

**Calibration & Repairs of Any Gas Detector, Analyzer & Flame Detector
(On Site & Off Site)**



+91-9320657646
+91-8828338179
+91-22-61673000/65/67/68



css4@ambetronics.com
calibration@ambetronics.com
sales11@ambetronics.com



17-B, Tarun Industrial Estate,
New Nagardas Road,
Mogra Pada, Andheri (East),
Mumbai - 400069, India.

Since 1992

MAKE IN INDIA



Sensor Reliability and Accuracy

Most sensors nowadays are designed to provide reliable service for years, such that with proper use they will lose only 5-10% sensitivity per year.

Best way to guarantee that the Sensor detects gas accurately and reliably is to test it with a known concentration of gas. Exposing the Sensor to a known concentration of test gas will show whether the sensors respond accurately and whether the instrument alarms function properly.

Calibration Drift & Causes

Over time, the accuracy of gas detection instruments can diverge from their calibration settings in several ways:

- Degradation caused by exposure to phosphates
- Degradation of phosphorus-containing components
- Degradation of lead-containing components
- Gradual chemical degradation of sensors and drift in electronic components that occur normally over time.
- Use in extreme environmental conditions, such as high/low temperature and humidity, and high levels of airborne particulates.
- Exposure to high concentrations of the target gases and vapors.
- Exposure of catalytic hot-bead LEL sensors in the instruments to volatile silicones, hydride gases, halogenated hydrocarbons, and sulfide gases.
- Exposure of electrochemical toxic gas sensors to solvent vapors and highly corrosive gases.

Lengthening the intervals between Calibration checks

Responsiveness of electrochemical sensors varies with environmental conditions – says OSHA (Operational Safety and Health Administration).

Sensor response will be different (lower or higher) depending on the actual environmental conditions.

"Regular calibration is the only way to be certain that a detector is fully functional.

There are two methods of verifying instrument accuracy:

1. A functional or bump test and
2. A full calibration

Each method is appropriate under certain conditions.

A bump test verifies calibration by exposing the instrument to a known concentration of test gas.

"If the instrument fails a bump test, it must be adjusted through a full calibration before it is used".

The full calibration and bump test should be conducted in a clean fresh air environment.

International Safety Equipment Association (ISEA) recommends more frequent testing if environmental conditions that could affect instrument performance are suspected, such as sensor poisons.

ISEA allows for less frequent calibration verification under certain conditions, but the interval between testing should never exceed 90 days.

When calibrating an instrument, always follow the instrument user's manual for the manufacturer's recommended calibration frequency and procedure.

We follow procedures closely to the ISEA guidelines.

Calibration Procedure

The calibration procedure includes:

1. Zero calibration (fresh air calibration) and
2. Sensor calibration with known concentrations of gas (span calibration).

Zero calibration is performed to establish baseline readings of atmospheres that are known to be free of toxic and combustible gases.

Baseline readings are zero for carbon monoxide, hydrogen sulphide, combustibles and 20.9% for oxygen.

The Span calibration is performed to ensure the gas monitor detects the target gases within specific operating parameters.

The Protégé should also be calibrated if the calibration has expired, after installing new sensors and when a bump test fails. Operating a Protégé that has exceeded its calibration date can cause false readings of detected gases.

AMBETRONICS CALIBRATION GAS

Ambetronics Calibration Gas in disposable Canister made up for the weak points in the current defects which were inconvenient in transportation /usage & request other related accessories. And portable & fixed Gas Detection System can be calibrated by our calibration gases with Ambetronics Regulator easily. Our calibration gases will be shipped air courier on the same day you order and the light weight can save the transportation charge to any port in the world.

- 250cc, 500cc and 750cc of gas flowrate can be checked by the observation of the ball in the flowmeter connected to regulator easily and the wrong calibration able to be caused by no gas flow will be protected by our regulator with flowmeter.
- Ambetronics regulator with flowmeter can control a flowing gas volume and keep a proper flowrate users want.
- Ambetronics disposable canister is so produced as to be durable to about 26kg/cm2 and our filling pressure in disposable canister is only 9kg/cm2 for 100% safety.
- There is 40 centimeters of flexible hose fixed at the outlet of flowmeter and it will be easy for this flexible hose to connect to any gas detector and, as the outlet pressure of our connected to the inlet of gas detector without any tightening of the hose.
- Our calibration gas filled in disposable canister is a gas of low concentration which is not reached to explosive range, accordingly, is very safe in transportation / usage.

