

The APV LeanCreme™ process

- adding new business and market value





New business and market value

Reduced-fat products are in higher demand than ever before. Conventional reduced-fat products, however, typically lack the sensory qualities of products with a traditional fat content. Microparticulated whey protein is an attractive option in the dairy and food industries to enhance taste and texture in reduced-fat products, and also as a multi-functional protein source.

Adding value

Microparticulation is a thermal and mechanical treatment process that is used to denature whey protein concentrate (WPC) and form ideal protein particle sizes similar to fat globules in milk. This helps to improve the sensory properties of reduced-fat products, giving them a similar mouth feel and texture to products with a traditional fat content.

Customization

With the APV LeanCreme™ process, dairy manufacturers can manufacture microparticulated whey protein from their own surplus whey on their own premises. This makes them entirely independent of standard products from external ingredients suppliers, enabling them to customise the particle size distribution of their microparticulated whey protein to match a wide range of innovative and proprietary reduced-fat recipes.



Built-in profitability

The APV LeanCreme™ process comprises an Ultrafiltration system for the production of WPC, and a Microparticulation system that particulates the WPC to make LeanCreme™ with the desired particle size distribution.

The relatively low value of surplus whey protein means that dairies and food manufacturers can use the APV LeanCreme™ process to achieve significant added value in terms of innovative, best-selling products at premium prices. It also means that the pay-back period is very short and that the process delivers ongoing high ROI for many years to come.

Use of LeanCreme™

- Pressed, soft and fresh cheeses
- Fermented milk products and milk desserts
- Protein enriched milk drinks and yoghurt
- Dressings, sauces and mayonnaise
- Ice cream, chocolate and confectionery
- Bakery products
- Nutraceuticals and powder ingredients



Innovative and proven technology

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The APV LeanCreme™ process is based on the APV Shear Agglomerator (ASA) using a groundbreaking APV technology with documented performance and results based on intensive engineering and pilot testing.

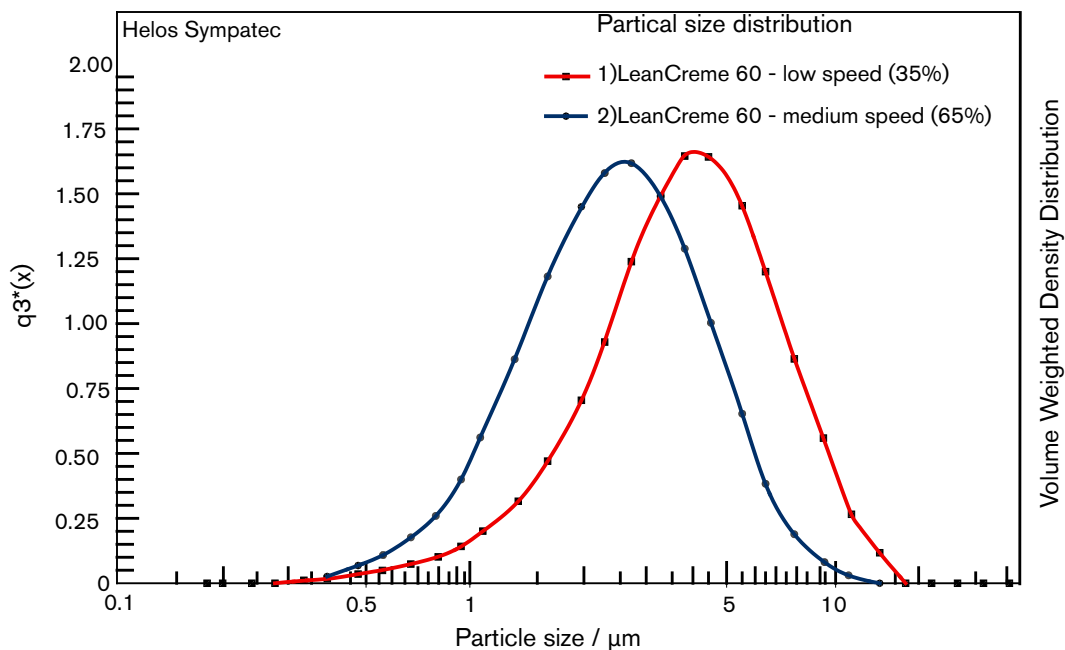
APV LeanCreme™ process plants are already in operation in the international dairy industry, delivering innovative product benefits and competitive business advantages based on consistent quality and performance.



Less fat, more potential, bigger sales

LeanCreme™ is a soft, whitish liquid with a viscosity and a creamy mouth feel like coffee cream when produced from sweet whey, and like buttermilk when produced from lactic whey. LeanCreme™ is a natural product with high nutritional value based on milk protein, and offers multi-functional features that add quality and value to many dairy and food products. LeanCreme™ is especially suitable for fat-reduced products such as cheese, fermented milk products, ice cream, fine foods and confectionery.

The APV LeanCreme™ process enables the production of LeanCreme™ with a highly accurate and consistent particle size distribution for use in liquid form or spray-dried for use as a powder ingredient.



