

Vacuum Membrane Distillation

Project Scope: This Department of Energy project seeks to determine the viability of vacuum membrane distillation for water desalination, addressing the major phenomena that dog ceramic membranes in the vacuum membrane distillation technique, such as mass and heat transfer, wetting, scaling, and fouling.

Operating Limits:

Facilities	Minimum	Maximum
Flow Rate	1 L/min	11 L/min
Vacuum	1 psi / 20 mbar	2 psi /150 mbar
Temperature	40°C	80°C
Pressure	--	≤10 psi
Heating/Cooling	--	6kW

Chemicals and Hazards:

Name	Hazard	Mitigation	PPE
3% Sodium Chloride solution	Spill	Containment tray	N/A
Hot Surfaces	Burns	Signage / Insulation	Safety Glasses / Insulated Gloves