General processing technology

Linking SPX key technologies together

General Processing Technology (GPT) is the portfolio of technologies which links SPX Key technologies together in processing lines. It involves a series of essential building blocks from reception of raw materials, pretreatment before further processing, tank sections, output of final end products and cleaning of processing lines.

The SPX technology portfolio includes a wide range of building blocks (products, units and skids) such as Heat Transfer (aseptic, non-aseptic), Membrane Filtration, Cheese, Butter, Distillation and Evaporation, Dearation, Blending and Mixing technologies designed to operate at maximum efficiency in modern processing lines within Dairy, Food, Beverage, Brewery and other industries around the world. GPT is designed for applications within these Industries. With this background, GPT is setting up standards for Projects creating an opportunity for SPX Flow Technology to integrate our technologies adapted to specific market demands and applications. This will position SPX Flow Technology as a leader in highly attractive, value added concept solutions and benefits to our customers.

The portfolio behind APV GPT is based on many years of experience and thousands of project references around the world.

By using Reusable Engineering SPX aim to be more profitable. Further design objectives are energy savings and reduced waste products - all offering higher profitability and reduced impact on the environment. Safety is paramount and all APV GPT systems are designed for sanitary conditions and made cleanable. All food legislations can be adhered to with APV GPT.

By linking up with state-of-the-art Automation SPX Flow Technology delivers fully automatic solutions with opportunity to support full traceability with registration of production parameters from receiving of raw materials to delivering the end products.

Reception lines

Tailor-made functional reception lines for liquid products

Specifications	
Field of application	Milk, cream, whey, concentrates, oils, chemicals etc.
Description	Flexible, manual to fully automated handling of a wide range of products used in the dairy and food industries
Capacity	Any
Temperature	Product can be cooled or heated to the required temperature

Advantages

- High sanitary standard solution, fully CIP cleanable
- Optimal functions to protect product quality and functionality
- Reduced maintenance costs
- Pipeline, valve dimensions and gentle pumping protect fat globule integrity in milk
- Capacity and volume measurements
- Filters to remove particles
- Start/stop function to prevent pumping without product
- Safe, low pressure loss cooler/heater for temperature adjustment

Processing line for milk and cream

Flexible, cost-effective production

Specifications	
Field of application	Milk and cream of various compositions
Description	Pasteurisation, homogenisation, deaeration, fat and protein standardisation etc. of all kinds of milk and cream to meet all international standards
Capacity	Any
Temperature	Any required temperature range/ holding time for any product

Advantages

- High flexibility
- Production safety
- Low heat influence on the product
- High degree of heat recovery
- Accurate temperature control
- High number of running hours between CIP
- CIP capacity on pasteurisers the same as product capacity
- Less product waste/less waste water load
- Less water, energy and chemical consumption for CIP
- Shorter CIP time

CompoMaster - KCC

Unit for automatic standardisation of fat content in milk and cream

Specifications	
Field of application	Milk and cream
Description	The CompoMaster is designed for operation together with a milk separator. The fat content of the raw milk is determined automatically using density transmitters after which the CompoMaster fully controls the on-line standardising process
Capacity	7,000 l/h - 60,000 l/h (1,800 - 16,000 U.S. g/h)
Temperature	Milk separation at 55 - 65°C (130 - 150°F)

Advantages

- High standardisation accuracy
- Fast control responce to fat set point changes
- Automatic determination of fat content
- Advanced designs for in-line standardisation of fat, protein and solids
- Delivered as a skid-mounted unit ready for installation and commissioning
- Available as stand-alone unit or as unit for full integration into complete milk processing systems

Pasteurisation plant - HPD (plate)

General plate pasteurisation plant for the dairy and related industries

Specifications	
Field of application	Milk, flavoured milk, coffee cream, cream, ice cream mix, milk shake, tea, coffee, juice, etc.
Description	The plant is designed for cost efficient running, delivering up to 96% heat regeneration. The plant is made as a unit
Capacity	100 - 30,000 l/h (27 - 8,000 U.S. g/h)
Temperature	5-72/85-5°C (41-162/185-41°F)

Advantages

- High energy recovery for low operating cost
- Flexible low-viscosity product range
- Low pressure drop
- Pare Clip gaskets (non-glue)
- Operator-friendly
- Pre-assembled and factory-tested
- As option designed according to ASME, PMO, 3A

Pasteurisation plant - HTP (tubular)

General tubular pasteurisation plant for the dairy and related industries

Specifications	
Field of application	Milk, flavoured milk, coffee cream, cream, ice cream mix, milk shake, tea, coffee, juice, etc.
Description	The plant is designed for cost efficient running with a heat regeneration of up to 90%. It is further designed for robust running and can stand pressure drops of up to 60 bar. The plant is made as a unit
Capacity	100 - 30,000 l/h 27 - 8,000 U.S. g/h
Temperature	5-72/85-5°C 41-162/185-41°F

