

SULZER

Sulzer Chemtech

Freeze Concentration

Preserve Quality of Precious Products



Freeze Concentration

Sulzer Chemtech Process Technology is a leading supplier of freeze concentration plants. Freeze Concentration is the preferred technology to produce supreme quality liquid food concentrates because the closed and fully liquid filled system operates at sub zero temperatures and completely preserves the quality of the fresh feed. All aroma, colour and flavour components that characterize fresh product remain in the concentrated liquid. Additionally, the low operating temperature prevents oxidation and denaturation of the products.

For over 30 years the technology has been successfully used in food industry. State-of-the-art technology features equipment with a highly reliable and fully automatic separation process. The quality of freeze concentrated products cannot be achieved by any other concentration technology.

*Production of liquid extract that is subsequently used to produce a great variety of coffee and tea related drinks and other products.
Upgrading the quality of spray-dried coffee by adding freeze concentrated extract to the dryer-feed*



Offer to your customers the natural taste, aroma and color of freshly squeezed juice in the convenient, concentrated form. This high quality product can be used as:

- 100% natural food ingredient
- Raw material for (ice) fruit wines

- Raw material for juices, especially heat sensitive juices like those based on red fruits, and blood orange.
- Raw material for “regional products”. These are high quality specialty juices made with fruits from a specific region, like orange juice from Florida, blood orange from Sicily, and apple juice from Nagano.


Further Freeze Concentration applications are:

- Aroma & Food ingredients
- Beer & Wine
- Vinegar
- Dairy



Freeze Concentration

Unique characteristics of Freeze Concentration

Product Quality Refrigeration system	Guarantee of aroma and flavour	<ul style="list-style-type: none"> • Higher product value • No aroma recovery required • Environmentally friendly cooling medium
Design	Hygienic design with automatic CIP Low operating temperature	<ul style="list-style-type: none"> • Time & cost effective • Safe production • Prevent microbiological problems
Operation	Continuously working process	<ul style="list-style-type: none"> • No batch, no time loss • Longer operation time without cleaning
Skid mounted units  <p><i>Industrial Plant</i></p>		<ul style="list-style-type: none"> • Save storage & distribution costs • Cost effective & compact • Reduce maintenance of single parts • Easy shipment & installation • Simple & reliable design • One single operator necessary
Multipurpose application		<ul style="list-style-type: none"> • One plant for different applications

The quality and nature of the product remains unchanged!

Please contact us what concentration factor is feasible for your product. We are in an excellent position to provide services and will make use of our extensive and large reference database.



Pilot Plant



Ice separation column

Pilot Tests

Our test engineers will carry out pilot tests for your application, either in our laboratory or at your site with our mobile pilot plant. Test results will then provide the necessary basis for plant design and cost estimate preparation of a commercial plant.

Pilot plants of various sizes are available.

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Sulzer Chemtech Ltd, a member of the Sulzer Corporation, with headquarters in Winterthur, Switzerland, is active in the field of process engineering and employs some 2500 persons worldwide. Sulzer Chemtech is represented in all important industrial countries and sets standards in the field of mass transfer and static mixing with its advanced and economical solutions.

The activity program comprises:

- Process components such as fractionation trays, structured and random packings, liquid and gas distributors, gas-liquid separators, and internals for separation columns
- Engineering services for separation and reaction technology such as conceptual process design, feasibility studies, plant optimizations including process validation in the test center
- Recovery of virtually any solvents used by the pharmaceutical and chemical industry, or difficult separations requiring the combination of special technologies, such as thin film/short-path evaporation, distillation under high vacuum, liquid-liquid extraction, membrane technology or crystallization
- Complete separation process plants, in particular modular plants (skids)
- Tower field services performing tray and packing installation, tower and column maintenance, vessel welding, and plant turnaround projects
- Mixing and reaction technology with static mixers
- Cartridge-based metering, mixing and dispensing systems, and disposable mixers for reactive multi-component material

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