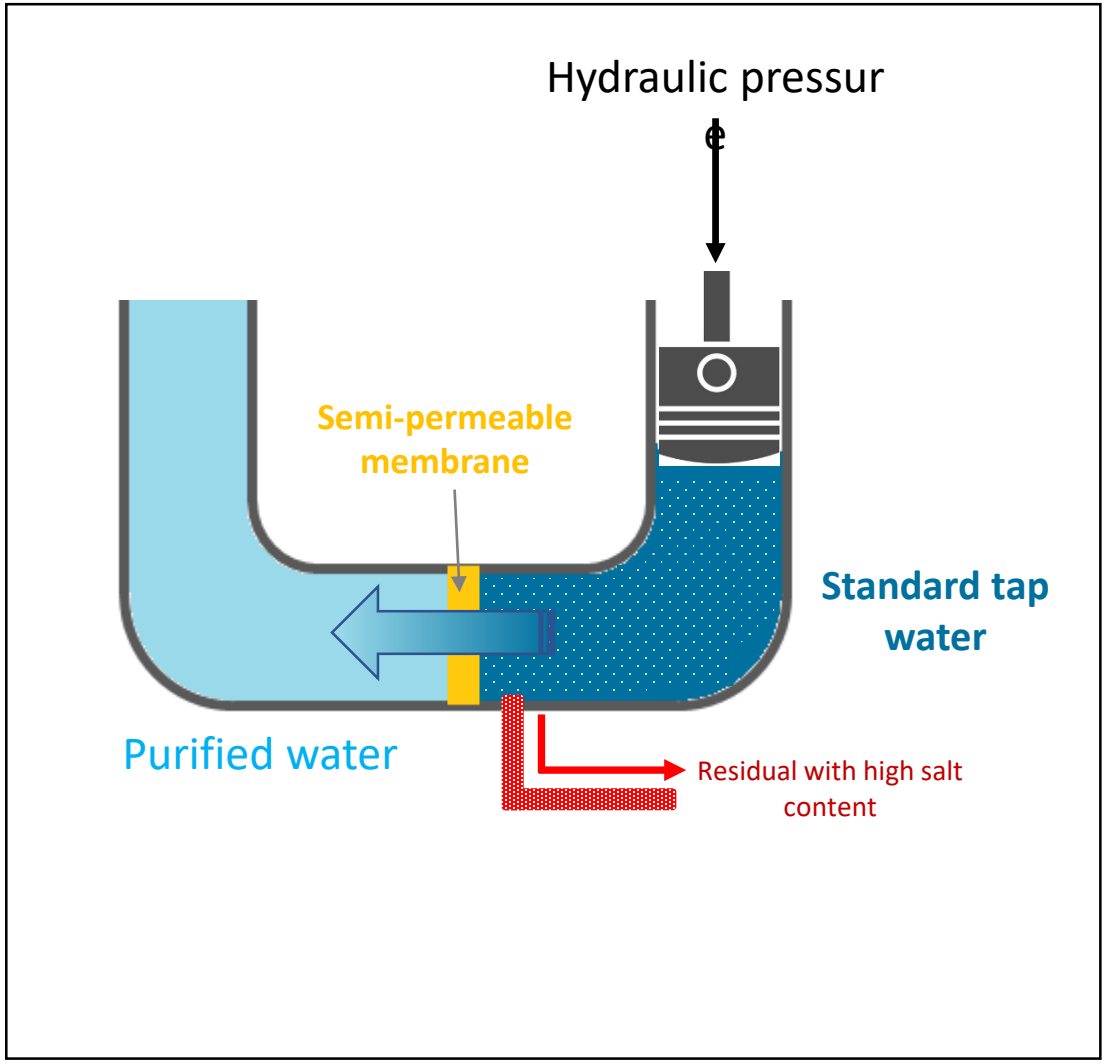
REVERSE OSMOSIS FEATURES AND BENEFITS

WHAT IS REVERSE OSMOSIS?

- **Reverse osmosis** is a water purification technology that uses a semi-permeable membrane to remove ions, molecules and larger particles from drinking water.
- To achieve reverse osmosis, pressure is applied to overcome the osmotic pressure.
- Reverse osmosis can remove many types of element suspended in the water, including bacteria, and is used in both industrial processes and for the production of drinking water.
- The result is that the solute is retained on the pressurized side of the membrane and pure solvent can pass through to the other side.



