

THRUST BEARINGS

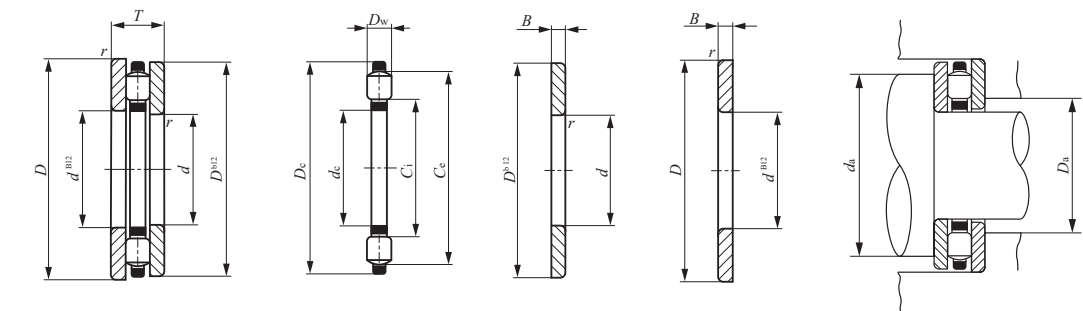
Thrust Roller Bearings



Shaft dia. 10 – 65mm

| Shaft dia.<br>mm | Identification number |               |                       |               |            |            |               |
|------------------|-----------------------|---------------|-----------------------|---------------|------------|------------|---------------|
|                  | Thrust roller bearing | Mass (Ref.) g | Thrust roller bearing | Mass (Ref.) g | Inner ring | Outer ring | Mass (Ref.) g |
| 10               | AZ 10249              | 24.6          | AZK 10243.5           | 8.6           | WS 1024    | GS 1024    | 8             |
| 12               | AZ 12269              | 26.5          | AZK 12263.5           | 8.7           | WS 1226    | GS 1226    | 8.9           |
| 15               | AZ 15289              | 28            | AZK 15283.5           | 9.4           | WS 1528    | GS 1528    | 9.3           |
| 17               | AZ 17309              | 30.5          | AZK 17303.5           | 10.1          | WS 1730    | GS 1730    | 10.2          |
| 20               | AZ 203510             | 45.5          | AZK 20354.5           | 17.9          | WS 2035    | GS 2035    | 13.8          |
| 25               | AZ 254211             | 70            | AZK 25425             | 28            | WS 2542    | GS 2542    | 21            |
| 30               | AZ 304711             | 79            | AZK 30475             | 31            | WS 3047    | GS 3047    | 24            |
|                  | AZ 305216             | 160           | AZK 30527.5           | 70            | WS 3052    | GS 3052    | 45            |
| 35               | AZ 355212             | 99            | AZK 35525             | 36            | WS 3552    | GS 3552    | 31.5          |
|                  | AZ 356218             | 260           | AZK 35627.5           | 98            | WS 3562    | GS 3562    | 81            |
| 40               | AZ 406013             | 139           | AZK 40606             | 54            | WS 4060    | GS 4060    | 42.5          |
|                  | AZ 406819             | 310           | AZK 40689             | 132           | WS 4068    | GS 4068    | 89            |
| 45               | AZ 456514             | 169           | AZK 45656             | 62            | WS 4565    | GS 4565    | 53.5          |
|                  | AZ 457320             | 360           | AZK 45739             | 144           | WS 4573    | GS 4573    | 108           |
| 50               | AZ 507014             | 185           | AZK 50706             | 68            | WS 5070    | GS 5070    | 58.5          |
|                  | AZ 507822             | 430           | AZK 507811            | 194           | WS 5078    | GS 5078    | 118           |
| 55               | AZ 557816             | 275           | AZK 55786             | 89            | WS 5578    | GS 5578    | 93            |
|                  | AZ 559025             | 725           | AZK 559011            | 275           | WS 5590    | GS 5590    | 225           |
| 60               | AZ 608517             | 345           | AZK 60857.5           | 135           | WS 6085    | GS 6085    | 105           |
|                  | AZ 609526             | 770           | AZK 609511            | 290           | WS 6095    | GS 6095    | 240           |
|                  | AZ 6013026            | 2 090         | AZK 6013010           | 790           | WS 60130   | GS 60130   | 650           |
| 65               | AZ 659018             | 380           | AZK 65907.5           | 132           | WS 6590    | GS 6590    | 124           |
|                  | AZ 6510027            | 860           | AZK 6510011           | 310           | WS 65100   | GS 65100   | 275           |

