KaeMix

KaeMix Student Overview

KaeMix Documentation

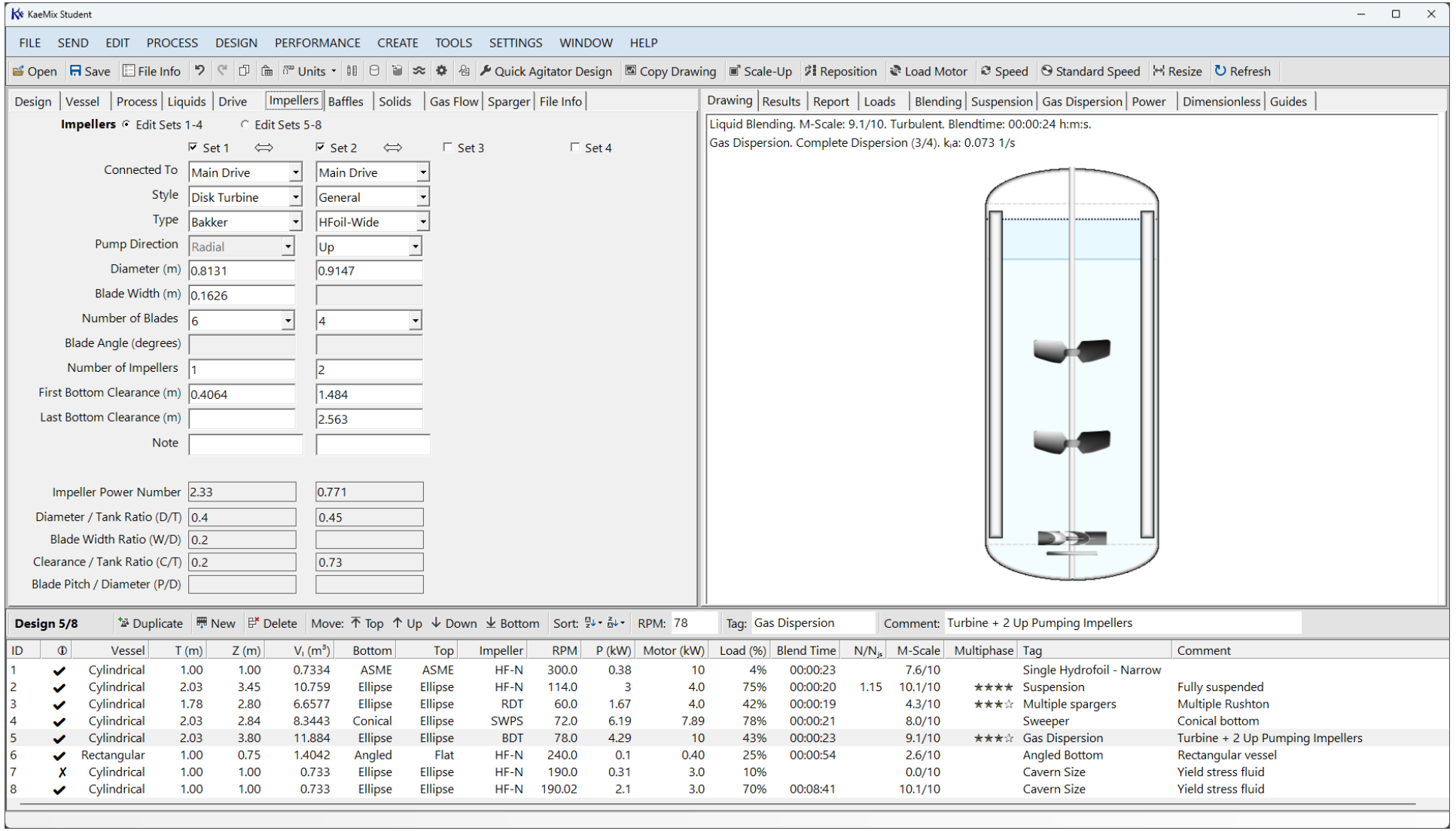
www.kaemixllc.com

support@kaemixllc.com

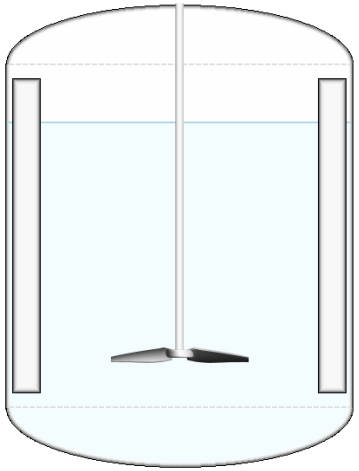
KaeMix Student FAQ

- What is it?
  Software to design and evaluate stirred fluid mixing vessels
- Where does it come from?
  It is developed by Dr. Andre Bakker, a well-known fluid dynamics expert
- Who is it for?
  It is for students, educators, and engineers who study stirred fluid mixing problems
- What can it do?
  Performance prediction for single-phase and multiphase stirred vessels
- What is it based on?
  Literature data and published correlations
- Does it fit in my workflow?
  KaeMix complements your CAD and CFD software. In fact, by performing your mixer designs with KaeMix, you can save on CFD analyses because you will need fewer of them
- What kind of computer do I need?
  A standard 64-bit Windows PC with a screen resolution of at least 1920x1080 suffices – no special hardware needed
- Where can I get it?
  Send an email request to support@kaemixllc using your university email address and containing a brief explanation about what you will be using it for

