

Powerful solutions for flexibility and short time-to-market

The Beverage sector covers a series of different application areas including the production of juice, syrup concentrates, engineered waters, ready-to-drink (RTD) teas and other carbonated and non-carbonated soft drinks as well as Dairy Free - Dairy Analogues such as Soymilk. Using dairy free alternatives as a raw material creates opportunities to develop a wide range of value-added products with higher profit margins. Likewise, dairy free alternatives can provide financial, physical, chemical, and nutritional advantages in many traditional beverage products.

SPX Flow Technology has a long history within the beverage industry with the APV brand and a wealth of experience gained from cooperation with customers and deliveries worldwide. Today many global brands are produced on SPX Technologies. In addition to products,

parts and service SPX Flow Technology offers a wide range of technologies and skid mounted systems including Mixing and Blending, Dearation, Aseptic and non-aseptic heat treatment, evaporation, distillation and general processing technology as reception lines, tank sections and cleaning-in-place (CIP). Furthermore SPX Flow Technology offers complete projects including Automation and performance solutions.

The beverage industry is increasingly centered on a small number of manufactures who have developed strong markets for their branded soft drinks. SPX Flow Technologys skills in transferring standardised process systems around the world have helped producers ensure consistent product quality.

Every beverage processing unit can be supplied as a stand-alone system, ideally

equipped for smooth and trouble free operation and suitable for integration into a central control system. But the maximum benefit will be gained with a combination of units which have specifically designed to operate together for optimum performance, both from a mechanical and control perspective.

The many reference installations demonstrate SPX capabilities to provide complete installations. Equally, SPX Flow Technology offers cost-effective improvements to selected unit operations in existing production lines. SPX Flow Technology's in-depth knowledge and active involvement in the development of the world's beverage industry, combined with proven experience in project management of major capital projects, makes SPX the ideal partner for the design and installation of state-of-the-art Beverage processing equipment.

Continuous sugar dissolver - CSD

Optimum flexibility and great cost saving potential



Specifications

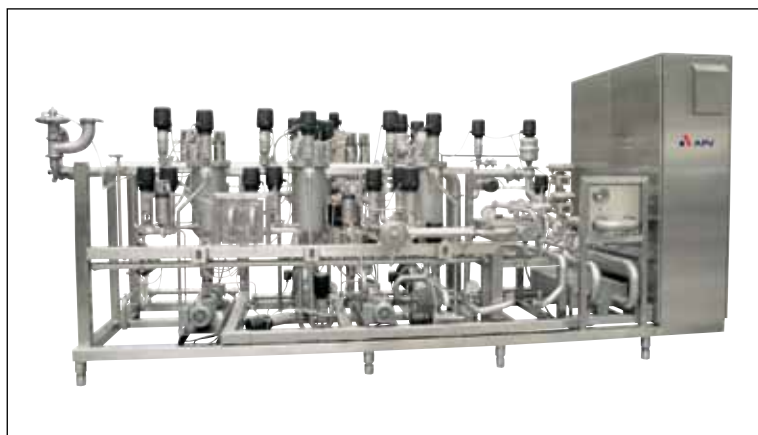
Field of application	Beverages
Description	The CSD is a fully automatic sugar syrup blending system, which can readily be integrated with any APV beverage process unit. Capable of producing sugar syrup up to 72°C (162°F) Brix
Capacity	5,000 - 50,000 l/h (1,000 - 15,000 U.S. g/h)

Advantages

- An accuracy of $<+ 0.1^\circ\text{Brix}$ in the final product (measured as a standard deviation)
- Blending control takes place via Brix analyses
- The jet mix principle is used for optimum dissolving in the dissolver tank
- A more precise and consistent product, resulting in savings in raw ingredient consumption
- Flexible and fully automatic system
- Fast settling time
- High accuracy level
- Designed for low maintenance and energy costs

Intelligent multi component blender - MultiMaster

New dimensions of flexibility and efficiency in multi-component blending



Advantages

- An accuracy of $<+ 0.1\%$ by weight of total ingredient mass (measured as a standard deviation)
- Continuous blending system for more precise and consistent product and raw materials savings
- Fully automatic, reducing manpower requirements
- Inline dosing and high accuracy eliminate need for buffer tank analyses
- Direct forwarding of product to the pasteuriser and on to the filler
- Extended recipe handling eliminates production errors
- Settling time after shut down under 10 seconds
- Low maintenance and energy costs

Specifications

Field of application	Juice beverages, diet beverage products, soft drinks, carbonated soft drinks. Premix of syrups, flavoured dairy beverages, tea beverages, alcohol based beverages
Description	Fully automatic, continuous blending system designed for optimum yield and flexibility, and integration with any APV beverage process unit. Standard storage and handling of up to 30 different recipes. Special valve selection and short pipe layout. Nitrogen back flush of concentrates to the source vessel further improves the product yield
Capacity	5,000 - 55,000 l/h (1,000 - 15,000 U.S. g/h)

