



**SPX**®

**WC**

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OVERVIEW BROCHURE

# High-Performance Separation Technology



**Seital™ Separation Technology**

## ABOUT SPX

SPX is a global, Fortune 500 company, headquartered in Charlotte, North Carolina, USA and provides innovative solutions to improve operational efficiencies and quality over a wide range of processes and industries. It has a well-established global reach and a particularly strong presence in the food, beverage and dairy industries as well as among others, oil and fats, pharmaceutical and biotechnology.

## Global Presence and Expertise

Founded in 1983 in Santorso, Italy, Seital quickly grew to become a world-leading supplier of high-performance separators, clarifiers and other processing components for a wide variety of industries including dairy, food, beverage, pharmaceuticals and chemicals.

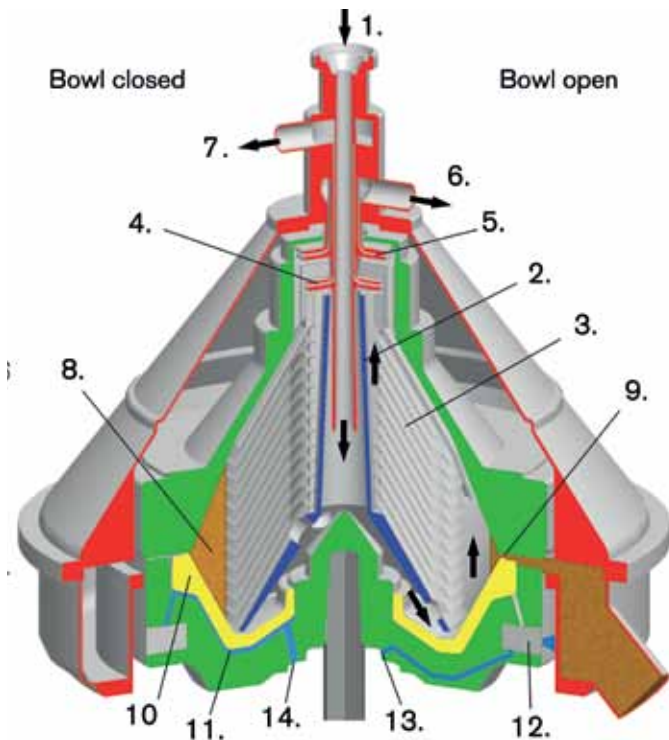
In 2012 the business was acquired by SPX Corporation and became part of the Flow Technology segment. Now a product range within the SPX portfolio, Seital Separation Technology leverages the breadth and established global reach of SPX to offer customers across 80 countries the latest separation technology with innovative research and development, all-round service and support, and knowledge sharing.



### SEITAL VERTICAL DISK STACK CENTRIFUGES

SPX supplies separators and clarifiers based on advanced disk stack design and high mechanical efficiency. Seital equipment offers a high level of performance in a wide range of processing industry applications, in particular in the food and beverage industries. Typical applications include:

- Clarification of liquids
- Separation of liquids
- Dewatering of suspensions and biomasses
- Recovery of solids
- Extraction of valuable products



1. Product inlet
2. Distributor
3. Disk stack
4. Light phase centripetal pump
5. Heavy phase centripetal pump
6. Heavy phase outlet
7. Light phase outlet
8. Solids/impurities
9. Discharge holes
10. Moving ram
11. Water closing chamber
12. Bowl valve
13. Operating water inlet for bowl opening
14. Operating water inlet for bowl closing

## World-Class Performance and Efficiency

Mechanical separation and clarification of liquids requires efficient and effective removal of suspended solids of various types and sizes combined with gentle treatment to preserve the quality of the end product. The most widely used method is centrifugation using a vertical disk stack – a technology that presents significant challenges in disk stack design in order to optimize separation with minimum product impact, while ensuring energy efficiency, operational reliability and a high level of safety.



Available in hermetic, hygienic, gas-tight, and explosion-proof designs in high-grade, corrosion-resistant stainless-steel materials, Seital series disk centrifuges ensure gentle and cost-efficient separation of liquids and suspended solids together with high reliability and safety.

SPX offers solids-retaining separators and clarifiers with hydraulic capacities from 500 to 10,000 l/h, and self-cleaning (solids-ejecting) separators and clarifiers with hydraulic capacities from 1,000 to 70,000 l/h. All feature Clean In Place (CIP) to ensure high sanitary levels with minimum downtime.

