



SEPARATION

THE RIGHT INGREDIENTS FOR YOUR SUCCESS

ASK YOUR SEPARATION SPECIALIST

ANDRITZ

ENGINEERED SUCCESS



YOUR
IDEAS

YOUR
NEEDS

YOUR
BUSINESS

YOUR
SEPARATION
SPECIALIST

How can we help improve your dairy production?

How would you like your dairy business to develop over the next years? What consumer trends and regulatory challenges will affect your product mix? What tactics will fend off your competitors? Where are the bottlenecks – and where are the opportunities?

YOUR GOALS COME FIRST

In our work with big companies like Cadbury, Hochdorf, Hofmeister, and Nestlé as well as many smaller family dairies, we've come to the realization that no two processing plants are exactly alike. Yes, there are some technical similarities in the process and equipment, but that's where the similarities stop.

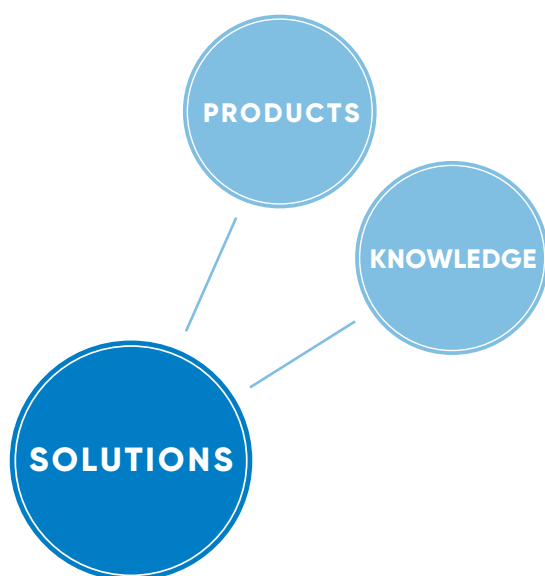
Each of our customers has its own specific challenges, whether producing milk, cream, butter, cheese, casein, whey protein, lactose, or powdered milk. Each is under pressure to find its own path toward more efficient and profitable production. That is why we make it a point to first understand these needs, then specify the exact machine to fit into your production process – based on our 100+ years of experience in dairy.

OPTIMIZING YOUR PROCESSES

Many of our customers are selling branded goods into highly competitive supermarkets, constantly innovating in order to win the battle for shelf space. Others are white-label producers for supermarkets, who need to achieve high efficiencies to rebrand their goods with a favorable margin. With Cadbury, for example, we've teamed up for many years on drum drying techniques to produce unique high-end chocolates. In other cases, we've worked for 30–40 years with yogurt, cheese, and dairy producers – both local and global.

A PARTNER WITH BIG(GER) IDEAS

As a global organization with professionals in 40 countries, the ANDRITZ GROUP not only welcomes your challenges – we have the experience, financial strength, and technical resources to tackle them. That's what we've been doing year after year for Elvir, Emmi, Verndale, and many other dairy producers.



Meeting tomorrow's dairy challenges with the right separation solutions

Changes in raw materials. Varying consumer tastes. New regulations. Our response to rising complexity in the dairy industry is a simpler, more reliable, and complete approach. One that surrounds you with the right solutions and services.

Our solutions don't start or end with a decanter, separator, filter, or dryer. They start with your productivity and quality requirements, and continue with the service and support you need.

WE'VE GOT YOU COVERED

Our ambition is to surround you with a choice of technical solutions and superior services. Once you have access to this full range of capabilities, we believe we will be partners for life. Your job becomes easier and our ability to address requirements grows. It is this kind of bigger perspective that has enabled us to remain a strong partner to companies like Nestlé and Hochdorf, as well as many smaller local companies.

With the ANDRITZ GROUP you gain access to the full resources of an experienced global partner operating 250 production sites, service, and sales companies worldwide. Ours is an approach that's not pushing a particular technology for selfish reasons, but for the right reasons. With our wide portfolio, we can serve as a neutral advisor in selecting the technology best suited to your process.

THE WORLD'S LEADING SEPARATION SPECIALIST

With more than 100 years' experience working with the dairy industry, ANDRITZ Separation is the world's leading separation specialist. Whether your dairy is part of a global group or a family company, our mission is the same: to provide safe, reliable, efficient, and sustainable solutions that boost your productivity. Now and in the future.

WELL-RESPECTED QUALITY NAMES

This is to be expected for a group that has rapidly grown through acquisitions and now has about 25,000 employees around the world. Through our expertise in research and development, we strive to generate sustainable and highly efficient process-oriented separation solutions on a daily basis.

As part of this growth, we've integrated the capabilities of a diverse group of well-known suppliers in the separation business. These include: 3Sys Technologies, Bird, Escher Wyss dryers, Frautech, Guinard Centrifugation, KHD Humboldt Wedag, Krauss-Maffei centrifuges, dryers, and filters, Lenser, Netzsch Filtration, Rittershaus & Blecher, Royal GMF Gouda, Sprout Bauer, Delkor Capital Equipment (Pty) Ltd., and Vandenbroek.

INVESTING IN RESEARCH AND DEVELOPMENT

We are constantly investing in R&D to improve our broad range of separators, decanters, clarifiers, membrane filters, drying, and wastewater treatment solutions. Our R&D labs around the globe are at your disposal to investigate new types of product development. It's something we've been doing for more than 100 years.

25,000 / employees in
40 countries in
ANDRITZ GROUP

150 / new dairy
installations
delivered annually



Your Separation Specialist



As the world's leading separation specialist, we are committed to delivering the right knowledge, services, and solutions for any separation challenge.

