



*Zero and Span calibration gases not included in GAS CAL KIT

GAS CAL KIT

Gas Calibration Kit

This kit is used for calibration or bump testing of Q5/B5, Q6/B6 series sensors, Q8/B8 series explosion-proof sensors, and the QTS-1700 series explosion proof combustible sensors. The GAS CAL KIT consists of one C10 0.5lpm regulator, one C10 to CGA600 adapter, ten feet of 1/4" tubing and a carry case. The calibration adapter for series sensors needed is ordered separately. The carry case has spaces for three 17L or 34L cylinder of Zero and Span gas for easy transportation and storage of gas and calibration equipment. Zero and Span calibration gases are not included and can be sourced online from sites such as calgasdirect.com, mesagas.com or from a local distributor.

-A "bump test" (function check) is the application of target gas to a sensor to verify alarms, functionality and alarm response. Bump testing is performed upon system start-up or commissioning of the gas detection system or as routine maintenance throughout the year.

Bump test demonstration: <https://www.youtube.com/watch?v=quhqp1QsCBk&t=2s>

-A "calibration check" is challenging a sensor using a traceable source of known concentration test gas to verify that the response of the sensors is within the manufacturer's acceptable limits. If the calibration check results are not within the acceptable range of $\pm 10\%$ of the value of the gas applied, a full calibration should be performed. Calibration checks should be performed between full calibration.

-A "full calibration" is defined as the adjustment of an instrument's response to match a desired value compared to a known traceable concentration of test gas. Full calibration should be performed on a yearly basis or by building owner. The instructions for calibration can be found in the Q5/B5 user manual. <https://www.workaci.com/sites/default/files/category-files/10000864.pdf>

Calibration demonstration: <https://www.youtube.com/watch?v=cpdc1BQJIP4>

Gas tips:

Always use fresh calibration gas for calibration, bump testing, and for calibration verification. Do not use gas that is past its expiration date.

Note: Reactive gases such as Nitrogen Dioxide, Ammonia, Hydrogen Sulphide, etc. have a shorter shelf life, normally less than a year, than non-reactive gases. Reactive calibration gases with higher concentration could have longer shelf life than lower concentrations.

Zero gas can be 20.9%V Oxygen or 100% Nitrogen.

Span gas is a specific concentration of the target gas that is at least half of the span of the sensor.

Install and remove the regulator and adapter as one unit. Installing the gas cylinder adapter alone will cause the gas in the cylinder to escape.

Bump Testing and Calibration Checks should be on a maintenance schedule to verify functionality.

Full calibration should be scheduled and performed at least once every year.

If sensor gives "Cal Error" message after attempted calibration, replace the Smart Sensor board. See Replacement Smart Sensor sheet for replacement part number.

<https://www.workaci.com/sites/default/files/category-files/Replacement%20Smart%20Sensor%20Assembly.pdf>

The GAS CAL KIT with the adapter can be used for calibrating or bump testing the sensors

STANDARD ORDERING

Model #	Item #	Description
CAL GAS KIT	148426	Carry Case, 0.5lpm Regulator, C10 to CGA-600 Adapter and Tubing

CAL ADAPTER ORDERING

Model #	Item #	Description
85930-006-000	128901	Q5/B5, Q6/B6 Calibration Adapter
79030-103	126566	Q8/B8, QTS-1710 Combustible Calibration Adapter
6395-0003	126254	Q8/B8 Toxic Calibration Adapter
83830-020-000	127649	CO-R, NO2-R, M5 Calibration Adapter

Note: The above adapters are required to connect to the corresponding ACI Gas Sensors.

