



SLOVENSKI STANDARD
SIST ISO 104:1995

01-november-1995

Kotalni ležaji - Aksialni ležaji - Glavne mere, preglednice mer

Rolling bearings -- Thrust bearings -- Boundary dimensions, general plan

Roulements -- Butées -- Dimensions d'encombrement, plan général

Ta slovenski standard je istoveten z: ISO 104:1994

[SIST ISO 104:1995](https://standards.iteh.ai/catalog/standards/sist/9af5797e-95f9-4279-bb86-f0b1a83fb29/sist-iso-104-1995)

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INTERNATIONAL
STANDARD

ISO
104

Second edition
1994-12-15

**Rolling bearings — Thrust bearings —
Boundary dimensions, general plan**

iTeh STANDARD PREVIEW
Roulements — Butées — Dimensions d'encombrement, plan général
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Reference number
ISO 104:1994(E)

ISO 104:1994(E)**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.

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.

International Standard ISO 104 was prepared by Technical Committee ISO/TC 4, *Rolling bearings*.

This second edition cancels and replaces the first edition (ISO 104:1979). The boundary dimensions given in the first edition are unchanged, but larger sizes have been included in dimension series 92, 93 and 94 (tables 3 to 5).

Annexes A and B of this International Standard are for information only.

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Rolling bearings — Thrust bearings — Boundary dimensions, general plan

1 Scope

This International Standard specifies the major boundary dimensions of single-direction and double-direction thrust bearings with flat back faces.

In addition, it gives the minimum bore diameters of housing washers and maximum outside diameters of shaft washers of bearings in dimension series 11, 12, 13, 14, 22, 23 and 24.

Chamfer dimensions r_s and r_{1s} apply only at the corners indicated in figures 1 and 2. No dimensions are given for other corners; however, they should not be sharp.

Maximum chamfer dimensions are given in ISO 582.

Guidelines for the extension of this International Standard for single-direction thrust bearings are given in annex A.

2 Symbols

The symbols shown in the figures and given in the tables denote nominal dimensions unless otherwise specified. All dimensions given in this International Standard are in millimetres.

B	height of central shaft washer
d	bore diameter of shaft washer, single-direction bearing

d_1	outside diameter of shaft washer, single-direction bearing
$d_{1s \max}$	largest single outside diameter of shaft washer
d_2	bore diameter of central shaft washer, double-direction bearing
d_3	outside diameter of central shaft washer
$d_{3s \max}$	largest single outside diameter of central shaft washer
D	outside diameter of housing washer
D_1	bore diameter of housing washer
$D_{1s \min}$	smallest single bore diameter of housing washer
r_s	back face chamfer dimension of shaft washer (single-direction bearing) and housing washer
$r_{s \min}$	smallest permissible single dimension of r_s
r_{1s}	face chamfer dimension of central shaft washer
$r_{1s \min}$	smallest permissible single dimension of r_{1s}
T	bearing height, single-direction bearing
T_1	bearing height, double-direction bearing

3 Single-direction thrust bearings

Dimensions represented in figure 1 shall be as given in tables 1 to 6.

4 Double-direction thrust bearings

Dimensions represented in figure 2 shall be as given in tables 7 to 9.

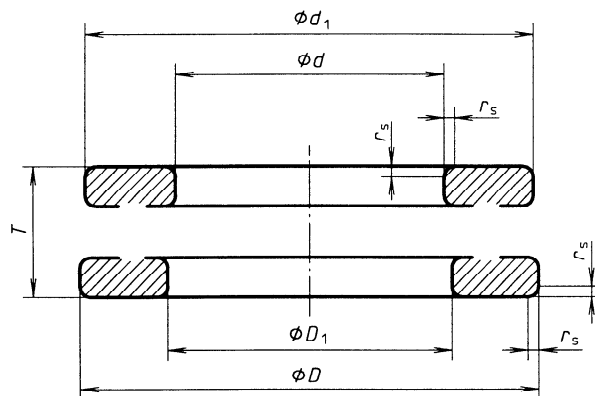


Figure 1 — Single-direction thrust bearing
(standards.iteh.ai)

