

HOUSEMEM Range AquamemR

04/2019 – V4

TECHNICAL INSTRUCTIONS AQMR2/R4

poly membrane
MEMBRANE MANUFACTURER



Contents

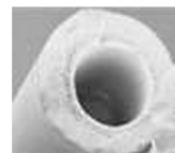


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I – SAFETY INSTRUCTIONS

- *Please read these technical instructions carefully.*
- *Please refer to the instruction manual prior to carrying out any service or repair action.*
- *Please refer to the equipment serial number at the back of your Aquamem R should you need to make a claim*
- *The maximum allowable operating pressure on an Aquamem R unit is 4 bars.*
- *The temperature of the water circulating through the Aquamem system shall be maintained between 5 and 35 °C.*
- *The system must be fully purged of air during its use*
- *Never attempt to service the unit, outside the working area, when the unit is operating. In case of any operating problem, disconnect the power supply to the unit. Then make sure, depending on the type of service action you intend to do, that the system is not under water or air pressure. Break the pressure and drain if necessary.*
- *Your unit is designed for use with single phase 240 Volts, 50 Hertz power and must be connected to a mains power socket. This connection must be made with a 3G1 power cord + 230V, 16A plug.*
- *Any other connection to a different voltage or frequency may cause a safety hazard and may permanently damage your machine*
- *Never let the membranes to dry-out*
- *Never store the modules dry.*
- *The unit shall always be stored in areas that are protected against freezing temperatures.*
- *The Aquamem R is not designed to be shut down for extended periods of time. Please consult your distributor if you wish to stop using the unit for extended periods of time.*
- *Handling, repair, inspection, assembly and disassembly shall be performed in accordance with the instructions contained in this manual and with the appended manufacturer's instructions Otherwise, the POLYMEM warranty shall be ineffective and shall not apply.*
- *POLYMEM disclaims any liability for human-related incidents and/or any damage to equipment, caused by the non-observance of the instructions given in this manual.*
- *POLYMEM inspects and tests all its equipment prior to dispatching (certificate of compliance in appendix), Please contact your distributor if you wish to make a claim.*



II – Introduction

II.1 – Ultrafiltration on membranes: a revolution for water treatment.

Ultrafiltration was firstly developed in the 70's for treating liquids, specifically for the dairy industry.

Due to strong drinking water demand and growth, hollow fibre membrane ultrafiltration is now clearly recognised as a clean, efficient and inexpensive technology to produce potable water and process water.

It often replaces more conventional water treatment processes as well as microfiltration on account of its ability to eliminate not only small particles in suspension but also pathogenic bacteria including

micro-organisms, viruses, pyrogens and some dissolved organic species.

Moreover, membrane technology does not require the addition of chemicals to compensate for turbidity variations that may occur at the different seasons of the year. Ultrafiltration is a purely mechanical filtration process that does not generate any by-products and can treat any quality of water with the same clarifying action – removing bio contaminants

Ultrafiltration (UF) membranes are used for retaining suspended solids (turbidity), algae, Cryptosporidium, Giardia, coliforms, bacteria and viruses. Reducing turbidity to less than 0.2 NTU (and more generally to less than 0.1 NTU) is maintained regardless of the quality of the water treated.

II.2 -Ultrafiltration in a few words

Membrane

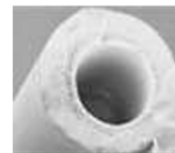
A hollow fibre membrane is a small plastic tube less than one millimetre in diameter and several tens of centimetres long, featuring a porous wall. The pores of the S2 Polymem membrane are $0.01\ \mu$, or 10,000 times smaller than the diameter of a human hair

Suspended matter, especially micro-organisms and viruses are totally retained on the outer surface of the fibres.



Modules

Polymem ultrafiltration cartridges are made-up of thousands of these small tubes (known as hollow fibres), thus offering a very large filtration area capable of handling very large flow rates.



Low pressure process

Ultrafiltration is a filtration process where the pressure of the liquid to be treated (0 to 1.5 bars) constitute the driving force to push the liquid through the filter. The pressurised water enters the modules and the produced water (known as the permeate or filtrate) flows through the barrier that constitutes the membrane. The retained substances are captured on the surface of the membrane and are periodically backwashed thus eliminating them from the modules in a backwashing effluent.



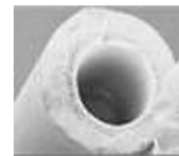
Backwash

At regular intervals, the flow of water through the membrane is reversed, and (prospectively chlorinated) filtered water backwashes the membrane. This operation, known as backwashing, is performed to maintain the permeability of the membranes.



II.3 - Ultrafiltration by Polymem

Polymem is the only membrane manufacturer to offer compact Ultrafiltration modules using Polysulfone membranes operating in an Outside-In-Filtration Mode, under pressure and with an aerated backwash.



The filtration modules and the membranes used were specifically developed for producing drinking water. Polymem Engineers have over **30 years of experience in drinking water treatment using hollow fibre membrane filtration** and have contributed to the development of the first drinking water production plants using with this technology.

Polymem, an independent company which has today more than 18 years of existence, is located in Toulouse (France): **Polymem membranes, modules and system are entirely made in France.**

The hollow fibre membrane manufactured by Polymem has two main features:

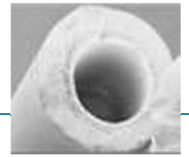
Polysulfone: this material is used for manufacturing the Polymem hollow fibres and is resistant to chemicals (chlorine, caustic soda, acids and other common cleaning agents), it's biodegradable and features excellent mechanical and thermal resistance.