FEASIBILITY STUDIES

Process simulations and ROI calculations.

LOCAL SUPPORT WORLDWIDE

Strategically positioned warehouses with OEM replacement parts, engineered wear parts (consumables), and field service.

SERVICE LEVEL AGREEMENTS

Full-service contracts for operational safety, maintenance, and wear of parts.

R&D PARTNERSHIP

Joint product development for tailor-made customer solutions.

SUSTAINABILITY

Full raw material utilization, waste elimination processes, and environmental controls for minimal impact.

BROADEST PRODUCT PORTFOLIO

Full range of solid/liquid separation products (clarifiers, debacterizers, skimmers, concentrators, decanters, screening centrifuges, membrane filters, and dryers).

TECHNICAL SUPPORT

Remote diagnostics and on-site presence to troubleshoot and finetune equipment performance.

TEST FACILITIES

From lab-scale to pilot and industrial-scale.

UPGRADES AND PROCESS OPTIMIZATION

Improvements in performance and safety of existing equipment to extend the productive life.

MECHANICAL AUDITS/INSPECTIONS

Service to check mechanical integrity, wear parts, alignment, vibration, etc., and recommend improvements.

CONSULTING

Providing customer-oriented process solutions.

40 / countries

>3,000 / separators delivered

250 / ANDRITZ GROUP production sites, service, and sales companies

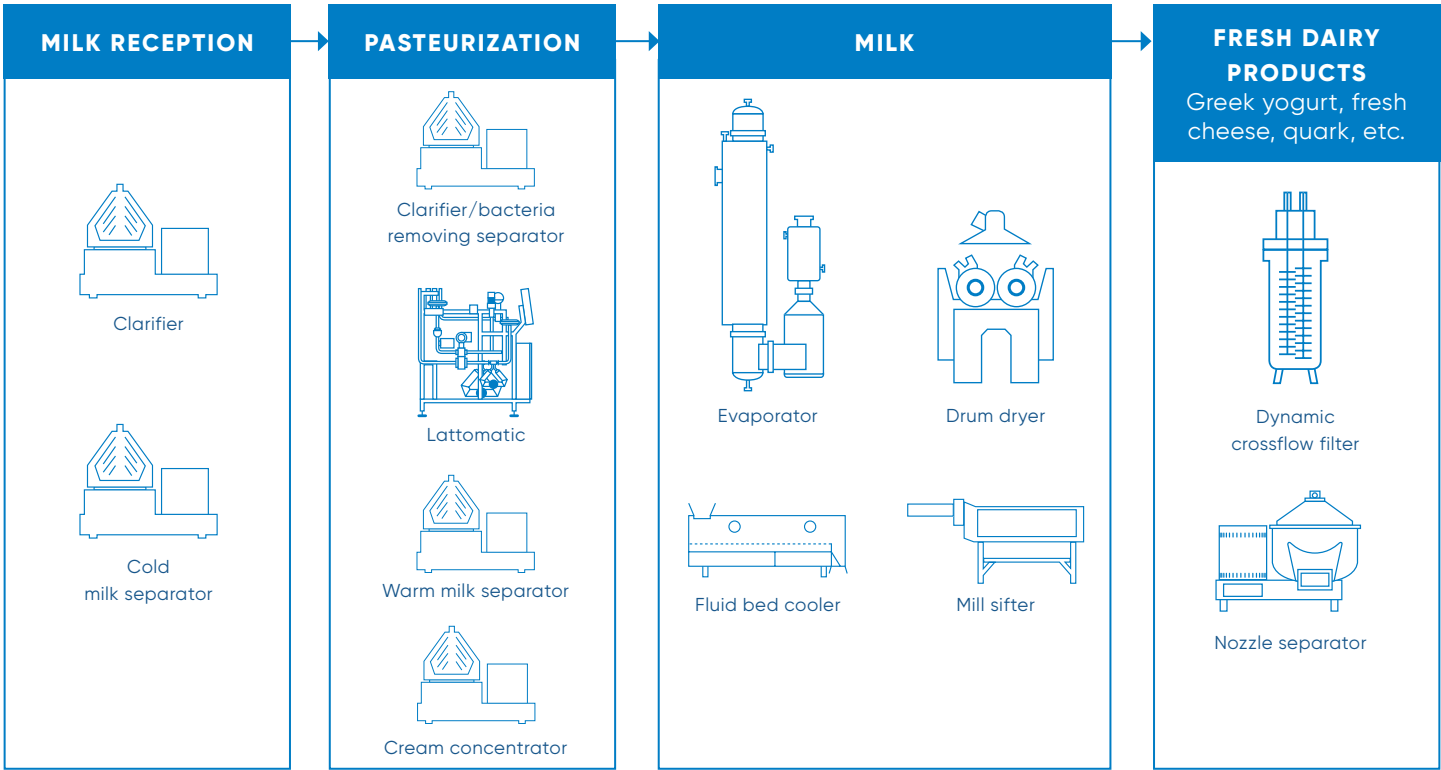


Where we fit into your production line

Screening, thickening, dewatering, drying, or combustion. Wherever there's a separation challenge, we provide a complete system solution to solve it, backed up with process knowledge and in-house automation expertise to make the most of your investment.

