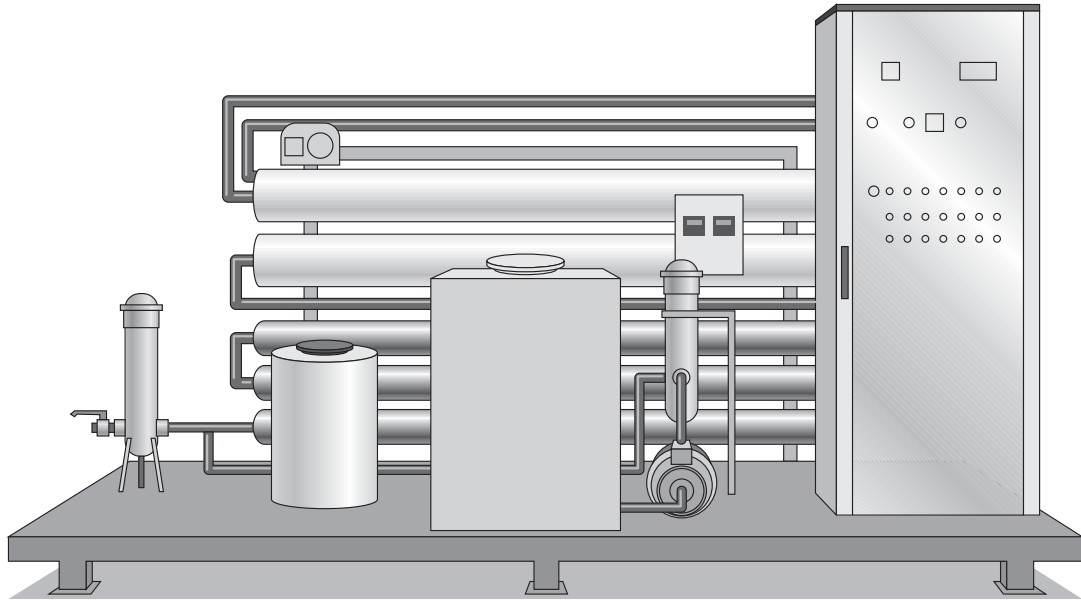


REVERSE OSMOSIS PLANTS

OI-SW series



WHAT ARE REVERSE OSMOSIS PLANTS OI-SW SERIES

Osmosis is a natural process for which a more diluted solution passes spontaneously to a more concentrated solution by means of a semipermeable membrane.

The concept of reverse osmosis is simple, as it suffices to apply a pressure to a concentrated solution superior to the osmotic pressure in order to provoke an inverse flow in respect to the natural one, extracting the dissolved salts from concentrated solution, that creates a discharge flow; on the opposite part of the membrane we have a low salinity solution.

HOW REVERSE OSMOSIS PLANTS OI-SW SERIES WORK

The reverse osmosis system is composed of a pressurization pump and of a changeable number of osmotic membranes depending

on the flow rates and on the characteristics to obtain; for this reason it is a reliable plant and it can function in continuous without regenerations or washings.

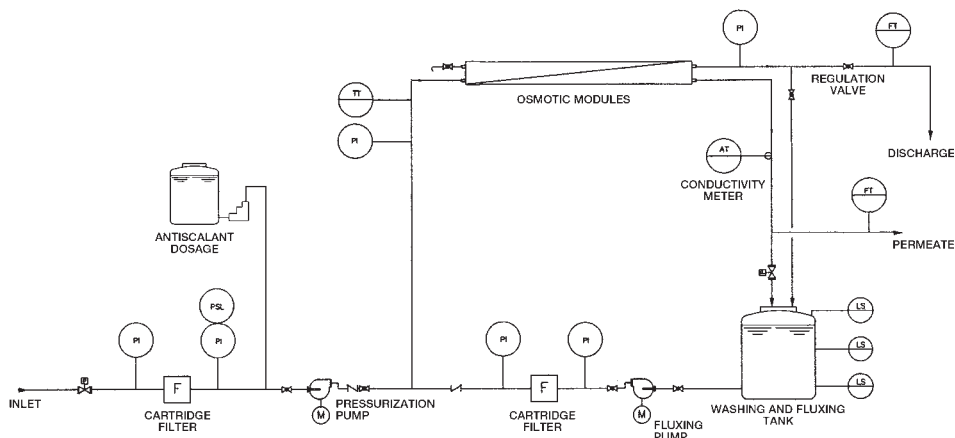
The plant working is managed automatically by a command panel and sometimes it is preceded by an automatic pre-treatment.

