

TOTAL SULFUR - NITROGEN AND CHLORINE ANALYZER

HELIOS SN&CL

ACCORDING STANDARDS

ASTM D5453 / ASTM D6667
ASTM D7183 / ASTM D7551
UOP 987 / IP490 / SH/T 0689
ISO 20 846

ASTM D4629 / ASTM D6069
ASTM D5762 / ASTM D7184
UOP 981 / UOP 971 / SH/T 0657
ISO 11905

ASTM D4929 / ASTM D5808
ASTM D6721 / ASTM D5194
UOP 779 / UOP 910
ISO 9562 / ISO 11480



 **TotalEnergies LICENSE**

 **Eraly**
s'Associés
The Elemental Analysis



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HELIOS SN&CL

HELIOS SN&CL is the combination of HELIOS S&N and HELIOS CL, without any alteration of the characteristics and performances of each of them.

With two separated combustion tubes, one for Sulfur - Nitrogen and another one for Chlorine, this equipment is unrivaled for avoiding samples pollution. Hence it offers a high accuracy, a true reliability and a big robustness.

This configuration is made to avoid loosing time and chemicals in rinsing and cleaning your combustion system. It is designed to make your daily life easier and simpler during your analysis. HELIOS SN&CL, a single device, for measuring sulfur, nitrogen and chlorine at the same time.

Your tranquility counts:

With our new analyzers, you no longer need to choose an analysis method or a measurement range depending on the concentration of your samples.

The analyzer will do it automatically.

IT'S USED FOR

SULFUR AND/OR NITROGEN ANALYSIS

Total sulfur and/or total nitrogen measurement dedicated to Refineries, Research bodies, Control as well as contract laboratories.

It dedicated to measure rapidly Sulfur and/or nitrogen in liquid, oil, biofuel, hydrocarbon, solvent, lubricant oil, water, gas, LPG and solid samples.....

CHLORINE - AOX ANALYSIS

It is used by Refineries, Environmental Monitoring Services, Industries, Research bodies, Quality Control as well as contract laboratories to measure Total Chlorine in mainly:
liquid, oil, biofuel, lubricating oil, solvent, water, plastics, sediments, chlorinated PVC, paper pulp, coal, tar, cements, soils, palm oil, gas, LPG, solid samples.....

Our analyzer HELIOS SN&CL is the most stable, it has a very long term stability with no deviation of the calibration during several months.

The Software HELIO-SOFT export function allows to calibrate with single one or more certified samples, in solid, liquid, gas or LPG.

No matter the type of matrix used for calibration, it is possible to convert the coefficient and use it to measure sulfur and nitrogen and chlorine in all types of matrix.

For Chlorine analyzer, absolute titration method (as in volumetry). No need to calibrate, auto calibration and absolute method (it is possible to calibrate if you wish).

NEW GENERATION DETECTORS - Sulfur and Nitrogen



Thanks to the configuration Back-end sensor this new generation of **Sulfur detector** is more sensitive and **up to 20% more accurate** than the previous.

The **Nitrogen detector** has an on/off function of measuring compensation of chamber pressure, sample pressure, internal temperature in accordance with the values during calibration. This function among others, helps to increase accuracy of measurements.

FOR EACH DETECTOR

Ultra low power consumption: an environmentally-friendly and cost-saving analyzer. Pressure and temperature compensation for high measurement accuracy. Breakthrough design for power saving as well as thermal insulation.

Animated synoptic with, Touch screen 7":

at a glance, see, intensity of the UV Lamp signal, intensity of the PM signal; pressure of the measurement chamber, internal temperature, lifetime of filters.....

6 languages:

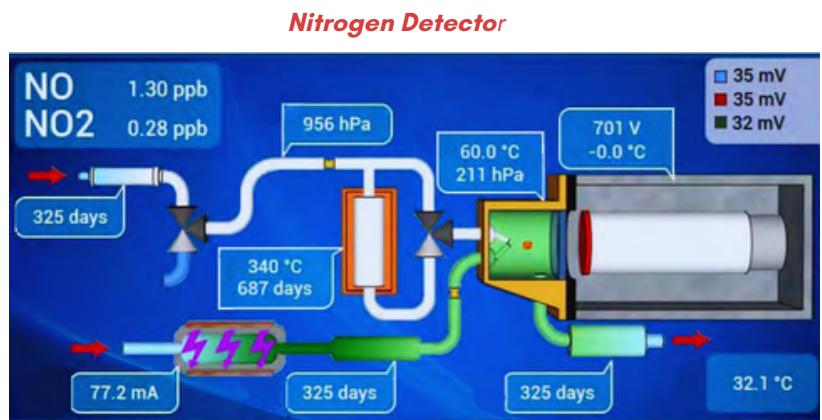
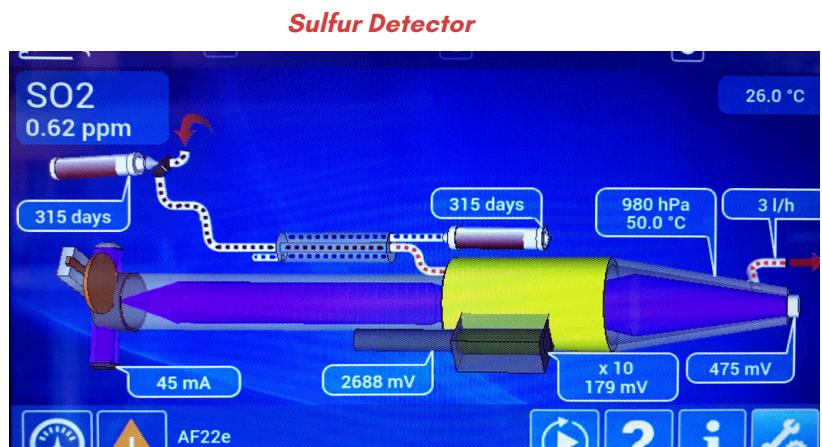
French, English, Spanish, German, Chinese, Russian.

