

Manual Water Desalination System

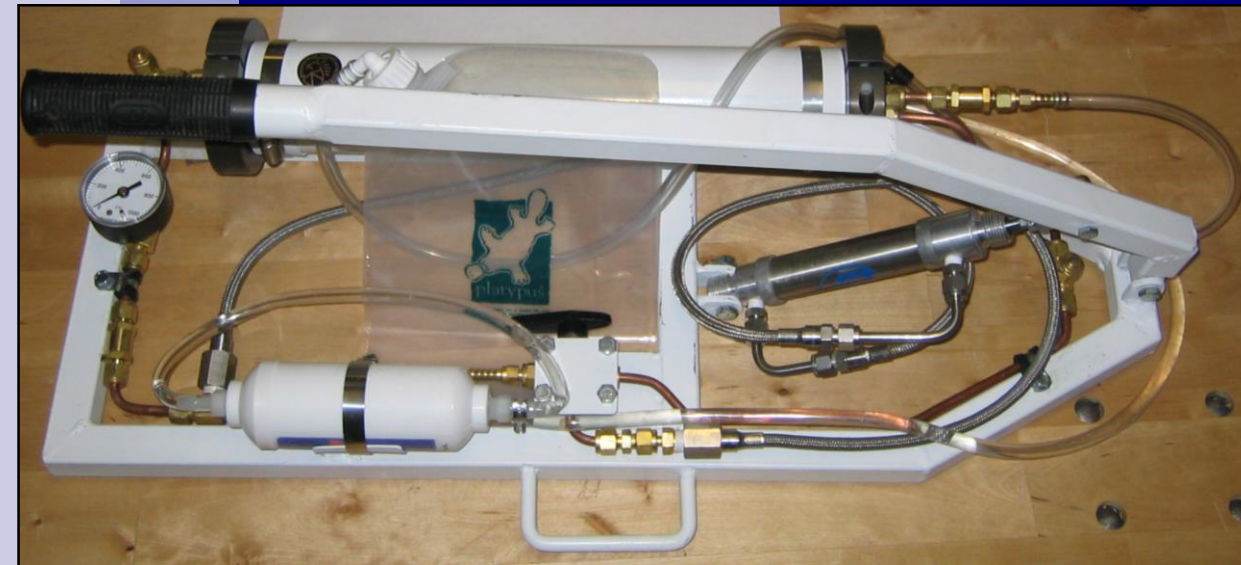
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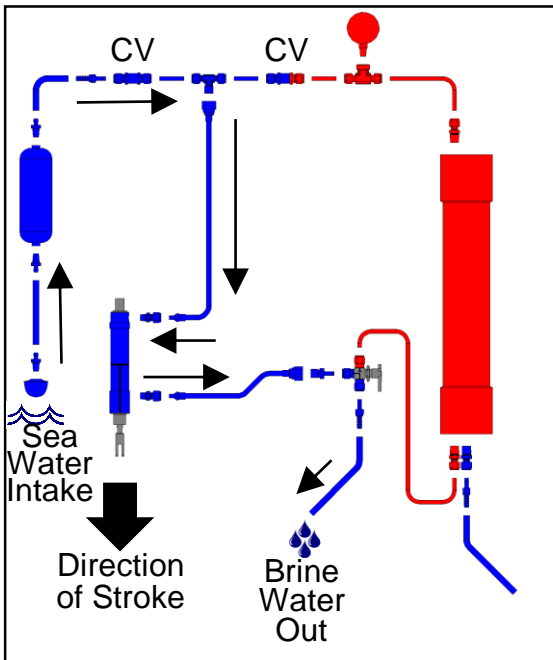
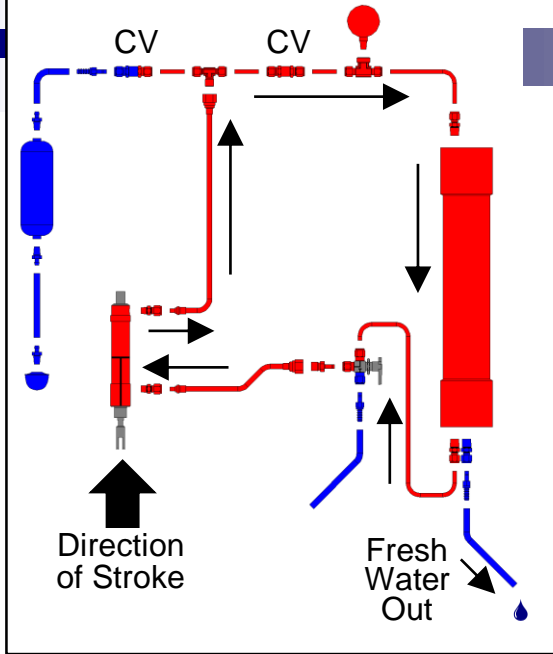
Objective:

create a functioning manual and portable reverse osmosis desalinator capable of meeting daily freshwater requirements for up to three adults in a survival situation.

