



Lightweight, compact, ergonomic, safe



POLARIS FID

Portable TOC Analyser for Stack Emissions

The Portable FID for Stack Emissions: lightweight, compact, ergonomic, safe

"POLARIS FID" analyser realized by POLLUTION is an on-site monitor for the detection of total organic carbon (TOC) in compliance with EN12619 and EN13526.

It is a truly portable instrument because it incorporates everything needed for the analysis; it is useful for environmental screening as well.

FID POLARIS RUNS WITH BATTERIES THANKS TO THE EXCLUSIVE DESIGN WITH LOW POWER CONSUMPTION

The miniaturization of the flame ionization detector (FID) and volumetric sampling system results in a outstanding energy savings and thus allows the use of built-in rechargeable batteries. It also ensures the highest accuracy and repeatability of sequences of analysis.



FID POLARIS FEED THE FLAME THROUGH AN INTEGRATED AND SAFE HYDROGEN STORAGE

The innovative and compact hydrogen storage cartridge with metal hydride technology, is integrated into the instrument and self-desorb the hydrogen fuel to the flame detector with appropriate pressure and flow. It is very safe and does not require pressure regulators; it is a very handy instrument because it allows to perform continuous analysis for many hours. Because of its peculiarities, it is allowed to transport by car and by plane without any restriction. It can be easily recharged in a few hours in the laboratory using a standard hydrogen tank with regulator or a with hydrogen generator with high output pressure.

KEY FEATURES

- Rechargeable battery operations
truly portable
- Integrated hydrogen accumulator
safe and compact
- Zero Air and Span Gas integrated into the chassis:
ergonomic and lightweight
- Volumetric sampling heated line
accurate and precise
- Alphanumeric display and USB port for uploading methods and downloading data analysis:
easy and advanced

APPLICATIONS

- On-site analysis of TOC (Total Organic Carbon) in Stack Emissions, in accordance with EN 13526 and EN 12619
- Environmental screening



FID POLARIS IS BUILT TO RESIST TO THE MOST DIFFICULT OPERATING CONDITIONS

The instrument is designed to be resistant to samples with high temperature and humidity, this is a typical working condition with hot samples during stack monitoring. The detector's group, the sampling lines and the all the valves are integrated into a single block and uniformly heated, so that is possible to eliminate all possible cold spots and avoiding local sample condensation.



POLARIS FID Mod. PF-300

Portable TOC Analyser for Emissions (EN12619 and EN13526 compliant) with flame ionization detector (FID) and volumetric heated sampling lines.

Equipped with metal hydrides cartridge for hydrogen storage (fuel) and Activated Charcoal filter for the ambient air (combustion air)

Uses integrated disposable cylinders: Span gas cylinder for the calibration and Zero air.

Equipped with 230V external power supply, adjustable shoulder strap, USB stick and carrying case.

FID POLARIS IS COMPACT, LIGHTWEIGHT AND ERGONOMIC FOR EASY USE

The instrument incorporates all that is needed for analysis: batteries, hydrogen storage accumulator, pump and Activated Charcoal filter for the combustion air, span gas cylinder for the calibration and technical air cylinder for high accuracy and precision. The inlet of the sample equipped with filter, is compatible with all sampling lines on the market. It's equipped with comfortable shoulder strap for field use, also available as a marsupial.



EQUIPMENT OPTIONS

- Power by two rechargeable batteries and integrated charging batteries system
- Fittings for external connection of Zero Air and calibration Span gas

THE INSTRUMENT OPERATES IN COMPLETE AUTONOMY, AND CONTROLS THE ENTIRE ANALYTICAL PROCESS.

The integrated microprocessor automatically controls several parameters: ignition and flame monitoring; setup of parameters chosen by the user according to the analytical method; diagnostic checks and gas and energy reserves; sampling lines cleaning cycles; calibration procedures.



FULL RANGE OF ACCESSORIES

Sampling probes and heated lines at controlled temperature, additional external battery charger, carrying case, double shoulder strap for use as front-bag, cylinders of Zero Air and Span Gases, extra H2 accumulator and filters: all these accessories and consumables are available for best results with FID POLARIS.



SPECIFICATIONS

Size and Weight	355(W) x 155(H) x 426(D) mm, 10 Kg (with batteries 13,4 Kg)
Power Supply	External Power Adapter 240VAC - 24VDC @ 8,2A <i>Optional: 2 batteries 9Ah (running-time 3h @ 140°C detector)</i>
Sampling	Heated head system
Environmental Operating Ranges	+5°C < T < +40°C - 0% < RH < 95%
Sample conditions	Temperature 0 – 170°C / pressure 90 – 110kPa
Max detector body temperature	190°C
Max temperature Sample Inlet	180°C
Materials in contact with the sample	Steel AISI316 and high performance polymers
Sample flow	approximately 800 ml/min
Sample pressure	atm ± 100 mbar
Measuring Range	0-20/50/150/500 mg/Nm ³
Detection limit (LDL)	0,3 mg/Nm ³
Accuracy Repeatability	2% del F.S. 2% del F.S.
Setting Methods and Data Analysis	<ul style="list-style-type: none"> • Internal memory flash (30 days of continuous measurements) • Upload/download via USB
Flame management	Electronic, with diagnostic and 'flame off' visual alarm on screen, automatic system to restart the flame
Hydrogen storage	<ul style="list-style-type: none"> • automatic system to restart the flame Rechargeable via external source of hydrogen under moderate pressure. No restriction transport by car or plane
Zero Air	1L Cylinder (non-rechargeable): technical air @ 12bar / 20°C (running time approximately 10h) <i>option: Quick connectors for external Zero Air cylinder</i>
Span Gas	<ul style="list-style-type: none"> • 1L Cylinder (non-rechargeable): propane in N2 @ 12bar / 20°C • Concentration of total carbon equivalent : 16mg/Nm³ 320mg/Nm³ <i>option: Quick connectors for external Span Gas cylinder</i>

