



Solutions from GEA Westfalia Separator  
for Edible Oil Refining

# Oils and Fats Processing

Robust – reliable – efficient

Vegetable oil is one of the most important primary foods and therefore requires maximum quality. The quality of the final product depends on the refining method and the nature of the crude oil. GEA Westfalia Separator offers a wide range of solutions designed to boost value in this respect, ranging from a separator with a daily capacity of 10 tonnes for operators of small oil mills right through to separators with capacities of more than 1600 tonnes per day for large refineries.

The practical production processes and technologies must be as varied as the different types of oil. GEA Westfalia Separator therefore designs and manufactures a “customized” solution which is tailored to meet the requirements of the specific

application. The centrifuge is always to be found at the heart of the installation. Whether a self-cleaning separator with a maximum level of automation or a discontinuously operating system, every customer is able to find the best solution in economic and technological terms for his specific production tasks. We do not only supply the mechanical separation facility; we of course also supply all other components and systems necessary for an efficient and reliable production line. Satisfied customers throughout the world have placed their trust in this know-how and technological potential, developed together with the customers in the course of demanding day-to-day operations.



## Processing of e. g.:

- Soybean oil
- Rapeseed oil
- Sunflower oil
- Animal fat
- Cottonseed oil
- Corn oil
- Fish oil

## Our core competence in edible oil refining:

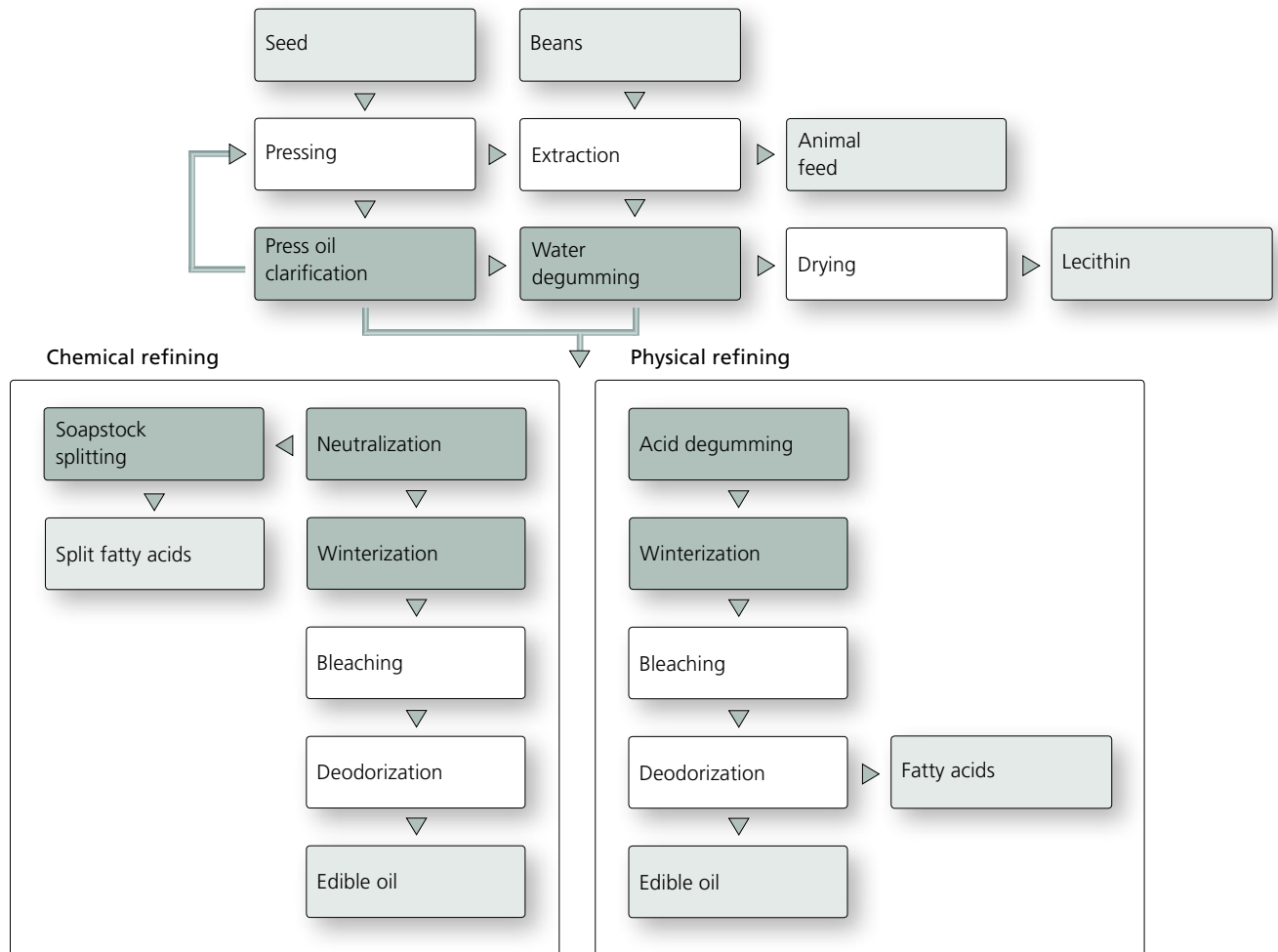
- Press oil clarification
- Degumming
- Neutralization
- Dewaxing
- Fractionation
- Soapstock splitting

## Special applications:

- Ni-catalyst removal
- Lecithin deoiling
- Bleaching earth deoiling
- Re-refining of used frying fats

## Our competence in oleochemical applications:

- Transesterification  
(e. g. for making biodiesel)
- Epoxidized oils
- Mono-/diglycerides
- Fatty acids
- Glycerine
- Soap
- Fatty alcohols



The fields highlighted in the dark colour represent the core business of GEA Westfalia Separator

## Different Processes – One Solution

### Chemical and physical refining

**Two processes have been developed for refining edible oils and fats; the decision as to which process is to be used depends on the types and qualities of crude oil to be processed.**

Chemical refining is the traditional method, where the free fatty acids of the crude oils are neutralized with caustic soda. The resultant sodium soaps are separated by means of separators. The neutral oils are subsequently bleached and deodorized. This method can be used for reliably refining virtually all crude oils, including oils of low quality, with the exception of castor oil.

In the alternative method of physical refining, the free fatty acids are removed by distillation in one stage during deodorizing. A fundamental criterion for using this method is that the crude oils should be degummed as effectively as possible; however, this is only possible to a limited extent with some crude oil qualities. Other oils, for instance cottonseed oil or fish oil, are fundamentally not suitable for physical refining. GEA Westfalia Separator is able to supply suitable process lines for both processes; we have limited ourselves to the processes in which centrifuges are used, or which complement centrifuge lines.

- 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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