

WATEX WRO200

reverse osmosis system

SKU WRO0200 · Watex Estonia OÜ

How reverse osmosis works

Reverse osmosis (RO) uses pressure to drive water through a semi-permeable membrane. Water molecules pass to the permeate side, while dissolved salts, heavy metals, organic compounds and microorganisms are retained and discharged in the concentrate stream. Depending on feed-water quality, temperature, pressure, membrane selection and system configuration, salt removal is typically 80–99.7%.

Advantages

- Compact plug-and-play design
- High-quality industrial components
- Simple installation, operation and maintenance
- Stable performance

Applications

- Pre-treatment for high-purity water systems
- Boiler feed and cooling-tower make-up water
- Food and beverage process water
- Steam generation and humidification
- Laboratory and pharmaceutical water preparation
- Agriculture, irrigation and other industrial processes

System design

- AISI 304 stainless-steel frame
- 5 µm polypropylene cartridge pre-filter
- MANITRONICA illuminated controller
- Acrylic permeate and concentrate flow meters
- Four glycerine-filled pressure gauges
- MWG high-pressure pump
- PVC-U PN16 and John Guest pipework
- CSM RO membrane(s)
- Anti-vibration mounts and adjustable feet

Quality and performance control

- Online permeate conductivity meter, 0–499 µS/cm
- Low feed-water pressure switch
- Permeate high-pressure switch
- Pressure monitoring after pre-filter, after pump and in concentrate line
- Permeate, concentrate and recirculation flow control
- Pump-pressure regulation
- Adjustable high-conductivity alarm
- Automatic/manual flushing
- Reservoir-full float switch

Technical parameters

Parameter	Unit	WRO200
Permeate flow	l/h	200–250
Permeate per day	l/day	4,000–6,000
Maximum RO operating pressure	bar	15
Recovery	%	65–75
Dimensions (L × W × H)	cm	23 × 67 × 165
Power consumption	kW	0.55
Feed/permeate connection	in	male ¾"
Concentrate connection	in	male ½"
Empty weight	kg	40
Membrane configuration		CSM RE4040-BLN × 1
Pump configuration		MWG

Performance basis: 1,500 mg/l NaCl solution at 10 bar and 10 °C; salt rejection 99.2%; SDI < 3.
Actual output depends on feed-water conditions.

Installation requirements

- Pre-treatment as required: sediment and iron removal, softening or antiscalant dosing, and activated carbon when free chlorine is present
- Required feed-water flow: up to 500 l/h
- Concentrate drain connection
- 1 × 230 V / 50 Hz / L / N / PE socket with 16 A protection
- Water temperature 0–40 °C
- Ambient temperature 0–50 °C

Optional features

- Feed-water pre-treatment
- Pre-treatment interlocks
- Clean-water reservoir and booster pump (standard WRO only)
- Remineralisation and pH adjustment
- Antiscalant dosing



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