pinch
saves energy and costs

Software PinCH

10 steps to energy efficiency and profitability in industry

Your challenge

Saving Energy and Costs

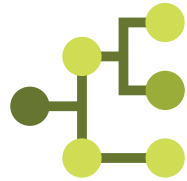
- Do you want to reduce your thermal energy costs, but the **saving potential** is unclear?
- Do you need a software to optimize your **whole industrial process**?
- Do you need capabilities to analyze **time dependent procresses**?
- Do you wonder what **opportunities** are available to achieve the energy and cost saving potential?
- Do you need support for **integrating energy conversion units (ECUs)** properly into your process?

Our solution

PinCH Software for Pinch Analysis

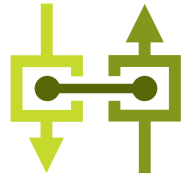
PinCH determines the **absolute energy and cost saving potential.**

PinCH supports you in **optimizing systematically** a broad spectrum of industrial processes.



PinCH provides a quick and flexible evaluation of **various designs and scenarios.**

PinCH is **unique in handling** both direct heat recovery and heat storage analysis.



PinCH enables the **proper integration** of ECUs and thermal energy storage systems.

Characterize your process

Understand and quantify your thermal energy needs (steps 1-5)

- Obtain a thermal energy fingerprint of your plant design
- Visualize your heating and cooling requirements with time dependent behaviour
- Establish your process schedule and economic data framework

Define Process Requirements
- Gather process data
- Set the system boundary
- Determine the heating and cooling requirements

Configure Equipment
- Configure shared equipment to reduce storage design complexity
- Use equipment to define multiple operating cases
- Share equipment to optimize heat exchanger area reuse

Apply Schedule
- Configure process time dependence
- Model continuous and time dependent processes
- Visualize the process requirements schedule

Prepare Targeting Calculations
- Configure analysis scenarios
- Set up different configurations based on processes, utilities, schedules, economic data

Calculate Energy & Cost Targets
- Analyze the energy demand and cost targets
- Apply supertargeting to optimize direct heat recovery in time dependent processes
- Systematically integrate thermal energy storage systems

Design Heat Exchanger and Storage Networks (HEN/HESN)
- Create MER and Relaxed HENs for direct heat recovery
- Optimize HENs for time dependent processes
- Visualize a thermal energy storage network

Enter Stream Data
- Define the utilities
- Assign special fluids to calculate automatically key properties
- Import stream data

Define Processes
- Create processes based on distinct groupings of streams
- Prepare individual and total site analysis scenarios

Set Economic Data
- Assign cost parameters (heat exchanger, storage tank, storage media)
- Apply flexible economic functions

Analyze Energy Targets
- Preanalyze the energy targets of the total site
- Reduce process complexity
- Determine targets for thermal energy storage systems

Integrate Energy Conversion Units (ECU)
- Optimize the utility system
- Properly integrate ECUs into your process: heat pump, combined heat and power, mechanical vapor recompression, thermal vapor recompression, organic Rankine cycle

Optimize your process

Set targets and find optimization opportunities (steps 6-10)

- Determine the best economic use of thermal energy within your process
- Transform the savings potential into flexible yet practical designs
- Prioritize the solutions according to their energetic and economic benefit

«Pinch analysis gives us the certainty that we have found the best possible solution for our needs.»

Stefan Gertsch, Project Manager Technology at HACO AG

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For further information, please visit www.pinch.ch and get started with a trial version.

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