

**HOT
NEWS:**

**HOT-PROCESSED
SAUCES**



FrymaKoruma Stephan Terlet

**KETCHUP
BOLOGNESE
CHILI SAUCE
BECHAMEL
BBQ SAUCE**



WE'RE HOT ABOUT YOUR SUCCESS.

As a pasta companion, dip, or burger topping, – hot-processed sauces are an essential part of modern cuisine. The diversity of recipes is matched only by the growing demands of modern food production.

From ketchup to Bolognese, from spicy BBQ sauce to creamy classics such as béchamel – hot-processed sauces add an extra serving of excitement to every meal.

Global trends such as new convenience foods, ready-to-eat meals, and plant-based alternatives are driving demand – and pushing sauce manufacturers to innovate. Consistent texture, flavor stability, microbiological safety, and scalability are critical, especially when handling heat-sensitive ingredients or particulate-rich recipes.

KNOWING THE CHANCES AND CHALLENGES

Hot processing offers key advantages: It ensures pasteurization, extends shelf life, and unlocks deeper flavor profiles. However, it also comes with challenges – such as avoiding scorching, preserving delicate aromas, and maintaining a homogenous product under high temperatures.

EXPERIENCE AND A PASSION FOR INNOVATION

At ProXES, we combine proven expertise with cutting-edge technology to help you master the art of sauce production. Our systems are designed for maximum flexibility, efficient heating and cooling, gentle mixing, and reliable process control – tailored to meet your specific recipe and batch requirements.

Whether you're scaling up a family recipe or developing the next big trend in ready meals, we provide the know-how and the machines to make your processes efficient, adaptable, and future-proof.



LET’S FIND THE BEST MACHINE FOR YOUR SAUCE!

Spicy barbecue sauce, thick béchamel, or chunky Bolognese – the right equipment determines the quality, taste, and efficiency of your hot-processed sauce.

The ProXES portfolio comprises a host of machines that are tailored to your individual requirements – from our processing units with direct steam injection to our continuous heat exchanger.



THE COMBITHERM

If you need a flexible all-rounder for batch production, the Combitherm should be on your list.



THE VACUTHERM

Our Vacutherm units are perfect for fast, gentle cooking, as well as roasting – for homestyle flavoring.



THE UNIVERSAL MACHINE

Do you need a machine for R&D or small capacity production? Our Universal Machine is flexible enough to handle different batch sizes.



THE TERLOTHERM

Our proven scraped surface heat exchanger: The Terlotherm facilitates fast, indirect, even cooling and heating (without direct steam injection).



THE PROXX D

Versatile, powerful, and reliable: Our ProxxD is a vacuum-processing unit with an innovative high-performance homogenizer.

BENEFITS FOR YOUR PRODUCTION



Output:
Increase in production capacity



Quality:
Highest product quality



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



Profitability:
Faster return on investment



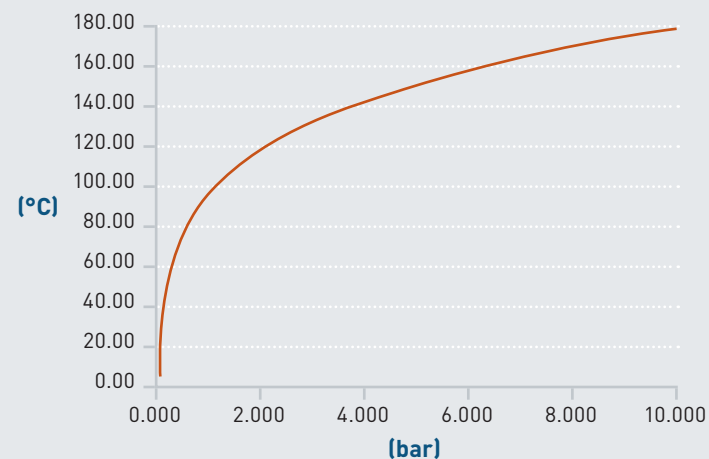
Sustainability:
Reduction in noise emissions



Flexibility:
Fast product changes due to quick intermediate cleaning

SENSITIVE, EFFICIENT, AND FAST: DIRECT STEAM INJECTION.

SPEED UP WITH DIRECT STEAM INJECTION



In applications where uniform heating is important, direct steam injection (DSI) is an efficient solution. Since the steam is directly injected into the liquid, heat transfer occurs evenly – without hot surfaces that could cause burning. If DSI is not an applicable option for you, ProXES will have the right concept for your tempering tasks. Let's talk!

