

SPXFLOW

Fresh Fermented Dairy Products

Satisfying appetites for natural, healthy products



FOOD + BEVERAGE



What do consumers want in fresh dairy products?

Health & Wellness

Consumer demand for healthy, great tasting snacks is on the rise. The market for fermented dairy products such as Greek style yoghurt is experiencing significant growth which is expected to continue.

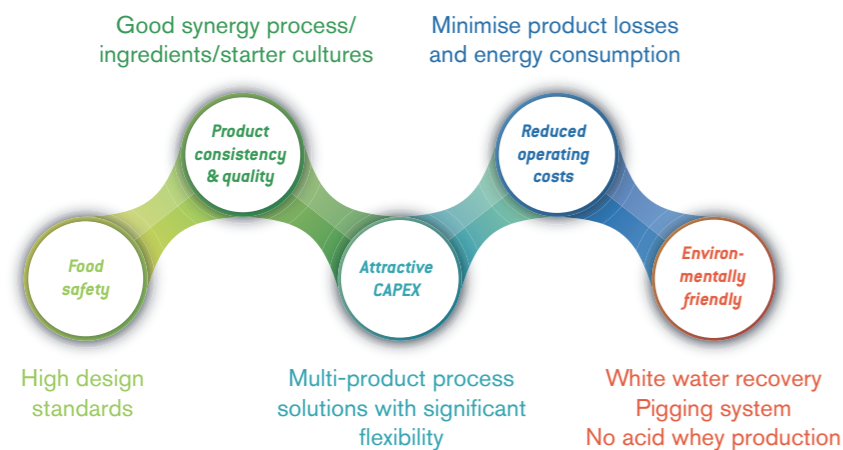
Convenience & Lifestyle

Busier lifestyles are driving demand for more convenient foods that can be eaten on the go. Yoghurt is increasingly gaining popularity as a guilt free snack.

Indulgence & Value

Consumers are now more willing to pay a premium for natural, nutritious snacks that satisfy their taste buds but still support a healthy lifestyle.

SPX FLOW's Advanced Fresh Dairy Process



SPX FLOW's extensive experience and reliable technologies help you capitalise on these growing consumer trends while providing:

- reduced capital equipment costs
- maximised return on investment
- sustainable environmental processes

SPX FLOW's global innovation centres can help you test new product ideas and streamline product launches to stay ahead of your competition.

What fresh dairy products are consumers looking for?



Standard yoghurts

- Set yoghurt is coagulated in a cup with fermentation achieved in a hot room. Fast cooling ensures a firm texture and the right acidity
- Stirred/drinkable yoghurts are fermented in tanks to deliver a creamy texture with the right acidity after cooling and with the possible addition of fruit

Cultured milks and probiotic drinks

- Cultured milks are produced by fermenting milk with acidifying bacteria and can include local specialities such as Leben, Ayran and Kefir
- Probiotic drinks include bacteria which provide health benefits such as improved digestion

High protein yoghurts, fresh cheese & quark (proteins from 4% to 10%)

- Traditional technology with separation removes acid whey after fermentation
- SPX FLOW CHEASLY technology is a process of making cheese without generating acid whey, using either milk concentration (UF) before fermentation (permeate with neutral pH) or functional milk protein in powder form, which helps to achieve 100% yield. The technology can be extended to produce high protein yoghurt and spreadable cheese

Cream cheese & processed cream cheese

- Fat quark concentrated to 60-70% fat to total solids ratio is further processed for curd texturing and pasteurisation to generate a shelf life of up to 6 months. Various ingredients can be added, such as herbs, fruits or chocolate

