

CHRIST OSMOSTIL

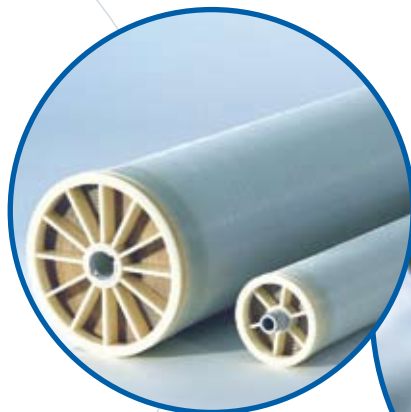
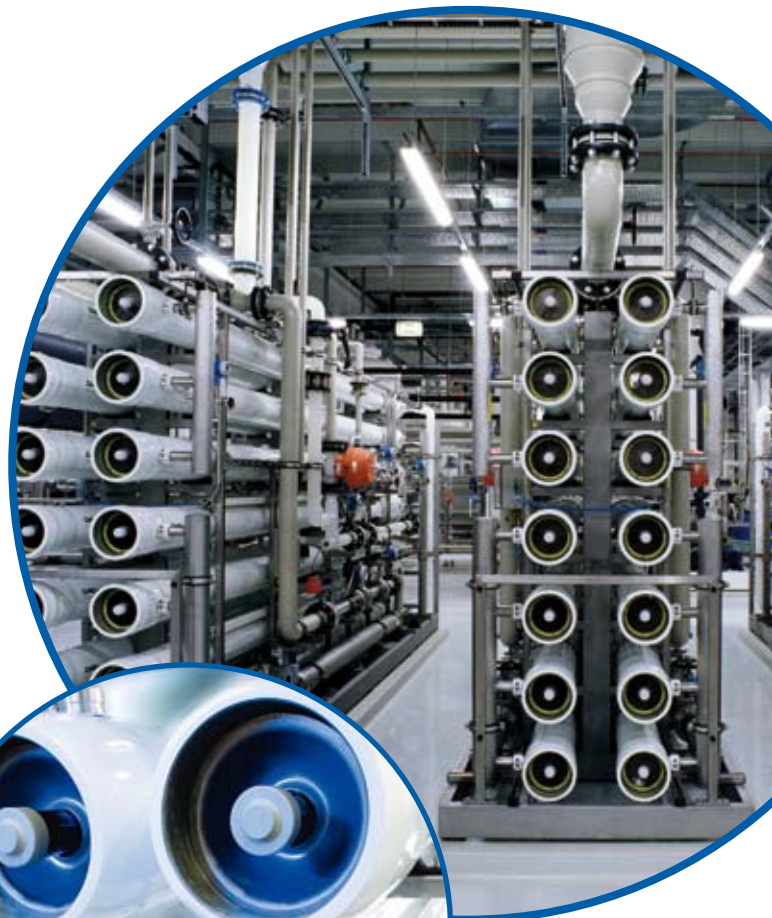
The story of life begins with the moulding of semipermeable membranes: they form the shell of living cells and control the interchange with the environment.

With the reverse osmosis process technically produced membranes divide the pressurised water inflow into pure water (permeate) with a very low salt content and into concentrate containing the salt residue of the raw water.

However, the reverse osmosis does not only reduce the salt content but also removes organic impurities, heavy metals, particles and bacteria.

CHRIST OSMOSTIL are fully automatic and compact units ready for installation for the economic and reliable production of pure water.

The units are made of high-quality material. The quality of CHRIST units is certified in accordance with ISO 9001/EN 29001.



