SIRION™ Sea Water

Reverse Osmosis for Process Water

SIRION™ Sea Water reverse osmosis systems are specifically designed to treat seawater. They reject over 99% of the salt contained within the feed water.

Flow rates from 1 to 41 m^3/h

Power

General Industry

Drinking Water

FEATURES & BENEFITS

- Standardised and skid-mounted; short lead times and quick start-up
- Small footprint; easily integrated into existing plant
- Chemical pre-treatment; protects the RO membranes
- High pressure pump with variable frequency drive; efficient and quiet operation
- Energy recovery device for high flow rate models; energy savings of 35-55%
- State-of-the-art RO membranes
- Flushing and chemical cleaning system; removes salt deposits, prevents scaling and maintains system performance
- Touch screen interface for easy operation
- PLC control

APPLICATIONS

- Production of potable water
- Agricultural irrigation
- Industrial process water

HYDREX™ CHEMICALS

Hydrex® 4000 water treatment chemicals from Veolia Water Technologies should be used for optimized plant operation.

ASSOCIATED SERVICES

Local after-sales service and support teams offer preventative and corrective maintenance programs to ensure the long-term, efficient operation of installed plant.

System Operating Parameters

1000 mg/l configuration	Unit	D-25	D-50	D-75	D-100	D-125	D-150
Inlet Salinity TDS (NaCl)	mg/l	40000					
Typical Design Flux	l/h/m²	14					
Permeate Nominal Flowrate	m³/h	1.06	2.12	3.18	4.24	5.3	6.35
Nominal Feed Flowrate	m³/h	5.3	6.42	7.95	10.6	13.25	15.88
Recovery	%	20	33	40	40	40	40
Installed Power	kW	18.5	22	22	2x15	2x22	2x22

1000 mg/l configuration	Unit	D-190-PX	D-230-PX	D-270-PX	D-360-PX	D-450-PX	D-530-PX
Inlet Salinity TDS (NaCl)	mg/l	40000					
Typical Design Flux	l/h/m²	14					
Permeate Nominal Flowrate	m³/h	7.95	9.55	11.15	14.85	18.55	22.25
Nominal Feed Flowrate	m³/h	19.88	23.88	26.55	35.36	44.17	52.98
Recovery	%	40	40	42	42	42	42
Installed Power	kW	22+2.2	30+2.2	2x18.5+3	2x22+3	2x30+4	55+5.5

1000 mg/l configuration	Unit	D-620-PX	D-710-PX	D-800-PX	D-890-PX
Inlet Salinity TDS (NaCl)	mg/l	40000			
Typical Design Flux	l/h/m²	14			
Permeate Nominal Flowrate	m³/h	26	29.6	29.6	37.1
Nominal Feed Flowrate	m³/h	61.9	70.48	79.45	88.33
Recovery	%	42	42	42	42
Installed Power	kW	55+5.5	75+7.5	75+7.5	90+7.5

TDS < 36 000 ppm

System Dimensions

Model	Unit	D-25	D-50	D-75	D-100	D-125	D-150
Total Installed Length	m	3	3	4	5	6	4
Total Installed Width	m	1.70	1.70	1.70	1.70	1.70	1.70
Total Installed Height	m	2.2	2.2	2.2	2.2	2.2	2.2
Empty Weight	kg	1600	1700	1800	1900	2000	2100
Operating Weight	kg	2250	2400	2550	3000	3300	3350

Model	Unit	D-190-PX	D-230-PX	D-270-PX	D-360-PX	D-450-PX	D-530-PX
Total Installed Length	m	6.50	8	8.50	8.50	9	10
Total Installed Width	m	1.70	2	2	2	2	2
Total Installed Height	m	2.2	2.2	2.2	2.2	2.2	2.2
Empty Weight	kg	2200	3100	3400	3700	4025	4325
Operating Weight	kg	4000	5000	5400	7000	7500	9000

Model	Unit	D-620-PX	D-710-PX	D-800-PX	D-890-PX
Total Installed Length	m	10	10	10	10
Total Installed Width	m	2.15	2.15	2.15	2.15
Total Installed Height	m	2.2	2.2	2.2	2.2
Empty Weight	kg	4525	4530	4535	4600
Operating Weight	kg	9300	9650	10000	10300

Pipes Connections

Model	Unit	D-25	D-50	D-75	D-100	D-125	D-150
Feed	DN	40	40	40	50	50	65
Permeate	DN	15	20	25	25	40	40
Permeate diversion	DN	15	20	25	25	40	40
Concentrate	DN	40	40	40	40	40	40
CIP Inlet(2)	DN	40	40	40	40	50	65
CIP concentrate outlet(2)	DN	40	40	40	40	50	65
CIP permeate outlet	DN	40	40	40	40	40	40

Model	Unit	D-190-PX	D-230-PX	D-270-PX	D-360-PX	D-450-PX	D-530-PX
Feed	DN	65	65	80	80	100	100
Permeate	DN	40	50	50	65	65	65
Permeate diversion	DN	40	50	50	65	65	65
Concentrate	DN	40	40	40	40	50	50
CIP Inlet(2)	DN	50	50	50	80	80	80
CIP concentrate outlet(2)	DN	50	50	50	80	80	80
CIP permeate outlet	DN	40	40	40	40	50	50

Model	Unit	D-620-PX	D-710-PX	D-800-PX	D-890-PX
Feed	DN	150	150	150	150
Permeate	DN	65	80	80	100
Permeate diversion	DN	65	80	80	100
Concentrate	DN	50	65	65	65
CIP Inlet(2)	DN	80	100	100	100
CIP concentrate outlet(2)	DN	80	100	100	100
CIP permeate outlet	DN	50	65	65	65

Materials of Construction

Skid	Epoxy-painted carbon steel
Control Cabinet	Epoxy-painted carbon steel
Low pressure Pipework	PVC-U / PN-16
HIgh pressure Pipework	Stainless Steel AISI 904-L / Super Duplex

Feed water Requirements

Parameter	Unit	Value
Minimum water temperature	°C	5
Maximum water temperature	°C	35
Minimum supply pressure	barg	3
Maximum supply pressure	barg	6
Max Silt Density Index (SDI)	-	3
Maximum Inlet Turbidity	NTU	1
Max inlet Iron Fe^{3+}	mg/l	0.05
Max inlet Manganese Mn^{2+}	mg/l	0.05
Max inlet Aluminium Al^{3+}	mg/l	0,05
Max Oil and Grease	mg/l	0.10
Max inlet Free Chlorine Cl_2	mg/l	0

Environmental Conditions

Parameter	Unit	Value
Minimum ambient temperature	°C	5
Maximum ambient temperature	°C	40
Maximum humidity	%	90

Power Requirements

Voltage	380-420
Frequency	50
Phases	3

Typical Treated Water Quality

Parameter	Unit	Value
Typical Salt Rejection	%	97-99

In keeping with the progressive nature of the company, we reserve the right to amend details without notice. VEOLIA/SOLYS/SIRION™ Sea Water/30/September/2021