

INTERNATIONAL STANDARD

ISO
104

Third edition
2002-02-01

Rolling bearings — Thrust bearings — Boundary dimensions, general plan

Roulements — Butées — Dimensions d'encombrement, plan général

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Reference number
ISO 104:2002(E)

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Printed in Switzerland

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 3.

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 International Standard may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

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

This third edition cancels and replaces the second edition (ISO 104:1994). The changes are editorial in order to bring content, terminology and presentation in line with ISO Directives, Part 3, 1997.

Annex A of this International Standard is for information only.

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.

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

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this International Standard. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

ISO 582:1995, *Rolling bearings — Chamfer dimensions — Maximum values*

ISO 1132-1:2000, *Rolling bearings — Tolerances — Part 1: Terms and definitions*

ISO 5593:1997, *Rolling bearings — Vocabulary*

ISO 15241:2001, *Rolling bearings — Symbols for quantities*

3 Terms and definitions

For the purposes of this International Standard, the terms and definitions given in ISO 1132-1, ISO 5593 and ISO 15241 apply.

4 Symbols

| | |
|---------------|---|
| B | height 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 |
| 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, double-direction bearing |
| $d_{3s\ max}$ | largest single outside diameter of central shaft washer |
| r | back face chamfer dimension of shaft washer (single-direction bearing) and housing washer |
| $r_{s\ min}$ | smallest single back face chamfer dimension of shaft washer (single-direction bearing) and housing washer |
| r_1 | face chamfer dimension of central shaft washer |
| $r_{1s\ min}$ | smallest single face chamfer dimension of central shaft washer |
| T | bearing height, single-direction bearing |
| T_1 | bearing height, double-direction bearing |

5 Boundary dimensions

5.1 General

The symbols shown in Figures 1 and 2 and the values given in Tables 1 to 9 denote nominal dimensions unless specified otherwise.

The corresponding largest single chamfer dimensions to the $r_{s\ min}$ and $r_{1s\ min}$ dimensions in Tables 1 to 9 are given in ISO 582. The exact shape of the chamfer surface is not specified, but its contour in an axial plane shall not be allowed to project beyond an imaginary circular arc, of radius $r_{s\ min}$, tangential to the washer back face and the bore or outside cylindrical surface of the washer. For the washer face and the bore cylindrical surface, the same applies to $r_{1s\ min}$.

Chamfer dimensions r and r_1 apply only at the corners indicated in Figures 1 and 2. No dimensions are given for other corners, however, they should not be sharp.

5.2 Single-direction thrust bearings

Dimensions represented in Figure 1 shall be as given in Tables 1 to 6.

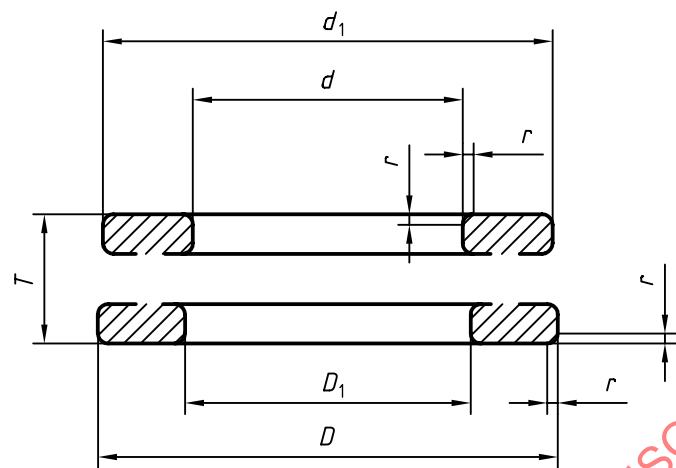


Figure 1 — Single-direction thrust bearing

5.3 Double-direction thrust bearings

Dimensions represented in Figure 2 shall be as given in Tables 7 to 9.

