

# 2003 Product Catalog

## **BACHARACH**

### **HVAC & REFRIGERATION**

<b>Air Conditioning &amp; Refrigeration</b>	<b>Leak Detection</b>	<b>Combustion &amp; Environmental Analyzers</b>	<b>Indoor Air Quality</b>	<b>Safety Monitors &amp; Detectors</b>	<b>Service Tools &amp; Meters</b>



## We are the Measurable Difference.

Bacharach is committed to making a measurable difference in all that we do. From product development and exceptional service to our nationally recognized Institute of Technical Training, it is our mission to continually deliver beyond what is expected.

**Product Leadership** Because Bacharach is an industry leader in product development and manufacturing, we are dedicated to incorporating the very latest technology into our instrumentation whenever possible. We work closely with regulatory commissions and professional industry associations to keep abreast of all the latest safety and environmental concerns that may impact the products we design and manufacture. Our goal is to consistently deliver state-of-the-art test and measurement instruments for gases and liquids and indoor air quality equipment, recovery machines and refrigeration service tools and meters that are both superior and reliable.

**Service Excellence** At Bacharach, service means much more than tending to our products after we have manufactured them. It means tending to our customers too. Our global network of service centers enables us to swiftly deliver superior technical service both in the field and in-factory. Communication, speed, availability, expert technical support, on-demand repairs, and outstanding product warranties – all of these things combined allow us to consistently deliver a level of service that is hard to find elsewhere.

**Professional Training** Sure, instruction manuals have their place. But, Bacharach views professional training as just that – training delivered by professionals. To supplement and enhance the product training our customers regularly receive when they purchase an instrument, we developed our nationally recognized Institute of Technical Training. The Institute offers a variety of comprehensive training seminars on combustion analysis, carbon monoxide safety, building pressure diagnostics, ventilation and refrigeration – all of which are delivered by industry experts. Tens of thousands of professionals across North America have completed our courses and are successfully applying the theories and techniques they acquired from them.

**Reliability** We view reliability as the total sum of all that we do. Whether it's developing a new and improved measurement device, assisting a contractor over the phone with product questions, encouraging customers to adhere to regular calibration schedules, participating in industry forums to ensure environmental safety, or going that extra mile to turnaround a service request in a timely manner – all of these things have contributed to Bacharach's reputation as a consistently reliable company. We're tremendously proud that customers have come to depend on us, and intend to keep winning their confidence each and every day.

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1.800.736.4666

BACHARACH



U.S. Manufacturer

# Bacharach Institute of Technical Training

As the global leader in combustion testing and environmental monitoring instrumentation, Bacharach has been developing, designing, engineering and manufacturing instruments that measure and detect gases and liquids for almost a century.

Bacharach engineers and scientists have spent decades developing instrumentation and procedures that help assure: combustion safety, indoor air quality, and refrigerant detection, identification, recovery, recycling and reclamation.

Now Bacharach's trained specialists can share their expertise with you through several technical training seminars. Learn how to:

- Reduce your service time by getting the most from Bacharach's products
- Generate new business leads
- Retain existing customers
- Reduce liability

## Who should attend?

- HVAC Service Technicians
- Weatherization Auditors
- Safety & Health Officials
- Gas Utility Personnel
- Home Inspectors
- Fire Departments
- Boiler Contractors
- Plumbing Contractors
- Plant Maintenance Engineers
- Industrial & Commercial Contractors

Each individual that completes a seminar receives a four-course training manual (valued at \$90), four to six registered hours of instruction, a certificate of attendance and a cash rebate toward the purchase of a Bacharach CO or combustion test instrument. Attendees may also be eligible for Continuing Education Units (CEUs) because our seminars are accredited in many cities, states and by professional associations as well.

## Topics covered in each four-hour seminar

**Carbon Monoxide Safety** - includes all currently recommended standards for carbon monoxide in ambient air and in flue gas. Also includes:

- CO alarm standards for all three UL 2034 CO alarm revisions (since April, 1992)
- Health effects of CO
- Reporting and referring CO atmospheres
- Working with authorities of jurisdiction
- Measuring CO and source investigations
- Saving lives and enhancing service
- Using reporting forms, checklists and other vital documentation
- Educating ourselves and the people we serve

**Combustion Analysis** - includes diagnosis of flue gases from basic theory to manufacturers' suggested measurements. Also includes:

- Controlling fuel
- Flame temperature and dew point
- Excess air
- NO<sub>x</sub> emissions and standards of compliance
- Draft, condensation and safety
- Controlling draft
- Combustion testing procedures
- Ensuring safety without jeopardizing efficiency
- Troubleshooting combustion problems
- Customer savings, company profits

**Venting and Combustion** - includes vent identification and compliance specifications.

- Introduction to sizing Category I, II, III, and IV vent systems. Emphasizing Category I Draft and dew point, ensuring code sized systems work as intended
- Vent Tables 1, 2, 3, & 4
- Manufacturers specifications

**Building Pressure Diagnostics** - offers a comparison of competing measurable pressures within a structure.

- Exhaust fan influences
- Heat loss pressures
- Leaky ductwork pressures
- Return air shortcuts and safety
- Appliance backdrafting and troubleshooting

### Refrigeration

This course will include a detailed review of:

- Basic refrigeration
- Federal regulations
- Refrigerant types
- Advanced refrigeration
- Methods of refrigerant leak detection
- Refrigerant recovery, recycling, and reclamation
- Sealed system evacuation
- Sealed system troubleshooting

**Visit Bacharach's Technical Training Room-** where you can find information on these helpful topics:

- **Combustion Analysis tips and tricks**
- **Procedures for instrument calibration and sensor replacement**
- **Frequently asked questions**
- **Combustion test interpretation**











# Model 300

## Combustion and Environmental Analyzer



### Measures

Oxygen  
Carbon Monoxide  
Stack Temperature  
NO<sub>x</sub>  
SO<sub>2</sub>

### Calculates

Carbon Dioxide  
Excess Air  
Stack Loss  
Combustion Efficiency

The Model 300 is an innovative electronic combustion and environmental analyzer for small to large condensing and non-condensing furnaces and boilers. It has a micro-processor that controls the sequence of operation while calculating burner efficiency. Programmed routines lead the operator through the proper procedures, signaling the appropriate action, and waiting until the correct steps are taken.

The Model 300 is available in several versions:

- °F or °C temperature measurement
- 120, 240VAC charger with rechargeable lead acid battery pack
- With or without printer
- Standard or Seigert formulas determining combustion efficiency
- NO<sub>x</sub> and SO<sub>2</sub> measurement versions



## Applications

The Model 300 is for furnace and boiler technicians who need to determine combustion safety, environmental compliance and efficiency in large commercial and industrial systems.

SPECIFICATIONS	
Measurement Ranges	Oxygen 0 - 25% Carbon Monoxide 0 - 3,000 ppm Stack Temperature (optional extended probe) 2,000 °F (1093 °C) Oxides of Nitrogen (optional) (NO <sub>x</sub> ) 0 to 2,000 ppm Sulfur Dioxide (optional) (SO <sub>2</sub> ) 0 to 2,000 ppm
Readouts	Three to six LED 0.5" (1.27cm) Digital Displays switchable between 1. Temperature / Carbon Monoxide / Error 2. % Oxygen / % Excess Air / O <sub>2</sub> Call Output 3. % Efficiency / % loss / % Carbon Dioxide 4. Real Time Clock (available with NO <sub>x</sub> and SO <sub>2</sub> ) 5. ppm NO <sub>x</sub> (optional) 6. ppm SO <sub>2</sub> (optional)
Accuracy	Oxygen (automate calibration) ±.6% Carbon Monoxide (factory calibration) ±5% reading Temperature ±1% full scale Oxides of Nitrogen (factory calibration) ±5% reading Sulfur Dioxide (factory calibration) ±5% reading
Weight	15 lbs. (6.8 kg) to 17 lbs. (7.7 kg) - depends on configuration
Main Supply	120 / 240VAC, 50/60 Hz dependent on mode
Battery Supply	Rechargeable lead acid battery pack. Typical discharge is 12-10 hours of continuous operation. Also operates on line power.
Pump draw	10" (250mm) H <sub>2</sub> O
Size	18" x 14" x 8" (46 x 36 x 20 cm) carrying case 11.5" (29 cm) probe with 22' (67 m) of hose
Materials	High density polyethylene case. Polycarbonate membrane switch Stainless steel probe
Data Output	RS 232 port for computer data transfer (NO <sub>x</sub> and SO <sub>2</sub> versions only)
Selectable Fuels	120VAC Models: Natural Gas, Fuel Oil #2, Fuel Oil #6, Liquid Propane, Coal, Wood and Bagasse. 240VAC Models: Natural Gas (with and without fan), Light and Heavy Oil, Liquid Propane, Koks / Coal Gases and Stadtgas / Low Energy Gas *Units can be programmed with custom fuels. Call us for more details.

ACCESSORIES	
PART NO.	REPLACEMENT ITEMS
24-7059*	Portable Calibration Kit (without gas)
24-0492*	CO Gas Cylinder, 500 ppm (for cse w/ 20-7059)
21-7006	True Spot Smoke Test Set
24-7081	Retrofit Printer Kit
24-0531	Printer Paper - box of 10 rolls
24-8133	High efficiency Dryer Kit
24-0108	Replacement Oxygen Sensor
24-0498	Replacement Carbon Monoxide Sensor
19-8001	Replacement NO <sub>x</sub> Sensor
19-8002	Replacement SO <sub>2</sub> Sensor
24-0529	Charger, 120VAC input
24-0528	Charger, 240VAC input
PART NO.	PROBE ASSEMBLY
24-7131	Standard probe hose assembly 12", Type K
24-7124	Extended probe assembly 28"
24-7125	Extended probe assembly 36"
24-7126	Extended probe assembly 24"
24-7128	20 ft. Hose Extension

\* Calibration Kit is not supplied with analyzer. Calibrating the sensors is required and frequency should be determined by experience

\* NO<sub>x</sub> and SO<sub>2</sub> upgrade kit, printer retrofit kits and rechargeable battery options also available

\* Enhanced 2 year O<sub>2</sub> Sensor and warranty available

\* Extended sampling probes and hose extensions available

STANDARD CONFIGURATION	
PART NO.	DESCRIPTION
24-8108	Model 300 with battery pack and 120 VAC charger. Without printer.
24-8109	Model 300 with battery pack, 120 VAC charger and printer.

MODEL 300-NSX CONFIGURATION	
PART NO.	DESCRIPTION
24-8130	Model 300 NXB with battery pack, 120 VAC charger, printer and NO <sub>(x)</sub> measurement
24-8131	Model 300 SXB with battery pack, 120 VAC charger, printer and SO <sub>2</sub> measurement
24-8132	Model 300 NSXB with battery pack, 120 VAC charger, printer and NO <sub>(x)</sub> measurement and SO <sub>2</sub>

Standard configurations are supplied with CO Sensor, O<sub>2</sub> Sensor, probe and hose assembly and operating instruction.

NSX configurations include the addition of the NO<sub>x</sub> Sensor and / or the SO<sub>2</sub> Sensor. A standard Bacharach printer must exist before NO<sub>x</sub> and SO<sub>2</sub> can be added.



# PCA<sup>®</sup>

## Portable Combustion Analyzer

**Comes With A  
2 Year Warranty**



### selectable fuels

- Natural Gas**
- Oil #2**
- Oil #4**
- Oil #6**
- Kerosene**
- Propane**
- Coal**



Printer is Optional. See back for ordering information and included components.

The PCA is the perfect tool for service technicians and boiler contractors who need to determine carbon monoxide (CO) safety, combustion efficiency and emission testing in combustion applications. The PCA directly measures and displays flue gas O<sub>2</sub>, temperatures, draft, differential pressure, NO<sub>x</sub> and CO. Simultaneously, the instrument calculates and displays combustion efficiency, excess air, CO<sub>2</sub>, NO<sub>x</sub>-Ref. O<sub>2</sub> and CO air free. The large display shows eight different values simultaneously with backlight. The PCA provides seven (7) fuels: natural gas, oil 2, oil 4, oil 6, kerosene, liquid propane and coal, for calculating combustion values.

The PCA offers communication features to track and analyze combustion safety tests, efficiency calculations and environmental analysis for residential and commercial applications.

The advanced communication features of the PCA 55 and the PCA 65 allow the use to store up to 100 tests, customize each combustion test with customer information, generate a personalized printout, and download all of this information to a personal computer for record keeping and trend analysis.





# Fyrite<sup>®</sup> Pro Combustion Analyzers

Comes With A  
2 Year Warranty



accurate & affordable



new printer  
(optional)



fully upgradeable

Easy To Use

Customize To Fit Your Budget & Testing Needs

Provides Printed Test Results

- **Simple to use**  
Turn the unit on, select the fuel, and insert the probe. It's that easy!
- **Affordable**  
Each of the Fyrite Pro models are economically priced, and offer feature upgrades for less than the cost of a brand new instrument.
- **Most accurate method of testing**  
Electronic testing provides you with the most accurate measurements needed to ensure the safe, compliant and efficient operation of residential fossil-fuel burning appliances and furnaces.
- **Document test results**  
Provide your customers with printed test results of each service call.
- **Purchase protection**  
Our two-year warranty on each analyzer and its sensors ensures worry-free operation.
- **Ergonomically designed**  
It's lightweight and fits in the palm of your hand, making the instrument easy to handle.
- **Long battery life**  
Four alkaline batteries typically offer 24 hours of continuous operation with an automatic "power off" feature that saves energy.





# Fyrite® Tech

## Residential Combustion Analyzer

**- NEW -**

**Comes With A  
2 Year Warranty**



### Easy to Use

With the Fyrite Tech you are up and ready to test in 3 easy steps:

1. Turn the unit ON
2. Select the fuel
3. Insert the probe

### Affordable

Some service technicians shy away from electronic combustion analyzers due to cost. The Fyrite Tech was not only designed to provide "The Measurable Difference," it was priced to be the most affordable electronic analyzer currently on the market.

### Accuracy

It used to be that gas and oil fired residential furnaces and appliances could be adequately serviced by conducting visual tests. But with today's highly efficient equipment designed to comply with regulatory, environmental and safety concerns, "eye-balling the flame" is no longer a sufficient way to test. Based on the winning technology platform of the Fyrite Pro Analyzers, the Fyrite Tech offers greater precision than can be obtained with visual tests. From Carbon Monoxide testing to Oxygen and stack temperature measurement, the Fyrite Tech lets technicians instantly gather the precise measurements needed to ensure safe, compliant, and efficient operation of residential fuel-burning appliances and furnaces.

