

## Description

Usually, a wet alarm valve station comprise:

- a Rolland wet alarm valve linked to the water motor gong.
- a set of valves and by pass used to test the system.
- a drain valve.
- a test valve
- gauges to measure the pressure of the supply line and of the system side pressure.
- a pressure switch
- a retard chamber can be added when the supply line pressure is variable. The retard chamber prevents false alarms.

Description of the wet alarm valve station is general. Before each installation of wet alarm valve station you have to refer to rules and Authorities having jurisdiction

## Valve operation

When a sprinkler head or a test valve is opened, pressure in the system side of the clapper is reduced below the pressure of the system side. Then the clapper raises allowing the flow of water to reach the sprinkler system for distribution on the fire. The water flows to the uncovered grooved into the retard chamber (if installed) and the alarm device (usually the water motor gong).

A pressure surge or a water hammer in the supply line will induce an intermittent raise of the clapper and by consequences false alarms. To prevent these troubles, Rolland alarm stations are equipped with two particular features:

- a by-pass with check valve allows a pressure surge from the supply to pass the alarm valve clapper.
- the retard chamber consists of two specially designed inlet and drain orifices. The retard chamber is equipped with a strainer in the intake line to prevent foreign matter from clogging the intake orifice. Even if a strong water hammer raises the alarm valve clapper, the water will first flows to the retard chamber before reaching the water motor gong.

Take care to the installation of the check valve on the alarm station trimming to be sure that the water flow goes in the right direction. The arrow on the check valve by pass body must point toward the alarm valve. The arrow on the drain system check valve must points towards the main drain valve.

## Specifications

Diameter	3"	4"	6"	8"
Connexion	Flange/flange	Flange/grooved or flange/flange	Flange/grooved or flange/flange	Flange/flange
Flange type	PN 16	PN 16	PN 16	PN 16
Colour	Orange—red (RAL 2002)	Orange-red (RAL 2002)	Orangé-rouge (RAL 2002)	Orangé-rouge (RAL 2002)
Height (cm)	27,70	26,30	28,70	29.70
Weight (kg)	23,60	23,00 (B/R) 23.60 (B/B)	29.40 (B/R) 33.60 (B/B)	54.50
Approval	CE	CE	CE	CE
Reference	POSTEEAU3"BB	POSTEEAU4" BR (B/R) POSTEEAU4" BB (B/B)	POSTEEAU6"BR (B/R) POSTEEAU6" BB (B/B)	POSTEEAU8" BB

## Equivalent length

Item	Diameter	Equivalent length (m)
Rolland wet alarm valve	3"	1.0
Rolland wet alarm valve	4"	3.8
Rolland wet alarm valve	6"	10.0
Rolland wet alarm valve	8"	10.5

Based on Hazen-Williams formula, C factor = 120

Based on French steel pipe (Tarif T19 except 8")

Information based on BRE tests results.

## Removing the system from service

*WARNING: The system should only be removed from service for maintenance and repairs. All the area concerned by the alarm valve station must be under control until the system is back in service. Advise all authorities having jurisdiction of the fire system removal, first to secure the area and secondly to avoid troubles due to false alarms during repair and maintenance.*

- 1 - Close the main supply valve of the fire sprinkler system.
- 2 - Open the drain valve (V5) of the wet alarm valve station.
- 3 - Drain the complete system and open the test point and all auxiliary drain valves of the fire sprinkler system.
- 4 - Check on the sprinkler system gauges (M1) of the alarm valve station that shows zero (no pressure).
- 5 - In case of freezing risks, be sure that drainage of the system is complete.
- 6 - Install a panel close to the alarm valve station to inform of the system removal from service

## Maintenance and solutions

The Rolland alarm valve is constructed in order to have nothing to adjust.

If you have troubles on the alarm sprinkler system (not operating, false alarms, ...), first follow these instructions:

- Inspect and clean up the reduced orifice and the filter of the retard chamber.
- Inspect and clean up the filter installed on the alarm sprinkler line.

If you note that the sprinkler system pressure gauge (M1) is identical to the supply pressure gauge (M1) and no tests or drainage valves has operated, no sprinklers are activated, no leakage is seen, then you should follow these instructions:

Inspect and clean up the small clapper (CP2) on the by pass of the trimming. If it is required, change it.



- Inspect and clean up the gasket seat of the wet alarm valve. If it is required, proceed to the change of the alarm valve gaskets. In this case, follow these instructions :
  - A Follow the instructions of the paragraph removal the system from service.
  - B Once the alarm valve fully drained, remove the cover plate allowing inspection of the alarm valve clapper assembly, seat and interior.
  - C Raise the clapper from its seat and scoop out any scale or solid particle around the valve seat. Lip the surface of the valve seat with a clean cloth.
  - D Renew the rubber gasket of the clapper facing. To do it, the clapper can be removed from the body by dismantling the main pin.
  - E Renew the rubber gasket of the cover plate and replace correctly the cover plate on the alarm valve.
  - F Proceed to the instructions of the quarterly inspections and tests.

## Procedure after a fire

*Warning: be sure that the fire is completely extinguished by visiting all the buildings covered by the sprinkler system. Keep watch these buildings until the system is not back in service*

- 1 - Close the main supply valve of the fire sprinkler system.
- 2 - Change all the sprinklers that have operated during the fire. Renew these sprinklers by sprinklers which have exactly the same characteristics (temperature, upright or pendent, ...). Use the special sprinkler wrench to replace the sprinklers. Never install a sprinkler that could have been shocked. Never try to repair a sprinkler. Never try to paint a sprinkler.  
Make sure that the spare sprinkler box containing replacement sprinkler is always complete.
- 3 - Open the drain valve (V5) of the wet alarm valve station. Drain the complete system and open the test point and all auxiliary drain valves of the fire sprinkler system.
- 4 - Close the alarm valve (v2).
- 5 - Close the drain valve (V5). Close the test point and any auxiliary drain valves of the sprinkler system.
- 6 - Carefully open the main supply valve to fill slowly the sprinkler system. It will also avoid to any foreign materials in the supply main from being washed into the alarm valve. During this time, the clapper will be opened and it will close automatically when sufficient water has entered the system piping.
- 7 - When a steady flow of water is maintained from the test point and the auxiliary drain valve, close it.
- 8 - Open completely the main supply valve and seal it.
- 9 - Open the alarm valve (V2). If this valve stays closed, the gong will not operate in case of system operating.
- 10 - Perform the test.



## Inspections and tests

You must follow the rules and advises of Authorities having jurisdiction and to apply their decisions.

Inspections and tests must be done each time defined in the authorised rules. Most of the time these tests and inspections are made weekly, quarterly, annually, ...

Only inspections and tests made weekly and quarterly are given, on a general view, in this brochure. Any inspection must also be completed by a visual control in order to see possible physical troubles on the equipment (shocks, freezing problems, corrosion, ...).

