



Insulating oil testing



BAUR
ensuring the flow

Precise and reliable

Safety has a long tradition

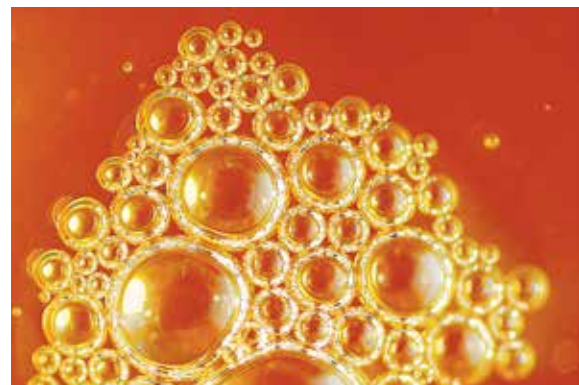
When oil is used for insulating or cooling, impurities or ageing can massively impact its effectiveness and can lead to plant shutdown, or, in the worst case scenario, even to an accident. For this reason, it is required for critical applications to regularly test the insulating liquid.

We committed ourselves over 70 years ago to not only making quick testing and analysis of the insulating oils possible but especially to ensuring accurate testing. Since then, laboratories, industrial companies and the service departments of notable manufacturers have relied on and put their trust in BAUR insulating oil testers.

When testing the quality of insulating liquids, you are able to decide, based on the results, whether the insulating effect of transformers makes it possible to reutilise the oil or if it is required to recondition or change the oil. The diagnostic testing of the oils provides information on the quality of the refining, the purity of the oil, ageing and dielectric losses.

Solutions for testing and analysing

We offer two series of devices for carrying out breakdown voltage tests and dissipation factor measurement. For both series, the provided BAUR software ITS Lite simplifies the processing of the measurement results, the customer-specific reporting as well as the data archiving.



Reproducible and precise

Precise measurement results are essential for the analysis of insulating oil. Our insulating oil testing and diagnostics devices and the ITS Lite software are therefore optimised for

- easy and faultless handling
- automatic test cycles that conform to the standards
- low measurement tolerance for reproducible results
- clear, unambiguous display of the results
- clearly arranged reports and user-friendly archiving

Accurate results for many decades

Even after decades of use, BAUR devices deliver precise measurement results in terms of insulating oil testing and diagnostics because they are designed for hundreds of thousands of oil sample measurements.

This has two advantages. Firstly, when using similar devices you can rely on the fact that you will get comparably good measurement results – irrespective of the device used. Secondly, it allows for current measurement results to be compared with past trends, even if the historic data was determined with a device of a different generation.

A global leader for good reason

BAUR works with engineers from universities, laboratories and standardisation and test institutes to advance insulating material testing and their standards. The expertise acquired over the last six decades in the development of our insulating oil testing devices has been incorporated in national and international standards, which today define the industry standard.



Devices for breakdown voltage testing

Efficient and reliable

The impurity of insulating liquids is assessed with the help of breakdown voltage testing. Based on the test results, you will identify whether the oil has aged, e.g. due to increased water content, if there are impurities or if the oil has oxidised.

The perfect device for all applications

There are two BAUR devices available for breakdown voltage testing: the DPA 60 C and the DPA 75 C. Both are designed for use in laboratories as well as for portable use. The larger DTA 100 C unit is designed for continuous operation in the laboratory. The latter is also available in the DTA IL design for permanent monitoring of the insulating effect.

You can rely on top quality with all breakdown voltage testing devices, for example:

- Measurement technology and power electronics designed for long service life
- Glass or high-grade plastic test vessels
- Precise and reliable measurement results over very long periods



- Test cell according to IEC 60156 with micrometer to set the electrode distance.

DPA 60 C and DPA 75 C

The portable DPA 60 C and DPA 75 C devices are optionally also available with a rechargeable battery. This makes them suitable for use in a laboratory as well as for in situ measurements with medium-voltage transformers. The devices deliver a maximum test voltage of 60 kV_{rms} symmetric and/or 75 kV_{rms} symmetric.



DTA 100 C and DTA IL

The DTA 100 C is intended for use in a laboratory and provides a maximum test voltage of 100 kV_{rms} symmetric. This device is therefore also capable of testing oils used in transformers of the transmission network. As an inline version (IL), the DTA 100 C also carries out the breakdown strength of insulating oils even when production is running, making it an ideal choice for manufacturers of insulating oils.

Simple and stable

Easy and accurate test cycles are guaranteed for all BAUR breakdown strength test devices. The testing is carried out completely automatically based on current, global test standards. It is also possible to save and call up user-specific test sequences.

Automatic test sequences

The combination of extremely short switch-off times during breakdowns and the easy oil sample handling facilitate high quality statements and conclusions on the insulating oil quality. Furthermore, features such as temperature measurement of the insulating liquid, the precise setting of electrode distances according to the standard and automatic self-testing ensure robust measurement results.

Precise voltage control

The voltage is measured directly in the high-voltage part of the device, which enables highly precise measurement results. It also permanently monitors the voltage rise. Our "Real Breakdown Monitoring" (RBM) has proven itself excellent in practice.



Devices for dissipation factor measurement

Condition evaluation through analysis

The established analysis and diagnostic testing of insulating oils with the BAUR DTL C device play an important role in research and development as well as in practice. Knowledge on the current state of insulating materials is gaining importance for cost-optimised, safe mains operation. Based on values measured with the BAUR DTL C device, contaminations of the oil, undesired oxidation by-products or the tendency to partial discharge can also be recognised.

