AS/NZS ISO 16900.8:2021
ISO 16900-8:2015

Australian/New Zealand Standard™

Respiratory protective devices — Methods of test and test equipment

Method 8: Measurement of RPD air flow rates of assisted filtering RPD

AS/NZS ISO 16900.8:2021

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First published as AS/NZS ISO 16900.8:2021.

Preface

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee SF-010, Occupational Respiratory Protection.

The objective of this document is to specify the methods for measuring air flow rates delivered to the wearer by an assisted filtering RPD.

This document is identical with, and has been reproduced from, ISO 16900-8:2015, *Respiratory protective devices — Methods of test and test equipment — Part 8: Measurement of RPD air flow rates of assisted filtering RPD.*

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Contents

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT), see the following URL: Foreword — Supplementary information.

The committee responsible for this document is ISO/TC 94, *Personal safety — Protective clothing and equipment*, Subcommittee SC 15, *Respiratory protective devices*.

ISO 16900 consists of the following parts, under the general title *Respiratory protective devices — Methods of test and test equipment*:

— *Part 1: Determination of inward leakage*

— *Part 2: Determination of breathing resistance*

— *Part 3: Determination of particle filter penetration*

— *Part 4: Determination of gas filter capacity and migration, desorption and carbon monoxide dynamic testing*

— *Part 5: Breathing machine/metabolic simulator/RPD headforms/torso, tools and verification tools*

— *Part 6: Mechanical resistance/strength of components and connections*

— *Part 7: Practical performance test methods*

— *Part 8: Measurement of RPD air flow rates of assisted filtering RPD*

— *Part 9: Carbon dioxide content of the inhaled air*

— *Part 10: Resistance to ignition, flame, radiant heat and heat*

— *Part 11: Determination of field of vision*

— *Part 12: Determination of volume-averaged work of breathing and peak respiratory pressures*

— *Part 13: RPD using regenerated breathable gas and special application mining escape RPD: Consolidated test for gas concentration, temperature, humidity, work of breathing, breathing resistance, elastance and duration*

— *Part 14: Measurement of sound level*

Introduction

This part of ISO 16900 is intended as a supplement to the respiratory protective devices (RPD) performance standards. Test methods are specified for complete devices or parts of devices that are intended to comply with the performance standards. If deviations from the test method given in this part of ISO 16900 are necessary, these deviations will be specified in the performance standards.

Australian/New Zealand Standard

Respiratory protective devices — Methods of test and test equipment

Method 8: Measurement of RPD air flow rates of assisted filtering RPD

1 Scope

This part of ISO 16900 specifies the methods for measuring air flow rates delivered to the wearer by an assisted filtering RPD.

2 Normative references

The following referenced documents, in whole or in parts, are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 16972, *Respiratory protective devices — Terms, definitions, graphical symbols and units of measurement*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 16972 and the following apply.

NOTE Within the definitions listed in 3.2 to 3.7, the flow rates are deemed to be volumetric flow rates.

3.1
assisted filtering RPD
filtering RPD where breathable gas is actively supplied to the wearer by the RPD

3.2
interactive flow rate
flow rate through the filters of an *assisted filtering RPD* (3.1) resulting from the combined action of the assisted filtering RPD and the breathing pattern generated by the breathing machine

3.3
averaged interactive flow rate
interactive flow rate averaged over 10 consecutive breathing cycles of the breathing machine

3.4
averaged maximum interactive flow rate
average of the highest flow rate within each breathing cycle of 10 consecutive breathing cycles of the breathing machine

3.5
averaged minimum interactive flow rate
average of the lowest flow rate within each breathing cycle of 10 consecutive breathing cycles of the breathing machine

3.6
measured maximum flow rate
volumetric flow rate of an *assisted filtering RPD* (3.1), determined in a laboratory test, when the RPD is in the condition which results in the highest air flow rate, where this condition takes into account the influences of temperatures, settings of RPD, pre-conditionings, use of accessories and others

3.7
measured minimum flow rate
volumetric flow rate of an *assisted filtering RPD* (3.1), determined in a laboratory test, when the RPD is in the condition which results in the lowest air flow rate, where this condition takes into account the influences of temperatures, settings of RPD, pre-conditionings, use of accessories, and others