HONEYWELL UNISIM[©] DESIGN FAQS

HOW ARE OPERATORS SPECIFICALLY USING UNISIM PROCESS SIMULATION?



1 Design

EPC, technology licensors and end-user design engineers use UniSim Design for conceptual design, feasibility analysis, Capex optimization

2| Building and Operation

Process and technical service engineers use UniSim Design for off-line optimization, what-if analysis, and post-event investigation

3 Optimization

Process engineers and consultants use UniSim Design for margin optimization, retrofit analysis and energy/GHG optimization

WHAT ARE THE MAIN BENEFITS OF UNISIM DESIGN?



Optimize Emissions and Energy Usage

Via built-in tools, ability to pull in operating data and tuning of models to represent a real plant



Reduce Cost Via fast efficient flowsheeting of steady state and dynamics modeling



Optimize Yields, Economics and GHG Build-in optimizer, powerful thermodynamics and available EO flowsheeting environment



WHAT ARE THE KEY FEATURES OF UNISIM DESIGN?

UniSim Design

The core steady state flow sheeting environment

UniSim Dynamics

Provides dynamic simulation capability and fully integrated with UniSim Design

UniSim EO (Equation Oriented):

High-performance simulation platform, enabling simulation and optimization in the same environment

UniSim Safety System Tools:

Design, rate & test scenarios for pressure relief, EO blowdown & flare



WHAT ARE DIFFERENTIATORS OF UNISIM DESIGN?

Lowest total cost of ownership

- Customize your selection of modules so that you only pay for what you need
- Flexible licensing options including fixed tokens per year and carryover/carryback ability to match your business cycle
- Migration of existing models to get you working in UniSim quickly



Sustainability features for CCUS, Green H2 and CO2 Emissions modeling

- Simulations for carbon capture, transportation and CO2 accounting
- Green H2 modeling with generic alkaline and Proton Exchange Membrane electrolyzer modules

Easy-to-use and comprehensive Refinery flowsheeting, covering the entire process from crude to products

- Includes reactor models leveraging UOP expertise
- Crude Feeder functionality to quickly import & characterize your crude assays
- Tools for catalyst activity and deactivation tracking
- Product blender functionality to optimize your product blends
- Built-in LP Vector generation

Best-in-class Technology from within Honeywell and through our industry-leading partners

- Built-in Sulfur Recovery Unit utilizes the best-in-class expertise from Ortloff Engineers
- HTRI integration for industry-leading heat exchanger modeling
- Cleopatra Plus for accurate cost estimating
- UOP tested and validated refinery flowsheeting, catalyst activity monitoring and more

Simple interface and intuitive functionality

- "Extended Secant" and a "Bisection" methods for Adjust operation improve convergence stability/robustness
- "Adjust groups" to limit the scope of the simultaneous solver & improve speed of solution

Industry-leading dynamics modeling

- Designed for superior speed and stability.
- Steady State and Dynamics are built into the same flowsheet

