

NTMOS Calibration Kit

010272-001

APPLICATION

The Model 010272-001 NTMOS Calibration Kit provides an accurate concentration of the gas/air mixture that is used for periodically testing and calibrating the NTMOS H₂S gas detector. The kit allows calibration gas to be delivered to the sensor at a regulated flow rate and at ambient humidity, thereby ensuring consistent and accurate calibration of the NTMOS sensor, even under worst case conditions.

FEATURES

- Ensures accurate calibration of NTMOS H₂S sensors.
- Calibration gas delivered to sensor at ambient humidity via humidification tube.
- Replacement cylinders, regulators, humidification tube cages, and calibration cups are readily available.

DESCRIPTION

The calibration kit consists of a pressurized cylinder of 50 ppm calibration gas (H₂S in air), a 0.5 LPM pressure regulator with indicator, a humidification tube cage, two hoses, and a calibration cup that is designed to fit directly onto the sensor. The regulator is preset to provide the proper flow rate to ensure accurate calibration.

SPECIFICATIONS

FLOW RATE (Regulator)—
0.5 liter per minute.

OPERATING TIME—
Factors such as calibration tube length/diameter, wind, gas volume, and flow rate can affect the operating time of the gas cylinder. A full cylinder will last approximately two hours at 0.5 LPM flow rate.

TEMPERATURE RANGE—
+14°F to +130°F (−10°C to +55°C). Cylinder could burst if exposed to temperatures that exceed the upper limit.



CALIBRATION INTERVAL

Typically 30 day intervals, depending on ambient conditions such as extreme high and low temperatures and humidity.

DIMENSIONS

19 inches (48 cm) high, 7 inches (18 cm) wide, 3.5 inches (9 cm) deep.

SHIPPING WEIGHT (Approximate)

7.7 pounds (3.5 kilograms).

OPERATING THE KIT

To prepare the kit for calibration:

1. Screw the regulator onto the calibration gas bottle (only 50 ppm H₂S in air may be used).

NOTE

A 0.5 LPM regulator must be used. Any other flow rate will result in inaccurate calibration.

2. Attach one plastic hose between the regulator and the humidification tube cage.
3. Attach the other plastic hose between the humidification tube cage and the calibration cup. See Figure 1.



Figure 1—Calibration Setup for the NTMOS Sensor

To apply the calibration gas to the sensor:

1. Attach the calibration cup to the sensor. Ensure that the O-ring is present on the calibration cup and that the calibration cup is properly seated on the sensor.
2. To apply gas to the sensor, turn the regulator valve counterclockwise.
3. To stop the flow of gas to the sensor, turn the regulator valve clockwise.

For additional information regarding NTMOS sensor calibration, refer to the NTMOS Gas Sensor Instruction Manual, number 95-8604.

CALIBRATION FAILURE

The sintered filters on the NTMOS sensor housing protect the sensing element from contaminants in the environment. However, an accumulation of dirt on the sinters can block the flow of gas to the sensing element and adversely affect its response. If the detector cannot be calibrated or responds slowly to the calibration gas, check the condition of the sinters. If the sinters are dirty, clean them (if possible) using a canister of air. If they cannot be properly cleaned or if they are damaged, the entire NTMOS sensor must be replaced.

SAFETY PRECAUTIONS

The calibration kit should be operated by qualified personnel only. Read the entire manual before operating the kit.

Observe the following safety items:

- Handle and operate the calibration kit with care.
- Use a portable detection instrument to be sure that the hazardous area is safe for entry (no high levels of either toxic or combustible gas are present).
- Do not expose the gas cylinder to high temperatures.
- Do not operate the calibration kit if any part is damaged or defective.
- Remove the regulator from the gas bottle after use.

DEVICE REPAIR AND RETURN

Prior to returning devices or components, contact the nearest local Detector Electronics office so that an RMI (Return Material Identification) number can be assigned. A written statement describing the malfunction must accompany the returned device or component to expedite finding the cause of the failure. Return all equipment transportation prepaid to the factory in Minneapolis.

ORDERING INFORMATION

When ordering please specify:

| Part Number | Description |
|-------------|--|
| 010272-001 | NTMOS Calibration Kit, 50 ppm H ₂ S |

REPLACEMENT PARTS

| Part Number | Description |
|-------------|---|
| 227117-014 | Bottle of Calibration Gas, 50 ppm H ₂ S in air |
| 010525-001 | Humidification Tube Cage |
| 162552-003 | Regulator, 0.5 LPM |
| 005964-001 | Calibration Cup |
| 101678-007 | Hose (three foot length) |
| 162553-001 | Carrying Case |

Specifications subject to change without notice.

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