### Applications

#### Fyrite Tech 50

##### Measures:

- O<sub>2</sub>
- Stack Temperature

##### Calculates:

- Combustion Efficiency
- CO<sub>2</sub>
- Excess Air

#### Fyrite Tech 60

##### Measures:

- O<sub>2</sub>
- Stack Temperature
- CO

##### Calculates:

- Combustion Efficiency
- CO<sub>2</sub>
- CO (Air Free)
- Excess Air



## Features

- Affordable**  
 The most affordable combustion analyzer currently on the market
- Simple to use**  
 Turn the unit on, select the fuel, and insert the probe
- Quick payback**  
 The Fyrite Tech reduces service call time by providing accurate, electronic test results instantly
- Accurate operation**  
 Tactile feedback from the instrument's keypad assures that the appropriate key has been pressed
- Purchase protection**  
 Our two-year warranty on each analyzer and its sensors ensures worry-free operation
- Ergonomically designed**  
 The instrument is lightweight and fits in the palm of your hand, making it easy to handle
- Long battery life**  
 Four alkaline batteries typically offer 24 hours of continuous operation with an automatic "power off" feature that saves energy
- High quality**  
 Based on the same technology as the Fyrite Pro Combustion Analyzers

SPECIFICATIONS	
Weight	16 oz w/batteries
Dimensions	7.5"H x 3"W x 2.2"D inches
Power	Four disposable AA alkaline batteries (included)
Battery Life	24 hours of continuous operation (minimum of 16 hours)
Warranty	2 years, including sensors
Selectable Fuels	Natural Gas (F1) Oil #2 (F2) Propane (F3) Kerosene (F4)
MEASURING RANGES	
Flue Gas Temperature	0 to 999°F (-18 to 537°C)
Oxygen	0.0 to 20.9% O <sub>2</sub>
Carbon Monoxide	0 to 2,000 ppm CO
Operating Temperature	0 to 104°F / 0.1°F Resolution
Relative Humidity	0 to 99.9% / 1% Resolution
CALCULATED RANGES	
Combustion Efficiency	0.1 to 99.9%
Flue Gas Temperature	0 to 999°F (-18 to 537°C)
Oxygen	0.0 to 20.9% O <sub>2</sub>
Carbon Monoxide	0 to 2,000 ppm CO
Operating Temperature	0 to 104°F / 0.1°F Resolution
Relative Humidity	0 to 99.9% / 1% Resolution

ORDERING INFORMATION	
PART NO.	DESCRIPTION
24-8216	Fyrite Tech 50, Soft Pouch, Probe, and 4 AA Batteries
24-8217	Fyrite Tech 60, Soft Pouch, Probe, and 4 AA Batteries
21-7006	True Spot Smoke Test Set
24-1127	Protective Boot w/Magnet
24-0865	Hard Carrying Case
24-7059	Calibration Kit
51-1994	Calibration Gas (100 ppm CO)



All Models come with probe assembly P/N 19-7111



# Oil Burner Combustion Testing Kits



Bacharach Combustion Testing Kits continue to offer you the most economical means of testing for oil burner efficiency during installation or servicing. Each kit is designed with the service technician in mind and contains the instruments listed in the ordering chart.

## Components

- Fyrite® CO<sub>2</sub> Indicator** – The Fyrite Carbon Dioxide Indicator measures the percent CO<sub>2</sub> in a flue gas sample.
- True Spot® Smoke Tester and Oil Burner Smoke Scale** – With the True Spot Smoke Tester and Smoke Scale, you can get an accurate indication of smoke content in flue gas.
- Fire Efficiency Finder/Stack Loss Slide Rule** – The Fire Efficiency Slide Rule is a quick and easy way of determining combustion efficiency and stack loss from the results of the CO<sub>2</sub> and stack temperature tests.
- Tempoint® Dial Thermometer** – High stack temperatures are cause for special concern and may indicate a serious condition.
- Model MZF Draft Gauge** – The intensity of draft determines the rate at which combustion gases pass through the boiler or furnace. With the MZF Draft Gauge, you can determine if draft is excessive or insufficient.
- Drafrite® Draft Gauge** – In some Bacharach Oil Burner Combustion Testing Kits, the hand-held Drafrite replaces the Model MZF Draft Gauge for measuring overfire and draft.
- Carrying Case** – Instruments for Bacharach Oil Burner combustion Testing Kits come in a rugged, plastic carrying case.

## ORDERING INFORMATION

ITEM NO.	KIT CONTENTS	STANDARD KIT					EXPORT KIT*			
		10-5014	10-5002	10-5022	10-5036	10-5050	10-5150	10-5023	10-5037	10-5051
10-5064	Fire Efficiency Finder	■	■	■	■	■	■			
10-0100	Carrying Case (large)	■		■	■	■	■	■	■	■
11-0121	Moisture Absorb. Material	■	■	■	■	■	■	■	■	■
11-7029	Sampling Hose Assembly	■	■	■	■	■	■	■	■	■
11-7032	Fyrite CO <sub>2</sub> 20%-Filled	■	■	■	■	■				
12-7014	Tempoint Therm. 1000° (6" Stem)	■	■	■	■		■			
13-7019	MZF Draft, +.05 to -.25"W	■		■			■			
10-0099	Carrying Case (small)		■							
13-3000	Drafrite, +.10 to -.14"W		■		■					
21-7006	True Spot Smoke Tester			■	■		■	■	■	■
12-7018	Tempoint Therm. 1000° (12" Stem)					■				
13-7021	MZF Draft, +.05 to -1.0"W					■				
10-5175	Stack Loss Calculator							■	■	■
11-7031	Fyrite CO <sub>2</sub> 20%-Unfilled						■	■	■	■
12-7015	Tempoint Therm. 540°C (6" Stem)							■	■	
13-7020	MZF Draft, +1.0 to -2.5mmW							■		■
13-7018	MZF Draft, +1.0 to -5mmW								■	
12-7017	Tempoint Therm. 540°C (12" Stem)									■

\*Export Kits are similar to standard kits except Fyrite Indicators are shipped without fluid installed. Drafrite, MZF Draft Gauge, Manometer and Tempoint are supplied metric in most instances. Fluid for export kits must be purchased separately in three bottle cartons.



# Gas Burner Combustion Testing Kits

Bacharach Combustion Testing Kits continue to offer the most economical means of testing gas burner efficiency during installation or servicing. Each kit is designed with the service technician in mind and contains the instruments listed in the ordering chart.

## Components

- Fyrite® Indicators; CO<sub>2</sub> and O<sub>2</sub>** – The Fyrite Indicators are utilized in conjunction with the Tempoint Dial thermometer to determine efficiency calculation with the Fire Efficiency Slide Rule.
- Monoxor® CO Indicator** – The Monoxor Indicator quickly and easily tests CO concentrations in flue gas samples.
- Fire Efficiency Finder/Stack Loss Slide Rule** – The Fire Efficiency Slide Rule provides a rapid and uncomplicated means of determining combustion efficiency and stack loss from the results of the CO<sub>2</sub> and stack temperature tests.
- Drafrite® Draft Gauge** – The hand-held Drafrite pinpoints draft problems and determines chimney defects.
- Tempoint® Dial Thermometer** – With the Tempoint Dial Thermometer, you can obtain an accurate stack temperature of gas designed equipment.
- Gas Service Calculator** – The Gas Service Calculator determines the orifice size needed for fuel gas of any specific gravity and BTU value.
- Gas Pressure Manometer** – The Gas Pressure Manometer determines if gas input and gas pressure adjustments are within recommended limits.
- Monoxor Carbon Monoxide Detector** – In some Testing Kits, the Monoxor Carbon Monoxide Detector replaces the Monoxor CO Indicator.
- Carrying Case** – Testing kit comes in a rugged, plastic carrying case.

ORDERING INFORMATION							
ITEM NO.	KIT CONTENTS	STANDARD KIT			EXPORT KIT*		
		10-5030	10-5035	10-5217	10-8008	10-5047	10-5224
10-0070	Gas Service Calculator	■	■	■			■
10-5064	Fire Efficiency Finder	■	■	■			■
10-5067	High Efficiency Finder	■	■	■			
10-0100	Carrying Case	■	■	■	■	■	■
11-0121	Moisture Absorb. Material	■	■	■	■	■	■
11-7029	Sampling Hose Assembly	■	■			■	■
11-7045	Extended Sampling Hose Assembly (10')				■		
11-7032	Fyrite CO <sub>2</sub> , 20% Filled	■	■	■			
11-7036	Fyrite O <sub>2</sub> , 21% Filled	■	■	■			
12-7014	Tempoint Thermometer 1000°F (6"Stem)	■	■	■			■
13-3000	Drafrite +.10 to .14"W	■	■	■			■
17-7002	Manometer 15"W 8.5oz/in 2	■	■	■			■
19-0003	Sampling Tube Attachment	■		■			
19-7021	CO Detector Kit	■				■	
11-7045	Sampling Tube Assembly			■	■		■
19-0001	Spare Tube Tips (6)	■		■	■		■
19-0243	Monoxor Indicator .2%			■	■		■
19-5015	Carton of 12 CO Tubes			■	■		■
10-5175	Stack Loss Calculator				■	■	
11-7031	Fyrite O <sub>2</sub> , 20% Unfilled				■	■	■
11-7035	Fyrite O <sub>2</sub> , 21% Unfilled				■	■	■
19-0242	Monoxor Indicator .2%						
19-5010	Carton of 12 CO Tubes						
12-7015	Tempoint Thermometer 540°C (6"Stem)				■	■	
13-3002	Drafrite +2.5 to -3.5mm W					■	
17-7000	Manometer 15"W, 38cmW				■	■	
13-3003	Drafrite -6.5mm to 1.5mm				■		
19-7019	Monoxor Pump	■					
19-5002	Monoxor CO Tubes	■					



# Fyrite<sup>®</sup> Gas Analyzers

Fast, accurate and easy to use instruments for measuring and analyzing carbon dioxide or oxygen. Fyrite Analyzers are available for either CO<sub>2</sub> or O<sub>2</sub> analysis, and each model is produced in three scale ranges.

All six instruments are similar in appearance and size, but differ in important construction details, as well as in the absorbing fluids.

Each model, therefore, is suitable only for the particular gas analysis or scale range for which it has been manufactured. Accuracy is within  $\pm 1/2\%$  CO<sub>2</sub> or O<sub>2</sub>.



## Operation

Fyrite absorbing fluid is selective in the chemical absorption of carbon dioxide or oxygen, respectively. Therefore, the Fyrite's accuracy, which is well within the range required for industrial and professional applications, does not depend upon complicated sequential test procedures. In addition, Fyrite readings are unaffected by the presence of most background gases in the sample.

The number of tests possible with one fluid charge depends on the concentration of samples being tested. At midpoint scale reading the CO<sub>2</sub> fluid is good for approximately 300 gas samples and the O<sub>2</sub> fluid for 100 tests. The need to replace fluid can be easily determined with a simple test, and replacement is an easy procedure. These test procedures, as well as other good information, are provided in the Fyrite manual 11-9026.

## Features

Fyrite Indicators have a broad range; they may be exposed to ambient temperatures from -30° to 150°F, and gases up to 850°F may be tested with standard aspirator sampling equipment (special sampling equipment for higher gas temperatures or dry gases is available). Order Fyrite Instruction Manual 11-9026. For temperatures above 1400°F, a ceramic sampling tube (Bacharach Part # 11-0164) is available.

## Applications

- 0-7.6% CO<sub>2</sub> – CO<sub>2</sub> tests of controlled atmospheres in fruit, vegetable, meat storage rooms, and incubator monitoring.
- 0-7.6% O<sub>2</sub> – Oxygen determination in flammable gases; oxygen tests to check inertness of atmosphere in silos, fuel tanks, etc.
- 0-20% CO<sub>2</sub> – Flue gas combustion tests; CO<sub>2</sub> tests of heat treating atmospheres.
- 0-21% O<sub>2</sub> – Flue gas combustion tests, oxygen deficiency test. Checking oxygen concentrations in hydrogen cooled generators and oil sealed inert gas transformers.
- 0-60% CO<sub>2</sub> – Checking CO<sub>2</sub> in inert gas blankets in tankers and barges carrying gasoline and other combustibles; CO<sub>2</sub> tests on lime kilns; checking CO<sub>2</sub> in sewage plant digesters.
- 0-60% O<sub>2</sub> – Oxygen test in connection with oxygen and gas anesthesia.

*Note: United States and Foreign Postal Regulations prohibit Fyrite fluid, in or out of any unit, from being shipped parcel post.*



**Single Kits** - Single Kits contain either a Fyrite CO<sub>2</sub> or a Fyrite O<sub>2</sub> Indicator, Sampling Assembly and a carrying case.

**Duplex Kits** - Special Fyrite Kits containing various combinations of Oxygen and Carbon Dioxide Indicators, Sampling Assembly and a carrying case.

**Repair Kits** - One bottle of Fyrite fluid, valve plunger gasket, top gasket, screws, diaphragm, and envelope of filtering material.

**Refill Kits** - Two bottles of Fyrite fluid, top gasket, screws, and envelope of filtering material.

USA			
COMPLETE KIT ITEM NO. <sup>1</sup>	SCALE RANGE	FYRITE	ASPIRATOR ASSEMBLY
<b>CO<sub>2</sub> Testing</b>			
10-5053	0-7.6%	11-7042	11-7039
10-5000 <sup>2</sup>	0-20%	11-7032	11-7029
10-5032	0-60%	11-7034	11-7029
<b>O<sub>2</sub> Testing</b>			
10-5054	0-7.6%	11-7044	11-7039
10-5011	0-21%	11-7036	11-7029
10-5046	0-60%	11-7038	11-7029

FYRITE FLUID*		
GAS TYPE	RANGE	ITEM NO. 3 BOTTLE CTN.
<b>Carbon Dioxide</b>		
	0-7.6%	10-5100 (11-0053)
	0-20%	10-5057 (11-0057)
	0-60%	10-5057 (11-0057)
<b>Oxygen</b>		
	0-7.6%	10-5103 (11-0059)
	0-21%	10-5060 (11-0169)
	0-60%	10-5060 (11-0169)

EXPORT			
COMPLETE KIT ITEM NO. <sup>3</sup>	SCALE RANGE	FYRITE (DRY)	ASPIRATOR ASSEMBLY
<b>CO<sub>2</sub> Testing</b>			
10-5083	0-7.6%	11-7041	11-7039
10-5001	0-20%	11-7031	11-7029
10-5033	0-60%	11-7033	11-7029
<b>O<sub>2</sub> Testing</b>			
10-5084	0-7.6%	11-7043	11-7039
10-5012	0-21%	11-7035	11-7029
10-5042	0-60%	11-7037	11-7029

REPAIR KITS		
GAS TYPE	RANGE	ITEM NO.
<b>Carbon Dioxide</b>		
	0-7.6%	11-7053
	0-20%	11-7052
	0-60%	11-7052
<b>Oxygen</b>		
	0-7.6%	11-7055
	0-21%	11-7054
	0-60%	11-7054

DUPLIX KITS			
COMPLETE KIT ITEM NO. <sup>4</sup>	CO <sub>2</sub> FYRITE	OXYGEN FYRITE	ASSEMBLY ITEM NO.
10-5020	0-20%	0-21%	11-7029
10-5021 <sup>4</sup>	0-20%	0-21%	11-7029
10-5090 <sup>5,6</sup>	0-7.6%	0-7.6%	11-7039
10-5106 <sup>5,6</sup>	0-7.6%	0-21%	11-7039
10-5111 <sup>5,6</sup>	0-60%	0-21%	11-7029

REFILL KITS		
GAS TYPE	RANGE	ITEM NO.
<b>Carbon Dioxide</b>		
	0-7.6%	not available
	0-20%	11-7047
	0-60%	11-7047
<b>Oxygen</b>		
	0-7.6%	not available
	0-21%	11-7050
	0-60%	11-7050

<sup>1</sup>Domestic shipments only

<sup>2</sup>Also includes Fire Efficiency Finder

<sup>3</sup>Export use only. Kits shipped without fluid.

<sup>4</sup>Export only

<sup>5</sup>Special order only: check factory for price and availability

<sup>6</sup>No export equivalent. Order components separately

\*Note: Only genuine Bacharach Fyrite Fluid is to be used in your Fyrite Analyzer. Substitute fluids may cause the Fyrite to be inaccurate or inoperative. Numbers in parentheses are old part numbers for reference only and not to be used for ordering.