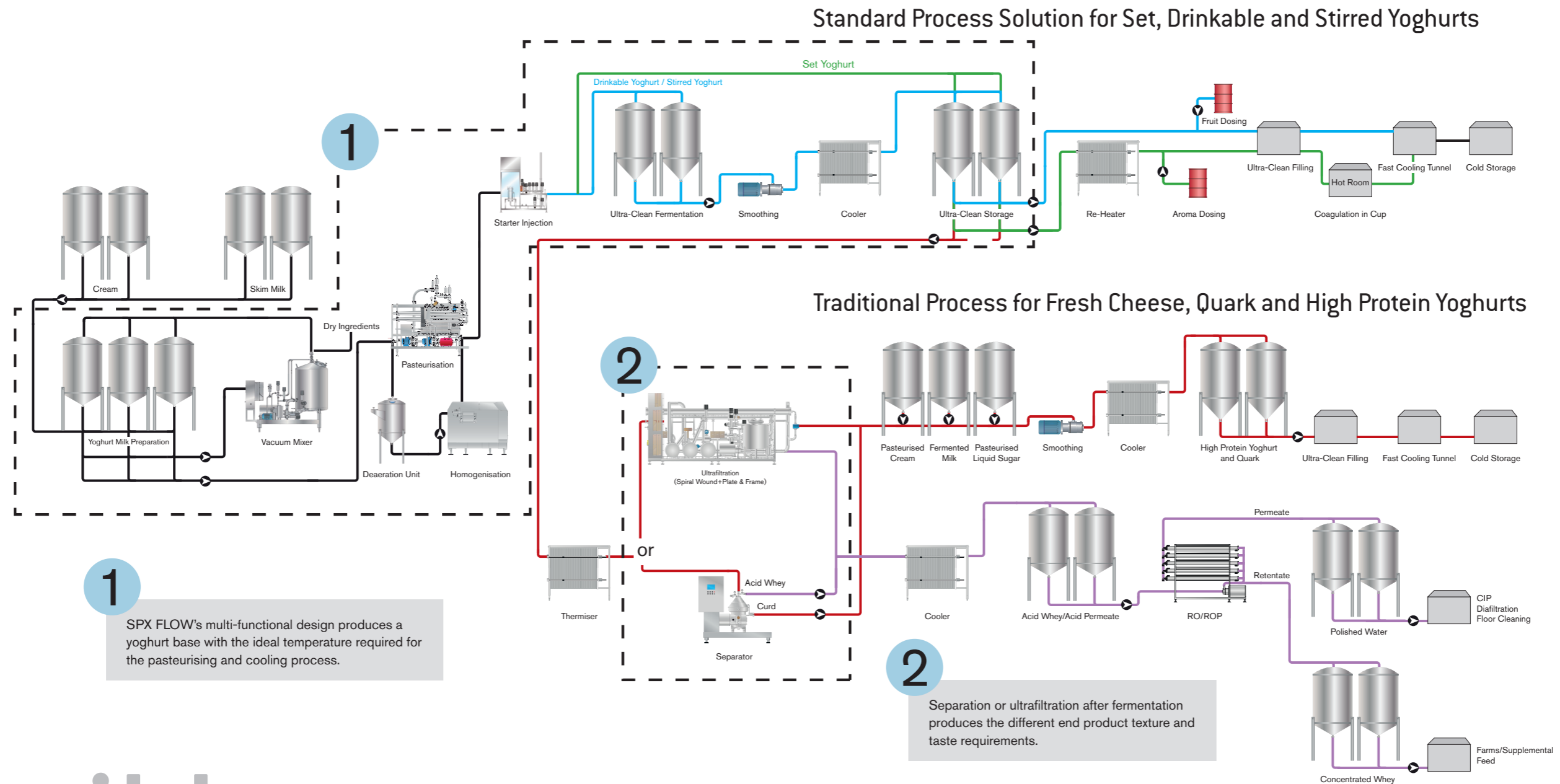


Classical solutions for fresh fermented dairy products



Flexible system

A wide range of fresh fermented dairy products can be manufactured using a flexible SPX FLOW system.



