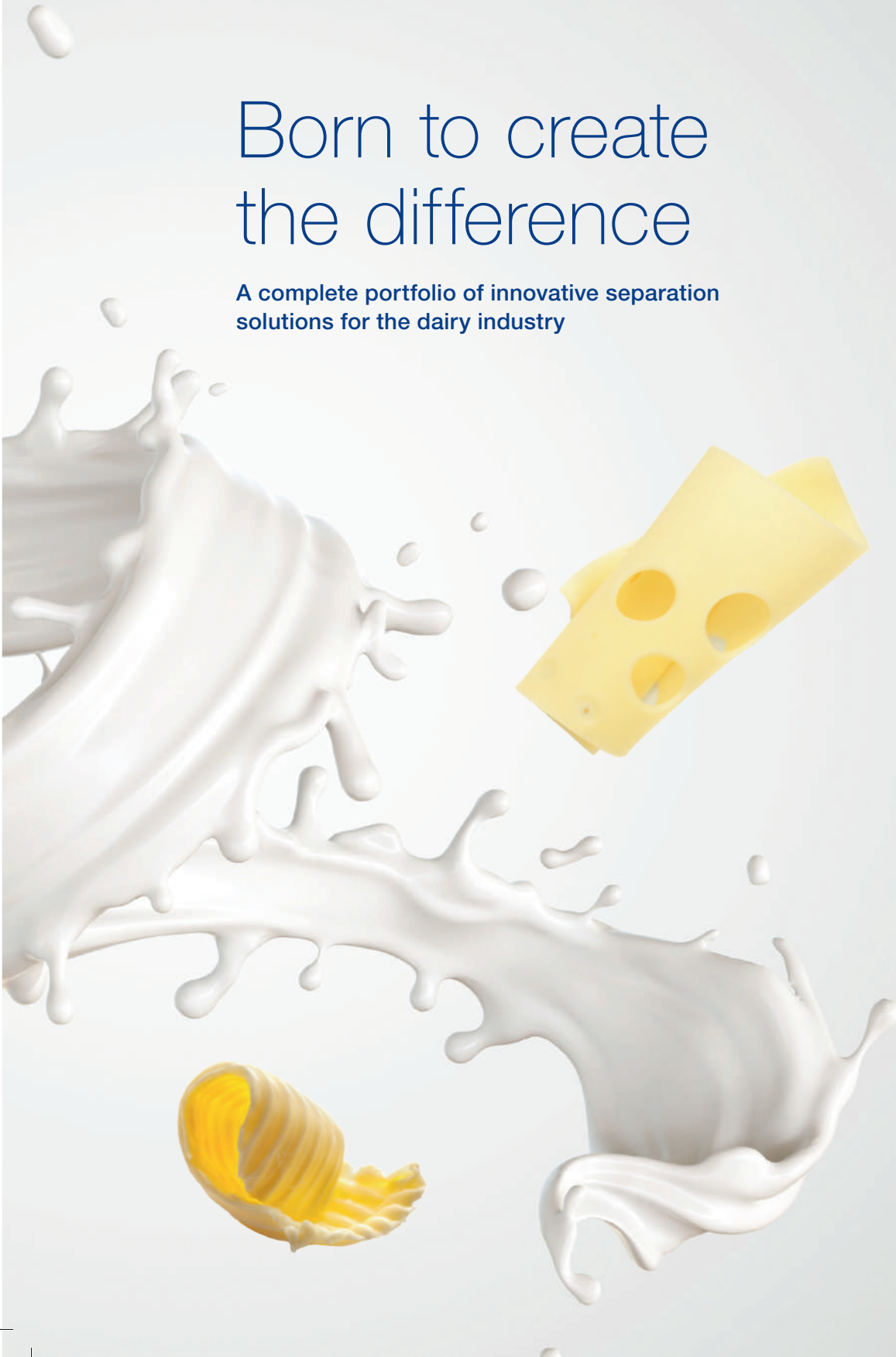




# Born to create the difference

A complete portfolio of innovative separation  
solutions for the dairy industry





# Gentle acceleration and powerful efficiency for maximum profitability

## Discover the difference of true Hermetic Design

Alfa Laval's unique, bottom-fed Hermetic Design concept sets the market's standard for efficient separation with the highest product quality and safety. It also enables a dramatic reduction in power consumption, reducing your OPEX and environmental impact.



