



**ISO 14405-1**

**Geometrical product specifications  
(GPS) — Dimensional tolerancing —**

**Part 1:  
Linear sizes**

*Spécification géométrique des produits (GPS) — Tolérancement  
dimensionnel —*

*Partie 1: Tailles linéaires*

**Third edition  
2025-08**

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This document was prepared by Technical Committee ISO/TC 213, *Dimensional and geometrical product specifications and verification*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 290, *Dimensional and geometrical product specification and verification*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This third edition cancels and replaces the second edition (ISO 14405-1:2016), which has been technically revised.

The main changes are as follows:

- the use of linear size specifications for cones, torus and two opposite circles is now reduced to the cases described in [Annexes D, E and F](#);
- the syntax is changed, and is now defined with several indication areas, and a sequence of specification elements in each area;
- linear size specifications can be stacked upon each other and the rules for stacked specifications are defined;
- the indication  $k\times/n\times$  is now possible, in order to facilitate stacking with geometrical specifications;
- the graphical rules are modified;
- the specification element “/0” to mean “any restricted portion whose length is equal to zero” has been removed to use the modifier “ACS”;
- when different specification operators applied for the upper and the lower specification limits of size characteristic, the new rule is to indicate two different size specifications;
- the indication of several linear size specifications on the same dimension line or reference line with brackets is removed;
- it is now required to use the “between” symbol to indicate that a linear size specification applies to a fixed restricted portion of a feature of linear size;

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— the rank-order size specification is now called statistical size specification.

A list of all parts in the ISO 14405 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).

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This document is a geometrical product specification (GPS) standard and is to be regarded as a general GPS standard (see ISO 14638). It influences chain links A to C of the chain of standards on size.

The ISO GPS matrix model given in ISO 14638 gives an overview of the ISO GPS system of which this document is a part. The fundamental rules of ISO GPS given in ISO 8015 apply to this document and the default decision rules given in ISO 14253-1 apply to the specifications made in accordance with this document, unless otherwise indicated.

For more detailed information on the relationship of this document to other standards and the ISO GPS matrix model, see [Annex I](#).

This document deals with linear size specifications on the following features of linear size:

- cylinders;
- spheres;
- two parallel opposite planes.

It also deals with the following cases:

- circles as sections of a cone;
- circles as sections of a torus;
- parallel opposite lines as longitudinal sections of cylindrical tubes.

Different specification elements allow specifying local linear sizes or global linear sizes of different types, and, for example, specifications on several features of linear size, specifications in sections and specifications on portions. The many specification elements allow for specifying a variety of functional needs.

[Annex D](#) provides the definition of a size for a circle as section of a cone. [Annex E](#) provides the definition of sizes for circles as sections of a torus. [Annex F](#) provides the definition of sizes for parallel opposite lines as longitudinal sections of cylindrical tubes in half planes containing a specified axis. [Annex H](#) gives an overview of the sequence of specification elements for linear size specifications.

ISO 14405-2 gives the difference between linear size, angular size and dimensions other than linear or angular sizes. ISO 14405-2 relies on this document for the rules about indication.