*WARNING: The system should only be removed from service for maintenance and repairs. All the area concerned by the alarm valve station must be under control until the system is back in service. Advise all authorities having jurisdiction of the fire system removal, first to secure the area and secondly to avoid troubles due to false alarms during repair and maintenance.*

### Weekly tests and inspections:

The sprinkler alarm trim must be tested once a week. Follow these instructions:

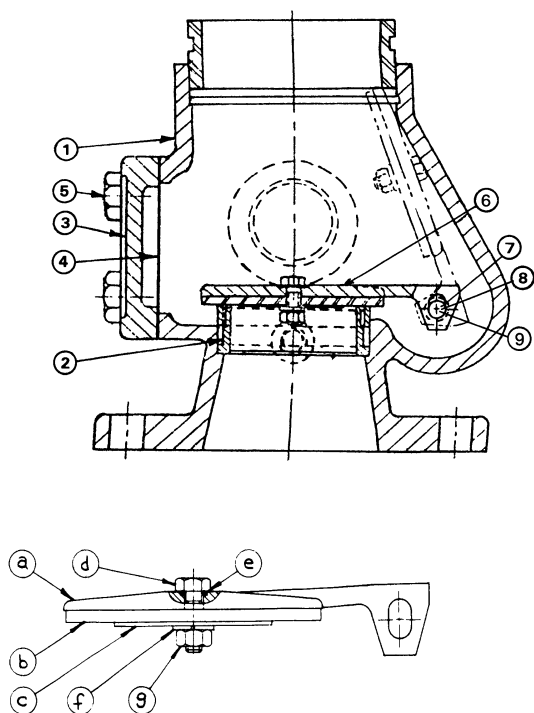
- A - Note the pressure on the sprinkler line gauge (M1) of the alarm valve.
- B - Note the pressure on the supply line gauge (M1) of the alarm valve. Make sure that this one is less than the one of the gauge (M1). If it is not the case, go to the paragraph maintenance and solutions.
- C - Open the alarm test valve (V2).
- D - Check the right operation of the water motor gong and of the pressure switch.
- E - Close the alarm test valve (V2). It should stop the water motor alarm gong. Then cancel the alarm due to the pressure switch on the alarm panel.
- F - Check again the pressure on the sprinkler line gauge (M1) of the alarm valve.
- G - Set the system back in service.

### Quarterly tests and inspections:

A quarterly tests and inspections is usually required. Follow these instructions:

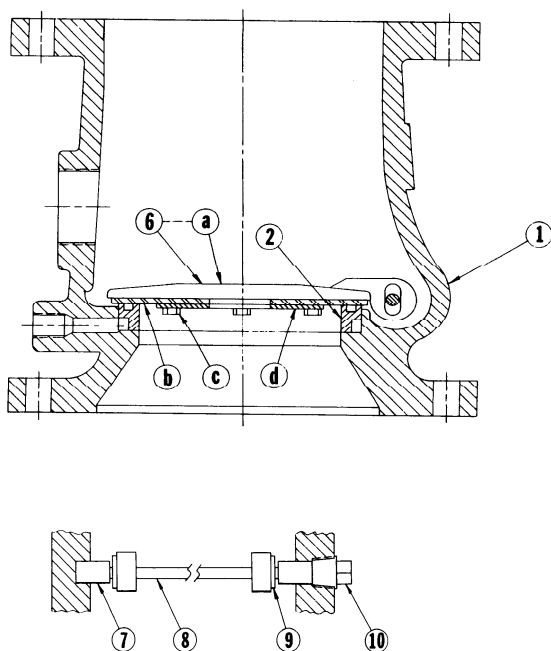
- A - Close the main supply valve of the sprinkler system. Open it gain and check on alarm panel that the valves contacts have sent the alarm signal to the alarm panel.
- B - Inspect and clean up filter (optional) of the water motor alarm gong.
- C - Proceed to the weekly tests and inspections. The alarm test of the sprinkler system can also be obtained by operating the test point of the sprinkler system (refer to the Authorities having jurisdiction). In this case that will involve the opening of the wet alarm valve clapper.
- D - Set the system back in service.

### Spare parts 3, 4, 6"



Reference	3 or 4"	6"	Description	Quantity
1	4E.1	6E.1	Body	1
2	For info	For info	Seat	1
3	4E.3	6E.3	Cover plate	1
4	4E.4	6E.4	Cover gasket	1
5	4E.5	6E.5	Cover bolts	4
6	4E.7	6E.7	Clapper assembly	1
6a	4E.8	6E.8	Clapper	1
6b	4E.9	6E.9	Clapper gasket	1
6c	4E.10	6E.10	Disk	1
6d	4E.11	6E.11	Bolt	1
6e	4E.12	6E.12	O ring	1
6f	4E.13	6E.13	Lockwasher	1
6g	4E.14	6E.14	Nut	1
7	4E.15	6E.15	Clapper pin	1
8	4E.16	6E.16	Bushing	2
9	4E.17	6E.17	Plug	2

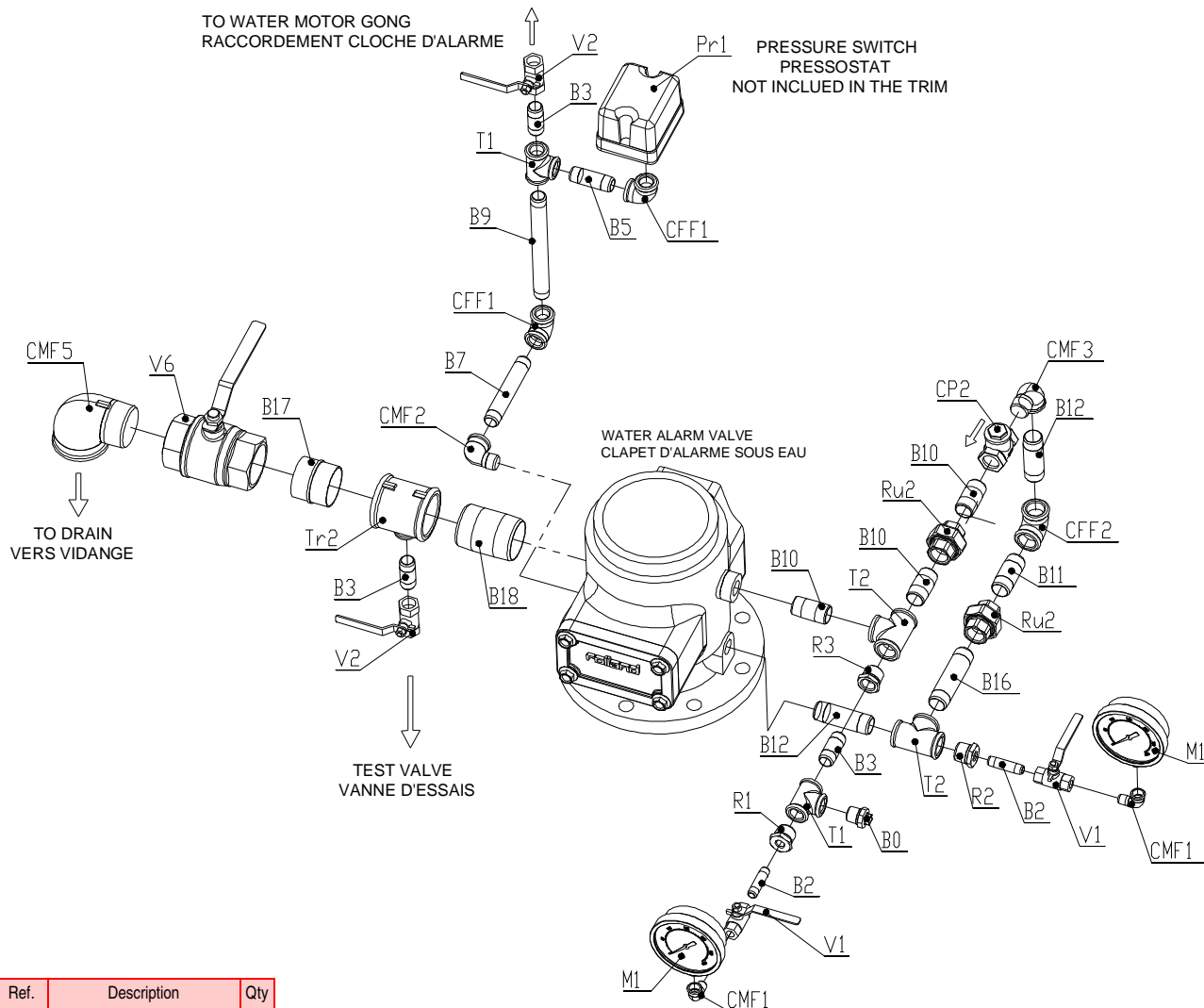
### Spare parts 8"



