



JAPANESE
INDUSTRIAL
STANDARD

Translated and Published by
Japanese Standards Association

JIS T 8206 : 2020

(JSAA/JSA)

Flammable gas detectors

ICS 29.260.20

Reference number : JIS T 8206 : 2020 (E)

Date of Establishment: 2020-04-27

Date of Public Notice in Official Gazette: 2020-04-27

Investigated by: Japanese Industrial Standards Committee
Standards Board for ISO area
Technical Committee on Safety

JIS T 8206:2020, First English edition published in 2021-06

Translated and published by: Japanese Standards Association
Mita MT Building, 3-13-12, Mita, Minato-ku, Tokyo, 108-0073 JAPAN

In the event of any doubts arising as to the contents,
the original JIS is to be the final authority.

© JSA 2021

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from the publisher.

Printed in Japan

AT

Contents

	Page
Introduction	1
1 Scope	1
2 Normative references	2
3 Terms and definitions	2
3.1 gas properties	2
3.2 types of equipment	4
3.3 sensors	5
3.4 supply of gas to equipment	6
3.5 signals and alarms	6
3.6 times	7
3.7 miscellaneous	8
4 General requirements	8
4.1 Overview	8
4.2 Construction	9
4.3 Marking	15
4.4 Instruction manual	15
5 Test methods	18
5.1 Overview	18
5.2 General requirements for tests	18
5.3 Normal conditions for test	20
5.4 Test methods	22
Annex A (normative) Performance requirements	31
Annex B (informative) Determination of time of response	34
Annex JA (informative) Comparison table between JIS and corresponding International Standard	36

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 This Standard replaces **JIS M 7626**:1994 and **JIS M 7653**:1996, which have been withdrawn.

This **JIS** document is protected by the Copyright Act.

Attention is drawn to the possibility that some parts of this Standard may conflict with patent rights, published patent application or utility model rights. The relevant Ministers and the Japanese Industrial Standards Committee are not responsible for identifying any of such patent rights, published patent application or utility model rights.

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 3 Indication 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