

# GASTEC

NEW!!

## Gas sampling pump kit

School science  
teaching equipment

GASTEC detector tubes provide a simple, fast and accurate reading of **many different gas concentrations**. The GASTEC environmental awareness program already provides a wide range of **important gas and vapour measurement experiments** for Science lessons in mainly primary schools, junior high schools and high schools.



# Gas sampling pump kit

School science teaching equipment

NEW!!

## 31E-2 Oxygen Detector Tube

- The Detector Tube **size is smaller** and so easier to use.

The New Type 31E-2 Oxygen Detector Tube cannot be used with The Old Type of Gas Sampling Pump.

NEW!!

## Gas Sampling Pump

- 31E-2 Oxygen Detector Tube is used with the New Type of Gas Sampling Pump.

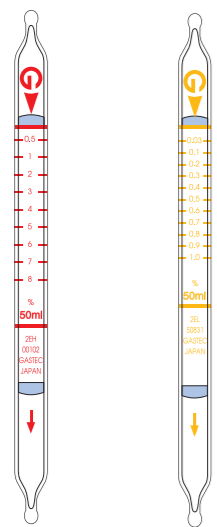


Either "50▲▲" or "10▲" is printed on each side of the handle as a guide mark. Align the "10▲" guide mark for the 31E-2 Oxygen detector tube and the "50▲▲" guide mark for other detector tubes with the red line.

O<sub>2</sub>

Align the "10▲" guide mark for the 31E-2 Oxygen detector tube with the red line.

CO<sub>2</sub>

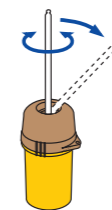


Align the "50▲▲" guide mark for the Carbon dioxide detector tube with the red line.



## Measuring Method

- Insert the tip of the detector tube in the hollow created on top of the Tip holder as shown in the figure, and rotate the detector tube to scratch the file built into the Tip holder.

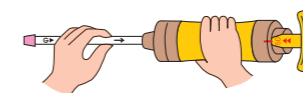


- Bring the detector tube down to break off the tip. In the same way, also break off the opposite tip.

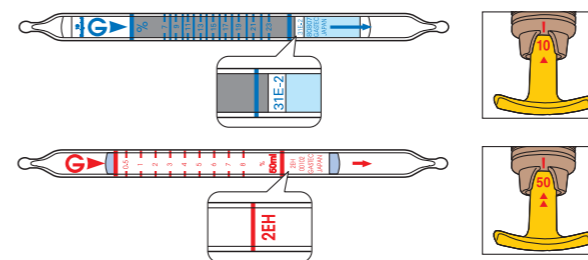
- Be sure to put a rubber cap on the tip on the G marked side of the detector tube that is broken off. Put a blue rubber cap on 31E Oxygen detector tube and put a pink rubber cap on other detector tubes.



- With the handle pushed in, insert the detector tube into the detector tube inserting port in a way such that the "G▶" mark and "→" arrow printed on the detector tube point to the pump.



- Align the guide mark (red line) with the guide mark on the handle. Each handle has both "50▲▲" and "10▲" guide marks. Align the "10▲" guide mark for the 31E-2 Oxygen detector tube and the "50▲▲" guide mark for other detector tubes with the red line.



- Check the direction of the inserted detector tube again. Pull out the handle completely at one stroke along the guideline. Since the handle is fixed, release your hand from the handle and wait for approximately one minute without moving pump from the place of experiment. (Wait for approximately 30 seconds in the case of the 31E-2 Oxygen detector tube.)



- While gripping the handle with your fingers, rotate the handle 90 degrees and release the lock, during this time do not pull the handle. If the handle does not return, it means the measurement is completed. \* If the handle returns, it means the measurement has not yet been completed. Therefore, rotate the handle 90 degrees from the current position to the original position, and then pull the handle along the guideline. After approximately 10 seconds, turn the handle 90 degrees again. If the handle does not return, it means the measurement is completed.



- Disconnect the detector tube and read the scale.

- Remove the rubber cap. The removed rubber cap can be reused. Collect the used detector tube and dispose as glass, concrete, or ceramic waste. Follow the rules and regulations of your local government.

