

Network-of-Zones Model for Stirred Tank with Fractal Impeller

G.M. Mule¹, A.A. Kulkarni¹

¹CSIR - National Chemical Laboratory, Pune, Maharashtra, India

Abstract

Stirred tanks are widely used in the pharmaceuticals, chemical and paint industries for variety of operations. The fractal impeller is an impeller having a novel design, developed by CSIR-National Chemical Laboratory, Pune, India. The power number of fractal impeller is relatively lower than the conventional impellers. The mixing performance is also relatively better than the conventional impellers. COMSOL Multiphysics® software was used in order to investigate the detailed flow patterns in the stirred tank with fractal impeller. Using flow pattern analysis, different mixing zones were identified and a network-of-zones model has been used to characterize the mixing.

Reference

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