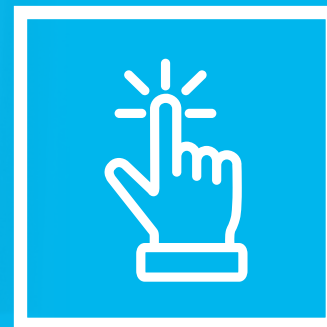




Ready for high-performance equipment
with Tetra Pak processing components

**Transform core
process steps
into predictable,
high-performance
outcomes.**





Are you...

... looking for components that are **simple** to buy, and **easy** to install, operate, adapt and maintain?



... keen to work with a **global supplier with local expertise** that can help you **improve your processes**?



... interested in accessing **much more value** beyond the stainless steel equipment?

Unlock improvements through proven technologies

Processing components like homogenizers, separators, mixers and heat exchangers are the heart of any food and beverage production. When they perform at their best, you get stable quality, resource efficiency and lower total cost of ownership (TCO) across the entire line. And because every product places different demands on processing, each component is designed and optimised for specific food and beverage applications.

Improvements can be achieved without replacing existing systems. Instead, they are unlocked through proven technologies, performance guarantees and targeted enhancements that strengthen resilience and control across the line. With expertise that spans ingredients, recipes and processing conditions, we help ensure each component performs in the context of your specific product. Our components are easy to operate and integrate into existing lines, supported by one point of contact across equipment, service, application and financing.

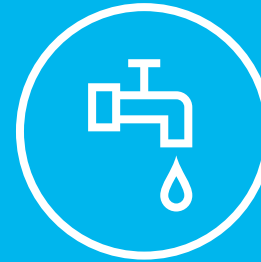
Selected and validated for demanding food and beverage environments, our processing components help transform core process steps into predictable, high-performance outcomes: energy-efficient separation, flexible mixing, reliable heat transfer and robust homogenization. This leads to higher product consistency and throughput, fewer deviations and less waste – with embedded energy and water efficiency that helps reduce operating costs without major changes to your line.

The result is a factory that is not only strong today but better prepared for tomorrow: more stable, more predictable and more efficient – with processing components that optimise your operations, backed by the added value that comes from a global leader in food and beverage processing.



Quality and food safety

Our high-performance processing components are designed to maintain stable product characteristics, from texture and particle size to temperature control and microbial safety. Decades of food chemistry expertise, hygienic design, and validated processing parameters ensure reliable performance across dairy, beverages, plant-based products and high-viscosity foods.



Resource optimisation

Our processing components optimise some of the most fundamental processing steps, helping producers reduce their consumption of utilities and ingredients, without compromising output or quality. Long running times, low fouling, gentle treatment and efficient mechanical design reduce waste and support a more resource-efficient operation.



Efficiency and TCO

Our robust components come with long service intervals and predictable performance that reduce operational costs across the equipment lifecycle. Mechanical durability and easy servicing help cut downtime and extend equipment lifetime. The result is a more stable operation with a lower overall cost of ownership.



Reliability and resilience

Our processing components integrate smoothly into both new and existing lines, while global application specialists and field engineers help ensure reliable day-to-day operation. Continuous innovation, data-driven insights, and upgrade paths strengthen resilience, reduce vulnerability and support preventive approaches to quality and maintenance.

Introducing our heroes

We help you put innovative technology into food production that meets the changing needs of your consumers and your business operations. Each of our component categories below represents decades of product development that is guided by food safety, operational efficiency and sustainability. High performance and reliability are the starting points, but adaptability, flexibility and value-added services are just as important for making the most of your business.

Homogenizers – Our components are designed for high homogenization efficiency allowing a lower homogenization pressure, and extreme durability for maximum uptime. Low energy, steam and water consumption, and easy to service and upgrade.

Heat exchangers – A complete range of plate, tubular, coiled and scraped-surface heat exchangers, in a wide variety of designs, materials and sizes – for optimal results with your product family. Even as it grows.

Mixers – Producing smooth, homogenous products with consistent quality, for a wide variety of food types and formulations. Flexible, efficient mixing for uniform product quality with minimal product losses. A portfolio that perfectly meets any mixing requirement, including new trends such as plant-based alternatives to cheese or plant-based spreads such as hummus.

