

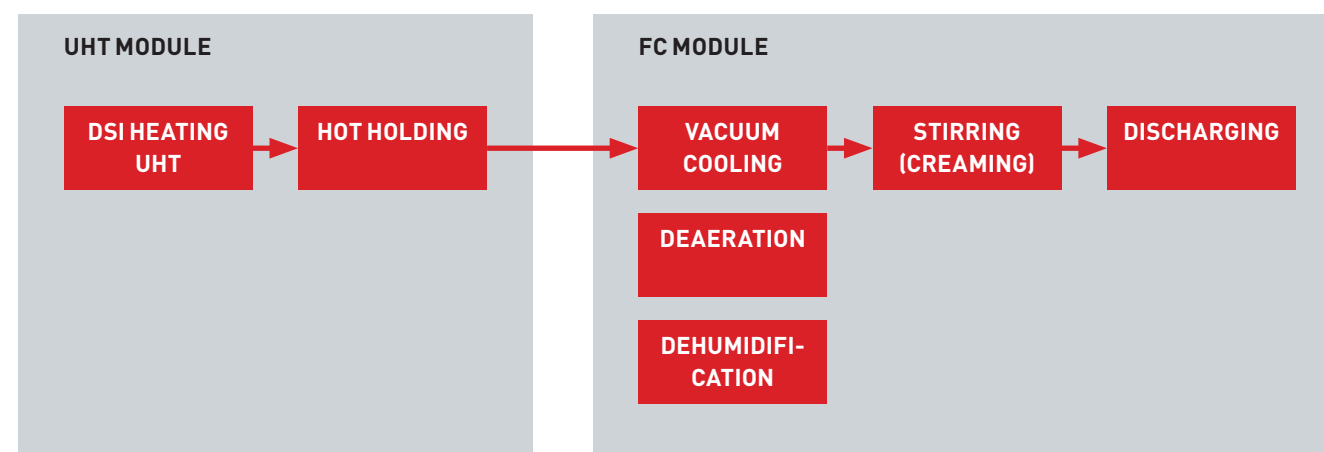
# ULTRA-HIGH HEATING. VACUUM COOLING. CREAMING. **UHT SYSTEM**



**Stephan**



## PROCESSED BLOCK CHEESE PROCESSED SPREADABLE CHEESE IMITATION CHEESE



## CONSISTENT. CLEVER. THE MODULAR STEPHAN UHT SYSTEM.

Processed cheese creations remain very popular. The modular Stephan UHT System lets you cater to the demand. With reliable ultra-high heating, cooling and creaming of food products on an industrial scale. This minimises the use of preservatives and eliminates the end-to-end cold chain from production to consumer.

The UHT System is a perfectly harmonised solution for continuous production of sliceable or spreadable processed cheese recipes and processed cheese preparations.

The system, consisting of its two core components - the UHT module and the flashcreaming module - can be expanded according to requirements. This means that a tailor-made production environment (plant configuration) can be created for every process.

### HOT AND COLD BLEND

The pre-product can be mixed and heated in batches as a "hot blend", for example using a Stephan batch cooker. A cold blended pre-product must first be heated using an inline heating system such as the Stephan Continuous Cooker.

### HEATING

On the inlet side of the UHT module, the heated, melted pre-product is then continuously pumped to the UHT injector, where it is heated further and sterilised.

### COOLING

The product is then cooled under vacuum in the flash-cooling and creaming module.

### HIGH PRODUCT QUALITY AND MACHINE AVAILABILITY

To ensure high product quality and high machine availability, the UHT System supports fully-automatic cleaning-in-place (CIP). It thus meets the most stringent hygiene standards while simultaneously minimising downtime.

In short, the UHT System is a compact, modular line-process system designed especially for industrial production of highly processed foods. Its precise control of production and cleaning processes ensures consistently high and reproducible product quality.

### CONTINUOUS COOKER AS EXTENSION

The Stephan Continuous Cooker is a continuous inline heating module with direct steam injection and a rotor/stator homogeniser. It also offers functions such as dispensing and emulsifying. More details at [www.proxes.com](http://www.proxes.com)

