
**General-purpose industrial fans —
Circular flanges — Dimensions**

Ventilateurs courants industriels — Brides circulaires — Dimensions

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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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 6580 was prepared by Technical Committee ISO/TC 117, *Industrial fans*.

This second edition cancels and replaces the first edition (ISO 6580:1981), of which it constitutes a minor revision.

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General-purpose industrial fans — Circular flanges — Dimensions

1 Scope

This International Standard specifies the dimensions of circular flanges of general-purpose industrial fans.

Heavy-duty fans where significantly greater flange thicknesses will be required are not included in applications of this International Standard.

This International Standard is applicable for standard axial-flow fans. For other types of fan, refer to ISO 13351.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 497, *Guide to the choice of series of preferred numbers and of series containing more rounded values of preferred numbers*

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3 Terms and definitions

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

3.1

industrial fan

fan suitable for handling air which is non-toxic, not saturated, non-corrosive, non-flammable, free from abrasive particles, and does not exceed a temperature of 80 °C, or 40 °C if the motor or the fan bearings are in the air stream

[Eurovent Document 1/1 (1984), 3.4.1]

4 Required characteristics

This International Standard adopts the R 20 Series as given in ISO 497 as the nominal dimensions for the inside diameter. It takes into account the maximum casing thicknesses at the circular flange, as used for general-purpose fans.

The smallest practical pitch-circle diameter can be related to the inside diameter of the casing, the casing thickness, the size of the weld fillet or bend radius at the junction of the flange and the casing, and the normal washer diameter.

This International Standard accepts that the number and diameter of bolts or screws cannot be established on a theoretical basis. Practical experience of satisfactory service, optimum cost of installation and manufacture, as well as dimensional tolerances of production are the most important considerations.

The number of flange holes is divisible by four to permit the orientation of cylindrical cased fans to position at 90°. The holes are disposed equally on each side of the centrelines of the fan. This permits a flange to be divided in half should a split casing be required. It also allows better access to the fixings on the remote side of a fan on a confined installation.

If an intermediate fan size is required, the R 40 Series should be used to obtain the nominal inside diameter. The flange details should be interpreted from the next larger R 20 size.

In exceptional circumstances when even smaller increments of size are required, it is suggested that the R 80 Series could be used.

5 Dimensions of flanges and mounting holes

The dimensions are given in Figure 1 and Table 1.