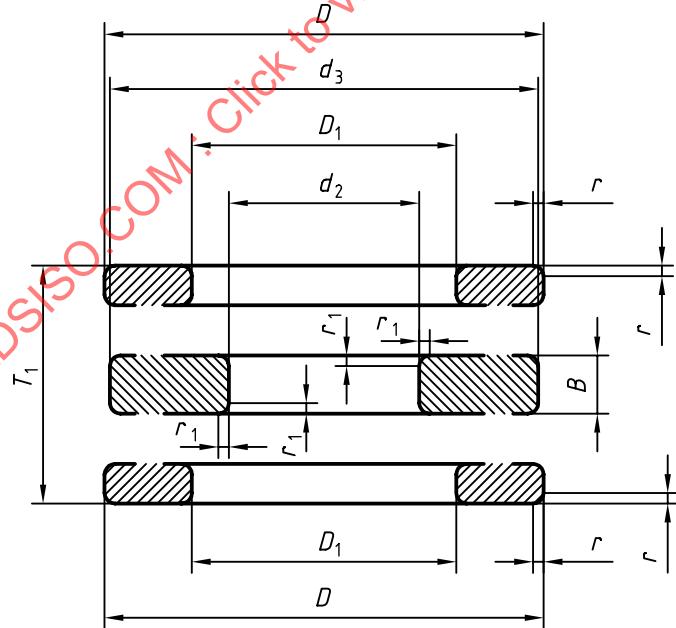


Figure 2 — Double-direction thrust bearing

Table 1 — Single-direction bearings — Diameter series 0

| d | D | r_s min | Dimensions in millimetres | | | Dimensions in millimetres | | |
|----------|-----|-----------|---------------------------|----|----|---------------------------|-------|-----|
| | | | Dimension series | | | Dimension series | | |
| | | | 70 | 90 | 10 | 70 | 90 | 10 |
| <i>T</i> | | | | | | <i>T</i> | | |
| 4 | 12 | 0,3 | 4 | — | 6 | 460 | 500 | 1 |
| 6 | 16 | 0,3 | 5 | — | 7 | 480 | 520 | 1 |
| 8 | 18 | 0,3 | 5 | — | 7 | 500 | 540 | 1 |
| 10 | 20 | 0,3 | 5 | — | 7 | 530 | 580 | 1,1 |
| 12 | 22 | 0,3 | 5 | — | 7 | 560 | 610 | 1,1 |
| 15 | 26 | 0,3 | 5 | — | 7 | 600 | 650 | 1,1 |
| 17 | 28 | 0,3 | 5 | — | 7 | 630 | 680 | 1,1 |
| 20 | 32 | 0,3 | 6 | — | 8 | 670 | 730 | 1,5 |
| 25 | 37 | 0,3 | 6 | — | 8 | 710 | 780 | 1,5 |
| 30 | 42 | 0,3 | 6 | — | 8 | 750 | 820 | 1,5 |
| 35 | 47 | 0,3 | 6 | — | 8 | 800 | 870 | 1,5 |
| 40 | 52 | 0,3 | 6 | — | 9 | 850 | 920 | 1,5 |
| 45 | 60 | 0,3 | 7 | — | 10 | 900 | 980 | 2 |
| 50 | 65 | 0,3 | 7 | — | 10 | 950 | 1 030 | 2 |
| 55 | 70 | 0,3 | 7 | — | 10 | 1 000 | 1 090 | 2,1 |
| 60 | 75 | 0,3 | 7 | — | 10 | 1 060 | 1 150 | 2,1 |
| 65 | 80 | 0,3 | 7 | — | 10 | 1 120 | 1 220 | 2,1 |
| 70 | 85 | 0,3 | 7 | — | 10 | 1 180 | 1 280 | 2,1 |
| 75 | 90 | 0,3 | 7 | — | 10 | 1 250 | 1 360 | 3 |
| 80 | 95 | 0,3 | 7 | — | 10 | 1 320 | 1 440 | 3 |
| 85 | 100 | 0,3 | 7 | — | 10 | 1 400 | 1 520 | 3 |
| 90 | 105 | 0,3 | 7 | — | 10 | 1 500 | 1 630 | 4 |
| 100 | 120 | 0,6 | 9 | — | 14 | 1 600 | 1 730 | 4 |
| 110 | 130 | 0,6 | 9 | — | 14 | 1 700 | 1 840 | 4 |
| 120 | 140 | 0,6 | 9 | — | 14 | 1 800 | 1 950 | 4 |
| 130 | 150 | 0,6 | 9 | — | 14 | 1 900 | 2 060 | 5 |
| 140 | 160 | 0,6 | 9 | — | 14 | 2 000 | 2 160 | 5 |
| 150 | 170 | 0,6 | 9 | — | 14 | 2 120 | 2 300 | 5 |
| 160 | 180 | 0,6 | 9 | — | 14 | 2 240 | 2 430 | 5 |
| 170 | 190 | 0,6 | 9 | — | 14 | 2 360 | 2 550 | 5 |
| 180 | 200 | 0,6 | 9 | — | 14 | 2 500 | 2 700 | 5 |
| 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 | | | |
| 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 | | | |

