

# Carbon And Sulfur Analyzer CSBox Tube & CSBox TubeHT

For Organic Samples by High Temperature Resistance Furnace

## ASTM D4239 ISO 19579 ASTM D1552 ASTM D5373 ASTM D5016



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#### Orbit Technologies Pvt. Ltd.

Orbit Technologies Pvt. Ltd., India is an ISO 9001 certified manufacturer of Thermogravimetric Analyzers, Carbon & Sulfur Analyzers, Ash Fusion Analyzers, Fast Pyrolysis Analyzers & Other Analytical Instruments.

Orbit's high performance analytical instruments are used for precise and reliable results.

Orbit Technologies has obtained the Technology and Business to Manufacture and Sell Carbon & Sulfur Analyzers, Ash Fusion Analyzers & Pyrolyzers from SYLAB S.a.r.I France.

Sylab S.a.r.I France, founded in 1989, is a manufacturer of Carbon & Sulfur Analyzers, Ash Fushion Analyzers, Pyrolyzers & other Analytical Instruments

# Carbon and Sulfur Analyzer for Organic Samples :: CSBox Tube & CSBox TubeHT CSBox Tube

- CSBox Tube Analyzer is used to determine Carbon and Sulfur in Organic samples like coal, coke, fuel oils, soil, biomass and other organic samples.
- · High-efficiency furnace system design with intelligent control can reach 1400 deg C

#### **CSBox TubeHT**

- CSBox TubeHT Analyzer is used to determine sulfur and carbon content in a wide variety of organic materials such as coal, coke and fuel oils, as well as some inorganic materials such as soils, cements and limestone by high temperature combustion with non-dispersive infrared detection (NDIR)
- High-efficiency furnace system design with intelligent control can reach 1600 deg C
- The high temperature of 1600 ensures complete decomposition of some inorganic sample and thus reliable and accurate elemental analysis over a wide concentration range

#### CSBox Tube & CSBox TubeHT Features:

- Unique user-friendly design of Orbit, where furnace is isolated from the infrared analyser to improve the life of the NDIR analyzer
- Complete software enabled operation of the Analyzer
- Two individual solid-state IR detectors for Carbon and Sulfur
- High efficiency horizontal tube furnace design
- Improved furnace design to enhance safety and convenience
- Low maintenance
- Rapid, precise, accurate and reliable Carbon and Sulfur analysis in Organic samples

#### Improved Furnace Design for Enhanced Safety And Convenience



CSBox TubeHT CS Analyzer

#### CSBox Tube CS Analyzer

- High efficiency Horizontal Resistance Tube furnace design 1400 deg C (up to 1600 in HT Model)
- Programmable furnace temperatures and programmable temperature ramp rates
- Concentric ceramic furnace tube with ceramic lance directing the oxygen to the sample to ensure rapid analysis times and for complete combustion
- Better gas flow control to increase the furnace life and reliability of combustion
- Isolated furnace from the infrared analyzer to improve the life of the NDIR analyzer





#### Two individual solid state IR detectors for Carbon and Sulfur

- Customized infrared cells provide wide, dynamic measuring range
- The "Stainless Steel" IR path provides increased cell life time for analysis of samples containing halogens and acids
- Analyzer uses static emitters and static detectors for better signal to noise ratio
- Orbit uses 100% static transmitter without chopper, no blade to modulate the IR beam. The detector is pyroelectric with 100% static and non-dispersive



#### Orbit's CS software for Carbon and Sulfur Analyzers

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Software Window

- Orbit software gives a complete solution for Carbon and Sulfur analysis. User will have complete access to analysis control like method setup, reports, diagnostics, data analysis and transfer graphs and other functions in a highly organised manner
- CS software is designed for speed and ease of use
- It is an easy method setup with automatic sample weight transfer from Analytical Balance
- Capable to capture weights from all reputed analytical balances
- Software allows to set up different methods and user profiles
- Password protection facility
- Grouping of sample data into sets depending on the customer choice
- Instrument can be provided with external balance, printer and laboratory information management system (LIMS) with customizable transport feature supporting file
- Advanced diagnostic features
- Instrument leak check feature providing available diagnostic tool and increasing reliability



