



**Shaanxi Gainhui Heavy Industries Co., Ltd.**  
Bearing Manufacturer And Supplier In China

## **BECAUSE WE ARE FOCUSED WE ARE PROFESSIONAL**

We are committed to providing competitive bearing products and OEM services to global customers.



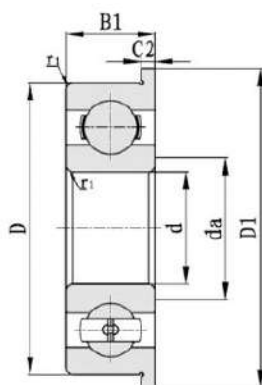
### **Miniature Ball Bearings With Flange**



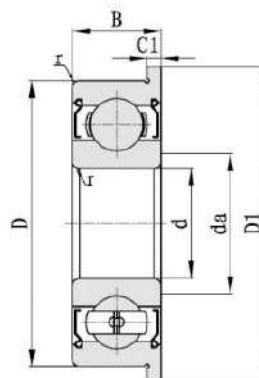
#### **Bearing Series:**

**F68 series, F69 series, F60 series,  
MF series, FR series**



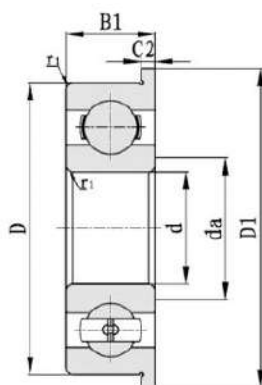


Open

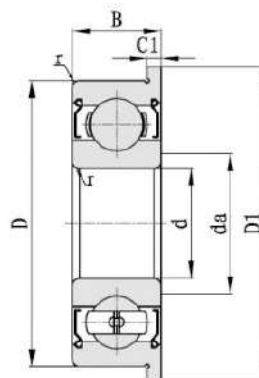


Shield

| Bearing designation | Dimensions (mm) |    |      |      |      |     |      |     | Basic dynamic load rating | Basic static load rating | Limiting speed for lubrication with grease | Limiting speed for lubrication with oil |
|---------------------|-----------------|----|------|------|------|-----|------|-----|---------------------------|--------------------------|--------------------------------------------|-----------------------------------------|
|                     | d               | D  | D1   |      | B1   | B   | C2   | C1  | C <sub>r</sub>            | C <sub>or</sub>          | nG                                         | nB                                      |
|                     |                 |    | Open | ZZ   | Open | ZZ  | Open | ZZ  | N                         | N                        | min-1                                      | min-1                                   |
| F682ZZ              | 2               | 5  | 6.1  | 6.1  | 1.5  | 2.3 | 0.5  | 0.6 | 169                       | 50                       | 85 000                                     | 100 000                                 |
| MF52ZZ              | 2               | 5  | 6.2  | 6.2  | 2    | 2.5 | 0.6  | 0.6 | 169                       | 50                       | 85 000                                     | 100 000                                 |
| F692ZZ              | 2               | 6  | 7.5  | 7.5  | 2.3  | 3   | 0.6  | 0.8 | 330                       | 99                       | 75 000                                     | 90 000                                  |
| MF62ZZ              | 2               | 6  | 7.2  | 7.2  | 2.5  | 2.5 | 0.6  | -   | 330                       | 99                       | 75 000                                     | 90 000                                  |
| MF72ZZ              | 2               | 7  | 8.2  | 8.2  | 2.8  | 3   | 0.6  | 0.6 | 386                       | 129                      | 63 000                                     | 75 000                                  |
| F602ZZ              | 2               | 7  | 8.5  | 8.5  | 2.8  | 3.5 | 0.7  | 0.9 | 386                       | 129                      | 60 000                                     | 71 000                                  |
| F682XZZ             | 2.5             | 6  | 7.1  | 7.1  | 1.8  | 2.6 | 0.5  | 0.8 | 209                       | 74                       | 71 000                                     | 80 000                                  |
| F692XZZ             | 2.5             | 7  | 8.5  | 8.5  | 2.5  | 3.5 | 0.7  | 0.9 | 386                       | 129                      | 63 000                                     | 75 000                                  |
| MF82X               | 2.5             | 8  | 9.2  | 9.2  | 2.5  | -   | 0.6  | -   | 558                       | 180                      | 60 000                                     | 67 000                                  |
| F602XZZ             | 2.5             | 8  | 9.5  | 9.5  | 2.8  | 4   | 0.7  | 0.9 | 552                       | 177                      | 60 000                                     | 71 000                                  |
| MF63ZZ              | 3               | 6  | 7.2  | 7.2  | 2    | 2.5 | 0.6  | 0.6 | 209                       | 74                       | 71 000                                     | 80 000                                  |
| F683ZZ              | 3               | 7  | 8.1  | 8.1  | 2    | 3   | 0.5  | 0.8 | 311                       | 112                      | 63 000                                     | 75 000                                  |