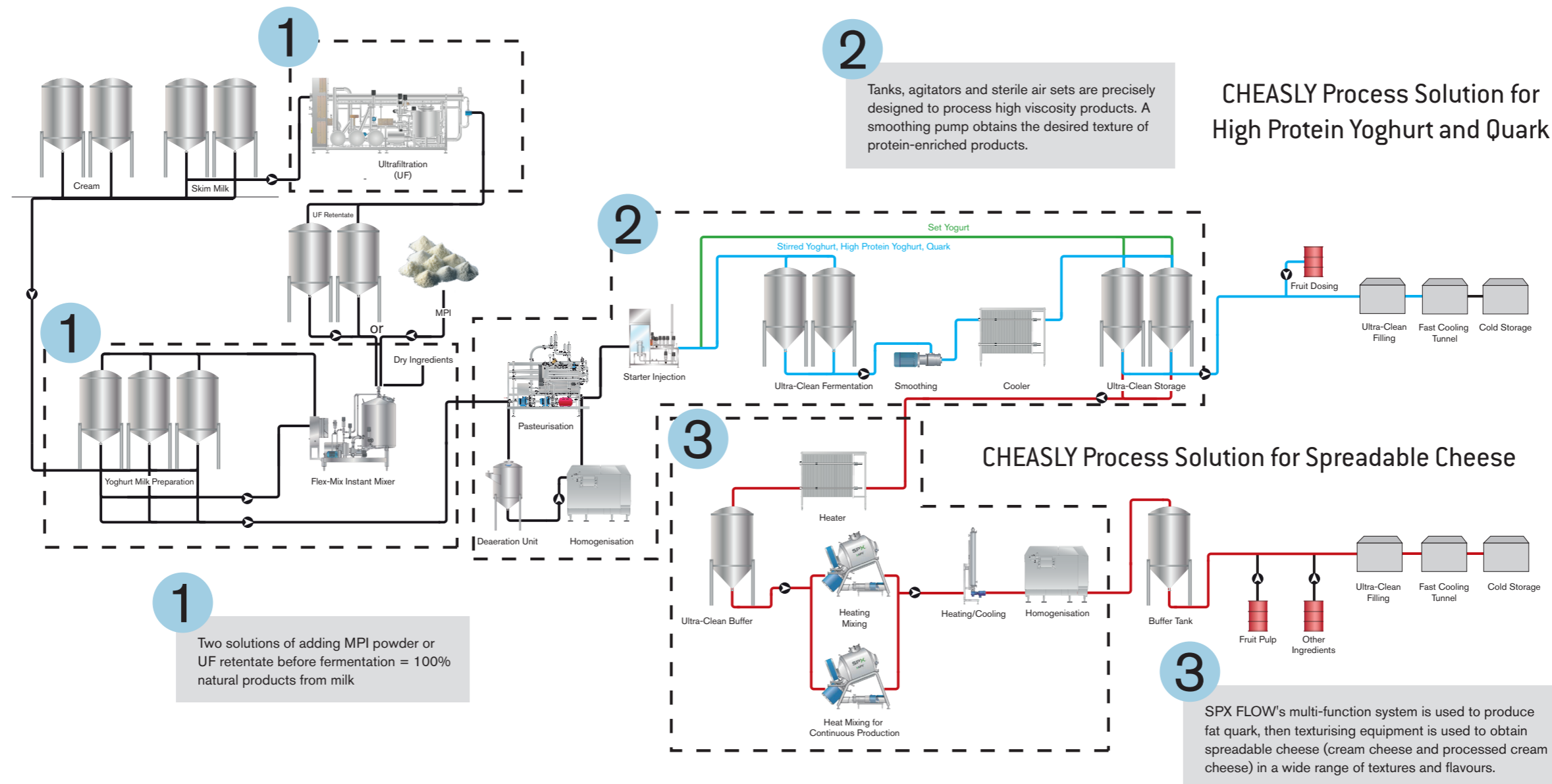
Flexible system

SPX FLOW's advanced CHEASLY process



No acid whey – 100% yield – 100% natural

SPX FLOW's CHEASLY technology enables the production of High Protein Yoghurt and Quark with the same multi-functional system as standard fermented products. Milk is enriched in protein before fermentation by the addition of ultrafiltration (UF) liquid retentate or milk protein isolate (MPI) in powder. There is therefore no separation and no generation of acid whey.



No acid whey – 100% yield – 100% natural

Delivering value and vision to your process

Attractive CAPEX

Environmentally friendly
Reduced operating costs



Processor



Scraped Surface Heat Exchangers

CAPEX optimisation

Flexible equipment design ensures the whole process can be adapted to produce a wide variety of fresh fermented dairy products with different viscosities and textures. No additional capital investment is needed for new product development or recipe enhancements.

A typical system comprises the following components:

- Yoghurt pasteuriser including deaerator and homogeniser
- Plate cooler to stop acidification while preserving texture
- Incubation and storage ultra clean tanks
- Processor vacuum system, scraped surface heat exchangers and a homogeniser for spreadable cheese



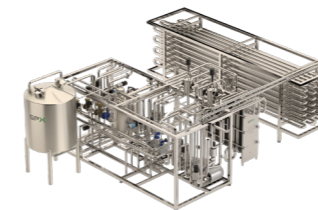
Yoghurt Cooler



Homogeniser



CIP system



Pasteuriser



Pigging system

Low energy consumption, reduced product losses and minimal waste water output

- Pasteurisers designed for high heat recovery; economic mode pauses other skid equipment when product isn't being produced to conserve energy
- Pigging system scrapes residuals at the end of each processing cycle
- CIP station with heating circulation on tanks to avoid consumption peaks; maximises solutions recovery
- Compact plant layout design reduces piping requirements
- Optional white water recovery system available

FactoryExpert Automation: Your automation system the way you want it

Whether you are looking to build a new plant, embrace the future with Industry 4.0 technologies, expand your current production facilities, enhance production efficiency, or manage obsolescence, SPX FLOW can help.