Notes<sup>(1)</sup> Minimum allowable value of chamfer dimension *r*  
<sup>(2)</sup> Allowable rotational speed applies to oil lubrication. For grease lubrication, a maximum of 25% of this value is allowable.



| Boundary dimensions<br>mm |          |          |                       |                       |                       |          |                                          |                       |                       |                               |                               | Standard mounting<br>dimensions mm | Basic dynamic<br>load rating<br><i>C</i><br>N | Basic static<br>load rating<br><i>C</i> <sub>0</sub><br>N | Allowable<br>rotational<br>speed <sup>(2)</sup><br>min <sup>-1</sup> |
|---------------------------|----------|----------|-----------------------|-----------------------|-----------------------|----------|------------------------------------------|-----------------------|-----------------------|-------------------------------|-------------------------------|------------------------------------|-----------------------------------------------|-----------------------------------------------------------|----------------------------------------------------------------------|
| <i>d</i>                  | <i>D</i> | <i>T</i> | <i>d</i> <sub>c</sub> | <i>D</i> <sub>c</sub> | <i>D</i> <sub>w</sub> | <i>B</i> | <i>r</i> <sub>s min</sub> <sup>(1)</sup> | <i>C</i> <sub>i</sub> | <i>C</i> <sub>e</sub> | <i>d</i> <sub>a</sub><br>Min. | <i>D</i> <sub>a</sub><br>Max. |                                    |                                               |                                                           |                                                                      |
| 10                        | 24       | 9        | 10.04                 | 23.6                  | 3.5                   | 2.75     | 0.3                                      | 13                    | 21                    | 21                            | 13                            |                                    | 8 990                                         | 19 100                                                    | 18 000                                                               |
| 12                        | 26       | 9        | 12.04                 | 25.6                  | 3.5                   | 2.75     | 0.3                                      | 15                    | 23                    | 23                            | 16                            |                                    | 10 400                                        | 23 900                                                    | 16 000                                                               |
| 15                        | 28       | 9        | 15.04                 | 27.6                  | 3.5                   | 2.75     | 0.3                                      | 17                    | 25                    | 25                            | 18                            |                                    | 10 200                                        | 23 900                                                    | 14 000                                                               |
| 17                        | 30       | 9        | 17.04                 | 29.6                  | 3.5                   | 2.75     | 0.3                                      | 19                    | 27                    | 27                            | 20                            |                                    | 11 400                                        | 28 600                                                    | 13 000                                                               |
| 20                        | 35       | 10       | 20.04                 | 34.6                  | 4.5                   | 2.75     | 0.3                                      | 22                    | 33                    | 33                            | 23                            |                                    | 19 000                                        | 48 700                                                    | 11 000                                                               |
| 25                        | 42       | 11       | 25.05                 | 41.6                  | 5                     | 3        | 0.6                                      | 28                    | 39                    | 39                            | 28                            |                                    | 22 700                                        | 60 700                                                    | 9 000                                                                |
| 30                        | 47       | 11       | 30.05                 | 46.5                  | 5                     | 3        | 0.6                                      | 33                    | 44                    | 44                            | 33                            |                                    | 27 400                                        | 81 000                                                    | 8 000                                                                |
| 30                        | 52       | 16       | 30.05                 | 51.5                  | 7.5                   | 4.25     | 0.6                                      | 35                    | 49                    | 48                            | 36                            |                                    | 38 400                                        | 95 700                                                    | 7 500                                                                |
| 35                        | 52       | 12       | 35.05                 | 51.5                  | 5                     | 3.5      | 0.6                                      | 38                    | 49                    | 49                            | 39                            |                                    | 29 100                                        | 91 100                                                    | 7 000                                                                |
| 35                        | 62       | 18       | 35.05                 | 61.5                  | 7.5                   | 5.25     | 1                                        | 42                    | 58                    | 57                            | 43                            |                                    | 47 900                                        | 135 000                                                   | 6 500                                                                |
