



**BGA®**

Breaker Gas Analysis

## fast and efficient Sampling, reliable Analysis

### breaker gas analysis

TJ|H2b offers a time- proven service for the testing of Sulfur Hexafluoride (SF6) that significantly reduces the cost of circuit breaker and GIS maintenance. The Breaker Gas Analysis, BGA®, analytical test procedures are used to determine the composition of the gas including the decomposition products of SF6, moisture and dielectric breakdown voltage. Analysis of SF6 contaminants and breakdown products gives diagnostic information about the operating condition of the gas-filled equipment.

The use of SF6 analysis reduces the maintenance cost of breakers by identifying those breakers that have internal problems, safety issues or special handling needs. The time required to remove the SF6 gas from a breaker, to perform an internal inspection and replace the gas requires 10 – 20 man-days. The variation in time depends upon the voltage class and model of the breaker. Perhaps more importantly, SF6 analysis reduces maintenance costs by identifying those breakers that do not require maintenance.

Gas analysis is useful throughout the life cycle of the equipment beginning with acceptance testing. This includes verification of the quality of the gas supply as well as the verification of the quality of the gas in equipment that is ready to be commissioned. This addresses purity and contaminant issues that can significantly reduce life.

Time and predictor driven testing during the life of the equipment can provide indication and identification of faults and failure modes. At the same time, the analysis provides indication of the wear out of key interrupter and contact components. This information can be used to schedule and direct in-tank maintenance activities as they are needed. As maintenance is planned knowledge of the gas condition is valuable before maintenance is begun.

### gas sampling collection unit

Proper sampling of SF6 is critical to an accurate diagnostic assessment. TJ|H2b has established a sampling procedure that utilizes a gas sampling collection unit which permits samples to be collected free of interfering moisture and oxygen. The proprietary Gas Sample Collection Unit (GSCU) has been designed to allow maintenance personnel to safely and easily procure a gas sample from circuit breakers and GIS. This compact, two-cylinder device eliminates the need for SF6 collection devices that are equipped with vacuum pumps. The GSCU is designed to maintain vacuum or pressure to meet normal shipping and handling requirements. Samples are typically collected within minutes and there is negligible release of SF6 to the atmosphere.



GSCU

### benefits

- **reliable diagnostics.** BGA® provides information about the operating condition of the gas-filled equipment, reducing costs associated with unnecessary maintenance.
- **improved handling, processing and safety.** Handling, processing and safety can be better managed when the gas composition is known.
- **better sampling.** TJ|H2b's GSCU permits the sampling of SF6 from equipment in minutes and without interfering moisture or oxygen.
- **minimizes environmental impact.** Release of SF6 to the atmosphere is negligible during the sampling process.