

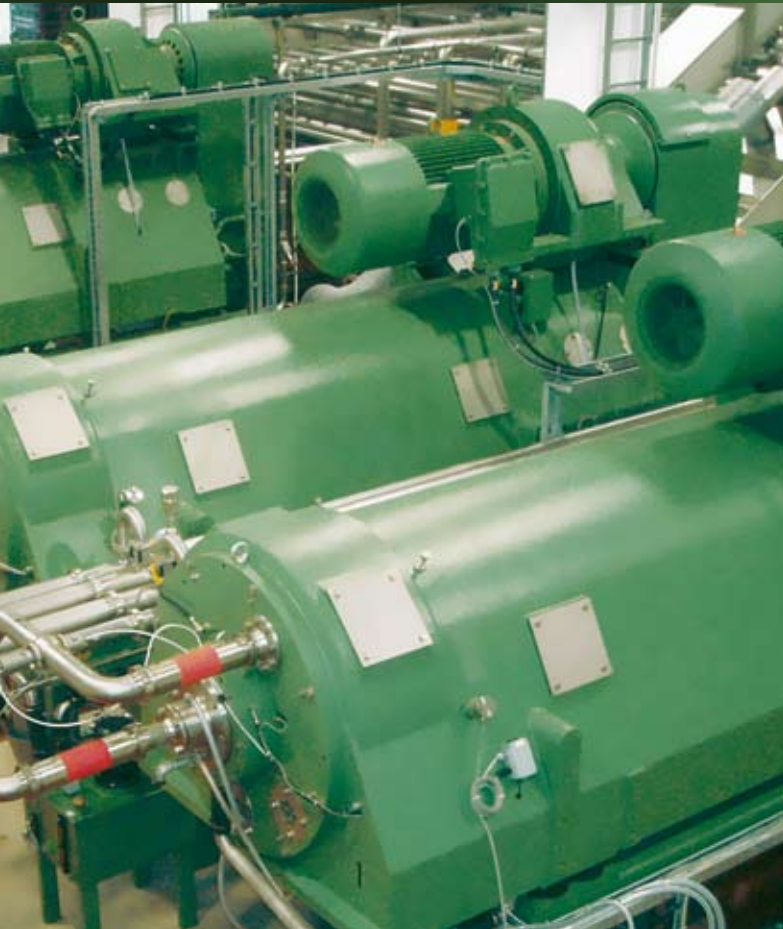
Liquids to Value



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: Westfalia Separator **soline** 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. Westfalia Separator **soline** – the new process technology from GEA Westfalia Separator – is precisely designed to achieve this objective.

Proven innovative strength

GEA Westfalia Separator has proved its innovative strength in more than 2500 processes. Westfalia Separator **soline** 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: 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 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.

Maximising product yield – minimising costs

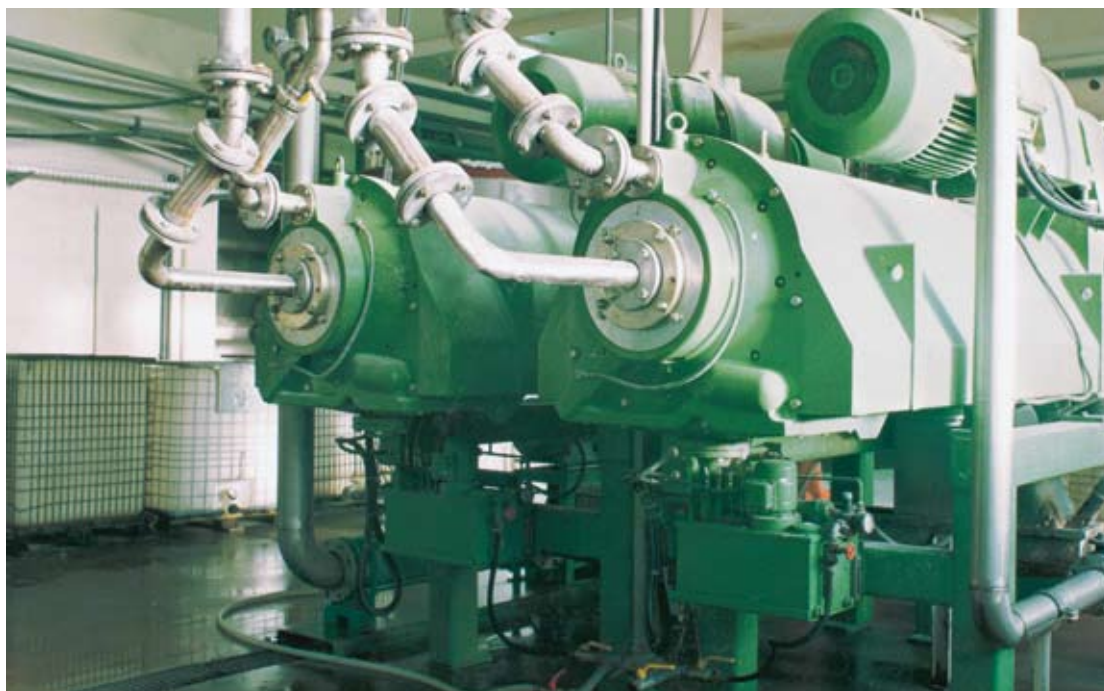
As a member of the global GEA Group, one of the leading suppliers in process technology for the food industry, GEA Westfalia Separator has expanded this core competence with excellent results. Westfalia Separator **soline** is GEA Westfalia Separator's process for soymilk production.

