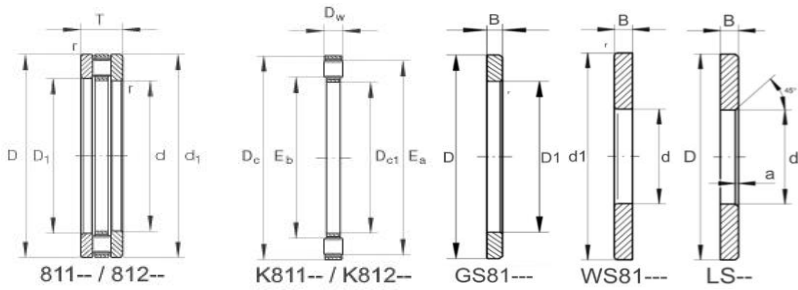
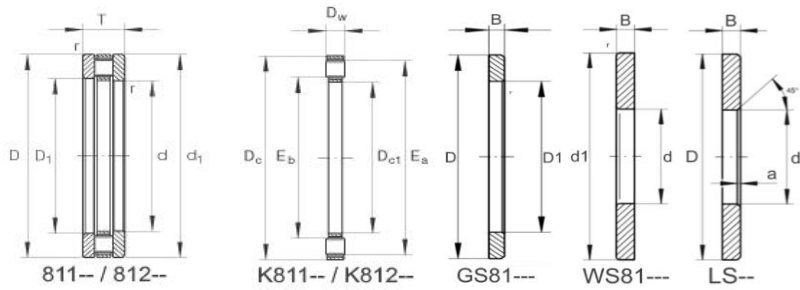


| Shaft Diameter<br>mm | Thrust cylindrical roller bearing |             | Thrust cylindrical roller bearing and retainer assembly |             | Washer Components       |                       |                |             | Dimension |    |         |     |    |     |                                 |              | Track size |     | Basic Load Ratings |      | Limiting Speed<br>r/min |
|----------------------|-----------------------------------|-------------|---|-------------|-------------------------|-----------------------|----------------|-------------|-----------|----|---------|-----|----|-----|---------------------------------|--------------|------------|-----|--------------------|------|-------------------------|
|                      | Part Number                       | Weight (kg) | Axial Cylindrical Roller Cage Assembly                  | Weight (kg) | Housing Locating Washer | Shaft Locating Washer | Bearing washer | Weight (kg) | Dcl<br>d  | D1 | Dc<br>D | d1  | T  | Dw  | B<br>(Washer Width)<br>WS/GS/LS | a<br>r<br>mm | Eb         | Ea  | Cr                 | Cor  |                         |
|                      |                                   |             |   |             |                         |                       |                |             |           |    |         |     |    |     |                                 |              |            |     | KN                 |      |                         |
| 15                   | 81102                             | 0.024       | K81102  | 0.006       | GS81102                 | WS81102               | LS1528         | 0.010       | 15        | 16 | 28      | 28  | 9  | 3.5 | 2.75                            | 0.3          | 16         | 27  | 14.4               | 28.5 | 13000                   |
| 17                   | 81103                             | 0.027       | K81103  | 0.009       | GS81103                 | WS81103               | LS1730         | 0.010       | 17        | 18 | 30      | 30  | 9  | 3.5 | 2.75                            | 0.3          | 18         | 29  | 15.9               | 33.5 | 12000                   |
| 20                   | 81104                             | 0.037       | K81104  | 0.013       | GS81104                 | WS81104               | LS2035         | 0.012       | 20        | 21 | 35      | 35  | 10 | 4.5 | 2.75                            | 0.3          | 21         | 34  | 24.9               | 53   | 10000                   |
| 25                   | 81105                             | 0.053       | K81105  | 0.015       | GS81105                 | WS81105               | LS2542         | 0.019       | 25        | 26 | 42      | 42  | 11 | 5   | 3                               | 0.6          | 26         | 41  | 33.5               | 76   | 8500                    |
| 30                   | 81106                             | 0.057       | K81106  | 0.017       | GS81106                 | WS81106               | LS3047         | 0.020       | 30        | 32 | 47      | 47  | 11 | 5   | 3                               | 0.6          | 31         | 46  | 35.5               | 86   | 7500                    |
|                      | 81206                             | 0.123       | K81206  | 0.033       | GS81206                 | WS81206               |                | 0.045       | 30        | 32 | 52      | 52  | 16 | 7.5 | 4.25                            | 0.6          | 31         | 50  | 64                 | 141  | 7000                    |
| 35                   | 81107                             | 0.073       | K81107  | 0.019       | GS81107                 | WS81107               | LS3552         | 0.027       | 35        | 37 | 52      | 52  | 12 | 5   | 3.5                             | 0.6          | 36         | 51  | 39                 | 101  | 6500                    |
|                      | 81207                             | 0.195       | K81207  | 0.043       | GS81207                 | WS81207               |                | 0.076       | 35        | 37 | 62      | 62  | 18 | 7.5 | 5.25                            | 1            | 39         | 58  | 80                 | 199  | 6000                    |
| 40                   | 81108                             | 0.105       | K81108  | 0.031       | GS81108                 | WS81108               | LS4060         | 0.037       | 40        | 42 | 60      | 60  | 13 | 6   | 3.5                             | 0.6          | 42         | 58  | 56                 | 148  | 6000                    |
