

Bacharach Combustion Efficiency Analyzer

- Ten User Selectable Fuels
- Menu Driven Operation
- Converts to Pollution Units
- Measured and Calculated Data are Continuously Updated and Presented on One Screen
- Display can be Read from Any Angle
- Built-In Printer
- Setups can be Customized Allowing Convenient Data Formats to Meet your Needs
- Store 1000 Test Records Plus PC Download and Built-in Printer
- Log Data by Interval or Duration
- Sensors and Filters are Easily Accessed/Maintained
- Calibration Adjustments can be Made Easily in the Field
- Optional Factory Installed Gas Sensors are Available at the Time of Order

The Model ECA450 Base Unit measures O₂, CO, stack and primary temperature, pressure and draft. It also calculates combustion efficiency, excess air and CO₂ of furnaces, boilers and other industrial combustion equipment.

Optional sensors for new units (factory installed) include combustibles (0-5% oxygen dependent), CO (high range), NO, NO₂ and SO₂.

Each Unit Includes: A percent (%) oxygen reference, modular sensor compartment and a 11" sample probe tube with 15 foot hose assembly, water trap, particulate filter, probe stop, integral carrying case and instructions.



Specifications

Measured Values	Input Type	Range
Gasses/ Ranges	Oxygen	0.1 to 20.9%
Carbon Monoxide	(Hz Compensated)	0 to 4000 ppm
Optional Sensors*	Carbon Monoxide (High)*	4000 to 80,000 ppm
	Nitric Oxide*	0 to 3500 ppm
	Nitrogen Dioxide*	0 to 500 ppm
	Sulfur Dioxide*	0 to 4000 ppm
	Combustibles* (Oxygen Dependent)	0 to 5.00%
Other Values	Stack Temperature	0 to 2400°F
	Primary Temperature	0 to 999°F
	Draft/Differential Pressure	-28 to 28 "H ₂ O
Calculated Values	Combustion Efficiency	0.1 to 100.0%
	Excess Air	1 to 250.0%
	Carbon Dioxide (Dry basis)	0 to fuel dependent max
	NO _x (NO _x = NO + NO ₂)	0 to 4000 ppm
	NO _x ref. to %O ₂	0 to 17,000 ppm
	CO ref. to %O ₂	0 to 99,999 ppm
	NO ref. to %O ₂	0 to 14,900 ppm
	NO ₂ ref. to %O ₂	0 to 2,100 ppm
	SO _x ref. to %O ₂	0 to 17,000 ppm
Selectable Fuels	Natural Gas, Oil (#2, #4, #5, #6), Propane, Coal, Wood, Kerosene and Bagasse	
Power	AC adapter (100 to 240 VAC) and internal rechargeable battery pack	
Pumps	One gas sample pump and one fresh air purge pump	
Size (HWD)/Weight	13.5 x 18.5 x 9" (34.3 x 47 x 22.9 cm) / 25 Lbs. (11.34 kg)	

Specifications

Order #	Description	Price
MP24-7221-□	Base Unit with Probe and Hose Assembly (ECA450)	
Accessories		
MP24-7224	Compact Sample Conditioner (Recommended for SO ₂)	
MP24-3025	36" Probe Assembly (Max. temp 1472°F/800°C)	
MP24-3036	36" Probe Assembly (Max. temp 2000°F/1093°C)	
MP24-1124	20 Ft. Hose Extension (w/ sample, draft and T/C lines)	
MP24-8214	Pressure Access. Kit (44" Tubing, pitot tube, static tips, flexible copper tube, and 1/8" NPT gas valve fitting)	
MP104-1797	T/C for Primary Air (10')	
MP104-4027	Serial Cable	
MP24-0980	Printer Paper-Pk of 5 Rolls	
MP07-1644	Particulate Filter-Pack of 3	
MP24-7059	Calibration Kit	

NOTE: All sensor options are factory installed and MUST be specified at the time of the original order.

