

**A targeting tool for industrial
process integration studies**



FT-PINCH



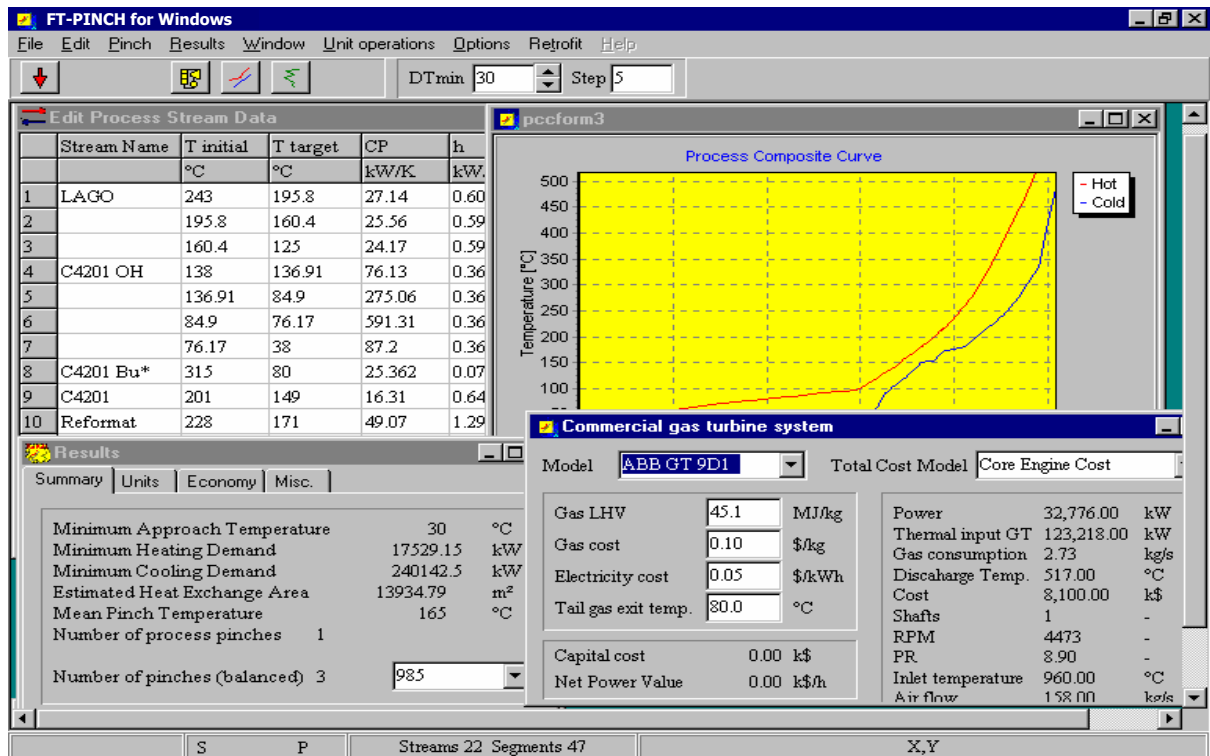
Pinch analysis - a guide to better utilisation of energy resources

Pinch analysis has for a long time been considered as the most successful technology when it comes to improvements regarding the utilisation of energy in industrial processes. A wide range of the world's largest industrial companies has long ago adopted the pinch principles in all major revamp studies or green field projects.

The main objective in a pinch analysis is to identify the thermodynamic bottlenecks. Pinch analysis can be regarded as a "thermodynamic scanning" of the processes. All heat flows are visualised in a single

diagram consisting of only two curves (hot and cold composite, representing all processes that need to be cooled and heated respectively).

The composite curve provides a magnificent view of how well the potential for heat integration and power production is exploited in an existing process. Well-skilled specialist can use the methodology to identify where process modifications are required in order to exploit the potential for energy savings or improved power production.



Use of the software FT-PINCH

FT-PINCH provides the application of a pinch analysis in an easy-to-use environment. Curves and reports are generated easily for standalone printouts or for easy integration in word processors or spreadsheets for further refinements. In a typical pinch analysis a thermo-economic optimum is identified using cost functions for energy, heat exchanger investment and general economic figures.

Features and future

Optimum integration of industrial gas turbines as a unique feature FT-PINCH includes a comprehensive database of virtually all commercially available gas turbines. Direct access to this database in a pinch analysis makes it much more easy to identify the gas turbine that fits the most to integrate with the actual process.

Integration with process simulators

A major step towards the perfect tool for process design is to integrate pinch analysis with advanced process simulators. Dynamic link between FT-PINCH

and process simulators is made using Windows OLE automation techniques. Currently the HYSYS flow sheeting package provides an OLE interface that makes it possible to extract process streams directly into FT-PINCH. Such feature makes the procedures involved in advanced process optimisation studies much more efficient.

With this link energy optimisation of process designs has taken an important step forward. Desktop studies involving several process alternatives can be screened immediately for potential energy recovery.

Designed for future enhancement

FT-PINCH is developed in a fully object oriented framework making it easy to include new features and further development. FT-PINCH is developed by practitioners for practitioners focusing issues that are of industrial importance.

The software can handle an unlimited number of process streams and up to 40 alternative hot and cold utilities.



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