

# Puts Excess Whey to Profitable Use



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When it comes to adding value for customers, SPX Flow Technology (SPX FT) looks beyond tomorrow to supply innovative technological solutions that maximise added value over a period of many years.

## From waste to value

Like many other dairies around the world, MS Iceland Dairies in Akureyri, Iceland, was concerned about the environmental impact of its excess whey. The modern and innovative dairy asked SPX FT to suggest a more profitable treatment option to handle excess whey which would result in reduced volumes and have a lower environmental impact. SPX FT proposed a new application for processing excess whey into a valuable ingredient that could be used in existing production to make low-fat versions of its current products with the same taste and mouth feel.

The innovative APV LeanCreme™ Process solution enabled MS Iceland Dairies to increase its cheese yield by 8% and reduce wastewater COD (Chemical Oxygen Demand) by 85%, realising a payback time of just 2 years.

The answer was the APV Lean-Creme™ Process combined with a Reverse Osmosis plant to treat the excess UF-Permeate and obtain water clean enough for use as flushing water during CIP and for safe disposal.

## Customisable for low-fat dairy products

The APV LeanCreme™ Process is based on the APV Shear Agglomerator. This is a groundbreaking technology employing simultaneous heat denaturation of the protein and controlled high shear to form micro protein particles with a customised particle size distribution. This synergy between heat and shear brings a new functional dimension to whey protein concentrates, resulting in Lean-Creme™. LeanCreme™ is ideal as a starting ingredient for a wide range of innovative products such as low-fat cheeses, fermented milk products, ice



**Dairy Manager Sigurdur Rúnar Fridjónsson, Mjólkursamsalan Akureyri, Iceland.**

creams, desserts and fermented milk products.

MS Iceland Dairies quickly saw a match between the APV Lean-Creme™ Process and their own requirements and the new plant started production in June, 2007. The initial result was a significant increase in cheese yield as well as an 85% reduction in the chemical oxygen demand in the wastewater. The dairy soon realised that the plant would pay for itself in just 2 years.

## Higher flexibility, higher yield

Today MS Iceland Dairies in Akureyri uses LeanCreme™ for many different products. Production of Gouda cheeses containing LeanCreme™ has experienced an 8% increase in cheese yield, a significant contribution to the bottom line. LeanCreme™ has also

**APV's LeanCreme plant.**



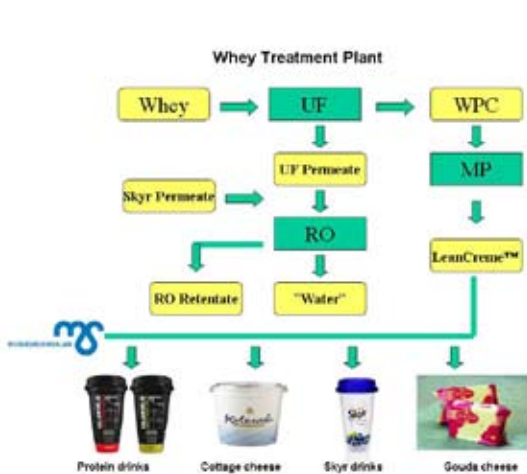


Diagram: Whey treatment plant.

resulted in a significantly improved texture and flavour in the dairy's low-fat cheese range. MS Iceland Dairies cottage cheese has seen a significant increase in yield as well as the elimination of syneresis, making it a highly stable product.

Iceland is well known for its Skyr production where LeanCreme™ has really made a mark. The Akureyri dairy uses LeanCreme™ in its Skyr Yoghurt drinks, where it replaces

30% of the skim milk content. In the spring of 2010, the dairy launched a new sports/protein drink based on 100% fermented LeanCreme™ with a protein content of 8.9%. The new drink fits perfectly into the company strategy of catering for constantly increasing consumer demand in Iceland for high-protein, low-fat, natural sweetened products.

MS Iceland Dairies in Akureyri has shown the way to success with con-



Packaging of Skyr products



Whey protein drinks from MS Iceland Dairies.

sumers by using LeanCreme™ in a long line of high-profile products. And more are on the way.

### About SPX Flow Technology

The APV brand is part of the Flow Technology segment of SPX Corporation. SPX's Flow Technology segment designs, manufactures and markets engineered solutions and products used to process, blend, meter and transport fluids in addition to air and gas filtration and dehydration. Recognized for its leading brands and turnkey systems capability, the Flow Technology segment has global operations which serve the Food & Beverage, Power & Energy and Industrial markets.

To learn more about LeanCreme™, please visit our website; [www.spxft.com](http://www.spxft.com) or contact Berit Skindersoe, Global Technology Sales Manager for Membrane & Microparticulation, at [berit.skindersoe@spx.com](mailto:berit.skindersoe@spx.com) or on +45 8922 8922. ■



## APV LeanCreme™ – better flavour, less fat

APV LeanCreme™ is a groundbreaking microparticulation process that gives you total control over whey protein particle size distribution.

APV's Shear Agglomerator (ASA) is designed to provide operating parameters for optimum particle quality and control.



APV LeanCreme™ gives you:

- High, protein-based nutritional value
- Full flavour and mouth feel
- Increased yield – reduced raw material costs
- Fast ROI

To find out more visit [www.spxft.com](http://www.spxft.com)