Table 2 — Single-direction bearings — Diameter series 1

| Dimensions in millimetres | | | | | | | | | Dimensions in millimetres | | | | | | | | |
|---------------------------|-----|--------------------|------------------|----|---------------------|-----|---------------------|--|---------------------------|-------|---------------------|-----|---------------------|-----|-------|-------|--|
| d | D | r _{s min} | Dimension series | | | | | | Dimension series | | | | | | | | |
| | | | 71 | | 91 | | 11 | | 71 | | 91 | | 11 | | | | |
| | | | T | | d _{1s max} | | D _{1s min} | | T | | d _{1s max} | | D _{1s min} | | | | |
| 10 | 24 | 0,3 | 6 | — | 9 | 24 | 11 | | 530 | 640 | 3 | 50 | 67 | 85 | 635 | 534 | |
| 12 | 26 | 0,3 | 6 | — | 9 | 26 | 13 | | 560 | 670 | 3 | 50 | 67 | 85 | 665 | 564 | |
| 15 | 28 | 0,3 | 6 | — | 9 | 28 | 16 | | 600 | 710 | 3 | 50 | 67 | 85 | 705 | 604 | |
| 17 | 30 | 0,3 | 6 | — | 9 | 30 | 18 | | 630 | 750 | 3 | 54 | 73 | 95 | 745 | 634 | |
| 20 | 35 | 0,3 | 7 | — | 10 | 35 | 21 | | 670 | 800 | 4 | 58 | 78 | 105 | 795 | 674 | |
| 25 | 42 | 0,6 | 8 | — | 11 | 42 | 26 | | 710 | 850 | 4 | 63 | 85 | 112 | 845 | 714 | |
| 30 | 47 | 0,6 | 8 | — | 11 | 47 | 32 | | 750 | 900 | 4 | 67 | 90 | 120 | 895 | 755 | |
| 35 | 52 | 0,6 | 8 | — | 12 | 52 | 37 | | 800 | 950 | 4 | 67 | 90 | 120 | 945 | 805 | |
| 40 | 60 | 0,6 | 9 | — | 13 | 60 | 42 | | 850 | 1 000 | 4 | 67 | 90 | 120 | 995 | 855 | |
| 45 | 65 | 0,6 | 9 | — | 14 | 65 | 47 | | 900 | 1 060 | 5 | 73 | 95 | 130 | 1 055 | 905 | |
| 50 | 70 | 0,6 | 9 | — | 14 | 70 | 52 | | 950 | 1 120 | 5 | 78 | 103 | 135 | 1 115 | 955 | |
| 55 | 78 | 0,6 | 10 | — | 16 | 78 | 57 | | 1 000 | 1 180 | 5 | 82 | 109 | 140 | 1 175 | 1 005 | |
| 60 | 85 | 1 | 11 | — | 17 | 85 | 62 | | 1 060 | 1 250 | 5 | 85 | 115 | 150 | 1 245 | 1 065 | |
| 65 | 90 | 1 | 11 | — | 18 | 90 | 67 | | 1 120 | 1 320 | 5 | 90 | 122 | 160 | 1 315 | 1 125 | |
| 70 | 95 | 1 | 11 | — | 18 | 95 | 72 | | 1 180 | 1 400 | 6 | 100 | 132 | 175 | 1 395 | 1 185 | |
| 75 | 100 | 1 | 11 | — | 19 | 100 | 77 | | 1 250 | 1 460 | 6 | — | — | 175 | 1 455 | 1 255 | |
| 80 | 105 | 1 | 11 | — | 19 | 105 | 82 | | 1 320 | 1 540 | 6 | — | — | 175 | 1 535 | 1 325 | |
| 85 | 110 | 1 | 11 | — | 19 | 110 | 87 | | 1 400 | 1 630 | 6 | — | — | 180 | 1 620 | 1 410 | |
| 90 | 120 | 1 | 14 | — | 22 | 120 | 92 | | 1 500 | 1 750 | 6 | — | — | 195 | 1 740 | 1 510 | |
| 100 | 135 | 1 | 16 | 21 | 25 | 135 | 102 | | 1 600 | 1 850 | 6 | — | — | 195 | 1 840 | 1 610 | |
| 110 | 145 | 1 | 16 | 21 | 25 | 145 | 112 | | 1 700 | 1 970 | 7,5 | — | — | 212 | 1 960 | 1 710 | |
| 120 | 155 | 1 | 16 | 21 | 25 | 155 | 122 | | 1 800 | 2 080 | 7,5 | — | — | 220 | 2 070 | 1 810 | |
| 130 | 170 | 1 | 18 | 24 | 30 | 170 | 132 | | 1 900 | 2 180 | 7,5 | — | — | 220 | 2 170 | 1 910 | |
| 140 | 180 | 1 | 18 | 24 | 31 | 178 | 142 | | 2 000 | 2 300 | 7,5 | — | — | 236 | 2 290 | 2 010 | |
| 150 | 190 | 1 | 18 | 24 | 31 | 188 | 152 | | 2 120 | 2 430 | 7,5 | — | — | 243 | 2 420 | 2 130 | |
| 160 | 200 | 1 | 18 | 24 | 31 | 198 | 162 | | 2 240 | 2 570 | 9,5 | — | — | 258 | 2 560 | 2 250 | |
| 170 | 215 | 1,1 | 20 | 27 | 34 | 213 | 172 | | 2 360 | 2 700 | 9,5 | — | — | 265 | 2 690 | 2 370 | |
| 180 | 225 | 1,1 | 20 | 27 | 34 | 222 | 183 | | 2 500 | 2 850 | 9,5 | — | — | 272 | 2 840 | 2 510 | |
| 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 | | | | | | | | | | |
| 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 | | | | | | | | | | |