NOTE: To order optional sensors add desired optional sensor codes in the box and include the Price Adder to the Base Unit Price

NOTE: Ordering the SO₂ sensor also requires ordering the NO₂ sensor option (-45).

NOTE: Calibration gasses are available on special order for drop ship.

Optional Sensor Table

Code	Description	Order #	Price Adder
-1	High Range CO Sensor*	MP24-3026	
-2	NO Sensor*	MP24-3027	
-3	Combustibles Sensor*	MP24-3028	
-4	NO ₂ Sensor*	MP24-3029	
-45	SO ₂ /NO ₂ Sensors *	MP24-3029/24-3030	

Bacharach Portable Combustion Analyzer

Perfect tool for CO safety and combustion efficiency testing

- Simultaneously Displays Up to Eight Measurements
- Stores Up to 100 Tests
- Download Data Directly into Computer Systems
- User Naming and Customer I.D. Features (Models 34034A-55 and 24034A-65 Only)
- 70 mBAR Pressure Measurement
- HVAC/Gas Utilities/Boiler Service

Affordable, Reliable PCA from an Industry Leader

The 23034A Series is ideal when you want to determine the safety and efficiency of combustion equipment. Reduces service call time by providing quick test results. It measures and/or computes eight different combustion values and displays them simultaneously on the backlit LCD. Use the pushbutton keypad and simple menus to directly measure flue gas oxygen content and temperature, while the analyzer automatically computes and displays combustion efficiency, CO₂, and CO air free. (For direct CO and draft measurements order the 24034A-55; to add NO_x, choose 24034A-65.) The CO air free measurement eliminates excess air dilution caused by primary or secondary air—a measurement required by the ANSI Z21 for many appliances.

You can store, download, and print up to 10 sets of tests with the base model, giving you and your customers a permanent test/repair record. The two other units give you enhanced memory good for 100 tests, user naming, customer identification, RS-232 port for downloading data into your computer system, and higher-range draft channel. All models are adaptable to fit changing needs, increasing their useful life and cost-effectiveness.

The units also feature a powerful industrial pump, and include probe and hose assembly with filter and water trap. All housed in a custom carrying case, so you can just turn it on and go to work.

Each Unit Includes: Carrying case, industrial pump, probe and hose assembly with filter and water trap, factory-calibrated and installed sensors, four AA batteries, user's guide, and instruction manual.



24034A ▶

Test Instruments — Miscellaneous

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Specifications

Oxygen:	0 to 20.9% auto calibration
Primary/Air Temperature:	0°F to 999°F
Stack Gas Temperature:	0°F to 2000°F
Combustion Efficiency:	0.1 to 99.9% (0.1% resolution)
Excess Air:	1 to 250%
Carbon Dioxide:	0.1 to 20.0% (fuel dependent)
Carbon Monoxide (Air Free):	0–9999 ppm
Pressure:	To 70 mBAR (lower end of range)
Sensor Accuracy:	
Oxygen:	±0.3% oxygen (electrochemical)
Carbon Monoxide:	±5% of CO reading (electrochemical)
Pressure/Draft:	±1 of reading or ±0.01 H ₂ O
Temperature (stack):	±4°F between 32° and 255°F ±6°F between 256° and 480°F ±8°F between 481° and 2000°F
Size/Weight:	7 7/8 x 3 1/2 x 2" HWD/1.5 lbs
Power Source:	Four AA alkaline batteries

Ordering Information

Order #	Description	Price
MP24034A-10	Portable Combustion Analyzer CO	
MP24034A-55	Portable Combustion Analyzer with Direct CO and Draft	
MP24034A-65	Portable Combustion Analyzer with Direct CO, Draft, and NO _x	

Bacharach Combustion Analyzer

- All Models Upgradeable from CO Tester to Combustion Analyzer
- Measure CO, Draft, O₂, Differential Pressure, Air, and Stack Temperature
- Calculate CO₂, Combustion Efficiency, Excess Air, and CO-Air Free
- Simple to Use—Select the Fuel, Insert the Probe, and Measure
- Store Readings with the “Hold” Key for Download or Printing
- All Models Have Printing Capability
- Provides Accurate Electronic Test Results Instantly
- Two-Year Warranty on Analyzer and Sensors

Test combustion efficiency of furnaces and boilers with the new Fyrite Pro. The electronic combustion analysis gathers and documents precise measurements, ensuring proper operation of fossil fuel-burning devices.