CALIBRATION GASES / GAS MIXTURES

1 % Accuracy Gases

Non Reactive Single Component :

TARGET GAS	BALANCE GAS	RANGE	CYLINDER CAPACITY IN LTRS.
Oxygen (O ₂)	Nitrogen	0 - 100%	0.5, 3, 10, 47 1.6 L
Hydrogen (H ₂)	Nitrogen	0 - 100%	
Hydrogen (H ₂)	Air	0-50% LEL	
Carbon Dioxide (CO ₂)	Nitrogen / Air	0-100%	
Carbon Monoxide (CO)	Nitrogen	0-100%	
Carbon Monoxide (CO)	Air	0-6.25%	
Methane	Nitrogen	0-100%	
Methane	Air	0-50% LEL	
Ethane	Nitrogen	0-100%	
Ethane	Air	0-50% LEL	
Propane	Nitrogen	0-100%	
Propane	Air	0-50% LEL	
Butane	Nitrogen	0-100%	
Butane	Air	0-50% LEL	
pentane	Nitrogen	0-100%	
pentane	Air	0-50% LEL	

Non Reactive Single Component :

TARGET GAS	BALANCE GAS	RANGE	CYLINDER CAPACITY IN LTRS.
Hexane	Nitrogen	0-100 %	0.5, 3, 10, 47 1.6 L
Hexane	Air	0-50% LEL	
Ethylene	Nitrogen	0-100%	
Ethylene	Air	0-50% LEL	
Propylene	Nitrogen	0-100%	
Propylene	Air	0-50% LEL	
Butylene	Nitrogen	0-100%	
Butylene	Air	0-50% LEL	
Acetylene	Nitrogen	0-100%	
Acetylene	Air	0-50% LEL	

Reactive Single Component :

TARGET GAS	BALANCE GAS	RANGE	CYLINDER CAPACITY IN LTRS.
NO	N ₂	0-100%	0.5, 3, 10
NO ₂	N ₂ / Air	0-100%	

Custom of Calibration gas is available on request, Please contact us.

Reactive Multigas Component :

Sr. No.	TARGET GAS	BALANCE GAS	RANGE IN PPM/LEL	C.A	CYLINDER CAPACITY IN LTRS.
1	NO	N ₂	0-100 PPM	± 2%	0.5, 3, 10 1.6 L
	CO		0-100 PPM		
	SO ₂		0-100 PPM		
2	NO	N ₂	0-100 PPM	± 1%	
	CO		0-100 PPM		
3	CH ₄	N ₂	0-50% LEL	± 1%	
	CO		0-100 PPM		
	H ₂ S		0-100 PPM		
	O ₂		0-100%		

Custom of Calibration gas is available on request, Please contact us.

Non Reactive Multigas Component :

Sr. No.	TARGET GAS	BALANCE GAS	RANGE	C.A	CYLINDER CAPACITY IN LTRS.
1	CO ₂	Nitrogen	0-6%	± 1%	0.5, 3, 10, 47 1.6 L
	O ₂		0-5%		
2	CO ₂	Helium	4.50%	± 1%	
	N ₂		13.50%		
3	Methane	Nitrogen	0-50% LEL	± 1%	
	Ethane		0-100%		
	Propane		0-100 ppm		
	Butane		0-100%		
	Pentane		0-100%		
	Hexane		0-100%		

Custom of Calibration gas is available on request, Please contact us.

CALIBRATION GASES / GAS MIXTURES

2 % Accuracy Gases

Non Reactive Single Component :

TARGET GAS	BALANCE GAS	RANGE	CYLINDER CAPACITY IN LTRS.
Oxygen (O ₂)	Nitrogen	0 - 100%	0.5, 3, 10, 47 1.6 L
Hydrogen (H ₂)	Nitrogen	0 - 100%	
Hydrogen (H ₂)	Air	0-50% LEL	
Carbon Dioxide (CO ₂)	Nitrogen / Air	0-100%	
Carbon Monoxide (CO)	Nitrogen	0-100%	
Carbon Monoxide (CO)	Air	0-6.25%	
Methane	Nitrogen	0-100%	
Methane	Air	0-50% LEL	
Ethane	Nitrogen	0-100%	
Ethane	Air	0-50% LEL	
Propane	Nitrogen	0-100%	
Propane	Air	0-50% LEL	
Butane	Nitrogen	0-100%	
Butane	Air	0-50% LEL	
pentane	Nitrogen	0-100%	
pentane	Air	0-50% LEL	

