USER MANUAL

PRESSOSMART
WITH OPEN & CLOSED EXPANSION VESSELS

GB

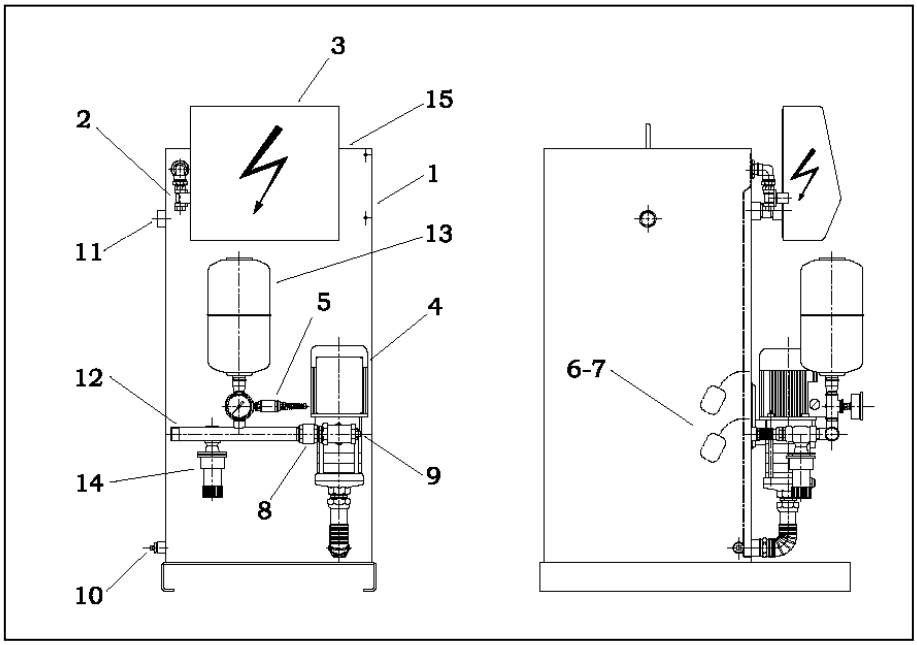
Ver 3.3 2015 03

Table of contents

DESCRIPTION OF THE UNIT

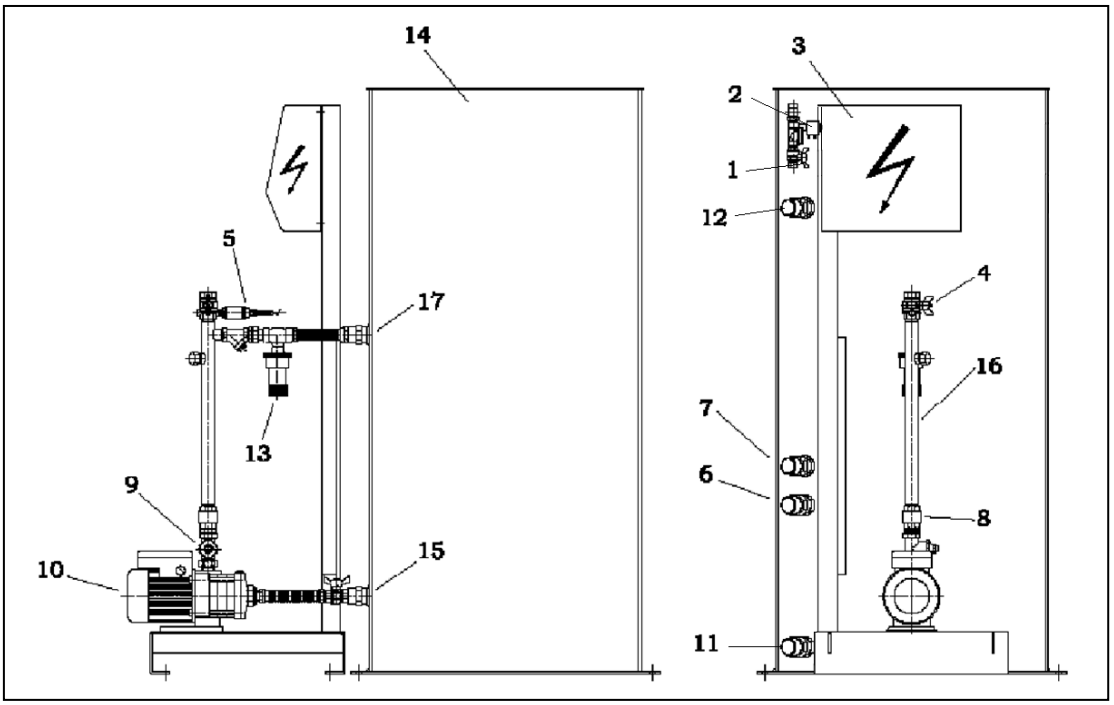
The pressurisation units are designed for indoor installation in plant rooms where the ambient temperature should always be above 0°C.
The drawings below show the location of the different components and the position of the inlet and outlet connections.

MP195N (1 pump) with open tank



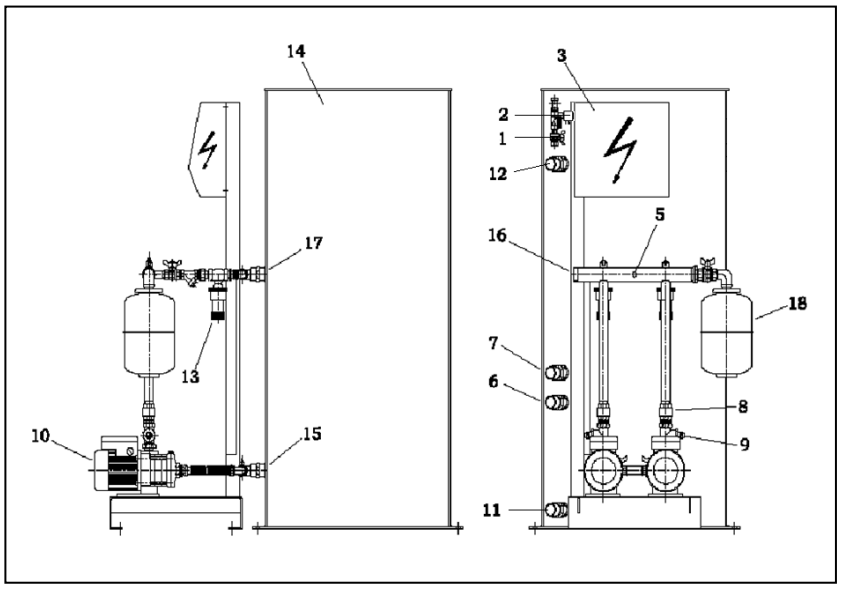
1 Tank	**9** Setting tee
2 Filling electrovalve	**10** Drain
3 Control box	**11** Overflow
4 Pump	**12** Installation collector
5 Pressure sensor	**13** Pressure vessel
6 Lack of water sensor	**14** Overflow valve
7 Low level sensor	**15** Cover
8 Check valve	

MP4N (1 pump) With open tank



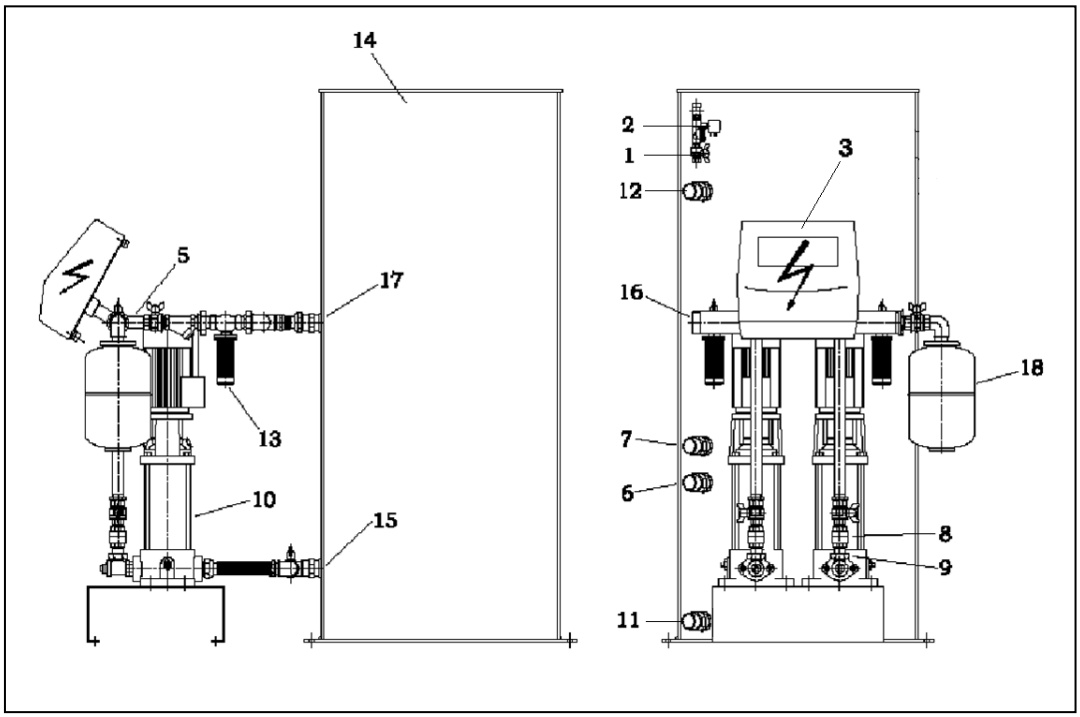
Parts list on next page

MP5N (2 horizontal pumps) with open tank



PART LIST MP4N/MP5N/MP7

1 Cold water valve
2 Feeling electrovalve
3 Control box
4 Installation valve 1''
5 Pressure sensor
6 Lack of water sensor
7 Feeling sensor
8 Check valve
9 Setting Tee
10 Pump(s)
11 Drain cock 1''
12 Overflow
13 Pressure Relief Valve(s)
14 Water tank storage
15 pump inlet
16 Outlet collector
17 PRV outlet
18 Anti-hammer vessel **(option**)