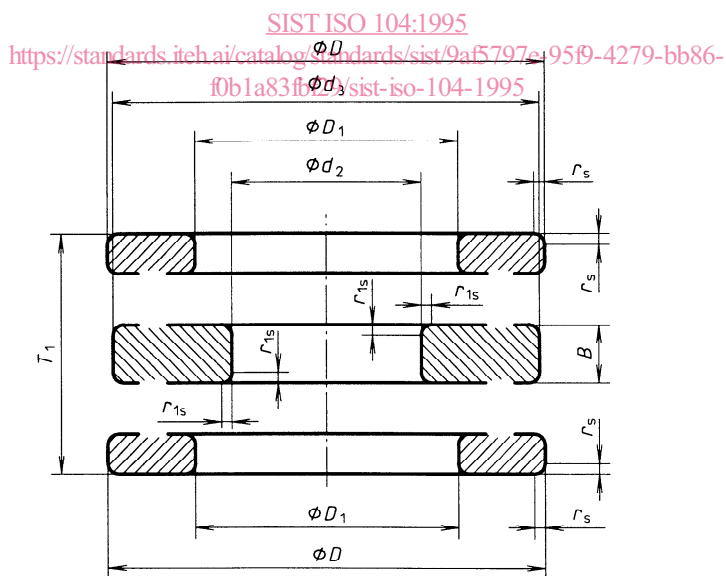


Figure 2 — Double-direction thrust bearing

Table 1 — Single-direction bearings — Diameter series 0

<i>d</i>	<i>D</i>	<i>r_s min</i>	Dimension series		
			70	90	10
			<i>T</i>		
4	12	0,3	4	—	6
6	16	0,3	5	—	7
8	18	0,3	5	—	7
10	20	0,3	5	—	7
12	22	0,3	5	—	7
15	26	0,3	5	—	7
17	28	0,3	5	—	7
20	32	0,3	6	—	8
25	37	0,3	6	—	8
30	42	0,3	6	—	8
35	47	0,3	6	—	8
40	52	0,3	6	—	9
45	60	0,3	7	—	10
50	65	0,3	7	—	10
55	70	0,3	7	—	10
60	75	0,3	7	—	10
65	80	0,3	7	—	10
70	85	0,3	7	—	10
75	90	0,3	7	—	10
80	95	0,3	7	—	10
85	100	0,3	7	—	10
90	105	0,3	7	—	10
100	120	0,6	9	—	14
110	130	0,6	9	—	14
120	140	0,6	9	—	14
130	150	0,6	9	—	14
140	160	0,6	9	—	14
150	170	0,6	9	—	14
160	180	0,6	9	—	14
170	190	0,6	9	—	14
180	200	0,6	9	—	14
190	215	1	11	—	17
200	225	1	11	—	17
220	250	1	14	—	22
240	270	1	14	—	22
260	290	1	14	—	22
280	310	1	14	—	22
300	340	1	18	24	30
320	360	1	18	24	30
340	380	1	18	24	30

