



**Deatak, Inc**

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EIN # 32-0021631

**Instrument Model:** OI-3-ET

**Instrument Name:** Oxygen Index Elevated Temperature Tester

**Explanation:**

The heated column assembly consists of two concentric glass tubes, the inner having a 75 mm ID, and with a heating element wound on its outer surface. The second tube sits around this, shielding the inner tube from draughts, etc.

The pre-heater, situated at the base of the heated column assembly, allows the incoming flow of air (gas) to be pre-heated to the column temperature before it is passed into the column.

The control unit provides control of the two heaters and an air pump, which allows the required column temperature to be pre-set prior to switching over to the oxygen/nitrogen mix during the run, thus minimizing use of cylinder gases. The control unit allows five pre-settable programs and also communicates with the OI to ensure the whole system operates as one module.

The glass tube construction and pre-heater provides good stability and uniformity of sample material temperature and visibility of the material during the run.

The system also incorporates a pressure switch and audible alarm to ensure that if the air or gas mixture flow fails during a run, the power to the heaters is removed and the alarm sounded.

The measured sample temperature is achieved using an adjustable temperature probe which can be positioned inside the heated column adjacent to the sample. The temperature is shown on the digital temperature display on the front of the control unit.

The Temperature Index Module extends the range of the OI, so that the oxygen index of the materials can be measured at elevated temperatures. Generally, the oxygen index falls as the gas mixture is heated, so work at elevated temperatures supplements work carried out at room temperature.

The two-heater system is used to ensure a stable and uniform temperature around the sample.

The instrument is easy to use and, like the OI, utilizes an easy to read digital display, indicating the instrument status, program number, column and pre-heater temperatures, gas/air status and sample temperature.

**Specifications/Standards:**

Ambient Temperature Tests:

ASTM D 2863

ISO 4589-2

BS 2782 Part 1

Elevated Temperature Tests:

ISO 4589-3

NES 715



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**Features/Options:**

120-230V 50/60Hz

Utilizing the latest oxygen analyzer technology, the unit provides a stable, digital readout of oxygen concentration to  $\pm 0.1\%$ .

A heavy duty Pyrex chimney is provided, along with two types of sample holder:

For non-self-supporting sheet samples (e.g. textiles, films, papers, etc.).

Sample size: 150 x 37.5 mm and up to 12 mm thick.

Self-supporting rod samples (e.g. plastics, wood, etc.).

Sample size: 150 mm length and up to 10 mm diameter.

Automatic calibration.

Digital selection of oxygen concentration computer/software control.

Adjustment of oxygen and nitrogen flow is automatic to achieve the desired oxygen concentration.

Digital Display on laptop computer: Instrument status, oxygen concentration, flow rate, and elapsed time.

All necessary control valves, flowmeters and filters are built in and the instrument is easy to use.

The apparatus is supplied complete with a burner assembly and instruction manual.

**Dimensions of Instrument:**

OI body 14" x 14" x 31"

Width x Depth x Height

37" of height clearance required for the igniter system

**Facility Requirements:**

Fume enclosure or overhead exhaust hood approximately 3' x 3' with 100-300 SCFM exhaust capacity

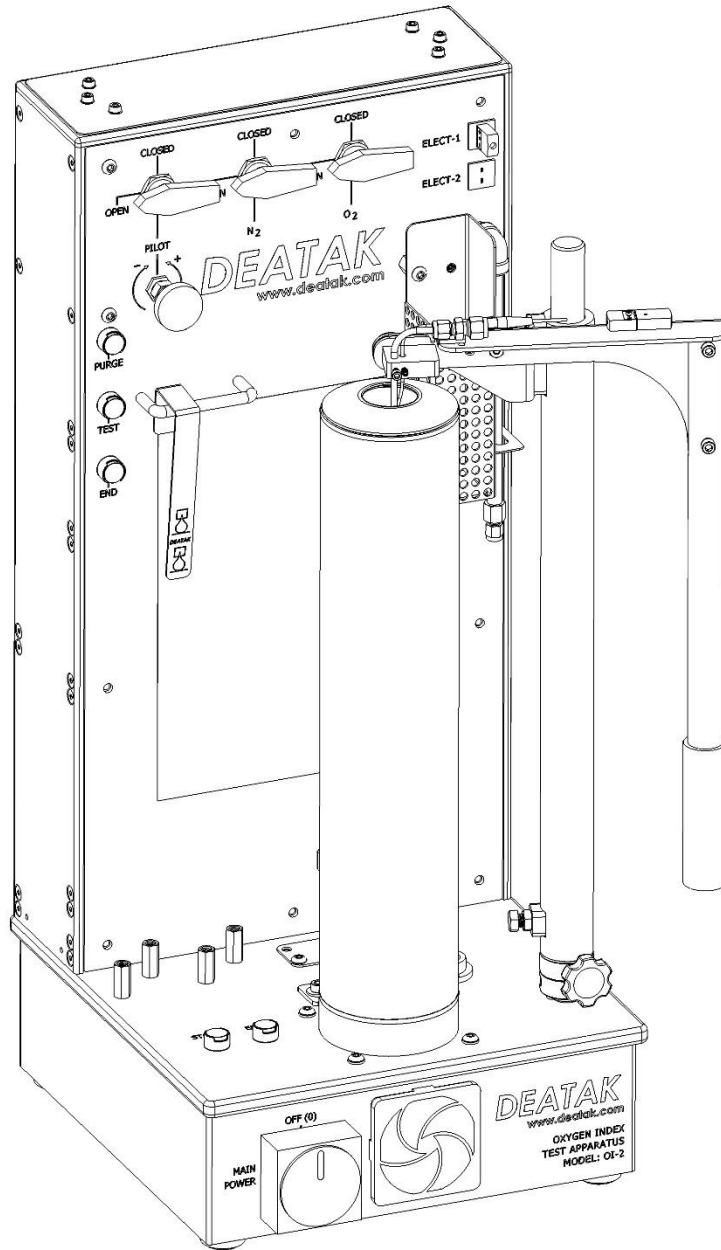
Oxygen, >97% mass fraction pure, <0.1% mass fraction moisture, 30LPM @ 43 PSIG

Nitrogen, >97% mass fraction pure, <0.1% mass fraction moisture, 30LPM @ 43 PSIG

Ignition gas (Propane, Methane, or Natural Gas), >96% mass fraction pure, <0.1% mass fraction moisture, 10 LPM @ 0.5 PSIG (0.034bar)



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Oxygen Index Test Apparatus, Model: OI-3



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Elevated Temperature Chimney