

TERLOTHERM®

Scraped surface heat exchanger

Chemicals and pharmaceuticals



Products

- Hot melt
- Synthetic waxes
- Natural waxes
- Vaseline

Applications

- Fat crystallization
- Heating and cooling viscous masses
- Crystallization of salts and acids



www.terlotherm.com

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Fat crystallization processes

In the chemical and pharmaceutical industry, the TERLOTHERM developed by Terlet is used, for instance, in fat crystallization processes. Relevant products include hot melt, synthetic and natural waxes and vaseline.

Process

The hot product flows tangentially into the bottom of the TERLOTHERM and is cooled in counter flow by flowing along two heat-exchanging surfaces. The large heat-exchanging surface in combination with the scrapers, which “keep clean” both the inner and outer jacket, ensure very even cooling.

It is this gradual cooling in particular that makes it possible to reach and/or maintain the crystallization temperature accurately.

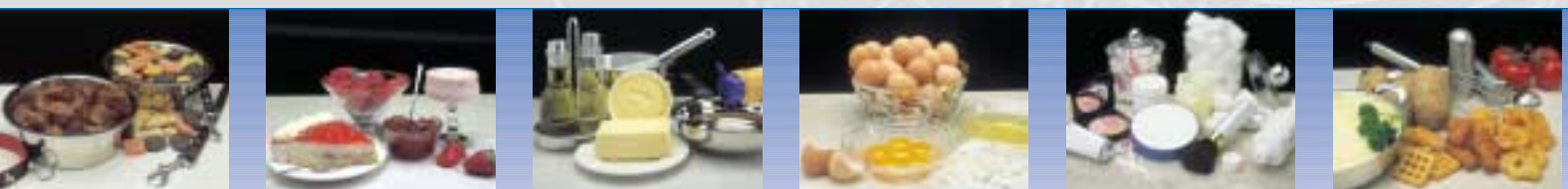
Approaching, maintaining or exceeding this critical limit on purpose is of vital importance to a number of processes, such as:

- Crystallization in a fat mass with minimum variety in crystal-size;
- Cooling down to below the crystallization temperature, while the stirring effect of the scrapers counteracts the formation of large crystals;
- Production of a pre-crystallized, super cooled product in order to achieve spontaneous crystallization in the packaging.

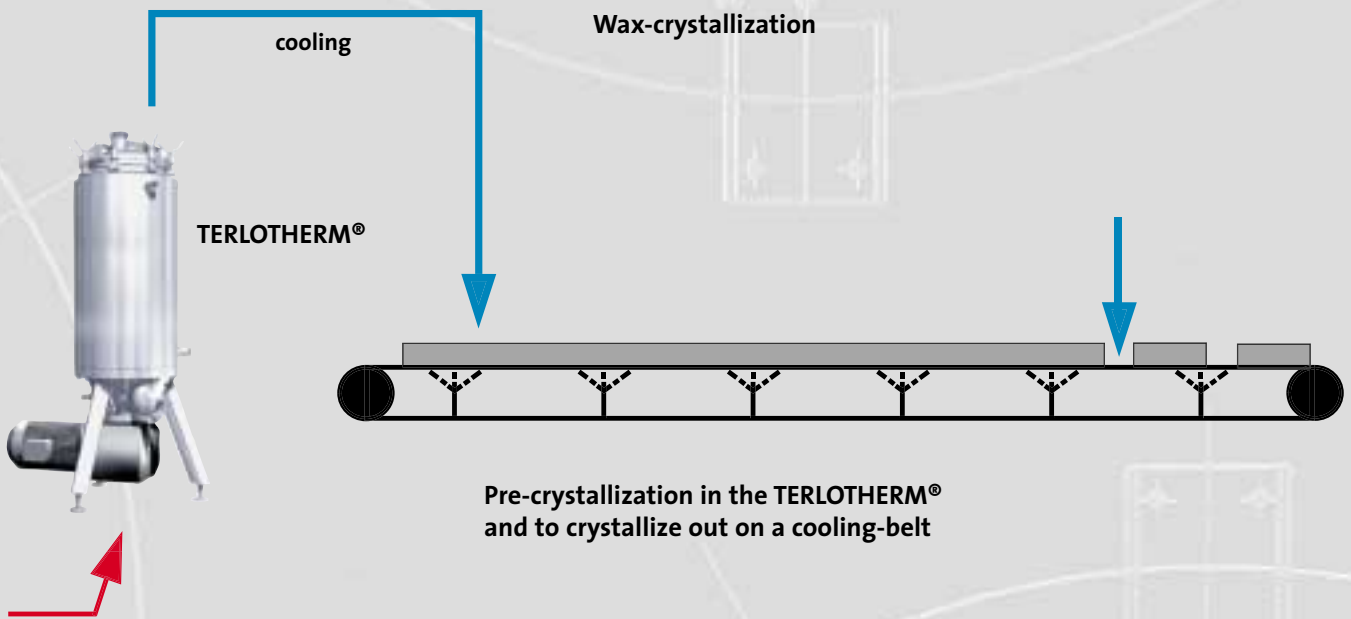
Another possibility is to allow the product that has pre-crystallized in the TERLOTHERM to crystallize out on a cooling belt where the ultimate crystallization takes place.

