

SAFEST AND MOST
EFFECTIVE WATER
TREATMENT
SYSTEM

NO USE OF CHEMICAL PRODUCTS

ELIMINATES UP
TO 99.99 % OF
BACTERIA AND
98 % OF VIRUSES

AUTOMATIC
SYSTEM
MANAGEMENT



The reverse osmosis system currently represents the safest and most effective way of treating food grade water. It is in fact able to capture 90 to 99.9 % of the substances dissolved in the water.

Reverse osmosis systems are preferably used in situations requiring a continuous supply of pure water, a compact size and low servicing and maintenance costs. The osmotic process is in fact a physical procedure that does not require the use of chemical products, but rather only electricity to power the high-pressure pump.

Reverse osmosis is a process by which remove foreign are separated from the water using a partially permeable membrane that allows the passage of water, but blocks any dissolved salts, bacteria and colloid materials.

The treated water (permeate) is also bacteriologically safe because the osmotic membrane allows the water molecules to pass but blocks all inorganic and organic particles, chemical contaminants and minerals with a size larger than 0.005 microns (one micron = one thousandth of a millimetre). This eliminates 99.99% of bacteria and 98.00% of viruses, while also providing an excellent defence against micro-pollutants, pesticides, pyrogens.

Osmo guarantees, according to the flow, to modulate the quantity of calcium and magnesium salts constituting the water hardness, by reducing it. This treatment makes it possible to have **water that** is ideal for use in cation exchange systems.



THE RANGE

THE RANGE INCLUDES TWO MODELS:

OSMO 2000	able to produce up to 2,000 L/hour of permeate
OSMO 3000	able to produce up to 3,000 L/hour of permeate



AEB-GROUP.COM **ZEB**





OSMO 2000

The inlet water for OSMO 2000 must have at least 1 Bar of pressure and a minimum flow rate of 6.000 L/hour.

OSMO 3000

The inlet water for OSMO 3000 must have at least 1 Bar of pressure and a minimum flow rate of 9.000 L/hour.

The equipment control display always shows the action currently performed: washing, water inlet and permeate production (outlet) with microsiemens measurement or standby.







The PLC display instead, during the procedure, shows the flow rate in L/min of the concentrate, permeate and concentrate recovery system in order to regulate the equipment and obtain the best results.

Example:

If using expensive tap water, a 50-50% ratio can be maintained between the waste water and purified water > Recommended antiscalant dose: 6-8 mg/L.

If using water from a tank or well, the waste water ratio might be increased up to 70-80% > Recommended antiscalant dose: 12-14 mg/L.

AEB-GROUP.COM ZEB



COMPONENTS

VESSEL

2 for OSMO 2000 and 3 for OSMO 3000, 8" vessel in glass fibre reinforced epoxy

- Length: 1600 mm.
- 1"1/2 Gas PVC manifold.
- Maximum operating pressure: 69 Bar, 1000 PSI.
- Inter-vessel connection with Victaulic couplings.

MEMBRANE

2 for OSMO 2000 and 3 for OSMO 3000, spiral-wound glass fibre polyamid membrane with high rejection.

- Specifications for water treatment.
- Dimensions: 1020 x 201 (8") x 28 mm.
- Weight: 15 kg.
- Active surface: 41 m².
- Operating pressure: 600 psi.
- Maximum operating and washing temperature: 45°C.
- Suitable for use on pH 1.0-13.0.
- Maximum turbidity of inlet water: 1.0 NTU.

UTILITIES

Water inlet:

2" GAS F coupling in A304

Permeate outlet:

1" GAS F coupling in A316

Drains:

1"1/2 GAS F coupling in A304

1 MEMBRANE SOLENOID VALVE

PUMPS

Mp pressurisation: medium pressure vertical multi-stage in AISI 304.

- Maximum absorption: 13.5 A.
- Flow rat:

Osmo 2000: 6,000 L/h at 15 Bar of back pressure.

Osmo 3000: 9,000 L/h at 15 Bar of back pressure.

Operating pressure: between 9 and 14 Bar.

Dosing pump for antiscalant product, one per membrane.

Flow rate: adjustable from 0 to 2 L/h at 7 Bar

Absorption: 15 W.

LIQUID FLOW MANAGEMENT

2 manual needle regulator valves A316

3 turbine litre-counters A316

1 electro-mechanical pressure switch

2 conductivity probes

Piping in AISI 316 stainless steel.

PRESSURE GAUGES

Three pressure gauges:

- Inlet water pressure: 0-6 Bar.
- Pump pressure: 0-25 Bar.
- Permeate pressure: 0-16 Bar.

ELECTRICAL PANEL

- In A304 stainless steel.
- With Siemens PLC.

AEB-GROUP.COM ZEB



COMPONENTS



HOUSING

Pre-filter to protect the membrane and preserve the seven filters.



PRESSURE GAUGES

Ensure to monitor transmembrane pressure.

MEDIUM PRESSURE FEED PUMP

With high performance.



ANTISCALANT DOSING PUMP

Automatic antiscalant management system.



COMPONENTS



MANUAL REGULATION VALVESAllow the accurate control of the membrane pressure.



AUTOMATIC SOLENOID VALVE Allows automatic system control.



VESSEL High performance, ideal for large volumes.



TECHNICAL CHARACTERISTICS

OSMO 2000

GENERAL DATA

Hourly production

Up to 2000 L/hour of permeate

Water consumption

4000 L/h

Construction material

AISI 304 steel (frame and untreated water line) and AISI A316 steel (permeate line).

Dimensions

1000 x 2450 x 1650 h mm

Weight

Kg 500

Frame

In AISI 304, round bars on 6 feet.

Power supply

380 V, 50 Hz, 16A

Power

6 KW

Multi-cartridge housing

1 housing in A304 stainless steel, diameter 250 with input and output pressure gauge 0-10 Bar.

Pre-filter cartridges

7 cartridges, each 30" 5 microns.

OSMO 3000

GENERAL DATA

Hourly production

Up to 3000 L/hour of permeate

Water consumption

6000 L/h

Construction material

AISI 304 steel (frame and untreated water line) and AISI A316 steel (permeate line).

Dimensions

1000 x 2450 x 1650 h mm

Weight

Kg 580

Frame

In AISI 304, round bars on 6 feet.

Power supply

380 V, 50 Hz, 32° 3P+T

Power

8 KW

Multi-cartridge housing

1 housing in A304 stainless steel, diameter 250 with input and output pressure gauge 0-10 Bar.

Pre-filter cartridges

7 cartridges, each 30" 5 microns.