

# G450

Advanced  
Confined  
Space Gas  
Detection



# Ideal Confined Space gas monitoring

## Continuously measures up to four gas hazards

The G450 Confined Space Gas Detector continuously measures up to four hazards (CO, H<sub>2</sub>S, O<sub>2</sub> and percent LEL combustible gas) in air.

## Water resistant design

The G450 is compact, robust and very easy-to-use. The dust proof and highly water resistant (IP-67) housing is designed to survive the toughest environmental conditions. The housing even includes a built-in rubberized boot to withstand the hard knocks of confined space entry.

## Three year warranty on all sensors

Dependable and accurate G450 sensors keep the cost of ownership down. All sensors – including O<sub>2</sub>, LEL combustible, CO and H<sub>2</sub>S sensors – carry a full three year warranty from the date of purchase.

## Easy operation

The G450 keeps gas detection simple. Most day-to-day functions are controlled with a single button, and calibration is fully automatic. Simply attach the adapter and flow gas to the sensors. GfG AutoCal® programming automatically makes the adjustments and updates the information in the instrument's on-board memory.

## Datalogging standard

All G450 instruments are equipped with datalogging. The datalogger records gas concentrations and alarms on a moment-to-moment basis. Monitoring results can be downloaded to a PC for viewing, storage and evaluation.

## Top-mounted display easy to read even in the dark

Whether it's worn on your belt or held by hand, the G450 is easy to read. The top-mounted, full graphics LCD includes a built-in backlight for use in the dark. Readings can be "zoomed" or "flipped" at the push of a button to make it even easier to see your monitoring results.

## Up to 24 hours continuous operation

G450 battery packs deliver up to 24 hours of continuous operation. Alkaline packs are powered by two "AA" batteries. Rechargeable battery packs can even be equipped with optional "flash light" LEDs.



## Loud audible and bright visual alarms warn users of dangerous conditions

The G450 includes an extremely loud audible alarm (103 dB at 12 inches), built-in vibrator and bright wrap-around LED alarm lights visible from every direction. The top-mounted display changes color from green, to orange to red just like a traffic signal to help communicate the severity of the hazardous condition.

## Accessories

Each G450 comes complete with sensors and battery pack (as specified), calibration adapter, and a manual. Rechargeable instruments additionally include a drop-in cradle charger and wall power adapter. The DS400 Docking Station offers completely automatic functional testing, calibration, instrument charging and record keeping.



## G450 ecoBump Kit

NFPA 350, "Guide to Safe Confined Space Entry and Work" makes it absolutely clear: Gas monitors used for atmospheric monitoring of confined spaces should be bump tested by the Gas Tester prior to each day's use." The G450 ecoBump kit makes this obligation easy and convenient. The kit includes a dependable G450 four gas, direct reading gas monitor for the detection of O<sub>2</sub>, combustible gas (%LEL), CO and H<sub>2</sub>S.

The foam lined, water-proof carrying case includes a push-button regulator and a compact cylinder that holds enough test gas for up to 250 (or more!) daily bump tests. Simply turn the instrument ON, attach the adapter, and push the regulator button for 2 seconds, and verify that the alarms are activated.



*The G450 ecoBump Kit is available in either Alkaline or Rechargeable.*

*The G450 is a simple, compact and robust confined space gas detector which carries CSA, INMETRO and MSHA approvals at an affordable price!*

## Smart, user-friendly accessories



### DS400 Docking Station

#### Easy operation

The operation of the DS400 docking station couldn't be any easier. Simply place the G450 or the G460 in the dock and the system will take over from there. The DS400 automatically performs a full functional test including fresh air calibration, bump test, extensive sensor tests, alarm tests and optionally performs an automatic AutoCal® calibration.

#### Extensive diagnostics

The DS400 is designed to go beyond the traditional basic docking station tests and includes sensor diagnostics tests such as  $T_{50}$  and  $T_{90}$ . After all, what good is a sensor that can respond to gas when it takes too long to get there? With the DS400 you can have confidence with this added level of safety.

#### Automatic charging

After all tests have been completed the DS400 will automatically start the charging process of the detector or you may remove and begin using it. In case the detectors battery condition is insufficient to complete a test the DS400 will charge the instrument before performing the test.

#### Reduced cost of ownership

The DS400 is designed to reduce the cost of ownership every step of the way. The built in pump has variable flow control to reduce the amount of gas consumed during the test. The DS400 is even smart enough take advantage of the gas remaining in the tubing after the previous test was completed.

#### Record keeping

A good instrument gas detection maintenance program is not complete without equally good records keeping. Whether you choose to download or maintain the records on a PC or network or your preference is to leave it to the docking station, the DS400 is the right choice.

The DS400 can retain as many as 2 million complete diagnostics in memory with maximum memory installed. That is over 50 years of data even if testing 100 detectors every single day!

#### PC communication

The DS400 comes complete with USB interface cable and download software. The SD card may also be downloaded using a standard SD card reader.

#### Maintenance certificates

The DS400 software includes a module to quickly print official calibration or bump test certificates. Simply download the records from the DS400 and start the "Certificate Generator" ... it takes only seconds!



