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Patent Search

Invention Title	ECO-FRIENDLY HEAT EXCHANGER CONTROL SYSTEM FOR ENHANCED REACTOR PERFORMANCE THROUGH CYCLOCONVERTER TECHNOLOGY METHOD EMPLOYED THEREOF
Publication Number	28/2024
Publication Date	12/07/2024
Publication Type	INA
Application Number	202441051144
Application Filing Date	04/07/2024
Priority Number	
Priority Country	
Priority Date	
Field Of Invention	MECHANICAL ENGINEERING
Classification (IPC)	F24F0013200000, H04L0001180000, F28F0027000000, F24F0011770000, F28F0013000000

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Abstract:

Exemplary embodiments of the present disclosure are directed towards eco-friendly heat exchanger control system for enhanced reactor performance through cycloconverter technology and method employed thereof. An eco-friendly heat exchanger control system comprising a cycloconverter control unit that receives and manages data from its sensors on a real-time basis and send to eco heat exchanger interface. The eco heat exchanger interface transmits data concerning the adjustment to at least one heat exchanger component. A reactor efficiency regulator that monitors and adjusts operation of the heat exchange components and sends to thermal energy optimizer. Finally, the thermal energy optimizer that analyzes and optimizes energy flow within the system. FIG. 1

Complete Specification

Description: TECHNICAL FIELD

[001] The disclosed subject matter relates a system and method for eco-friendly heat exchanger control for enhanced reactor performance. More particularly, the present disclosure relates to the combination of cycloconverter technology with critical components to enable adaptable and reactive control of heat exchange processes.

BACKGROUND

[002] With growing focus on optimizing HVAC systems to maximize efficiency, heat exchangers are poised to play an increasingly significant role in promoting energy conservation and reducing carbon emissions. Heat exchangers are among those existing solutions. Used in a variety of applications, heat exchangers' primary role is to transfer heat from one fluid or gas to another to control the temperature of a system and capture and use waste heat. They are a vital component for providing economized chilled water for air conditioning to structures like office buildings, hospitals and especially data center cooling. With growing focus on optimizing heating, ventilation and air conditioning (HVAC) systems to maximize efficiency, heat exchangers are poised to play an increasingly significant role in promoting energy conservation and reducing carbon emissions, aligning with the rising demand for sustainable and eco-friendly technologies. The main challenge lies with the inefficiencies of conventional heat-exchange control methods in industrial reactor systems. Traditional control systems lack the flexibility and precision to enhance heat exchange operations in real-time. Reactors frequently operate at less than optimal efficiency, leading to energy waste and higher levels of pollutants in the environment. Considering the above issues, this

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Page last updated on: 26/06/2019