<i>d</i>	<i>D</i>	<i>r_s min</i>	Dimension series		
			70	90	10
			<i>T</i>		
360	400	1	18	24	30
380	420	1	18	24	30
400	440	1	18	24	30
420	460	1	18	24	30
440	480	1	18	24	30
460	500	1	18	24	30
480	520	1	18	24	30
500	540	1	18	24	30
530	580	1,1	23	30	38
560	610	1,1	23	30	38
600	650	1,1	23	30	38
630	680	1,1	23	30	38
670	730	1,5	27	36	45
710	780	1,5	32	42	53
750	820	1,5	32	42	53
800	870	1,5	32	42	53
850	920	1,5	32	42	53
900	980	2	36	48	63
950	1 030	2	36	48	63
1 000	1 090	2,1	41	54	70
1 060	1 150	2,1	41	54	70
1 120	1 220	2,1	45	60	80
1 180	1 280	2,1	45	60	80
1 250	1 360	3	50	67	85
1 320	1 440	3	—	—	95
1 400	1 520	3	—	—	95
1 500	1 630	4	—	—	105
1 600	1 730	4	—	—	105
1 700	1 840	4	—	—	112
1 800	1 950	4	—	—	120
1 900	2 060	5	—	—	130
2 000	2 160	5	—	—	130
2 120	2 300	5	—	—	140
2 240	2 430	5	—	—	150
2 360	2 550	5	—	—	150
2 500	2 700	5	—	—	160

Table 2 — Single-direction bearings — Diameter series 1

d	D	r _{s min}	Dimension series				
			71	91	11		
			T			d _{1s max}	D _{1s min}
10	24	0,3	6	—	9	24	11
12	26	0,3	6	—	9	26	13
15	28	0,3	6	—	9	28	16
17	30	0,3	6	—	9	30	18
20	35	0,3	7	—	10	35	21
25	42	0,6	8	—	11	42	26
30	47	0,6	8	—	11	47	32
35	52	0,6	8	—	12	52	37
40	60	0,6	9	—	13	60	42
45	65	0,6	9	—	14	65	47
50	70	0,6	9	—	14	70	52
55	78	0,6	10	—	16	78	57
60	85	1	11	—	17	85	62
65	90	1	11	—	18	90	67
70	95	1	11	—	18	95	72
75	100	1	11	—	19	100	77
80	105	1	11	—	19	105	82
85	110	1	11	—	19	110	87
90	120	1	14	—	22	120	92
100	135	1	16	21	25	135	102
110	145	1	16	21	25	145	112
120	155	1	16	21	25	155	122
130	170	1	18	24	30	170	132
140	180	1	18	24	31	178	142
150	190	1	18	24	31	188	152
160	200	1	18	24	31	198	162
170	215	1,1	20	27	34	213	172
180	225	1,1	20	27	34	222	183
190	240	1,1	23	30	37	237	193
200	250	1,1	23	30	37	247	203
220	270	1,1	23	30	37	267	223
240	300	1,5	27	36	45	297	243
260	320	1,5	27	36	45	317	263
280	350	1,5	32	42	53	347	283
300	380	2	36	48	62	376	304
320	400	2	36	48	63	396	324
340	420	2	36	48	64	416	344
360	440	2	36	48	65	436	364
380	460	2	36	48	65	456	384
400	480	2	36	48	65	476	404

d	D	r _{s min}	Dimension series				
			71	91	11		
			T			d _{1s max}	D _{1s min}
420	500	2	36	48	65	495	424
440	540	2,1	45	60	80	535	444
460	560	2,1	45	60	80	555	464
480	580	2,1	45	60	80	575	484
500	600	2,1	45	60	80	595	504
530	640	3	50	67	85	635	534
560	670	3	50	67	85	665	564
600	710	3	50	67	85	705	604
630	750	3	54	73	95	745	634
670	800	4	58	78	105	795	674
710	850	4	63	85	112	845	714
750	900	4	67	90	120	895	755
800	950	4	67	90	120	945	805
850	1 000	4	67	90	120	995	855
900	1 060	5	73	95	130	1 055	905
950	1 120	5	78	103	135	1 115	955
1 000	1 180	5	82	109	140	1 175	1 005
1 060	1 250	5	85	115	150	1 245	1 065
1 120	1 320	5	90	122	160	1 315	1 125
1 180	1 400	6	100	132	175	1 395	1 185
1 250	1 460	6	—	—	175	1 455	1 255
1 320	1 540	6	—	—	175	1 535	1 325
1 400	1 630	6	—	—	180	1 620	1 410
1 500	1 750	6	—	—	195	1 740	1 510
1 600	1 850	6	—	—	195	1 840	1 610
1 700	1 970	7,5	—	—	212	1 960	1 710
1 800	2 080	7,5	—	—	220	2 070	1 810
1 900	2 180	7,5	—	—	220	2 170	1 910
2 000	2 300	7,5	—	—	236	2 290	2 010
2 120	2 430	7,5	—	—	243	2 420	2 130
2 240	2 570	9,5	—	—	258	2 560	2 250
2 360	2 700	9,5	—	—	265	2 690	2 370
2 500	2 850	9,5	—	—	272	2 840	2 510