|                      | 81208                             | 0.249       | K81208  | 0.081       | GS81208                 | WS81208               |                | 0.084       | 40        | 42 | 68      | 68  | 19 | 9   | 5                               | 1            | 43         | 66  | 107                | 265  | 5500                    |
| 45                   | 81109                             | 0.130       | K81109  | 0.035       | GS81109                 | WS81109               | LS4565         | 0.047       | 45        | 47 | 65      | 65  | 14 | 6   | 4                               | 0.6          | 47         | 63  | 59                 | 163  | 5000                    |
|                      | 81209                             | 0.287       | K81209  | 0.085       | GS81209                 | WS81209               |                | 0.101       | 45        | 47 | 73      | 73  | 20 | 9   | 5.5                             | 1            | 48         | 70  | 105                | 265  | 4900                    |
| 50                   | 81110                             | 0.140       | K81110  | 0.038       | GS81110                 | WS81110               | LS5070         | 0.051       | 50        | 52 | 70      | 70  | 14 | 6   | 4                               | 0.6          | 52         | 68  | 61                 | 177  | 4800                    |
|                      | 81210                             | 0.356       | K81210  | 0.098       | GS81210                 | WS81210               |                | 0.129       | 50        | 52 | 78      | 78  | 22 | 9   | 6.5                             | 1            | 53         | 75  | 117                | 315  | 4500                    |
| 55                   | 81111                             | 0.218       | K81111  | 0.045       | GS81111                 | WS81111               | LS5578         | 0.082       | 55        | 57 | 78      | 78  | 16 | 6   | 5                               | 0.6          | 57         | 77  | 90                 | 300  | 4300                    |
|                      | 81211                             | 0.568       | K81211  | 0.166       | GS81211                 | WS81211               |                | 0.201       | 55        | 57 | 90      | 90  | 25 | 11  | 7                               | 1            | 59         | 85  | 154                | 405  | 4000                    |
| 60                   | 81112                             | 0.266       | K81112  | 0.082       | GS81112                 | WS81112               | LS6085         | 0.092       | 60        | 62 | 85      | 85  | 17 | 7.5 | 4.75                            | 1            | 62         | 82  | 103                | 315  | 4000                    |
|                      | 81212                             | 0.642       | K81212  | 0.176       | GS81212                 | WS81212               |                | 0.233       | 60        | 62 | 95      | 95  | 26 | 11  | 7.5                             | 1            | 64         | 91  | 172                | 480  | 3700                    |
| 65                   | 81113                             | 0.310       | K81113  | 0.090       | GS81113                 | WS81113               | LS6590         | 0.110       | 65        | 67 | 90      | 90  | 18 | 7.5 | 5.25                            | 1            | 67         | 87  | 107                | 340  | 3700                    |
|                      | 81213                             | 0.721       | K81213  | 0.185       | GS81213                 | WS81213               |                | 0.268       | 65        | 67 | 100     | 100 | 27 | 11  | 8                               | 1            | 69         | 96  | 177                | 500  | 3500                    |
| 70                   | 81114                             | 0.332       | K81114  | 0.092       | GS81114                 | WS81114               | LS7095         | 0.120       | 70        | 72 | 95      | 95  | 18 | 7.5 | 5.25                            | 1            | 72         | 92  | 111                | 365  | 3500                    |
|                      | 81214                             | 0.768       | K81214  | 0.212       | GS81214                 | WS81214               |                | 0.278       | 70        | 72 | 105     | 105 | 27 | 11  | 8                               | 1            | 74         | 102 | 187                | 550  | 3300                    |
| 75                   | 81115                             | 0.393       | K81115  | 0.096       | GS81115                 | WS81115               | LS75100        | 0.136       | 75        | 77 | 100     | 100 | 19 | 7.5 | 5.75                            | 1            | 78         | 97  | 107                | 350  | 3300                    |
