

GASTEC No.1LK Instructions for Carbon Monoxide Low Range Detector Tube

FOR SAFE OPERATION :

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

⚠ WARNING:

1. Use only Gastec detector tubes in a Gastec Pump.
2. Do not interchange or use non-Gastec parts or components in Gastec's detector tube and pump system.
3. The use of non-Gastec parts or components in Gastec's detector tube and pump system or use of a non-Gastec detector tube with a Gastec pump or use of a Gastec detector tube with a non-Gastec pump may result in property damage, serious bodily injury, and death; voids all warranties; and voids all performance and data accuracy guaranties.

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

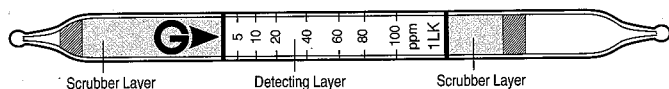
1. When breaking the tube ends, keep away from eyes.
2. Do not touch the broken glass tubes, pieces and reagent with bare hand(s).
3. The sampling time represents the time necessary to draw the air sample through the tube. The tube must be positioned in the desired sampling area for the entire sampling time or until the flow finish indicator indicates the end of the sample.

⚠ 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 Monoxide in air or the industrial areas and environmental atmospheric condition.

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



Measuring Range	5 - 100 ppm	100 - 300 ppm	300 - 600 ppm
Number of Pump Strokes	3	1	1/2
Correction Factor	1	3	6
Sampling Time	1 minute per pump stroke		30 sec.
Detecting Limit	0.5 ppm (n = 3)		
Color Change	White - Pale brown / Pale green (dual layers)		

Reaction Principle	Carbon monoxide reduces iodine pentoxide to liberate iodine, which is pale brown for lower range and Pale green for higher range of the reagent layer. $\text{CO} + \text{I}_2\text{O}_5 + \text{H}_2\text{S}_2\text{O}_7 \rightarrow \text{I}_2$
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**** 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, Humidity and Pressure

Calibration of the Gastec detector Tube No.1LK is based on a tube temperature of 20 °C (68°F) and not the temperature of the gas being sampled, approximately 50% relative humidity and normal atmospheric 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 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 1 minute and confirm the completion of the sampling. Repeat the above sampling procedure #4 and #5 two more times.
6. For higher than 100 ppm measurement, take one or are half (1/2) pump stroke.
7. Read concentration at the interface of the stained-to-unstained reagent. For true concentration read at the demarcation of the light green stain.
8. If correction is needed, multiply the correction factor of pump stroke, Temperature, and Pressure".

INTERFERENCES :

Substance	Concentration	Interference	Change color by itself
Ammonia		No effect	No discoloration
Carbon dioxide		"	"
Hydrogen dioxide		"	"
Nitrogen dioxide		"	"
Sulfur dioxide		"	"

The table of this interference gases primarily expresses the interference of each coexisting gas in the gas concentration range, equivalent to the gas concentration. Therefore, the test result may be given positive result by the other substances not listed in the table. Please contact us or our distributors in your territory for more precise information if necessary.

DANGEROUS AND HAZARDOUS PROPERTIES :

Threshold Limit Value-Time Weighted Average by ACGIH (2002) : 25 ppm

DISPOSAL INSTRUCTION :

Reagent of the tubes use chromic acid and selenium. On disposing the tube regard-less of whether used or unused, follow the rules and regulations of the local government..

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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