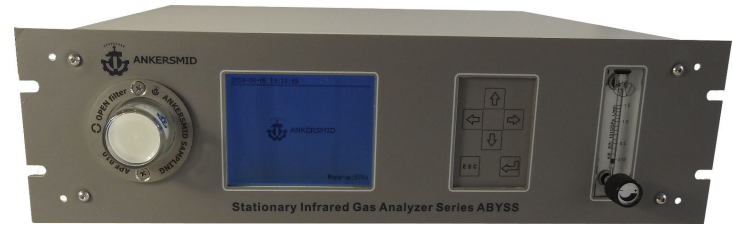




ANKERSMID Online Analyzer ABYSS SynGas Series 100-900



* Picture may vary

Application

The general application is coal or biomass gasification or pyrolysis, coal chemical process, off-gas from steel and iron making process such as blast furnace, coking, converter, direct Iron ore smelting reduction as well as Endo & Exo gas generators for heating treating.

Description

The analyzers can be used for measurement of the concentration of up to 8 gas components such as CO, CO₂, CH₄, C_nH_m, C₂H₂, C₂H₄, O₂, H₂ + BTU index in sample gases.

It is based on the single source dual-beam non-dispersion infrared (NDIR) method for CO, CO₂, CH₄, C_nH_m and a micro-TCD (Thermal Conductivity Detector) gas sensor for H₂ and O₂ by fuel cell method.

This analyzer is designed with a digital pulsable infrared source and dual-beam systems.

There is no effect of CO₂ and CH₄ on the H₂ detector as the H₂

- **Up to 8 gases measurement with combination of NDIR, TCD and ECD gas sensor technology**
- **Proven design with pulsable infrared source and dual-beam technology**
- **Heated gas bench for high stability**
- **320*240 LCD display**
- **Integrated flow meter with needle valve**
- **Integrated gas inlet panel fine-filter (0,1µm)**
- **Integrated pump for auto-zeroing (with air)**
- **Compensation of H₂ by CO, CO₂ and CH₄ sensor**
- **RS232 & 4-20mA output**
- **2 free configurable alarm levels per measuring channel**

Version	Part number	Gas components
ABYSS SynGas 100	ASG 100	CO or CO ₂ or H ₂ or CH ₄ (Single sensor)
ABYSS SynGas 200	ASG 200	CO+O ₂
ABYSS SynGas 300	ASG 300	CO+CO ₂
ABYSS SynGas 400	ASG 400	CO+CO ₂ +O ₂
ABYSS SynGas 500	ASG 500	CO+CO ₂ +CH ₄ +O ₂
ABYSS SynGas 600	ASG 600	CO+CO ₂ +CH ₄ +H ₂ +Calorie
ABYSS SynGas 700	ASG 700	CO+CO ₂ +CH ₄ +H ₂ +O ₂ +Calorie
ABYSS SynGas 800	ASG 800	CO+CO ₂ +CH ₄ +H ₂ +O ₂ +C _n H _m +Calorie
ABYSS SynGas 900	ASG 900	CO+CO ₂ +CH ₄ +H ₂ +O ₂ +C _n H _m +C ₂ H ₂ +C ₂ H ₄ (optional N ₂ calculated)



ANKERSMID Online Analyzer
ABYSS SynGas Series 100-900

Technical data

Specifications					
Measurement	CO, CO ₂ , CH ₄ , C _n H _m , C ₂ H ₂ , C ₂ H ₄ , O ₂ , H ₂ + BTU index (gas calorific value)				
Calculation (optional)	High heating value or low heating value in MJ/m ³ or kcal/m ³ N ₂ (only 0-100% and only for ASG 600/700/800/900)				
Gas flow	0.7 - 1.2 l/min, external flow meter with needle valve				
Pressure of gas inlet	20 – 500mbar				
Sampling gas requirement	Remove water vapor, dust (<1um) and oil				
Response time	<15s (NDIR)				
Warm-up time	800s				
Interface	RS232, 4-20mA				
Technology	CO, CO ₂ , CH ₄ , C _n H _m , C ₂ H ₂ , C ₂ H ₄ : proprietary dual-beam NDIR detectors O ₂ : industrial electrochemical cell H ₂ : proprietary thermal conductivity detector				
Display	LCD 320 x 240 with back-light function Simultaneous indication of all measures and units				
Gas inlet filter	Type APF 010, filter porosity: 0,1µm				
Integrated pump	For auto-zeroing with air (pump for gas sampling optional)				
Operating temperature	0 – 50°C				
Relative humidity	0 – 95%				
Ambient air pressure	86 – 108kPa				
Power supply	115/230VAC				
Dimension	19"-rack enclosure 3U, 485 x 132 x 400mm (W x H x D)				
Weight	± 10-13Kg (stationary)				
Gas	Method	Range	Resolution	Precision	Repetition error
CO	NDIR	0-5%, 10%, 20%, 40%, 50%, 75%, 100%	0,01%	±2% FS	≤2%
CO ₂	NDIR	0-5%, 10%, 20%, 30%, 50%, 75%, 100%	0,01%	±2% FS	≤2%
CH ₄	NDIR	0-5%, 10%, 20%, 40%, 50%, 75%, 100%	0,01%	±2% FS	≤2%
H ₂	TCD	0-5%, 10%, 20%, 30%, 50%, 75%, 100%	0,01%	±3% FS	≤2%
O ₂	ECD	0-5%, 25%	0,01%	±3% FS	≤2%
C _n H _m	NDIR	0-5%, 10%, 20%	0,01%	±2% FS	≤2%
C ₂ H ₂	NDIR	0-5%	0,01%	±2% FS	≤2%
C ₂ H ₄	NDIR	0-5%, 10%	0,01%	±2% FS	≤2%
N ₂	Calculation	0-100%			



ANKERSMID Portable Analyzer ABYSS SynGas Series 100P-900P



* Picture may vary

Application

The general application is coal or biomass gasification or pyrolysis, coal chemical process, off-gas from steel and iron making process such as blast furnace, coking, converter, direct Iron ore smelting reduction as well as Endo & Exo gas generators for heating treating.