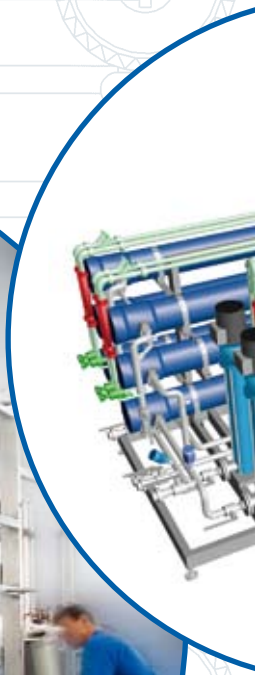
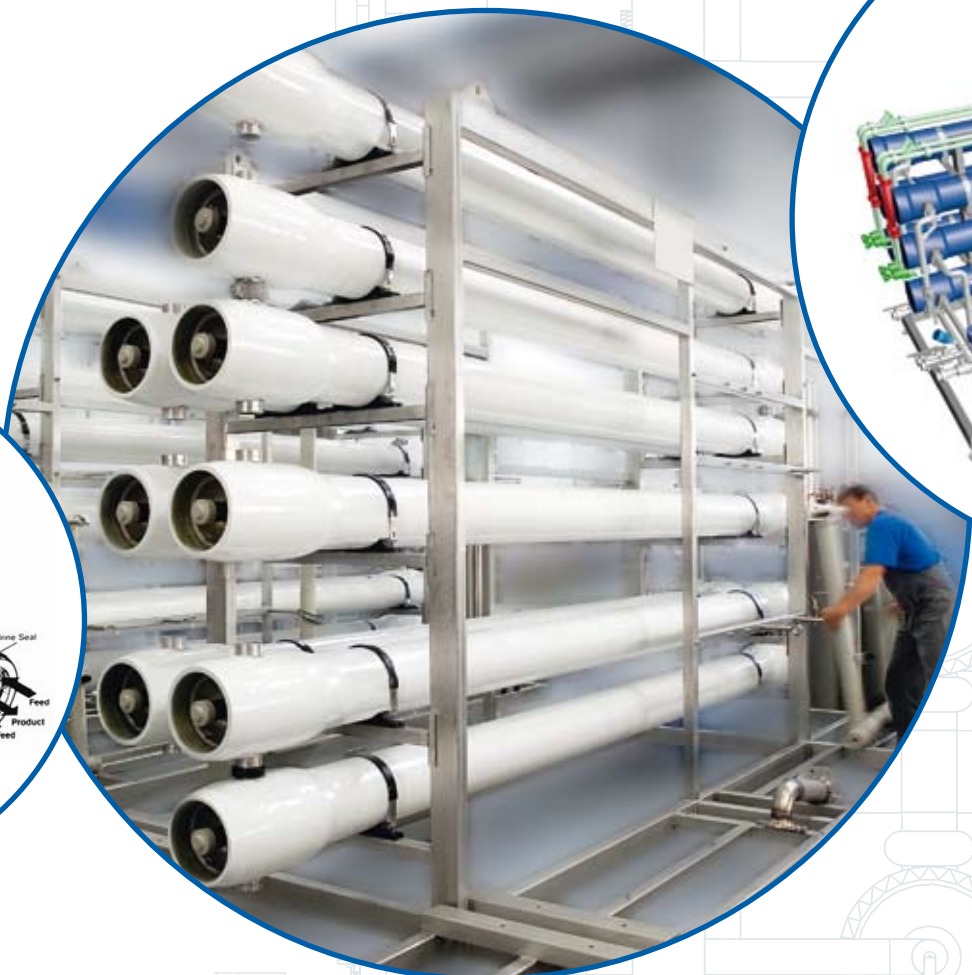
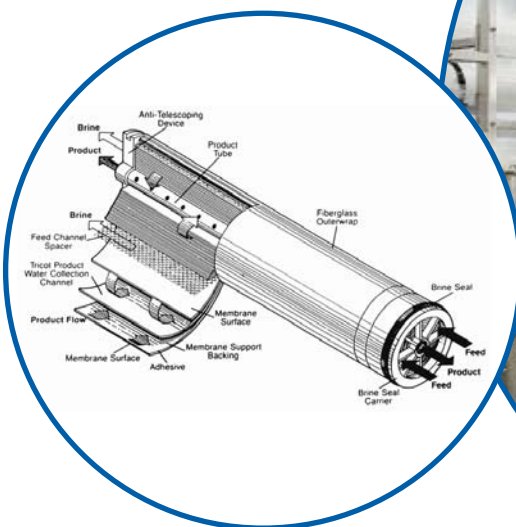
The modular construction provides for delivery of units in many dimensions and capacities. The standard series cover capacities from 400 l/h to 80'000 l/h.