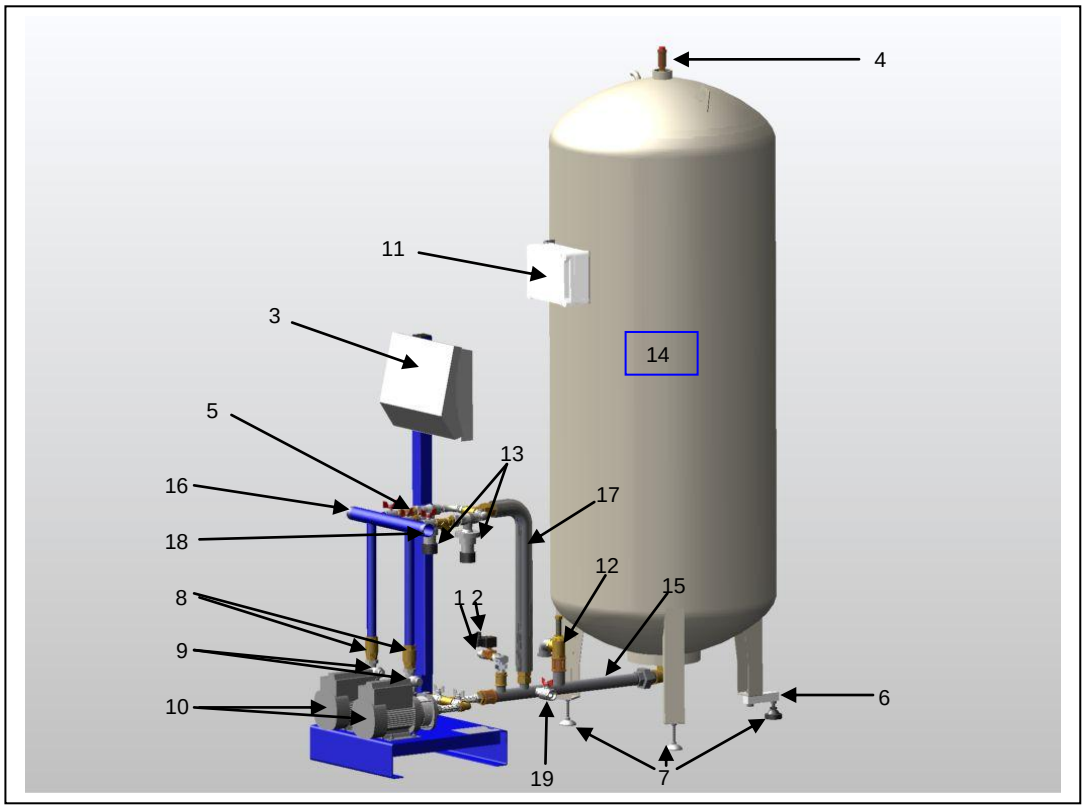


MP7 (2 vertical pumps, 2 pressure relief valves) With open tank

The « lack of water » level sensor is placed bellow the filling level sensor

The overflow connection is located bellow the filling electrovalve

MP4N (1 horizontal pump) / MP5N, MP7 (2 horizontal pumps) With Closed tank



PART LIST MP4N/MP5N/MP7

1 Cold water valve
2 Feeling electrovalve
3 Control box
4 Top air vent
5 Pressure sensor
6 Weight Sensor
7 Setting foot
8 Check valve
9 Setting Tee
10 Pump(s)
11 Weight control box
12 Safety valve (Overflow)
13 Pressure Relief Valve(s)
14 Closed Water tank storage
15 pump inlet
16 Outlet collector (left or right)
17 PRV outlet
18 Anti-hammer vessel **(option)**
19 Drain valve

The unit you have received includes the following components:

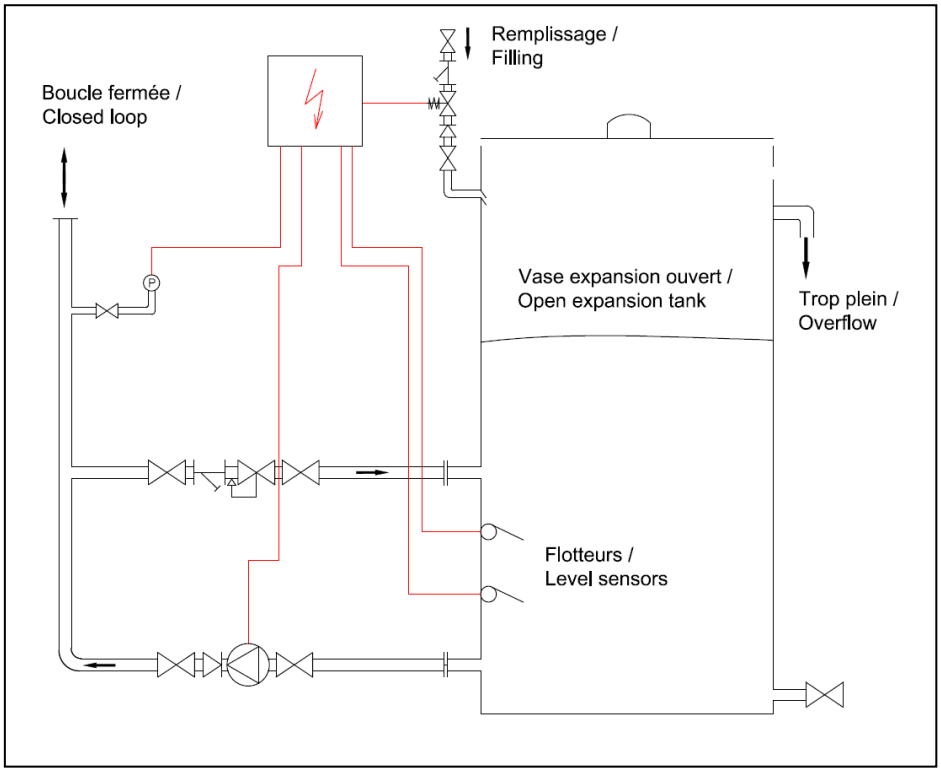
- 1 or 2 pumps mounted on a frame, with check valve and gate valve
- 1 or 2 overflow valve(s) with filter(s)
- 1 control box
- 1 pressure sensor
- 1 filling line with electrovalve
- 2 level sensors to screw in the tank (open tank only)
- 1 water storage tank delivered separately (except MP195N)
- 1 closed water storage tank with adjustable feet, weight sensor, specific control box and water flowmeter (Closed tank only)

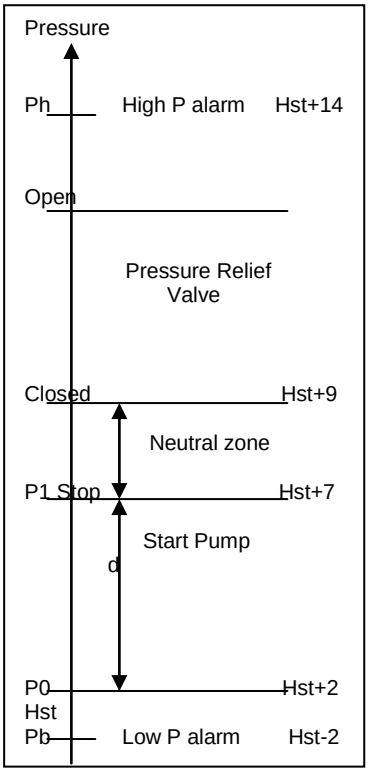
Please read carefully mounting instructions delivered with closed expansion vessel. They explain how to install feet, top air vent and bottom collector connected to the pump unit.

As per chosen options, the following components should be delivered:

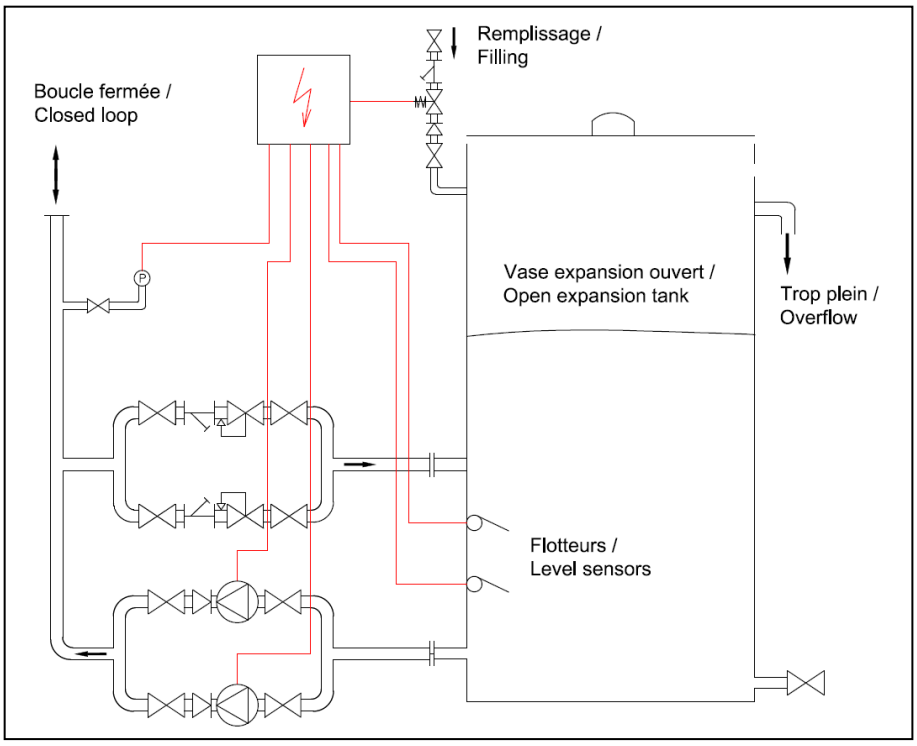
- 1 pressure vessel, ready for fitting
- 1 cartridge filter 89 µm
- 1 impulsion volumetric counter for the network leakage detection
- 1 manual filling by pass line

