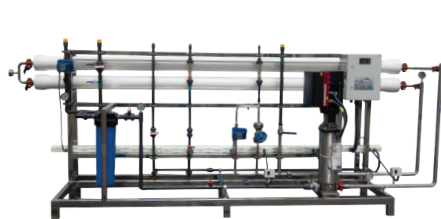


REVERSE OSMOSIS

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) |
|--------------|------------------|-------------------|---------------|--------------------|--------------|------------------|
| | @20C 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 (SiO₂) 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