| MF83ZZ              | 3               | 8  | 9.2  | 9.2  | 2.5  | 3   | 0.6  | -   | 395                       | 141                      | 60 000                                     | 67 000                                  |
| F693ZZ              | 3               | 8  | 9.5  | 9.5  | 3    | 4   | 0.7  | 0.9 | 558                       | 180                      | 60 000                                     | 67 000                                  |
| MF93ZZ              | 3               | 9  | 10.2 | 10.6 | 2.5  | 4   | 0.6  | 0.8 | 571                       | 189                      | 56 000                                     | 67 000                                  |
| F603ZZ              | 3               | 9  | 10.5 | 10.5 | 3    | 5   | 0.7  | -   | 571                       | 189                      | 56 000                                     | 67 000                                  |
| F623ZZ              | 3               | 10 | 11.5 | 11.5 | 4    | 4   | 1    | 1   | 631                       | 219                      | 50 000                                     | 60 000                                  |
| MF74ZZ              | 4               | 7  | 8.2  | 8.2  | 2    | 2.5 | 0.6  | 0.6 | 255                       | 108                      | 60 000                                     | 67 000                                  |
| MF84ZZ              | 4               | 8  | 9.2  | 9.2  | 2    | 3   | 0.6  | 0.6 | 395                       | 141                      | 56 000                                     | 67 000                                  |
| F684ZZ              | 4               | 9  | 10.3 | 10.3 | 2.5  | 4   | 0.6  | 1   | 641                       | 227                      | 53 000                                     | 63 000                                  |
| MF104ZZ             | 4               | 10 | 11.2 | 11.6 | 3    | 4   | 0.6  | 0.8 | 711                       | 272                      | 48 000                                     | 56 000                                  |
| F694ZZ              | 4               | 11 | 12.5 | 12.5 | 4    | 4   | 1    | 1   | 957                       | 350                      | 48 000                                     | 56 000                                  |
| F604ZZ              | 4               | 12 | 13.5 | 13.5 | 4    | 4   | 1    | 1   | 957                       | 350                      | 48 000                                     | 56 000                                  |
| F624ZZ              | 4               | 13 | 15   | 15   | 5    | 5   | 1    | 1   | 1301                      | 488                      | 40 000                                     | 48 000                                  |
| F634ZZ              | 4               | 16 | 18   | 18   | 5    | 5   | 1    | 1   | 1340                      | 523                      | 36 000                                     | 43 000                                  |
| MF85ZZ              | 5               | 8  | 9.2  | 9.2  | 2    | 2.5 | 0.6  | 0.6 | 218                       | 90                       | 53 000                                     | 63 000                                  |
| MF95ZZ              | 5               | 9  | 10.2 | 10.2 | 2.5  | 3   | 0.6  | 0.6 | 431                       | 169                      | 50 000                                     | 60 000                                  |
| MF105ZZ             | 5               | 10 | 11.2 | 11.6 | 3    | 4   | 0.6  | 0.8 | 431                       | 169                      | 50 000                                     | 60 000                                  |
| MF115ZZ             | 5               | 11 | 12.5 | 12.5 | -    | 4   | 0.8  | 1   | 716                       | 282                      | 45 000                                     | 53 000                                  |
| F685ZZ              | 5               | 11 | 12.5 | 12.5 | 3    | 5   | 0.8  | 1   | 716                       | 282                      | 45 000                                     | 53 000                                  |

