

COLOURMETRIC TUBE SYSTEM

Gas Detection Tube System

Gastec Detector Tubes indicate concentrations directly by way of a calibrated scale printed on the tubes. Gastec, endeavours to achieve highest quality detector tubes for analysing airborne gases/vapours, as well as pollutants in soil and water through our advanced state-of-the-art research and development. Through our efforts we have acquired a solid reputation among our customers in virtually all sectors of industry, commerce and society. Tubes are now available for more than 500 different applications.

FIRE AND RESCUE SERVICES

Gastec Polytec Gas Detector Tubes with Gastec Sampling Pump GV-100 or GV-110, and TG-1 system provide advanced quick and accurate qualitative and quantitative analysis of unknown gases and vapours.

MARINE AND SHIPPING TECHNOLOGIES

No batteries or special training required Gastec Gas Detector Tubes and Sampling Pumps provide highly accurate measurements on site for applications such as fumigation or detection of chemicals on tankers. Gastec tubes are available in most ports through world wide retailing channels.

OIL REFINING CHEMICAL PLANTS

A non sparking design makes the Gastec Sampling Pumps the ideal measurement tool in environments classed for intrinsic safety.

MINING AND UNDERGROUND

With less pump strokes Gastec Detector Tubes provide immediate measurement results with clear colour demarcations for applications such as emission test for vehicle underground.

GOVERNMENTS

Weighting a mere 245g, Gastec Sampling Pumps are light enough to be easily carried to any site and get measurement results in a few minutes.

LABORATORIES

Gastec enables quick and accurate analysis with access to timely technical support.

SCHOOLS

Gastec Gas Detector Tube System is also applicable to all grade levels and can be used to demonstrate the principals of photosynthesis, respiration, combustion, or for field projects such as global warming.



KEY FEATURES

- Provides immediate identification of unknown gases on the spot by just following the flowchart
- No batteries or electrical power required
- Requires fewer pump strokes and provides faster results
- Gastec sampling pumps and detector tubes are pre-calibrated and are always ready to use

COLOURMETRIC TUBE SYSTEM



The built-in tip breaker incorporates a diamond edge for maximum durability that cuts the surface of the detector tube. This makes the tip breaking much easier, safer and convenient. Discarded tips are deposited in a storage bin for safe and easy disposal.



The pump piston has been designed with a smaller diameter so that the handle can be pulled out with even less effort. This permits anyone to operate the pump easily. Also Gastec pump Model GV-110 and GV-100 meet the leakage test of EN1231, Workplace atmospheres-Short term detector tube measurement systems-Requirements and test methods, 4.2 Detector tube pump, 4.2.2 Leakage "The detector tube pump with the closed detector tube connection shall be tight, so that during the first minute of a pump stroke the leakage rate does not exceed 3mL/min." The Gastec pump shaft shows you the leakage rates with red line.



The pump body is covered with a soft elastomer, with the middle portion narrower than the ends to ensure a firm grip on the pump cylinder. The other outer surfaces of the pump are made of non-sparking material. The opening of the tube tip cutter is made of chromed stainless steel.

