

Fast, reliable and precise Total Sulfur analysis with enhanced performance down to ppb levels



The TSHR Total Sulfur Analyzer, model TS 7000, is the ideal solution for both demanding and routine applications with excellent uptimes and delivers accurate total sulfur data. The TS 7000 incorporates a high-end pulsed UV-Fluorescence detector which provides superior stability, low detection limits and exceptional linearity in compliance with stringent regulatory methods.

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

The conditioned combustion gasses will flow towards the UV-Fluorescence detector where a Xenon flashlamp pulsates UV light which excites the SO₂ molecules. During decay to lower energy states, UV light is emitted, and detected by the photomultiplier tube. The UV light emission intensity is directly proportional to the concentration of total sulfur 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 sulfur analyzer, which can be extended to a capacity of 121 samples automatic analysis or having heated sample tray capabilities.

The TS 7000 analyzes low and high boiling liquids as well as LPG/Gas samples and fully complies with ASTM, DIN, IP and CEN regulatory methods.

Key advantages
Compact and Robust design
Fast, Precise and Reliable Total Sulfur Data
Fully Automated Analysis by HR 7000 Liquid Autosampler
High performance pulsed UV-Fluorescence detector
Enhanced application range for liquids and LPG/Gasses



Analytical specifications

Sample Matrix*	Liquid Organics
Working range	0,03 – 10000 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 D5453, ASTM D6667 ASTM D7183, ASTM D7551, ISO 20846, UOP 987

*Depend on typical application and sample matrix

Technical specifications

Furnace Voltage	2 x 24 V , 50/60 Hz
Furnace Powe	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 Sulfur (TS) (optional Total Nitrogen chemiluminescence)
Detection Principle	UV-Fluorescence
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 TS 7000

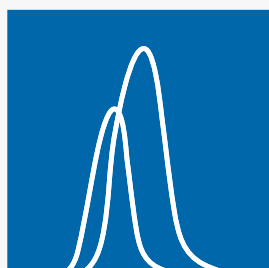
Facility requirements

Voltage	115/230 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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