

## SO<sub>2</sub> Upgrade for 973-SF<sub>6</sub> Analyzer

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### Latest Specifications

The 973-SF<sub>6</sub> is the most accurate and stable SF<sub>6</sub> gas analyzer currently available. With integrated SF<sub>6</sub> collection and pump back, it is the reference in the analysis of SF<sub>6</sub> and will exceed all current SF<sub>6</sub> measurement specifications. The SO<sub>2</sub> upgrade adds further functionality and extends the specification of the 973-SF<sub>6</sub> still further.

### Reference

Chilled mirror technology provides accuracy and stability for both dew/frost point and SF<sub>6</sub> purity. Users can be easily trained to achieve excellent measurement reproducibility and dependable results. Incorrect measurements from inferior instruments can waste time on site, waste SF<sub>6</sub> gas and can cause unnecessary SF<sub>6</sub> handling.

### Gas Recovery

The 973-SF<sub>6</sub> integrated gas handling system makes life easy for engineers performing measurements in SF<sub>6</sub>. The instrument needs no separate gas collection equipment. Tested SF<sub>6</sub> gas can be pumped straight back into the compartment or to another collection vessel without any loss of gas.

### SO<sub>2</sub> Functionality

Measurement of SO<sub>2</sub> concentration in SF<sub>6</sub> is increasingly popular in maintenance and system health checks. The 973-SO<sub>2</sub> upgrade includes a mechanical modification to switch gas flow through an integrated SO<sub>2</sub> measurement cell using the existing sample gas connection.

### SO<sub>2</sub> Maintenance

Since SO<sub>2</sub> sensors need routine replacement (approximately every 2 years), the measurement cell is mounted externally to the 973-SF<sub>6</sub> so that the user can easily replace the sensor when required. In combination with the high stability of the chilled mirror system, this means that the 973-SF<sub>6</sub> does not require frequent and costly return to the supplier or manufacturer.

### Compatible

The SO<sub>2</sub> upgrade can be factory applied to all 973-SF<sub>6</sub> Analyzers. However, older instrument may require more adaptations in order to work with the new SO<sub>2</sub> module. Please contact us to verify your serial number and get a reliable cost estimate.

### Service and Calibration

As part of the SO<sub>2</sub> upgrade, the instrument will be serviced and calibrated to original factory specifications. A calibration report will also be included.



## SO<sub>2</sub> Upgrade Details

- Instrument pre-check
- General cleaning
- Inspect, clean and test sample tubes and internal cylinder
- Replace back panel components
- Modify internal wiring
- Fit SO<sub>2</sub> measurement module
- Fit calibrated SO<sub>2</sub> sensor and printed circuit board
- Upgrade instrument firmware version
- Check functionality, control and coefficients
- Pressure calibration
- Dew/frost point calibration
- SF<sub>6</sub> Calibration
- Upgrade Report
- Calibration Report

## Specifications 973-SF<sub>6</sub> Analyzer

**Measuring Range:**

Frost/Dew Point	-50...+20 °C
Humidity content by volume	40...20'000 ppm <sub>v</sub>
Humidity content by weight	5...2'500 ppm <sub>w</sub>
Volume SF <sub>6</sub>	80...100%
Inlet pressure	120...1'000 kPa abs.

**Accuracy:**

Frost/Dew Point	± 0.5 °C
ppm <sub>v</sub> / ppm <sub>w</sub>	± 1 ppm +6% of reading
Volume SF <sub>6</sub>	± 0.5%
Pressure	± 3 kPa

**Standard Features:**

Digital I/O	RS-232
Thermoelectric mirror cooling	3-stage
Mirror temperature sensor	RTD (Pt-100)
Display	5.7" LCD with touch screen
Internal gas tubes	Stainless steel 316L / FEP
Gas connections	Quick connect fitting (Swagelok® QM Series)
Couplings	SF <sub>6</sub> coupling DN8 (VK/F-02/8) and DN20 (VK/F-02/20)
External sample gas tube	6 m stainless steel armored PTFE tubing
ORIS	<b>Optimum Response Injection System</b>
Transport case	Custom fit foam lined Peli 1620
Power cable	2.5 m
Operating instructions	English, German, French, Italian, Spanish or Russian
Calibration certificate	Pressure calibration, 2-point dew/frost point, 3-point volume %SF <sub>6</sub>

**Optional:**

Internal SO <sub>2</sub> -Module	Range:	0...100 ppm <sub>v</sub>	or	0...500 ppm <sub>v</sub>
	Linearity:	< 2% of range		< 2% of range
	Sensitivity drift:	< 4% / year		< 2% / month
	Response time:	< 30 s (0 to 20 ppm <sub>v</sub> )		T <sub>90</sub> < 20s

**Additional Information:**

Supply voltage	100-120 VAC / 200-240 VAC, 50/60 Hz (auto switching)
Supply voltage fluctuations	up to ± 10% of nominal voltage / Overvoltage category II
	Rated pollution degree 2
Power consumption	200 Watt
Pump back pressure max.	900 kPa
Cooling	Air
Operation temperature	-10 °C...+40 °C
Storage temperature	-20 °C...+50 °C
Humidity	Maximum relative humidity 98 %rh, non-condensing
Outdoor use	Permissible, instrument must be protected against exposure to water
Altitude	Up to 2'000 m

<b>Weights &amp; Dimensions:</b>	<b>Instrument</b>	<b>with Transport Case</b>
Width	420 mm	650 mm
Height	155 mm	370 mm
Depth	390 mm	510 mm
Weight	16.5 kg	32 kg

We reserve the right to change design or technical data without notice.