

PLUS  
ECO  
SUPPORT

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

# LET'S GROW SUSTAINABLY!

Increasingly consumers are basing their purchase decisions on the products' environmental impact. A challenge for the industry? Yes. But: At ProXES we know that sustainability and profit increase are not contradictions. Let's talk!

**The ProXES experts support your company in finding new ways to optimise your production sustainability, e.g. for processes or engine technology.**

An optimised life-cycle assessment reduces the consumption of resources and operating costs. There is no need to re-organise your whole operation: Your proven process systems can also be retrofitted. This way, you can sustainably extend their service life, save energy, and generate additional potential. Some examples:

## **ANALYSING AND REDUCING MEDIA CONSUMPTION**

Today, many production processes still use a lot of resources. Cleaning in particular consumes large quantities of water and energy. ProXES offers your company the know-how and the tools to measure and analyse your media consumption. Based on the results of this analysis we help you implement measures to produce more sustainably.

## **REDUCED PROCESS TIMES**

Our on-site ProXES technicians will explain how to minimize batch or cleaning times and help you optimize your resource consumption.

## **SUPPLY CHAIN SUSTAINABILITY**

Integrating environmentally sound choices into logistics is a critical aspect of supply-chain management. At ProXES, we focus on the resource-friendly use of materials, short and optimized transport routes, and promote the employment of reusable and recyclable packaging.

## **GET FUTURE-READY WITH PROXES**

We are happy to support your company with innovative concepts to guarantee high-quality standards. Our in-line product and quality controls provide direct feedback with regard to quality deviations and help you avoid rejects and production waste.

**Ask our ProXES experts about how to synchronise ecology with economy!**



# 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