DEVICES FOR DETERMINATION OF THE SF_6 GAS QUALITY

For verification of several parameters with only one measurement

3-035R-R...
MIRROR-ANALYSER ^{SF6}

This multi-functional device allows the determination of up to three quality parameters with only one measurement:

» Moisture concentration (frost point / dew point)
» SF_6 volume percentage
» SO_2 concentration

The MIRROR-ANALYSER ^{SF6} uses the physical dew point mirror measuring principle which is characterised by its high precision and utmost reliability in order to measure the moisture content. By cooling the integrated mirror the moisture content of the gas is determined by measuring the temperature depending on the condensation or icing of the mirror. The other parameters of SF_6 quality are determined by measuring the speed of sound (SF_6 volume percentage) and electrochemical reaction (SO_2 concentration).

- High accuracy and reliability in moisture determination (dew point mirror measuring principle)
- No emissions of measuring gas (integrated gas return system)
- Modular interchangeability of the sensors
- Low maintenance due to self-test functions
- Easy and user-friendly menu navigation via high quality 7“ capacitive colour touch screen
- Results of up to 500 measurements can be stored with name, date and time
- USB- and LAN connection
- Adjustable user languages: DE, EN, FR, ES
- Compact design, easy handling and transportation (installed in a trolley case)
- Optional remote control via mobile devices

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The "MIRROR-ANALYSER SF_6" is a compact, user- and maintenance-friendly device which guarantees high measuring precision. The unit allows different kinds of measurements and treatment of the measuring gas in one of the following ways:

» The measuring gas can be stored in an internal storage vessel and pumped back into the gas compartment (up to 10 bar p_e)

» External storage of the measuring gas into a cylinder
For measurements on cylinders, vessels or gas compartments with higher pressure (max. inlet pressure 35 bar p_e) or if the measuring gas should not be pumped back into the unit, a cylinder can be connected directly to the outlet (max. 10 bar p_e). It is not necessary to use a pressure reducer and to separate the device from the gas cylinder or the gas compartment.

» External storage of the measuring gas into a gas collecting bag
An external gas collecting bag can be connected allowing continuous measurements (inlet pressure max. 35 bar p_e) without pumping the gas back. Afterwards it is possible to empty the external bag by using the MIRROR-ANALYSER ^{SF6}, a service cart or compressor unit.

Precise and correct results for subsequent measurements can be guaranteed by rinsing the measuring hose prior to each measurement. The device is very maintenance-friendly. The residual lifetime of the SO_2 electrochemical sensor is indicated automatically. The dew point mirror has self-test functions.

A very practical and useful device.

Technical data:

Dimensions: Length 500 mm, Width 625 mm, Height 297 mm
Weight: approx. 27.5 kg
Inlet pressure: pe 0.2 – 35 bar
Operating temperature: -10 °C to +40°C
Ambient moisture: max. 90 % relative moisture, non-condensing during operation
Operating voltage: 100 - 240 VAC 50/60 Hz
Number of measured values to be stored: max. 500
Interface: USB/LAN
Measuring time: variably calculated by the system (5-7 min; max. 10 min)
Limit value dew point: adjustable from -50°C to +20°C
Limit value vol.-%: adjustable from 0.0 to 99.9%
Limit value SO_2: adjustable from 0.0 to 499.9 ppm_v
Indication of moisture concentration in dew point °C or °F, referred to atmospheric or inlet pressure, reversible to indication in ppm_v, ppm_M
Inlet pressure indication in p_a or p_e, psi, kPA, MPa

Standard equipment:

Transport case; 6 m long connecting hose with DILO couplings DN8 and DN20; 2 m long connecting cable
USB stick with data evaluation and reading out of measured data
Operating manual

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Sensor data:

	Frost- /Dew point	Volume percentage	SO_2
Measuring principle	Dew point mirror (physical measuring principle)	Velocity of sound	Electrochemical reaction
Measuring range	-50 °C to +20 °C	0 - 100.0 Vol.-% SF_6	0 - 20 ppm_V 0 - 100 ppm_V 0 - 500 ppm_V
Measuring accuracy	±0,5 °C	±0,5 %	< 2 % of the measuring range
Reproducibility	±0,2 °C	±0,3 %	< 4 % / year or < 2 % / month
Long-term stability			< 2% signal loss / month
Recommended calibration interval	2 years	2 years	2 years

Ordering designation of the MIRROR-ANALYSER SF6:

Single measuring device for moisture: -50 to +20°C	3-035R-R102
Two-in-one measuring device for moisture: -50 to +20°C, percentage 0-100 vol.-%	3-035R-R201
Three-in-one measuring device for moisture: -50 to +20°C, percentage 0-100 vol.-%, SO_2 with 0-20 ppm_v	3-035R-R301
Three-in-one measuring device for moisture -50 to +20°C, percentage 0-100 vol.-%, SO_2 with 0-100 ppm_v	3-035R-R302
Three-in-one measuring device for moisture -50 to +20°C, percentage 0-100 vol.-%, SO_2 with 0-500 ppm_v	3-035R-R303

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.

Optional accessories at an extra charge:

External compressor for increase of pressure for application of the MIRROR-ANALYSER SF6 in medium voltage switchgear with a pressure < 0.2 bar p_e	3-826-R003
Discharge gas collecting bag	B151R95
Adapter case for measuring devices	Z340R42
6 m long connecting hose with self-closing couplings (as extension hose)	3-531-R060
Remote control via mobile devices	K176R11
Kit for remote control router	K176R21
Kit for remote control router with extended functions	On request

Packing:

Packing for 3-035R-R...	05-2014-R011