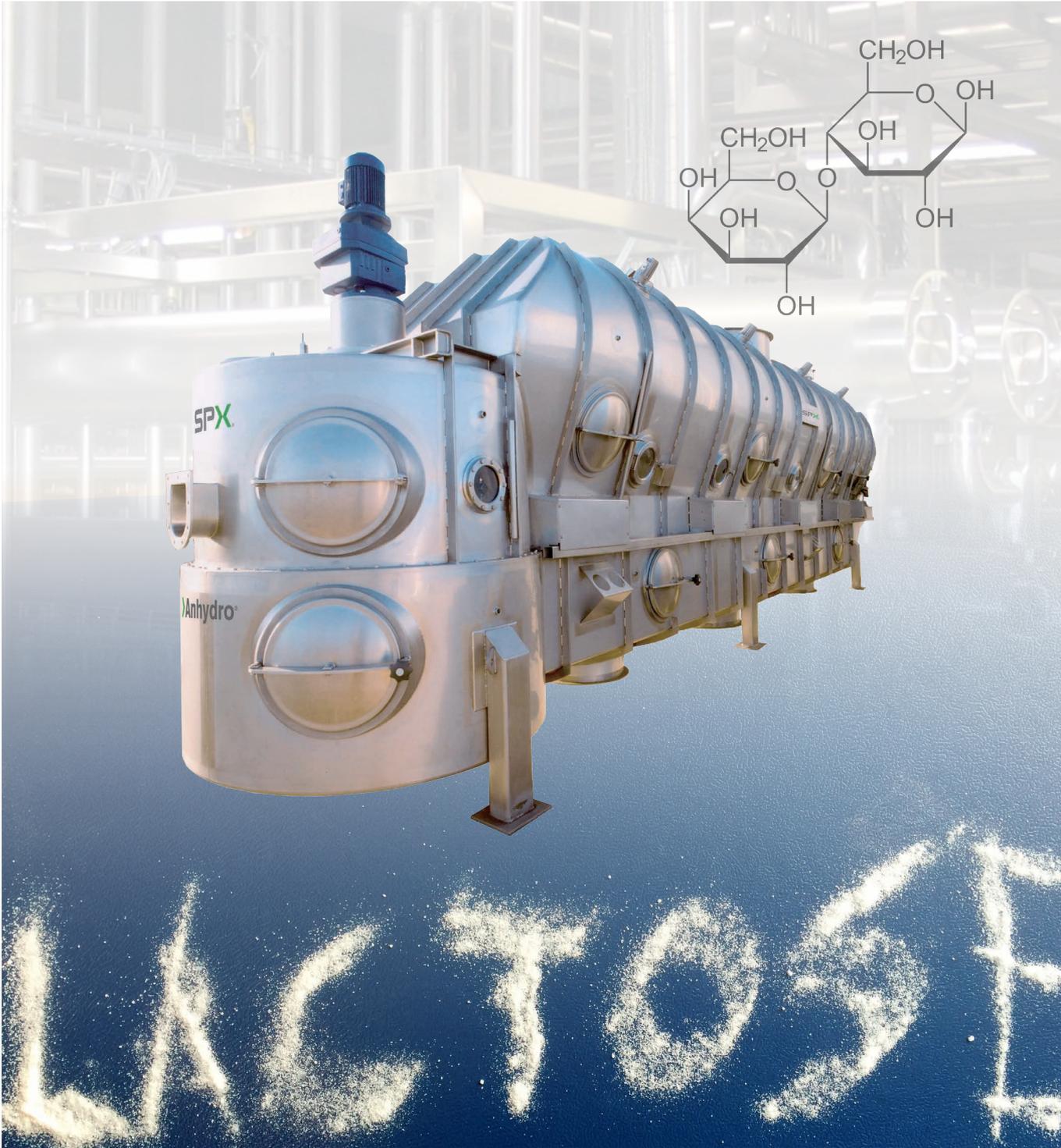


High Yield Lactose

Increase your profits and reduce waste





Turning by-products into profits

Whey has evolved from being a waste by-product of the cheese making process to being used as the base for valuable nutritional ingredients found in many consumer products. And lactose is one of the most versatile whey derivatives.

