

Viscous food and personal care
process manufacturing skid.





Food Category



Sauces/Ketchup



Fruit Purees
& Jams



Baby Food and
Desserts

Personal Care



Skin Lotions



Facial Cream



Shampoo

Definition

The skid based manufacturing is preferred process than conventional cooking kettles.

Scraped-surface heat exchangers (SSHE) are at the heart of both continuous and semi-continuous viscous food and personal care processes. The Contherm® Core SSHE from Alfa Laval provides exceptional thermal efficiency, which is a prerequisite for viscous processing. Contherm Core ensures higher throughput, uniform heat transfer and more economical operation, compared to other heat exchangers. Contherm Core is designed specifically to process low to medium viscosity products

The skid based manufacturing and cooking of viscous food products are equipped with following equipment

- I Contherm pasteuriser with balance tank and set of valves
- I Ribbon blender
- I Paste unloading system
- I Liquiverter
- I Sugar syrup
- I Ingredient handling
- I Product recovery system/pigging process

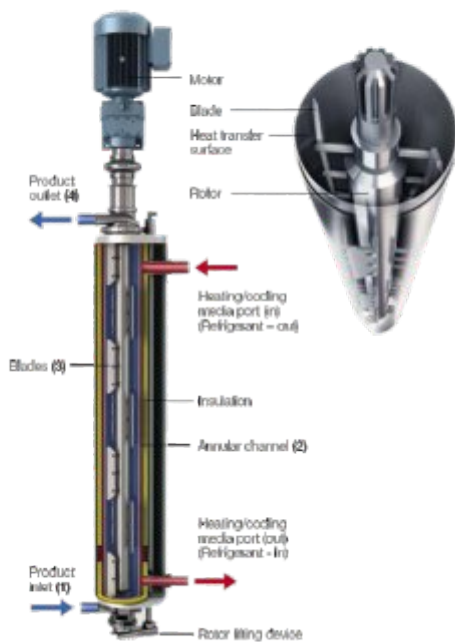
Operation

All water soluble ingredients are mixed and dissolved in water by using liquiverter. Sugar syrup prepared shall be stored in ready syrup storage tank. Tomato paste shall be unloaded from drums with special pneumatic or electric driven pumps. The paste is recovered by pigging system. All the ingredient are dumped in ribbon blender for mixing. Measured quantity of ingredients from liquiverter, sugar syrup, water, oil, paste etc are dumped in ribbon blender. The ribbon blender is specially designed to take care of gentle mixing of all in sequence. Properly mixed product then transferred to balance tank of contherm pasteuriser for heat treatment. Scraped surface heater, [Contherm](#) shall heat product to required temperature and shall be cooled to filling temperature. The product is directly filled to filling machines from pasteuriser.





Contherm scraped-surface heat exchanger



Working principle of

Scrapped surface heat exchanger (Contherm)

Product is pumped into the Contherm heat exchange cylinder. As it flows through the cylinder, it is continuously mixed and removed from the cylinder's precisely finished wall by the scraping blades. This scraping action results in thin film product heating or cooling, a surface free from fouling deposits, and a corresponding high heat transfer rate. The drive can be adjusted for varied rotor speeds – an important feature when a number of different products are to be processed. Heating or cooling media flows in the annular space between the Contherm's heat exchange cylinder and the insulated jacket.

When liquid media is used, a spiral coil is installed in the annulus to provide higher heat transfer efficiency. When utilizing steam, the coil within the Contherm Core annulus is removed. On start-up, air is completely purged from the Contherm. At the end of a processing run, the product can be drained or pushed by water, resulting in minimal product loss. The Contherm's maximum flow rate is application specific and determined by the temperature program, nature of the product and type of duty.

Features of

Scrapped surface heat exchanger

- ▮ The 6x11 model offers 0.15 m² (1.62 ft².) larger surface area than other scraped-surface heat exchangers in the market
- ▮ Features the same proven critical core components of the
- ▮ Contherm including the heat transfer cylinder, seals and blades
- ▮ The Contherm Core can handle up to 25,000 cps and 25 mm (1 inch) particles
- ▮ Optional flushed seals allow for aseptic processing
- ▮ Optional high polished tangential heads (matte finish is standard)



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