

# GS Yellow Fat Technologies



## Accuracy, Efficiency, and Flexibility

SPX specialize in processing equipment for the manufacturing of all kinds of crystallized or emulsified food products and products that require thermal treatment. Our GS lines of equipment cover high-pressure pumps, scraped surface heat exchangers, continuous butter makers and emulsification machines which traditionally form part of a modern production line for margarine, butter, mayonnaise, dressings, sauces, ice cream etc.

## Margarine Equipment

The crystallization takes place in the scraped surface heat exchanger (SSHE) which is the heart of the crystallization line. The GS SSHE are robust, reliable and built to last in order to meet the wide range of product requirements from our customers. Additionally, our solutions comply with the full spectrum of certification demands.

With the GS Nexus, the GS Perfector and the GS Kombinator you can produce everything from margarine, shortening and low fat spreads to butter and butter blends, not to mention a variety of other products that require thermal processing. To meet the individual needs and to match the demands of today's production environments, the GS SSHEs are based on modular design.



GS Nexus, an SSHE using CO<sub>2</sub> as cooling medium

### GS PLUNGER PUMP

Superior product quality can often be achieved by ensuring that every stage of production progresses smoothly - including the way products are pumped through the process line. The more stable the product flow, the better the final result.

The GS series of pumps covers a wide range of capacities and is designed to help you maintain an idea product flow while treating your products gently. GS pumps are mounted on adjustable feet which are designed to withstand vibrations.



GS plunger pump type P-3

# Typical Product Applications

## GS PIN ROTOR MACHINE

By kneading and working the product under high or low pressure and at variable speeds, the GS pin rotor machines are able to optimize the product texture for ideal results.

The variable speed gives you the freedom to change oil types according to market availability and demand. So whenever oil prices fluctuate, you can maximize savings without compromising the quality of the final product. The modular design of the GS pin rotor machine enables you to mount up to three cylinders on a common base frame without occupying additional floor space.



GS pin rotor machine 3x100 l

## GS RESTING TUBE

The resting tube is mandatory for consistency and high product performance for packed products, especially table, cake and puff pastry margarine. The GS resting tube provides the crystal network in the fat sufficient time to form and settle prior to extrusion to the packaging machine.



GS resting tube, 280 l

With the Gerstenberg Schröder crystallization equipment you can produce a wide range of yellow fat products.

### Table Margarine, Butter And Butter Blends



### Puff Pastry Margarine



### Shortening



### Bakery Filling Cream



# Butter Equipment

With the GS butter equipment series we offer technology and service support on new and existing butter processing equipment as well as training of current and new plant operators.

We supply spare parts to new and existing processing equipment. We offer service and maintenance contracts for our GS brands, as well as on other manufactures processing equipment.

## GS FAT REWORKER SYSTEM

This GS system is for continuous reworking of bulk products such as butter, AMF, vegetable fat, margarine etc. for further processing. The GS reworker can be delivered for both tempered bulk products as well as frozen products. The design of the GS reworker ensures gentle handling of the product which minimizes the risk of moisture loss and incorporation of air to the product during the process. As an option we can deliver the reworker for vacuum treatment of the reworked product. The GS fat reworker offers you the freedom to make adjustment of the product composition by injection of e.g. water, salt, culture etc. to the product during reworking.



GS butter reworker

## GS DYNAMIC MIXER

The compact GS dynamic mixer is designed to efficiently apply high shear to your product in a short time. It is highly suitable for dairy, margarine and other food products to which ingredients need to be added efficiently and mixed homogeneously. The unique features of the mixer include hygienic design of the rotor which facilitates and improves the efficiency of the important CIP process. Also the mounting and dismounting of the rotor and mixing house are carried out easily and quickly so your downtime is minimized.



GS dynamic mixer type BMX

## GS BUTTER SILO

The GS butter silo is essential for a flexible continuous butter making process as it is needed for buffering butter between a GS continuous butter machine, a GS butter reworker system and e.g. butter packaging equipment. SPX supplies two different types of GS butter silos:

- The traditional butter silo with augers - type BBA
- The butter silo with pressing plate - type BBP



GS butter silo type BBA

## GS CONTINUOUS BUTTER MAKING MACHINE

The GS continuous butter making machine is designed with focus on product safety and easy maintenance using the latest technology.

The flow control through the working sections of the GS continuous butter making machine are automated compared with the traditional operator-controlled machines. This gives you not only a high degree of remote and automatic operation but also a great flexibility for control and optimization of the working intensity and moisture distribution during production.

The butter making machines are all delivered with integrated cream preheating system as well as cooling system for buttermilk.



GS continuous butter making machine



# Optimized Yield and Efficiency

## CONTAINER PLANTS

The container-plants are completely pre-assembled, piped, cabled and tested – ready to use. The flexible production plant is easy to operate, and it is possible to extend the production equipment by adding another unit (e.g. pasteurizer) to the plant. The plant can quickly be moved to other locations if needed as all equipment is mounted on a skid. Each container plant is equipped with an SSHE (i.e. GS Nexus, GS Perfector, GS Kombinator or GS Consistator®, depending on the product and the capacity) and the GS Logic control system.