Service assistance inside:

detects early signs of trouble, allows predictive maintenance, identifies the needed service. All alarms could be displayed directly on the detector screen. On this screen you can display a picture of the concerned component and/or area.

For each trouble a table will show the minimum and the maximum accepted values, as well as the real time value.

Thanks to the online checking and assistance we can handle remotely the entire device.



CHLORINE - HIGH PERFORMANCE AND FLEXIBILITY

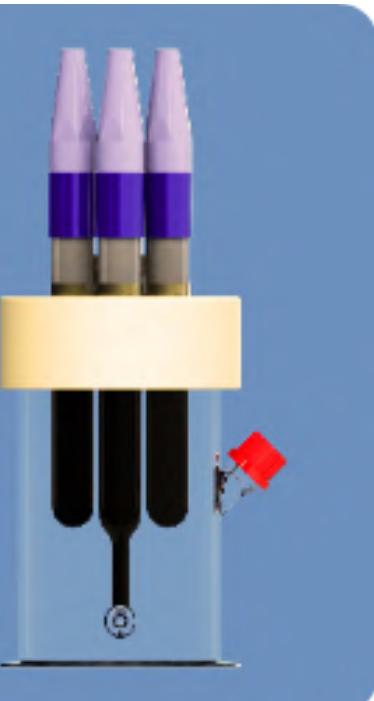
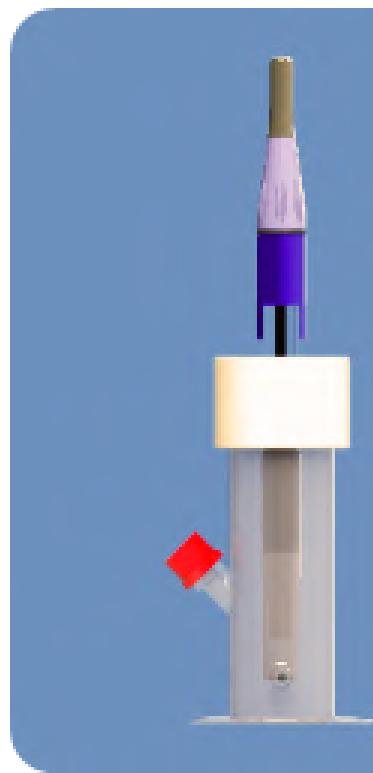


Accuracy, repeatability and reliability are the keys. We offer single analyzer with two titration cells, which could be placed at the same time:

- Cell of medium volume, used for sample having less than 1 ppm to 3000 ppm.
- Cell of large volume, used for sample from 1000 ppm to 80% (without dilution).

Accordingly, we offer three types of electrolytes:

- electrolyte very low concentration, for taces, for samples less than 1 ppm.
- electrolyte low concentration for samples 1ppm to 300ppm.
- electrolyte high concentration for samples 1000ppm to 80% (without dilution).



Some features:

Protective cover against lights effects, semi-pressured cell, refreshing/heating option, auto-flushing system, septum for direct injection, titration cell very easy to fill and empty.

You understand now, thanks to these precautions, you don't need to frequently replace the electrolyte...save time and chemicals.

All these configurations/options/choices allow to reduce pollution, to increase sensitivity and to improve accuracy.

ADVANTAGES OF HELIOS SN&CL:

- Absolute titration method (as in volumetry). No need to calibrate, auto calibration and absolute method (it is possible to calibrate if you wish).
- Replacing the H₂SO₄ absorber with drying / flushing system automatically managed by the device. This helps avoid handling acid.
- Measure of very small quantities of electricity, up to 0.1 nano Faraday and very large up to 100 nano Faraday.

TECHNICAL SPECIFICATIONS

Injections	20 to 80 µl liquids / 10 ml gas / 20 µL LPG		
Supply gas	Oxygen 99.998% - 3 bar Argon 99.995 % - 3 bar.		
Electric	110 V / 230 V / 60Hz - 50 Hz / 800W		
Furnace	Temperature Furnace F2 up to 1100°C		
Dimensions (WxHxD)	108 cm x 65 cm x 56 cm / weight 48 kg		

SULFUR DETECTOR

Detection Limit / Quantification Limit	5 ppb to 10%	/	10 ppb to 10%.
Accuracy RSD %	At 0.1 ppm 0.48 %	At 1 ppm 0.32 %	At 100 ppm 0.84 %.