### DS404 Multi-inlet Docking Station

#### Same innovative features

The DS404 multi-inlet docking station has all the same great features as the DS400 with the additional advantage for the ability to connect up to four gas cylinders to the four test gas ports as shown above.



### G400 MP-2 Smart Pump

#### Optimized alarm system

The new G400 MP-2 pump continuously communicates with the G450/G460 gas detector. This interaction allows fault indication on the detector display. Alarms such as low battery, blocked sampling line or interrupted power fault are shown on the display and activate a visual and audible alarm on the monitor.

#### Various applications

Gas samples can be taken from a distance of up to 100 meters (over 300 feet) at a typical draw rate of 0.5 liters per minute.

#### Superior flexibility

The G400 MP-2 is the only detachable pump on the market today which will allow for operation in both diffusion mode and remote sample-draw mode. Simply slide the shutter to turn the pump on or off. When the pump is on, the shutter covers the diffusion inlets and exposes them when the pump is switched off.

The G400 MP-2 features a high efficiency redundant filter system in addition to a standard external probe with dust and hydrophobic filters.

#### Independent power supply

The G400 MP-2 is operated by its own power supply, independent of the gas detector. The power supply of the pump allows for up to 10 hours of continuous operation.

# Daily bump testing made simple

## Convenient Kit Configurations

### Value Kit

- All standard accessories\*
- Calibration gas
- Fixed flow regulator
- ABS carrying case
- Hand aspirated pump or motorized smart pump (depending on configuration)



### Confined Space Kit

- All value kit accessories
- Rugged aluminum case (instead of ABS)
- Spare alkaline battery
- Hand aspirated pump or motorized smart pump (as specified)
- Data download cable and software
- Spare pump filters



### ecoBump Kit

- All standard accessories\*
- 7 L Calibration gas (C 10 fitting)
- 1,200 psi
- Approx. 250 three second bumps
- Push button regulator
- ABS foam lined carrying case
- Considered non-hazardous when shipping ground within USA



\* Standard accessories: G450 detector, specified sensors, charger (if specified), calibration adapter, manual and CD.

## TECHNICAL DATA: G450

### Ranges & Resolution for Sensors:

Carbon monoxide (CO)	0 - 500 ppm	1 ppm
Hydrogen sulfide (H <sub>2</sub> S)	0 - 100 ppm	0.1 ppm
Oxygen (O <sub>2</sub> )	0 - 25% vol	0.1%/vol
Combustible	0 - 100% LEL	0.5% LEL
CH <sub>4</sub>	0 - 5 % vol	0.02%/vol

### Expected Sensor Life:

Carbon monoxide (CO)	3 years or longer
Hydrogen sulfide (H <sub>2</sub> S)	3 years or longer
Oxygen (O <sub>2</sub> )	3 years
Combustible LEL	3 years
Unfiltered LEL	2 years

### Datalogging Included:

1,890 intervals (55 hours at 2 minutes).  
Also stores events, calibration history and other information.

### Other Specifications:

Dimensions:	2.95x4.33x2.17 in (75x110x55 mm)
Weight:	10 oz (280 g)
Power:	2 "AA" batteries or rechargeable NiMH battery pack
Operation time:	Up to 24 hours continuous operation
Charge time:	6 hours (to complete fast charging cycle)
Alarms:	Vibrating: Standard Audible: 103 db (30 cm) Visual: Bright, 360° wraparound LEDs, plus heterochromatic (green / orange / red) backlit display
Housing:	IP-67 (dust proof and highly water resistant)

Temperature range: -4 to +122°F (-20 to +50°C) ambient

Humidity range: 5 to 95% r.h. (non-condensing)

Pressure range: 700 to 1,300 hPa

### Standard Accessories:

Charger (if specified)  
Calibration adapter  
Manual  
Informational CD

### Optional Accessories:

Motorized pump, 10 feet of tubing and probe  
Datalogging kit  
Docking station  
Calibration gas, kits and regulators

### Approvals:

Intrinsic safety: c-CSA-us  
Class I, Division 1, Groups A, B, C, and D T3  
Ex ia IIC T3  
Class I, Zone 0 AEx ia IIC T3  
Ex da ia IIC T3 Ga -20 ≤ Ta ≤ +50 °C T3  
07.1934905

Standards: IEC 60079-0:2011 (Ed.6)  
IEC 60079-1:2014 (Ed.7)  
IEC 60079-11:2011 (Ed.6)  
CSA C22.2 No. 152-M 1984  
UL 913

ANSI / ISA-12.13.01-2000  
EMI / RFI Resistance: EMC Directive 89 / 336 / EEC

INMETRO: Ex da ia IIC T3 Ga  
(-20 °C ≤ Tamb ≤ +50 °C)

MSHA Approved version available

### Warranty:

Limited lifetime on instrument and electronics. Three years on all sensors including standard LEL, O<sub>2</sub>, CO and H<sub>2</sub>S.

Refer to GfG complete warranty for details

*Specifications subject to change without notification*



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