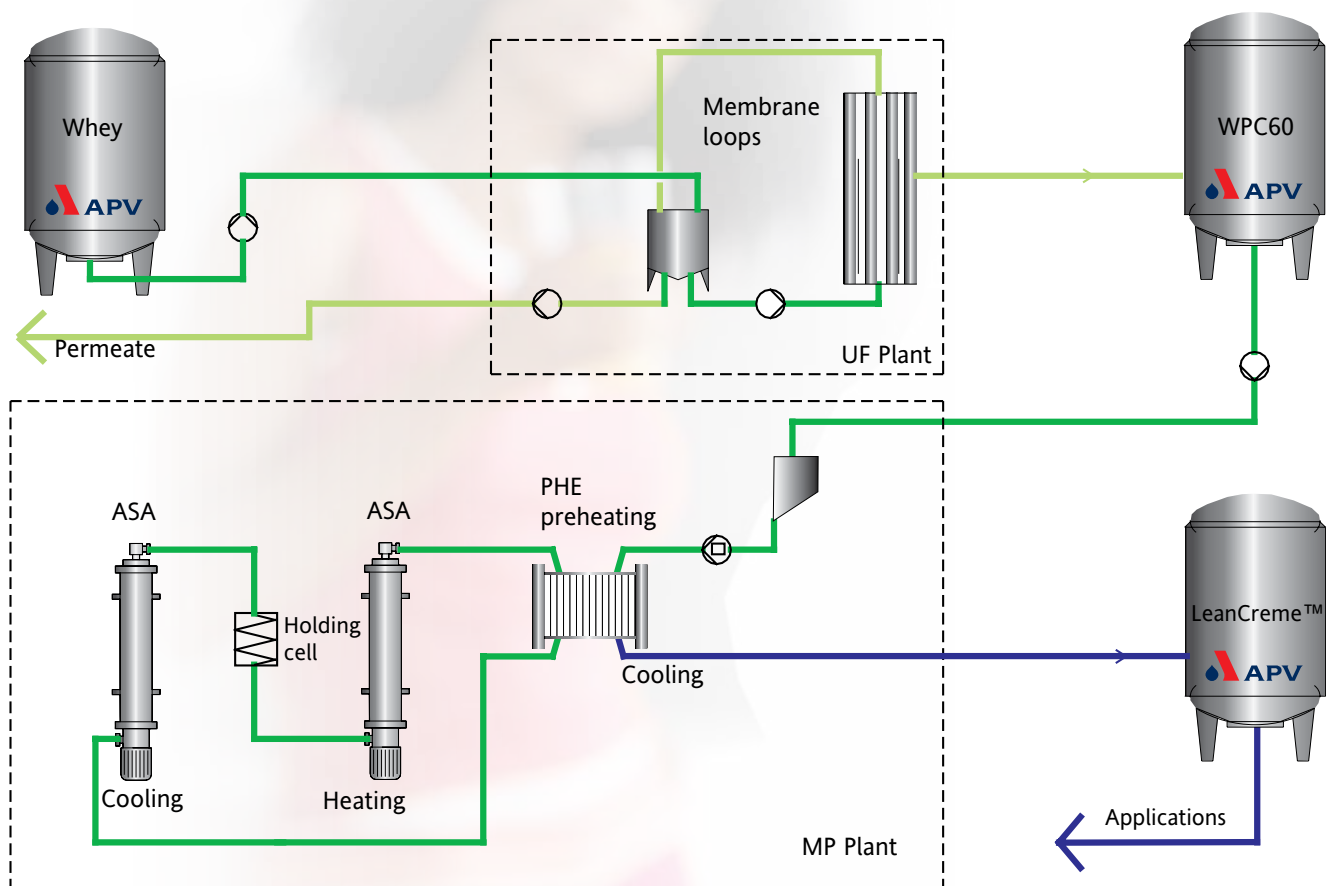
Whey types for the LeanCreme™ process

- Various grades of WPC 28 to 80 from - sweet, acid and HCl casein whey
- Reconstituted from spray-dried WPC
- Evaporated WPC
- WPC mixed with cream
- Fermented WPC

Types of LeanCreme™

- LeanCreme™ Neutral from sweet whey
- LeanCreme™ Lactic from lactic acid whey
- LeanCreme™ Acid from HCl and citric whey
- LeanCreme™ Ideal from ideal whey
- LeanCreme™ Plus with cream
- LeanCreme™ Mix with protein powder
- LeanCreme™ grades 28 to 80 (TOP/TS)

The APV LeanCreme™ process line





Boost competitiveness and revenues

Retail sales are a decisive success factor for the dairy and food industries. Retailers are already moving to accommodate increasing consumer pressure for high-quality, reduced-fat dairy products and other food products containing dairy ingredients. LeanCreme™ offers dairies and food manufacturers a flexible and competitive platform to gain additional market share with innovative and profitable products with a texture and a mouth feel similar to traditional full-fat foods.

Seven decisive benefits

- Proven and flexible process solution to derive greater value from surplus whey
- Massive consumer appeal due to excellent end-product taste and quality
- Natural and multi-functional product based on protein with high nutritional value
- Customizable for a wide range of low- and full-fat dairy and food products
- Independence from standard ingredients from external suppliers
- Cost-effective processes that cut costs and add value to existing resources
- Rapid pay-back well under one year and high return on investment

Full support to ensure your success

The APV Innovation Centre in Silkeborg, Denmark, offers short-term agreements to pilot your new APV LeanCreme™ process.

APV's process engineers are available with expert advice under full confidentiality during trials at our Innovation Centre. Alternatively, we can provide you with a pilot plant for testing at your own production facility.

Our specialist team is also available to work with you to find cost-effective solutions to the ever-changing challenges of today's marketplace, thus assuring you of the consistency and quality of your end-product well before it is launched.





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For more information about our worldwide locations, approvals, certifications, and local representatives, please visit www.apv.com.

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