

**LET'S  
MAKE**

**TOOTHPASTE!**

**PLUS  
ECO  
SUPPORT**

**FrymaKoruma Stephan Terlet**

# BRUSH UP YOUR PRODUCTION.

Big players and niche brands, innovation and reproducibility, highest quality standards and low margins per tube: The toothpaste market is hugely competitive – and exciting. ProXES supplies oral-care manufacturers with the machines and know-how to meet the challenges.



**With its FrymaKoruma brand and decades of experience in machinery, plant construction and formulations, ProXES is the reliable partner for the toothpaste industry. Whitening or high fluoride? Ayurvedic or strawberry-sparkle? Whatever your recipe for success, ProXES delivers the machines to prepare it – fast, safely and profitably.**

The FrymaKoruma Dinex®, a vacuum-processing unit, and the vacuum-mixer VME are specialized in the manufacturing of toothpastes with various viscosities and ingredients. As a dispersed system with liquid and solid phases, toothpaste generally contains actives, abrasives, humectants, water, surfactants, thickeners, preservatives, colorants, flavorings and sweeteners.

**TRANSPARENT  
OPAQUE  
PASTE  
GEL  
WHITENING  
SENSITIVE  
LOW-FLUORIDE**

## **A SOLUTION FOR ALL CLASSIFICATIONS**

Appearance, viscosity and cleaning effect are usually the qualifiers for the classification of toothpastes. Unlike opaque toothpaste, transparent toothpaste contains only silica for abrasives and no tarnishing thickeners like xanthan. While pastes are characterized by their high viscosity, gels are medium viscous and thin gels have a low viscosity. When it comes to the cleaning effect, abrasiveness (defined by the type and amount of abrasive ingredient and the RDA value) and fluoride concentration are key.

## **HOMOGENOUS MIXING**

While formulations differ between manufacturers, the main problems they face during production are usually the same: aeration and lumping. Dinex® and VME tackle these problems with advanced processing technology. The heart of the Dinex® is a high-performance rotor-stator homogenizer, while the VME features a powerful double-staged dissolver. Both units use a vacuum feed to guarantee the homogeneity of the tank's entire contents.

# SHOW THE COMPETITION YOUR TEETH!

**Short batch times, high hygiene standards, best reproducibility – ProXES knows from experience what counts in the industry.**

Both Dinex® and VME were designed to deliver consistently high quality and can produce large quantities. Yet they differ concerning operations and batch sizes. While the Dinex® is a highly efficient homogenizer, the VME can produce even highest viscosities.

What's your focus in toothpaste production – easy handling, flexibility, low service effort? Our ProXES experts are happy to discuss the best machine solution with you.

## HIGHLIGHT: HOMOGENIZER

Reinforced motor

Anchor agitator or co-axial agitator

Fast homogenizing

Short loop for smaller batch sizes

Easy to clean

Also suitable for non-toothpaste products like emulsions

## HIGHLIGHT: 2 DOUBLE-STAGED DISSOLVERS

Reinforced motor

Perfume hopper

Sinus mixer for processes without shear energy

Few process steps, minimizing danger of mishandling

Fast powder intake

Suitable for extremely high viscosities



**DINEX®**  
High shear mixing



**VME**  
Mixing and Dispersing

# SINGLE UNIT OR TURNKEY SOLUTION?

**For several years now the toothpaste market has moved towards higher production capacities per manufacturing site. At the same time market-specific varieties gain in importance. ProXES helps you bring output and flexibility in line.**

While ProXES is known for its meticulous attention to detail, we also pride ourselves in having an eye for the wider picture. That's why in addition to the Dinex® and VME single units, ProXES also supplies you with smart line concepts that take your toothpaste production to the next level.

A processing line for continuous production may contain numerous receiver tanks and Dinex® or VME processing units – a complexity that demands clever solutions for dosing, feeding and mixing. In order to meet these challenges, ProXES has developed automation concepts that increase productivity, quality and production speed.



**DINEX®**

Turnkeysolutions for processing lines

## AND WHAT ABOUT MOUTHWASH?

Toothpaste is not your only dental-care product? Perfect! Creams and gels, ointments, hair care treatments – if you want to produce it, ProXES can deliver. Ask our experts for the cosmetics and pharmaceutical sectors about modular extensions customized to your requirements!

# 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!**





## WHEN THREE PREMIUM BRANDS JOIN FORCES, INNOVATION BEGINS

ProXES successfully unites three leading process technology brands under one roof: FrymaKoruma, Stephan and Terlet. Together, ProXES combines innovative and long-standing expert knowledge as a manufacturer of machines, plants as well as process lines and solutions in the food, pharmaceutical, cosmetics and chemical industries.

ProXES responds to individual requirements and supports its customers worldwide as an agile and reliable partner. In addition to its established individual technologies, ProXES combines the expertise and

synergies of its brands to create modern line concepts. By using the most advanced automation concepts and service offerings, ProXES creates competitive advantages in the market for its customers. How can we help your business?

## YOU HAVE THE IDEA, WE HAVE THE MACHINES

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:  
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