

%O₂%CO₂

%EA

Temperature

Combustion Check

The tests you need without all of the extras you don't.

- Quickly compare test results to manufacturer's specs.
- Measures %O₂ & stack temp.
- Calculates %CO₂ & % Excess Air.
- Three fuel types: Natural Gas, Oil #2, Propane
- Bright blue backlight.
- HOLD, MAX, MIN.
- Auto off (APO) to conserve battery life.



COMBUSTION BASICS



Everyday Combustion Testing for HVAC/R Field Technicians

During combustion, Oxygen from the air is used to burn fuel and the reaction produces heat and other products of combustion.

As you adjust the amount of fuel going into a gas appliance, the % Oxygen, temperature, and other products of combustion in the flue change. (See arrow diagram bottom left.)

Manufacturers of gas appliances typically include targets for flue %O₂, %CO₂, %Excess Air (%EA), and temperature in the manual specifications or on the data plate.

For common everyday combustion testing, like you would do on a customer's furnace, the SOX2 provides all the numbers you'll need to do the job quickly and easily.

Most full-on combustion analyzers are costly and include measurements you don't really need to tune a furnace or boiler like efficiency calculations, COAF, and more.

The chart to the right gives an overview of typical recommended flue gas measurements for the three most common fuel types in different types of equipment.

The SOX2 gives you these measurements and the calculations you need to tune gas appliances to manufacturers specs - at a fraction of the cost of full-featured analyzers.

Typical Recommended Flue Gas Measurements

| Atmospheric Fan Assisted Natural Gas or LPG | |
|---|-----------|
| Oxygen (O ₂) | 6-9% |
| Stack Temperature | 325-500°F |

| Condensing Natural Gas or LPG | |
|-------------------------------|----------|
| Oxygen (O ₂) | 6-9% |
| Stack Temperature | 90-140°F |

| Natural Gas/LPG Power Burners | |
|-------------------------------|-----------|
| Oxygen (O ₂) | 3-6% |
| Stack Temperature | 275-500°F |

| Fuel Oil Flame Retention Power Burners | |
|--|-----------|
| Oxygen (O ₂) | 3-7% |
| Stack Temperature | 325-500°F |

| Fuel Oil Non-Flame Retention Power Burners | |
|--|-----------|
| Oxygen (O ₂) | 6-9% |
| Stack Temperature | 400-600°F |

| Condensing Oil | |
|--------------------------|----------|
| Oxygen (O ₂) | 3-7% |
| Stack Temperature | 90-140°F |

The Fieldpiece SOX2 measuring %O₂ and stack temperature inside a flue.

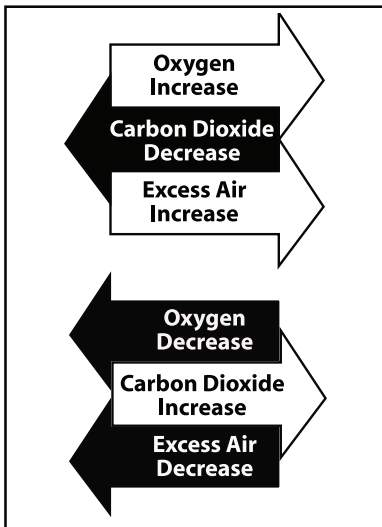


Diagram courtesy of Analysis and Fuel Efficiency, Erik Rasmussen ESCO Press 2007.

What's Included:

- SOX2 Combustion Check meter.
- AOX2 Flue aspirator pump (better cold weather samples).
- ATBF1 Hi-temp k-type thermocouple -58°F -1000°F range.
- ANC1 padded nylon carrying case.
- RAOX9 filter accessory kit.
- 9V battery (installed).
- Operator's manual.

