



## Artisan Technology Group is your source for quality new and certified-used/pre-owned equipment

- FAST SHIPPING AND DELIVERY
- TENS OF THOUSANDS OF IN-STOCK ITEMS
- EQUIPMENT DEMOS
- HUNDREDS OF MANUFACTURERS SUPPORTED
- LEASING/MONTHLY RENTALS
- ITAR CERTIFIED SECURE ASSET SOLUTIONS

### SERVICE CENTER REPAIRS

Experienced engineers and technicians on staff at our full-service, in-house repair center

### *InstraView*<sup>SM</sup> REMOTE INSPECTION

Remotely inspect equipment before purchasing with our interactive website at [www.instraview.com](http://www.instraview.com) ↗

### WE BUY USED EQUIPMENT

Sell your excess, underutilized, and idle used equipment. We also offer credit for buy-backs and trade-ins. [www.artisanng.com/WeBuyEquipment](http://www.artisanng.com/WeBuyEquipment) ↗

### LOOKING FOR MORE INFORMATION?

Visit us on the web at [www.artisanng.com](http://www.artisanng.com) ↗ for more information on price quotations, drivers, technical specifications, manuals, and documentation

**Contact us:** (888) 88-SOURCE | [sales@artisanng.com](mailto:sales@artisanng.com) | [www.artisanng.com](http://www.artisanng.com)

# GOW-MAC Gas Products

## Product Specification

### GOW-MAC Gas Leak Detector

#### Helps you find leaks quickly — without risk of contaminating your GC system

Using liquids to detect gas leaks can be poor economy — especially in a capillary GC system. Even a small amount of liquid leak detector that seeps into a fitting, or through the septum, can damage your column. The GOW-MAC Model 21-250 gas leak detector can easily and quickly pinpoint gas leaks too small to detect with soap solution.

The GOW-MAC gas leak detector operates on the same principle as a thermal conductivity detector. The instrument responds to any gas mixture that has a thermal conductivity value different from that of air. With an intrinsically high signal-to-noise ratio, amplification provides maximum usable sensitivity — helium leaks of  $1 \times 10^{-5}$  cc/sec and refrigerant leaks of  $11 \times 10^{-4}$  cc/sec are easily detected.

#### Easy to Operate

The GOW-MAC gas leak detector can be operated with little or no training. Turn it on, adjust the zero knob and probe for leaks. As the probe passes over a leak, a signal is registered on the meter and an audible tone is emitted.

The probe is designed to reach difficult and confined locations. In close areas where several connections are grouped together, the probe is small enough to pinpoint the exact problem location. A HIGH/LOW switch permits you to control sensitivity for very small leaks.

#### Laboratory Applications

Leaks are costly in any analytical system and can be dangerous in some. The GOW-MAC gas leak detector can be used with any gas-filled laboratory apparatus or instrument. Vacuum systems (glass or metal) can be checked for leaks by slightly pressurizing the system with a tracer gas, such as helium, and then probing for leaks. Below are listed the most common leak sources that can adversely affect gas chromatographic results:

**Cylinder** — Leaks at regulator connections can allow dangerous gases to escape into the laboratory atmosphere.

**Regulator** — The diaphragm is a potential leak source.

**Fittings** — Inlet tube fittings are a significant source of leaks due to vibrations in the lab and slight jarring of apparatus.

**Injection port** — Check septum leaks at the sample injection point. Gas sample valves and their connections can also be checked.

**Column** — Find leaks quickly under hot or cold conditions. No waiting for oven cool-down before checking. This assures no leaks at operating conditions.



912-0347

#### Specifications

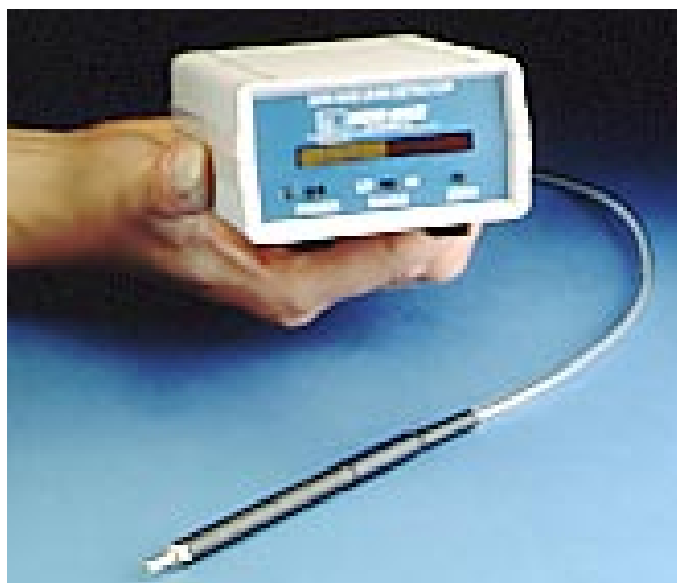
- Detector:** Thermistor-actuated thermal conductivity cell
- Visual Readout:** Center zero meter, graduated -50 to +50
- Circuitry:** Solid state design incorporating quality components
- Pump:** Diaphragm type, 85V, 55 Hz generated by internal digital timer
- Line Voltage:** Internally selectable 115/230V, 50/60 Hz
- Battery:** Rechargeable lead/acid gel, 8V
- Audio Output:** Frequency changes with concentration; adjustable threshold and speaker volume
- Range:** High: x1; Low: x100
- Dimensions:** 27 x 21 x 9cm (10 3/4 x 8 1/4 x 3 5/8") (excluding handle)
- Weight:** 4.1kg (9lb) Shipping: 5.4kg (12 lb)

