

One Way Clutches(Drawn Cup Roller Clutches, One Way Bearings, Overrunning Clutches)



Overview: PS Bearings' One Way Clutches(Drawn Cup Roller Clutches) transmits torque between opposite direction. When transmitting torque, either the shaft or the housing can be the input member. Applications are generally described as indexing, backstopping or overrunning.

Application: Stair Steppers, and other Athletic Equipment, Lawnmower Differential, Tape Dispensers and Similar Web Roll Feed Mechanisms, Conveyor Rollers, Chainsaw Starters, Paper Feed Rolls in Business Machines, Rack Indexing Drive.

Inspection:

Although the outer cup of the clutch is accurately drawn from strip steel, it can go slightly out of round during heat treat. When the assembly is pressed into a ring gage or properly prepared housing of correct size and wall thickness, it becomes round and properly sized. Direct measurement of the outside diameter of a drawn cup assembly is an incorrect procedure. The proper inspection procedure is as follows:

1. Press the assembly into a ring gage of the proper size as given in the tabular data.
2. Gage the bore with the specified plug gages of the proper size, as given in the tables of dimensions.
 - a. The locking plug is rotated to insure lockup when the clutch is operated at low limit shaft and is mounted in a high limit housing strong enough to properly size the clutch.
 - b. The overrun plug is rotated to ensure free over-running when the clutch is operated on a high limit shaft and is mounted in a low limit housing.
 - c. The go plug and no go plug insure proper size of the bearings in the clutch and bearing assemblies.

One Way Clutches Description:

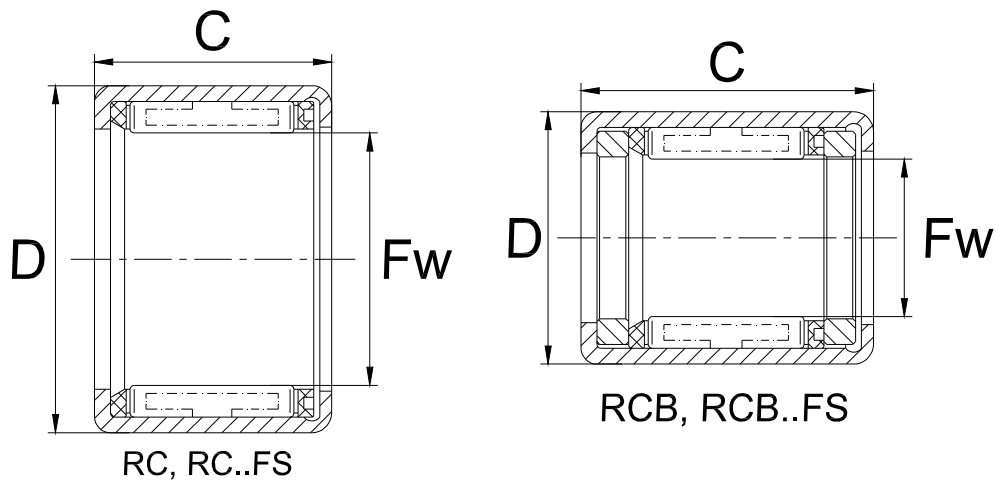
Metric Series:

| | |
|----------------------|--|
| FCS, FC-K, FCL-K, HF | Regular Clutch, Single Roller per Stainless Steel Spring |
| FCBL-K, FCBN-K, HFL | Clutch and Bearing Assembly, Single roller per Stainless Steel |
| HF-KF | Regular Clutch, Single Roller per Plastic Spring |
| HFL-KF | Clutch and Bearing Assembly, Single roller per Plastic Spring |
| HF-R | Regular Clutch, Single Roller per Stainless Steel Spring, Knurled |
| HFL-R | Clutch and Bearing Assembly, Single roller per Stainless Steel |
| HF-KFR | Regular Clutch, Single Roller per Plastic Spring, Knurled Outer Ring |
| HFL-KFR | Clutch and Bearing Assembly, Single roller per Plastic Spring, |
| FC | Regular Clutch, Multi-roller per Stainless Steel Spring |
| FCB | Regular Clutch and Bearing Assembly, Multi-roller per Stainless |
| EWC | Regular Clutch, Single Roller per Plastic Spring, Heaved Outer Ring |
| EWC-SS | Stainless Steel One Way Clutches |

