Power V/S Water purification rate

Input Water temp = 25

$\Delta t = 75°C$

Flow rate = R gm/sec

Power = P

output: Water @ 100°C

Specific heat: 4.187 J/gmk

Latent heat (evap): 2256 J/gm

Steady State

$P = 4.187 \times 75 \times R + losses$

losses = 0.2P

$R = \frac{P - losses}{4.187 \times 75} = 0.9\ ml/sec$

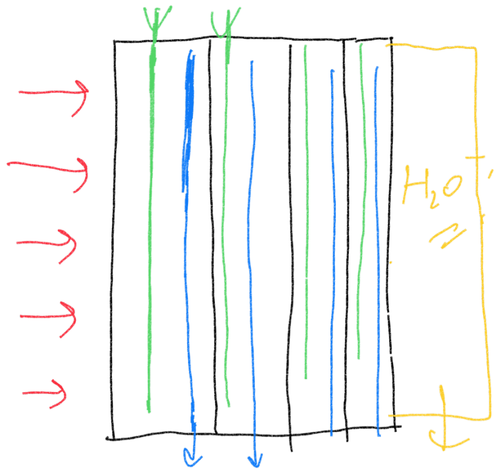
$\simeq 1.5\ l/hr$

$\simeq 24\ ml/hr$

if losses ≃ 20% of P

Startup State.

l = water in system



Capture reject heat to preheat water.

Sense.

1. Measure amount of water in system
2. Temperature
3. Humidity

Can't measure flow rate as rate is too low.

Find

1. Rate of percolation V/S height (pressure) →
2. Temperature when:
   1. Optimum
   2. Too dry
   3. Too wet.
3. How much water can the wick's hold?