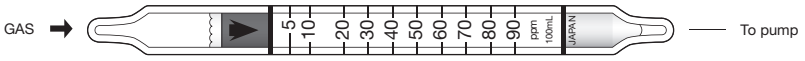
Tube No.
121SB

PHOSPHINE IN ACETYLENE



1. PERFORMANCE

1) Measuring range : 5-90 ppm
   Number of pump strokes 1(100mℓ)
2) Sampling time : 3 minutes/1 pump stroke with orifice
3) Detectable limit : 1 ppm
4) Shelf life : 3 years
5) Operating temperature : 0～40℃
6) Reading : Direct reading from the scale calibrated by 1 pump stroke
7) Colour change : Pale blue→Yellowish brown

2. RELATIVE STANDARD DEVIATION

RSD-low : 10% RSD-mid. : 10% RSD-high : 5%

3. CHEMICAL REACTION

By reacting with Mercuric chloride(II) and Cupric sulphate(II), Mercuric phosphorus chloride and Cupric phosphate are produced respectively.
Moreover, Cupric phosphide reacts with Acetylene and Copper acetylene is produced.

$PH_3 + HgCl_2 + H_2O \rightarrow Hg_3P_2 \cdot 3HgCl_2 \cdot 3H_2O$

$PH_3 + CuSO_4 \rightarrow Cu_3P_2 + H_2O$

$Cu_3P_2 + HC \equiv CH \rightarrow CuC \equiv CCu$

4. CALIBRATION OF THE TUBE

STANDARD GAS CYLINDER METHOD

5. INTERFERENCE AND CROSS SENSITIVITY

Substance	Interference	ppm	Coexistence
Hydrogen sulphide	Black stain is produced.	10	Higher readings are given.
Arsine	Dim yellow stain is produced.	10	〃

6.NOTE

1) In case that Acetylene does not exist, lower readings are given.
2) A flow control orifice (an extra option) is required to attach as shown in the following drawing.