Double Skin: the hollow fibres feature on both surfaces, (outside and inside surfaces) a thin layer (or skin) with very fine pores. These layers and their fine pore size provide for a high filtration rate ($0.01 \mu\text{m}$ – i.e., a cutoff point of 100,000 Da for the S2 membranes provided for here) whereas the internal structure featuring larger pores ensures the high permeability of the fibre.

Practical Benefits:

- **Two successive filtrations through the two skins.**
- **Excellent permeate quality: retention of suspended solids (SS), bio contaminants (bacteria, viruses) and large organic molecules.**
- **No risk of in-depth fouling (neither during filtration nor during backwashing).**





II.4 – Outside/inside filtration

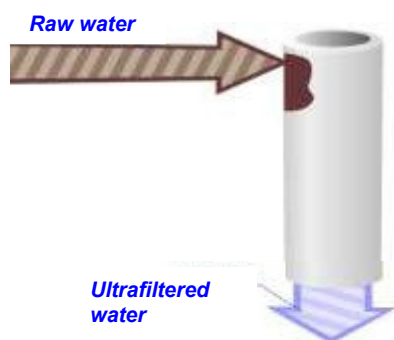
In Outside-In filtration mode, the raw water flows through the Outside surface of the hollow fibre membrane and flows out from the Inner Surface of the membrane.

This mode of filtration allows to make use of a filtration area about twice as large as the inner surface area of a membrane of same dimensions.

In addition, the particles that are retained on the outside surface of the hollow fibre will be easily cleaned out during the backwash (flow of filtered water in the opposite direction of filtration to wash out the membrane pores).

In an Inside-Out filtration mode, the cluster of particles inside the hollow fibre is far more difficult to eliminate; more water is used for backwashing and the backwash operation is longer.

In the event where there are pesticides in the raw water, the addition of powdered active carbon as a pre-treatment is recommended to absorb these pesticides. The particles of activated carbon and absorbed pollutants are retained on the outside surface of the hollow fibre membrane and will be easily removed with the suspended solids during the backwash operation.



Practical Benefits

Compact and inexpensive modules: 114m² of filtration area for a 315mm in diameter and 950mm high UF 120 module

Reliable and efficient systems with no risk of blockage of the membrane pores.

Possibility to inject powdered active carbon for pre-treatment without any risk of clogging the hollow fibre membrane pores and without increasing the cost of the unit.

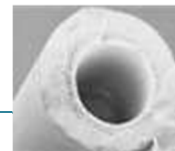
Dead end filtration

Polymem filtration modules for water treatment are made up of bundles of hollow fibres.

Each of these bundles contain 3 500 fibres (6m² of filtration area) which are sealed at the top and bottom of the module. Each of these bundles are sealed at the top and bottom of the module, the fibres are blocked on top (raw water supply side) and open at the bottom to allow the filtrate to flow through.

The dead-end Outside-In filtration modules are made up of these single units and operate with one inlet (raw water) and one outlet (filtrate). They are also fitted with air diffusers in between the bundles. Some phases of the backwashing operation involve air scrubbing: thus, this injection of air allows to shake the fibres for optimum cleaning.





Practical Benefits

- **Simplicity of the process: dead end mode with modules having only one entrance and one exit, working at low pressure with injection of raw water and air (as simple, more compact and 500 time more efficient than a sand filter).**
- **Water/air backwashes are efficient with less water consumption**
- **Installation requires less pipework as the modules only have two connections (Inside-out crossflow filtration, requires 3 connections).**
- **Easy maintenance: easy visual defect detection, easy and quick detection and repair of leaks on one side only of the hollow fibre).**

Accreditations

List of accreditations for the ULTRAMEM range of UF filters (UF120, 80 and 100):

- ACS (French Ministry of Health)
- NSF ANSI 61 (National Sanitation Foundation and the American National Standards Institute)
- TEV / EPA
- CDHS

II.5 - Summary of Polymem ultrafiltration system features

The use of a Polymem continuous ultrafiltration system for water treatment has the following advantages:

- The quality of the filtered water is consistent regardless of the variations in the raw water.
- Peaks of turbidity exceeding 500 NTU are reduced to values of less than 0.2 NTU (typically <to 0.1 NTU).
- The SDI of the ultrafiltered water is less than 3 (typically < 1).
- The quality of the filtered water is consistent regardless of the settings used in operating the unit.
- The retention of all bacteria and viruses is accomplished in only one step.
- The filtration is a “mechanical” filtration that does not require the addition of chemicals.
- ‘Dead end filtration’ provides for a simpler system and easier operation.
- Backwash wastewater is kept to a minimum as there is no addition of chemicals.
- Backwashing generates only the solid particles retained during filtration and low concentrations of chlorine injected during this operation.
- The volume of water used to backwash is generally between 2 and 10% of the volume produced.
- Manpower is minimal due to the stability and automation of the system.

III - Operating a UF POLYMEM Aquamem R unit.

III.1 – Process

The type and number of modules on an Aquamem R unit depends on the required flow rate.

The production capacity depends of the temperature and quality of the raw water.

Aquamem R units are designed to operate in a stand-alone mode.

Each unit is controlled by a PLC and works in automatic mode with the possibility of performing a manual backwash when required.

The Aquamem R unit operates on a two cycle basis: a treated water production cycle and a backwash cycle (cleaning of the membranes by counter-current washing of the filter).