# Draft & Pressure Gauges

These dependable, service-free draft gauges are small, inexpensive and easy to use. Both the MZF Draft Gauge and the Drafrite® Pocket gauge can be utilized by both contractors and service technicians for determining draft pressure problems in commercial and residential settings.



## Drafrite Pocket Gauge

This pocket size instrument is conveniently held in one hand when being used, making it extremely suitable for heating contractors and service technicians. The free-floating pointer indicates sudden changes from draft to pressure caused by "puffbacks." Suitable for checking flue pipe, chimney, fire box, smoke hood, smoke pipe draft, draft regulator, oil burner firing rate, and basement ventilation.

## MZF Draft Gauge

The highly sensitive MZF Draft Gauge requires no liquid or tedious leveling; this dry type instrument is always ready for immediate use. The pointer's movement over scale is in direct proportion to the magnitude of the draft at the test point. Ideal for residential, commercial and industrial heating plants; to measure furnace draft pressure drop across air filters.

ORDERING INFORMATION	
PART NO.	RANGE
13-3000	+0.10 to 0 to -0.14" W
13-3001	+0.05 to 0 to -0.25" W
13-3002	+2.5 to 0 to -3.5 mm W
13-3003	+1.5 to 0 to -6.5" mm W
13-5010	Drafrite Tube Set

*Note: All models supplied with two sections of draft tube and Leatherette Case 13-0003.*



ORDERING INFORMATION	
PART NO.	RANGE
13-7018	+1.0 to 0 to -5 mm W
13-7019	+0.05 to 0 to -0.25" W
13-7020	+1.0 to 0 to -25 mm W
13-7021	+0.05 to 0 to -1.0" W
13-7022	+1.0 to 0 to -15 mm W

*Note: All models supplied with 5" draft tube and 9' of rubber tubing.*

## Portable Manometer

A valuable instrument for measuring and adjusting the inlet and manifold pressure for gas heating equipment and appliances. The Bacharach Manometer is designed for accuracy, readability, and portability. Used to measure pressure in gas lines and to adjust pressure for all types of gas burning appliances. Also used to determine filter resistance, fan efficiency, air velocity, and static pressures.

### ORDERING INFORMATION

**Part No.** 17-7000; 17-7002; 17-7008; 17-7013; 17-7016

**Replacement Fluid Part No.** 17-0025





# True Spot<sup>®</sup> Smoke Test Kit



The Bacharach True Spot Smoke Test Kit determines efficient combustion and is internationally recognized as the standard method for evaluating smoke density in the flue gases from distillate fuels. Too much smoke is one of the most common causes of excessive fuel usage and expensive service requirements. That is precisely why the smoke test is an indispensable part of any oil burner service job; and with the True Spot, an accurate smoke reading takes less than a minute.

The True Spot smoke test method has long been recognized as the accepted standard for oil burner smoke tests. It is used by Underwriters' Laboratories in approval testing of oil burners; and it is the test method specified in the Installation Standards of the National Oil Fuel Institute by U.S. Department of Commerce, Testing materials (D2156-65), and German Standard DIN 51-402.

## ORDERING INFORMATION

PART NO.	DESCRIPTION
21-7006	True Spot Smoke Test Kit
21-7012	Test Pump
21-0018	Smoke Scale
21-0040	Lubricant
21-0019	Filter Paper Sheets (40 strips)*

\*Note: A spare kit containing replacement scale and filter paper is available; order item # 21-0020.



# CO Indicator Kits Carbon Monoxide Indicator

## Monoxor<sup>®</sup> Indicator

A quick, easy to use instrument that measures carbon monoxide by simply drawing an air sample through a chemical reagent in a glass indicator tube.

If carbon monoxide is present, a stain appears in the indicator tube; the length of the stain is measured against a built-in scale to determine the CO percentage or parts per million (ppm).

## Monoxor Detector

The Monoxor Detector is also fast and simple to operate. An air sample is drawn through a detector tube containing an indicating gel; if a stain forms after one pump stroke, the CO concentration is 300 ppm or higher. If it appears after two strokes, the concentration is 100 to 300 ppm. If no stain appears, the concentration is less than 100 ppm.

## ORDERING INFORMATION

ITEM NO.	ITEMS	RANGE	SAMPLE PUMP (Incl. Scale & Orifice A)	SCALE	TUBES (12 per carton)	TUBE CAPS (6)	FLUE GAS SAMPLING ASSEMBLY
19-0240 19-0241	Monoxor Indicators	0-0.2% 0-0.5%	19-0242 19-0243	19-0014 19-0015	19-5010 19-5015	19-0001 19-0001	None None
19-0245 19-0244	Monoxor Gas Test Kit	0-0.2% 0-0.5%	19-0242 19-0243	19-0014 19-0015	19-5010 19-5015	19-0001 19-0001	11-7045 11-7045
19-7021	Monoxor Detector including pump, one carton of 12 indicator tubes (19-5002) and a carrying case						
19-5005	Monoxor Detector Kit (19-7021), as above, plus Flue Gas Sampling Assembly (11-7056)						



**- NEW -**

# Comfort Chek 100 & 200 Handheld Indoor Air Quality Analyzer

The Bacharach Comfort Chek is a versatile handheld analyzer that is ideal for verifying indoor air comfort and quality.

Available in two models:

- Model 100 – measures CO<sub>2</sub>, barometric pressure, temperature and humidity (features diffusion gas sampling)
- Model 200 – measures CO<sub>2</sub>, barometric pressure, temperature, humidity and CO (features an internal pump for remote gas sampling)

Each reading is displayed separately, but by pressing the f3 button the user can easily scroll through all the readings. Peak readings can also be displayed by pressing and holding down the f3 button.

Both models feature data-logging, charge-and-run capability, and a user-zero function for all gases. There is enough memory to store up to 125 sets of data. Power is provided by a long-life NiMH battery, which is capable of providing up to 8 hours of continuous operation from one charge.

The Comfort Chek is small enough to fit in the palm of your hand, remarkably easy to use, and is ideal for trend analysis and record keeping.



## Features

- Available in two models:
  - Model 100 measures CO<sub>2</sub>, barometric pressure, temperature and humidity.
  - Model 200 measures CO<sub>2</sub>, barometric pressure, temperature, humidity, and CO (built-in pump)
- Data Logging for storing up to 125 sets of data, ideal for trend analysis
- Model 100 measures CO<sub>2</sub>, barometric pressure, temperature and humidity
- Convenient zero function for all gas sensors
- Long Life Infra-red CO<sub>2</sub> sensor
- Electrochemical CO sensor
- Charge-and-Run capability for long-term monitoring
- Stored data can be easily downloaded through optional host software using an IrDA communications link
- Peak reading mode

## Applications

IAQ-Indoor air quality checks, environmental health and general safety, CAP-X Controlled atmosphere monitoring, trend analysis using Data-Logging

## SPECIFICATIONS

Weight	12 oz
Dimensions	5.5H x 2.5W x 1.4 D inches
Battery Supply	Supplied with 110-220 volt wall charger
Battery Life	Up to 8 hours of operation on one charge
Sensor Life	Long-life sensors (CO <sub>2</sub> - 5 years, CO - 2 years)
MEASURING RANGES	
CO <sub>2</sub>	0 to 10,000 ppm / 10 ppm Resolution
CO (Model 200)	0 to 500 ppm / 1 ppm Resolution
Barometric Pressure	21" to 36" Hg
Operating Temperature	0 to 104°F / 0.1°F Resolution
Relative Humidity	0 to 99.9% / 1% Resolution

## ORDERING INFORMATION

PART NO.	DESCRIPTION
19-8048	Comfort Chek 100. Includes data logging and battery charger.
19-8049	Comfort Chek 200. Includes data logging and battery charger.
19-3302	In-Car 12V Charges
19-3307	Table Stand
19-3310	Extended Probe Assembly 3 feet
19-3311	Hard Carrying Case (Large)
19-3337	Hard Carrying Case (Small)
19-3254	Bach-Com Plus Host Software w/ IrDA Link



# CO<sub>2</sub> Analyzer 2825, 2830 & 2835

## Handheld Indoor Air Quality Analyzer

Bacharach's line of CO<sub>2</sub> Analyzers has been expanded to now measure CO<sub>2</sub>, O<sub>2</sub>, temperature, relative humidity, and barometric pressure.

Available in three models:

- 2825 – CO<sub>2</sub> (high range), O<sub>2</sub> and Pressure
- 2830 – CO<sub>2</sub> (high range), O<sub>2</sub>, Pressure and Temperature
- 2835 – CO<sub>2</sub> (low range), Pressure, Temperature and R.H.

Each reading is displayed separately, but by pressing the f3 button the user can easily scroll through all the readings. Peak readings can also be displayed by pressing and holding down the f3 button.

All models feature data-logging, run-and-charge capability, a user-zero function for all gases, and an internal pump for remote sampling. There is enough memory to store up to 125 sets of data. Power is provided by a long-life NiMH battery, which is capable of providing up to 8 hours of continuous operation from one charge.

The CO<sub>2</sub> Analyzers are small enough to fit in the palm of your hand, remarkably easy to use, and are ideal for trend analysis and record keeping.

### Features

- Data Logging for storing up to 125 sets of data, ideal for trend analysis
- Stored data can easily be downloaded through optional host software using an IrDA communications link
- Peak reading mode
- Charge-and-Run capability for long-term monitoring
- Convenient zero function for all gas sensors
- Infra-red CO<sub>2</sub> sensor
- Electrochemical O<sub>2</sub> sensor



### Applications

The 2828, 2830 & 2835 are the ideal instruments for incubators, mushroom farms, fruit/vegetable storage, greenhouses, food packing, brewing, blended beer gases and carbonated drink dispensing.

#### ORDERING INFORMATION

PART NO.	DESCRIPTION
19-8053	CO <sub>2</sub> Analyzer 2825. With built in sampling pump, sample tube, filter, water trap, data logging and charger.
19-8054	CO <sub>2</sub> Analyzer 2830. With built in sampling pump, sample tube, filter, data logging and charger.
19-8055	CO <sub>2</sub> Analyzer 2835. With built in sampling pump, sample tube, filter, data logging and charger.
19-3302	In-Car Charger
19-3307	Table Stand
19-3310	Extended Probe Assembly, 3 foot
19-3311	Hard Carrying Case (Large)
19-3337	Hard Carrying Case (Small)
19-3254	Bac-Com Plus Host Software w/IrDA Link

### Continuous CO<sub>2</sub> Monitor 2850

The 2850 is an affordable, wall mounted system that continuously monitors CO<sub>2</sub> levels in homes and buildings. Installed indoors and outdoors, it monitors CO<sub>2</sub> locally (at the sensing module) using a reliable infrared detection unit. Part No. 54-7101





# CO<sub>2</sub> Analyzer 2810, 2815 & 2820

## Personal Carbon Dioxide Analyzers

Bacharach's CO<sub>2</sub> Analyzers 2810, 2815 & 2820 are compact and lightweight, and provide fast and accurate CO<sub>2</sub> measurements. All instruments use a maintenance free dual wavelength pressure and temperature compensated sensor. The 2815 & 2820 have a powerful internal pump for extracting samples and they come with a flexible rubber probe and water trap. All instruments feature built in data-logging for record keeping.

### CO<sub>2</sub> Analyzer 2810, 2815 & 2820

#### Features

- Stores up to 850 CO<sub>2</sub> readings
- Quick, intelligent charge in less than two hours
- Two way IrDA communication link
- Easy calibration with built-in user cal feature
- Pressure & temperature compensated sensor
- 2810 range - 0-10,000 ppm (10 ppm increments)  
2815 range - 0 - 10,000 ppm (10 ppm increments)  
2820 range - 0-60% (.1% increments)
- Low flow indicator (2815 & 2820)
- Powerful internal pump for remote sampling (2815 & 2820)
- Rapid detection of changing CO<sub>2</sub> levels
- Maintenance free dual wavelength infrared CO<sub>2</sub> sensor
- 8 to 10 hours use on a full charge

#### Applications

The 2810 & 2815 are the ideal instruments for IAQ (indoor air quality) surveys, ventilation verification, food processing/packaging, mushroom farms, fermentation and carbonation processes, leak detection for bulk and high-pressure CO<sub>2</sub> systems.

The 2820 is the ideal instrument for laboratories to test the CO<sub>2</sub> levels of incubators, soil gas analysis, agriculture and horticulture applications.



#### ORDERING INFORMATION

PART NO.	DESCRIPTION
19-8023	CO <sub>2</sub> Analyzer 2810. Includes data logging and charger.
19-8025	CO <sub>2</sub> Analyzer 2820. With built in sampling pump, sample tube, filter, water trap, data logging and charger.
19-8028	CO <sub>2</sub> Analyzer 2815. With built in sampling pump, sample tube, filter, data logging and charger
19-3301	IrDA Interface/Software
19-3302	In-Car Charger
19-3303	Earphone
19-3304	Protective Boot
19-3311	Plastic Carrying Case (large)
19-3337	Plastic Carrying Case (small)
19-8027	Calibration Kit
24-1125	Calibration Gas (340ppm CO <sub>2</sub> ), 17L (2810 & 2815)
24-1126	Calibration Gas (5% CO <sub>2</sub> ), 17L (2820)
24-1130	Calibration Gas (2500ppm CO <sub>2</sub> ) 17L (2810 & 2815)
23-4003	Calibration Gas (100% N <sub>2</sub> ) 17L (2820)



**- NEW -**

# Florite<sup>®</sup> 500 & 600

## Rotating Vane Air Velocity Instruments

The FloRite 500 and 600 are rotating-vane anemometers for air velocity and volume flow rate measurements. Both instruments have been designed with ease of set up and operation in mind. The user can choose measurements to be displayed on its LCD in either Metric or Imperial units by means of a slide switch located inside the battery compartment. Both instruments are designed for supply and return airflow applications in heating, ventilating and air conditioning systems making air measurement quick, reliable and accurate.



### Florite 500

The **FloRite 500** measures air velocity by pressing and holding down the pushbutton located on the side of the handle. The average air velocity is automatically calculated and the digital display updated every 3 seconds over the time period that the pushbutton is held down.

### Features

- Air velocity measurement
- Metric or Imperial display of units
- Simple one button control
- Large clear LCD with fast response
- Self-diagnostic function

### Applications

- Residential HVAC commissioning and balancing
- Safety checks for fume and ventilation hoods
- Comfort conditions
- Environmental monitoring

SPECIFICATIONS	
Velocity Range	50 to 6000 ft/min (0.25 to 30 m/sec)
Accuracy	Better than $\pm 1\%$ of reading, $\pm 1$ digit
Dimensions	10.55 x 4.44 x 1.69 in. (268 x 113 x 43 mm)
Weight	0.62 lb (280 g)
Battery Type	9V
Battery Life	50 hours
Volume Flow Range (FloRite 600)	4 to 999,999 cfm
Area Input Range (Florite 600)	0.043 to 900 sq. ft (0.004 to 90 sq. m)

ORDERING INFORMATION	
PART NO.	DESCRIPTION
16-7022	Florite 500 with Carrying Pouch
16-7023	Florite 600 with Carrying Pouch
16-0192	Airhood Kit*

### Florite 600

The **FloRite 600** measures air velocity or volume flow rate averaged over a 3 second period by momentarily depressing the pushbutton located on the side of the handle. When the pushbutton is pressed and held down, however, the instrument automatically calculates and displays the average air velocity or volume flow rate over the time period that the pushbutton is held down for a maximum of 12 minutes. This allows the user to traverse large grilles and ducts in one sweep and to have the average value displayed automatically, thereby saving on operator time and inconvenience of manual calculations.