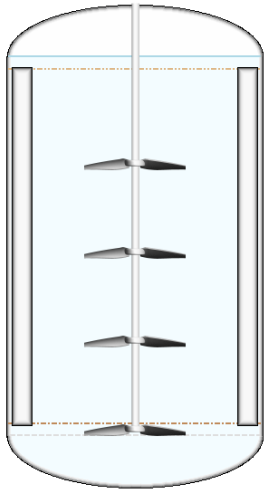
User Interface



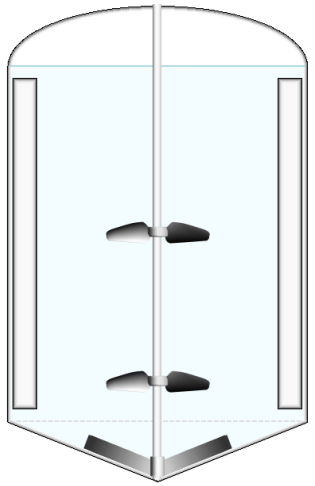
Design Examples



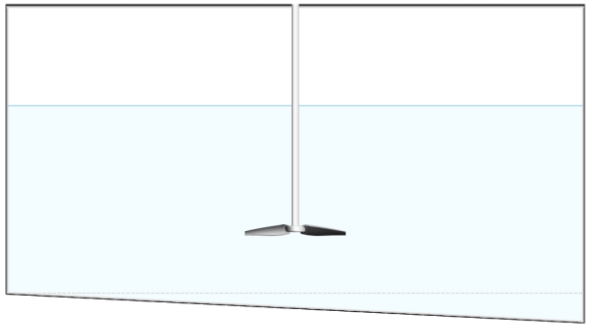
Default design:
single hydrofoil



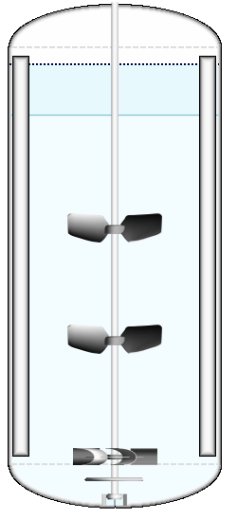
Multiple hydrofoils



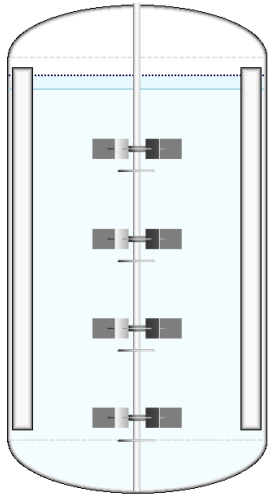
Hydrofoils and a sweeper



Rectangular vessel with
sloped bottom

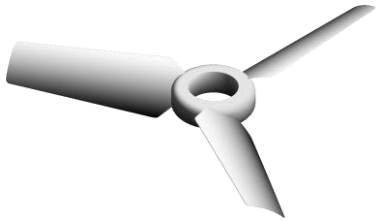


Hydrofoils, a disk
turbine, and gas sparger

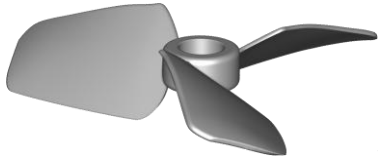


Multiple impellers and
spargers

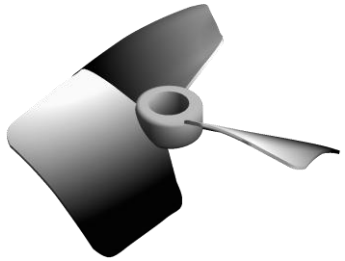
