



Single Burning Items

- BS EN 13823: a single burning instrument (SBI) Determination of building materials in the single burning heat invasion status

SBI measures performance at a single burning heat invasion conditions (excluding floorings). Samples are placed inside the sliding flame (methane combustion sandbox boxes), under the exhaust pipe. Sample combustion reaction condition to accept dual monitor machine and visually. Heat and smoke release rate assessment instruments detect objects by observing performance.

The sample is placed on a mobile cart located in the exhaust system under the combustion reaction of the sample can be automatically displayed and visible. By calculating the heat release rate (HRR), smoke release rate (SRR) to evaluate the combustion characteristics of the machinery, and other physical properties evaluated by visual observation. SBI measurement range, the fire growth rate index (FIGRA) is the most representative measure factors; in addition, there are factors measuring oxygen consumption representative, O_2 , CO_2 generation amount, smoke growth rate index (SMOGRA) and so on. Maximum heat release rate can reach 1MW.

Model: FSB

I. Structure feature

- 1, The device includes combustion chamber, small cart, exhaust pipes, gas supply systems, control systems and data processing system;
- 2, Combustion chamber dimensions: 3m X 3m X 2.4 m, wall made of heat resistant bricks, plasterboard and calcium silicate plate.



II. Ignition system

1. 10kV spark ignition, a cease-fire with safety devices. Ignition automatically positioned by a lever mechanism connected to a closed
2. Import mass flowmeter input flow control.
3. Flame extinction has automatic alarm device, safe and reliable.



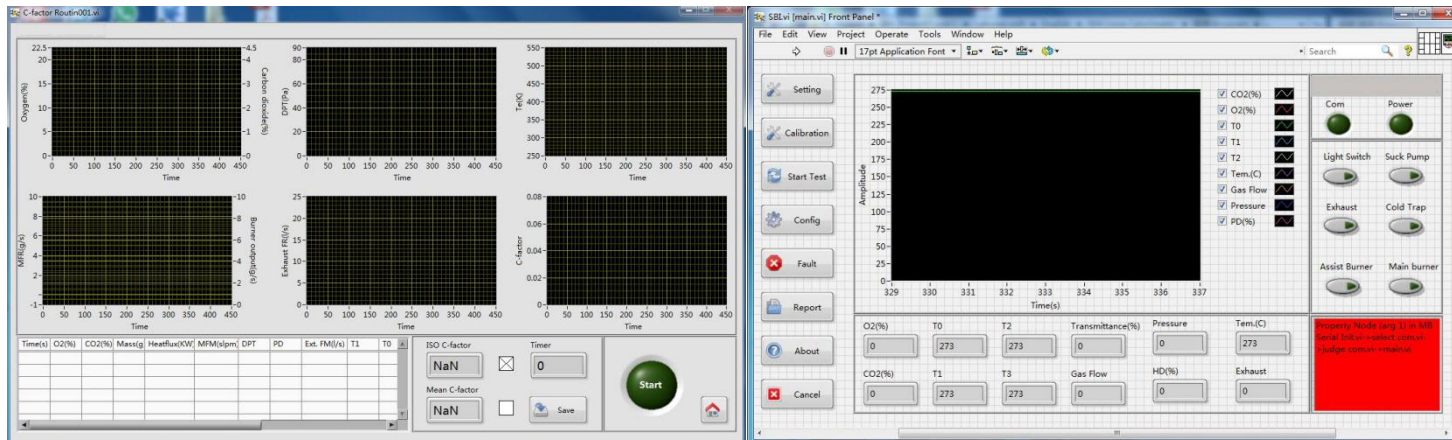
III. Gas sampling system

- Comprises a particulate filter, cold traps, suction pump, drying cylinder, flow controllers



IV. Measurement system

- Paramagnetic oxygen analyzer, o2 measurement range of 0-25%, linearity deviation <1%.
- Infrared CO2 analyzer co2; measuring range: 0-2 / 10%, linearity deviation: $< \pm 1\%$.
- Measurement of smoke density with the laser system.



V.Control system

- Embedded integrated 10.2 "touch screen:
- Control parameter setting and display; test status and fault display, query.
- The data acquisition and preservation; picture monitoring, real-time temperature curve, real-time CO₂ / O₂ data curve display; the historical trend and data query;
- Data USB export. Historical curve and data query, print;
- Can independently control the machine completed the trial.
- Sound alarm and alarm display functions accidents.
- Control have USB / RS232 serial port on the box, you can add a desktop / laptop operating control..
- Programmable Logic Controller (PLC) control system:
- Automatic ignition, ignition failure detection and protection.
- Propane gas flow automatic control and display.
- PLC + inverter implement automatic control and exhaust gas flow rate display.
- Automatic measurement and calculation of combustion of materials: heat release rate (HRR), smoke growth index (SPR), oxygen consumption (O₂), CO₂ generation amount.

VI. Installation

1. Power supply: AC380V, 50Hz;
2. Max. power: 3.5KW;
3. Overall dimension of combustion chamber: 3200mm(L) × 3700mm(W) × 3300mm(H)
4. Overall dimension of exhaust pipeline: 5200mm(L) × 3000mm(W) × 4300mm(H)
5. Overall dimension of console: 800mm(L) × 800mm(W) × 2030mm(H)
6. Land area: 8000mm(L) × 6000mm(W) × 6000mm(H)