### Maximum preservation of product quality

For delivering top quality dairy products to your market, no separation technology can give you the same level of confidence as Alfa Laval's Hermetic Design. The unique construction ensures a smooth acceleration for the gentlest handling of dairy products. When combined with hermetic seals that minimize oxygen intake in both the inlet and outlet, you get the absolute best preservation of fat globules and offer your consumers more flavourful products with a confident shelf-life.

### Powerful separation efficiency

The separability of fat and impurities is more efficient in a truly hermetic, bottom-fed separator. This is a result of the gentle product treatment and the fact that the product exits from the

centre of the bowl. In addition to enhancing skimming and cleaning efficiency, it also gives you the most energy efficient separator on the market – with up to 60% power reduction compared to more conventional designs.

### High production flexibility

Separators with Alfa Laval's Hermetic Design can handle a wide range of capacities and milk of varying quality without mechanical modification. The key to this flexibility is the use of efficient, built-in discharge pumps, as well as a completely filled bowl and variable speed control. For instance, the cream fat content in a hot milk separator can be increased to more than 60% with maintained skimming efficiency, simply by adjusting the back pressure.



### Features

- Hermetic bottom-feed inlet
- Smooth flow paths
- Hermetic outlet

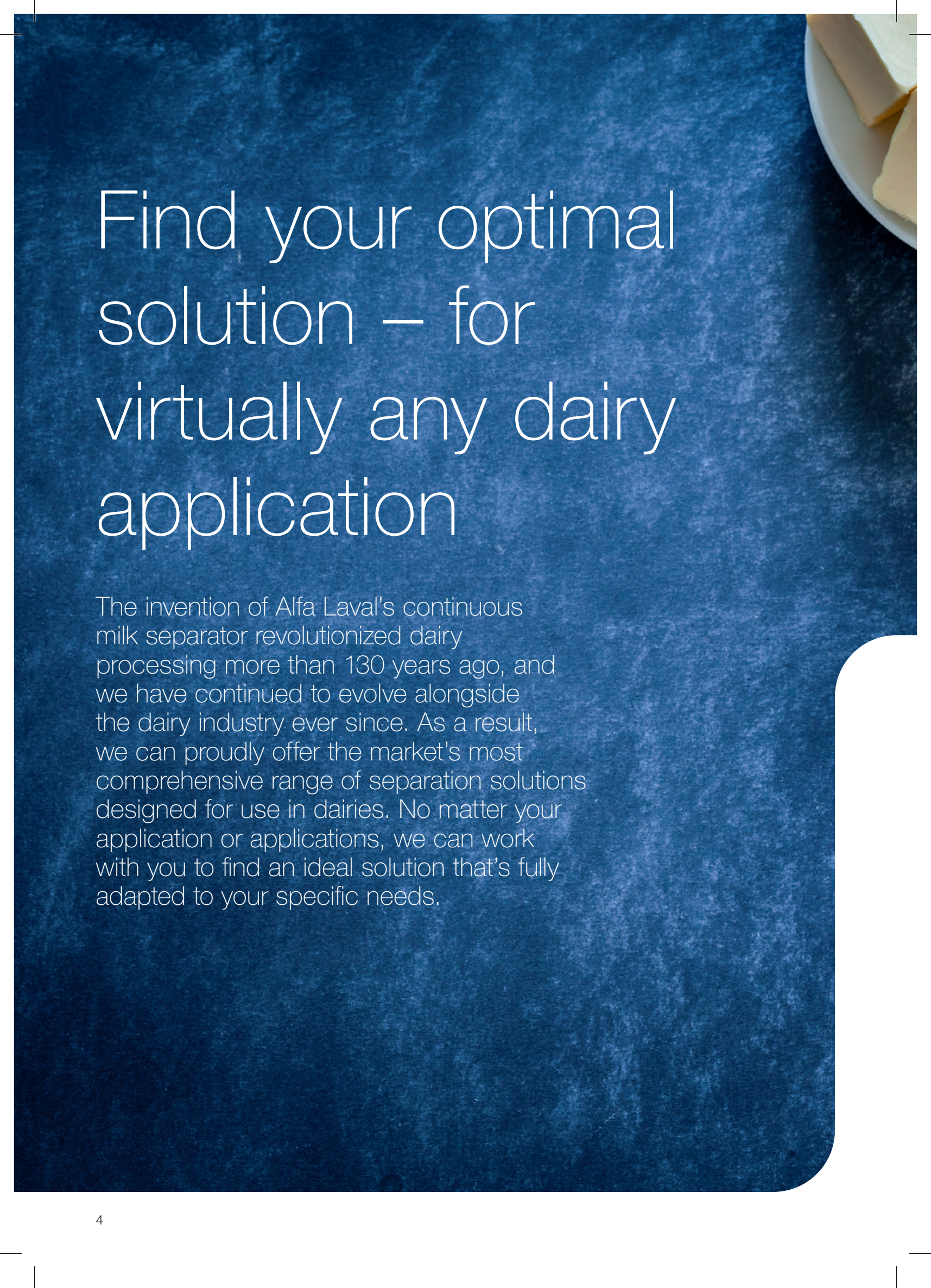
### Advantages

- Prevention of air intake due to hermetic seals
- Smooth acceleration and handling of shear-sensitive dairy products
- High degree of flexibility without the need for mechanical adjustments
- Superior separation efficiency
- Up to 60% in energy savings

### Benefits

- Gentle product flow and treatment for confidence in product quality
- No oxygen pick-up, no air interface
- Supreme process control
- OPEX savings thanks to the market's lowest energy consumption