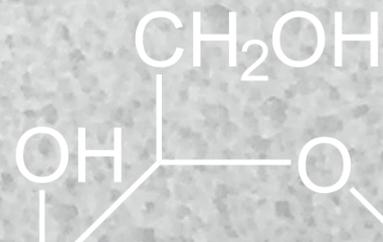
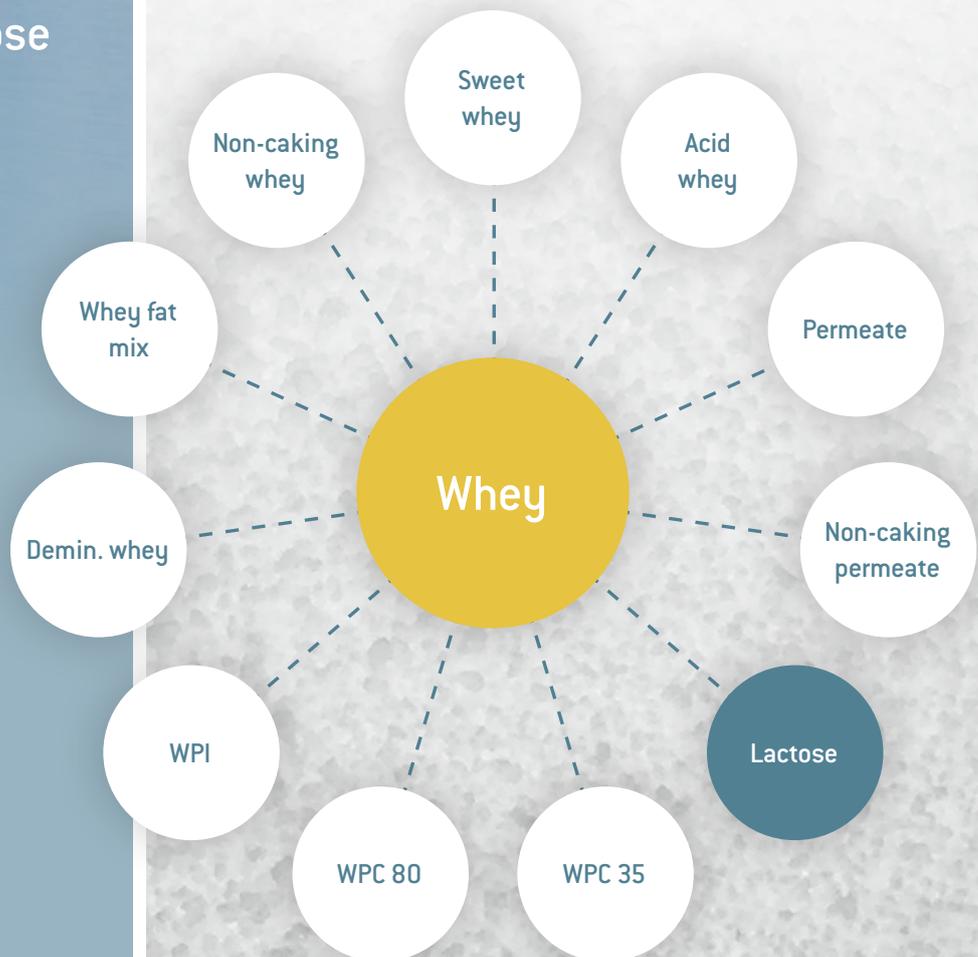
SPX FLOW offers a unique High Yield Lactose processing system, based on a patent pending process. This exclusive system design can increase your lactose powder output by 25% compared to standard processing systems while at the same time reduces your Effluent Treatment Plant (ETP) load.

It's a win-win solution for lactose manufacturers – like you.

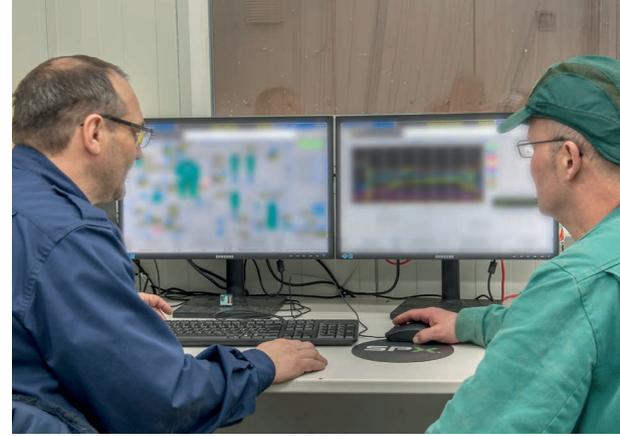
Increase your lactose output by 25%

Applications

- Infant formula
- Geriatric foods
- Functional foods
- Confectionary
- Bakery
- Dairy
- Beer
- Soups/sauces
- Instant drinks
- Jams, marmalades
- Mayonnaise
- Mustard
- Meats
- Fruit juices



