

PLUS
VEGAN
TREND

HEATING.
COOLING.
CRYSTALLISING.
PASTEURISING.

TERLOTHERM®





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

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 optimum product quality.

WHY CHOOSE 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 scraping effect also prevents the product from burning or freezing to the wall.

The Terlotherm® is a vertical scraped surface heat exchanger with two concentric heat exchange cylinders to provide optimum heat transfer. The 50 mm-wide product area (space between the cylinder walls) ensures even very highly 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
- Crystallisation
- Sterilisation
- Pasteurisation
- Gelling

The Terlotherm® operates utilising 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 an rpm which is too high.

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.

BENEFITS FOR YOUR PRODUCTION



Optimum heat exchange due to double heat-exchanging walls



Can handle particles up to **1 inch**



Easy access for inspection and scraper replacement via the top lid



Gentle product handling due to special design



Approved with USDA, U-Stamp, PED and ASME codes



Easy dismantling of both inner and outer cylinder for refurbishment



One mechanical seal means **low spare-parts costs**



Can be **CIP cleaned** and **SIP sterilised**



Wide product range ensures only one unit needed for most processes

A SIZE FOR EVERY PURPOSE.



Machine	Heat exchange surface area (m²)	Annular product space (mm)	Total height (mm)	Footprint (m²)	Product connections NW	Recommended medium flow (m³/h)	Max. product pressure (barg)	Temp. range medium area (°C)
Delta 50	0.5	50	1250	1.0	65	8	10	-20 to 165
Delta 100	1.0	50	1567	1.0	65	8	10	-20 to 165
Delta 150	1.5	50	2057	1.0	65	12	10	-20 to 165
Delta 200	2.0	50	2379	1.0	65	15	10	-20 to 165
Delta 450	4.5	50	2536	1.4	80	25	15	-20 to 165
Delta 700	7.0	50	3205	1.4	80	25 - 30	12	-20 to 165

TERLOTHERM® SCRAPERS AND GASKETS

The scraper blades and the seals are made out of a high quality X-ray and metal-detectable material, which is tasteless, non-toxic and contains no undesirable reinforcing material such as glass fibres, etc. The chemical resistance is very high, whereas the water absorption is extremely low. Bacteriologically, this synthetic material is inert.



TERLOTHERM® MODULES & SYSTEM INTEGRATION.

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

An increasing amount of food manufacturers are preferring the Terlotherm® as a turn-key module or system beyond using it only as a component. Whether it is a simple stand-alone machine for heating or cooling with local automation, or a complex pasteurisation/holding/cooling system controlled via a central automation system in the factory. ProXES can design such a turn-key solution in a great variety of configurations.

PROXES PROCESSING LINES

The brands within the ProXES Group offer a broad portfolio. They collaborate to 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.



CuliFlex processing line with Terlotherm® heater and cooler



NEW FOOD TRENDS, NEW OPPORTUNITIES.

Food trends such as 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 capitalise 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, as the global vegan food market size is projected to expand at a rate of almost 10 % by 2025. 'Clean eating' is another booming trend. It focusses on food

products with simple, natural ingredients, that are free from additives, preservatives or GMOs.

ADJUSTING PROCESSES AND RECIPES

While new food trends can spark innovation and create opportunity for growth, they also pose challenges for food manufacturers. How can recipes be modified to be 'cleaner and greener' without compromising on product

quality, taste and shelf-life? What implications does the removal of stabilisers with E-numbers have on viscosity? Can your existing machinery handle plant-based substitutes such as 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



1 ProXES Headquarters, Germany
info@proxes.com

1 Stephan Machinery GmbH
info@stephan-machinery.com

2 FrymaKoruma AG
info@frymakoruma.com

3 ProXES Technology GmbH
info.prt@proxes.com

4 ProXES Benelux, Belgium
info.benelux@proxes.com

**5 ProXES Benelux B.V.,
The Netherlands**
info.benelux@proxes.com

6 ProXES France SARL
info.fr@proxes.com

7 ProXES Polska Sp. z o.o.
info.pl@proxes.com

8 ProXES UK & Ireland Ltd.
ukireland@proxes.com

9 ProXES Inc. IL
salesnorthamerica@proxes.com

10 ProXES Inc. NJ
salesnorthamerica@proxes.com

**11 ProXES (Shanghai) Machinery
Co. Ltd.**
info.cn@proxes.com

12 ProXES Asia Pacific Pte Ltd.
info.sg@proxes.com

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 advanced materials 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

Headquarters
ProXES GmbH
Stephanplatz 2, 31789 Hameln
Germany

T. +49 5151 583-0
E. info@proxes.com

Follow us on:



Terlet