

Abstract submission

A Turnkey and Autonomous System for Water and Wastewater Analysis for Industrial Processes

Jean-Philippe Amiet, Mathilde Mascles and Damien Bazin

¹ Chromatotec Group 15 rue d'Artiguelongue, Saint-Antoine/Val de Virvée, France

Area of interest : *Chemical Analyzers*

Title : *A Turnkey and Autonomous System for Water and Wastewater Analysis for Industrial Processes*

Summary of presentation:

Volatile Organic Compounds (VOCs) contamination in water is a common occurrence and represent a major environmental and health concern. Contaminants can be found in ground water, surface water, industrial wastewater and drinking water.

In this paper, we present an autonomous, on-line and turnkey solution for the continuous measurement of VOCs in water including alkanes, chlorinated and oxygenated compounds. This solution is composed of an automated Purge and Trap system used for the quantification of molecules listed in EPA method 502.2. The system was also recently tested and validated for other polar compounds such as siloxanes. The system allows identification and quantification down to ng/L up to µg/L. For higher concentrations (mg/L), a specific dilution system has been designed and implemented to the Purge and Trap.

For this application, we have validated the system using BTEX liquid standard solutions. Finally, for the analysis of liquids with very high VOCs concentrations, a continuous headspace system has been designed and evaluated.