# MembraSAL — Large household

User guide · installation, operation and maintenance

Version 1.0 — 17 October 2026

## 1. Welcome

Thank you for choosing MembraSAL Large household. In this guide you will read how the system is installed, how to operate it and what maintenance it needs. The guide is made to be read on screen; there is no need to print it.

MembraSAL Large household is installed by a qualified installer, who knows your situation and the water and electrical regulations. Installation is not included in the price.

## 2. Your system

Large household purifies the water for your whole home using reverse osmosis. A pump pushes the water under pressure through two membranes: very fine filter sheets that hold back a large part of dissolved salts, limescale and other dissolved substances. Two streams come out:

- **Pure water**: this goes to the 410-litre storage tank.
- **Concentrate**: water containing the substances held back. This goes to the drain. Not a defect, simply how reverse osmosis works.

From the storage tank, a booster pump delivers the water to your taps. The pump starts automatically as soon as you open a tap. On the way, the water passes a UV lamp. A remineralisation line adds some minerals back; you set how much with a small valve.

### What's inside

| Component | What it does |
|---|---|
| Pre-filter (20 inch) | Stops sand, rust and other particles and largely removes chlorine. This keeps the membranes clean. |
| High-pressure pump | Brings the water up to pressure for the membranes. |
| Two membranes | Remove dissolved substances from the water. |
| Remineralisation line | Three cartridges in series that add minerals. With an on/off valve and a control valve. |
| Storage tank 410 litres | Stores the pure water. Floats at the top and bottom control the filling and protect the pump. |
| Booster pump with pressure regulator | Delivers the water from the tank to your taps. |
| UV lamp | Treats the water from the tank with UV light. When the system is idle, it regularly circulates the tank water past the lamp. |
| Dosing pump (optional) | Doses an anti-scaling agent (antiscalant) into the water before the membranes. This protects the membranes against scaling. You order the antiscalant from H2Ot (Antiscalant 25 kg); it is not included as standard. |
| Control panel | Display, buttons and selector switch. You use these to operate the system. |

### Specifications

| Component | Specifications |
|---|---|
| Pure water | 500 litres per hour at 20 °C water temperature; 350 litres per hour at 10 °C |
| Reduction of dissolved salts | 90 to 95% |
| Membrane operating pressure | 7 to 9 bar |
| Dimensions (l × w × h) | approx. 98.5 × 65 × 190 cm, including storage tank and pre-filter |
| Power consumption | 1.4 kW, including the booster pump; the controller itself 10 W |
| Power | 230 V, 50 Hz, European plug (1/N/PE) |
| Connections | supply 1"; concentrate 1/2"; pure water to the taps 3/4" |

Colder water gives less pure water per hour. That is normal. Because the tank holds 410 litres in reserve, you will hardly notice this in the house.

## 3. Before you start

### In the box

- The system on a frame, with pump, membranes, remineralisation line and control panel
- 410-litre storage tank with booster pump and UV lamp
- Pre-filter with the first pre-filter cartridge
- The first set of membranes and remineralisation cartridges
- Settings sheet: a separate sheet with the factory settings of your system. Keep it in a safe place.
- Service manual for your installer

**Not in the box:** hoses, couplings and antiscalant. Your installer arranges these, or you order them from H2Ot.

### The right location

- Indoors, frost-free, out of the sun, wind and rain.
- Room temperature between 5 and 40 °C.
- Well ventilated and with enough light (at least 150 lux) to work.
- A flat, solid floor. A full tank weighs over 400 kilos.
- Leave space around the system for maintenance.
- An open drain nearby for the concentrate and a 230 V power socket.

### Requirements for your water

The water entering the system must meet these requirements. If you are connected to the normal drinking water network, this is usually fine. If you have your own well or borehole, have a water analysis done first. Sometimes extra pre-treatment is needed.

| Component | Requirement |
|---|---|
| Water temperature | 5 to 30 °C |
| Water pressure | 2.5 to 6 bar, with fluctuations of at most 1 bar |
| Dissolved substances (salt content) | less than 2,000 ppm |

| Component | Requirement |
|---|---|
| Hardness | 0 to 15 °dH |
| Acidity (pH) | 6.5 to 9 |
| Turbidity | less than 1 NTU |
| Fouling index (SDI) | less than 3 |
| Iron and manganese | each less than 0.1 mg/l |
| Free chlorine | 0 mg/l in the supply water, before pre-filtration |
| Oil | 0 mg/l |
| Odour | odourless |

Dutch mains water normally meets the requirement for free chlorine; an extra carbon filter is then not needed. If your supply water does contain free chlorine, an extra activated carbon cartridge is fitted before the system.

