

Analyser specifications

	THT + Heatingvalue	THT
Analytical hardware	2 parallel isothermal GC modules with narrow-bore capillary column technology in combination with MEMS based analytical components	1 isothermal GC module with narrow-bore capillary column technology in combination with MEMS based analytical components
Analysis output	Full composition of any natural gas up to C6+ or C9+ (option) + THT concentration Heating value, density, Wobbe index	THT (Tetrahydrothiophene) concentration
Component range	N ₂ : 0 - 20 % neo-C ₅ : incl. in nC ₄ CH ₄ : 0 - 100 % C ₅ : 0 - 0.25 % CO ₂ : 0 - 20 % C ₆ : 0 - 0.10 % C ₂ : 0 - 10 % C ₇ : 0 - 0.05 % C ₃ : 0 - 10 % C ₈ : 0 - 0.05 % C ₄ : 0 - 10 % C ₉ : 0 - 0.05 % THT : 3 ppm – 100 ppm Concentrations outside these ranges on request	THT : 2 ppm – 100 ppm
Performance THT analysis		
Detection limit for THT	3 ppm	2 ppm
Repeatability for THT	1 ppm (stdev)	0.5 ppm (stdev)
uncertainty	1 ppm (excluding calibration gas uncertainty)	0.5 ppm (excluding calibration gas uncertainty)
Analysis time	3 min. for C ₆ analysis 5 min. for C ₉ analysis	60 sec.
Performance heatingvalue measurement		
Uncertainty	< 0.15 % for all calculated properties	n.a.
Repeatability	< 0.03 % for all calculated properties	n.a.
Min. detection limit	1 ppm for C5	n.a.
Ambient conditions	Temperature: -20 °C to +55 °C (provided heated version is used)	
Dimensions	Base Ø 37 cm x Height 37 cm (Ø 14" x Height 14")	
Weight	< 30 kg	
Approvals	ATEX II2G E Ex d IIB T4 IP 66, Vibration and shock test in acc. with IEC 60068-2-31 and 64 EMC according to EN 61000-6-2 and EN 61000-6-4 PTB Metrological Certificate Reference No. PTB-3.31-4016861	
Power supply	24 VDC, 18 W nominal (50 W start-up peak) for non-heated version 24 VDC, 120 W nominal (170 W start-up peak) for heated version (ambient < 0 °C)	
Interfaces	Ethernet UTP 10 Base-T for ModBus TCP/IP and PC link Two RS 232/485 ports for ModBus RTU or ASCII 3 analogue Inputs for local sensors (4-20 mA or 0-10 VDC)	
Analyser	Complete stand-alone operation, including all calculations and generation of report formats, without need for operator intervention. Calculations in acc. with ISO 6976, GPA 2172 or GOST 22667	
PC requirements	Windows 2000 or Windows XP professional edition (Service Pack 1 or higher) 1000 MHz processor, 512 MB RAM, CD-rom player, free Ethernet port.	
Data logging	History Log: local storage of last 35 days of all analytical data (analysis, events, alarms, averages, last chromatogram, calibration data) in accordance with API Report 21.1. All data available on remote workstation in XML format	
Sample conditioning (integrated)	Integral part of analyser. Consists of pressure regulators for each stream, particle filters and double block-and-bleed stream selection for up to 5 streams and 1 calibration gas. The internal sample conditioning system also contains a programmable sample bypass 0-20 NL/hr.	
Sample conditioning (external)	Membrane filter required for sample gas. To prevent THT absorbance the use of plastic sample lines and moisture filters should be avoided (SS 316 is advised)	
Helium	Quality N5.0, supply pressure 5.5 barg, consumption ± 8 ml/min Pressure regulator should contain a safety relief set at 6.5 barg.	
Calibration gas	Supply pressure 2 barg nominal. Consumption ± 600 ml/day (@ atm. Pressure) Composition depending on application. Calibration gases containing THT should be heated at ambient temp. below 5 °C	