Aditest AP for antioxidant additive determination in lubricants

Charakteristics

- stripping voltammetry method
- phenolic and aminic antioxidant determination
- use with a notebook or PC with Windows

Use

- evaluation of a lubricating oil lifetime
- turbine oils
- hydraulic oils
- compressor oils

Aditest AP is the instrument of choice to easily & quickly determine the antioxidant levels within lubricants. By using linear sweep voltammetry techniques the Aditest AP provides richer results than RPVOT (Rotating Pressure Vessel Oxidation Test) and is more cost effective than spectroscopy. Aditest AP produces results according to the international standard test methods ASTM D6971, D6810, D7590, and D7527.

The oils used in industrial equipment such as turbines, hydraulics, compressors are designed for long term lubrication, but over-extending the lubricant to the point where degradation occurs will lead to equipment damage.

Antioxidant chemicals are added to oils to extend their operating period. During equipment operation, the antioxidant additive level gradually decreases. Assessing these levels over time allows operators to maximize the potential life of the lubricant and reduce the risk of damaging critical equipment or incorrectly scheduling expensive overhaul downtime.

Technical Data of Aditest AP

typical sample volume	0,4 ml
result	%; mmol/l
electrolyte consumption	5 ml per analysis
dimensions d×h	110×100×20 mm
weight	cca 0,4 kg
power supply	USB

Measurement Principle

A sample of the oil is added to a vial containing an electrolyte salt solution and 3 electrodes – a glassy-carbon working electrode, a platinum auxiliary electrode, and a reference electrode. Under potentiostatic control, a linear potential ramp is applied to the working electrode; the ohmic current is monitored to observe the point where the anodic oxidation takes place. Comparing the curve peaks from a test using fresh oil against the curve of the in-service oil allows determination of the percentile decrease of the antioxidant content.

The Aditest AP base kit includes the electrodes and measurement block. It is also available with a notebook computer with the *Diram Measure* software pre-installed and configured for instant use. The software also allows saving and export of the results for archival purposes.

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