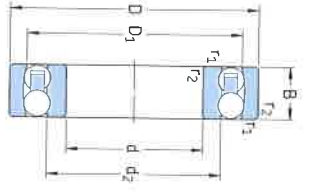
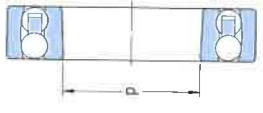


Self-aligning ball bearings  
d 70 - 120 mm



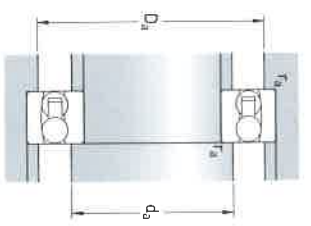
Cylindrical bore



Tapered bore

| Principal dimensions | d | D | B | Basic load ratings |        |       | Fatigue load limit $P_u$ | Speed ratings | Limiting speed | Mass | Designations                  |              |
|----------------------|---|---|---|--------------------|--------|-------|--------------------------|---------------|----------------|------|-------------------------------|--------------|
|                      |   |   |   | dynamic            | static | $C_0$ |                          |               |                |      | Bearing with cylindrical bore | tapered bore |

|     |     |    |      |      |      |        |       |      |           |            |            |
|-----|-----|----|------|------|------|--------|-------|------|-----------|------------|------------|
| 70  | 125 | 24 | 35.8 | 14.6 | 0.75 | 11 000 | 7 000 | 1.25 | 1214 ETN9 | -          | -          |
|     | 125 | 31 | 44.2 | 17   | 0.88 | 10 000 | 6 700 | 1.50 | 2214      | -          | -          |
|     | 150 | 35 | 74.1 | 27.5 | 1.34 | 8 500  | 6 000 | 3.00 | 1314      | -          | -          |
|     | 150 | 51 | 111  | 37.5 | 1.86 | 8 000  | 6 000 | 3.90 | 2314      | -          | -          |
| 75  | 130 | 25 | 39   | 15.6 | 0.80 | 10 000 | 6 700 | 1.35 | 1215      | 1215 K     | 1215 K     |
|     | 130 | 31 | 58.5 | 22   | 1.12 | 9 000  | 6 300 | 1.60 | 2215 ETN9 | 2215 EKTN9 | 2215 EKTN9 |
|     | 160 | 37 | 79.3 | 30   | 1.50 | 8 000  | 5 300 | 3.55 | 1315      | 1315 K     | 1315 K     |
|     | 160 | 55 | 124  | 43   | 2.04 | 7 500  | 5 600 | 4.70 | 2315      | 2315 K     | 2315 K     |
| 80  | 140 | 26 | 39.7 | 17   | 0.83 | 9 500  | 6 000 | 1.65 | 1216      | 1216 K     | 1216 K     |
|     | 140 | 33 | 65   | 25.5 | 1.25 | 8 500  | 6 000 | 2.00 | 2216 ETN9 | 2216 EKTN9 | 2216 EKTN9 |
|     | 170 | 39 | 88.4 | 33.5 | 1.50 | 7 500  | 5 300 | 4.20 | 1316      | 1316 K     | 1316 K     |
|     | 170 | 58 | 135  | 49   | 2.24 | 7 000  | 5 300 | 6.10 | 2316      | 2316 K     | 2316 K     |
| 85  | 150 | 28 | 48.8 | 20.8 | 0.98 | 9 000  | 5 600 | 2.05 | 1217      | 1217 K     | 1217 K     |
|     | 150 | 36 | 58.5 | 23.6 | 1.12 | 8 000  | 5 600 | 2.50 | 2217 ETN9 | 2217 K     | 2217 K     |