**Analysis Screen** 

Ordering information		
Model	Description	Order No.
CSBox Tube CS	Carbon and Sulfur Analyzer with LC Tube Furnace	20-10000
CSBox Tube CS	Carbon and Sulfur Analyzer with SC Tube Furnace	20-20000
CSBox Tube C	Carbon Analyzer with LC Tube Furnace	20-11000
CSBox Tube C	Carbon Analyzer with SC Tube Furnace	20-21000
CSBox Tube S	Sulfur Analyzer with LC Tube Furnace	20-13000
CSBox Tube S	Sulfur Analyzer with SC Tube Furnace	20-23000
CSBox Tube HT CS	Carbon and Sulfur Analyzer with LC High Temperature Tube Furnace	23-10000
CSBox Tube HT CS	Carbon and Sulfur Analyzer with SC High Temperature Tube Furnace	23-20000
CSBox Tube HT C	Carbon Analyzer with LC High Temperature Tube Furnace	23-11000
CSBox Tube HT C	Carbon Analyzer with SC High Temperature Tube Furnace	23-21000
CSBox Tube HT S	Sulfur Analyzer with LC High Temperature Tube Furnace	23-13000
CSBox Tube HT S	Sulfur Analyzer with SC High Temperature Tube Furnace	23-23000





### Other analyzers from Orbit for Coal, Mineral and Material analysis:

#### Thermogravimetric Analyzer

TGA 3000 provides multi-constituent analysis for upto 19 samples at a time. Typical coal analysis method consists of determination of moisture, volatile matter and ash content. The software allows for customization of the analysis steps such as temperature ramping, start temperature & end temperature, programmable gas flows, placement/removal of crucible lids and mass constancy criteria for a fully flexible instrument optimized for every users unique needs.



TGA 3000

#### Maximum Efficiency & Enhanced Precision

- · Dual Carousel with automatic placement & removal of crucible lids
- · High performance Thermogravimetric Analyzer
- Automated Analysis of upto 19 samples
- Capable to accept maximum sample weight up to 5 grams, higher range can be offered on request
- · Programmable heating ramp rates as per test methods
- Windows based control software for operation of the analyzer
- Integrated balance with 0.1 mg readability for robust and accurate mass determination

#### Ash Fusion Analyzer

The Latest technology in the service of the fusion temperature determinations IF 2000G-HDC for Coal and Coke ash samples IF 2000G-HDBM for Biomass, Refuse-Derived Fuel (RFD), Solid mineral fuel and Solid bio fuel ash samples

Orbit Ash Fusion Analyzer automatically determines four critical temperatures: Deformation Temperature, Softening Temperature, Hemispherical Temperature and Fluid Temperature. It is a Fully automatic instrument for determining the ash fusion points by means of image analysis. Orbit's Ash fusion Analyzer uses modern technology for monitoring, computing, storing results and curves obtained during the test. Up to 6 samples can be analysed in each batch.

- Fully automatic instrument for determining the ash fusion points by means of image analysis
- Up to 6 samples can be analysed in each batch
- · Real time monitoring of the samples and test process
- Integrated high resolution camera which is isolated from the high temperature area to improve camera life
- Temperature is identified by quickly scrolling through the stored image
- Capable to record the complete analysis video and digital capture of the images
- Adjustable grid scale for each test specimen
- Maximum furnace temperature: IF2000G-HDC : 1600 deg C and IF2000G-HDBM : 1800 deg C



#### ORBIT TECHNOLOGIES PVT. LTD.

B-50, Industrial Estate, Sanathnagar, Hyderabad - 500018, Tel:+91(0)4067216354 Email: orbit@orbitindia.com, Website : www.orbitindia.com



Ash Fusion Analyzer

#### SYLAB S.a.r.I

15 Rue des Terres aux Bois 57070 Metz France Phone: +33 3387761348 E-mail:venkat.prasad@sylab.fr; sylab@sylab.fr website: www.sylab.fr