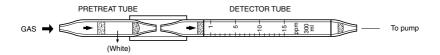
ETHYLENE OXIDE



1. PERFORMANCE

1) Measuring range : 1-15 ppm Number of pump strokes : 3 (300m ℓ)

2) Sampling time : 4.5 minutes/3 pump strokes

3) Detectable limit ∴ 0.5 ppm 4) Shelf life ∴ 3 years 5) Operating temperature ∴ 10 ~ 40 °C

6) Temperature compensation : Necessary (See "TEMPERATURE CORRECTION TABLE")
7) Reading : Direct reading from the scale calibrated by 3 pump strokes

8) Colour change : Pale pink → Yellow

2. RELATIVE STANDARD DEVIATION

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

3. CHEMICAL REACTION

By decomposing with an Oxidizer, Formic acid is produced and PH indicator is discoloured.

CH₂CH₂O + H₂SO₄→ HOCH₂CH₂OH

 $HOCH_2CH_2OH + HIO_4 \rightarrow 2HCHO + HIO_3 + H_2$

 $HCHO + HIO_4 + H_2SO_4 \rightarrow HCOOH + HIO_3$

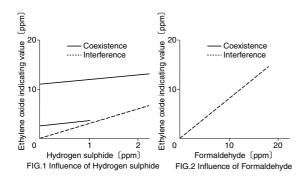
 $HCOOH + NaOH \rightarrow Na(HCOO) + O2$

4. CALIBRATION OF THE TUBE

GAS CHROMATOGRAPHY

5. INTERFERENCE AND CROSS SENSITIVITY

Substance		Interference	Coexistence			
Aldehydes	FIG.2	Similar stain is produced.	Higher readings are given.			
Sulphur dioxide		Pale yellow stain is produced.	"			
Hydrogen sulphide	FIG.1	"	"			



TEMPERATURE CORRECTION TABLE

Scale	True Concentration (ppm)				
Readings (ppm)	10℃ (50°F)	15-25°C (59°F)	(86°F)	40℃ (77*F)	
15	19	15	13	10	
10	12.5	10	8.5	7	
5	6	5	4	3.5	
1	1	1	1	1	