

# REVERSE OSMOSIS **ALFA** SERIES

Applied for water where classical purification systems become insufficient (seawater, well water with high conductivity etc.), separating all undesirable minerals from water, membrane filtration transaction devoted to pure water provision is called REVERSE OSMOSIS.



ALFA 640 (horizontal)



ALFA 1440



ALFA 840

## OPERATING PRINCIPLE OF REVERSE OSMOSIS SYSTEM

Reverse osmosis (RO) is a filtration method that removes many types of large molecules and ions from solutions by applying pressure to the solution on one side of a selective membrane forcing only the small water molecules through the membrane becoming purified or permeate water.

Membrane surface is always kept clean and unplugged by 'Cross Flow' operation that happens inside membrane element. By means of 'Cross Flow', while some liquids (element water) pass through membrane, some liquid (intensive water) move parallel to membrane surface, so protect others to stick to membrane. This process enables much more qualified water compared with other filtration systems.



ALFA COMPACT



ALFA 540



ALFA 140

# REVERSE OSMOSIS ALFA SERIES

MODEL	FEEDING CAPACITY	PERMEATE CAPACITY	MEMBRANE SIZE	MEMBRANE QTY (pcs)	RECOVERY (%)	MOTOR POWER (kw)
	@20°C m³ / day					
ALFA 125 - 1	1.8	0.72	2,5" x 21"	1	40	0.37
ALFA 125 - 2	3.75	1.5	2,5" x 40"	1	40	0.37
ALFA 125 - 3	5	2	4" x 21"	1	40	0.37
ALFA 140	10	5	4" x 40"	1	50	0.64
ALFA 240	20	10	4" x 40"	2	50	0.64
ALFA 340	25	15	4" x 40"	3	60	1.5
ALFA 440	33.5	20	4" x 40"	4	60	1.5
ALFA 540	42	25	4" x 40"	5	60	2.2
ALFA 640	50	30	4" x 40"	6	60	2.2
ALFA 840	57.5	40	4" x 40"	8	70	2.2
ALFA 940	64.5	45	4" x 40"	9	70	2.2
ALFA 1040	71.5	50	4" x 40"	10	70	2.2
ALFA 1240	86	60	4" x 40"	12	70	3
ALFA 1540	107.5	75	4" x 40"	15	70	3

## STANDARD FEATURES

- Membrane vessels FRP or Stainless Steel
- TFC Spiral wound membranes 2,5" or 4" diameter
- SS304 stainless steel vertical centrifuge high pressure pump (available in between ALFA 340 - ALFA1540)
- Brass body rotary type high pressure pump (available in between ALFA 125/1 - ALFA 240)
- Equipments between ALFA 125-1 and ALFA 640 has SS304 stainless steel frame (optional ST37 carbon steel)
- Equipments between ALFA 840 and ALFA 1540 has ST-37 carbon steel or SS304 stainless steel frame
- 5 micron cartridge filter
- Low and high pressure pipings U-PVC / Zonder
- Solenoid automatic valves or equivalent valve
- Pressure adjustment valves in Pump outlet and waste water line
- Low and high pressure switches
- Product water and waste water flow meters (rotameters)
- Recirculation flow meters (reverse cycle is available in between ALFA 340 - ALFA 1540)
- Glycerin Filled Manometers
- Product Water Conductivity Meter
- Autoflush System
- RO Electronic Control Card, Alarm and Position Indicators
- 220 V/50Hz/1ph (between ALFA 125/1 - ALFA 240)
- 380 V/50Hz/3ph (between ALFA 340 - ALFA 1540)
- Antiscalant dosage system is not included

## RECOMMENDED FEED WATER LIMITS

Feed water TDS	: 0-2,000 ppm
Feed water pressure	: 2 to 5 bar
Feed water pH range	: 6-8
Silica (SiO <sub>2</sub> ) tolerance	: 25 ppm max.
Max. Iron (Fe) tolerance :	0.05 ppm (without ASC dosing) 0.2 ppm (with ASC dosing)
Min. and max. feed water temperature	(10° C - 30°C)
Hydrogen Sulfide	should be removed
Turbidity	should be removed (NTU <1)
Oil-Grase	should be removed
SDI	< 5
Microbiological contamination	should be removed