

#5H

GASTEC

SULFUR DIOXIDE HIGH RANGE DETECTOR TUBE

The Gastec Detector Tube No. 5H provides a rapid, fully quantitative analysis of the concentration of SULFUR DIOXIDE in air with a minimum accuracy of $\pm 25\%$ utilizing the Gastec Multi-Stroke Gas Sampling Pump.

PERFORMANCE:

Calibration Scale	0.5 — 4.0% (based on 1 pump stroke)		
Measuring Range	0.05 — 0.5%	0.5 — 4%	4 — 8%
Number of Pump Strokes	2 — 10	1	1/2
Correction Factor	1/10 — 1/2	1	2
Detecting Limit*	0.01% (n=10)	—	—
Sampling Time	1 minute per pump stroke		
Color Change	Orange — Green		

* Minimum detectable concentration.

SHELF LIFE:

Please refer to the term of validity on a Tube Box Label.

MEASUREMENT PROCEDURE:

- Break tips off a fresh detector tube by bending each tube end in the tube tip breaker of the pump.
- Insert the tube securely into the rubber inlet of the pump with the arrow on the tube pointing toward the pump.
- Make certain the pump handle is all the way in. Align the guide marks on handle and pump body.
- Pull the handle is all the way out until it locks on 1 pump stroke (100 ml). Wait 1 minute until staining stops.
- Read concentration at the interface of the stained-to-unstained reagent.
- If the discoloration is before the first calibration mark (0.5%), repeat the above sampling procedure without removing the tube until the stain attains the first mark. In this case, up to 10 times of consecutive pump strokes are permitted. Obtain true concentration by dividing the tube reading by the number of pump strokes taken.
- If the stain exceeds the highest calibration mark (4.0%) with 1 pump stroke (100 ml), use 1/2 pump stroke (50 ml). Obtain true concentration by doubling the tube reading.
- For multiple whole pump stroke sampling, the handle must be turned 1/4 turn in either direction to unlock the pump so the handle can be returned to the starting position.

CORRECTION FOR TEMPERATURE, HUMIDITY AND PRESSURE:

Calibration of the Gastec detector tube No. 5H 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. No correction is

required for tube temperature of 0°-40°C (32°-104°F) and for relative humidity range of 10-90%.

To correct for pressure, multiply tube reading by

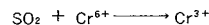
$$\frac{760}{\text{Atmospheric Pressure (mmHg)}}$$

CALIBRATION AND ACCURACY:

The Gastec detector tube No.5H is carefully calibrated as an integral part of the manufacturing process. Calibration and accuracy test are performed using combinations of standard reference gas of known concentrations and dynamic gas flow system, and wet chemical analysis of neutralization titration.

DETECTION PRINCIPLE:

Sulfur dioxide reduces chromic acid to form chromic sulfate, which is green in color.



INTERFERENCES:

Substance	Concentration	Interference	Changes color by itself to
Hydrogen sulfide	≥ 500 ppm	+	} No
Carbon dioxide		No	
Carbon monoxide		No	
Nitrogen dioxide		No	

MEASUREMENT OF OTHER CONCENTRATION RANGES:

The Gastec Sulfur Dioxide Detector Tubes are available in various concentration ranges. For measurement of other concentration range, use the following tubes.

No. 5M	Sulfur Dioxide	Middle Range	20-3,600 ppm
No. 5L	Sulfur Dioxide	Low Range	1.25-200 ppm
No. 5La	Sulfur Dioxide	Low Range	0.5 -60 ppm
No. 5LC	Sulfur Dioxide	Low Range	0.1 -25 ppm
No. 5Lb	Sulfur Dioxide	Low Range	0.05-10 ppm

SEE OPERATING INSTRUCTIONS INCLUDED WITH THE GASTEC MULTI-STROKE GAS SAMPLING PUMP.

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