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SCIENTIFIC & RESEARCH PROJECTS

Project No.: 07 **Year: 2006**

Project Field: Heat Exchanger Networks (HENs)

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Project Title:

Heat Exchanger Networks Targeting and Design with Unequal Heat Transfer Coefficient Regarding Allowable Pressure Drop of Streams

Abstract:

This article presents a new method for the targeting and design of heat exchanger networks in grassroots design, based on pinch technology. Along with giving the proper consideration to an allowable pressure drop of streams; the present method takes into account the unequal heat transfer coefficient of streams at the stage of energy, area, and shell targeting. Also, the temperature shifting of streams is related to the film heat transfer coefficients, which in turn are functions of their pressure drops. This offers an opportunity for decreasing the required area at the stage of targeting and design and bringing into accord the results of these stages. A comparison of the results of this method with other prevalent methods demonstrates its efficacy and benefits in targeting and design.