Separators – Leading in gentle, flexible and efficient separation, clarification, and spore removal for over 100 years. Meets the strictest requirements of modern food processing. Unrivalled low energy and water consumption, thanks to AirTight technology.

Ice cream components – Highly controlled, rapid freezing for extremely consistent product quality, and inclusion dosing equipment for handling nuts, fruit and whatever else your creative recipes call for.

Bag tipplers – Tipping and discharging equipment exclusively designed for the food industry – with hygienic, ergonomic and efficient discharge of powder ingredients. Efficient mixing and blending – wet or dry – for cost-efficient, flexible solutions that reduce product losses.

Plant components – All the gear that keeps your plant humming: pumps, valves, measuring instruments, electrical components, integration components, tank equipment, controls, automation... and more. Over 40,000 validated components sourced from leading brands. Easy to buy via our e-Business platform, and delivered rapidly.



**You make
the product.
We have the
component
for you.**

Homogenizers

Homogenizers are one of the workhorses of the food industry: preventing creaming and sedimentation in milk products, and generally improving viscosity, taste and texture of other products while preventing ingredient separation. Our homogenizers have a broad capacity range of 55 – 63,600 litres/hour, and are easily customisable for dairy, beverages, plant-based and processed food, or any other food category.

*Running smoothly
day in and day out
– for peace of mind.*

Lower energy consumption and consistent high quality

Our homogenization devices HD100 and HD Energy IQ are designed for high homogenization efficiency, allowing a lower homogenization pressure, and extreme durability for maximum uptime. They offer low energy, steam and water consumption and are easy to service and upgrade, leading to an unbeatably low total cost of operation.

Easy product changeovers and maintenance

Our special plug-and-play design, with everything located inside the homogenizer unit, facilitates product changeovers and maintenance. For example, switching between aseptic and non-aseptic processing, or switching between high and low viscosity without changing the valves.

Not only do we have an unbeatable availability of spare parts – they simply don't wear out as often. The seats and forcer discs of the

homogenizing device can be reversed and used again, doubling their lifetime. Pistons and seals can be serviced without disassembling the pump block or cooling system. The result? Quicker maintenance, lower maintenance cost and increased uptime.

Application support – sharing the knowledge

Based on our application knowledge and our ability to measure viscosity and particle size, we can help you set the optimal pressure for your products,

avoiding over-homogenizing that wastes energy. Our knowledge even extends beyond traditional dairy, to include decades of experience with soy beverages and a good deal of innovation with oat and other plant-based products. We can help you test new products and refine your process at one of our Product Development Centres. In some markets, we even have rental machines available so you can test your own specific products on our equipment.

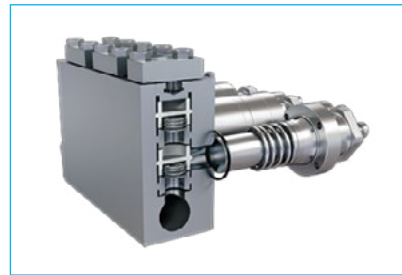
Key Benefits

- High homogenization efficiency
- Up to 80% less cooling water consumption and up to 70% less steam consumption
- Double-lifetime wear parts

10-year warranty
against cracks

Turnable parts
for double lifetime

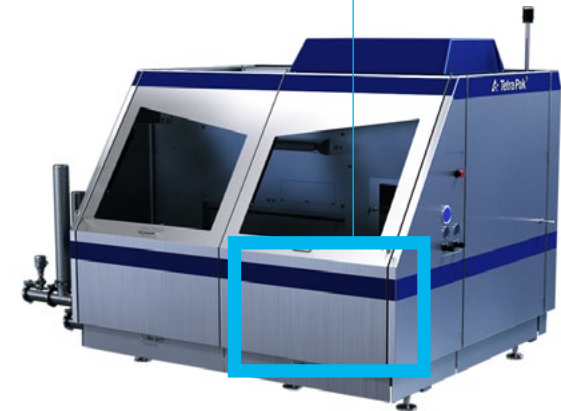
HD100, higher efficiency and up to
30% lower energy consumption
than conventional designs



