

Kranji Solutions Pte Ltd

Oil and Gas Industry

Singapore



Overview

In the Oil & Gas Industry, true in-depth know-how in the field of separation is rare. Furthermore, the link between theoretical know-how and physical equipment is often non-existent. With its expertise in the field of process, phase and solid separation, Kranji Solutions aims to provide this link.

The vision of Kranji Solutions is to enhance the level of separation know-how available to the Oil & Gas Industry by being the key partner to parties who wish to use or obtain high-level know-how in the field of phase separation.

Kranji Solutions is specialised in the field of phase separation (hydrocarbon liquids, gas, water, solids). The focus is on the Oil & Gas and Petrochemical industries, to which the following services are offered:

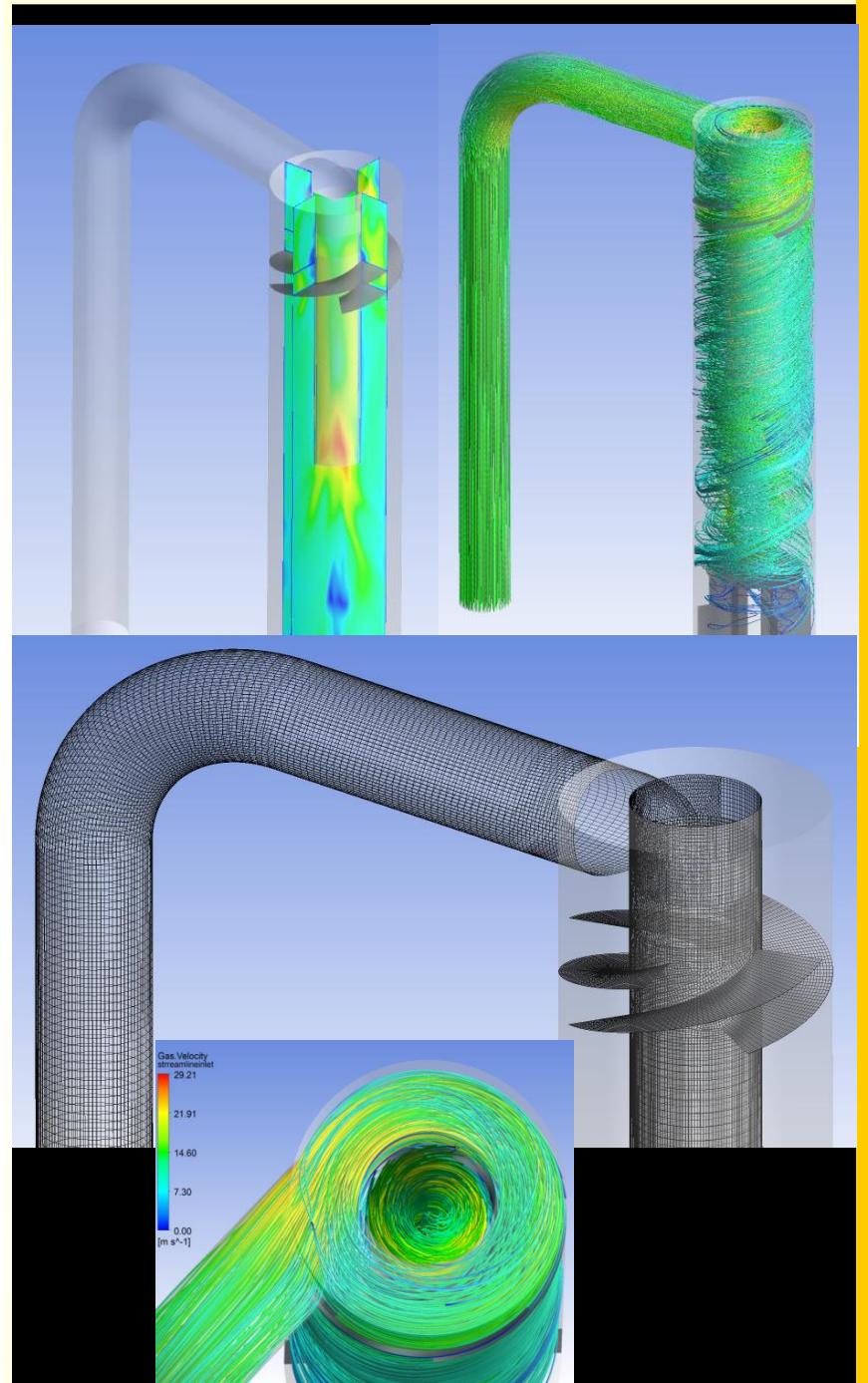
- Consultancy
- Independent process design reviews
- Computational Fluid Dynamics (CFD) studies
- MySep separator sizing software
- Process & mechanical engineering
- Project management
- Troubleshooting
- (Scale model) Testing in Kranji Solutions R&D lab or on site

Testimonial

The people at Kranji Solutions have been using ANSYS FLUENT for over 15 years to model hundreds of separation vessels of varying design configuration and under a wide range of flow conditions.

Modeling a separator provides insight in the flow characteristics within the vessel, which enables us to find and resolve root causes of separator mal-performance, predict vessel performance and develop design improvements. The visualisation of flows is a very useful tool to gain in-depth understanding in the process performance of a separator.

Together with the engineers from ANSYS, Kranji Solutions have always pushed the boundaries of Computational Fluid Dynamics to arrive at the most comprehensive and well founded solutions possible. An example of this are the recently performed 4-phase simulations (gas, water, hydrocarbons and sand) and the modeling of multiphase flows in moving separators (FPSO).



M. van Vorselen, Technical Director

Process

The displayed pictures show a multiphase simulation study Kranji Solutions has performed of a vertical cyclone separator.

The main function of a vertical cyclone vessel is to separate the liquids from the incoming gas and liquid flow.

Solution

Provided a suitable turbulence model, multiphase model and boundary conditions are adopted to achieve representative results, the simulation results can be used for a detailed analysis.

A wide range of information such as velocity profiles, pressure profiles, path lines and droplet trajectories can be extracted from the simulation to provide insight into the flow characteristics inside the separator.

Benefits

By using Ansys Fluent and performing a detailed analysis of the simulation results, Kranji Solutions have provided the client with more confidence and understanding of their proposed cyclonic vessel design.