



**LET'S  
TALK**

**MAYONNAISE  
& MORE**

**FULL FAT  
LOW FAT  
VEGAN  
DRESSINGS  
SAUCES  
DIPS  
SALADS  
FILLINGS**



## THE BEST INGREDIENT? A QUALITY MACHINE.

Hot or cold, small batch or continuous production, liquid egg yolk or powder – every mayonnaise producer swears by their own formulation. Whatever your recipe for success, ProXES supplies you with the right machines to prepare it.

**As a leading manufacturer in the processing industry, ProXES combines the expertise of three well-known brands: FrymaKoruma, Stephan and Terlet. This concentrated know-how allows us to respond to individual challenges and requirements.**

### WHAT MAKES A PERFECT MAYONNAISE?

Creating a stable, homogenous product is key in the process of manufacturing mayonnaise. Hot and cold processing both require machines that mix powders and liquids evenly and produce a consistent emulsion of vegetable oil, water, vinegar and egg yolk. For low-fat products (e.g. salad

mayonnaise) wheat flour or thickeners like starches or hydrocolloids have to be incorporated gently into the mix.

ProXES units stand out due to their high processing quality: The high shear mixing systems guarantee optimum dispersion and minimise the size of oil droplets. This prevents separation during packaging or storage.

### HOT VS. COLD PROCESSING

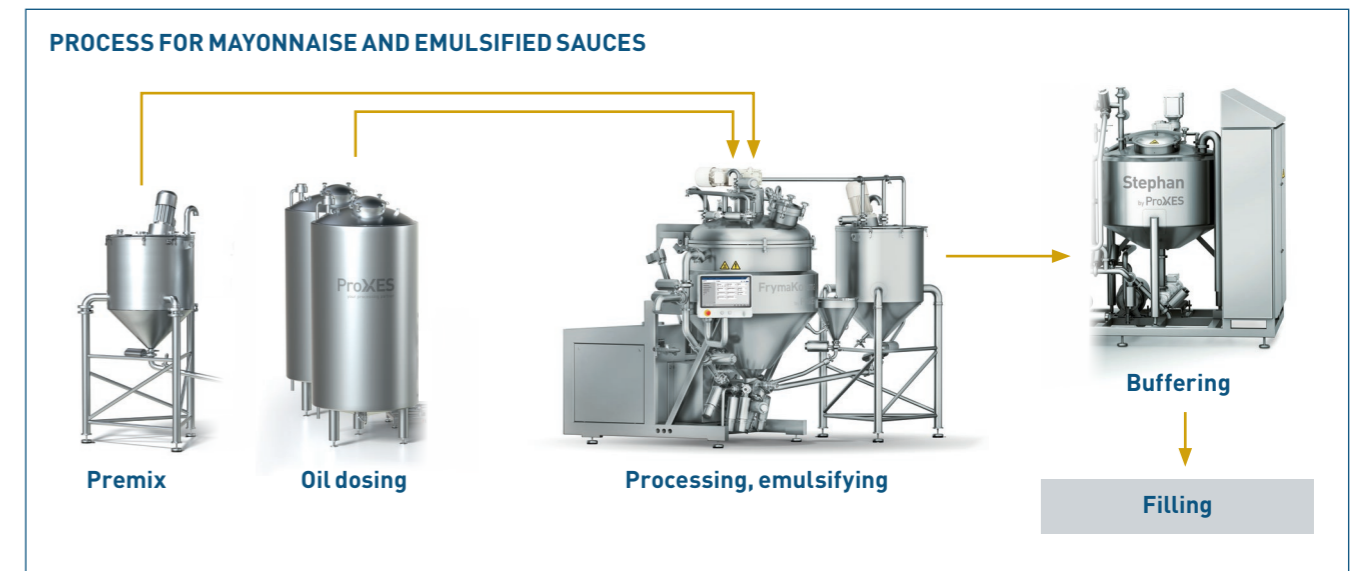
Cold processing for full-fat as well as low-fat mayonnaise – or hot processing for low-fat mayonnaise using culi? Both methods have their specific advantages and disadvantages. Let's talk about what's best for your facility!

### Advantages of cold processing

- Simple all-in-one manufacturing process with raw ingredients
- Energy efficient (no heating, cooling or steam)
- Low initial investment
- Low maintenance, low cost of ownership

### Advantages of hot processing

- Lower product cost-price due to less expensive ingredients
- Pasteurisation (preservation) to guarantee microbiological safety of raw ingredients
- Use of natural starches ('clean label')
- Flexible use of machines for mayonnaise, ketchup, sauces





# OUR BESTSELLER FOR YOUR BEST MAYO.

The ProxxD is a multifunctional processing unit designated for production of high-quality food emulsions and suspensions – and the newest successor to the MaxxD.