There are 2 Aquamem R operating modes.

_ The “AUSTRALIAN” operating mode where backwashing occurs by selecting a set period of rotation (by default: the backwashing time changes every day by 1hour)

_ The “EUROPEAN” operating mode where backwashing occurs once a day at a fixed time (by default: every day at 2:00 am)

Changing from one mode to another is achieved by changing the electrical connection (refer to section V.2)

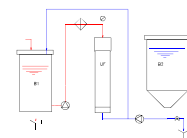
The Aquamem R unit mainly includes a pre-filter, a number of POLYMEM modules and an electrical enclosure.

The different operating steps

Production

Raw water supplied from city mains or from other sources is connected to the inlet valve and flows through the pre-filter prior to flowing through the POLYMEM modules.

During filtration the water flows through each module simultaneously.



Backwash

The Backwashing operation allows to regularly clean the membranes in order to maintain a good filtration performance.

The backwash is carried out by counter-current washing the filter.

Modules are backwash one after another.

The Aquamem R uses the filtered water contained in one or more modules to backwash

the next module(s) by use of the solenoid valve. The used backwash water is discharged as waste or to sewage.

There are two backwashing mode:

The Automatic backwash operating mode which is triggered at a set period of rotation ('AUSTRALIAN' mode) or at a fixed time (say at 2:00 A.M. 'EUROPEAN operating mode')

A forced backwash can be activated by the operator by turning the power off and on if required (e.g., due to a loss of filtration rate).

Monitoring Pre-Filter Fouling

The pre-filter is used to remove large particles in suspension prior to membrane filtration and is useful to reduce membrane fouling. The state of cleanliness of the filter can be visually checked through the transparent filter housing.

Please change the filter when necessary.

III.2 – Equipment

*Prior to any service or repair action turn off the power supply and close the manual valves.
Then make sure that the unit is no longer under pressure and drain it if necessary.*

IV – Technical Data

The assembly corresponds to the P&ID diagram and assembly drawings AQMR-2-1V1 and STD-AQMR-4-1V1.

The Aquamem R4 unit is assembled on a 1.5mm stainless steel plate with all the equipment and the electrical enclosure.

Stainless steel plate

Dimensions (h x L x l): 1150 x 750 x 250 mm
Net weight: 30 Kg
Full of water: 40 Kg

Assembled components

*UF Modules
Pre filter
Solenoid valve
Manual valves
Electrical enclosure*

Assembly of the UF100LL modules:



Unscrew the top and bottom plugs

Unscrew the top and bottom plugs of the module, please take care as it is filled with a conditioning liquid (water + glycerine + sodium bisulphite).

- Drain the module
- Unscrew the top and bottom barrel unions (see photo below)
- Screw in the top and bottom male fittings onto the modules
- Clip the modules into the pipe clips and screw the barrel unions on

Electrical specifications

Power: 240V single phase - 50Hz
Installed capacity: 50 W

AquaMem R2/R4 Filter Operation

The Aquamem R is supplied with 2 or 4 UF100L hollow fibre dead end Outside-In filtration modules

Module specifications:

<i>Module:</i>	<i>UF100LL</i>
<i>Application:</i>	<i>Water ultrafiltration</i>
<i>Surface area:</i>	<i>7.5 m²</i>
<i>Number of bundles:</i>	<i>1</i>
<i>Flow range:</i>	<i>450 to 1650 l/h per bar</i>

the PVC pipe. Make sure that the water pressure is less than 4 bar.



Barrel union to be unscrewed (top and bottom)

V - Installation / 1st start up

V.1 – Recommendations

Handling:

Aquamem R units can be handled

manually. Installation:

The unit has been designed to be surface mounted and must be installed with the modules in a vertical position, using 4 Ø6 bolts to secure it to the wall.

The system must be installed where there is no risk of freezing.

Screw the manual valves (supplied) to the raw water inlet ① and to the treated water outlet ② (p12).

V.2 – Connection

Hydraulic fittings:

Please refer to drawing STD-AQMR-2 or STD-AQMR-4 (p18).

Operating:

- 1** Connect your water supply to the raw water inlet.
- 2** Connect the treated water to your drinking water supply.
Except initially when first commissioning (chapter V.5, p.12)
- 3** Connect your sewer discharge

Raw water inlet: Ø 3/4" manual valve

Treated water production: Ø 3/4" manual valve
Waste: Ø 3/4" (This fitting must be connected to a self-draining pipe).

The maximum feed water flow is set at 40 l/min
The minimum feed pressure is 2 bars. The maximum feed pressure is 4 bars.

The flow limiter (L1) is inserted in the PVC connection positioned just after pre-filter (F1).
For the 2 modules unit, the flow limitation is 20L/min (green part), already assembled.
For the 4 modules unit, the flow limiter is 38L/min (black part) supplied in spare parts.
If you add 2 extra modules to an Aquamem R2, change the flow limiter (replace the green one by the black one)

Electrical connection

Plug-in your device to the electrical outlet according to the electrical diagrams provided. Your unit has been designed to operate on a single phase 240 volts, 50 hertz power source and must be plugged to a mains power outlet.

