GASCOPE® COMBUSTIBLE GAS INDICATORS

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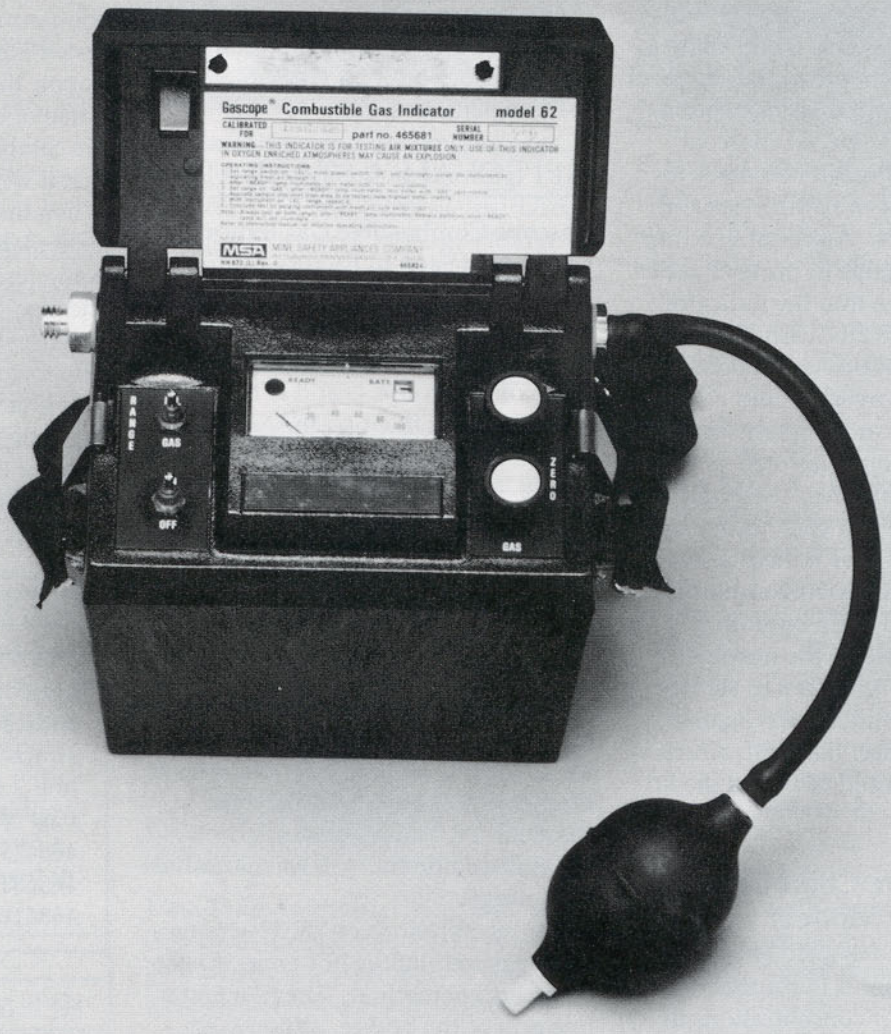

FEATURES

- Effective measurement of combustible gases and vapors
- Excellent for pinpointing leaks
- 3 Models to meet differing detection needs
- Impact-resistant, waterproof case
- Equipped with neck and waist straps for hands-free operation

DESCRIPTION

Gascope Combustible Gas Indicators are portable instruments for use in detecting, measuring and pinpointing leaks of combustible gases and vapors. Housed in a high-impact-resistant and waterproof case, Gascope units measure 6 1/2" high by 7 1/4" long by 4" wide. Each unit is easily carried with integral neck and waist straps, leaving hands free for climbing, operating the instrument, or carrying additional equipment.

Meter movement is of core magnet type to prevent errors caused by stray magnetic fields such as those encountered in manholes or electric utility vaults.

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The gas flow is cast as an integral part of the case, eliminating internal tubing and connections, and the possibility of leaks that could dilute samples. Flow systems incorporate a cylindrical filter chamber; the standard cotton filter prevents dirt from entering the system. A special charcoal filter can be used when necessary to distinguish between natural gas and petroleum vapors. A special line trap assembly is available to prevent water from being drawn into the indicator.

