

SEE INSIDE YOUR EQUIPMENT BEFORE YOU BUILD

How Koch-Glitsch uses CFD to strengthen design recommendations and reduce project risk

WHAT IS CFD?

CFD, or computational fluid dynamics, is a digital simulation tool that helps you make informed decisions by showing how vapor and liquid move inside towers and separators. It helps visualize flow behavior early in a project — before fabrication, installation or turnaround.

We right-size the scope of the CFD study to the problem, from highly targeted analyses that quickly answer specific questions to detailed studies that offer more comprehensive evaluation.

WHY CHOOSE CFD?



Make informed design decisions earlier



Reduce risk by identifying hidden flow issues



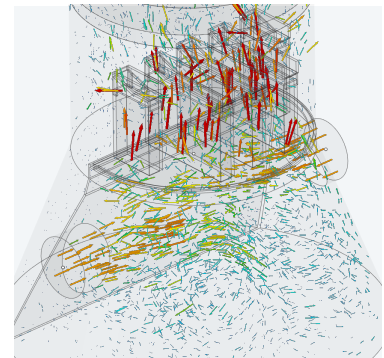
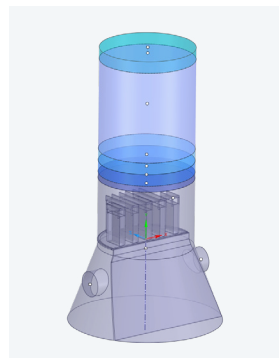
Improve tower performance and distribution



Validate design choices before fabrication

HOW KOCH-GLITSCH USES CFD

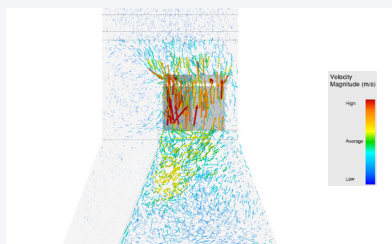
- ▼ Optimize design options
- ▼ Troubleshooting
- ▼ Diagnose existing tower constraints
- ▼ Support confident decision making across mass transfer and phase separation applications



WHERE CFD ADDS VALUE

- ▼ Tight or limited spacing constraints
- ▼ Complex feed arrangements
- ▼ Non-standard tower geometries
- ▼ Inlet device evaluations

CASE STUDIES

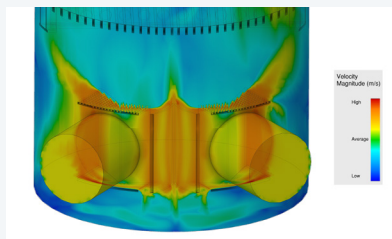


Existing Chimney Tray Distributor Optimization

Application: Amine Regenerator

Challenge: Increase throughput on an underperforming tower

Outcome: Poor vapor distribution caused by a reboiler baffle restricting nearly half of the column area was limiting capacity in an amine regenerator. Koch-Glitsch optimized the riser hat design with CFD to restore uniform vapor distribution as vessel hot work wasn't an option. Combined with an upgrade to FLEXIPAC® structured packing and INTALOX® high-performance internals, the solution enabled a 35% throughput increase.



Dual Reboiler Return Optimization

Application: Crude Styrene Tower

Challenge: Complex reboiler configuration creating uncertainty

Outcome: Our team used CFD to evaluate vapor distribution challenges caused by asymmetric reboiler return nozzle locations in a grassroots crude styrene tower. Koch-Glitsch analyzed multiple design concepts and developed a customized double V-baffle to ensure uniform vapor distribution to the packing, reducing project risk and confirming required separation performance.

Whether you're installing new towers or upgrading existing equipment, **we have teams around the world ready to help you make decisions with greater clarity and confidence** so you can reduce risk and improve performance.

