



# Application Note

## Stack Emission and monitoring TOC determination

**INTRODUCTION:** Over the past decade enormous scientific, social and economic changes have impacted our quality and environmental regulations, prompting a new look at the subject of controlling emissions of **Volatile Organic Compounds (VOCs)**.

VOC emissions are quantified and monitored according to standard **EN 12619**, using Flame Ionization Detectors (FID) analyser which uses hydrogen and other reference gases in pressurized cylinders. Operators must then approach the sampling point, often placed several meters from the ground, climbing chimneys of industrial settlements with heavy and bulky instruments and dangerous cylinders. So far, the **portability** is a feature of FID simply designed for fugitive emissions from valves, flanges, gaskets, pumps or compressors monitoring. On the other hand, when VOCs have to be measured in chimneys according to EN 12619, the analyser must be much more robust and fully heated to 180°C leading to increase the size and weight of the equipment.

**ANALYTICAL SOLUTION:** Using the Polaris FID SE analyser realized by Pollution Analytical Equipment, Italy, it is possible to carry out the VOCs monitoring according to EN 12619 without lifting heavy accessories typically involved with common FID analysers. Polaris FID SE is a real breakthrough since it complies with the standard regulation displaying an unmatched portability and a cutting-edge next-generation technology. The portability is not compromised anymore thanks to the miniaturization of the flame ionization detector and to the volumetric sampling system. These innovations lead to an outstanding energy saving, allowing also the use of built-in rechargeable batteries and special hydrogen storage cartridge. **In a compact body is incorporated everything needed for measuring campaign:** two rechargeable batteries that assure portability as required by operators; a lightweight zero air and span gas cylinders integrated into chassis in order to avoid external dangerous and heavy gas tanks, and last but not least, an advanced metal hydrides cartridge for hydrogen storage to fuel the flame detector. Here the hydrogen is chemically bonded to a special metal alloy avoiding any risk of leakage and explosion: hydrogen cylinder will not be a concern anymore.



**CONCLUSION:** **FID analysers** have a strong track record in VOC emissions monitoring and this new technology is finally available in order to achieve the core labour standards.

**POLLUTION S.r.l.**

Via Guizzardì, 52 - 40054 Budrio (Bologna)  
Tel. +39 051 6931840 | Fax +39 051 6931818  
pollution@pollution.it

[www.pollution.it](http://www.pollution.it)



Management System  
ISO 9001:2015



www.tuv.com  
ID 9108648180

AI-EN0396-0