Tetra Pak® Homogenizer 25G



Tetra Pak® Homogenizer 300



Tetra Pak® Homogenizer 500

Key Benefits

- High performance, cost-efficiency, low environmental impact and product-to-product heat recovery
- Optimal configuration
- Advanced Tetra Pak calculation tools and product testing to optimise your heat transfer solutions

Easy to adapt

Modular and robust frame
– simple to upgrade and rebuild



Floating protection system

Unique design with multiple, independently moving, floating parts (not fixed or welded)



Tetra Pak®
Tubular Heat Exchanger S



Tetra Pak®
Coiled Heat Exchanger



Tetra Pak®
Scraped Surface
Heat Exchanger



Tetra Pak®
Plate Heat Exchanger



Tetra Pak®
Tubular Heat Exchanger

Heat exchangers

Heat exchangers are vital components in heating, cooling and cooking foods, and are essential for neutralising harmful microorganisms, a vital part of food safety. So choosing a heat exchanger begins with understanding your application, your ingredients, your product characteristics at different processing stages, and what the requirements for thermal processing are.

*We eliminate
the surprises.
We eliminate
the stress.*

What kind of heat exchangers meet your needs? We make four types that are suitable for different food categories with varying characteristics. We have an answer for all applications – from simple to complex.

Plate heat exchangers (PHE)

– for low- to high-viscosity products without particles, or that have low fouling properties.

Tubular heat exchangers (THE)

– offer high temperature treatment,

for long running times, for products with fibres or particles, or products with high fouling properties.

Coiled heat exchangers (CHE)

– for high heat transfer efficiency, long running times, high pressure drops, and gentle mechanical treatment for foods containing fibres or particles.

Scraped surface heat exchangers (SSHE)

– for high-viscosity products, particulate and chunky products, and sticky products with

high fouling properties.

Naturally, we can help you choose the right type of heat exchanger – and the right operational settings – that will give you the optimal combination of efficiency, food safety, product quality, sustainability and operating cost for your products.

Our food specialists and engineers can help you conduct trials and product measurements, and can use our own calculation tools to optimise your heat transfer solutions. We can also refer to

a global database of thousands of different products with known processing parameters, to provide the right guidance. And when you want to branch out into other product areas, or change formulations, or add new ingredients, we can help you understand how this will affect your processing characteristics, and how to ensure that products continue to meet your quality standards, while maintaining cost-effectiveness, safety and sustainability requirements.

Mixers

Mixing is a crucial and complex element of food processing, so you have to stay in complete control of every aspect of your production, from beginning to end, in order to achieve consistent quality. Our market-leading mixers handle tasks ranging from small and simple to large and complex, capable of mixing from 20 to 25,000 litres/hour, depending on tanks.

We take the guesswork out of the process.

Flexible variable-shear mixers for a smooth, homogenous product

Our variable-shear mixers achieve smooth, homogenous products with superbly consistent quality – giving you the cutting edge for today's products as well as any future recipes. Our guaranteed and proven technology works with sauces, syrups, preparations, enriched products, high-viscosity products, and more – with rapid product changeovers done easily and in the same mixer. Everyday flexibility made easy. You can even

carry out simultaneous dosing from multiple sources – for a faster mixing time without jeopardizing the quality. Equip the mixer with specially designed options such as vacuum to increase the mixing efficiency and obtain the product quality needed and desired.

Easy to operate and easy to maintain

You won't need years of specialised operator experience, as we included a smart control panel – just press the button. You'll

enjoy uniform product quality with minimal product losses. In our Product Development Centre we are able to demonstrate the ease of operation and to test the right mixing set-up – before you invest. Combine our efficient technology with very low maintenance costs and you have a recipe for an award-winning total cost of operation. We have mixers all over the world that have been up and running with ease for decades.

We'll support you

Whether you're working with yoghurt or hummus, we have the dairy and plant-based expertise to help you get your equipment and process working and delivering consistent quality, cost-efficiently and sustainably. We can advise on capacity, processing, recipes and configuration to minimise your total cost of operation, and provide the training to match. We even can help you test new products and refine your process at one of our Product Development Centres.