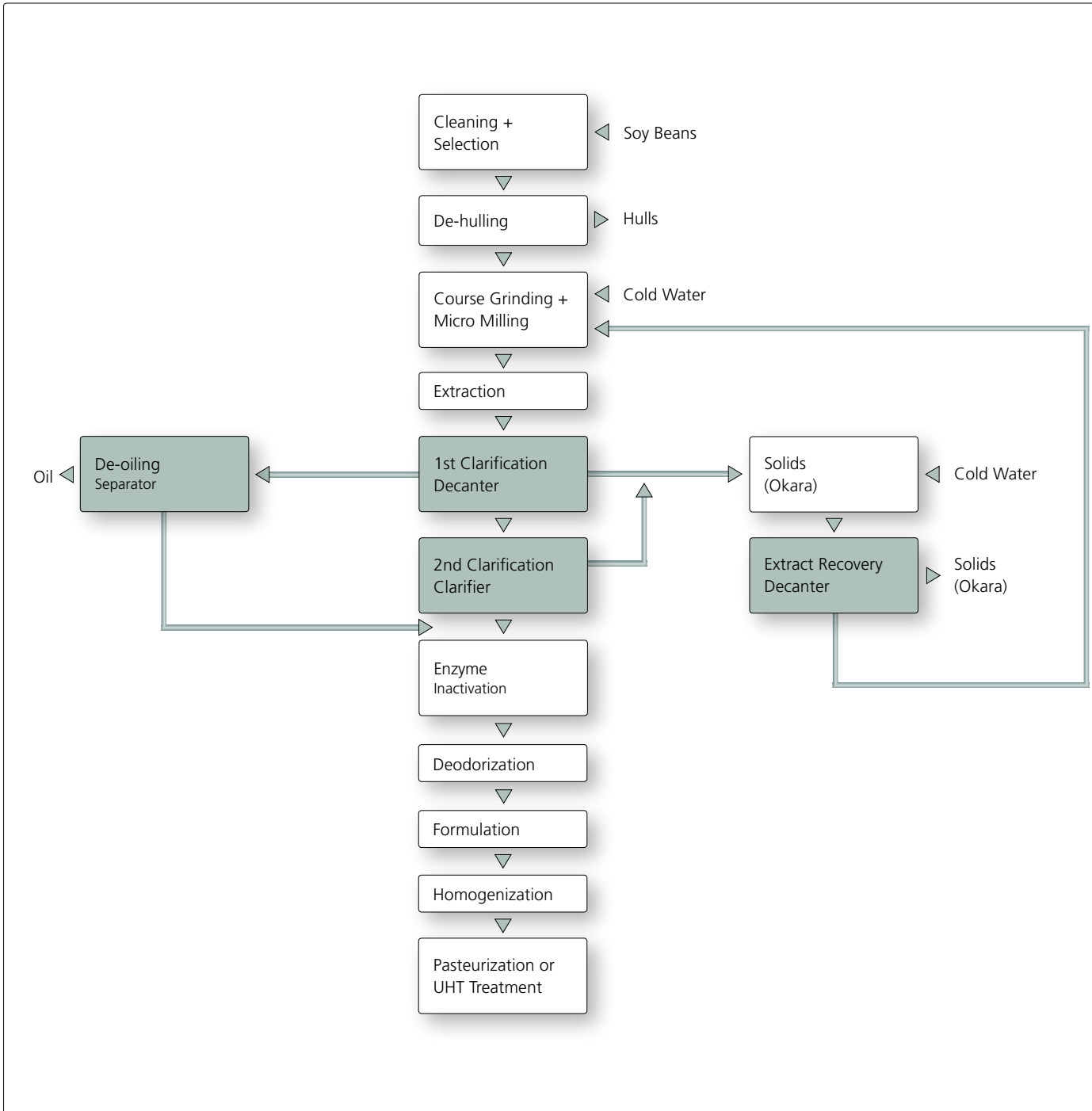
The distinctive features of these process lines are the seamless integration and measurable increase in efficiency in all process stages. All processes are optimally harmonised from the preparation of the soybean through to extraction and formulation, and the homogenisation and pasteurisation of the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

Consulting all-inclusive

Westfalia Separator **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: Westfalia Separator **soline**!





