



Assessed to ISO 9001:2008
Cert/LPCB/ ref. 566b/01(B)
Cert/LPCB/ ref. 566b/02(D)
Cert/LPCB/ ref. 566b/03(E)



Wet Alarm Valve Model B, D, E

General Description

Model B, D & E wet alarm valves are designed for use in wet pipe sprinkler installations in buildings not subject to freezing temperatures.

This type of wet alarm valve is designed to automatically initiate electric or hydraulic alarm whenever there is a flow of water to one or more sprinklers.

A variety of trim packages are available to suit the requirements of the authority having jurisdiction and a number of accessories can be supplied including straps and padlocks, pressure switches, retard chamber and water motor alarm gong.

This valve must be installed vertically in the main supply to a wet pipe sprinkler system.



Operation

In the case of a fire the sprinkler head operates and the pressure on the system side of the clapper falls below the pressure on the supply side. The clapper lifts off the grooved seat and permits water flow from the supply to enter the system for distribution on the fire. Water also flows through the clapper seat to the alarm device via the optional retard chamber.

A pressure surge or water hammer in the supply line may increase the pressure on the supply side of the clapper, causing it to lift intermittently which may result in a false alarm.

The Wet alarm valve prevents such false alarms by two features:

- An external by-pass allows the pressure surge from the supply to bypass the alarm valve clapper. This creates an excess system pressure and thus steadies the clapper.
- Should a heavy surge unseat the clapper and allow water to flow into the alarm line, the optional Model E retard chamber comes into action, delaying the activation of the alarm. Specially designed inlet and drain orifices allow the chamber to partially drain before filling and activating the alarm device.

The retard chamber is supplied with a strainer in the supply line to prevent foreign matter from clogging the inlet orifice.

Pressure Rating

Max. Working Pressure 12 Bar (175 PSI)

Approvals

UL, FM, LPCB, CE

Models

Model	Sizes	Face to Face (mm)	Weight (kg)	Connection Type
Model B Flange - Flange	DN80/3"	273	23.0	Flange*: - ANSI 125/150 - PN16 (hole drilling pattern)
	DN100/4"	225	23.5	
	DN150/6"	267	35.5	
Model D Flange - Groove	DN200/8****	298	60.0	Flange*: - PN16 (hole drilling pattern)
	DN100/4"	263	22.7	
Model E Groove - Groove	DN150/6"	280	29.5	Groove: - DN100/4": 114.3 OD - DN150/6": 165.1 OD (UK) 168.3 OD - DN200/8": 219.1 OD
	DN100/4"	286	19.1	
	DN150/6"	287	22.7	

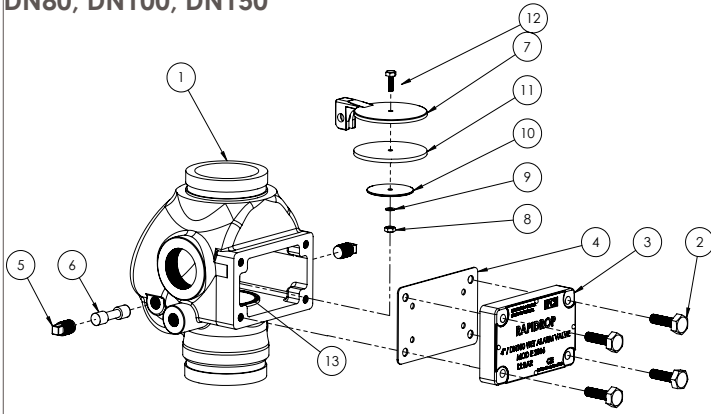
*All valves with flange connections are supplied with flat face flanges.

**The PN16 drilling on the top flange of the DN200 size valve is radially off set to the drilling in the bottom flange. This is required to achieve bolt clearance of the body casting and must be taken into consideration in the design of mating flanged pipe work.

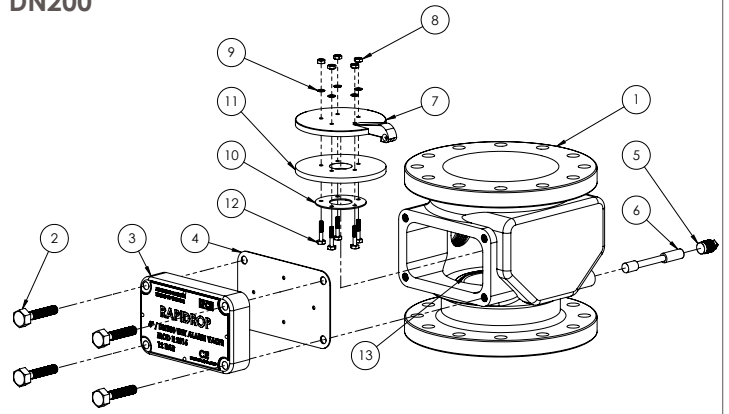
Wet Alarm Valve

Model B, D, E

DN80, DN100, DN150



DN200



Maintenance

The *wet alarm valve* requires very little maintenance and there is no need for any adjustments. The system pressure should be equal to or higher than the supply pressure. It is recommended to regularly examine the *wet alarm valve* to ensure reliability.