SPX FLOW's High Yield Lactose Process



Food Safety

- Hygienic process
- Easy to clean
- Mix proof valves
- Optimum heat treatment for evaporator

Product Consistency and Quality

- Batch control
- Integration with factory MES

Plant Safety

- Hazop
- Explosion protection
- CE Marking

Sustainable Environment

- Minimized water consumption
- Reduced energy consumption
- Reduced emissions

Reduced Operating Costs

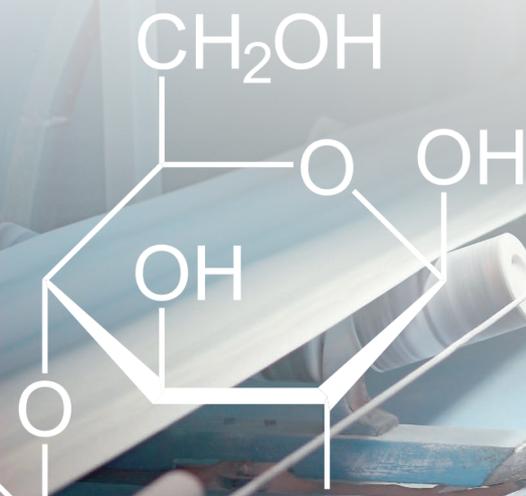
- Energy recovery (wet process, HHT and dryer)
- Low energy solutions
- Max run time, minimum CIP
- Minimum product loss

Process Excellence

Your benefits

- Proven performance – safe and efficient process
- Sustainability – energy is recovered whenever possible
- Flexibility – scalable plant for future expansion
- 25% higher yield

