
**Plain bearings — Sintered bushes —
Dimensions and tolerances**

Paliers lisses — Coussinets frittés — Dimensions et tolérances

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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. www.iso.org/directives.

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. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received. www.iso.org/patents.

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

The committee responsible for this document is ISO/TC 123, *Plain bearings*, Subcommittee SC 7, *Special types of plain bearings*.

For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: http://www.iso.org/iso/home/standards_development/resources-for-technical-work/foreword.htm

This fifth edition cancels and replaces the fourth edition (ISO 2795:1991), of which it constitutes a minor revision.

Introduction

The sizes given in this International Standard are based on a range of shaft diameters which are considered to correspond to the requirements of industry. For all except the smallest sizes, a thin-wall series is provided in addition to the normal series in order to introduce an element of choice and, more importantly, to provide for the possibility of the same sizes being adopted for plain bearings made from other materials.

It is envisaged that as far as possible, the same outside diameters will be recommended for all types of plain bearings.

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Plain bearings — Sintered bushes — Dimensions and tolerances

1 Scope

This International Standard specifies the dimensions and tolerances applicable to sintered bearings for the following ranges of inside diameters:

- cylindrical bearings: 1 mm to 60 mm;
- flanged bearings: 1 mm to 60 mm;
- spherical bearings: 1 mm to 20 mm.

2 Normative reference

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

ISO 5755, *Sintered metal materials — Specifications*

3 Material

The following materials used for manufacturing sintered bearings shall conform to ISO 5755.

4 Cylindrical bearings

4.1 Dimensions

See [Figure 1](#) and [Tables 1](#) and [2](#).

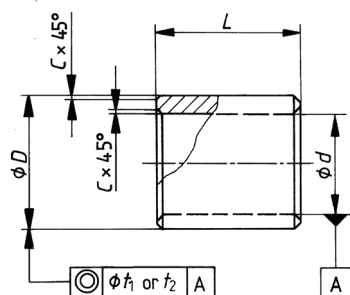


Figure 1

Table 1

Dimensions in millimetres

Inside diameter <i>d</i>	Outside diameter, <i>D</i>		Length ^b <i>L</i>
	Normal series	Thin-wall series ^a	
1	3	—	1-2
1,5	4	—	1-2
2	5	—	2-3
2,5	6	—	2-3
3	6	5	3-4
4	8	7	3-4-6
5	9	8	4-5-8
6	10	9	4-6-10
7	11	10	5-8-10
8	12	11	6-8-12
9	14	12	6-10-14
10	16	14	8-10-16
12	18	16	8-12-20
14	20	18	10-14-20
15	21	19	10-15-25
16	22	20	12-16-25
18	24	22	12-18-30
20	26	25	15-20-25-30
22	28	27	15-20-25-30
25	32	30	20-25-30-35
28	36	33 (34)	20-25-30-40
30	38	35 (36)	20-25-30-40
32	40	38	20-25-30-40
35	45	41	25-35-40-50
38	48	44	25-35-45-55
40	50	46	30-40-50-60
42	52	48	30-40-50-60
45	55	51	35-45-55-65
48	58	55	35-50-70
50	60	58	35-50-70
55	65	63	40-55-70
60	72	68	50-60-70

^a For inside diameter 20 mm (included), the last value for the length is not applicable to the thin-wall series.

^b Dimensions in parentheses shall be used as “second choice”.

Table 2

Dimensions in millimetres

Wall thickness $\frac{D-d}{2}$		Chamfer C
above	up to and incl.	max.
—	1	0,2
1	2	0,3
2	3	0,4
3	4	0,6
4	5	0,7
5	—	0,8

4.2 Tolerances

The tolerances for the bearings after fitting and the tolerances for the housing and insertion pin are given below. In addition, the tolerances for the inside and outside diameters of the bearing before fitting are given.

NOTE Since the actual tolerances and combinations of tolerances in the as-delivered state depend upon the characteristics of the materials and the manufacturing methods, they should be discussed with the manufacturer.

