

PLUS
NEW FOOD
TREND

HEATING.
COOLING.
CRYSTALLIZING.
PASTEURIZING.

TERLOTHERM®



GENTLE HEAT EXCHANGE FOR OPTIMUM PRODUCT QUALITY.

From table sauces to vegan purees, the Terlet Terlotherm® scraped surface heat exchanger is the ideal partner for a smooth continuous heating or cooling process.

The special design of the Terlotherm® ensures an efficient heat exchange whilst maintaining your optimum product quality.

WHY A TERLOTHERM® SCRAPED SURFACE HEAT EXCHANGER?

Many prepared foods and other products prevent optimal heat transfer because of their consistency. For example, food containing large particles, viscous, sticky and crystalline products can quickly block or foul certain types of heat exchangers.

Scraped surface heat exchangers incorporate special design features which make them ideal for heating and cooling products that impair good heat transfer.

As the product is pumped through the SSHE cylinder, an even temperature distribution is ensured by a rotor and blade assembly, which continuously and gently blends the product, while simultaneously removing it from the heat transfer surface.

The Terlotherm® is a vertical scraped surface heat exchanger with two concentric heat exchange cylinders to provide optimum heat transfer. The 50mm product space ensures even very high viscous products and products with particles are processed through the Terlotherm® without any issue. This makes the Terlotherm® ideal for many applications:

- Heating
- Aseptic cooling
- Deep cooling
- Crystallization
- Sterilization
- Pasteurization
- Gelling

SOUPS & SAUCES MARINADES SAVOURY SPREADS FRUIT PREPARATIONS POTATO MASH NUT BUTTER SWEET FILLINGS CREAMS & LOTIONS



OPTIMUM PRODUCT QUALITY MEETS OPTIMUM PROCESS EFFICIENCY.

The Terlotherm® operates, utilizing low pressures and a low rpm, while maintaining the same tip speeds of the scraper blades as other units that run at much higher rpm and pressures. This is due to our unique design of the double wall cylinder. This is a key advantage for very sensitive or complex products that can be easily damaged with too much pressure or too high rpm. The combination of low pressures and rpm, combined with the robust design of the Terlotherm, ensures minimal wear and long uptime. This results in a low cost of ownership.

ROBUST EFFICIENT LOW TCO



KEY FEATURES

- No damage to product
- Can handle particles up to 1 inch
- Scrapers can easily be replaced without tools
- Can be CIP cleaned and SIP sterilized
- Easy product area inspection without removing seal
- Large heat exchange area with small footprint
- Only one unit required for most processes due to wide product range
- Tangential inlet
- Acceleration and deceleration area
- Maintenance-friendly; only one seal and one drive
- Exchangeable cylinders
- Metal detectable scrapers and seals
- approved with USDA, U-Stamp, PED and ASME codes

A SIZE FOR EVERY PURPOSE.

Machine	Heat exchange surface area (m ²)	Annular product space (mm)	Total height (mm)	Footprint (m ²)	Scraper peripheral velocity (m/s)	Product connections NW	Recommended medium flow (m ³ /h)	Temp. range medium area (°C)	Max. pressure product side (barg)	Max. pressure medium side (barg)
DELTA 50	0.5	50	1250	1.0	0,5 - 3,0	65	8	-20 to 165	10	6
DELTA 100	1.0	50	1567	1.0	0,5 - 3,0	65	8	-20 to 165	10	6
DELTA 150	1.5	50	2057	1.0	0,5 - 3,0	65	12	-20 to 165	10	6
DELTA 200	2.0	50	2379	1.0	0,5 - 3,0	65	15	-20 to 165	10	6
DELTA 450	4.5	50	2536	1.4	0,5 - 3,0	80	25	-20 to 165	10	6
DELTA 700	7.0	50	3205	1.4	0,5 - 3,0	80	25 - 30	-20 to 165	10	6



TERLOTHERM® MODULES & SYSTEM INTEGRATION

From a single machine for heating or cooling with local automation, up to a complete pasteurization system, ProXES is your reliable partner.