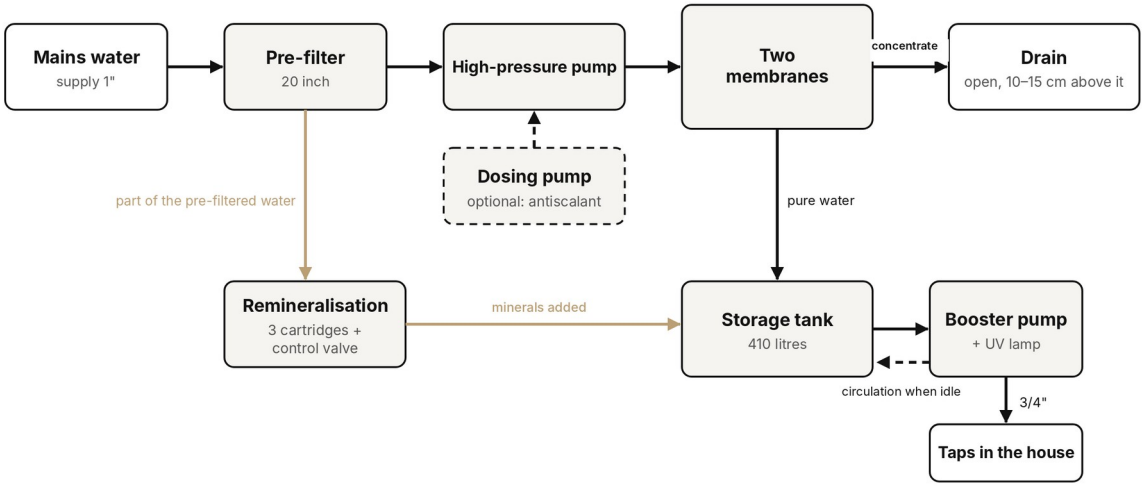
### Connections

| Component | Requirement |
|---|---|
| Supply | 1"; pressure-resistant hose, copper or plastic pipe (no iron or steel) |
| Concentrate (drain) | 1/2"; to an open drain, 10 to 15 cm above the drain, without narrowing |
| Pure water to the taps | 3/4", via the booster pump |
| Power | 230 V, 50 Hz, earthed socket (European plug) |
| Pipework | all in stainless material |

## 4. Installation

These steps are for your installer. Wear safety glasses and gloves when unpacking.

**Set-up MembraSAL Large household**



1. **Position.** Place the system and the storage tank in their permanent location. Check that no connections have come loose during transport.
2. **Check the filters.** Check that the pre-filter cartridge, the membranes and the remineralisation cartridges are in place. Note the arrow on the pre-filter: it shows the flow direction.
3. **Connect the supply.** Fit a pressure-resistant hose between the water pipe (or the outlet of any softener) and the supply (1") of the system.
4. **Connect the concentrate.** Run the concentrate hose to an open drain and fix it 10 to 15 cm above the drain. Never put it into the drain: dirt could then flow back into the system.
5. **First flush to the drain.** At the first start, temporarily run the pure water to the drain, with a generous air gap (at least twice the diameter of the drain pipe). New membranes flush for 30 to 60 minutes.
6. **Connect the power.** Plug into a 230 V socket. Electrical work only by a qualified professional.
7. **Dosing pump (if fitted).** Hang the suction hose of the dosing pump in the antiscalant tank and bleed the dosing pump (see chapter 7).
8. **Start.** Set the selector switch to AUTO. The system starts by flushing and then begins producing pure water.
9. **Connect the tank.** Connect the pure water to the storage tank. Check all connections for leaks and check that the display shows no fault.
10. **Start the booster pump.** Once the tank is at least one third full, the booster pump starts. Bleed it first: open the tap from the tank, slightly loosen the bleed plug on the pump until water comes out and tighten it again.
11. **Connect to the house.** Connect the outlet (3/4") to the water pipe of your home.

## 5. Operation and settings

### The control panel

| Component | What it does |
|---|---|
| Selector switch OFF | Standby: the system is idle. |
| Selector switch AUTO | Normal use: the system automatically produces pure water and stops when the tank is full. |
| Selector switch CIP | Service position for cleaning and testing. For your installer only. |
| Run light | The system is working normally. |
| Alarm light | There is a fault. |
| Reset button | Clears a fault and returns the system to the start screen. Holding it for 5 seconds also resets the pre-filter counter. |
| Buttons ■ (OK), ▲ and ▼ | Scroll through the screens and settings. |

### The screens

Use the ▼ button to switch between screens:

- **General:** the conductivity of the pure water (in µS), the amount of pure water per minute and any faults.
- **Flow:** how much water comes in, how much pure water and concentrate comes out, and what share becomes pure water (in %).
- **Conductivity:** the conductivity and temperature of the pure water.