Get the most from your lactose processing line

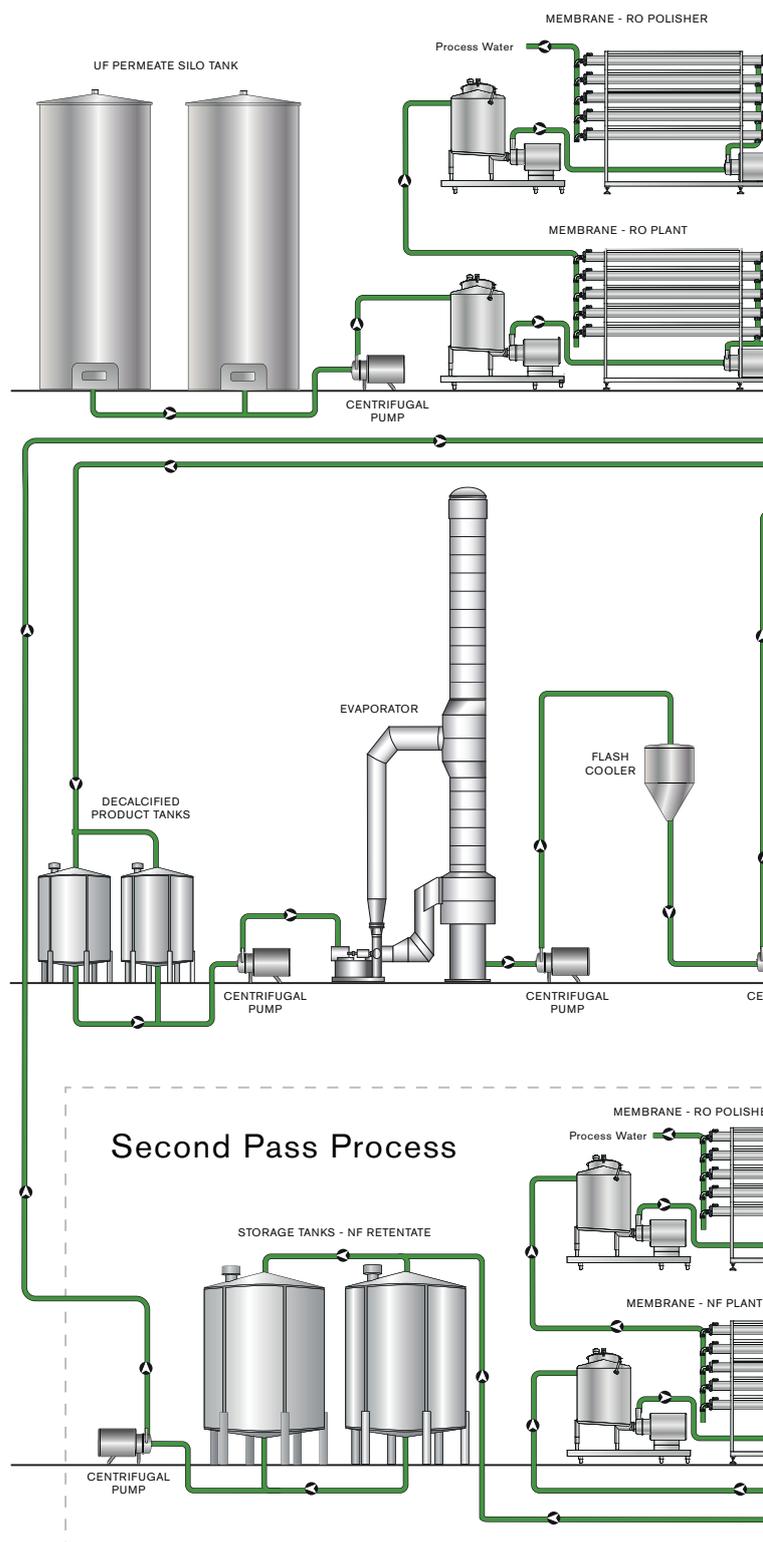


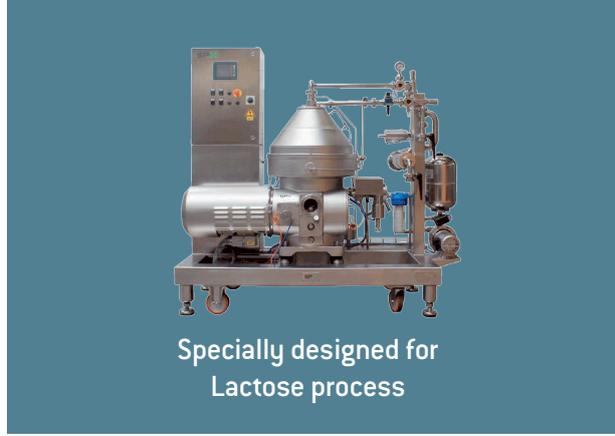
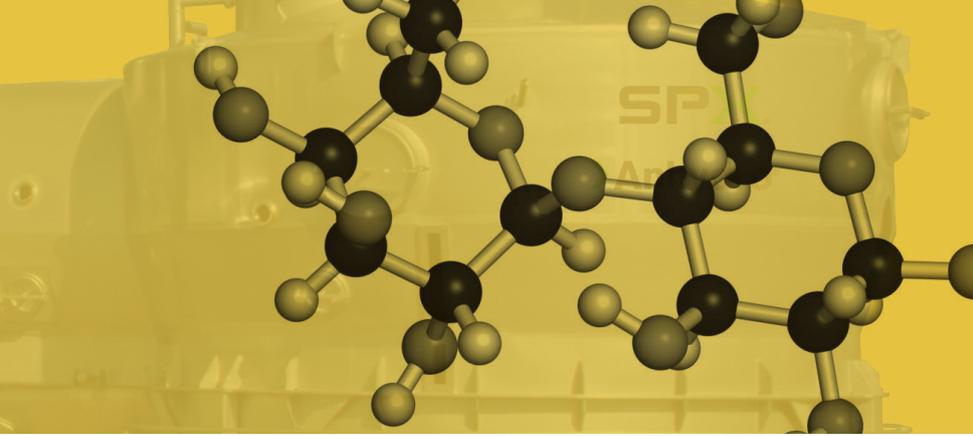


