ANKERSMID Online Infrared Analyzer

ABYSS FlueGas Series 100-900

* Picture may vary

Application

The general applications are Boiler (furnace exhaust emission gas and combustion efficiency monitoring), cement production line process and security as well as continuous emission monitoring systems (CEMS) of waste gas generated from pollution sources such as fire-coal smoke-stacks, steel works, cement plans, aluminium manufacturing factories, nonferrous metallurgy plants, phosphate fertilizer factories, nitric plants, sulphuric acid factories, petrochemical works, chemical fibre plants and large industrial chimney stacks.

Description

The analyzers can be used for the measurement of the concentration of up to 5 gases such as SO_2, NO, CO_2, CO and O_2.

The measurement is based on micro-flow detectors (NDIR) for SO_2, NO and CO (all in ppm ranges) as well as dual-beam detectors (NDIR) for CO_2 and CO (% range) and an Electro-chemical detector (ECD) for O_2 (%). Optional O_2 (%) could be also measured with a paramagnetic cell.

- **Measurement of up to 5 gases with combination of NDIR and ECD gas sensor technology**

  Dual-beam NDIR technology
- **Constant temperature control of gas bench for high stability**
- **320*240 LCD display with menu operation**
- **Integrated flow meter with needle valve**
- **RS232 interface**
- **Automatic zero calibration**
- **2 freely configurable alarm levels per measuring channel**
- **NO_2 to NO converter for NO_x measurement (ppm range)**

Version	Part number	Gas components
ABYSS FlueGas 900	AFG 900	SO_2+NO+CO+CO_2+O_2
ABYSS FlueGas 800	AFG 800	SO_2+NO+CO+O_2
ABYSS FlueGas 700	AFG 700	SO_2+NO+O_2
ABYSS FlueGas 600	AFG 600	SO_2+NO
ABYSS FlueGas 500	AFG 500	SO_2+O_2 (NO+O_2)
ABYSS FlueGas 400	AFG 400	SO_2 (NO)
ABYSS FlueGas 300	AFG 300	CO+CO_2+O_2 combustion efficiency
ABYSS FlueGas 200	AFG 200	CO+O_2
ABYSS FlueGas 100	AFG 100	CO (ppm content)

ANKERSMID Online Infrared Analyzer

Technical data

ABYSS FlueGas Series 100-900

Specifications	
Measurement	SO_2, NO, CO_2, CO and O_2
Gas flow	0.7 - 1.2 l/min, external flow meter with needle valve, (internal flow regulator 100ml/min for paramagnetic O_2 detector) external pump is recommended
Pressure of gas inlet	< 1bar
Sampling gas requirement	Remove water vapor, dust (<1um) and oil
Response time T90	<10s (NDIR-TCD) <2s (PMG) <15s ECD (O_2)
Warm-up time	30min (NDIR) for full performances <1h (PMG) for full performances
Interface	RS232 (real time and memory data download software included)
Output	4 - 20mA per measuring channel
Digital	3 common relays for default, low and high gas alarms
Gas alarm levels	2 levels (low/high) per channel, configurable by software
Configuration/calibration	By software, via key pad on front panel 5 points factory calibration per measuring channel, stored in the memory 2 points (Zero/Span) user calibration
Display	LCD 240*320 with back-light function Simultaneous indication of the measures and units
	Programmable auto-zero function, relay and solenoid valve
Data logging	Up to 1500 sets of data; logging rate adjustable from 3-99sec Possibility to identify 10 different sites and up to 100 measuring points
Operating temperature	0 to +50°C
Relative humidity	5 - 85%
Ambient air pressure	86 – 108kPa
Power supply	230V/50Hz (115V/60Hz on request)
Dimension	19”-3U rack enclosure, 485mm x 457mm x 132mm (W x L x H)
Weight	± 11Kg

Gas	Method	Range max	Display resolution min	Display resolution max	Full scale accuracy	T90
CO_2	NDIR (dual-beam)	0-5%, 10%, 25%	0,01%	0,1%	±2%	<10s
CO	NDIR (dual-beam)	0-100%	0,001%	0,1%	±2%	<10s
CO	NDIR (mirco-flow)	0-500ppm, 1000ppm, 2000ppm, 5000ppm, 10000ppm	1ppm		±1%	<10s
SO_2	NDIR (mirco-flow)	0-500ppm, 1000ppm, 2000ppm, 5000ppm	1ppm		±1%	<10s
NO	NDIR (mirco-flow)	0-500ppm, 1000ppm, 2000ppm, 5000ppm	1ppm		±1%	<10s
O_2	Electro-chemical	0-5%, 25%	0,01%	0,1%	±2%	<15s
O_2	Paramagnetic (optional)	0-100%	0,001%	0,1%	±2%	<2s
NO_X	Catalytic converter, efficiency >95%	0-5000ppm	1ppm		±2%	<10s

