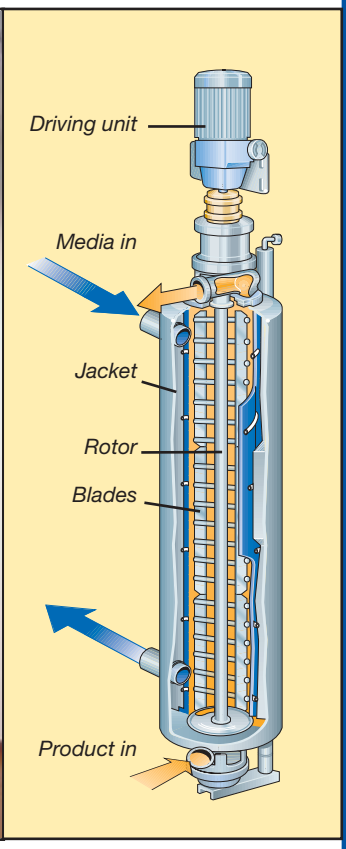
Contherm®

Scraped-surface Heat Exchanger



Application

The Contherm scraped-surface heat exchanger is particularly suited for hygienic heating and cooling of viscous, sticky and particulate food products. It can operate with a wide range of media products.

Working Principle

The product is pumped into the lower end of the heat exchanger cylinder.

As the product flows through the cylinder, it is continuously agitated and removed from the cylinder wall by the scraping blades. The scraping action results in a surface free from fouling deposits and a corresponding high heat transfer rate.

Heating and cooling media flow in the annular space between the heat transfer cylinder and the insulated jacket. A spiral coil provides a higher heat transfer efficiency for steam and liquid media.

On start-up, air is completely purged from the product area. At the end of a processing run, the product can be purged by water resulting in minimal product loss.

Rotor driving is normally achieved by an electric motor installed on upper shaft end.

As shown on the photo above, the Contherm scraped-surface heat exchangers can be connected in series for in-line heating and cooling.

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Contherm® Scraped-surface Heat Exchanger

Standard Features

The Contherm scraped-surface heat exchanger utilises a modular design for vertical mounting on a wall or column and includes:

- Scraped-surface heat exchanger cylinder
- Rotor driven by electric motor on upper shaft end of the unit
- Rotor placed on ball bearings and mechanical seals at each end
- Scraping blades secured by pins welded to the rotor
- Staggered blades to prevent channeling of product
- Hydraulic lifting device for easy lowering of rotor and for easy inspection of blades
- Tangential product inlet/outlet ports provide gentle handling of the product
- The aseptic technology-based design complies with strict international standards

Material

The heating surface is normally made of stainless steel, AISI 316L, honed to a very high finish on the inner surface. The scraping blades are made of hardened and ground stainless steel, plastic or other non-metallic material.

Gaskets and O-rings are made of viton, nitrile or teflon. Suitable materal will be selected for each application.

Capacity

The maximum flow rate is application specific and determined by the temperature program, nature of the product, and type of duty.

Technical Data

Contherm models	Heating surface m² (Sq. feet)	Net weight (without motor) kg (lb)
6 x 3	0,28 (3,0)	140 (308)
6 x 6	0,56 (6,0)	234 (515)
6 x 9	0,84 (9,0)	274 (605)
6 x 11	0,98 (10,5)	309 (683)

Working temperature

From -60° C (-20° F) to 230° C (450° F).

Maximum working pressure

Product side 20 bar (300 psig)
Media side 17 bar (250 psig)

Connections

Product side 51 mm (2”) SMS, DIN or clamp
Media side upper 51 mm (2”) NFPT
lower 37 mm (1,5”) NFPT

Drive unit

Electric motor type on top of the heat exchanger depending on product.

Optional equipment

1 Alternative drive systems
2 Explosion-proof drive unit
3 Nickel or chromed nickel cylinder
4 Horizontal mounting configurations
5 2 700 kPa (400 psig) pressure rating
6 Control panel
7 Refrigeration or heating/cooling valve packages
8 Aseptic flush seals, hard face seals or Huhn seals
9 Rotor diameters: 76 mm (3”); 102 mm (4”); 114 mm (4,5”); 127 mm (5”)
10 76 mm (3”) product connections
11 Eccentric rotor

Dimensions

Measurements in mm (in.)

Model	A	B	C	D	E	Footprint* m² (Sq.feet)
6 x 3	854 (33,6)	2 502 (98,5)	864 (34,0)	935 (36,8)	717 (28,2)	0,33 (3,6)
6 x 6	1 387 (54,6)	3 645 (143,5)	864 (34,0)	935 (36,8)	1 326 (52,2)	0,33 (3,6)
6 x 9	1 997 (78,6)	4 684 (191,5)	864 (34,0)	935 (36,8)	1 936 (76,2)	0,33 (3,6)
6 x 11	2 356 (92,7)	5 682 (223,6)	864 (34,0)	935 (36,8)	2 206 (86,8)	0,33 (3,6)

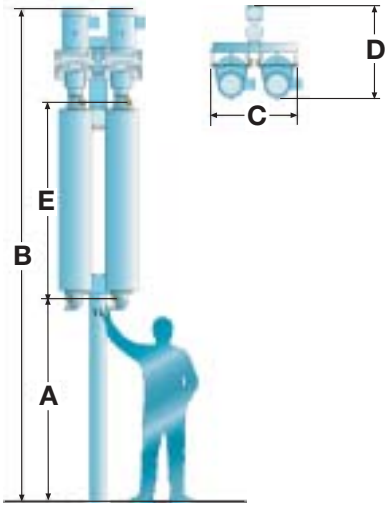
* for one single Contherm unit

Environmental issues

The amount of energy consumed is depending on the duty the specific heat exchanger is performing. Utility consumption and heat recovery is optimised for each specific case. Please ask for detailed information when you receive a quotation.

The Contherm heat exchangers are built in a modular design, which makes them easy to rebuild and adapt for new applications.

The Contherm heat exchangers consist of parts that can be separated for recycling purposes.



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