### Features

- Air velocity measurement
- Air velocity or air volume flow rate measurement
- Metric or Imperial display of units
- Simple one button control
- Large clear LCD with fast response
- Self-diagnostic function

### Applications

- Residential HVAC commissioning and balancing
- Safety checks for fume and ventilation hoods
- Comfort conditions
- Environmental monitoring



\* The Airhood Kit is used to convert the FloRite into an air volume flow meter. This kit includes an 11.2" x 9.2" rectangular hood, 7.0" diameter circular hood, protective carrying case, calibration curves, and instructions.



# Florite<sup>®</sup> 700 & 800

## Electronic Air Velocity Instruments

### Florite 700

The Florite 700 anemometer is an affordable thermal anemometer that measures both air velocity and air stream temperature quickly and simultaneously, without compromising accuracy and precision.

The pencil slim probe is durable for on-site and in-duct use and is so versatile it can be manipulated to access almost any position within arms reach.

### Features

- Simultaneously measures and displays temperature & air velocity
- Automatic temperature compensation
- Slim 8" probe with 4 ft. cable
- Metric or Imperial display of units
- Best accuracy in its class
- Simple two button control
- Large clear LCD with fast response
- Accuracy  $\pm 3\%$  of reading,  $\pm 1$



ORDERING INFORMATION	
PART NO.	DESCRIPTION
16-7020	Florite 700 (temperature and air velocity)
16-7021	Florite 800 (temperature, air velocity and air volume)
16-0181	Carrying Case

### Florite 800

The Florite 800 anemometer is the most reliable, feature-rich, air velocity meter available today.

By reading air velocity, air volume flow and air stream temperature directly, highly accurate, and instant assessments of air flow conditions are immediately possible.

Incorporating many user friendly, time saving functions normally only found in separate higher priced instruments, residential and commercial HVAC service work and IAQ monitoring is now much easier.

### Features

- Fast, multi-function capability in metric or imperial display
- Automatic temperature compensation and "self help" user calibration
- Reads volume flow in CFM or m<sup>3</sup>/sec
- Super slim telescopic probe for hard-to-reach locations
- Comes with carrying case
- Accuracy  $\pm 3\%$  of reading,  $\pm 1$
- Max / Min. / Average Reading

### Anemometer Model TH4200

**- NEW -**

### Features

- Ft/min: 0-8800
- Coiled Cable Vane Head
- Temperature: 32°F ~ 140°F (0°C ~ 60°C)
- Data hold and low battery indication
- Sensitive for low/high air velocity
- Also measures Km/hr, Knots, M/S
- Includes soft carrying case and battery



ORDERING INFORMATION	
PART NO.	DESCRIPTION
2042-0000	Anemometer



# Florite<sup>®</sup> and Floret<sup>®</sup>

## Air Velocity Meters

### Florite<sup>®</sup>

These air velocity meters are easy to use. Simply hold the Florite in the air stream or in an open area or against the face of a flat-surfaced register, so that air current is flowing directly into the instrument. No stop watch, curves or calculations of any kind are necessary.

### Features

- Instantaneous, direct readings of air velocity without timing or calculations
- Scale lock holds readings until lock is released
- Chart converts air velocity readings to cubic feet per minute without calculations

### Applications

- Surface wind velocities
- Air flow in experiments and lab work
- Air flow in connection with ceramics, textile and other manufacturing processes
- Air velocities in testing ventilating systems in schools, hospitals, mines and factories

### Floret<sup>®</sup>

The Floret is an ideal pocket size air flow indicator for applications where readability to 50 ft/min is adequate. The Floret is a handy instrument that can be used for checking air flow through openings as small as 1/4" in diameter.

### Features

- Instant readings from any held position; no leveling or zero balancing required
- Entirely self-contained; does not need hose, probe or other auxiliary parts for measuring air velocity
- Readings are in feet per minute or meters per minute

### Applications

- Checking air flow in refrigeration units such as display cases and walk-in coolers
- Detecting leaks around doors and windows
- Checking air flow at registers, grilles, diffusers and convectors
- Checking air flow from any HVAC equipment

ORDERING INFORMATION	
PART NO.	DESCRIPTION
16-7001	Florite Model MRF, 0-1000 fpm
16-7002	Florite Model MRF, Dual Scale 0-3,000 fpm and 0-35 mph
16-7005	Florite Model MLD with air inlet scoop 0-2,500 fpm
16-7009	Floret, 0-1,000 fpm
16-7010	Floret, 0-300 meters per minute
16-0107	Florite Grille Velocity Finder
16-0005	Florite MRF Carrying Case
16-0006	Florite MLD Carrying Case





# Temperature & Humidity Meters

## Sling Psychrometer -

The uniquely compact Bacharach Sling Psychrometer accurately determines percent relative humidity without the necessity of consulting complex tables. There is no need to wet the wick each time a reading is taken; the Sling Psychrometer contains a slide rule calculator which correlates wet and dry bulb thermometer indications for direct reading of relative humidity. When not in use, the thermometer case telescopes into the handle for protection.

### Features

- Designed for portability (7.5" long x 1" diameter)
- Slide rule construction quickly converts temperature to relative humidity
- Built-in water reservoir holds sufficient water for several hours of testing
- Thin bulb design gives fast thermal response
- Thermometers constructed of shock-resistant glass; stems have deep-etched numerals and 1° scale divisions for easy reading
- Accurate to within  $\pm 5\%$  R.H.



### ORDERING INFORMATION

PART NO.	DESCRIPTION
12-7011	+25°F + 120°F Mercury Filled
12-7012	+25°F + 120°F Red Spirit Filled
12-7013	-5° to +50°C Mercury Filled
12-7043	-5° to +50°C Red Spirit Filled
12-0267	Thermometer (+25°F + 120°F Mercury Filled)
12-0266	Thermometer (+25°F + 120°F Red Spirit Filled)
12-0265	Thermometer (-5° to +50°C Mercury Filled)
12-0327	Thermometer (-5° to +50°C Red Spirit Filled)
12-0011	Wick Replacement Kit - contain 4 wicks
06-5456	Cap

## Dual-Channel Digital Thermometer Model TH3000

### Features

- Temperature: -50°F ~ 1999°F (-50°C ~ 1300°C)
- 2 K-Type 39" Thermocouples
- T1-T2 differential measurement
- Resolution: 1°F / 1°C
- Data-hold and max-hold functions
- Flip-up stand
- Includes protective boot and battery



## Humidity-Temperature Meter Model TH1800

### Features

- Humidity: 10% RH ~ 95% RH
- Temperature: -4°F ~ 140°F (-20°C ~ 60°C)
- Resolution: 0.1°C / 0.1°F / 0.1%RH
- Wet bulb and dew point temp. readings
- Data-hold and relative function
- Dual LCD display with bargraph indication
- Includes soft carrying case and batteries



## Infrared Thermometer Model TH8000

### Features

- Temperature: -4°F ~ 752°F (-20°C ~ 400°C)
- Laser Pointer
- 8:1 Distance to Spot Ratio
- Resolution: 1°F / 1°C
- Min/max hold function
- Backlight LCD display
- Includes soft carrying case and battery



**- NEW -**

### ORDERING INFORMATION

PART NO.	DESCRIPTION
2080-0000	Infrared Thermometer
2030-0000	Dual-Channel Digital Thermometer
2002-1800	Humidity-Temperature Meter



**- NEW -**

# Monoxor<sup>®</sup> III

## Carbon Monoxide Analyzer

Bacharach's New Monoxor III, offers service technicians the easiest and most affordable way to locate CO in ambient air as well as stack gases. The Monoxor III CO Analyzer is a battery powered, hand-held instrument that can quickly and accurately measure levels of CO between 0 and 2,000 ppm. In addition to locating CO in ambient air, the Monoxor III is supplied with a stainless steel probe and five feet of tubing to sample CO found in flue gases of residential furnaces, combustion appliances, commercial and industrial boilers. An optional wireless IrDA printer provides a permanent record of the detected CO level.

*The One You Know... Only Better.*



**Now** With Printing Capability



SPECIFICATIONS	
Range	0-2,000 ppm
Resolution	1 ppm
Accuracy	± 5% of reading or 10 ppm, whichever is greater
OPERATING TEMP.:	Instrument: 32-104°F (0-40°C) Probe: 1,000°F (538°F)
Battery Life	24 hours continuous (minimum of 16 hours)
Display	Four-digit LCD display w/backlight
Power	4 'AA' Alkaline batteries
Printer Port	IrDA or HP protocol
Weight	16 oz. with batteries
Dimensions	7.5"H x 3.1"W x 2.1"D (190mm x 79mm x 53mm)
Warranty	2 years, including sensor

ORDERING INFORMATION	
PART NO.	DESCRIPTION
19-8104	Monoxor III, includes 4 'AA' batteries, probe & hose assembly with integral water-trap / filter, and a hard carrying case.
19-8105	Monoxor III, includes 4 'AA' batteries, probe & hose assembly with integral water-trap / filter, and a hard carrying case, plus an IrDA printer with an assortment of printer accessories including an AC adapter, roll of paper, in-car charger, belt clip, and magnet
24-1229	IrDA Printer
24-1265	Replacement CO sensor
24-7059	Calibration Kit (without CO gas)
24-0492	CO gas cylinder, 500 ppm
51-1994	CO gas cylinder, 100 ppm

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# Monoxor<sup>®</sup> II

## Carbon Monoxide Analyzer

Bacharach's Monoxor II CO Analyzer is a hand-held instrument designed to locate CO in ambient air as well as stack gases. The continuous sampling instrument quickly and accurately measures levels of CO between 0 and 2,000 ppm. The Monoxor II has a stainless steel probe with four feet of tubing to sample CO found in flue gases of residential furnaces, combustion appliances, commercial and industrial boilers.

With the addition of the Breath Analysis Module (BAM) to the Monoxor II, it becomes a powerful tool in determining the presence and level of CO in the bloodstream. The Monoxor II is also available in a high range version (0-85,000 ppm) for vehicle emissions testing and forklift tuning.

### Features

- Quickly measures and displays low levels of CO 0-2,000 ppm
- Measures in increments of 1 ppm
- Multi-purpose strap for easy holding
- Probe and hose assembly for flue gas testing
- Highly visible digital display with backlight

### Applications

- CO safety checks on combustion stack gas and ambient air levels
- Analyzing indoor air quality and safety
- Furnace and boiler servicing or replacement
- BAM verifies CO exposure



### ORDERING INFORMATION

PART NO.	DESCRIPTION
19-8004	Monoxor II CO Analyzer with case
19-8014	Monoxor II with CO Breath Analyzer Module
19-8011	CO Breath Analysis Module kit
19-8015	Monoxor II High Range (0-85,000 ppm)
24-0519	CO sensor
19-3076	Probe and hose assembly
19-0441	Adjustment screwdriver
11-0121	Filtering material (for water trap)
24-7059	Calibration kit (without CO gas)
24-0492	CO Gas Cylinder, 500 ppm (for use with 24-7059)
51-1994	CO Gas Cylinder, 100 ppm (for use with 24-7059)
24-0891	Bent Probe Adapter
19-8012	BAM Replenishment kit, 30 mouthpieces, 30 balloons and 10 filter disks
19-0435	BAM Mouthpiece & balloon, 1 each per pkg.
19-0431	Filter disks
19-0444	RFI Protective Pouch
19-8022	Probe & hose repair kit



# Single Gas Analyzers

## Family of Products

Light and rugged, Bacharach's family of hand-held digital analyzers measure toxic gases or oxygen. Now you can quickly measure and display levels of oxides of nitrogen (NO<sub>x</sub>), sulfur dioxide (SO<sub>2</sub>), carbon monoxide (CO) or oxygen (O<sub>2</sub>) more accurately, efficiently and economically than ever before. Just turn on the instrument, zero it, insert the probe into the stack or air being sampled. The analyzer will continuously measure and display readings of a specific gas. Single gas analyzers operate on four replaceable C-size batteries for approximately 14 continuous hours of operation.



### Applications

- Energy audit testing
- Furnace and boiler servicing or replacement
- Environmental emissions monitoring
- Analyzing indoor air quality (IAQ)
- Spot checking continuous emission systems
- Safety checks on combustion stack gas

SPECIFICATIONS (for all instruments)				
	Nonoxor® II (NO <sub>x</sub> )	Dioxor® II (SO <sub>2</sub> )	Oxor® II (O <sub>2</sub> )	Monoxor® II (CO)
<b>Range</b>	0-2,000 ppm	0-2,000 ppm	0-25.5%	0-2,000 ppm
<b>Factory Calibrated</b>	100 ppm NO	100 ppm SO <sub>2</sub>	10% O <sub>2</sub>	500 ppm CO
<b>Instrument Accuracy</b>	± 5% of reading	± 5% of reading	± .5% of reading	± 5% of reading
<b>Sensor Life (typical)</b>	2 years	2 years	1 year	2 years
<b>Readout</b>	Four-digit LCD display featuring 1/2" high digits, low battery and over-range indicator			
<b>Battery Supply</b>	Four replaceable, C-size batteries (not included)			
<b>Max. Probe Exposure</b>	1000°F (538°C)			
<b>Pump Draw</b>	Sample draw of instrument is suitable for up to 1 inch of water			



ORDERING INFORMATION	
PART NO.	DESCRIPTION
19-8004	Monoxor II in carrying case
19-8005	Oxor II in carrying case
19-8006	Nonoxor II in carrying case
19-8007	Dioxor II in carrying case
19-8001	Replacement NO <sub>x</sub> sensor
19-8002	Replacement SO <sub>2</sub> sensor
24-7070	Replacement O <sub>2</sub> sensor
19-3076	Probe & hose assembly
19-0441	Adjustment screwdriver
11-0121	Filtering material for water trap
19-0377	Replacement carrying case
24-0519	Replacement CO Sensor



# CO<sub>2</sub> Monitor 2800

## Personal Carbon Dioxide Monitor

The Bacharach CO<sub>2</sub> Monitor is a compact and lightweight carbon dioxide detecting and warning device that immediately responds to excessive concentrations of CO<sub>2</sub>. The CO<sub>2</sub> monitor is based on the principle of infrared absorption and has two pre-set alarm levels at 5,000 ppm and 10,000 ppm. When either of these levels is reached, audible and visual alarm signals are activated, sounding until the CO<sub>2</sub> level drops below the lowest pre-set level.

When the Bacharach CO<sub>2</sub> Monitor is switched on, it will automatically begin storing information (time, date and CO<sub>2</sub> levels) at 30 second intervals (optional software allows user selection of logging frequency).

### Features

- Compact and lightweight
- Simple to use
- Rapid detection of changing CO<sub>2</sub> levels
- Quick, intelligent charge in less than two hours
- Up to 8 hours use on a full charge
- Easy calibration in fresh air
- Automatic data-logging provides complete CO<sub>2</sub> exposure record
- Maintenance free dual wavelength infrared CO<sub>2</sub> sensor
- Visual and audible alarms
- Optional earpiece for use in high noise environments

### Applications

This versatile instrument will provide personal safety monitoring for workers in many industries including agriculture, horticulture, nuclear power plants, food processing and the beverage industry, and as a stand alone monitor for all organizations concerned with indoor air quality.

