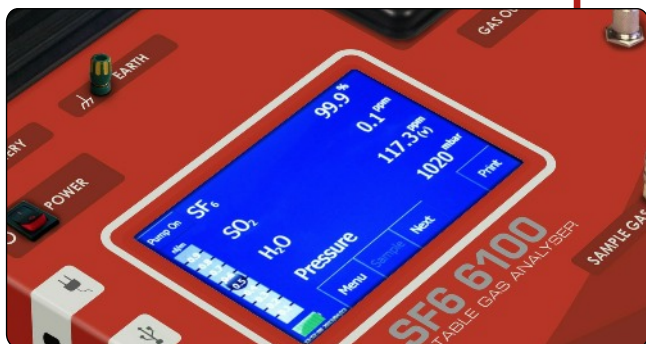


SF₆ Product Guide

Gas Analysis Instruments and Accessories





Cambridge Sensotec Ltd specialises in the design and manufacture of gas analysis equipment under the Rapidox brand name. Based in the UK, the company has an established worldwide distribution network and ISO 9001 accreditation.

The Rapidox range includes high precision, scientific gas analysis instruments designed for use in industrial processes, quality control applications, environmental monitoring and research and development experiments. Powerful bespoke software is supplied with every analyser, providing users with many valuable functions and features.

Initially specialising in oxygen analysis, Cambridge Sensotec has since diversified and extended its product range into other gas analysis markets, including SF₆ gas monitoring.

Working with Cambridge Sensotec

As a privately owned company staffed by highly skilled technologists, Cambridge Sensotec is perfectly placed to react to its customers specialised gas analysis requirements. Advantages include;

- Bespoke solutions
- Competitive pricing
- Global distribution
- Product training
- Multi-industry experience
- Application knowledge
- ISO 9001 accreditation
- High precision products
- Reliability
- Technical support
- Consultancy
- Customer service



Industry Guidelines

SF₆ is an extremely chemically stable, non-flammable and highly electronegative greenhouse gas with excellent dielectric properties. It is commonly used within medium and high-voltage electrical equipment as an electrical insulator, arc quenching and cooling medium.

The Kyoto Protocol is an international agreement that commits its parties by mandating country-by-country reductions of harmful emissions. Under the protocol SF₆ gas is classified as a greenhouse gas with limitations on the amount that can be released into the atmosphere.

To protect personnel, equipment and the environment, regular SF₆ gas analysis should be adopted within the maintenance schedule. The early identification of any decomposition products and moisture within the SF₆ gas will avoid unnecessary shutdowns, outages and failures, in addition to reducing maintenance expenditures.

Applications



Manufacturing



Medical



Electrical

Although used primarily within the electrical industry, SF₆ gas is also found in many applications, including;

- Gas-insulated high-voltage medical equipment
- Medical monitoring and analysis, such as within Ophthalmology
- Recovery and storage of gases for analysis or recycling
- Detecting the presence of leaks and SF₆ discharge
- Magnesium and aluminium production
- Testing SF₆ process gas within semiconductor manufacturing



Rapidox SF₆ 6100 Pump Back Gas Analyser

The Rapidox SF₆ 6100 Pump Back is a battery operated, fully automated SF₆ gas analyser designed for monitoring and analysing the quality of SF₆ within medium and high-voltage gas-insulated electrical equipment.

The analyser is pre-programmed with all current IEC and CIGRE test configurations. Customised tests can also be set. A choice of compatible gas sensors is available to suit the application.

Sample gas input into the analyser can be measured in just a few minutes. Once analysis has taken place, the user has the option to store the SF₆ gas within the analyser for disposal or recycling, or to pump it back into the electrical equipment at pressure, ensuring that no gas escapes in-between sampling.

The integrity of the gas is maintained through the vacuum purge cycle and storage system, which ensures that no air contaminates the gas sample and that no SF₆ escapes from the analyser.

Applications



Features

- Lithium battery provides up to 8 hours of operation
- Integrated thermal printer
- 7" full-colour touch screen
- Housed within a heavy-duty IP66 case
- Multi-language
- Fully transportable
- Automated pump back system



Rapadox SF₆ 6100 Portable Gas Analyser

The high precision sensor technology used within the Rapadox SF₆ 6100 Portable provides exceptionally stable and accurate SF₆ readings over a short measurement time. The lightweight design enhances usability and the instrument is ideal for field-based analysis.

