RAPIDOX 6100 PUMP BACK GAS ANALYZER

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The Rapidox SF6 6100 Portable is designed for controlling and monitoring the quality of SF6 in medium and high voltage gas insulated electrical equipment.

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Exceptional accuracy and stability are provided when measuring the purity of SF6 gas, through specially selected sensors. The modular configuration allows for up to eight compatible gases to be analysed, simultaneously, with one analyser.

A gas output nozzle allows for the analyser to be attached to the Rapidox Gas Recovery Bag, ensuring that all sampled SF6 gas is recovered.

Internal SF6 gas pressure is recorded and logged by the analyser. All measured gases are analysed and data logged simultaneously with only a few minutes required to achieve a stable reading.

In order to accelerate the time taken in-between dew-point readings, a unique Rapidri system is fitted to analysers measuring H2O. When not in use the sensor can be isolated via the 'Open-Close' valve.

The analyser is pre-programmed with all current IEC and CIGRE test configurations, with the ability to create customised test parameters. Modular design allows for bespoke sensor combinations upon request.

Please contact Amperis for further information or to discuss your requirements.

Though highly configurable to suit individual customer requirements, the Rapidox SF6 6100 Portable possesses a number of standard features to enhance functionality.

- Bespoke sensor combination.
- 7" full-colour touch screen.
- Lithium battery provides 8 hours of operation.
- Heavy duty IP66 case.
- Total weight 8.5kg.

- Continuous data logging downloaded via USB.
- Multi-language
- Charges on worldwide mains voltage
- Integrated thermal printer

SF_6 Gas

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

However, SF6 is classified as a greenhouse gas and must be kept within a closed circuit to avoid any deliberate release into the atmosphere. The international Kyoto agreement protocol has mandated reductions to harmful emissions amongst its member states.

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

Accesories

1) Calibration Kit
2) Gas Recovery Bag
3) Tongue and Groove Self Sealing Couplings

SPECIFICATION	
Ambient Operating Conditions	-10°C to +40°C, 10-90% RH, 800-1100mbara
Warm-up Time	3-4 minutes at 20°C
Voltage (Charging)	90-260 VAC, 50/60Hz
Battery Life	Up to 8 hours. 4-6 hour charge
Sample Connections	Special tongue and groove self sealing couplings (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
Gas Flow Range	100-1,000ml $.min^{-1}$
Max Inlet Pressure	10 Bar gauge

Optional Pump	0-1 litres per minute
Display	7” (180mm) full-colour LCD touch screen interface with soft menu keys
Printer	Integrated thermal printer allows output of results on demand
Analyser Dimensions	180mm(H) x 480mm(W) x 360mm(D)
Weight	8.5kg (Total instrument and case)

Rapidox SF6 6100 Portable Sensor Specification

The modular configuration allows for up to eight compatible gases to be analysed simultaneously with one analyser.

SENSOR	SPECIFICATION	ACCURACY	CALIBRATION	LIFE SPAN	SENSOR TYPE
SF6 Sulphur Hexafluoride	0-100%	±0.5% accuracy	Every 12 months	> 5 years	Infrared (IR)
H2O Dew Point	-60o C to ±20o Cdp @Patm (10-24,000ppmV) Reading is corrected to either RT or 20°C	±2o Cdp of reading	Every 12 months by Sensor Exchange	2-3 years	Polymer
SO2 Sulphur Dioxide	0-100ppm OR 0-500ppm	±2% full-scale	Every 12 months	2-3 years	Electrochemical
HF Hydrogen Fluoride	0-10ppm OR 0-20ppm	±2% full-scale	Every 12 months (Using HCl gas)	2-3 years	Electrochemical
CF4* Tetrafluoromethane	0-80%	±1% of full reading	N/A	N/A	(measured by balance of SF6 + Air reading)
H2S Hydrogen Sulphide	0-100ppm	±2% full-scale	Every 12 months	2-3 years	Electrochemical
CO Carbon Monoxide	0-1,000ppm	±2% full-scale	Every 12 months	2-3 years	Electrochemical
Air / N2 Nitrogen	0-100%	full-scale based on oxygen component	Every 12 months	2-3 years	Electrochemical O2 scaled to read as Air or Nitrogen

*** For analysers containing a CF4 sensor, the measurement of Air is also a requirement.**
*** All sensor replacements to be carried out by Amperis or approved repair agents.**

Rapidox 6100 Sensor Matrix

Gas	SF6	O_2	Air	CF_4	H_2O Cdp	SO_2	CO	H_2S	HF	CO/H_2S
Sensor Type	IR	EC	EC	Balance	Polymer	EC	EC	EC	EC	EC
Life (Month)	60	36	36	N/A	36	36	36	36	36	36
Cal. (Month)	12	12	12	N/A	12	12	12	12	12	12
0-100%										
0-80%										
0-60%										
0-30%										
0-5,000 ppm										
0-2,000 ppm										
0-1,000 ppm										CO
0-500 ppm										
0-200 ppm										
0-100 ppm										H_2S
0-50 ppm										
0-20 ppm										
0-10 ppm										
-60°C to +20°C										