Source:https://es.wikipedia.org/wiki/ósmosis_inversa

MARKET REQUIREMENTS

The demands of discerning restaurateurs when washing glassware

- Fast drying
- Crystal-clear results
- Saving in labour and chemical products
- Avoid damage/breakage
- Prevention of Workplace Risks

THE CHALLENGE OF WASHING GLASSWARE

Effectively washing glassware is a challenge, as it depends on several factors:

Water Quality

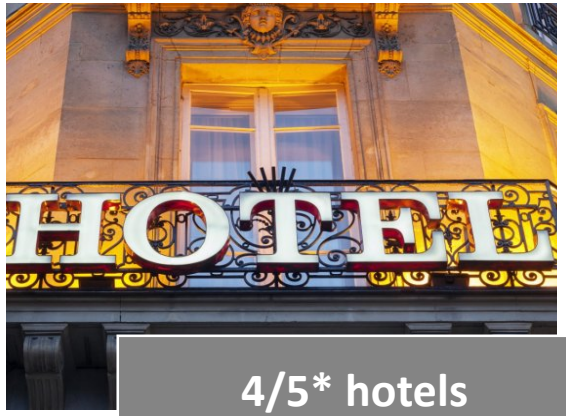
Dosage and quality of chemicals

Rinsing temperature

Water pressure

TARGET SEGMENTS FOR WATER TREATED BY REVERSE OSMOSIS

End-user segments that are demanding about their glassware finishes.



4/5* hotels

Wineries/ Cellars

High-end restaurants

Function rooms

Hospitality areas

Cocktail Bars

THE CHALLENGE OF WASHING GLASSWARE

*Traditionally, to achieve a crystal-clear finish, the glasses had to be **polished by hand** after washing.*

RISKS OF POLISHING THE GLASSES BY HAND

This is a manual process with inherent risks

- High labour-cost.
- Delicate job, glasses frequently get broken.
- It carries health and safety risks:
  - Cuts to the hands
  - Tendonitis
- Compromised hygiene: an unsanitary cloth is used to polish the glass.
- The process of washing the glasses is prolonged.

FUNCTIONAL BENEFITS

of washing with water purified by osmosis

Finish and hygiene

- Crystal-clean glassware.
- The washing is done with water that is free of bacteria and microbes.
- Subsequent manipulations that could contaminate the previously sanitised glasses are avoided.

Prevention of accidents

- There's no need to polish by hand, so cuts and muscle injuries are avoided.
- The possibility of glass breakage is limited.

Productivity

- Speeds up the drying process by evaporation
- The polishing process is no longer necessary, **saving labour and time**
- Avoids machine breakdowns due to build-up of limescale deposits

Saving in consumption of chemicals

- Detergent: 50% reduction in quantity used
- Rinse aid: minimum consumption.