- Efficient cleaning-in-place (CIP)

All medium and large Alfa Laval dairy separator models feature the unique Hermetic Design. To find out more, contact your Alfa Laval sales partner today.



# Find your optimal solution – for virtually any dairy application

The invention of Alfa Laval's continuous milk separator revolutionized dairy processing more than 130 years ago, and we have continued to evolve alongside the dairy industry ever since. As a result, we can proudly offer the market's most comprehensive range of separation solutions designed for use in dairies. No matter your application or applications, we can work with you to find an ideal solution that's fully adapted to your specific needs.



## Range of applications

	Hot milk skimming	Cold milk skimming	Clarification	Bactofugation (bacteria/spore removal)	AMF/fermented dairy Buttermilk concentration	Separation /concentration
Skim milk production (skimming)	●	●	●	●		
Standard consumption milk (standardization)	●	●	●	●		
Extended shelf life consumption milk	●	●	●	●		
Cheese production (standardized milk)	●	●	●	●		
Whey separation	●	●	●	●		
Fermented milk products	●	●	●			
AMF production	●				●	●

## Our product lines

	H Series for hot milk skimming	C Series for cold milk skimming	D Series for milk and whey clarification	W and WD Series for whey skimming	BB and BM Series for spore and bacterial removal	A Series for final concentration of anhydrous milk fat (AMF)
Butter and spread processing	●	●	●			●
Cheese production	●		●	●	●	
Ice cream production	●		●			
Milk and cream processing	●	●	●		●	
Whey, casein and lactose processing	●		●	●		
Yogurt and cultured milk processing	●		●		●	

## Hot milk skimming

In hot milk applications, the focus is separating the globular milk fat from the serum, the skimmed milk. Alfa Laval H Series disc stack separators can secure cream output with a fat content of up to 60%, without compromising the skimming efficiency. Additionally, you can achieve a hot milk skimming efficiency as low as 0.04%.

