

Refinery Applications of MySep

MySep software is increasingly applied by users in Refining, who find significant value when optimizing operations for new constraints. This topic was central in our Webinar for Italian refinery operators: **Troubleshoot Refinery Phase Separator Operations**, held on 29th of June.

Like their peers elsewhere, these operations experts agreed, processes are changing to address trends towards bio-derived feedstocks. In addition, switching production from transport fuels to products for petrochemicals, is driving both capital investment and changes in operation. Often this brings significant challenges to Fluid Catalytic Cracking (FCC) operations, and, Wet Gas Compression, with associated 2-and 3-phase separations.

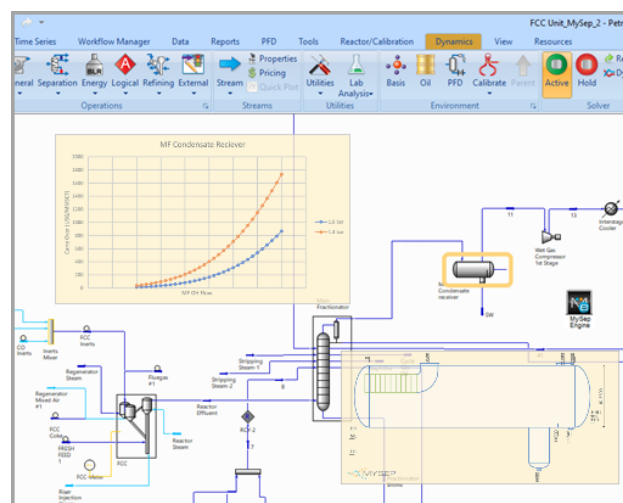
MySep shared experience of using our software in conjunction with process simulation, to optimize FCC operations and provide options for separator revamp.

KBC Partnership

On 23rd February, KBC and MySep, announced a partnership to deliver accurate and consistent results in separation of fluids into their oil, gas and water components, for process design, operation, and performance modelling.

The integration of MySep's separation technology with KBC's Petro-SIM simulation software, eliminates over-reliance on vendors for vessel sizing and/or vessel performance estimates. Petro-SIM users can now

obtain MySep's separation capabilities from their KBC Account Manager.

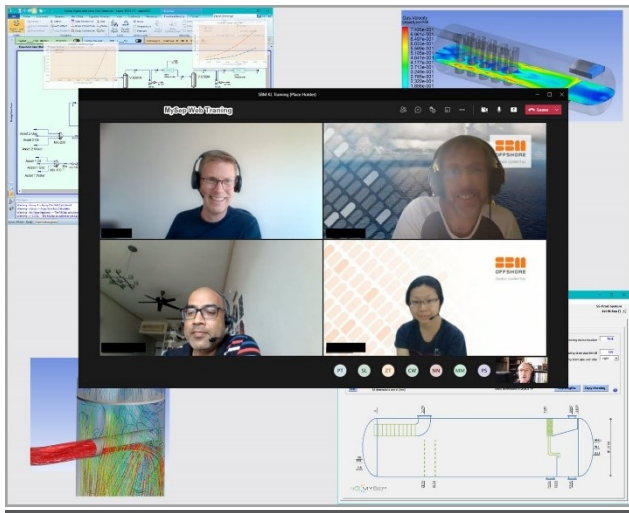


On 28th July, full release of Petro-SIM 7.2 with MySep Engine links was announced. Find out more at: <https://www.mysep.com/kbc-mysep-partnership>

Web Training

MySep training provides hands-on experience of rating existing equipment, remediating poor configurations, and separator greenfield design. In addition, trainees gain insight into the physics of phase separation and good design practice. MySep's training has been restructured for web delivery in modules comprising 3-hour interactive sessions.

Since February 2021 over 110 engineers from companies including: Shell, Hibiscus, Medco, SBM, Phillips 66 and more, have joined MySep training.

