AQUALINE
Pollet Water Group

SEAWATER REVERSE OSMOSIS SYSTEM

TETRA SERIES

The TETRA Series Reverse Osmosis (RO) systems are specifically designed for seawater desalination applications. These systems are capable of treating high-salinity seawater to produce high-quality freshwater suitable for industrial, commercial, and potable water supply applications.

FEEDWATER SOURCE

Seawater is the naturally occurring water found in oceans and seas and typically contains high concentrations of dissolved salts and minerals. The total dissolved solids (TDS) concentration of seawater generally ranges between 30,000 and 45,000 ppm, requiring specialized desalination systems operating at higher pressures than standard brackish water RO systems.

OPERATING PRINCIPLE

Seawater reverse osmosis (SWRO) systems operate by applying high pressure to seawater to force water molecules through specialized semi-permeable membranes. These membranes allow purified water to pass through as permeate while rejecting the majority of dissolved salts and impurities, which are discharged as concentrated brine. Pretreatment processes protect the membranes from fouling and scaling, while high-pressure pumps generate the pressure required for desalination. The TETRA Series provides a reliable and efficient solution for producing freshwater from seawater sources.

STANDARD FEATURES

- Standard capacities up to 1500 CMD.
- Compact and space-efficient design.
- User-friendly operation and easy maintenance.
- High-quality FRP membrane vessels.
- CE certified.

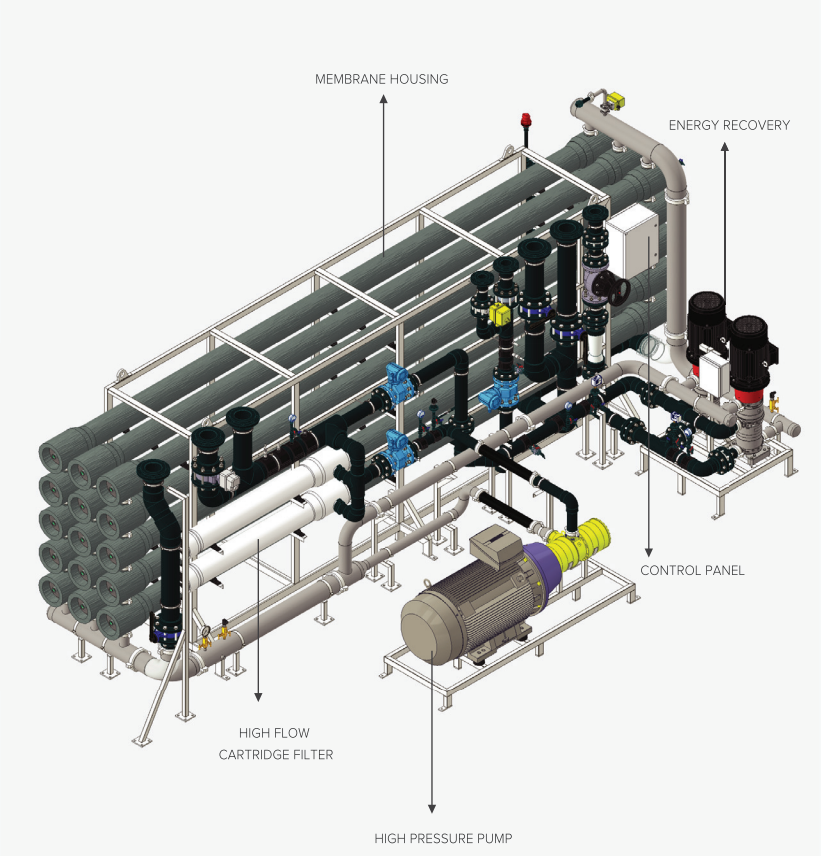
OPTIONAL FEATURES

- Stainless steel skid (SS304 / SS316)
- Automatic operation with PLC control
- Touch screen HMI control panel
- Remote monitoring capability
- Automatic flushing system
- Integrated CIP cleaning system
- Custom capacity design