### SPECIFICATIONS

Range & Resolution	0-50,000 ppm CO <sub>2</sub> (0-5% CO <sub>2</sub> )	100 ppm resolution (0.01% CO <sub>2</sub> )
Response Time	T90 < 10 seconds @ 5,000 ppm and 10,000 ppm	
Audible Alarm	85dB @ 0.5 meters	
Case Seal	NEMA 12 (IP65) (dust and water resistant)	
Power Source	Nickel-metal hydride battery providing up to 8 hours of continuous use	
Operating Temp.	32°F to 104°F (0°C to 40°C)	
Relative Humidity	10 to 95% (non-condensing)	
Dimensions	5.5"L x 2.6"W x 0.8"H (140mm x 66mm x 20mm)	
Weight	7oz. (200 grams)	
Construction	Hi Impact ABS Case	

### ORDERING INFORMATION

PART NO.	DESCRIPTION
19-7101	CO <sub>2</sub> Monitor 2800
19-3301	IrDA Interface/Software
19-3302	In-Car Charger
19-3303	Earphone
19-3304	Protective Boot
19-3305	Calibration Cup
19-3311	Plastic Carrying Case
19-8027	Calibration Kit
24-1125	Calibration Gas (340 ppm CO <sub>2</sub> )
24-1130	Calibration Gas (2500 ppm CO <sub>2</sub> )





# N<sub>2</sub>O Monitor 3010

## Nitrous Oxide Monitor

Bacharach's N<sub>2</sub>O Monitor 3010 is an affordable and lightweight personal Nitrous Oxide gas monitor that continuously measures and rapidly detects occupational exposure to N<sub>2</sub>O.

Weighing only 8 ounces, the N<sub>2</sub>O Monitor 3010 is a versatile instrument that performs risk assessments, area monitoring, personal monitoring and leak detection in environments where there is a risk of exposure to anesthetic agents. It measures in 5 PPM increments and features both PPM and TWA measurement capabilities, which can be accessed with just a touch of a button. Two modes of TWA are available – real time (over 8 hours) and elapsed time (time unit is switched on). A built-in data-logger provides traceable readings for record keeping purposes. The N<sub>2</sub>O Monitor 3010 also includes an internal sampling pump. And, it is not necessary to span or calibrate the monitor – zeroing in fresh ambient air or with nitrogen is all that is necessary.

### Features

- Rapid detection of changing N<sub>2</sub>O levels
- Continuous data-logging – stores up to 800 readings
- 2 TWA capabilities – real time / elapsed time
- Readings can be toggled between TWA and PPM
- No span calibration required – only zero calibration
- Internal pump for remote sampling with low flow indicator
- Built-in, user-activated alarm
- Compact and lightweight
- Easy-to-read LCD display
- 8 hours of operation on a full charge (6 hours with pump)
- Maintenance free dual wavelength infrared N<sub>2</sub>O sensor
- Two-way IrDA communication link
- Pressure compensated sensor

### Applications

The N<sub>2</sub>O Monitor 3010 is a cost-effective monitoring solution for anesthesiologists, doctors, nurses and technicians who work in environments where there is an occupational risk of exposure to Nitrous Oxide, including hospital operating and recovery rooms, medical clinics, surgical centers, and dental and veterinary offices.



ORDERING INFORMATION	
PART NO.	DESCRIPTION
19-7109	N <sub>2</sub> O Monitor 3010
19-3301	IrDA Interface/Software
19-3302	In-car charger
19-3303	Earphone
19-3311	Plastic Carrying Case
19-3304	Protective Boot
19-8027	Calibration Kit (with regulator & tubing)
23-4003	Calibration Gas (100% N <sub>2</sub> 17L)



# Snifit<sup>®</sup> 40 & 50

## Carbon Monoxide Analyzers

Bacharach's affordable Snifit Carbon Monoxide (CO) analyzers can help you accurately measure CO concentration levels in room air. This continuous operating instrument quickly and accurately measures levels of CO between 0 and 1,999 ppm. Weighing just 8 ounces, the Snifit analyzers are light as a feather and small enough to fit in your shirt pocket or hold in the palm of your hand.

With one button operation, the Snifit analyzers are simple to use. Special design features such as a zero adjustment control and a fast response sensor specific to CO gas make the Snifit analyzers perfect for measuring low levels of CO.

### Applications

The Snifit is ideal for ambient air safety checks on residential appliances such as fireplaces and ovens; home inspection and HVAC service on furnaces and hot water heaters.

### Features

- Measures and displays Carbon Monoxide 0-1,999 ppm, 1ppm resolution
- Small enough to fit in your shirt pocket
- Back light for low light conditions (Model 50)
- One button operation
- Low battery indicator (Model 50)

#### SPECIFICATIONS

Range	0-1,999 ppm
Resolution	1 ppm
Display	3 1/2" display with yellow-green backlight (Snifit 50 only)
Sensor Type	Electrochemical (specific to CO)
Sensor Calibration	Factory calibrated on 100 ppm
Sensor Accuracy	+/- 5% of reading
Weight	8 ounces (.23 Kg)
Dimensions	5.5"L x 2.0"W x 1.57"H (140mm x 50 mm x 40 mm)
Power Source	9-volt battery
Battery Life	6 months operation with normal duty cycles
Manual Zero	Reduces chances of zeroing in hazardous environment
Auto Power Off	Every 30 minutes
Operating Temp.	32°F to 104°F (0-40°C)
Warranty	1 year



### Snifit Model 40

#### ATTACHMENT CO ANALYZER

In conjunction with your Digital Multimeter (DMM), the Snifit 40 will allow you to measure CO concentrations between 0 and 1,999 ppm. Simply plug in the universal Snifit connector into your DMM and conduct quick and easy CO measurements in room air. Use 3 1/2 digit or greater DMM having a 2 V DC range or auto ranging capability and 100MΩ or greater input impedance.

### Snifit Model 50

#### CO ANALYZER

The stand alone Snifit 50 allows you to continuously measure and display CO levels between 0 and 1,999 ppm. With 1 ppm resolution, the Snifit 50 can accurately measure high and low concentrations quickly and easily. The highly visible display indicates ppm CO and a backlight is available to use in low light conditions.

#### ORDERING INFORMATION

PART NO.	DESCRIPTION
19-7059	Snifit 40 CO Analyzer (used with multimeter)
19-7060	Snifit 50 CO Analyzer (used with digital display)
19-7061	CO Sensor
19-3225	Coiled Cord for Multimeter
19-3242	Calibration Cup with screwdriver
54-1994	Calibration Gas (100 ppm)
24-7059	Calibration Kit (without gas)



# Leakator<sup>®</sup> 10

## Combustible Gas Leak Detector

Bacharach's Leakator 10 is a low maintenance combustible gas leak detection unit, small enough to be operated with just one hand, yet loaded with the kind of advanced features and technology professionals demand.

Powered for up to 30 hours of continuous operation by alkaline C-cell batteries, Leakator 10 comes complete with a flexible 20-inch long probe for hard-to-reach areas and a solid state sensor that will last for up to five years. Leakator 10 allows you to pinpoint large and small leaks quickly, while checking a relatively large area in a short amount of time.

\*Only available by ordering P/N 19-7063

### Features & Benefits

- **Visual Indicator**  
10 Ultra-bright LEDs
- **Audible Indicator**  
Loud audible ticking rate
- **30 Hour Battery Life**  
Easily replaced C-cells
- **Sensitivity Thumb-Wheel**  
Aids pinpointing leak detection
- **Operational Status LEDs**  
English and international systems
- **Solid State Sensor**  
Plug-in sensor, five year typical life
- **20 Inch Flexible Probe**  
For hard to reach locations
- **Tough ABS Plastic Housing**  
Durable and rugged
- **Carrying Strap**  
Easy to use
- **UL Listed**  
Intrinsically safe
- **CE Mark**  
Electronic performance standard



Actual Size is 8.5 inches with 20" flexible probe

SPECIFICATIONS	
Housing	Molded, three piece ABS plastic in bright yellow color, includes carrying strap
Power	Five alkaline C-cells, not provided 30 hours typical life for continuous operation
Warm-up Time	Automatic, self check, about ten seconds to operational condition
Sensor	Semiconductor type. Five year typical life. Plug-in replacement
Probe	Self storing 20 inch flexible probe. Accommodates integral sensor
Sensitivity	20 ppm useable sensitivity (methane)
Status indicators	Visual: 10 ultra-bright red LED's. Audible: Variable speed ticking sound. Earphone available for use in noisy environments. Power-On ultra-bright green LED, Fail ultra-bright yellow LED. Low Battery ultra-bright yellow LED
Environments	23° to 130°F (-5° to 54°C), 10% to 90% relative humidity, non-condensing
Dimensions / Weight	Leakator: 18 oz. (0.51Kg.), 8.5" x 2.25" x 1.75" (21.6 cm x 5.7 cm x 4.4 cm) Case: Black HDPE, 17 oz. (.48Kg), 10.5" x 7" x 3" (26.7 cm x 17.8 cm x 7.6 cm)
Safety Approvals	UL listed, intrinsically safe, for use in Class I, Division 1, Groups A, B, C, and D classified areas
Warranty	One year limited warranty. See warranty card for more information

ORDERING INFORMATION	
PART NO.	DESCRIPTION
19-7051	LEAKATOR 10, in custom carrying case, UL Listed, flexible 20 inch probe for combustible gases and vapors, with instruction manual (batteries not included)
19-7063	Leakator ETO - For detection of Ethylene Oxide
19-0398	Replacement sensor and matching resistor
19-0397	Replacement rigid carrying case
19-3091	Replacement flexible probe assembly
51-2529	Optional Earphone



**- NEW -**

# Tru Pointe™

## Refrigerant Leak Detector

Bacharach's newest leak detector - Tru Pointe™ - is designed specifically for technicians looking for a premium quality leak detector at an affordable price.

The Tru Pointe™ is designed to be instantly responsive to all refrigerants. It is even accurate when used in environments where high levels of refrigerant vapors are present. No manual sensitivity adjustments are necessary during the inspection process. Simply turn the unit on, and let it mark the spot!



### Features

- Detects all CFC, HFC, and HCFC refrigerants using patented heated diode sensor technology - the best sensing technology on the market
- Instantaneous response time
- Innovative sensor replacement design
- Battery-powered with low battery indication
- Long-life, DC brushless fan
- High and low-sensitivity modes
- Automatic zero and background compensation
- Audible & visual leak indication
- Easy to use, one-handed operation
- No user calibration required

### ORDERING INFORMATION

19-8106	Tru Pointe™, instruction manual, 2 'D' Batteries and hard carrying case
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### SPECIFICATIONS

Sensing Elements	
Type:	Patented Heated Diode, Plug-in
Life Expectancy:	150 Hours or 1 year of normal use
Refrigerants Detected	All CFC, HCFC and HFC refrigerants, including R-12, R-22, R-123, R-134a and blends R-404a, R-408A, R-409A, and R-410A (i.e. any refrigerant containing Chlorine, Fluorine or Bromine gas)
Alarm Sensitivity	0.1 oz / year of R-134a (hardest to detect refrigerant)
Alarm Types	Variable-intensity audible and visual alarms
Power Source	Two 'D' Alkaline Batteries
Warm-Up Time	10 seconds
Response Time	Instantaneous
Battery Life	8-13 hours
Probe	14" (356mm) flexible
Size	2" W x 9.4" L x 2.5" H (5 cm W x 23.8 cm L x 6.3 cm H)
Weight	1.16 lb (0.53kg) w/ batteries
Agency Approvals	UL Listed in accordance with SAE J1627, CE
Warranty	One year, including sensors



# H10PM

## All-in-One Refrigerant Leak Detector

This series combines all features of the previous General Electric and Yokogawa H10 Series.



### Features

- Detects all CFC, HFC, and HCFC Refrigerants
- Manual or automatic, auto zero balance control
- Pass/Fail Test mode
- Unique sensor calibration system
- CE Mark
- Pinpoints both small and large leaks

**- NEW -**

SPECIFICATIONS	
Detects:	All CFC, HFC, and HCFC Refrigerants
Sensing Element:	Positive Ion Emission Heated Diode
Sensitivity:	Moving probe test per SAE Std. J1627
Alarm Sensitivity:	
	R-134a
	Small - 0.1 oz/year Medium - 0.5 oz/year Large - 2.0 oz/year
	R-12
	Small - 0.05 oz/year Medium - 0.1 oz/year Large - 1.0 oz/year
Warm-Up Time:	Approx. 2 minutes
Accuracy:	Exceeds SAE J1627
Probe Length:	4.5 feet
Dimensions / Weight:	
	H10PM
	5.5" x 10.5" x 8.5" / 5lbs.
	H10G
	2.5" x 4.5" x 8.5" / 3lbs.
Ambient Operating Temperature:	32° TO 104°F
Agency Listings:	UL File SA917, SAE J1627, CE-Mark
Power:	
	H10PM
	12 VDC - internal rechargeable, sealed lead acid battery
	12 VDC - external battery using battery clamp / cigarette lighter plug
	120VAC - wall adapter to charger battery only
	120 VAC optional wall adapter to charge-and-run unit continuously
	H10G
	120 VAC 50/60 Hz (Optional 220/230 or 240 VAC)
Leak Alarm:	Audible alarm and visible neon lamp
Response Time:	Approx. 1 sec.

# H10G

## Manual Balance Refrigerant Leak Detector

### Features

- The H-10G detects all CFC, HFC and HCFC Refrigerants
- Manual zero balance control
- Unique sensor balance system
- Pinpoints both small and large leaks
- AC powered
- Switchable sensitivity
- 25 years of proven experience
- Certified to SAEJ1627
- CE Mark

**- NEW -**



ORDERING INFORMATION	
Part No.	Description
3015-0456	H10G Standard Leak Detector *
3015-0627	H10PM All-in-One Leak Detector
H10P and HPM Accessories and Parts	
Part No.	Description
3015-0326	Battery Clamp/Cigarette Adapter Assembly
3015-0119	Battery Charger
3015-0131	AC Adapter (120V)
3015-0143	AC Adapter (220V/230V)
3015-0147	AC Adapter (240V)
3015-0103	Battery for H10PM
H10G and H10PM Accessories and Parts	
Part No.	Description
3015-0326	14" Flexible Probe
3015-0638	Standard Probe Assembly
3015-0486	Replacement Sensor
3015-0784	Maintenance Kit
3015-0864	Leak Reference Bottle
3015-0641	Clear Probe Tip
3015-0781	Tune-Up Kit
3015-0680	Rubber Probe Tip

\* Specify power requirements when ordering.



# The Informant 2™

## Dual Purpose Leak Detector Refrigerant & Combustibles

The Informant™ 2 leak detector allows pinpoint detection of both refrigerant and combustible gas leaks with the same instrument.

Its unique combination of state-of-the-art patented sensor technology, advanced software design and microprocessor-controlled circuitry offers you unmatched precision coupled with tremendous speed. It is unquestionably the most sensitive, most reliable, most accurate leak detector on the market today. And the fastest.

Swap sensor tips within seconds and never worry about adjusting sensitivity levels—it's taken care of automatically—even where high levels of background vapors or refrigerants are present. The refrigerant sensor tip is finely tapered to .2" diameter—so you can get in between coils and fittings, gaining access to hard to reach areas.

The Informant™ 2 leak detector features an audible indicator with a mute option coupled with sequential LEDs to monitor increasing concentrations of refrigerant or combustible gases. Dual bar graph displays offer visual confirmation no matter what position the instrument is in. And a flashing light at the tip of the probe helps to visually define your sampling location.



Combustible Gas	Refrigerant
Detects leaks of combustible gases sensitive to 50 PPM. (Methane)	Detects leaks in refrigerant systems by locating halogens in CFC, HCFC, HFC and blends.