At the same time, not all of our customers are aware of our main areas of expertise. Nor do they understand that we can provide multiple technologies within a particular process phase, meaning that we can always get the right solution – whether for dairy, cream and cheese production, casein, whey treatment, or even

powdered milk. With these broad capabilities, we can focus on improving your processes and plants, giving you a smooth interface between mechanical design, process development, and

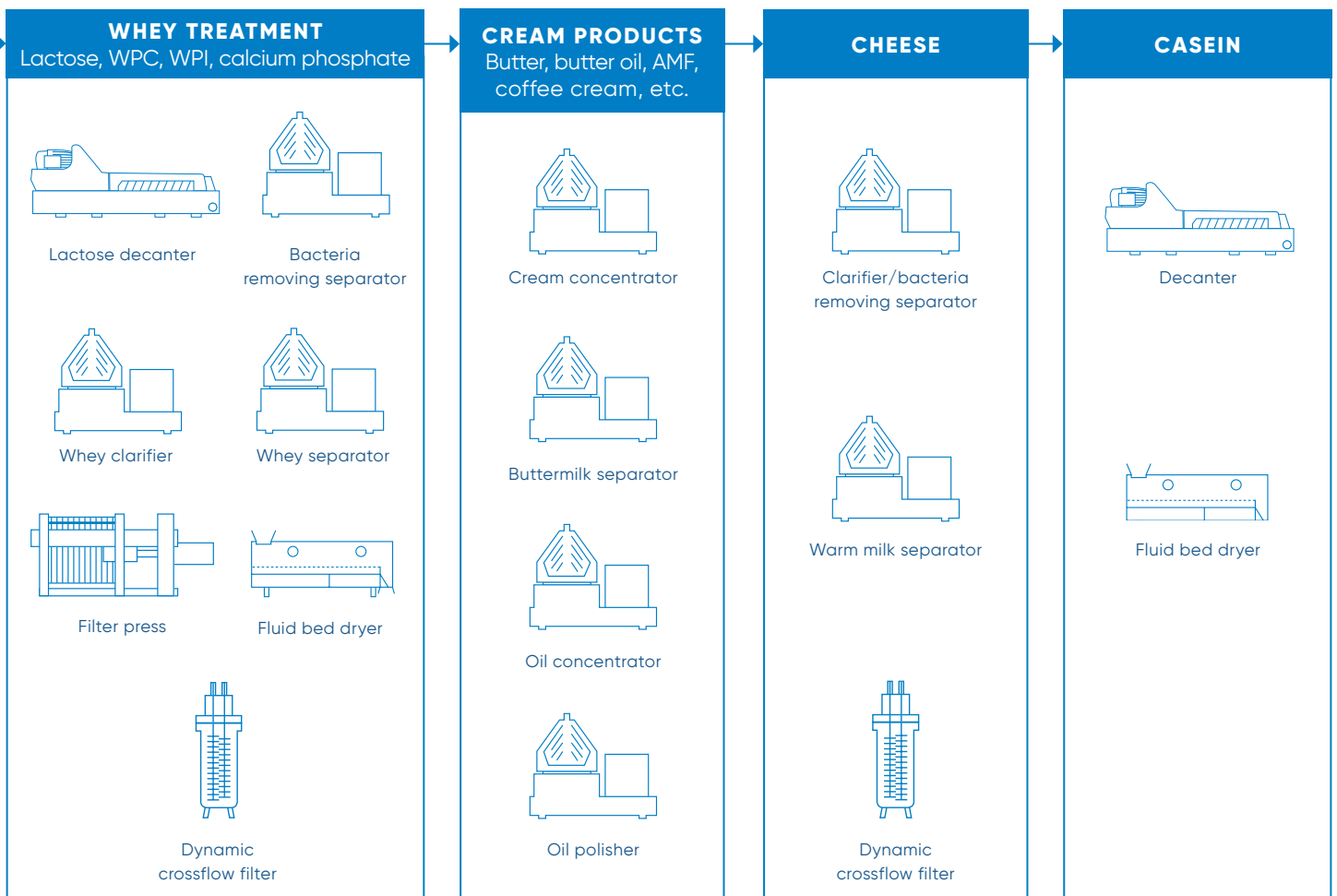


How can we optimize your process?

Maybe you've got an aging facility that needs an upgrade. Or you need to reduce energy consumption as power costs rise. This is where a more innovative approach may be needed. Like our large decanter centrifuges, which utilize a direct drive gearbox, high hydraulic pressure, and our unique TurboJet weir plate to reduce energy consumption by as much as 40%. All so you can maintain throughput and efficiency at the lowest possible cost.