Key Benefits

- Flexible, faster, efficient mixing and product changeovers
- Vacuum mixing for even better efficiency
- Simultaneous dosing from multiple sources
- A perfect fit for new trends such as plant-based foods and drinks

Dynamic stator lets you control shear

Get fast ingredient dosing. Produce smooth and particulate products in one mixer – no need for extra equipment



Tetra Pak®
Continuous Mixing Principle



Tetra Pak®
HSM Recirculation Principle



Tetra Pak®
Batch Mixing Principle

Key Benefits

- Unique AirTight design yields excellent product quality, separation efficiency, and production flexibility
- Automation controls enable unrivalled low energy and water consumption
- Recipe flexibility and ease of operation

AirTight Technology, the key value driver

The absence of air minimises risk of shearing fat globules, even in cream with up to 60% fat content, while maintaining skimming efficiency. Production capacity flexibility up to 50%



Polynodes discs

Increase separation surface
Weld-free. Traditional welded caulks have been replaced with micro-embossed polynodes



Tetra Pak®
Separator PX15 – Stand Alone



Tetra Pak®
Separator PX18 – INSTAL Module

Separators

Centrifugal separation separates cream and skimmed milk, removes spores, and clarifies a variety of liquids by removing dust and particles. We've been setting the standard for gentle and efficient separation in dairy and non-dairy applications for over 100 years – while meeting the strictest performance requirements of the food industry.

Our application support can help sort out what your line should look like.

Centrifugal separators for flexibility and high performance

We offer the highest performing and most energy-efficient separator, measured by both water and energy consumption. Our high-capacity, cutting-edge separation technology has evolved over a century, most recently with a number of technical innovations.

- Our unique AirTight technology provides excellent product quality and separation efficiency with low energy and water consumption. It runs on

up to 20% less energy than a semi-open separator.

- Our innovative polynode design makes it possible to increase the number of discs in the disc stack, increasing processing capacity.
- Our Encapt™ technology takes it a huge step further. This is a vacuum option that can be fitted to some of our larger separators, giving up to an additional 20% reduction in energy consumption.

Flexibility and support

Our separators provide separation and clarification for dairy and

non-dairy applications, including clarification after precision fermentation, spore removal, and high-viscosity applications, such as fermented yoghurt.

Automation controls make the operator's job easy and enable unrivalled low energy and water consumption, as well as recipe flexibility. You can control for different recipes, or scale up or down for different capacities, and we can provide process and application expertise on the best production settings. Whether your requirements involve large complex

lines or a simple piece to boost your current set-up – we have what you need.

Services and condition-based monitoring reduce maintenance efforts and unplanned downtime. Condition monitoring will connect your component directly to our services team, so there's no need to change out equipment or parts that are still performing properly – increasing your uptime. Best of all, we can provide performance guarantees on the application, utilities and equipment.

Ice cream components

We offer continuous ice cream freezers with capacities from 40 to 4,500 l/h, as well as innovative dosing equipment to safely handle inclusions – nuts, fruit and whatever else your creative recipes call for. We've been producing ice cream freezers for over 70 years, and some of our original models are still running today after 50 years!

*Uniform quality
from start to end of
production, while
reducing waste.*

Delivering consistently high quality with low wastage

Our highly controlled, rapid freezing process produces extremely consistent product quality, so that the difference between the morning output and evening output is negligible. The mix is churned, blended and aerated optimally to match the requirements of thousands of recipes. Our components also feature the lowest energy consumption and product

wastage on the market.

Application support won't leave you in the cold

With varying levels of fat, sugar or alcohol, it's very important to calculate the freezing point of the ice cream mixture – particularly with plant-based recipes. Our food technologists can help you get the freezing settings exactly right, to enable you to control viscosity and minimise the variation in freezing throughout the product

run. It works so well that we give a performance guarantee on the standard deviation of the product.

Dosing equipment for inclusions

Ice cream inclusions – the added fruit, nuts, chocolate, etc. – are increasingly important to developing new products that differentiate you from your competitors. Dosing equipment has to handle a wide variety of bits, chunks, or berries and make sure they are not degraded by any

handling step. With our dosing equipment, we can guarantee the exact amount of inclusions per volume of ice cream, and also guarantee that they are evenly distributed. Our extrusion wheel equipment is even capable of adding large inclusions to single-serve ice cream. In short, there's no limit to your ice cream creations.

