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# Critical Oxygen Index Apparatus (HMI Model) As per ASTM D 2863, IS 10810 (Pt 58 & 64) SSI - 515 LOIPMH



An ISO 9001:2008 Company  
GMP compliant

Critical Oxygen Index apparatus is used for determining the minimum percentage of Oxygen required to just support flaming combustion of a material at room temperature in FTA mode or at Higher Temperature (up to 400oC) in HFTA mode.

The sample is burned in the mixture of nitrogen and oxygen, and the percentage of oxygen required just to support the flaming combustion is recorded through an imported Oxygen Analyzer, which gives direct oxygen readings.

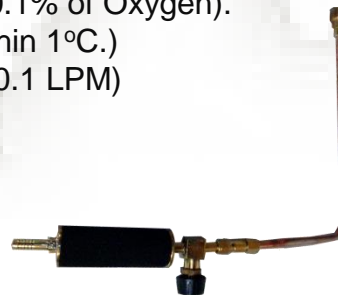
The apparatus also has a double walled test column of flame resistance glass of 75 mm dia. suitable for testing different size of samples in **FTA or HFTA** mode.

A digital temperature-indicating controller provided with the instrument controls the temperature for HFTA mode. The instrument is manufactured as per the **ASTM** specification and also confirms various other international standards. The instrument comprising of

- Paramagnetic Dumb Bell Oxygen Analyzer. (Permanent Sensor)
- Double walled glass test column with heaters.
- Digital Temperature indicating controller.
- Flow meters and valves
- Digital** Readout for Oxygen ( can be controlled within 0.1% of Oxygen).
- Digital** Readout for Temperature (can be controlled within 1°C.)
- Digital** Readout of total Flow (can be controlled within 0.1 LPM)
- HMI For Display of Various Parameters
- Burner
- Sample Holder and hanger
- Thermocouple



Sample Holder for Hard Material



L Shaped Burner



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**Operator Screen**

Operator Name

Sample No

Sample Discription

Remark

**Test Selection**

Sample Identifier

**Calibration Screen**

Sample Identifier

Oxygen %  Total Gas Flow in LPM  Temperature  °C

Open the Nitrogen Valve an increase the flow to 6-8LPM wait for couple of min & then set 0 using set 0 knob

Open the Oxygen Valve an increase the flow to 6-8LPM wait for couple of min & then set 100 using set span knob

**Oxygen Index Test Screen**

Sample Identifier

Ignite the sample using the L shaped burner

Oxygen %  Total Gas Flow in LPM

Sec

**Oxygen Index Test Result Screen**

Sample Identifier

Oxygen Index of the sample at ambient temperature is

Ambient Temperature

Time for which Sample Burning Observed(Sec)

**Temperature Set for temperature Index**

Sample Identifier

Set Temperature  °C

Present Temperature  °C

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### Temperature Index Test Screen

Sample Identifier TD1: AAAAAAAAAA

Ignite the sample using the L shaped burner

Oxygen % ND4: ###.## Total Gas Flow in LPM ND1: ###.## Temperature ND3: ###.## °C

SW1: Press to Start Timer ND2: ### Sec

SW3: Press If oxygen % needs to be Changed SW2: Press If LOI Achieved

FK1: Test Selection Screen FK5: Calibration Screen SB0: Save Screen

### Oxygen Index At Elevated Temperature

Sample Identifier TD1: AAAAAAAAAA

Oxygen Index of the sample at Elevated temperature is ND4: ###.##

Temperature ND1: ###.##

Time for which Sample Burning Observed(Sec) ND2: ###

Do you wish to take reading at another temperature Yes No

No of reading taken ND3: #

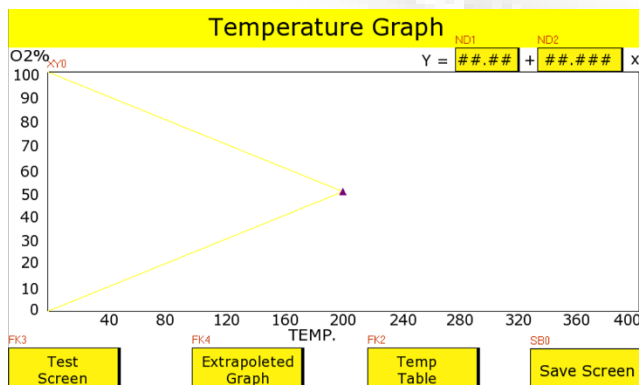
FK1: Test Selection Screen SB0: Save Screen SB4: Reset Test

### Temperature Index Test Table

Sample Identifier TD1: AAAAAAAAAA

Temperature ND4	Oxygen Index of the Sample ND6
ND1: ###.##	ND7: ###.##
ND5: ###.##	ND8: ###.##
ND6: ###.##	ND9: ###.##
ND7: ###.##	ND10: ###.##
ND8: ###.##	ND11: ###.##
ND9: ###.##	ND12: ###.##

FK3: Test Screen FK2: Temp Graph FK1: Test Result SB0: Save Screen SB4: Reset Test



### Temperature Index Test Result

Sample Identifier TD1: AAAAAAAAAA

LOI at ambient temperature is ND4: ###.##

LOI at 400Deg temperature is ND1: ###.##

Temperature at 20.9% Oxygen Requirement ND2: ###

SW1: New Test SW2: To Shut Off the instrument

FK1: Test Selection Screen FK3: Test Screen SB0: Save Screen SB4: Reset Test

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