

RESEARCH PAPERS

基于专家系统和遗传算法的换热网络的建模和优化

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**摘要** A new superstructure form of heat exchanger networks (HEN) is proposed based on expert system (ES). The new superstructure form is combined with the practical engineering. The different investment cost formula for different heat exchanger is also presented based on ES. The mathematical model for the simultaneous optimization of network configuration is established and solved by a genetic algorithm. This method can deal with larger scale HEN synthesis and the optimal HEN configuration is obtained automatically. Finally, a case study is presented to demonstrate the effectiveness of the method.

**关键词** [heat exchanger network](#) [expert system](#) [genetic algorithm](#)

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**Modeling and Optimization for Heat Exchanger Networks Synthesis Based on Expert System and Genetic Algorithm**

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**Key words** [heat exchanger network](#); [expert system](#); [genetic algorithm](#)

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