| 40                        | 60       | 13       | 40.05                 | 59.5                  | 6                     | 3.5      | 0.6                                      | 44                    | 57                    | 57                            | 44                            |                                    | 41 700                                        | 133 000                                                   | 6 000                                                                |
| 40                        | 68       | 19       | 40.05                 | 67.5                  | 9                     | 5        | 1                                        | 45                    | 64                    | 64                            | 46                            |                                    | 68 700                                        | 195 000                                                   | 5 500                                                                |
| 45                        | 65       | 14       | 45.05                 | 64.5                  | 6                     | 4        | 0.6                                      | 49                    | 62                    | 62                            | 49                            |                                    | 40 800                                        | 133 000                                                   | 5 500                                                                |
| 45                        | 73       | 20       | 45.05                 | 72.5                  | 9                     | 5.5      | 1                                        | 50                    | 69                    | 69                            | 51                            |                                    | 75 700                                        | 227 000                                                   | 5 000                                                                |
| 50                        | 70       | 14       | 50.05                 | 69.5                  | 6                     | 4        | 0.6                                      | 54                    | 67                    | 67                            | 54                            |                                    | 43 300                                        | 148 000                                                   | 5 000                                                                |
| 50                        | 78       | 22       | 50.05                 | 77.5                  | 11                    | 5.5      | 1                                        | 55                    | 74                    | 73                            | 56                            |                                    | 84 300                                        | 232 000                                                   | 4 500                                                                |
| 55                        | 78       | 16       | 55.05                 | 77.5                  | 6                     | 5        | 0.6                                      | 59                    | 75                    | 75                            | 60                            |                                    | 51 700                                        | 192 000                                                   | 4 500                                                                |
| 55                        | 90       | 25       | 55.05                 | 89.5                  | 11                    | 7        | 1                                        | 63                    | 85                    | 84                            | 63                            |                                    | 108 000                                       | 332 000                                                   | 4 000                                                                |
| 60                        | 85       | 17       | 60.05                 | 84.5                  | 7.5                   | 4.75     | 1                                        | 65                    | 81                    | 81                            | 66                            |                                    | 64 600                                        | 224 000                                                   | 4 000                                                                |
| 60                        | 95       | 26       | 60.05                 | 94.5                  | 11                    | 7.5      | 1                                        | 68                    | 90                    | 89                            | 68                            |                                    | 106 000                                       | 332 000                                                   | 4 000                                                                |
| 60                        | 130      | 26       | 60.05                 | 129.5                 | 10                    | 8        | 1.5                                      | 79                    | 119                   | 119                           | 80                            |                                    | 158 000                                       | 634 000                                                   | 3 000                                                                |
| 65                        | 90       | 18       | 65.05                 | 89.5                  | 7.5                   | 5.25     | 1                                        | 70                    | 86                    | 86                            | 71                            |                                    | 68 300                                        | 247 000                                                   | 4 000                                                                |
| 65                        | 100      | 27       | 65.05                 | 99.5                  | 11                    | 8        | 1                                        | 73                    | 95                    | 94                            | 73                            |                                    | 116 000                                       | 379 000                                                   | 3 500                                                                |