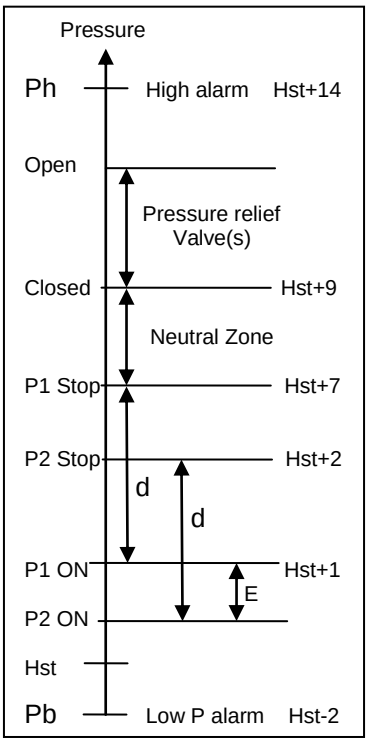
SCHEMATIC DIAGRAM MP195N/MP4N OPEN TANK





SCHEMATIC DIAGRAM MP5N/MP7N OPEN TANK

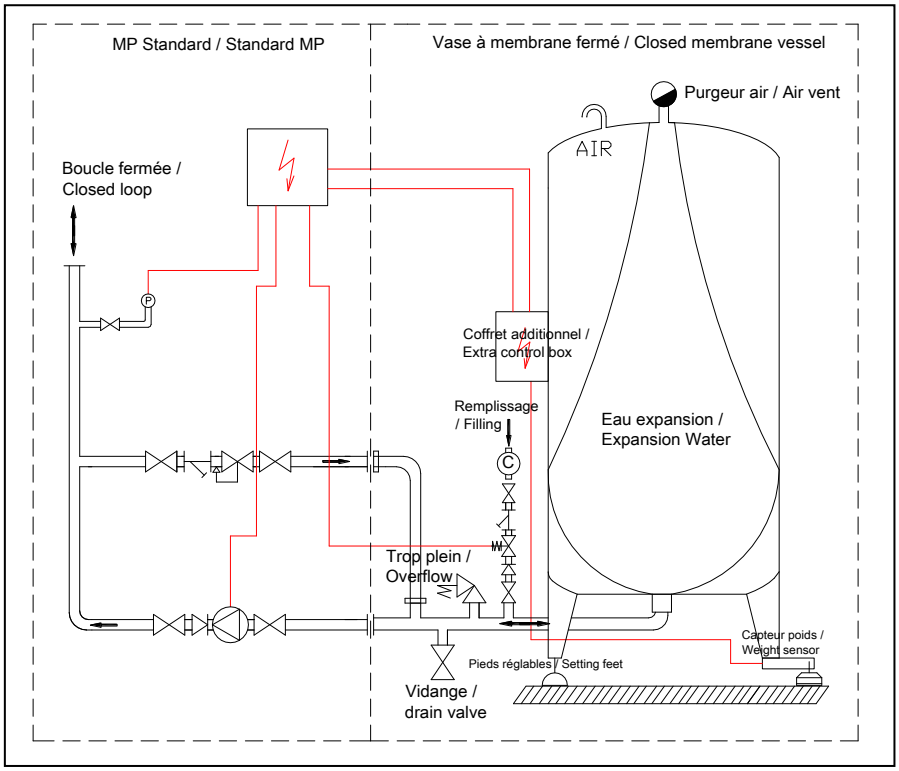


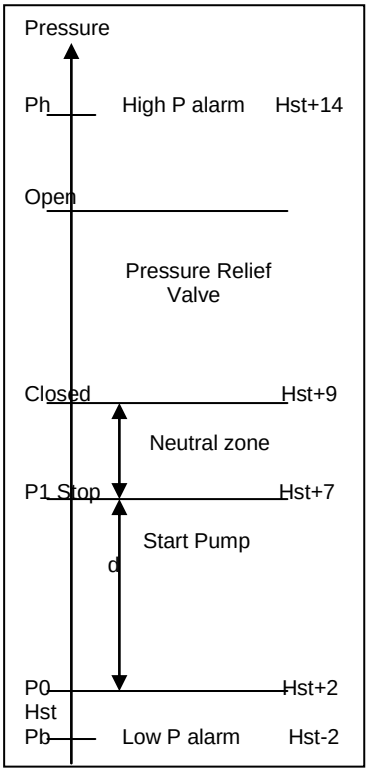


On these units, there may be 1 or 2 pressure control valves.

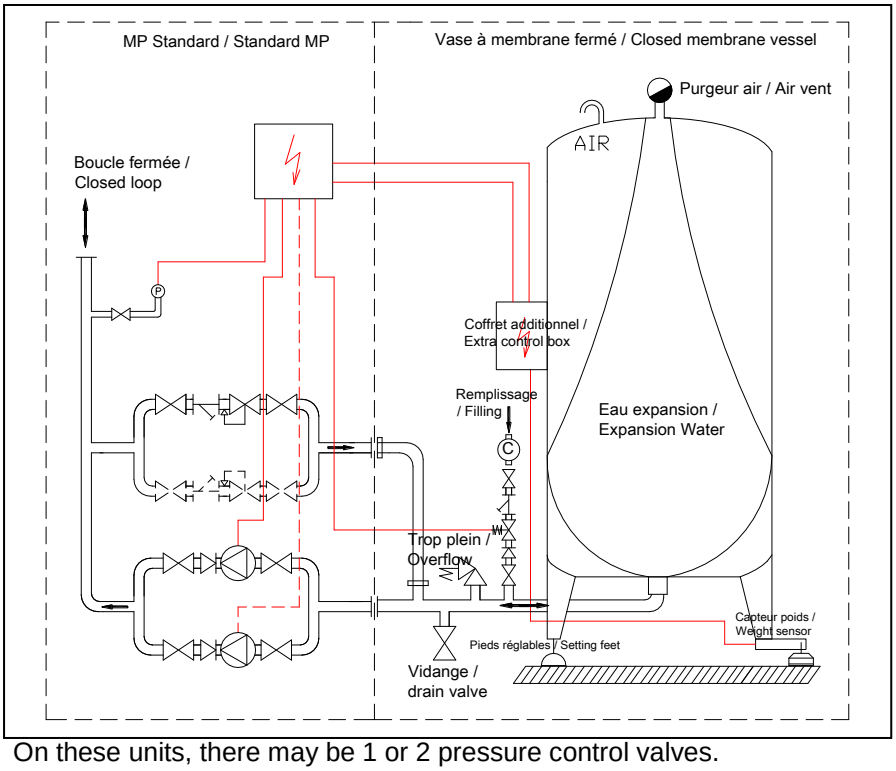
When the network is heating, the pressure increases. The overflow valve(s) open then and the network water goes into the tank. When the temperature and pressure decrease, the pump(s) start in order to reach the required pressure. Level sensors into the tank allow the automatic tank filling and pump(s) stop if the water level is too low inside the tank. The controller manages the pressure set point and eventual defaults.

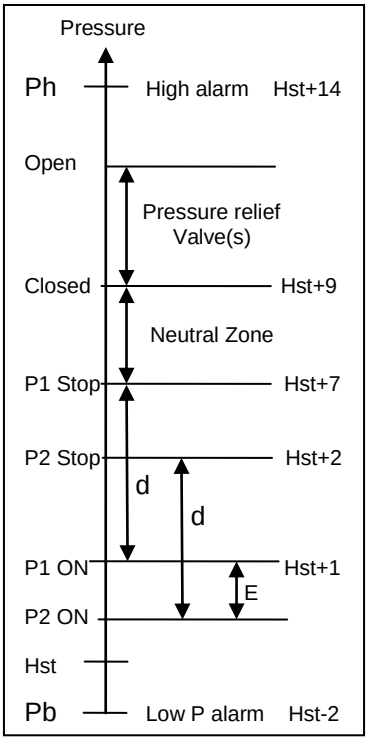
SCHEMATIC DIAGRAM MP4N CLOSED TANK





SCHEMATIC DIAGRAM MP5N/MP7 CLOSED TANK





On these units, there may be 1 or 2 pressure control valves.

Same principle than open tank system except that the water level is calculated from the water weight inside the tank. For this, a weight sensor connected to a conditioner delivers 2 volt free contacts to the standard control box, replacing the standard water level sensors.
This specific conditioner is included in an extra control box attached on the tank. It is powered by the standard control box.

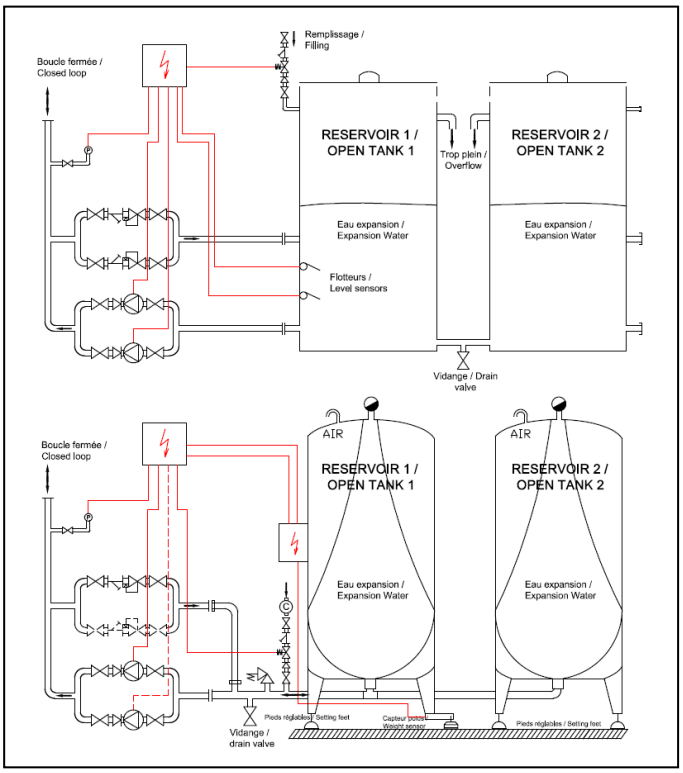
HYDRAULIC CONNECTIONS

Specific to closed membrane vessel :

- For 1000L model, a minimum of 2.5m (2500mm) roof height is required
- place the vessel in the heating room and install setting feet + sensor foot at first. Check that it is stable and vertically + horizontally aligned. If not, adjust the setting feet.
- Then, install the air vent and the bottom collector on the expansion tank in line with the pump unit.

- The tank storage must be at the same level or a higher level than the pump module. Connect the tank to the pump module as per figures 15 and 17 on the previous drawings (MP4/MP5/MP7). On the MP195, these connections are factory made.

If you are using 2 or more expansion vessels, they must be of the same size and on the same ground level as shown bellow :



Open tanks :

Connect drain connection together. Use a T plus gate valve for drain.

Tank2 not to be equipped with level sensor and filling line.

Closed tanks :
Drain valve is OK for both tanks.

Use a T under tank1 and connect second tank to it

Tank2 not to be equipped with weight sensor nor control box.

FOR OPEN / CLOSED :
TANK 1 = TANK 2

- It is necessary that the expansion piping which connects the network to the module has an equal or larger diameter than the pressurization unit's.
- Connect the collector to the network (Rep.12 for MP195N and Rep.16 on MP4/5/7) and deposit the valve wheel. Respect an ascending slope towards the network and use a pipe diameter so that the expansion flow has a speed lower than 0.1m/s.
- The optional expansion vessel must be connected to the fouling collector (Rep.16 on MP4N/5N/7). Don't forget the drain valve included in this option.
- Connect the cold water input to the automatic tank filling line (Rep.2 on MP195N Rep.1 on MP4N/5N/7). This line can be horizontally or vertically placed.
- If you have a cartridge filter delivered as an option, it is important that you connect it before the automatic filling line.
- Connect the overflow (Rep.11 on MP195N Rep.12 on MP4N/5N/7) to the sewer.

SPECIFIC TO OPEN TANKS :

- Install the level sensors Rep.6,7 inside the tank (except on MP195N). **Push these sensors on a length of 12 centimeters**.
  Nota: The upper sensor is factory marked

ELECTRIC CONNECTIONS

- Connect the unit to the main power
- Connect the “alarms”

The French DTU 65-11 requires the stopping of the installation in case of:

- Lack of water
- Low pressure
- High pressure

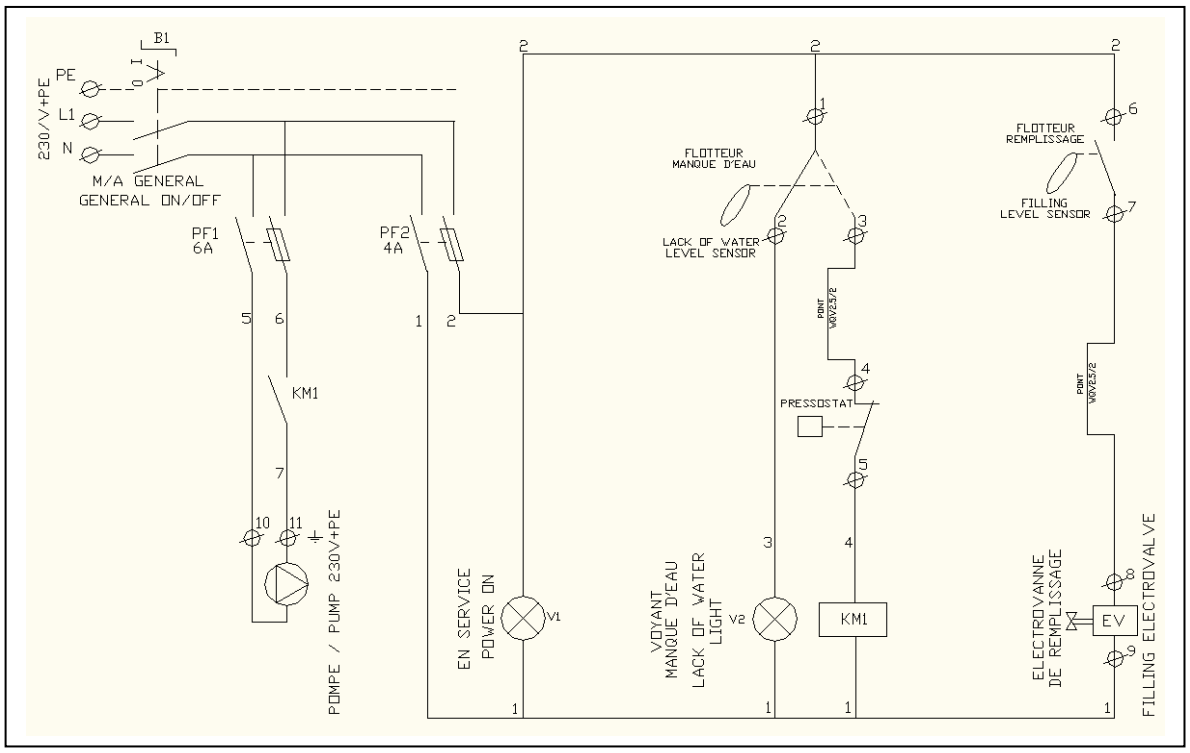
Please also refer to your local rules.