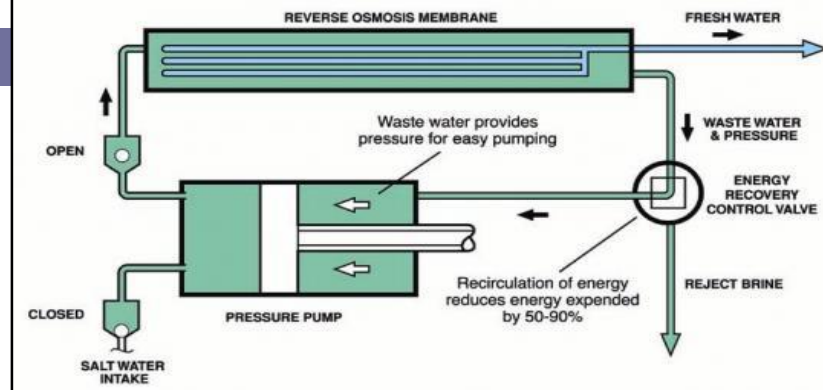
Desired design parameters:

1. Compact
2. Lightweight
3. Minimal input force
4. Meeting freshwater recovery rate

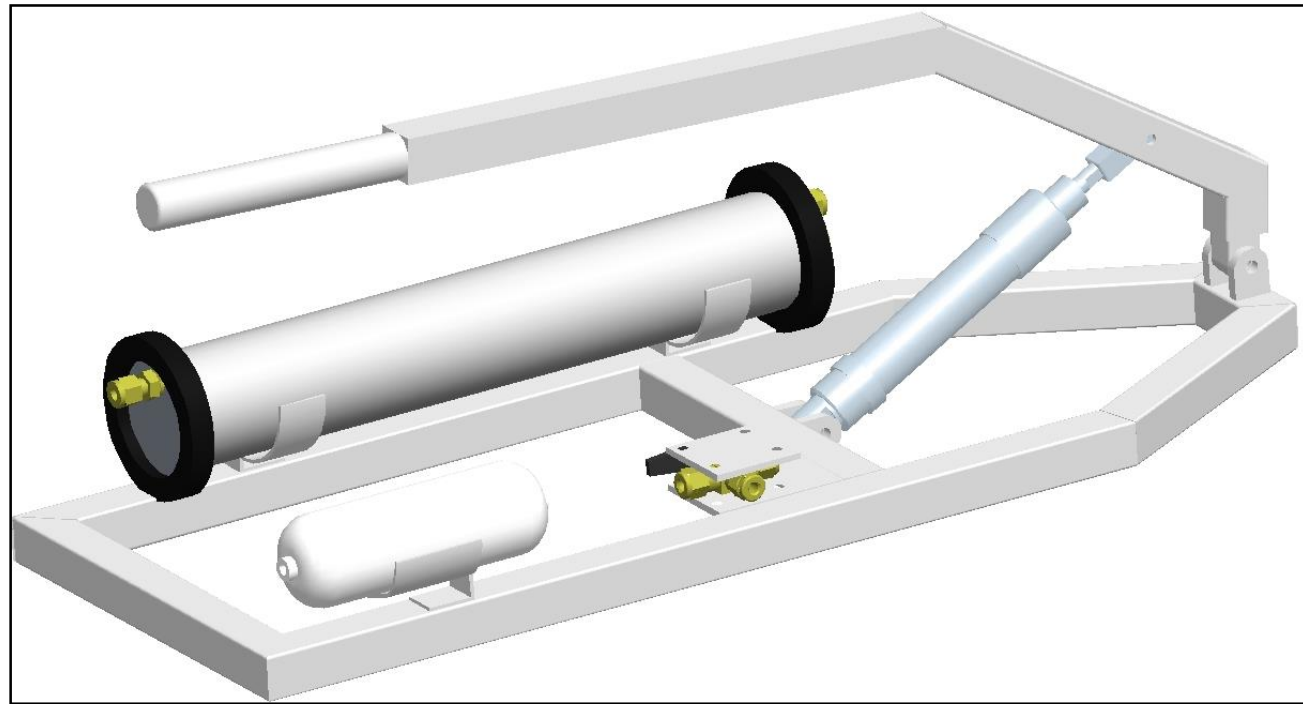




■ High pressure region
■ Low pressure (atmospheric) region



In the energy recovery system, high pressure reject brine is used to pressurize the back side of the pump, greatly reducing the force needed to actuate the piston



- Flow rate: 4.5 gal per day
- Pressure Required: 550 psi
- Salt Rejection Rate: 99.0%
- Recovery Ratio: 12.5%