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## **Respiratory protective devices — Human factors —**

### **Part 4: Work of breathing and breathing resistance: Physiologically based limits**

*Appareils de protection respiratoire — Facteurs humains —*

*Partie 4: Travail de respiration et de résistance à la respiration:  
limites physiologiques*



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ISO copyright office  
CP 401 • Ch. de Blandonnet 8  
CH-1214 Vernier, Geneva  
Phone: +41 22 749 01 11  
Fax: +41 22 749 09 47  
Email: [copyright@iso.org](mailto:copyright@iso.org)  
Website: [www.iso.org](http://www.iso.org)

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## Foreword

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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](http://www.iso.org/directives)).

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This document was prepared by Technical Committee ISO/TC 94, *Personal safety — Personal protective equipment*, Subcommittee SC 15, *Respiratory protective devices*.

This second edition cancels and replaces the first edition (ISO/TS 16976-4:2012), which has been technically revised. The main changes compared to the previous edition are as follows:

- a) adjustment of key-points in [Figures 3, 4](#) and [7](#) to correspond with the 50 %-reference line;
- b) adjustment of keys in [Figures 3, 4, 7](#) and [8](#);
- c) adjustment of [Figures 3, 4](#) and [6](#);
- d) clarification on flow resistance and elastic load given in [7.4](#).

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## Introduction

A respiratory protective device (RPD) is designed to offer protection from the inhalation of hazardous substances. However, this protection requires extra effort by the respiratory muscles as they need to generate higher pressures to overcome the associated respiratory loads imposed by the RPD.