Key Benefits

- Highly controlled, rapid freezing process for extremely consistent product quality
- Lowest energy consumption and wastage
- Expert ice cream knowledge supports right settings, to ensure production quality

Low Temperature kit for Continuous Freezer

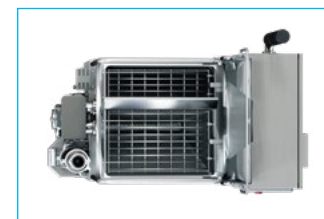
Enables increased line capacity.
Reduced cooling capacity needed in tunnel



Tetra Pak®
Continuous Freezer

Dual Dosing

Make more complex products
Smallest floor space on the market



Tetra Pak®
Ingredient dosers

Key Benefits

- Ergonomic design and cost-efficient, flexible solutions reduce product losses
- Robust and hygienic stainless-steel construction ensure food safety
- Securing safe working conditions – including anti-explosive measures

Optimal food safety

No operator contact with product equals less risk of contamination. Clean cuts, every time



Options to configure the unit

Safety cage to prevent operators from reaching with their hands inside the machine. Product detection and load cells with level sensor. Massage probe to facilitate product flow



Tetra Pak®
Bag Tipping unit SA VS800



Tetra Pak®
Bag Tipping unit CS VS600



Tetra Pak®
Big Bag Tipping unit VB004

Bag tippers and discharging equipment

Our range of tipping and discharging equipment is designed for hygienic, ergonomic and efficient discharge of powder ingredients, which are increasingly added to formulations today.

We aim for simple and flawless operation, so you don't have to think about it.

Bag tippers and more for safe and efficient handling

As we are the only manufacturer that focuses solely on food applications, we know our customers' special requirements. Raw material can be received in any kind of packaging: Bags, big-bags, trucks or rail cars. Our range of tipping and discharging equipment is suitable for numerous food applications – some of which require continuous, very precise dosing of specific ingredients, often as part of a continuous process that may run for days.

Our dust-free tipping stations are adapted for any kind of bag or big bags. After sifting and magnetic trapping to remove foreign bodies, the powder may be stored in tanks and silos with explosion protection, and eventually transferred through screw conveyors or pneumatic conveyors to any location in your factory. Product dosing into a mixer or blender is perfectly controlled through our automation system and can work in batch or continuous mode.

Ergonomic design for safety and efficiency

From ergonomic design with cost-efficient, flexible solutions, to robust constructions with hygienic stainless-steel design, our equipment secures food safety. Our components deliver improved employee working conditions with fast cleaning, low downtime and less product loss.

This naturally includes adequate controls on the well-known explosive properties of powders under certain conditions. Proper powder ingredient handling also helps assure

efficient mixer and blender operation – wet or dry.

Support all the way

Our Powder Solutions Product Development Centre is a fully equipped, up-to-date pilot plant, sized for industrial up-scaling of food powder products. The onsite laboratory provides all necessary powder analyses.

We also offer optimised solutions for powder handling technology and powder processes such as gassing, cooling, packing, dilution and IBC handling.

Plant components

Our plant component portfolio includes over 40,000 components, from pumps and valves and measuring instruments to integration, automation, and electrical components. They support tanks, drive systems, control systems – and everything else in a modern food and beverage production line. Quite simply, they're the small things that add up to a big difference for your operations, because they control the flow of your business.

*Always available.
Always approved.*

The single supplier advantage – multiplied by 40,000

Tetra Pak plant components give you all the convenience, savings, quality and support that come from a trusted partner with worldwide coverage. You can benefit from the convenience, cost savings and simplicity of dealing with a single partner.

Quality plant components keep

your production lines working optimally while reducing risks, as well as your total cost of ownership. They provide the links between processing and packaging equipment, and tie together all the lines and functions in your plant.

Each item has a clearly defined function and range of operation, and is correctly dimensioned to deliver the quality and safety that

the food and beverage industry require. Best of all, they come with performance guarantees.

We source them from our partnership network of world-class brands and they are validated for quality, sustainability and safety. More good news: we make them simple to buy via our e-Business platform, with a 24/7 order system. And we promise rapid delivery

– we hold stock at eight regional distribution centres worldwide. 2,500 field service engineers are available to provide technical support wherever you are.

And of course, you don't have to run a Tetra Pak line to order plant components from us. Our components will add reliability to any brand of food processing or packaging equipment.

