



Ester oil treatment equipment

Made for **natural** and **synthetic** esters

FILOIL est brings ester transformer fluid back to specification. Esters hold more water than mineral oil by nature, and moisture, dissolved gases, and particles still pull dielectric strength down over time. In a single pass the unit dries the fluid under vacuum, strips dissolved gases, and filters particles to 0,5 µm, tuned to ester properties throughout.

Tuned for ester chemistry

The whole process is set up for natural and synthetic esters, not mineral oil. Esters hold more water by nature, so drying, heating, and filtration are tuned to ester properties to bring the fluid back to specification. Every part of the process, from flow path to control logic, is set for the handling properties of modern ester fluids.

Vacuum held to setpoint

The regulation valve sits on the vacuum line, ahead of the pump, not on the chamber, so no air enters the process. The PLC holds the vacuum to whatever level you set and keeps it there through the run. Moisture and dissolved gases come out in a single pass, tuned to ester properties.

Heating built for esters

Esters are more viscous than mineral oil and need more thermal input, so est. units carry higher heating capacity. Modular heaters are specified to your own watt/cm² and welded only from outside the vessel, so the heated surface stays clean. Low surface load means even drying, no local overheating, and no fluid degradation.

Built for the production line

The same plant that conditions ester in the field equips an ester production line in the factory. It dries, degasses, and fills new transformers to specification before they ship, then moves to field service when the campaign needs it. One machine, the factory and the field both covered.

Filters in minutes

Redesigned casings unscrew by hand, so a filter change takes minutes with no tools. Inlet and outlet share one cartridge type, so you stock a single spare. Particles come out down to 0,5 µm, with your choice of beta ratio and rating.

Inline fluid analysis

Optional onboard sensors for moisture, dissolved gas, tan delta, and breakdown voltage, tuned to ester properties. Readings flow straight into the SCADA, so fluid condition is tracked live, on the unit, while it works. The same sensor set proven on the mineral line, set up for esters.

Connected as standard

An integrated modem and an on-board server push every reading to ekofluid.cloud. Your portal holds the full operating history and the documentation. Log in and run the unit from any browser, anywhere.

Mounted for the site

Each frame sits on the ground, on forklift-friendly legs supplied as standard, or on an optional wheel base. Stationary on the production line or mobile to the wind park, all detachable. The unit goes where the ester transformers are, onshore or offshore.

Runs and watches itself

Fully automatic PLC, with a full SCADA and on-board edge analytics. Manual controls are there but PLC-guarded, so the wrong move is blocked before it happens. Alarms, sensors, and interlocks cover every condition the unit can meet, attended or unattended.

Built to outlast the asset

Black steel, fully welded, dual-coated and baked. Secured stainless drain hoses on every vessel, and a catch tray that drains down at the end of the day. Built for decades of hard use, in the factory or in the field.



**Built for esters.
Engineered to a different
standard.**

FILOIL 3000 est

Ester oil treatment plant

The compact unit in the ester line. At 3 000 l/h it stays portable and quick to deploy, tuned to ester properties and built to run continuously. Vacuum drying, degassing, and filtration to 0,5 µm happen in a single pass, on energized or de-energized transformers, in the field or on the production line. The unit for distribution and medium ester-filled transformers, for service work on renewable and ester installations, and for ester filling at moderate volumes.

Max. oil flow	Fine filter	Heating capacity	Vacuum capacity
3 000 l/h	0,5 µm	72 kW	200 m³/h
Ultimate vacuum	Max capability water	Max. performance	
< 1 mbar	< 10 ppm	> 95 kV	



FILOIL 6000 est

Ester oil treatment plant

The versatile standard of the ester line. At 6 000 l/h it has the throughput for large transformers and stays compact enough to remain mobile. Vacuum drying, degassing, and filtration to 0,5 µm in a single pass, tuned to ester properties, with online processing that keeps the transformer energized. The unit for medium to large ester-filled transformers, for utilities and service fleets across renewable and conventional installations, and for factories equipping ester production lines.

Max. oil flow	Fine filter	Heating capacity	Vacuum capacity
6 000 l/h	0,5 µm	108 kW	300 m³/h
Ultimate vacuum	Max capability water	Max. performance	
< 1 mbar	< 10 ppm	> 95 kV	

