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PII: S0896-8446(17)30427-8
DOI: https://doi.org/10.1016/j.supflu.2017.11.001
Reference: SUPFLU 4091

To appear in: *J. of Supercritical Fluids*

Received date: 21-6-2017
Revised date: 3-11-2017
Accepted date: 4-11-2017

Please cite this article as: Riza Yukananto, Artur K.Pozarlik, Gerrit Brem, Computational Fluid Dynamic Model for Glycerol Gasification in Supercritical Water in a Tee Junction Shaped Cylindrical Reactor, The Journal of Supercritical Fluids https://doi.org/10.1016/j.supflu.2017.11.001

Computational Fluid Dynamic Model for Glycerol Gasification in Supercritical Water in a Tee Junction Shaped Cylindrical Reactor

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SCWG: Supercritical Water Gasification

SCW: Supercritical Water

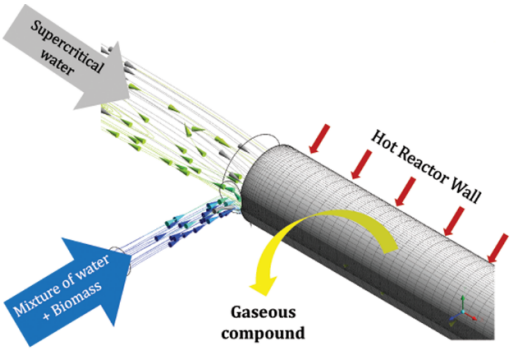
CGE: Carbon Gasification Efficiency

CFD: Computational Fluid Dynamics

TLSM: Tracer Liu-Silva-Macedo

UDF: User Defined Function

Graphical abstract



HIGHLIGHT

- CFD model for glycerol gasification in supercritical water is developed
- Model provides good match, from 6 % up to 16 % error, with experimental validation
- Flow swirls create a non-uniform concentration and temperature distribution