

LPCB Approved / CE Marked

Description

The LPCB / CE marked model B alarm valve is a differential type consisting of a rubber faced cast iron swing clapper and grooved brass seat. The seat is tinned to prevent the rubber clapper facing from sticking. This valve must be installed vertically in the main supply to a wet pipe sprinkler system.

Operation

When a sprinkler head operates or the inspectors test valve is opened, pressure on the system side of the clapper is reduced below the pressure on the supply side. The clapper then lifts off the grooved seat and permits water flow from the supply to enter the system for distribution on the fire. Water now also flows through the uncovered groove to the alarm device via the optional retard chamber where fitted. A pressure surge or water hammer in the supply line will increase the pressure on the supply side of the clapper, causing it to lift intermittently which may result in a false alarm. The model B alarm valve will prevent such false alarms by two features:

- a) The external by pass with check valve allows a pressure surge from the supply to by pass the alarm valve clapper. This will create an excess system pressure and thus steady the clapper.
- b) Should a heavy surge unseat the clapper and allow water to flow into the alarm line, the optional model E retard chamber then comes into action. This unit has specially designed inlet and drain orifices which will allow the chamber to partially drain before filling and activating the alarm device. The retard chamber also has a strainer in the intake line to prevent foreign matter from clogging the intake orifice.

Care must be taken when installing the 20mm check valve in the by pass line to be certain that it is located with the arrow on the body pointing towards the alarm valve.

Maintenance

The model B alarm valve is so constructed that there is nothing to adjust under normal water and operating conditions and requires very little maintenance. The system pressure gauge should read equal too or higher than the supply pressure gauge. Alarm valves should be regularly examined to ensure reliability. Inspection of the valve should be as follows:

- a) Notify the Fire Service, Insurance Provider and other centres requiring notification prior to commencing inspection.
- b) Remove any padlocks and straps.
- c) Close supply stop valve and open main drain valve (item 34, Fig 1).
- d) Remove front cover (item 3, Fig 2)
- e) Remove the two clapper pin plugs and hinge pin (items 7 & 9 Fig 3) and clapper assembly (Fig 4)
- f) Clean thoroughly removing any accumulated deposits. Inspect the valve rubber/clapper facing; if worn or damaged replace with genuine replacement parts.
- g) Inspect the clapper seat ring for lodgement of dirt, bruising or scoring. Clean thoroughly. (A damaged seat ring can be carefully dressed using lapping compound. If the damage is extensive then a complete new valve should be fitted.)
- h) Reinstall clapper, hinge pin and front cover.
- i) Remove swing clapper from 20mm check valve (item 19, Fig 1) on by pass line, and check condition of clapper and seat. Replace complete unit if damaged.
- j) When every part is reinstalled close main drain valve and reset valve as per 'Procedures after a fire'.

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Weekly test for alarm valve operation.

- a) Notify the Fire Service, Insurance Provider and other centres requiring notification prior to operating the alarm.
- b) Record supply pressure (item 37, Fig 1) and system pressure (item 30, Fig 1).
- c) Remove any padlocks and straps. Open test valve (item 36, Fig 1)
- d) Check the alarm device(s) for correct operation.
- e) Close test valve (item 36, Fig 1).
- f) Check supply pressure (item 37, Fig1) is equal to the system pressure (item 30, Fig 1).
- g) Replace all padlocks and straps where fitted.

Procedures after a fire.

