De Dietrich

De Dietrich Evaporation & Distillation

Preliminary Design Packets, Process Design Simulations and Pilot Testing



Who We Work With

De Dietrich provides conceptual, basic, and detailed engineering studies for companies whose processes involve vapor–liquid separation or purification. We combine process simulation with lab- and pilot-scale testing to evaluate process options and develop a design suited to your product and operating requirements.

Our simulation tools include HTRI, ProSimPlus, BatchColumn, BatchReactor, and Simulis Pinch. We also have short-path and wiped-film evaporation systems for lab and pilot trials.

We support customers across a range of industries, including:

- Pharmaceuticals
- Green chemistry
- Cosmetics
- Food and agricultural processing
- Fine chemicals
- Biofuels and energy
- Environmental applications, recycling, and waste recovery
- Paints, inks, and coatings
- Electronics and microelectronics

What an Engineering Study Includes

De Dietrich tailors each study to your process and the level of engineering your project requires. Depending on the scope, deliverables may include:

- Process simulation results
- Process flow diagrams (PFDs) and/or piping and instrumentation diagrams (P&IDs)
- Data sheets for major equipment
- Preliminary equipment and system layout
- Detailed process description
- Estimated process energy consumption



De Dietrich engineering and design team

The study gives your team a basis for equipment selection and investment decisions. By defining the process and its requirements early, you can avoid unnecessary equipment oversizing, reduce the risk of missing performance targets, and minimize changes during construction. These findings also help you assess the project's expected return on investment.

Engineering Studies

Why Conduct an Engineering Study?

An engineering study helps you assess process feasibility, define equipment and utility requirements, and reduce project risk before committing to a capital investment.

Verify process feasibility.

Evaporation trials show how your material behaves under representative temperature and vacuum conditions. Testing helps establish evaporation rates, assess the quality of the resulting streams, and determine how they can be handled. Process simulation helps define the system configuration, estimate equipment sizes, and assess energy requirements.

Define operating conditions & scale-up parameters.

Simulation helps establish operating temperatures, pressures, vacuum levels, the required number of separation stages, and the conditions needed to reach target purity. Trial results and sample analysis help refine those parameters and provide a basis for scale-up to commercial production.

Size key equipment..

Determine the required column diameter, packing height, heat transfer area for evaporators and condensers, and heating and cooling duties.

Identify system and utility requirements.

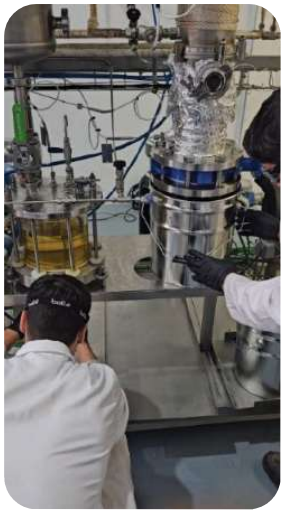
Define the utilities, vacuum systems, condensation capacity, pumps, and instrumentation needed to support the process.

Match the technology to the material..

Evaluate how heat sensitivity, foaming, viscosity, and corrosiveness affect equipment selection. Depending on the application, options may include a thin-film evaporator, a forced-circulation evaporator, or a packed distillation column.

Evaluate upgrades to existing systems.

Use simulation and testing to identify opportunities to increase production capacity, improve product quality, recover energy, and improve operating economics.







Trials on the De Dietrich wiped-film evaporation pilot system



sales@ddpsinc.com 908 317 2585

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