**Interchangeable Sensor Tips**

**Sensor set at the tip for pinpoint accuracy & instantaneous response time**

**Audible Indicator With Mute Feature**

**Flashing Probe Tip**

**Low Battery Indicator**

**Dual LEDs**

**Optional Flashlight**

**Adjustable Probe: 3" – 20"**

**Optional Boot**

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## Features

- One instrument – two functions
- Lightweight and ergonomically designed
- Swap sensor tips in seconds
- Microprocessor controlled for accuracy and reliability
- Sensitivity is adjusted automatically
- Hydrophobic filter prevents moisture contamination
- Rugged rubber boot holds flashlight (optional)
- Sequential flashing probe tip, dual LED displays and loud tick rate indicates relative concentration levels
- Detects all halogens and scores of hydrocarbon gases
- Instantaneous response time
- Probe length is adjustable from 3" to 20"

The Informant™ 2 leak detector is a modular system which is totally upgradable. Order the complete dual system or choose dedicated refrigerant or combustible gas units and upgrade to the dual configuration at any time in the future.

SPECIFICATIONS	
<b>Sensing Elements:</b> Refrigerant Combustible	Heated Diode – U.S. Patent No. 5,932,176 Patented semiconductor type. Five year typical life. Plug-in replacement.
<b>Refrigerants Detected</b>	All CFC, HCFC and HFC refrigerants including: R-12, R-22, R-123, R-134a and blends R-404A, R-408A, R-409A and R-410A (i.e., any refrigerant containing Chlorine, Fluorine or Bromine gas)
<b>Combustible Gases Detected</b>	All combustible gases and vapors
<b>Alarm Sensitivity:</b> Refrigerant Combustibles	Less than 0.25 oz/year of R134a (hardest to detect refrigerant) Minimum 50 PPM (Methane)
<b>Alarm Types</b>	Audible, dual visual LEDs, and flashing probe tip
<b>Power Source</b>	Four (4) AA disposable alkaline batteries included.
<b>Warm-up Time</b>	10 seconds
<b>Response Time:</b> Refrigerant Combustibles	Instantaneous Instantaneous
<b>Battery Life</b>	4-5 hours, under typical intermittent operation.
<b>Probe</b>	20" (50.8 cm) maximum length, fully extended; 3" (7.62 cm) if wrapped around instrument. Includes LED indicator.
<b>Size</b>	1.75"W (4.45 cm) x 9.62"L (24.43 cm) x 2.25"H (5.72 cm)
<b>Weight</b>	0.86 lbs. (0.39 kg) with batteries
<b>Agency Approvals</b> Refrigerant Combustible	UL listed in accordance with SAE J1627 MET Lab certified to UL 913, intrinsically safe for use in Class I, Division 1, Group D hazardous areas.
<b>Warranty</b>	One year, including sensors

ORDERING INFORMATION	
19-8038	Informant 2 Contractor Kit. Instrument comes with refrigerant and combustible gas sensors, color-coded sensor tips, instruction manual, 4 AA batteries and a hard carrying case.
19-8042	<b>DUAL</b> Refrigerant/Combustible Informant 2 Detector Kit. Instrument comes with refrigerant and combustible gas sensors, color-coded sensor tips, instruction manual, 4 AA batteries, 5 filters, and a custom soft carrying case.
19-8045	<b>DUAL Deluxe</b> Refrigerant/Combustible Informant Detector Kit. Instrument comes with refrigerant and combustible gas sensors, color-coded probe tips, protective rubber boot, flashlight, instruction manual, 6 AA batteries and 5 filters, all packaged in a hard carrying case.
19-8040	<b>REFRIGERANT ONLY</b> Informant 2 Detector Kit. Instrument comes with refrigerant sensor, color-coded probe tip, instruction manual, 4 AA batteries, 5 filters, and a custom soft carrying case.
19-8043	<b>REFRIGERANT ONLY Deluxe</b> Informant 2 Detector Kit. Instrument comes with refrigerant sensor, color-coded probe tip, protective rubber boot, flashlight, instruction manual, 6 AA batteries and 5 filters, all packaged in a hard carrying case.
19-8041	<b>COMBUSTIBLE GAS ONLY</b> Informant 2 Detector Kit. Instrument comes with combustible gas sensor, color-coded probe tip, instruction manual, 4 AA batteries, 5 filters and custom soft carrying case.
19-8044	<b>COMBUSTIBLE GAS ONLY Deluxe</b> Informant 2 Detector Kit. Instrument comes with combustible gas sensor, color-coded probe tip, protective rubber boot, flashlight, instruction manual, 6 AA batteries and 5 filters, all packaged in a hard carrying case.
19-8037	Deluxe Upgrade Kit. Includes protective rubber boot, flashlight, 2 AA batteries and a hard carrying case.
19-8047	Combustible Gas Upgrade Kit. To upgrade a refrigerant only Informant 2, to a dual sensing instrument. Includes combustible gas sensor, color-coded probe tip and 5 filters.
19-8046	Refrigerant Upgrade Kit. To upgrade a combustible gas only Informant 2, to a dual sensing instrument. Includes refrigerant sensor, color-coded probe tip, and 5 filters.
19-0499	Replacement combustible sensor
19-0510	Replacement refrigerant sensor
19-0509	Replacement filters (5-pack)
19-0497	Protective rubber boot
19-0473	Refrigerant probe tip (blue)
19-0507	Combustibles probe tip (red)



# H25C

## Industrial Halogen Leak Detector

The H25C, designed with accuracy in mind, provides simple set-up procedures with its strong user friendly operations. The H25C's longer sensor life has the flexibility to test for chlorine or the new fluorine based refrigerants and the versatility to be automatically or manually calibrated.

The features of the H25C, combined with excellent detection sensitivity for halogen based gases, assure the performance required to produce consistent repeatable results. Simply put, the H25C is the most accurate and reliable Industrial Leak Detector on the market.



### Features

- High sensitivity for both chlorine and fluorine based refrigerants
- Built-in R-134a Leak Standard with a 10 second automatic calibration for R-12 or R-134a
- Pass/Fail Test mode
- New mini-probe, easier access for confined applications (Optional)
- Readout in oz/yr., g/yr., or x10-5 ml/second
- Long sensor life
- Switchable search mode with up to 10 times the sensitivity of the alarm set-point
- Excellent background rejection
- Analog output: 0-1 VDC (Optional)
- Relay alarm output (Optional)
- Hybrid display (Analog bargraph and digital)
- Operation status prompts (Air flow alarm, calibration request, etc.)

### SPECIFICATIONS

Measures:	R-134a or R-12. In addition most ASHRAE listed refrigerants can be measured accurately utilizing manual calibration with the optional LS-20B Leak Standard containing the refrigerant of choice
Measuring Range:	0.05–5.0 oz/yr 1.4–99 G/yr 0.9 x 10-5 to 90 x10-5 St'd ML/sec
Measured Gas Selection:	Switch selectable, R-134a or R-12
Display:	Digital and analog, leak detection is also indicated by an LED on the probe and a proportional volume audio tone
Response Time:	Approx. 1 sec. with 6-foot probe
Calibration:	Automatic calibration for R-12 or R-134a using built-in leak standard or manual calibration using LS20B Leak Standard containing refrigerant desired
Display Alarm:	Reduced air flow; calibration failure Front Panel
Unit Selection:	Switch selectable oz/yr, G/yr, or 10-5 St'd ML/sec
Response Time:	5 to 120 seconds, depending on tube length and gas concentration
Sensor Type:	Cationic emission type sensor (heated diode)
Power:	100/115 VAC, 110/220 VAC, or 120/240 VAC, 50/60 Hz, 100 VA
Weight:	22 lbs
Size:	6" x 11" x 18"

### ORDERING INFORMATION

3015-0783	Standard Unit. 110/115VAC. 50 / 60 Hz
3015-0762	With relay and 0-1 vdc output. 110 / 115VAC. 50 / 60 Hz
3015-0798	Standard Unit. 120/240 VAC. 50 / 60 Hz
3015-0771	With relay and 0-1 vdc output. 120 / 240VAC. 50 / 60 Hz
3015-0801	Standard Unit. 110/220VAC. 50/60 Hz
3015-0780	With relay and 0-1 vdc output. 110 / 220VAC. 50 / 60 Hz

Note: All products shipped with standard 15 foot (P3) probe assemble. See accessories for optional probe types and lengths.

### ACCESSORIES

3015-2213	6 Ft. Std. Probe (P02)
3015-2150	15 Ft. Std. Probe (P03)
3015-2218	25 Ft. Std. Probe (P04)
3015-1855	6 Ft. Mini Probe (P0)
3015-2156	Flexible probe tip
3015-1705	Maintenance Kit
3015-0807	Replacement sensor
3015-2476	Internal Disc Filter
3015-2418	Charcoal Filter Pack (5/pack)
3015-0272	Filter Packs (100/pack)



# Commercial Recovery Machine

## Recovery Units



### FM3600-410A Commercial Recovery Unit

#### Features

- Faster than competitive units
- Machines recover ALL refrigerants including R-410A\*
- 550 PSI high pressure cut-off, high pressure gauges
- New proprietary high performance compressor
- Small and lightweight for easy operation
- Rugged and reliable
- Evacuation complete shut-off



### FM3700 Heavy Duty Commercial Recovery Unit

ORDERING INFORMATION	
PART NO.	DESCRIPTION
2002-3700	FM-3700 Heavy Duty Refrigerant Recovery System With oil-less reciprocating compressor, 115/1/60 supply voltage, self purge, vacuum shut-off, 450 PSI high pressure limit and 1-hp power rating. Unit weight 47-lbs.
2000-3701	FM3700-S with 80% Shut-Off With oil-less reciprocating compressor, 115/1/60 supply voltage, self purge, vacuum shut-off, 450 PSI high pressure limit and 1-hp power rating. Unit weight 47-lbs.
2007-0030	Carrying Case/Backpack for FM3700
2002-0081	80% Shut-Off Option

SPECIFICATIONS	
Refrigerants	R-410A, R-12, R-134a, R-22, R-500, R502, MP/HP blends
Power Source	115 VAC 50/60 Hz, 230 VAC 50/60 Hz, 100 VAC 50/60 Hz
Compressor	1/2 horsepower high performance, oil-less
Vacuum Rating	13" Hg+
High Pressure Limit	550 PSI
Recovery Rate	.30 - 2.0 lbs./min vapor, 4.0 lbs./min. liquid
Auto 80% Tank Shut-Off	Optional
Self Purging System	No hose changes
Dimensions	12" x 13" x 7.5"

ORDERING INFORMATION	
PART NO.	DESCRIPTION
2002-3600	FM-3600-410A Commercial Recovery System Designed specifically for R-410A refrigerant blend but is also able to recover R-12, R-22, R-134a, R-500, R502 and HP/MP blends. With oil-less reciprocating compressor, 115/1/60 supply voltage, self purge, vacuum shut-off, 550PSI high pressure limit and 1/2-hp power rating. Unit weight: 36-lbs.
2002-3601	FM-3600-410A-S with 80% Shut-Off With oil-less reciprocating compressor, 115/1/60 supply voltage, self purge, vacuum shut-off, 550PSI high pressure limit and 1/2-hp power rating. Unit weight: 36-lbs.
2002-3611	FM-3600-HR-S with 80% Shut-Off With oil-less reciprocating compressor, 115/1/60 supply voltage, self purge, vacuum shut-off, 550PSI high pressure limit and 1/2-hp power rating. Unit weight: 38-lbs.
2007-0020	Carrying Case/Backpack for FM3600-410A
2002-0081	80% Shut-Off Option

\*Not for use with R-11 or R-123

#### Features

- Faster than competitive units
- Machines recover most popular refrigerants\*
- 450 PSI high pressure cut-off, high pressure gauges
- New proprietary high performance compressor
- Small and lightweight for easy operation
- Rugged and reliable
- Evacuation complete shut-off

SPECIFICATIONS	
Refrigerants	R-12, R-134a, R-22, R-500, R502, MP/HP blends
Power Source	115 VAC 50/60 Hz, 230 VAC 50/60 Hz, 100 VAC 50/60 Hz
Compressor	1 horsepower twin piston, high performance, oil-less
Vacuum Rating	13" Hg+
High Pressure Limit	450 PSI
Recovery Rate	.50 - 4.0 lbs./min vapor, 8.0 lbs./min. liquid
Auto 80% Tank Shut-Off	Optional
Self Purging System	No hose changes
Dimensions	12" x 14.25" x 8.75"

\*Not for use with R-11 or R-123

# The Stinger - Model 2000

## Professional Recovery System

The Stinger 2000 universal refrigerant recovery system is the smallest, most lightweight instrument of its kind, recovering all types of medium and high-pressure refrigerants – including R-410A. It features a revolutionary oil-less valve compressor driven by a powerful 8 amp. motor. The compressor works together with a high performance condenser and two cooling fans for fast recovery – even on the hottest days. Stinger delivers recovery rates of: Liquid 4.63 lbs/min., Liquid Push-Pull 14.33 lbs/min., and Vapor 0.33 lbs/min.

Stinger 2000 handles all types of refrigerant\* including R-12, R-22, R-114, R-134a, R-401A, R-401B, R-401C, R-402A, R-402B, R-404A, R-406A, R-407A, R-407B, R-407C, R-407D, R-408A, R-409A, R-410A, R-411A, R-411B, R-412A, R-500A, R-502B, R-507, and R-509. A simple purge system prevents cross-contamination of refrigerants without changing hoses.

### Applications

The STINGER is ideal for the recovery of refrigerant from air conditioning units or refrigeration systems as well as residential, commercial and industrial appliances/equipment.

\*Not for use with R-11 or R-123

### Features

- Extremely compact and lightweight for easy operation
- Advanced Oil-Less Compressor that works fast – even in extreme heat
- Recovers liquid without damaging the compressor
- Durable polymer housing for extra protection
- Universal recovering – all medium and high-pressure refrigerants including R-410A
- Reliable – built to last



### ORDERING INFORMATION

PART NO.	DESCRIPTION
2000-3300	STINGER 115 VAC
2000-3301	STINGER 115 VAC w/ 80% Shut-Off
2000-3307	STINGER 230 VAC 50/60 Hz
2002-0091	80% Shut-Off Kit
2007-0080	Carrying Strap

### SPECIFICATIONS

Unit	Model 2000
Power Source	115VAC 50/60 Hz
<i>Also Available</i>	230VAC 50/60 Hz
Compressor Type	Oil-Less with Single Valve Liquid Heat
Motor	High Torque 8 amp.
Vacuum Rating	15" Hg+
High Pressure Unit	550 PSI
Recovery Rate	Liquid 4.63 lbs./min.
(ARI certified 410A ratings)	Liquid Push-Pull 14.33 lbs./min. Vapor 0.33 lbs./min.
Auto 80% Tank Shut-Off	Optional
Self Purging System	No Hose Changes
Weight	24 lbs.
Dimensions	11"H x 17"L x 9.5"W
Refrigerant	R-12, R-22, R-114, R-134a, R-401A, R-401B, R-401C, R-402A, R-402B, R-404A, R-406A, R-407A, R-407B, R-407C, R-407D, R-408A, R-409A, R-410A, R-411A, R-411B, R-412A, R-500A, R-502B, R-507, R-509



**- NEW -**

# Vacuum Pump & Refrigeration Scale

## QV6 Pump



### Reliable Performance

- Reliable and efficient rotary vane pump element pulls a fast vacuum.
- Integrated gas ballast valve helps keep the pump oil clean longer, resulting in fewer oil changes.

