

GASTEC Instructions for No.2LC Carbon Dioxide Extra Low Range Detector Tube

FOR SAFE OPERATION :

Read this manual and the instruction manual of your Gastec Gas Sampling Pump carefully.

⚠ CAUTION : If not observed, injuries to the operator or damage to the product may result.

1. When breaking the tube ends, keep away from eyes
2. Do not touch the broken glass tubes, pieces and reagent with bare hand(s).

△ NOTES : For maintaining performance and reliability of the test result

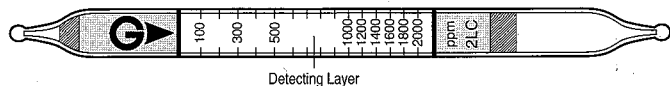
1. Use Gastec Gas Sampling Pump together with Gastec Detector Tubes only for the purposes specified in the instruction manual of the detector tube.
2. Use this tube within the temperature range of 0 - 40°C (32 - 104°F).
3. Use this tube within the relative humidity range of 0 - 90%
4. This tube may be interfered by the coexisting gases. Please refer to the "INTERFERENCES".
5. Shelf life and storage conditions of the tube are marked on the label of the box of tube.

APPLICATION OF THE TUBE :

Use of this tube for the detection of Carbon Dioxide in air and environmental atmospheric condition.

SPECIFICATION :

(As a result of Gastec's commitment to continued improvement, specifications are subject to change without notice.)



Measuring Range	100 - 2000ppm	2000 - 4000ppm
Number of Pump Strokes	n = 1	n = 1/2
Correction Factor	1	2
Sampling Time	2 minutes per pump stroke	
Detecting Limit	20ppm (n = 1)	
Color Change	Pale Red → Yellow	
Reaction Principle	$\text{CO}_2 + 2\text{KOH} \rightarrow \text{K}_2\text{CO}_3 + \text{H}_2\text{O}$	

** Shelf Life : Please refer to the Validity Date printed on the box of tube.

** Store the tubes in dark and cool place.

CORRECTION FOR TEMPERATURE, HUMIDITY AND PRESSURE :

Temperature : Temperature correction is not required.

Humidity : Humidity correction is not required.

Pressure : To correct for pressure, multiply the tube reading by

$$\frac{\text{Tube Reading (ppm)} \times 1013 \text{ (hPa)}}{\text{Atmospheric Pressure (hPa)}}$$

MEASUREMENT PROCEDURE :

1. For leak checking of the pump insert a fresh sealed detector tube into pump. Follow instructions provided with the pump operating manual.
2. Break tips off a fresh detector tube in the tube tip breaker of the pump.
3. Insert the tube into the pump inlet with arrow **G** on the tube pointing toward pump.
4. Make certain pump handle is all the way in. Align guide marks on pump body and handle.
5. Pull the handle all the way out until it locks on 1 pump stroke (100ml). Wait 2 minutes and confirm the completion of the sampling.
6. If the discoloration exceeds the highest calibration mark, use 1/2 pump stroke sampling.
7. Read concentration at the interface of the stained-to-unstained reagent immediately after the sampling.
8. If correction is needed, first correct by number of pump stroke then pressure by multiplying the factor respectively.

INTERFERENCES :

Substance	Concentration	Interference	Change color by itself
Ammonia	Less than 1000ppm	No effect	No discoloration by 1000ppm
Hydrogen chloride	Less than 500ppm	No effect	No discoloration by 500ppm
Chlorine	Less than 20ppm	No effect	No discoloration by 10ppm
HCN, H ₂ S	Less than 100ppm	No effect	No discoloration by 50ppm
Sulfur dioxide	Less than 25ppm	No effect	No discoloration by 25ppm
Nitrogen dioxide	Less than 20ppm	No effect	No discoloration by 20ppm

DANGEROUS AND HAZARDOUS PROPERTIES.

Threshold limit Value-Time Weighted Average by ACGIH (1997) : 5,000ppm

DISPOSAL INSTRUCTION :

Reagent of the tube does not use toxic substances. On disposing the tube regardless of whether used or unused, follow the rules and regulations of the local government.

WARRANTY :

If you have any questions regarding gas detection and quality of the tubes, please feel free to contact your Gastec representatives.

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