StabOx

TABOX

Sea Marconi Solution for High-Precision Oxidation Stability Test of Insulating Liquids

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SEA MARCONI

fifty years of energy, innovation, environment

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StabOx: Sea Marconi Solution for High-Precision Oxidation Stability Test

Fulfils the International Standard IEC 61125 (Edition 2.0 2018-01) – *"Test method for evaluating the oxidation stability of insulating liquids in the delivered state*", which applies to all the following insulating liquids:

Insulating liquids	Reference	Temperature	Oxidizer	Test duration (hrs.)
Unused mineral insulating oils	IEC 60296	120 °C ± 0.5 °C	Air 0.150 l/h ± 0.015 l/h	164, 332 or 500
Unused synthetic organic esters	IEC 61099			164 (500 option)
Unused natural esters	IEC 62770			48

StabOx automatically maintains the temperature of the liquid samples and the flow rate of the oxidizer at the prescribed levels over the entire duration of the tests: no intervention by the operator is required to adjust oxidation conditions. Test parameters are not affected by environmental conditions (ambient temperature and pressure) for an improved repeatability and reproducibility of test results.

Three different versions are available according to the number of tests that can be run independently in parallel: from one up to three, with a completely free combination of liquid types, test durations and start times. Each version can be upgraded in terms of test capacity, if greater productivity is requested at a later stage.
Each test involves three oxidation tubes, as required by the latest version of the IEC 61125 standard.

StabOx is equipped with a touch-screen interface providing also automatic alerts and reminders. The control software can be updated for future upgrades (e.g. technical revisions of IEC 61125). The equipment can be remotely controlled through a web app. Remote diagnostics and assistance are available from Sea Marconi.

Main technical features of StabOx:

- Power supply: AC 230 V - 10 A
- Input gas: air at 2 bara (with the option of oxygen as additional gas)
- Communication ports: USB and Ethernet RJ45 (data logging /external interconnection)
- Overall dimensions (L x W x H): 710 x 345 x 420 mm
- Approximate weight: 60 kg

Meets or exceeds the requirements of IEC 61125 (ref. section 4 – "*Apparatus*")

Requirements	IEC 61125	StabOx Check	StabOx Description
Thermostatic control	120 °C ± 0.5 °C	✓	Measured in a dedicated oil oxidation tube
Heating medium	Aluminum alloy block heater or oil bath	✓	Aluminum alloy block heater (electrically heated)
Thermometer accuracy	Bulb thermometer max ± 0.3 °C	+	Pt100 RTD (class IEC 60751 - 1/10 DIN) ± 0.1 °C at 120 °C (upon calibration)
Flow rate (air)[1]	0.150 l/h (± 10%)	+	0.150 l/h (± 4%) at calibration conditions
Surface temperature of the top cover	60 °C ± 5 °C	✓	Through dedicated electrical heating
Monitoring of the test	"Check air flow and temperature daily"	+	Continuously monitored, adjusted and logged (for traceability)

[1] For StabOx, flow rate always refers to NTP (20 °C, 1 bar) regardless of actual ambient conditions