

FLUE GAS ANALYSER

A Small, Handheld and a convenient instrument to test & achieve optimum combustion efficiency in boilers & furnaces.

A dire necessity in today's world of ever increasing Fuel costs.

A great value for money with quick pay back period of few months.

Improves Efficiency | Reduces Pollution | Saves Fuel



FEM 940



FEM 942

SPECIAL FEATURES

- Portable, Rugged, Convenient and Economical.
- Self Calibration & Self Diagnostic.
- Displays Oxygen Content, Temperature Differential & Combustion efficiency instantaneously.
- Long Life Oxygen Sensor specific for combustion process. No adverse effect of acidic gases like CO, SO₂, NO_x etc.
- Sturdy Chromel-Alumel Thermocouple suitable for upto 1000 deg. C, 600 deg. C for FEM 940
- Easy to learn and easy to use : Powerful micro controller provides acoustic & visual messages for easy use.
- User Selectable Fuels - Oil, Coal, Gas.
- Discrete LEDs to indicate - FAULTS, FUELS, Operation Status, Parameter on Display.
- **Automatic Self Calibration** : Field Calibration is automatic & begins with every start up with fresh air aspirated instead of Gas sample.
- **Automatic self check for efficiency calculation** : With aspirated fresh air specific percentage efficiency of the selected Fuel is displayed as a check on its calculations.
- **Self Supervisory Diagnosis** : Continuously checks the status of :
 - 1) Battery Voltage
 - 2) Sample Flow
 - 3) Oxygen Sensor
- Sturdy stainless steel sampling probe with extension tubing for ease of measurement.
- Thermocouple in the tip of probe measures temperature at point of sampling to minimise error.
- Time tested high suction inbuilt sampling pump acts against draft. Supervisory circuit continuously monitors it against failure.
- Inline Filter to Inbuilt Moisture & Dust, Disposable easy to replace filter element. Supervisory Diagnostic circuit continuously checks it against choking.
- Retains the readings till the next sampling.
- Compact Aluminum Housing
- Rechargeable Ni-cad battery pack with charger.
- **Maintenance & Spare Parts** : Designed for maintenance free operation. Long Life Sensor.

Combustion efficiency is determined by Oxygen content and temperature of Fuel gases. An excess air (Oxygen) condition reduces the efficiency as it carries away the heat while a deficient air (Oxygen) produces an incomplete combustion with consequent higher costs and increased polluting emissions.

A high Flue gas temperature indicates low efficiency as it carries away more energy. Simultaneous measurement of Oxygen and Temperature is essential to effect an optimum Fuel / Air ratio for maximum efficiency. Endee Fuel efficiency monitor precisely performs this function. In addition it calculates and displays the efficiency instantly to afford the operator a continuous feedback to adjust the burner controls to achieve the right Fuel/ Air ratio.

SPECIFICATIONS

		Model FEM 942	Model FEM 940
Range	A) Oxygen B) Different Temp. C) Efficiency D) CO E) CO2 (Calculated) Lambda (Calculated)	0-25% in Stack Gas 25-1000 deg.C 0-99.0% 0-25%	0-25% in Stack Gas 25-650 deg.C 0-99.0% 0-2000 PPM 0-25%
Optional			
Resolution	A) Oxygen B) CO C) Different Temp. D) Efficiency	0.1% 0.1% 0.1%	0.1% 1 PPM 0.1% 0.1%
Display		Alpha Numeric LCD	Alpha Numeric LCD
Fuels		User Selectable Oil, Coal, Gas	User Selectable Oil, Coal, Gas
Sensors	A) Oxygen	Electrochemical	Electrochemical
	B) Temperature	Type K Thermocouple	Type K Thermocouple
Calibration		Automatic with Fresh Air Sample	Automatic with Fresh Air Sample
Accuracy	A) Oxygen B) Temp. C) Efficiency	+/- 0.25% +/- 0.25% +/- 0.25%	+/- 0.25% +/- 0.25% +/- 0.25%
Response Time		Maximum 30Sec. at 95% Variation	Maximum 30Sec. at 95% Variation
Self Diagnosis		Combustion efficiency test with diagnostic indications	Combustion efficiency test with diagnostic indications
Power Supply		Internal Ni-cad battery pack with external charger 220V 50Hz Ac (Optional 110V 50Hz)	Internal Ni-cad battery pack with external charger 220V 50Hz Ac (Optional 110V 50Hz)
Working Temp.		-5 deg.C to 55 deg.C	-5 deg.C to 55 deg.C
Storage Temp.		-20 deg.C to 50 deg.C	-20 deg.C to 50 deg.C
Line Filter		Replaceable Cartridge	Replaceable Cartridge
Case		Aluminum	ABS Plastic
External Dimensions		170X110X170 mm	222X105X40 mm
Weight		1 Kg. approx.	500 gm.
Accessories		Leather case with shoulder strap Battery charger, Operational Manual	Leather case with shoulder strap Battery charger, Operational Manual
Probe Length		SS 600mm length standard (900mm, 1200mm, Optional)	SS 600mm length standard (900mm, 1200mm, Optional)

The above Parameter and Ranges are only indicative. Endee will build up and supply the analyser with Parameters, range and features to any Practical Configuration.

Note : Specifications and Features will vary with application. The above are established and validated during design, but are not to be construed as test criteria for every product. Due to endee's commitment to research, design and product improvement, specifications are subject to change without notice.



ENDEE ENGINEERS PVT. LTD.

Office : 25/N, Laxmi Industrial Estate, Link Road, Andheri (W), Mumbai - 400 053.

Tel. : 6692 3081 / 82 | Fax : 2637 5973

Email : sales@endee-engineers.com | info@endee-engineers.com

Website : www.endee-engineers.com