TECHNICAL CHARACTERISTICS

of the Sammic reverse osmosis filter

Supplies **drinking water**

Recovery ratio: **25-60%**

Temp. Water In: **5 - 35ºC**

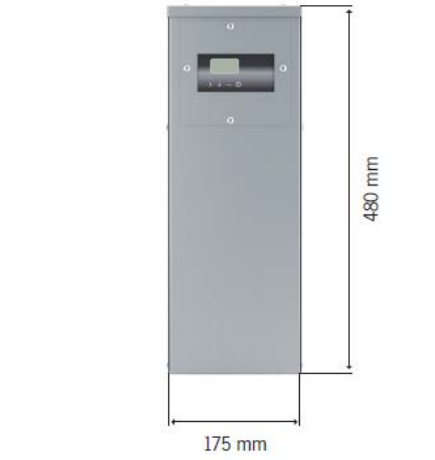
Production: **140 l /h** **at 15ºC**

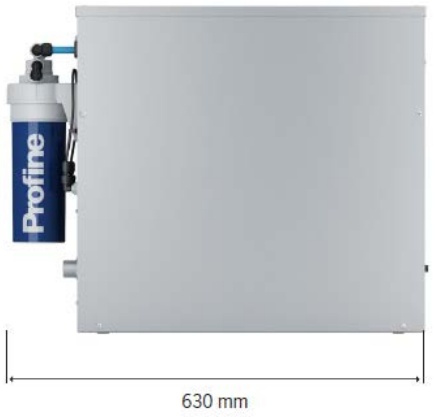
Output pressure: **2.0 - 4.0 bars**

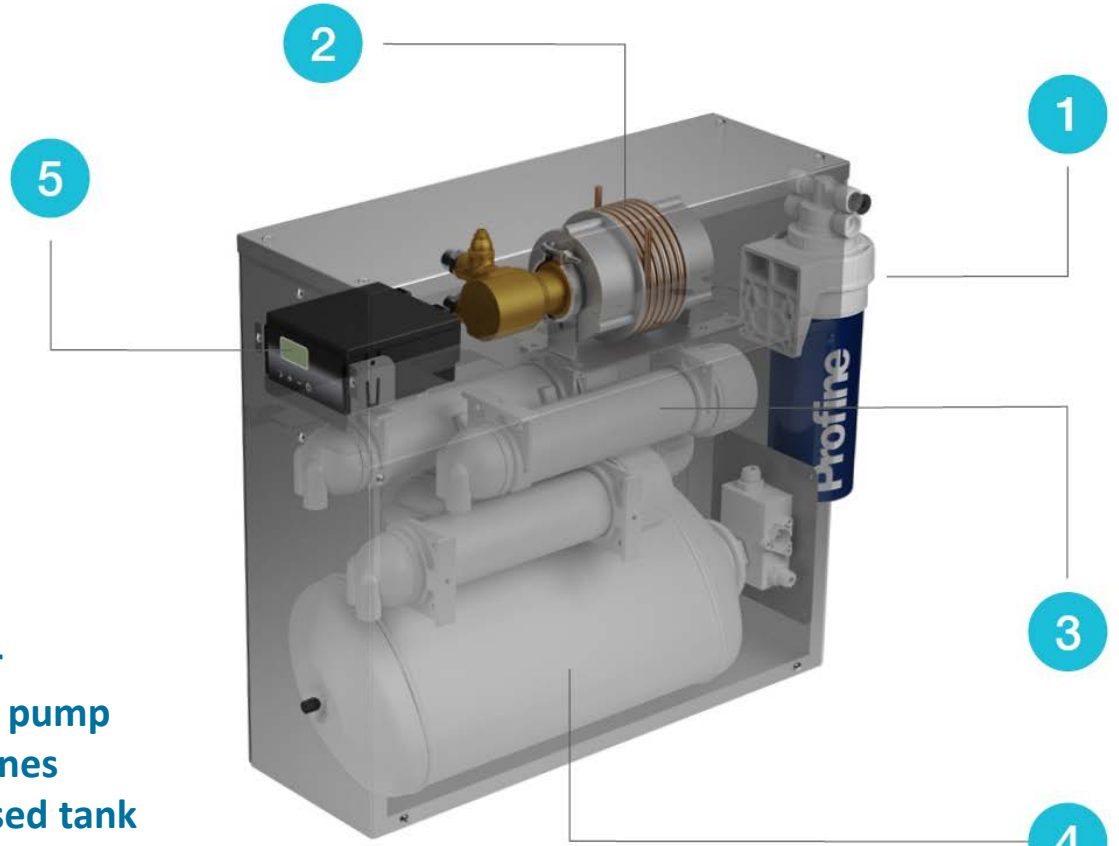
Instant volume: **4.0l**

TECHNICAL CHARACTERISTICS

of the Sammic reverse osmosis filter







1. Pre-filter
2. Pressure pump
3. Membranes
4. Pressurised tank
5. Circuit board

TECHNICAL CHARACTERISTICS

of the Sammic reverse osmosis filter

Electric connection	
Voltage	230 V / 50-60 Hz
Amperage	1.5 A
Power	330 W

TECHNICAL CHARACTERISTICS

of the Sammic reverse osmosis filter

Installation conditions	
Temp. input water	5 – 35ºC
Network pressure	1.5 – 6.0 Bars
Hardness	>30ºF*

*a preliminary water-softener stage must be installed

Production capacity	
Supply	140 litres / hour**
Instant supply	4 litres
Output pressure	2 – 4 bars
Recovery time	2 minutes