ANDRITZ CremaViva cold milk separator



Milk reception and pasteurization- a more profitable approach

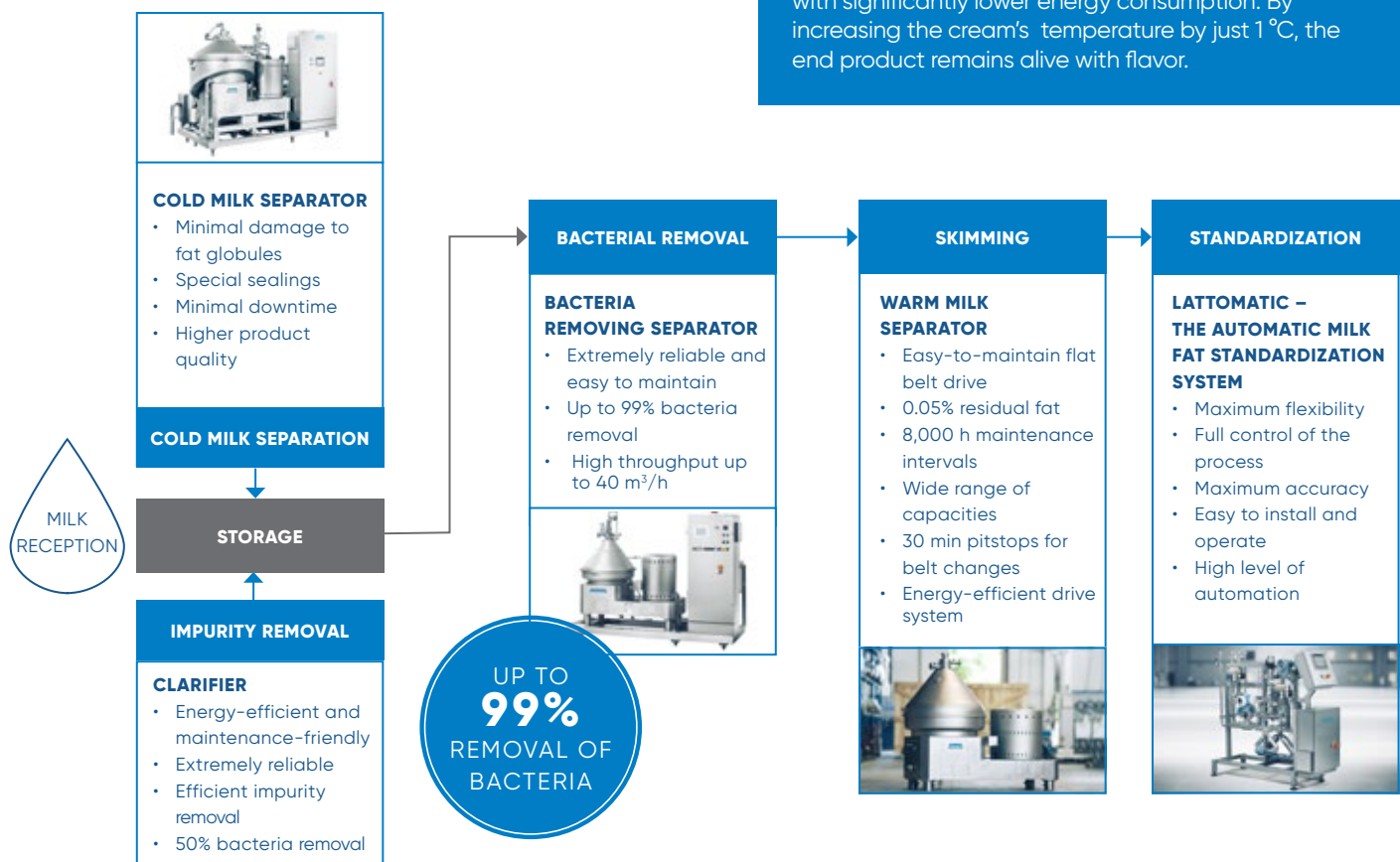
Whether you're producing packaged milk, whipped cream, or fresh cheese, it all comes down to removing as many impurities as possible while retaining the superior qualities of the raw ingredients. To ensure the very best results, we offer a range of highly efficient solutions for dairies of all sizes – from impurity removal, bacteria removal, and purification to drying and milling of powder.

Our separation solutions link the various process steps such as pasteurization, standardization, and homogenization. It's a uniquely gentle process that produces dairy products of the highest quality, with minimal somatic cells, bacteria, and spores, as well as maximum retention of undamaged native fat globules and milk proteins. All so you can concentrate on further process streams and value-added products. For example, we can help you to minimize the bacteria content in the milk prior to pasteurization and evaporation by using our bacteria removing separator. Or offer special know-

how for powdered milk used in exclusive chocolates. The speed and efficiency with which our machines separate, clarify, concentrate, purify, and dry adds to your productivity, ensuring reliable performance, and lower total operating costs – year after year.