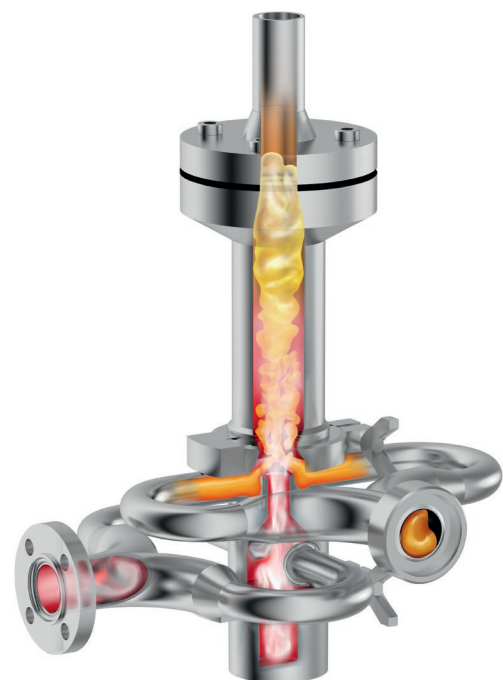


# TWO MODULES, SINGULAR EFFICIENCY.

## THE UHT MODULE

### PRODUCT STERILISATION

Ultra-high temperature treatment takes place in the Stephan UHT module. Culinary steam is injected directly into the product (direct steam injection). All necessary production parameters, such as temperature and tolerances, are regulated, controlled and monitored via the automation system. In the UHT head, the steam heats the product, quickly and efficiently, from approx. 85 °C to 142 - max. 145 °C. The PTFE coating reliably prevents scaling and burning.



## PERFECTLY HOT

In the hot holding section, the product is kept under pressure throughout the sterilisation process. If unexpected temperature fluctuations occur, a changeover valve ejects the product, ensuring that only perfectly heat-treated preparations enter the vacuum-cooling and creaming module. To prevent product deposits, the pipes within the UHT hot holding section are also coated with PTFE.

### DOUBLE YOUR UPTIME

The UHT module is equipped with two heads. In combination with an external CIP unit, this enables continuous, virtually uninterrupted operation. Production can continue while one head is being cleaned.

## THE FC MODULE

### VACUUM COOLING AND CREAMING

The Stephan FC module ("flash creaming") combines the process steps flash cooling and creaming in one vessel. In the vacuum generated here, the water content of the still-hot product evaporates abruptly, quickly extracting a lot of energy. The proportion of vaporised water corresponds to the amount of steam added during UHT heating. A vacuum pump draws the resulting hot vapour from the vessel into a condenser, where the water runs off.

To separate the gas and liquid phases even more efficiently, the product is fed into the vessel as a falling film (falling film evaporation) without touching the tank wall. The vacuum can be precisely adjusted and controlled so that the right temperature is reached for optimum creaming (approx. 86-88 °C). Thanks to this rapid cooling, undesirable Maillard reactions and burnings are prevented.

In addition to cooling, the vacuum and the falling film also support optimum product deaeration to ensure high product quality and filling accuracy.