Powered by 8 zinc carbon batteries, Gascope Indicators can operate continuously for over 8 hours.

A panel indicator signals the unit's operational readiness, as well as the strength of the batteries.* Separate adjustment knobs for each measuring circuit are clutch-type to help prevent accidental changing of zero settings. A hinged case lid, with operating instructions affixed to the inside, protects the unit when not in service. When in use, the lid lies flat against the back of the case. The instrument is automatically turned off when the lid is closed.

Three Gascope Combustible Gas Indicator Models

The Model 60 is designed for use by gas utility companies in routine testing for methane-in-air concentrations in manholes, sewers, curb boxes and other street openings. The unit reads 0 to 5% by volume methane-in-air, and 0-100% by volume methane-in-air.

The Model 62S , also suitable for use by gas utility companies, is designed for reading 0-100% LEL methane-in-air and 0-100% by volume methane-in-air.

The Model 62 is designed for general industrial use. The unit provides quick detection of most combustible gases and, therefore, has a number of applications, such as testing tank and vessel interiors; locating pipeline and process system leaks; and checking confined areas in steel mills, paint factories,sewage disposal plants, chemical manufacturing facilities and other industrial applications. The unit is factory-calibrated on pentane-in-air to simulate the qualities of petroleum vapors. The Model 62 reads 0-100% LEL pentane-in-air and 0-100% by volume pentane-in-air.

* U.S. Patent No. 4,127,024 dated Nov 28, 1978 covers battery voltage regulating and condition indicating circuit for measuring instruments.

APPROVALS & STANDARDS

Gascope Combustible Gas Indicators have been tested to Factory Mutual Approval standard for Combustible Gas Detector, Class Nos. 6310-6330 (7/1/78). Suitable for use in Class I, Division 1, Groups C and D hazardous locations as defined by the National Electrical Code.

OPERATION

The Gascope Combustible Gas Indicator is prepared for operation by turning the switch to the ON position, and setting the selector switch for high or low scale. A sample is drawn in by squeezing the aspirator bulb. The instrument uses two different types of filaments: a catalytic combustion filament for the low range, and a thermal-conductivity filament for the high range.

Concentrations on the low ranges are measured by the hot-wire, Wheatstone bridge method. The filament is one arm of the bridge. When a gas sample is passed across this filament, combustibles are burned, raising the temperature of the filament. As a result, resistance is increased and the bridge becomes unbalanced.

The imbalance is proportional to the concentration of the combustibles, and is indicated on the low range of the meter.

For measuring in or above the explosive range, a thermal-conductivity filament is used. Combustibles in the sample cool this filament, causing the Wheatstone bridge to go out of balance. The imbalance, proportional to the gas concentration, is measured by the meter and read as percent-by-volume. The filament is field replaceable.

LIMITATIONS

Silanes, silicones, silicates and other compounds containing silicon in the tested atmosphere may seriously impair the response of this instrument. Some of these materials rapidly poison the catalytic combustion filament so that it will not function properly. When there is even a suspicion that such materials are in the atmosphere being tested, the instrument must be checked frequently (at least once every five uses). Calibration kits are available to conduct this test. Leaded gasoline vapors can also poison the catalytic combustion filament. To prevent this, an inhibitor filter (Part No. 47740) should be used to nullify their effect.

ORDERING INFORMATION

Gascope Combustible Gas Indicator: Complete with carrying straps and batteries, less sampling line

Part No.	Description
465475	Utility Model 60
465681	Model 62
468410	Utility Model 62S

ACCESSORIES

Sampling Lines: For testing out-of-the-way areas. Available in various lengths on multiples of 5 feet. These nonabsorbent, synthetic rubber sampling lines have couplings for connecting to the instrument and a probe tube or rod, or to another length of sampling line.

Sampling Lines

Part No.	Description
11354	5-foot
11955	10-foot
11912	15-foot
11913	25-foot
11957	35-foot
11958	50-foot

Hollow Probe Tubes: For sampling from manholes or barholes.