Table 3 — Single-direction bearings — Diameter series 2

| | | | Dimensions in millimetres | | | | | Dimensions in millimetres | | | | | | | |
|-----|-----|--------------------|---------------------------|----|---------------------|-----|------------------|---------------------------|---------------------|-----|---------------------|-----|-----|-------|-------|
| d | D | r _{s min} | Dimension series | | | | Dimension series | | | | | | | | |
| | | | 72 | | 92 | | 12 | | 72 | | 92 | | | | |
| | | | T | | d _{1s max} | | T | | d _{1s max} | | D _{1s min} | | | | |
| 4 | 16 | 0,3 | 6 | — | 8 | 16 | 4 | 460 | 620 | 5 | 73 | 95 | 130 | 615 | 465 |
| 6 | 20 | 0,3 | 6 | — | 9 | 20 | 6 | 480 | 650 | 5 | 78 | 103 | 135 | 645 | 485 |
| 8 | 22 | 0,3 | 6 | — | 9 | 22 | 8 | 500 | 670 | 5 | 78 | 103 | 135 | 665 | 505 |
| 10 | 26 | 0,6 | 7 | — | 11 | 26 | 12 | 530 | 710 | 5 | 82 | 109 | 140 | 705 | 535 |
| 12 | 28 | 0,6 | 7 | — | 11 | 28 | 14 | 560 | 750 | 5 | 85 | 115 | 150 | 745 | 565 |
| 15 | 32 | 0,6 | 8 | — | 12 | 32 | 17 | 600 | 800 | 5 | 90 | 122 | 160 | 795 | 605 |
| 17 | 35 | 0,6 | 8 | — | 12 | 35 | 19 | 630 | 850 | 6 | 100 | 132 | 175 | 845 | 635 |
| 20 | 40 | 0,6 | 9 | — | 14 | 40 | 22 | 670 | 900 | 6 | 103 | 140 | 180 | 895 | 675 |
| 25 | 47 | 0,6 | 10 | — | 15 | 47 | 27 | 710 | 950 | 6 | 109 | 145 | 190 | 945 | 715 |
| 30 | 52 | 0,6 | 10 | — | 16 | 52 | 32 | 750 | 1 000 | 6 | 112 | 150 | 195 | 995 | 755 |
| 35 | 62 | 1 | 12 | — | 18 | 62 | 37 | 800 | 1 060 | 7,5 | 118 | 155 | 205 | 1 055 | 805 |
| 40 | 68 | 1 | 13 | — | 19 | 68 | 42 | 850 | 1 120 | 7,5 | 122 | 160 | 212 | 1 115 | 855 |
| 45 | 73 | 1 | 13 | — | 20 | 73 | 47 | 900 | 1 180 | 7,5 | 125 | 170 | 220 | 1 175 | 905 |
| 50 | 78 | 1 | 13 | — | 22 | 78 | 52 | 950 | 1 250 | 7,5 | 136 | 180 | 236 | 1 245 | 955 |
| 55 | 90 | 1 | 16 | 21 | 25 | 90 | 57 | 1 000 | 1 320 | 9,5 | 145 | 190 | 250 | 1 315 | 1 005 |
| 60 | 95 | 1 | 16 | 21 | 26 | 95 | 62 | 1 060 | 1 400 | 9,5 | 155 | 206 | 265 | 1 395 | 1 065 |
| 65 | 100 | 1 | 16 | 21 | 27 | 100 | 67 | 1 120 | 1 460 | 9,5 | — | 206 | — | — | — |
| 70 | 105 | 1 | 16 | 21 | 27 | 105 | 72 | 1 180 | 1 520 | 9,5 | — | 206 | — | — | — |
| 75 | 110 | 1 | 16 | 21 | 27 | 110 | 77 | 1 250 | 1 610 | 9,5 | — | 216 | — | — | — |
| 80 | 115 | 1 | 16 | 21 | 28 | 115 | 82 | 1 320 | 1 700 | 9,5 | — | 228 | — | — | — |
| 85 | 125 | 1 | 18 | 24 | 31 | 125 | 88 | 1 400 | 1 790 | 12 | — | 234 | — | — | — |
| 90 | 135 | 1,1 | 20 | 27 | 35 | 135 | 93 | 1 500 | 1 920 | 12 | — | 252 | — | — | — |
| 100 | 150 | 1,1 | 23 | 30 | 38 | 150 | 103 | 1 600 | 2 040 | 15 | — | 264 | — | — | — |
| 110 | 160 | 1,1 | 23 | 30 | 38 | 160 | 113 | 1 700 | 2 160 | 15 | — | 276 | — | — | — |
| 120 | 170 | 1,1 | 23 | 30 | 39 | 170 | 123 | 1 800 | 2 280 | 15 | — | 288 | — | — | — |
| 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 | | | | | | | | |