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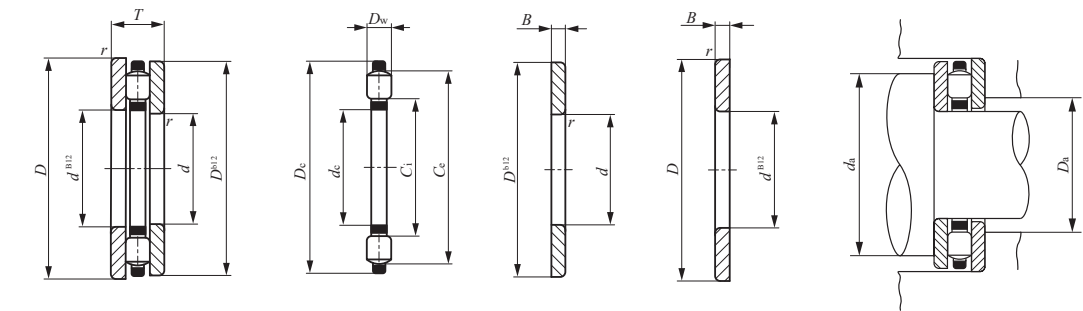
Thrust Roller Bearings



Shaft dia. 70 – 130mm

| Shaft dia.<br>mm | Identification number |               |                       |               |            |            |               |
|------------------|-----------------------|---------------|-----------------------|---------------|------------|------------|---------------|
|                  | Thrust roller bearing | Mass (Ref.) g | Thrust roller bearing | Mass (Ref.) g | Inner ring | Outer ring | Mass (Ref.) g |
| 70               | AZ 709518             | 420           | AZK 70957.5           | 156           | WS 7095    | GS 7095    | 132           |
|                  | AZ 7010527            | 905           | AZK 7010511           | 325           | WS 70105   | GS 70105   | 290           |
|                  | AZ 7014026            | 2 250         | AZK 7014010           | 890           | WS 70140   | GS 70140   | 680           |
| 75               | AZ 7510019            | 465           | AZK 751007.5          | 159           | WS 75100   | GS 75100   | 153           |
|                  | AZ 7511027            | 960           | AZK 7511011           | 340           | WS 75110   | GS 75110   | 310           |
| 80               | AZ 8010519            | 495           | AZK 801057.5          | 171           | WS 80105   | GS 80105   | 162           |
|                  | AZ 8011528            | 1 060         | AZK 8011511           | 370           | WS 80115   | GS 80115   | 345           |
|                  | AZ 8015026            | 2 500         | AZK 8015010           | 920           | WS 80150   | GS 80150   | 790           |
| 85               | AZ 8511019            | 530           | AZK 851107.5          | 190           | WS 85110   | GS 85110   | 170           |
|                  | AZ 8512531            | 1 460         | AZK 8512512           | 510           | WS 85125   | GS 85125   | 475           |
| 90               | AZ 9012022            | 790           | AZK 901209            | 290           | WS 90120   | GS 90120   | 250           |
|                  | AZ 9013535            | 2 040         | AZK 9013514           | 750           | WS 90135   | GS 90135   | 645           |
|                  | AZ 9016026            | 2 710         | AZK 9016010           | 1 000         | WS 90160   | GS 90160   | 855           |
| 100              | AZ 10013525           | 1 190         | AZK 10013511          | 490           | WS 100135  | GS 100135  | 350           |
|                  | AZ 10015038           | 2 720         | AZK 10015015          | 980           | WS 100150  | GS 100150  | 870           |
|                  | AZ 10019039           | 5 960         | AZK 10019015          | 2 120         | WS 100190  | GS 100190  | 1 920         |
| 110              | AZ 11014525           | 1 350         | AZK 11014511          | 590           | WS 110145  | GS 110145  | 380           |
|                  | AZ 11016040           | 3 220         | AZK 11016017          | 1 320         | WS 110160  | GS 110160  | 950           |
|                  | AZ 11020039           | 6 400         | AZK 11020015          | 2 280         | WS 110200  | GS 110200  | 2 060         |
| 120              | AZ 12015525           | 1 450         | AZK 12015511          | 630           | WS 120155  | GS 120155  | 410           |
|                  | AZ 12017542           | 4 020         | AZK 12017518          | 1 640         | WS 120175  | GS 120175  | 1 190         |
|                  | AZ 12022039           | 7 730         | AZK 12022015          | 2 730         | WS 120220  | GS 120220  | 2 500         |
| 130              | AZ 13017030           | 2 180         | AZK 13017012          | 860           | WS 130170  | GS 130170  | 660           |
|                  | AZ 13018542           | 4 300         | AZK 13018518          | 1 760         | WS 130185  | GS 130185  | 1 270         |
|                  | AZ 13023039           | 8 240         | AZK 13023015          | 2 940         | WS 130230  | GS 130230  | 2 650         |

