

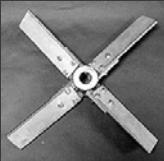
COMPARATIVE CFD ANALYSIS OF MIXER BLADES

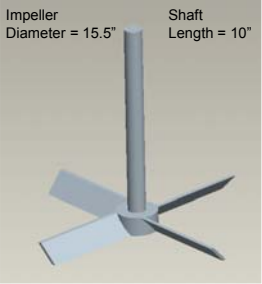
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December 10, 2008

- ## Project Objectives
- Model and computationally analyze mixing blade designs: Turbine and Tooth
 - Perform comparison based on:
 - Mixing quality
 - Time to steady state dispersion of suspended particles in viscous medium
 - Mixing flow structures developed
 - Heat dispersion rate
 - Mixing power required

Blade Designs

- Turbine
 - Diverse application
 - Well-suited for heat dispersion
 - Maintains solid suspension




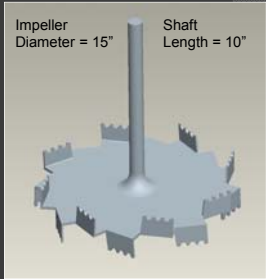


Impeller Diameter = 15.5" Shaft Length = 10"

Blade Designs

- Tooth Blade
 - High shear dispersion
 - Energy efficient

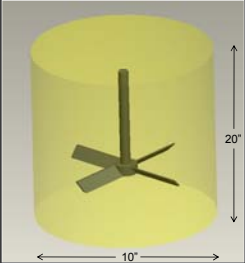




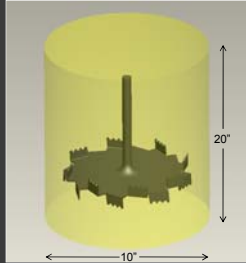
Impeller Diameter = 15" Shaft Length = 10"

Cases Studied

- Case 1 – Tank Only
- Case 2 – Turbine Blade
- Case 3 – Tooth Blade



10" 20"



10" 20"