The plant is designed to fit into a standard container and it requires little floor space in the production facility. All container plants require a minimum of installation time and if all utility connections are ready upon arrival of the plant, it will be possible to start production in less than two weeks.

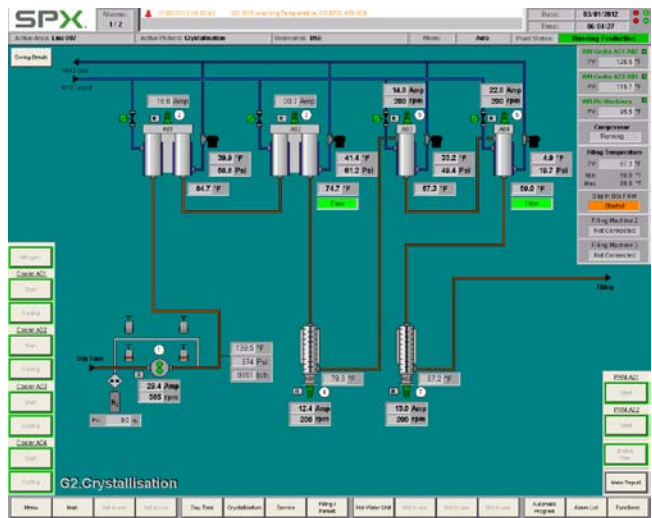


Container skid-mounted unit for margarine

## PROCESS CONTROL WITH GS LOGIC

The GS Logic system controls, records and documents all the important parameters regarding the production process. The GS Logic system will keep an eye on every stage of the production and monitor the flexibility of the system and the manufacturing economy. Furthermore, it is easy to implement and to operate. The GS Logic helps to create a consistent process environment to ensure that the product is manufactured the same way every time. With the GS Logic control system production can easily be changed by altering the recipe or entering new production parameters rather than reprogramming.

Long-term savings can be obtained via the GS Logic system because it always operates and monitors each production run in the same way. You will avoid overfilling of tanks, unwanted mixing and other errors that result in product loss and excess energy consumption. This not only helps saving money due to less downtime, but it also ensures product quality and consistency.



A screen-dump example of a typical margarine plant

## ENGINEERING SOLUTIONS

As food products are often based on market situations and individual needs, SPX is focused on constructing solutions to meet any special requirements. In close cooperation with the world's leading food manufacturers and through continual development and refinement, we have developed equipment which enables you to produce the widest range of products and increase your competitive edge. SPX can provide solutions that match individual demands – from low-cost, skid-mounted production units to fully computerized plants.

You do not have to spend time and energy designing a new plant and finding various suppliers when choosing SPX turnkey solutions. With our expertise solutions are custom-made to meet your specifications, including individual service and training to ensure smooth operation and profitability.

# Global Services for Individual Needs

## R&D

To meet the challenges in the fast moving food industry, your R&D activities must be efficient and cost-effective. SPX has fully equipped GS SSHE and butter equipment pilot plants in Soeborg, near Copenhagen, in Denmark where our highly qualified staff will assist you. These facilities are available to you to do test runs at a very reasonable cost. Alternatively, you can purchase a pilot plant for in-house installation.

The GS SSHE pilot plants for crystallized fat products enables you to process small samples of new product formulations under the same conditions as those in your production. Thus you can focus on research, development and testing without disrupting current production. You can alter ingredients, optimize and test new recipes and rapidly reset new parameters for test runs of different product formulations.



The GS Nexus pilot plant using CO<sub>2</sub> as cooling medium

## CUSTOMER FOCUS

The SPX worldwide service organization is ready to provide any necessary spare parts at short notice. Our service technicians can help you rectify problems on site, thus reducing unscheduled downtime to a minimum.

SPX offers a number of service agreement options, depending on your individual needs, and our service engineers are always available to provide application and development support.



SPX innovation center in Soeborg, Denmark



**SPX FLOW TECHNOLOGY**

Getzville, NY 14068, USA  
P: +1 716 692 3000  
E: [ft.getzville.sales@spx.com](mailto:ft.getzville.sales@spx.com)

**SPX FLOW TECHNOLOGY DO BRASIL**

Fillal - Gerstenberg Schröder Brasil Ltda.  
Sao Paulo, Brazil  
P: +55 11 3819 3100  
E: [gs.br.sales@spx.com](mailto:gs.br.sales@spx.com)

**SPX FLOW TECHNOLOGY CHINA**

Beijing, China  
P: +86 10 5926 7296

## About SPX

Based in Charlotte, North Carolina, SPX Corporation (NYSE: SPW) is a global Fortune 500 multi-industry manufacturing leader.

For more information, please visit [www.spx.com](http://www.spx.com)

**SPX FLOW TECHNOLOGY COPENHAGEN A/S**

Oestmarken 7  
2860 Soeborg  
Denmark  
P: +45 7027 8222  
F: +45 7027 8223  
E: [gs.dk.sales@spx.com](mailto:gs.dk.sales@spx.com)

**SPX FLOW TECHNOLOGY HANSE GMBH**

Bernsteindreherweg 7  
23556 Lübeck  
Germany  
P: +49 451 37 09 0  
F: +49 451 37 09 200  
E: [gs.de.sales@spx.com](mailto:gs.de.sales@spx.com)

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