Available Impellers



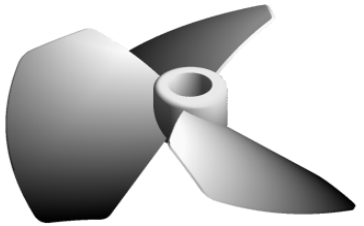
Hydrofoil Narrow



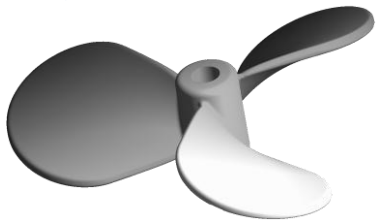
Hydrofoil Medium



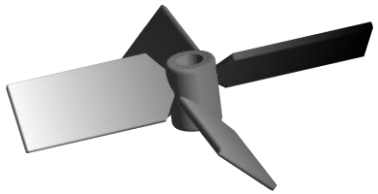
Hydrofoil Wide



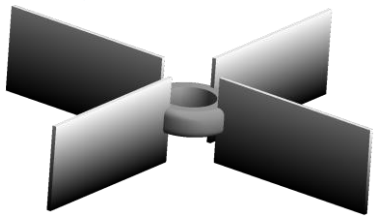
HF Extra Wide



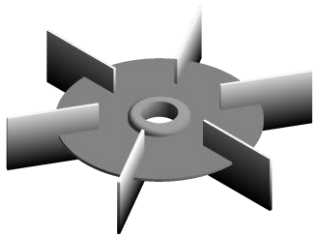
Propeller



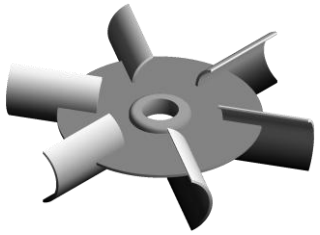
Pitched Blade



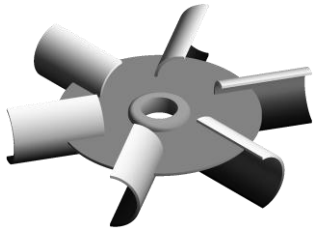
Straight Blade



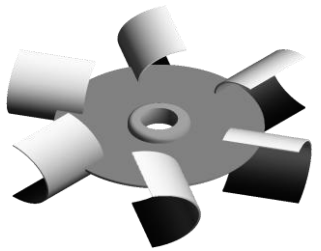
Rushton Turbine



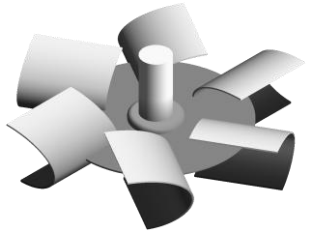
Van‘t Riet Turbine