Reference	8"	Description	Quantity
1	8E.1	Body	1
2	Pour info	Clapper seal	1
3	8E.3	Cover plate	1
4	8E.4	Cover gasket	1
5	8E.5	Cover bolts	6
6	8E.7	Clapper assembly	1
6a	8E.8	Clapper	1
6b	8E.9	Clapper gasket	1
6c	8E.10	Bolts	5
6d	8E.11	Retainer ring	1
7	8E.18	Bushing	2
8	8E.15	Clapper pin	1
9	8E.16	Clapper bushing	2
10	8E.17	Plug	1

Fire protection

### 3" WET ALARM VALVE / CLAPET D'ALARME SOUS EAU 3" APSAD TRIM / EQUIPEMENT APSAD V2

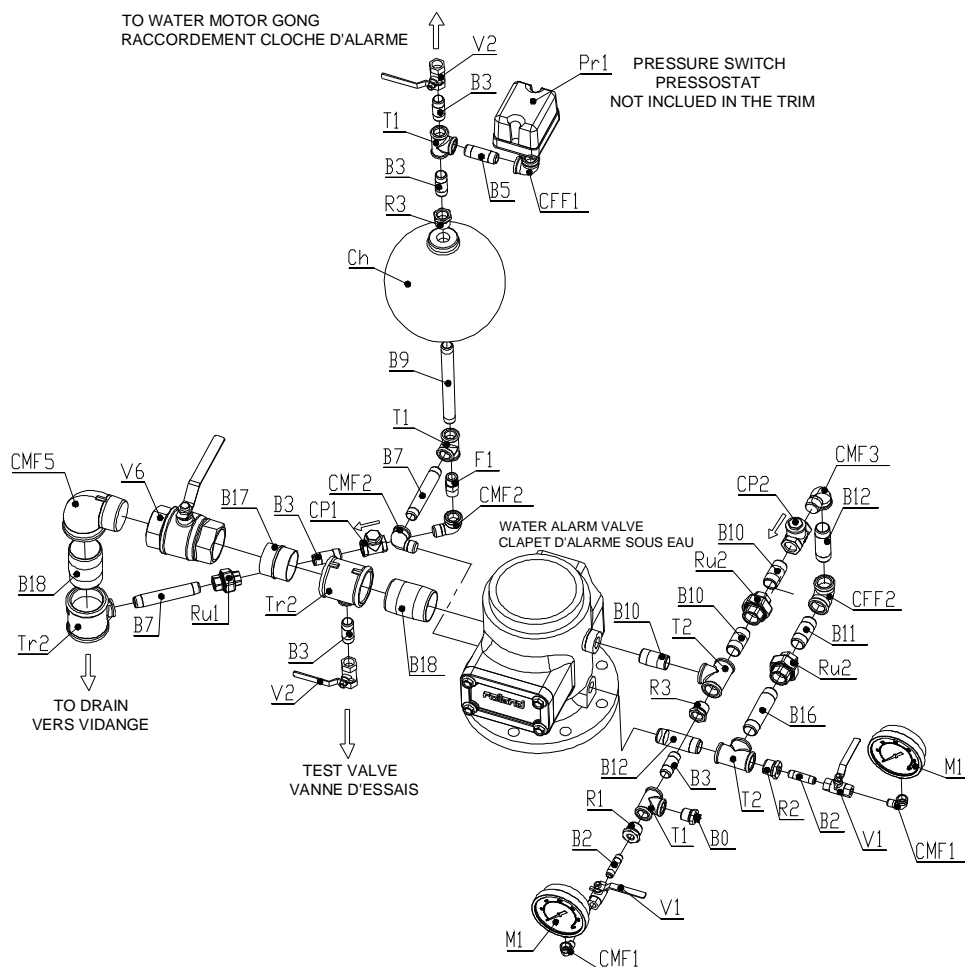


Ref.	Description	Qty
B0	Plug 1/2"	1
B2	Nipple 1/4"x60	2
B3	Nipple 1/2"x50	3
B5	Nipple 1/2"x80	1
B7	Nipple 1/2"x120	1
B9	Nipple 1/2"x200	1
B10	Nipple 3/4"x50	3
B11	Nipple 3/4"x60	1
B12	Nipple 3/4"x80	2
B16	Nipple 3/4"x100	1
B17	Nipple 1"1/2"x50	1
B18	Nipple 1"1/2"x80	1
T1	Tee equal 1/2"	2
T2	Tee equal 3/4"	2
Tr2	Tee reduced 1"1/2"x1/2"	1
CMF1	Elbow MF 90° 1/4"	2
CMF2	Elbow MF 90° 1/2"	1
CMF3	Elbow MF 90° 3/4"	1
CMF5	Elbow MF 90° 1"1/2"	1

Ref.	Description	Qty
CFF1	Elbow FF 90° 1/2"	2
CFF2	Elbow FF 90° 3/4"	1
CP2	Clapper FF 3/4"	2
M1	Manometer 1/4"	2
R1	Reducing nipple 1/2"M>1/4"F	1
R2	Reducing nipple 3/4"M>1/4"F	1
R3	Reducing nipple 3/4"M>1/2"F	1
Ru2	Union 3/4" FF	2
V1	Valve 1/4"	2
V2	Valve 1/2"	2
V6	Valve 1"1/2"	1
Pr1	Pressure switch	1

