

Table 2 Comparison of international standards on detector tubes

Device	Items to be tested	JIS K 0804	ANSI / ISEA 102		
Gas sampling pump	Volume sampled				
	Air leakage	$\leq 3\%$ or $\leq 3\% / \text{min}$	$\leq 3\% / \text{min}$		
	Durability	To assure the above performance with 100 pump strokes.	To assure the above performance with 10 pump strokes.		
Detector tube	Channelling *		$\leq 20\%$		
	Vertical deviation of reagent layer	$\leq 2\text{ mm}$	$\leq 2\text{ mm}$		
	Indication accuracy allowance	For higher concs.	$\pm 25\%$ for 1/3 or higher conc. of calibration scale	$\pm 25\%$ for 1,2 or 5 times of standard conc.	
		For lower concs.	$\pm 35\%$ for 1/3 or lower conc. of calibration scale	$\pm 35\%$ for 1/2 of standard conc.	
	Shelf life	—	—		

* Channelling of air flow through the detector tube.

EN 1231	DIN 33882	IUPAC
± 5 % allowance		
≤ 3 ml/min	≤ 3 ml/min	≤ 3 % /min
To assure the above performance with 4000 pump strokes in 40 min.	To assure the above performance with 5000 pump strokes	None
≤ 25 %	—	≤ 20 %
None	—	≤ 2 mm
≤ 30 % at 20% and above of measuring range.	±30 % for 1/5 or higher of measuring range.	±25% for 1, 2 or 5 times of prescribed concentration
≤ 50 % at lower limit of measuring range.	±50 % for 1/5 or less of measuring range	±35 % for 1/2 of prescribed concentration
—	2 years	—

JIS: Japanese Industrial Standard

ANSI / ISEA: American National Standards Institute/ Industrial Safety Equipment Association

EN: The European Standard

DIN: Deutsches Institute fur Normung

IUPAC : International Union of Pure and Applied Chemistry