



PCF M2001® THC, NMHC and CH4 - Portable Emissions Analyser

Description - The FID detector is a carbon atom counter. A sample is introduced into a micro flame lit by hydrogen and air (1:10 ratio), where the electrical charges generated by the oxidation of Cx to CO are proportional carbon content in the sample. The electrical charges are collected by two polarised electrodes and converted by an electrical circuit into an electronic signal. PCF's M2001 VOC/THC/CH4 analyser has been designed and built according to the EN 113526 – EN 12619 European directives for the measurement of VOC, THC and CH4 fractions in stack emissions. The sample is extracted through a variable length probe fitted with a top filter connected to the analyser with a heat traced (150- 180°C) PTFE tube. In addition a safety filter is located upstream of the sample capillary. The sample is continuously flowing through the FID detector, ensuring fast response time and continuous monitoring. The integral analyser gas path as well as the sampling pump are regulated and maintained above sample dew point. The **Methane fraction** CH4 can be determined at anytime by diverting the gas to a catalyst converter (manual by pass valve). All organic compounds except the CH4, are then converted into CO2.

M2001® Portable FID

High Performance
source testing



THC

CH4

NMHC

PCF M2001® Portable FID - Key Features

- Efficient operation s/ Low maintenance requirements
- Proprietary micro FID detector
- Online monitoring of THC, CH4 and NMHC
- reinforced aluminium box with carrying strip
- Built-in zero air generator
- Stainless steel connectors for gas inlet/outlet and zero air inlet ports, Built-in Sampling Pump and flowmeter
- Portable system for fast, accurate and reliable analysis of THC, CH4 and NMHC
- Modular and universal high performance associated gas sampling system
- Keyboard / LCD display interface for configuration & calibration
- PFA and PTFE gas path



High Performance Sampling Systems

When sampling gas from large combustion plants or blast furnace (...) the use of a **dedicated sampling system** is necessary to ensure application specific and reliable sample preparation.

AquaGas sampling equipment and solutions cover a large range of applications within the power generation industry. Our gas coolers, heated sampling probes, heavy duty pumps (...) enable efficient flue gas testing with **automated sampling sequences**, light weight, robust and high performance gas conditioning and deep filtration features.



PCF M2001® Portable FID - Specifications

INTEGRATION

Dimensions	Reinforced aluminium box with carrying strip / 400x300x150 mm / 9.5 kg
Weight	
Flow	800 ml/min.
Response time	1 second to 98% full scale deflection
Warm- up time	5 min
inlet pressure	2kPa - 50kPa
Interface	320x200 pixel 5.5" colour TFT-LCD display
Sampling system	Standard supply includes the 316 SS sampling probe, as well as 3m heat traced sampling line.
Power supply	240 VAC 50 +/-1Hz
Built data storage	3" 1/2 FD or compact flash card & USB port standard SW package Windows
Utilities	Hydrogen : IP 25 ml/min from external gas cylinder Air : 200 ml/min, from in built generator Calibration:40 ppm CH4 + 10 ppm propane, air balance
Operating conditions	Temp 0-40C Pressure 86-108kPa Humidity 5-85% non-condensing

ANALYTICAL

Measured gases	Total Hydrocarbons THC, Non Methane Hydrocarbons NMHC, Methane eCH4
Measuring ranges	0-100/1,000/10,000 mg/Nm3
Units	ppm and/or mg/Nm3
Background noise	0.2 mg/Nm3
Lower Detection Limit	0.4 mg/Nm3
Zero drift	± 0.5 % of full scale
Span drift	± 0.1 % of full scale
Linearity	1 % of the selected measuring range
Calibration standard	3 ppm CH4 + 1 ppm Propane, air balance
Accuracy	1 % of the selected measuring range