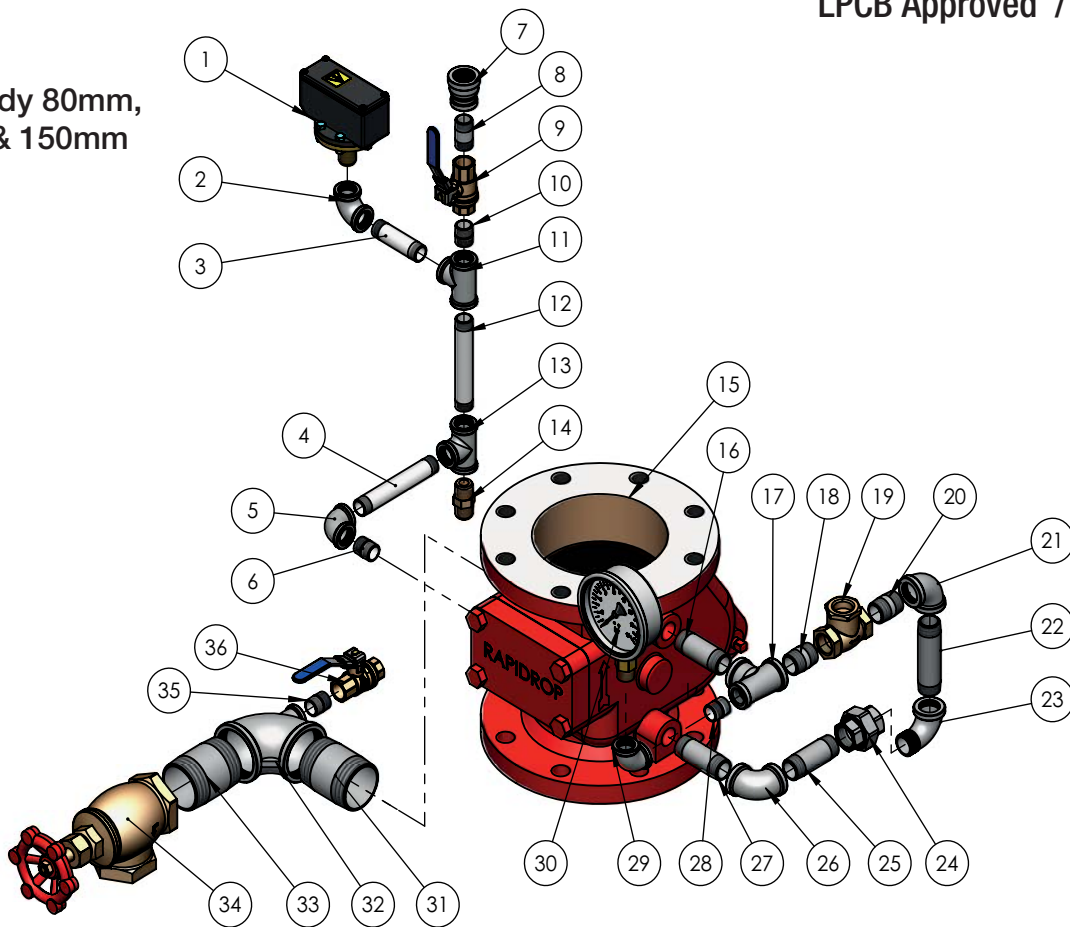
- a) Remove any padlocks and straps.
- b) Close the supply stop valve.
- c) If a sprinkler pump has been used, this must now be turned off.
- d) Open the main drain valve (item 34, Fig 1).
- e) Replace the opened sprinklers with those of equivalent specification.
- f) Close main drain valve.
- g) Close the 15mm ball valve in the alarm valve trim. (item 9, Fig 1)
- h) Slowly open the supply stop valve.
- i) If a sprinkler pump has been used, now restart.
- j) When supply pressure gauge (item 37, Fig1) reading equals system pressure gauge (item 30, Fig 1) reading, open supply stop valve fully and check replaced sprinklers for leaks.
- k) Ensure the 15mm ball valve in the alarm valve trim is open (item 9, Fig 1).
- l) Conduct alarm test as per weekly test.
- m) Replace all padlocks and straps where fitted.
- n) Reorder spare sprinklers to equivalent specification.