### SEVEN GOOD REASONS TO CHOOSE SPX SEPARATORS:

- **Short installation time** – mounted on a compact pre-assembled skid with no need for a concrete foundation, electrical or hydraulic work
- **High performance** – innovative design developed using advanced software modeling tools enabling precise mechanical and hydraulic analysis
- **High product quality** – hermetic design with mechanical seals for low risk of oxidation keeping oxygen pick-up and CO<sub>2</sub> losses at minimal levels
- **High uptime** – real-time operational diagnostics via remote monitoring allowing functionality check by technical office
- **Effective process control** – customization of user-friendly and automatic regulation processes
- **Lower maintenance requirement** – improved mechanical parts reliability via high dynamic stability
- **Lower investment requirement** – wide range of models and options enable customization to customer needs

## APPLICATIONS

Seital series vertical disk stack centrifuges are fast and accurate, providing the assurance of reliable and repeatable performance with exceptionally high concentrations and clarities.

Short CIP times increase productivity while ensuring the highest sanitary conditions. State-of-the-art design and an intuitive operator interface make Seital series centrifuges easy to regulate and adjust to ensure precise and repeatable product characteristics.

By partnering with SPX, you can achieve improved performance efficiency, exceptional lifetime value in terms of initial investment, operational performance and ongoing service and reduced maintenance costs.



**Industrial – Separator for polymer/monomer separation**

## CUSTOMIZED SOLUTIONS

SPX specializes in supplying equipment that is configured to specific application requirements based on careful needs analysis together with our customers. Seital series separators and clarifiers are delivered on a compact, pre-assembled skid as "plug & produce" solutions. They are exceptionally efficient, compact and easy to fit into existing processing lines, thus enabling you to produce at full capacity immediately after connecting to power and water utilities.

We also offer a wide range of separation process accessories enabling you to meet your separation and clarification needs from a single supplier.



**Dairy  
- Milk Separator with automatic milk  
and cream standardization system**



**Alcoholic beverage - Juice wine and  
sparkling wine clarifier**



**Biotech – Clarifier for lactic acid  
bacteria recovery**





# Applications

## DAIRY

- Milk and whey skimming and clarification
- Automatic and manual standardization
- Milk and whey bacteria clarification
- Cold milk skimming
- Cream concentration
- Butter oil production



## FATS & OILS

- Oil refining
- Biofuels production
- Corn oil recovery



## ALCOHOLIC BEVERAGES

- Clarification of must, wine and sparkling wines
- Clarification of wort and beer

## NON-ALCOHOLIC BEVERAGES

- Clarification of apple, citrus and exotic juices
- Tea clarification
- Coffee clarification
- Soft drinks clarification
- Concentration/purification of essential oils



## PHARMA & BIOTECH

- Concentration of biomasses
- Clarification of fermentation broth



## CHEMICAL/INDUSTRIAL

- Polymer-monomer separation
- Recovery and washing of catalysts
- Purification of lube, hydro and waste oils, diesel and fuels
- Treatment of washing baths, coolant emulsions
- Recovery of valuable substances



# Quality and Safety

SPX manufactures all performance-critical components including machining the bowls and parts that define separation efficiency, quality and safety at its facility in Santorso. All components are manufactured according to internal fabrication standards, many of which exceed those laid down by code requirements for non-destructive testing.

## MATERIALS

Centrifuge components are precision-made using the highest quality stainless steel, special alloys, titanium and other high-grade materials. Our engineering specialists at our Santorso factory possess a complete range of design, manufacturing and assembly expertise.

## QUALITY STANDARDS

All SPX vertical disk stack centrifuges are designed and manufactured according to the CE Directive on machinery 2006/42/CE and its amendments. Main materials and components are sourced from certified ISO 9001 suppliers.

### OTHER SPECIFIC STANDARDS ARE:

- **ATEX:** Ex-proof separators
- **3-A:** Sanitary Standards for centrifugal separators and clarifiers, number 21-00
- **NEC (NFPA 70):** UL 50, UL 508, UL 508A, directive UL/CSA

## EFFICIENCY AND SAFETY

SPX employs a detailed manufacturing and inspection plan for critical manufacturing phases, using a specific dynamic rotor balancing procedure. Testing includes 3D measurement, dye penetrant, ultrasonics and hydraulic test as well as destructive testing, X-ray and metallographic tests. Component stress and strain analysis is performed using advanced Finite Elements Method Analysis software while efficiency testing is conducted using CFD (Computational Fluid Dynamics).



# Innovation and Customer service

Our goal is to help our customers realize the opportunities available in order to quickly meet changing customer demands, improve quality and increase process efficiencies in a competitive market environment.

## RESEARCH AND DEVELOPMENT

Like other SPX brands, Seital maintains a robust research and development program for new product development, working closely with customers to understand and address the challenges they face.

### OUR R&D SEEKS TO MEET THREE TYPICAL NEEDS:

- Extension of the product range with new sizes
- Development of new process applications based on new bowl designs
- Development of new mechanical solutions in order to achieve better power efficiencies and lower maintenance costs

SPX combines its vast experience in the food, beverage, fats and oils, chemical, biotec and pharmaceutical industries with in-depth understanding of separation and clarification process requirements to deliver clear customer benefits in performance and total cost of ownership.