Table 3 — Single-direction bearings — Diameter series 2

d	D	r _{s min}	Dimension series				
			72	92	12		
			T			d _{1s max}	D _{1s min}
4	16	0,3	6	—	8	16	4
6	20	0,3	6	—	9	20	6
8	22	0,3	6	—	9	22	8
10	26	0,6	7	—	11	26	12
12	28	0,6	7	—	11	28	14
15	32	0,6	8	—	12	32	17
17	35	0,6	8	—	12	35	19
20	40	0,6	9	—	14	40	22
25	47	0,6	10	—	15	47	27
30	52	0,6	10	—	16	52	32
35	62	1	12	—	18	62	37
40	68	1	13	—	19	68	42
45	73	1	13	—	20	73	47
50	78	1	13	—	22	78	52
55	90	1	16	21	25	90	57
60	95	1	16	21	26	95	62
65	100	1	16	21	27	100	67
70	105	1	16	21	27	105	72
75	110	1	16	21	27	110	77
80	115	1	16	21	28	115	82
85	125	1	18	24	31	125	88
90	135	1,1	20	27	35	135	93
100	150	1,1	23	30	38	150	103
110	160	1,1	23	30	38	160	113
120	170	1,1	23	30	39	170	123
130	190	1,5	27	36	45	187	133
140	200	1,5	27	36	46	197	143
150	215	1,5	29	39	50	212	153
160	225	1,5	29	39	51	222	163
170	240	1,5	32	42	55	237	173
180	250	1,5	32	42	56	247	183
190	270	2	36	48	62	267	194
200	280	2	36	48	62	277	204
220	300	2	36	48	63	297	224
240	340	2,1	45	60	78	335	244
260	360	2,1	45	60	79	355	264
280	380	2,1	45	60	80	375	284
300	420	3	54	73	95	415	304
320	440	3	54	73	95	435	325
340	460	3	54	73	96	455	345
360	500	4	63	85	110	495	365
380	520	4	63	85	112	515	385
400	540	4	63	85	112	535	405
420	580	5	73	95	130	575	425
440	600	5	73	95	130	595	445
460	620	5	73	95	130	615	465
480	650	5	78	103	135	645	485
500	670	5	78	103	135	665	505
530	710	5	82	109	140	705	535
560	750	5	85	115	150	745	565
600	800	5	90	122	160	795	605
630	850	6	100	132	175	845	635
670	900	6	103	140	180	895	675
710	950	6	109	145	190	945	715
750	1 000	6	112	150	195	995	755
800	1 060	7,5	118	155	205	1 055	805
850	1 120	7,5	122	160	212	1 115	855
900	1 180	7,5	125	170	220	1 175	905
950	1 250	7,5	136	180	236	1 245	955
1 000	1 320	9,5	145	190	250	1 315	1 005
1 060	1 400	9,5	155	206	265	1 395	1 065
1 120	1 460	9,5		206			
1 180	1 520	9,5		206			
1 250	1 610	9,5		216			
1 320	1 700	9,5		228			
1 400	1 790	12		234			
1 500	1 920	12		252			
1 600	2 040	15		264			
1 700	2 160	15		276			
1 800	2 280	15		288			