



Module PMRF-ISSS005/2024

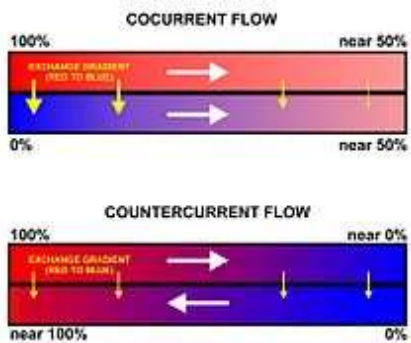
THERMODYNAMICS OF FLOW PROCESS

Name of the PMRF student

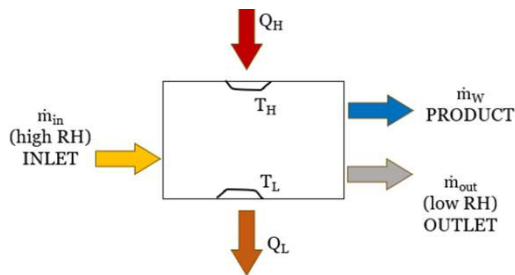
Goutam Mandal

Required background of the students taught

Basic knowledge of undergraduate level thermodynamics and fluid mechanics.



Heat Exchangers. Source: Wikipedia



Thermodynamic model of adsorbent based atmospheric water harvester

Details of the content of the module

This course introduces the concept of exergy and its application to flow process. Starting with the basic equations, applying conservation laws to control volume and finally estimating the first law and second law efficiency is the primary target of this course. There will be ample problem-solving sessions. At the end of the course, we a brief discussion of optimal design of flow process will be done. The overall course looks as follows:

1. Introduction (Thermodynamic definitions)
2. Basics of fluid mechanics and thermodynamics
3. Conservation Laws and Exact Solutions
4. Efficiency and exergy of flow stream
5. Loss estimation and Optimization of flow process

Schedule of the module

Start Date: 23/01/24

End Date: 13/04/24

Timings: Tuesday (9:30 PM – 10:30 PM)

Thursday (9:30 PM – 10:30 PM)

Saturday (12:30 PM – 1:30 PM)

Meeting link : Will be shared later

[Link](#)

Contact email ID: iss.s.forum@gmail.com

Registration link:

<https://forms.gle/7Nu3oBYWV1yAf9777>