Model B, D & E Wet Alarm Valve - LPCB Trim

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Figure 1

Valve body 80mm,
100mm & 150mm



No	Description	Material/Finish	Spec
1	Bailey & Mackey Ps1381 Pressure Switch (Optional)	N/A	N/A
2	1/2" Elbow	Galv	BS143
3	1/2" Barrel Nipple	Galv	BS1387
4	1/2" X 5" Long Tube Sbe	Galv	BS1387
5	1/2" Elbow	Galv	BS143
6	1/2" Barrel Nipple	Galv	BS1387
7	3/4" X 1/2" Reducing Socket	Galv	BS143
8	1/2" Barrel Nipple	Galv	BS1387
9	1/2" 1/4 Turn Ball Valve		
10	1/2" Barrel Nipple	Galv	BS1387
11	1/2" Equal Tee	Galv	BS143
12	1/2" X 6" Long Tube Sbe	Galv	BS1387
13	1/2" Equal Tee	Galv	BS143
14	1/2" Drip Valve	Bronze	
15	Wet Alarm Valve Body		
16	3/4" X 2" Long Tube Sbe	Galv	BS1387
17	3/4" X 1/2" X 3/4" Tee	Galv	BS143
18	3/4" Barrel Nipple	Galv	BS1387

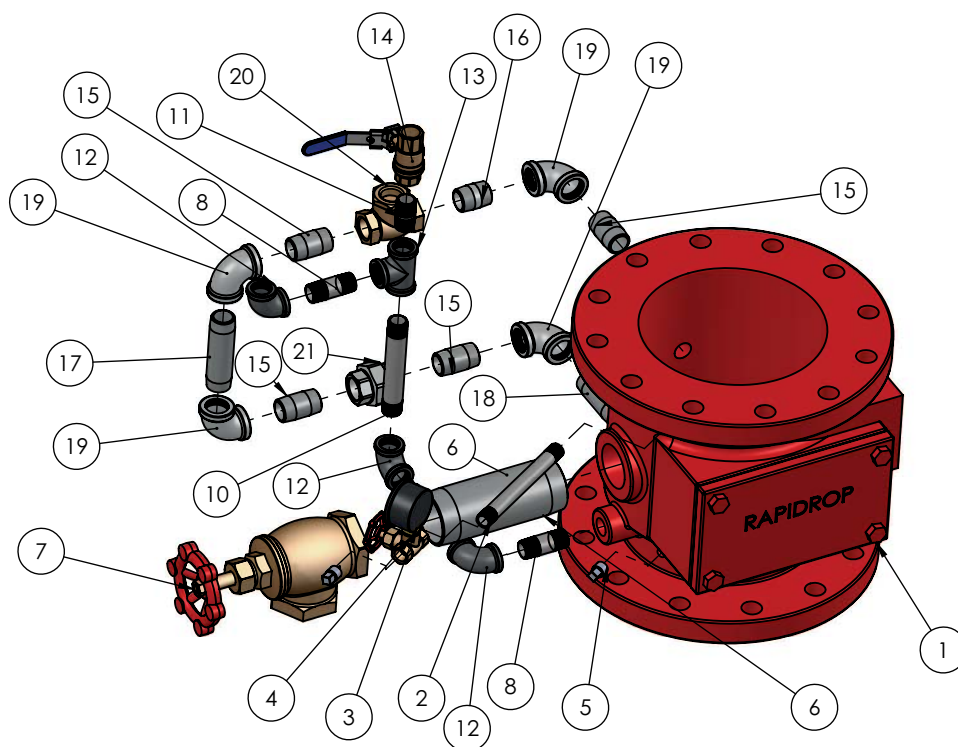
No	Description	Material/Finish	Spec
19	3/4" Check Valve Screwed	Bronze	
20	3/4" Barrel Nipple	Galv	BS1387
21	3/4" Elbow	Galv	BS143
22	3/4" X 3.1/2" Long Tube Sbe	Galv	BS1387
23	3/4" Elbow	Galv	BS143
24	3/4" Union	Galv	BS143
25	3/4" X 4" Long Tube Sbe	Galv	BS1387
26	3/4" Elbow	Galv	BS143
27	3/4" X 2.1/2" Long Tube Sbe	Galv	BS1387
28	1/2" Barrel Nipple	Galv	BS1387
29	1/2" Elbow	Galv	BS143
30	Pressure Gauge Incl No-Los Connector	N/A	BSEN837
31	2" X 2.1/2" Long Tube Sbe	Galv	BS1387
32	2" X 1/2" X 2" Tee	Galv	BS143
33	2" X 2.1/2" Long Tube Sbe	Galv	BS1387
34	2" Angle Drain Valve	Bronze	
35	1/2" Barrel Nipple	Galv	BS1387
36	1/2" 1/4 Turn Ball Valve		