Inch Series:

| | |
|--------------|---|
| RC | Regular Clutch, Single Roller per Plastic Spring |
| RCB | Regular Clutch and Bearing Assembly, Single Roller per Plastic Spring |
| RC-FS, HFZ | Regular Clutch, Single Roller per Stainless Steel Spring |
| RCB-FS, HFLZ | Regular Clutch and Bearing Assembly, Single Roller per Stainless Steel Spring |

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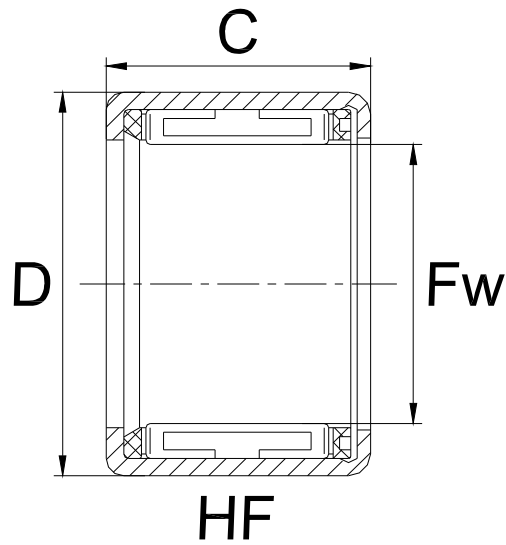


| Part Number | Dimension(mm) | | | Torque Rating(Nm) | Limiting Speed (RPM) | Weight(g) |
|-------------|---------------|--------|--------|-------------------|----------------------|-----------|
| | Fw | D | C | | | |
| RC02 | 3.175 | 7.14 | 6.35 | 0.323 | 34000 | 1 |
| RC040708 | 6.35 | 11.13 | 12.7 | 2.02 | 20000 | 4 |
| RC040708FS | 6.35 | 11.13 | 12.7 | 2.02 | 20000 | 4 |
| RC061008 | 9.525 | 15.875 | 12.7 | 5.45 | 18000 | 8 |
| RC061008FS | 9.525 | 15.875 | 12.7 | 5.45 | 18000 | 8 |
| RC081208 | 12.7 | 19.05 | 12.7 | 8.85 | 17000 | 9 |
| RC081208FS | 12.7 | 19.05 | 12.7 | 8.85 | 17000 | 9 |
| RC101410 | 15.875 | 22.225 | 15.875 | 16.8 | 14000 | 14 |
| RC101410FS | 15.875 | 22.225 | 15.875 | 16.8 | 14000 | 14 |
| RC121610 | 19.05 | 25.4 | 15.875 | 23.3 | 12000 | 15 |
| RC121610FS | 19.05 | 25.4 | 15.875 | 23.3 | 12000 | 15 |
| RC162110 | 25.4 | 33.35 | 15.875 | 49.6 | 8700 | 26 |
| RC162110FS | 25.4 | 33.35 | 15.875 | 49.6 | 8700 | 26 |

Remark: Other types like HFZ is also workable.

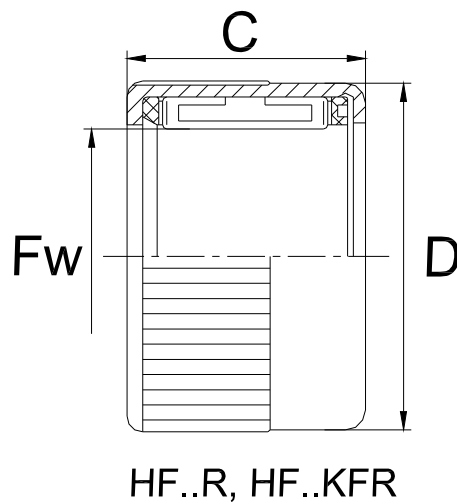
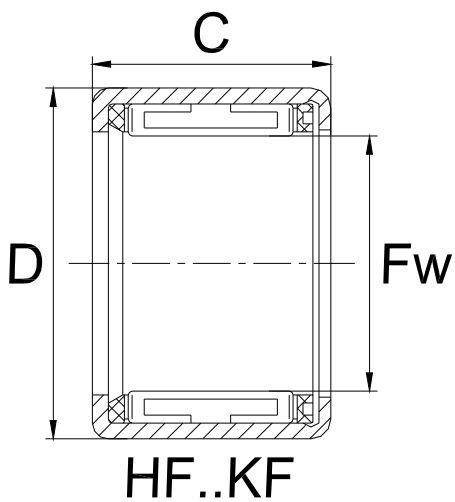
| Part Number | Dimension(mm) | | | Torque Rating(Nm) | Limiting Speed (RPM) | Weight(g) |
|--------------|---------------|--------|--------|-------------------|----------------------|-----------|
| | Fw | D | C | | | |
| RCB061014 | 9.525 | 15.875 | 22.225 | 5.45 | 18000 | 14 |
| RCB061014FS | 9.525 | 15.875 | 22.225 | 5.45 | 18000 | 14 |
| RCB081214 | 12.7 | 19.05 | 22.225 | 8.85 | 17000 | 16 |
| RCB081214FS | 12.7 | 19.05 | 22.225 | 8.85 | 17000 | 16 |
| RCB101416 | 15.875 | 22.225 | 25.4 | 16.8 | 14000 | 23 |
| RCB101416FS | 15.875 | 22.225 | 25.4 | 16.8 | 14000 | 23 |
| RCB121616 | 19.05 | 25.4 | 25.4 | 23.3 | 12000 | 26 |
| RCB121616FS | 19.05 | 25.4 | 25.4 | 23.3 | 12000 | 26 |
| RCB162117 | 25.4 | 33.35 | 27 | 49.6 | 8700 | 45 |
| RCB162117 FS | 25.4 | 33.35 | 27 | 49.6 | 8700 | 45 |

