DEVICES FOR DETERMINATION OF THE SF_6 GAS QUALITY

For continuous monitoring of the gas quality

B169R...
SF_6 gas monitoring system

The device is used to monitor and record the quality of the SF_6 gas in a gas compartment. The following quality parameters can be determined with only one measurement:

- SF_6 volume percentage (%)
- Moisture concentration (°C atmosphere, °C pressure, °F atmosphere, °F pressure, ppm_v, ppm_w)
- SO_2-Concentration (ppm_v)

The user can select between three measurement modes:

- Continuous measurement
- Pulse measurement with automatic measurement data recording
- Single measurement

For the measurement, the gas compartment is equipped with two partially separated couplings. The gas is taken from one of the two couplings, temporarily stored in the internal gas collecting bag of the gas monitoring system and then pumped back into the gas compartment through the second coupling after the measurement has been taken. Alternatively, the gas outlet coupling of the device can also be connected to an external vessel where the gas is collected after the measurement.

The gas monitoring system is characterised by simple and user-friendly handling and easy maintenance. All gas sensors are easily accessible and can be replaced by the user according to the „plug & play" principle. The device is operated via a 3.5" colour touch screen with intuitive menu navigation.

Due to the use of self-closing couplings, SF_6 cannot escape into the atmosphere either during measurement or when pumping back.

The gas monitoring system is available as a stand-alone system or as a component of an SF_6 service cart (installation).

If the SF_6 gas is to be stored in the liquid form after measurement, we offer to equip the system with a more powerful compressor (B100R30, final pressure 50 bar p_e) instead of the standard compressor (B100R20, final pressure 9 bar).

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- Inlet pressure max. 50 bar p_e
- Storage of up to 500 measurement results with name, date and time assignment
- Adjustable user languages: DE, EN, FR
- Selectable pressure and moisture units
- LAN connection and SD cards slot
- Export of measurement data as CSV file

Technical data:

Dimensions: Width: 600 mm Height: 550 mm Depth: 430 mm
Weight: 40 kg
Inlet pressure: 1.5 - 50 bar p_e
Operating temperature: -10 °C to +50 °C
Ambient moisture: up to 90 % relative moisture, non condensing during operation
Operating voltage: (dependant on integrated compressor) Order no. B169RX0X (B100R20 compressor): 85-264 V AC, 47-63 Hz order no. B169RX5X (B100R30 compressor): 220-240 V AC, 50-60 Hz
Number of measured values to be stored: max. 500
Interface: LAN
Limit value vol.-%: adjustable from 0.0 to 99.9 vol.-%
Limit value moisture concentration: adjustable from -60 °C to +20 °C, -76 to +68 °F, 10 to 24000 ppm_v, 1.23 to 2959 ppm_w
Limit value SO_2: adjustable from 0.0 to 499.9 ppm_v (dependant on the integrated SO_2)
Indication of moisture concentration in °C or °F, referred to atmospheric or inlet pressure, reversible to indication in ppm_v ppm_w
Inlet pressure indications in bar p_a, bar p_e, psi p_a, psi p_e, kPa p_a, kPa p_e, MPa p_a, MPa p_e

Sensor data:			
	Vol. %	Moisture	SO_2
Measuring principle	Velocity of sound	Electronic dew point measurement	Electrochemical reaction
Measuring range	0-99.9 vol.-%	-60 to +20 °C -76 to +68 °F 10 to 24000 ppm_v 1.23 to 2959 ppm_w	0 to 20 ppm_V 0 to 100 ppm_V 0 to 500 ppm_V
Measuring accuracy	±0.5 vol.-%	±2 °C (at > -40 °C) ±3 °C (at < -40 °C)	< ±2 % of measuring
Measuring gas pressure	Atmospheric pressure	Atmospheric pressure	Atmospheric pressure
Flow rate	0.3 - 0.5 l/h	16 - 17 l/h	1 - 3 l/h
Reaction time	< 2 min	< 5 min	< 20 s
Recommended calibration interval	2 years	2 years	2 years (lifetime)
Long term stability			< 2 % signal loss per month

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Standard equipment:

2 m long connecting hoses with DILO couplings DN8
Operating instructions

Ordering designations of the SF_6 gas monitoring system:

Order no. B169...	Percentage measurement	Moisture measurement	SO_2 measurement	Installation / stand-alone	Compressor
R101	Yes	No	No	Installation	B100R20
R104	Yes	No	No	Stand alone	B100R20
R151	Yes	No	No	Installation	B100R30
R154	Yes	No	No	Stand alone	B100R30
R201	Yes	Yes	No	Installation	B100R20
R204	Yes	Yes	No	Stand alone	B100R20
R251	Yes	Yes	No	Installation	B100R30
R254	Yes	Yes	No	Stand alone	B100R30
R301	Yes	Yes	20 ppm_v	Installation	B100R20
R302	Yes	Yes	100 ppm_v	Installation	B100R20
R303	Yes	Yes	500 ppm_v	Installation	B100R20
R304	Yes	Yes	20 ppm_v	Stand alone	B100R20
R305	Yes	Yes	100 ppm_v	Stand alone	B100R20
R306	Yes	Yes	500 ppm_v	Stand alone	B100R20
R351	Yes	Yes	20 ppm_v	Installation	B100R30
R352	Yes	Yes	100 ppm_v	Installation	B100R30
R353	Yes	Yes	500 ppm_v	Installation	B100R30
R354	Yes	Yes	20 ppm_v	Stand alone	B100R30
R355	Yes	Yes	100 ppm_v	Stand alone	B100R30
R356	Yes	Yes	500 ppm_v	Stand alone	B100R30

Options (please inquire separately): All devices with percentage measuring system are additionally available for SF_6 concentrations in SF_6/CF_4 gas mixtures (measuring accuracy: ±2.0 vol. -%). Thus it is possible to switch over between the SF_6/N_2 and SF_6/CF_4 measurement.