

Liquids to Value



Efficient Separation of Tea Extract and Tea Beverages

Separators and decanters from GEA Westfalia Separator
are the first choice





Hot-or cold-soluble instant tea –
brilliant in clarity and taste.

Instant Teas are Booming – Convenience is in Demand

Consumers want taste, convenience, purity and variety. This demonstrates a wide range of potential added value in the instant tea segment.

Instant teas are becoming increasingly popular, particularly with young people. A variety of tastes are available, such as lemon, peach, raspberry, etc.

Instant teas are conquering new markets

Instant teas are very popular and are becoming more and more so with much of the population. In particular, active and modern people enjoy the refreshing and natural ice-tea and tea-mix beverages. Fine black tea develops its stimulating effect, and added lemon juice or other fruit juices provide the tea with a typical taste. Instant green teas and Oolong teas are becoming increasingly popular in Asia. Separators from GEA Westfalia Separator are used throughout the world for clarifying the beverages, i.e. for separating insoluble solids. The instant tea powder can be mixed homogeneously with vitamins, aromas and sugar, and produces a fruity tea drink when mixed with hot or cold water.

Brilliant clarity without residues

A freshly brewed instant tea must not only be free from all residues in a glass or cup; it has to be very clear. The tea industry therefore uses separators and decanters from GEA Westfalia Separator in the production of cold- and hot-soluble instant teas.

Following the extraction process, these machines ensure optimum dewatering of the extracted tea leaves in various clarification stages, and also ensure that all residues are removed. The high clarifying efficiency is accompanied by extremely gentle treatment of the tea extract and maximum product yield.

GEA Westfalia Separator has developed technology for making the following products:

- Tea extract
 - Black tea
 - Green tea
 - Oolong tea
 - Herbal tea
 - Fruit tea, etc.
- Instant teas