### Range of Applications

- Ideal for air conditioning and refrigeration applications including R22, R134a, R404A, R407C and other HFCs.

### Fully Tested

- Each pump is inspected and run-in prior to shipment. Just add oil (supplied with pump) before use.

QV6 SPECIFICATIONS	P/N 2002-0006
Weight (with oil)	33 lbs. / 15 Kg
Air Displacement	6.3 cfm.
Stages	2
Factory Rating	25 microns
Oil Capacity	20 oz / 0.6 L
Operating Range	41-104°F (5-40°C)
Intake	1/4" SAE, 3/8" SAE
Motor Size	0.76 HP, 3400 rpm
Voltage	115 Volt, 60 Hz
Cord Length	6 Feet
Dimensions	14 x 7 x 11 inches

**- NEW -**

## Electronic Refrigerant Scale Model CS100

### Features & Benefits

- Auto Zero feature
- Tethered display with flip-up stand
- Adjustable leveling feet with built-in level indicator
- Handles a wide range of both standard and recovery cylinders up to 330 lbs (150 Kg)

SPECIFICATIONS	P/N 2010-0000
Converts readout in	Lbs. / Lbs. - Oz. / Kg
Capacity	110 lbs. / 50 Kg or 330 lbs. / 150 Kg
Scale Dimensions	11"L x 11"W x 2"H
Power Supply	9-volt battery (included)





- NEW -

# SMARTEC

## Revolutionizing Refrigerant Identification

Analyze pure, mixed, high and low pressure refrigerant gases to 99.5% purity levels in one-step



The **AIT - SmarTec™** analyzes refrigerants in their liquid state rather than vapor states, and, as such, eliminates errors caused by other Non-Dispersive Infra Red hand held methods. **AIT - SmarTec™** is the most accurate, portable method known to the HVAC/R industry, meeting ARI's 700 Standard of 99.5% and higher.

In addition, the unit is fully upgradeable. The **AIT - SmarTec™** technology offers a variety of options to the technician. Using the onboard micro-processor, the basic unit in the stand-alone mode identifies any six gases to 0.5% purity. In addition, the is fully upgradeable. When the application calls for a greater library of gases or special modification to simplify a process, these upgrades can be simply downloaded from Bacharach's web site and uploaded directly into the unit.

The **AIT - SmarTec™** offers various communication configurations through its software design via the RS 232 Port. It can also monitor gases both from both on-site and remote applications, thus saving the technician time and money. Furthermore, results can be printed for confirmation and auditing purposes.

### Features

- Accurate results that meet ARI 700 Standards of 99.5% purity levels
- One-button testing for quick, easy operation
- Accurate results in seconds
- Analyzes refrigerants in their liquid state
- RS 232 interface option
- Auto-Calibration with worry-free maintenance
- Print-Out option for permanent records via RS 232 port
- Portable
- Durable carrying case
- DC/Battery operation
- Compact, rugged design

#### ORDERING INFORMATION

PART NO.	DESCRIPTION
3025-7001	AIT - SMARTEC

SPECIFICATIONS	AIT - SMARTEC™ P/N 3025-7001
Refractive Index Design Range	1.15' 1.40
Refractive Index Resolution	~ 3.4 x 10 <sup>-6</sup> Refractive Index Units
Refrigerants	R-12, R-22, R-134a, R-11, R113, R-114, R-115, R152a, R401a, R401b, R402a, R402b, R404a, R404b, R408a, R408b, R414b, R409s, R409b, R500, R501, R502, R1301 halon, R-123, 600 BUTANE, R-12 and R134a MIXED at 10% increments. ** Can identify 400 series refrigerants to purity levels of 99.5% provided that the refrigerant temperature is at or below 75°F.
Pressure Sensor Range	0 ' 500 psia @ +/- 0.2 % over 0 '50° C
Temperature Sensor Range	» 50 ' 120° F @ +/- 0.5° over range
Maximum Operating Pressure	~ 250 psia
Maximum Design Pressure	~ 750 psia
Sample Path Materials	316/304 Stainless Steel, Teflon, and Borosilicates glass
Communications	RS232, graphical user interface
Dimensions	12.5" L x 15" W x 6.5" D (31.75 cm L x 38.1 cm W x 16.51 cm D)
Weight	14 lbs.
Power Source	120 VAC wall adapter or 12 VDC internal rechargeable battery

\* Special delivery terms. Contact factory for details.



**- NEW -**

# SINGLE-ZONE Fixed Refrigerant Monitors

HGM-SZ

For continuous monitoring of CFC, HCFC and refrigerant gases

**Comes With A  
2 Year Warranty**



## Features

- Small in Size. Big in Value.
- Easily comply with ASHRAE 15 Requirements with a low cost investment
- Eliminate False alarms with use of a non-dispersive IR source with sample draw system
- Measure all gases up to 10,000ppm with a sensitivity of 1ppm
- Two-year warranty protects your investment

## ORDERING INFORMATION

PART NO.	DESCRIPTION
3015-4200	HGMSZ 120 VAC / 60Hz

\* Special delivery terms. Call factory for details.

SPECIFICATIONS	HGM-SZ
Measures:	CFC: R11, R12, R113, R114, R502  HFC: R404a (HP62), R407a, R407c (AC9000), R134a, R410a (AZ20), R507, R(AZ50), R508b, (SUVA95)  HCFC: R22, R123, R124, R500, R503, R401a (MP39), R402a, (HP80), R402b (HP81), R408a, R409a, R23  HALON: 1301
Inputs:	Dedicated Single Zone
Output Signal:	3, SPDT, 5 Amp, 240 VAC rated alarm relays and 1, SPDT, 5 Amp, 240 VAC rated system fault relay, plus a Digital Display w/ a dedicated 4-20 mA DC analog output.
Detector Type:	Single Pass, Non-dispersive Infrared
Measuring Range:	All gases, 0 to 10,000 ppm
Sensitivity:	All gases, 1ppm
Accuracy:	All gases, $\pm 10$ ppm from 0 to 100 ppm, $\pm 10\%$ of reading from 100 to 10,000 ppm
Front Panel Display:	Green LED indicates when unit is operating properly  Red LED indicates when any monitored point is above its alarm setting  Yellow LED indicates a clogged sample line or other system fault
Response Time:	12.2 to 22.5 seconds, depending on tube length (1 to 50 ft.)
Max. Monitoring Distance	Up to 50 feet from measuring point to monitor (50 ft. of sample tube and line end filter furnished with unit)
Power:	120/130 VAC, 50/60 Hz
Size/Weight:	14" x 18" x 4.5" / 7 lbs. (may be wall or rack mounted)

1.800.736.4666

BACHARACH



**- NEW -**

# MULTI-ZONE Fixed Refrigerant Monitors

Bacharach introduces its new family of Multipoint / Multigas Refrigerant Monitors and Remote Display Modules. Using split architecture design, advanced infrared technology and the latest in network communication protocols, these monitors provide reliable point-by-point refrigerant loss monitoring at concentration levels as low as 1 ppm.

## HGM300 / RDM800

For continuous monitoring of CFC, HCFC and refrigerant gases

## AGM300 / ADM800

For continuous monitoring of Ammonia refrigerant gases



**Comes With A  
2 Year Warranty**



\* Special delivery terms. Call factory for details.

### Innovations in Infrared Technology

- Select refrigerants to be measured - point by point!
- Eliminate False alarms with use of a non-dispersive IR source with sample draw system
- Measure all gases up to 10,000 ppm with a sensitivity of 1 ppm
- Sample points located up to 500 feet from unit

### Split Architecture Design

- Remotely interrogate, acknowledge alarms, provide maintenance and evaluate operating conditions
- Quick field expansion from 4 to 16 sampling zones with only a screwdriver
- Bolt-in-Bolt Out internal components so the unit never leaves the wall

### Enhanced Communication Protocols

- Full two-way communication through RS-485 to the Remote Display Module and Building Management Systems such as Modbus RTU\*
- RS232C port for local / modem communication

(\* For other communication protocols, such as LonTalk or N2 (Metasis), please contact the factory.)

### Cost Effective

- Split-architecture design keeps your investment to a minimum
- Two-year warranty protects your investment



SPECIFICATIONS		NDIR, Multi-Zone Sample Draw Systems	
<b>Refrigerants:</b>			
HGM300 Model	<b>CFC:</b> R-11, R-12, R-113, R-114, R-502, R-404a (HP62), R-407a, R-407c (AC9000), R-134a, R-410a (AZ20), R-507 (AZ50), R-508b (SUVA95) <b>HCFC:</b> R-22, R-123, R-124, R-500, R-503, R-401a (MP39), R-402a (HP80), R-40b (HP81), R-408a, R-409a, R-23 <b>HALON:</b> 1301		
	Measuring Range: 0 to 10,000 ppm		
AGM300 Model	R-700 (Ammonia)		
	Measuring Range: 25 to 10,000 ppm		
Inputs:	4 point standard, expandable to 16 points in 4 point increments		
Output Signal:	4-20mA DC (optional)		
Detector Type:	Non-dispersive infrared		
Measuring Range:	All gases 0 to 10,000 ppm		
Sensitivity:	All gases 1 ppm		
Accuracy:	All gases $\pm 10$ ppm from 0 to 100 ppm, $\pm 10\%$ of reading from 100 to 10,000 ppm		
Front Panel Display:	Green LED indicates when unit is operating properly Red LED indicates when any monitored point is above its alarm setting Yellow LED indicates a clogged sample line or other system fault		
Response Time:	5 to 120 seconds, depending on tube length and gas concentration		
Max. Monitoring Distance:	Up to 500 feet from measuring point to monitor		
Power:	120 / 230VAC, 50 / 60 Hz		
Size/Weight:	17" L x 12" W x 5.5" D / 15 lbs (43.18cm L x 30.48cm W x 13.97cm D / 6.8 Kg)		

SPECIFICATIONS		REMOTE DISPLAY MODULES	
Model RDM800 Model	Compatible with HGM300 Model		
ADM800 Model	Compatible with AGM300 Model		
Inputs:	Accepts from one to four inputs via RS-485 from up to four HGM300 Refrigerant Monitors		
Display:	Backlit LCD displays the measured point in ppm		
Trend Mode / Data logging:	User may select a graphical display of the ppm trend for any measured point (100 data entries per point)		
Alarm Indications:	Channel display flashes, red light flashes, alarm signal sent via RS-485		
Input Fault Indication:	Yellow light flashes and the LCD indicates location of input fault		
Max. Monitoring Distance:	Maximum of 4,875 wiring feet from the furthest HGM300 to the RDM800 Display		
Power:	120 / 240VAC, 50 / 60 Hz		
Size/Weight:	11" L x 10" W x 3" D / 5 lbs (wall mounted)		

When ordering this product, you must specify 6 codes: These 6 codes will build up a part number. Codes must be listed in the following sequence.

- Code A- Model Number
- Code B- Number of Zones
- Code C- Input Power Type
- Code D- Analog (Yes / No)
- Code E- Water Trap (Always Included)
- Code F- High Accuracy Calibration

For example, to order a 4-zone, 120VAC Ammonia Monitor with a standard analog output and standard calibration, you would order a: AGM300-01-1-0-1-0

Remote Display Modules, options and accessories must be ordered as separate line items.

ORDERING INFORMATION for Monitors	
<b>Code A</b>	<b>Model Number</b>
HGM300	For use with CFC, HFC, HCFC and Halon Refrigerants
AGM300	For use with Ammonia Refrigerants
<b>Code B</b>	<b>Number of zones and connection type</b>
-01	4 Zones with barb fittings (Standard)
-02	8 Zones with barb fittings
-03	12 Zones with barb fittings
-04	16 Zones with barb fittings
-11	4 Zones with metal tube fittings
-12	8 Zones with metal tube fittings
-13	12 Zones with metal tube fittings
-14	16 Zones with metal tube fittings
<b>Code C</b>	<b>Input Power Type</b>
-1	120VAC / 60 Hz (Standard)
-2	240VAC / 50 Hz
-3	100VAC / 50 Hz
<b>Code D</b>	<b>Analog Output</b>
-0	None (Standard)
-1	Dual Loop 4 to 20 mA dc
<b>Code E</b>	<b>Water Trap</b>
-1	Water Trap (Standard)
<b>Code F</b>	<b>High Accuracy Calibration</b>
-0	None (Standard)
-1	Consult Factory

ORDERING INFORMATION for Display Modules	
3015-2875	RDM800 120VAC / 60 Hz
3015-2885	RDM800 240VAC / 50 Hz
3015-4195	ADM800 120VAC / 60 Hz
3015-4196	ADM800 240VAC / 50Hz

OPTIONS / ACCESSORIES	
<b>PART NO.</b>	<b>DESCRIPTION</b>
3015-4121	120VAC surge protection
3015-4122	230VAC surge protection
3015-4123	4-20 mA dc surge protection (two required)
3015-3069	Visual alarm 120VAC
3015-3070	Audio alarm 120VAC
3015-3076	Audio / Visual alarm 120 VAC
3015-3423	Annual maintenance kit
3015-3235	Air sample tubing (250' per roll)

System design supports compliance to the refrigerant monitoring requirements of ANSI / BSR ASHRAE 15. Certified in compliance to UL #3101-1, CE #EN613262, and EN61010-1.



**- NEW -**

# Refrigeration & Hand Tools

## Gauges

R-12/22/134a



2002-0250

Model # MSG250



2002-0550

Model #MSG550

R410A



2002-0410

Model # MSG410



2002-0420

Model # MSG420

Model	MSG250	MSG550
Dial Size	2 1/2"	2 1/2"
Connection	1/8 NPT	1/8 NPT
Scale	°F, PSI, kg/cm <sup>2</sup>	°F, PSI, kg/cm <sup>2</sup>
Pressure	250 psi	500 psi
Color	Blue	Red

Model	MSG410	MSG420
Dial Size	2 1/2"	2 1/2"
Connection	1/8 NPT	1/8 NPT
Scale	°F, °C, PSI, kg/cm <sup>2</sup>	°F, °C, PSI, kg/cm <sup>2</sup>
Pressure	500 psi	800 psi
Color	Blue	Red

## Manifolds & Hoses

R-12/22/134a  
Manifold Set

R12/22/134a  
Manifold Set w/Sight Glass

R-410A  
Manifold Set

R-410A  
Manifold Set w/Sight Glass

R-410A  
Hose Set

R-12/22/134a  
Ball Valve Hose Set



2002-5000

Model # MS050

• Both models have a brass body with hook, hose holder and 2 hand wheels

• Includes 3 pieces 60" RYB hoses with 1/4" flare fittings. Hoses rated at 2500 psi. Burst / 500 psi Max W.P.

• 0-250 / 0-500 psi Gauges



2002-4000

Model # MS040



2002-4400

Model # MS440

• Both models have a brass body with hook, hose holder and 2 hand wheels

• Includes 3 pieces 60" RYB hoses with 1/4" flare fittings. Hoses rated at 4000 psi Burst / 800 psi Max W.P.

• 0-500 / 0-800 psi Gauges



2002-4300

Model # MS430



2002-4600

Model # HS460

• 3 pcs 60" RYB hoses with 1/4" flare fittings

• Hoses rated at 4000 psi Burst / 800 psi Max W.P.

• Hoses compatible with Manifold Set models MS050, MS040, MS440 and MS430



2002-0003

Model # BV3

• 3 pcs 6" RYB hoses with 1/4" flare fittings

• Hoses rated at 2500 psi Burst / 500 psi Max W.P.