|                      | 81215                             | 0.800       | K81215  | 0.195       | GS81215                 | WS81215               |                | 0.293       | 75        | 77 | 110     | 110 | 27 | 11  | 8                               | 1            | 79         | 106 | 172                | 500  | 3100                    |
| 80                   | 81116                             | 0.400       | K81116  | 0.095       | GS81116                 | WS81116               | LS80105        | 0.144       | 80        | 82 | 105     | 105 | 19 | 7.5 | 5.75                            | 1            | 83         | 102 | 106                | 350  | 3100                    |
|                      | 81216                             | 0.900       | K81216  | 0.234       | GS81216                 | WS81216               |                | 0.333       | 80        | 82 | 115     | 115 | 28 | 11  | 8.5                             | 1            | 84         | 112 | 201                | 630  | 3000                    |
| 85                   | 81117                             | 0.420       | K81117  | 0.118       | GS81117                 | WS81117               | LS85110        | 0.151       | 85        | 87 | 110     | 110 | 19 | 7.5 | 5.75                            | 1            | 87         | 108 | 112                | 385  | 3000                    |
|                      | 81217                             | 1.260       | K81217  | 0.280       | GS81217                 | WS81217               |                | 0.490       | 85        | 88 | 125     | 125 | 31 | 12  | 9.5                             | 1            | 90         | 119 | 217                | 660  | 2700                    |

## Cylindrical Roller Thrust Bearings



| Shaft Diameter<br>mm | Thrust cylindrical roller bearing |             | Thrust cylindrical roller bearing and retainer assembly |             | Washer Components       |                       |                |             | Dimension |     |         |     |    |    |                                 |              | Track size |     | Basic Load Ratings |      | Limiting Speed<br>r/min |
|----------------------|-----------------------------------|-------------|---|-------------|-------------------------|-----------------------|----------------|-------------|-----------|-----|---------|-----|----|----|---------------------------------|--------------|------------|-----|--------------------|------|-------------------------|
|                      | Part Number                       | Weight (kg) | Axial Cylindrical Roller Cage Assembly                  | Weight (kg) | Housing Locating Washer | Shaft Locating Washer | Bearing washer | Weight (kg) | Dcl<br>d  | D1  | Dc<br>D | d1  | T  | Dw | B<br>(Washer Width)<br>WS/GS/LS | a<br>r<br>mm | Eb         | Ea  | Cr                 | Cor  |                         |
|                      |                                   |             |   |             |                         |                       |                |             |           |     |         |     |    |    |                                 |              |            |     | KN                 |      |                         |
| 90                   | 81118                             | 0.620       | K81118  | 0.150       | GS81118                 | WS81118               | LS90120        | 0.225       | 90        | 92  | 120     | 120 | 22 | 9  | 6.5                             | 1            | 93         | 117 | 141                | 465  | 2700                    |
|                      | 81218                             | 1.770       | K81218  | 0.542       | GS81218                 | WS81218               |                | 0.614       | 90        | 93  | 135     | 135 | 35 | 14 | 10.5                            | 1.1          | 95         | 129 | 290                | 890  | 2600                    |
| 100                  | 81120                             | 0.950       | K81120  | 0.250       | GS81120                 | WS81120               | LS100135       | 0.350       | 100       | 102 | 135     | 135 | 25 | 11 | 7                               | 1            | 104        | 131 | 199                | 650  | 2500                    |
|                      | 81220                             | 2.200       | K81220  | 0.600       | GS81220                 | WS81220               |                | 0.800       | 100       | 103 | 150     | 150 | 38 | 15 | 11.5                            | 1.1          | 107        | 142 | 340                | 1080 | 2300                    |