RECOMMENDED LIMITS FOR FEEDWATER

Parameter	Design Range
Feedwater TDS :	up to 45,000 ppm
Feedwater Pressure :	2–5 bar
Feedwater pH Range :	6.0–8.0
Silica (SiO_2) :	25 ppm max
Iron (Fe) :	< 0.05 ppm
Feedwater Temperature :	10–30 °C
Hydrogen Sulfide :	Not present
Oil & Grease :	Not present
Turbidity :	< 1 NTU
SDI :	< 5
Microbiological Contamination :	Not present



1 ADVANTAGES

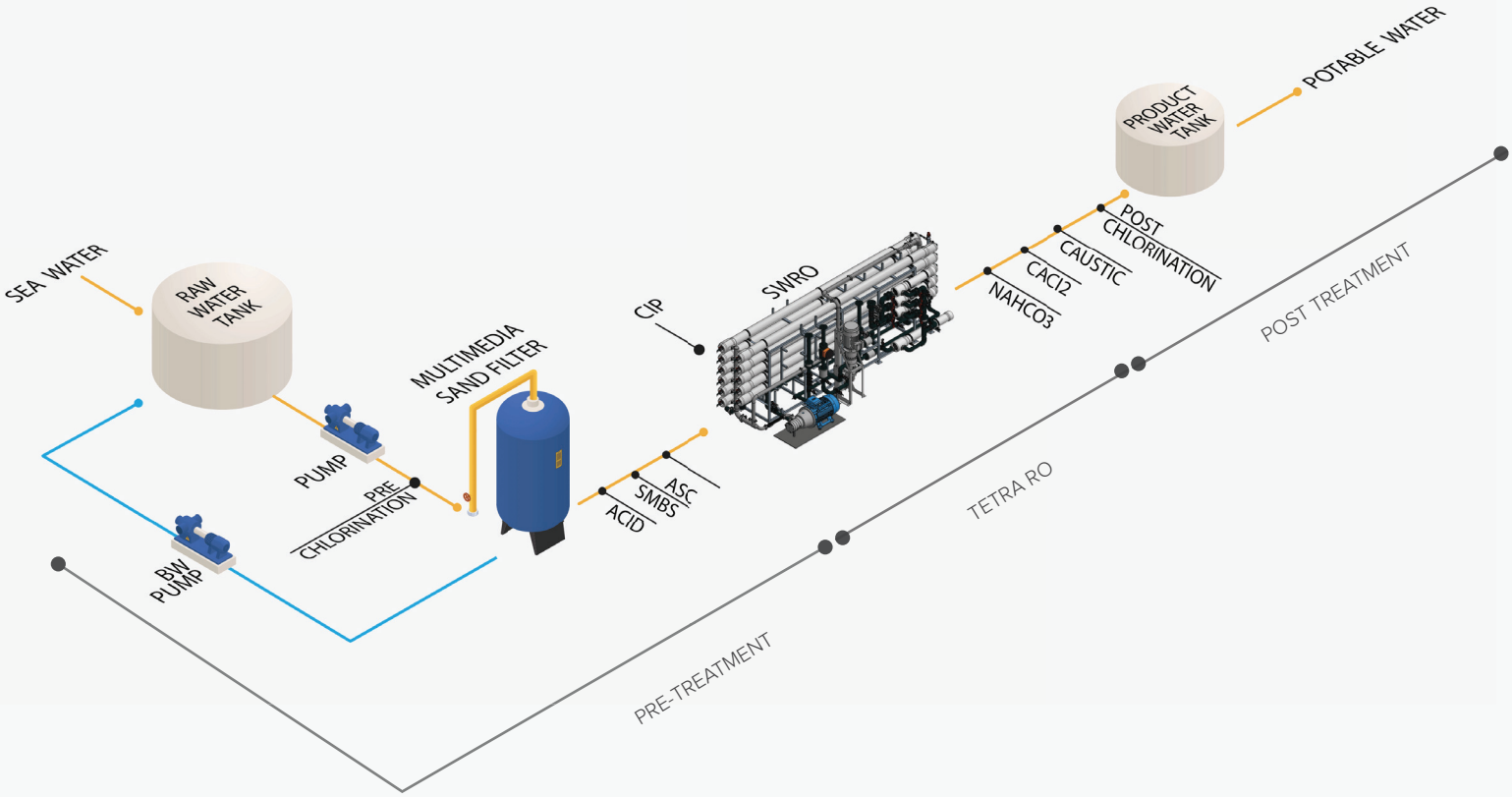
- Up to 99% salt and contaminant rejection.
- Engineered specifically for seawater desalination duty.
- Compact skid-mounted design for fast and easy installation.
- Optimized energy consumption and lower operating costs.
- Reliable and continuous operation in harsh environments.
- High-quality permeate suitable for potable and industrial applications.