Advantages of TERLOTHERM® for fat crystallization:

- Very even cooling
- Scrapers keep wall clean and ensure even crystallization
- System with no pressure



TERLOTHERM® and your process



TERLOTHERM® advantages and applications



Advantages

- Scrapers can easily be replaced
- Can be CIP cleaned
- Inspection without removing seal
- Lid can be opened with clamps
- Large heating area on limited floor area
- Tangential inlet
- Acceleration and deceleration area
- No damage to product
- Maintenance-friendly; only one seal and one drive

Applications

- Heating
- Aseptic cooling
- Deep-cooling
- Crystallisation
- Tempering
- Sterilization
- Pasteurization
- Polymerization
- Gelling



TERLOTHERM® Technical information

Type	Number of scrapers	Heated surface in m ²	Number of scraper rows	Total height in mm ca.	Cylindrical height in mm ca.	Ground Clearance in mm ca.	External diameter in mm ca.	Product inlet in NW	Product outlet in NW	Medium inlet interior cylinder inch	Medium inlet external cylinder inch	Medium outlet interior cylinder inch	Medium outlet external cylinder inch	Rinse / leak detection pipes in mm	Product space in mm	Scraper peripheral velocity in metre/second	Maximum drive capacity in Kw	Product temperature range from to in °C	Maximum product area pressure in bar g	Cooling & heating medium in m ³ /hour	Product volume in litres
T1/2	8	0,6	4	1108	552	556	423	50	50	3/4	1	3/4	1	8	50	0,5-3,0	4,0	0-150	5 of 10	5-8	20
To-4	16	1	4	1427	871	556	423	50	50	3/4	1	3/4	1	8	50	0,5-3,0	4,0	0-150	5 of 10	5-8	30
T1-4	24	2,4	4	2015	1340	675	573	80	80	1	1 1/2	1	1 1/2	8	50	0,5-3,0	17,0	0-150	5 of 10	10-15	70
T1-6	36	2,4	6	2015	1340	675	573	80	80	1	1 1/2	1	1 1/2	8	50	0,5-3,0	17,0	0-150	5 of 10	10-15	70
T2-4	32	4,4	4	2460	1690	770	723	80	80	1 1/2	2	1 1/2	2	8	50	0,5-3,0	22,0	0-150	5 of 10	20-25	130
T2-6	48	4,4	6	2460	1690	770	723	80	80	1 1/2	2	1 1/2	2	8	50	0,5-3,0	22,0	0-150	5 of 10	20-25	130

Applied heating media:
Steam and water

Applied cooling media:
Water, ice water, brine, glycol and ammonia

TERLOTHERM® types



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