Key Benefits

- Sourced from leading brands
- +40,000 components
- Simple to buy via our e-Business platform
- 24/7 express deliveries



Integration component



Non-sanitary valves



Tank equipment



Sanitary valves



Sanitary pumps



Automation & Electrical



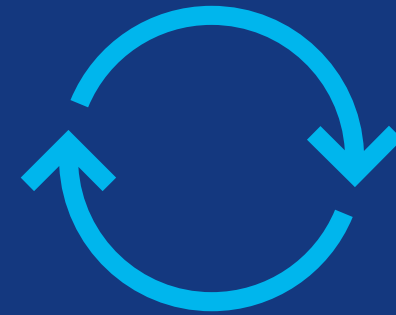
Measuring instruments

Smart sourcing from global leaders.



Tailored services for the entire component lifecycle

Food and beverage producers face new challenges continuously. Our role is to provide you with the technology and expertise you need to create profitable and sustainable production solutions. Our approach is to go beyond the stainless steel, to understand your challenges fully and provide services that add value to your operations, as well as your bottom line – giving you peace of mind.



Service solutions that improve performance and optimise costs

We can be your single supplier and point of contact during the entire product lifecycle of your components. Our wide portfolio of tailored service solutions includes upgrade kits, maintenance services, parts, consumables, and training – all located close to you.

Many of our components can be activated for condition monitoring and condition-based maintenance. Sensors on the component can monitor for excessive heat or

vibration, for example, and alert our remote monitoring team that a problem is indicated. Parts can then be replaced before they break down, reducing unplanned downtime.

Service support is available 24/7, with genuine spare parts available through our global network of eight service hubs and can be delivered within 48 hours.

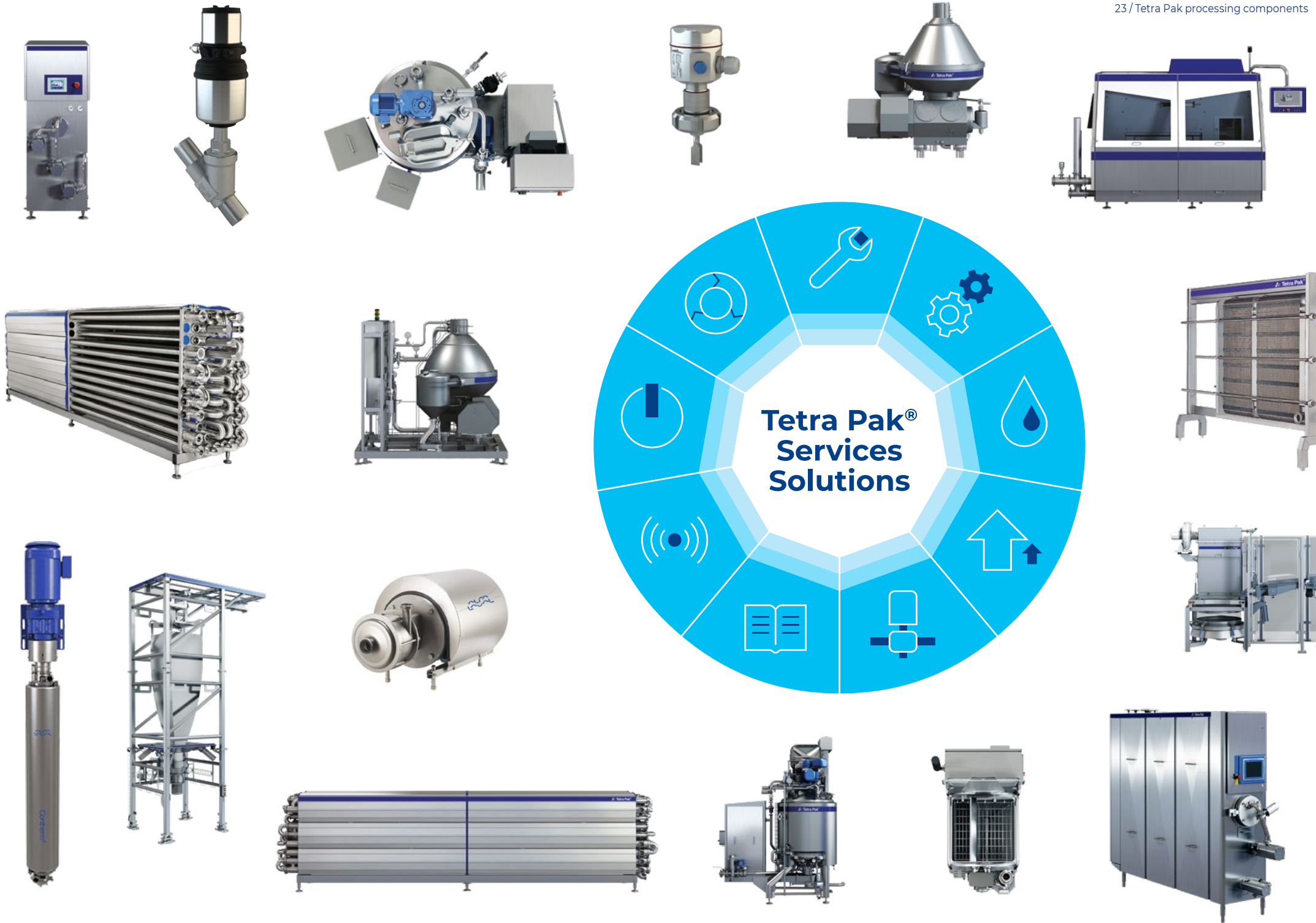
Food and technology expertise you can trust

