

Chromatography



You may have many questions about **CHROMATOGRAPHY**, such as:

What does it do?
How does it work?
What good is it?

We would like to briefly answer these questions.

What does it do?

Gas Chromatography is used to find the electrical fault gases in the fluid of a liquid filled high voltage power transformer. Much like a blood sample, the information is then used to determine the health of the transformer. If there are indications of problems in the transformer, preventive measures may be taken to avoid further deterioration of the transformer or to avoid transformer failure and the loss of production due to an unscheduled outage.

How does it work?

Using a sealed glass syringe, a sample of the fluid (i.e. oil) in the energized power transformer is removed so as not to expose the sample to air. The sample is then analyzed using Gas Chromatography to determine the Parts-Per-Million of key combustible gases. Gases such as methane, ethane, ethylene, hydrogen, acetylene, carbon monoxide, and carbon dioxide are measured. The presence and relationship of these key indicator gases reveals more about the condition of the transformer than all other tests combined. By periodically sampling and analyzing important transformers, our engineers are able to monitor the condition of a transformer and predict deterioration and incipient failures. We are also able to prevent problems caused by overloading and moisture before they destroy an expensive power transformer.

What good is it?

The use of periodic combustible gas-in-fluid analysis of high voltage electrical power transformers can prevent the unnecessary destruction of expensive transformers; it can prevent the expense of unnecessary and prolonged interruptions of power. It can give an early warning of transformer problems such that remedial action can be taken to save your transformer. It is the single most powerful tool for monitoring the condition of a fluid filled transformer; for predicting deterioration of the transformer insulation; and for predicting transformer failure.

Combustible gas-in-fluid analysis using Chromatography has saved our customers more money from unexpected transformer failures than all other transformer tests and services combined.