Dimensions (mm)	
Width	690
Depth	360
Height	440

### 3" WET ALARM VALVE / CLAPET D'ALARME SOUS EAU 3" APSAD Trim / Equipement APSAD V2 (Circuit de vidange V1) With retard chamber / Avec chambre de retardement



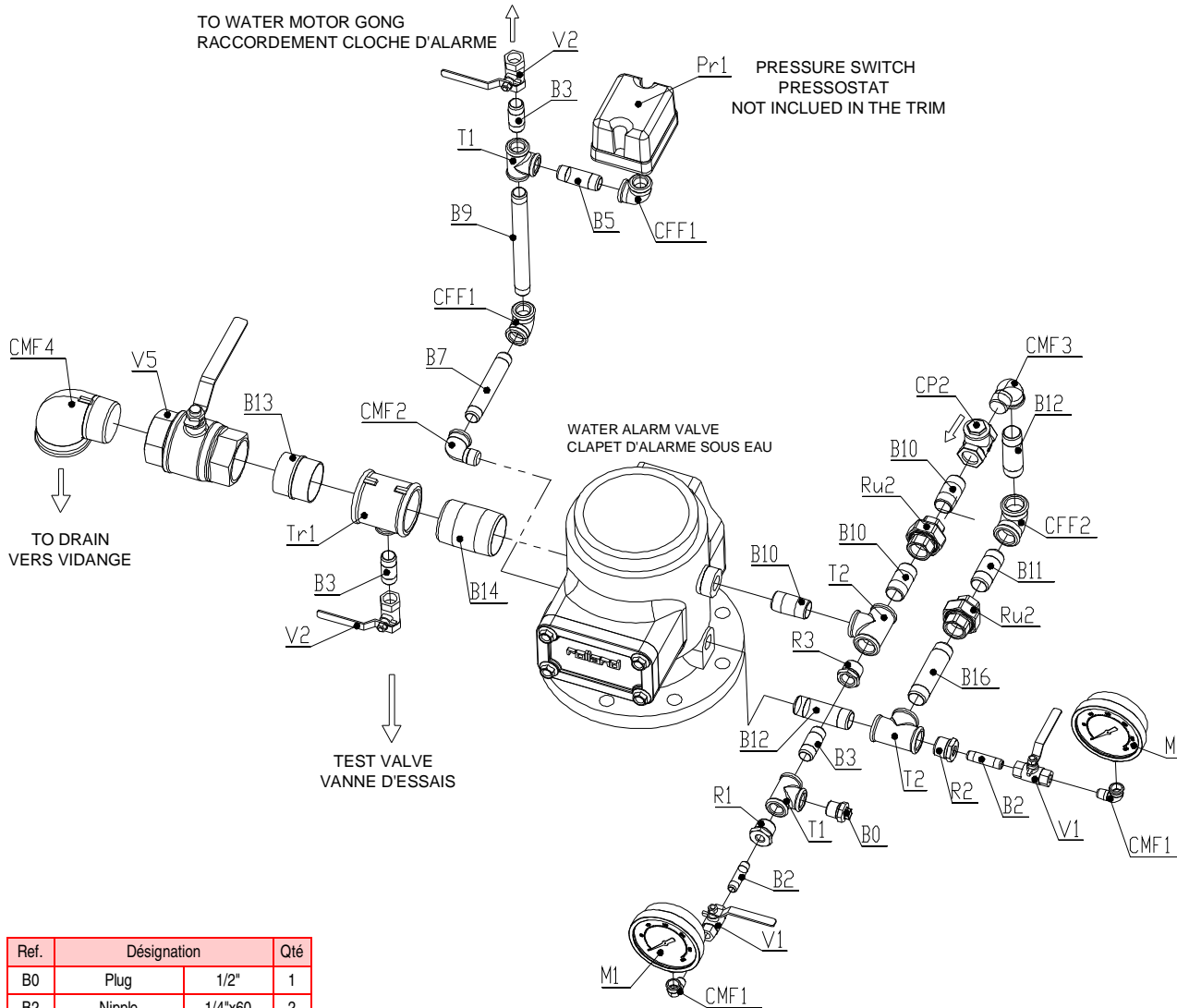
Fire protection

Ref.	Désignation	Qté
B0	Plug 1/2"	1
B2	Nipple 1/4"x60	2
B3	Nipple 1/2"x50	5
B5	Nipple 1/2"x80	1
B7	Nipple 1/2"x120	2
B9	Nipple 1/2"x200	1
B10	Nipple 3/4"x50	3
B11	Nipple 3/4"x60	1
B12	Nipple 3/4"x80	2
B16	Nipple 3/4"x100	1
B17	Nipple 1"1/2"x50	1
B18	Nipple 1"1/2"x80	2
T1	Tee equal 1/2"	3
T2	Tee equal 3/4"	2
Tr2	Tee reduced 1"1/2"x1/2"	2
CMF1	Elbow MF 90° 1/4"	2
CMF2	Elbow MF 90° 1/2"	2
CMF3	Elbow MF 90° 3/4"	1
CMF5	Elbow MF 90° 1"1/2"	1

Ref.	Désignation	Qté
CFF1	Elbow FF 90° 1/2"	1
CFF2	Elbow FF 90° 3/4"	1
CP1	Clapper FF 1/2"	1
CP2	Clapper FF 3/4"	1
M1	Manometer 1/4"	2
R1	Reducing nipple 1/2"M>1/4"F	1
R2	Reducing nipple 3/4"M>1/4"F	1
R3	Reducing nipple 3/4"M>1/2"F	2
Ru1	Raccord union 1/2" FF	1
Ru2	Raccord union 3/4" FF	2
V1	Valve 1/4"	2
V2	Valve 1/2"	2
V6	Valve 1"1/2"	1
F1	Reduced orifice	1
Ch	Chamber	1
Pr1	Pressure switch	1