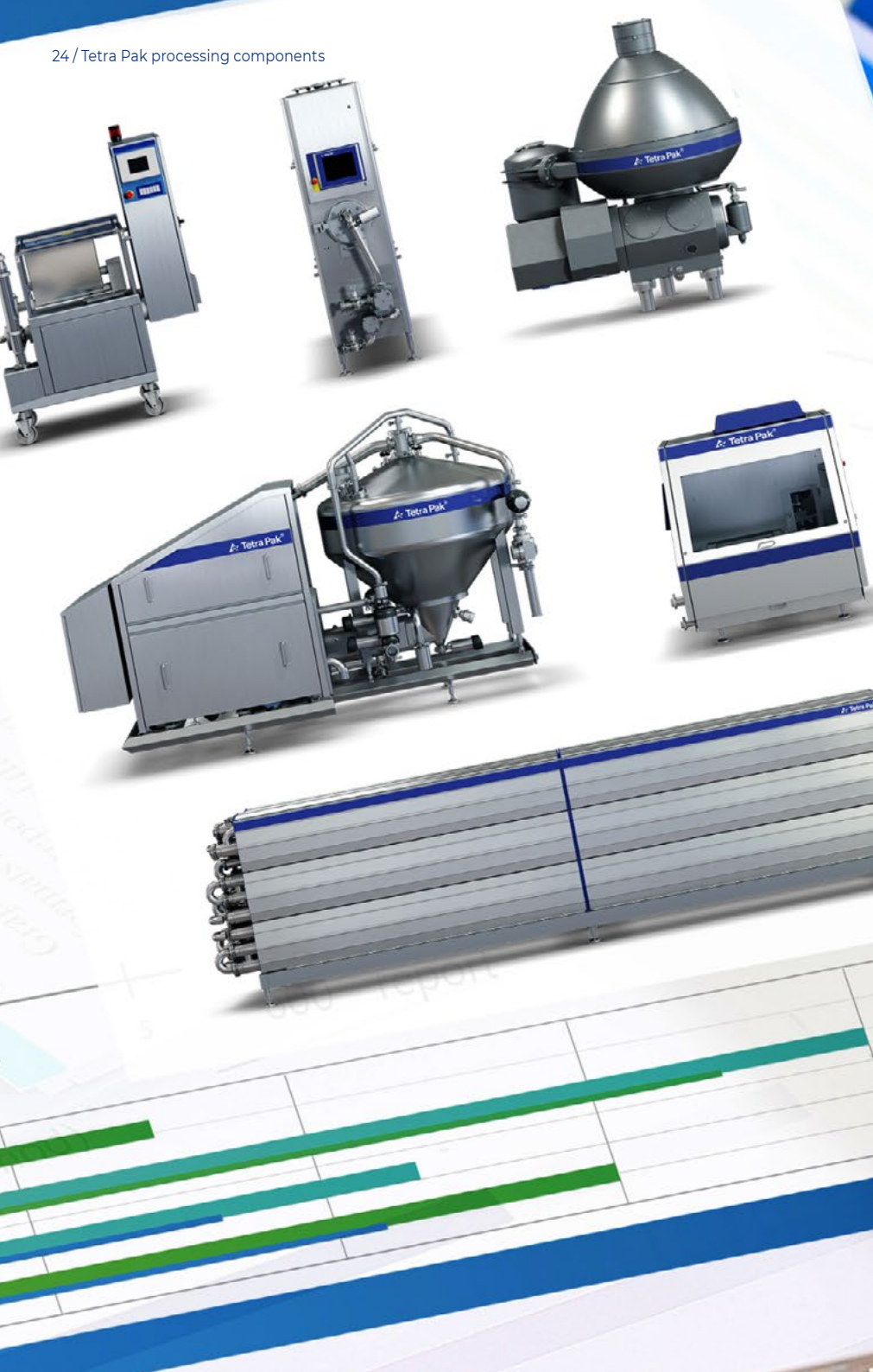
With our extensive installed base

and vast application competence, combined with technology know-how, we support you with component configurations and processing parameters that will secure your product quality, running time and efficiency. We have developed our own calculation tools and models that can help you optimise your total cost of ownership, sustainability performance and cleaning in place

Experts at our Product Development Centres and Customer Innovation Centres

help you understand how your ingredients will respond to different processes, and how to create ideal processing solutions. You can get help with recipe development, or run an actual product in a lab or at pilot scale. Our local organisations add knowledge of regional food products and local market conditions.





Flexible financing

If you want to avoid cash payments while optimising your production, we have the answer.

With our flexible financing solutions for processing equipment, you can equip yourself quickly with innovative processing components while paying slowly either by credit or by leasing. This allows you to optimise your cash flow by avoiding an upfront payment.

With minimum paperwork, we'll give you a quick answer on your eligibility for financing, and offer competitive interest rates and flexible payment terms.

Options at the end of the leasing period include a buy-back solution, so if you decide that you don't want the equipment anymore, we'll take care of the equipment when you no longer need it.



Endless innovation and solution creation

A rolling programme of innovations and updates continuously improves our components, particularly in sustainability performance. And our technical innovations are retrofittable – they are almost always developed so that an upgrade kit can be fitted onto older machines.

Need a complete processing line?

We have the project expertise to provide complete end-to-end

