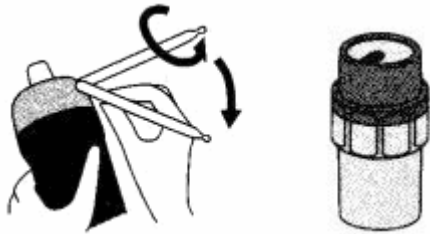


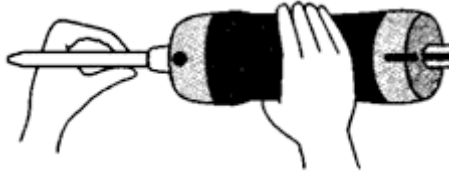
## 1 Getting the detector tube ready

After selecting the appropriate gas detector tube for the target gas, the tips on both ends are broken off.

**A.** Break off the tips on both ends using the built-in tip breaker or the optional **Tip Holder** (No.721).



**B.** Be sure the pump handle is fully pushed in. Then insert the detector tube into the rubber inlet of the pump with the arrow (G ⇒) on the tube pointing towards the pump.



## 2 Pull the pump handle

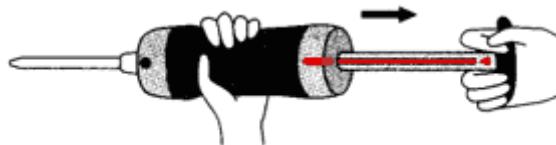
Point the tube towards the target area and simply wait until sampling has been completed.

**C.** Align the guide mark (red line) on the back of the cylinder and the guide mark (▲) on the handle.



At outset, handle must be fully retracted (pushed in)

**D.** Point the tube end towards the desired sampling target area and pull out the handle fully (for 100mL sampling) or halfway (for 50mL sampling) in one thrust until it locks in place. Keep the tube (and pump) pointed towards the target area until the prescribed amount of time has elapsed.



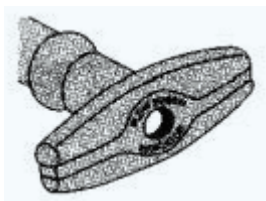
## The number of sampling strokes and the sampling time

The number of sampling strokes and the sampling time differs for the individual detector tube types. Be sure to always consult the respective instruction sheet or users manual.

The following procedures should be used to ensure that the correct volume has been aspirated.

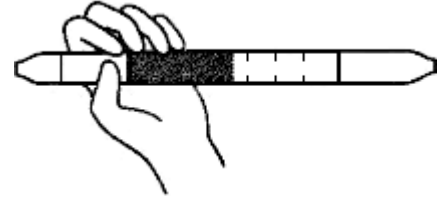
**1.** Wait until the sampling time has elapsed. Completion of 100mL or 50mL sampling can be verified using the flow finish indicator in the handle.

**2.** Turn the handle 90 degrees and let go; it should remain in place without retracting. Otherwise, repeat the procedure (of pulling out the handle) until it remains in place without retracting.



### 3 Reading the colour change

After sampling (the time allowed to measure the presence of target gas) has been completed, the colour change layer in the calibrated tube is read to determine the correct concentration.

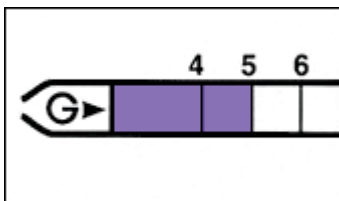


#### Tips for detector tube reading

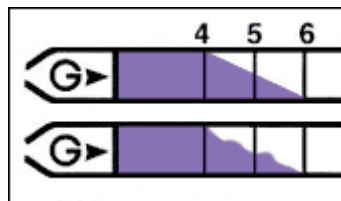
When the end of the colour change layer is flat, simply read the value at the end.

When the end of the colour change layer is slanted, read the value in the middle of the slant.

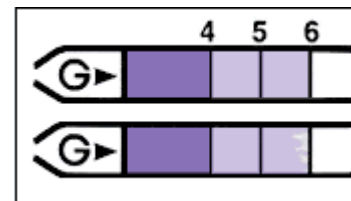
When the demarcation of the colour change layer is pale, the mean value between the dark and the pale layer ends is taken.



In this case, the reading would be 5%.



In this exaggerated case, the reading would be 5%.



In this exaggerated case, the reading would be 5%.