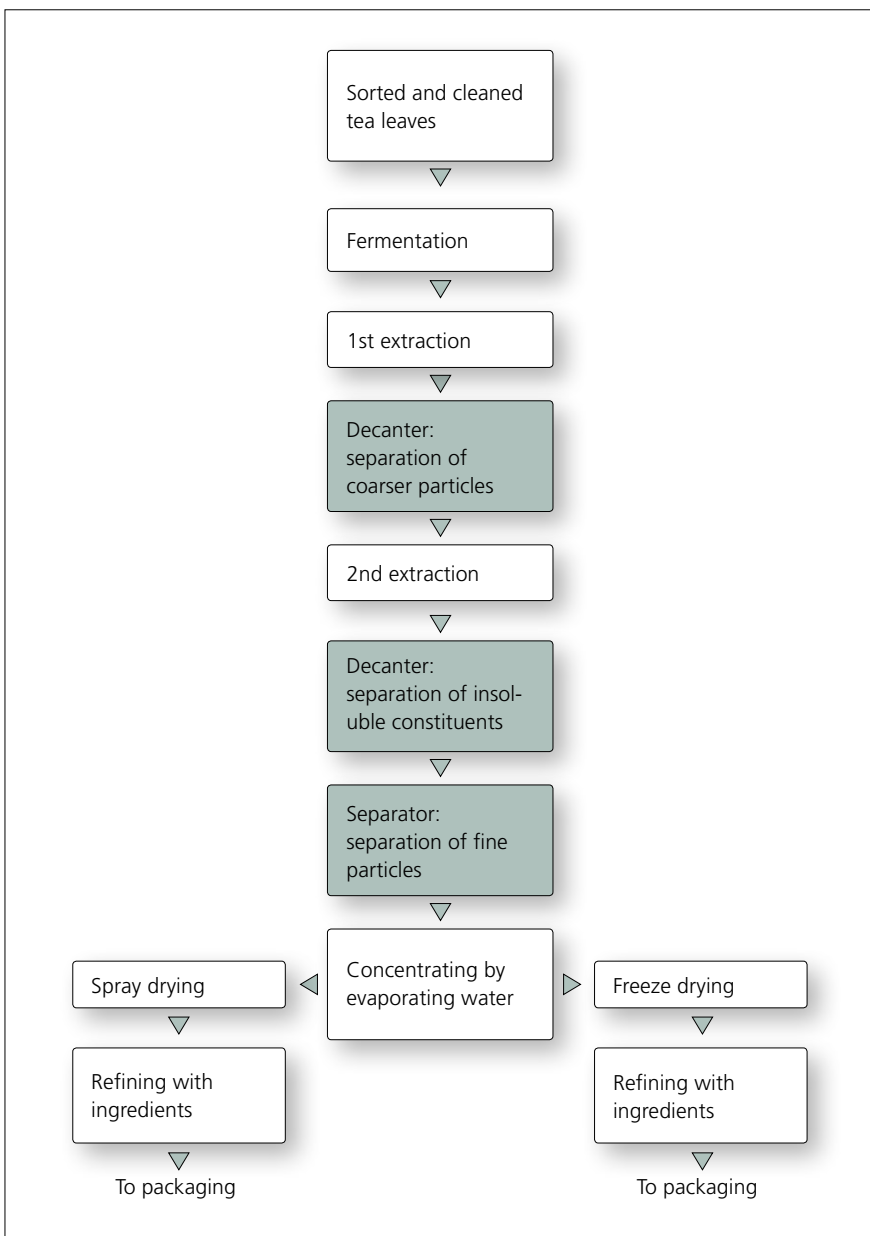


Extremely Pure Tea Extracts – Basis for Premium Beverages

Separators and decanters from GEA Westfalia Separator ensure that this continues to be the case, producing tea extracts of premium quality.

For making instant tea, the active substances of the tea leaves are extracted from the leaf cells by means of aqueous extraction. The soluble components are responsible for the taste, aroma and effect. In addition to the soluble components, there are also insoluble substances that are not wanted in the end product. They have a negative impact on the appearance and therefore have to be removed.

The larger particles can be removed after the initial extraction process by means of decanters from GEA Westfalia Separator. In order to boost the yield, the separated tea leaf components which still contain soluble components are extracted a second time. The insoluble components are then separated again using a decanter.



Separators and decanters from GEA Westfalia Separator used in the production of instant teas.




Maximum product quality without turbidity

In later process stages, self-cleaning separators from GEA Westfalia Separator are used for further separation of finer particles which cannot be removed by means of a decanter.

In order to comply with the stringent product requirements, the insoluble solids which are responsible for turbidity have to be removed from the tea extract. Decanters and self-cleaning separators from GEA Westfalia Separator are used in several process stages for this task.

Advantages of GEA Westfalia Separator technology:

- Optimum product yield
- Constantly high product quality
- Continuous clarification
- Maximum clarification efficiency
- Hygienic design
- Absolute reliability
- Non-stop operation
- Simple integration in existing CIP systems (cleaning-in-place)
- Integration in automated processes by means of programmable logic control

A photograph of two glasses of beer. The foreground glass is a clear glass mug with a handle, filled with a golden beer. A cinnamon stick lies on the surface in front of it. In the background, another similar glass is visible but out of focus. The background is a plain, light-colored surface.

Boosting productivity by means of
a patented discharge system.

Westfalia Separator®
hydrostop

Westfalia Separator hydro**stop**: Optimising Added Value

Cost pressure and tight margins result in the demand for maximum yield of the tea leaves and herbs being used. This requirement is strongly supported by the Westfalia Separator hydro**stop** system.

Clarifiers ensure that even extremely fine particles are separated efficiently from the tea extracts. These solids collect in the separator bowl, and are discharged quickly, automatically and precisely with the efficient Westfalia Separator hydro**stop** system.

Whereas previous clarifiers have discharged the solids with relatively large quantities of liquid, separators with the Westfalia Separator hydro**stop** system attain maximum levels of dry matter in the solids. This boosts the product yield and also the profit.

Higher levels of dry matter in the discharged solids

The discharge of solids with much higher levels of dry matter results in numerous advantages in terms of disposal. The costs of transportation and storage can be reduced resulting in considerable savings.

In addition to the advantage of the exceptionally dry matter content in the solids, separators with the Westfalia Separator hydro**stop** system also feature all the other advantages of separators from GEA Westfalia Separator, e.g.:

- Belt drive for reliable and economic operation
- Hydrohermetic product seal
- Absolute availability
- Maximum cost-effectiveness

Westfalia Separator hydro**stop** – advantages, an overview:

- Maximum yield
- Reduced disposal costs for solids



Separators and Decanters Guarantee Continual Tea Enjoyment

A premium instant tea granulate has to be residue-free, hot- and cold-soluble as well as free from any particles. This is achieved by means of centrifugal technology from GEA Westfalia Separator.

As a result of their design, decanters are ideal for separating large volumes of insoluble tea leaf components from tea extracts. Accordingly, after the tea leaves have been extracted with hot water, decanters are used in the pre-clarification stage.

