

XPLORER TN/TS

Elemental Combustion Analyzer for Total Nitrogen by Chemiluminescence and Total Sulfur by UV-Fluorescence

The [XPLORER-NS](#) is the smallest [Total Nitrogen](#) (TN) and [Total Sulfur](#) (TS) analyzer available in today's market. This advanced elemental combustion analyzer offers fast, accurate and precise analysis of liquid, LPG, gas and solid samples. It is designed to offer standardized and customized solutions to match current as well as future analytical needs, ranging from low ppb to high ppm applications.

The [XPLORER-NS](#) measures Nitrogen and Sulfur simultaneously. Valuable information about a sample that contains both elements is created during a single run. With its low detection limit it is possible to measure concentrations at ppb level. Detection through [Chemiluminescence](#) and [UV-Fluorescence](#) with sample combustion at high temperature are the reference methods for the determination of [Total Nitrogen](#) and [Total Sulfur](#). Separate analysis of [Total Nitrogen](#) or [Total Sulfur](#) can be done with the [XPLORER-N](#) or [XPLORER-S](#).

Common Applications:

- Chemicals (e.g. Plastics, Aromatics, Olefins and Paraffines)
- Refinery Products (e.g. Crude Oil, Naphta, Lubricants, Gasoline, Diesel Fuel, Fuel Oil)
- LPG and Gases (e.g. Pentane, Butane, Propane, Propylene)

Background

Regulating bodies all over the world have set challenging low levels of allowed Sulfur and Nitrogen concentrations in organic fuels for the present and near future in order to protect the environment.

Oil refineries produce a wide range of air and water emissions that can be harmful to the environment. Some of the contaminants are present in the original crude oil, while others are a result of refinery processes and operations. Air emissions include sulphur dioxide (SO_2) and nitrogen dioxide (NO_2), which have to be monitored.

During the production process of oil products, nitrogen oxides (NO_x) are formed in the gases of the furnaces, which are corrosive to steel. In addition, during catalyst reforming, naphtha is pretreated to remove contaminants like chlorine, sulphur and nitrogen which could poison the catalyst. Right before the end-product is sent to blending and storage, the oil product is treated once more to remove the last amounts of nitrogen and sulphur completely.

Refineries need to monitor and control the total nitrogen and total sulfur content in the feedstock. This is the only way to tune their processes at the highest level of efficiency and also important in order to protect the quality of fuels which leads to a cleaner environment.

Quick Demo

<https://youtu.be/BaPI0M44WX4>

Industrial - Installation liquids by boat introduction

<https://youtu.be/pTaiWsJMSbk>

Creating a Calibration Line for one single CRM

<https://youtu.be/E-Dhj5NdRjl>

More videos can be found on our **TE Instruments YouTube** channel.