Cold milk separator

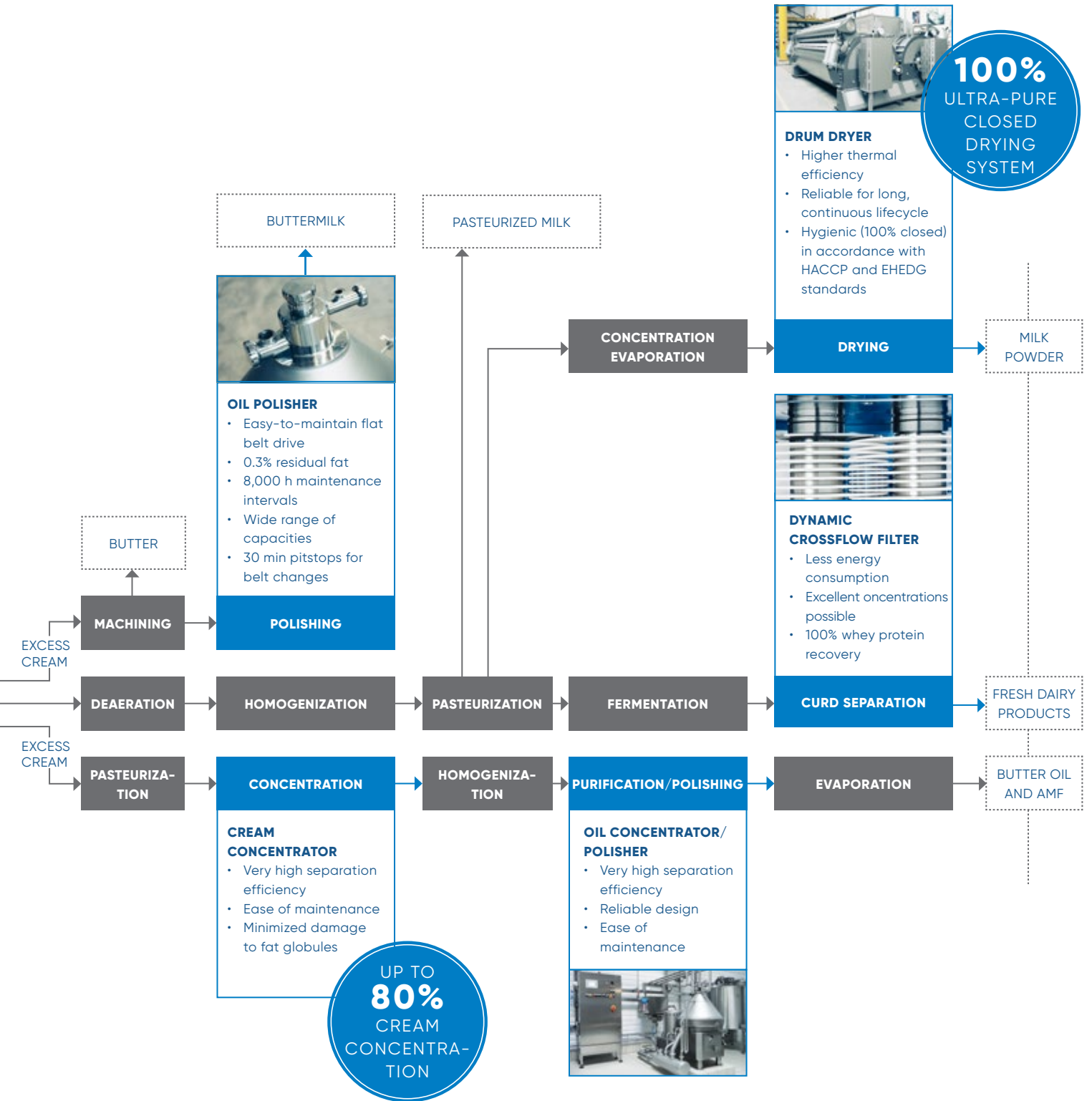
Ensures gentle treatment of milk fat globules to produce higher quality cream at low temperatures with significantly lower energy consumption. By increasing the cream's temperature by just 1 °C, the end product remains alive with flavor.



3,000 / separators sold

500 / milk dryers sold

100% / ultra-pure closed drying system



Drum dried milk powder - more chocolate, lower cost

It's very simple. You want to continue to produce high-quality chocolate, but not at any cost. The addition of drum dried milk powder can offset the need for expensive cacao butter, while adding superior taste. This is precisely why our turnkey solutions for drum dried milk powder have become so popular among leading chocolate makers.