Part No.	Description
73743	3-foot Hollow Dielectric Plastic Probe Tube
11961	3-foot Hollow Brass Probe Tube
486934	20-inch Hollow Dielectric Plastic Probe Tube

Solid 4-foot Probe Rod: For testing tanks or other vessels which may contain liquids. The probe rod prevents liquids from being drawn into the system.

Part No.	Description
11960	4-foot Solid Probe Rod

Charcoal Cartridge: To distinguish between combustible hydrocarbon vapors and natural gas. Used with the External Cartridge Holder, the cartridge absorbs hydrocarbon vapors. The difference in the readings with and without the charcoal cartridge indicates that either vapor, gas or a combination of the two is present in the sample.

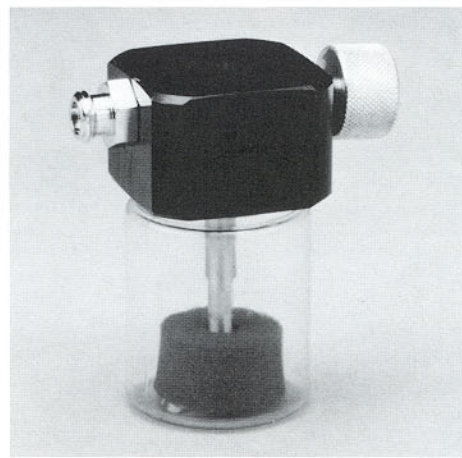
Part No.	Description
14318	Charcoal Filters; pkg of six (required for detecting petroleum vapors in natural gas)

Inhibitor Filters: For testing air contaminated with leaded motor fuels. Used with the External Cartridge Holder, the inhibitor filter can be inserted in the filter chamber of the Gascope Indicator. This device reacts with the tetraethyl-lead compound and presents poisoning of the catalytic platinum filament.

Part No.	Description
47740	Inhibitor Filters, pkg of six (required for measurements in lead-contaminated atmospheres)

Cotton Filters: For general purpose use in environments containing airborne dust and particulates. Used with the External Cartridge Holder.

Part No.	Description
16499	Cotton filters, pkg of six



Line Trap Assembly: For trapping liquids in the sample. Has a removable plastic jar. Assembly is easily mounted on the outside of the case.

Part No.	Description
74814	Line Trap Assembly

Water Trap System: Disposable filter with fittings for trapping liquids and dirt in the sample. Assembly is easily mounted to inlet fitting on the outside of the case.

Part No.	Description
497199	Water Trap System
497200	Replacement filters for water trap system, pkg. of 5

External Cartridge Holder: To hold Charcoal Cartridge, Lead Inhibitor and Cotton Filters. Attaches to the sample line connection of the instrument

Part No.	Description
14273	External Cartridge Holder

Part No.	Description
471113	Case, carrying

Calibration Check Kit, Model R

Part No.	Description
476609	Calibration Check Kit, Model R, with 1.5 L/m regulator, complete, (less calibration gas) including: **459948** Regulator (1.5 L/m) **449401** Adapter Hose (with sampling line connection)
459945	Calibration Check Gas Cylinder (2% Methane-in-air)
459942	Calibration Check Gas Cylinder (2.5% Methane-in-air)

REPLACEMENT PARTS

Part No.	Description
11355	Catalytic Filament (black base)
74730	Thermal Conductivity Filament (white base)
30052	Batteries, (eight "D" cells required), Carbon Zinc
16839	Aspirator Bulb (complete with check valves)
466520	Instruction Manual, Model 60
465919	Instruction Manual, Model 62
468453	Instruction Manual, Model 62S

Note: This Data Sheet contains only a general description of MSA Gascope Combustible Gas Indicators. While uses and performance capabilities are described, under no circumstances should these products be used until the instructions, labels or other literature accompanying the products have been read and understood and the precautions therein set forth followed. Only they contain the complete and detailed information concerning these products.

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Offices and representatives in principal cities worldwide.
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