Dimensions (mm)	
Width	690
Depth	420
Height	800

### 4" WET ALARM VALVE / CLAPET D'ALARME SOUS EAU 4" APSAD TRIM / EQUIPEMENT APSAD V3

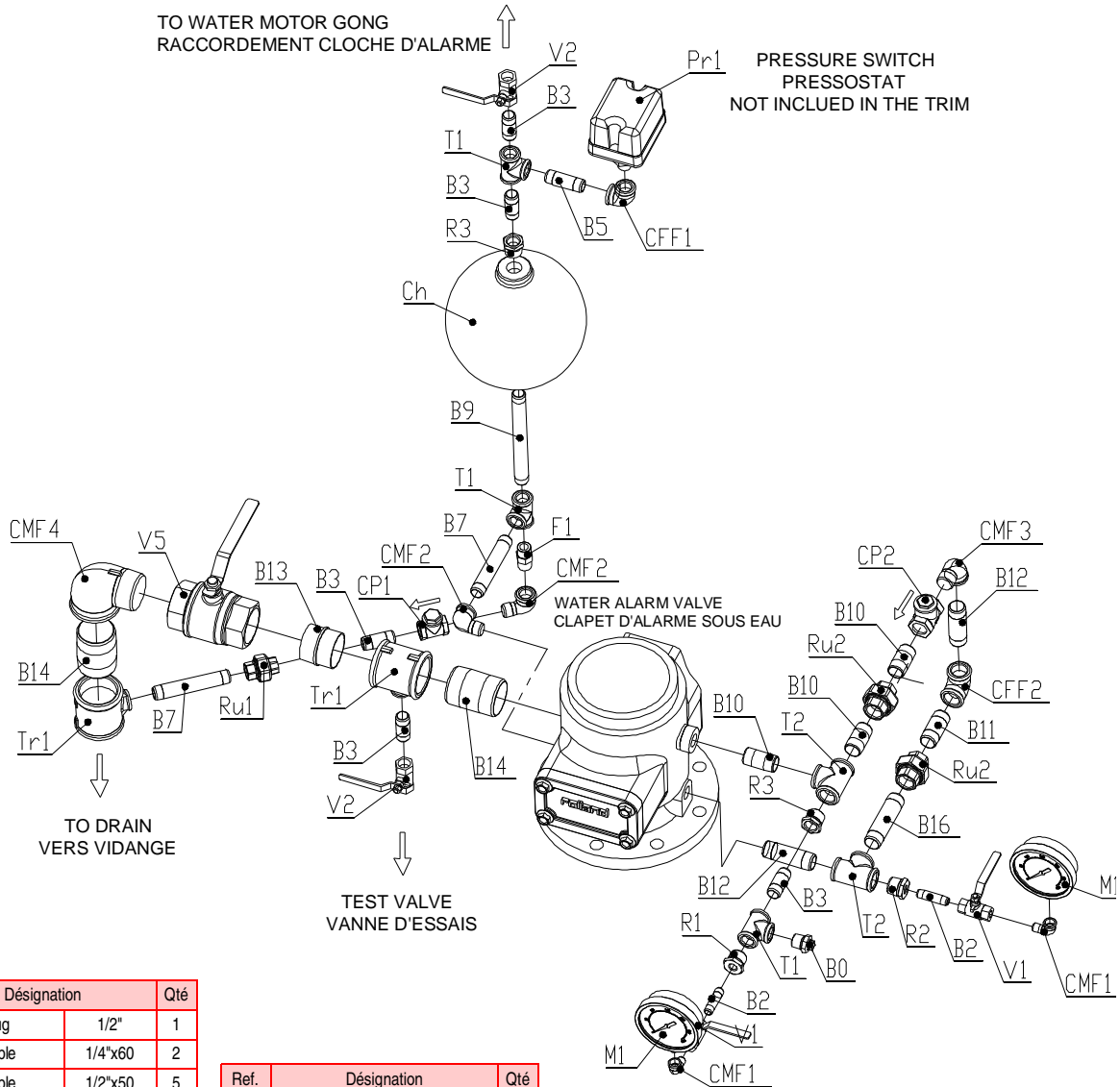


Ref.	Désignation	Qté	
B0	Plug	1/2"	1
B2	Nipple	1/4"x60	2
B3	Nipple	1/2"x50	3
B5	Nipple	1/2"x80	1
B7	Nipple	1/2"x120	1
B9	Nipple	1/2"x200	1
B10	Nipple	3/4"x50	3
B11	Nipple	3/4"x60	1
B12	Nipple	3/4"x80	2
B16	Nipple	3/4"x100	1
B13	Nipple	2"x50	1
B14	Nipple	2"x80	2
T1	Tee equal	1/2"	2
T2	Tee equal	3/4"	2
Tr1	Tee reduced	2"x1/2"	1
CMF1	Elbow MF 90°	1/4"	2
CMF2	Elbow MF 90°	1/2"	1
CMF3	Elbow MF 90°	3/4"	1
CMF4	Elbow MF 90°	2"	1

Ref.	Désignation	Qté	
CFF1	Elbow FF 90°	1/2"	2
CFF2	Elbow FF 90°	3/4"	1
CP2	Clapper FF	3/4"	1
M1	Manometer	1/4"	2
R1	Reducing nipple	1/2"M>1/4"F	1
R2	Reducing nipple	3/4"M>1/4"F	1
R3	Reducing nipple	3/4"M>1/2"F	1
Ru2	Union	3/4" FF	2
V1	Valve	1/4"	2
V2	Valve	1/2"	2
V5	Valve	2"	1
Pr1	Pressure switch		1

Encombrement (mm)	
Largeur	690
Profondeur	360
Hauteur	440

### 4" WET ALARM VALVE / CLAPET D'ALARME SOUS EAU 4" APSAD TRIM / EQUIPEMENT APSAD V3 (Circuit de vidange V1) WITH RETARD CHAMBER / AVEC CHAMBRE DE RETARDEMENT



