BAUR
ensuring the flow

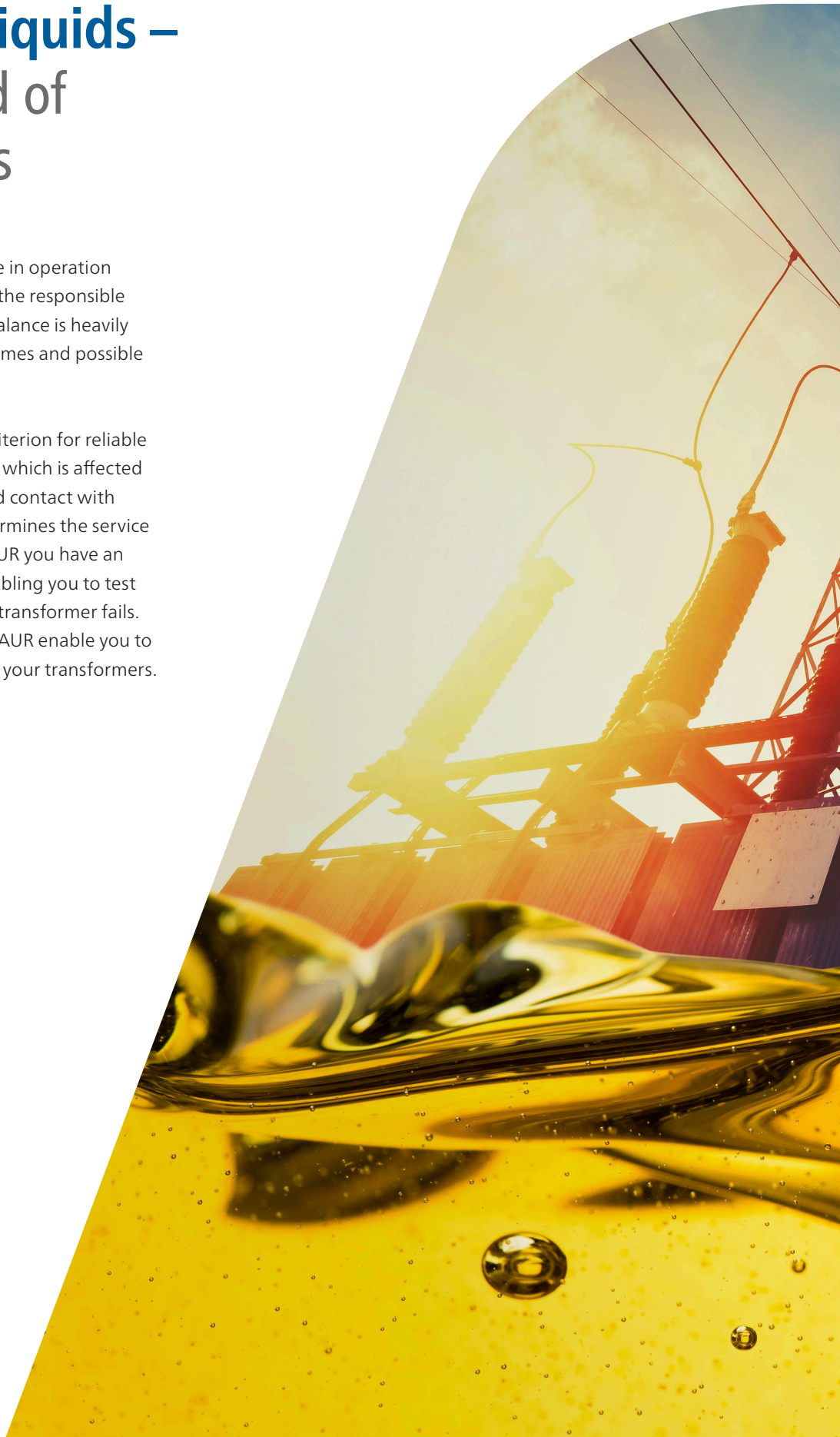
Insulating oil testing

Precise and reliable

Insulating liquids – the lifeblood of transformers

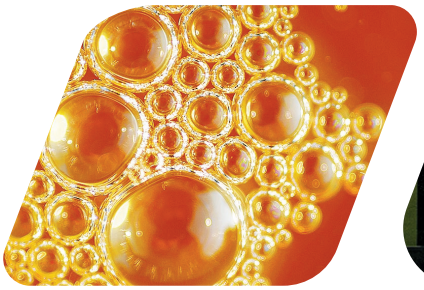
Transformers are designed to be in operation for 40 years or even longer. For the responsible body, their positive economic balance is heavily dependent on avoiding repair times and possible downtimes.

The insulating oil is a decisive criterion for reliable operation. Its ageing condition, which is affected by oxidation, thermal stress, and contact with other materials, essentially determines the service life of the transformer. With BAUR you have an expert partner by your side, enabling you to test the insulating liquid before the transformer fails. The insulating oil testers from BAUR enable you to ensure the reliable operation of your transformers.



BAUR – safety has a long tradition

Over 75 years ago, we committed ourselves to not only making the fast testing and assessment of insulating oils possible, but above all making the process reliable and accurate. Since then, laboratories, industrial companies, and the service departments of notable manufacturers around the world have relied on and put their trust in BAUR insulating oil testers.



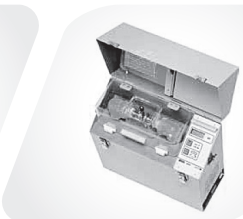
Test insulating oil – avoid downtimes

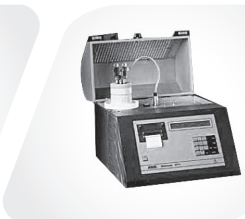
Insulating oil ensures the safe operation of power transformers. In addition to traditional insulating oils, new insulating liquids, such as natural or synthetic ester, are an increasingly popular choice. When insulating liquids are used for cooling and electrical insulation, impurities or ageing can have a huge impact on insulation capacity and result in plant shutdown or even an accident. In order to prevent this, national and international standards as well as statutory provisions require the regular testing of insulating liquids. The diagnostics of the insulating liquids provides detailed information on the quality of the refining, the purity of the oil, and ageing as well as dielectric losses and dielectric strength. During the quality analysis, the results must be used to determine whether the insulating liquid still provides effective insulation or whether it needs to be reconditioned or changed.

