

Model E / E3 DN100 (4"), DN150 (6"), DN200 (8") Wet Alarm Valve with Euro Stainless Steel Trim

Features

1. Especially designed for wet sprinkler systems
2. Grooved mounting surface construction guarantees safe operation of the water flow in the alarm channel.
3. A precision retard chamber prevents false alarms under variable pressure conditions.
4. An external bypass line prevents false alarms under any intake pressure conditions.
5. Installation in vertical position.
6. Three variants available:
 - Metric flange inlet / outlet
 - Metric flange inlet / grooved outlet
 - Grooved Inlet / Outlet
7. Preassembled chrome-plated or stainless steel Euro trim.
8. Euro-trim tested by VdS Schadenverhütung:
Approval No. G4060049 DN 100
Approval No. G4060050 DN 150
Approval No. G4060051 DN 200
9. Approvals and Listings:
 - Listed by Underwriters Laboratories, Inc. and UL certified for Canada (cULus)
 - Approved by Factory Mutual Research Corp. (FM)
 - LPC (UK)
 - NYC BS & A No. 587-75-SA
 - Scientific Services Laboratory (SLL, Australia)
 - Conforms to EN 12259-2 (CE).



The Reliable Alarm Valve Model E/E3 is used in wet sprinkler systems as a water flow alarm device. The design facilitates installation under both variable and constant inlet pressure conditions. If, following actuation of one or more sprinklers, water flows into the sprinkler system, the alarm valve opens, allowing the flow of water into the system and the transmission of an electrical and mechanical alarm.

Operation

Variable pressure

Figures 1 and 2 show the alarm valve model E in the closed and open positions. The closed position is retained until the water pressure in the sprinkler system pipework above the alarm valve is greater than or equal to the inlet pressure. A water flow in the pipe system, resulting from one or several activated sprinklers, causes the valve clapper to open and water from the supply line to enter the sprinkler system for discharge over the source of the fire.

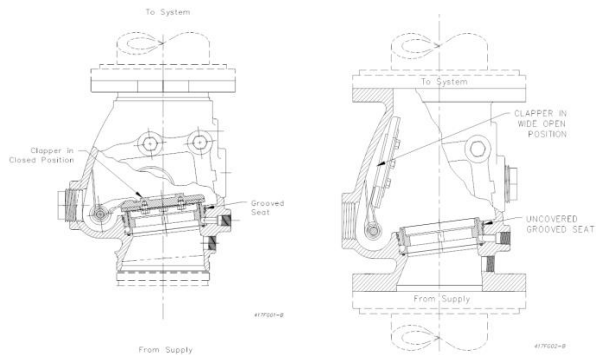


Figure 1

Image 2

Practically all sprinkler pipe systems contain trapped air. If water hammer or a pressure spike occurs in the supply line, the rise in pressure compresses the trapped air and causes the alarm valve clapper intermittently to lift, which can cause false alarms. Reliable's alarm valve prevents a false alarm in these circumstances using two features:

- a. The bypass line equipped with the check valve (Fig. 3) diverts sudden increases in pressure

from the supply line away from the alarm valve clapper. This creates over-pressure in the system, which pushes the clapper into the seat.

- b. In the event that a sudden high pressure increase raises the clapper away from its contact surface and allows water to flow into the alarm line, the retard chamber will become active. The inlet and outlet restrictive orifice in the retard chamber permits the drain-off of intermittent water before the chamber fills and an electrical and mechanical alarm is triggered.

Constant pressure

In systems in which the water pressure remains constant, the operation of the Alarm Valve Model E/E3 is as exactly described above, with one exception: The retard chamber is not necessary and water which passes through the seat in the contact surface of the alarm valve flows straight to the electrical and mechanical alarm devices and activates these devices.

Description of the valve

1. Operating pressure 12.5 bar (175 psi)
2. Hydrostatic factory test pressure 34.5 bar (500 psi)
3. Three valve variants are available:
 - a. Flange inlet/outlet Flange connection dimensions for DN 100 and DN 150 to DIN 2501, NF-E-29282, ISO 2084 PN 10/16 and BS 4504 PN 10/16. Flange connection dimensions for DN 200 to DIN 2501, ISO 2084 PN 16 and BS 4504 PN 16.
 - b. Flange inlet / grooved outlet
Inlet as per outlet groove to Standard ANSI / AWWA C 606
 - c. Groove inlet / outlet
Grooves according to Standard ANSI / AWWA C 606.
4. Face to face dimensions (approx.):
 - a. DN 100 (4") - 299 mm (11 ¾")
 - b. DN 150 (6") - 343 mm (13 ½")

c. DN 200 (8") - 432 mm (17")

5. Shipping weight (approx.) in kg/lb.:

	FL/FL	FL/Groove	Groove/groove
DN100	36.4 (80)	30.0/66	26.4/58
DN150	49.1/108	47.3/104	36.1/86
DN200	76.8/169	64.1/141	56.4/124

6. Friction losses – expressed as equivalent pipe length, based on the Hazen & Williams formula, with C=120.

DN 100 (4")	5.18 m (17')
DN 150 (6")	8.23 m (27')
DN 200 (8")	8.84 m (29')

7. Installation position – vertical (VdS Version) all other versions can be installed vertically or horizontally.

Trim Descriptions

The basic trim components for the Reliable Alarm Valves Model E/E3 are arranged for rapid, simple and compact attachment and serve as connection points for the alarms and other devices. They are also used for operational testing of the alarm devices without putting the system into operation.