Remark: Other types like HFLZ is also workable.



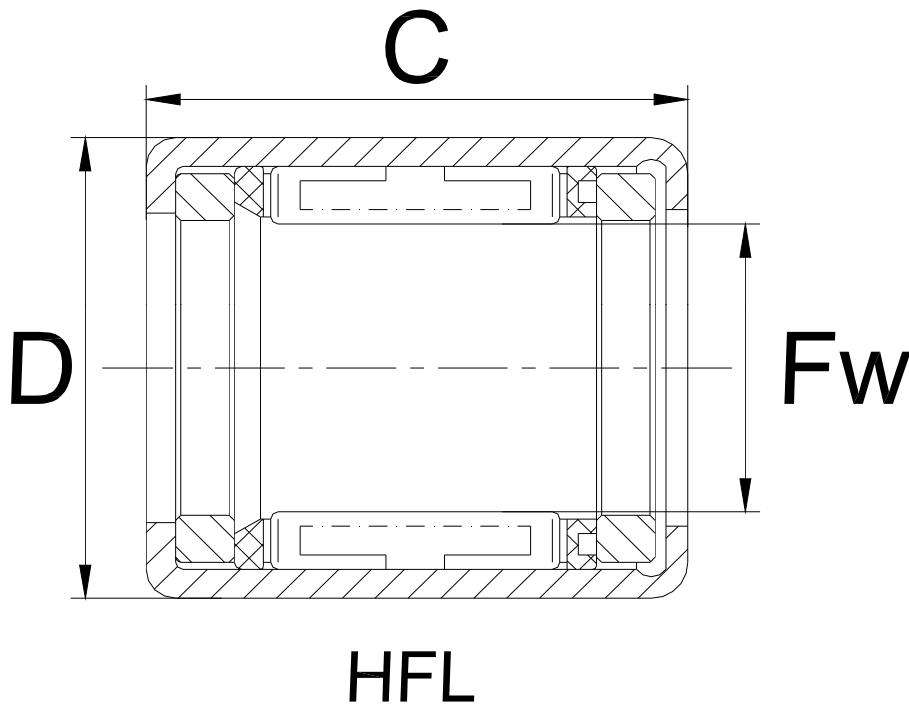
| Part Number | Dimension(mm) | | | Torque Rating(Nm) | Limiting Speed(RPM) | | Weight(g) |
|-------------|---------------|----|----|-------------------|---------------------|---------|-----------|
| | Fw | D | C | | Shaft | Housing | |
| HF0406 | 4 | 8 | 6 | 0.34 | 34000 | 8000 | 1 |
| HF0612 | 6 | 10 | 12 | 1.76 | 23000 | 13000 | 3 |
| HF0812 | 8 | 12 | 12 | 3.15 | 17000 | 12000 | 3.5 |
| HF1012 | 10 | 14 | 12 | 5.3 | 14000 | 11000 | 4 |
| HF1216 | 12 | 18 | 16 | 12.2 | 11000 | 8000 | 11 |
| HF1416 | 14 | 20 | 16 | 17.3 | 9500 | 8000 | 13 |
| HF1616 | 16 | 22 | 16 | 20.5 | 8500 | 7500 | 14 |
| HF1816 | 18 | 24 | 16 | 24.1 | 7500 | 7500 | 16 |
| HF2016 | 20 | 26 | 16 | 28.5 | 7000 | 6500 | 17 |
| HF2520 | 25 | 32 | 20 | 66 | 5500 | 5500 | 30 |
| HF3020 | 30 | 37 | 20 | 90 | 4500 | 4500 | 36 |
| HF3520 | 35 | 42 | 20 | 121 | 3900 | 3900 | 40 |

Remark: Other types like FC..K, FCS and FCL..K are also workable.