Description

The ABYSS portable infrared SynGas analyzer is powered by Li-Ion battery and can be used without AC power supply.

The analyzers can be used for measurement of the concentration of up to 8 gas components such as CO, CO₂, CH₄, C_nH_m, C₂H₂, C₂H₄, O₂, H₂ + BTU index in sample gases.

It is based on the single source dual-beam non-dispersion infrared (NDIR) method for CO, CO₂, CH₄, C_nH_m and a micro-TCD (Thermal Conductivity Detector) gas sensor for H₂ and O₂ by fuel cell method. This analyzer is designed with a digital pulsable infrared source and dual-beam systems.

A nylon carrying bag for analyzer and accessories is included as standard.

There is no effect of CO₂ and CH₄ on the H₂ detector as the H₂ reading is compensated for the interference effects of the other gases measured.

- **Up to 8 gases measurement with combination of NDIR, TCD and ECD gas sensor technology**
- **Proven design with pulsable infrared source and dual-beam technology**
- **Heated gas bench for high stability**
- **320*240 LCD display**
- **Integrated flow meter with needle valve**
- **Integrated pump for auto-zeroing (with air) and gas sampling**
- **Compensation of H₂ by CO, CO₂ and CH₄ sensor**
- **RS232 & datalogger**

Version	Part number	Gas components
ABYSS SynGas 100P	ASG 100P	CO or CO ₂ or H ₂ or CH ₄ (Single sensor)
ABYSS SynGas 200P	ASG 200P	CO+O ₂
ABYSS SynGas 300P	ASG 300P	CO+CO ₂
ABYSS SynGas 400P	ASG 400P	CO+CO ₂ +O ₂
ABYSS SynGas 500P	ASG 500P	CO+CO ₂ +CH ₄ +O ₂
ABYSS SynGas 600P	ASG 600P	CO+CO ₂ +CH ₄ +H ₂ +Calorie
ABYSS SynGas 700P	ASG 700P	CO+CO ₂ +CH ₄ +H ₂ +O ₂ +Calorie
ABYSS SynGas 800P	ASG 800P	CO+CO ₂ +CH ₄ +H ₂ +O ₂ +C _n H _m +Calorie
ABYSS SynGas 900P	ASG 900P	CO+CO ₂ +CH ₄ +H ₂ +O ₂ +C _n H _m +C ₂ H ₂ +C ₂ H ₄ (optional N ₂ calculated)



ANKERSMID Portable Analyzer
ABYSS SynGas Series 100P-900P

Technical data

Specifications					
Measurement	CO, CO ₂ , CH ₄ , C _n H _m , C ₂ H ₂ , C ₂ H ₄ , O ₂ , H ₂ + BTU index (gas calorific value)				
Calculation (optional)	High heating value or low heating value in MJ/m ³ or kcal/m ³ N ₂ (only 0-100% and only for ASG 600/700/800)				
Gas flow	0.7 - 1.2l/min, external flow meter with needle valve				
Pressure of gas inlet	20 - 500mbar				
Sampling gas requirement	Remove water vapor, dust (<1um) and oil				
Response time	<15s (NDIR)				
Warm-up time	800s				
Interface	RS232 (real time and memory data download software available)				
Data-logging	Up to 2560 sets of data; logging rate adjustable from 3-99sec Possibility to identify 10 different sites and up to 100 measuring points				
Technology	CO, CO ₂ , CH ₄ , C _n H _m : proprietary dual-beam NDIR detectors O ₂ : industrial electrochemical cell H ₂ : proprietary thermal conductivity detector				
Display	LCD 320 x 240 with back-light function Simultaneous indication of all measures and units				
Integrated pump	For auto-zeroing (with air) and gas sampling				
Operating temperature	0 - 50°C				
Relative humidity	0 - 95%				
Ambient air pressure	86 - 108kPa				
Power supply	External: 115/230VAC via AC/DC-adaptor Internal: with Li-Ion battery and charger; autonomy of > 4h with pump in operation, 8h without pump				
Dimension	380mm x 380mm x 255mm (L x D x H)				
Weight	± 4-5Kg				
Gas	Method	Range	Resolution	Precision	Repetition error
CO	NDIR	0-10%, 20%, 40%, 50%, 75%, 100%	0,01%	±2% FS	≤2%
CO ₂	NDIR	0-5%, 10%, 20%, 30%, 50%, 75%, 100%	0,01%	±2% FS	≤2%
CH ₄	NDIR	0-5%, 10%, 20%, 40%, 50%, 75%, 100%	0,01%	±2% FS	≤2%
H ₂	TCD	0-5%, 10%, 20%, 30%, 50%, 75%, 100%	0,01%	±3% FS	≤2%
O ₂	ECD	0-5%, 25%	0,01%	±3% FS	≤2%
C _n H _m	NDIR	0-5%, 10%, 20%	0,01%	±2% FS	≤2%
C ₂ H ₂	NDIR	0-5%	0,01%	±2% FS	≤2%
C ₂ H ₄	NDIR	0-5%, 10%	0,01%	±2% FS	≤2%