



## Process & Reactor Intensification

### Case Study

Mixing and chemical reaction experts work closely with chemical companies to unlock potential for improved process performance and economics.

#### Problem

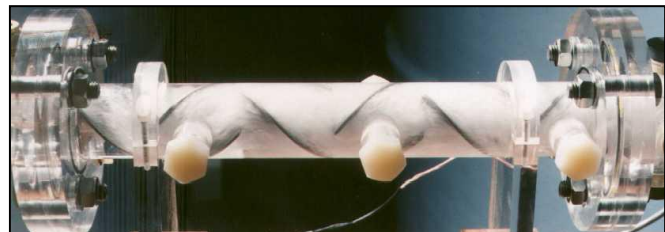
A market-driven need to increase production capacity and improve product quality.

#### Need

A continuous emulsion polymerisation reactor design, capable of producing higher purity, higher value products to maintain market lead was needed. BHR Group identified that the current operation in the client's stirred tank was limited by low mixing intensity and poor heat transfer.

#### Solution

A novel loop reactor concept was developed and the design optimised through use of a mixing model incorporating client's chemical kinetics.



*Kenics static mixer used for creating dispersion*

#### Result

A new reactor concept and optimised design was delivered in sufficient detail for the client to build pilot-scale continuous production plant

Pilot tests in Autumn 1999 expected to confirm 50% increase in profitability via:

- Improved product quality (tighter molecular weight distribution)
- 20-fold increase in productivity
- Reduced OPEX through lower manpower requirement
- 85% reduction in energy costs
- 33% reduced CAPEX

**Contact us for more information or visit our website.**

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