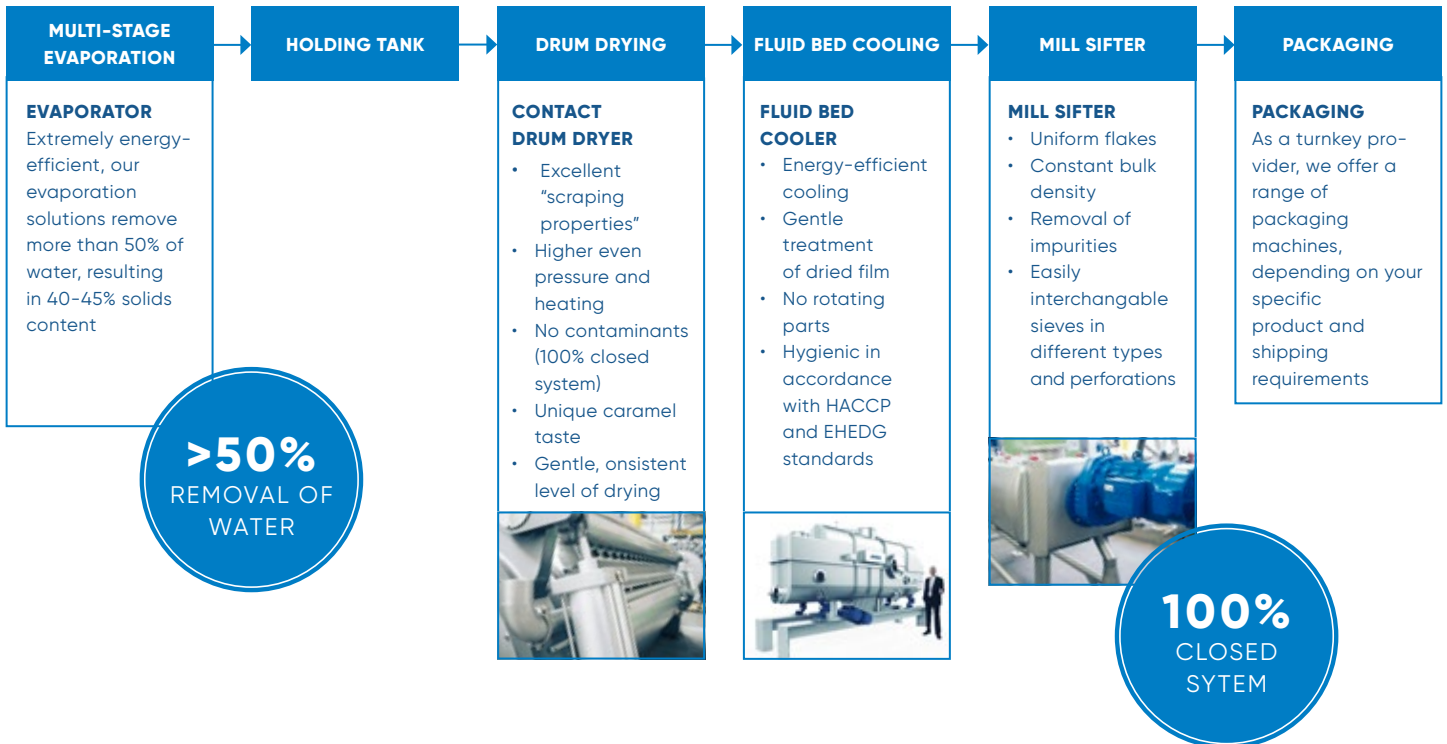
YOUR RELIABLE TURNKEY PARTNER

Ever since developing the world's first drum dryer in 1916 and our first mill sifter a year later, we've built a global reputation in the food industry for providing robust, high-quality drum drying processing lines. With more than 500 dryers installed for milk drying alone, we've proven ourselves to be a capable partner for handling everything from the engineering and design to installation and start-up.

OUR CUSTOMERS: Cadbury, Elvir, Emmi Milch, Hochdorf, and hundreds of smaller.

YOUR STANDARD IS OUR STANDARD

But we go a step further. Instead of simply adjusting our machines to meet the industry standard, we are very keen in adapting our process to meet your specific needs. We can even test your materials in our pilot plants to help achieve your goals in terms of taste, purity, and product characteristics. In addition to its high concentrations of free fat, which enables you to reduce the amount of cacao butter, drum dried milk powder also maintains excellent fluidity in the chocolate mass while giving the milk powder a distinctive caramel taste.



102 / years of
experience

500 / microns fineness
in powder

100% / unique caramel
taste

Our pilot plant, your secret weapon

At our pilot plants around the world, you can test your ideas using milk powder in a simulated process that allows you to see the results before implementing them in full-scale production. This includes many cost-saving advantages in terms of integrating various steps of the production process.



Casein production – the smarter way to a better product

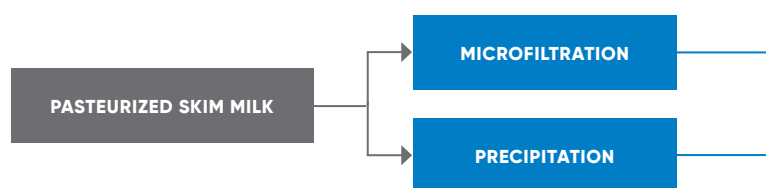
When our customers approached us with a common challenge, we were determined to find an answer. Rather than using chemical defoaming agents, we asked, what if there was a different way to decant? One that removed the need for bigger tanks and costly chemical additives altogether? As it turned out, there was. And it not only produced a purer product – it was also more cost-efficient.

LOW FOAM AND CHEMICAL-FREE

Decanter centrifuges have been used in the dairy industry for over 100 years, and the development continues. Since our first casein installation in 1970, we have continued to refine our solutions, developing low-foam features that reduce the need for chemical defoaming agents. With this innovative approach to casein decanting, the end product is not only free of chemicals – a key potential allergen – but is also less costly to produce, with some customers saving up to 25,000 Euros a year in defoaming agents alone.

MAKING THE MOST OF YOUR RESOURCES

This work has led to a generation of decanters for the production of casein that perform continuously, are easy to maintain and clean, and produce a dry cake that preserves the valuable casein product. Our decanter's performance is measured not just by its separation capabilities, but also by its "simply clever" design – delivering high availability and efficient cleaning-in-place (CIP). It's all part of our ongoing effort to develop smarter, more efficient solutions for casein producers everywhere. Whether it's a clarifier, skimmer, bacteria removing clarifier or decanter, the result is a complete processing solution that creates the most value for your facility, your end product, and your production staff – for years to come.



