

Matheson 8057

## General Purpose Gas Detector



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## Model 8057A General Purpose Gas Detector



### Description

The Model 8057A General Purpose Gas Detector effectively monitors the workplace air for potentially dangerous gas leaks from tubing, equipment, containers, reaction vessels, cylinder valves, and pressurized systems. The Threshold Limit Value (TLV) for most gases can be detected.

Weighing only 14 ounces (400 gms), this truly portable and personal detector can be conveniently worn on a belt or over the shoulder with its carrying strap.

The unit continuously samples the air for hazardous gases and vapors. It sounds an audible alarm and flashes an LED lamp when a potentially dangerous concentration of gas is detected. Headphones are provided for use in noisy environments. The entire unit is protected in a leather outer case and comes with shoulder strap and belt loop. Each unit is factory calibrated for maximum sensitivity. Rechargeable NiCad batteries (with charger) are standard.

The Model 8057A uses a solid state/thermal conductivity sensor with a semiconductor platinum filament. The new sensor design allows low concentrations of gases to be detected.

The Model 8057A sensor design is sensitive to a wide variety of gases and vapors. This design, in combination with the alarm set wheel, allows you to minimize interferences from ambient background vapors.

### Design Features

- Small, portable unit weighs only 14 oz. (400 gms).
- Detects gas leaks at ppm and sub-ppm levels.
- Audible alarm and flashing LED alerts wearer of potentially dangerous gas levels.
- Easily worn on the belt or over shoulder.
- Probe allows unit to be used as point source leak detector for tubing, fittings, valves, containers, etc.
- Rechargeable NiCad batteries (supplied with charger) give long operating life



### Gas Detected - Partial List of Detectable Gases/Vapors

Acetone .....	10 cc/min.	Hydrogen Chloride .....	1 ppm
Ammonia .....	5 ppm	Hydrogen Selenide .....	0.5 ppm
Arsine .....	0.3 ppm	Hydrogen Sulfide .....	1 ppm
Benzene .....	10 cc/min.	Isopropyl Alcohol .....	10 cc/min.
Carbon Monoxide .....	1 ppm	Methane .....	1 cc/min.
Chlorine .....	7 ppm	Methyl Alcohol .....	10 cc/min.
Diborane .....	0.15 ppm	Methyl Bromide .....	40 ppm
Dichloroethane .....	10 cc/min.	Methyl Chloride .....	50 ppm
Ethanol .....	10 cc/min.	Methyl Ethyl Ketone .....	10 cc/min.
Ethylene .....	1 cc/min.	Phosphine .....	0.13 ppm
Ethylene Oxide .....	350 ppm	Propane .....	1 cc/min.
Formaldehyde .....	10 cc/min.	Silane .....	0.3 ppm
Freon 12 .....	1 cc/min.	Sulfur Dioxide .....	1 ppm
Germane .....	2 ppm.	Toluene .....	10 cc/min.
Hexane .....	10 cc/min.	Trichloroethylene .....	10 cc/min.
Hydrogen .....	5 ppm	Vinyl Chloride .....	10 ppm
Hydrogen Bromide .....	1 ppm	Xylene .....	10 cc/min.



## Model 8057A

### General Purpose Gas Detector (continued)

#### Applications

The Model 8057A functions as a personal gas leak detector for production, QC, maintenance, and engineering personnel in a wide variety of process and laboratory locations and environments. Personnel no longer need be within the "sphere of influence" of a large multipoint gas detection system. They can now take their personal gas leak detectors with them, on site where needed.

Since personal protection is only as good as the sampling procedure used, different areas should be checked for gas leaks that could lead to potential worker exposure.

#### Leak Detection

The Model 8057A also functions as a point source leak detector for process and instrumentation gases. With the accessory probe attached, it can give an early warning indication of small leaks in cylinder or piping connections, or other gas handling hardware before they become large, potentially dangerous leaks. A comprehensive floor-to-ceiling scan procedure should be used for maximum effectiveness in leak detection. The 8057A functions much as a Geiger counter does. Close to a gas leak, it beeps with increased frequency to alert the user.

#### Gas Cabinet Cylinder Changeover

The Model 8057A has applications in leak detection of valves, fittings, purge assemblies and other hardware during cylinder changes in gas cabinets.

#### Process Vessels and Enclosures

The Model 8057A can be used to detect leaks from process vessels, storage tanks, reaction vessels, and associated piping. It is good practice to periodically check process and associated equipment and materials for leakage before serious, potentially dangerous leaks have developed.

#### Remote Enclosed Areas/Ductwork Leak Detection

It is also good practice to check the workplace air in remote and/or enclosed unmonitored areas before workers enter them.

The same holds for large ductwork and ventilation systems that, during shutdown for maintenance and engineering work, can contain trapped pockets of hazardous gases. The Model 8057A can be used to sample these and other areas for leaks of potentially hazardous gases to help ensure a safe environment both before and during work tasks. Proper oxygen concentration should also be determined in remote or enclosed areas before workers enter.

#### Cylinder Storage Areas

It is also good practice to screen incoming gas cylinders (both on receipt and return shipments) for possible leakage around cylinder valves. The Model 8057A with probe simplifies this process because of its small size and weight. The probe can be inserted into the slots in the cylinder cap for fast leak detection.

Because gas leaks can stratify, a comprehensive floor-to-ceiling scan procedure should be used to detect accumulations of potentially hazardous gas leaks in cylinder storage areas.

#### Specifications

Detection Principle:	Solid state/thermal conductivity sensor with low power drain: automatic and continuous sampling
Detection Time:	5-10 seconds depending on gas, concentration, and sensitivity setting
Detection Indication:	Intermittent buzzer and LED lamp.
Power Source:	Size "AA" rechargeable NiCad batteries (4), continuous operating time approx. 3 hrs. with full charge (charger included)
Recharging Time:	14 hours from a fully discharged state
Operating Temperature:	32° F - 104° F (0° C - 40° C)
Size:	2.7"W x 6.1"H x 1.2"D (68mm x 155 mm x 32mm)
Weight:	14 oz (397gm)
Warranty:	1 Year

#### Ordering Information

Model Number	Description
8057A	General Purpose Gas Detector, Complete with Detector Unit, 110 VAC Battery Charger, Four NiCad Batteries, Earphone, Filter Housing with Filter Element, Check Gas Vial, Sampling Probe and Leather Case.
8057-01	Pump Assembly (replacement)
8057-02	Sensor Assembly (replacement)
8057-03	Frame Assembly (replacement)
8057-04	Filter (pkg 10) (replacement)
8057-05	Printed Circuit Board (replacement)
8057-06	Check Gas Vial (replacement)
8057-08	Replacement 110 VAC Charger
8057-09	Replacement 220 VAC Charger
8057-10	Viton Probe Tip (replacement)
8057-11	Battery Door (replacement)

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