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65	07-30 ECV	Irawansyah, Ghofur, Subagyo,...	Characterization of Heat Transfer on Concentric Tube Heat...	Paper In Review: Revisions Required

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#65 Summary

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Submission


Authors	Herry Irawansyah, Abdul Ghofur, Rachmat Subagyo, Mastiadi Tamjidillah, Bagus Harits Pratama, Bektı Suroso, Budi Santoso Wibowo
Title	Characterization of Heat Transfer on Concentric Tube Heat Exchanger Using Ethylene Glycol / TiO ₂ Nanofluid
Original file	65-314-1-SM.docx 2020-07-30
Supp. files	None
Submitter	Herry Irawansyah 
Date submitted	July 30, 2020 - 10:20 PM
Track	Energy Conversion
Director	Teguh Widodo, ST., M.Eng., Ph.D  (Track Director)

Status


Status	Paper In Review
Initiated	2020-08-05
Last modified	2020-09-16

Submission Metadata

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Title and Abstract

Title Characterization of Heat Transfer on Concentric Tube Heat Exchanger Using Ethylene Glycol / TiO₂ Nanofluid

Abstract This study aims to determine the effect of temperature and volume fraction on heat transfer rate and heat transfer coefficient on Concentric tube heat exchanger with nano ethylene glycol / TiO₂ fluid. From the results of tests and analyzes that have been done, it is obtained the best temperature and volume fraction that supports the rate of heat transfer. The best heat transfer rate of 22,430.25 W is done at the condition of the 0.03% TiO₂ Volume Fraction and at a temperature of 100 ° C. The best heat transfer coefficient occurs at a volume fraction of 0.03% and at a temperature of 100 ° C. It can be concluded that, TiO₂ will increase the heat capacity and heat conductivity of the base fluid which will optimize the performance of the fluid.

Indexing

Academic discipline and sub-disciplines Energy Conversion

Keywords nanofluid; ethylene glycol, heat transfer

Type, method or approach Experimental

Language en

Supporting Agencies

Agencies

—

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#65 Paper Review

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Submission

Authors Herry Irawansyah, Abdul Ghofur, Rachmat Subagyo, Mastiadi Tamjidillah, Bagus Harits Pratama, Bektı Suroso, Budi Santoso Wibowo

Title Characterization of Heat Transfer on Concentric Tube Heat Exchanger Using Ethylene Glycol / TiO2 Nanofluid

Track Energy Conversion

Director Teguh Widodo, ST., M.Eng., Ph.D

Peer Review

Review Version [65-315-2-RV.docx](#) 2020-07-31

Initiated 2020-07-31

Last modified 2020-08-04

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Author Version [65-1062-1-DR.docx](#) 2020-09-16

Director Decision

Decision Revisions Required 2020-08-05

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