	Usable volume [L] min./max.	Production capacity up to [kg/h] full fat mayonnaise	Production capacity up to [kg/h] low fat mayonnaise (30% Oil)
ProxxD 200	15-160	3,500	2,800
ProxxD 400	15-300	5,000	3,500
ProxxD 700	15-500	6,000	4,000
ProxxD 1300	50-1,100	6,500	5,000
ProxxD 1800	50-1,500	6,800	5,300
ProxxD 2400	50-2,000	7,000	5,400
ProxxD 3500	100-3,000	7,200	5,500

Oil dosing up to 3 kg/sec, specific energy input between 4 - 6 kWh/t.

## KEY BENEFITS OF THE PROXX D FOR YOUR PRODUCTION

- **Significant increase** of production capacity
- **High product quality** due to proven FrymaKoruma droplet size control know-how
- **Lower energy consumption** per kg of product
- **Intuitive operation** of the user-friendly control system
- **Guaranteed reproducibility** through programmable process parameters
- **Lower environmental impact**
- **Lower average noise emissions** during production
- **Faster Return on Investment**
- **Space-saving design:** higher production capacity, without increased footprint

## PROXX D PROCESSES

- Emulsifying
- Powder dispersing
- Mixing
- Dosing/weighing
- Indirect / direct heating (optional)
- Cooling
- Vacuum product deaerating
- Discharging
- CIP Cleaning
- Particle size reduction (optional)

## KEY BENEFITS OF FRYMAKORUMA BATCH SYSTEMS

- **Guaranteed reproducibility:** full control over shear energy input with external circulation and most optimal location for ingredient entry
- **High system versatility:** wide range of available additions for best customer specific configuration and processing reliability
- **Tailored CIP concepts** with the smallest environmental impact
- **Low service effort:** simple construction and easy accessibility of all parts

Get in touch with us and let our experts advise you based on your recipe specific solution. Let's talk!

## AT A GLANCE

The new technological advance of ProxxD enables higher production volumes by lower energy use per kg of product such as mayonnaise and other emulsified products.



ProxxD 700 Vacuum processing unit

## BENEFITS FOR YOUR PRODUCTION



**Output:** Increase of production capacity



**Velocity:** Fastest oil dosing on the market



**Quality:** Highest product quality



**Rentability:** Faster Return on Investment



**Efficiency:** Quicker process – less energy loss – less temperature increase



**Sustainability:** Reduction of noise emissions



**Economy:** Ecology and economy in sync



**Handling:** Intuitive operation with ProUI





## AND WHAT ABOUT DRESSINGS?

Mayonnaise, ketchup, salad dressings, hummus or cheese sauce – if you want to produce it, ProXES can deliver. Our versatile processing systems are designed to prepare a wide range of sauces. Ask our experts about modular extensions customised to your requirements!

## MADE FOR EACH OTHER: CULIFLEX AND PROXX D

Let's take your production to the next level: By adding CuliFlex modules to existing batch processing units like the ProxxD, mayonnaise manufacturers can create a highly efficient continuous processing line – and significantly increase their production capacities.

CuliFlex and ProxxD work hand in hand: While the CuliFlex prepares the starch paste following the process steps of pre-mixing (water, starch, sugar and salt), buffering, heating, holding, cooling and buffering, the ProxxD mixes and emulsifies vinegar, egg yolk, oil and the water phase to produce a full-fat mayonnaise. Finally, the culi from the CuliFlex and the full-fat mayonnaise made by the ProxxD are gently mixed together to create a smooth low-fat mayonnaise.

### MORE FLEXIBILITY, MORE VARIETY

In addition to the simultaneous processing of culi and full-fat mayonnaise, the CuliFlex can also be used as a stand-alone module, for the production of a wide variety of sauces like ketchup or other cooked sauces. This flexibility makes it possible to considerably expand the existing product range and reach a higher total sauce production capacity.





# THINK MAYO AND BEYOND.

Cutting, grinding, cooking, mixing, deaerating and cooling: ProXES offers a wide range of multifunctional systems for the production of sauces, savory spreads, or gourmet salads. Do you need to process small batches or large capacities? Or do you prefer a unit that allows both hot and cold processing? Let's discuss your options!

**Flexibility is key: Are you looking for versatile processing equipment that can produce both mayonnaise and other condiments and sauces? Your solution must handle different ingredients, capacities, and textures, and accommodate frequent product changes without unnecessary delays. ProXES offers a wide selection of machines to meet these challenges – from stand-alone machines for efficient batch production to complete processing lines for ketchup and sauces.**

### THE PERFECT SYSTEM FOR ANY PRODUCTION VOLUME AND PROCESS

The Stephan Universal Machines and Combitherm are versatile all-in-one processing units. For small to medium capacities with hourly outputs of up to 1,000 kg/h, the Stephan Universal Machines are your ideal choice. Whether you are cold-processing mayonnaise or hot-processing sauces like ketchup, Stephan systems handle both with ease. If larger capacities are required, the Combitherm with a usable volume of 800 to 1,200 liters and hourly outputs of up to 3,600 kg/h, provides a flexible and efficient processing solution.