Soy milk production with Westfalia Separator **soline**

Beany or Non-Beany – Technology Makes the Difference

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

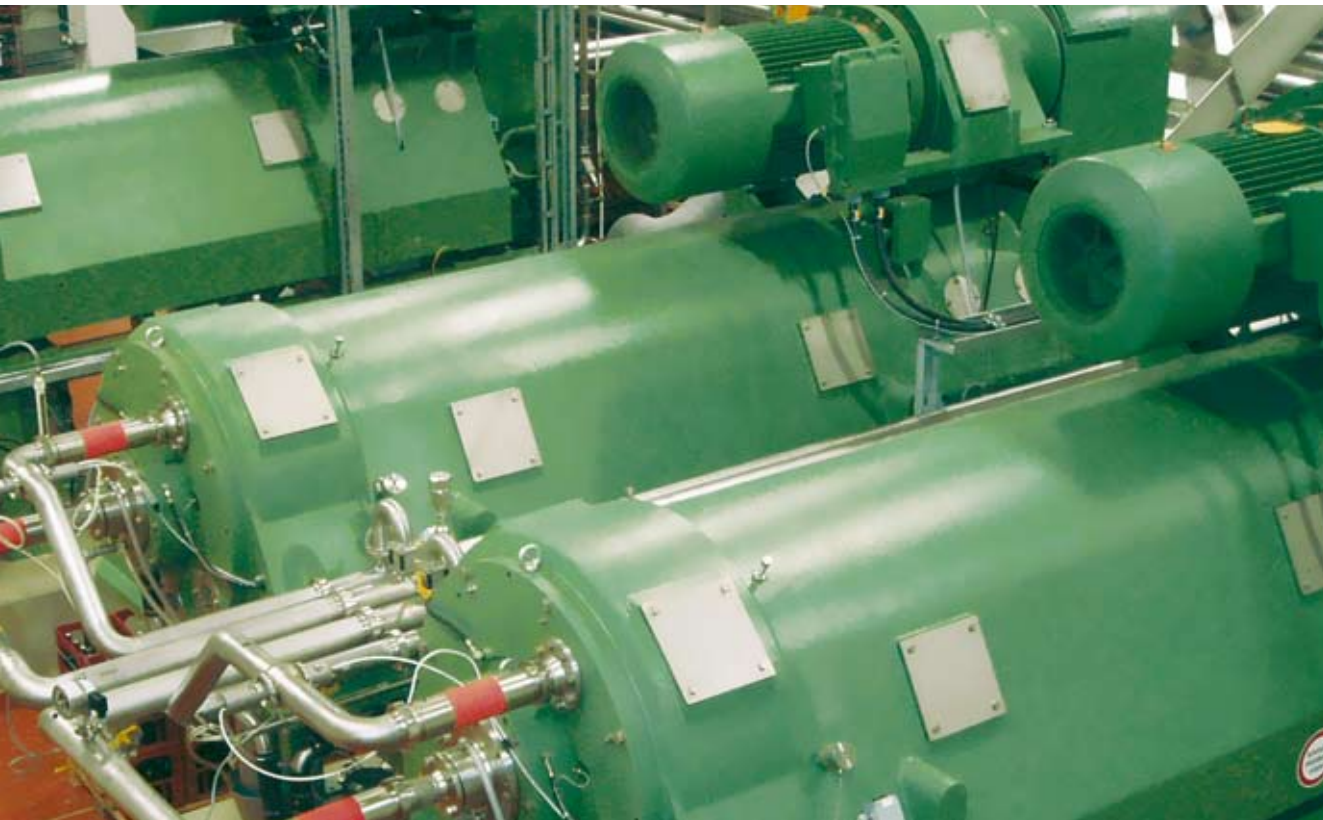
The Westfalia Separator **soline** process minimises lipoxydase activity. This in turn prevents oxidation of the unsaturated fatty acids inhibiting the undesirable formation of aromatic substances (beany). If a beany taste is desired, this can be produced by adjusting the corresponding process parameters 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.

Westfalia Separator **soline** 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 optimise 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. 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, producers have the technology to adjust the product precisely.

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

Technologically harmonised 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.