#### Sensitivity of GOW-MAC Leak Detectors\*

Gas	cc/sec	feet <sup>3</sup> /year
Argon	$1.0 \times 10^{-4}$	0.110
CO <sub>2</sub>	$1.1 \times 10^{-4}$	0.123
Fluorocarbons	$1.1 \times 10^{-4}$	0.123
Helium	$1.0 \times 10^{-5}$	0.012
H <sub>2</sub> /He (40:60)	$1.0 \times 10^{-5}$	0.012
Refrigerants	$1.0 \times 10^{-4}$	0.123

\*Minimum leak rate required for 10% of full-scale deflection.

**NOTE:** These GOW-MAC gas leak detectors are not intended for determining leaks of combustible gases. They are intended for nonspecific applications, to determine low level leaks of gases with thermal conductivity different from that of air. We recommend a combustible gas detector for monitoring combustible gases in possibly hazardous situations.



994-0275

## Miniature Gas Leak Detector

The GOW-MAC Model 21-050 Mini Gas Leak Detector is a light-weight, hand-held instrument designed to easily and quickly pinpoint gas leaks. Like the full-sized GOW-MAC unit, it eliminates the risk of contaminating your column or system with liquids. The mini detector weighs less than 1 pound (474 grams) and measures 3 1/4 x 1 13/16 x 5 1/4" (8 x 4.5 x 13cm). (For sensitivity levels, see the front side of this Product Specification.)

### Benefits & Features

- Simple, one hand operation – turn on, zero, go – in less than 10 seconds.
- Fast response (less than 2 seconds).
- Pen-type Teflon®-lined probe reaches the tightest spaces.
- Detects by thermal conductivity differences. Two sensitivity ranges: x1, x100.
- Visual LED bar graph.
- Rechargeable Ni-Cd battery; charger included.

Contact our Technical Service Department (phone 800-359-3041 or 814-359-3041, FAX 814-359-5468) for expert answers to your questions.

### Trademarks

GOW-MAC — GOW-MAC Instrument Co.  
Teflon — E.I. du Pont de Nemours & Co., Inc.

## Flowminder Flow Control Unit

### Eliminates time-consuming adjustments when switching between operating and standby gas flow

It has long been established procedure to set gas chromatographs to standby conditions during non-working hours, such as nights and weekends.

The carrier gas in a gas chromatograph in standby conditions is reduced to a fraction of the flow-rate used in operating conditions. This requires the adjustment of automatic pressure regulators and needle valves in most cases and is very time consuming. Equal time is required for readjustment when establishing operating conditions in the morning.

Once set to an operating flow rate and a standby flow rate, the Flowminder will maintain either flow, precisely and reproducibly. The unit lets you select standby conditions (overnight or on weekends) and then re-establish the operating flow rate — with the flick of a switch — when you prepare to use the instrument.

To shut down to standby conditions, simply put the selector pressure switch to LOW position. The unit will reduce the pressure and hold it at the preset pressure. For normal operation, switch to HIGH, and the carrier gas is delivered to the gas chromatograph at operating pressure.

The system consists of a pressure reducer, a pneumatic switch, and a 100psi pressure gauge. It is constructed of brass and copper, housed in a metal case.

### Specifications

**Dimensions:** 24 x 10 x 15cm (9 1/4 x 4 x 5 3/4")

**Shipping Weight:** 2.0kg (4.5 lb)

### Ordering Information:

GOW-MAC Gas Leak Detector Model 21-250	<b>22409</b>
Mini Gas Leak Detector, 115VAC/60Hz	<b>22807</b>
Mini Gas Leak Detector, 230VAC/50Hz	<b>22808</b>
Carrying Case for Mini Detector	<b>22809</b>
Flowminder Flow Control Unit	<b>22542</b>

For more information, or current prices, contact your nearest Supelco subsidiary listed below. To obtain further contact information, visit our website ([www.sigma-aldrich.com](http://www.sigma-aldrich.com)), see the Supelco catalog, or contact Supelco, Bellefonte, PA 16823-0048 USA.