In the 'EUROPEAN' operating mode digital input I1 is wired while in the 'AUSTRALIAN' operating mode, digital input I2 is wired. One can therefore change from one mode to the other by moving the cable from one input to the other, when power is OFF



V.3 – List of supplied equipment

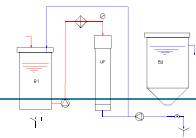
- Manual valves (x2)
- Pre-Filter cartridge F1 (x1)
- Pre-Filter Spanner F1 (x1)
- Male fittings 3/4" (x2)
- Flow limiter 38L/min (black) (x1)
- 1 roll of Teflon tape (seal: 15 turns clockwise)

V.4 – Cleaning

When the unit is dirty, clean it with a soft and dry cloth, if necessary, use a soft and moistened cloth with soapy water followed with another cloth soaked with clean water.

Dry immediately with dry cloth.

Never use benzene, aerosol cleaners, thinner acetone or other volatile cleaning product that could dissolve plastics.



V.5 – Fitting the modules

The modules are factory assembled and packaged with a conditioning solution (glycerine + bisulphite so that in a confined atmosphere, they do not dry out)

In case of change or if adding modules, please proceed as follows:

Prior to using the Aquamem R unit, drain out the conditioning liquid contained in the module.

The module must be in a vertical position with the raw water inlet facing up. The module is connected as follows:

- Raw water inlet:
Threaded fitting 1/2",
- Filtrate outlet: Threaded fitting 1/2".

V.6 - Initial start-up



Always observe the order of opening and closure of the valves.

- Insert filter in the pre-filter F1 housing and secure the filter housing using the supplied filter spanner. Open and close the filter thanks to the supplied key.
- Check the device is connected. Switch on (Circuit breaker ON).
- Adjust time (see p20).



The modification of any other parameters cancels the POLYMEM warranty.

- To exit press **ESC** 3 times, to display the “date and time” screen. Then press **▲** to until « PRODUCTION » appears on the screen.

When using the unit for the first time, it is necessary to flush out the conditioning solution out of the ultrafiltration modules by proceeding as follow:

- 1 - Switch off the power supply: switch in OFF position (in the electrical box)
- 2 - Connect the filtrate water outlet ② to the sewer (or to waste) to flush the rinsing solution during one hour (1 hour) out to waste in order to completely rinse-out the potable water line. The “Raw water” and “Waste” connections remain in position.
- 3 - Open filtrate water manual valve (MV2) ② **first** then raw water inlet valve MV1 ①. Purge the air out of the pre-filter if necessary, by unscrewing the air purging screw located on top of the filter (to release any air trapped in the filter).
- 4 - Switch the circuit breaker to ON.
- 5 – The backwash cycle should start automatically, then let the system run for one (1) hour to flush the water to waste.
- 6 After one hour, close MV1 then MV2 and put the pipes back in the intended operating configuration. That is, connect the filtrate outlet to the point-of-entry of your drinking water supply.
- 7 - Re-open MV2 then MV1.
- 8 - The system is now operational. Text appears on the screen, indicating the current cycle.

V.7 – Troubleshooting Table



Prior to any service or repair action, check that the power to the Aquamem R is switched off. POLYMEM inspects and tests all its equipment prior to dispatching, please consult your distributor if you wish to make a claim.

Malfunction	Possible cause	Solutions
The PLC LOGO doesn't switch on, screen is blank	The system is not powered. The program is lost.	Check that your unit is connected to power Check that the circuit breaker is ON. Contact your retailer.
The Aquamem R unit is not filtering any water	The system is not powered. The PLC program is unloaded. The manual valves are closed One or more solenoid valve(s) are not working.	Check that your unit is connected to power Contact your retailer Check they are properly open. Contact your retailer for replacement.
There is only little or no flow	The manual valves are not in the correct position. The pre-filter cartridge is dirty. Modules are dirty. One or more solenoid valve(s) are not working.	Check they are correctly opened. Contact your retailer. Contact your retailer. Contact your retailer to replace it.
Water leaks detected after changing the cartridge pre-filter	The filter housing is not properly assembled. The pan gasket is not properly lubricated. The seal is broken or deformed	Check the filter housing and/or tighten more (with a spanner if required). Lubricate the seal. Change the seal.
Water tastes « sweet »	Modules are not properly flushed out.	Flush the filtrate to waste as instructed in chapter V5 for 20 minutes.
There is one or more leaks.	Dismantle and reassemble one or more component(s).	Dismantle and reassemble following the manufacturer's instructions. Check the seals.



VI – Operating data

VI.1 – Operation

The Aquamem R POLYMEM UF100LL unit is designed to work automatically using a PLC.

The operator may trigger a backwash by using the arrow keys on the PLC (ESC + ◀)

You can change language any time by using the arrow keys:

_ French language: ESC + ▲

_ English language: ESC + ▼

Reloading the program from a memory card back up.

When storing and switching the unit OFF for too long a period, there is a risk of losing the program that runs the unit automatically.

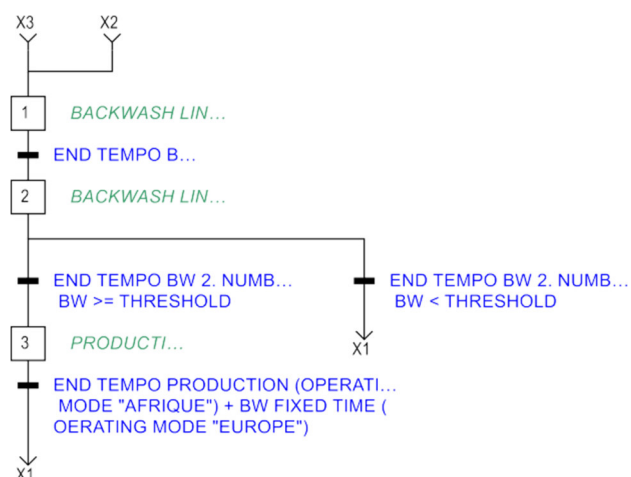
TO OFFSET THE RISK OF LOSING THE PROGRAMME, IT IS RECOMMENDED TO LEAVE THE DEVICE CONNECTED TO MAINS POWER AND TURNED ON.

