
**Vacuum technology — Dimensions of
non-knife edge flanges**

Technique du vide — Dimensions des brides sans guillotine



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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).

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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.

This document was prepared by Technical Committee ISO/TC 112, *Vacuum technology*.

This second edition cancels and replaces ISO 1609:1986, of which it constitutes a minor revision. The changes compared to the previous edition are as follows:

- The title has been updated.
- The normative reference has been updated.
- “40” in [4.1.1](#) has been corrected to “50”.

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.

Vacuum technology — Dimensions of non-knife edge flanges

1 Scope

This document specifies the dimensions of non-knife-edge flanges and collars used in vacuum technology.

The dimensions ensure interchangeability between bolted, clamped and rotatable flanges:

- a) whether the assembly be homogeneous (for example, bolted flanges or clamped flanges) or heterogeneous (for example, bolted flanges assembled with clamped flanges either by means of bolts or clamps or by means of bolts and rotatable flanges).
- b) whether the sealing rings used with the flanges be elastomer O-rings or metal sealing rings, provided that they are compatible with the linear sealing loads given in [Annex A](#).

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

nominal bore

value intended to both identify the flange and specify the largest practical size of tubing that can be accommodated by the flange

[SOURCE: ISO 3669:2017, 3.2]

Note 1 to entry: The tables provide a series of nominal bores intended to identify the flanges or collars.

Note 2 to entry: These values follow the progression of the R10 series of preferred numbers (see ISO 3) from which only the term 12,5 has been eliminated.

Note 3 to entry: The values of nominal bore belonging to the R5 series of preferred numbers (see ISO 3) are as follows: 10, 16, 25, 40, 63, 100, 160, 250, 400, 630 and 1 000. They correspond to values intended to permit, in the long term, the adoption of a reduced series of nominal bores.

Note 4 to entry: The nominal bores 63 and 160 given in [Tables 1, 2 and 3](#) correspond to practical diameters of 70 mm (or 65 mm) and 153 mm respectively.

3.2

diameter of bolt holes

C

value for the diameter of bolt holes

Note 1 to entry: *C* is derived from the bolt diameters, *D*, as given in ISO 273.