Notes<sup>(1)</sup> Minimum allowable value of chamfer dimension *r*  
<sup>(2)</sup> Allowable rotational speed applies to oil lubrication. For grease lubrication, a maximum of 25% of this value is allowable.



| AZ                        |          |          | AZK                   |                       |                       | WS       |                                          |                       | GS                    |                                    |                               |                              |                             |                                                 |
|---------------------------|----------|----------|-----------------------|-----------------------|-----------------------|----------|------------------------------------------|-----------------------|-----------------------|------------------------------------|-------------------------------|------------------------------|-----------------------------|-------------------------------------------------|
| Boundary dimensions<br>mm |          |          |                       |                       |                       |          |                                          |                       |                       | Standard mounting<br>dimensions mm |                               | Basic dynamic<br>load rating | Basic static<br>load rating | Allowable<br>rotational<br>speed <sup>(2)</sup> |
| <i>d</i>                  | <i>D</i> | <i>T</i> | <i>d</i> <sub>c</sub> | <i>D</i> <sub>c</sub> | <i>D</i> <sub>w</sub> | <i>B</i> | <i>r</i> <sub>s min</sub> <sup>(1)</sup> | <i>C</i> <sub>i</sub> | <i>C</i> <sub>e</sub> | <i>d</i> <sub>a</sub><br>Min.      | <i>D</i> <sub>a</sub><br>Max. | <i>C</i><br>N                | <i>C</i> <sub>0</sub><br>N  | min <sup>-1</sup>                               |
| 70                        | 95       | 18       | 70.05                 | 94.5                  | 7.5                   | 5.25     | 1                                        | 75                    | 91                    | 91                                 | 76                            | 72 000                       | 269 000                     | 3 500                                           |
| 70                        | 105      | 27       | 70.05                 | 104.5                 | 11                    | 8        | 1                                        | 78                    | 100                   | 99                                 | 78                            | 114 000                      | 379 000                     | 3 500                                           |
| 70                        | 140      | 26       | 70.05                 | 139.5                 | 10                    | 8        | 1.1                                      | 89                    | 129                   | 129                                | 90                            | 169 000                      | 713 000                     | 3 000                                           |
| 75                        | 100      | 19       | 75.05                 | 99.5                  | 7.5                   | 5.75     | 1                                        | 80                    | 96                    | 96                                 | 81                            | 71 100                       | 269 000                     | 3 500                                           |
| 75                        | 110      | 27       | 75.05                 | 109.5                 | 11                    | 8        | 1                                        | 83                    | 105                   | 104                                | 83                            | 123 000                      | 427 000                     | 3 000                                           |
| 80                        | 105      | 19       | 80.05                 | 104.5                 | 7.5                   | 5.75     | 1                                        | 85                    | 101                   | 101                                | 86                            | 74 500                       | 292 000                     | 3 000                                           |
| 80                        | 115      | 28       | 80.05                 | 114.5                 | 11                    | 8.5      | 1                                        | 88                    | 110                   | 109                                | 88                            | 122 000                      | 427 000                     | 3 000                                           |
| 80                        | 150      | 26       | 80.05                 | 149.5                 | 10                    | 8        | 1.5                                      | 99                    | 139                   | 139                                | 100                           | 180 000                      | 792 000                     | 2 500                                           |
| 85                        | 110      | 19       | 85.05                 | 109.5                 | 7.5                   | 5.75     | 1                                        | 90                    | 106                   | 106                                | 91                            | 77 800                       | 314 000                     | 3 000                                           |
| 85                        | 125      | 31       | 85.05                 | 124.5                 | 12                    | 9.5      | 1                                        | 95                    | 119                   | 118                                | 95                            | 145 000                      | 513 000                     | 3 000                                           |