Table 4 — Single-direction bearings — Diameter series 3

| Dimensions in millimetres | | | | | | | | | Dimensions in millimetres | | | | | | | | |
|---------------------------|-----|--------------------|------------------|-----|---------------------|-----|---------------------|--|---------------------------|-------|---------------------|-----|---------------------|-----|-------|-----|--|
| d | D | r _{s min} | Dimension series | | | | | | Dimension series | | | | | | | | |
| | | | 73 | | 93 | | 13 | | 73 | | 93 | | 13 | | | | |
| | | | T | | d _{1s max} | | D _{1s min} | | T | | d _{1s max} | | D _{1s min} | | | | |
| 4 | 20 | 0,6 | 7 | — | 11 | 20 | 4 | | 460 | 710 | 6 | 112 | 150 | 195 | 705 | 465 | |
| 6 | 24 | 0,6 | 8 | — | 12 | 24 | 6 | | 480 | 730 | 6 | 112 | 150 | 195 | 725 | 485 | |
| 8 | 26 | 0,6 | 8 | — | 12 | 26 | 8 | | 500 | 750 | 6 | 112 | 150 | 195 | 745 | 505 | |
| 10 | 30 | 0,6 | 9 | — | 14 | 30 | 10 | | 530 | 800 | 7,5 | 122 | 160 | 212 | 795 | 535 | |
| 12 | 32 | 0,6 | 9 | — | 14 | 32 | 12 | | 560 | 850 | 7,5 | 132 | 175 | 224 | 845 | 565 | |
| 15 | 37 | 0,6 | 10 | — | 15 | 37 | 15 | | 600 | 900 | 7,5 | 136 | 180 | 236 | 895 | 605 | |
| 17 | 40 | 0,6 | 10 | — | 16 | 40 | 19 | | 630 | 950 | 9,5 | 145 | 190 | 250 | 945 | 635 | |
| 20 | 47 | 1 | 12 | — | 18 | 47 | 22 | | 670 | 1 000 | 9,5 | 150 | 200 | 258 | 995 | 675 | |
| 25 | 52 | 1 | 12 | — | 18 | 52 | 27 | | 710 | 1 060 | 9,5 | 160 | 212 | 272 | 1 055 | 715 | |
| 30 | 60 | 1 | 14 | — | 21 | 60 | 32 | | 750 | 1 120 | 9,5 | 165 | 224 | 290 | 1 115 | 755 | |
| 35 | 68 | 1 | 15 | — | 24 | 68 | 37 | | 800 | 1 180 | 9,5 | 170 | 230 | 300 | 1 175 | 805 | |
| 40 | 78 | 1 | 17 | 22 | 26 | 78 | 42 | | 850 | 1 250 | 12 | 180 | 243 | 315 | 1 245 | 855 | |
| 45 | 85 | 1 | 18 | 24 | 28 | 85 | 47 | | 900 | 1 320 | 12 | 190 | 250 | 335 | 1 315 | 905 | |
| 50 | 95 | 1,1 | 20 | 27 | 31 | 95 | 52 | | 950 | 1 400 | 12 | 200 | 272 | 355 | 1 395 | 955 | |
| 55 | 105 | 1,1 | 23 | 30 | 35 | 105 | 57 | | 1 000 | 1 460 | 12 | — | 276 | — | — | — | |
| 60 | 110 | 1,1 | 23 | 30 | 35 | 110 | 62 | | 1 060 | 1 540 | 15 | — | 288 | — | — | — | |
| 65 | 115 | 1,1 | 23 | 30 | 36 | 115 | 67 | | 1 120 | 1 630 | 15 | — | 306 | — | — | — | |
| 70 | 125 | 1,1 | 25 | 34 | 40 | 125 | 72 | | 1 180 | 1 710 | 15 | — | 318 | — | — | — | |
| 75 | 135 | 1,5 | 27 | 36 | 44 | 135 | 77 | | 1 250 | 1 800 | 19 | — | 330 | — | — | — | |
| 80 | 140 | 1,5 | 27 | 36 | 44 | 140 | 82 | | 1 320 | 1 900 | 19 | — | 348 | — | — | — | |
| 85 | 150 | 1,5 | 29 | 39 | 49 | 150 | 88 | | 1 400 | 2 000 | 19 | — | 360 | — | — | — | |
| 90 | 155 | 1,5 | 29 | 39 | 50 | 155 | 93 | | 1 500 | 2 140 | 19 | — | 384 | — | — | — | |
| 100 | 170 | 1,5 | 32 | 42 | 55 | 170 | 103 | | 1 600 | 2 270 | 19 | — | 402 | — | — | — | |
| 110 | 190 | 2 | 36 | 48 | 63 | 187 | 113 | | | | | | | | | | |
| 120 | 210 | 2,1 | 41 | 54 | 70 | 205 | 123 | | | | | | | | | | |
| 130 | 225 | 2,1 | 42 | 58 | 75 | 220 | 134 | | | | | | | | | | |
| 140 | 240 | 2,1 | 45 | 60 | 80 | 235 | 144 | | | | | | | | | | |
| 150 | 250 | 2,1 | 45 | 60 | 80 | 245 | 154 | | | | | | | | | | |
| 160 | 270 | 3 | 50 | 67 | 87 | 265 | 164 | | | | | | | | | | |
| 170 | 280 | 3 | 50 | 67 | 87 | 275 | 174 | | | | | | | | | | |
| 180 | 300 | 3 | 54 | 73 | 95 | 295 | 184 | | | | | | | | | | |
| 190 | 320 | 4 | 58 | 78 | 105 | 315 | 195 | | | | | | | | | | |
| 200 | 340 | 4 | 63 | 85 | 110 | 335 | 205 | | | | | | | | | | |
| 220 | 360 | 4 | 63 | 85 | 112 | 355 | 225 | | | | | | | | | | |
| 240 | 380 | 4 | 63 | 85 | 112 | 375 | 245 | | | | | | | | | | |
| 260 | 420 | 5 | 73 | 95 | 130 | 415 | 265 | | | | | | | | | | |
| 280 | 440 | 5 | 73 | 95 | 130 | 435 | 285 | | | | | | | | | | |
| 300 | 480 | 5 | 82 | 109 | 140 | 475 | 305 | | | | | | | | | | |
| 320 | 500 | 5 | 82 | 109 | 140 | 495 | 325 | | | | | | | | | | |
| 340 | 540 | 5 | 90 | 122 | 160 | 535 | 345 | | | | | | | | | | |
| 360 | 560 | 5 | 90 | 122 | 160 | 555 | 365 | | | | | | | | | | |
| 380 | 600 | 6 | 100 | 132 | 175 | 595 | 385 | | | | | | | | | | |
| 400 | 620 | 6 | 100 | 132 | 175 | 615 | 405 | | | | | | | | | | |
| 420 | 650 | 6 | 103 | 140 | 180 | 645 | 425 | | | | | | | | | | |
| 440 | 680 | 6 | 109 | 145 | 190 | 675 | 445 | | | | | | | | | | |