Low foam – low cost

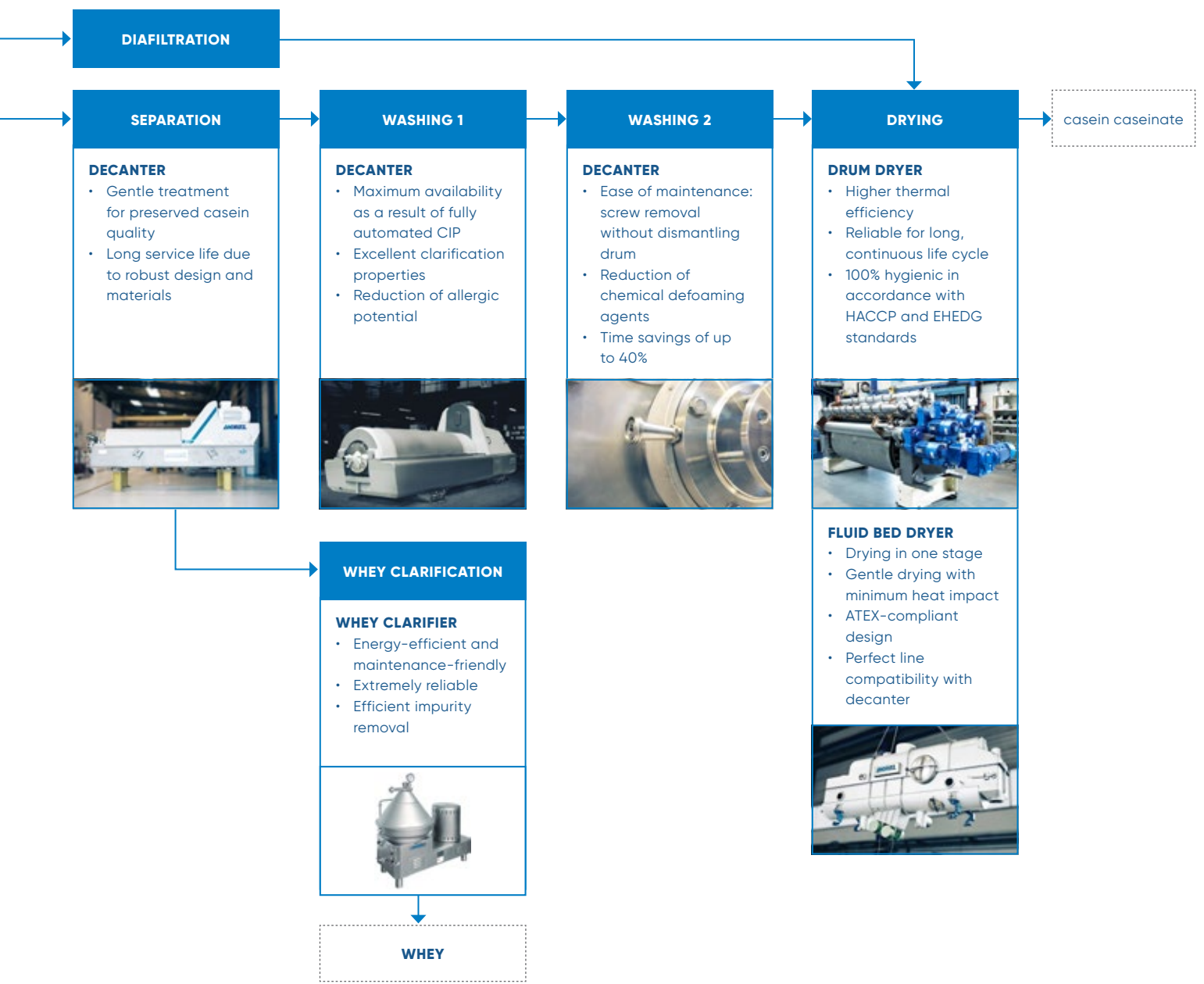
As you know, when precipitated casein is separated in a conventional decanter, it foams easily. Consequently, larger tanks are required and expensive defoaming agents are added to knock the foam down. A special innovation in our casein decanters is our low-foam feature. By using a special pressure discharge system, foam is avoided. This results in less installed tank volume, minimized defoamer costs, and improved casein quality.

up to
25,000
Euros savings p.a.
with low foam
decanter feature

1970
first casein
installation

up to
40%
reduction in
maintenance time





Whey treatment - redefining operational efficiency

For whey processors, it's critical that not a drop goes to waste. This means constantly finding innovative new ways to separate, wash, filter, and extract whey concentrate and protein crystals – all while minimizing operating costs. As one of the leading suppliers of lactose decanters, screen scroll centrifuges, filters, and dryers – we're dedicated to helping you increase efficiency nearly every step of the way.

Few global suppliers can match the range of expertise and innovation we bring to customers in whey treatment. For decades, we've developed a leading range of high-yield lactose decanters. More recently, our dynamic

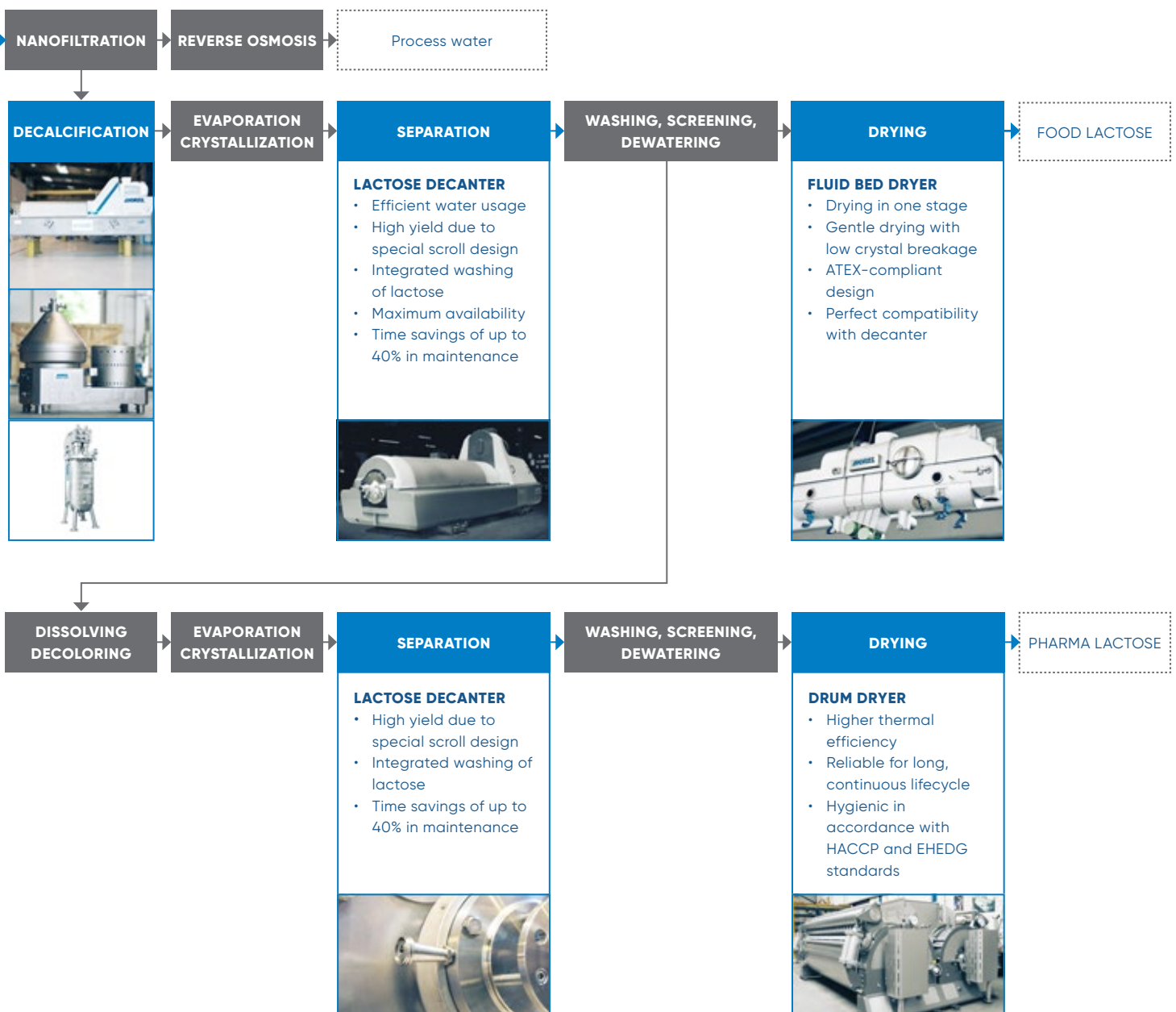
crossflow filter marks a true step forward in efficient whey concentration. Especially suited for thermally sensitive products, it provides savings in time and energy of up to 30%.



