



SulphurPro[®]

Sulphur Recovery Units

Condenser Sizing and Rating Modes

In Sulphur Recovery Units (SRUs), condensing sulphur from the gas stream allows the Claus reaction to be continued downstream at lower temperatures with correspondingly more favorable equilibrium. This improves sulphur recovery. Additionally, sulphur condensers produce steam as a byproduct, thereby improving plant economics. The problem until now has been that designing and rating an SRU sulphur condenser has had to be done either manually or using software other than the SRU simulator itself. SulphurPro[®] eliminates this problem. Any sulphur condenser can be simulated in either design or rating mode as an integral part of the simulation, a unique and extremely useful capability of the software.

Design

Sulphur condenser calculations are time consuming. SulphurPro's sulphur condenser module, when run in design mode, automatically calculates the required sulphur condenser area, hence, the number and length of tubes. The resulting design can then be subjected to testing in rating mode for sensitivity of conversion and pressure drop to different turndown scenarios. The automated nature of the design calculations lowers the cost of the bidding process, while the rating feature allows more robust designs and more competitive bids.

Rating

There are several advantages to performing sizing and rating during the actual simulation. Engineers can compare actual and predicted steam generation rates and pressure drop, providing an invaluable troubleshooting tool. By being able to assess fouling effects on heat transfer and pressure drop, SulphurPro allows easier detection of steam leaks and quantification of overall condenser performance and physical condition. Only SulphurPro simulation software allows rigorous sizing and rating of sulphur condensers as an integral part of the simulation.

Other Aspects of the SRU Model in SulphurPro

SulphurPro's SRU simulator has a number of other unique capabilities including dew point profiles within catalyst beds, reaction kinetics for contaminant (COS, CS₂, HC) creation and destruction in furnaces and waste heat boilers, and accurate H₂S solubility calculations in molten sulphur. In SRU simulation, SulphurPro is predictive.

An OGT Application Engineer can help you set up your plant within SulphurPro and have you start saving money, today.



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