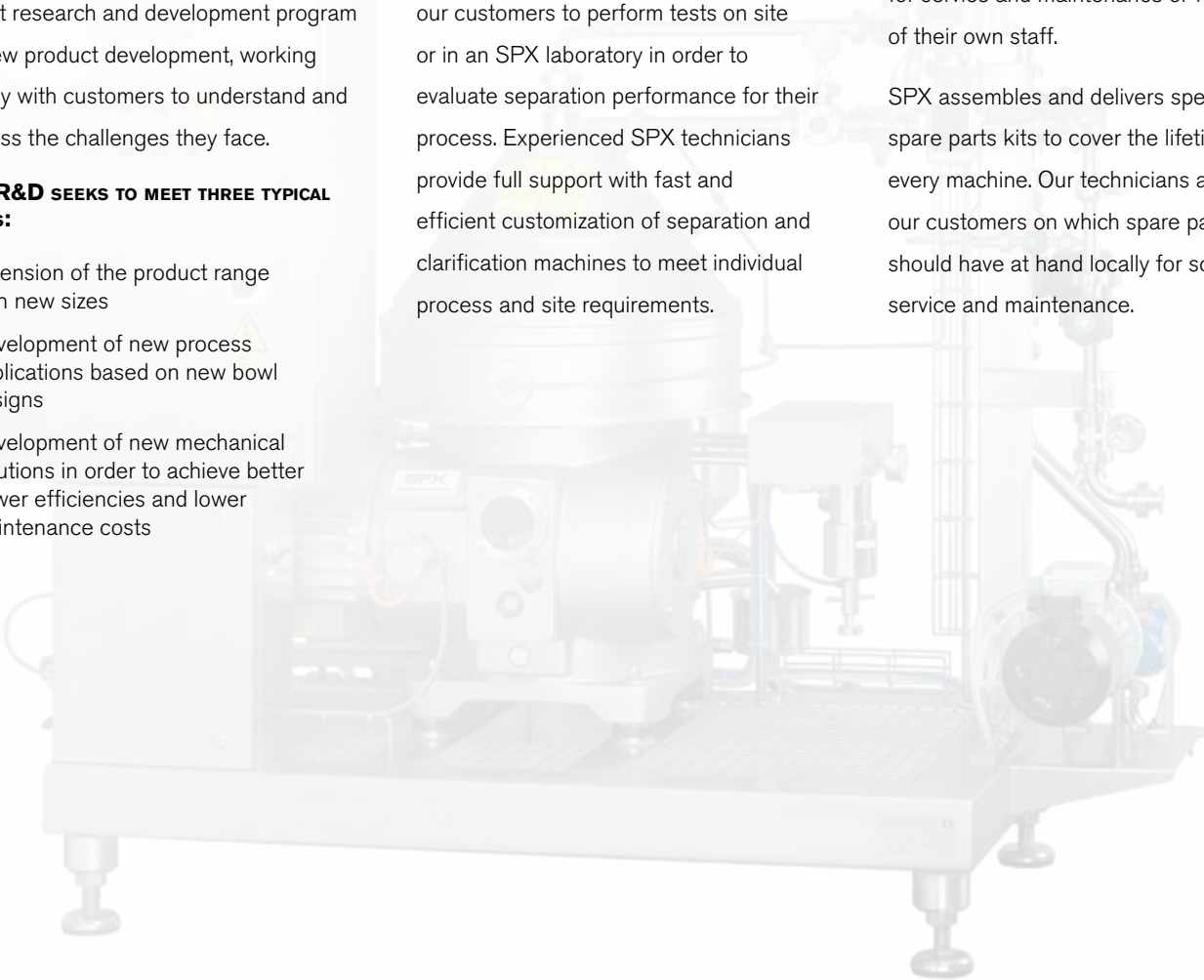
## PILOT PLANT

We provide pilot plant equipment for our customers to perform tests on site or in an SPX laboratory in order to evaluate separation performance for their process. Experienced SPX technicians provide full support with fast and efficient customization of separation and clarification machines to meet individual process and site requirements.

## CUSTOMER SERVICE AND TRAINING

SPX supports customers over the entire lifetime of their machines to help them maximize the value of their equipment in terms of performance and running time by making sure that service and maintenance take place according to plan. Customers can call on the support of our technicians wherever and whenever necessary, either for service and maintenance or for training of their own staff.

SPX assembles and delivers special spare parts kits to cover the lifetime of every machine. Our technicians advise our customers on which spare parts they should have at hand locally for scheduled service and maintenance.





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 SANTORSO S.R.L.**

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

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