Technical Data

Rapidox 6100 Clean Air

Pumpback Analyser

Features

- **Portable and user-friendly**
- **Handles all mixtures of Clean Air**
- **Battery operated**
- **Integrated thermal printer**
- **IP66 Peli case for protecti on**
- **Rapid Analysis and data logging**
- **7" Colour LCD touch-screen interface**
- **Multi -language**
- **Customisable options**

The **Rapidox 6100 Clean Air** is a fully-automatic zero-emissions portable gas analyser for measuring gas compartments containing Clean Air alternatives to traditional SF_6. Clean air is typically a mix of dried N_2 and O_2 in approx. 80/20 ratio. The brand names for these gases are DryAir and Synthetic Air.

The Rapidox will measure the gas purity, water-content and contamination gases in each gas type in all current low, medium, and high voltage switchgear, circuit breakers and transformers as well as gas bottles. It is a fully portable lithium battery powered instrument.

Exceptional accuracy and stability are provided when measuring the purity of the compartment gas, through specially selected sensors. The Rapidox is fully compatible with mixtures of N_2 and O_2, together with nitrogen dioxide (NO_2) which is the primary toxic contamination gas. The unit also measures the water content of the gas in dewpoint or ppm to ensure dryness is acceptable.

The **Rapidox 6100 Clean Air** is housed neatly into an IP66-rated Peli transport case and supplied with sample hoses, DN8 and DN20 coupling accessories. During the measurement, the Rapidox automatically removes a small quantity of pressurised gas from the electrical equipment or gas cylinder, controlled with an automatic pressure sensing function. A vacuum purge cycle and internal gas storage system ensures that no external fresh air can contaminate the gas sample and that no test gas is able to escape during the testing period.

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All measured gases are analysed and data logged simultaneously with only a few minutes required to achieve a stable reading. A powerful compressor then returns the gas to the electrical equipment at high pressure. Results are displayed on screen and printed using the inbuilt thermal printer if required. The unit has multiple safety features built in to ensure the cycle is completed correctly without gas loss or cross contamination.

Please contact Cambridge Sensotec for further information or to discuss your requirements.

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Integrated thermal printer

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Sensor Specification

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Air / O_2 / N_2	Range: 0-100% as air, 0-30% as O_2 Accuracy: ±1% Full-scale Calibration: Recommended every 12-24 months Life Span: Up to 5 years Sensor Type: Electrochemical
H_2O - Dew Point	Range : -60°C to +20°Cdp. (10 - 24,000ppmV) Reading is corrected to either RT or 20°C Accuracy : ±2°Cdp of reading Calibration recommended every 12 months by Sensor Exchange Life span : 2-3 years Sensor type : Polymer
NO_2 - Nitrogen Dioxide	Range: 0-20ppm OR 0-200ppm Accuracy: ±2% full-scale Calibration: Recommended every 12-24 months Life Span: Up to 4 years Sensor Type: Electrochemical

All sensor replacements are to be carried out by Cambridge Sensotec or an approved service partner.

SF_6 Replacement Gases

Clean Air is being used more commonly for low,medium and high voltage applications as a replacement for SF_6. Clean Air has a zero GWP (Global Warming Potential) compared with 23,900 for SF_6 and is therefore an ideal green substitute gas. Mixing the sample gas with fresh air is to be avoided at all costs as the gas must be ultra-dry to remain effective as an insulator. The Rapidox guarantees this with its zero emissions sample design.

For the future green power transmission and distribution network, gas insulation technology using Clean Air alternative gases is becoming increasingly important. To protect personnel, equipment and the environment, regular gas analysis should be adopted within the maintenance schedule. The early identification of any decomposition products and moisture ingress within these gases will help avoid unnecessary shutdowns, outages and failures, in addition to reducing maintenance expenditures.

Robust Peli case with integrated trolley and carry handles

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Specifications

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	Rapidox 6100 Clean Air
Ambient Operating Conditions	-10°C to +40°C, 10-90% RH, 600-1100mbara
Warm-up Time	Min 3-4 minutes at 20°C (Recommended 15 mins to achieve full accuracy)
Charging Voltage	90-260 VAC, 50/60Hz
Battery Life	Up to 8 hours. 4-6 hour charge
Sample Connections	Rectus style fitting compatible with famous brands
Data Outputs	Excel compatible data via USB memory stick
Data Storage	4GB internal data storage allowing for approximately 1 year of continuous monitoring
Compressor	Up to 10 Bar with up to 15 cycles per battery charge at 20°C
Measurement Time	2-8 minutes (Min 6 minutes required for H_20)
Pressure Range	0.5-35 Bar
Gas Flow Rate	0.5L.min-1
Max Inlet Pressure	35 Bar gauge (10 Bar for Pumpback operation)
Display	7" (178mm) full-colour LCD touch screen interface with soft menu keys
Printer	Integrated thermal printer allows output of results on demand
Analyser Dimensions	270mm(H) x 560mm(W) x 450mm(D)
Weight	21kg (Total instrument and case)

Due to continuous product development necessary changes to specifications may be made without prior notice. Issue no: D62-204-1

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