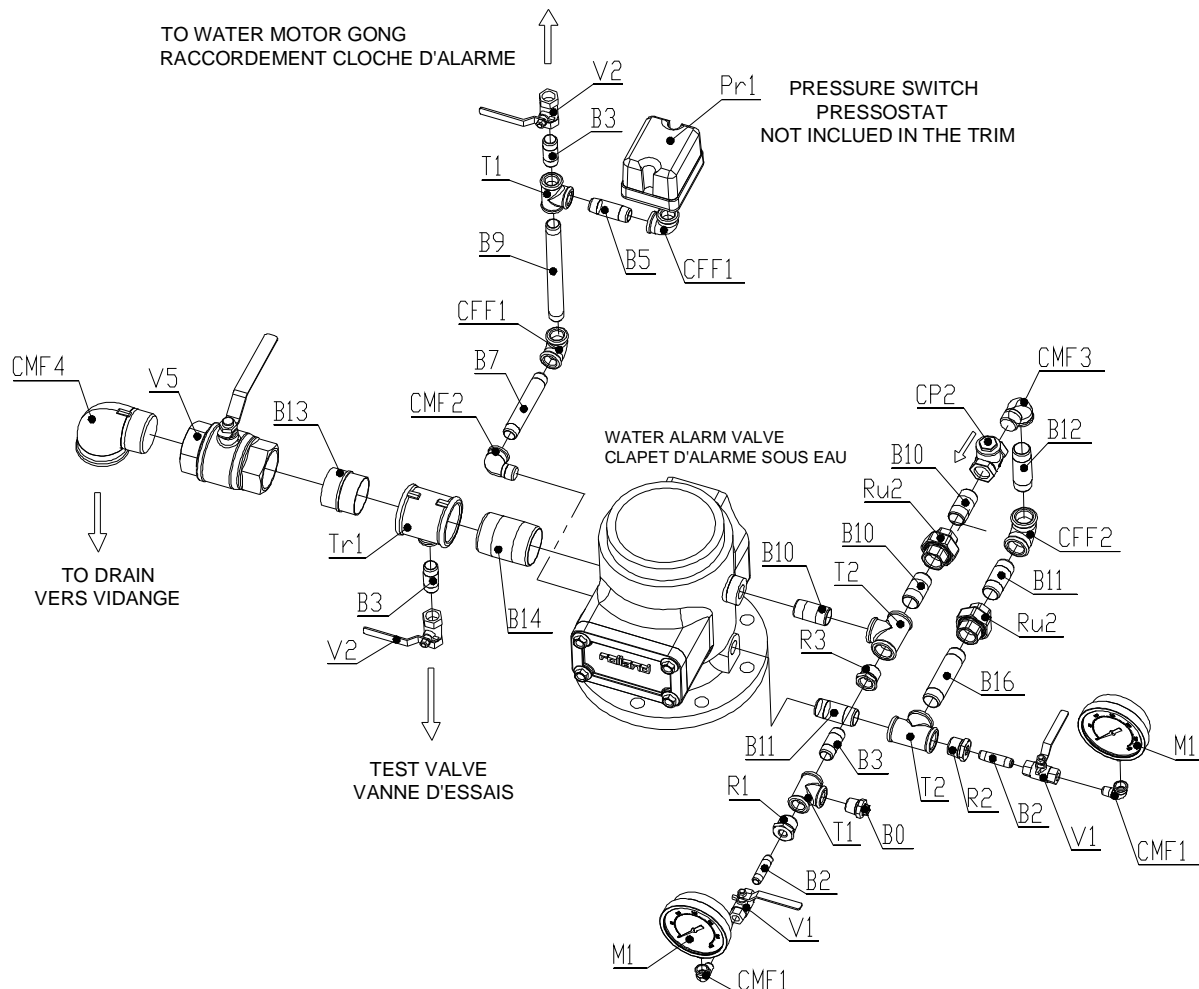
Fire protection

Ref.	Désignation	Qté
B0	Plug 1/2"	1
B2	Nipple 1/4"x60	2
B3	Nipple 1/2"x50	5
B5	Nipple 1/2"x80	1
B7	Nipple 1/2"x120	2
B9	Nipple 1/2"x200	1
B10	Nipple 3/4"x50	3
B11	Nipple 3/4"x60	1
B12	Nipple 3/4"x80	2
B16	Nipple 3/4"x100	1
B13	Nipple 2"x50	1
B14	Nipple 2"x80	2
T1	Tee equal 1/2"	3
T2	Tee equal 3/4"	2
Tr1	Tee reduced 2"x1/2"	2
CMF1	Elbow MF 90° 1/4"	2
CMF2	Elbow MF 90° 1/2"	2
CMF3	Elbow MF 90° 3/4"	1
CMF4	Elbow MF 90° 2"	1

Ref.	Désignation	Qté
CFF1	Elbow FF 90° 1/2"	1
CFF2	Elbow FF 90° 3/4"	1
CP1	Clapper FF 1/2"	1
CP2	Clapper FF 3/4"	1
M1	Manometer 1/4"	2
R1	Reducing nipple 1/2"M>1/4"F	1
R2	Reducing nipple 3/4"M>1/4"F	1
R3	Reducing nipple 3/4"M>1/2"F	2
Ru1	Union 1/2" FF	1
Ru2	Union 3/4" FF	2
V1	Valve 1/4"	2
V2	Valve 1/2"	2
V5	Valve 2"	1
F1	Reduced orifice	1
Ch	Chamber	1
Pr1	Pressure switch	1

