# **PHOSPHINE**



# 1. PERFORMANCE

1) Measuring range : 0.5-10.0 ppm 0.25-5.0 ppm 1-20 ppm Number of pump strokes 1(100mL) 2(200mL) 1/2(50mL)

2) Sampling time : 1 minute/1 pump stroke

3) Detectable limit : 0.1 ppm(200mL)4) Shelf life : 1 year 5) Operating temperature :  $0 \sim 40 \,^{\circ}\text{C}$ 

6) Reading : Direct reading from the scale calibrated by 1 pump stroke

7) Colour change : Yellow  $\rightarrow$  Pink

# 2. RELATIVE STANDARD DEVIATION

RSD-low: 15% RSD-mid.: 10% RSD-high: 5%

#### 3. CHEMICAL REACTION

By reacting with Mercuric chloride (II), Hydrogen chloride is produced and PH indicator is discoloured. PH<sub>3</sub> + 3HgCl<sub>2</sub>  $\rightarrow$  P (HgCl)<sub>3</sub> + 3HCl

# 4. CALIBRATION OF THE TUBE

STANDARD GAS CYLINDER METHOD

# 5. INTERFERENCE AND CROSS SENSITIVITY

Substance	Interference	ppm	Coexistence
Ammonia		20	A stained layer at the side of gas inlet is bleached out and lower readings are given.
Hydrogen sulphide	Similar stain is produced.		Higher readings are given.
Mercaptans	"		"

#### (NOTE)

1) When the concentration is below 0.5ppm, 2 pump strokes can be used to determine the lower concentration. Following equation is available for the actual concentration. Actual concentration =  $1/2 \times \text{Reading value}$ 

In case of a 1/2 pump stroke, following equation is available for actual concentration. Actual concentration  $= 2 \times \text{Reading value}$