



OSMOSYS

S E M I - B A T C H

REVERSE OSMOSIS SYSTEM

- *HIGH RECOVERY*
- *LOW ENERGY*
- *ROBUST*
- *OPERATOR FRIENDLY*



OSMOSYS

Technologies

ADVANTAGES



High Recovery

- Osmosys Tech Semi-Batch reverse osmosis system concentrates feed water in batches and can reach 98% recovery while traditional systems can hardly achieve 75% recovery.



Lower Energy Consumption

- Semi-Batch reverse osmosis system increases working pressure gradually and saves energy when compared with traditional systems.



Fouling Resistant

- Osmosys Semi-Batch reverse osmosis system residence time is adjusted to be lower than scale and fouling nucleation induction time and will reject concentrated brine before deposition on membrane surfaces.
- Cross flow speed of water can also be adjusted by the operator to ensure safe operation.
- Since Semi-Batch reverse osmosis system operates in batches, concentration and working pressure change continuously causing high stress on bacteria and limiting their growth.



Operator Friendly

- Semi-Batch reverse osmosis system can automatically adapt to changing feed water conditions. Membrane flux is controlled by settings and the high pressure feed pump automatically adjusts required pressure to keep membrane flux constant.





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MINIMIZE YOUR WATER FOOTPRINT

Osmosys systems are both available for sale and BOO.

MAIN PARAMETERS

- Recovery can be adjusted by operator between 75% and 98%.
- Both high rejection and low rejection membranes can be used.
- Flux can be adjusted by the operator between 15-40 l/mh.
- Feed TDS range 100-10,000 mg/L.
- Operating temperature range 5-45 °C.
- Standard maximum operating pressure is 22 bar (Higher pressures are available).



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Hassle-free water treatment

Efficient, Reliable, Durable

Materials of Construction

- AISI 316 SS for High Pressure Piping. (AISI 904L Available on Demand)
- PVC for low pressure piping.
- Epoxy Coated Carbon Steel for Frame.
- Thin Film Composite Membrane Elements with 28 mil or 34 mil Spacers.
- FRP 450 psi Pressure Vessels.

Available Options

- Clean-in-place (CIP)
- Antiscalent Injection
- SBMS Injection
- Acid Injection

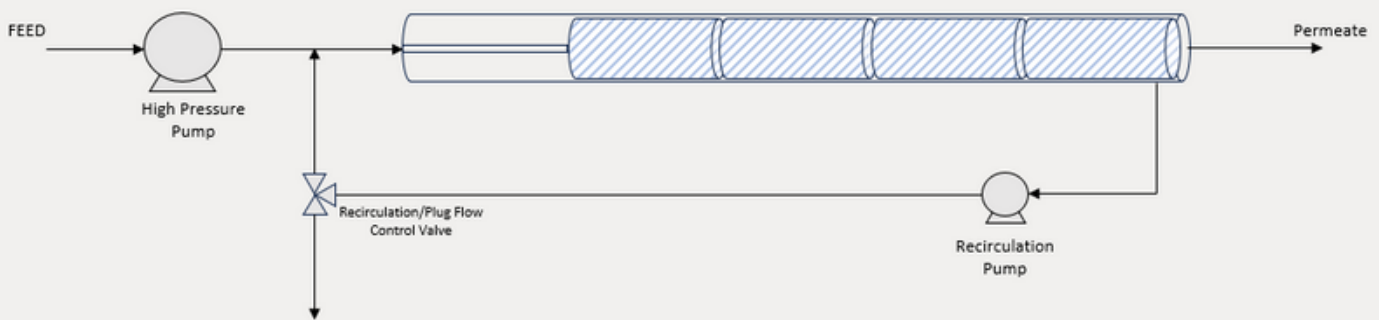


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Some Common Sizes

Pressure Vessel Quantity	2	5	10	20	40
Product Flow Rate (m ³ /h)	10	25	50	100	200
Membrane Quantity	10	25	50	100	200
Power (kW)	22	55	110	220	440



Example Case Study

- Feed Water is 500 mg/L Well Water
 - Feed Flow Rate 210 m³/h
 - 40 Pressure Vessel with 200 Membrane Elements
 - Target Recovery 95%
 - Design Flux 27 l/m²h
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- Peak Operating Pressure is 20 Bar
 - Permeate TDS < 10 mg/L
 - Specific Energy Consumption is 0.64 kWh/m³ of Permeate
 - Batch Duration is about 32 minutes

Your Water Treatment Partner



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