



CBA-2SFH

SF6 Gas Comprehensive Tester



Three Instruments, One Gas Sample.

Purity, moisture and decomposition products measured in a single pass. Testing SF6 quality has traditionally meant three instruments and three gas draws, each one venting insulating gas that has to be replaced. The CBA-2SFH takes all three readings from one sample, cutting both the time on site and the gas lost to testing.

Purity is measured by a temperature-compensated thermal conductivity sensor, moisture by an imported high-precision dew point sensor, and the decomposition products by European electrochemical cells. The probe self-calibrates its zero before each measurement, so drift is removed rather than accumulated between services.

Dew point settles in about three minutes from power-on, purity in under two. A 7-inch colour touchscreen shows dew point, micro water in ppm, purity, SO2, H2S and CO with ambient conditions. A rear-panel thermal printer puts the reading on paper at the equipment, so a result is signed off on site rather than transcribed later, and 1000 sets are held internally for transfer over USB.

Imported self-locking couplings close as they part, so no gas escapes at the joint. An optional cleaning device purges the internal path after each test, shortening the next settling time and stopping a dirty sample carrying over. The lithium battery runs more than twelve hours, and the instrument works equally from the mains.

KEY FEATURES

- Purity, dew point and decomposition in one draw
- Purity 0 to 100% at $\pm 0.5\%$, under 2 minutes
- Dew point -80 to $+20$ °C, settled in about 3 min
- H2S and SO2 to 200 ppm · CO to 1000 ppm
- HF to 10 ppm as a factory option
- Self-calibrating zero before every measurement
- 1000 sets stored · USB to PC · 12 h battery
- Built-in thermal printer for a record on site

IDEAL FOR

- GIS and SF6 switchgear routine gas checks
- Substation commissioning and acceptance
- Condition monitoring for arc decomposition
- Incoming cylinder verification and production QA
- Utilities, rail, petrochemical and heavy industry

MEASUREMENT RANGES AND ACCURACY

Measurement	Range	Minimum detection	Accuracy
Purity and moisture			
SF6 purity	0 to 100%	—	±0.5%
Dew point	–80 to +20 °C	—	±0.5 °C (–80 to –60 °C)
Decomposition products			
Hydrogen sulphide, H2S	0 to 200 ppm	≤0.1 ppm	±0.5%
Sulphur dioxide, SO2	0 to 200 ppm	≤0.1 ppm	±0.5%
Carbon monoxide, CO	0 to 1000 ppm	≤1 ppm	±0.5%
Hydrogen fluoride, HF (optional)	0 to 10 ppm	≤1 ppm	±0.5%

Repeatability is 2% or better on all four decomposition channels, each stable across its full measuring range. HF is a factory-fitted option and must be specified with the order.

MEASUREMENT AND RESPONSE TIMES

Measurement	Time
SF6 purity	Under 2 minutes
Dew point, from power-on	About 3 minutes to a settled reading
Dew point response, drying (–60 to +20 °C)	63% in 5 s · 90% in 45 s
Dew point response, wetting (+20 to –60 °C)	63% in 10 s · 90% in 240 s

Response times are quoted at +20 °C. Wetting is far slower than drying, which is normal for this sensor type: a sensor that has been reading dry gas takes four minutes to reach 90% when moved to a wetter sample, so allow for it when moving between compartments.

GENERAL SPECIFICATIONS

MEASURES

SF6 purity, dew point and micro water in ppm, and the decomposition products SO2, H2S and CO, with HF as an option · ambient temperature and humidity shown alongside

SELF-CALIBRATION

The probe zeroes itself before each measurement, removing zero-point error and drift rather than letting them accumulate between services

STORAGE AND OUTPUT

1000 sets of test data held internally · built-in thermal printer for a printed record at the equipment · USB type B to a PC, uploading through the supplied software

GAS CONNECTION

Imported self-locking couplings, sealed while connecting and disconnecting so no gas is lost at the joint

POWER

AC 100 to 240 V, 50/60 Hz, or the built-in rechargeable lithium battery · AC and DC dual use · 10 hours to charge, more than 12 hours of operation

DIMENSIONS · WEIGHT

250 × 230 × 300 mm · 6.8 kg net

SENSORS

Thermal conductivity with temperature compensation for purity · imported high-precision sensor for dew point · European electrochemical cells for decomposition products

DISPLAY

7-inch colour touchscreen, full touch control · dew point, micro water, purity, SO2, H2S and CO with ambient conditions, time and date on one screen

REAR PANEL

Thermal printer · USB type B port · air outlet, so sampled gas can be routed to recovery rather than vented · dedicated battery charging inlet

PIPELINE CLEANING

Optional automatic cleaning device purges the internal gas path after a test, improving settling time and accuracy on the next measurement

ENVIRONMENT

Ambient –40 to +60 °C · relative humidity 0 to 100%

WARRANTY

1 year, subject to product registration with GPS LTD · service and calibration available