** Under normal conditions

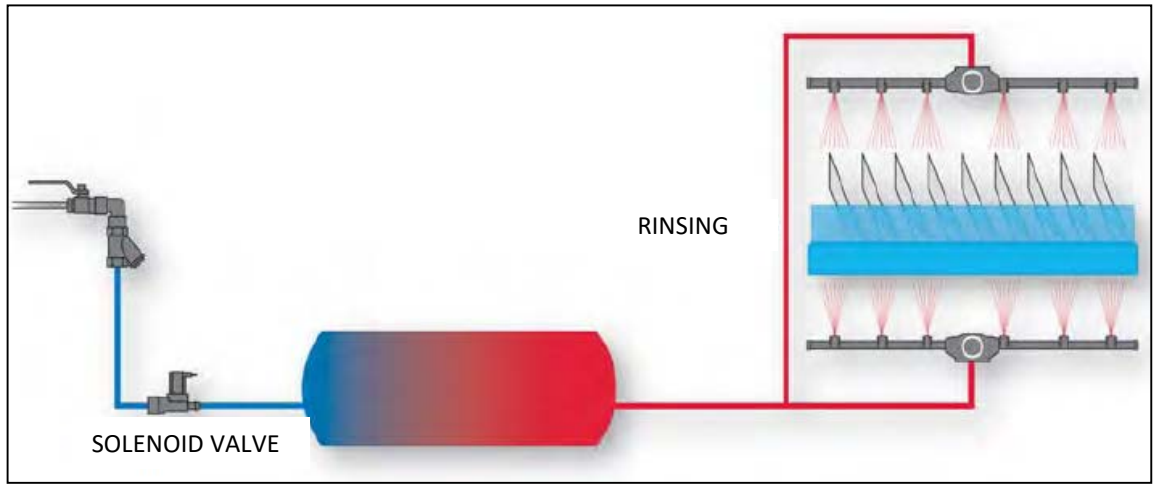
Therefore, the **minimum duration** of the programme to be used with the reverse osmosis filter should be **2 minutes.**

TECHNICAL CHARACTERISTICS

of the Sammic reverse osmosis filter

Compatible with:

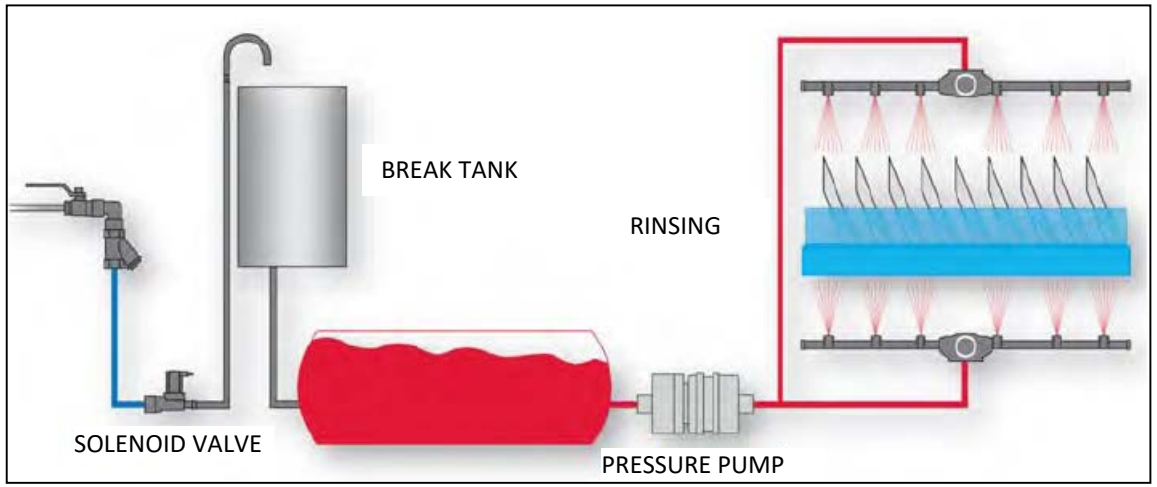
Boilers fed directly from the mains water supply



Compatible models

Glasswashers	P35, P41S, X35, X40, X/S41
Front-loading dishwashers	P50, X/S51

Boilers fed by a break tank



Compatible models

Glasswashers	-
Front-loading dishwashers	X/S61

INSTALLATION GUIDE

Installation of the Sammic OS-140P reverse osmosis purifier is quick and simple. Before connecting the osmosis unit to the water supply, it will simply be necessary to analyse the hardness and pH of the water in order to make the following adjustments to the installation process:

1. If the hardness is higher than 30ºF, a previous water-softener stage will be necessary.
2. Depending on the pH and hardness it will be necessary to select the type of capillary tube (see slide 16).