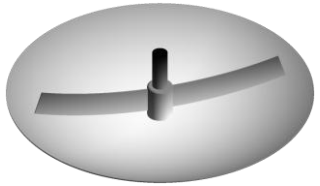
Smith Turbine



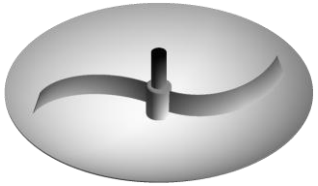
Middleton Turbine



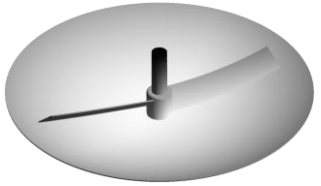
Bakker Turbine



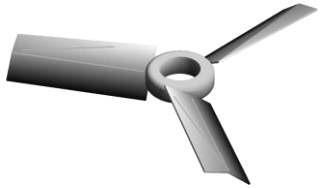
Sweeper Straight



Sweeper Curved



Sweeper Angled

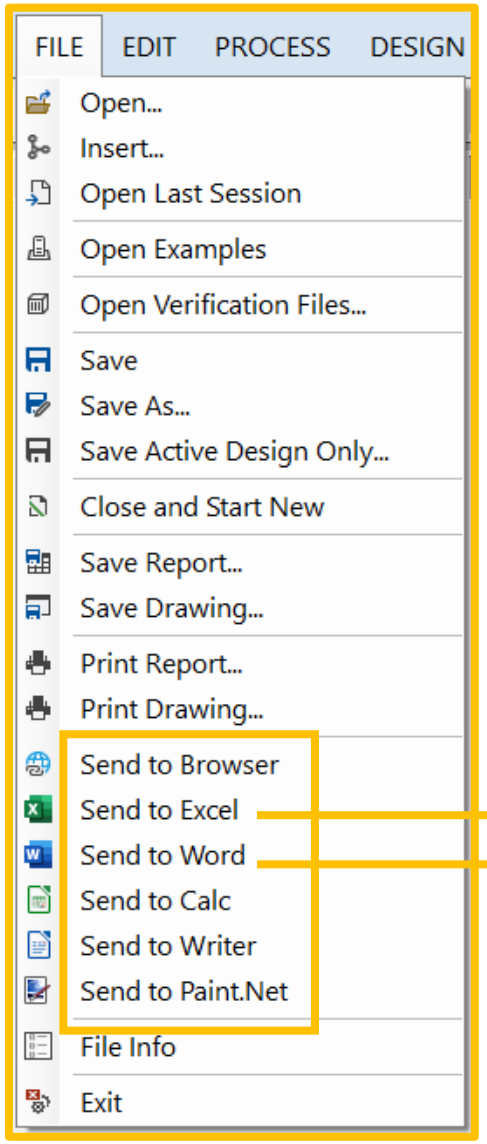


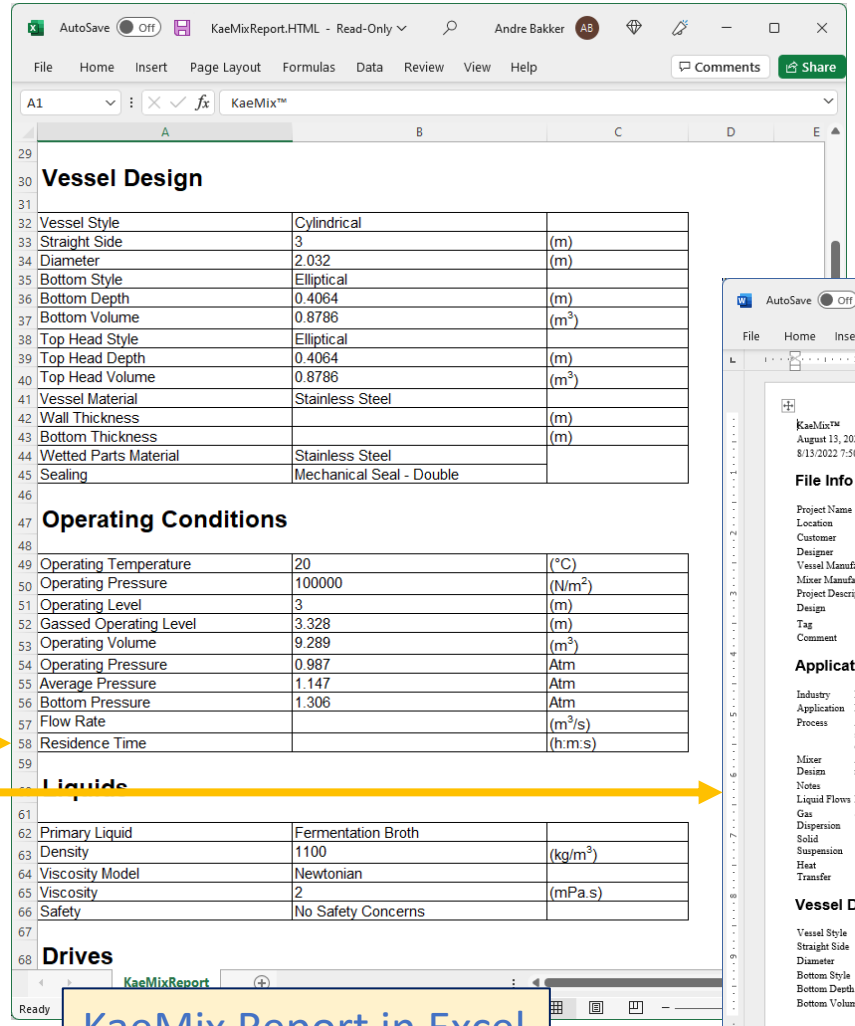
High-Efficiency

Physics

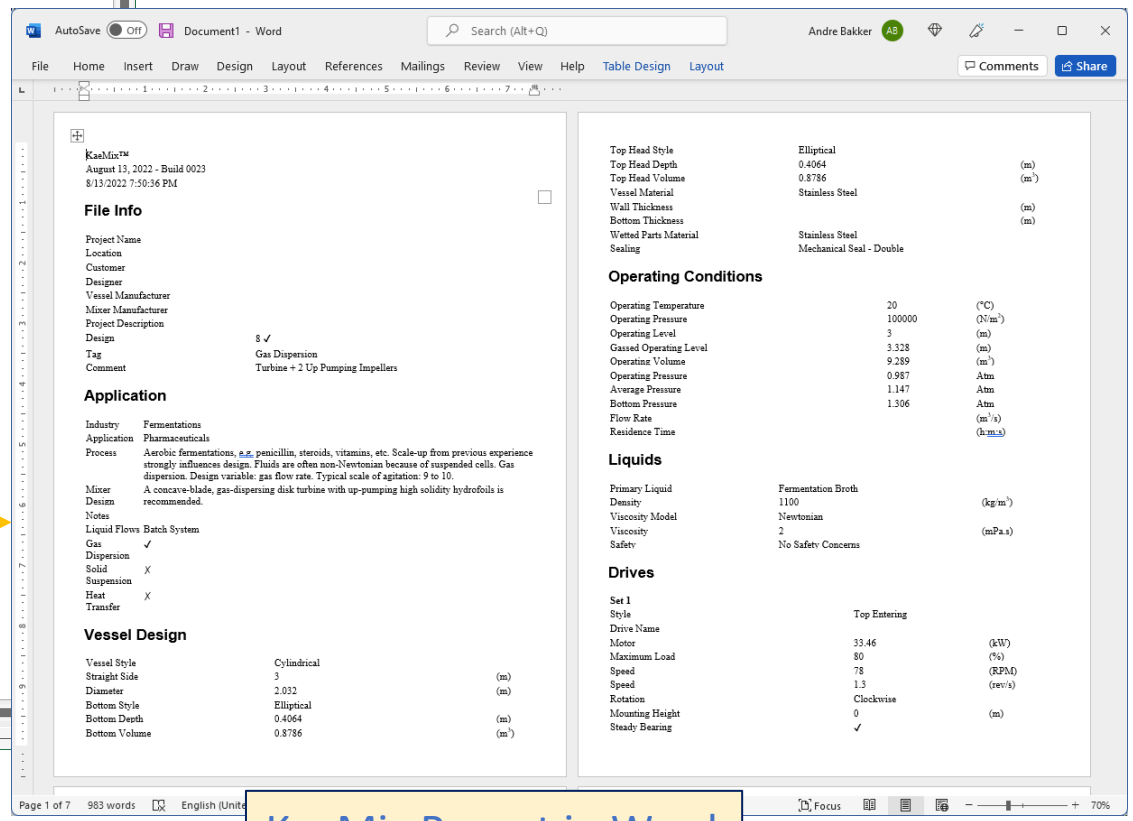
- General: flow regime, dimensionless numbers, torque, power draw, flow rate, blend times, cavern size, etc.
- Materials: built-in properties for common liquids and gases, Newtonian, power law, yield stress fluids
- Gas dispersion: dispersion regime, gas holdup, mass transfer
- Solids suspension: just suspended speed, settled solids, cloud height
- Scale-up: by blend time, M-Scale, Froude, Reynolds, shear rates, tip speed, power / volume, torque / volume
- M-Scale: a 1 to 10 scale of agitation for liquid blending
- Application guide: impeller and scale of agitation recommendations

Reporting





KaeMix Report in Excel



KaeMix Report in Word

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