

SULZER

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	Guarantee of aroma and flavour Refrigeration system	<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		<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
 <p>Industrial plant</p>		
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 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.



Pilot plant



Ice separation column

The Chemtech division is the global market leader in innovative mass transfer, static mixing and polymer solutions for petrochemicals, refining and LNG.

Chemtech is also leading the way in ecological solutions such as biopolymers as well as textile and plastic recycling, contributing to a circular economy. Our product offering ranges from technology licensing to process components all the way to complete separation process plants. Customer support ranges from engineering and field services to tray and packing installation, tower maintenance, welding and plant turnaround projects – ensuring minimal downtime.

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