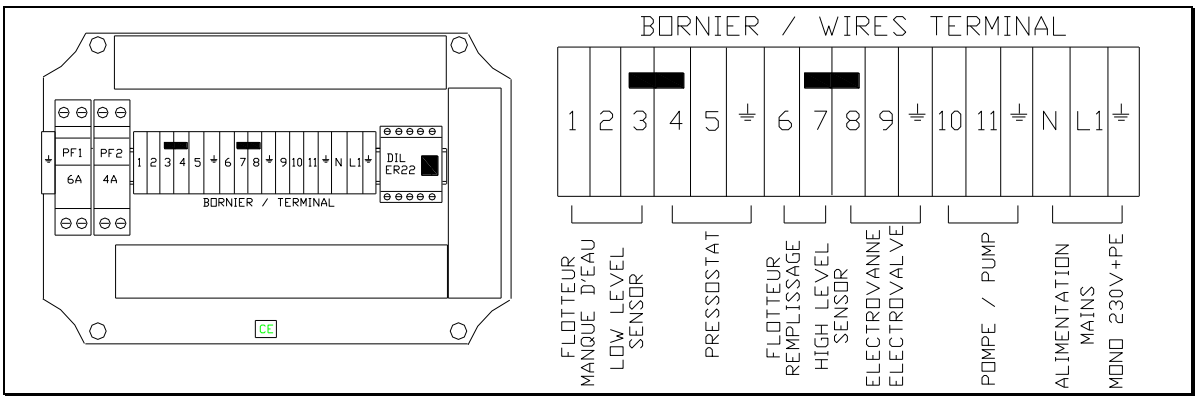
All the default information is signaled on the display and is relayed by an inversor volt free contact (see next page)

Main supply
230V (+10/-10 %) – 1 Phase – 50 Hz + Earth

WIRING DIAGRAMS

PRESSOSTATIC VERSION : MP195NS

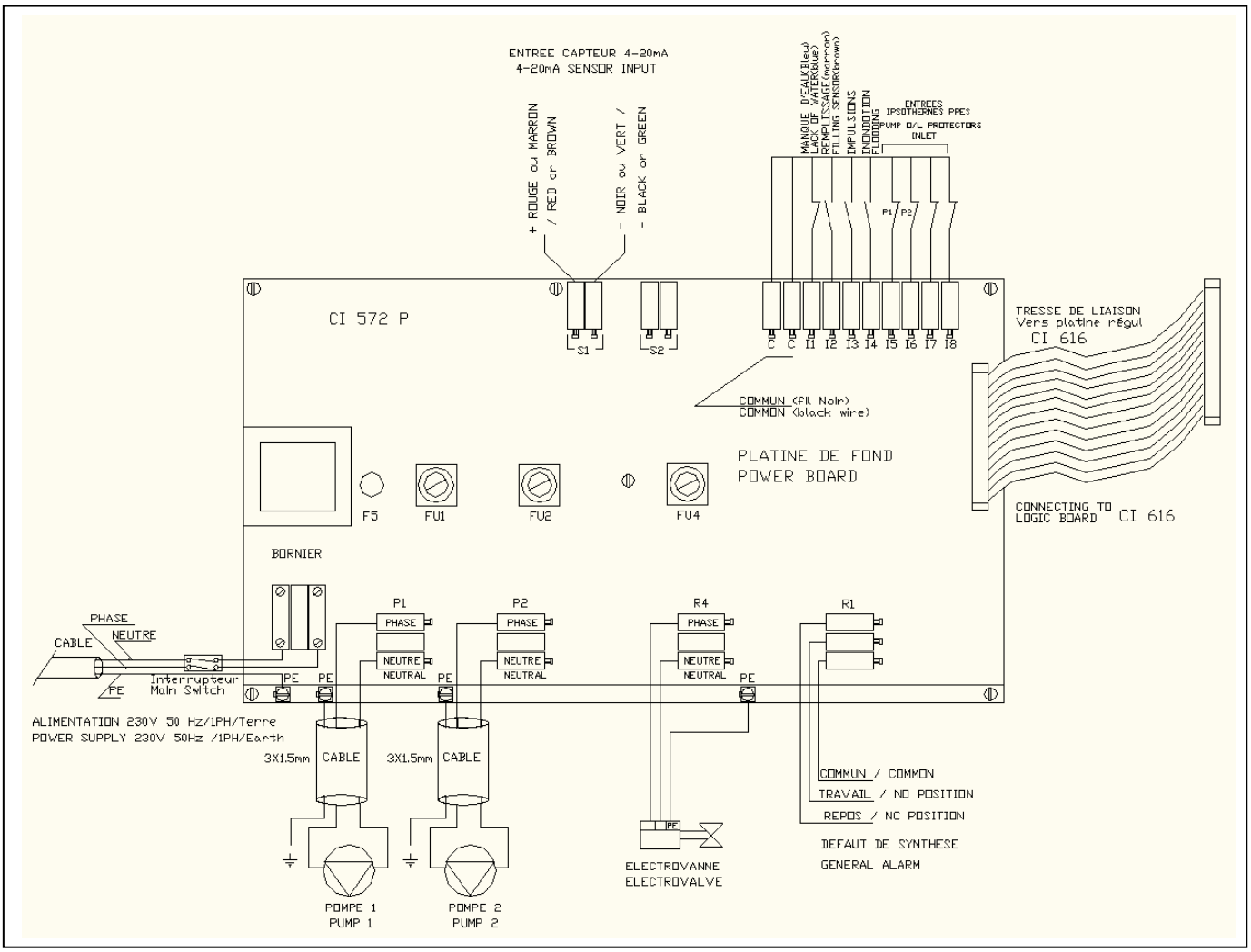




ELECTRONIC VERSION

The diagram below shows the electric wiring of external components of a 2 pumps pressurisation unit In case of 1 pump, just suppress the connections to relay R2.
Relays are used as follows:

- P1 and P2 for the 2 pumps (as per equipment)
- R1 for the general default relay
- P4 for the electrovalve



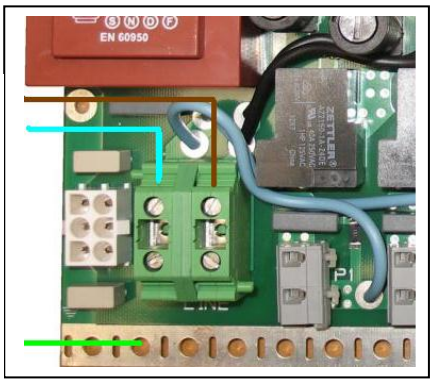
ELECTRICAL CONSUMPTIONS

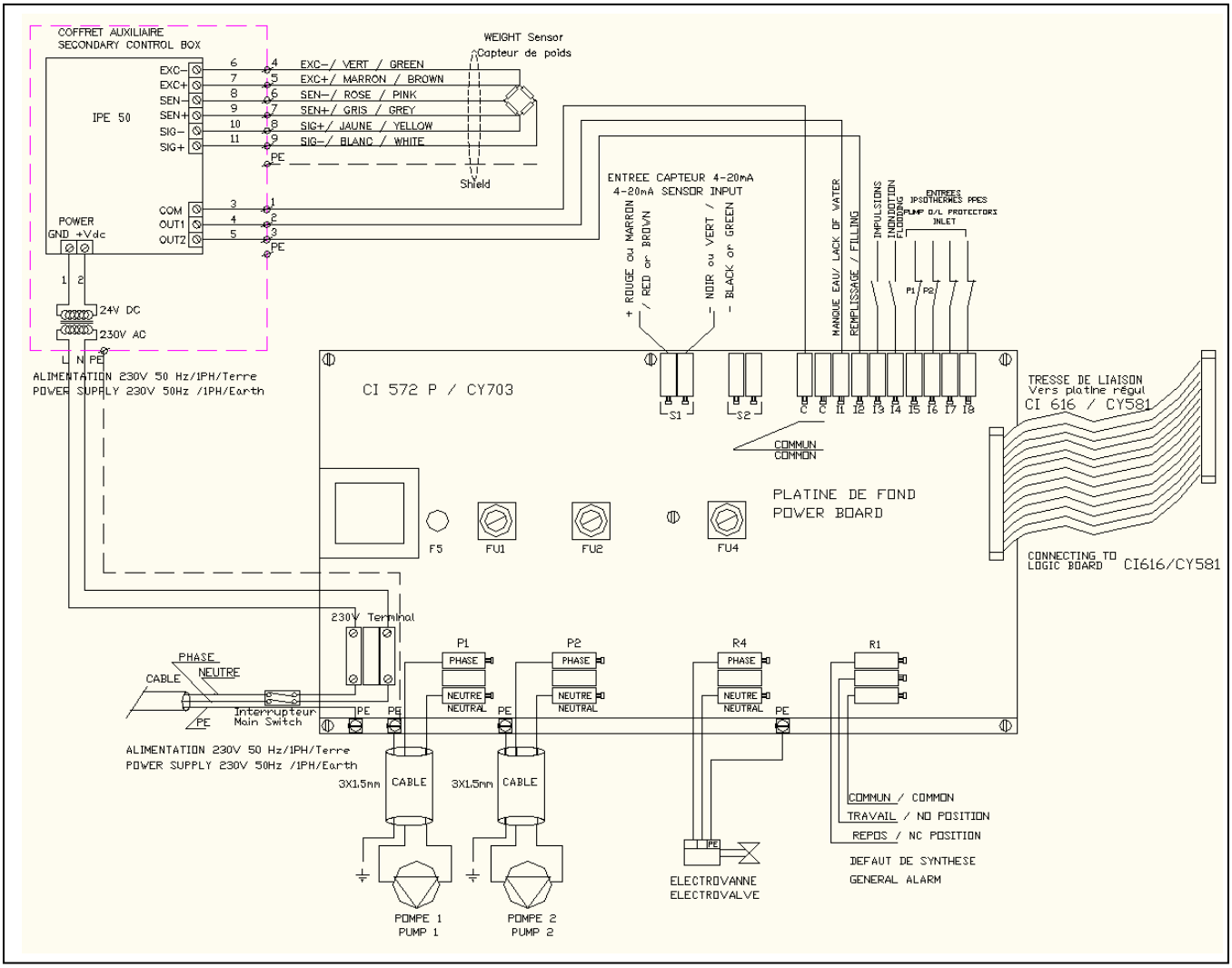
Model	Pump type	P elec. (kW)	I (A)		Model	Pump type	P elec. (kW)	I (A)
MP195 L1/S1	CM3-5	0.5	3.8		**MP5N 6xx**	2xCM3-6	1.35	8.8
MP195 L2/S2	CM3-6	0.67	4.4		**MP5N 7xx**	2xCM3-7	1.8	10.8
MP4N 3xx	CM3-3	0.5	3.8		**MP5N 8xx**	2xCM3-8	1.8	10.8
MP4N 4xx	CM3-4	0.5	3.8		**MP7-10**	2xCR3-10	1.5	10.5
MP4 N 5xx	CM3-5	0.5	3.8		**MP7-13**	2xCR3-13	2.2	15.1
MP4N 6xx	CM3-6	0.67	4.4		**MP7-15**	2xCR3-15	2.2	15.1
MP4N 7xx	CM3-7	0.9	5.4		**MP7T-10***	2xCR3-10	1.5	3.8
MP5N 3xx	2xCM3-3	1	7.6		**MP7T-11***	2xCR3-11	2.2	5.1
MP5N 4xx	2xCM3-4	1	7.6		**MP7T-13***	2xCR3-13	2.2	5.1
MP5N 5xx	2xCM3-5	1	7.6		**MP7T-15***	2xCR3-15	2.2	5.1