Automatic analysis results

The device measures the dissipation factor, the specific resistance and the relative permittivity of insulating oils in a fully automatic manner. The BAUR DTL C device comes with twelve different test sequences corresponding to the standards (most common according to IEC 60247 as well as to IEC 61620) for quick, comprehensive analysis results. It is also possible to programme up to ten individual test sequences.



Perfection in detail

The dissipation factor measurement ($\tan \delta$) can be determined with a level of accuracy of up to 1×10^{-6} . The analysis devices are equipped with induction heating of the cell with very accurate temperature control that ensures highly reliable and precise results that conform to standards. The automatic calibration of the empty cell and the provided test sequences enable a swift analysis process.

Additional product properties:

- Measurement of the specific resistance with positive or negative voltage up to 100,000 Ωm
- Cell draining for multiple measurement via magnet discharge valve
- Contactless sample exchange for operating temperature



Technical information and data sheets for each of our products are available at www.baur.eu/insulatingfluidtesting

Function matrix



Try the product advisor on our website at:
www.baur.eu/productadvisor

Application / measurement methods			
Insulating oil testing			
Breakdown voltage testing	Dissipation factor measurement / specific resistance measurement	Inline measurement (continuous testing during production)	Measured data management with ITS Lite software

Products				
Mobile devices	DPA 60 C	■		■
	DPA 75 C	■		■
Laboratory equipment	DTA 100 C	■		■
	DTA IL	■	■	■
	DTL C (tan δ)		■	■

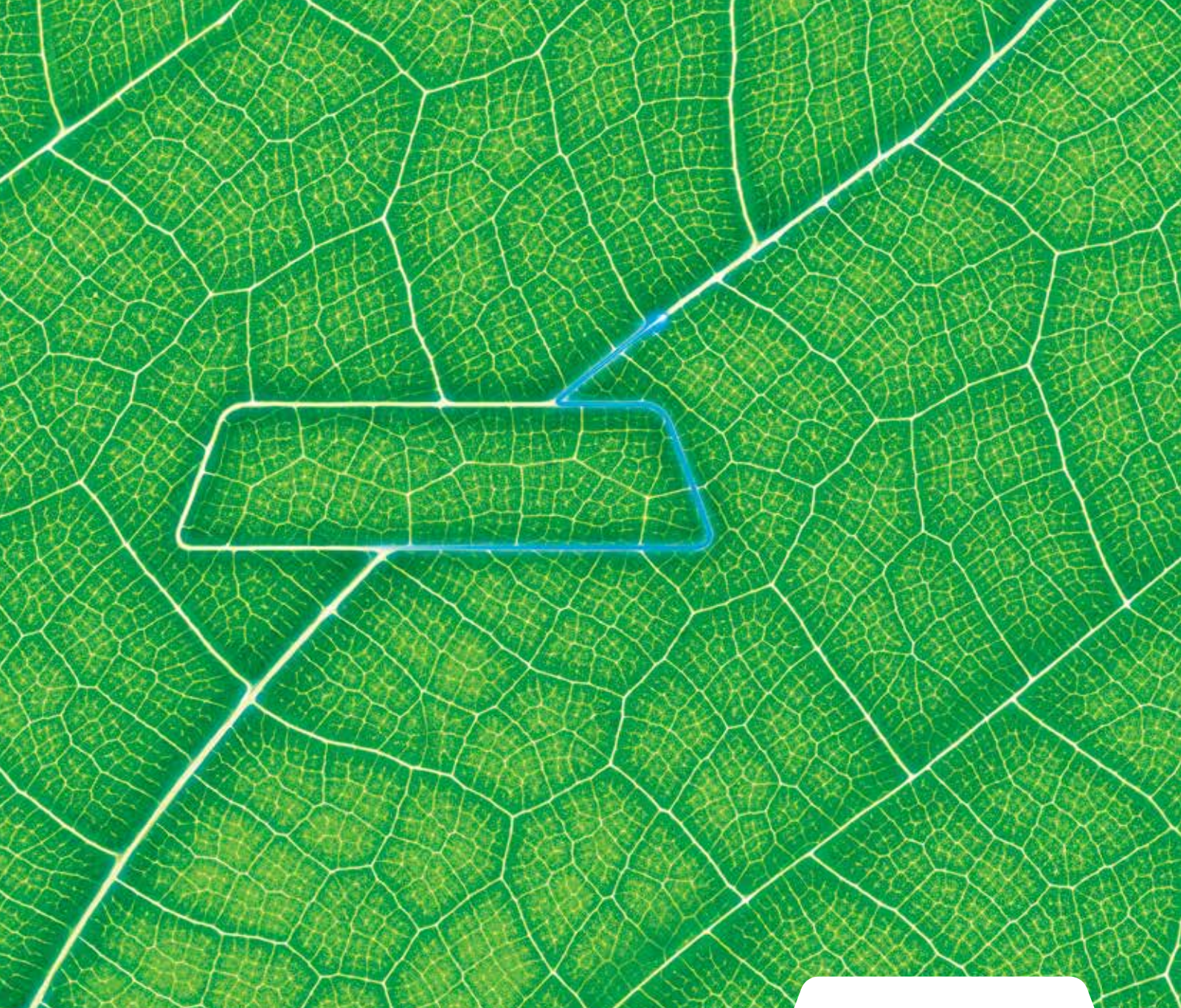
Professional consultation and service worldwide

We offer reliable service by competent experts and a comprehensive range of services. We are happy to offer assistance in the following areas:

- Technical support for questions on devices, software or applications
- Maintenance and repair of devices
- Calibration and measurement
- Training



For further information or competent consultation, contact us at:
www.baur.eu/services



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brochure



BAUR product
overview



Cable testing and
diagnostics



Cable fault location



Cable test vans and
systems



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