Table 5 — Single-direction bearings — Diameter series 4

| Dimensions in millimetres | | | | | | | | | |
|---------------------------|-------|--------------------|------------------|-----|---------------------|---------------------|-----|---------------------------|--|
| d | D | r _{s min} | Dimension series | | | | | Dimensions in millimetres | |
| | | | 74 | | 94 | | 14 | | |
| | | | T | | d _{1s max} | D _{1s min} | | | |
| 25 | 60 | 1 | 16 | 21 | 24 | 60 | 27 | | |
| 30 | 70 | 1 | 18 | 24 | 28 | 70 | 32 | | |
| 35 | 80 | 1,1 | 20 | 27 | 32 | 80 | 37 | | |
| 40 | 90 | 1,1 | 23 | 30 | 36 | 90 | 42 | | |
| 45 | 100 | 1,1 | 25 | 34 | 39 | 100 | 47 | | |
| 50 | 110 | 1,5 | 27 | 36 | 43 | 110 | 52 | | |
| 55 | 120 | 1,5 | 29 | 39 | 48 | 120 | 57 | | |
| 60 | 130 | 1,5 | 32 | 42 | 51 | 130 | 62 | | |
| 65 | 140 | 2 | 34 | 45 | 56 | 140 | 68 | | |
| 70 | 150 | 2 | 36 | 48 | 60 | 150 | 73 | | |
| 75 | 160 | 2 | 38 | 51 | 65 | 160 | 78 | | |
| 80 | 170 | 2,1 | 41 | 54 | 68 | 170 | 83 | | |
| 85 | 180 | 2,1 | 42 | 58 | 72 | 177 | 88 | | |
| 90 | 190 | 2,1 | 45 | 60 | 77 | 187 | 93 | | |
| 100 | 210 | 3 | 50 | 67 | 85 | 205 | 103 | | |
| 110 | 230 | 3 | 54 | 73 | 95 | 225 | 113 | | |
| 120 | 250 | 4 | 58 | 78 | 102 | 245 | 123 | | |
| 130 | 270 | 4 | 63 | 85 | 110 | 265 | 134 | | |
| 140 | 280 | 4 | 63 | 85 | 112 | 275 | 144 | | |
| 150 | 300 | 4 | 67 | 90 | 120 | 295 | 154 | | |
| 160 | 320 | 5 | 73 | 95 | 130 | 315 | 164 | | |
| 170 | 340 | 5 | 78 | 103 | 135 | 335 | 174 | | |
| 180 | 360 | 5 | 82 | 109 | 140 | 355 | 184 | | |
| 190 | 380 | 5 | 85 | 115 | 150 | 375 | 195 | | |
| 200 | 400 | 5 | 90 | 122 | 155 | 395 | 205 | | |
| 220 | 420 | 6 | 90 | 122 | 160 | 415 | 225 | | |
| 240 | 440 | 6 | 90 | 122 | 160 | 435 | 245 | | |
| 260 | 480 | 6 | 100 | 132 | 175 | 475 | 265 | | |
| 280 | 520 | 6 | 109 | 145 | 190 | 515 | 285 | | |
| 300 | 540 | 6 | 109 | 145 | 190 | 535 | 305 | | |
| 320 | 580 | 7,5 | 118 | 155 | 205 | 575 | 325 | | |
| 340 | 620 | 7,5 | 125 | 170 | 220 | 615 | 345 | | |
| 360 | 640 | 7,5 | 125 | 170 | 220 | 635 | 365 | | |
| 380 | 670 | 7,5 | 132 | 175 | 224 | 665 | 385 | | |
| 400 | 710 | 7,5 | 140 | 185 | 243 | 705 | 405 | | |
| 420 | 730 | 7,5 | 140 | 185 | 243 | 725 | 425 | | |
| 440 | 780 | 9,5 | 155 | 206 | 265 | 775 | 445 | | |
| 460 | 800 | 9,5 | 155 | 206 | 265 | 795 | 465 | | |
| 480 | 850 | 9,5 | 165 | 224 | 290 | 845 | 485 | | |
| 500 | 870 | 9,5 | 165 | 224 | 290 | 865 | 505 | | |
| 530 | 920 | 9,5 | 175 | 236 | 308 | 915 | 535 | | |
| 560 | 980 | 12 | 190 | 250 | 335 | 975 | 565 | | |
| 600 | 1 030 | 12 | 195 | 258 | 335 | 1 025 | 605 | | |
| 630 | 1 090 | 12 | 206 | 280 | 365 | 1 085 | 635 | | |