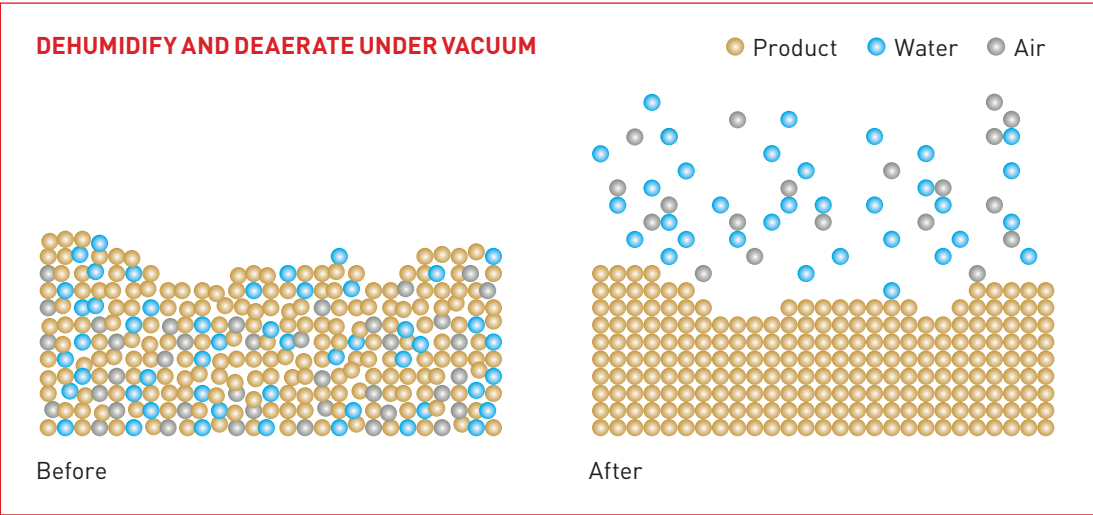
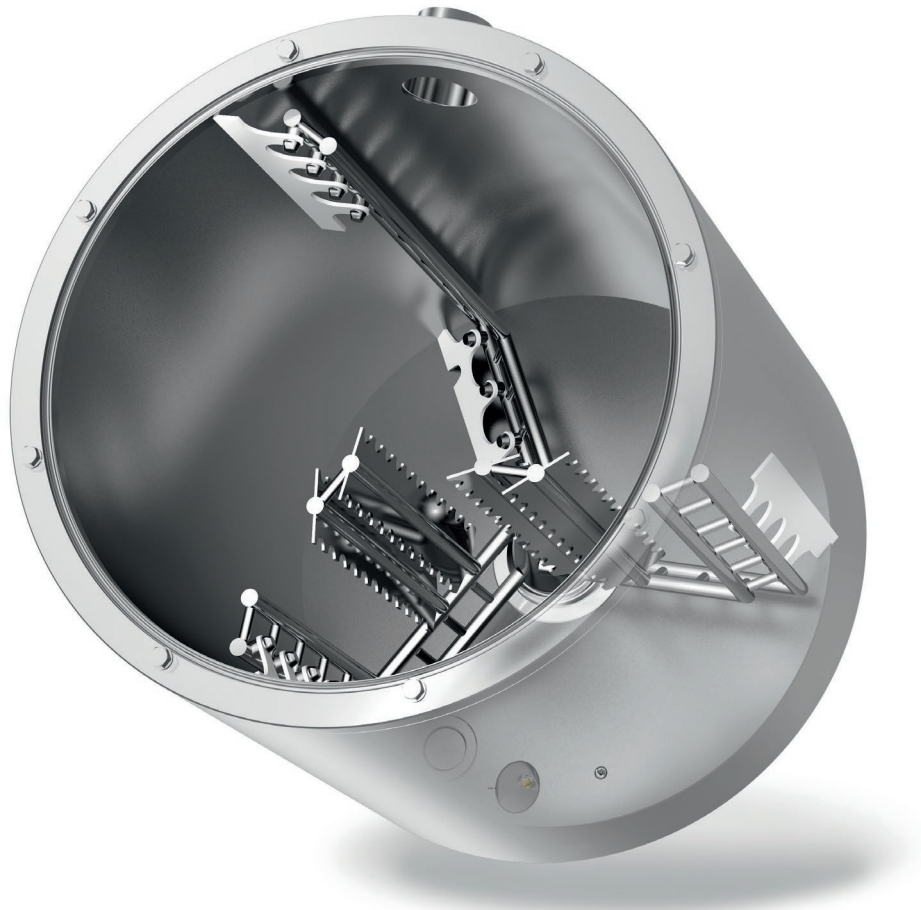




# FROM EASY TO SPREAD TO THE CREAM OF THE CROP.

Ultra-high heating alters the internal structure of the product. To be able to fill it, the lost viscosity and creamy texture must be recovered.

A special agitator and the Stephan-typical inclined vessel enable high-shear stirring. Speed is infinitely adjustable, making it easy to achieve the desired product consistency. The temperature and the product volume in the creaming vessel also influence the texture of the end product and can be precisely controlled – for a product that fulfils the target group’s every expectation and demand.



# VERSATILE SUCCESS WITH ONE LINE.

TYPE		UHT 01		UHT 03		UHT 06	
UHT MODULE (UHT)		UHT 500	UHT 1000	UHT 2000	UHT 3000	UHT 4000	UHT 6000
Capacity (depending on product), min.	kg/h	125	250	250	750	1.000	1.500
Capacity (depending on product), max.	kg/h	500	1.000	2.000	3.000	4.000	6.000
Working temperature, max.	°C	145	145	145	145	145	145

TYPE		FC 180		FC 400		FC 650		FC 1400	
FLASH CREAMING MODULE (FC)		FC 180		FC 400		FC 650		FC 1400	
Operating volume, max.	l	180	400	650	1.400				
Working temperature, min.	°C	85	85	85	85				
Working temperature, max.	°C	95	95	95	95				

### BENEFITS FOR YOUR PRODUCTION



**Modular, compact** system with a small footprint



**Highly efficient process control** for continuous operation



**Fast, efficient yet gentle** direct-steam heating



**Customised product quality** in colour, gloss and texture



**Intelligent, intuitive** handling



**Prevents oxidative changes** thanks to minimized air inclusions



**High process availability** due to automated cleaning (CIP)





**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

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