* 380V 3 Phases + N + Earth power supply

SPECIFIC WIRING DIAGRAM FOR CLOSED VESSEL SYSTEMS

Note : If you have installed only the expansion tank, meaning replacement of an open tank by a closed tank, you have to power supply the extra control box fixed on the vessel. You can do it by your own in respect of electrical protection and local rules or you can power supply it from the CI572P power board as shown bellow:





NOTES :

OUT1 is the lack of water contact input NC. It corresponds to the lower water level of the 2 ones (equivalent of the lower water level sensor in open tanks)

OUT2 is the filling electrovalve contact input NO. It corresponds to the upper water level of the 2 ones (equivalent of the upper water level sensor in open tanks)

If negative weight, SIG+ and SIG- wires should be reversed between sensor and IPE50.

COMMISSIONING

The installation and use instructions should be respected, and the factory settings remain unchanged.

- Open the different valves on the unit,

- Drain the pump(s)
- Set the level sensors inside the tank. For that, pull on the electric cables until it doesn't move any more. Then, push both cables 12 centimeters inside the tank. Screw the stuffing boxes of each cable.
- Check the expansion vessel pressure (about 0.1 bar less than the pressure set point).

- Power on the unit by the main control panel

- CLOSED EXPANSION VESSELS ONLY : Before water filling starting up the unit, RESET THE VOLUME VALUE if different of zero. Red LED display should indicate the water volume inside the tank, so should be at zero before water filling. Please REFER TO PAGE 25 FOR ZERO ADJUST.

As per the unit type, both pumps should start together if required pressure is not reached at the unit start up. A cyclic permutation will shift the starting pump in order to have the same worked hours for each pump (MP5/MP9 only).

Check the starting pump pressures on the display compared to set pressure on the controller.

MAINTENANCE

Warning ! Before operating on a unit, ensure that electrical supply of the control box is OFF.
Only authorized people should work on the unit

The Alfa Laval pressurisation units require little maintenance. For that, you just have to check:

- The filter(s) is(are) clean,
- The overflow valve(s) operate correctly,
- The expansion vessel should be inflated 0.1 bar less than the pressure set point,
- There is no leakage and the unit is clean,
- The different settings and security functions,
- The pump(s) do not require particular maintenance.

Cut off the electrical supply before working on it

SETTING EXAMPLE

An 8th floor appartment. That means 8+1(Level 0)+1 (underground)=10 levels of about 3 meters each.
The static height is 3*10=3 bar (1 meter=0.1 bar).

The different parameters should be as follows:

Parameter	MP195N/ MP4N	MP5N/ MP7N
Setpoint P(bar)	3.2	3.2
Hysteresis (bar)	0.5	0.5
Threshold gar (bar)	-	0.2
High pressure (bar)	4.2	4.2
Low pressure (bar)	2.8	2.8

Parameter	MP195N/ MP4N	MP5N/ MP7N
.t1 (sec.)	6	6
.t2 (sec.)	-	1
.t3 (sec.)	1	1
.t4 (sec.)	6	6
.t5 (sec.)	1	1

With
.t1= Temporisation after lack of water default
.t2= Cascade temporisation
.t3= Pump(s) stop temporisation
.t4= Filling temporisation
.t5= Low pressure temporisation.

TROUBLESHOOTING GUIDE

FINDINGS	PROBABLE CAUSE	SOLUTION
Low pressure alarm	Pump(s) stripped	Change
	Overflow valve open too wide	Set
	Low pressure alarm set point too high	Set
Pump(s) do not start	Fuse(s) splashed	Replace and control
	Set point too high	Set
	Relay scratched	Replace
	Pump(s) out of order	Replace
	Pump No. inversed in 1pump mode	Set
High pressure alarm	Overflow valve too screwed	Set
	Overflow valve fooled or blocked	Clean or replace. WARNING: unscrew the spring before dismounting
	High pressure set point too low	Set
Pump(s) always on	Pump(s) bad drained	Drain
	Pump(s) fooled	Clean
	Not enough output pressure	Check the quotation
	Overflow valve open too wide	Set
	Pressure set point too high	Set
	Too high differential value	Set (Standard value=0.5)
	Network leakage	Check
	Setting tee closed	Open 1 turn
Lack of water default	Level sensor incorrectly placed (open tank only)	Modify and set (12cm)
	Level sensors out of order (open tank only)	Replace
	Bad calibration on weight controller (closed tank only)	Check weight controller calibration in this users' manual
	Cold water valve closed	Check or open
	Electrovalve or relay out of order	Replace

TROUBLESHOOTING GUIDE

Cont..

FINDINGS	PROBABLE CAUSE	SOLUTION
Sensor default	Sensor broken	Replace
	Disconnected wire	Refer to the electric diagram
Pump Start/Stop….	Differential too low	Set
	Pressure vessel too low	Check and replace if necessary
	Setting tee open too wide Insufficient pipe diameter	Open 1 turn Check dimensions. Close the setting tee
Tank overflow	Undersized tank	Check the quotation
	Electrovalve is open	See next paragraph
	Manual network feeding open	Check and close if necessary
	Feeling temporisation too high	Set
Electro valve still open	High level sensor out of order (open tank only) Bad calibration on weight controller.	Replace Check indicated weight and output 1 set point
	Fooled by impurities in the valve	Clean and check if there is a 100 µm filter before the electro valve
No display	630mA Fuse out of order	Replace and control
	No power from main control panel	Power on the unit on main panel
	Electronic card out of order	Replace
Different pressure compared to real pressure	Fooled sensor	Clean
	Sensor default	Check
	Bad calibration	Adjust the scale correction

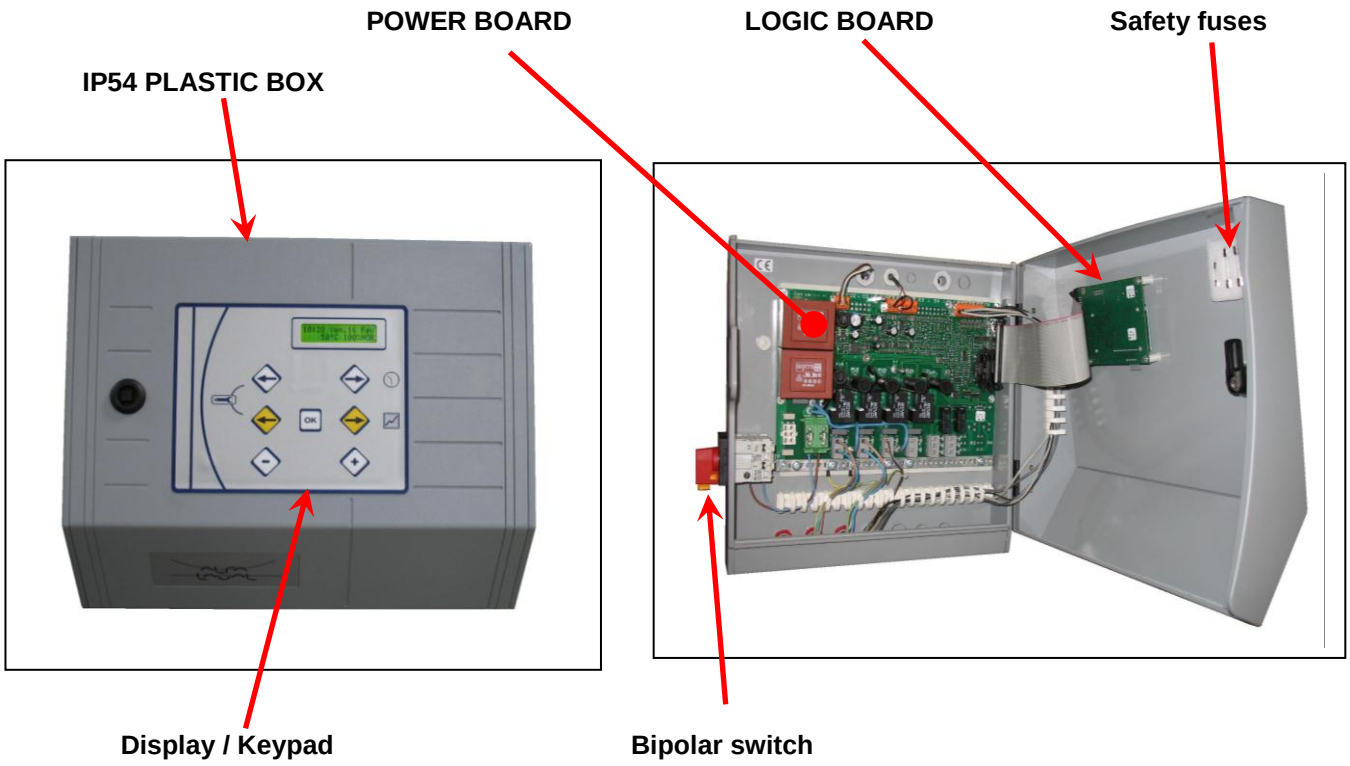
FUSES

The ‘‘Power Board’’ is fitted with a set of fuses to protect the different components against overload:
- Supply circuits of the controller (FU 5),
- Each of the pumps fitted to the unit (FU 1 + FU 2)