The design of the decanters from GEA Westfalia Separator permits optimum product yield as a result of the patented two-gear drive. This is achieved as a result of the high level of dry matter in the separated solids. The clarification of tea extracts imposes stringent demands on the centrifuges. This is why decanters and separators are designed specifically for this task.

Separators have a higher centrifugal acceleration than decanters, and are therefore used for polishing the extracts. "High g-force" also guarantees that extremely small particles are separated. Separators in the GSE and GSC series are characterised by their high level of clarification efficiency.

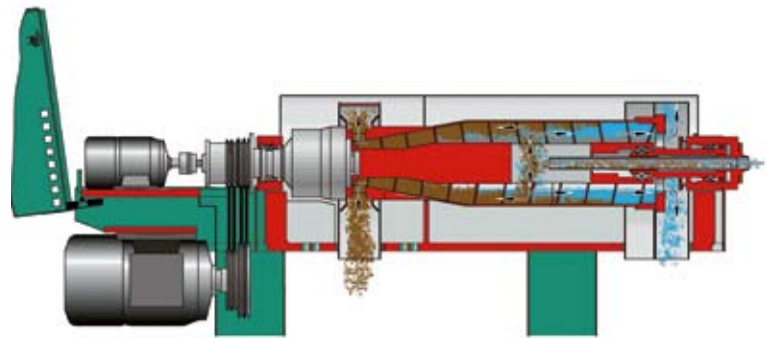
One side effect is a higher service life of the downstream evaporator; this also boosts the efficiency of the overall installation.

The self-cleaning separators from GEA Westfalia Separator are equipped with the latest bowl discharge technology.



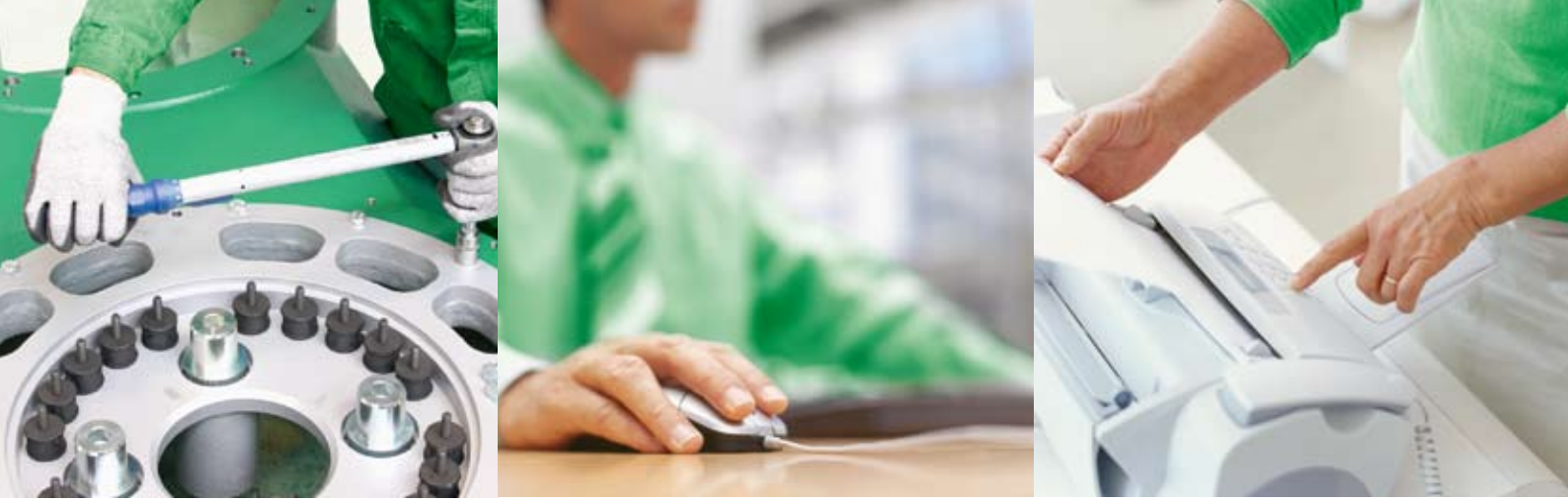


Decanters, such as the illustrated CE 305, handle a wide range of tasks in the production process.



Separators of the GSC and GSE series are used in the clarifying stages. They are characterised by their exceptionally high clarifying efficiency, and can quickly and easily be integrated into existing production lines.





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

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