### Separators for hot milk skimming

Model name	Skimming flow rate (l/h)	Max. flow rate (l/h)	Available features
H10	7,000	10,000	
H15	10,000	15,000	
H20	12,000	15,000	
H525	15,000	25,000	
H530	20,000	30,000	
H535	25,000	35,000	
H540	30,000	40,000	
H845	30,000	40,000	
H855	35,000	55,000	
H865	45,000	65,000	
H875	55,000	75,000	
H885	60,000	80,000	
H8100	65,000	85,000	



## Cold milk skimming

When you need to avoid heating your dairy products, but want to secure long running times, Alfa Laval's C Series disc stack centrifuges are an ideal solution for separating milk at temperatures between 4 and 15°C. Due to the viscosity and characteristics of cream at lower temperatures, only true hermetic separation can provide a solution for these tasks. This is why Alfa Laval's unique bottom-fed, Hermetic Design has become the industry standard in cold milk applications.

### Separators for cold milk skimming

Model name	Max. flow rate (l/h)	Available features
C10	10,000	
C515	15,000	
C520	20,000	
C830	30,000	
C835	35,000	
C840	40,000	
C845	45,000	
C850	50,000	
C855	55,000	

## Spore and bacteria removal with Bactofuge®

Alfa Laval separators featuring our unique Bactofuge technology (BB and BM Series) can be used for pre-treating cheese milk, where butter acid spores (anaerobic spores) are removed. These centrifuges are also used to enhance the quality of powders, consumption milk and cream through the removal of aerobic spores such as bacillus cerus. The separators' efficiency (defined as the percentage of the reduction of incoming level of bacteria and spores) can generally reach up to 99%. For installations with particularly high efficiency demands, two or more units can be installed in a series.

### Separators for spore and bacterial removal

Model name	Nominal flow rate (l/h)	Max. flow rate (l/h)	Available features
BB10	5,000	10,000	
BB520	15,000	20,000	
BB530	20,000	30,000	
BB835	25,000	35,000	
BB845	35,000	45,000	
BB855	40,000	55,000	
BM520	10,000	20,000	
BM530	20,000	30,000	
BM830	25,000	35,000	
BM840	35,000	40,000	
BM850	40,000	50,000	



## Anhydrous milk fat (AMF) processes

Alfa Laval's A Series of self-cleaning disc stack separators are specially designed for the final purification of high fat cream or melted butter. When cream is the raw material, it will be concentrated in an H series machine followed by phase inversion before the final step. In the final separation stage, our unique Hermetic Design enables fat concentration of up to 99.5%.

### Separators for anhydrous milk fat processing

Model name	Max. line capacity (kg oil/h)	Available features
A2	2000 (from cream)/ 2300 (from butter)	
A504	4000 (from cream)/ 5000 (from butter)	
A506	6000 (from cream)/ 8000 (from butter)	
A508	8000 (from cream)/ 10,000 (from butter)	
A814	14,000 (from cream and butter)	
A816	16,000 (from cream and butter)	

## Whey skimming

The purpose of whey separation is to recover fat while making skimmed whey as free from fat as possible. It is also important for facilitating downstream treatment and enhancing the value of the whey. Pre-clarification makes separation more efficient, resulting in a fat content as low as 0.03% depending on whey type. In contrast, hermetic separators produce whey cream with a fat content above 30%, even at temperatures below 35 °C.

Alfa Laval offers two types of whey separators in the W and WD Series. WD models have a clarification section in the bowl that makes it possible to utilize pre-filtered whey (i.e., without using a whey clarifier first), which has a higher fine content. This enables longer run times, but reduces efficiency slightly.

### Separators for whey skimming

Model name	Max. flow rate (l/h)	Available features
W10	7000 (pre-filtered whey)/7000 (pre-clarified whey)	
W15	10,000 (pre-filtered whey)/11,500 (pre-clarified whey)	
W515	15,000 (pre-filtered whey)/16,500 (pre-clarified whey)	
W520	20,000 (pre-filtered whey)/22,000 (pre-clarified whey)	
W525	25,000 (pre-filtered whey)/27,500 (pre-clarified whey)	
W830	30,000 (pre-filtered whey)/35,000 (pre-clarified whey)	
W840	38,000 (pre-clarified whey)	
W850	50,000 (pre-clarified whey)	
W860	60,000 (pre-clarified whey)	
WD515	15,000	
WD520	20,000	
WD525	25,000	
WD840	35,000	
WD845	40,000	
WD850	45,000	

## Milk clarification

The main purpose of milk clarification is to remove impurities. While many clarifiers can only be used for either hot or cold milk, the Alfa Laval D Series of disc stack separators can process both. The efficiency of the removal of smaller particles increases with the temperature, and the most efficient reduction of cells and bacteria is achieved at 50–60 °C.