INCREASE YOUR ENERGY EFFICIENCY WITH DSI

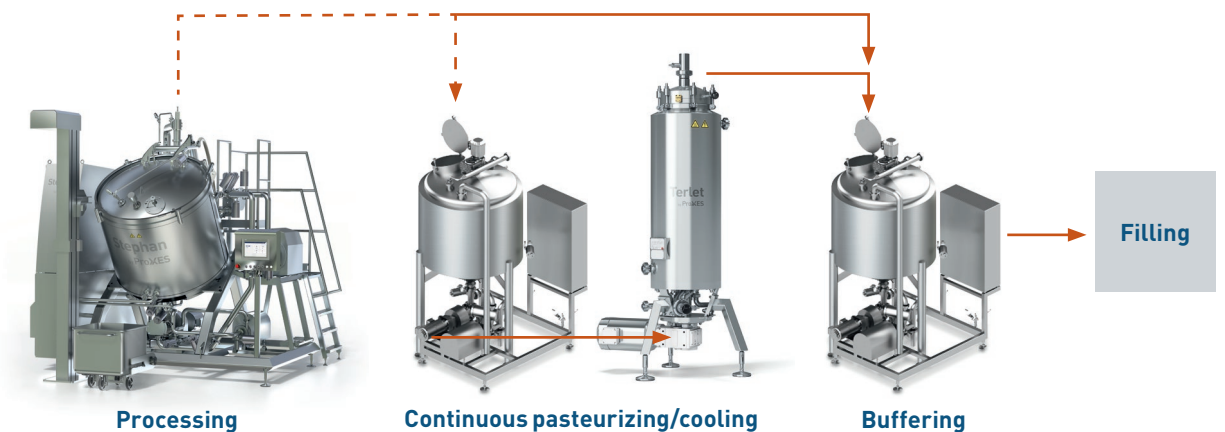
- **Efficient heat transfer:** Thanks to the direct injection, heat transfer occurs without losses through heat exchange surfaces.
- **Simple installation:** No additional components such as heat exchangers are required.
- **Reduced energy consumption:** Direct steam injection utilizes the entire enthalpy of vaporization, leading to more effective energy use.

SPEED UP YOUR PRODUCTION

Save valuable minutes per batch: Direct steam injection in either the main vessel, the recirculating loop, or inline can significantly reduce your production times. Product temperature is continuously monitored to avoid overheating.

PERFECT TEXTURE CONTROL – FROM CHUNKY TO CREAMY.

PROCESS FOR HOT-PROCESSED SAUCES



What are you looking for in your sauces? Is it roasted flavors, meaty chunks, or silky creaminess? Our machines allow a wide range of hot-processing options.

- Direct cutting or grinding of vegetables, meat or spices
- Roasted flavors via contact temperatures of up to 184 °C
- Creamy consistency through precise emulsification
- Homogenization of sauces with high fat content
- Integrated cutting systems for solid inclusions and particulate control
- Temperature zones for step-by-step cooking and efficient energy usage
- Deaeration systems to improve filling quality and reduce air





NEW FOOD TRENDS, NEW OPPORTUNITIES.

The future of sauces is plant-based. Growing demand for vegan and clean-label products is impacting manufacturers of hot-processed sauces – with opportunity for growth!

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 with plant-based proteins.

Vegans, vegetarians, and flexitarians are driving market growth: The global vegan food market size is projected to expand at a CAGR of 13.51% by 2032. "Clean eating" is another booming trend. It focuses on food products with simple, natural ingredients that are free from additives, preservatives, and 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"? What 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. Whether it's meat substitutes in Bolognese or lactose-free béchamel – we help you adapt existing recipes or develop new ones without compromising on taste, texture, or shelf life.

Let's talk about how our solutions and machines can help your company benefit from the latest food trends!



LET'S INNOVATE TOGETHER: PROXES TECHNOLOGY CENTERS.

Sauce 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 Centers (located in Germany, China, Singapore, and the 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 these processes 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.