Inspection of the valve should be as follows:

1. Notify the Fire Service, Insurance Provider and other centres requiring notification prior to commencing inspection.
2. Remove any padlocks and straps.
3. Close supply stop valve and open the main drain valve.
4. After the system is fully drained, remove the *cover plate* (3).
5. Remove the *clapper shaft retaining plug(s)* (5) and the *clapper shaft* (6).
6. Clean thoroughly removing any accumulated deposits. Inspect the *clapper gasket* (11).
7. If the *clapper gasket* (11) is worn or damaged, unscrew the *clapper nut* (8) and disassemble *clapper components* (7-12).
8. Replace damaged components with genuine replacement parts, and reassemble clapper as shown.
9. Inspect the *clapper seat ring* (13) inside the valve body for lodgement of dirt, bruising or scoring. Clean thoroughly if necessary.
10. A damaged *clapper seat ring* can be carefully polished using lapping compound. If the damage is extensive then a complete new valve should be fitted.
11. After the inspection and replacement of parts, reinstall the *clapper assembly* (7-12) and fix it with the *clapper shaft* (6).

12. Lock the *clapper shaft* (6) with *clapper shaft retaining plug(s)* (5) and reinstall *cover plate gasket* (4) and *cover plate*(3).
13. Remove swing clapper from the check valve on the by-pass line, and check condition of the clapper and the seat.
14. Replace complete unit if damaged.
15. When every part is reinstalled close the main drain valve and reset the valve.

Valve Components

No	Description	Qty. DN80 DN100 DN150	Qty. DN200
1	Valve Body	1	1
2	Cover Plate Bolt	4	4
3	Cover Plate	1	1
4	Cover Plate Gasket	1	1
5	Clapper Shaft Retaining Plug	2	1
6	Clapper Shaft	1	1
7	Clapper	1	1
8	Clapper Nut	1	5
9	Clapper Bolt Lock Washer	1	5
10	Clapper Retainer	1	1
11	Clapper Gasket	1	1
12	Clapper Bolt	4	5
13	Clapper Seat Ring	1	1

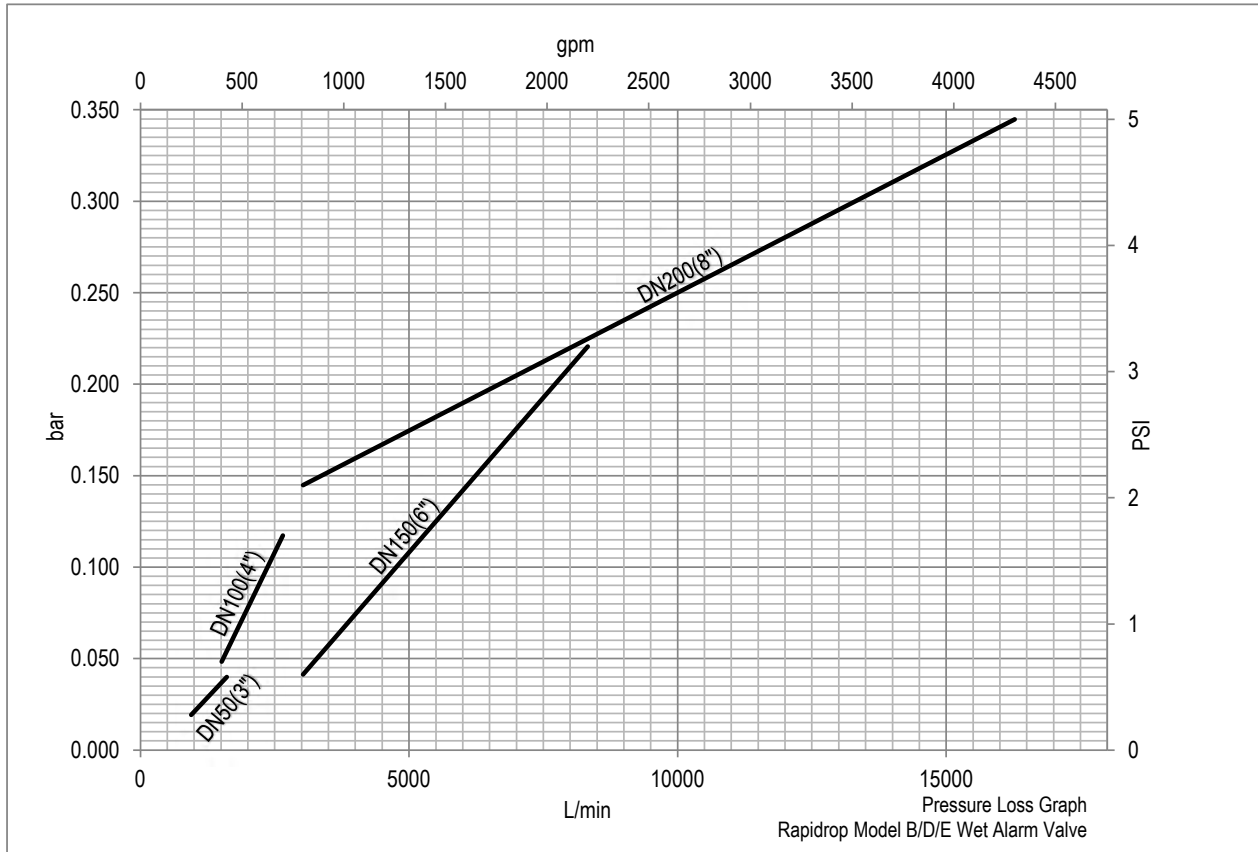


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Pressure Loss Graph



Important Installation Information

- Rapidrop *Model B, D, E wet alarm valves* must only be installed by a competent person in accordance with requirements of the local authority having jurisdiction. Deviations from these standards will invalidate warranty.
- It is the responsibility of the installing contractor to include a copy of this document in the sprinkler system installation, operating and maintenance manual.
- Alterations to Rapidrop products will void any warranty.
- *Model B, D, E wet alarm valve* should be inspected and maintained during routine sprinkler system inspections by a competent person in accordance with national codes/requirements.
- Failure to follow these instructions could cause improper operation, resulting in personal injury and/or property damage.
- For further details and technical support please contact your Rapidrop sales representative.