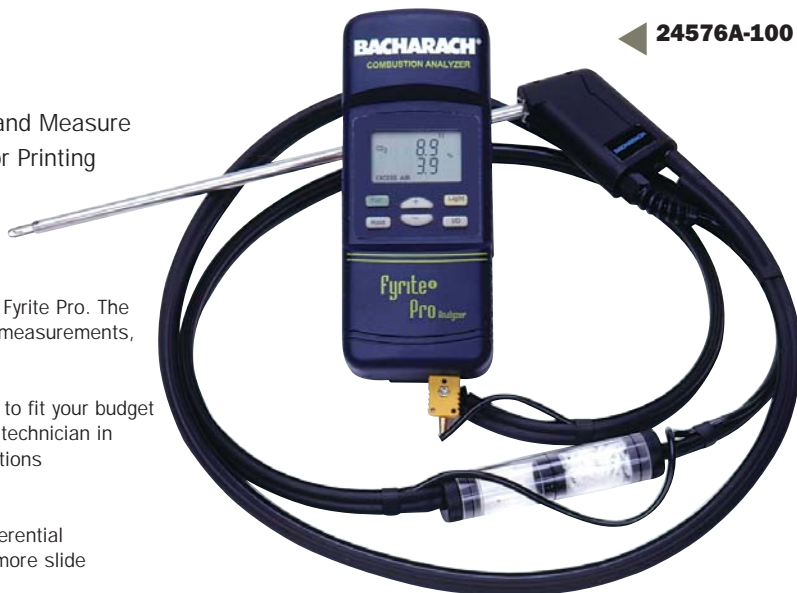
Six models allow you to customize and upgrade your instrument to fit your budget and changing needs. They are designed with the contractor and technician in mind by offering a wide variety of optional measurement calculations and accessories.

Whether you are testing for combustion, CO safety, draft, or differential pressure the Fyrite Pro will instantly give you your the data. No more slide rules or calculators are needed to find the answers you need.

Each Unit Includes: Probe/hose assembly and hard carrying case.

Each 100 Kit also includes: IR printer.

Each 125 also includes: Protective rubber boot.



Specifications and Ordering Information

Mfg#	100	100 KIT	105	110	120	125
Measurements						
Oxygen:	0	0	0	X	X	X
Air Temperature:	0	0	0	X	X	X
Stack Temperature:	0	0	0	X	X	X
CO:	X	X	X	0	X	X
Draft:	0	0	X	0	0	X
Diff. Pressure:	0	0	0	0	0	X
Combustion Air Temperature:	0	0	0	0	0	X
Calculations						
Combust. Efficiency:	0	0	0	X	X	X
Excess Air:	0	0	0	X	X	X
CO ₂ :	0	0	0	X	X	X
CO (Air Free):	0	0	0	0	X	X
Order #	MP24576A-100	MP24576A-100KIT	MP24576A-105	MP24576A-110	MP24576A-120	MP24576A-125
Price:						

X=Standard with Instrument

0=Optional Accessory

Accessories

Order #	Mfg #	Description	Price
MP24578A-1	24-0886	IR Printer	
MP24578A-2	21-7006	True Spot Smoke Test Set	
MP24578A-3	24-0887	Spare Paper Roll for IR Printer	
MP24578A-4	24-1127	Protective Boot with Magnets	
MP24578A-5	24-7265	Replacement CO Sensor	
MP24578A-6	24-8106	Replacement O ₂ Sensor	
MP24578A-7	104-1797	10 Foot Thermocouple Assembly (for Air Temp)	
MP24578A-8	24-7059	Calibration Kit	
MP24578A-9	51-1994	Calibration Gas (100 ppm CO)	