

Accepted Manuscript

Title: Energy Efficient Configuration of Membrane Distillation Units for Brackish Water Desalination Using Exergy Analysis

Author: Emad Ali

PII: S0263-8762(17)30387-8

DOI: <http://dx.doi.org/doi:10.1016/j.cherd.2017.07.020>

Reference: CHERD 2761

To appear in:

Received date: 27-2-2017

Revised date: 4-7-2017

Accepted date: 12-7-2017

Please cite this article as: Ali, Emad, Energy Efficient Configuration of Membrane Distillation Units for Brackish Water Desalination Using Exergy Analysis. Chemical Engineering Research and Design <http://dx.doi.org/10.1016/j.cherd.2017.07.020>

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

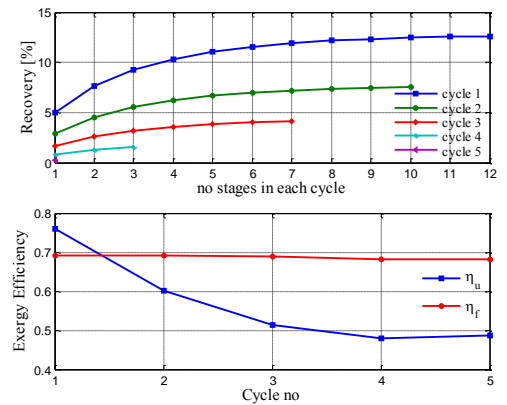
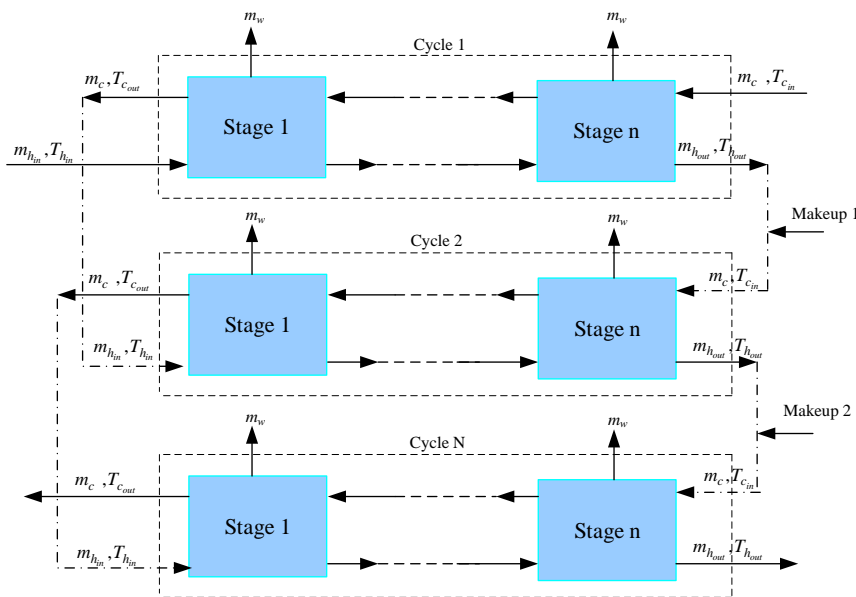


Energy Efficient Configuration of Membrane Distillation Units for Brackish Water Desalination Using Exergy Analysis

Emad Ali

Chemical Engineering Department, King Saud University, P.O. Box 800, Riyadh, Saudi Arabia, 11421, amkamal@ksu.edu.sa

Graphical abstract



Highlights

- Exergy analysis is used to seek enhancement of MD process thermal efficiency.
- Reject brine is found to have high exergy losses.
- Arranging MD units in series reduces the exergy losses associated with reject brine.
- Exit warm permeates is found to be another source of exergy losses.
- Arranging MD vessels in parallel improves water production and exergy efficiency.

Download English Version:

<https://daneshyari.com/en/article/4987060>

Download Persian Version:

<https://daneshyari.com/article/4987060>

[Daneshyari.com](https://daneshyari.com)