

GASTEC Instructions for No. 2Ag Carbon Dioxide Airtec Tube

FOR SAFE OPERATION :

Carefully read this manual.

⚠ CAUTION : If you do not observe the following precautions, you may suffer injuries or damage to the product.

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 results, observe the following.

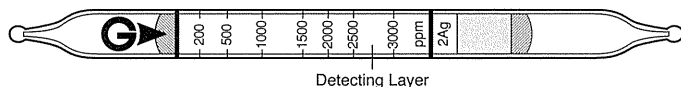
1. Use this tube within the temperature range of 0 - 40°C (32 - 104°F).
2. Use this tube within the relative humidity range of 0 - 90%.
3. Shelf life and storage condition of the tube are marked on the label of the box of tube.

APPLICATION OF THE TUBE :

Use this tube for the detection of Carbon dioxide, simply connect the pressure reducer to your high pressure air source, compressor, cylinder, or air line and adjust the flow metre to the required setting.

SPECIFICATION :

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



Measuring Range	200 – 3000 ppm
Sampling Volume (Flow Metre)	150 mL
Sampling Rate	100 mL/ min.
Sampling Time	1.5 minutes
Detecting Limit	25 ppm
Colour Change	Pale blue → Purple
Reaction Principle	$\text{CO}_2 + \text{N}_2\text{H}_4 \rightarrow \text{NH}_2\text{NHCOOH}$

Coefficient of Variation: 10% (for 200 to 1000 ppm), 5% (for 1000 to 3000 ppm)

****Shelf Life: Please refer to the validity date printed on the box of tube.**

****Store the tubes in the cool and dark place.**

CORRECTION FOR TEMPERATURE, HUMIDITY AND PRESSURE :

Temperature : No correction is required.

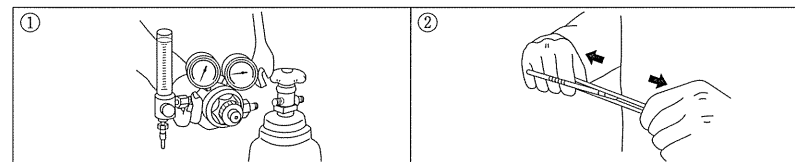
Humidity : No correction is required.

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

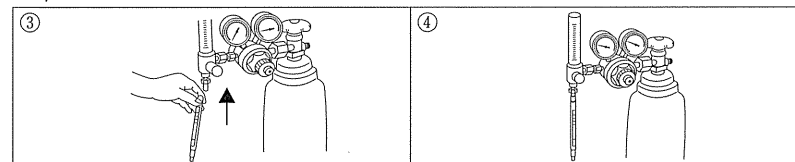
$$\frac{\text{Tube Reading (ppm)} \times 1013 \text{ (hPa)}}{\text{Atmospheric Pressure (hPa)}}$$

MEASUREMENT PROCEDURE :

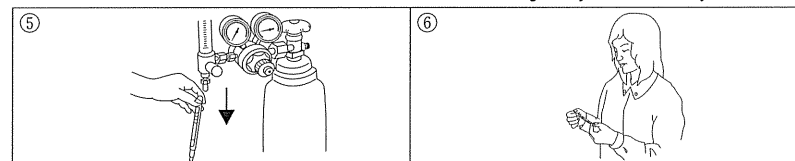
1. Attach a pressure reducer with gauge and flow metre to a cylinder, compressor or air line and adjust the flow metre to the required setting.
2. Break the tips off a fresh detector tube using the tube tip breaker and insert the tube into a tube holder.



3. Attach the rubber tube holder to the flow metre outlet. Make sure the tube arrow (G) on the tube is pointing in the downward direction.
4. Turn on the cylinder or compressor and confirm the flow metre according to each Airtec tube specifications.



5. Time the sampling with a stopwatch.
6. As soon as the sampling time has finished, turn off the cylinder or compressor, and remove the tube from the tube holder and then read the colour-changed layer immediately.



7. If the sampling rate or sampling time deviates from the rate or time specified in this instruction manual correct the tube reading by the following formula. In this case, use the concentration as a reference.

$$\text{Concentration (ppm)} = \frac{\text{Tube Reading} \times 100 \text{ (mL/min)}}{\text{Sampling Rate (mL/min)}}$$

$$\text{Concentration (ppm)} = \frac{\text{Tube Reading} \times 1.5 \text{ (min)}}{\text{Sampled Volume (min)}}$$

INTERFERENCES :

Substance	Concentration	Interference
Ammonia	≦ 1000 ppm	No
Hydrogen chloride, Chlorine	≦ 300 ppm	No
Sulphur dioxide	≦ 100 ppm	No
Nitrogen dioxide	≦ 300 ppm	No

This table of interference gases primarily expresses the interference of each coexisting gas in the gas concentration range, that is equivalent to the gas concentration. Therefore, the test result may be given positive result by the other substances not listed in the table. For more information is needed, please contact us or Gastec representatives.

INSTRUCTIONS ON DISPOSAL :

The reagent of the tube does not use toxic substances. When disposing the tube regardless of whether it has been used or not, follow the rules and regulations of your 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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