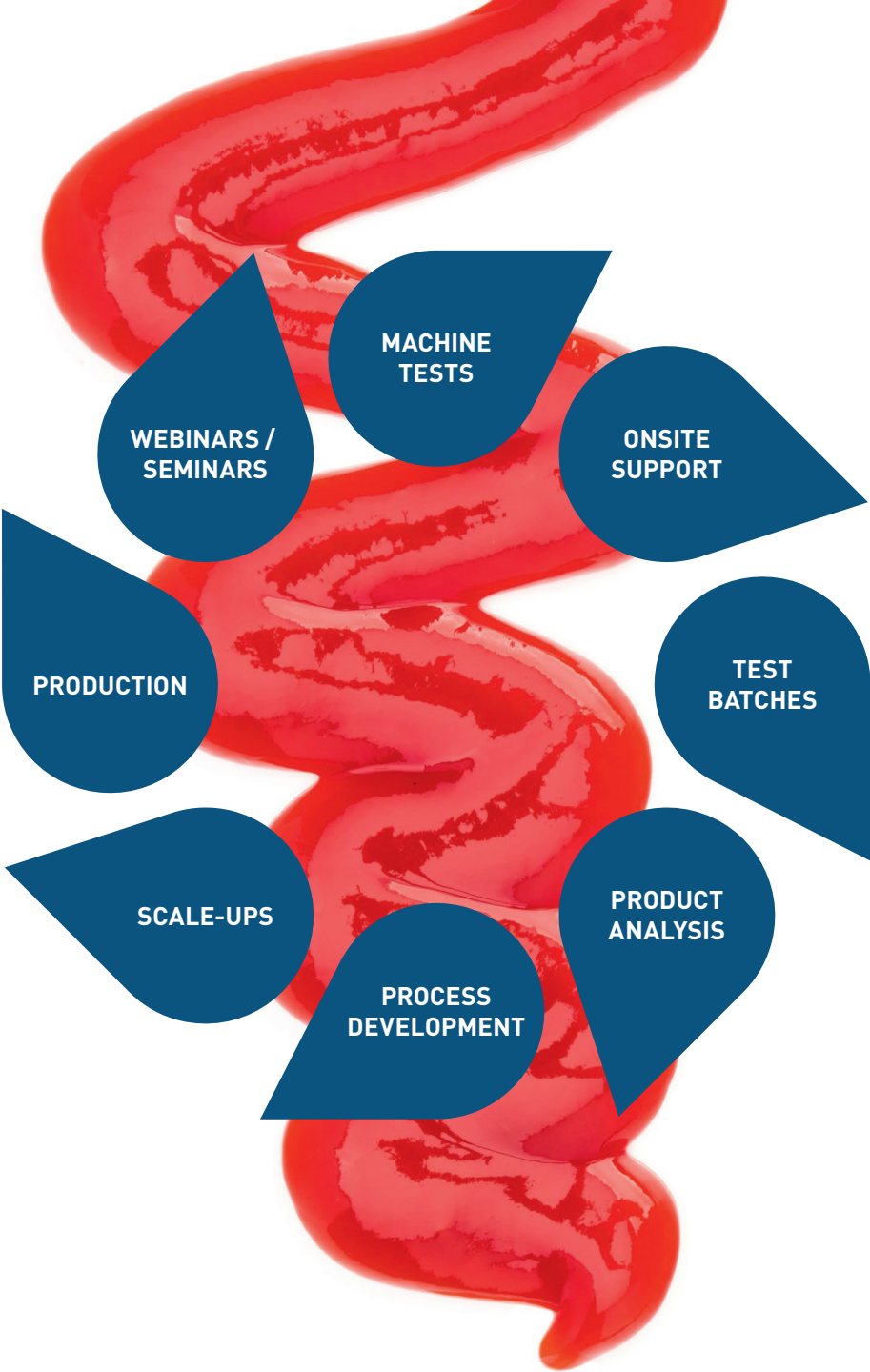


ADJUSTING PROCESSES AND RECIPES

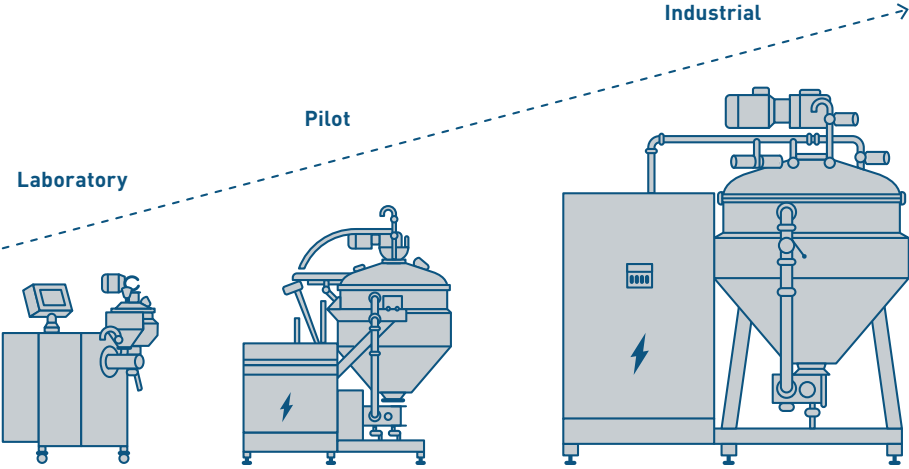
Just one example: New food trends can initiate innovation and create opportunity for growth, but they also confront food manufacturers with challenges. How can recipes be modified to be "cleaner and greener" without compromising on product quality, taste, and shelf-life? How can output be maximized and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



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



Our Co-Creation concept: Our Technology Centers can support every step of your application's development.



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



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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 advanced materials industries. What about you? Let's create value together – sustainably!

FROM INSPIRATION TO FEASIBILITY

Our process technology and training center 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



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