Dimensions (mm)	
Width	690
Depth	420
Height	800

### 6" WET ALARM VALVE / CLAPET D'ALARME SOUS EAU 6" APSAD TRIM / EQUIPEMENT APSAD V2



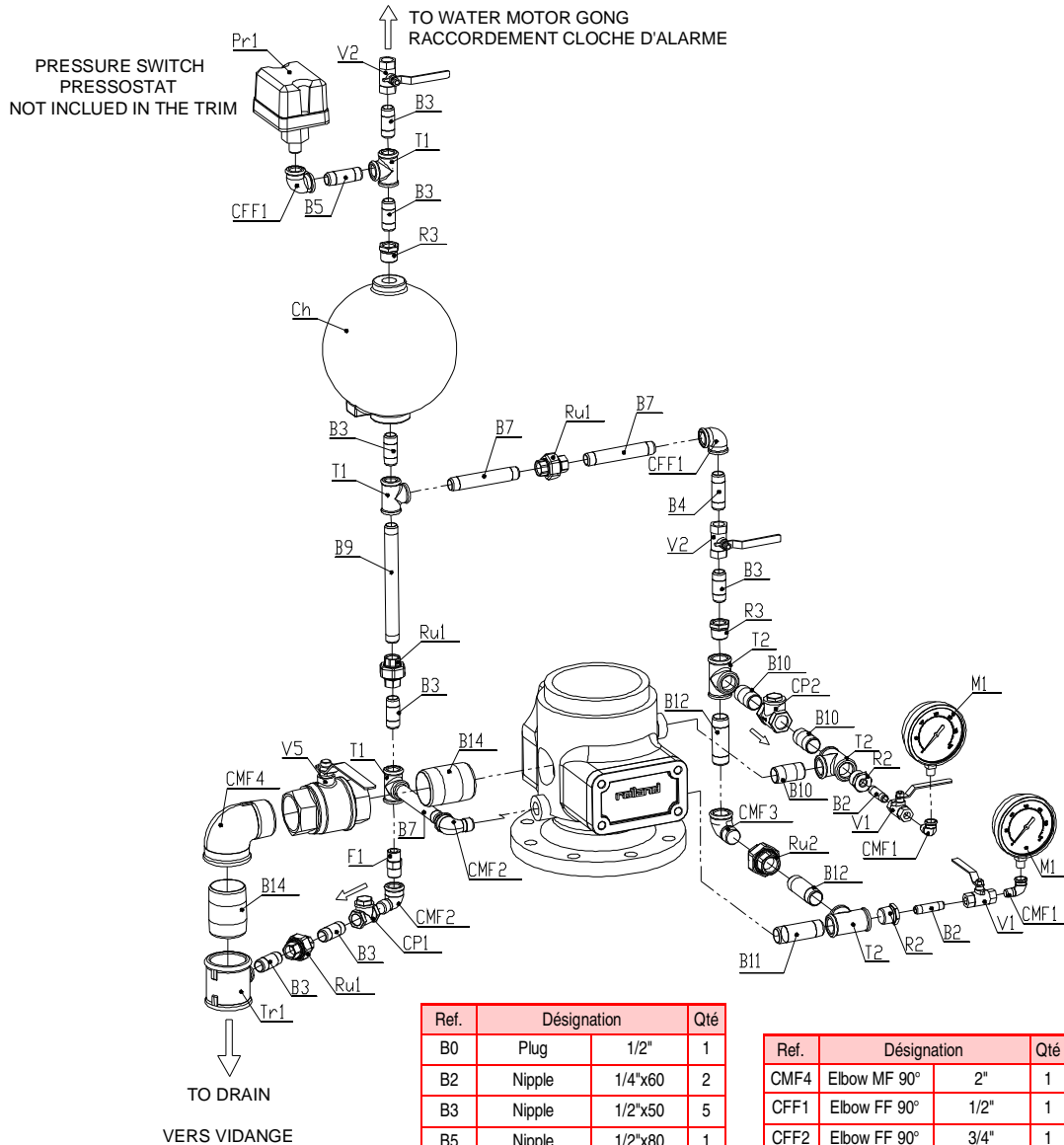
Fire protection

Ref.	Désignation		Qté
B0	Plug	1/2"	1
B2	Nipple	1/4"x60	2
B3	Nipple	1/2"x50	3
B5	Nipple	1/2"x80	1
B7	Nipple	1/2"x120	1
B9	Nipple	1/2"x200	1
B10	Nipple	3/4"x50	3
B11	Nipple	3/4"x60	2
B12	Nipple	3/4"x80	1
B16	Nipple	3/4"x100	1
B13	Nipple	2"x50	1
B14	Nipple	2"x80	1
T1	Tee equal	1/2"	2
T2	Tee equal	3/4"	2
Tr1	Tee reduced	2"x1/2"	1
CMF1	Elbow MF 90°	1/4"	2
CMF2	Elbow MF 90°	1/2"	1
CMF3	Elbow MF 90°	3/4"	1
CMF4	Elbow MF 90°	2"	1

Ref.	Désignation		Qté
CFF1	Elbow FF 90°	1/2"	2
CFF2	Elbow FF 90°	3/4"	1
CP2	Clapper FF	3/4"	1
M1	Manometer	1/4"	2
R1	Reducing nipple	1/2"M>1/4"F	1
R2	Reducing nipple	3/4"M>1/4"F	1
R3	Reducing nipple	3/4"M>1/2"F	1
Ru2	Union	3/4" FF	2
V1	Valve	1/4"	2
V2	Valve	1/2"	2
V5	Valve	2"	1
Pr1	Pressure switch		1

Dimensions (mm)	
Width	800
Depth	510
Height	760

### 6" WET ALARM VALVE / CLAPET D'ALARME SOUS EAU 6" FM TRIM / EQUIPEMENT FM V3 (Circuit de vidange ind C) WITH RETARD CHAMBER / AVEC CHAMBRE DE RETARDEMENT

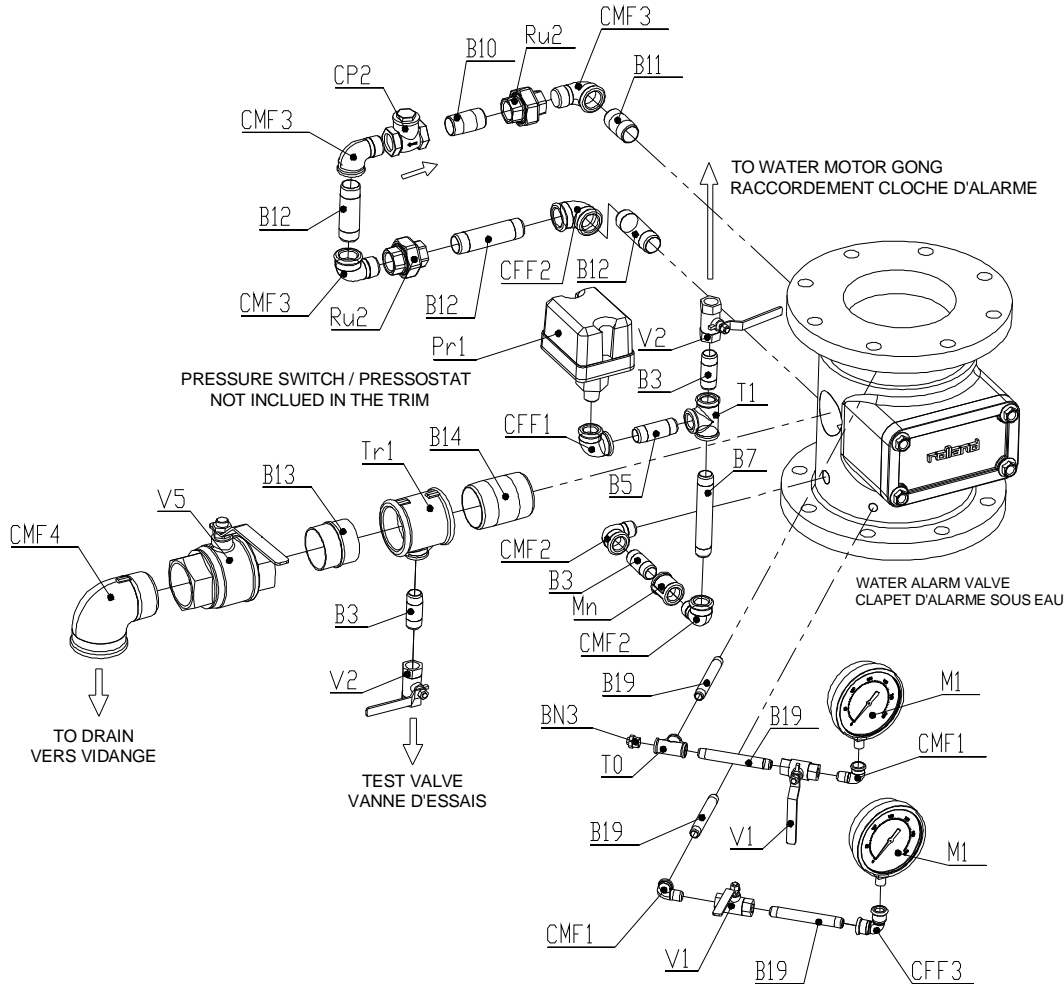


Dimensions (mm)	
Width	800
Depth	510
Height	760

Ref.	Désignation	Qté
B0	Plug 1/2"	1
B2	Nipple 1/4"x60	2
B3	Nipple 1/2"x50	5
B5	Nipple 1/2"x80	1
B7	Nipple 1/2"x120	2
B9	Nipple 1/2"x200	1
B10	Nipple 3/4"x50	3
B11	Nipple 3/4"x60	2
B12	Nipple 3/4"x80	1
B16	Nipple 3/4"x100	1
B13	Nipple 2"x50	1
B14	Nipple 2"x80	2
T1	Tee equal 1/2"	3
T2	Tee equal 3/4"	2
Tr1	Tee reduced 2"x1/2"	2
CMF1	Elbow MF 90° 1/4"	2
CMF2	Elbow MF 90° 1/2"	2
CMF3	Elbow MF 90° 3/4"	1