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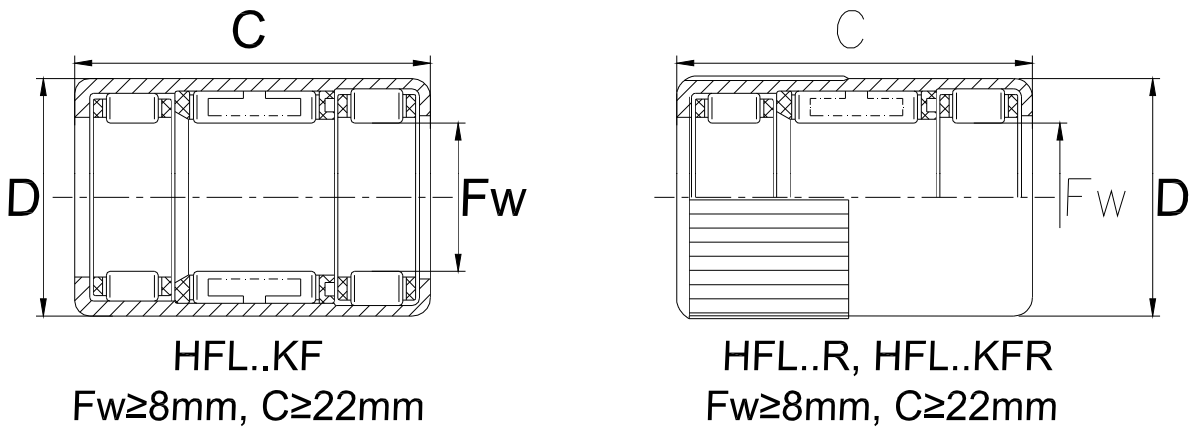
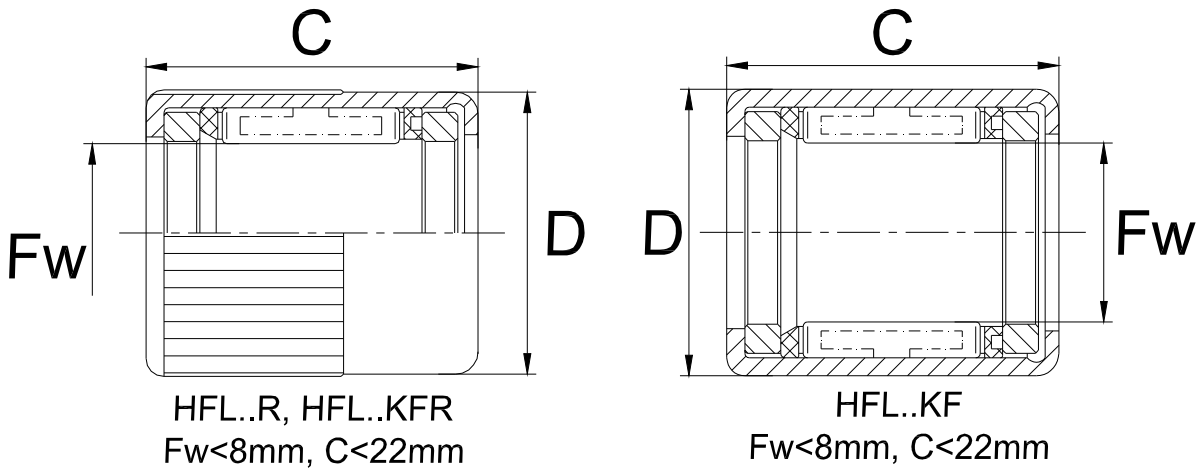
| Part Number | Dimension(mm) | | | Torque Rating(N) | Limiting Speed(RPM) | | Weight(g) |
|-------------|---------------|-----|----|------------------|---------------------|---------|-----------|
| | Fw | D | C | | Shaft | Housing | |
| HF0306KF | 3 | 6.5 | 6 | 0.18 | 45000 | 8000 | 1 |
| HF0406KF | 4 | 8 | 6 | 0.34 | 34000 | 8000 | 1 |
| HF0612KF | 6 | 10 | 12 | 1.76 | 23000 | 13000 | 3 |
| HF0812KF | 8 | 12 | 12 | 3.15 | 17000 | 12000 | 3.5 |
| HF1012KF | 10 | 14 | 12 | 5.3 | 14000 | 11000 | 4 |
| HF0306KFR | 3 | 6.5 | 6 | 0.06 | 45000 | 8000 | 1 |
| HF0406KFR | 4 | 8 | 6 | 0.1 | 34000 | 8000 | 1 |
| HF0612KFR | 6 | 10 | 12 | 0.6 | 23000 | 13000 | 3 |
| HF0812KFR | 8 | 12 | 12 | 1 | 17000 | 12000 | 3.5 |
| HF0612R | 6 | 10 | 12 | 0.6 | 23000 | 13000 | 3 |
| HF0812R | 8 | 12 | 12 | 1 | 17000 | 12000 | 3.5 |