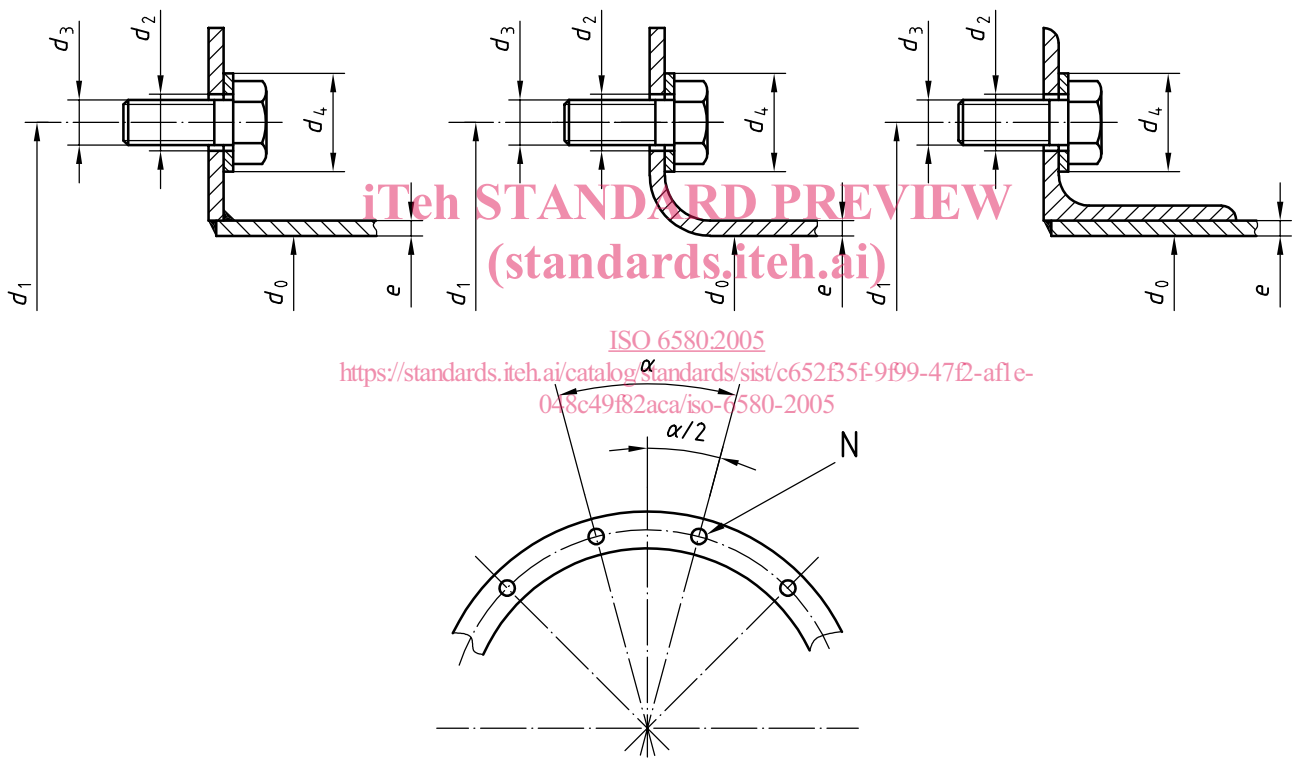


Figure 1

Table 1

| d_0 mm | d_1 mm | $\frac{d_1 - d_0}{2}$ mm | N | α° | d_2 mm | d_3 mm | d_4 mm | e_{\max} mm |
|-------------|-------------|-----------------------------|-----|----------------|-------------|-------------|-------------|------------------|
| 100 | 120 | 10 | 4 | 90 | 7 | 6 | 12,5 | 1,6 |
| 112 | 137 | 12,5 | 4 | 90 | 7 | 6 | 12,5 | 2 |
| 125 | 150 | 12,5 | 4 | 90 | 7 | 6 | 12,5 | 2 |
| 140 | 165 | 12,5 | 4 | 90 | 7 | 6 | 12,5 | 2 |
| 160 | 185 | 12,5 | 4 | 90 | 7 | 6 | 12,5 | 2 |
| 180 | 205 | 12,5 | 4 | 90 | 7 | 6 | 12,5 | 2 |
| 200 | 225 | 12,5 | 4 | 90 | 7 | 6 | 12,5 | 2 |
| 224 | 254 | 15 | 4 | 90 | 7 | 6 | 12,5 | 2 |
| 250 | 280 | 15 | 4 | 90 | 10 | 8 | 17 | 2,5 |
| 280 | 320 | 20 | 4 | 90 | 10 | 8 | 17 | 2,5 |
| 315 | 355 | 20 | 8 | 45 | 10 | 8 | 17 | 3 |
| 355 | 395 | 20 | 8 | 45 | 10 | 8 | 17 | 3 |
| 400 | 450 | 25 | 8 | 45 | 12 | 10 | 21 | 3 |
| 450 | 500 | 25 | 8 | 45 | 12 | 10 | 21 | 3 |
| 500 | 560 | 30 | 12 | 30 | 12 | 10 | 21 | 3,5 |
| 560 | 620 | 30 | 12 | 30 | 12 | 10 | 21 | 3,5 |
| 630 | 690 | 30 | 12 | 30 | 12 | 10 | 21 | 5 |
| 710 | 770 | 30 | 16 | 22,5 | 12 | 10 | 21 | 5 |
| 800 | 860 | 30 | 16 | 22,5 | 12 | 10 | 21 | 5 |
| 900 | 970 | 35 | 16 | 22,5 | 15 | 12 | 24 | 6 |
| 1 000 | 1 070 | 35 | 16 | 22,5 | 15 | 12 | 24 | 6 |
| 1 120 | 1 190 | 35 | 20 | 18 | 15 | 12 | 24 | 6 |
| 1 250 | 1 320 | 35 | 20 | 18 | 15 | 12 | 24 | 6 |
| 1 400 | 1 470 | 35 | 20 | 18 | 15 | 12 | 24 | 6 |
| 1 600 | 1 680 | 40 | 24 | 15 | 19 | 16 | 30 | 8 |
| 1 800 | 1 880 | 40 | 24 | 15 | 19 | 16 | 30 | 8 |
| 2 000 | 2 080 | 40 | 24 | 15 | 19 | 16 | 30 | 8 |

α : Angle.
 d : Diameter.
 N : Number of flange holes.
 e_{\max} : Maximum casing thickness.

Bibliography

- [1] ISO 3, *Preferred numbers — Series of preferred numbers*
- [2] ISO 17, *Guide to the use of preferred numbers and of series of preferred numbers*
- [3] ISO 13351, *Industrial fans — Dimensions*
- [4] Eurovent Document 1/1 (1984), *Fan Terminology*

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