- Push in the handle of the pump.



## Major Experimental Examples

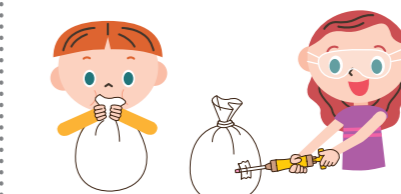
### A change in balance between Oxygen and Carbon dioxide caused by combustion

Examine the difference in gas volume fraction between before and after burning a candle.



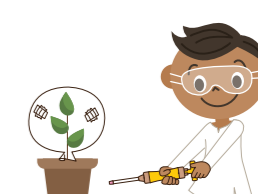
### A change in balance between Oxygen and Carbon dioxide caused by Human respiration

Examine the difference between exhaled air and inhaled air (ambient air).



### A change in balance between Oxygen and Carbon dioxide caused by photosynthesis

Examine that plants take up Carbon dioxide and give out Oxygen when exposed to sunlight.





**Gas Sampling Pump Kit GV-50P-2S**

Gas Sampling Pump Kit GV-50P-2S **NEW**

(Gas sampling pump, Tube tip holder, Seal oil, Safety Rubber caps (10 pink and 10 blue rubber caps), Carrying case)

Carbon dioxide detector tube (lower concentration / 10tests) 2EL

Carbon dioxide detector tube (higher concentration / 10tests) 2EH

Oxygen detector tube (5 tests) 31E-2 **NEW**

Oxygen detector tube (5 tests) 31E

Carbon monoxide detector tube (10 tests) 1EL

Ammonia detector tube (10 tests) 3EL

Hydrogen sulphide (10 tests) 4EL

Sulphur dioxide (10 tests) 5EC

Chlorine (10 tests) 8EL

Nitrogen oxides (10 tests) 11EL

Ozone (10 tests) 18EL

Tube Tip holder 722

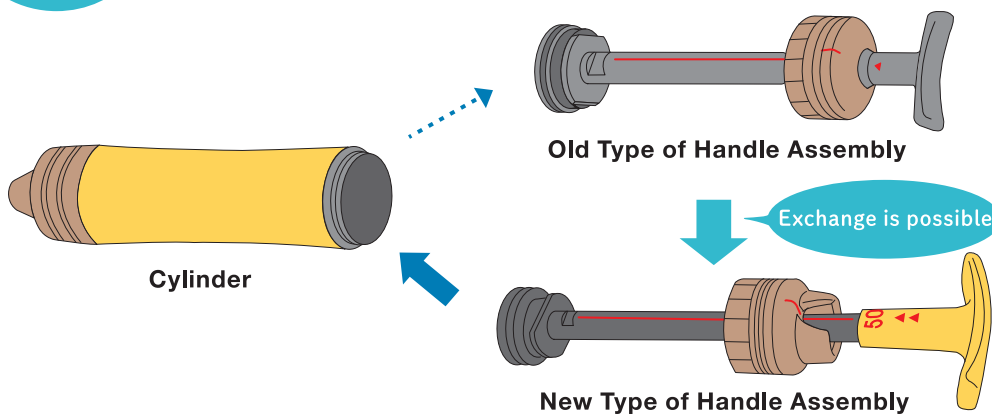
Safety Rubber caps (10 pink and 10 blue rubber caps) 50P-8

Seal oil (5 sheets/bag) 50P-7-5

A set of handle parts 50P-9 **NEW**

The present Gas Sampling Pump which you have can be converted to the New Type Gas Sampling Pump by replacing the Handle Assembly.

The New Type Gas Sampling Pump and the Old Type Gas Sampling Pump have a common Cylinder Assembly, so by simply replacing the Handle Assembly it is possible to convert to the New Type of Gas Sampling Pump. For exchange purchase the 50P-9 Handle Assembly.



Specifications and appearance are subject to change without notice. Read and understand the instruction manuals completely before operating. The actual products may differ slightly from the pictures shown.

For all types of gas and vapour SINCE 1970



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