ENERGY SUPPORT

TOGA GC 2

Fully automatic DGA analysis

with vacuum degassing to analyse dissolved gases

according ASTM D3612 and IEC 60567

- Fully automatic process, Windows Software controled
- With vacuum degassing (mercury-free)
- Measurement of total gas content
- Measurement of 11 dissolved gases with very high sensitivity
- Calibration with an low cost traceable calibration gas mixture suitable for all new insulating oils or used insulating oils
- User-friendly menu navigation
- No additional sample preparation
- Columns with individual controls for sensitive separation
- Very fast measurement thanks to quick cooling at the start of the new measurement
- Power consumption below 500W
- Recommended for the heat run test
- Optionally upgradeable with an autosampler for 16 or 32 oil samples

**The TOGA2 DGA provides a detailed condition check of the transformer and detects gas concentration due to thermal faults or electrical discharges at an early stage.
By investing in a TOGA2, you can ensure that your critical infrastructure is equipped to meet the demands of today and tomorrow.**

The autosampler increases the efficiency of the TOGA2 DGA system. The user-friendly operation enables fast and reproducible analysis of oil samples.

Simply insert your syringe into the sample tray – completely contamination-free – and start the user-friendly Windows software.

The TOGA2 DGA system allows the entire system to be calibrated during the measurement routine.

The TOGA2 is currently the only system that measures the total gas content during the degassing process. The increase in total gas content (TGC) is a clear indication of faults in the transformer, which may be thermal, electrical or mechanical.

The oil sample is degassed by multi stage vacuum extraction,
according ASTM D 3612 / IEC 60567).

Gas chromatographic analysis is performed using a thermal conductivity detector (TCD), a flame ionisation detector (FID) and a methaniser.

Calibrate with a certified gas mixture - you can measure all insulating oils, whether new or used, Esther synthetic or others.

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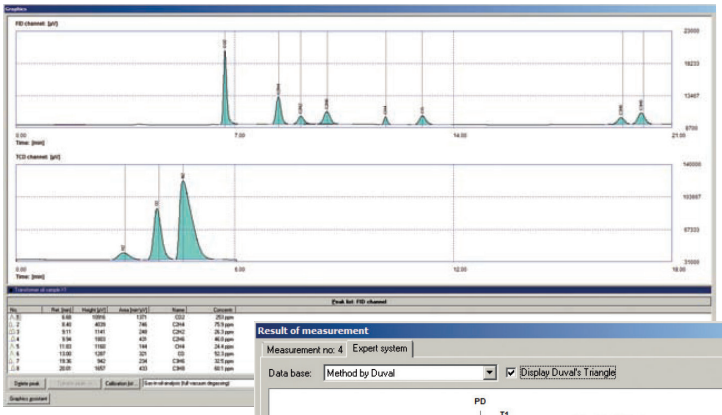
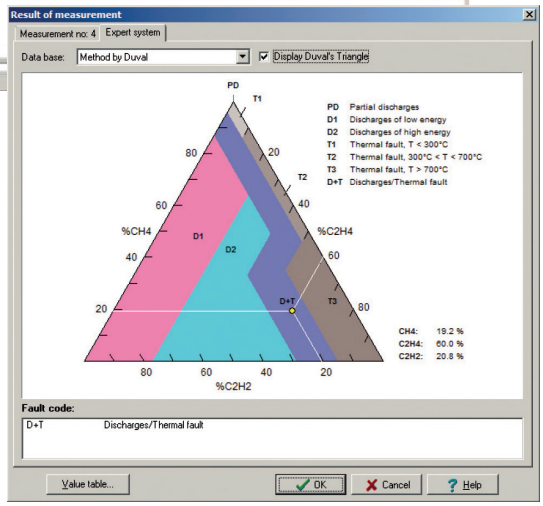
Detection limits:

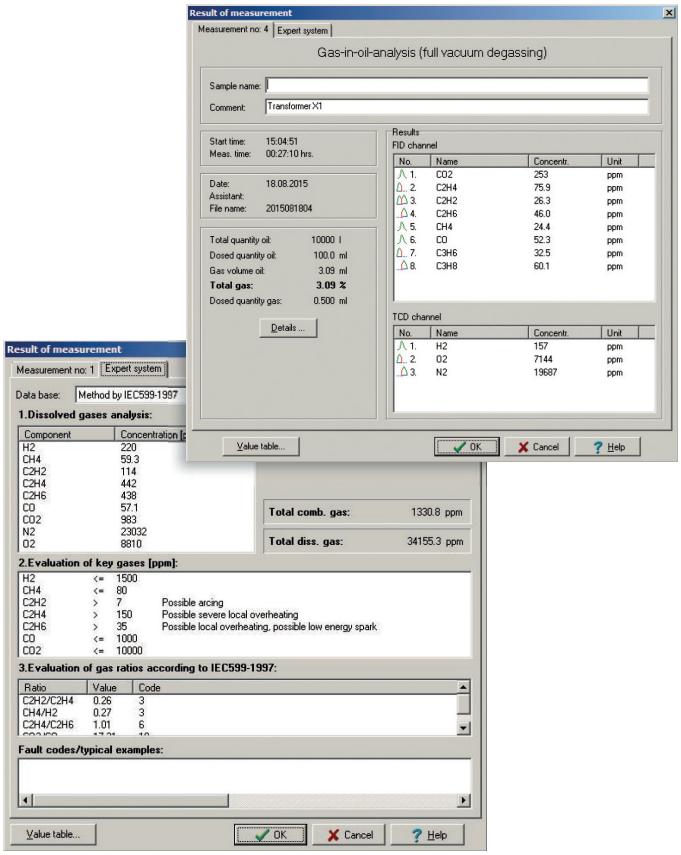
H_2	1 ppm	C_2H_2	0,1 ppm	C_3H_8	0,5 ppm
CO	0,2 ppm	C_2H_4	0,1 ppm	O_2	30 ppm
CO_2	0,2 ppm	C_2H_6	0,1 ppm	N_2	30 ppm
CH_4	0,1ppm	C_3H_6	0,5 ppm		



All results are displayed in ppm, with a sensitivity of only 0.1 ppm for hydrocarbons.

This means that even new transformer oils and transformers can be analysed after their regular maintenance.





The TOGA2 is supplied with the Expertsystem software.
This gives the option of using various diagnostic methods, for interpretation of your faults.

However, you can also design your own method and define individual gas concentrations as the basis for condition assessment.

Technical data:

Vacuum degassing:	**Multi-stage membrane pump without mercury** **Fully automatic cleaning after degassing,**
no carry-over:	
Vacuum sensor:	**0,1 – 200 mbar**
Sample volume:	**30-50ml**
Gas chromatograph:	**TCD thermal conductivity detector** **FID flame ionisation detector** **Methaniser** **2 micro-packed columns**
Autosampler (optional):	**for 16 or 32 syringes 30/50 ml**
Calibration:	**with only one certified gas standard for new and used oils**
Power supply :	**100-240 V AC 50/60Hz**
Weight:	**28 Kg**
Dimensions:	**520x33x370mm**

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