

NMHC Flame Ionisation Detector



Portable Flame Ionisation Detector for monitoring of non-methane hydrocarbons, total hydrocarbon content and Methane in exhaust gases

APPLICATION

The FID 22 m NMHC Analyser measures the total hydrocarbon content (THC) as well as the Methane content and calculates the non-methane hydrocarbons concentration (NMHC).

The sample gas is extracted at the measuring point and passed through the analysis system.

This measuring method allows continuous monitoring of the emissions of organically bound carbon without major intervention in the system.

The range of industrial application - emission monitoring and process control - includes:

- monitoring of emissions of gas engines
- monitoring of exhausts of waste incineration plants
- monitoring of biological exhaust gas treatment plants (biofilter)

PERFORMANCE

Repeatability:	+/- 1 % of range
Zero drift:	+/- 1 % in 24 h
Response time:	about 1 sec. (T_{90})
Warm-up time:	15 minutes

MEASURING RANGES

Smallest measuring range	0 ... 1 mg C/m ³
Largest measuring range	0 ... 10,000 mg C/m ³
Certified* meas. range	0 ... 15 mg C/m ³

* according to DIN EN 15267-3

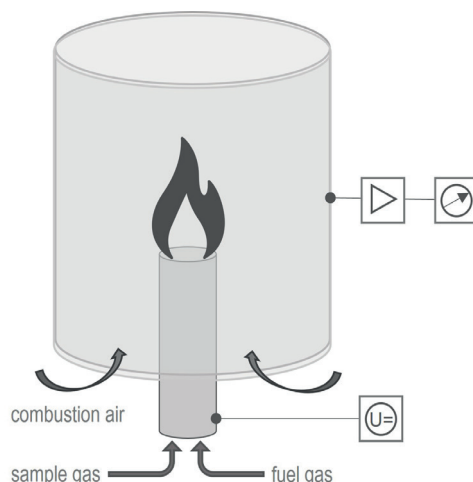
YOUR BENEFITS AT A GLANCE

- complies with EN 12619 & EN 13526 standards for emission monitoring (certification on EN 25140 in progress)
- real dual chamber device
- standard heating temperature about 190 °C, optional up to 300 °C
- Oxygen cross-sensitivity < 2 %
- Hydrogen consumption (fuel) about 70 ml/min
- combustion air via internal catalytic converter
- automatic combustion air switch-off
- flow measurement and pressure compensation function integrated
- single range - no switch between ranges
- user-friendly 7" touch display and software
- graphic display of THC, CH₄ and NMHC concentration
- datalogging by USB flash drive
- pyrolysis cleaning function for a self-cleaning procedure of the gas path and cell
- gas cylinders suitcase available

BACKSIDE OF PORTABLE FID 22



MEASURING PRINCIPLE



OPTIONAL EQUIPMENT

- equipment transport case for FID 22 m
- tablet for remote control
- gas cylinders suitcase
- gas sampling probe
- sampling line (length: 3 m, 5 m or 10 m)

OPERATION PRINCIPLE

The sample gas is extracted from the stack by means of a gas sampling probe via a heated pre-filter and fed to the analysis system via a heated sample gas line.

The FID 22 m NMHC uses a flame ionization detector (FID) to measure the total hydrocarbons content.

A second sample stream is fed with sample gas via a catalytic converter and the Methane concentration is measured (CH₄).

The NMHC value is calculated from these two concentration values.

TECHNICAL DATA	
Protection class	IP42
Dimension; weight:	225 x 363 x 415 mm (w x h x d); 14.5 kg
Heating temperature:	Detector 190 °C (374 °F) External heating (optional) 60...250 °C (140 ... 480 °F) (adjustable)
Gas requirements (consumption):	Fuel gas H ₂ 5.0 or He / H ₂ (70 ml/min H ₂ , 400 ml/min He/H ₂) Span gas C ₃ H ₈ / CH ₄ / C ₂ H ₆ (1 l/min) Zero gas synthetic air (1 l/min) Combustion air ambient air, conditioning using integrated catalytic converter (standard), external combustion air generator (option)
Ambient conditions:	Ambient temperature 5°C...+45°C Relative air humidity max. 95 % (without condensate formation)
Display:	7" TFT - Touch
Remote control:	VNC / FID 22 Master
Outputs:	Analogue 0...20 mA, 0...10V (2 x ; with living zero point at 4mA, burden 300 Ω) Digital Ethernet - RS232
Power supply:	100...240 V, 50...60 Hz, 350 W