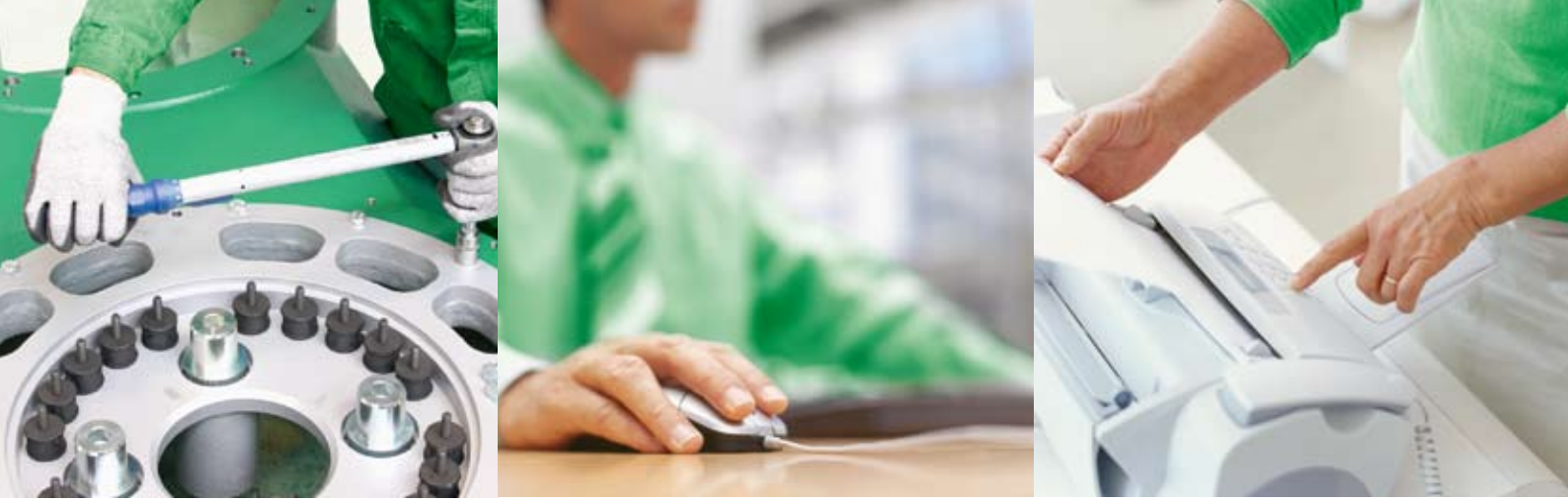
Westfalia Separator **soline** supports the production of:

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

	Main position	Taste
Europe, USA, Canada and Australia	Milk alternative	Non-beany, sweetened (USA, Canada)
East Europe and Africa	Milk substitute	Non-beany; blends with milk
South and Central America (Iberia)	Softdrink: soymilk and juice	Juice; flavoured
China/HK, Singapore, Malaysia, Thailand, Taiwan, (India)	Traditional drink	Beany, sweetened
Japan, Korea	Traditional drink	Non-beany, sweetened

Preferred product variants of the different markets





Westfalia Separator **capitalcare** – Maximum Process Efficiency, Installation Availability and Budget Security

Westfalia Separator **capitalcare** combines decades of service experience for mechanical separation technology.

Wherever separating technology tasks have to be carried out, Westfalia Separator **capitalcare** assures comprehensive services right from the very beginning. In close cooperation with the customer, solutions are identified to meet their needs.

The partners benefit not only from traditional services such as inspection, maintenance, original spare parts and repair work provided by the original manufacturer; they also benefit from pro-active solutions which avoid risk, e.g. online and offline monitoring with Westfalia Separator **wewatch**.

Accompanying modernisation or upgrading to state-of-the-art technology also offer the option of boosting performance as required.

Training provided on site or in the modern training centre of GEA Westfalia Separator ensures that the customer's employees receive training in the proper handling of the high-tech installations. This provides additional safety.

Authorized workshops worldwide

And if problems occasionally occur or if a spare part is required at short notice, the specialists are able to attend to the customer quickly. This is ensured by a global network with more than 50 sales and service companies as well as 60 further sales partners. Authorized workshops are able to service every location in the world at short notice.



Westfalia Separator capitalcare accordingly makes for maximum process efficiency and installation availability as well as budget security. And these benefits are provided throughout the entire life cycle of the entire installation.

Service from the original manufacturer:

- Service engineers quickly on site
- Extensive service network
- Risk avoided by service provided by the original manufacturer
- Pro-active solutions which avoid risk
- Upgrading to boost performance
- Staff training

Maximum availability
Absolute budget reliability
Permanent efficiency

In addition to traditional services such as maintenance or repair, Westfalia Separator capitalcare also provides solutions which avoid risk and with which the installation availability can be pro-actively assured.

- Beverage Technology
- Dairy Technology
- Renewable Resources
- Chemical/Pharmaceutical Technology
- Marine
- Energy
- Oilfield
- Fluids & Water
- Engineering
- Second Hand Machinery
- Cross-Flow Filtration
with Ceramic Elements
- Original Manufacturer Service

The information contained in this brochure merely serves as a non-binding description of our products and is without guarantee.

Binding information, in particular relating to capacity data and suitability for specific applications, can only be provided within the framework of concrete inquiries.

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GEA Mechanical Equipment

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