

## عنوان مقاله:

Multi-objective optimization of heat recovery steam generators

## محل انتشار:

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## نویسندگان:

Rasool Bahrampoury - *Department of Mechanical Engineering, K.N. Toosi University of Technology, Mollasadra St., Tehran, Iran*

Ali Behbahaninia - *Department of Mechanical Engineering, K.N. Toosi University of Technology, Mollasadra St., Tehran, Iran*

## خلاصه مقاله:

In this paper, a multi-objective method is used to optimize a heat recovery steam generator (HRSG). Two objective functions have been used in the optimization, which are irreversibility and HRSG equivalent volume. The former expresses the exergetic efficiency and the latter demonstrates the cost of the HRSG. Decision variables are geometric and operational parameters of the HRSG. The results of the multi-objective optimization are shown in a famous curve called the Pareto curve. The resulting Pareto curve can be used as a decision making tool by designers. Different optimal parameters are presented for different weight coefficients in the function. Volume and exergy optimization are special cases of the proposed algorithm. It is also shown that thermoeconomic and multi-objective optimizations can also be specific cases of the proposed algorithm if the proper weight coefficient is used. This weight coefficient depends on local prices of energy and construction costs of the HRSG.

## کلمات کلیدی:

Combined Cycle, HRSG, Multi-objective Optimization, Thermoeconomic

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