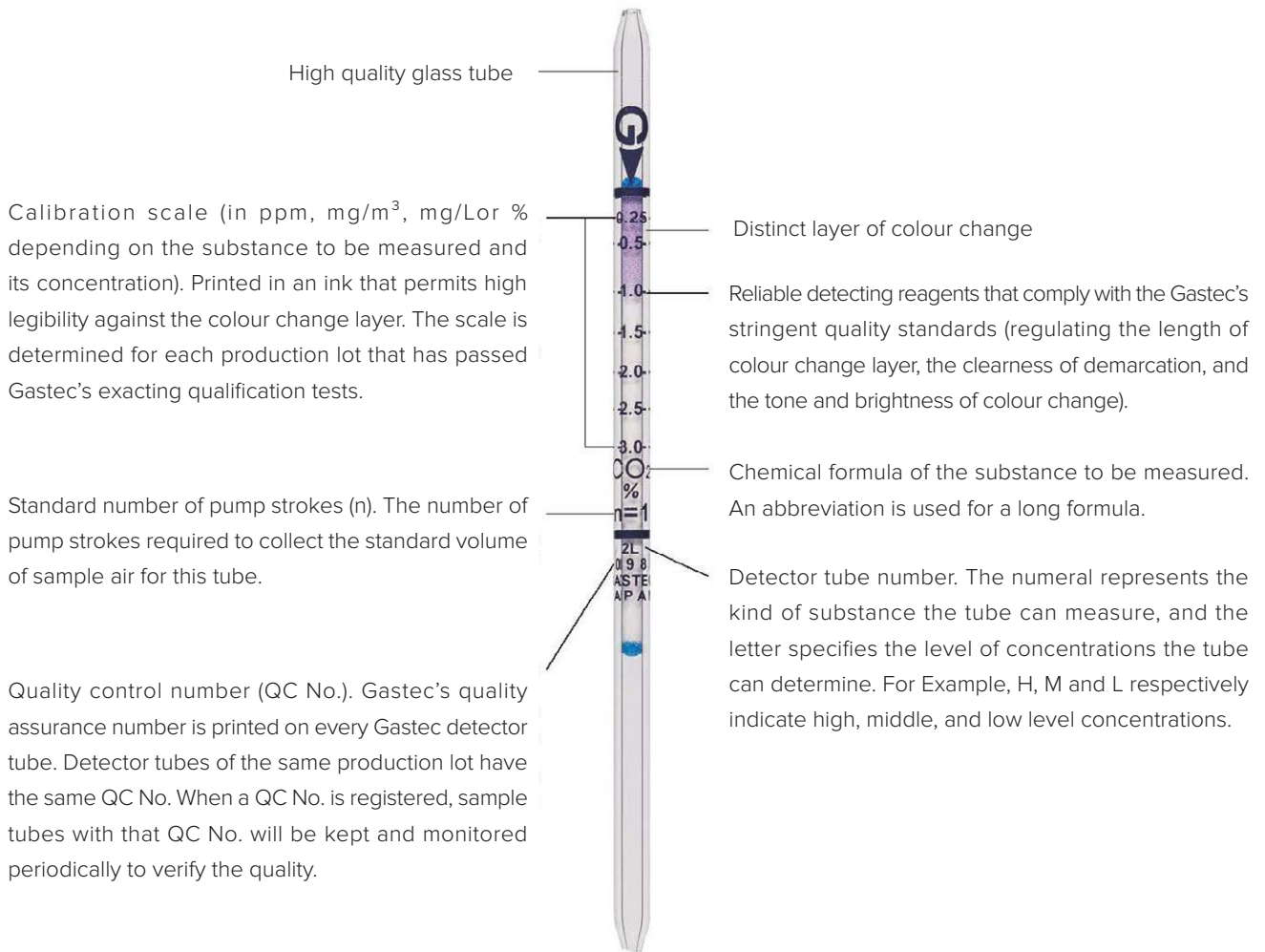


The full-stroke (100ml) and the half-stroke (50mL) positions are marked exactly by the red line on the pump shaft, and the handle is precisely locked at those positions. The attached flow finish indicator tells you automatically when the stroke is complete. When the white disk pops out, the sample is complete.



The automatic stroke counter built in the model GV-110 gas sampling pump can track up to ten pump strokes automatically so there is no chance of miscounting.

GAS DETECTION TUBE SYSTEM



MEASUREMENT PROCEDURE WITH GASTEC DETECTOR TUBE SYSTEM

The primary step is providing countermeasures against hazardous gas generation for occupational hygiene control and pollution control is to acquire accurate data regarding gas types and their concentration levels. Our Toxic Gas Detection Kit includes 12 detection tubes.

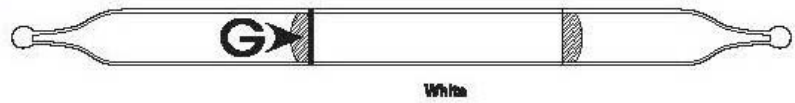
1. Confirm the direction of air flow at the measurement site by using the No. 500 Smoke Tester Set.
2. Connect the No.350A Extension Hose to the Model GV-100 Gas Sampling Pump, when necessary.
3. Break off both ends of a Polytec Tube No.107 and connect the tube to the Pump, or to the end of the Extension Hose when it is used.
4. Pull out the handle of the Pump, wait for the predetermined sampling time and examine the tube for colour change.
5. Proceed with the measurements by using all 12 kinds of detector tubes as shown in the following toxic gas determination flowchart.
6. Finally, determine the pollutants from the measurement results.

GAS DETECTION TUBE SYSTEM

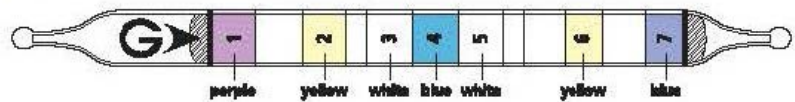
QUALITATIVE ANALYSIS SYSTEM FOR UNKNOWN GASES

The Gastec Polytec System consists of the Model GV-100 or GV-110 Gas Sampling Pump and the Polytec Tubes. The Polytec Tubes are unique detector tubes, each having 1 to 7 reaction layers to determine multiple unknown substances in the sample simultaneously. When you pull the handle of the Pump and wait for a predetermined sampling time, the colour(s) of the Polytec tube's layer(s) change uniquely according to the contents of the sample. Four types of Polytec Tubes are available: Polytec I (No. 107), Polytec II (No. 25), Polytec III (No. 26), and Polytec IV (No. 27). Detailed descriptions are given in the instruction sheets included with individual Polytec Tubes.

