TECHNICAL DATA SHEET

ecom-EN3-F *Expert*

MOBILE FLUE GAS ANALYSIS

For precise NO_x measurement on industrial firing systems - fitted in airworthy transport case

The ecom-EN3-F *Expert* is the ideal solution for any user placing the highest demands on the flue gas analysis of oil and gas firing systems - for servicing, commissioning or emission control. Equipped with state-of-the-art sensor technology and integrated gas conditioning, it delivers reliable measurement results even under demanding conditions.

Thanks to the compact, airworthy case, the device is perfect for technicians often sent on international commissioning missions: - quickly stowed away, safely transported and ready for use anywhere. The EN3-F *Expert* is as mobile as its user.

Dimensions: approx. 550 x 380 x 175 mm (W x H x D)
Weight: approx. 9 kg with sampling system

Technical data

Measured values	Range	Resolution	Accuracy *= Higher value prevails	
√ = Standard; ● = Optional EC; ● = Optional NDIR; ● = Optional Pellistor				
Maximum number of measurable gas components				6
O_2	0...21 %	0,1 vol. %	± 0,3 vol. %	√
CO (H_2-comp.)	0...2.500 ppm (10.000 ppm)	1 ppm	± 20 ppm / 5 % of measured value*	√
CO (n. H_2-comp)	0...20.000 ppm	1 ppm	± 40 ppm / 10 % of measured value*	·
CO%	0...63.000 ppm	5 ppm	± 100 ppm / 10 % of measured value*	·
CO_2	0...100 vol. %	0,01 vol. %	up to 5 % of the measuring range end value	·
NO	0...5.000 ppm	1 ppm	± 5 ppm / 5 % of measured value*	√
$NO_{ExtraLow}$	0...300 ppm	0,1 ppm	± 2 ppm / 5 % of measured value*	·
NO_2	0...1.000 ppm	1 ppm	± 5 ppm / 5 % of measured value*	√
$NO_{2\ Low}$	0...100 ppm	0,1 ppm	± 5 ppm / 5 % of measured value*	·
SO_2	0...5.000 ppm	1 ppm	± 10 ppm / 5 % of measured value*	·
$SO_{2\ Low\ CO}$	0...5.000 ppm	1 ppm	± 10 ppm / 5 % of measured value*	·
$SO_{2\ Low}$	0...100 ppm	0,1 ppm	± 5 ppm / 5 % of measured value*	·
H_2	0...2.000 ppm	1 ppm	± 10 ppm / 5 % of measured value*	·
H_2	0...20.000 ppm	1 ppm	± 100 ppm / 5 % of measured value*	·
H_2S	0...1.000 ppm	1 ppm	± 10 ppm / 5 % of measured value*	·
CH_4	0...5 vol. %	0,01 vol. %	± 0,2 vol. % / 5 % of measured value*	·
CH_4	0...100 vol. %	0,1 vol. %	± 5 % of the measuring range end value	·
C_xH_y	0...4 vol. %	0,01 vol. %		·
Other measured variables	**Range**	**Resolution**	**Accuracy *= Higher value prevails**	
T-Gas	0...500 °C	1 °C	± 2 °C / 1,5 % of measured value*	√
	0...1.100 °C	1 °C	± 2 °C / 1,5 % of measured value*	·
T-Air	0...99 °C	0,1 °C	± 1 °C	√
Pressure | △P	± 100 hPa	0,01 hPa	± 0,5 hPa / 1 % of measured value*	√
Calculation values			**Range**	
CO_2			0...$CO_{2\ max}$	√
Combustion efficiency (ETA)			0...120 %	√
Excess air (Lambda)			>1	√
Losses qA			0...100 %	√
$CO_{(U)}$ undiluted			x ppm	√
Dew point			x° C	√
mg/m³			x mg/m³	√
mg/kWh			x mg/kWh	√
O_2 reference			x % O_2	√

Equipment

Gas sampling	
Heated probe 350 mm, Ø 10 mm	√
3-chamber NO_x tubing with PTFE inner coating 3.5 m	√
Heated probes Ø 10 mm in alternative lengths	·
High temperature probe Ø 10 mm	·
Measurement gas preparation	
Electronic condensate monitoring	√
Automatic condensation evacuation	√
Electronic sample gas cooler	√
Combustion air temperature measurement	
T-room sensor with cable, cone and magnet	√
Operation safety	
Pressure-equalizing gas duct plate	√
Temperature display for stream core search	√
Automatic self-test in the calibration phase	√
CO switch-off by concentration overload	√
Fresh air purge by CO exceeding	√
Fresh air purge after measuring operation	√
Flow meter for pump performance check	√
Pollutant filter for CO sensor	·
Data processing	
Integrated high-speed thermal printer	√
External memory via SD card	√
Wireless data interface (BLE) for connection with mobile devices	√
WiFi interface (instead of BLE)	·
Serial interface	√
USB interface	√
Data display / input	
TFT colour display, backlit, zoomable	√
Backlit keyboard	√
Transport	
Airworthy hard-shell transport case	√
Proof of conformity / calibration	
EN 50379-2	√
1. BImSchV	√
Certificate after climate chamber calibration	√

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