

NOVASEP PROCESS SAS

Foundation

- 1995

Turnover

- €266m

Employees

- 1,100

Branches

- Purification processes and equipment

Key technologies

- Chromatography
- Ion exchange and adsorption
- Tangential filtration
- Electrodialysis
- Evaporation

Key services

- Process development from R&D to pilot studies and sample production
- Process engineering
- Project management
- Sourcing and plant building
- Process commissioning and operator training
- Audit and process improvements services
- Customer service



Pilot hall in Shanghai



Industrial chromatography plant



Novasep, your purification expert

Novasep is an engineering company specialized in liquid phase separation and purification. We conceive, develop and industrialize processes using technologies such as industrial chromatography, ion exchange, adsorption, tangential filtration, electrodialysis, and evaporation...

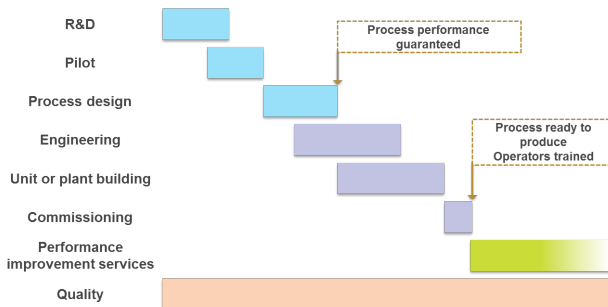
Applications in the bio-based chemicals industry

Novasep has developed purification process solutions for a wide range of bio-based chemicals.

ORGANIC ACIDS	SUGARS	GLYCOLS	OTHERS
<ul style="list-style-type: none"> ■ Citric acid ■ Glucaric acid ■ Gluconic acid ■ Itaconic acid ■ Lactic acid ■ Succinic acid 	<ul style="list-style-type: none"> ■ Arabinose ■ Fructose ■ Galactose ■ Glucose ■ Mannose ■ Xylose ■ Oligosaccharides 	<ul style="list-style-type: none"> ■ MEG & DEG ■ PG ■ 1,3-PDO ■ 1,4-BDO ■ Glycerol ■ Sorbitol derivatives 	<ul style="list-style-type: none"> ■ Copy list ■ Lignin ■ HMF ■ Furfural ■ Anti-oxidants

From R&D to plant start-up: your project is in good hands

With a 40-year history of delivering high performance operating units and complete process lines, we have developed a smart and optimized project management methodology.



Novasep has unique process development capabilities with 50 pilot units available and development teams in France, China and in the US. We provide process development services to find the most efficient solutions to your purification challenges.

We fully support our customers for the building of their industrial purification units: detailed engineering, professional project managers dedicated to your project, supply chain experts for equipment sourcing, experienced commissioning engineers to fine-tune the process parameters on site and train operators. Our strict quality management procedures ensures that we deliver high-quality solutions.

NOVASEP PROCESS SAS

Contact

Novasep Process SAS
5 chemin du Pilon
Saint Maurice de Beynost
1708 MIRIBEL CEDEX
FRANCE
www.novasep.com

Contact person

Didier CAIRE
VP EMEA Industrial Biotech
Phone: +33 (0)4 72 01 27 04
didier.caire@novasep.com



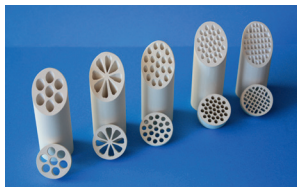
Applexion® Ion Exchange unit



Applexion® SSMB chromatography



Kerasep filtration unit



Kerasep membrane range



Novasep's technologies

Novasep has a unique portfolio of purification technologies: chromatography, ion exchange, adsorption, tangential filtration, electrodialysis, and evaporation... We rely on our know-how in selecting and combining these technologies along with our strong process development skills to provide you with optimized purification processes. Main unit operations for downstream processing include:

Demineralization and Salt Conversion by Continuous Ion Exchange

Versatile Applexion® Continuous Ion Exchange technology provides an optimal solution for demineralization and salt conversion, with benefits to processors that include:

- Low consumption of chemicals
- Low consumption of water

Applications include:

- Organic acids (Gluconic acid, Lactic acid, Succinic acid ...)
- L-Lysine
- Antibiotics
- Vitamins
- Mono Ethylene Glycol
- Glycols (1,4 butanediol, 1,3 propanediol)

Separation by Chromatography

Applexion® SSMB chromatography will bring you a cost-effective industrial solution to challenges like fraction separation. Benefits include:

- High purity fractions
- Low water usage
- No chemical consumption
- Operate with water or organic solvents as eluents

Applications include:

- Organic acids purification
- Sugars separation (Xylose / Arabinose / Galactose, Glucose / Mannose, Monomers / Oligomers separation)
- Product recovery in mother liquors (Citric acid, Threonine ...)

Clarification by Ceramic Membrane Filtration

Kerasep® membranes will provide you with a long-standing and robust installation for clarification and concentration processes. Benefits of these processes include:

- Wide range of cut-offs
- 24/7 operation
- Inline CIP/SIP
- Up to a 6-year guarantee

Applications include:

- Organic acids
- Antibiotics
- Amino acids
- Enzymes