| 90                        | 120      | 22       | 90.05                 | 119.5                 | 9                     | 6.5      | 1                                        | 97                    | 116                   | 115                                | 97                            | 99 700                       | 390 000                     | 3 000                                           |
| 90                        | 135      | 35       | 90.05                 | 134.5                 | 14                    | 10.5     | 1.1                                      | 100                   | 129                   | 128                                | 101                           | 181 000                      | 626 000                     | 2 500                                           |
| 90                        | 160      | 26       | 90.05                 | 159.5                 | 10                    | 8        | 1.5                                      | 109                   | 149                   | 149                                | 110                           | 189 000                      | 871 000                     | 2 500                                           |
| 100                       | 135      | 25       | 100.05                | 134.5                 | 11                    | 7        | 1                                        | 108                   | 130                   | 129                                | 108                           | 136 000                      | 522 000                     | 2 500                                           |
| 100                       | 150      | 38       | 100.05                | 149.5                 | 15                    | 11.5     | 1.1                                      | 112                   | 143                   | 142                                | 113                           | 219 000                      | 796 000                     | 2 500                                           |
| 100                       | 190      | 39       | 100.1                 | 189.3                 | 15                    | 12       | 1.5                                      | 119                   | 179                   | 177                                | 120                           | 333 000                      | 1 420 000                   | 2 000                                           |
| 110                       | 145      | 25       | 110.1                 | 144.5                 | 11                    | 7        | 1                                        | 118                   | 140                   | 139                                | 118                           | 142 000                      | 569 000                     | 2 500                                           |
| 110                       | 160      | 40       | 110.1                 | 159.5                 | 17                    | 11.5     | 1.1                                      | 120                   | 154                   | 153                                | 121                           | 282 000                      | 1 030 000                   | 2 000                                           |
| 110                       | 200      | 39       | 110.1                 | 199.3                 | 15                    | 12       | 2                                        | 129                   | 188                   | 187                                | 130                           | 388 000                      | 1 770 000                   | 2 000                                           |
| 120                       | 155      | 25       | 120.1                 | 154.5                 | 11                    | 7        | 1                                        | 128                   | 150                   | 149                                | 128                           | 149 000                      | 617 000                     | 2 000                                           |
| 120                       | 175      | 42       | 120.1                 | 174.5                 | 18                    | 12       | 1.1                                      | 132                   | 168                   | 167                                | 133                           | 313 000                      | 1 160 000                   | 2 000                                           |
| 120                       | 220      | 39       | 120.1                 | 219                   | 15                    | 12       | 2.1                                      | 141                   | 207                   | 206                                | 142                           | 415 000                      | 1 980 000                   | 1 800                                           |
| 130                       | 170      | 30       | 130.1                 | 169.5                 | 12                    | 9        | 1                                        | 140                   | 164                   | 163                                | 140                           | 176 000                      | 741 000                     | 2 000                                           |
| 130                       | 185      | 42       | 130.1                 | 184.5                 | 18                    | 12       | 1.5                                      | 142                   | 178                   | 177                                | 143                           | 333 000                      | 1 290 000                   | 1 900                                           |
| 130                       | 230      | 39       | 130.1                 | 229                   | 15                    | 12       | 2.1                                      | 151                   | 217                   | 216                                | 152                           | 440 000                      | 2 180 000                   | 1 700                                           |

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