GEA Westfalia Separator soline®
Advanced soymilk processing
Invest in Innovation

Tapping the full potential of soymilk – GEA Westfalia Separator has redefined the process of soymilk recovery: GEA Westfalia Separator so line® gives the product a new competitive edge.

Soy milk is enjoyed all over the world: unsweetened or sweetened, plain flavoured or enriched, fruity or with a beany, sour taste. In some countries soymilk is a traditional everyday drink, in others a trendy health drink following in the steps of functional foods. Soy drinks are exceptionally rich in protein, free from lactose and cholesterol and are a valuable alternative for people who follow a healthy diet. It is used to enrich fruit juices and, vice versa, it is itself enriched with fruit juice. The demand for soymilk with different flavours and nutritional compositions is growing world-wide!

Gentle product treatment is opening up new markets

Soy milk contains up to 3 – 4 percent protein and all essential amino acids for the human metabolism. It is rich in unsaturated fatty acids and phytochemicals. The ideal composition of these vital resources, their miscibility and enormous variability in taste and ingredients, have made soymilk a sought-after beverage.

Beverage manufacturers who want a slice of this growth market must be capable of optimally serving the diverse and constantly changing expectations of their consumers. To achieve this, they must be able to produce the soymilk gently, flexibly and economically. so line® – the new process technology from GEA Westfalia Separator Group – is precisely designed to achieve this objective.

Proven innovative strength

GEA Westfalia Separator Group has proved its innovative strength in more than 3000 processes. so line® builds on this strength to provide complete process lines for the innovative production of soymilk. Soymilk producers throughout the world benefit from these innovations in terms of improved product quality and increased yield.
A Completely New Soymilk Process: GEA Westfalia Separator soline®

A one-stop-shop for your success

Soymilk and the continuous improvement of its production go hand in hand.

As a partner to soymilk producers, and backed up by world-wide experience, GEA Westfalia Separator Group has fundamentally improved the soymilk production process.

The decisive innovation: cold extraction
Consistent cold-milling using a new technology, for which a patent application has been filed, substantially enhances the overall product quality. At the same time, maximum extraction of the protein is achieved, thereby assuring high economy.

Maximizing product yield – minimizing costs
As a member of the global GEA Group, one of the leading suppliers in process technology for the food industry, GEA Westfalia Separator Group has expanded this core competence with excellent results. soline® is GEA Westfalia Separator Group’s process for soymilk production.

The distinctive features of these process lines are the seamless integration and measurable increase in efficiency in all process stages. All processes are optimally harmonized from the preparation of the soybean through to extraction and formulation, and the homogenisation and pasteurisation of the soymilk.

Consulting all-inclusive
soline® not only sets new standards in the production of soymilk, it also requires fewer interfaces, provides maximum raw material yield, shows a measurable reduction in energy and water costs, benefits from very low maintenance, and offers comprehensive consulting – all from a single source.

A new approach right along the line with optimum process improvement – that is the new soymilk treatment concept: GEA Westfalia Separator soline®!
Soymilk production with Soline®
Beany or Non-Beany – Technology Makes the Difference

Enzymatic adjustment – the flexibility of GEA Westfalia Separator soîne® technology makes it possible to produce a soymilk with “beany” or “non-beany” flavour.

The soîne® process minimizes lipoxydase activity. This in turn prevents oxidation of the unsaturated fatty acids inhibiting the undesirable formation of aromatic substances (beany). If a beany taste is desired, this can be produced by adjusting the corresponding process parameters in the extraction stage.

In this way, the diverse variety of flavours demanded by the world-wide markets can be achieved. The precise realisation of these variants is crucial for consumer acceptance and generating new earning potential.

Valuable substances are retained with this new technology and can be refined into diverse product and taste variants in the following process phase: the formulation stage.

GEA Westfalia Separator soîne® contributes:
- Boost the yield of native proteins
- The inactivation of the lipoxydases
- Dearomatization
- The separation of fine particle residues
- Fat separation by separators
Two Stars in Advanced Soymilk Processing: Separators and Decanters!

Separators and decanters from GEA Westfalia Separator have been used for decades in process lines for soymilk production.

Thanks to their high throughput capacities and maximum separating efficiency, they have proved a success in tough daily production conditions. The easily integrated decanters separate the soymilk from the solids (Okara) in the first clarification phase.

To optimize the yield, a second decanter recovers further valuable soymilk in the extraction stage. The result is that the investment is quickly repaid because of the additional saleable product.

Centrifugal clarifiers are used to separate fine particle residues. Separators make possible the defatting of soymilk.

Separators and decanters for soymilk recovery offer the following advantages:

- High separating efficiency
- High throughput capacities
- Reliable controllability
- Simple maintenance and repair
- Low energy consumption
- With decanters: high dry substance content in the solids (Okara)
Design Your Profit!

