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# International Standard



# 1609

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION • МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ • ORGANISATION INTERNATIONALE DE NORMALISATION

## Vacuum technology — Flange dimensions

*Technique du vide — Dimensions des brides*

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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.

Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council. They are approved in accordance with ISO procedures requiring at least 75 % approval by the member bodies voting.

International Standard ISO 1609 was prepared by Technical Committee ISO/TC 112, *Vacuum technology*.

Users should note that all International Standards undergo revision from time to time and that any reference made herein to any other International Standard implies its latest edition, unless otherwise stated.

# Vacuum technology — Flange dimensions

## 1 Scope and field of application

This International Standard specifies the dimensions for 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 References

ISO 3, *Preferred numbers — Series of preferred numbers.*

ISO 273, *Fasteners — Clearance holes for bolts and screws.*

ISO 286, *ISO system of limits and fits.*<sup>1)</sup>

ISO 887, *Plain washers for metric bolts, screws and nuts — General plan.*

ISO 1127, *Stainless steel tubes — Dimensions, tolerances and conventional masses per unit length.*

ISO 2861/1, *Vacuum technology — Quick-release couplings — Dimensions — Part 1: Clamped type.*

ISO 4200, *Plain end steel tubes, welded and seamless — General tables of dimensions and masses per unit length.*

## 3 Dimensions

### 3.1 General

**3.1.1** The dimensions of the flanges or collars shall conform to those specified in tables 1, 2 and 3 and shown in figures 1, 2 and 3. These dimensions are for finished products and do not include allowance for machining. Flanges or collars with nominal bores of 10 to 40 inclusive, given in tables 1, 2 and 3, accept the corresponding quick-release couplings specified in ISO 2861/1. Relevant dimensions and tolerances are specified in annex B.

**3.1.2** The selection of materials shall be compatible with the requirements for flanges and collars used in vacuum technology and with the dimensions given in tables 1, 2 and 3.

**3.1.3** In order to ensure the interchangeability of vacuum components, the flanges shall be aligned so that the bolt holes are spaced equidistantly about and off the symmetrical plane of the component.

<sup>1)</sup> At present at the stage of draft. (Revision of ISO/R 286-1962.)