

TSA - 3600

Total Sulfur Analyzer



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Analytical Technologies Limited

An ISO 9001 Certified Company

www.analyticalgroup.net

►► Introduction

TSA 3600 is the most advanced sulfur analysis instrument is widely used to detect sulfur content in liquid, solid or gas samples. Compared with similar instruments at home and abroad, it has the characteristics of stable performance, high accuracy and good repeatability.

The total sulfur content in the sample is measured rapidly by ultraviolet fluorescence. The application of high precision AD conversion and computer technology provides a reliable guarantee for data acquisition, control and processing.

►► Main Features

1 HighHigh Sensitivity Sensitivity

The TSA 3600 ystem uses ultraviolet fluorescence method to determine the total sulfur content which improves the ability of resisting impurity interference, avoids the blocking operation of the titration pool by electric method and the unstable factors caused by it, and greatly improves the sensitivity of the instrument. The key components of the system, such as PMT, UVP and FILTER, are all imported, which ensures the reliable performance of the whole machine.

The implementation standards of the instrument

SH/T 0689—2000

ASTM D5453—1993

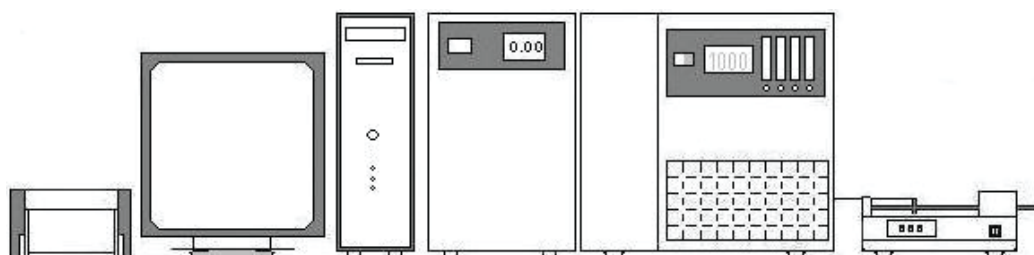
ASTM D6667—2014

GB/T 17040—1997

ASTM D -4294

2 System System Configuration Configuration

Standard Configuration : Computer System + TSA 3600 System + Liquid Samples Analysis Accessories

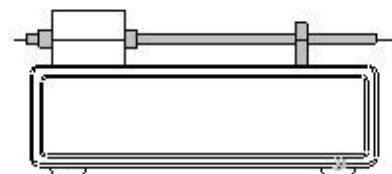


Computer Main Unit Temperature Control Unit Liquid Sample Loader

►► Optional Accessories

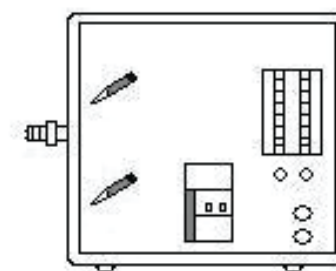
Solid Samples Loader

Combined with liquid sampler, solid sample can be realized. Automatic sampling. A powerful cooling device that can be guaranteed. The sample boat is fully cooled.



Gas Samples Loader

The special gas expansion chamber ensures that the sample gas is sufficient. Uniform heating; accurate gas quantitative tube can guarantee. The data is accurate and reliable, and the dual channel design is convenient. The gas content of the sample to be tested is selected.



3 Operation Operation Simply Simply

Based on Windows System, the operation interface makes the operation more convenient and fast. You only need to click the mouse, you can complete all the parameter settings and condition selection, by the computer control data acquisition, processing, storage and printing.

►► Working Principle

The sample was introduced into the high temperature cracking furnace and the oxidation reaction took place. The reaction process was shown in (1) formula. The sample is completely gasified and oxidative cracking occurs at high temperatures of about 1000 C. The reaction products include CO₂, H₂O, SO₂, and other oxidation products (hereinafter referred to as MOX). The sulfide in the sample was converted to SO₂ quantitatively. The reaction gas is carried by carrier gas and the water in the membrane dryer is removed to enter the reaction chamber.



According to (2) formula, SO₂ can be converted into excited SO₂ under UV irradiation at specific wavelengths. When excited state SO₂ is transferred to the ground state, photoelectrons are emitted. The optical signal is detected by a photomultiplier tube at a specific wavelength.

And the intensity of fluorescence emission is proportional to the total sulfur content in the sample, so the total sulfur content in the sample can be determined by measuring the intensity of fluorescence emission.



When the instrument is used to analyze the sample, the corresponding standard curve is made with the standard sample of sulfur, and the sulfur concentration of the unknown sample can be obtained by calling the curve.

►► Application

The instrument is widely used in petroleum and petrochemical industry, import and export commodity inspection, biological pharmacy, environmental protection, health, teaching, scientific research and other departments.

The instrument is suitable for determining the total sulfur content of paraffin oil, diesel oil, kerosene, gasoline, lubricating oil, fuel oil, liquefied petroleum gas and natural gas, as well as other oils, chemical raw materials and finished products.

►► Main Parameters

Item	Total Sulfur Detection
Sample Type	Liquid, Solid and Gas Samples
Detection Method	Ultraviolet fluorescence method (S)
Sample injection volume	Solid Sample: 1-10mg , Liquid Sample: 5-20μL , Gas Sample: 1-5mL
Measuring Range	0.2 ~ 10000mg/L

Analysis Precision	Concentration value (ppm)	Sampling quantity (μ L)	RSD(%)
	0. 2	20	± 0.1 mg/L
	5	10	15
	50	10	10
	1 0 0	10	8
	10000	5	5
Temperature control range and accuracy	Room Temperature $\sim 1050^{\circ}\text{C}, \pm 1^{\circ}\text{C}$		
Gas Source Requirement	High Purity Argon Gas: $>99.995\%$, High Purity Oxygen Gas: $>99.99\%$		
Power Requirement	AC220V $\pm 22\text{V}$, 50Hz $\pm 0.5\text{Hz}$, 1500 W		

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HPLC Servicing :HPLC Servicing : We have team of service engineers who can attend to any make of HPLC promptly @the most affordable cost.

Trainings :We also take up preventive Maintenance to reduce downtime of HPLC's Trainings.

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Counter



Optical Emission
Spectrophotometer



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2. Improving quality of life by offering YOGA Training courses, Work shops/Seminars etc.

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