• Hoses compatible with Manifold Set models MS050 and MS040

## Hand Tools

Refrigeration  
Wrenches

Refrigeration  
Wrenches

Fin Straightener

Capillary  
Tube Cutter

Valve Core  
Removal Tool

Inner Outer  
Reamer



2002-0122

Model #HTRW122

• 4 square openings

• 3/16", 1/4", 5/16", and 3/8"



2002-0123

Model #HTRW123

• 3/16" and 1/4" square openings

• 1/2" and 9/16" hex openings



2002-6000

Model #HT351

• 6-in-1 spacings of 8, 9, 10, 12, 14 and 15 fins per inch

• For cleaning and straightening condenser or evaporator coil fins



2002-8000

Model #HT128

• Cuts all types of capillary tubes without collapsing nor swaging the tubes



2002-0125

Model #HTVCRT

• 1 double ended core removal tool

• For Standard VC-6400 small core and VC-6500 large core



2002-6900

Model #HT208

• Made of Zinc alloy with red color painted finish

• Reams both inside and outside edges of tubing

• 1/8" to 1 5/8" O.D.



**- NEW -**

# Refrigeration & Hand Tools

## Hand Tools

### Telescopic Mirror Set



2002-0300

Model #HT31M

- Set of 4 mirrors
- Circular lens 1 1/4" Dia., 4 3/4" to 19 1/2" extension
- Circular lens 2" Dia., 8 1/2" to 18" extension
- Rectangular lens 2" x 3 1/2", 8 1/2" to 19 1/4" extension
- Oval lens 1" x 2", 4 3/4" to 20 1/4" extension

### Tube Expander Kit



2002-6300

Model #HT1000

- Expander handle and 6 size expand heads-3/8", 1/2", 5/8", 3/4", 7/8", 1"
- Plastic Inner Outer Reamer 1/8"-1 1/2" O.D.
- Kit comes in a convenient steel molded case

### Flaring & Cutting Kit



2002-6400

Model #HT1226

- 1/8"-1 1/8" Tube cutter
- Flaring tool 3/16", 1/4", 5/16", 3/8", 7/16", 1/2", 5/8"
- Kit comes in a convenient plastic molded case

### Flaring, Swaging & Cutting Kit



2002-6500

Model #HT278

- 1/8"-1 1/8" Tube Cutter
- Flaring Tool with 2 flares 1/8" to 3/4"
- AC Ratchet Wrench w/ 3/16", 1/4", 5/16", 3/8" square sockets
- 5 Swaging heads sizes 3/16" to 3/4"
- Kit comes in a convenient plastic molded case

Flaring Tools		
Type	P/N	Description
7-Sizes Flaring Tool	2002-7100	• For 3/16", 1/4", 5/16", 3/8", 7/16", 1/2" & 5/8" O.D. tubing
Heavy Flaring Tool	2002-7000	• For 5/8", 3/4", 7/8" & 1 1/8" O.D. tubing
6-Sizes Flaring Tool	2002-6100	• For 3/16", 1/4", 5/16", 3/8", 1/2" & 5/8" O.D. tubing
Flaring & Burnishing Tool	2002-0525	• 3/16" to 5/8" O.D. tubing

### Models Available

2002-7100

Model #HT195

2002-7000

Model #HT203

2002-6100

Model #HT500

2002-0525

Model #HT525



### 3 in 1 Tubing Bender 180°



2002-6700

Model #HT666

- Fixed Hook

- For 1/4", 5/16" and 3/8" O.D. Tubing

### 3 in 1 Tubing Bender 90°



2002-6800

Model #HT368

## Tubing Cutters



2002-1818

Model #HT1818

- 1/8" to 1 1/8" O.D.
- Aluminum alloy body with chrome-plated finish
- Includes 1 spare cutter wheel
- Additional spare cutter wheels available- P/N 2002-1871 (Model # HTRCW1)



2002-0780

Model #HT780

- 1/8" - 7/8" O.D.
- Zinc alloy body with red color painted finish
- Additional spare cutter wheels available- P/N 2002-1873 (Model # HTRCW3)



2002-1858

Model #HT1858

- 1/8" to 5/8" O.D.
- Zinc alloy body with red color painted finish
- Additional spare cutter wheels available- P/N 2002-1873 (Model # HTRCW3)



2002-1878

Model #HT1878

- 1/8" - 5/8" O.D.
- Zinc alloy body with zinc-plated finish and positive grip knob
- Additional spare cutter wheels available- P/N 2002-1872 (Model # HTRCW2)

### PVC Pipe Cutter



2002-2120

Model #HT212

- Up to 1 5/8" capacity

### Swaging Punch

2002-7200

Model #HT95

- For 1/4", 5/16", 3/8", 1/2" and 5/8" O.D. tubing

### Spring-Type Tubing Benders



2002-1434

Model #HT1434

- 6 per pack
- Sizes 1/4" x 10" long; 5/16" x 10"; 3/8" x 10"; 1/2" x 12"; 5/8" x 14"; 3/4" x 14"

1.800.736.4666

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**- NEW -**

# Digital Meters

All models include batteries, test leads and 1-year warranty

**Pocket Digital Multimeter**



**2002-0900**

- Model # MMP900**  
· 4 Functions
- Compact DMM w/built-in case for leads
  - Auto power off
  - Data-hold function
  - Battery check function
  - Auto-range
  - Over-range & low battery indication

**3 Functions Digital Multimeter**



**2050-0000**

- Model # MM5000**  
· 3 Functions
- Includes protective boot & soft carrying case
  - Auto power off
  - Data-hold function
  - Auto-range
  - Low battery indication

**6 Functions Digital Multimeter**



**2002-3200**

- Model # MM3200**  
· 6 Functions
- Includes protective boot & soft carrying case
  - Auto power off (Time Selectable)
  - Data-hold function
  - Memory & recall function
  - Auto-range
  - Transistor test
  - Over-range & low battery indication

**True RMS Digital Multimeter**



**2002-3800**

- Model # MM3800**  
· 7 Functions
- True RMS capability
  - Includes protective boot & soft carrying case
  - Backlight LCD
  - Data-hold function
  - Memory & recall function
  - Auto-range & low battery indication
  - Measures temperature with optional thermocouple (P/N104-1797)

**Clamp Meter**



**2060-0000**

- Model # CM6000**  
· 3 Functions
- Includes soft carrying case
  - Auto power off
  - Data-hold function
  - Auto range
  - Over-range & low battery indication

**Mini Clamp Meter**



**2040-0000**

- Model # CM4000**  
· 3 Functions
- Includes soft carrying case
  - Auto power off
  - Data-hold function
  - Auto range
  - Over-range & low battery indication

## SPECIFICATIONS

Model	MMP900	MM5000	MM3200	MM3800	CM6000	CM4000
<b>Functions</b>	1. Volts 2. Amps 3. Ohms / Continuity 4. Diode Test	1. Volts 2. Amps 3. Ohms / Continuity	1. Volts 2. Amps 3. Ohms / Continuity 4. Diode Test 5. Capacitance 6. Frequency	1. Volts 2. Amps 3. Ohms / Continuity 4. Diode Test 5. Capacitance 6. Frequency 7. Temperature	1. Volts 2. Amps 3. Ohms / Continuity	1. Volts 2. Amps 3. Ohms / Continuity
<b>Display Count</b>	4000	4000	4000	4000	3200	4000
<b>DC V</b>	400mV / 300V	400mV / 600V	400mV / 600V	400mV / 600V	300mV / 600V	400mV / 450V
<b>DC A</b>	400mA	400mA / 10A	400µA / 20A	400µA / 20A	N/A	400A
<b>AC V</b>	300V	600V	600V	600V	600V	450V
<b>AC A</b>	N/A	400mA / 10A	400µA / 20A	400µA / 20A	600A	400A
<b>Resistance</b>	40MΩ	40MΩ	40MΩ	40MΩ	300Ω	400Ω
<b>Capacitance</b>	N/A	N/A	200µF	400µF	N/A	N/A
<b>Frequency</b>	N/A	N/A	4MHz	40MHz	N/A	N/A
<b>Temperature</b>	N/A	N/A	N/A	-14° F ~ 2192° F -40° C ~ 1200° C	N/A	N/A
<b>CE or UL Listed</b>	Both	CE Only	CE Only	CE Only	CE Only	CE Only

# Notes

# Shipping Information

PRODUCT	SHIPPING WEIGHT	SHIPPING DIMENSIONS
ECA450	30 lbs.	18" x 13" x 10"
Model 300	15 lbs.	18" x 14" x 8"
PCA®	6.8 lbs.	17.5" x 6" x 13"
Fyrite® Pro	4 lbs.	17" x 6" x 13"
Fyrite Duplex Kit	13 lbs.	13" x 6" x 11"
Fyrite Fluid (1 carton of 3 bottles)	2 lbs.	10" x 5" x 4"
Fyrite Gasaver Kit	18 lbs.	18" x 6" x 16"
Fyrite Indicator	3 lbs.	10" x 5" x 4"
Fyrite Master Kit	11 lbs.	18" x 6" x 16"
Fyrite Refill Package	2 lbs.	13" x 6" x 11"
Fyrite Repair Package	1 lb.	13" x 6" x 11"
Fyrite Utility Kit	15 lbs.	18" x 6" x 16"
Drafrite® Draft Gauge	1 lb.	4" x 3" x 1"
True Spot® Smoke Tester	1 lb.	9" x 8" x 9"
Monoxor® Detector Kit	2 lbs.	7" x 4" x 2"
Monoxor Indicator Kit	5 lbs.	6" x 3" x 3"
Monoxor Tubes (per carton of 10 tubes)	3 oz.	7" x 4" x 2"
Monoxor II, Nonoxor II, Dioxor II, Oxor II	3 lbs.	17" x 10" x 5"
MZF Draft Gauge	3 lbs.	7" x 5" x 9"
Snifit® 40 & 50	1 lb.	3" x 4" x 7"
Informant 2 Kit / Tru Pointe	3 lbs.	4" x 3" x 12"
Informant 2 Deluxe Kit	4 lbs.	7" x 4" x 16"
Leakator® 10	1 lb. 1 oz.	9" x 2" x 2"
Gas-Pointer® II	2 lbs.	8" x 4" x 2"
CO <sub>2</sub> Monitor	1 lb.	10" x 7" x 3"
CO <sub>2</sub> Analyzer 2810 & 2820	1 lb.	10" x 7" x 3"
CO <sub>2</sub> Continuous Monitor 2850	2 lbs. 8 oz.	7" x 5" x 9"
N <sub>2</sub> O Monitor 3010	2 lbs. 8 oz.	7" x 5" x 9"
Florite® 700 & 800	12.7 oz.	8" x 3" x 6"
Floret® Air Velocity Meter	1 lb.	7" x 4" x 2"
Florite Air Velocity Meter	4 lbs.	5" x 7" x 3"
Sling Psychrometer	1 lb.	12" x 9" x 6"
Serdex® Indicator	4 lbs.	6" x 6" x 6"
Serdex Recorder	8 lbs.	12" x 3" x 3"
Tempscribe® Temperature Recorder	5 lbs.	9" x 8" x 9"
Stinger 2000	28 lbs.	18" x 13" x 18"
Recovery Unit 3600-410A	39 lbs.	18" x 13" x 18"
Recovery Unit 3700	52 lbs.	18" x 13" x 18"
Clamp Meter	1 lb.	8.5" x 11" x 2"
Mini Clamp Meter	11 oz.	6" x 10.5" x 1.5"
Dual-Channel Digital Thermometer	14 oz.	7" x 12.5" x 2"
3 Function Digital Multimeter	1 lb. 2 oz.	8.5" x 11" x 2.5"
True RMS Digital Multimeter	2 lbs. 2 oz.	9" x 12" x 2.5"
6 Functions Digital Multimeter	1 lb. 6 oz.	8.5" x 11.5" x 2"
Humidity-Temperature Meter	1 lb.	7" x 12.5" x 3"

PRODUCT	SHIPPING WEIGHT	SHIPPING DIMENSIONS
Anemometer	1 lb. 3 oz.	9" x 12.5" x 3"
Pocket Digital Multimeter	5 oz.	4" x 9" x 1"
Infrared Thermometer	11 oz.	5.5" x 12.5" x 3"
Digital Pocket Thermometer	2 oz.	3.5" x 9" x 1.5"
Refrigeration Wrenches	5 oz.	2" x 8" x 1"
Refrigeration Wrenches	8 oz.	2.5" x 9.5" x 1"
PVC Pipe Cutter	13 oz.	5" x 10.5" x 1.5"
Valve Core Removal Tool	2 oz.	3" x 5" x 1"
Swaging Punch	1 oz.	2.5" x 9" x 1"
Pocket Dial Thermometer	1 oz.	3" x 8.5" x 1"
R-410A Manifold Set	3 lbs. 8 oz.	12.5" x 14" x 2"
R-12/22/134a Manifold Set	3 lbs. 8 oz.	12.5" x 14" x 2"
R-12/22/134a Manifold Set w/Sight Glass	3 lbs. 8 oz.	12.5" x 14" x 2"
R-410A Manifold Set w/Sight Glass	3 lbs. 8 oz.	12.5" x 14" x 2"
R-410A Hose Set	1 lb. 14 oz.	12.5" x 14" x 2"
Spring Type Tubing Benders	2 lbs. 4 oz.	5" x 18.5" x 1.5"
R-12/22/134a Ball Valve Hose Set	1 lb.	6" x 14" x 1"
3 in 1 Tubing Bender 180°	1 lb.	5" x 14" x 2.5"
3 in 1 Tubing Bender 90°	15 oz.	4.5" x 13" x 2.5"
7 Sizes Flaring Kit	4 lbs. 6 oz.	8.5" x 6" x 1.5"
Flaring & Cutting Kit	3 lbs. 5 oz.	13" x 5.5" x 2"
Flaring, Swaging & Cutting Kit	5 lbs. 9 oz.	13" x 10" x 2"
Tube Expander Kit	9 lbs. 1 oz.	18" x 8" x 2.5"
R410A Gauge	6 lbs.	4.5" x 6" x 1.5"
R410A Gauge	6 lbs.	4.5" x 6" x 1.5"
R12/22/134a Gauge	6 lbs.	4.5" x 6" x 1.5"
R12/22/134a Gauge	6 lb.	4.5" x 6" x 1.5"
6 Sizes Flaring Kit	2 lbs. 1 oz.	7.5" x 9.5" x 1.5"
Heavy Flaring Kit	2 lbs. 5 oz.	9" x 8.5" x 1"
Flaring Burnishing Tool	1 lb. 15 oz.	7.5" x 9.5" x 1.5"
Tubing Cutter	11 oz.	4" x 9" x 1.5"
Tubing Cutter	3 oz.	4" x 5" x 1"
Tubing Cutter	4 oz.	4" x 5" x 1"
Tubing Cutter	4 oz.	4" x 5" x 1"
Telescopic Mirror Set	12 oz.	9" x 15.5" x 1"
Capillary Tube Cutter	3 oz.	3" x 8" x 1"
Fin Straightener	4 oz.	5" x 6" x 1"
Inner Outer Reamer	8 oz.	4.5" x 6" x 2"
Cutter Wheels	1 oz.	3.5" x 5" x 1"
Cutter Wheels 9 Pack	2 oz.	3.5" x 5" x 1"
Cutter Wheels 9 Pack	1 oz.	3.5" x 5" x 1"
Charging Scale	10 lbs. 10 oz.	17" x 15" x 4.5"
QV6 Pump	38 lbs. 1/Oil	18" x 12" x 10"

**ADD 1 LB. FOR SHIPPING WEIGHT**

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