REVERSE OSMOSIS SYSTEM
ALFA SERIES

The ALFA Series Reverse Osmosis (RO) systems are designed for reliable treatment of municipal and low-salinity brackish water in industrial and commercial applications. These systems reduce dissolved salts, minerals, and other impurities to produce high-quality purified water for various process and utility uses.

FEEDWATER SOURCE

Municipal or tap water distributed through public water supply networks may contain dissolved solids, hardness, silica, and other impurities that can affect equipment performance and operational efficiency. Additional purification may therefore be required for industrial processes and commercial facilities

OPERATING PRINCIPLE

The ALFA system utilizes semi-permeable RO membranes that allow water molecules to pass while rejecting most dissolved salts and impurities. Incoming feedwater first passes through pretreatment components, such as cartridge filtration, to remove suspended particles and protect the membranes. A high-pressure pump then increases the feedwater pressure to the level required for membrane separation. Under pressure, purified water passes through the membranes as permeate, while concentrated salts and rejected impurities are discharged through the reject stream. This process ensures consistent production of high-quality treated water.

STANDARD FEATURES

- Standard capacities up to 75 CMD.
- Compact and space-efficient design.
- User-friendly operation and easy maintenance.
- Low energy consumption design.
- High-quality FRP membrane vessels.
- CE certified.

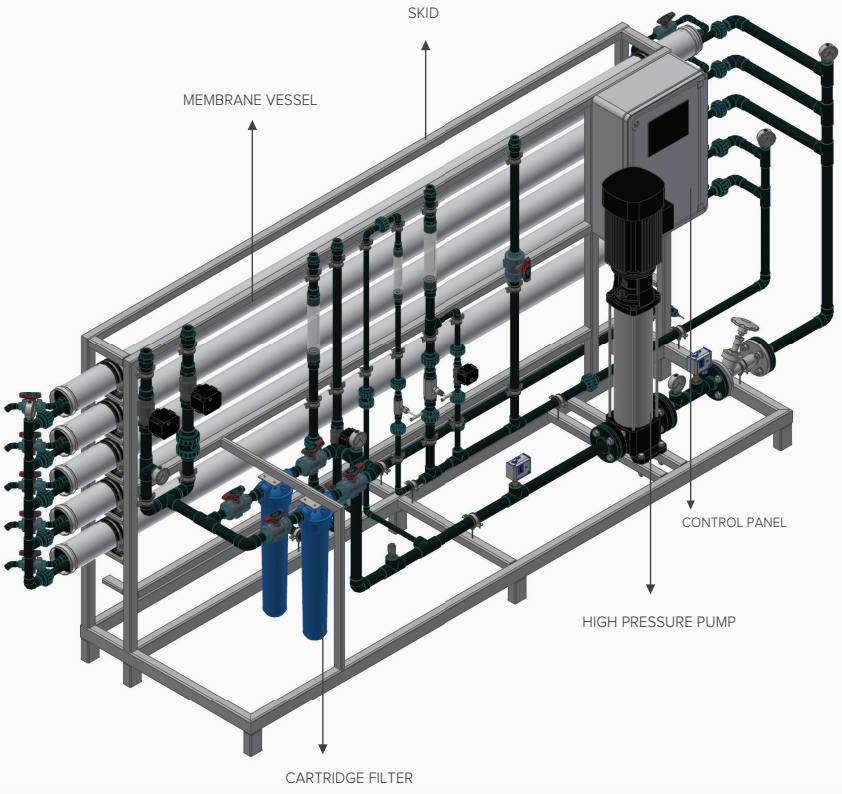
OPTIONAL FEATURES

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



RECOMMENDED LIMITS FOR FEEDWATER

Parameter	Design Range
Feedwater TDS :	0–2,000 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
Total Hardness (as $CaCO_3$) :	< 200 ppm
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.

