

# Ash Fusion Analyzer

IF2000G-HDC  
IF2000G-HDBM

Uses Latest Technology in the Service of Fusion Temperature Determinations

ASTM D 1857    ASTM E 953    AS 1038.15    ISO 540    CEN/TS 15370-1



Ash Fusion Analyzer



Biomass Ash



RDF Ash



Solid Bio Fuel Ash



Coke Ash



Coal Ash

## 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.l France.

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

## Ash Fusion Analyzer :: IF2000G-HDC / IF2000G-HDBM

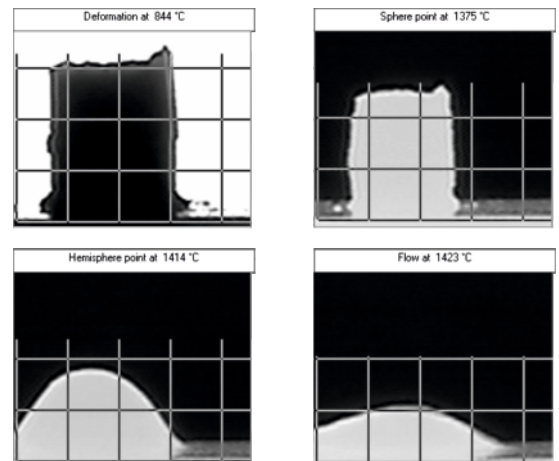
Uses Latest technology in the service of the fusion temperature determinations

IF2000G-HDC for Coal Ash and Coke Ash samples

IF2000G-HDBM for Biomass Ash, Refuse-Derived Fuel (RFD) Ash, and Solid mineral fuel Ash, solid bio fuel Ash

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.

- Precisely controlled high temperature horizontal resistance furnace
- Programmable furnace temperature ranges
- Maximum furnace temperature: IF2000G-HDC : 1600 deg C and IF2000G-HDBM : 1800 deg C
- Furnace is capable to work at both oxidizing and reducing atmospheres
- Programmable ramp rates from 1deg C to 12 deg C
- Temperature Resolution 1 deg C
- Accepts six samples either cylinder, pyramid or cone
- High Strength Four element heating furnace
- Work tube with integrated light for samples having low initial deformation temperatures
- Digital over temperature protection with high alarm relay



## High Resolution Integrated camera

... to capture complete Ash Fusion temperatures

- 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 images
- Capable to record the complete analysis video and digital capture of the images
- Adjustable grid scale for each test specimen
- Grid overlay feature for accurate comparison of sample height and width
- Accepts specimens having Cylinder, Pyramid and Cone shapes from 3mm x 3mm to 6mm x 6mm x 19mm dimensions
- Direct specimen capturing without using mirrors for accurate and precise fusion temperature measurements



Ash Fusion Analyzer

## Controller

- All test results comply with ASTM, CEN/TS, ISO and DIN test methods. Storage of individual sample pictures (1 deg C by 1 deg C)
- Inbuilt CO/CO<sub>2</sub> and CO<sub>2</sub>/H<sub>2</sub> gas mixtures (or) capable to accept pre mixed gases
- Gases: CO/CO<sub>2</sub> & CO<sub>2</sub>/H<sub>2</sub> mixture ready to use, additional feature include CO, CO<sub>2</sub>, H<sub>2</sub> separate entries, and mixture automatically made by the analyzer. Oxidizing atmospheres by inbuilt Air Pump (or) External Air Compressor
- Automatic air flow cooling for the furnace + CO/CO<sub>2</sub>/H<sub>2</sub>/Air exhaust tube to the lab hood
- Inbuilt flow meters for oxidising and reducing gas flow



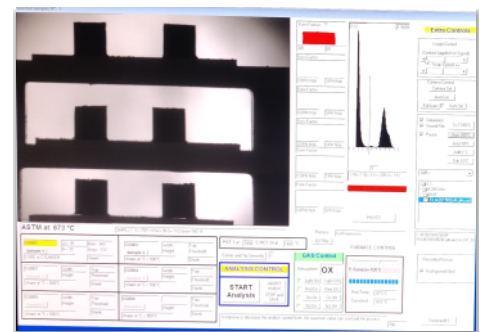
Ash Fusion Analyzer

## Orbit AFT Software – where fusion tests meets innovation



- Orbit AFT software gives complete solutions for your Ash Fusion analysis
- Easy to use windows based software
- Can use samples from 3mm x 3mm to 6mm x 6mm x 19mm dimensions. Automatic sample shape identification
- Continuous recording of sample images
- Real time monitoring of the samples and test process

- System is equipped with High resolution CCD camera. The whole test process will be monitored in real time. Option is available to replay the stored images for finding the sample characteristics against temperature raise
- Test protocols, as per ISO, ASTM, CEN/TS, DIN, CEN/TR and BIS test methods are included, in addition to simulated analysis features using recorded picture of a previous analysis
- Automatic identification settings are included in the setup, sample shape automatic recognition and computed points are automatically set according to the selected norms
- Automatic and continuous high resolution image of four melting points of each sample at different temperature intervals is set by customer preference with the computer
- The image capture rate can be programmable from 1 deg C per minute to 12 deg C per minute
- Multiple images are stored automatically in a computer in sequence including date, time and batch identified and the temperature at the point of capture



## Ordering Information

Model	Description	Order No.
IF2000G-HDBM	Ash Fusion Analyzer; HT	22-520000
IF2000G-HDC	Ash Fusion Analyzer	22-510000



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

**CSBox Tube Analyzer**

CSBox Tube Analyzer with High Temperature Resistance Tube Furnace for Carbon and Sulfur in Organic materials.

CSBOX Tube Analyzer is used to determine Carbon and Sulfur in Organic samples like coal, coke, fuel oils, soil, biomass and other organic samples.

Simultaneously it does Carbon and Sulfur determination with minimal sample preparation. It consists of two independent infrared cells with wide measuring range of Carbon and Sulfur. The measuring range of each infrared cell is modified to the user's specific requirement to ensure optimum measurement conditions for each application.

CSBox Tube is supplied with a comprehensive user friendly software which includes statistic reports, diagnostics features and other functions.



CSBox Tube CS Analyzer

- High efficiency Horizontal Resistance Tube furnace design 1400 deg C (up to 1600 in HT Model)
- Unique user friendly design of Orbit, where furnace is isolated from the infrared analyzer to improve the life of the NDIR analyzer
- 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

- Two individual solid state IR detectors for Carbon and Sulfur
- High efficiency horizontal tube furnace design
- Rapid, precise, accurate and reliable Carbon and Sulfur analysis in Organic samples



CSBox TubeHT CS Analyzer

**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



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