The pressure pipes containing the membranes are designed horizontally in order to facilitate the maintenance work.

Before each shut-down the reverse osmosis units are rinsed in order to eliminate precipitations during the shut-down period. Various rinsing methods are available depending on the raw water quality in conjunction with the impact on the membrane. The rinsing brings about a longer lifetime of the membranes and reduces precipitations and the risk of microbial contamination. CHRIST OSMOSTIL systems are optimised to the respective application.

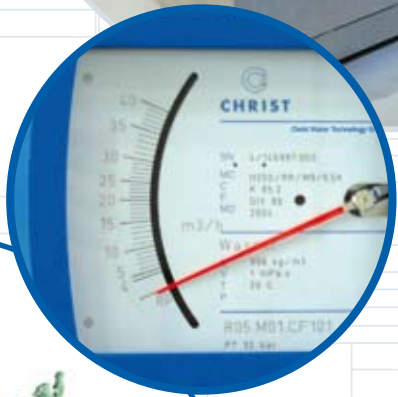
The reverse osmosis units are equipped with a permeate discharge device in order to supply the users with high-quality permeate at all times. Before each start-up the drain valve is briefly opened and the shutdown water is discharged from the system.

The control of the units is made by means of a programmable logic control (PLC). An operating hour meter, manometer and flowmeter support the user in operation and monitoring of all functions. A precision conductivity meter controls the quality of the pure water continuously. According to standard the units are equipped with all safety components such as pump and membrane protection etc.





Optionally, an operating data recording system can record, analyse and display the important operating data. Additionally, potential-free alarm contacts can also be led to a central control system.



CHRIST only uses well proven membranes depending on the requirements to the quality of pure water and raw water. If strongly unpurified water must be treated, a dry-cleaning of the membranes is necessary every few months. For this purpose the CHRIST OSMOCLEANER is available. To protect the membranes from coarse particles, each system is connected in series with a cartridge filter.



CHRIST has the know-how to design and execute reverse osmosis units as overall systems according to the customers' specific requirements.

CHRIST has developed a dead space-free fluid management for applications in the pharmaceuticals and cosmetics industry, hospitals and biotechnology, where absolute hygiene is required. Special fittings such as membrane manometers and membrane valves provide for aseptic operating conditions with appropriate measuring instruments.

CHRIST OSMOSTIL units can be combined without any difficulty to two-stage reverse osmosis units on one rack. The characteristic of these DUOSMOSE units is the process of feeding the permeate flow of the first stage to the second stage. This process achieves a pure water quality below $1 \mu\text{S}/\text{cm}$ at 25°C .



The Most Economical Way of Permeate Production



The most important criterion in the raw water pretreatment prior to the reverse osmosis is to eliminate precipitations on the membranes.

The application of CHRIST AQUARIS antiscalant substances is in particular an environmentally acceptable method to eliminate precipitations due to their efficiency even at very low concentrations.

CHRIST has comprehensive systems for an appropriate pretreatment such as multi-media filter, activated carbon filter, ion exchanger etc.. CHRIST OSMOSTIL units have a high economic rate in permeate production and are reliable in operation. They are easy to operate and to maintain. CHRIST units are performing very well in international competition.

There are hundreds of OSMOSTIL units in operation worldwide with a capacity up to 4'000 m³/d to the complete satisfaction of the users. Some OSMOSTIL units achieve a capacity up to 10'000 m³/d.

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