

UNIPHOS PRECISION AIR SAMPLING PUMP (MODEL: ASP- 40)



(Quick reference Manual)

The UNIPHOS precision gas detector consists of two parts viz. i) the gas detector tube and ii) a piston and barrel type air sampling pump (ASP-40). Together they form the UNIPHOS gas detection system. Before using the system, the pump should be checked for leaks and should be used only if it is free from leak.

HOW TO CHECK THE PUMP FOR AIR LEAK

1. Insert a detector tube without breaking its ends into the rubber tube connector.
2. Align the red dots and pull the pump handle to the 50 cc or 100 cc mark.
3. Wait for three minutes, and release the pump handle by turning 90 degrees on left or right and slowly allowing the piston to come back by holding the handle.
4. If it does not come back completely to its original position it means that there is a leak in the pump, and it should be rectified before use.

OPERATION

The detector tube system is based on the following working principle. A precisely defined volume of sample air is drawn through the detector tube. The detector tube contains the sensing chemical, which reacts with the target gas in the sample air and produces a coloured stain in the sensing chemical. The length of the coloured stain measures the target gas concentration on the tube scale. The measurement involves the following steps.

1. Break both ends of the tube using tip cutter.



Fig .- 1 :Tip Cutting

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2. Insert one end of the tube securely in the rubber tube connector ensuring that the arrow on the detector tube points towards the pump.



Fig .- 2:Tube Inserting

3. Align the red dots on the stopper and shaft and pull the pump handle to the 50 cc or 100 cc mark.

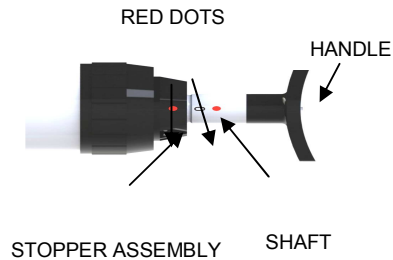


Fig .-3 : Aligning the red dots



Fig .- 4 :Sample Drawing

4. Keep the other end of the tube in the sample gas source while the gas is being drawn through the tube for the allotted sampling time as indicated on the tube sheet. The sampling is considered to be completed when the white disc in 'Vac. Test' indicator returns to its original position.

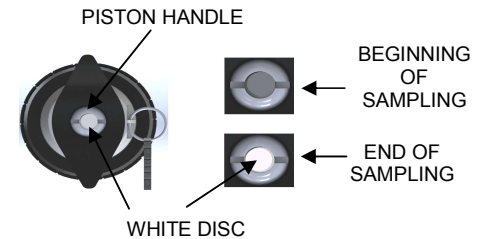


Fig .-5 Vac. Test indicator

5. To draw more than 100 cc, (one stroke) free the handle by rotating it 90 degrees and push back the piston shaft to its original position without removing the detector tube. Pull the pump handle again, for the second stroke. These steps can be repeated to get the desired number of strokes.
6. Remove the tube from the pump and read the target gas concentration directly on the detector tube scale.

Manufactured By: **Uniphos Envirotronic Pvt. Ltd.**



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