If the installation doesn't start after running basic checks, check timings, if PLC indicates NO PROG, the program has been lost and it is therefore necessary to reload it. Should you need to do this please contact your retailer.

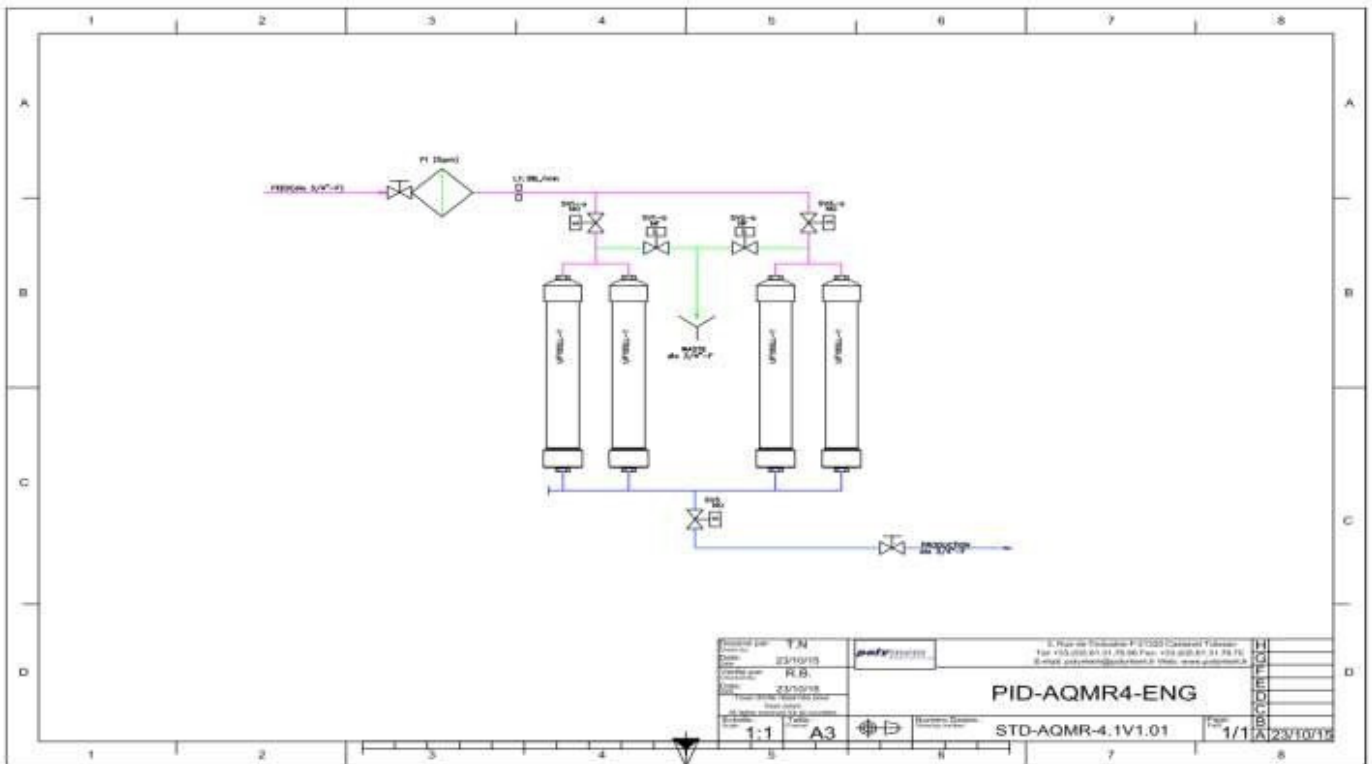
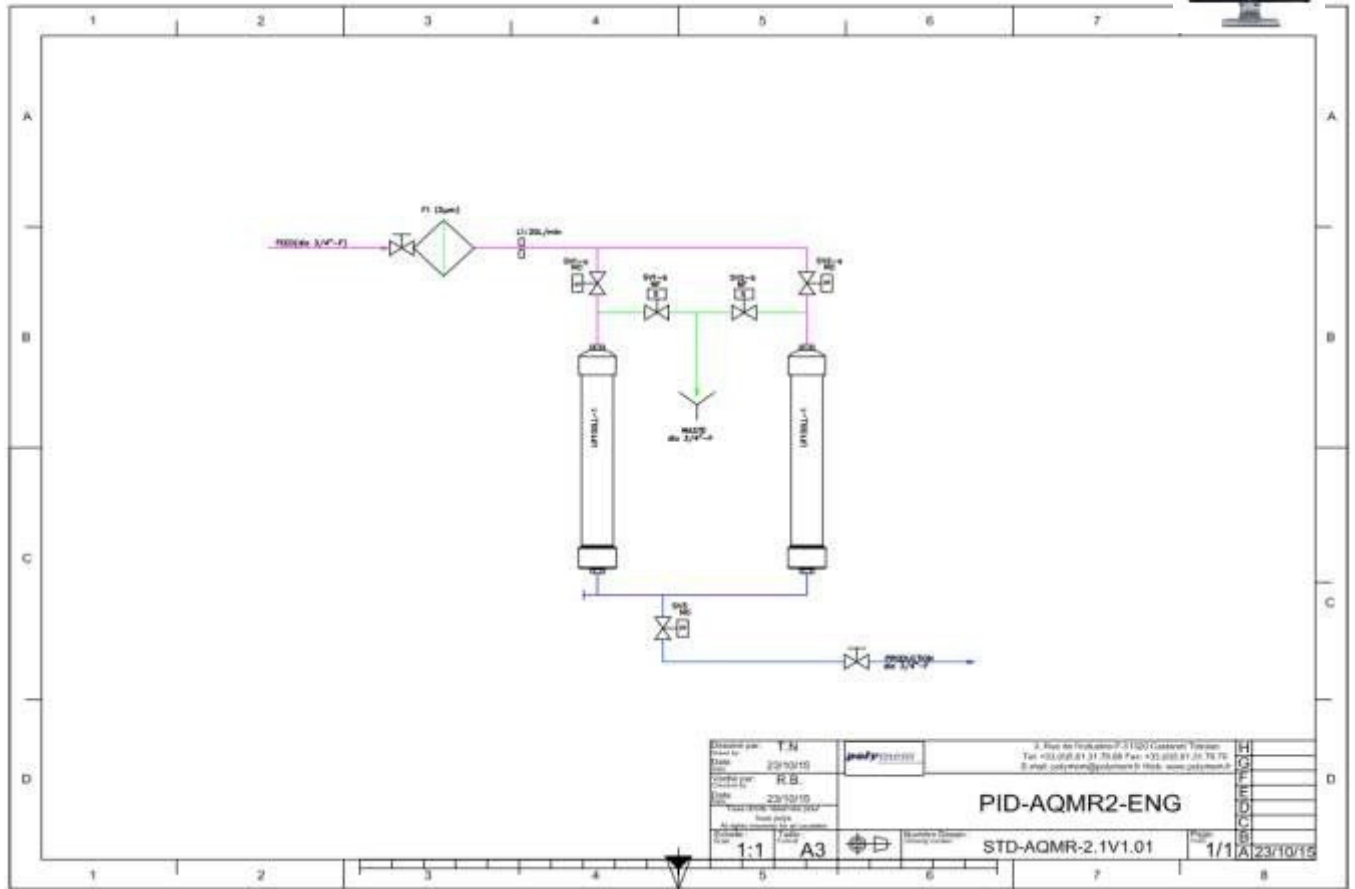
The grafcet functions, the P&ID, the assembly drawings and the bill of materials are shown below.