solutions to many food processing challenges. And we can further promote your business goals with automation and digitalisation solutions incorporating Business 4.0 principles.

Expertise on demand

At Tetra Pak, we recognise the value of sharing knowledge to create trust and contribute to your innovation. We have published dozens of in-depth, readable

white papers that share our food processing expertise on a wide range of topics, from dairy homogenization and pasteurisation of high-acid beverages, to plant-based yoghurt and yoghurt for ambient distribution, as well as emulsified sauces, vitamin C retention and low-lactose production. Comprehensive technical guides are available for dairy processing, soya, heat exchangers and many more topics.



We're here for you

Whatever you produce, we have a processing component to optimise your operations, and make your life a little easier.



- CIC PDC Lund, Sweden
- CIC PDC Singapore, Singapore
- CIC PDC Modena, Italy
- CIC PDC Denton, USA
- CIC PDC Monte Mor, Brazil
- CIC Dubai, UAE

- PDC Aarhus, Denmark
- PDC Aalborg, Denmark
- PDC Gorrendijk, Netherlands
- PDC Le May, France
- PDC Pune, India
- PDC Shanghai, China
- PDC Gotemba, Japan
- PDC Aarhus, Denmark

Get in touch

Find out how we can fit into your processing world.

To order parts, components or plant components through our e-Business platform, see <https://www.tetrapak.com/solutions/services/e-business>

If you're a producer or an integrator who wants a consultation or a quotation, please contact your local Tetra Pak representative.

For information on our Product Development Centres, see <https://www.tetrapak.com/solutions/product-development-centres>

For information on our Customer Innovation Centres, see <https://www.tetrapak.com/solutions/customer-innovation-centres>

For access to white papers, cases and articles that provide insights into processing challenges, see <https://www.tetrapak.com/insights/business-areas/processing-insights/all-processing-insights>

