

TOP TOGA GC

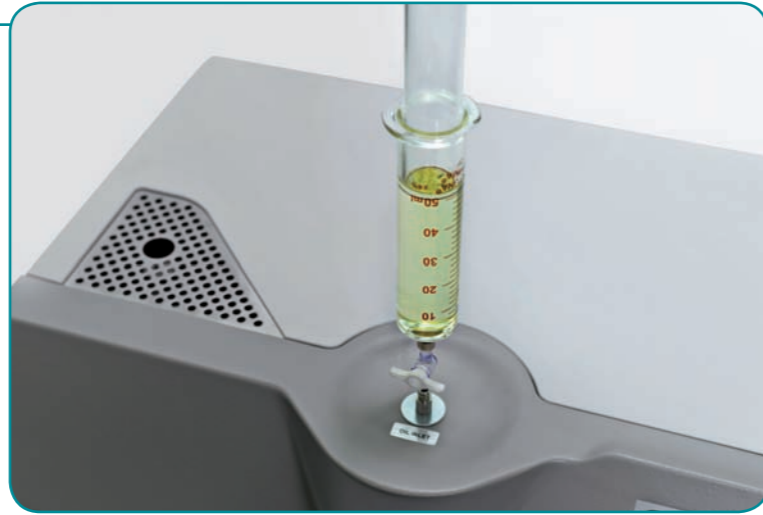


Dissolved Gas Analysis with automatic full vacuum degassing according to ASTM D3612 / IEC 60567

- » One-touch operation
- » Fully automatic procedure
- » Multi-periodic vacuum degassing
- » Full TOGA analysis (11 gases) and Total Gas Content
- » Automatic transfer of gas sample
- » Easy calibration of the whole system with traceable calibration gas
- » Accurate measurement of total gas content
- » Most sensitive detection for Acceptance- Service- and Routine tests (0,1ppm)
- » Adaptable for Factory Transformer Heat-Run tests
- » Ideal solution for laboratories and workshops
- » Auto-sampler available for 16 – 32 samples for unattended operation
- » Expert System for quick and easy conclusions Evaluation according to: IEC 60599, Roger ratios, Duval etc.

The TOP TOGA GC has been designed for a fast and reliable measurement routine.

The analysis –done in 2 steps – follows the exact ASTM and IEC standard guidelines. For many decades Dissolved Gas Analysis has proven to be a favourable method for insulation diagnosis. The TOP TOGA GC has been developed to be user-friendly and deliver reliable and more accurate results.



The Auto-sampler Technology has been designed to increase the efficiency of the TOP TOGA system to make it more user-friendly, cost-effective and for easy interpretation of results. It provides optimum value, time-efficiencies and excellent performance. There is no longer a need to change sample containers once the oil sample is taken from the transformer.

Simply plug your syringe into the sample tray – absolutely contamination free. The TOP TOGA system even allows for calibration of the complete system during the measurement routine.

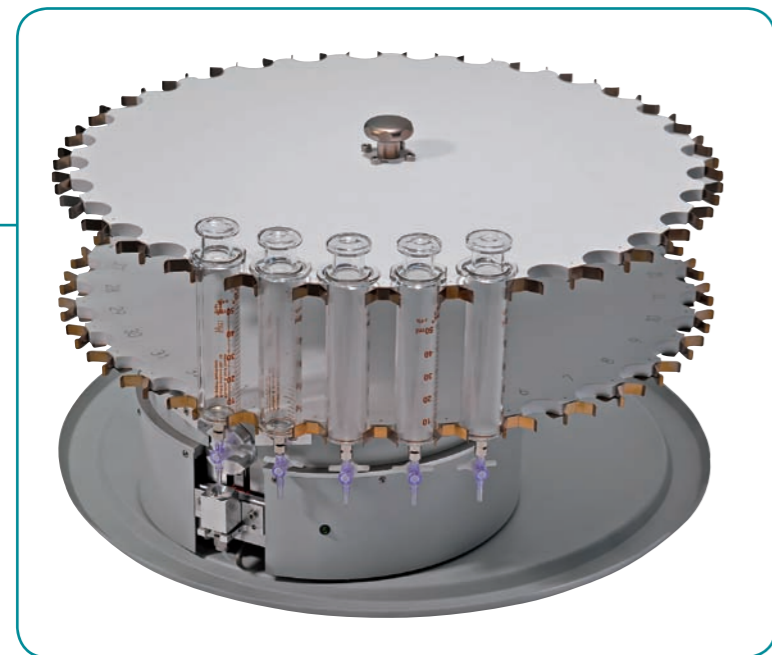
Equally important is the Total Gas Content. The TOP TOGA GC is currently the only system which measures the Total Gas Content during the degassing process accurately. The increase in the Total Gas Content (TGC) is a clear indication of existing faults in the transformer, which can be thermal, electrical or mechanical in nature.

