



- Wiped Film Distillation
- Short Path Distillation
- Fractional Distillation
- Thin Film Distillation

STRIPPING, CONCENTRATION & DEODORIZATION

*PURIFICATION OF MARINE AND
OTHER SPECIALTY OILS*



Turnkey Plants for Stripping, Concentration & Deodorization

VTA is an experienced supplier of turnkey production plants for marine and other specialty oils to enhance the purity, quality and the concentration of EPA and DHA. The stripping, concentration and deodorization process is applied to fulfill the product requirements.

Many plants have been supplied to customers worldwide. VTA's strength is to deliver package unit solutions including

- All process components
- All process and utility piping with required valves and instruments
- Steel structure
- Electricals and control system
- Complete documentation (if required according to cGMP).

All these supplies are completely generated within VTA. Responsibility and the project control are solely in the hand of VTA and guarantee a smooth, time reliable project execution at the highest possible quality.

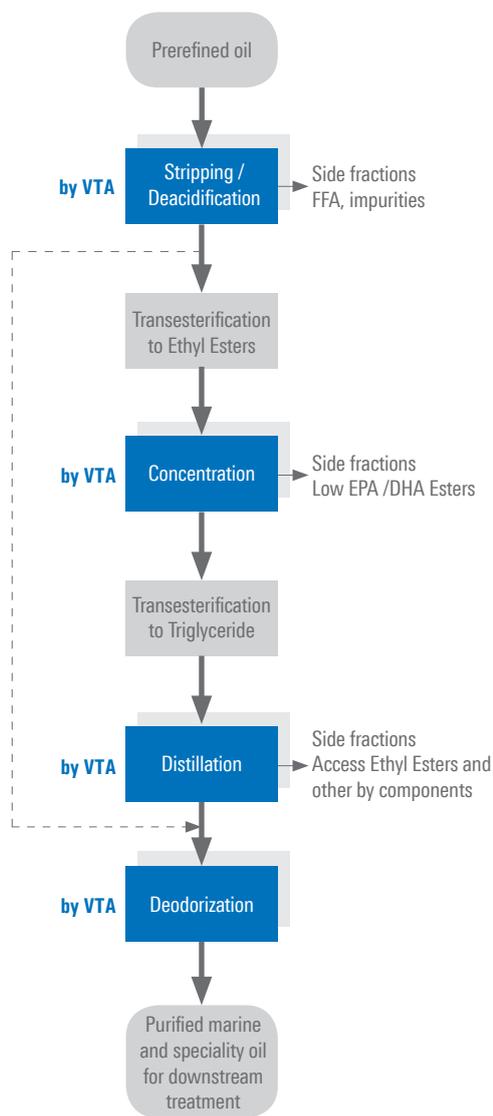
The Stripping Process by Short Path Distillation

Refined oils may still contain a significant amount of free fatty acids. Further marine oils contain unacceptable levels of POP's (Persisted Organic Pollutants). These are removed by the stripping process.

Applying the short path evaporation process, these non desired components are removed at deep operating pressures and low product residence times in the evaporator to achieve highly purified and non decomposed high quality oil.

- Removal of free fatty acids and other undesired containments at high product yields
- Achieving very low FFA levels
- Large plant capacities possible
- Continuous process
- Short residence time
- Energy efficient process





The Concentration Process with Short Path Distillation or Fractionation Distillation

To be able to purify the EPA and DHA in marine or other specialty oils, the products are esterified to ethyl esters. The desired EPA and DHA is concentrated by short path evaporation or fractionation distillation.

Applying evaporators with very short residence times, high EPA and DHA concentrations can be achieved with no thermal decomposition. EPA and DHA contents of more than 85 % are achievable after the concentration process.

- EPA/DHA levels achievable over more than 85%
- Plant design with respect to maximization of product yields
- Short residence times of product under heating condition
- Large plant capacities possible
- Energy efficient process





The Deodorization Process with Thin Film Deodorizers

To remove odor and taste from marine and other specialty oils VTA developed its own deodorization process. By the use of the thin film technology, best product qualities can be achieved at low product residence times and no thermal decomposition.

Several plants have been installed applying this process producing products of highest quality.

- Odourless and tasteless products achievable
- Short residence times of product at processing temperatures
- Continuous process
- Energy efficient process

Testing at VTA

Together with the customer, the purification processes are developed and optimized in the VTA testing centre. Trials for purifying oils and other derivatives by

- Wiped film and thin film distillation
- Short path distillation
- Fractionation distillation / rectification
- Deodorization

can be performed.

The results of the tests provide information on achievable quality, yield and distillation parameters. Our customers receive a reliable basis for improving product qualities and samples for downstream use or end customer evaluation studies.

