MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE GWALIOR

Department of Mechanical Engineering

REPORT OF SKILL BASED MINI PROJECT

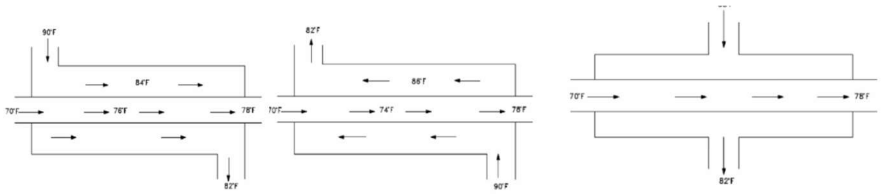
Heat And Mass Transfer (190513)

Title of Project: - STUDY ON FLOW OF HEAT EXCHANGER.

Introduction: Three basic flow of heat exchanger are :-

1. Parallel flow
2. Counter flow
3. Cross flow

Description



In parallel flow heat exchangers both hot and cold streams enter the heat exchanger at the same end and travel to the opposite end in parallel streams In a counter flow heat exchanger, two streams enter at opposite ends of a heat exchanger and flow in parallel but opposite directions Cross flow exists when one fluid flows perpendicular to the second fluid

MATHAMETICAL APPLICATION

The following elaboration shows that LMTD counter flow heat exchanger is greater than LMTD parallel flow or cross flow heat exchanger

$$\Delta T = \Delta T2 - \Delta T1 / \ln \Delta T2 / \Delta T2$$

What I Learned Through Project:

The results demonstrate that given the same operating conditions, operating the same heat exchanger in counter flow manner will result in a greater heat transfer rate than operating in parallel flow

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COMPILED REPORT OF SKILL BASED MINI PROJECT

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Session: December – June 2022

Submitted By
Fifth Semester
Automobile Engineering

Submitted To
Prof. Bhupendra Pandey Sir
Assistant Professor