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# Computational fluid dynamics modeling for performance assessment of permeate gap membrane distillation

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## Abstract

The critical factors and interactions which affect the module-level performance of permeate gap membrane distillation (PGMD) were investigated. A three-dimensional computational fluid dynamics (CFD) model was developed for the PGMD configuration, and the model was validated using experimental data. The realizable k- $\epsilon$  turbulence model was applied for the flow in the feed and coolant channels. A two-level full factorial design tool was utilized to plan additional simulation trials to examine the effects of four selected parameters (i.e., factors) on

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