| Part Number | Dimension(mm) | | | Torque Rating(Nm) | Limiting Speed(RPM) | | Weight(g) |
|-------------|---------------|----|----|-------------------|---------------------|---------|-----------|
| | Fw | D | C | | Shaft | Housing | |
| HFL0615 | 6 | 10 | 15 | 1.76 | 23000 | 13000 | 5 |
| HFL0822 | 8 | 12 | 22 | 3.15 | 17000 | 12000 | 7 |
| HFL1022 | 10 | 14 | 22 | 5.3 | 14000 | 11000 | 8 |
| HFL1226 | 12 | 18 | 26 | 12.2 | 11000 | 8000 | 18 |
| HFL1426 | 14 | 20 | 26 | 17.3 | 9500 | 8000 | 20 |
| HFL1626 | 16 | 22 | 26 | 20.5 | 8500 | 7500 | 22 |
| HFL1826 | 18 | 24 | 26 | 24.1 | 7500 | 7500 | 25 |
| HFL2026 | 20 | 26 | 26 | 28.5 | 7000 | 6500 | 27 |
| HFL2530 | 25 | 32 | 30 | 66 | 5500 | 5500 | 44 |
| HFL3030 | 30 | 37 | 30 | 90 | 4500 | 4500 | 51 |
| HFL3530 | 35 | 42 | 30 | 121 | 3900 | 3900 | 58 |

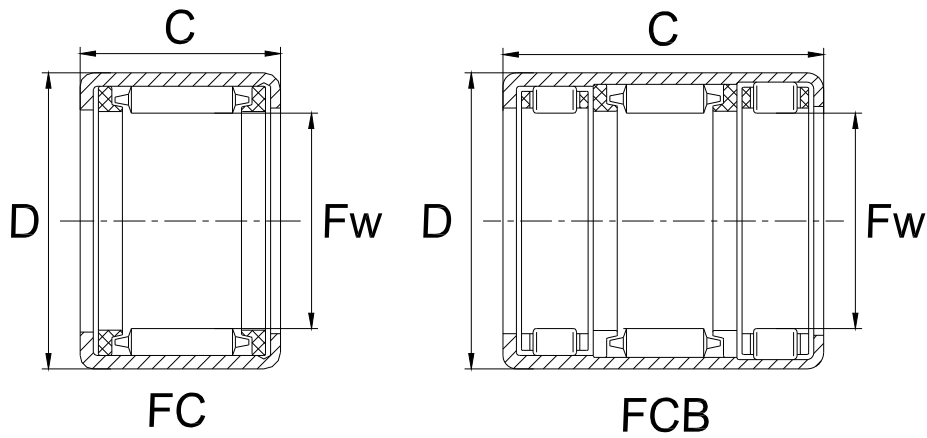
Remark: Other types like FCBN..K and FCBL..K are also workable.

