

CA05 SMOKE OPTICAL DENSITY CHAMBER 27 mc

TECHNICAL DATASHEET

Complying with:

CEI EN 61034-1 :2006 Classification: 20-37/3

MEASUREMENT OF SMOKE DENSITY OF CABLES BURNING UNDER DEFINED CONDITIONS.

The equipment comprise a cubic enclosure with inside dimension 300 x 300 x 300 cm to be used for measuring smoke emission when electric cables are burnt under defined conditions. The light transmittance under flaming combustion and smouldering conditions can be used as a means of comparing different cables.



Technical features:

Chamber

The test chamber panels are easy to assemble, prepared with special fastening systems and equipped with the following accessories:

Glass window with darkening curtain, gaskets and locks on the door.

Two small tempered neutral glass windows (dim. 200x200mm) for opacimeter light beam passage.

Arc of a circle screen (1500x1000mm).

Stainless Steel Tray for combustible solution.

Stainless Steel Frames for clamping cables under testing.

n. 2 Thermocouples K type

Smoke aspirator system at test conclusion, consisting of a propeller fan of 1500 m³/h airflow with 0,5 CV - 6 poles motor, stop valve.

Display unit (code 10090013)

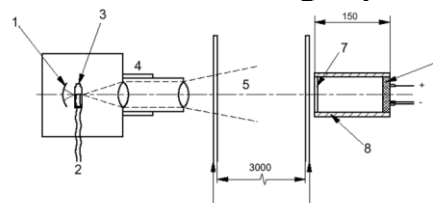
Digital device indicator Electronics Signal conditioning, with real time mV/ Optical density/ Transmittance

(elaborated with microprocessor)

Output in mV, Interface USB port



Photometric group



Composed by a tungsten light source (100W-12V), nominal temperature 3000k and a isotopic photodetector.

The light beam, at a distance of three meters, produces a round area evenly lightened of diameter $1,5 \pm 0,1$ m.

The lamp voltage is stabilized within $\pm 0,01V$

The light source and the receiver shall be placed externally in the centre of both windows in the two opposite walls of the cubic chamber without making physical contact. The light beam shall traverse the cube through the glass.

Supplied with Filters for the calibration: neutral at 50% and neutral at 30% DO.

When the stability of photometric system has been attained, the zero and full scale reading of the recorder shall be adjusted for light on the detector corresponding to 0 % (absence of light) and 100 % luminous transmission.



Electric Main panel

For monitoring and protecting the installed electric devices, consisting of a tripolar isolator switch, warning light and control switches (for suction, lamp, internal fan), speed regulator of the internal air circulation fan, all wired in a dust proof standard box, protection IP55.

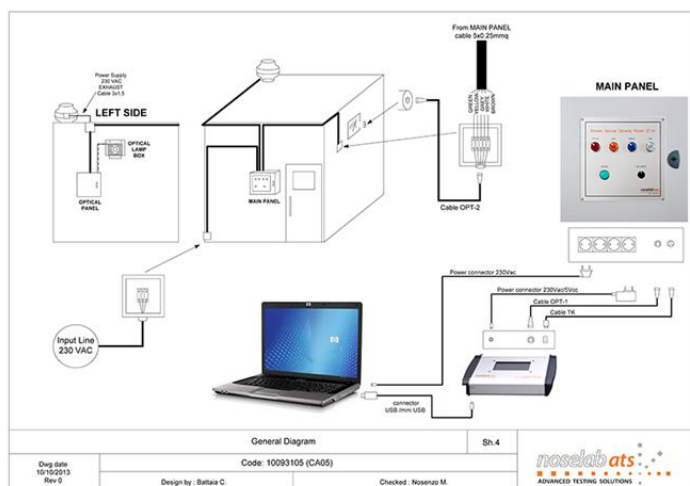
Software (Code 10109006)

For data processing (Windows XP) with cable:

- Continued transmittance process monitoring
- Conversion in optical density
- Optical density/time curve
- Data logging
- Instantaneous transmission/density data
- Max optical density and O.D. in defined times
- Optical density/time diagram
- Tests records
- Report
- Print preview

Notebook, printer and independent station (code 0020000)

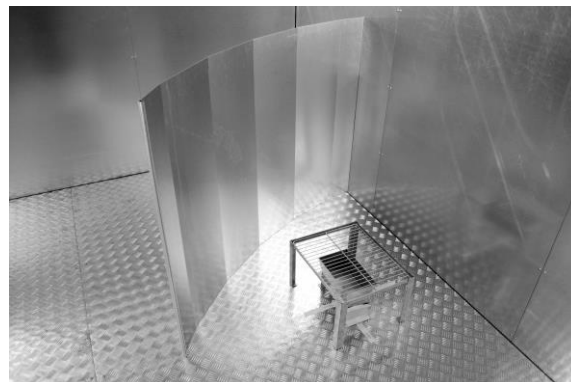
Working diagram



Chamber environment

Inside the propeller Fan for air circulation at an adjustable speed from 7 to 15 m³/min, 160W - 220V

Draught screen and ignition source



General:

- Dimensions: 300 x 300 x 300 h (cm), main system
- Net weight: kg 1600
- Gross weight: kg 2000 (wood cases)
- Power supply 230 V 50Hz single phase

Accessories:

- Portable Electronic Thermo anemometer to verify the fan throughput.
- Light meter - resolution 1 lux to verify the luminous flux not less than 2000 lumens

Code	Description
10093105	CA05 Smoke Optical Density Chamber 27 mc
40390001	Thermo anemometer
01020104	Certificate of calibration (4 points m/s)
40065000	Light Meter
01020112	Certificate of calibration (4 points Lux)
10109006	Software Optical Density
00200000	Notebook, Printer and Independent Station
10090013	Display Unit