Conductivity indicates how many dissolved substances are still in the water: the lower, the fewer. For comparison: 100 µS is about 56 ppm. Hold OK for about 2 seconds to see the statistics for 4 seconds, such as operating hours and litres.

### Setting the remineralisation

The remineralisation line has two small valves. With the **on/off valve** you switch remineralisation on or off. With the **control valve** you fine-tune how many minerals are added to your water. More minerals gives a higher conductivity reading. Have your installer set it the first time.

**Target value:** with remineralisation you are in the right range between **100 and 300 µS**. For comparison: Dutch mains water is usually around 300 to 500 µS.

### Settings

The system comes set up from the factory. The values are on the settings sheet supplied. Do not change them yourself: your installer does that, only when necessary. Settings can only be changed with the switch on OFF.

| Setting | Factory value |
|---|---|
| Flush at start | 20 seconds |
| Flush at stop | 20 seconds |
| Flush during idle time (circulation past the UV lamp) | every hour |
| Pure water conductivity alarm limit | 100 µS |
| Delay at low pressure | 10 seconds |
| Delay at full tank | 5 seconds |
| Alarm for too little pure water | 1.0 litre per minute |
| Pre-filter counter | 300 m³ |

Your installer leaves the counters at the factory start values.

**Note:** do not press ▲ and ▼ at the same time. This resets all factory settings.

Your system comes with a phone app; you will receive it on delivery.

## 6. Daily use

- **Leave the switch on AUTO.** The system fills the storage tank and stops automatically when it is full. When the level drops, it starts again.
- **Water from the tap.** The booster pump starts automatically when you open a tap.
- **Concentrate goes to the drain.** Part of the water leaves as concentrate. That is how it should be.
- **Colder water, lower output.** In winter the system produces less pure water per hour. That is normal.
- **Check the display now and then.** After installation, note the conductivity and the output. If these values clearly rise or fall, it is time for maintenance.
- **Water off?** First set the switch to OFF. The pumps must never run dry.
- **Away for a long time?** If the system is off for more than 48 hours, the membranes must be preserved. Have your installer do this. If you are simply on holiday, leave the system on AUTO.

## 7. Maintenance and replacement

These intervals come from the manufacturer's manual.

| What | When | Who |
|---|---|---|
| Pre-filter cartridge | After 150,000 litres, but after 6 months at the latest. Also when the display asks for replacement. | You or your installer |
| Remineralisation cartridges | Together with the pre-filter cartridge, at least every 6 months. | You or your installer |
| Topping up antiscalant (version with dosing pump) | When the level is low; the display reports this. Then bleed the dosing pump. You order antiscalant from H2Ot. | You or your installer |
| Membranes | About every 2 years. Sooner if the output drops or the conductivity rises, even after cleaning. Then recommission. | Installer |
| Chemical cleaning of the membranes | When the output drops due to fouling or scaling. | Installer |
| Calibrating the conductivity meter | Every year, and always after cleaning the meter. | Installer |
| UV lamp | Replace at least once a year, or sooner, depending on the number of operating hours. | Installer |
| Cables and connections | Check every year for wear, cracks and rust. | Installer |

What your installer checks every year is described in the service manual supplied on delivery.

**Order from H2Ot:** Pre-filter cartridge 20 inch — carbon and microfibre; Replacement membrane — MembraSAL 500 l/h, Large household, Villa and Complete station (two per system); remineralisation cartridges (set of three); Antiscalant 25 kg; UV lamp.

### Replacing the pre-filter cartridge

1. Set the switch to OFF and close the water supply to the pre-filter. Release the pressure.
2. Disconnect the quick couplings and take the filter out of the holder. Let the residual water drain out.
3. Loosen the wing nut, remove the clamp band and take off the head. Pull the old cartridge off the central connection.
4. Rinse the inside of the head, the filter housing and the rubber ring clean with water.
5. Fit the new cartridge. Secure the head and housing again with the clamp band and fully tighten the wing nut.
6. Put the filter back in the holder. Note the arrow on the head: it must point in the flow direction.
7. Open the water and check that everything is leak-tight. Set the switch back to AUTO.
8. Hold the reset button for 5 seconds to reset the filter counter.

### Replacing the remineralisation cartridges

1. Close the water supply and let the water drain out.
2. Hold down the locking button, turn the cartridge clockwise and take it out.
3. Remove the foil from the new cartridge.
4. Insert the new cartridge into the head and turn it anticlockwise until the locking button clicks.
5. Do the same for the other cartridges. Open the water and check for leaks.