ANKERSMID Online Infrared Analyzer

ABYSS FlueGas Series 100P-900P

* Picture may vary

- **Measurement of up to 5 gases with combination of NDIR and ECD gas sensor technology**
- **Dual-beam NDIR technology**
- **Constant temperature control of gas bench for high stability**
- **320*240 LCD display with menu operation**
- **Integrated flow meter with needle valve**
- **RS232 interface**
- **Automatic zero calibration**
- **Built-in sampling pump**

Application

The general applications are Boiler (furnace exhaust emission gas and combustion efficiency monitoring), cement production line process and security as well as continuous emission monitoring systems (CEMS) of waste gas generated from pollution sources such as fire-coal smoke-stacks, steel works, cement plans, aluminium manufacturing factories, nonferrous metallurgy plants, phosphate fertilizer factories, nitric plants, sulphuric acid factories, petrochemical works, chemical fibre plants and large industrial chimney stacks.

Description

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

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

The analyzers can be used for the measurement of the concentration of up to 5 gases such as SO_2, NO, CO_2, CO and O_2.

The measurement is based on micro-flow detectors (NDIR) for SO_2, NO and CO (all in ppm ranges) as well as dual-beam detectors (NDIR) for CO_2 and CO (% range) and an Electro-chemical detector (ECD) for O_2 (%). Optional O_2 (%) could be also measured with a paramagnetic cell.

Version	Part number	Gas components
ABYSS FlueGas 900P	AFG 900p	SO_2+NO+CO+CO_2+O_2
ABYSS FlueGas 800P	AFG 800p	SO_2+NO+CO+O_2
ABYSS FlueGas 700P	AFG 700p	SO_2+NO+O_2
ABYSS FlueGas 600P	AFG 600p	SO_2+NO
ABYSS FlueGas 500P	AFG 500p	SO_2+O_2 (NO+O_2)
ABYSS FlueGas 400P	AFG 400p	SO_2 (NO)
ABYSS FlueGas 300P	AFG 300p	CO+CO_2+O_2 combustion efficiency
ABYSS FlueGas 200P	AFG 200p	CO+O_2
ABYSS FlueGas 100P	AFG 100p	CO (ppm content)

ANKERSMID Portable Infrared Analyzer — Technical data

ABYSS FlueGas Series 100P-900P

Specifications	
Measurement	SO_2, NO, CO_2, CO and O_2
Gas flow	0.7 - 1.2 l/min, external flow meter with needle valve, (internal flow regulator 100ml/min for paramagnetic O_2 detector) external pump is recommended
Pressure of gas inlet	< 1bar
Sampling gas requirement	Remove water vapor, dust (<1um) and oil
Response time T90	<10s (NDIR-TCD) <2s (PMG) <15s ECD (O_2)
Warm-up time	30min (NDIR) for full performances <1h (PMG) for full performances
Interface	RS232 (real time and memory data download software included)
Output	4 - 20mA per measuring channel
Digital	3 common relays for default, low and high gas alarms
Gas alarm levels	2 levels (low/high) per channel, configurable by software
Configuration/calibration	By software, via key pad on front panel 5 points factory calibration per measuring channel, stored in the memory 2 points (Zero/Span) user calibration
Display	LCD 240*320 with back-light function Simultaneous indication of the measures and units
	Programmable auto-zero function, , relay and solenoid valve
Data logging	Up to 1500 sets of data; logging rate adjustable from 3-99sec Possibility to identify 10 different sites and up to 100 measuring points
Operating temperature	0 to +50°C
Relative humidity	5 - 85%
Ambient air pressure	86 – 108kPa
Power supply	External: 230V/50Hz Internal: with battery and charger; autonomy of > 4h with pump in operation
Dimension	380mm x 380mm x 255mm (L x D x H)
Weight	± 5Kg

Gas	Method	Range max	Display resolution min	Display resolution max	Full scale accuracy	T90
CO_2	NDIR (dual-beam)	0-5%, 10%, 25%	0,01%	0,1%	±2%	<10s
CO	NDIR (dual-beam)	0-100%	0,001%	0,1%	±2%	<10s
CO	NDIR (mirco-flow)	0-500ppm, 1000ppm, 2000ppm, 5000ppm, 10000ppm	1ppm		±1%	<10s
SO_2	NDIR (mirco-flow)	0-500ppm, 1000ppm, 2000ppm, 5000ppm	1ppm		±1%	<10s
NO	NDIR (mirco-flow)	0-500ppm, 1000ppm, 2000ppm, 5000ppm	1ppm		±1%	<10s
O_2	Electro-chemical	0-5%, 25%	0,01%	0,1%	±2%	<15s
O_2	Paramagnetic (optional)	0-100%	0,001%	0,1%	±2%	<2s
NO_X	Catalytic converter, efficiency >95%	0-5000ppm	1ppm		±2%	<10s