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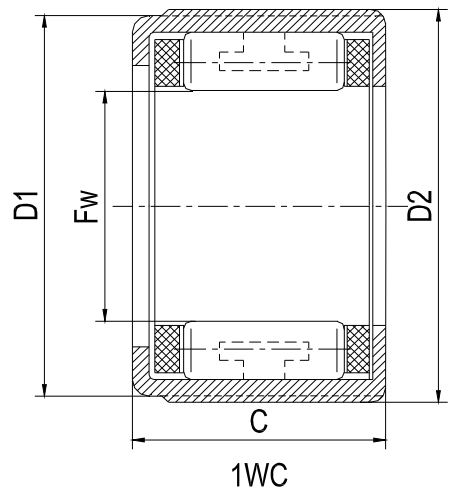
| Part Number | Dimension(mm) | | | Torque Rating(Nm) | Limiting Speed(RPM) | | Weight(g) |
|-------------|---------------|-----|----|-------------------|---------------------|---------|-----------|
| | Fw | D | C | | Shaft | Housing | |
| HFL0308KF | 3 | 6.5 | 8 | 0.18 | 45000 | 8000 | 1 |
| HFL0408KF | 4 | 8 | 8 | 0.34 | 34000 | 8000 | 2 |
| HFL0615KF | 6 | 10 | 15 | 1.76 | 23000 | 13000 | 4 |
| HFL0822KF | 8 | 12 | 22 | 3.15 | 17000 | 12000 | 7 |
| HFL0308KFR | 3 | 6.5 | 8 | 0.06 | 45000 | 8000 | 1 |
| HFL0408KFR | 4 | 8 | 8 | 0.1 | 34000 | 8000 | 2 |
| HFL0606KFR | 6 | 10 | 6 | 0.5 | 23000 | 13000 | 1 |
| HFL0615KFR | 6 | 10 | 15 | 0.6 | 23000 | 13000 | 4 |
| HFL0806KFR | 8 | 12 | 6 | 0.7 | 17000 | 12000 | 2 |
| HFL0822KFR | 8 | 12 | 22 | 1 | 17000 | 12000 | 7 |
| HFL0615R | 6 | 10 | 15 | 0.6 | 23000 | 13000 | 4 |
| HFL0822R | 8 | 12 | 22 | 1 | 17000 | 12000 | 7 |

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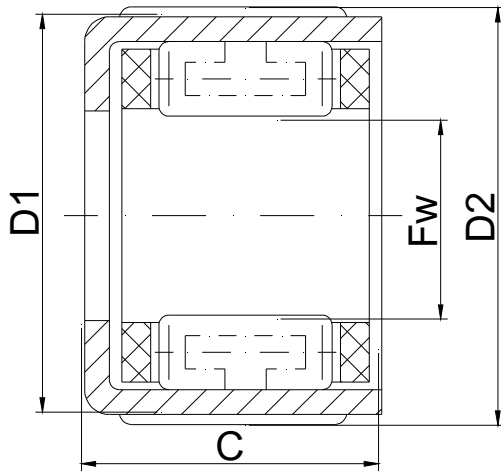
| Part Number | Dimension(mm) | | | Torque Rating(N) | Limiting Speed | Weight(g) |
|-------------|----------------|----|----|------------------|----------------|-----------|
| | F _w | D | C | | | |
| FC6 | 6 | 10 | 12 | 2.63 | 22000 | 4 |
| FC8 | 8 | 14 | 12 | 4.42 | 21000 | 7 |
| FC10 | 10 | 16 | 12 | 5.82 | 19000 | 9 |
| FC12 | 12 | 18 | 16 | 14 | 19000 | 12 |
| FC16 | 16 | 22 | 16 | 21.7 | 14000 | 18 |
| FC20 | 20 | 26 | 16 | 32.6 | 11000 | 21 |
| FC25 | 25 | 32 | 20 | 71 | 8700 | 34 |
| FC30 | 30 | 37 | 20 | 99.1 | 7300 | 42 |

| Part Number | Dimension(mm) | | | Torque Rating(N) | Limiting Speed | Weight(g) |
|-------------|----------------|----|----|------------------|----------------|-----------|
| | F _w | D | C | | | |
| FCB8 | 8 | 14 | 20 | 4.42 | 21000 | 11 |
| FCB10 | 10 | 16 | 20 | 5.82 | 19000 | 13 |
| FCB12 | 12 | 18 | 26 | 14 | 19000 | 18 |
| FCB20 | 20 | 26 | 26 | 32.6 | 11000 | 28 |
| FCB25 | 25 | 32 | 30 | 71 | 8700 | 48 |
| FCB30 | 30 | 37 | 30 | 99.1 | 7300 | 54 |