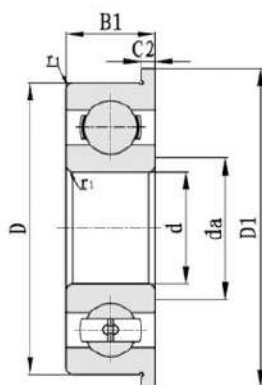


Open

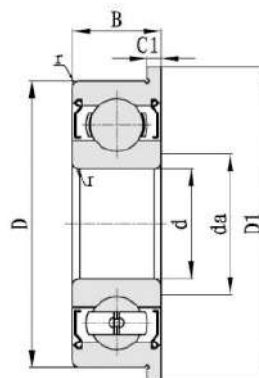


Shield

| Bearing designation | Dimensions (mm) |    |      |      |      |     |      |     | Basic dynamic load rating | Basic static load rating | Limiting speed for lubrication with grease | Limiting speed for lubrication with oil |
|---------------------|-----------------|----|------|------|------|-----|------|-----|---------------------------|--------------------------|--------------------------------------------|-----------------------------------------|
|                     | d               | D  | D1   |      | B1   | B   | C2   | C1  | C <sub>r</sub>            | C <sub>or</sub>          | nG                                         | nB                                      |
|                     |                 |    | Open | ZZ   | Open | ZZ  | Open | ZZ  | N                         | N                        | min-1                                      | min-1                                   |
| F695ZZ              | 5               | 13 | 15   | 15   | 4    | 4   | 1    | 1   | 1077                      | 432                      | 43 000                                     | 50 000                                  |
| F605ZZ              | 5               | 14 | 16   | 16   | 5    | 5   | 1    | 1   | 1329                      | 507                      | 40 000                                     | 50 000                                  |
| F625ZZ              | 5               | 16 | 18   | 18   | 5    | 5   | 1    | 1   | 1729                      | 675                      | 36 000                                     | 43 000                                  |
| F635ZZ              | 5               | 19 | 22   | 22   | 6    | 6   | 1.5  | 1.5 | 2336                      | 896                      | 32 000                                     | 40 000                                  |
| MF106ZZ             | 6               | 10 | 11.2 | 11.2 | 2.5  | 3   | 0.6  | 0.6 | 496                       | 218                      | 45 000                                     | 53 000                                  |
| MF126ZZ             | 6               | 12 | 13.2 | 13.6 | 3    | 4   | 0.6  | 0.8 | 716                       | 295                      | 43 000                                     | 50 000                                  |
| F686ZZ              | 6               | 13 | 15   | 15   | 3.5  | 5   | 1    | 1.1 | 1082                      | 442                      | 40 000                                     | 50 000                                  |
| F696ZZ              | 6               | 15 | 17   | 17   | 5    | 5   | 1.2  | 1.2 | 1340                      | 523                      | 40 000                                     | 45 000                                  |
| F606ZZ              | 6               | 17 | 19   | 19   | 6    | 6   | 1.2  | 1.2 | 2263                      | 846                      | 38 000                                     | 45 000                                  |
| F626ZZ              | 6               | 19 | 22   | 22   | 6    | 6   | 1.5  | 1.5 | 2336                      | 896                      | 32 000                                     | 40 000                                  |
| MF117ZZ             | 7               | 11 | 12.2 | 12.2 | 2.5  | 3   | 0.6  | 0.6 | 455                       | 202                      | 43 000                                     | 50 000                                  |
| MF137ZZ             | 7               | 13 | 14.2 | 14.6 | 3    | 4   | 0.6  | 0.8 | 541                       | 276                      | 40 000                                     | 48 000                                  |
