

TECHNICAL REPORT

**CEN ISO/TR 9241-514**

RAPPORT TECHNIQUE

TECHNISCHER REPORT

October 2022

ICS 13.180

English Version

**Ergonomics of human-system interaction - Part 514:  
Guidance for the application of anthropometric data in the  
ISO 9241-500 series (ISO/TR 9241-514:2020)**

Ergonomie de l'interaction homme-système - Partie  
514: Recommandations pour l'application des données  
anthropométriques dans la série des ISO 9241-500  
(ISO/TR 9241-514:2020)

This Technical Report was approved by CEN on 23 October 2022. It has been drawn up by the Technical Committee CEN/TC 122.

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## European foreword

The text of ISO/TR 9241-514:2020 has been prepared by Technical Committee ISO/TC 159 "Ergonomics" of the International Organization for Standardization (ISO) and has been taken over as CEN ISO/TR 9241-514:2022 by Technical Committee CEN/TC 122 "Ergonomics" the secretariat of which is held by DIN.

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## Endorsement notice

The text of ISO/TR 9241-514:2020 has been approved by CEN as CEN ISO/TR 9241-514:2022 without any modification.

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

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Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see [www.iso.org/iso/foreword.html](http://www.iso.org/iso/foreword.html).

This document was prepared by Technical Committee 159, *Ergonomics*, Subcommittee SC 4, *Ergonomics of human-system interaction*.

A list of all parts in the ISO 9241 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at [www.iso.org/members.html](http://www.iso.org/members.html).

## Introduction

The use of interactive systems takes place within a physical environment. The design of the physical environment is decisive with regard to the outcome of the interaction between a variety of sizes of users and the physical environment. As described in the system concept of ISO 26800, the physical environment is embedded in an organizational and a social and cultural environment.

This document deals with the physical environment in which a physically diverse user group is assigned to one or more workplaces, or spatial environments, to accomplish a task. The entirety of the spatial environments assigned to a user is called environment of use. The relevant physical attributes of the environment of use include issues such as air quality, thermal conditions, lighting, noise, spatial layout and furniture. Specifically, this document discusses concepts for the spatial layout of workplaces so that they match the physical anthropometric characteristics of the intended user population.

# Ergonomics of human-system interaction —

## Part 514:

# Guidance for the application of anthropometric data in the ISO 9241-500 series

## 1 Scope

This document is intended to provide guidance in the use of anthropometric data within the ISO 9241-500 series.

## 2 Normative references

There are no normative references in this document.

## 3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <http://www.electropedia.org/>

### 3.1

#### **anthropometric accommodation**

percentage of individuals in the intended user population whose anthropometric measurement values are concurrently within specified values for all anthropometric variables of interest pertinent to the design of some object

### 3.2

#### **multivariate accommodation**

percentage of individuals in the intended user population whose anthropometric measurement values are concurrently within specified values for multiple anthropometric variables

### 3.3

#### **percentile**

percentage of the measurement values that are less than the given value

### 3.4

#### **user population**

group of people having some common environment or activity

Note 1 to entry: These groups can be as diverse as geographically defined populations or specified age groups.

### 3.5

#### **univariate accommodation**

percentage of individuals in the intended user population whose anthropometric measurement values are within specified values for a single anthropometric variable