The screen displays are shown in the following section (VI.2)

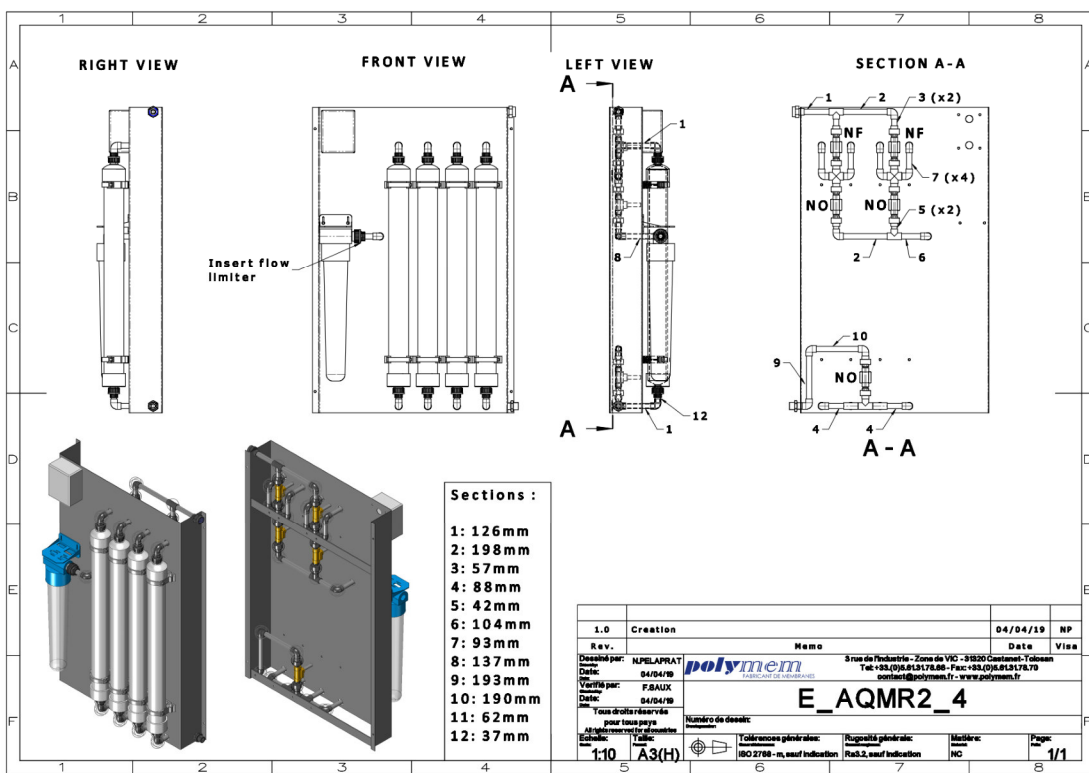
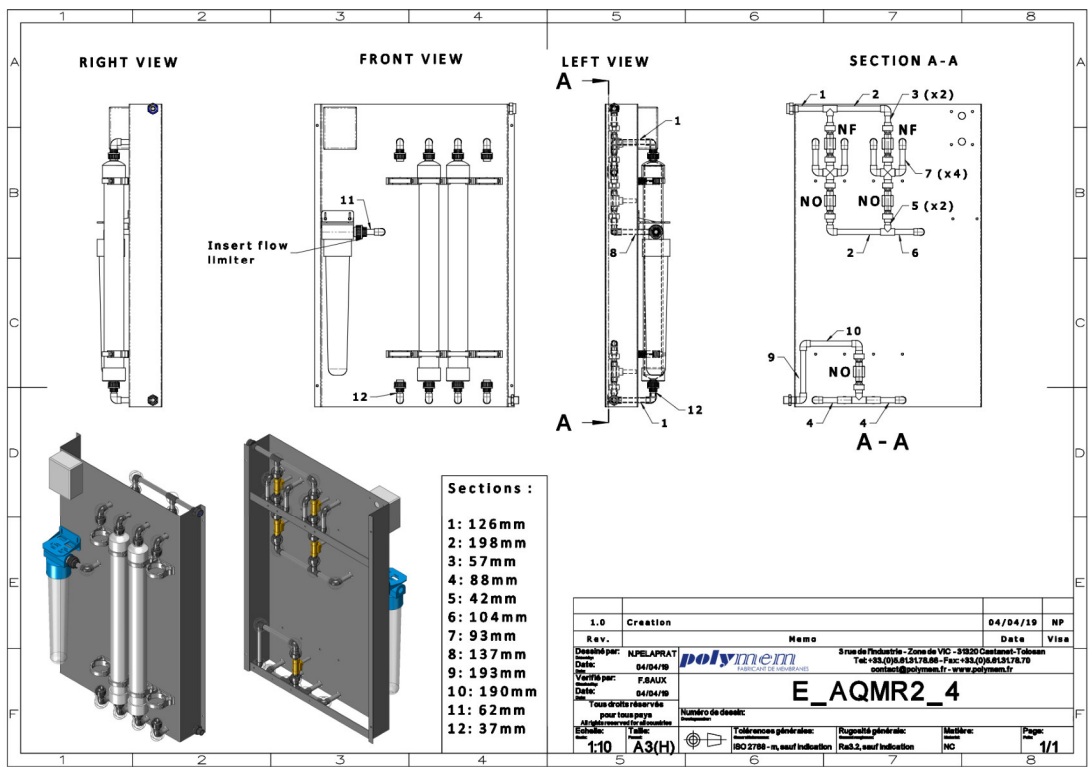
Grafcet



Aquamem R2 and R4 P&ID



Aquamem R2 and R4 General Layout





AquaMem R Bill of materials

Supplier	Part N°	Description	Unit	Qty
Rexel	01306	Terminal box cover 6 modules Legrand	1	1
	04840	Terminal block IP2x4 holes	1	1
Amazon		SIM micro card 8GO	1	1
FPIA	C9020	Elbow 90° Ø20	1	20
	T9020	Tee 90° Ø20	1	5
	CROIX20	Cross Ø20	1	2
	ET25203/4	Tapped end 25/20x3/4"	1	1
	EF25203/4	Threaded end 25/20x3/4"	1	1
	RUM20M	Barrel Union 3P 20x1/2"	1	18
	RUM25M	Barrel Union 3P 25x3/4"	1	1
	608575	Clip D 75	1	8
	608520	Clip D 20	1	2
	608525	Clip D 25	1	2
	RS2520	Plain reducer 25/20	1	1
	TUBPVCCP1520	PVC Pressure pipe Ø20 PN 25	1	2
	35002	Valve ¼ turn ¾"	1	2
	36002	Valve ¼ turn ¾" with bleed	1	2
Aquafiltres	2200441	Filter housing 103 20" ¾"	1	1
