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Theoretical and experimental analyses of the internal leakage in single-screw expanders

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Highlights

- Mathematical model of leakage paths based on geometry structure was given.
- Theoretical model was established to analyze the internal leakage of SSEs.
- Numerical simulation results were validated by the experimental data.
- Volumetric efficiency and leakage characteristics of SSEs were calculated.
- The effect of geometry parameters on the design was examined.

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