GASTEC
No.6LLP

Instructions for Pipeline Dew point Extra 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, injurise 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 tube, 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

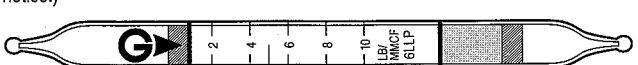
1. Use Gastec Gas Sampling Pump together with Gastec Detector Tubes only for the purposes specified in the instruction manual of the detector tube.
2. Use this tube within the temperature range of 0 - 40℃(32 - 104℉).
3. This tube may be interfered by the coexisting gases. Please refer to the "INTERFERENCES".
4. 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 is limited to natural gas pipeline humidity measurement.

SPECIFICATION :

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



Detecting Layer

Measuring Range	2 - 10 LB/MMCF
Number of Pump Strokes	n = 2
Correction Factor	1
Sampling Time	3 minutes per pump stroke
Detecting Limit	2 LB/MMCF (n = 2)
Color Change	Yellow ---> Green
Reaction Principle	Water Vapor is absorbed by reagent to produce alkaline to discolor the indicator to green.

**** LB/MMCF stands for pound per million cubic feet. 1 mg/l corresponds to 62.3 LB/MMCF.**
Coefficient of Variation : 10%(for 2 to 4 LB/MMCF), 5% (for 4 to 10 LB/MMCF)
**** Shelf Life : Please refer to the Validity Date printed on the box of tube.**
**** Store the tubes in dark and cool place.**

CORRECTION FOR TEMPERRATURE, HUMIDITY AND PRESSURE :

Temperature : Since the tube is affected by the temperature, multiply the correction factor to the tube reading.

Temperature℃(℉)	0(32) – 20(68)	25(77)	30(86)	35(95)	40(104)
Correction Factor	1.0	0.98	0.95	0.93	0.9

Humidity : **Humidity correction is not required.**

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

$$\frac{\text{Tube Reading (LB/MMCF)} \times 1013\ (\text{hPa})}{\text{Atmospheric Pressure (hPa)}}$$

MEASUREMENT PROCEDURE :

⚠ CAUTION: Since Tube 6LLP is highly sensitive to ambient humidity, operator must be very careful to operate the tube.

① Do not leave the tube Exposed to air more than 10 seconds after breaking the tips.
② Immediately place the tube into the sampling site. If some stains are observed prior to the sampling, the tube must discarded and replace by new one.

1. For leak tight check of the pump insert a fresh sealed detector tube into pump. Follow instructions provided with the pump operating manual.
2. The Gastec Detector Tube No.6LLP is highly sensitive to ambient humidity. Be very carful on breaking the tips for sampling.
3. Break tips off of the higher end of a fresh detector tube in the tube tip breaker of the pump.
4. Insert the tube immediately into the pump inlet with arrow G► on the tube pointing toward pump. Then immediately break off the lower end tip and position the tube and pump to the sampling site. Please note once the tube is stained around ZERO mark, the tube cannot use for detection of Pipe Line Dew Point.
5. Pull handle all the way out until it locks on 1 pump stroke (100ml). Wait 3 minute. Repeat the above sampling procedure one more time.
6. Read concentration at the interface of the stained-to-unstained reagent immediately after the sampling.
7. If atmospheric correction is needed, refer to the "Corrections for Temperature, and Pressure".

INTERFERENCES :

Substance	Concentration	Interference	Change color by itself
Sulfur dioxide	15ppm	No effect	No effect
Nitrogen dioxide, Hydrogen sulfide	30ppm	No effect	No effect
Hydrogen cyanide	40ppm	No effect	No effect
Methyl ethyl ketone	70ppm	No effect	No effect
Ethyl acetane	100ppm	No effect	No effect
Acrylonitrile	40ppm	No effect	No effect
Acetaldehyde	50ppm	No effect	No effect
Methanol	50ppm or higher	Green discoloration	Plus error
Triethylene glycol		No effect	No effect

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 substance not listed in the table. Please contact us or our distributors in your territory for more presise information if necessary.

DISPOSAL INSTRUCTION :

Reagent of the tube does not use toxic substances. On dispposing 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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