

TERLOTHERM®

Scraped surface heat exchanger

Potato products



Products

- Croquettes
- Waffles
- Balls
- Mashed potatoes

Applications

- Cooling the mashed potatoes for forming
- Mashed potatoes for fresh ready meals
- Structure improvement



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TERLOTHERM® Applications in the food industry

Pasteurization and cooling of mashed potatoes

The production of mashed potatoes in large quantities is prevalent where specialities are made in shapes. Products such as croquettes, waffles, and balls are formed out of mashed potatoes, sometimes coated and deep-fried and then quick-frozen. Mashed potatoes is becoming an increasingly popular product as a component for ready meals.

Process

Mashed potatoes is generally produced from smaller potatoes and remainders from French fries lines. These potato pieces first receive a heat treatment before any imperfections are removed in a separator. During the separation process, the basic mashed potatoe is formed. To form the specialities the mashed potatoes must be cooled.

Cooling is needed to:

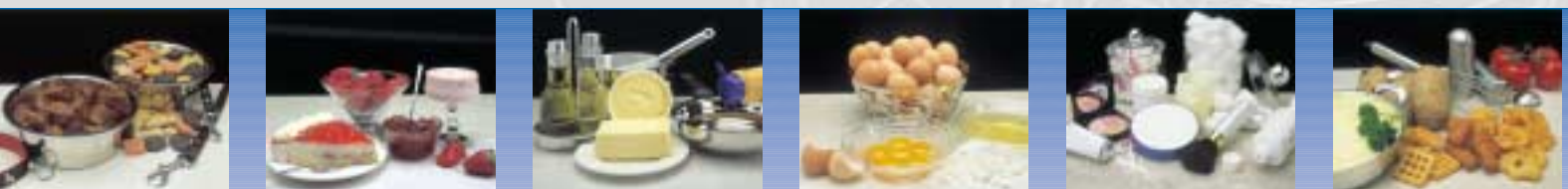
- prevent damage to natural starch bonds in the additives
- reinforce starch cells for a better mashed potatoes consistency
- promote better shape retention during the forming process and further transport through the production line
- considerably improve the capacity of the spiral freezers.

The TERLOTHERM, developed by Terlet, is an ideal application for quickly bringing large amounts of mashed potatoes from approximately 90°C (194°F) to 8-15°C (17-59°F) for example, with a minimum of mechanical pressure.

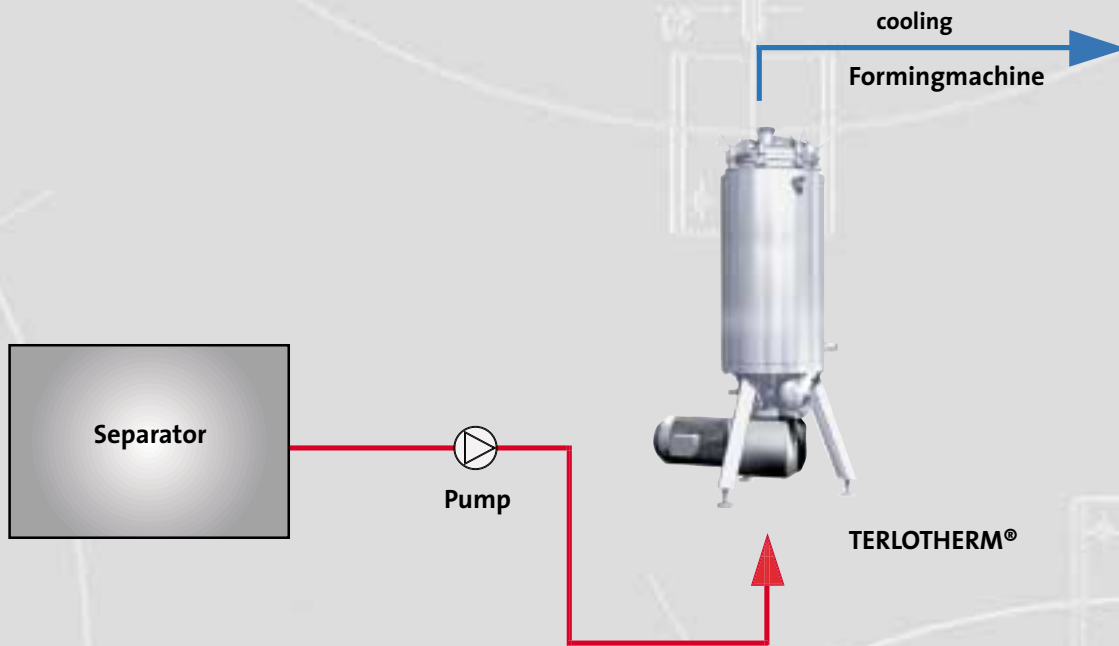
Mechanical pressure on mashed potatoes will increase the so-called blue value, resulting in a negative influence on the consistency.

Advantages of TERLOTHERM in the production of potato specialities:

- Saves space
- Closed cooling system, which means perfect control
- The possibility of cooling with ammonia is available
- Simple layout
- Easy maintenance



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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