Solutions for testing and assessment

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

The BAUR ITS Lite software is used for the automatic transfer of measurement results and for the design and archiving of measurement logs from the BAUR DPA 75 C, DTA 100 C and DTL C oil testers. The logs can be stored in both PDF format and as a flexible text file (*.txt). Extensive language support and the integration of customised logos permit professional log generation.





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Report Manager

BAUR Report Manager is used to automatically transfer measurement logs from BAUR oil testers to a USB drive.

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.

- Comparable measurement results, regardless of the device used
- Trends can be assessed by comparing current and historic measurement results (even if the historic data was determined using a device of a previous generation)

AS1767.2.1
UNE EN 60156
PN 77 / E-04408
ASTM D 877
IEC 60156
BS EN 60156
NF EN 60156
VDE 0370 part 5
CSSR RVHP
JIS C2101
ASTM D 877
IRAM 2341
SABS EN 60156

2000 2010 2013

Over 20 standards worldwide

A global leader for good reason

BAUR works with universities, laboratories, and standardisation and test bodies to advance the testing of insulating materials and the associated standards. The expertise acquired over the last six decades in the development of our insulating oil testers has been incorporated into national and international standards, which today define the industry standard.

BAUR devices for insulating oil testing

For testing the breakdown voltage und dissipation factor measurement

BAUR
ensuring the flow

Determining the breakdown voltage

Efficient and reliable

The insulation capacity of insulating liquids is assessed using breakdown voltage testing. The test results indicate whether any ageing of the oil has taken place, e.g. due to excessive water content, impurities or oxidation of the oil.