It is important to measure potential decomposition products formed alongside SF₆, after electrical discharges. The Rapadox SF₆ 6100 Portable is available with a choice of compatible sensors to detect impurities within the gas sample, such as dew point which has a detrimental effect on the dielectric properties of SF₆ gas.

The analyser is fitted with the unique Rapidri system, to accelerate the time taken for the dew point sensor to dry. This enables the user to achieve a stable reading rapidly in between gas sampling operations, especially if used within a humid environment.

As with the Pump Back, IEC and CIGRE compliant test configurations are pre-programmed for fast operation.

Features

- Housed within a heavy-duty IP66 case
- 7" full-colour touch screen
- Multi-language
- Lightweight and fully transportable (8.5kg)
- Integrated thermal printer
- Compatible with the Rapadox SF₆ Gas Recovery Bag

Applications





Rapidox SF₆ 6100 Bench Gas Analyser

The Rapidox SF₆ 6100 Bench gas analyser is a triple gas analyser designed for analysing the quality of SF₆ gas within a range of applications. These include laboratory-based research and development, SF₆ gas-insulated electrical equipment, manufacturing and medical monitoring.

High precision SF₆, SO₂ and H₂O sensors provide an accurate analysis of SF₆ purity and any decomposition products formed within the gas sample.

Included within the analyser are two fully programmable alarm settings for high and low, with open or closed relays, digital outputs and fully programmable analogue outputs. The powerful Rapidox software package provides full control of the analyser and produces live graphing and Excel compatible data-logging.

The Rapidox SF₆ 6100 Bench analyser is also available as a complete and portable kit allowing users to carry any equipment required within a heavy-duty IP66 case.

Applications



Features

- Optional variable speed pump
- Compatible with the Rapidox SF₆ Gas Recovery Bag
- Digital outputs and fully programmable analogue outputs
- Available as a complete and portable kit



Rapidox SF₆ Gas Recovery Bag

The Rapidox SF₆ Gas Recovery Bag is designed to store samples of gas until they are able to be properly recycled.

Up to 80 litres of gas can be stored at standard pressure, allowing for many hours of testing before the bag needs to be emptied. Once the user has finished or the bag has become full, it can be returned to a recycling facility.

The bag is constructed from extremely tough polyamide material and is also suitable for recovering, sampling, storing and transporting many other gases.

Each Rapidox SF₆ Gas Recovery Bag is supplied with an industry standard, compatible self-sealing return valve. This allows the user to add optional valves with a male rectus fitting for the recovery of SF₆ gas.

Additional DN8 and DN20 couplings are available for the Rapidox SF₆ 6100 analysers, alongside a range of stainless steel braided hoses. All components fit neatly inside the heavy-duty IP66 case.

Rapidox Configuration

The Rapidox SF₆ 6100 Pump Back and Portable gas analysers can be configured to the individual customers requirements, with a range of compatible gas sensing combinations available.

Powerful and bespoke Rapidox software is supplied with all of the SF₆ analysers, providing live results of each gas sensor, which are available to view via on-screen graphing.

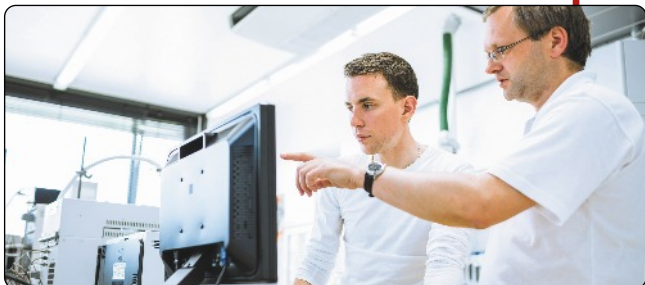
Gas measurement data is recorded in Excel compatible format. Historical data is accessible for review and download, enabling further analysis.

Cambridge Sensotec Service

Cambridge Sensotec offers a range of Rapidox servicing options, such as calibration which significantly increases the measurement, reliability and repeatability of gas analysis equipment when carried out regularly.

Team Viewer™ is a remote diagnostics service that allows for Cambridge Sensotec technicians to easily assist with technical advice tailored towards each individual Rapidox user. Provided under warranty, Team Viewer™ is able to log-on to the PC connected to the analyser directly, allowing for quick and easy diagnostics without the need for costly return shipment.

If no internet connection is available to the unit, diagnostic data is able to be downloaded from the Rapidox and sent to Cambridge Sensotec via email, for analysis.



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