Advantages

- Can run fibres and particles
- High energy recovery, giving low running cost
- Flexible low viscosity product range
- Low pressure drop
- Operator-friendly
- Pre-assembled and factory-tested
- As option designed according to ASME, PMO, 3A

Clarifying, skimming and pasteurisation of whey products

Systems for recovery of valuable components in the whey

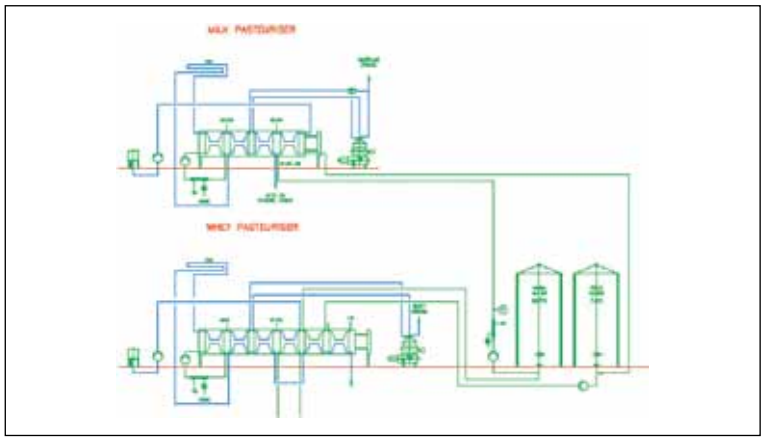
Specifications	
Field of application	Whey from cheese and fermented milk production
Description	Manual to fully automated clarification to recover and systems to rework cheese fines, skimming to recover and systems to rework whey cream, and pasteurisation
Capacity	Any
Temperature	Flexible for value optimisation of whey components

Advantages

- Secure sanitary recovery of valuable whey components
- Cross-energy recovery between milk and whey to optimise total energy recovery
- Treatment and reworking of valuable recovered whey components
- Protection of product integrity and functionality
- Quality assurance in end-product containing reworked whey components
- Fully automated lines with full traceability
- Optimal recovery of valuable components
- Long running hours between CIP

Energy recovery and reuse (recycling) systems

Driving down running costs



Specifications	
Field of application	The dairy and food industries
Description	Heat recycling based on one or more tanks to accommodate varying temperature levels at different production steps
Capacity	Any
Temperature	Can be used at all temperature levels

Advantages

- High sanitary, safe energy recovery
- Short pay-back time
- Totally CIP cleanable systems
- Optimisation of energy recovery by combination with heat pump
- Closed water loops working with preserved water media
- Fully automated volume and energy-balanced control
- System can be based on two temperature levels/tanks, warm at the top and cold at the bottom. Tanks are designed to eliminate turbulence in tank.
- Systems for low cost energy balancing
- Can be delivered with safe ParaFlow system between product and energy media, independent of the sanitary level of the energy media system

Standard CIP units

Reduced downtime with flexible and cost-effective CIP

Specifications	
Field of application	The dairy, food, beverage, brewery, bio/pharma industries
Description	CIP units for efficient cleaning of pipeline systems, tanks and processing plants with a choice of tank sizes depending on requirements
Capacity	One to three independent lines with individual capacities depending on throughput and pressure
Temperature	Flexible temperature adjustment with heating in tanks or on forward lines

Advantages

- Manual to fully automatic units specially designed for optimal CIP
- Disinfection/sterilisation by means of hot water or cold sanitiser
- Low consumption of water, energy and chemicals
- Re-use of chemicals
- Selection of options
- Standard units including standard control system for lowest possible capital investment
- Control system: In Touch - Siemens, In Touch - Allan Bradley

CIP plants

Customised cleaning and disinfection of virtually any equipment

Specifications	
Field of application	Efficient CIP cleaning of tanks, pipeline systems and machinery and equipments in the dairy, food, beverage, brewery, bio/pharma industries
Description	CIP plants with one or many independent CIP circuits, and tailored to virtually any requirement
Capacity	Individual for each CIP circuit
Temperature	Individually adjustable for each circuit with disinfection temperatures up to 125°C (260°F)

Advantages

- Fully automated and customised to specific needs
- Low consumption of water, energy and chemicals
- Efficient waste recovery
- Low waste water load
- More efficient cleaning for shorter cleaning time
- Selection of options including sterilisation loops and make up loop
- Elimination of water hammering
- Standard control systems to limit capital investment
- Multiple CIP cleaning programs
- Control Systems: In Touch - Siemens, In Touch - Allan Bradley
- Proven technology and systems