

JIS

JAPANESE
INDUSTRIAL
STANDARD

Translated and Published by
Japanese Standards Association

JIS T 8153 : 2023

(JSAA/JSA)

Supplied-air respirators

ICS 13.340.30

Reference number : JIS T 8153 : 2023 (E)

PROTECTED BY COPYRIGHT

28 S

T 8153 : 2023

Date of Establishment: 1974-08-01

Date of Revision: 2023-01-25

Date of Public Notice in Official Gazette: 2023-01-25

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

JIS T 8153 : 2023, First English edition published in 2024-11

Translated and published by: Japanese Standards Association
Mita Avanti, 3-11-28, 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 2024

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

HN

PROTECTED BY COPYRIGHT

Contents

	Page
1	Scope 1
2	Normative references 1
3	Terms and definitions 1
4	Abbreviations 3
5	Types and forms 4
6	Performances 4
6.1	Leakage rate 4
6.2	Internal pressure of facepiece of supplied-air respirator having face- piece 4
6.3	Air-supply amount of supplied-air respirator having loose fitting type RI 5
6.4	Air-supply amount of manual blower type fresh-air hose breathing ap- paratus 5
6.5	Airtightness for low pressure part 5
6.6	Airtightness for operation of exhalation valve 5
6.7	Strength of airflow path from RI up to hose connector 5
6.8	Strength for connection between hose connector and SAR hose 5
6.9	Dust collection efficiency of electric blower type fresh-air hose breathing apparatus and manual blower type fresh-air hose breathing apparatus 5
6.10	Strength for head strap attach portion to facepiece and head strap 6
6.11	Pressure resistance of medium pressure hose in airflow path from SAR hose and RI up to hose connector 6
6.12	Resistance to external pressure deformation of SAR hose 6
6.13	Bendability of medium pressure SAR hose 6
6.14	Swirl torsion property of medium pressure SAR hose 6
6.15	Airtightness of visor of full facepiece 7
6.16	Noise level at ear part of RI having ear-covering structure 7
6.17	Strength of harness 7
6.18	Durability of electric blower 7
7	Structure 7
7.1	General 7
7.2	Compressed air-line breathing apparatus 7
7.3	Fresh-air hose breathing apparatus 9
7.4	Structure of each part 11
8	Materials 16
9	Tests 17

9.1	Leakage rate test	17
9.2	Test of internal pressure of facepiece of supplied-air respirator having facepiece	23
9.3	Test of air-supply amount of supplied-air respirator having loose fitting type RI	27
9.4	Test of air-supply amount of manual blower type fresh-air hose breathing apparatus	29
9.5	Airtightness test of low pressure part	29
9.6	Airtightness test for operation of exhalation valve	30
9.7	Strength test of airflow path from RI up to hose connector	31
9.8	Strength test of connection between hose connector and SAR hose	32
9.9	Dust collection efficiency test of electric blower type fresh-air hose breathing apparatus and manual blower type fresh-air hose breathing apparatus	33
9.10	Strength test of head strap attach portion to facepiece and head strap	34
9.11	Test of resistance to external pressure deformation of SAR hose	34
9.12	Bendability test of medium pressure SAR hose	36
9.13	Swirl torsion property test of medium pressure SAR hose	38
9.14	Airtightness test of visor of full facepiece	40
9.15	Noise level test at ear part of RI having a ear-covering structure	40
9.16	Strength test of harness	42
9.17	Durability test of blower	42
10	Inspection	43
11	Marking	43
12	Instruction manual	43
Annex A (informative)	Air-supply source for compressed air-line breathing apparatus	45
Annex B (informative)	Quality of breathable air	46
Annex C (informative)	Combination air-line respirator with auxiliary self-contained air supply	48
Annex D (informative)	Emergency supply-air warning device	50

Foreword

This Japanese Industrial Standard has been revised by the Minister of Health, Labour and Welfare and the Minister of Economy, Trade and Industry through deliberations at the Japanese Industrial Standards Committee as the result of proposal for revision of Japanese Industrial Standard submitted by Japan Safety Appliances Association (JSAA)/ Japanese Standards Association (JSA) with a draft being attached, based on the provision of Article 12, paragraph (1) of the Industrial Standardization Act applied mutatis mutandis pursuant to the provision of Article 16 of the said Act. This edition replaces the previous edition (**JIS T 8153 : 2002**), which has been technically revised.

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.

Blank

Supplied-air respirators

1 Scope

This Japanese Industrial Standard specifies the requirements for the supplied-air respirators to be used in workplaces such as factories and mines, fire sites, ships, tunnels and other places in which inhalation of oxygen-deficient air, particulate matter, gases or vapours may cause a hazard to humans.

2 Normative references

Part or all of the provisions of the following standards, through reference in this text, constitute provisions of this Standard. The most recent editions of the standards (including amendments) indicated below shall be applied.

JIS B 1501 *Rolling bearings — Balls*

JIS C 1509-1 *Electroacoustics — Sound level meters — Part 1 : Specifications*

JIS K 6330-2 *Rubber and plastics hoses and hose assemblies — Part 2 : Hydrostatic testing*

JIS T 8001 *Glossary of terms for respiratory protective devices*

JIS T 8141 *Personal eye protectors for optical radiations*

3 Terms and definitions

For the purpose of this Standard, the terms and definitions given in **JIS T 8001**, and the following apply.

3.1

maximum working pressure of compressed air-line breathing apparatus

maximum pressure in the pressure range designated by the manufacturer for proper use of compressed air-line breathing apparatus

3.2

minimum working pressure of compressed air-line breathing apparatus

minimum pressure in the pressure range designated by the manufacturer for proper use of compressed air-line breathing apparatus

3.3

medium pressure SAR hose

flexible tube for passing breathable medium-pressure air from the air-supply source up to the hose connector for use in compressed air-line breathing apparatus

Note 1 to entry The medium pressure herein refers to the gauge pressure from 98 kPa to 980 kPa.