## Whey clarification

Removing cheese fines from whey before it reaches the separator is necessary for maintaining optimum fat separation and long run times. Alfa Laval D Series of disc stack separators can take care of clarification upstream of the whey separator, giving you a highly efficient way to remove cheese fines.

### Separators for milk & whey clarification

Model name	Max. flow rate (l/h)	Available features
D15	15,000	
D20	20,000	
D25	25,000	
D530	30,000	
D535	35,000	
D545	40,000	
D845	45,000	
D860	60,000	
D870	70,000	





#### **This is Alfa Laval**

Alfa Laval is active in the areas of Energy, Marine, and Food & Water, offering its expertise, products, and service to a wide range of industries in some 100 countries. The company is committed to optimizing processes, creating responsible growth, and driving progress – always going the extra mile to support customers in achieving their business goals and sustainability targets.

Alfa Laval's innovative technologies are dedicated to purifying, refining, and reusing materials, promoting more responsible use of natural resources. They contribute to improved energy efficiency and heat recovery, better water treatment, and reduced emissions. Thereby, Alfa Laval is not only accelerating success for its customers, but also for people and the planet. Making the world better, every day. It's all about *Advancing better™*.

#### **How to contact Alfa Laval**

Contact details for all countries are continually updated on our web site. Please visit [www.alfalaval.com](http://www.alfalaval.com) to access the information.



# Features that make the difference

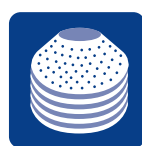
Thanks to decades of continuous innovation within dairy separation, Alfa Laval offers a broad scope of unique technologies that set our centrifuges apart. Taken together, these features can help your dairy achieve improved product quality along with superior hygienic confidence. They also make it possible to drastically decrease water and energy consumption, reducing both your operational costs as well as your environmental footprint.



## Hermetic Design

### Gentle acceleration, powerful efficiency

Alfa Laval's unique, bottom-fed Hermetic Design concept enables improved product quality and drastically reduces power consumption.



## UniDisc™

### New levels of capacity and hygiene

A radical new disc design that decreases cleaning needs while increasing flow rate by up to 20%.



## eMotion™

### Double the output per kWh

An innovation to minimize air friction, which together with the Hermetic Design, cuts the separator's energy consumption by up to 70%.



## Bactofuge®

### Outstanding solids capacity

Continuous solid discharge ensures an intact and highly concentrated stream for onward processing or as a valuable by-product. This makes it possible to increase separation capacity.



## eDrive™

### Mechanical simplicity for higher efficiency and lower costs

A direct-drive system with fewer rotating parts that minimizes both maintenance and energy costs.





# Separation innovation for dairies since 1883

Alfa Laval was born out of the invention of the modern milk separator. Over a century later, dairy separation is still at the core of our business. We have never stopped reinventing this technology, accelerating the development that allows our customers to succeed.

Today we offer a complete portfolio of solutions, covering the full scope of separation applications in the dairy industry. They include unique innovations designed to add value for dairy businesses: from improving yield and securing more reliable uptime, to 100% cleaning coverage to boost hygienic safety.

Ultimately, it's about matching dairies with exactly the optimal tool to boost profitability. That's why we say that every Alfa Laval separator is born to create the difference for our customers.





## The difference of total lifecycle support

Alfa Laval dairy separators are available through our network of certified partners, located all around the world. In addition to helping you get the optimal technology for your specific operation, they can also work closely with you to make sure your equipment provides long-term, reliable and efficient performance for years to come.

Alfa Laval offers a full range of services through our partners. For spares, our network can quickly supply the required parts, no matter where you are located. And of course, our separation experts are always there to answer questions, solve challenges and help you get the most from the equipment.

**Contact us today to learn about the service options available in your region.**