BrixMaster/extended BrixMaster - Brix standardisation

New dimensions in flexibility and efficiency in blending



Advantages

- Accuracy of $<+ 0.05^\circ\text{Brix}$ in the final product (measured as a standard deviation)
- Continuous blending for precise and consistent product and raw materials savings
- Product loss eliminated by leading recovered off-Brix product back to the BrixMaster
- Fully automatic, reducing manpower requirements
- Settling time after shut down under 10 seconds

Specifications

Field of application	Juice beverages, diet beverage products, alcohol based beverages
Description	Fully automatic, two-stream or multi-stream blending system that integrates easily with any APV beverage process unit. The standard Brix-Master can store and handle up to 30 different recipes. Suitable for diet product processing. Simple conversion of the basic two-stream BrixMaster for added versatility
Capacity	5,000 - 30,000 l/h (1,000 - 8,000 U.S. g/h)

- In-line dosing and high levels of accuracy eliminate need for buffer tank analyses
- Performance independent of product temperature variations and fibre content
- Direct forwarding of product to the pasteuriser and on to the filler
- Extended recipe handling eliminates production errors
- Low maintenance and energy costs

Carbonation - CarboMaster

Cost-effective, accurate and flexible CO₂ dosing



Specifications

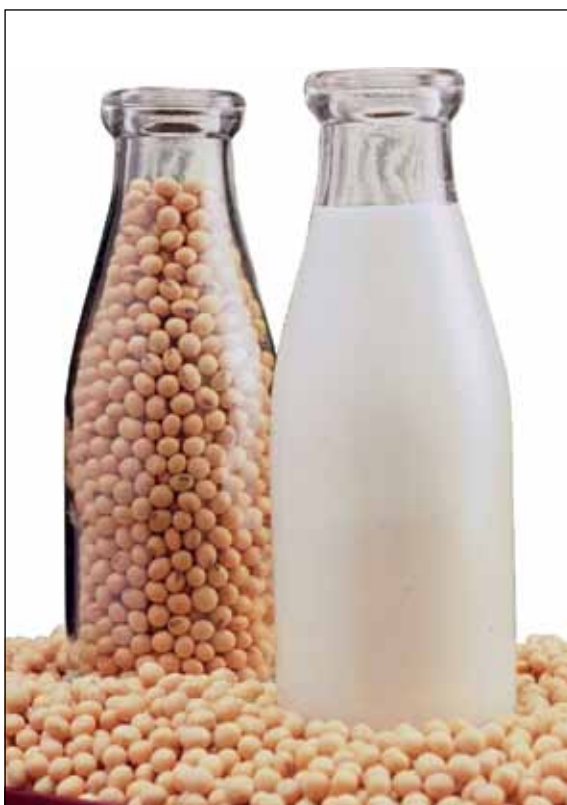
Field of application	All types of beverage
Description	The heart of the CarboMaster unit is the patented CO ₂ injector, which injects liquid into the gas rather than traditional injection of gas into liquid. This achieves faster dissolution with tight CO ₂ binding to the beverage. While a measuring instrument can be used to monitor CO ₂ addition and to control the dosing set-point, mass flow measurement for the gas provides superior accuracy, typically + 0.1 g/kg CO ₂ in the beverage
Capacity	5,000 - 70,000 l/h (1,000 - 20,000 U.S. g/h)

Advantages

- Accuracy of + 0.1 g/kg CO₂ in the beverage (measured as a standard deviation)
- 100% utilisation of CO₂
- Fully automatic version available for reduced manpower
- Low maintenance costs and efficient operation
- Flexible production
- Fixed injector unit capacity normally variable within 10%, variable injector unit capacity variable down to 25% of nominal capacity
- Carbonation levels up to 10 g/kg CO₂
- Optimisation for different CO₂ levels at different temperatures and pressures
- Full CIP capability including patented CO₂ injector

Soy milk processing plants

Standard and tailor-made soy milk processing lines



Specifications

Field of application	Soy milk, soy yoghurt, frozen desserts, puddings, custards, sauces, mayonnaise, salad dressings, spreads, powders
Description	Individual process units and complete, turnkey plants
Capacity	1,000 - 12,000 l/h (265 - 3,170 U.S. g/h)

Advantages

- Tried and tested design
- High-quality end-products
- Excellent product quality
- Automated operation
- Operator-friendly
- High uptime
- Large installed base/experience
- Technology leadership

Soy milk pilot plant facility

Upscalable application development and testing at SPX's Innovation Centre



Specifications

Field of application	Soy milk and other cereal-based products
Description	Complete pilot plant with APV applications and process engineering support
Capacity	100 - 450 l/h (25 - 120 U.S. g/h)

Advantages

- Production-scalable process development, testing and optimisation
- Two-stage grinding and grinding liquid supply NaHCO₃ mixing and dosing
- Okara separation
- Enzyme inactivation and deodorisation
- UHT treatment, homogenisation, aseptic filling