|     | 180 | 41 | 97.5 | 38   | 1.70 | 7 000  | 4 800 | 5.00 | 1317      | 1317 K     | 1317 K     |
|     | 180 | 60 | 140  | 51   | 2.28 | 6 700  | 4 800 | 7.05 | 2317      | 2317 K     | 2317 K     |
| 90  | 160 | 30 | 57.2 | 23.6 | 1.08 | 8 500  | 5 300 | 2.50 | 1218      | 1218 K     | 1218 K     |
|     | 160 | 40 | 70.2 | 28.5 | 1.32 | 7 500  | 5 300 | 3.40 | 2218      | 2218 K     | 2218 K     |
|     | 190 | 43 | 117  | 44   | 1.93 | 6 700  | 4 500 | 5.80 | 1318      | 1318 K     | 1318 K     |
|     | 190 | 64 | 153  | 57   | 2.50 | 6 300  | 4 500 | 8.45 | 2318      | 2318 K     | 2318 K     |
| 95  | 170 | 32 | 63.7 | 27   | 1.20 | 8 000  | 5 000 | 3.10 | 1219      | 1219 K     | 1219 K     |
|     | 170 | 43 | 83.2 | 34.5 | 1.53 | 7 000  | 5 000 | 4.10 | 2219 ETN9 | 2219 K     | 2219 K     |
|     | 200 | 45 | 133  | 51   | 2.16 | 6 300  | 4 300 | 6.70 | 1319      | 1319 K     | 1319 K     |
|     | 200 | 67 | 185  | 64   | 2.75 | 6 000  | 4 500 | 9.80 | 2319      | 2319 M     | -          |
| 100 | 180 | 34 | 68.9 | 30   | 1.29 | 7 500  | 4 800 | 3.70 | 1220      | 1220 K     | 1220 K     |
|     | 180 | 46 | 97.5 | 40.5 | 1.76 | 6 700  | 4 800 | 5.00 | 2220      | 2220 K     | 2220 K     |
|     | 215 | 47 | 143  | 57   | 2.36 | 6 000  | 4 000 | 8.30 | 1320      | 1320 K     | 1320 K     |
|     | 215 | 73 | 190  | 80   | 3.25 | 5 600  | 4 000 | 12.5 | 2320      | 2320 K     | 2320 K     |
| 110 | 200 | 38 | 88.4 | 39   | 1.60 | 6 700  | 4 300 | 5.15 | 1222      | 1222 K     | 1222 K     |
|     | 200 | 53 | 124  | 52   | 2.12 | 6 000  | 4 300 | 7.10 | 2222      | 2222 K     | 2222 K     |
|     | 240 | 50 | 163  | 72   | 2.75 | 5 300  | 3 600 | 12.0 | 1322      | 1322 M     | 1322 K     |
| 120 | 215 | 42 | 119  | 53   | 2.12 | 6 300  | 4 000 | 6.75 | 1224      | 1224 M     | 1224 K     |



| Dimensions | d | d <sub>2</sub> | D <sub>1</sub> | r <sub>1,2</sub> min | Abutment and fillet dimensions |                    |                    | Calculation factors |                |                |
|------------|---|----------------|----------------|----------------------|--------------------------------|--------------------|--------------------|---------------------|----------------|----------------|
|            |   |                |                |                      | d <sub>3</sub> min             | D <sub>5</sub> max | r <sub>5</sub> max | e                   | Y <sub>1</sub> | Y <sub>2</sub> |

