



\*The calibration adapter, zero and span gases are not included and must be ordered separately

# 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 CGA-600 adapter, Teflon 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. The Zero and Span calibration gases are not included with the Gas Cal Kit but can be ordered through ACI and drop shipped to the jobsite.

-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.

-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.

### 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% 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.

Recommended calibration of Oxygen/Hydrogen (Toxic) sensors is every three (3) months due to the short life span of the sensing element.

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

**Note:** Further information (bump testing/calibration demo videos and a list of replacement sensors) can be found at: [www.workaci.com](http://www.workaci.com).

## STANDARD ORDERING

Model #	Item #	Description
GAS CAL KIT	148426	Carry Case, 0.5lpm Regulator, C10 to CGA-600 Adapter and Teflon 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
85930-106-000	151085	Remote pup through Calibration Adapter

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





<b>CALIBRATION GASES</b>					
<b>Model #</b>	<b>Item #</b>	<b>Description</b>	<b>Balance</b>	<b>Valve</b>	<b>Shelf Life</b>
F1005500PA	151046	Amonia, 500ppm, 34 Liters,	Air	C-10	1 Year
H10131000PN	149003	Carbon Dioxide, 1000 ppm, 34L, Certified	Nitrogen	CGA 600	3 Years
H1013750PN	149140	Carbon Dioxide, 750 ppm, 34L, Certified	Nitrogen	CGA 600	3 Years
H10135000PN	151784	Carbon Dioxide, 5000ppm, 34 Liters,	Nitrogen	CGA 600	3 Years
H10132.5VN	151081	Carbon Dioxide, 2.50% , 34 Liters,	Nitrogen	CGA 601	3 Years
H101650PN	148990	Carbon Monoxide, 50 ppm, 34L, Certified	Nitrogen	CGA 600	3 Years
H1016100PN	148991	Carbon Monoxide, 100 ppm, 34L, Certified	Nitrogen	CGA 600	3 Years
Z10175PN	150169	Chlorine, 5 ppm, 58L, Certified	Nitrogen	C-10	6 Months
H104950LA	148999	Hydrogen, 50% LEL, (2.00%) 34L, Certified	Air	CGA 600	3 Years
H10491000PA	150888	Hydrogen, 1000 ppm, 34L, Certified	Air	CGA 600	3 Years
F105120PN	151093	Hydrogen Chloride, 10ppm, 34 Liters,	Nitrogen	C-10	9 Months
F105310PN	151078	Hydrogen Sulfide, 10ppm, 34 Liters,	Nitrogen	C-10	1 Year
H197150LA	149000	Methane, 50% LEL, (2.50%), 34L, Certified	Air	CGA 600	3 Years
H1971125LA	149001	Methane, 25% LEL, (1.25%), 34L, Certified	Air	CGA 600	3 Years
H197120LA	150853	Methane, 20% LEL, (1.00%) 34L, Certified	Air	CGA 600	3 Years
F166050PN	150168	Nitric Oxide, 50 ppm, 34L, Certified	Nitrogen	C-10	1 Year
H1066	148989	Nitrogen, 100%, 34L, Certified	Air	CGA 600	3 Years
F10675PA	148986	Nitrogen Dioxide, 5 ppm, A34L, Certified	Air	C-10	1 Year
F106710PA	148987	Nitrogen Dioxide, 10 ppm, A34L, Certified	Air	C-10	1 Year
H107220.9VN	148988	Oxygen, 20.9%, 34L, Certified	Nitrogen	CGA 600	3 Years
H197850LA	151336	Propane, 1.05% (50% LEL) 34 Liters	Air	CGA 600	3 Years
34LS-70A-1000	150760	Refrigerant, 1000 ppm, R134a, 34L, Certified	Air Balance	CGA 600	4 Years
F10795PN	149087	Sulfur Dioxide, 5 ppm, A34L, Certified	Nitrogen	C-10	2 Years

**Note:** Calibration gases are not covered by the ACI warranty