	2700199	Plastic spanner	1	1
	2700255	Support bracket without fasteners	1	1
	4100420	Filtre 20PA1	1	1
ESO	6ED10521FB000BA8	LOGO 230RC, 8E/4S TOR, 200 BLOCKS	1	1
	ABB470236	2CSS245102R0104 – DISJ. PH:N SN20116C10:4.5 KA	1	1
BANOS	AQMR4	S.S. Plate to fit 4 Modules	1	1
AVF	H443779W	Solenoid Valve EV 7321 BAN00 2/2 NF ½ NBR 443779W	1	2
	H443806W	Solenoid Valve EV 7321 BAN00 2/2 N0 ½ NBR 443806W	1	3
	H48118653D	Coil 4818653D 220V 50Hz 8W	1	5
	HC18209N21	Connector C18209N21 BOB A80	1	5
NETAFIM	MM34	NIPPLE 3/4M X3/4 M M	1	1
	BM34	PLUG ¾" M	1	2
	BF34	PLUG ¾" F	1	1
Polymem		Raja Pallet Box + Cover	1	1

VI.2 –PLC Screen

PLC Settings



At power up, press ▼ and **ESC**.

The following menu appears on the screen:

STOP (Program stop) **Do not modify**
SET PARAM (time adjustment) **SET**
CLOCK (date/hour adjustment)
PROG.NAME

Press the arrows ◀ or ▶ or ▲ or ▼ to select the value to edit.

