



Flash Cooler Sweetened Condensed Milk

The Anhydro Flash Cooler is a standardized system designed for quick cooling and slight water evaporation. The most common use is for the production of sweetened condensed milk (SCM) with fresh milk and recombined sweetened condensed milk.

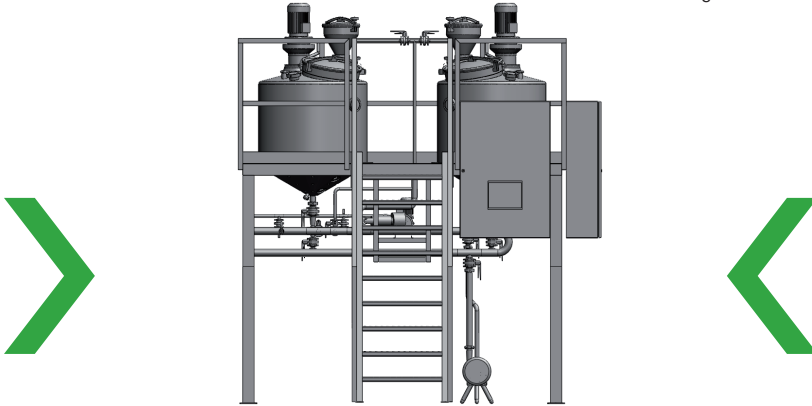
The system is delivered from SPX as a finished unit, pre wired and tested resulting in minimal installation time. The plant is delivered with an automation system including the HMI interface.



Benefits:

- Designed for low energy consumption
- Designed for no requirement for ice water, only steam, cooling tower water and compressed air for valves
- Easy operating system for operators on big screen
- Very little waste product
- Reliable units with long life time
- High hygiene plant (long production time between CIP)
- Low outlet temperature and up to 3 vacuum chambers which eliminates air bubbles in finished product, and no need for cooling on crystallization tanks
- Service friendly units, easy access to all equipment
- Extremely good mixing of seeding lactose and SCM before the last vacuum chamber when the lactose in the SCM mix is still in liquid form
- Accurate ratio dosing of seeding lactose against feed inlet
- Adjustable seeding lactose dosing between 0.02-0.08%
- Vacuum remains in the unit in case of power failure, product change and end of production reducing product loss
- Controlled product level in 3rd vacuum chamber
- Controlled feed
- Automatic stop of discharge pump, with low level in 3rd vacuum chamber
- Siemens PLC S7-300 and HMI panel: MP377-15

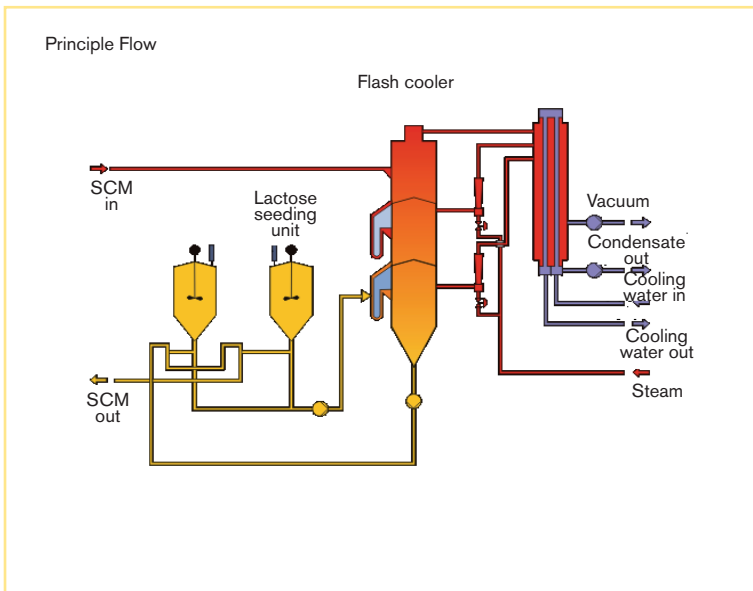
Lactose seeding unit



The hot feed product comes directly from the pasteurizer into first stage. Then it flows by gravity to second stage and third stage. The seeding lactose is dosed between second and third stage which gives a homogeneous product without air.

The seeding lactose is dosed into the SCM before the third vacuum chamber when the SCM lactose is still in liquid form. The crystallization will start immediately when the SCM temperature drops.

The seeding lactose solution is prepared in small tanks where the first product coming out from the flash cooler is mixed with the grinded lactose. The seeding pump is automatically dosing into the SCM according to the flow through the flash cooler.



Technical data

Capacities:

Standard capacities from 1 500kg/h to 20 000kg/h

Dimensions:

Flash cooler (L*W*H): 2,2*2,2*x meters
Height (x) varies from 6 meters to 12 meters depending on capacity
Seeding unit (L*W*H): 2,8*1,3*3,5 meters

Options:

Flash cooler with 2 vacuum chambers in case of low capacity and/or low temperature cooling water
Steam sterilization or chemical sterilization

Technical data 10t/h Plant

Feed: 10 352 kg/h
Water evaporation: 352kg/h
Steam consumption: 210 kg/h
Pressure: 7.5 bar
Cooling water: 65 m3/h
Inlet Temperature : 32°C
Outlet Temperature : 37°C

Technical data 20t/h Plant

Feed: 20 705 kg/h
Water evaporation: 705kg/h
Steam consumption: 380 kg/h
Pressure: 7.5 bar
Cooling water: 105 m3/h
Inlet Temperature : 32°C
Outlet Temperature : 38°C

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