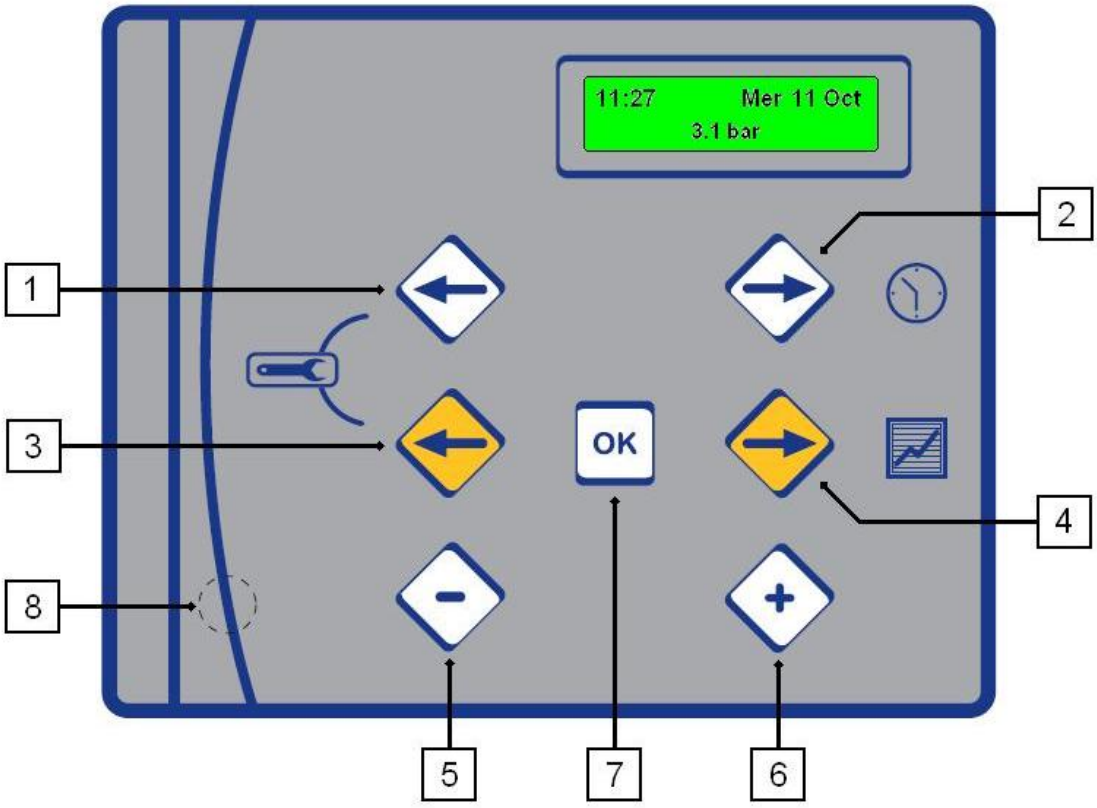
Fuse	FU 1	FU 2	FU4	FU 5
Protects	Pump 1	Pump 2	Electro valve	Transformer
Size	6 x 32	6 x 32	6 x 32	5x20
Rating	10 A	10 A	10 A	630 mA
Voltage	250 V	250 V	250 V	250 V

CONTROL BOX COMPONENTS

POS	DESIGNATION	CODE
1	**Power board**	CI572P
2	Logic board	CI 571
3	Display / Keypad	83 719



DISPLAY / KEYPAD



KEY	FUNCTION
1	White Left arrow to scroll in the Clock menu
2	White Right arrow to enter then scroll into the Clock menu
3	Yellow Left arrow to scroll in the Pressure and Technician menus
4	Yellow Right arrow to enter then scroll in the Pressure menu
5	- key for decreasing the parameter values shown in the menus
6	+ key for increasing the parameter values shown in the menus or confirm validation
7	Validation / Enter key
8	Hidden Reset key to restore parameters to factory settings

IN NORMAL MODE

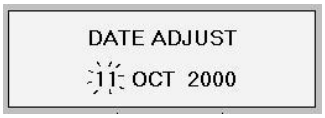
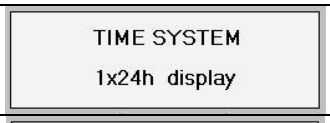
The display shows the following information:

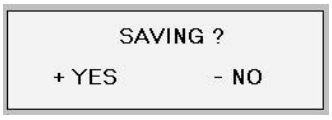
When plugging the unit on electricity, display indicates for 3 seconds the software version. Ex: V. 1.2.3

SET HOUR AND DATE

This menu allows you to set hour & date

Press:
white➲ to enter the menu.
white ➲ to get to the next frame/setting,
white ➲ to get to the previous frame/setting.

ACTION	DISPLAY
Set the hour and minutes Press white ➲, Press + or – to adjust the hour, Press white ➲, Press + or – to adjust the minutes,	
Set the date and month Press white ➲, Press + or – to adjust the day, Press white ➲, Press + or – to adjust the month, Press white ➲,	
Set the year Press + or – to adjust the year, Press white ➲,	
Set the hour format Press + or – to adjust the hour format, Press white ➲.	
Set automatic wintertime/summertime change Press + or – to adjust, Press white ➲.	

SAVE MODIFICATIONS At any time, you can interrupt the setting procedure and save the changes by pressing the Validation key. To save your modifications, Press + for YES and – for NO. **ANY PARAMETER MODIFICATION SHOULD BE VALIDATED THIS WAY**	

SETPOINTS

This menu allows you to set:

- Pressure set point,
- Differential,
- Cascade only for 2 pumps units,
- The High Pressure alarm level,
- The Low Pressure alarm level,

Press:
Yellow ➲ to enter the menu,
Yellow ➲ to get to the next frame/setting,
Yellow ➲ to get to the previous frame/setting.

ACTION	DISPLAY
Service pressure Press Yellow ➲ Press + or – to select the service pressure : Press Yellow ➲,	**PRESSURE** **3.0 bar**
Differential It is the pressure difference between the starting and the pump stopping. P+d=pump stop pressure. Press + or – to set the temperature, Press Yellow ➲,	**HYSTERESIS** **0.5 bar**
Threshold gap IF 2 PUMPS UNIT Cascade or pressure difference before starting the second pump. Press + or – to set the temperature, Press Yellow ➲,	**THRESHOLD GAP** **0.2 bar**
High pressure alarm Press + or – to set the high pressure set point, Press Yellow ➲,	**HIGH PRESSURE** **4.4 bar**
Low pressure alarm Press + or – to set the low pressure set point, Press Yellow ➲,	**LOW PRESSURE** **2.8 bar**
Activate/Deactivate Pump 1 ONLY FOR 2 PUMPS UNITS Press + or – to activate or no the pump, Press Yellow ➲,	**PUMP 1** **ENABLE**
Activate/Deactivate Pump 2 ONLY FOR 2 PUMPS UNITS Press + or – to activate or no the pump, Press Yellow ➲,	**PUMP 2** **ENABLE**
SAVE MODIFICATIONS At any time, you can interrupt the setting procedure and save the changes by pressing the Validation key. To save your modifications, Press + for YES and – for NO. **ANY PARAMETRE MODIFICATION SHOULD BE VALIDATED THIS WAY**	

TECHNICIAN MENU

This menu allows you to set:

- Lack of water temporization,
- Cascade temporization (if 2 pumps)
- Stopping pumps temporization,
- Feeling tank temporization,
- Low pressure alarm,
- Network leakage detection parameters,
- Display language,
- Pressure recorder activation
- Reading event list,
- Sensor scale correction
- Relays tests

Press:
Yellow ↶ and white ↶ to enter the menu.
Yellow ➲ to get to the next frame/setting,
Yellow ↶ to get to the previous frame/setting.

ACTION	DISPLAY
Post lack of water temporization It is the temporization before activating pump(s) and after a lack of water default. Press + or – to modify the value, Press yellow ➲,	**NO WATER TEMPORISATION** **1 SEC.**
Cascade temporization (MP5 / MP7) Temporization to avoid the 2 pumps starting together Press + or – to modify the value, Press yellow ➲,	**CASCADING TEMPO.** **1 SEC.**
Stopping pump temporization (MP5/7) Temporization to avoid stopping the 2 pumps at the same time. Press + or – to modify the value, Press yellow ➲,	**STOP PUMP TEMPO.** **1 SEC.**
Filling temporization It is temporization to close the filling electro valve when the correct water level has been reached inside the tank. Press + or – to adjust the value, Press yellow ➲,	**FILLING TEMPO.** **6 SEC.**
Low pressure alarm temporization If the pressure reaches the low alarm level, the alarm relay will only be powered on after a preset period of time. Press + or – to adjust this period, Press yellow ➲,	**LOW PRESS. TEMPO.** **1 SEC.**
Pumps cycling On 2 pumps units, you can set each pump working time P1/P2 Press + or – to adjust the value, Press yellow ➲,	**SWAPPING TEMPO.** **10 MIN.**
NETWORK LEAKAGE parameters Press + to enter this sub-menu, Refer to page 17 hereafter, Press yellow ➲,	**LEAKAGE DETECTION**

TECHNICIAN MENU (Cont.)

Display Language Choose language used for display. Press + or – to select the required language, Press yellow ➲,	**LANGUAGE** **ENGLISH**
Pressure recorder parameters Press + to enter this sub-menu, Refer to page 18 hereafter, Press yellow ➲,	**RECORDER**
HISTORY parameters Press + to enter this sub-menu, Refer to page 19 hereafter, Press yellow ➲,	**SHOW** **EVENT MEMORY**
Scale correction It allows to modify the measured pressure by an x factor Press + or – to change this factor, Press yellow ➲,	**SCALE CORRECTION** **1.00**
SELF TEST parameters Press + to enter this sub-menu, Refer to page 19 hereafter, Press yellow ➲,	**SELF TEST**

SAVE MODIFICATIONS At any time, you can interrupt the setting procedure and memorize the changes by pressing the Validation key. To memorize your modifications, Press + for YES and – for NO. **ANY PARAMETRE MODIFICATION SHOULD BE VALIDATED THIS WAY**	SAVING ? + YES - NO

LEAKAGE DETECTION

This function only applies for modules fitted with a volumetric impulsions counter.
In the Technician menu,
Press + when the message ''LEAKAGE DETECTION'' is displayed to enter this sub-menu.

Impulsion number on 24hrs If the impulsion number is higher than the set point, we consider there is a network leakage Adjustable from 1 to 300 impulsions /24hrs. Press + or – to adjust the value, Press yellow ➲,	**PULSES / 24 H** **10**
ACTION If a network leakage is detected, you can choose to continue running (no action) or to stop the pump(s) and close electrovalve. Press + or – to adjust the value, Press yellow ➲,	**ACTION** **NONE**
Enabling / Disabling the function Press + or – to Enable or Disable the function, Press yellow ➲ and save your modifications, To save follow the instructions below.	**DETECTION** **DISABLE**

SAVE MODIFICATIONS At any time, you can interrupt the setting procedure and save the changes by pressing the VALIDATION key. To save your modifications, Press + for YES and – for NO. **ANY PARAMETRE MODIFICATION SHOULD BE VALIDATED THIS WAY**	SAVING ? + YES - NO

IMPORTANT

The NETWORK LEAKAGE function is disabled by default in the factory settings.

RECORDER FUNCTION

In the Technician menu,
Press + when the message '' RECORDER'' is displayed to enter this sub-menu.