Non Reactive Single Component :

TARGET GAS	BALANCE GAS	RANGE	CYLINDER CAPACITY IN LTRS.
Hexane	Nitrogen	0-100 %	0.5, 3, 10, 47 1.6 L
Hexane	Air	0-50% LEL	
Ethylene	Nitrogen	0-100%	
Ethylene	Air	0-50% LEL	
Propylene	Nitrogen	0-100%	
Propylene	Air	0-50% LEL	
Butylene	Nitrogen	0-100%	
Butylene	Air	0-50% LEL	
Acetylene	Nitrogen	0-100%	
Acetylene	Air	0-50% LEL	

Reactive Single Component :

TARGET GAS	BALANCE GAS	RANGE	CYLINDER CAPACITY IN LTRS.
NO	N ₂	0-100 PPM	0.5, 3, 10
NO ₂	N ₂ / Air	0-100%	

Custom of Calibration gas is available on request, Please contact us.

Reactive Multigas Component :

Sr. No.	TARGET GAS	BALANCE GAS	RANGE IN PPM / LEL	C.A	CYLINDER CAPACITY IN LTRS.
1	NO	N ₂	0-100 PPM	± 2%	0.5, 3, 10 1.6 L
	CO		0-100 PPM		
	SO ₂		0-100 PPM		
2	NO	N ₂	0-100 PPM	± 2%	
	CO		0-100 PPM		
3	CH ₄	N ₂	0-50% LEL	± 2%	
	CO		0-100 PPM		
	H ₂ S		0-100 PPM		
	O ₂		0-100%		

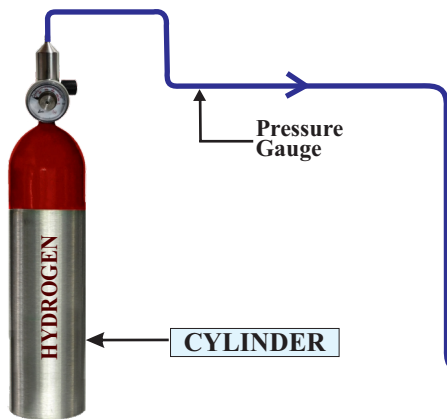
Non Reactive Multigas Component :

Sr. No.	TARGET GAS	BALANCE GAS	RANGE	C.A	CYLINDER CAPACITY IN LTRS.
1	CO ₂	Nitrogen	0-6%	± 2%	0.5, 3, 10, 47 1.6 L
	O ₂		0-5%		
2	CO ₂	Helium	4.50%	± 2%	
	N ₂		13.50%		
3	Methane	Nitrogen	0-50% LEL	± 2%	
	Ethane		0-100%		
	Propane		0-100 ppm		
	Butane		0-100%		
	Hexane		0-100%		

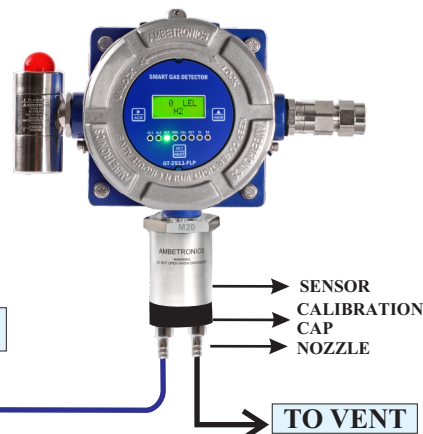
Custom of Calibration gas is available on request, Please contact us. Custom of Calibration gas is available on request, Please contact us.

INSTRUMENT CALIBRATION

FIX FLOW REGULATOR



GAS TRANSMITTER



Manufactured by :

AMBETRONICS ENGINEERS PVT. LTD.

17-B, Tarun Industrial Estate, Mogra Pada, New Nagardas Road, Andheri (E.), Mumbai-400 069, India.
 Mob.: +91-9320657646 • +91-8828338179 • Tel.: +91-22-61673000 / 65/ 67/ 68
 E-mail : css4@ambetronics.com • sales11@ambetronics.com • Website : www.ambetronics.com



Follow us on



Version : Gas Calibration Catalogue-R2-28092022