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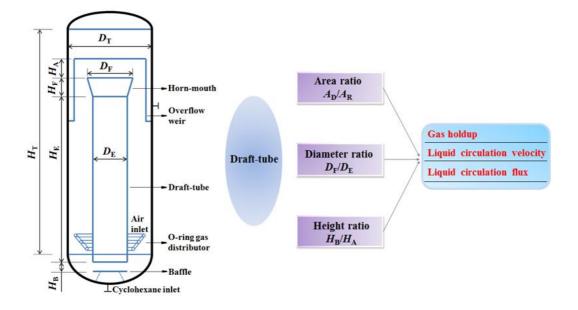
CFD simulation of the hydrodynamics in an industrial scale cyclohexane

oxidation airlift loop reactor

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Graphical abstract



Highlights

- Circulation flow is influenced by the liquid circulation velocity and flux together
- Gas phase entrainment in the draft-tube is determined by the liquid circulation flux
- Gas holdup and liquid circulation flux increase with the increasing draft-tube area
- The horn-mouth can effectively enhance the gas-liquid separation at the reactor top
- Axial position of the draft-tube can influence the circulation impetus within limits

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