An increasing amount of customers are preferring the Terlotherm® as a turn-key module or system above using it as only as

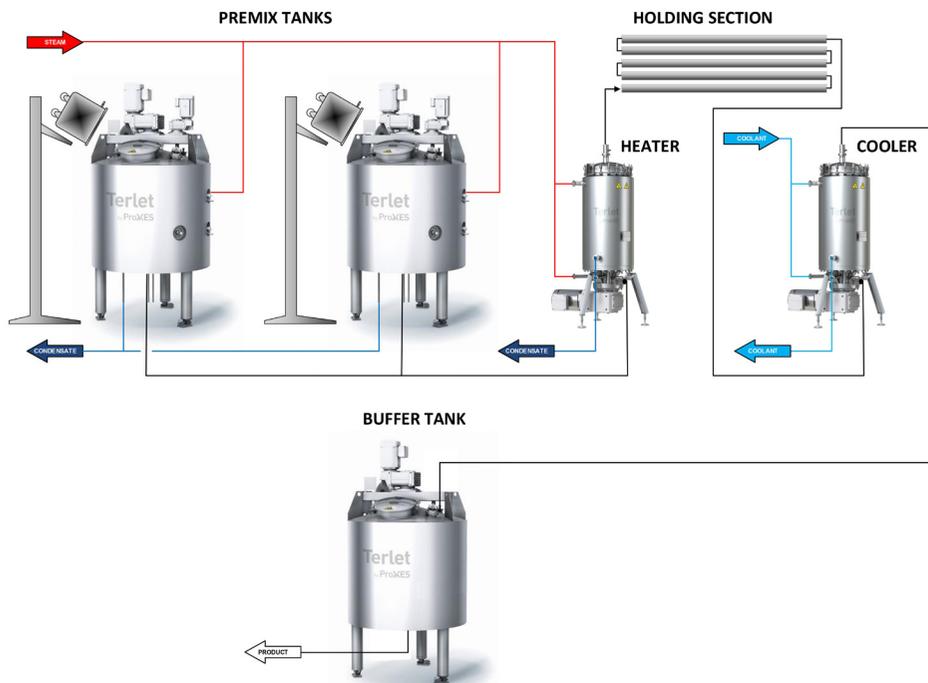
a component. With our process knowledge and manufacturing capabilities ProXES can design such a turn key solution in a great variety of configurations. From a simple stand-alone machine for heating or cooling with local automation, up to a complex pasteurization/holding/cooling system controlled via a central automation system in the factory.



TERLOTHERM® & BUFFER SKID
plug and play cooling module

PROXES PROCESSING LINES

The brands within the ProXES group offer a broad portfolio. In cooperation the brands provide our customers with complete continuous preparation solutions based on the ProXES modular kit system. Through a balanced combination of machine, process, recipe and formulation, we find individual solutions for our customers and enable them to achieve the highest processing quality and process reliability.





NEW FOOD TRENDS, NEW OPPORTUNITIES.

Food trends like living vegan, clean eating or gluten-free diets are on the rise, creating both new opportunities and challenges for the food industry. ProXES helps you capitalize on changing nutrition patterns and stay ahead of the competition.

Whether for health reasons, as part of a lifestyle or out of concern for animal welfare, more and more consumers are substituting meat and dairy for plant-based proteins.

Vegans, vegetarians and flexitarians are driving market growth: The global vegan food market size is projected to expand at a rate of almost 10% until 2025. 'Clean eating' is another booming trend. It focuses on food products with simple, natural ingredients, that are free from additives, preservatives or GMOs.

ADJUSTING PROCESSES AND RECIPES

While new food trends can initiate innovation and create opportunity for growth, they also confront food manufacturers with challenges. How can recipes be modified to be 'cleaner and greener' without compromising on product quality, taste and shelf-life? Which implications does the removal of stabilizers with E-numbers have on viscosity? Can your existing machinery handle plant-based substitutes like soy, rice, or nuts?

At ProXES, we're your partner in making your business future-proof. Let's talk about how our solutions and machines can help your company benefit from the latest food trends!

ProXES

your processing partner



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EXCELLENCE IS A TEAM EFFORT

With three leading brands FrymaKoruma, Stephan and Terlet under one roof, ProXES combines long-standing expertise with a challenger mindset. As an agile partner, we support our customers from first product concept to the implementation of a successful production process.

At ProXES, we believe in the power of co-creation: We're here to listen, learn and advise. In close collaboration with our customers, we merge their ideas and our technologies into innovative processes and tailor-made solutions that help them align the quality, energy efficiency and profit of their production.

With standalone machines, modern process lines, advanced automation and service concepts, ProXES drives the business of customers in the food, pharmaceutical, cosmetics and chemical industries. What about you? Let's create value together – sustainably!

FROM INSPIRATION TO FEASIBILITY

Our process technology and training centre is a space to try out new ideas. Here you can develop or improve formulas in a professionally equipped laboratory, test any kind of machine, perform scale-ups and produce test batches. You will receive expert advice and support on all the capabilities of the technical equipment and modifications.

GET IN TOUCH WITH OUR EXPERTS



For a full list of our global subsidiaries and their contact details, please visit: www.proxes.com

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Terlet