|     |      |     |     |     |     |     |      |     |     |     |
|-----|------|-----|-----|-----|-----|-----|------|-----|-----|-----|
| 70  | 87.4 | 109 | 1.5 | 79  | 116 | 1.5 | 0.18 | 3.5 | 5.4 | 3.6 |
|     | 87.5 | 111 | 1.5 | 79  | 116 | 1.5 | 0.27 | 2.3 | 3.6 | 2.5 |
|     | 97.7 | 129 | 2.1 | 82  | 138 | 2   | 0.22 | 2.9 | 4.5 | 2.8 |
|     | 91.6 | 130 | 2.1 | 82  | 138 | 2   | 0.37 | 1.7 | 2.6 | 1.8 |
| 75  | 93   | 116 | 1.5 | 84  | 121 | 1.5 | 0.17 | 3.7 | 5.7 | 4   |
|     | 91.6 | 118 | 1.5 | 84  | 121 | 1.5 | 0.22 | 2.9 | 4.5 | 2.8 |
|     | 104  | 138 | 2.1 | 87  | 148 | 2   | 0.22 | 2.9 | 4.5 | 2.8 |
|     | 97.8 | 139 | 2.1 | 87  | 148 | 2   | 0.37 | 1.7 | 2.6 | 1.8 |
| 80  | 101  | 125 | 2   | 91  | 129 | 2   | 0.16 | 3.9 | 6.1 | 4   |
|     | 99   | 127 | 2.1 | 91  | 129 | 2   | 0.22 | 2.9 | 4.5 | 2.8 |
|     | 109  | 147 | 2.1 | 92  | 158 | 2   | 0.22 | 2.9 | 4.5 | 2.8 |
|     | 104  | 148 | 2.1 | 92  | 158 | 2   | 0.37 | 1.7 | 2.6 | 1.8 |
| 85  | 107  | 134 | 2   | 96  | 139 | 2   | 0.17 | 3.7 | 5.7 | 4   |
|     | 105  | 133 | 2   | 96  | 139 | 2   | 0.25 | 2.5 | 3.9 | 2.5 |
|     | 117  | 155 | 3   | 99  | 166 | 2.5 | 0.32 | 2.9 | 4.5 | 2.8 |
|     | 115  | 157 | 3   | 99  | 166 | 2.5 | 0.37 | 1.7 | 2.6 | 1.8 |
| 90  | 112  | 142 | 2   | 101 | 149 | 2   | 0.17 | 3.7 | 5.7 | 4   |
|     | 112  | 142 | 2   | 101 | 149 | 2   | 0.27 | 2.3 | 3.6 | 2.5 |
|     | 122  | 165 | 3   | 104 | 176 | 2.5 | 0.22 | 2.9 | 4.5 | 2.8 |
|     | 121  | 164 | 3   | 104 | 176 | 2.5 | 0.37 | 1.7 | 2.6 | 1.8 |
| 95  | 120  | 151 | 2.1 | 107 | 158 | 2   | 0.17 | 3.7 | 5.7 | 4   |
|     | 118  | 151 | 2.1 | 107 | 158 | 2   | 0.27 | 2.3 | 3.6 | 2.5 |
|     | 127  | 172 | 3   | 109 | 186 | 2.5 | 0.23 | 2.7 | 4.2 | 2.8 |
|     | 128  | 172 | 3   | 109 | 186 | 2.5 | 0.37 | 1.7 | 2.6 | 1.8 |
| 100 | 127  | 159 | 2.1 | 112 | 168 | 2   | 0.17 | 3.7 | 5.7 | 4   |
|     | 124  | 160 | 2.1 | 112 | 168 | 2   | 0.27 | 2.3 | 3.6 | 2.5 |
|     | 136  | 185 | 3   | 114 | 201 | 2.5 | 0.23 | 2.7 | 4.2 | 2.8 |
|     | 135  | 186 | 3   | 114 | 201 | 2.5 | 0.37 | 1.7 | 2.6 | 1.8 |
| 110 | 140  | 176 | 2.1 | 122 | 188 | 2   | 0.17 | 3.7 | 5.7 | 4   |
|     | 137  | 177 | 2.1 | 122 | 188 | 2   | 0.27 | 2.3 | 3.6 | 2.5 |
|     | 154  | 206 | 3   | 124 | 226 | 2.5 | 0.22 | 2.9 | 4.5 | 2.8 |
| 120 | 149  | 190 | 2.1 | 132 | 203 | 2   | 0.19 | 3.3 | 5.1 | 3.6 |