

Edible Oil Filtration

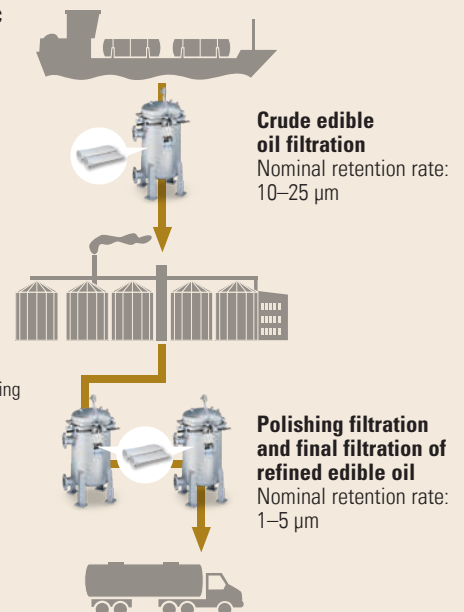
Eaton's food-grade filter bag solutions perform critical tasks in edible oil filtration safely and reliably

The refining of edible oil is a complex, multi-step process that plays a crucial role in ensuring quality and food safety. The main oils processed include sunflower, soy, rapeseed and palm oil, as well as safflower, peanut, sesame and avocado oil. These oils are used not only in food processing, but also in cosmetics, biofuels, pharmaceuticals, industrial lubricants, paints, coatings, candles, soaps and even as coolants for electrical transformers.

Eaton's food-grade filtration solutions are engineered to meet the demanding quality requirements of these versatile industries, making the filtration process safe, economical and user-friendly. Due to the high filtration temperatures and non-polar nature of all types of edible oils, CLEARGAF polyester needle felt filter bags, ranging from 1 to 25 µm, along with 150-psi (10-bar) MAXILINE VMBF multi-bag filter housings featuring the QIC-LOCK opening mechanism, are the best choice for crude edible oil filtration, as well as for polishing and final filtration of the refined edible oil.

In crude edible oil filtration, this filter combination removes solid particles and impurities from the incoming oil. It is followed by several purification steps to ensure quality, shelf life and appearance. These steps include degumming to remove phospholipids, neutralization to eliminate free fatty acids, bleaching to remove pigments and oxidation products, deodorization to erase unwanted odors and flavors, winterization/dewaxing to precipitate waxes, hydrogenation to convert unsaturated fats into saturated fats, and fractionation to separate the oil into different fractions according to their intended use. Polishing filtration removes impurities from previous process steps prior to storage. Final filtration takes place during truck loading, before transportation to customers. It ensures the quality of the refined edible oil by removing any remaining impurities.

Basic schematic of the refining process:



Ideal food-grade filter combination

CLEARGAF™ Filter Bags

MAXILINE™ VMBF Multi-Bag Filter Housing with QIC-LOCK™ Opening Mechanism



CLEARGAF filter bags conform to FDA and EC food contact regulations and are tested for migration levels by an independent food research institute. They are manufactured under stringent conditions and individually sealed in protective plastic packaging to ensure cleanliness up to the point of use. Upgraded filter bag models, such as the DURAGAF™ filter bag or HAYFLOW™ filter element ranges, can significantly increase capacity levels where desirable.

For an ideal combination of quality, performance, and safety, CLEARGAF filter bags can be used in the PED-compliant or ASME U stamped (as per regional requirements) 150-psi (10-bar) MAXILINE VMBF multi-bag filter housings with food-grade gaskets, 1.8 mm round-hole baskets, and the QIC-LOCK opening mechanism. This mechanism allows the filter bags to be changed quickly and easily. The built-in safety valve only allows the housing to be opened without pressure to protect operators. All parts of the bag filter housing that come into contact with the product can also be upgraded to a polished food-grade surface to enhance process hygiene.

Eaton Filtration LLC
18684 Lake Drive East
Chanhassen, MN 55317
United States
Eaton.com/filtration

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