

Literature Review of Shell and Tube Heat Exchanger using Conical Coils and Helical Coils

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Abstract: *Shell and tube heat exchangers are vital components in various industrial applications due to their efficient thermal performance and mechanical strength. This paper presents a comparative review of heat exchangers utilizing helical and conical coil configurations within shell and tube arrangements. Through an analysis of 17 peer-reviewed research papers, the study explores performance indicators such as heat transfer coefficient, Nusselt number, friction factor, and pressure drop. The review identifies that helical coils enhance thermal performance through centrifugal force-induced turbulence [1][2], while conical coils provide benefits in compactness and flow distribution [4][6]. The paper concludes with insights into the optimal applications of each geometry and outlines recommendations for future studies.*

Keywords: Shell and tube heat exchangers

