

HAMANN AG



SOLUTIONS FOR A BETTER ENVIRONMENT

HL-ROS SERIES

FRESH WATER MAKERS FROM 3 TON/DAY UP TO 48 TON/DAY

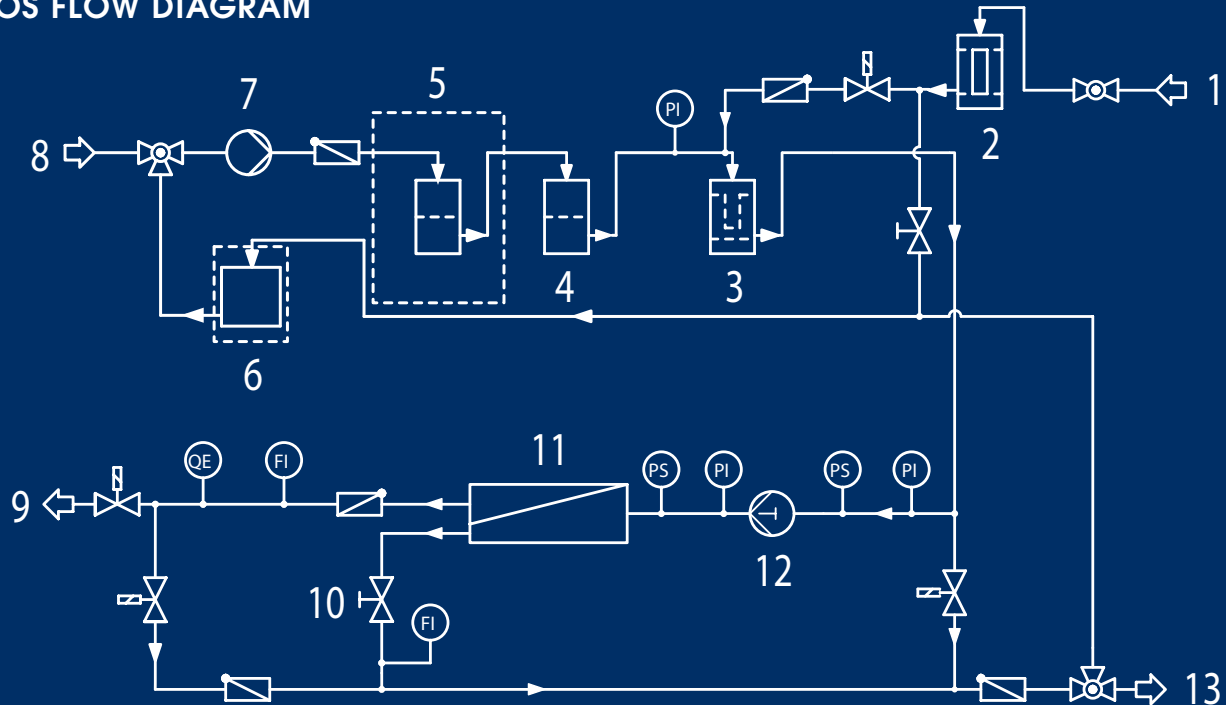


- Utilizes latest generation TFC® membranes
- High pressure axial piston pump, low pulsation, works without lubricating oil
- Variable frequency drive
- Designed for 24 hour constant operation
- Small footprints and additional space saving through variable positioning of membranes
- Standard features include chemical cleaning fittings and prefiltration filters
- Automatic fresh water flush with integrated dechlorination filter
- Semi automatic operation PLC controlled
- Corrosion resistant frame and components

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HL-ROS FLOW DIAGRAM



- | | | | |
|---------------------------------------|--|---------------------------------------|---------------------------|
| 1. Fresh water from Hydrophore system | 5. Bag filter 200µm (option) | 9. Product-water to freshwater tank | 13. Concentrate overboard |
| 2. Carbon filter | 6. Cleaning tank (separate installation) | 10. Regulation valve Concentrate flow | |
| 3. Filter 3 µm | 7. Seawater pump | 11. RO Membrane system | |
| 4. Bag filter 25 µm | 8. Seawater inlet | 12. High pressure pump | |

PROCESS DESCRIPTION

The standard Reverse Osmosis plant is designed as a single stage, single pass desalination plant, utilizing the latest generation TFC® membranes.

The raw seawater is supplied to the RO plant by the sea water supply pump installed on the frame. The seawater pump raises the pressure to approx. 3 bar and delivers the water to the RO pretreatment section.

The first step of the pretreatment is a bag filter, designed to remove particles, larger than 25 µm, followed by a 3 µm cartridge filter.

The treated RO feed is delivered to the High Pressure feed pump at a pressure of 2 to 2.5 bar.

The RO feed pump raises the feed pressure to a max. of 69 bar. The RO system pressure and the product flow rate are controlled by the pressure control valve downstream from the membrane system.

Product water is taken from the membranes in parallel from all pressure vessels and collected in a common manifold. The product is delivered to the product water storage tank(s). After passing through an optional remineralizer filled with pure calcium carbonate (JURAPERLE JW®) the product water will have then a pH value within the limits for potable water.

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