Reverse osmosis plants are destined to several applications, from sea water desalting, brackish or well water for drinking or industrial use of various type, to desalting of water addressed to the feeding of resins demineralisation, to the feeding of thermal power station, food, chemical, electronic, pharmaceutical plating industries, etc. The reverse osmosis technology also permits, with suitable pre-treatments, the recovery of some types of discharge water.

Performances

PLANT MODEL	MEASURE UNIT	OI-SW 05	OI-SW 1	OI-SW 2	OI-SW 4	OI-SW 6	OI-SW 8	OI-SW 10	OI-SW 13	OI-SW 17	OI-SW 21	
Feeding salinity	mg/l	35.000										
Temperature	°C	25										
Feeding salinity	%	<2				<1						
Standard capacity	mc/day	12	24	48	96	144	192	240	312	400	500	
Standard capacity	mc/h	0,5	1	2	4	6	8	10	13	17	21	
Recovery	%	35	35	35	35	35	35	35	35	35	35	
Vessel quantity	n.	2	4	2	2	3	3	4	4	5	6	
Membrane quantity	n.	4	8	4	6	9	12	16	24	30	36	
Pressurization power	kW	6	8	16,5	37	45	75	75	90	110	132	
Inlet, concentrate, permeate connections	DN	32, 25, 25	32, 25, 25	40, 32, 25	50, 40, 32	60, 50, 32	80, 50, 40	80, 65, 40	100, 65, 50	100, 80, 50	100, 80, 65	

STANDARD PRODUCTION



Technical specifications

Feeding water pressure	Min. 2 – max 6 bar
Feeding water temperature	Min. 5 – max 35°C
Feeding water security filter	High flow rate cartridge filter of 5 micron
Minimum pressure alarm	Pressure switch with adjustable threshold
Feeding interception valve	Pneumatic
Antiscalant dosage	Electromagnetic dosing pump with changeable flow rate
Pressurisation pumps	Multi-impeller made of AISI 904, sequential starts or with soft-start
Vessel for membranes	PRFV, 1000 PSI
Membranes	Spiral wrapped up in polyamide, diameter 4 or 8", length 40"
Manometers	AISI 316 in glycerine bath
Thermometer	Electronic, digital display, outlet 4-20 mA
Flowmeters	Electronic, digital display, outlet 4-20 mA
Permeated conductivity meter	Electronic, digital display, outlet 4-20 mA, cell made of AISI 316
Fluxing and washing circuit	Tank made of AISI 304, pump made of AISI 316, cartridge filter
High pressure piping	Duplex steel 1.4462
Low pressure piping	PVC PN 10
Electric command panel	Executed according to the norms in force, with PLC
Support frame	Carbon steel, blasted and painted polyurethane cycle
Feeding voltage	380 V / 50 Hz

Optional

Energy recuperator	Turbine made of AISI 904
Pre-treatment unit	Self-polishing filters, dual-media filters, active carbon filters,
Metabisulphite dosage unit	PE tank, mixer and dosing pump
Pressure transmitters	AISI 316, 4-20 mA
Permeated discharge valve	Pneumatic, controlled by a conductivity meter
Support frame	AISI 304, blasted and transparent painted

Dimensions and weights

PLANT MODEL	OI-SW 05	OI-SW 1	OI-SW 2	OI-SW 4	OI-SW 6	OI-SW 8	OI-SW 10	OI-SW 13	OI-SW 17	OI-SW 21
Dimensions (LxVxH) m	3x1,5x2	3x1,5x2	4x2x2	4x2x2	4x2x2	5x2x2	5x2x2	7x2x2	7x2x2	7x2x2
Rough weight kg	600	700	900	1000	1100	1300	1500	2400	2800	3200

The above written data are given as information. The Society EURO MEC S.r.l. reserves the right to change them in every moment.
By specific request EURO MEC S.r.l. dimensions particular solutions.