| 110                  | 81122                             | 1.040       | K81122  | 0.270       | GS81122                 | WS81122               | LS110145       | 0.385       | 110       | 112 | 145     | 145 | 25 | 11 | 7                               | 1            | 114        | 141 | 207                | 700  | 2300                    |
|                      | 81222                             | 2.290       | K81222  | 0.530       | GS81222                 | WS81222               |                | 0.880       | 110       | 113 | 160     | 160 | 38 | 15 | 11.5                            | 1.1          | 117        | 152 | 325                | 1030 | 2100                    |
| 120                  | 81124                             | 1.120       | K81124  | 0.290       | GS81124                 | WS81124               | LS120155       | 0.415       | 120       | 122 | 155     | 155 | 25 | 11 | 7                               | 1            | 124        | 151 | 214                | 760  | 2100                    |
|                      | 81224                             | 2.540       | K81224  | 0.580       | GS81224                 | WS81224               |                | 0.980       | 120       | 123 | 170     | 170 | 39 | 15 | 12                              | 1.1          | 127        | 162 | 340                | 1120 | 2000                    |
| 130                  | 81126                             | 1.670       | K81126  | 0.380       | GS81126                 | WS81126               | LS130170       | 0.643       | 130       | 132 | 170     | 170 | 30 | 12 | 9                               | 1            | 135        | 165 | 250                | 900  | 1900                    |
|                      | 81226                             | 3.980       | K81226  | 0.920       | GS81226                 | WS81226               |                | 1.530       | 130       | 133 | 190     | 187 | 45 | 19 | 13                              | 1.5          | 137        | 181 | 480                | 1520 | 1800                    |
| 140                  | 81128                             | 1.900       | K81128  | 0.400       | GS81128                 | WS81128               | LS140180       | 0.749       | 140       | 142 | 180     | 178 | 31 | 12 | 9.5                             | 1            | 145        | 175 | 260                | 960  | 1800                    |
|                      | 81228                             | 4.567       | K81228  | 1.197       | GS81228                 | WS81228               |                | 1.634       | 140       | 143 | 200     | 197 | 46 | 19 | 13.5                            | 1.5          | 147        | 191 | 455                | 1450 | 1700                    |
| 150                  | 81130                             | 2.200       | K81130  | 0.430       | GS81130                 | WS81130               | LS150190       | 0.796       | 150       | 152 | 190     | 188 | 31 | 12 | 9.5                             | 1            | 155        | 185 | 270                | 1020 | 1700                    |
|                      | 81230                             | 5.886       | K81230  | 1.520       | GS81230                 | WS81230               |                | 2.180       | 150       | 153 | 215     | 212 | 50 | 21 | 14.5                            | 1.5          | 158        | 211 | 590                | 1940 | 1600                    |
| 160                  | 81132                             | 2.120       | K81132  | 0.440       | GS81132                 | WS81132               | LS160200       | 0.842       | 160       | 162 | 200     | 198 | 31 | 12 | 9.5                             | 1            | 165        | 195 | 270                | 1050 | 1600                    |
|                      | 81232                             | 7.960       | K81232  | 3.360       | GS81232                 | WS81232               |                | 2.300       | 160       | 163 | 225     | 222 | 51 | 21 | 15                              | 1.5          | 168        | 220 | 600                | 2030 | 1500                    |
| 170                  | 81134                             | 2.410       | K81134  | 0.660       | GS81134                 | WS81134               |                | 1.100       | 170       | 172 | 215     | 213 | 34 | 14 | 10                              | 1.1          | 176        | 209 | 360                | 1380 | 1500                    |
|                      | 81234                             | 7.690       | K81234  | 1.890       | GS81234                 | WS81234               |                | 2.900       | 170       | 173 | 240     | 237 | 55 | 22 | 16.5                            | 1.5          | 180        | 235 | 680                | 2340 | 1400                    |