Consumer behaviour changes constantly. GEA Westfalia Separator soline® gives soymilk producers the flexibility to respond to these changes.

Product innovations and new taste experiences are expected and sought by consumers. In times of growing awareness for a healthy diet, products from gently produced soymilk are rapidly winning a larger share of the market. As fast-moving items, they are being given more shelf-space in supermarkets. Wellness products and functional foods, i.e. products that enhance the nutritional value through vitamins and other health promoting substances, are extremely popular. With the process lines from GEA Westfalia Separator Group, producers have the technology to adjust the product precisely.

Whether soy drinks in diverse flavours, pudding preparation or yoghurt, soline® gives producers the ability to individually create any flavour and any desired consistency.

Technologically harmonized process stations for the addition of vitamins, health promoting substances, fruits, flavours and other ingredients as well as efficient technologies for homogenisation and pasteurisation or UHT treatment provide safety at every stage.

GEA Westfalia Separator soline® supports the production of:

- Soy drinks and products with diverse flavours
- Tofu from soymilk with native proteins
- Acidulated soy products (yoghurts)
- Soft cheese
- Pudding

<table>
<thead>
<tr>
<th>Main position</th>
<th>Taste</th>
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<tbody>
<tr>
<td>Europe, USA, Canada and Australia</td>
<td>Milk alternative, Non-beany, sweetened (USA, Canada)</td>
</tr>
<tr>
<td>East Europe and Africa</td>
<td>Milk substitute, Non-beany; blends with milk</td>
</tr>
<tr>
<td>South and Central America (Iberia)</td>
<td>Soymilk and juice, Juice; flavoured</td>
</tr>
<tr>
<td>China/HK, Singapore, Malaysia, Thailand, Taiwan, (India)</td>
<td>Traditional drink, Beany, sweetened</td>
</tr>
<tr>
<td>Japan, Korea</td>
<td>Traditional drink, Non-beany, sweetened</td>
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Preferred product variants of the different markets
Your Partner for Reliability, Budget Control and Efficiency

serv&care is the GEA Westfalia Separator Group service philosophy reflecting your needs and covering all common activities from the Business Area Service International and all service organizations in the subsidiaries of GEA Westfalia Separator Group.
This service philosophy should be understood as the overall common service understanding, supporting the values, vision, mission and strategy of the GEA and the Business Unit GEA Mechanical Separation.

The name serv&care combines two aspects of the modern service world

“serv” stands for service, meaning concrete actions to help in any way to maintain your equipment. Whether it is for Spare Parts supply, assistance using our excellent Field Service Engineers or our factory authorized comprehensive repairs, all are covering your requirements. The main values of these services are speed and quality. Our worldwide service network serves as a basis to allow us to fulfill your requirement. GEA Westfalia Separator Group offers on-time delivery of spare parts through our logistic hubs, local stock levels and a global network of highly trained and experienced Field Service Engineers and also having the specialized machinery in our Authorized Workshops for comprehensive and safe repairs that only we can provide. “care” stands for the driving force of our service organization to be an innovative and reliable partner. Together with you we strive to find optimum solutions that fulfill and exceed your expectations. We are not only servicing the equipment, we offer solutions that satisfy the central task to increase the reliability of your equipment, operates efficient processes and ensure that you meet your own corporate mandates for total quality.

Our motivation is to supply complete and timely support that is “one step ahead” of your support requirements. “care-thinking” is the basis of our self-understanding as the market leader and being recognized as your first choice service provider.

Customer benefit orientated service product solutions from GEA Westfalia Separator Group

Your maintenance needs and requirements can be drawn together from our comprehensive service portfolio. Every individual service plays a vital role in securing the reliability, cost control and efficiency of your centrifugal equipment.

The serv&care service products

• Spare Parts – for protecting your investments
• Field Service – always nearby waiting to assist you, 24 hours a day, 365 days a year
• Repairs – care, precision and responsibility from the manufacturer
• Rental Bowls/Exchange Parts – keep downtimes to a minimum
• Upgrades/Modernization – latest design parts and components engineered specifically for your machine
• Condition Monitoring – reliable information for optimizing the installation availability and avoiding unscheduled downtime
• Service Level Agreements – service packages for higher availability together with full budget certainty
• Customer Training – modern training approaches with the aim of dealing with your own practical situations
• Factory Rebuilt Machines – used separators and decanters in First-Class quality
• Applied Consulting – optimizing and adjusting operations with the latest technical knowledge

More information:
www.westfalia-separator.com/service/original-manufacturer-service.html
We live our values.
Excellence • Passion • Integrity • Responsibility • GEA-versity

GEA Group is a global engineering company with multi-billion euro sales and operations in more than 50 countries. Founded in 1881, the company is one of the largest providers of innovative equipment and process technology. GEA Group is listed in the STOXX® Europe 600 Index.

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