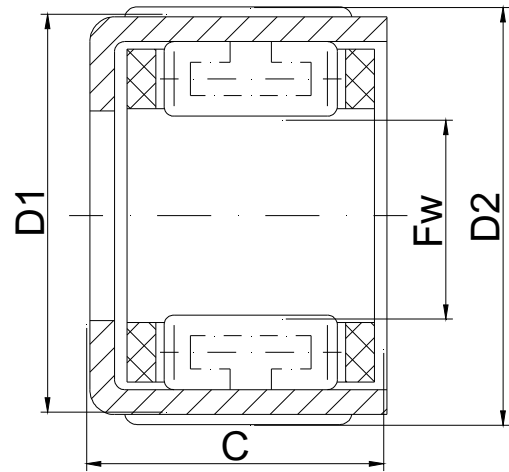


| Part Number | Dimension(mm) | | | | Torque Rating(Nm) | Weight(g) |
|-------------|----------------|------|------|------|-------------------|-----------|
| | F _w | D1 | D2 | C | | |
| 1WC0608 | 6 | 10 | 10.4 | 8 | 0.44 | 2 |
| 1WC0612 | 6 | 10 | 10.4 | 12 | 0.88 | 3 |
| 1WC0812 | 8 | 14.2 | 15 | 12 | 1.96 | 7 |
| 1WC0815 | 8 | 14.2 | 15 | 14.5 | 2.65 | 8 |
| 1WC100914 | 10 | 14 | 14.4 | 9 | 2.25 | 3 |
| 1WC1012 | 10 | 16 | 17 | 12 | 2.35 | 8 |
| 1WC1216 | 12 | 18 | 19 | 16 | 6.28 | 12 |

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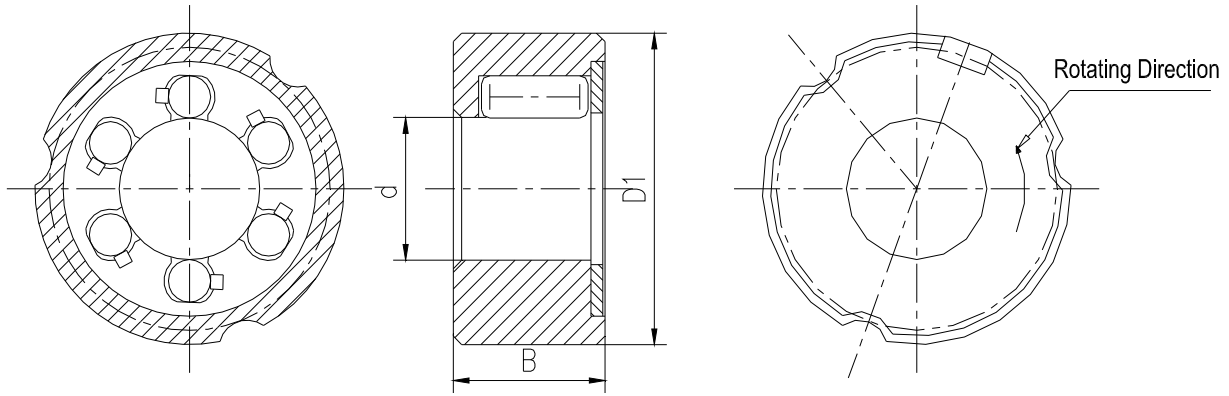
EWC



SS-EWC

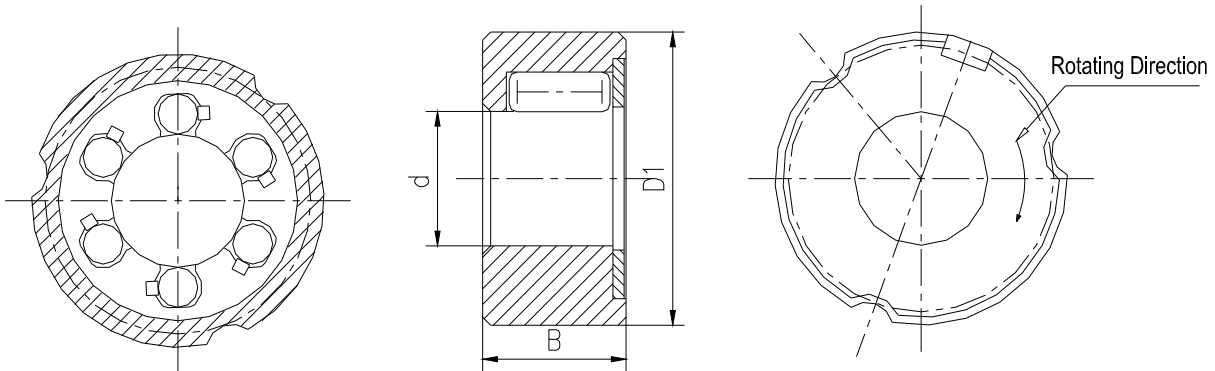
| Part Number | Dimension(mm) | | | | Torque Rating(N) | Limiting Speed(RPM) | | Weight(g) |
|-------------|---------------|----|------|----|------------------|---------------------|---------|-----------|
| | Fw | D1 | D2 | C | | Shaft | Housing | |
| EWC0406 | 4 | 8 | 8.4 | 6 | 0.08 | 32000 | 5000 | 1 |
| EWC0606 | 6 | 10 | 10.4 | 6 | 0.19 | 16000 | 8000 | 1.4 |
| EWC0608 | 6 | 10 | 10.4 | 8 | 0.25 | 16000 | 8000 | 1.7 |
| EWC0809 | 8 | 12 | 12.4 | 9 | 0.49 | 16000 | 9000 | 2.4 |
| EWC0812 | 8 | 14 | 15 | 12 | 1.18 | 16000 | 9000 | 5.8 |
| EWC1010 | 10 | 16 | 17 | 10 | 1.16 | 14000 | 11000 | 6 |
| EWC1012 | 10 | 16 | 17 | 12 | 1.37 | 14000 | 11000 | 6.8 |
| EWC1209 | 12 | 18 | 19 | 9 | 3.04 | 12000 | 10000 | 6.2 |