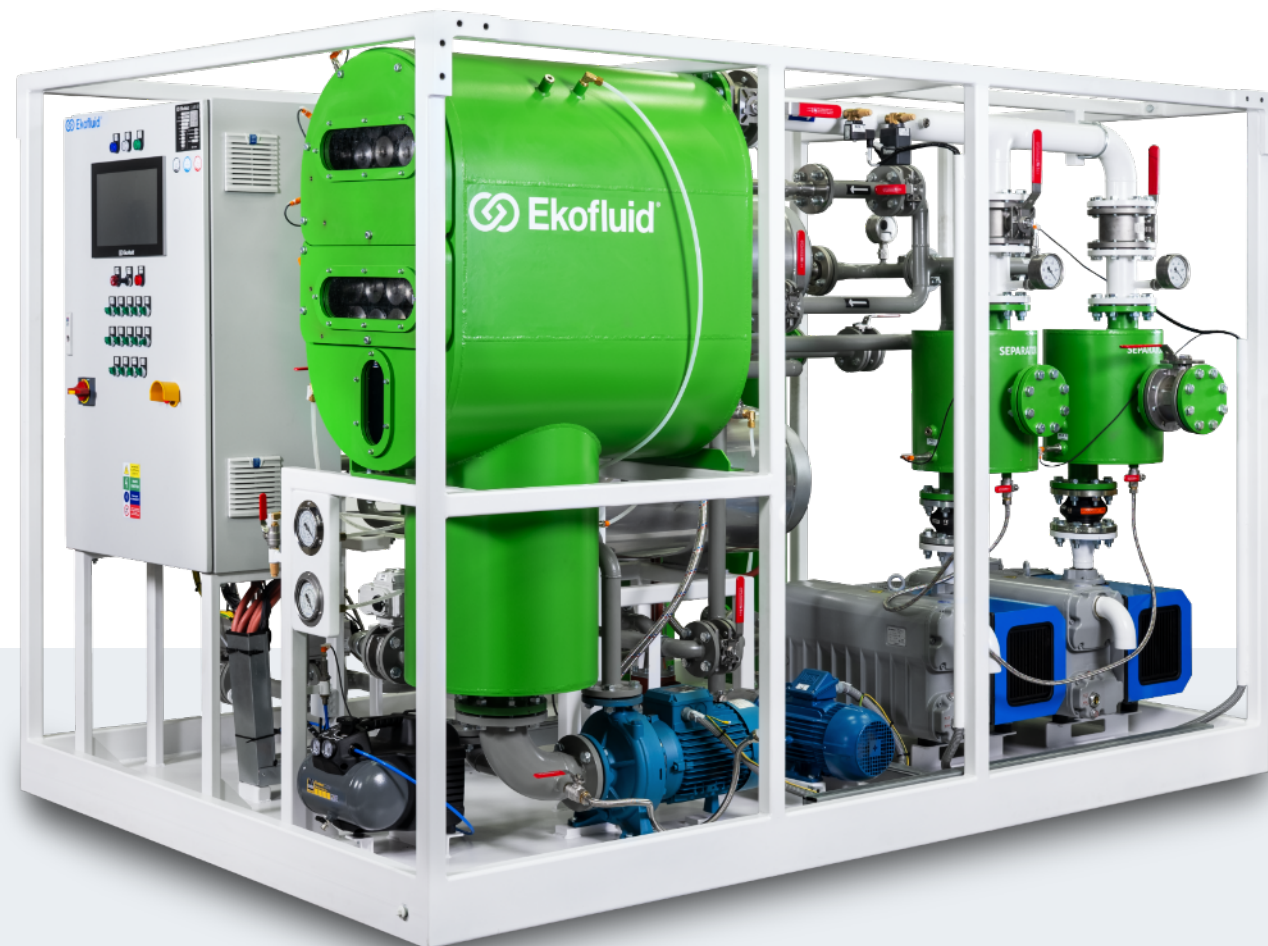


FILOIL 9000 est

Ester oil treatment plant

The flagship of the ester line. At 9 000 l/h it is built for large-scale ester handling in production environments and high-volume service, without giving up any of the line's treatment capability. Moisture, dissolved gases, and particles are removed in a single pass, tuned to ester properties, on energized or de-energized transformers. The configuration for transformer factories running ester production lines, OEMs, and large service providers handling fire-safe fluids at industrial scale.

Max. oil flow	Fine filter	Heating capacity	Vacuum capacity
9 000 l/h	0,5 µm	144 kW	600 m³/h
Ultimate vacuum	Max capability water	Max. performance	
< 1 mbar	< 10 ppm	> 95 kV	



Proof, in numbers

Thirty years of building, installing, and supporting fluid processing systems, counted the only way that matters. The numbers below are not targets. They are the record.

30+
years

Three decades of vacuum and adsorption engineering, applied to transformer oil treatment and regeneration, and refined on every unit built since 1996.

70+
countries

installations across six continents, with service crews and spare parts reaching transformers wherever they run.

500+
systems delivered

In daily operation with utilities, contractors, and service companies, treating the oil that keeps transformers in service.

99%
customer retention

Build quality, configuration, and lifetime support that keep customers across relationships measured in decades, not orders.

Built in-house, supported for life

In-house build

Every unit is designed, built, wired, programmed, painted, and tested under one roof, from the steel frame to the control software, then commissioned by the same engineers who built it. Black steel, fully welded, dual-coated and baked for durability, with secured stainless drain hoses on every vessel. Nothing is subcontracted. Vertical integration is the reason every unit leaves the works to the same standard, and the reason build quality can be guaranteed rather than promised.

Configured to the project

Over 50 configuration options, tuned to the work the machine will do and to ester chemistry. Heaters to your own loading, coalescers you can add later without welding, mounting to suit the site, sensors integrated to the SCADA. Smart control, remote diagnostics, and flexible automation are part of the platform, ready for digital integration and the standards coming next. The machine is configured to the project in front of it, not pulled from a shelf.

Support for the life of the machine

Service relationships that run thirty years, not warranty periods. Technical assistance, operator training, and spare parts come from the same people who designed and built the unit, so the answer is the right one the first time, whether the work is in the field, in the factory, or anywhere between. The machine is supported for as long as it works.

Expert in transformer oil

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