As-delivered:

— on outside diameter D : in the ranges

r6 to s7, for $D \leq 50$ mm

r7 to s8, for $D > 50$ mm

— on inside diameter d : in the ranges

F7 to G7, for $D \leq 50$ mm

F8 to G8, for $D > 50$ mm

— on bearing length L : js13

— on coaxiality of the outside diameter with respect to the inside surface diameter (tolerance based on the outside diameter, D):

$t_1 = IT9$, for $D \leq 50$ mm

$t_2 = IT10$, for $D > 50$ mm

Insertion pin: in the range m5 to m6

Housing: H7

Bearing bore after fitting (assuming the housing is rigid):

H7, for $D \leq 50$ mm

H8, for $D > 50$ mm

5 Flanged bearings

5.1 Dimensions

See Figure 2 and Tables 3 to 5.

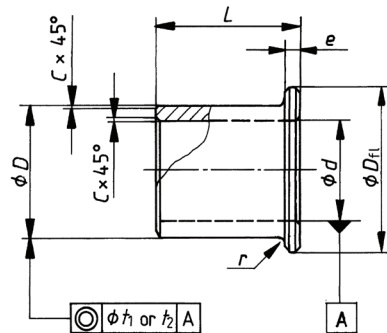


Figure 2

Table 3

Dimensions in millimetres

Inside diameter d	Outside diameter D	Flange diameter D_{fl}	Flange thickness e	Length L
Normal series				
1	3	5	1	2
1,5	4	6	1	2
2	5	8	1,5	3
2,5	6	9	1,5	3
3	6	9	1,5	4
4	8	12	2	3-4-6
5	9	13	2	4-5-8
6	10	14	2	4-6-10
7	11	15	2	5-8-10
8	12	16	2	6-8-12
9	14	19	2,5	6-10-14
10	16	22	3	8-10-16
12	18	24	3	8-12-20
14	20	26	3	10-14-20
15	21	27	3	10-15-25
16	22	28	3	12-16-25
18	24	30	3	12-18-30
20	26	32	3	15-20-25-30
22	28	34	3	15-20-25-30
25	32	39	3,5	20-25-30
28	36	44	4	20-25-30

Table 3

Inside diameter <i>d</i>	Outside diameter <i>D</i>	Flange diameter <i>D_{fl}</i>	Flange thickness <i>e</i>	Length <i>L</i>
Normal series				
30	38	46	4	20-25-30
32	40	48	4	20-25-30
35	45	55	5	25-35-40
38	48	58	5	25-35-45
40	50	60	5	30-40-50
42	52	62	5	30-40-50
45	55	65	5	35-45-55
48	58	68	5	35-50
50	60	70	5	35-50
55	65	75	5	40-55
60	72	84	6	50-60
Thin-wall series				
10	14	18	2	8-10-16
12	16	20	2	8-12-20
14	18	22	2	10-14-20
15	19	23	2	10-15-25
16	20	24	2	12-16-25
18	22	26	2	12-18-30
20	25	30	2,5	15-20-25
22	27	32	2,5	15-20-25
25	30	35	2,5	20-25-30

Table 4

Dimensions in millimetres

Wall thickness $\frac{D-d}{2}$		Chamfer <i>C</i>
above	up to and incl.	max.
—	1	0,2
1	2	0,3
2	3	0,4
3	4	0,6
4	5	0,7
5	—	0,8

Table 5

Dimensions in millimetres

Outside diameter D		r
above	up to and incl.	max.
—	12	0,3
12	30	0,6
30	—	0,8

5.2 Tolerances

The tolerances for the bearings after fitting and the tolerances for the housing and insertion pin are given below. In addition, the tolerances for the inside and outside diameters of the bearing and on the flange before fitting are given.

NOTE Since the actual tolerances and combinations of tolerances in the as-delivered state depend upon the characteristics of the materials and the manufacturing methods, they should be discussed with the manufacturer.

As-delivered:

— on outside diameter D : in the ranges

$r6$ to $s7$, for $D \leq 50$ mm

$r7$ to $s8$, for $D > 50$ mm

— on inside diameter d : in the ranges

$F7$ to $G7$, for $D \leq 50$ mm

$F8$ to $G8$, for $D > 50$ mm

— on bearing length L : $js13$

— on flange diameter D_{fl} : $js13$

— on flange thickness e : $js13$

— on coaxiality of the outside diameter with respect to the inside surface diameter (tolerance based on the outside diameter, D):

$t_1 = IT9$, for $D \leq 50$ mm

$t_2 = IT10$, for $D > 50$ mm

Insertion pin: in the range $m5$ to $m6$

Housing: $H7$

Bearing bore after fitting (assuming the housing is rigid):

$H7$, for $D \leq 50$ mm

$H8$, for $D > 50$ mm