The process

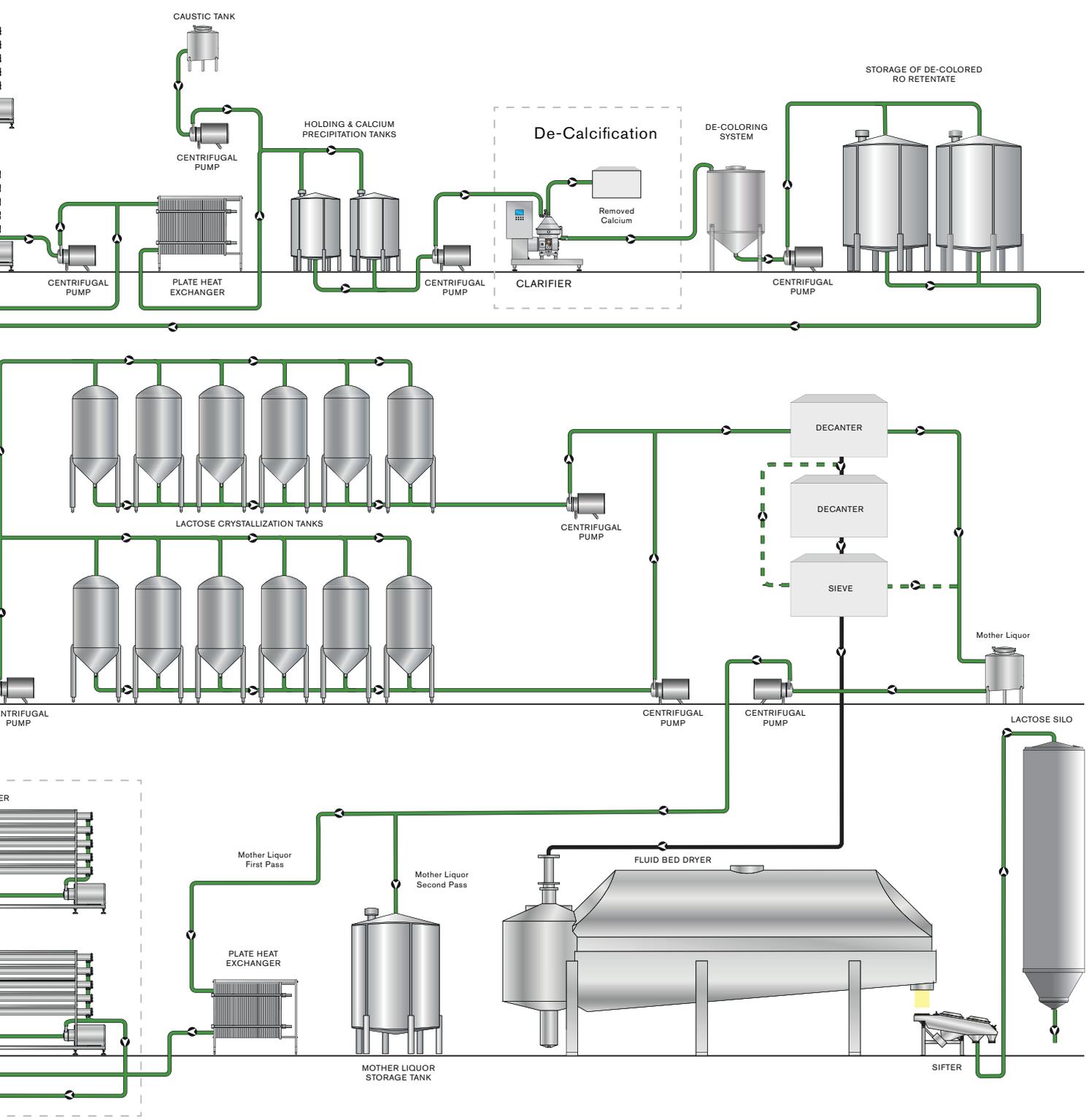
1. The lactose is extracted from permeate from a **UF-plant** with WPC80.
2. The incoming permeate is concentrated in a **RO plant**.
3. After concentration, the permeate is **de-colored** and treated in a **calcium removal process**.
4. After color and calcium are removed, the permeate is **concentrated in a MVR/TVR evaporator** and transferred to the **crystallization tanks**.
5. After crystallization, **the lactose crystals are separated from the mother liquor** in three separation and washing steps.
6. The lactose crystals are finally **dried in the fluid bed** and the mother liquor is collected in a tank for processing in a second pass.
7. The mother liquor from the first pass is purified and then processed using the same equipment.

This two-pass process retains most of the lactose that is lost in the mother liquor using traditional processing methods.





Specially designed for Lactose process



Achieve optimum food safety with sanitary designs

Food safety means being in control of all production parameters, at all times.