The analysis is done in 2 steps with high selectivity and accuracy, fully compliant with laboratory procedure.

Degassing of the oil sample is done through multi-periodic vacuum extraction (accord. to ASTM D 3612 / IEC 60567).

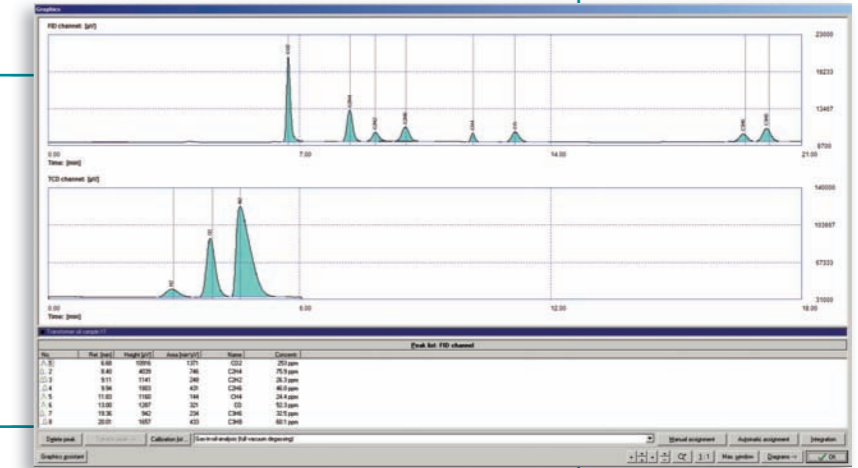
The gas sample is automatically transferred to the GC.

Gas Chromatographic analysis is done with a Thermal Conductivity Detector (TCD), Flame Ionisation Detector (FID) and with a Methanizer.



Gases and Detection ranges:

