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JIS T 8206 : 2020 (JSAA/JSA) Flammable gas detectors

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Contents

Page

Introduction	
1	Scope1
2	Normative references2
3 3.1 3.2 3.3 3.4 3.5 3.6 3.7	Terms and definitions 2 gas properties 2 types of equipment 4 sensors 5 supply of gas to equipment 6 signals and alarms 6 times 7 miscellaneous 8
4 4.1 4.2 4.3 4.4	General requirements
$5 \\ 5.1 \\ 5.2 \\ 5.3 \\ 5.4$	Test methods18Overview18General requirements for tests18Normal conditions for test20Test methods22
Annex A (normative) Performance requirements	
Annex B (informative) Determination of time of response	

T 8206 : 2020

Foreword

This Japanese Industrial Standard has been established by the Minister of Health, Labour and Welfare and the Minister of Economy, Trade and Industry through deliberations at the Japanese Industrial Standards Committee according to the proposal for establishment of Japanese Industrial Standard submitted by Japan Safety Appliance Association (JSSA)/Japanese Standards Association (JSA) with a draft being attached, based on the provision of Article 12, paragraph (1) of the Industrial Standardization Act. This Standard replaces **JIS M 7626**:1994 and **JIS M 7653**:1996, which have been withdrawn.

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Flammable gas detectors

Introduction

This Japanese Industrial Standard has been prepared based on **IEC 60079-29-1**: 2016, Edition 2, deleting, however, the requirements for equipment for use in mines as well as making other changes in technical contents in light of local conditions in Japan.

The dotted underlines indicate changes from the corresponding International Standard. A list of modifications with the explanations is given in Annex JA.

1 Scope

This Standard specifies general requirements for construction, testing and performance, and describes the test methods that apply to portable, transportable and fixed equipment for the detection and measurement of flammable gas or vapour concentrations with air.

This Standard is applicable to flammable gas detection equipment which is intended to provide continuous sensing and an indication, alarm or other output function; the purpose of which is to indicate a potential explosion hazard and in some cases, to initiate automatic or manual protective action(s).

This Standard is applicable to equipment intended to be used for commercial, industrial and non-residential safety applications, as well as diffusion equipment and aspirated equipment with integrated sampling systems.

This Standard does not apply to

- external sampling systems;
- equipment intended for use in mines susceptible to firedamp;
- equipment of laboratory or scientific type;
- equipment used only for process monitoring and/or control purposes;
- open path (line of sight) detectors (only equipment with very short optical paths intended for use where the concentration is uniform over the optical path are within the scope of this Standard).

For equipment used for sensing the presence of multiple gases, this Standard applies only to the detection of flammable gas or vapour.

- NOTE 1 This Standard is intended to provide for the supply of equipment giving a level of safety and performance suitable for general purpose applications.
- NOTE 2 All equipment calibrated on specific gases or vapours can not be expected to correctly indicate on other gases or vapours.
- NOTE 3Indication of measured concentration in % (v/v) or vol ppm can also be
available for equipment with a measurement range of over 20 % LEL up
to and including 100 % LEL or a measurement range of up to 20 % LEL.
One ppm is equal to 10⁻⁶ in volume fraction. In that case, units of
measurement might need to be selected upon agreement between the

manufacturer and test laboratory when verifying the performance requirements of Annex A.

NOTE 4 The International Standard corresponding to this Standard and the symbol of degree of correspondence are as follows.

IEC 60079-29-1:2016 *Explosive atmospheres*—*Part 29-1: Gas detectors*— *Performance requirements of detectors for flammable gases* (MOD)

In addition, symbols which denote the degree of correspondence in the contents between the relevant International Standard and **JIS** are IDT (identical), MOD (modified), and NEQ (not equivalent) according to **ISO/IEC Guide 21-1**.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this Standard. For standards with the year indication, only the editions of the indicated year shall be applied and the revisions (including amendments) made thereafter shall not be applied. For those without the indication of the year, the most recent editions (including amendments) shall be applied.

- JIS C 0920 Degrees of protection provided by enclosures (IP Code)
 - NOTE Corresponding International Standard: IEC 60529 Degrees of protection provided by enclosures (IP Code)
- JIS C 60068-2-6 Environmental testing—Part 2-6: Tests—Test Fc: Vibration (sinusoidal)
 - NOTE Corresponding International Standard: IEC 60068-2-6 Environmental testing—Part 2-6: Tests—Test Fc: Vibration (sinusoidal)
- JIS C 61326-1:2017 Electrical equipment for measurement, control and laboratory use—EMC requirements—Part 1: General requirements
 - NOTE Corresponding International Standard: IEC 61326-1:2012 Electrical equipment for measurement, control and laboratory use—EMC requirements—Part 1: General requirements

3 Terms and definitions

For the purpose of this Standard, the following terms and definitions apply.

3.1 gas properties

3.1.1

ambient air

normal atmosphere surrounding the equipment

3.1.2

clean air

air that is free of gases or vapours which the sensor is sensitive to or which influence the performance of the sensor