Accurate, sensitive and reliable Total Nitrogen analysis with most compact design analyzer model

analyzer

TN
7000

The TSHR Total Nitrogen Analyzer, model TN 7000, is able to detect fast and accurate trace level nitrogen concentrations in a wide range of liquids and LPG/ Gas sample types. The analyzer is designed to facilitate the current and future demand of total nitrogen analysis down to ppb level.

The sample is introduced by a single liquid syringe autosampler, model HR 7000, into a heated oxygen free environment to ensure a complete vaporization of the sample. The carrier gas ensures that the vaporized sample will be carried into the combustion zone where oxygen will be added to complete the oxidation of the sample. After the dual zone combustion stage, the combustion gasses flow through a perma-pure dryer tube where all moisture and other potential interferences are removed.

The conditioned combustion gasses will flow towards the chemiluminescence detector where added ozone will react with NO to form an excitation stage of NO_2*. The emitted light during the decay will be detected by the photomultiplier tube. The light intensity is directly proportional to the total nitrogen concentration present in the sample.

The HR 7000 liquid autosampler is designed for automatic sample throughput at high performance and reliability. This solution provides a most compact fully automated total nitrogen analyzer, which can be extended to a capacity of 121 samples automatic analysis and cooling or heated sample tray capabilities.

The TN 7000 is matrix independent and fully complies with ASTM, DIN, IP and CEN regulatory methods.

Key advantages

Compact and Robust design

Accurate, Fast and Reliable Total Nitrogen Data

Fully Automated Analysis by HR 7000 Liquid autosampler

Ultra Low Detection Limits down to 25 ppb

Enhanced application range for liquids and LPG/Gasses

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Analytical specifications

Sample Matrix*	Liquid Organics
Working range	0,03 – 5000 mg/kg
Quantity of Sample	1 – 100 uL
Analysis time	3 - 6 minutes
Relative Standard Deviation*	< 2% (> 1 ppm)
Type of sample	High & Low boiling point sample
Highest boiling point	450 deg C (subject to sample matrix)
Regulatory Compliance	ASTM D4629, ASTM D6069 ASTM D7184, UOP 971, UOP 936, UOP 981

*Depend on typical application and sample matrix

Technical specifications

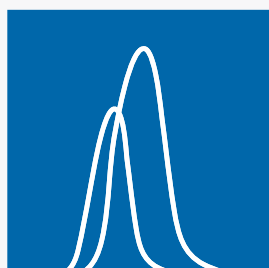|	
Furnace Voltage	2 x 24 V , 50/60 Hz
Furnace Power	2 x 300 W
Furnace Temperature Sensor	2 x Ni-Cr/Ni
Furnace configuration	Dual temperature controlled
Furnace Temperature	1250 °C Max
Type of Analysis	Total Nitrogen (TN) (optional Total Sulfur UV-Fluorescence)
Detection Principle	Chemiluminescence (CLD)
Dimensions	600 x 1100 x 580 mm (WxHxD)
PC operating system	Windows 7 or higher
Computer	Intel Core i3 / AMD Phenom or better
Software	Athena
Standard Supply**	HR 7000 Liquid Autosampler for 2 mL vials
Optional Supply	GM 7000 LPG / Gas Module

**HR 7000 model Liquid Autosampler need to be selected for operation of TN 7000

Facility requirements

Voltage	114/230 V , 50/60 Hz
Power	1200 W
Gas connector	1/8" swagelok
Gasses	O_2 (99,6%) medical grade 2.6
	or O_2 (99,995%) 4.5
	Ar (99,998%) technical grade 4.8
Gas pressure	2 – 3 Bar (30-45 psi)
Ambient temperature	5 – 35 °C (41 – 95 °F)

Contact info

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