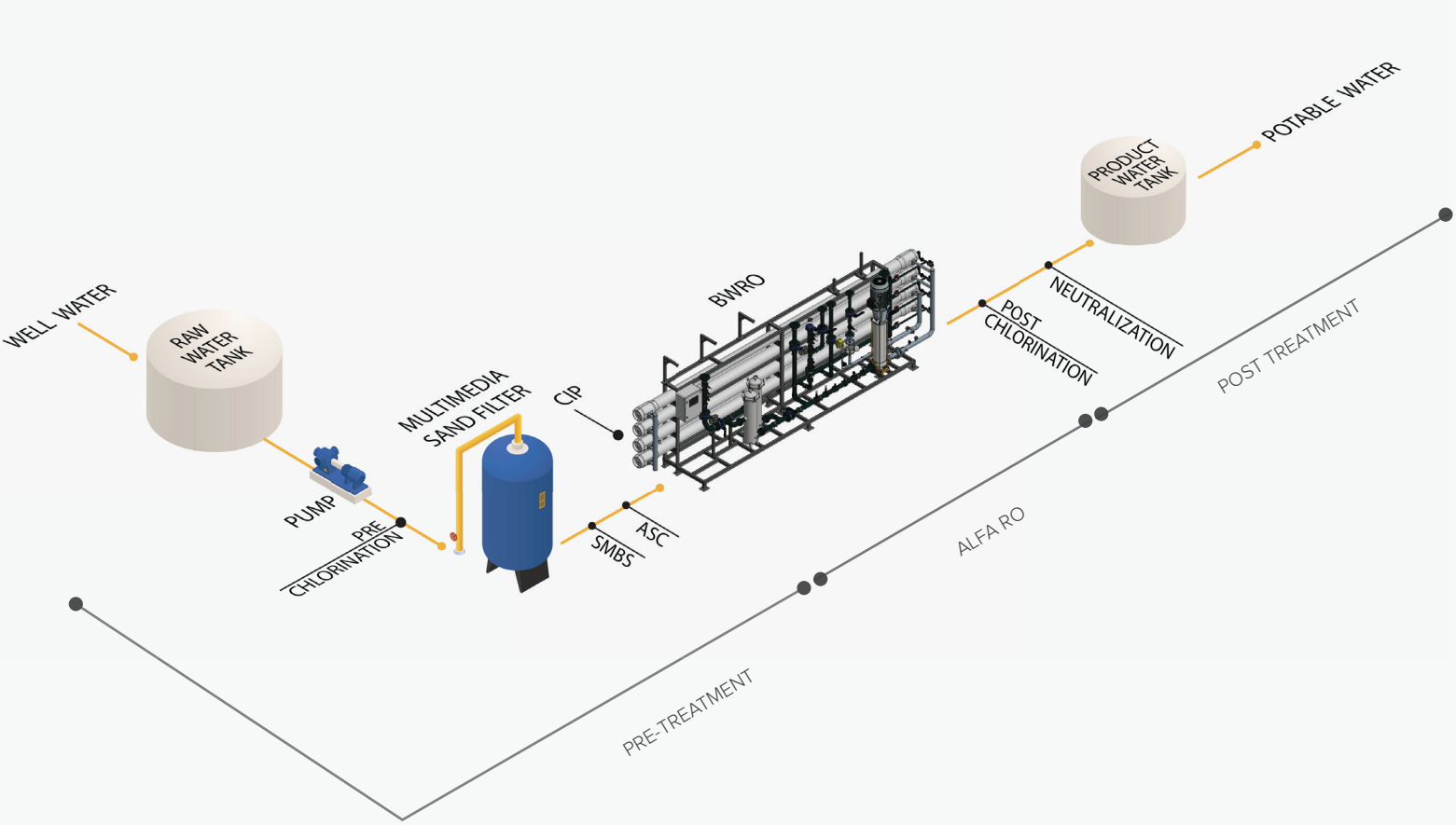
2 APPLICATIONS

- Drinking water production.
- Domestic and residential use.
- Hotels and resorts.
- Commercial buildings.
- Agriculture and irrigation.
- Small industrial processes.
- Municipal water supply.



AQUALINE
Pollet Water Group

PRIMARY TREATMENT –ALFA RO SYSTEM



REVERSE OSMOSIS ALFA SERIES

Technical specifications.

MODEL.	CAPACITY (CMD)	MEMBRANE (QTY)	VESSEL (QTY)	RECOVERY (%)	HIGH PRESSURE PUMP POWER (kW)	CARTRIDGE FILTER TYPE	CIP TANK VOLUME (L)	CIP PUMP POWER (kW)
ALFA 125 - 1	0.72	1	1	40	0.37	BB	100	0.75
ALFA 125 - 2	1.5	1	1	40	0.37	BB	100	0.75
ALFA 125 - 3	2	1	1	40	0.37	BB	100	0.75
ALFA 140	5	1	1	50	0.55	BB	100	0.75
ALFA 240	10	2	2	50	0.55	BB	100	0.75
ALFA 340	15	3	3	60	1.1	BB	200	0.75
ALFA 440	20	4	4	60	1.5	BB	200	0.75
ALFA 540	25	5	5	70	2.2	BB	200	0.75
ALFA 640	30	6	6	60	2.2	BB	200	0.75
ALFA 840	40	8	4	70	2.2	BB	300	1.8
ALFA 940	45	9	3	70	2.2	BB	300	1.8
ALFA 1040	50	10	5	70	2.2	BB	300	1.8
ALFA 1240	60	12	4	70	3	BB	300	1.8
ALFA 1540	75	15	5	70	3	BB	300	1.8

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

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