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CFD Analysis of Transient Flows in a Linear Compressor Using a 1D-CFD Coupled Model

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Highlights

- Prediction of accurate superheat of a linear compressor is important for refrigeration cycle efficiency
- The existing 1D-CFD coupled model is not accurate because the transient flow effects are not considered
- Three-dimensional unsteady conjugate heat transfer analysis is required for better accuracy, but not practical due to the expensive computation time
- A transient model using a revised coupled model was proposed to shorten computation time and ensure accuracy.

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