



pSmoke2000 Series

Chemical Instrument

Portable Contaminants Emissions Gas Analyzer

Ref:pSmoke2000_IntE
Revision:2003-10-21

- Infra-red bench & sensors inside.
- Fast 30-second warm up
- Combined technology: infra-red & electrochemical sensors
- 5 gases embedded and up to 16 gas sensors might added by user's order
- 1 watt power requirement, Battery supply.
- ASM/BAR 97, OIML Class 0 applied for Flue and automotive exhaust analysis

Applications

- Boiler smoke test and combustion efficiency calculation
- Industrial stove flue monitor and combustion efficiency measurement
- Power plant emissions monitoring and combustion efficiency measurement
- Coking plant emissions monitor for city site environmental protection
- Concrete plant exhaust emissions monitoring
- Automotive exhaust analysis and engine quality control
- Locomotive smoke analysis
- Motorcycle exhaust test for environmental protection
- Contaminants emissions monitoring



Instrumental Functions

- ◆ LCD 4 × 16 LCD Display, with backlight
- ◆ RS232/RS485 serial port. Supporting STIMcom / Modbus communication, and printer; USB support in new version
- ◆ Non-volatile memory supported data store and read out, or output to computer
- ◆ Built-in Sampling pump included, and suitable sample pre-process assembly
- ◆ Built-in alarm include LED flash, LCD indication, and Beep; Alarm limit setup supported
- ◆ Sampling gun with filter/trap for dusts and condensed water drain.
- ◆ System diagnostic
- ◆ Protection against accidental turn-off
- ◆ Over-range protection for all installed sensors and pumping
- ◆ Storage protection for sensors
- ◆ Flexible tubing for re-configuration
- ◆ User complete calibration, zero-adjust and essential data setup support
- ◆ Interfering gas compensation select
- ◆ Basal humidity and temperature detected for compensation and controlled for normal test. Over limit alarm support
- ◆ Rechargeable batteries to provide 100 hours of continuous operation
- ◆ 15-24 V DC powered. Local AD to DC adapter supported
- ◆ Basal intrinsically safe system, except parts of pump and heater. Special order for class 1 div. 1, groups a, b, c and d and class 2 div. 1, groups e, f and g for use in hazardous areas recommended.

- ◆ User calibration supported
- ◆ Sensor producer open, and replaceable freely

Specifications

Parameter	Gas	Range	Accuracy	Repeatability	Response	Method
Hydrocarbons	HC	0 to 2000 ppm	4ppm abs,+/-3% rel.	+/-2% rel.	4.5s	ND IR
	n-hexane	2001 to 5000 ppm 5001 to 30000 ppm	+/- 5% rel. +/-10% rel.	+/-3% rel. +/- 4% rel.		
Organic vapor	VOC	0 to 30000 ppm	<+/-10% rel.	<+/- 4% rel.		
Carbon Monoxide	CO	0.00% to 10.00%	0.02%abs,+/-3% rel.	+/-2% rel.	4.5s	RD IR
		10.01% to 15.00%	+/-5% rel.	+/-3% rel.		
Carbon Dioxide	CO ₂	0.00% to 16.00%	0.3% abs,+/-3%rel.	+/-2% rel.	4.5s	ND IR
		16.01% to 18.00%	+/-5% rel.	+/-3% rel.		
Nitric oxide	NOx	0 to 4000 ppm	+/- 25ppm abs. or +/-4% rel.	+/-3% rel.	5.5s	EC
		4001 to 5000 ppm	+/- 8% rel.	+/-4% rel.		
Oxygen	O ₂	0.00% to 25.00%	+/- 5% rel.	+/-3% rel.	40s	EC
Sulfur Dioxide	SO ₂	0-2,000/5,000ppm	±2%	±1%	10s	EC
Ammonia	NH ₃	0-1000ppm,2%	±2%	±1%FS		
Fluorides	F-	0.2-10ppm	~10%			EC
Benzene Dissolved	BSO	0.25-1.20 mg/m ³	~10%			①
B[a]P	B[a]P	0.003-10 mg/m ³	~10%			②
Flue Dust		Rb 0-10.0	<3%			T-Photo opacity
		Green:0-12				D-Photo
Suspended Particles	TSP	0-1000/5000/20000 mg/M ³	<5%			D-Photo

Auxiliary Parameters Tested

Stove temperature, stove pressure, combustion efficiency, lambda, rev, oil temperature.

Instrument Information:

Instrument Normal Size: 460x350x250 mm
 Transfer package size: approximately: 56x45x40 cm.
 Delivery weight: ~15kg

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pFlue2000	Special developed for combustion application
pAuto2000	Special developed for Automotive and engine test
pCEM2000	Special developed for contaminants emissions monitoring

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