NITROGEN DETECTOR

Detection Limit / Quantification Limit	5 ppb to 10%	/	10 ppb to 10%.
Accuracy RSD %	At 0.1 ppm 0.51 %	At 1 ppm 0.40 %	At 100 ppm 0.88 %.

CHLORINE

Detection Limit / Quantification Limit	< 0.1 ppm to more than 80% (without dilution).		
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PYRO-COMBUSTION SYSTEM



As a manufacturer of tubular furnaces for industry and scientific research, we pay particular attention to the design and manufacturing of the combustion systems and combustion tube for our analyzers.

Nowadays, some famous international brands use our furnaces for their analyzers, this is the sign and proof that we have wide know-how and better technology.

The combustion efficiency, has a direct impact to measurement results. Combustion with injection and oxydation temperature well controlled, without soot production is one of the key of reliable measurement.

- Very robust furnace, guaranteed up to 5 years with no extra cost.
- Designed to facilitate quick replacement of thermocouple and combustion tube.
- Very low energy consumption with temperature accuracy better than +/- 1°C.
- No need to use gases (inert and oxygen) during heating, before reaching working temperature.

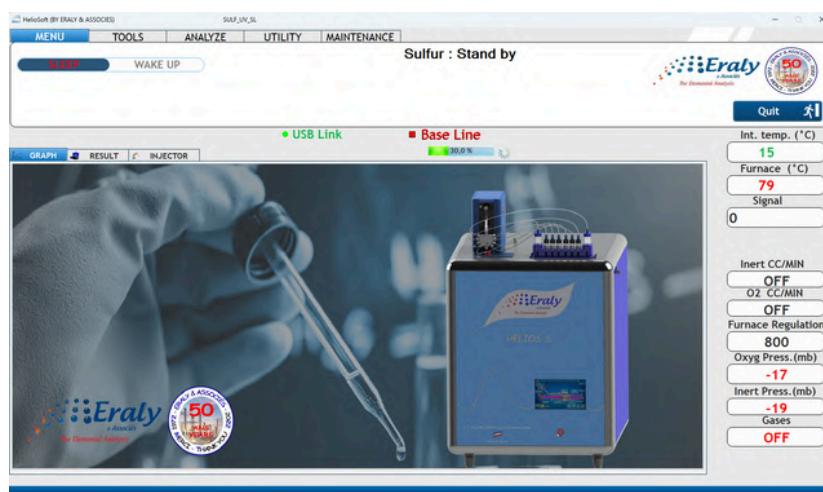


NEW SOFTWARE HELIO-SOFT



User-friendly and intuitive software.

Function export results to LIMS, to Excel and others commonly used formats such as PDF, HTML, XLS, CSV, or TXT.



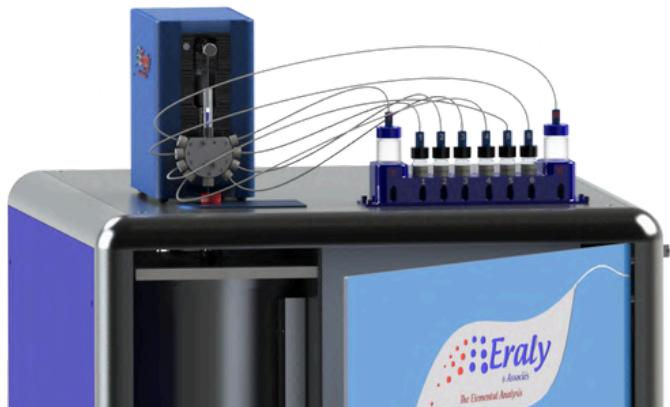
- Verification of calibration stability with graph (type control card).
- Alert function for tracking and replacement of spare parts and consumables.

ACCESSORIES

Mini AutoSampler / Autoljector

Tray of 1 position (single shot) or 6 positions, plus trash can and rinsing bottle.

Used for sampling and injecting liquids samples (e.g: methanol, petrolether, ethanol, toluene, naphtha, additives, kerosene, gasoline, diesel, bio diesel, bio ethanol, lubricant oil, waxes, organic solvents.....)



Gas and LPG SAMPLER

Compatible with standard: ASTM D6667.

Composed of 2 sampling loops, one for gas and one for LPG.

Used for sampling and injecting Butane, Propane, Methane, Natural Gas, Hydrocarbons and their mixtures (ethylene, methane, calibration gas mixes, etc.).

AutoSampler - 50 Positions

Tray of 50 positions, with cooling and/or heating options.

Used for sampling and injecting liquids samples (e.g: methanol, petrolether, ethanol, toluene, naphtha, additives, kerosene, gasoline, diesel, bio oil, lubricant oil, waxes, organic solvents.....).

Sampling volume adjustable between 10 μ l and 80 μ l. Sampling speed adjustable.