| 180                  | 81136                             | 3.040       | K81136  | 0.800       | GS81136                 | WS81136               |                | 1.100       | 180       | 183 | 225     | 222 | 34 | 14 | 10                              | 1.1          | 185        | 219 | 340                | 1300 | 1400                    |
|                      | 81236                             | 8.240       | K81236  | 1.980       | GS81236                 | WS81236               |                | 3.130       | 180       | 183 | 250     | 247 | 56 | 22 | 17                              | 1.5          | 190        | 245 | 690                | 2440 | 1300                    |
| 190                  | 81138                             | 3.840       | K81138  | 0.940       | GS81138                 | WS81138               |                | 1.450       | 190       | 193 | 240     | 237 | 37 | 15 | 11                              | 1.1          | 197        | 233 | 385                | 1500 | 1300                    |
|                      | 81238                             | 10.400      | K81238  | 2.730       | GS81238                 | WS81238               |                | 3.835       | 190       | 194 | 270     | 267 | 62 | 26 | 18                              | 2            | 200        | 265 | 880                | 3000 | 1300                    |
| 200                  | 81140                             | 4.000       | K81140  | 0.980       | GS81140                 | WS81140               |                | 1.510       | 200       | 203 | 250     | 247 | 37 | 15 | 11                              | 1.1          | 206        | 243 | 390                | 1550 | 1300                    |
|                      | 81240                             | 11.910      | K81240  | 3.090       | GS81240                 | WS81240               |                | 4.410       | 200       | 204 | 280     | 277 | 62 | 26 | 18                              | 2            | 210        | 275 | 900                | 3150 | 1200                    |
| 220                  | 81144                             | 4.500       | K81144  | 1.320       | GS81144                 | WS81144               |                | 1.590       | 220       | 223 | 270     | 267 | 37 | 15 | 11                              | 1.1          | 226        | 263 | 420                | 1730 | 1200                    |
|                      | 81244                             | 12.850      | K81244  | 3.350       | GS81244                 | WS81244               |                | 4.750       | 220       | 224 | 300     | 297 | 63 | 26 | 18.5                            | 2            | 230        | 296 | 940                | 3450 | 1100                    |
| 240                  | 81148                             | 7.250       | K81148  | 2.110       | GS81148                 | WS81148               |                | 2.570       | 240       | 243 | 300     | 297 | 45 | 18 | 13.5                            | 1.5          | 248        | 296 | 600                | 2500 | 1100                    |
|                      | 81248                             | 21.950      | K81248  | 5.650       | GS81248                 | WS81248               |                | 8.150       | 240       | 244 | 340     | 335 | 78 | 32 | 23                              | 2.1          | 261        | 335 | 1370               | 5000 | 1000                    |



| Shaft Diameter<br>mm | Thrust cylindrical roller bearing |             | Thrust cylindrical roller bearing and retainer assembly |             | Washer Components       |                       |                |             | Dimension            |                |                     |                |     |                |                                 |              | Track size     |                | Basic Load Ratings |                 | Limiting Speed<br>r/min |  |  |  |
|----------------------|-----------------------------------|-------------|---|-------------|-------------------------|-----------------------|----------------|-------------|----------------------|----------------|---------------------|----------------|-----|----------------|---------------------------------|--------------|----------------|----------------|--------------------|-----------------|-------------------------|--|--|--|
|                      | Part Number                       | Weight (kg) | Axial Cylindrical Roller Cage Assembly                  | Weight (kg) | Housing Locating Washer | Shaft Locating Washer | Bearing washer | Weight (kg) | D <sub>cl</sub><br>d | D <sub>1</sub> | D <sub>c</sub><br>D | d <sub>1</sub> | T   | D <sub>w</sub> | B<br>(Washer Width)<br>WS/GS/LS | a<br>r<br>mm | E <sub>b</sub> | E <sub>a</sub> | C <sub>r</sub>     | C <sub>or</sub> |                         |  |  |  |