FactoryExpert is a modern, vendor-independent solution which can include control, visualisation, reporting and information systems from your platform of choice giving you the performance and versatility you require for your business.

By integrating the latest digitalisation strategies SPX FLOW can help you continually improve your production line performance to:

- Respond quickly to processing issues
- Increase product quality and consistency
- Ensure efficient and sustainable use of utilities and raw materials
- Increase productivity and reduce manufacturing costs



Product consistency & quality

Food safety

Food safety and freshness delivered

Helping you turn your great ideas into great products



The highest hygienic standards

SPX FLOW understands the importance of food safety in your process. Our equipment is designed to meet the highest hygienic standards to deliver extended shelf life products consumers can trust.

- Pasteuriser with positive pressure design prevents product contamination risk
- Product is flushed with sterile water after pasteurisation process
- Sterile air on tanks downstream of the pasteuriser further protects product
- Culture inline dosing design with starter injection vat (SIV) to minimise contamination and ensure efficient fermentation
- Sanitation in place (SIP) with acidified hot water at 95°C after cleaning in place (CIP)



Starters Injection Vat

Product quality begins with the right equipment

Consistent product quality

Consumer expectations for premium fresh dairy products continue to rise. SPX FLOW's equipment and process designs help you deliver consistent product quality, creamy mouth feel and fresh taste, time after time.

- Mix preparation using an SPX FLOW high shear mixer maximises ingredient functionality and reduces hydration time
- An SPX FLOW yoghurt milk pasteuriser with deaeration unit and high pressure homogeniser reduces fermentation time and ingredient consumption to achieve natural flavour
- Storage tanks with adapted agitation and bottom cone design to preserve product viscosity
- Consistent process design from incubation tank to filling machine preserves product texture
 - Pipe design and pump rotation speed ensures soft product transfer
 - Smoothing pump ensures creamy texture
 - Plate cooler reduces pressure losses and shearing effect
 - Fruit injection and gentle mixing into product stream



Twin Screw Pump



Fruit Station

Try new recipes and processes quickly and efficiently at your nearest SPX FLOW Innovation Centre. We can help you capture business opportunities, reduce new product development risk, convert ingredients to commercial products, optimise process performance and stay ahead of your competition.

Fresh Dairy Pilot Plant



Applications:

- Standard yoghurts: set, stirred and drinkable
- High protein yoghurts, fresh cheese and quark
- Fermented milks and probiotic drinks
- Dessert: cream, flan, rice in milk and mousse based

Contact

Contact your local SPX FLOW food and beverage processing expert for your next product innovation. Together, we will discover your required process to achieve your business goal.

- Silkeborg, Denmark
- Shanghai, China
- Soeborg, Denmark
- Evreux, France



Spreadable Cheese Plant

Applications:

- Cream cheese and labneh
- Processed cream cheese
- Solutions to meet new trends in food consumption: small size portions and snacking



➤ **APV**
➤ **Seital Separation**
➤ **Waukesha Cherry-Burrell**

SPX FLOW, FRANCE

290, rue Jacquard
27006 Evreux Cedex
France
P: +33 2 3223 7300
E: ft.dk.soeborg@spxflow.com

SPX FLOW, CHINA

7F, No.1568, Huashan Road
Changning District
Shanghai, 200052
China
P: +86-21-2208 5888
E: china.contact@spxflow.com

SPX FLOW, USA

105 Cross Point Pkwy
Getzville, NY 14068
U.S.A.
P: +1 716.692.3000
E: leads@spxflowleads.com

SPX FLOW, DENMARK

Oestmarken 7
2860 Soeborg
Denmark
P: +45 70 278 222
F: +45 70 278 223
E: ft.dk.soeborg@spxflow.com

SPX FLOW, INDIA

NYATI UNITREE, Building, Ground Floor East
(A1) Wing, Nagar Road, Yerwada, Pune, 411006
India
P: +91 2067499964
E: ft.india.information@spxflow.com

SPX FLOW, MEXICO

Parque de Granada No. 71 - 101
Col. Parques de la Herradura
Huixquilucán, Edo. de México, 52786
Mexico
P: +52 55 5293 9035
E: leads@spxflowleads.com

SPX FLOW reserves the right to incorporate our latest design and material changes without notice or obligation.

Design features, materials of construction and dimensional data, as described in this bulletin, are provided for your information only and should not be relied upon unless confirmed in writing. Please contact your local sales representative for product availability in your region. For more information visit www.spxflow.com.

The green ">", Anhydro, APV, Waukesha Cherry-Burrell, and Seital Separation Technology are registered trademarks of SPX FLOW, Inc.