After performing these tasks, nothing else will be necessary. The machine will automatically regulate itself to obtain the optimum values for the water which permeates by osmosis.

INSTALLATION GUIDE

Installation diagram according to water hardness

If the hardness **<30ºF**

Osmosis water purifier

Input standard tap water

If the hardness **>30ºF**

Water softener

Osmosis water purifier

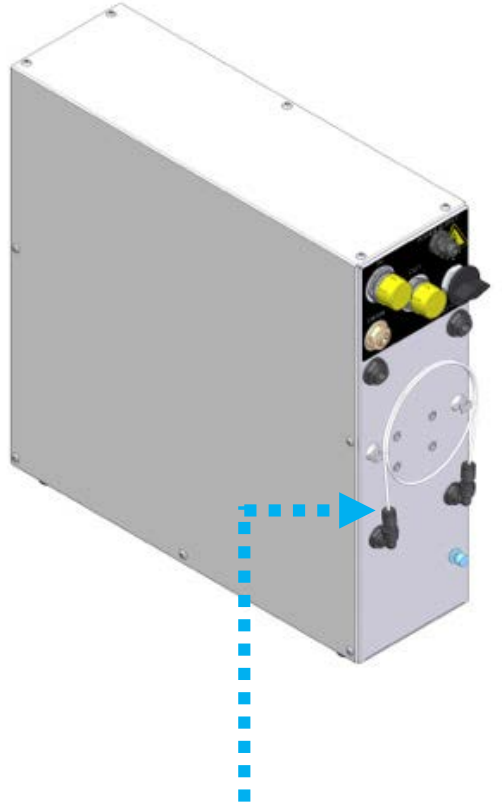
Output water purified by osmosis

Dishwasher

INSTALLATION GUIDE

Installation diagram according to water hardness

9,5	BLACK 110	WHITE 105	WHITE 105	SOFTENER BLUE 120
pH 8,5	BLUE 120	BLACK 110	BLACK 110	WHITE 105
7,5				
Hard. °dH	soft. 5	15	20	Hard. 25
°F	11	25	35	44



Capillary drainage tube

INSTALLATION GUIDE

Selection of chemical products and suggested dosage

What kind of chemicals should be used?

- Ideally detergents **specifically for water purified by osmosis**.
- If the soap supplier does not have a specific detergent, a **soft water formula would also be suitable.**
- In any case, it is not advisable to use products for hard water, as these can interact negatively with the water purified by osmosis, which is very soft. For example: foaming.

INSTALLATION GUIDE

Selection of chemical products and suggested dosage

How much should be used?

- Rinse aid: **minimum dose**, as the purified water evaporates easily due to its low mineral content.
- Detergent: approx. **50% of the dose** recommended for standard tap water.

PRACTICAL TIPS

For best results

- **Accelerate drying:** ideally use a constant **Tª model** (X/S61, X/S100C, X/S120C), as the items reach a higher temperature.

- **Crystal clear results:** **use the dishwasher exclusively for glassware**. If we introduce dishes or utensils, we will be contaminating the washing water with oils and fats that will leave traces on the surfaces.