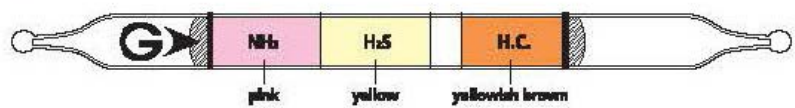
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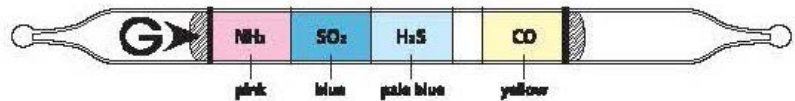
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No.26



No.25



Substance	Concentration	Changes colour from white to
Carbon disulphide	≥ 1 ppm	Green
Hydrogen sulphide	≥ 1 ppm	
Carbon monoxide	≥ 10 ppm	Green or Brown
Acetone	≥ 1000 ppm	Brown or Green
Acetylene	≥ 10 ppm	
Ethylene	≥ 70 ppm	
Benzene	≥ 20 ppm	Brown
Propane, Propylene	≥ 100 ppm	
Styrene	≥ 10 ppm	Yellow or Brown
Trichloroethylene	≥ 15 ppm	Pale Brown
Gasoline	≥ 100 ppm	Brown
Toluene, Xylene	≥ 10 ppm	Purple

GAS DETECTION TUBE SYSTEM

ACCESSORIES

EXTENSION HOSE NO. 350A/350A-10

A rubber extension hose for remote measurement down manholes and into tanks which might present a hazard to anyone entering them. Available in 2 sizes: No.350A for 5m and No.350A-10 for 10m. Use extension guard (No. 357) as a replacement extension hose end, or when measuring with twin tubes.

ONE HAND OPERATION ADAPTER GV-700

Gastec Model GV-700 Adapter can maintain a vacuum of 50 ml or 100ml in the pump body. This allows the user to attach the appropriate tube to the pump, and then in situations where it is necessary, to take the sample using one hand. In the body of the Adapter there is a small rod which can be moved in or out quite easily with one finger.

PYROTEC PYROLYZER NO.840 (FOR TUBE 51H, 51L, 53)

Gastec developed the Pyrotec Pyrolyzer which converts the fluorocarbon gas family and halogenated hydrocarbons by thermally cracking them into a gas which can be easily measured. Now, fluorocarbon gases are easy and precisely measured by simply using a Pyrotec Tube with the Pyrotec Pyrolyzer.

HOT PROBE NO.340

HOT PROBE HOLDER NO.345A

A cooling fin accessory for measuring high temperature gases (up to approx. 600/1112) such as furnace and automotive exhaust gases. The sample is cooled to ambient temperature for accurate concentration measurements. Use hot probe holder (No. 345A) to attach the hot probe for better stability.

GASTEC HANDBOOK

The Handbook is designed to be easier to use and more informative for a wide variety of people who are responsible for the management of not only work places and offices, but also of public facilities and premises (including air, water, and the soil). The information is presented in a format that we feel useful to both the beginner and the experienced health and safety professional.

TUBE TIP HOLDER NO.721

The Tip Holder functions as a tip breaker for the detector tubes and also stores the broken tips, thereby preventing glass fragments from scattering. It can hold about 260 broken tips.

SMOKE TESTER SET NO.500

This set allows the operator to test air flows in workplaces accurately and easily. Just break off both ends of a No.501 Smoke Generation Tube (6 tubes/box) and connect the tube to the rubber bulb. Squeezing the bulb provides atmospheric moisture that reacts with the reagent in the tube, generating a white smoke. A single No.501 tube can be used repeatedly for 50 to 100 tests by sealing the tube ends with the rubber caps after each test.

EXTENSION SAMPLING POLE NO.350BP-2

A telescopic glass fibre probe suitable for horizontal or upward extension to sample gases and vapours in narrow spaces. The length of the pole can be adjusted from 62.5cm to 2.8m (2.1 to 9.2ft). It weighs only 590g (1.3 lb).

1. No.350BP-2 Extension Sampling Pole
2. Gastec standard Detector Tube System attached to the No.350BP-2 Extension Sampling Pole.



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