|                      |                                   |             |   |             |                         |                       |                |             |                      |                |                     |                |     |                |                                 |              |                |                |                    |                 | KN                      |  |  |  |
| 260                  | 81152                             | 7.830       | K81152  | 2.300       | GS81152                 | WS81152               |                | 2.765       | 260                  | 263            | 320                 | 317            | 45  | 18             | 13.5                            | 1.5          | 268            | 316            | 620                | 2650            | 1000                    |  |  |  |
|                      | 81252                             | 23.900      | K81252  | 6.100       | GS81252                 | WS81252               |                | 8.900       | 260                  | 264            | 360                 | 355            | 79  | 32             | 23.5                            | 2.1          | 280            | 353            | 1440               | 5400            | 950                     |  |  |  |
| 280                  | 81156                             | 10.300      | K81156  | 3.000       | GS81156                 | WS81156               |                | 3.650       | 280                  | 283            | 350                 | 347            | 53  | 22             | 15.5                            | 4.5          | 288            | 346            | 860                | 3650            | 900                     |  |  |  |
|                      | 81256                             | 25.900      | K81256  | 6.400       | GS81256                 | WS81256               |                | 9.750       | 280                  | 284            | 380                 | 375            | 80  | 32             | 24                              | 2.1          | 300            | 373            | 1460               | 5600            | 850                     |  |  |  |
| 300                  | 81160                             | 16.670      | K81160  | 4.830       | GS81160                 | WS81160               |                | 5.920       | 300                  | 304            | 380                 | 376            | 62  | 25             | 18.5                            | 2            | 315            | 373            | 1060               | 4500            | 850                     |  |  |  |
|                      | 81260                             | 40.550      | K81260  | 10.150      | GS81260                 | WS81260               |                | 15.200      | 300                  | 304            | 420                 | 415            | 95  | 38             | 28.5                            | 3            | 328            | 413            | 1930               | 7300            | 800                     |  |  |  |
| 320                  | 81164                             | 17.820      | K81164  | 5.120       | GS81164                 | WS81164               |                | 6.350       | 320                  | 324            | 400                 | 396            | 63  | 25             | 19                              | 2            | 334            | 394            | 1100               | 4750            | 800                     |  |  |  |
|                      | 81264                             | 42.500      | K81264  | 5.120       | GS81264                 | WS81264               |                | 42.300      | 320                  | 325            | 440                 | 435            | 95  | 38             | 28.5                            | 3            | 348            | 434            | 1490               | 7050            | 585                     |  |  |  |
| 360                  | 81272                             | 66.600      | K81272  | 5.120       | GS81272                 | WS81272               |                | 64.500      | 360                  | 365            | 500                 | 495            | 110 | 45             | 32.5                            | 3            | 393            | 492            | 1980               | 9450            | 520                     |  |  |  |

**811-- & 812-- series are a complete assembly comprising of 1 of each: K81--- cage assembly, WS81--- housing washer and GS81--- shaft washer  
Cages are normally PA66 Nylon or Brass, depending on the size - some are available in both types**