2 APPLICATIONS

- Seawater desalination for potable water production.
- Hotels, resorts, and coastal facilities.
- Island communities and remote locations.
- Commercial and industrial water supply.
- Marine and offshore applications.
- Desalination systems for boats and yachts.
- Cargo ships and marine vessels.
- Municipal desalination projects.
- Agriculture and irrigation using desalinated water.
- Emergency and remote-area water supply.



PRIMARY TREATMENT – TETRA RO SYSTEM



REVERSE OSMOSIS TETRA SERIES

Technical specifications.

MODEL.	CAPACITY (CMH)	MEMBRANE (QTY)	VESSEL (QTY)	RECOVERY (%)	HIGH PRESSURE PUMP POWER (kW)	CARTRIDGE FILTER TYPE	CIP TANK VOLUME (L)	CIP PUMP POWER (kW)
Tetra 140	0.125	1	1	35 - 40	1.5	BB	200	0.75
Tetra 240	0.25	2	2	35 - 40	2.2	BB	200	0.75
Tetra 340	0.375	3	3	35 - 40	2.2	BB	200	0.75
Tetra 440	0.50	4	4	35 - 40	3	BB	200	0.75
Tetra 180	0.625	1	1	35 - 40	7.5	BB	200	1.85
Tetra 280	1.00	2	1	35 - 40	11	BB	300	1.85
Tetra 380	1.50	3	1	35 - 40	11	BB	500	1.85
Tetra 480	2.00	4	1	35 - 40	11	BB	500	1.85
Tetra 580	2.50	5	1	35 - 40	15	BB	1000	1.85
Tetra 680	3.00	6	1	35 - 40	15	BB	1000	1.85
Tetra 880	4.00	8	2	35 - 40	22	BB	1000	1.85
Tetra 1080	5.00	10	2	35 - 40	15	BB	1000	1.85
Tetra 1280	6.00	12	2	35 - 40	15	BB	1000	1.85
Tetra 1580	7.50	15	3	35 - 40	22	STYRE	2000	3.0
Tetra 1880	9.00	18	3	35 - 40	22	STYRE	2000	3.0
Tetra 2080	10.00	20	3	35 - 40	30	STYRE	3000	4.0
Tetra 2480	12.00	24	24	35 - 40	30	STYRE	3000	4.0
Tetra 3080	15.00	30	30	35 - 40	37	STYRE	4000	4.0
Tetra 3680	18.00	36	6	35 - 40	45	STYRE	5000	5.5
Tetra 4280	21.00	42	7	35 - 40	55	STYRE	5000	5.5
Tetra 4880	24.00	48	8	35 - 40	55	STYRE	5000	7.5
Tetra 5480	27.00	54	9	35 - 40	75	STYRE	5000	7.5
Tetra 6080	30.0	60	10	35 - 40	90	STYRE	5000	9.2
Tetra 7280	36.00	72	12	35 - 40	90	STYRE	7500	11.0
Tetra 9080	45.00	90	15	35 - 40	110	STYRE	7500	15.0
Tetra 9680	48.00	96	16	35 - 40	132	STYRE	7500	15.0

TECHNICAL SPECIFICATIONS ARE BASED ON THE RECOMMENDED FEED WATER LIMITS; PLEASE CONSULT US IN CASE OF ANY VARIATIONS.

GET IN TOUCH

AQUALINE UAE
Dubai - UAE
T +971 - 45668788
M +971 - 545111914

AQUALINE JORDAN
Amman - JO
T +962 -6- 5542044
M +962 -7- 82411112

AQUALINE TURKEY
Antalya -TUR
T +90 -2424177620
M +90 - 5331343636

POLLET WATER GROUP
Textielstraat 8790 - 13 WAREGEM
T +32 -0564322951
www.pwg.be

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