flange adapters for sizes DN50-DN200

Copper Pipe Size	Valve Size
28	DN25 (1")
35	DN32 (1-1/4")
42	DN40 (1-1/2")
54	DN50 (2")
67	DN65 (2-1/2")
76	DN80 (3")
108	DN100 (4")
133	DN125 (5")
159	DN150 (6")

Priority Demand Valve

1. Valve Selection Guide



2. Control Box Selection Guide