**ARGENTINA** · Sigma-Aldrich de Argentina, S.A. · Buenos Aires 1119 **AUSTRALIA** · Sigma-Aldrich Pty. Ltd. · Castle Hill NSW 2154 **AUSTRIA** · Sigma-Aldrich Handels GmbH · A-1110 Wien  
**BELGIUM** · Sigma-Aldrich N.V./S.A. · B-2880 Bornem **BRAZIL** · Sigma-Aldrich Quimica Brasil Ltda. · 01239-010 São Paulo, SP **CANADA** · Sigma-Aldrich Canada, Ltd. · 2149 Winston Park Dr., Oakville, ON L6H 6J8  
**CZECH REPUBLIC** · Sigma-Aldrich s.r.o. · 186 00 Praha 8 **DENMARK** · Sigma-Aldrich Denmark A/S · DK-2665 Vallensbaek Strand **FINLAND** · Sigma-Aldrich Finland/YA-Kemia Oy · FIN-00700 Helsinki  
**FRANCE** · Sigma-Aldrich Chimie · 38297 Saint-Quentin-Fallavier Cedex **GERMANY** · Sigma-Aldrich Chemie GmbH · D-82041 Deisenhofen **GREECE** · Sigma-Aldrich (o.m.) Ltd. · Ilioupoli 16346, Athens  
**HUNGARY** · Sigma-Aldrich Kft. · H-1067 Budapest **INDIA** · Sigma-Aldrich Co. · Bangalore 560 048 **IRELAND** · Sigma-Aldrich Ireland Ltd. · Dublin 24 **ISRAEL** · Sigma Israel Chemicals Ltd. · Rehovot 76100  
**ITALY** · Sigma-Aldrich s.r.l. · 20151 Milano **JAPAN** · Sigma-Aldrich Japan K.K. · Chuo-ku, Tokyo 103 **KOREA** · Sigma-Aldrich Korea · Seoul **MALAYSIA** · Sigma-Aldrich (M) Sdn. Bhd. · N-0401 Kuala Lumpur  
**MEXICO** · Sigma-Aldrich Química S.A. de C.V. · 50200 Toluca **NETHERLANDS** · Sigma-Aldrich Chemie BV · 3330 AA Zwijndrecht **NORWAY** · Sigma-Aldrich Norway · Torshov · N-0401 Oslo  
**POLAND** · Sigma-Aldrich Sp. z o.o. · 61-663 Poznań **PORTUGAL** · Sigma-Aldrich Quimica, S.A. · Sintra 2710 **RUSSIA** · Sigma-Aldrich Russia · Moscow 103062 **SINGAPORE** · Sigma-Aldrich Pte. Ltd.  
**SOUTH AFRICA** · Sigma-Aldrich (pty) Ltd. · Jet Park 1459 **SPAIN** · Sigma-Aldrich Quimica, S.A. · 28100 Alcobendas, Madrid **SWEDEN** · Sigma-Aldrich Sweden AB · 135 70 Stockholm  
**SWITZERLAND** · Supelco · CH-9471 Buchs **UNITED KINGDOM** · Sigma-Aldrich Company Ltd. · Poole, Dorset BH12 4QH  
**UNITED STATES** · Supelco · Supelco Park · Bellefonte, PA 16823-0048 · Phone 800-247-6628 or 814-359-3441 · Fax 800-447-3044 or 814-359-3044 · email: [supelco@sial.com](mailto:supelco@sial.com)

H

Supelco is a member of the Sigma-Aldrich family. Supelco products are sold through Sigma-Aldrich, Inc. Sigma-Aldrich warrants that its products conform to the information contained in this and other Sigma-Aldrich publications. Purchaser must determine the suitability of the product for a particular use. Additional terms and conditions may apply. Please see the reverse side of the invoice or packing slip.

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | [www.artisanng.com](http://www.artisanng.com)



## Artisan Technology Group is your source for quality new and certified-used/pre-owned equipment

- FAST SHIPPING AND DELIVERY
- TENS OF THOUSANDS OF IN-STOCK ITEMS
- EQUIPMENT DEMOS
- HUNDREDS OF MANUFACTURERS SUPPORTED
- LEASING/MONTHLY RENTALS
- ITAR CERTIFIED SECURE ASSET SOLUTIONS

### SERVICE CENTER REPAIRS

Experienced engineers and technicians on staff at our full-service, in-house repair center

### *InstraView*<sup>SM</sup> REMOTE INSPECTION

Remotely inspect equipment before purchasing with our interactive website at [www.instraview.com](http://www.instraview.com) ↗

### WE BUY USED EQUIPMENT

Sell your excess, underutilized, and idle used equipment. We also offer credit for buy-backs and trade-ins. [www.artisanng.com/WeBuyEquipment](http://www.artisanng.com/WeBuyEquipment) ↗

### LOOKING FOR MORE INFORMATION?

Visit us on the web at [www.artisanng.com](http://www.artisanng.com) ↗ for more information on price quotations, drivers, technical specifications, manuals, and documentation

**Contact us:** (888) 88-SOURCE | [sales@artisanng.com](mailto:sales@artisanng.com) | [www.artisanng.com](http://www.artisanng.com)