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Figure 1
Valve body 200mm



Item No.	Part Number	Description	Qty.
1	Wet valve body 200mm		1
2	Nipple 1-4	BS1387	1
3	3 valve	1/4" 3 Way Valve	1
4	Pressure gauge small		1
5	Plug	1/4" Plug	2
6	2"	2" 5" GALV	1
7	2 angle valve		1
8	Nipple 1-2	BS1387	2
9	Nipple 1-2	BS1387	1
10	Nipple 1-2	BS1387	1
11	Nipple 1-2	BS1387	1
12	Elbow 1-2in	BS143	3
13	Equal Tee 1-2in	BS143	1
14	Ball Valve		1
15	L1	3/4" 2-1/2" Galv	4
16	Nipple 3-4	Barrel Galv	1
17	L4	3/4" 4" Galv	1
18	L2	3/4" 3" Galv	1
19	Elbow 3-4	Galv	4
20	Check valve		1
21	Union fitting		1

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Figure 2

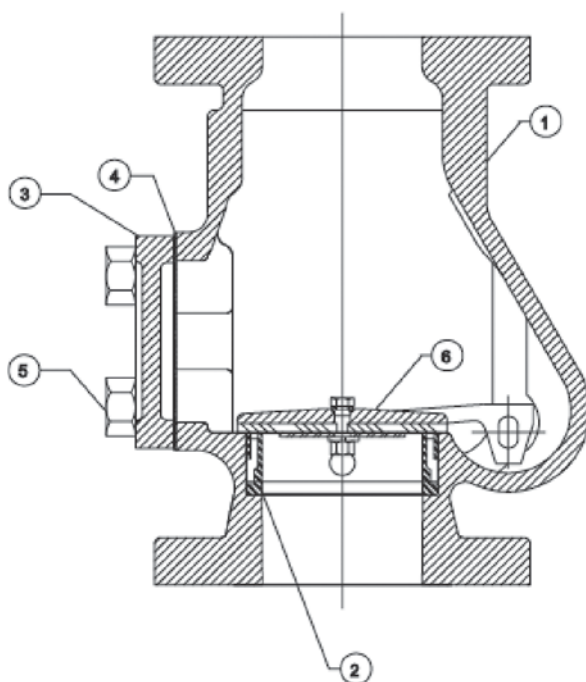


Figure 3

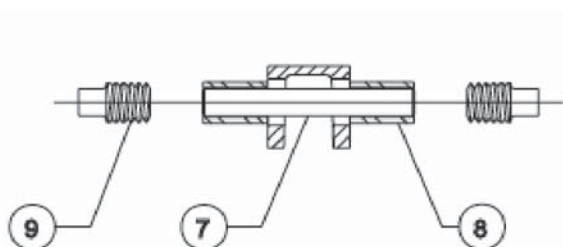
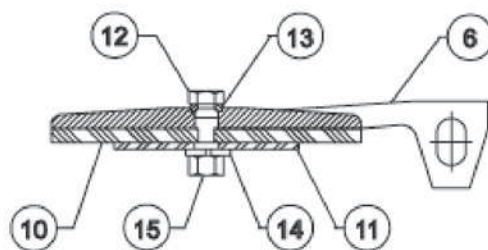


Figure 4



Figures 2,3 & 4 Parts List

Item Number	Description	Item Number	Description
1	Alarm Valve Body	9	Plug
2	Water Seat	10	Clapper Gasket
3	Cover	11	Seal Retainer
4	Cover Gasket	12	Bolt
5	Cover Bolts	13	O Ring
6	Clapper	14	Lock Washer
7	Clapper Pin	15	Nut
8	Bush		