The right device for every situation

The BAUR DPA 75 C is a breakdown voltage tester designed for both laboratory and mobile use. The larger DTA 100 C unit is designed for continuous operation in the laboratory.

Superior quality that you can depend on

- Measurement technology and power electronics designed for long service life
- High-quality glass test vessels
- Precise, reliable and reproducible measurement results over very long periods

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

DPA 75 C

With its rechargeable battery mode, the mobile DPA 75 C device is suitable for use in a laboratory as well as for in situ measurements on power transformers. The device delivers a maximum test voltage of 75 kV_{rms} symmetric.

More information on our website:
baur.eu/en/dpa-75-c

DTA 100 C

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.

More information on our website:
baur.eu/en/dta100c

Simple and stable

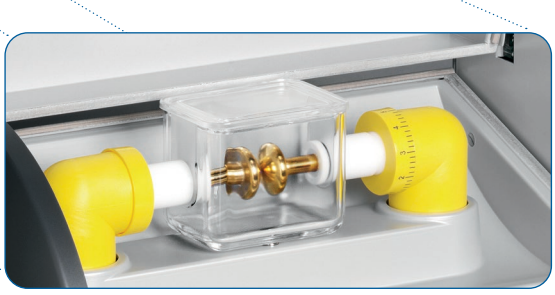
Easy and accurate test cycles are guaranteed for all BAUR electric strength test devices. The testing is carried out completely automatically based on current, global test standards, which are storied in the device and can be called up for the test. It is also possible to define and call up your own 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 on the secondary side at the device's high-voltage generator, which means that very precise measurement results can be achieved. It also permanently monitors the voltage rise. Our "Real Breakdown Monitoring" (RBM) has proven itself excellent in practice.



Dissipation factor measurement

Diagnostics for condition evaluation

Technical information and data sheets for each of our products is available at **www.baur.eu/en/ift**

The well-founded analysis and diagnostic testing of insulating liquids with the BAUR DTL C device play an important role in research and development, and in practical applications. Knowledge on the current ageing condition of insulating liquids is becoming increasingly important for cost-optimised, safe mains operation. The values measured using the BAUR DTL C device can be used to detect contamination of the oil, as well as undesirable oxidation products or the presence of internal partial discharges in the equipment.

Automatic analysis results

The device measures the dissipation factor, the specific resistance and the relative permittivity of insulating liquids in a fully automatic manner. The BAUR DTL C comes with twelve different test sequences corresponding to international standards (according to IEC and ASTM) for fast, comprehensive analysis results. Up to ten individual test sequences can also be defined.

Perfection in detail

The dissipation factor measurement (tan δ) can be determined with a level of accuracy of up to1 x 10^{-6}. The DTL C features rapid cell induction heating with very accurate temperature regulation that ensures extremely reliable, precise, and standard-compliant results. 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 TΩm
- Automated cell draining for multiple measurements via magnet discharge valve
- Contactless sample exchange at operating temperature

Product function matrix

	Products	Application / measurement methods: Breakdown voltage test	Dissipation factor measurement (tan δ)	Specific resistance measurement	Relative permittivity (ε_r)	Measured data management with software ITS Lite
Mobile device	DPA 75 C Oil breakdown voltage tester	■				■
Laboratory equip-ment	DTA 100 C Oil breakdown voltage tester	■				■
	DTL C Oil tan delta and resistivity tester		■	■	■	■

Professional consultation and service worldwide

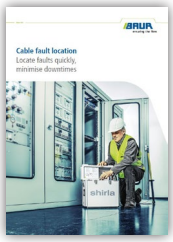
We offer reliable service by competent experts and a comprehensive range of services. We are happy to offer assistance in the following areas:

- 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:
baur.eu/service

Other BAUR Brochures

Cable testing and diagnostics

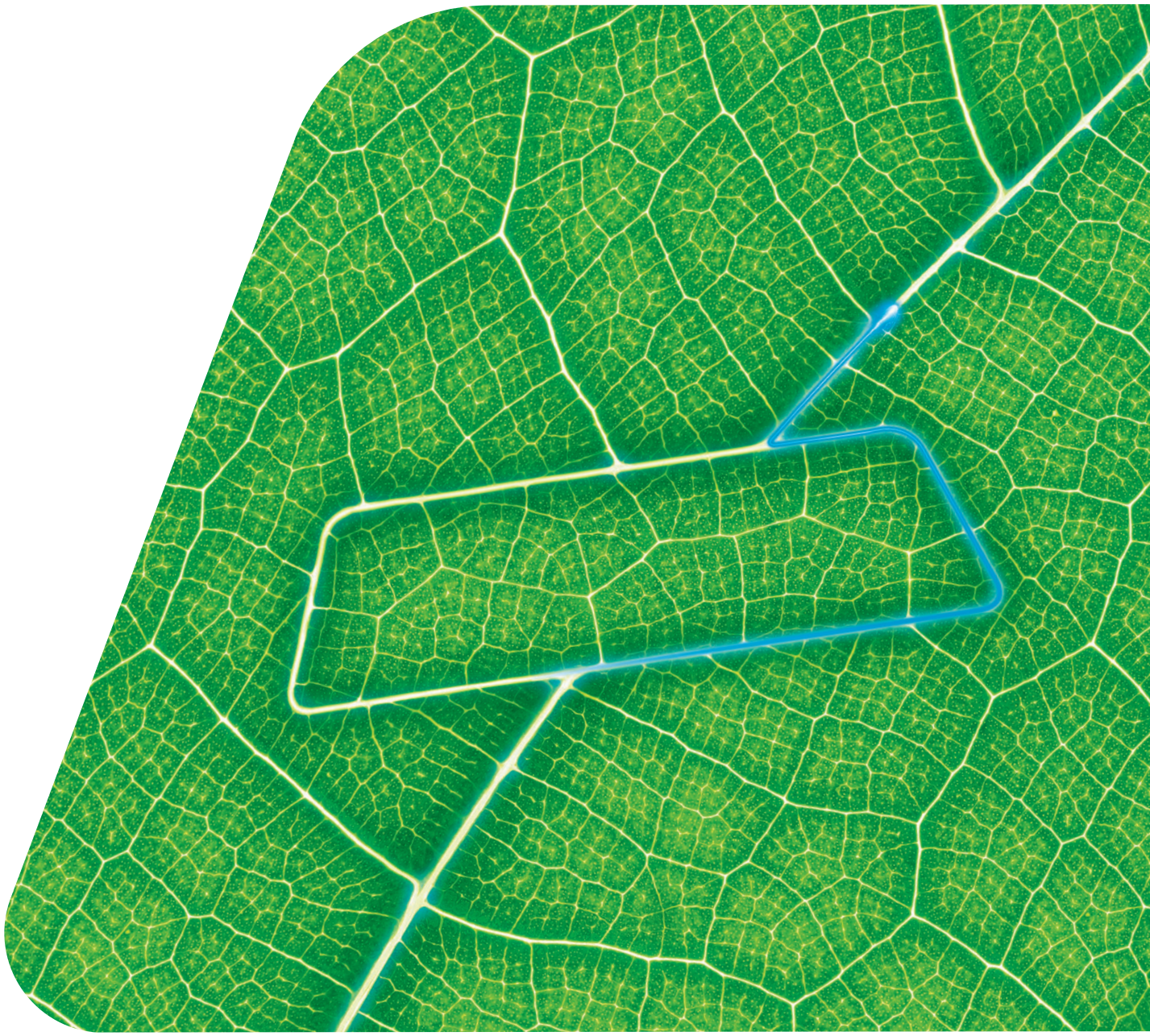


Cable fault location

Cable test vans and systems

Product overview

Further product information is available at:
baur.eu/brochures



BAUR GmbH · Raiffeisenstraße 8 · 6832 Sulz · Austria
T +43 5522 4941-0 · headoffice@baur.eu · www.baur.eu

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