### WE HELP YOU FIND THE RIGHT MACHINE

Hot or cold production, diced ingredients, or smooth emulsions, the right machine or processing line for your business depends on several factors. Original ketchup, BBQ, or chili sauces usually require machines that cook starch to achieve the desired texture and shelf life. In contrast, the production process for emulsified sauces such as dressings, dips, and cocktail sauces is similar to that of low-fat mayonnaise, where starch or hydrocolloids must be gently incorporated into the mixture.



**Universal Machine 24 to 74**  
Perfect for small batches



**Universal Machine 130 and 200**  
Perfect for medium batches



**Combitherm 800 and 1200**  
Perfect for large batches

### DOSING SOLID OR LIQUID INGREDIENTS

The dosing of liquid and powder ingredients can be carried out with the help of the vacuum system and corresponding hoppers. For external direct dosing, you can alternatively load large-volume liquid components directly into the vessel via a flow meter. Critical dry materials and large amounts of oil can even be fed directly onto the knives, allowing for lump-free dispersions and excellent emulsions.

### DIRECT AND INDIRECT HEATING AND COOLING

For fast, efficient and gentle heating, the Combitherm and Universal Machine offer proven direct steam injection with culinary steam. Or would you prefer using the double jacket? The colour of tomato-based products can be individually adapted to your requirements thanks to the process management of direct steam heating and double jacket.

### BENEFITS FOR YOUR PRODUCTION



**High quality:**  
Gentle processing for optimum texture and taste



**Efficiency:**  
Reduced production times and high throughput



**Flexibility:**  
Adaptable to different recipes and production volumes



**Sustainability:**  
Energy-efficient processes and reduced operating costs



# LET'S INNOVATE TOGETHER: PROXES TECHNOLOGY CENTRES.

Mayonnaise producers know: consumer preferences, markets, recipes, and business strategies can change quickly. In order to help you react fast to current opportunities and challenges in the industry, ProXES has found its very own approach: Co-Creation.



**At ProXES, we're your partner in making your business future-proof. Our Co-Creation approach is based on the valuable exchange of expertise between customers and the ProXES teams.**

With a total of five Technology Centres (Germany, China, Singapore and USA), ProXES has set up a range of powerful local platforms for Co-Creation. Here customers have the opportunity to actively participate in product development, to test and further develop processes and to adapt them to their individual requirements. At the same time, they can contribute valuable insights from their own practical experience and point out possible challenges or bottlenecks.