| F687ZZ              | 7               | 14 | 16   | 16   | 3.5  | 5   | 1    | 1.1 | 1173                      | 513                      | 40 000                                     | 50 000                                  |
| F697ZZ              | 7               | 17 | 19   | 19   | 5    | 5   | 1.2  | 1.2 | 1605                      | 719                      | 36 000                                     | 43 000                                  |
| F607ZZ              | 7               | 19 | 22   | 22   | 6    | 6   | 1.5  | 1.5 | 2336                      | 896                      | 36 000                                     | 43 000                                  |
| F627ZZ              | 7               | 22 | 25   | 25   | 7    | 7   | 1.5  | 1.5 | 3287                      | 1379                     | 30 000                                     | 36 000                                  |
| MF128ZZ             | 8               | 12 | 13.2 | 13.6 | 2.5  | 3.5 | 0.6  | 0.8 | 543                       | 274                      | 40 000                                     | 48 000                                  |
| MF148ZZ             | 8               | 14 | 15.6 | 15.6 | 3.5  | 4   | 0.8  | 0.8 | 817                       | 386                      | 38 000                                     | 45 000                                  |
| F688ZZ              | 8               | 16 | 18   | 18   | 4    | 5   | 1    | 1.1 | 1252                      | 592                      | 36 000                                     | 43 000                                  |
| F698ZZ              | 8               | 19 | 22   | 22   | 6    | 6   | 1.5  | 1.5 | 2237                      | 917                      | 36 000                                     | 43 000                                  |
| F608ZZ              | 8               | 22 | 25   | 25   | 7    | 7   | 1.5  | 1.5 | 3293                      | 1379                     | 34 000                                     | 40 000                                  |
| F689ZZ              | 9               | 17 | 19   | 19   | 4    | 5   | 1    | 1.1 | 1327                      | 668                      | 36 000                                     | 43 000                                  |
| F699ZZ              | 9               | 20 | 23   | 23   | 6    | 6   | 1.5  | 1.5 | 2467                      | 1081                     | 34 000                                     | 40 000                                  |
| F6700ZZ             | 10              | 15 | 16.5 | 16.5 | 3    | 4   | 0.8  | 0.8 | 850                       | 430                      | 14 000                                     | 16 000                                  |
| F6800ZZ             | 10              | 19 | 21   | 21   | 5    | 5   | 1    | 1   | 1700                      | 800                      | 35 000                                     | 42 000                                  |
| F6900ZZ             | 10              | 22 | 25   | 25   | 6    | 6   | 1.5  | 1.5 | 2611                      | 1223                     | 31 000                                     | 40 000                                  |
| F6701ZZ             | 12              | 18 | 19.5 | 19.5 | 4    | 4   | 0.8  | 0.8 | 922                       | 512                      | 12 000                                     | 14 000                                  |
| F6801ZZ             | 12              | 21 | 23   | 23   | 5    | 5   | 0.8  | 1   | 1911                      | 1041                     | 33 000                                     | 39 000                                  |
| F6901ZZ             | 12              | 24 | 26.5 | 26.5 | 6    | 6   | 1    | 1.5 | 2831                      | 1411                     | 31 000                                     | 36 000                                  |