Validate by pressing **OK**, in each menu go to the next (previous) parameter by pressing ▼ (▲).

➤ Menu **SET PARAM**:

T1: RL/BW L1: backwash line N°1
T1= 60 seconds (factory default)

T2: RL/BW L2: backwash line N°2
T2= 60 seconds (factory default)

PROD (AF): Setting time between each backwash sequence (in **“AUSTRALIA”** operating mode only)
>PROD (AF) = 1 hour (factory default)

B012-1: H RL/BW days and time of backwashes (for **“EUROPE”** operating mode only)

D = MTWTFSS = days when backwash occurs from Monday to Sunday
ON = time backwash starts
OFF = time backwash stops.

Always leave at least 1 minute between start and stop of backwash.

As per factory default, backwash occurs at 2 :00am every day.
To delete one daily backwash, press on ▲ or ▼ when cursor is on the selected day.

B012-2, B012-3 and b012-4 are not used. Do not modify these parameters.

NB RL/BW: number of backwashes at each cycle B010 = 00001 (factory default)

➤ Menu **SET...**:

CONTRAST: adjust the contrast on the screen

STARTSCREEN: **DO NOT MODIFY.**

CLOCK ⇒ SET CLOCK: adjust day, date and time.

CLOCK ⇒ S/W TIME: **DO NOT MODIFY**

CLOCK ⇒ SYNC: **DO NOT MODIFY**



Modification of any other parameter than time and date (SET CLOCK) shall cancel the POLYMEM warranty.

To continue the start-up, return to chapter V5 (page 12).

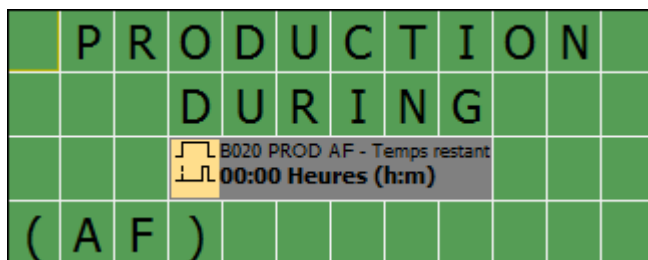


Cycles

To start the filtration cycle, switch the breaker on « ON », the cycle is displayed on the PLC screen.

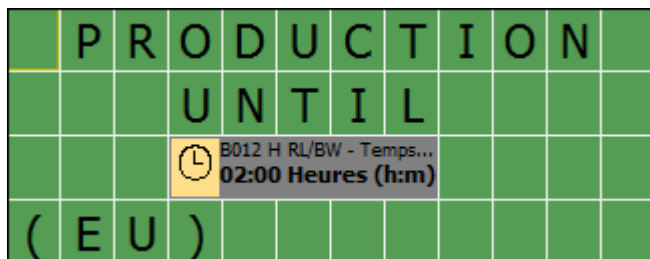
To start backwash mode, press on **ESC** then on ◀ while holding down **ESC**.

Production



Production screen in "AUSTRALIA (AF)" operating mode

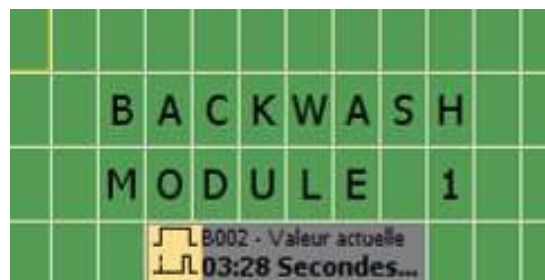
The production cycle is continuous and the backwash cycles are adjusted according to the time setting under PROD AF



Production screen in "EUROPE" operating mode

The production cycle is continuous and the backwash occurs at a predetermined time.

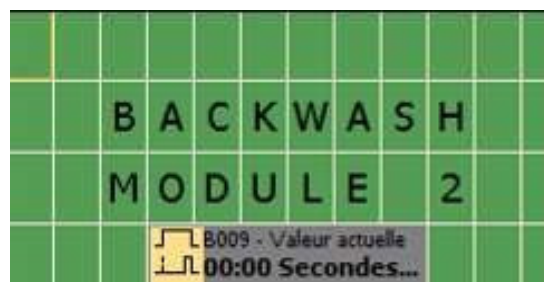
Backwash line 1



T1: Backwash timer (module 1)

After line1, the backwash starts on line 2.

Backwash line 2



T2: Backwash timer (module 2)

After the backwash cycle, the production cycle restarts



VII - Stop



Aquamem-R is not designed to be shut down for a prolonged period of time.

To stop the device, close MV1 then MV2 and cut off the power using the breaker. (OFF).

Aquamem-R must be stored empty of water and clean.

Disassemble and fill the modules with a conditioning solution (see hereunder).

The unit is sensitive to freezing temperatures, please make sure to thoroughly drain the unit prior to storage.

Make sure to switch the power off if you plan not to use the Aquamem R unit for an extended period of time.

Never let the membranes dry: they must be stored with a conditioning solution.

Never store the modules dry.

Modules conditioning

Fill in the modules with 50% (in weight) of UF water. During a « long » stop of the installation, longer than 1 week, it is necessary to repack the membranes.

VIII - Technical Documentations

- Filter F1
- Solenoid valves
- Flow limiter
- PLC

- Electrical drawing
- Certificate of Compliance

The ultrafiltration modules are accredited:

- NSF / ANSI 61
- ACS
- ETV / EPA

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