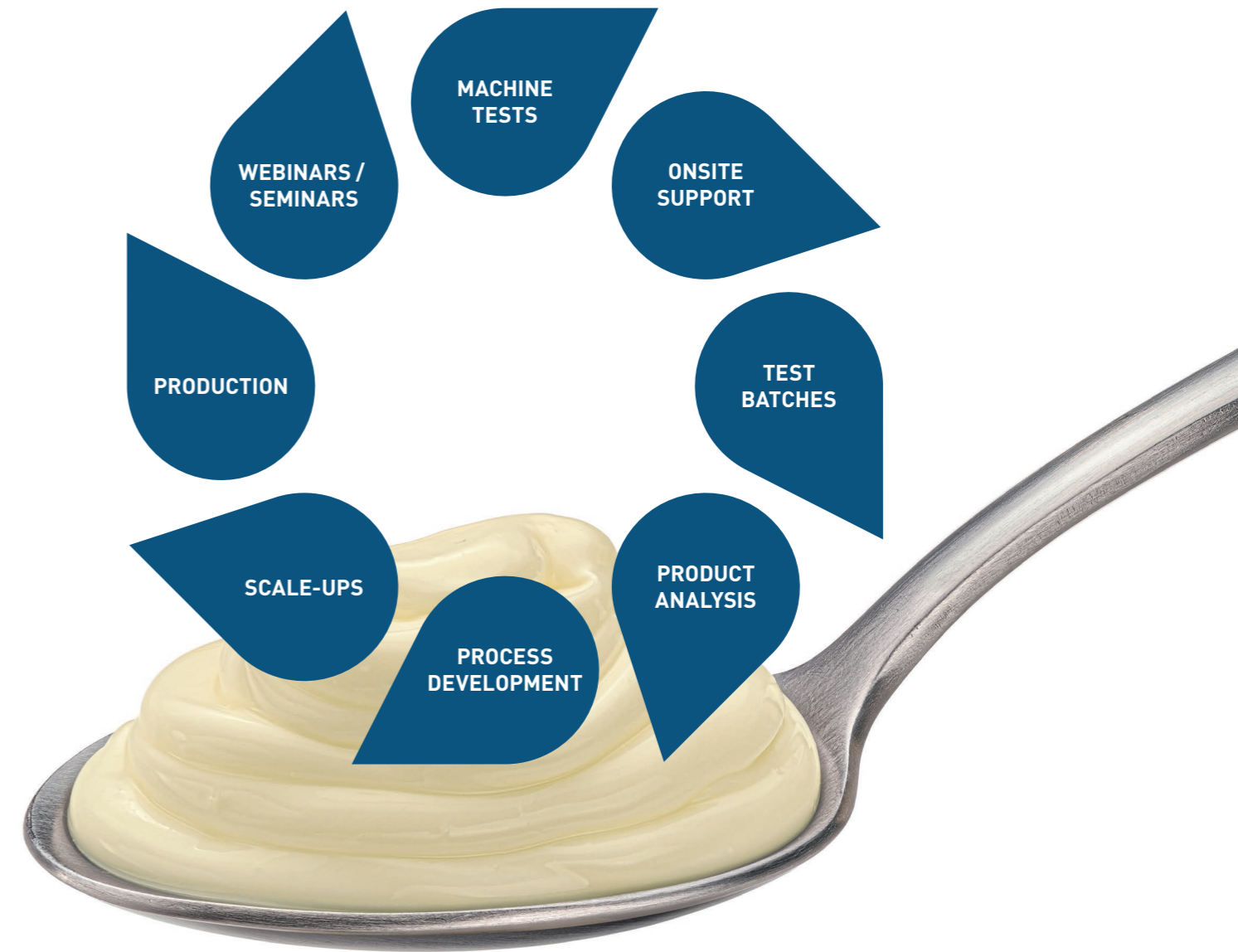


## ADJUSTING PROCESSES AND RECIPES

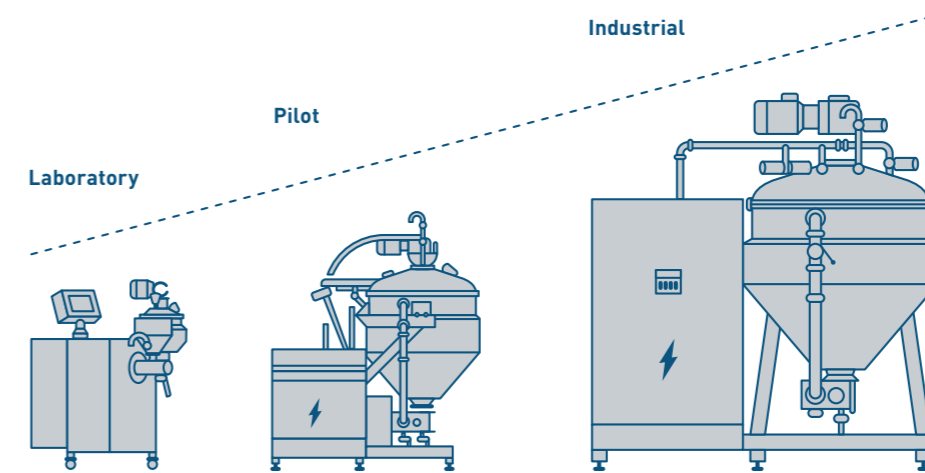
Just one example: New food trends can initiate innovation and create opportunity for growth, but they also confront food manufacturers with challenges. How can recipes be modified to be 'cleaner and greener' without compromising on product quality, taste and shelf-life? How can output be maximised and production be streamlined?



**Let's talk innovation! With its open exchange between experts, our Co-Creation approach makes it possible to work specifically on solutions for industry-specific requirements and your individual needs as a customer.**



Our Co-Creation concept: Every development step for your application is possible with our Technology Centres.



The right size and technology - we work this out with you!

# ProXES

your processing partner



**1 ProXES Headquarters, Germany**  
info@proxes.com

**1 Stephan Machinery GmbH, Germany**  
info@stephan-machinery.com

**2 FrymaKoruma AG, Switzerland**  
info@frymakoruma.com

**3 ProXES Technology GmbH, Germany**  
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 SAS**  
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, USA**  
salesnorthamerica@proxes.com

**10 ProXES Inc. NJ, USA**  
salesnorthamerica@proxes.com

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

**12 ProXES Asia Pacific Pte Ltd., Singapore**  
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](http://www.proxes.com)

### Headquarters

ProXES GmbH  
Stephanplatz 2, 31789 Hameln  
Germany

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

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# FrymaKoruma Stephan Terlet