Table 6 — Single-direction bearings — Diameter series 5

| <i>d</i> | <i>D</i> | <i>r_s min</i> | Dimensions in millimetres | | Dimensions in millimetres | |
|----------|----------|--------------------------|---------------------------|----------|---------------------------|--|
| | | | Dimension series | | | |
| | | | 95 | <i>T</i> | | |
| 17 | 52 | 1 | 21 | | 600 | |
| 20 | 60 | 1 | 24 | | 630 | |
| 25 | 73 | 1,1 | 29 | | 670 | |
| 30 | 85 | 1,1 | 34 | | 710 | |
| 35 | 100 | 1,1 | 39 | | | |
| 40 | 110 | 1,5 | 42 | | | |
| 45 | 120 | 2 | 45 | | | |
| 50 | 135 | 2 | 51 | | | |
| 55 | 150 | 2,1 | 58 | | | |
| 60 | 160 | 2,1 | 60 | | | |
| 65 | 170 | 2,1 | 63 | | | |
| 70 | 180 | 3 | 67 | | | |
| 75 | 190 | 3 | 69 | | | |
| 80 | 200 | 3 | 73 | | | |
| 85 | 215 | 4 | 78 | | | |
| 90 | 225 | 4 | 82 | | | |
| 100 | 250 | 4 | 90 | | | |
| 110 | 270 | 5 | 95 | | | |
| 120 | 300 | 5 | 109 | | | |
| 130 | 320 | 5 | 115 | | | |
| 140 | 340 | 5 | 122 | | | |
| 150 | 360 | 6 | 125 | | | |
| 160 | 380 | 6 | 132 | | | |
| 170 | 400 | 6 | 140 | | | |
| 180 | 420 | 6 | 145 | | | |
| 190 | 440 | 6 | 150 | | | |
| 200 | 460 | 7,5 | 155 | | | |
| 220 | 500 | 7,5 | 170 | | | |
| 240 | 540 | 7,5 | 180 | | | |
| 260 | 580 | 9,5 | 190 | | | |
| 280 | 620 | 9,5 | 206 | | | |
| 300 | 670 | 9,5 | 224 | | | |
| 320 | 710 | 9,5 | 236 | | | |
| 340 | 750 | 12 | 243 | | | |
| 360 | 780 | 12 | 250 | | | |
| 380 | 820 | 12 | 265 | | | |
| 400 | 850 | 12 | 272 | | | |
| 420 | 900 | 15 | 290 | | | |
| 440 | 950 | 15 | 308 | | | |
| 460 | 980 | 15 | 315 | | | |
| 480 | 1 000 | 15 | 315 | | | |
| 500 | 1 060 | 15 | 335 | | | |
| 530 | 1 090 | 15 | 335 | | | |
| 560 | 1 150 | 15 | 355 | | | |

Table 7 — Double-direction bearings — Diameter series 2 — Dimension series 22

Dimensions in millimetres

| d_2 | d^a | D | $r_s \text{ min}$ | $r_{1s} \text{ min}$ | T_1 | B | $d_{3s} \text{ max}$ | $D_{1s} \text{ min}$ |
|-------|-------|-----|-------------------|----------------------|-------|-----|----------------------|----------------------|
| 10 | 15 | 32 | 0,6 | 0,3 | 22 | 5 | 32 | 17 |
| 15 | 20 | 40 | 0,6 | 0,3 | 26 | 6 | 40 | 22 |
| 20 | 25 | 47 | 0,6 | 0,3 | 28 | 7 | 47 | 27 |
| 25 | 30 | 52 | 0,6 | 0,3 | 29 | 7 | 52 | 32 |
| 30 | 35 | 62 | 1 | 0,3 | 34 | 8 | 62 | 37 |
| 30 | 40 | 68 | 1 | 0,6 | 36 | 9 | 68 | 42 |
| 35 | 45 | 73 | 1 | 0,6 | 37 | 9 | 73 | 47 |
| 40 | 50 | 78 | 1 | 0,6 | 39 | 9 | 78 | 52 |
| 45 | 55 | 90 | 1 | 0,6 | 45 | 10 | 90 | 57 |
| 50 | 60 | 95 | 1 | 0,6 | 46 | 10 | 95 | 62 |
| 55 | 65 | 100 | 1 | 0,6 | 47 | 10 | 100 | 67 |
| 55 | 70 | 105 | 1 | 1 | 47 | 10 | 105 | 72 |
| 60 | 75 | 110 | 1 | 1 | 47 | 10 | 110 | 77 |
| 65 | 80 | 115 | 1 | 1 | 48 | 10 | 115 | 82 |
| 70 | 85 | 125 | 1 | 1 | 55 | 12 | 125 | 88 |
| 75 | 90 | 135 | 1,1 | 1 | 62 | 14 | 135 | 93 |
| 85 | 100 | 150 | 1,1 | 1 | 67 | 15 | 150 | 103 |
| 95 | 110 | 160 | 1,1 | 1 | 67 | 15 | 160 | 113 |
| 100 | 120 | 170 | 1,1 | 1,1 | 68 | 15 | 170 | 123 |
| 110 | 130 | 190 | 1,5 | 1,1 | 80 | 18 | 189,5 | 133 |
| 120 | 140 | 200 | 1,5 | 1,1 | 81 | 18 | 199,5 | 143 |
| 130 | 150 | 215 | 1,5 | 1,1 | 89 | 20 | 214,5 | 153 |
| 140 | 160 | 225 | 1,5 | 1,1 | 90 | 20 | 224,5 | 163 |
| 150 | 170 | 240 | 1,5 | 1,1 | 97 | 21 | 239,5 | 173 |
| 150 | 180 | 250 | 1,5 | 2 | 98 | 21 | 249 | 183 |
| 160 | 190 | 270 | 2 | 2 | 109 | 24 | 269 | 194 |
| 170 | 200 | 280 | 2 | 2 | 109 | 24 | 279 | 204 |
| 190 | 220 | 300 | 2 | 2 | 110 | 24 | 299 | 224 |

^a d is the bore diameter of shaft washer of corresponding diameter series 2, single-direction bearing, given in Table 3.