ACTION	DISPLAY
Measuring frequency Enables to define the periodicity the measures will be taken. The lower the selected value is, the more measures will be taken over a short period of time, Adjustable from 1 to 60 seconds, Setting 60 seconds enables to take measures on a 9 day period of time, 1 second on 3H51. Press yellow ➲,	SAMPLING PERIOD -1- SEC. (3h51mn)
Acquisition mode Temperature data can be recorded using two different methods : - Simple recording Once the available memory is full, recording stops, - Scroll recording Once the available memory is full, the last temperature data input overwrites the first data recorded, Press + or – to select mode, Press yellow ➲,	ACQUISITION MODE SINGLE
Start / Stop recording Press + to start recording, Press + again to stop recording, Press yellow ➲,	PRESS + TO START
Data transmission The system has the capability to remotely transmit the recorded measures via a special cable supplied as an option, **This feature will be available soon** Press yellow ➲,	DOWNLOAD MEASURES
Recorder memory erasure Press simultaneously + and – to erase all temperature records from memory.	PRESS + AND - TO ERASE MEMORY

HISTORY

In the Technician menu,
Press + when the message ‘’HYSTORY’’ is displayed to enter this sub-menu.

ACTION	DISPLAY
Memorised events status Press +, Display shows the total number of events which have occurred. 500 events maximum can be stored in memory. There are 2 ways to consult the history:	n EVENTS STORED
Consult last events Press –, The pointer goes to the end of the history list. It enables to consult the last events which have occurred. Then press – as much as required to scroll up in the event list. You will then reach the beginning of the history. Press yellow ↺ to exit the sub-menu.	END OF EVENT MEMORY ↓ BEGINNING EVENT MEMORY
Consult first events Press +, The pointer goes to the beginning of the history list. It enables to consult the first events which have occurred. Then press + as much as required to scroll down in the event list. You will then reach the end of the history. Press yellow ↺ to exit the sub-menu.	BEGINNING EVENT MEMORY ↓ END OF EVENT MEMORY

SELF TEST

In the Technician menu,
Press + when the message ‘’SELF TEST’’ is displayed to enter this sub-menu.

ACTION	DISPLAY
Self testing Enables to individually check proper operation of each component of the unit : - Pump N° 1, - Pump N° 2 (MP5/MP7), - General alarm relay, - Electrovalve relay, Press ↻ or ↺ yellow to select each of the components listed above. Press + key to activate the selected relay. Release the key to stop it. Press OK to exit the sub-menu.	SELF-TEST

RESTORING FACTORY SETTINGS

To restore factory settings/parameters into the memory;
Press RESET key at the right hand bottom of the Display/Keypad (Hidden key marked ⑧ on page 13). These default values/settings are shown in the right hand boxes above,

Restore factory settings Press hidden reset key marked 8 on page 13 Press + to restore Factory settings into the system memory, Press – not to restore them,	FACTORY SETTINGS + YES - NO

KEYPAD QUICK FUNCTIONS

The keypad enables direct access to some of the functions using key combinations shown bellow.

Key Sequence / Display	Description
OK ---------- 11:17 Mer. 11 Oct 2 IMPULSIONS	Reading the number of impulsions transmitted by the volumetric counter (network leakage option, requires the counter to be connected and the leakage function activated)
OK + (-) ----------	To force the pump 1 if it is not running. No effect if this pump is already started.
OK + (+) ----------	To force the pump 1 if it is not running. No effect if this pump is already started.
(+) et (-) Puis OK --- ACQUITTEMENT APPUYER SUR OK	Enables to reset an alarm condition when displayed. i.e. Lack of water after moving the level sensor.

DISPLAYED MESSAGES

The chart below shows the different messages may be displayed.
Status indications or alarms can be displayed.

DISPLAYED MESSAGE	MEANING
STATE	**STATUS**
10 : 48 25/07/2001 MISE SOUS TENSION	Appears in the History and indicates when controller was powered on.
RESET	An alarm has been manually cleared by pressing + and – then Enter

DEFAULTS	ALARMS / FAILURES	ACTION
LOW PRESSURE	Pressure is lower than low pressure set point	Display default + alarm contact. Automatic restart
HIGH PRESSURE	Pressure is higher than high pressure set point	Stop pump(s) + display default + alarm contact. Automatic restart
PUMP 1 FAULT	Pump 1 failure. There is an input contact default.	Stop pump + display default. Manual restart
PUMP 2 FAULT	Pump 2 failure (MP5/MP7). There is an input contact default	Stop pump + display default. Manual restart
NO WATER	Lack of water inside the tank. Detected by lower level sensor.	Stop pump(s) + display default + alarm contact Automatic restart
FLOODING	Room flooding detected by flood sensor connected to the power board.	Display default + alarm contact. Manual restart
LEAKAGE	The max No. of impulsions was reached. Network leakage.	Different possibilities. Refer page 17 Display default + alarm contact. Manual restart
SENSOR 1 FAULT	Pressure sensor faulty: Check connections.	Stop pump(s) + display default + alarm contact Automatic restart.

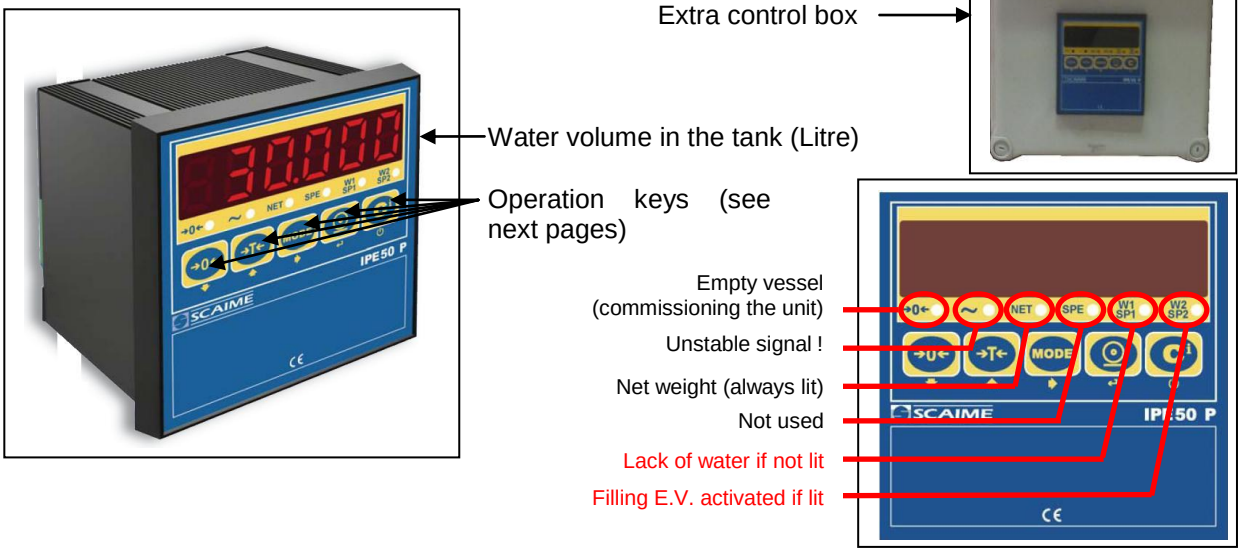
EXTRA CONTROL BOX FOR CLOSED EXPANSION VESSELS

If you are using a closed expansion vessel, you have an extra control box factory preset, indicating water volume inside. The weight controller has been factory pre set.
Nethertheless, you have the possibility to adjust parameters if you want to optimize settings.

READINGS :

The water capacity is directly read on the LED display in litres.

IF YOU HAVE 2 CONNECTED VESSELS IN PARALLEL, YOU HAVE TO MULTIPLY INDICATED VOLUME BY 2. AND SO ON.

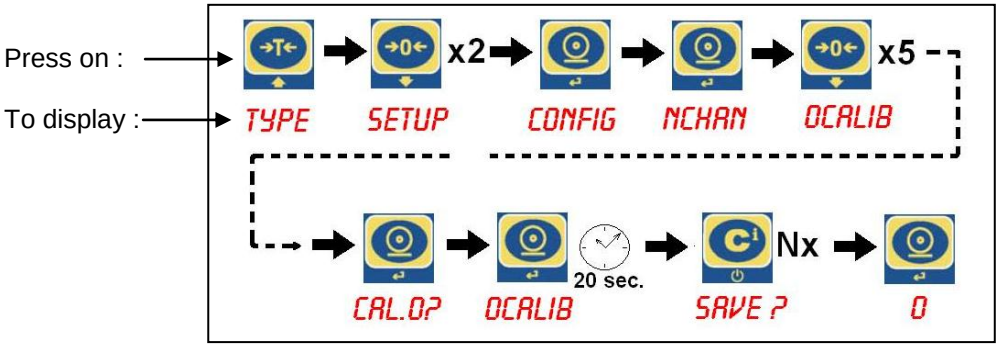


IF UNSTABLE SIGNAL LIT, CHECK THE MEMBRANE VESSEL IS STABLE, CHECK VERTICALITY AND ADJUST SETTING FEET IF NECESSARY. VESSEL MUST BE FREE TO "MOVE" (FEW mm) TO MEASURE ITS WEIGHT

ZERO ADJUST :

Calibation and zero value have been factory set, but due to the weight sensor sensibility, you may have to adjust the zero value when the tank is empty and connected to the pump unit, just before servicing.

For this, follow the key procedure bellow :
POWER OFF THE UNIT help to the main switch, then power ON and follow these instructions



ERROR MESSAGES

Here are the different error messages you can read on the display :

MESSAGE	DESCRIPTION
------	Weight value is higher than maximal value (600 for 500L vessels / 1100 for 1000L vessels).
------	Weight value is lower than Zero value.
ER-37	Sensor signal is negative. Check wiring
HW-ERR	Hardware error : software is not compliant with electronic components.

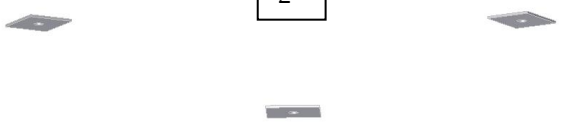
CLOSED VESSEL MOUNTING INSTRUCTIONS

1

Closed vessel

Position the vessel such as you have 2 feet in front of you and 1 foot behind. The control box should be in front of you as well

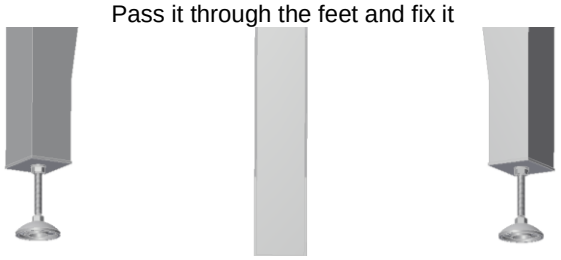
2



Identify the 3 plates* to put under each foot, then install the 2 front setting feet

Use M10 bolts and nuts

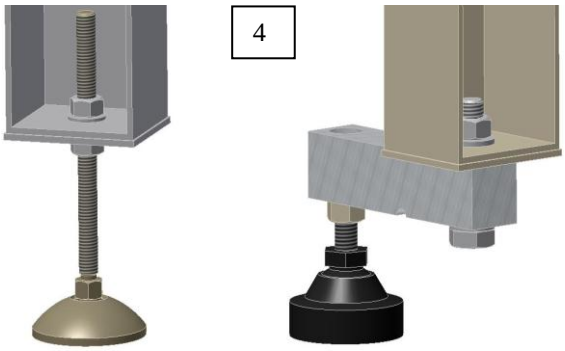
Pass it through the feet and fix it



3

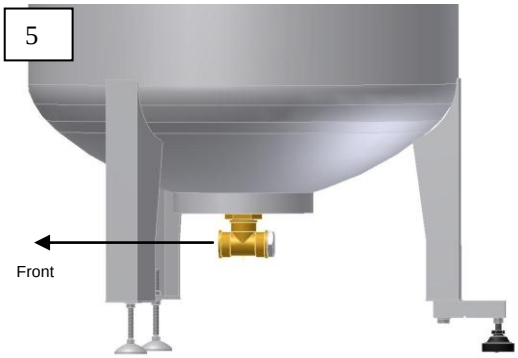
Now Install and fix the rear sensor foot (M12 screws).