| Part Number | Dimension(mm) | | | | Torque Rating(N) | Limiting Speed(RPM) | | Weight(g) |
|-------------|---------------|----|------|----|------------------|---------------------|---------|-----------|
| | Fw | D1 | D2 | C | | Shaft | Housing | |
| SS-EWC0406 | 4 | 8 | 8.4 | 6 | 0.08 | 32000 | 5000 | 1 |
| SS-EWC0606 | 6 | 10 | 10.4 | 6 | 0.19 | 16000 | 8000 | 1.4 |
| SS-EWC0608 | 6 | 10 | 10.4 | 8 | 0.25 | 16000 | 8000 | 1.7 |
| SS-EWC0809 | 8 | 12 | 12.4 | 9 | 0.49 | 16000 | 9000 | 2.4 |
| SS-EWC0812 | 8 | 14 | 15 | 12 | 1.18 | 16000 | 9000 | 5.8 |
| SS-EWC1010 | 10 | 16 | 17 | 10 | 1.16 | 14000 | 11000 | 6 |
| SS-EWC1012 | 10 | 16 | 17 | 12 | 1.37 | 14000 | 11000 | 6.8 |
| SS-EWC1209 | 12 | 18 | 19 | 9 | 3.04 | 12000 | 10000 | 6.2 |



OWC..GXLZ

| Type | Dimension(mm) | | | Torque Rating(N.m) |
|-------------|---------------|-----|-----|--------------------|
| | d | D1 | B | |
| OWC307GXLZ | 3 | 7.2 | 5.4 | 0.13 |
| OWC307GXRZ | 3 | 7.2 | 5.4 | 0.13 |
| OWC410GXLZ | 4 | 10 | 5.4 | 0.3 |
| OWC410GXRZ | 4 | 10 | 5.4 | 0.3 |
| OWC511GXLZ | 5 | 11 | 5.4 | 0.6 |
| OWC511GXRZ | 5 | 11 | 5.4 | 0.6 |
| OWC612GXLZ | 6 | 12 | 5.4 | 0.8 |
| OWC612GXRZ | 6 | 12 | 5.4 | 0.8 |
| OWC814GXLZ | 8 | 14 | 5.4 | 1.1 |
| OWC814GXRZ | 8 | 14 | 5.4 | 1.1 |
| OWC1016GXLZ | 10 | 16 | 5.4 | 1.5 |
| OWC1016GXRZ | 10 | 16 | 5.4 | 1.5 |



OWC..GXRZ

| Type | Dimension(mm) | | | Torque Rating(N.m) |
|---------------|---------------|------|-----|--------------------|
| | d | D1 | B | |
| OWC610GXLZ | 6 | 10.2 | 8 | 0.54 |
| OWC610GXRZ | 6 | 10.2 | 8 | 0.54 |
| OWC812GXLZ | 8 | 12.2 | 8 | 0.73 |
| OWC812GXRZ | 8 | 12.2 | 8 | 0.73 |
| OWC6128.4GXLZ | 6 | 12 | 8.4 | 0.8 |
| OWC6128.4GXRZ | 6 | 12 | 8.4 | 0.8 |
| OWC8148.4GXLZ | 8 | 14.3 | 8.4 | 1.47 |
| OWC8148.4GXRZ | 8 | 14.3 | 8.4 | 1.47 |