Table 8 — Double-direction bearings — Diameter series 3 — Dimension series 23

Dimensions in millimetres

| d_2 | d^a | D | $r_s \text{ min}$ | $r_{1s} \text{ min}$ | T_1 | B | $d_{3s} \text{ max}$ | $D_{1s} \text{ min}$ |
|-------|-------|-----|-------------------|----------------------|-------|-----|----------------------|----------------------|
| 20 | 25 | 52 | 1 | 0,3 | 34 | 8 | 52 | 27 |
| 25 | 30 | 60 | 1 | 0,3 | 38 | 9 | 60 | 32 |
| 30 | 35 | 68 | 1 | 0,3 | 44 | 10 | 68 | 37 |
| 30 | 40 | 78 | 1 | 0,6 | 49 | 12 | 78 | 42 |
| 35 | 45 | 85 | 1 | 0,6 | 52 | 12 | 85 | 47 |
| 40 | 50 | 95 | 1,1 | 0,6 | 58 | 14 | 95 | 52 |
| 45 | 55 | 105 | 1,1 | 0,6 | 64 | 15 | 105 | 57 |
| 50 | 60 | 110 | 1,1 | 0,6 | 64 | 15 | 110 | 62 |
| 55 | 65 | 115 | 1,1 | 0,6 | 65 | 15 | 115 | 67 |
| 55 | 70 | 125 | 1,1 | 1 | 72 | 16 | 125 | 72 |
| 60 | 75 | 135 | 1,5 | 1 | 79 | 18 | 135 | 77 |
| 65 | 80 | 140 | 1,5 | 1 | 79 | 18 | 140 | 82 |
| 70 | 85 | 150 | 1,5 | 1 | 87 | 19 | 150 | 88 |
| 75 | 90 | 155 | 1,5 | 1 | 88 | 19 | 155 | 93 |
| 85 | 100 | 170 | 1,5 | 1 | 97 | 21 | 170 | 103 |
| 95 | 110 | 190 | 2 | 1 | 110 | 24 | 189,5 | 113 |
| 100 | 120 | 210 | 2,1 | 1,1 | 123 | 27 | 209,5 | 123 |
| 110 | 130 | 225 | 2,1 | 1,1 | 130 | 30 | 224 | 134 |
| 120 | 140 | 240 | 2,1 | 1,1 | 140 | 31 | 239 | 144 |
| 130 | 150 | 250 | 2,1 | 1,1 | 140 | 31 | 249 | 154 |
| 140 | 160 | 270 | 3 | 1,1 | 153 | 33 | 269 | 164 |
| 150 | 170 | 280 | 3 | 1,1 | 153 | 33 | 279 | 174 |
| 150 | 180 | 300 | 3 | 2 | 165 | 37 | 299 | 184 |
| 160 | 190 | 320 | 4 | 2 | 183 | 40 | 319 | 195 |
| 170 | 200 | 340 | 4 | 2 | 192 | 42 | 339 | 205 |

^a d is the bore diameter of shaft washer of corresponding diameter series 3, single-direction bearing, given in Table 4.

Table 9 — Double-direction bearings — Diameter series 4 — Dimension series 24

Dimensions in millimetres

| d_2 | d^a | D | $r_s \text{ min}$ | $r_{1s} \text{ min}$ | T_1 | B | $d_{3s} \text{ max}$ | $D_{1s} \text{ min}$ |
|-------|-------|-----|-------------------|----------------------|-------|-----|----------------------|----------------------|
| 15 | 25 | 60 | 1 | 0,6 | 45 | 11 | 60 | 27 |
| 20 | 30 | 70 | 1 | 0,6 | 52 | 12 | 70 | 32 |
| 25 | 35 | 80 | 1,1 | 0,6 | 59 | 14 | 80 | 37 |
| 30 | 40 | 90 | 1,1 | 0,6 | 65 | 15 | 90 | 42 |
| 35 | 45 | 100 | 1,1 | 0,6 | 72 | 17 | 100 | 47 |
| 40 | 50 | 110 | 1,5 | 0,6 | 78 | 18 | 110 | 52 |
| 45 | 55 | 120 | 1,5 | 0,6 | 87 | 20 | 120 | 57 |
| 50 | 60 | 130 | 1,5 | 0,6 | 93 | 21 | 130 | 62 |
| 50 | 65 | 140 | 2 | 1 | 101 | 23 | 140 | 68 |
| 55 | 70 | 150 | 2 | 1 | 107 | 24 | 150 | 73 |
| 60 | 75 | 160 | 2 | 1 | 115 | 26 | 160 | 78 |
| 65 | 80 | 170 | 2,1 | 1 | 120 | 27 | 170 | 83 |
| 65 | 85 | 180 | 2,1 | 1,1 | 128 | 29 | 179,5 | 88 |
| 70 | 90 | 190 | 2,1 | 1,1 | 135 | 30 | 189,5 | 93 |
| 80 | 100 | 210 | 3 | 1,1 | 150 | 33 | 209,5 | 103 |
| 90 | 110 | 230 | 3 | 1,1 | 166 | 37 | 229 | 113 |
| 95 | 120 | 250 | 4 | 1,5 | 177 | 40 | 249 | 123 |
| 100 | 130 | 270 | 4 | 2 | 192 | 42 | 269 | 134 |
| 110 | 140 | 280 | 4 | 2 | 196 | 44 | 279 | 144 |
| 120 | 150 | 300 | 4 | 2 | 209 | 46 | 299 | 154 |
| 130 | 160 | 320 | 5 | 2 | 226 | 50 | 319 | 164 |
| 135 | 170 | 340 | 5 | 2,1 | 236 | 50 | 339 | 174 |
| 140 | 180 | 360 | 5 | 3 | 245 | 52 | 359 | 184 |

^a d is the bore diameter of shaft washer of corresponding diameter series 4, single-direction bearing, given in Table 5.