Three basic trim sets are available for models E / E3:

- Constant pressure - retard unit not required.
- Variable pressure – retard unit required.
- Supervisory equipment according to VdS requirements (where required) must be ordered separately.

Operating instructions are not included in the scope of delivery.

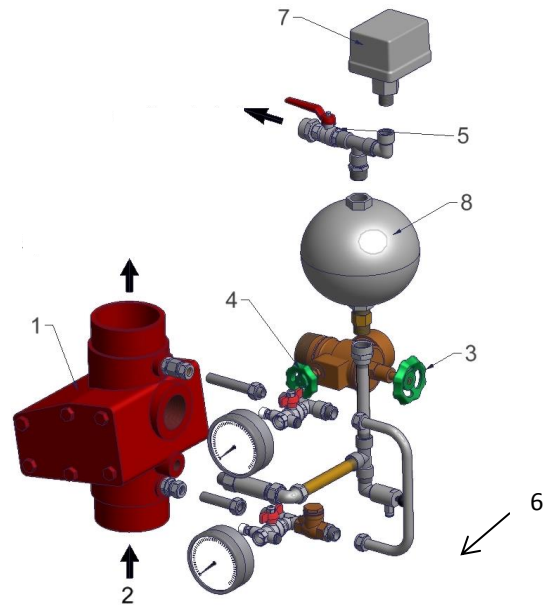
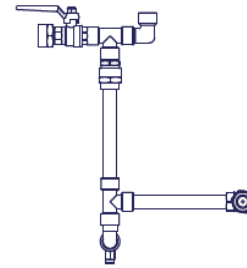
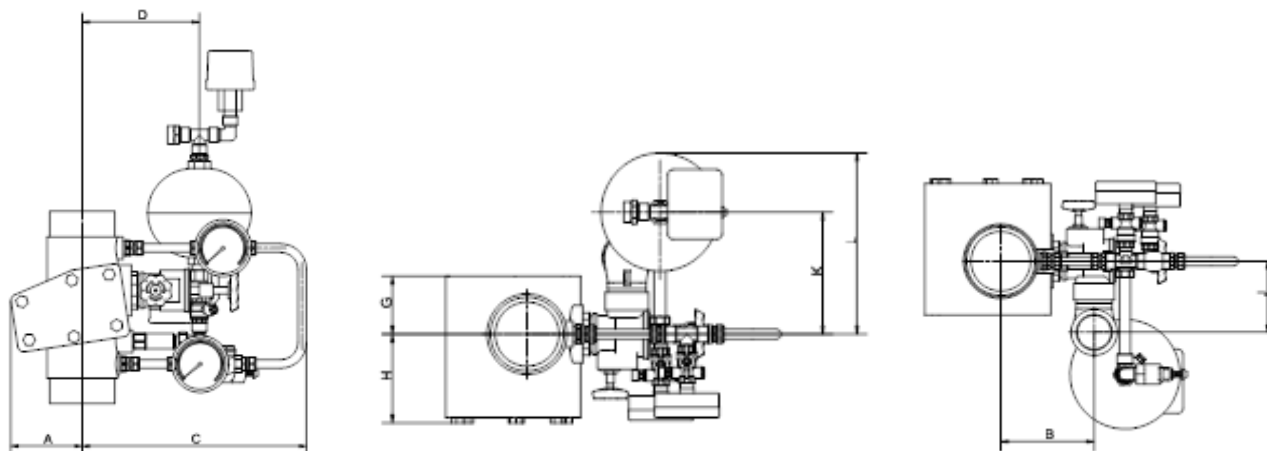
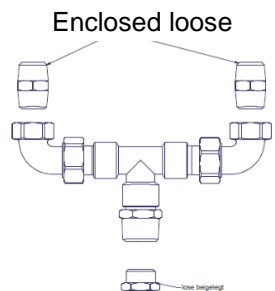


Figure 3

Model E3 Version Groove / Groove

Pos.	Designation
1	Wet alarm valve
2	Water supply
3	Main drain valve
4	Alarm test valve
5	Alarm shutoff valve
6	Automatic drain valve

- 7 Alarm pressure switch
- 8 Retar unit
- 9 Optional trim to UK requirements
- 10 Retrofit kit for 2 pressure switches
Part no. 6999996232 (option)



Model E / E3 with Euro Trim Installation Dimensions in mm

	Valve	A	B	C	D	G	H	J	K	L
FL/FL	100	165	155	385	207	110	146	120	190	280
	150	185	185	410	220	143	178	120	190	280
	200	220	195	430	255	170	205	120	190	280
FL/Groove	100	165	155	385	207	110	146	120	190	280
	150	185	185	410	220	143	178	120	190	280
	200	220	195	430	255	170	205	120	190	280
Groove	100	165	155	385	207	89	146	120	190	280
	150	185	185	410	220	108	178	120	190	280
	200	220	195	430	255	135	205	120	190	280

Flange dimensions

Valve Nominal width DN	Flange Outer Ø D in mm	Bolt circle Ø k in mm	Hole Ø d in mm	Bolts Amount	Bolts n x Ø d	Pressure level
100	220	180	18	8	8 x M16	PN 10/16
150	285	240	22	8	8 x M20	PN 10/16
200	340	295	22	12	12 x M20	PN 16

Groove dimensions

Valve Nominal width DN	Outside diameter mm	Groove diameter mm	Groove width mm
100	114.0	110.1	9.5
150 (Europe)	168.0	164.0	9.5
150 (UK)	165.0	160.8	9.5
200	219.0	214.0	11