4



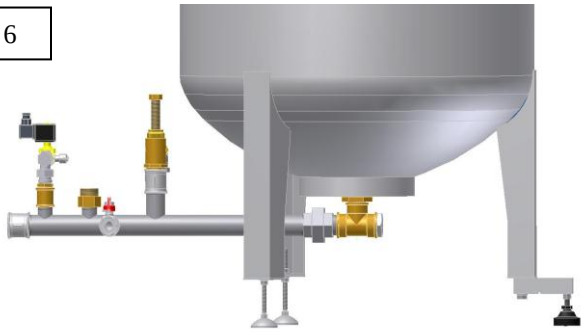
Detail of setting feet and sensor foot fixations.

5



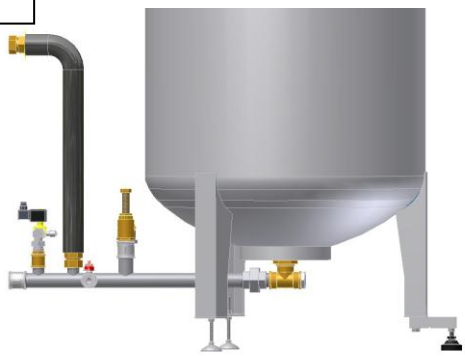
Fixe the T on the vessel's bottom with cap pointing to the rear. This cap can be removed if you use a 2nd vessel, making the connection between each other

6



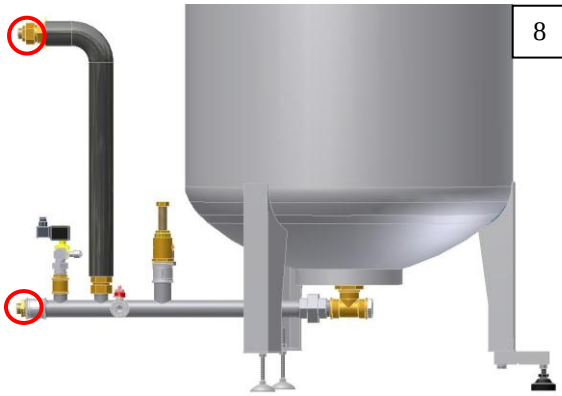
Install the collector with union fixed to the T if not factory made.

7



Install flexible pipe as shown

8



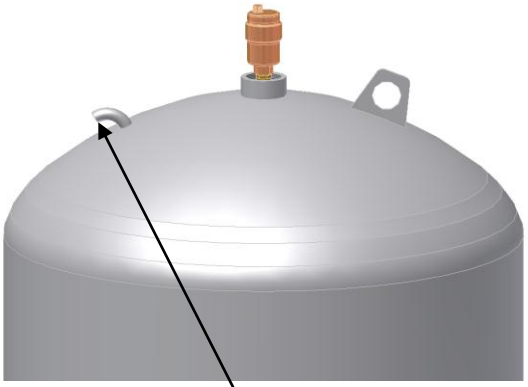
Don’t forget to screw the reductions at collector & flexible ends. They will allow direct connections to pump(s) unit.

9

If not done, fix the extra control box on its support on the vessel

10

Install the air vent on top



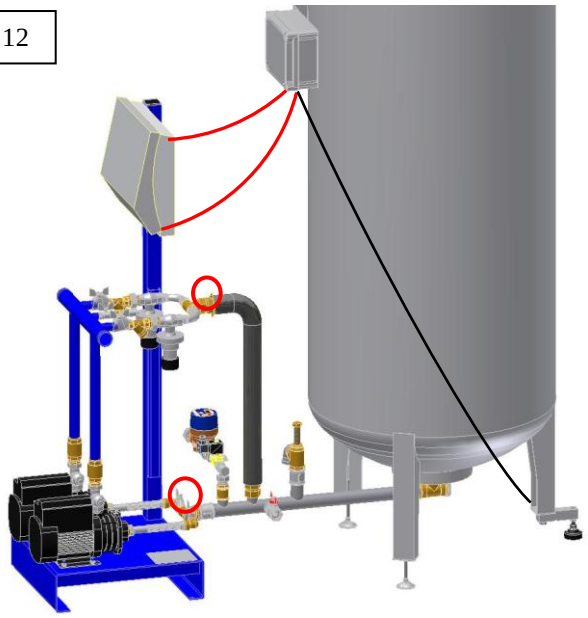
Do not obstruct the atmosphere elbow

Install the flow meter before the filling electro valve on the cold water inlet.

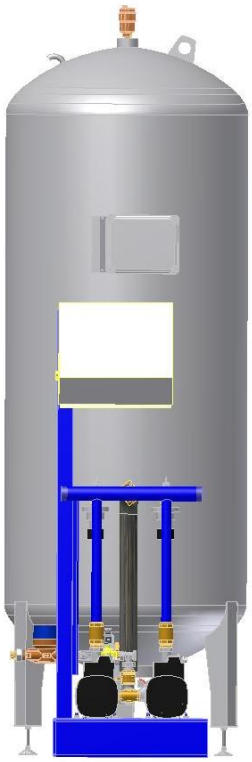
It is also necessary to install before the flow meter, a disconnector.

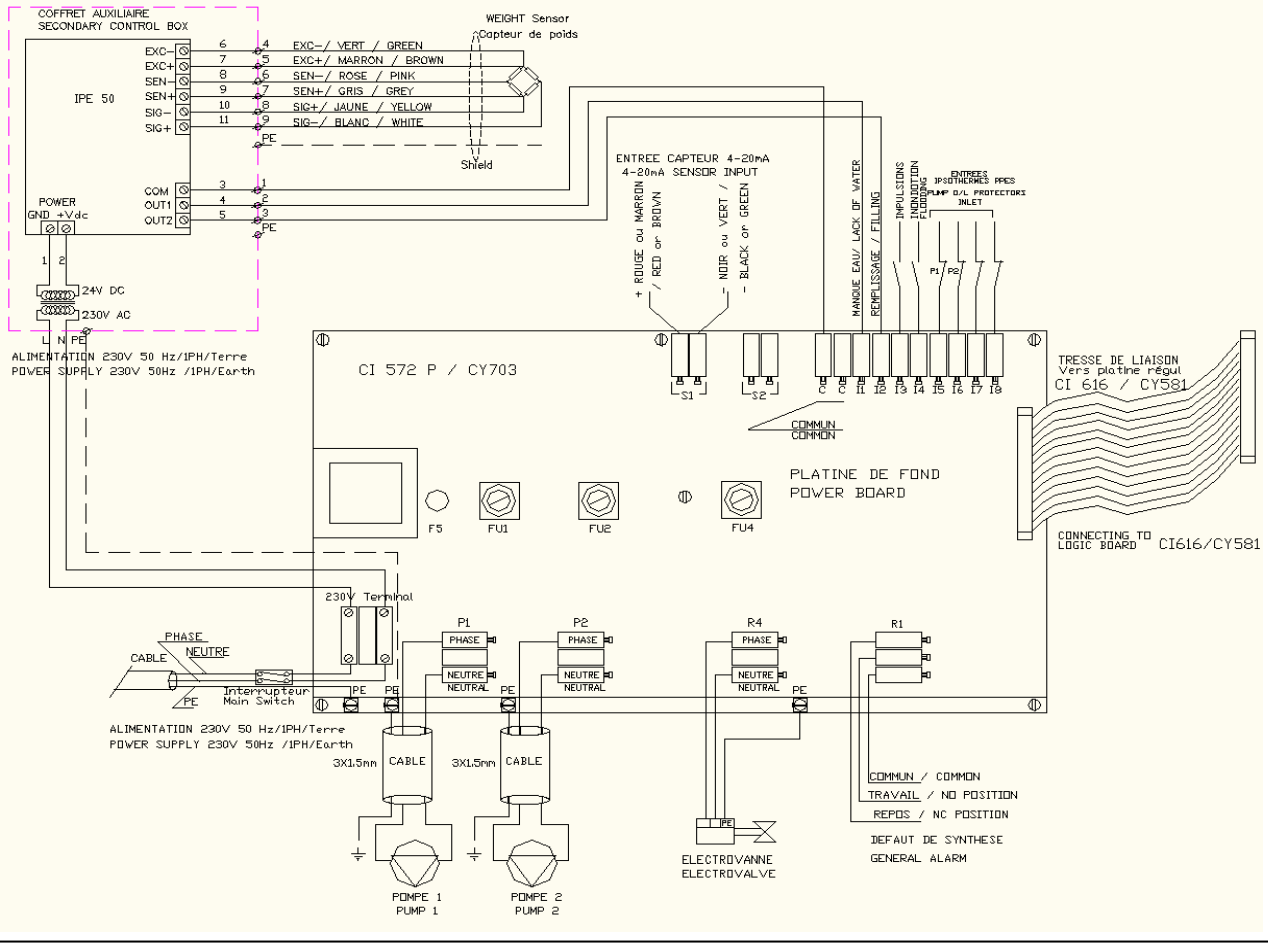
11

12



Now connect the pump unit to the collector on the bottom and on the flexible pipe on the upper connection.
The electric wiring is indicated in this manual. There are 2 cables to connect: main supply 230V + Earth and lack of water/low level contacts.





Read carefully this instructions manuals for commissioning the unit.

WARRANTY

Our equipment comes with a 12-month warranty from the date of shipment. This may be extended to 6 months from the date of commissioning of the equipment, subject to commissioning report being mailed to Alfa Laval. The warranty period is limited to 18 months from the actual date of shipment from the factory.

The manufacturer's liability is limited to the replacement of any defective part that cannot be repaired. No other financial compensation may be claimed in any case under the warranty

The nature and probable cause of the defect must be reported to the manufacturer before any action is taken. The defective part should then be returned to our Lentilly factory in France for assessment unless written agreement to proceed otherwise has been obtained from Alfa Laval. The results of the assessment can only state whether or not the terms of the warranty apply

Exclusional factors:
Non-compliance with the guidelines for installation, configuration and maintenance:
Over pressures, water-hammer, scaling, noncompliant water quality

Also excluded from the warranty:

- Fitting costs, refitting costs, packaging, transport, and any accessories or equipment not manufactured by Alfa Laval, which will only be covered by any warranties issued by said third-party manufacturers.
- Any damage caused by connection errors, insufficient protection, misapplication or faulty or careless operations.
- Equipment disassembled or repaired by any other party than Alfa Laval.

Defaulted payment will lead to all operational warranties covering the equipment delivered being terminated.

SPARE PARTS

Only replace any defective part with the **original** spare part. Please contact your local Alfa Laval agency.

How to contact Alfa Laval :
Our contact details are updated on our website www.alfalaval.com.