Technical data sheet

VARIOTEC® 460 Tracergas

Device data	
Dimensions (W x D x H)	approx. 148 x 57 x 205 mm approx. 148 x 57 x 253 mm with supporting bracket
Weight	approx. 1000 g, depending on equipment

Certificates	
Certificate	TÜV 07 ATEX 553353 X II2G Ex d e ib IIB T4 Gb basic device without leather bag for: CH4, C3H8, C4H10, tracer gas with maximum 5 % H2 in N2 II2G Ex d e ib IIC T4 Gb basic device with leather bag for: CH4, C3H8, C4H10, tracer gas, H2

Device elements	
Display	monochromatic graphic display, 320 x 240 pixels
Buzzer	frequency 2.4 kHz, volume 80 db (A) / 1 m
Signal light	red
Pump capacity	vacuum > 250 mbar, volume flow approx. 50 l/h
Interface	USB
Memory	8 MB
Operation	ON/OFF key, 3 function keys, jog dial

Operating conditions	
Operating temperature	-20 °C – 40 °C
Storage temperature	-25 °C – 60 °C (temperatures above 40 °C reduce the lifetime of the rechargeable batteries)
Humidity	5 – 90 % r.h., non-condensing
Atmospheric pressure	800 – 1100 hPa
Protection rating	IP54

Power supply	
Power supply	4 Mignon (AA) cells, either: NiMH rechargeable or disposable alkaline batteries
Operating time, typical	at least 8 h
Charging time	approx. 3 h (complete charge), depending on capacity
Charging voltage	12 V DC, max. 1 A

Gas types	
Standard	hydrogen H2 tracer gas 95/5 (95 % N2, 5 % H2) or 90/10

Thermal conductivity sensor for H2	
Measuring range	0 – 100 % vol.
Resolution	0.1 % vol.
Response times	t50 < 3.1 s, t90 < 6.5 s
Warm-up time	< 30 s
Measuring error	3 % of measuring range end value
Interference	all gases with a different thermal conductivity
Lifetime, expected	5 years

Gas-sensitive semiconductor for H2	
Measuring range	0.0 – 10000 ppm (1 % vol.)
Resolution	0.1 ppm (0.0 – 9.9 ppm) 2 ppm (10 – 100 ppm) 20 ppm (100 – 990 ppm) 0.05 % vol. (0.1 – 0.95 % vol.) 0.1 % vol. (1.0 – 5.0 % vol.)
Response times	10 ppm H2: tR < 1.2 s t50 < 6 s t90< 18 s 100 ppm H2 tR < 1.0 s t50 < 7 s t90< 15 s tR … time until device's first response following delivery of gas
Warm-up times	up to 5 min
Measuring error	30 % (short time)
Interference	at 20 °C: 1 % vol. CH4 50 ppm maximum 1 % vol. C3H8 10 ppm maximum 40 ppm CO 2 ppm maximum 1 % vol. C2H6O (ethanol) 2 ppm maximum 3500 ppm benzene 10 ppm maximum water vapour, < 80 % r.h. < 1 ppm typical
Lifetime, expected	5 years

106911 – 05-05-2020 – Subject to technical changes.