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Effect of decaying swirl flow on tubular turbulent heat transfer enhancement by using short length helical tapes

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Highlights

- Thermal-hydraulic behaviors of short length helical tapes were investigated.
- Effects of tape length, hole diameter and pitch length were compared.
- New Nusselt number and friction factor correlations were developed.

Abstract: This study deals with an experimental investigation on turbulent thermal-hydraulic performances in a plain tube (PT) mounted with swirl flow devices of short length helical tapes (SL-HTs). The heat transfer experiments were conducted at constant heat flux wall conditions while

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