Open



Shield

| Bearing designation | Dimensions (inch) |       |       |       |       |       |       |       | Basic dynamic load rating | Basic static load rating | Limiting speed for lubrication with grease | Limiting speed for lubrication with oil |
|---------------------|-------------------|-------|-------|-------|-------|-------|-------|-------|---------------------------|--------------------------|--------------------------------------------|-----------------------------------------|
|                     | d                 | D     | D1    |       | B1    | B     | C2    | C1    | $C_r$                     | $C_{or}$                 | nG                                         | nB                                      |
|                     |                   |       | Open  | ZZ    | Open  | ZZ    | Open  | ZZ    | N                         | N                        | min-1                                      | min-1                                   |
| FR1-4ZZS            | 1.984             | 6.35  | 7.518 | 7.518 | 2.38  | 3.571 | 0.584 | 0.787 | 284                       | 96                       | 67 000                                     | 80 000                                  |
| FR133ZZ             | 2.38              | 4.762 | 5.944 | 5.944 | 1.588 | 2.38  | 0.457 | 0.787 | 144                       | 53                       | 80 000                                     | 95 000                                  |
| FR1-5ZZS            | 3.175             | 7.938 | 9.119 | 9.119 | 2.779 | 3.571 | 0.584 | 0.787 | 552                       | 176                      | 60 000                                     | 71 000                                  |
| FR144ZZS            | 3.175             | 6.35  | 7.518 | 7.518 | 2.38  | 2.779 | 0.584 | 0.787 | 284                       | 96                       | 67 000                                     | 80 000                                  |
| FR2-5ZZ             | 3.175             | 7.938 | 9.119 | 9.119 | 2.779 | 3.571 | 0.584 | 0.787 | 558                       | 180                      | 60 000                                     | 67 000                                  |
| FR2-6ZZS            | 3.175             | 9.525 | 10.72 | 10.72 | 2.779 | 3.571 | 0.584 | 0.787 | 640                       | 227                      | 53 000                                     | 63 000                                  |
| FR2ZZ               | 3.175             | 9.525 | 11.18 | 11.18 | 3.967 | 3.967 | 0.762 | 0.762 | 631                       | 219                      | 56 000                                     | 67 000                                  |
| FE155ZZS            | 3.967             | 7.938 | 9.119 | 9.119 | 2.779 | 3.175 | 0.584 | 0.914 | 359                       | 150                      | 53 000                                     | 63 000                                  |
| FR156ZZS            | 4.762             | 7.938 | 9.119 | 9.119 | 2.779 | 3.175 | 0.584 | 0.914 | 359                       | 150                      | 53 000                                     | 63 000                                  |
| FR166ZZ             | 4.762             | 9.525 | 10.72 | 10.72 | 3.175 | 3.175 | 0.584 | 0.787 | 709                       | 272                      | 50 000                                     | 60 000                                  |
| FR3ZZ               | 4.762             | 12.7  | 14.35 | 14.35 | 4.978 | 4.978 | 1.067 | 1.067 | 1301                      | 488                      | 43 000                                     | 53 000                                  |
| FR168ZZS            | 6.35              | 9.525 | 10.72 | 10.72 | 3.175 | 3.175 | 0.584 | 0.914 | 373                       | 172                      | 48 000                                     | 56 000                                  |
| FR188ZZ             | 6.35              | 12.7  | 13.89 | 13.89 | 3.175 | 4.762 | 0.584 | 1.143 | 1082                      | 442                      | 40 000                                     | 50 000                                  |
| FR4ZZ               | 6.35              | 15.88 | 17.53 | 17.53 | 4.978 | 4.978 | 1.067 | 1.067 | 1480                      | 621                      | 38 000                                     | 45 000                                  |
| FR1810ZZS           | 7.938             | 12.7  | 13.89 | 13.89 | 3.967 | 3.967 | 0.787 | 0.787 | 542                       | 276                      | 40 000                                     | 48 000                                  |
| FR6ZZ               | 9.525             | 22.23 | 24.61 | 24.61 | 5.558 | 7.142 | 1.57  | 1.57  | 3332                      | 1422                     | 32 000                                     | 38 000                                  |



**Shaanxi Gainhui Heavy Industries Co., Ltd.**  
Bearing Manufacturer And Supplier In China

## BECAUSE WE ARE FOCUSED WE ARE PROFESSIONAL

We are committed to providing competitive bearing products and OEM services to global customers.



Founded in 2009, Shaanxi Gainhui Heavy Industries Co., Ltd. covers an area of 16,000 square meters, which is a professional bearing manufacturer and distributor in China. The company is committed to the design, manufacture and service of precision bearings, focusing on providing customers with reliable bearing products and cost-effective technical solutions.

The company adopts advanced production equipment and testing equipment, is equipped with a professional quality testing department, formulates a complete quality management system, and specializes in the production of high-precision, low-noise, and long-life bearings. Shaanxi Gainhui Heavy Industries Co., Ltd. insists on quality as the core, innovation as the driving force, promotes development through service, and sincerely provides services to customers all over the world.



### Contact us:

Website: [www.ghbearings.com](http://www.ghbearings.com)

Tel: +86-029-88692376

Mob/WhatsApp: +86-18710850036

Skype: tina.li72

E-mail: [info@ghbearings.com](mailto:info@ghbearings.com)

Add: NO.196, Changan South Road,  
Xi'an City, Shaanxi Province, China