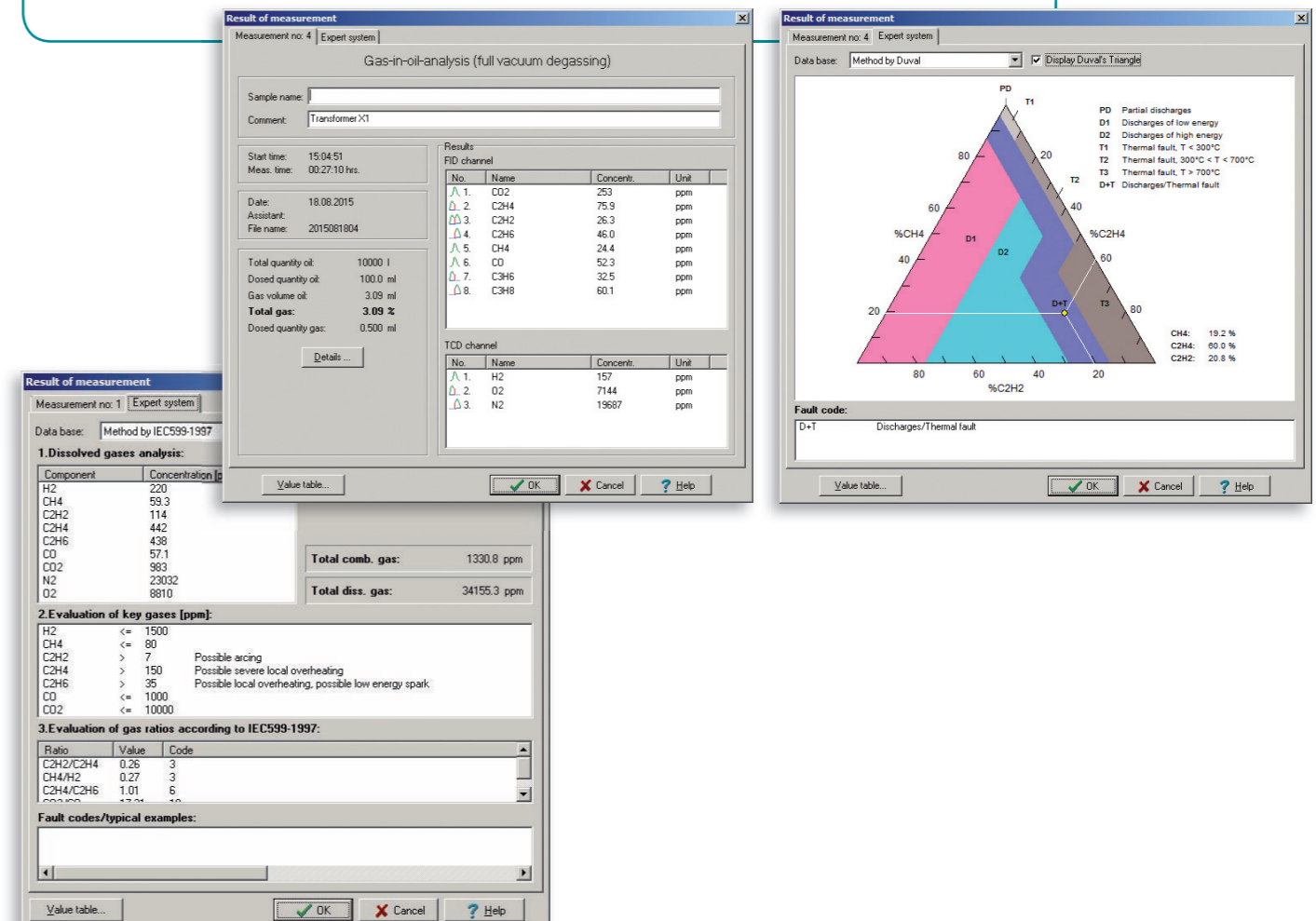
H ₂	1 ppm	C ₂ H ₂	0,1 ppm	C ₃ H ₈	0,5 ppm
CO	0,2 ppm	C ₂ H ₄	0,1 ppm	O ₂	30 ppm
CO ₂	0,2 ppm	C ₂ H ₆	0,1 ppm	N ₂	30 ppm
CH ₄	0,1 ppm	C ₃ H ₆	0,5 ppm		



All results are displayed in ppm, sensitivity is as low as 0,1ppm for hydrocarbons. Therefore, new transformer oils and transformers following their periodic maintenance can also be analysed.

Besides the display of the results in ppm, all other operating conditions are registered and stored in a database together with all remaining parameters.

The graphics of the results is displayed in real time on the monitor, in the table or/and as a test report in a print file. All relevant data is stored in a measurement file. The integrated Expert System will analyse even the smallest deviations in the gas parameters.



Technical Details

Vacuum degassing:	Oil- and Mercury-free
Vacuum sensor:	0,1 – 200 mbar
Sample volume:	30 – 100 ml
Gas Chromatograph:	Thermal Conductivity Detector (TCD) Flame Ionisation Detector (FID) Methanizer 2 Micro packed columns Furnace cassette with column and temperature programmed column heating system, separate heating and cooling of each column.
Auto-sampler:	Sample tray interchangeable for 100ml, 50 ml or 30 ml glass syringes Available for 16 or 32 samples For all types of transformer oils (new and used) Procedure fully-automatic, contamination-free injection of oil samples, integrated rinsing steps to avoid carry-overs, plausibility tests.
Calibration:	With standard gas for the complete TOP TOGA DGA procedure
Power Supply:	100-240 VAC 50/60 Hz
Gas requirements:	99,999% Argon for GC 99,999% Hydrogen for GC 99,995% for VDU Synthetic Air for GC
Width/Height/Depth:	520 x 330 x 370mm
Weight:	42 Kg



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