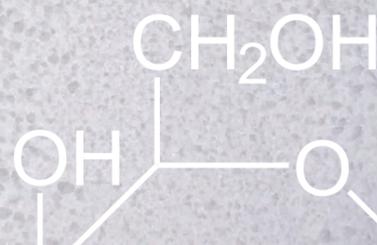
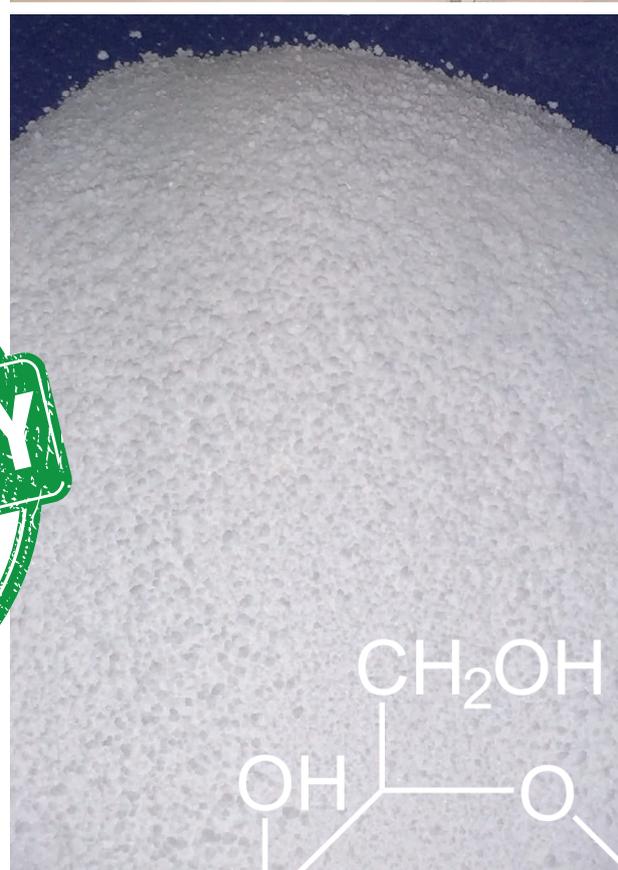
You can maintain the highest standards of safety in your process with our sanitary designs. Our equipment follows the SPX FLOW Sanitary code which is updated on an ongoing basis and is based on our company's official standards that have been established over the past 50 years. And we comply with regulatory codes issued by organizations all over the world such as 3A Standard (USA), IDF and the EU Hygiene and Foodstuffs Directive (93/43/EEC).

Sanitation is simplified because our drying plants are designed with smooth surfaces to avoid hollow spaces. In addition, they are equipped with CIP capabilities where needed. The bag filter allows for wet cleaning, which ensures proper cleaning of the bags and housing.

You can be confident that your SPX FLOW system will deliver the highest level of hygiene.

Food safety starts with effective workplace safety. Our systems are designed with many features meant to protect plant personnel and minimize damage to equipment should a malfunction occur. Protect your plant further with optional fire extinguishing systems, rupture discs and venting ducts, suppression bottles and CO detection systems.

Keeping your people and your plant safe is our top priority.





Decisions based on science

SPX FLOW continues to innovate to help our customers meet the changing needs of consumers and retailers.

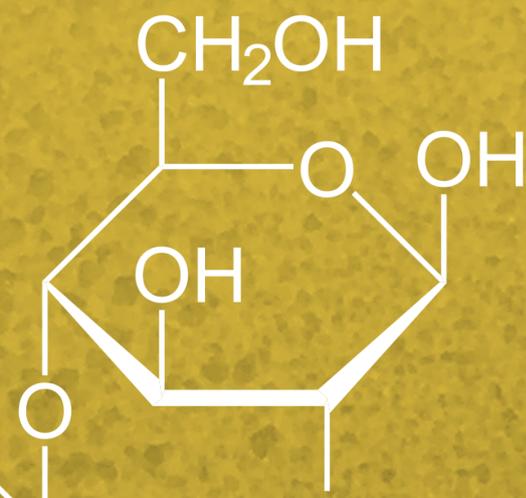
Our global innovation centers offer testing of wet and dry processes. Additionally, our in-house computational fluid dynamics facility uses sophisticated algorithms to simulate and test drying parameters. This cutting edge technology gives our specialists complete control of the testing process allowing for a higher degree of data gathering accuracy to formulate the most optimum system design for your product.

Take advantage of our ...

- Extensive experience with projects worldwide
- Theoretical expertise and modeling tools
- Latest know-how on High Yield Lactose Processing
- Insights into the crystallization process
- Customized in-house engineering design tools

Together - we'll discover the best process for your product.

Put our knowledge and expertise to the test with your next project.





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

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