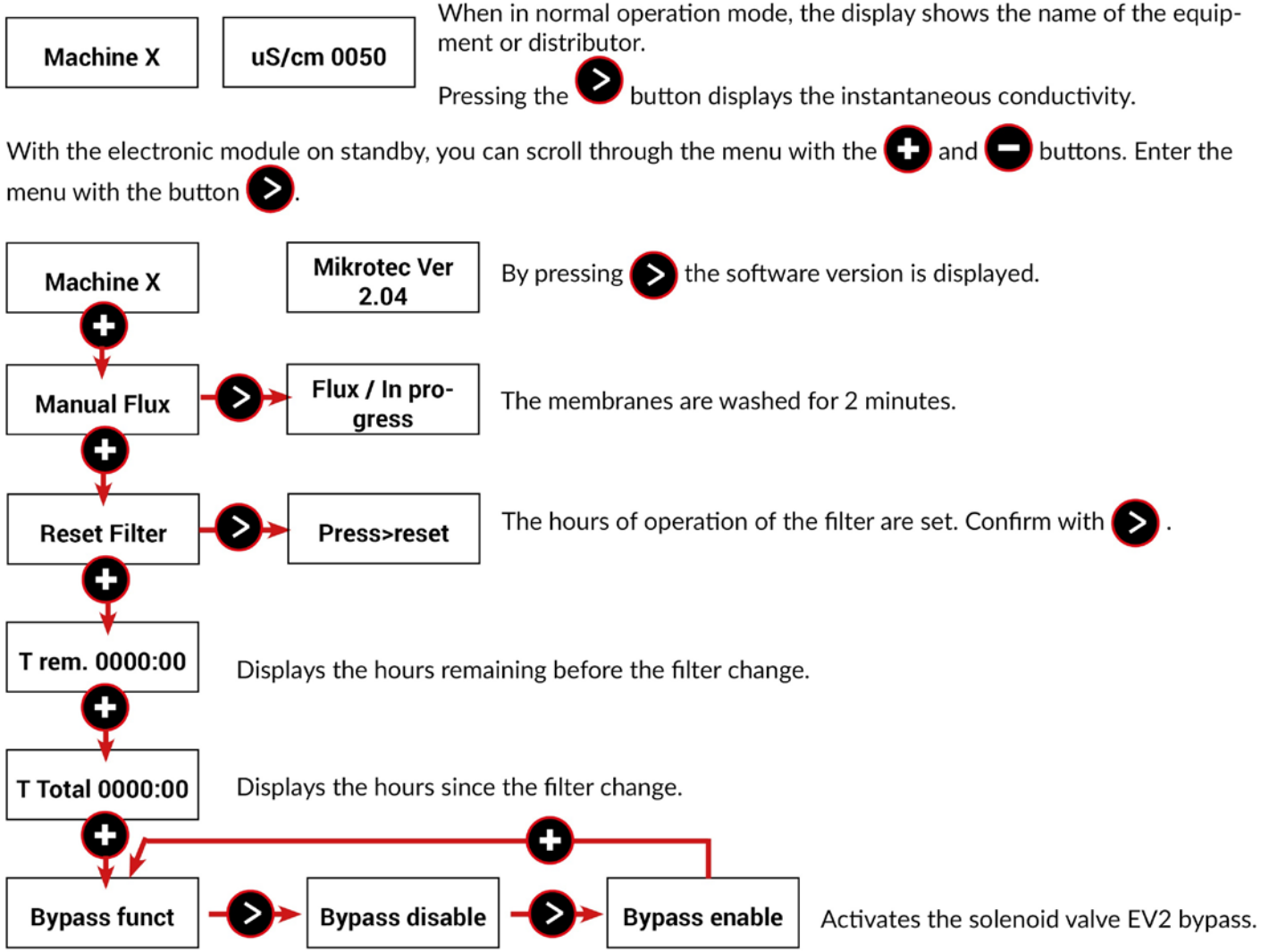
- Use inclined baskets made of plastic-coated wire: this improves the efficiency of the washing and rinsing process. In addition, the inclination of the baskets prevents stagnant water collecting at the base of the glasses. Thus, the amount of water which accumulates on the surface is reduced, accelerating the drying process of the glasses.

MAINTENANCE GUIDE

SERVICE CHECKPOINTS	
Daily	❑ Visual inspection to check the state of the machine. ❑ Absence of water leaks. ❑ Absence of corroded parts.
Weekly	❑ Check the number of accumulated working hours ❑ Check the remaining useful life of the pre-filter.
After 100 working hours	❑ Change the pre-filter
- When you change the filter **- After periods of inactivity greater than 3 months**	❑ Sanitise the osmosis membranes
After 2,000 working hours	❑ Pump and solenoid valve replacement
When you see: o Conductivity display alarm o The flow rate of permeate is reduced by 30%	❑ Replace the osmosis membranes (+/- 3 years)

MAINTENANCE GUIDE

Check the status of the water purifier



MAINTENANCE GUIDE

Configuration of the water purifier