



Contherm® Core Scraped-Surface Heat Exchanger

For low to medium viscosity products



Application

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 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, such as soups, sauces, ketchup, fruit purees, dressings, baby food and desserts as well as skin lotions, facial cream and shampoo.

Contherm Core features and benefits

- 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

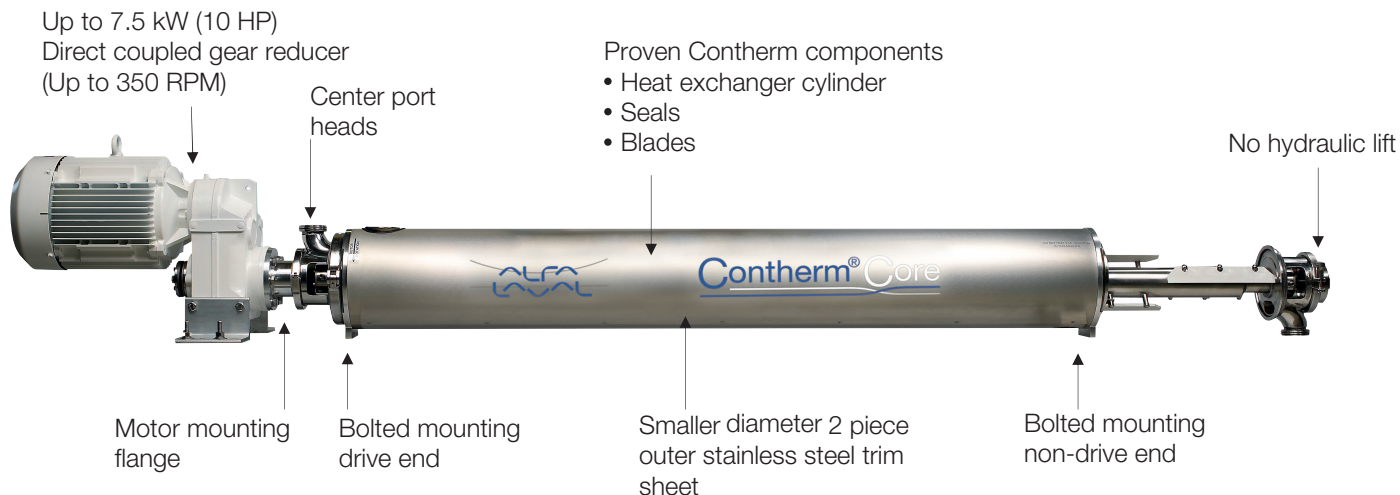
- The Contherm Core can handle up to 50,000 cps and 25 mm (1 inch) particles
- Optional flushed seals allow for aseptic processing

Design

When processing less complicated low to medium viscosity products, sometimes a more simple scraped-surface heat exchanger solution is needed. Based on the traditional Contherm and exact “core” components, Contherm Core was developed to provide a cost-effective, simple design with the quality and reliability expected from Alfa Laval.

This design ensures easy installation and reliable operation adding up to an increased product lifetime and return on investment.

Contherm Core is only available in a horizontal installation frame and with an option to stack three Contherm Core units on top of each other. The frame set-up requires only a minimum of interconnecting pipework and is made of bead-blasted 304 stainless steel.



Three Contherm Core units on frame

Working principle

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 or flooded expansion refrigerants such as liquid ammonia or Freon, the coil within the Contherm Core annulus is removed. The use of these refrigerants requires other ancillary equipment such as refrigeration accumulators and control valves, products that Alfa Laval can provide.

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.

Specifications

- Models 6x9 (0.85 m² (9 ft²)) and 6x11 (1 m² (11 ft²))
- 316/316L stainless steel cylinder
- FDA approved Alfalon® III scraping blades
- 76 mm (3 inch) or 114 mm (4.5 inch) staggered rotors
- Single or double mechanical carbon seals
- 51 mm (2 inches) SMS, DIN or Tri-Clamp connections
- Center port product heads for bidirectional product flow
- Up to 7.5 kW (10 HP) motor and directly coupled gear reducer
- Simplified mounting frame (optional)

How to contact Alfa Laval

Up-to-date Alfa Laval contact details for all countries are always available on our website at www.alfalaval.com.