



innovative solutions

# 3 mts Cube Smoke Density Apparatus As per IS: 10810 (Pt.63), IEC:1034-1 etc Model No SSI 517 SDIE HMI



An ISO 9001:2008 Company  
GMP compliant

Smoke Density Apparatus is used for measuring & observing the relative amount (Density) of smoke produced by the burning (combustion) or decomposition of Plastic, Cables etc. under controlled conditions.

The sample is burned under controlled conditions by alcohol fire. A light source and a photo receptor is placed on either side of the chamber, and the percentage of light absorbed is displayed through a linear amplifier digital electronic photometer with 0 to 100% absorbance scale.

The instrument is manufactured as per the IEC specification and also confirms various other international standards.



3 m Chamber



Mixing Fan



Photo Cell



Light Source



Exhaust Fan



Fuel Tray &  
Sample Stand

TRIVENI COMPLEX, E-10-12, JAWAHAR PARK,  
LAXMI NAGAR, DELHI 110 092

Ph: +91 (11) 2242 5415, Telefax: +91 (11) 2244 0417,

Email: info@ssinstruments.com, Web Site: www.ss instruments.com

**S.S. INSTRUMENTS PVT. LTD.**



# 3 mts Cube Smoke Density Apparatus

## As per IS: 10810 (Pt.63), IEC:1034-1 etc

### Model No SSI 517 SDIE HMI



innovative solutions

**WELCOME**  
*SMOKE DENSITY TEST APPRATUS*  
*AS PER IEC 61034*

BY  
**S.S. INSTRUMENTS PRIVATE LIMITED**

**OPERATOR INPUT**

OPERATOR NAME \*\*\*\*\*  
SAMPLE No. \*\*\*\*\*  
SAMPLE DESCRIPTION \*\*\*\*\*  
DATE OF TEST \*\*\*\*\*  
TIME OF TEST \*\*\*\*\*  
REMARKS \*\*\*\*\*

MANUAL OPERATIONS    RESET    PRINT PAGE    PARAMETER SETTINGS

**PARAMETER SETTINGS**

TOTAL TIME(MIN.)    ###  
READING TIME(SEC.)    ###  
CABLES (NUMBER)    ###  
INTERNAL TEMP.(CELSIUS)    123.4  
LAMP VOLTAGE(DC)    123

DAMPER CLOSED

MANUAL OPERATIONS    OPERATOR PANEL    CALIBRATION PANEL

**INSTRUMENT CALIBRATION**

**PRESS TO CALIBRATE INSTRUMENT**  
(CHAMBER LIGHT, EXHAUST FAN SHOULD BE OFF)  
(SWITCH OFF BULB HERE)

CURRENT VALUE    12.3    SET 0% TRANSMISSION  
(SWITCH ON BULB NOW) wait couple of minutes

CURRENT VALUE    123.4    SET 100% TRANSMISSION

INSTRUMENT CALIBRATED

MANUAL OPERATIONS    OPERATOR PANEL    PARAMETER SETTINGS    TEST START    BURNER IGNITION

**TEST**

START TEST

(BACKGROUND PROCESS TO BE COMPLETED)

1. PHOTCELL TO BE ON
2. LIGHT SOURCE TO BE ON
3. EXHAUST SHOULD BE OFF.
4. CHAMBER LIGHT SHOULD BE OFF.
5. START INTERNAL CIRCULATION FAN
6. DOOR SHOULD BE CLOSED.

GRAPH VIEW    TABLE VIEW    STOP TEST

**TEST TABLE WINDOW**

SAMPLE NUMBER	EP04030909	TIME	minutes	TIME	minutes	TIME	minutes	TIME	minutes	TIME	minutes	TIME	minutes	TIME	minutes	TIME	minutes
1234	123.0	1234	123.0	1234	123.0	1234	123.0	1234	123.0	1234	123.0	1234	123.0	1234	123.0	1234	123.0

GRAPH VIEW    RESULT VIEW    STOP TEST    PRINT PAGE

**TEST GRAPH WINDOW**

TABLE VIEW    RESULT VIEW    STOP TEST    PRINT PAGE

**TEST OVER**

ALCOHAL EXHAUSTED

READING STANGATE FOR 5 MINUTES

TEST OVER

RESULT VIEW    TABLE VIEW    GRAPH VIEW

**TEST RESULT WINDOW**

INITIAL TRANSMITTANCE(Io)    12.3  
FINAL TRANSMITTANCE(It)    12.3  
AVERAGE TRANSMITTENCE    12.3  
NO. OF CABLES    1234  
MEASURED  
ABSORBANCE  $A_m = \log_{10}(I_o/I_t)$     12345.67  
STANDARD ABSORBANCE  
 $A_o = (A_m \times \text{CUBE FACTOR} / \text{No. OF CABLE})$     12345.67

GRAPH VIEW    TABLE VIEW    NEW TEST    PRINT PAGE

**MANUAL OPERATIONS**

PHOTOCCELL OFF    LIGHT SOURCE OFF    CHAMBER LIGHT    INTERNAL AIR FAN  
DAMPER OPEN    DAMPER CLOSE    STEPPER FORWARD    STEPPER REVERSE

OPERATOR PANEL    PARAMETER SETTINGS

START NEW TEST    STOP TEST

PRESS TO SHUT DOWN

Individual screen can be saved on pen drive and transferred to computer

The Screen may differ in the final product due to development in software

# S.S. INSTRUMENTS PVT. LTD.

TRIVENI COMPLEX, E-10-12, JAWAHAR PARK,  
LAXMI NAGAR, DELHI 110 092  
Ph: +91 (11) 2242 5415, Telefax: +91 (11) 2244 0417,  
Email: info@ssinstruments.com, Web Site: www.ssinstruments.com



innovative solutions

## 3 mts Cube Smoke Density Apparatus As per IS: 10810 (Pt.63), IEC:1034-1 etc Model No SSI 517 SDIE HMI

**CE** An ISO 9001:2008 Company  
GMP compliant

The Instruments Consists of

- ✦ A 2mm thick walled chamber 3m x 3m 3 m Chamber (powder Coated for long life). The inner chamber is constructed on Columns and 2mm thick GI Sheets. This ensure no rust formation on the chamber. The outer chamber is made of Aluminum composite sheet for long life. (Optional)
- ✦ Door to access the chamber from inside with glass window
- ✦ Alcohol Tray as per specifications
- ✦ Sample Stand
- ✦ Mixing fan inside the chamber along with Sheet shielding as per specifications
- ✦ Constant DC power supply to produce 12 V DC for the light source
- ✦ Light source 12 V DC to form light spot of 1.5m dia on the photometric system wall.
- ✦ Electronic Photometric System to capture and display the % Transmission of light. Consist of Photo Cell and Receptor
- ✦ A to D Card and interface
- ✦ Specially developed Software to capture % transmission from the photometric system. After the test the results can be displayed in tabular / graph form

**S.S. INSTRUMENTS PVT. LTD.**

TRIVENI COMPLEX, E-10-12, JAWAHAR PARK,  
LAXMI NAGAR, DELHI 110 092  
Ph: +91 (11) 2242 5415, Telefax: +91 (11) 2244 0417,  
Email: info@ssinstruments.com, Web Site: www.ssinstruments.com