Ref.	Désignation	Qté
CMF4	Elbow MF 90° 2"	1
CFF1	Elbow FF 90° 1/2"	1
CFF2	Elbow FF 90° 3/4"	1
CP1	Clapper FF 1/2"	1
CP2	Clapper FF 3/4"	1
M1	Manometer 1/4"	2
R1	Reducing nipple 1/2"M>1/4"F	1
R2	Reducing nipple 3/4"M>1/4"F	1
R3	Reducing nipple 3/4"M>1/2"F	2
Ru1	Union 1/2" FF	1
Ru2	Union 3/4" FF	2
V1	Valve 1/4"	2
V2	Valve 1/2"	2
V5	Valve 2"	1
F1	Reduced orifice	1
Ch	Chamber	1
Pr1	Pressure switch	1

### 8" WET ALARM VALVE / CLAPET D'ALARME SOUS EAU 8" APSA D TRIM / EQUIPEMENT APSAD V2



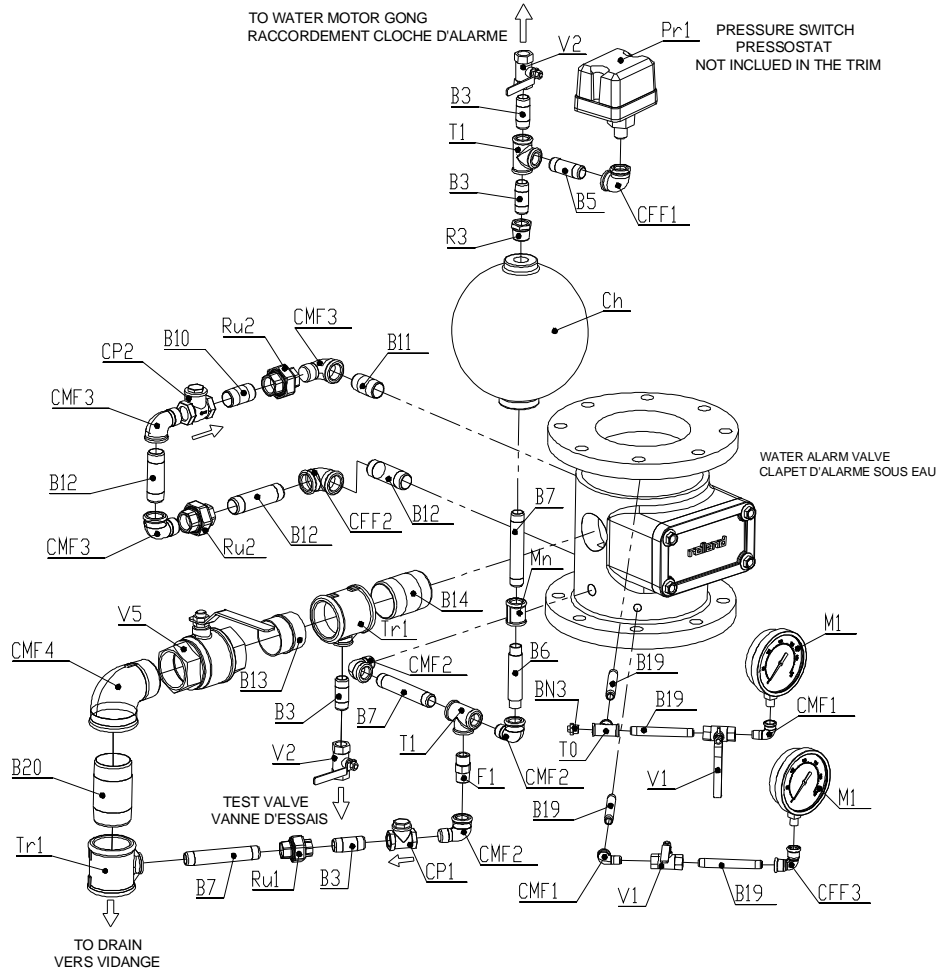
Fire protection

Ref.	Désignation	Qté	
BN3	Plug	1/4"	1
B3	Nipple	1/2"x50	3
B5	Nipple	1/2"x80	1
B7	Nipple	1/2"x120	1
B10	Nipple	3/4"x50	1
B11	Nipple	3/4"x60	1
B12	Nipple	3/4"x80	3
B13	Nipple	2"x50	1
B14	Nipple	2"x80	1
B19	Nipple	1/4"x100	4
T0	Tee equal	1/4"	1
T1	Tee equal	1/2"	1
Tr1	Tee reduced	2"x1/2"	1
CMF1	Elbow MF 90°	1/4"	2
CMF2	Elbow MF 90°	1/2"	2
CMF3	Elbow MF 90°	3/4"	3
CMF4	Elbow MF 90°	2"	1

Ref.	Désignation	Qté	
CFF1	Elbow FF 90°	1/2"	1
CFF2	Elbow FF 90°	3/4"	1
CFF3	Elbow FF 90°	1/4"	1
CP2	Clapper FF	3/4"	1
M1	Manometer	1/4"	2
Ru2	Union	3/4" FF	2
Mn	Nipple	1/2" FF	1
V1	Valve	1/4"	2
V2	Valve	1/2"	2
V5	Valve	2"	1
Pr1	Pressure switch		1

Dimensions (mm)	
Width	650
Depth	530
Height	310

### 8" WET ALARM VALVE / CLAPET D'ALARME SOUS EAU 8" APSAID TRIM / EQUIPEMENT APSAD V2 (Circuit de vidange V1) WITH RETARD CHAMBER / AVEC CHAMBRE DE RETARDEMENT



Ref.	Désignation	Qté	
BN3	Plug	1/4"	1
B3	Nipple	1/2"x50	4
B5	Nipple	1/2"x80	1
B6	Nipple	1/2"x100	1
B7	Nipple	1/2"x120	3
B10	Nipple	3/4"x50	1
B11	Nipple	3/4"x60	1
B12	Nipple	3/4"x80	3
B13	Nipple	2"x50	1
B14	Nipple	2"x80	1
B19	Nipple	1/4"x100	4
B20	Nipple	2"x100	1
T0	Tee equal	1/4"	1
T1	Tee equal	1/2"	2
Tr1	Tee reduced	2"x1/2"	2
CMF1	Elbow MF 90°	1/4"	2
CMF2	Elbow MF 90°	1/2"	3
CMF3	Elbow MF 90°	3/4"	3
CMF4	Elbow MF 90°	2"	1

Ref.	Désignation	Qté	
CFF1	Elbow FF 90°	1/2"	1
CFF2	Elbow FF 90°	3/4"	1
CFF3	Elbow FF 90°	1/4"	1
CP1	Clapper FF	1/2"	1
CP2	Clapper FF	3/4"	1
M1	Manometer	1/4"	2
R3	Reducing nipple	3/4"M>1/2"F	1
Ru1	Union	1/2" FF	1
Ru2	Union	3/4" FF	2
Mn	Nipple	1/2" FF	1
V1	Valve	1/4"	2
V2	Valve	1/2"	2
V5	Valve	2"	1
F1	Reduced orifice		1
Ch	Chamber		1
Pr1	Pressure switch		1

Dimensions (mm)	
Width	820
Depth	520
Height	860