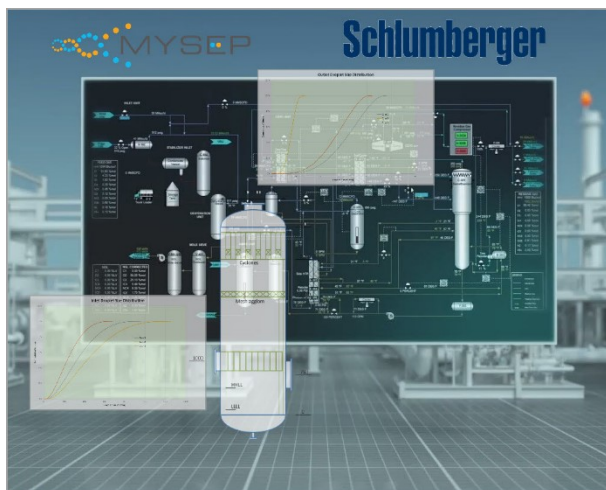


Request a course, or find out more about our training:
<https://www.mysep.com/mysep-training>

Schlumberger Partnership

On 14th May, Schlumberger and MySep announced a partnership that provides a joint solution, delivering combined capabilities for the design and rating of separators in the exploration and production (E&P), and across the process industries.

This partnership brings MySep Studio links to the Symmetry process simulator for rating and design and MySep Engine calculations interfaced with Symmetry steady state and dynamic simulations. The new capabilities were released with Symmetry 2021.2, 10th June.



The joint solution is available for on-premises systems and through Schlumberger's unique, cloud-based DELFI cognitive E&P environment. MySep Studio and MySep Engine may be licensed with Symmetry simulator and other Schlumberger products. For more information: <https://www.mysep.com/schlumberger-mysep-partnership>

MySep in Operator Specifications

Leading International and national Energy companies are specifying MySep as required software for design and evaluation of separation. Notable here are Total (now Total Energies), and North Oil Company (NOC).

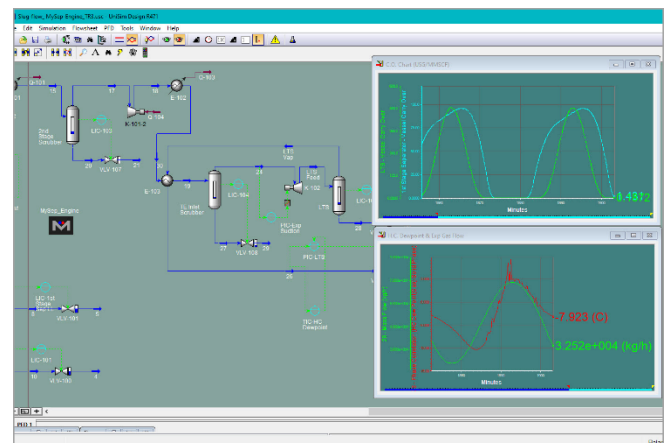
General Specification		GS EP EPC 103	
Process design criteria			
Rev.: 13	Effective date: 07/2020	Page: 63 of 66	
Table 25 - List of simulation software			
Simulation	Type	Program	Publisher
Plant thermodynamic simulations	Steady state	PRO/II	Aveva
		Company's preferred option	Honeywell
		UniSim Design	AspenTech
	Dynamic	HYSYS	Aveva
		Company's preferred option	Honeywell
		UniSim Design	AspenTech
Process liquid thermal calculations	Air coolers	HTRI Xchanger Suite	Heat Transfer Research, Inc.
		Company's preferred option	AspenTech
Gas / Liquid separation		MySep	Kranji Solutions
		Company's preferred option	
Flare system	Flare network design ^B	FLARESIM	Sorbis Consultants Ltd.
		VISUAL FLARE	Aveva
		UniSim Flare	Honeywell
Depressurisation (excluding pipelines)		Aspen Flare System Analyzer	AspenTech
		See Rule 84 (table 26)	

See the extract from Total's General Specification, Process design criteria GS EP EPC 103, above.

Slugging and Separation

MySep Engine in simulation enables accurate representation of gas-liquid separation performance in a process model or digital twin with incoming slug flow.

In a production system with 1st stage 3-phase separation, compression, turbo-expansion, and low temperature separation (LTS) we simulate the profound impact of liquid carry-over on performance.



Here all 5 separators are rigorously modelled in a UniSim Design dynamic simulation. Carry-over and gas surges propagate through the compression system and LTS resulting in off-spec hydrocarbon dew point, see more: <https://www.mysep.com/videos#slugging>