



## Italian multinational increases production yield by €0.5m with a Russell Liquid Solid Separator™

Optimizing its pectin refinement process with a Russell Liquid Solid Separator allowed Silvateam S.p.A to achieve high-capacity separation of liquid solids as fine as 20 µm. The Russell Finex solution reduced waste, enabling Silvateam to increase its production yield.

## SILVATEAM

Food Ingredients



Italian multinational company, Silvateam S.p.A., is a producer of **natural plant-based extracts**. Silvateam's products are marketed in more than 60 countries worldwide and are used in a range of applications, including food and beverage production, animal health and leather tanning.

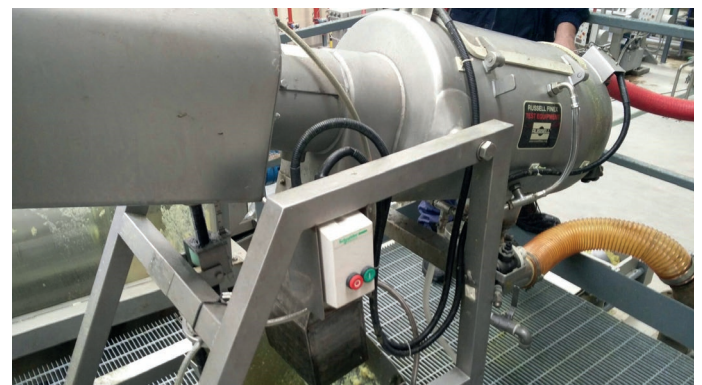
Silvateam produces pectin at its new factory in Rende, Italy. Extracted from the peel of limes, lemons and oranges, pectin is used as a gelling agent in jam, marmalade, jelly and other fruit-based foods. The production facility, which has an **annual capacity of 2000 tonnes**, operates around the clock.

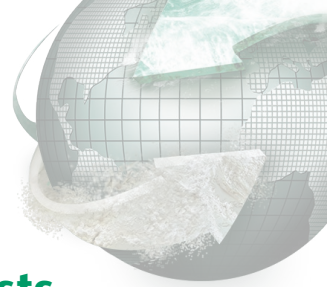
Silvateam employs a unique manufacturing process. The pectin is extracted from fresh citrus peel using hydrolysis. The resulting mash is filtered to separate protopectin - **a liquid solid** - from the peel residue. The syrup then goes through a secondary filtration process which refines the pectin before it is dried and blended.

Filtration is critical to Silvateam's production process. It can be difficult to separate liquid from solids and Silvateam recognized that the existing static sieve, used in its secondary filtration process, allowed some pectin to go to waste. Improving filtration would enable Silvateam to increase its production yield.

Silvateam conducted a review of liquid-solid separation technology, visiting tradeshow and speaking to many manufacturers about their experiences. The **Russell Liquid Solid Separator**, a centrifugal separator designed for separating liquids from solids, was identified as the go-to solution.

Russell Finex was happy to support Silvateam, loaning a Russell Liquid Solid Separator to the company for **evaluation in a live production environment**. Russell Finex also engaged with Silvateam's production team, providing expert advice to ensure that its solution was fully aligned to production needs.





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### Food Ingredients

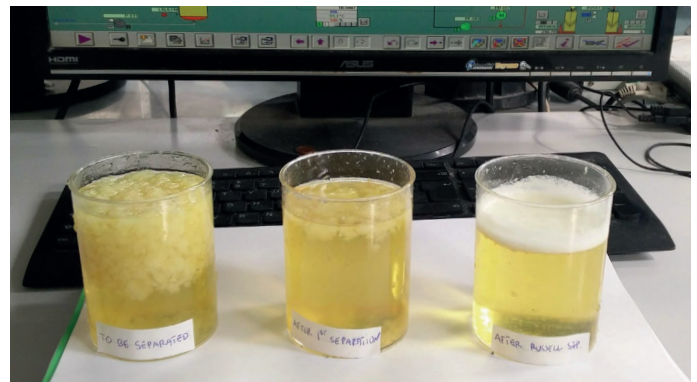
The multipurpose centrifugal separator, which is capable of filtering soft and fibrous oversized solids, was easily adapted to Silvateam's production process and to establish the optimal operating conditions, the Russell Liquid Solid Separator was tested with a variety of mesh sizes at different stages in the production process.

Describing the advantages of the Russell Finex solution, Silvateam's Manufacturing Manager, Fulvio Salvo, said, ***"Our old static sieve technology allowed some product to go to waste. Using the Russell Liquid Solid Separator, we were able to optimize the refinement process, reducing waste and increasing our production yield by 2%."***




Salvo added, ***"The support from Russell Finex was excellent. They loaned us an evaluation unit which we tested in a live production environment, running the separator with different mesh sizes and at different locations to establish the optimal operating conditions."***

Optimizing the filtration process had a measurable effect on production. The Russell Liquid Solid Separator's centrifugal action allowed the pectin producer to achieve **high-capacity separation of liquid solids** as fine as 20 µm (0.02mm), significantly reducing the volume of good product that was going to waste.

With less pectin going to waste, **Silvateam's production yield increased by 2%**. Although this may appear to be a marginal gain, it allowed Silvateam to increase its production capacity by 50 tonnes per annum or €0.5 million at wholesale pricing.



As well as increasing Silvateam's production yield, the Russell Liquid Solid Separator proved easy to work with. Unlike static filters that require periodic cleaning, the Russell Liquid Solid Separator has an integrated spray bar that allows its mesh filters to be backflushed during the production process, reducing downtime and enabling non-stop production.

-  **Increase yields** - minimize volume of good product going to waste.
-  **Enhance productivity** - Handles liquid slurry flow rates of up to 100,000 litres per hour.
-  **Simplify process** - Integrated spraybar allows filters to be cleaned in situ.

**Established in 1934, Russell Finex designs and builds separation machines for an international market and supplies to over 140 countries. With its head office in the U.K. and subsidiaries in Belgium, the U.S.A, India and China, the company has a truly global presence, enabling a comprehensive approach to customer service and after sales support.**