### Bleeding the dosing pump (version with dosing pump)

1. Make sure the system is switched on.
2. Open the bleed valve on the dosing head about half a turn.
3. Set the dosing pump knob to 100% and wait until an even stream without air bubbles comes out of the bleed hose.
4. Set the knob back to the set value (0.1 to 1%, depending on your water). Your installer knows which value is right for you.
5. Close the bleed valve again.

## 8. Troubleshooting

In the event of a fault, the system goes into alarm mode. The display shows the fault and the time until the next automatic restart. With minor faults the system restarts by itself. After solving the problem you can also press the reset button.

| What do you see? | Possible cause | Solution |
|---|---|---|
| Message: replace cartridge | The pre-filter has processed its maximum amount of water | Replace the pre-filter cartridge, then Reset for 5 seconds |
| Alarm 03: antiscalant almost empty | Antiscalant tank empty (only with dosing pump) | Top up antiscalant and bleed the dosing pump |
| Alarm 04 or 05: pressure too low | Main tap closed, water pressure too low or pre-filter full | Open the tap, have the pressure checked, replace the pre-filter. Restarts automatically every hour, or press Reset. |
| Alarm 06: pressure too high at the membranes | Membranes fouled | Call the installer: clean or replace the membranes. Restarts automatically every 3 hours. |
| Alarm 07: pump overloaded | Pump motor protection has tripped | Call the installer |
| Alarm 08: conductivity too high | Meter needs calibrating, concentrate valve or membranes | Call the installer. Restarts automatically every 3 hours. |
| Alarm 09: too little pure water | Membranes fouled or flow meter | Call the installer. Restarts automatically every 3 hours. |
| Alarm 10: too little concentrate | Concentrate valve or meter | Call the installer. Restarts automatically every 3 hours. |
| Alarm 11: too little water in the storage tank | No signal from the lower float for 20 minutes | Check that there is water in the tank. If it does not resolve, call the installer. |
| Alarm 14 to 17: pressure sensor gives no signal | Sensor or cable | The installer has the sensor and cable checked and replaced if necessary |
| Alarm 01, 02 or 12 | Only with extra components, such as a supply tank or pre-treatment | Call the installer |
| No water from the tap, tank is filled | Booster pump has air or has stopped | Check the tap from the tank; have the pump bled |

| What do you see? | Possible cause | Solution |
|---|---|---|
| Display stays blank | No power | Check the plug and socket |

Not working? First contact your installer. If something is broken within the warranty, email info@h2ot.nl with your order number and a photo. You will hear from us within 4 working days.

## 9. Safety

- Electrical work only by a qualified professional. Unplug and make sure there is no more voltage before any work is done on the system.
- Depressurise water and air lines before disconnecting anything. After any work, check that all connections are leak-tight.
- Never let the pumps run dry. This can damage them and voids the warranty.
- Wear gloves and safety glasses when working with antiscalant. Keep it out of the reach of children and follow the instructions on the packaging.
- Do not open the electrical cabinet yourself. Chemical cleaning, calibration and preservation are done by your installer.
- Ensure enough light and ventilation, and avoid slipping on spilled water.
- Protect the system against frost. Transport and store it upright, dry and frost-free.
- Follow the water, electrical and building regulations that apply where you are.

## 10. Warranty and disclaimer

**Warranty.** Your MembraSAL comes with a **2-year warranty** on the main components. Pre-filters, membranes, remineralisation cartridges, antiscalant and the UV lamp are consumables and are not covered. If the product does not work when connected and you report this within 24 hours of installation, we will replace it free of charge, provided it was installed within 3 months of delivery. The installer's costs are your own. Is something broken within the warranty? Email info@h2ot.nl with your order number and a photo; you will hear from us within 4 working days.

**Sealed.** Membranes and cartridges are supplied factory-sealed. Once the seal is broken, we cannot take them back for hygiene reasons.

**No medical advice.** This guide is a user manual and not medical advice. Our products are not medicines or medical devices and are not intended to diagnose, treat, cure or prevent any disease. If you have questions about your health, please contact your doctor.

**What a filter does.** How much a system reduces depends on the composition of your water, the flow rate and timely replacement. The substances mentioned are reduced, not always completely removed.

**Liability.** To the extent permitted by law, H2Ot is not liable for damage caused by incorrect installation, use that deviates from this guide, or failure to replace consumables in time. Your statutory consumer rights always apply. Please also read our general terms and conditions at h2ot.nl.

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