60 / years of decanter technology

up to **99%** / bacteria removal

150 / new installations a year





Put our 150 years of OEM experience to work for you

Need to optimize your process? Boost availability? Ensure non-stop productivity? When you work with ANDRITZ Separation, you gain access to one of the world's largest OEM manufacturers for solid/liquid separation. Put our in-depth knowledge of separation equipment and processing to work for you.

VAST EXPERIENCE THROUGH LARGE INSTALLED BASE

With an installed global base of more than 55,000 solid/liquid separation equipment and systems, you can imagine that we take service seriously. Wherever these customers are located, we work very closely with them to maximize uptime and boost efficiency.

WELL-KNOWN OEM BRANDS

Some customers know us as the people with ANDRITZ on our overalls. Others have come to understand that we are the OEM behind former brand names like 3Sys Technologies, Bird, Delkor Capital Equipment (Pty) Ltd., Escher Wyss dryers, Frautech, Guinard Centrifugation, KHD Humboldt Wedag, Krauss-Maffei centrifuges, dryers, and filters, Lenser, Netzsch Filtration, Rittershaus & Blecher, Royal GMF Gouda, Sprout Bauer, and Vandenbroek, companies who all have been acquired by ANDRITZ. But frankly, we are capable of servicing and supplying spare parts for nearly all brands of solid/liquid separation equipment on the market.

LOCAL SUPPORT BACKED BY GLOBAL EXPERTISE

Our service philosophy is simple: One phone call, one contact person, one dedicated team that speaks your language and knows your equipment and process. This is not an empty promise. It is backed by a network of 550 service specialists for separation equipment and systems as well as service centers all around the world.

A TRUE FULL-SERVICE PROVIDER

Whether you need spare parts, rentals, local service, repairs, upgrades, or modernization of your equipment, ANDRITZ Separation is your service specialist in all aspects of separation. From initial consulting through to service agreements, process optimization, and training programs, we are always looking for ways to minimize downtime and increase predictability in operations while raising your overall production efficiency. In short, we've got you covered.



LOCAL SUPPORT

Responsive local service centers and field service technicians



REPAIRS & UPGRADES

Optimization of machine and process performance, repair work, retrofitting, and modernization



SECOND-HAND & RENTALS

Certified second-hand and rental machines



TRAINING

Operator training and tailored seminars for operating and maintenance personnel



OEM SPARE PARTS

Filter cloths, spare and wear parts from OEMs or with OEM level quality, all readily available



SERVICE AGREEMENTS

Preventive maintenance, contracts for spare parts, maintenance, inspections, repairs, upgrades, operation, and equipment monitoring



PROCESS OPTIMIZATION

Automation tools and process expertise to boost your profit



LAB AND ON-SITE TESTS

Lab and testing capabilities for process optimization and machine upgrades



What's your biggest separation challenge?





Ask your Separation Specialist.

Now you've seen how ANDRITZ Separation is striving to bring you the right ingredients for success: Strong local service; R&D close to you; reliable and efficient solutions; all backed by a 150-year track record.

Let's sit down and see how we could take your operations to the next level. Contact us today.

[ANDRITZ.COM/SEPARATION](https://www.andritz.com/separation)



WHAT'S YOUR SEPARATION CHALLENGE?

ANDRITZ Separation is the world's leading separation specialist with the broadest technology portfolio and more than 2,000 specialists in 40 countries. For more than 150 years, we have been a driving force in the evolution of separation solutions and services for industries ranging from environment to food, chemicals, and mining & minerals. As the OEM for many of the world's leading brands, we have the solutions and services to transform your business to meet tomorrow's changing demands – wherever you are and whatever your separation challenge. **Ask your separation specialist!**

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