

JIS

JAPANESE INDUSTRIAL STANDARD

**Detector Tube Type Hydrogen
Sulfide Measuring Instruments
(Length-of-Stain Type)**

JIS T 8204—1986

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Detector Tube Type Hydrogen
Sulfide Measuring Instruments
(Length-of-Stain Type)

T 8204-1986

1. Scope

This Japanese Industrial Standard specifies the detector tube type hydrogen sulfide measuring instruments of length-of-stain type used for measurement of the concentration of hydrogen sulfide in the insides of pit, manhole, purification tank, closed conduit, basement, tank, tube, channel, vessel, heat exchanger, hold, etc. where hydrogen sulfide may be generated, hereinafter referred to as the "measuring instruments".

2. Classification

2.1 Classification of Gas Samplers The classification of gas samplers shall be as given in Table 1.

Table 1. Classification of Gas Samplers

Types	Application	Remark
Cylinder type	It is the system in which the cylinder inside of the gas sampler connected with a detector tube is made to be of a reduced pressure state and the sample gas is sucked through the detector tube.	Attached Fig. 1
Bellows type	It is the system in which the operation of bellows is carried out by utilizing the stress of spring or the like to make its inside a reduced pressure state and the sample gas is sucked through a detector tube.	Attached Fig. 2

2.2 Classification of Detector Tubes The classification of detector tubes shall be as given in Table 2.

Applicable Standards:

JIS B 7516-Metal Rules

JIS K 0108-Analytical Methods for Determination of Hydrogen Sulfide in
Exhaust Gas

Table 2. Classification of Detector Tubes

Types	Application	Remark
Direct reading type	It is the system in which by using the scale for concentration printed on the surface of a detector tube the concentration of hydrogen sulfide is measured by directly reading the length of discoloration of detector agent.	Attached Fig. 3
Concentration table type	It is the system in which the length of discoloration of detector agent is read by using the appended concentration table ⁽¹⁾ and the concentration of hydrogen sulfide is measured.	Attached Fig. 4 Attached Fig. 5

Note (1) It is the chart for correcting the dispersion of the length of discoloration caused by the dispersion of the inside diameter of glass tube, which is appended with the scale for concentration.

3. Performance

3.1 Gas Sampler

3.1.1 Content Volume When the test specified in 7.4.1 (1) is carried out, its error shall be within $\pm 5\%$ the content volume specified in 11. (1) (a).

3.1.2 Airtightness

- (1) As to the gas sampler of cylinder type, when the test specified in 7.4.1 (1) (a) is carried out, the ullage shall be under 3 % the content volume measured by the specification of 3.1.1.
- (2) As to the gas sampler of bellows type, when the test specified in 7.4.1 (2) (b) is carried out, the ullage per unit minute shall be under 3 % the content volume specified in 11. (1) (a).

3.1.3 Endurability When the test specified in 7.4.1 (3) is carried out, the results shall comply with the requirements specified in 3.1.1 and 3.1.2.

3.2 Detector Tube

3.2.1 Scale Range The scale range of detector tube shall contain the range of 0 to 15 ppm in hydrogen sulfide concentration, the length per 1 ppm of which shall be at least 0.5 mm min.