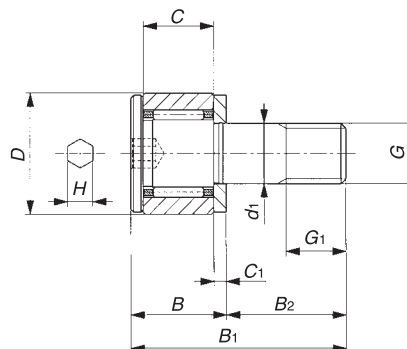


# IKO Miniature Type Cam Followers

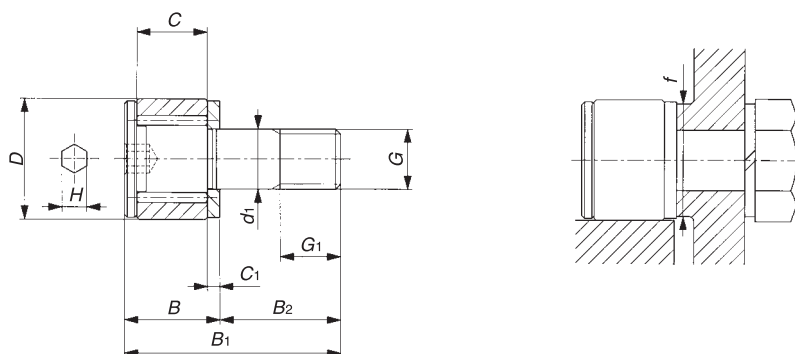
**CFS** With cage type  
**CFS... V** Full complement type  
**CFS... F** With cage type Stainless steel made  
**CFS... FV** Full complement type Stainless steel made



CFS  
 CFS... F

| Stud dia.<br>mm | Identification number |                 | Mass<br>(Ref.)<br>g | Boundary dimensions<br>mm |     |                |             |                |     |
|-----------------|-----------------------|-----------------|---------------------|---------------------------|-----|----------------|-------------|----------------|-----|
|                 | With cage type        | Full complement |                     | D                         | C   | d <sub>1</sub> | G           | G <sub>1</sub> | B   |
| 2               | CFS 2<br>—            | —<br>CFS 2 V    | 0.6                 | 4.5                       | 2.5 | 2              | M2 × 0.4    | 2              | 4   |
|                 | CFS 2 F<br>—          | —<br>CFS 2 FV   |                     |                           |     |                |             |                |     |
| 2.5             | CFS 2.5<br>—          | —<br>CFS 2.5 V  | 1                   | 5                         | 3   | 2.5            | M2.5 × 0.45 | 2.5            | 4.5 |
|                 | CFS 2.5 F<br>—        | —<br>CFS 2.5 FV |                     |                           |     |                |             |                |     |
| 3               | CFS 3<br>—            | —<br>CFS 3 V    | 2                   | 6                         | 4   | 3              | M3 × 0.5    | 3              | 5.5 |
|                 | CFS 3 F<br>—          | —<br>CFS 3 FV   |                     |                           |     |                |             |                |     |
| 4               | CFS 4<br>—            | —<br>CFS 4 V    | 4                   | 8                         | 5   | 4              | M4 × 0.7    | 4              | 7   |
|                 | CFS 4 F<br>—          | —<br>CFS 4 FV   |                     |                           |     |                |             |                |     |
| 5               | CFS 5<br>—            | —<br>CFS 5 V    | 7                   | 10                        | 6   | 5              | M5 × 0.8    | 5              | 8   |
|                 | CFS 5 F<br>—          | —<br>CFS 5 FV   |                     |                           |     |                |             |                |     |
| 6               | CFS 6<br>—            | —<br>CFS 6 V    | 13                  | 12                        | 7   | 6              | M6 × 1      | 6              | 9.5 |
|                 | CFS 6 F<br>—          | —<br>CFS 6 FV   |                     |                           |     |                |             |                |     |

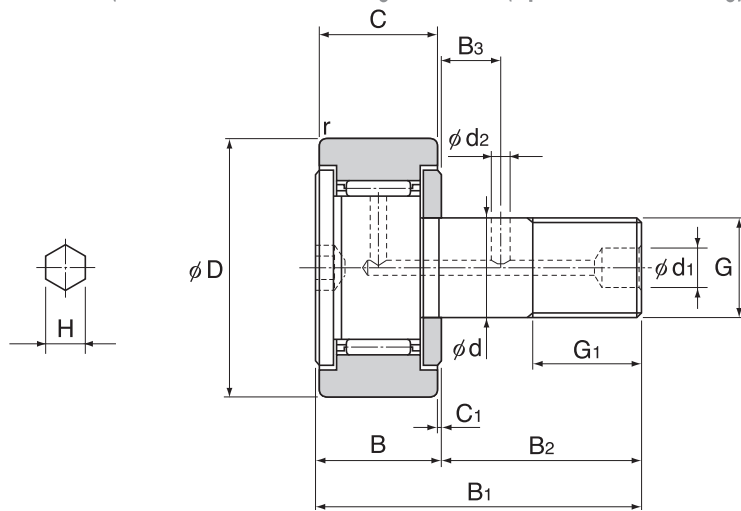
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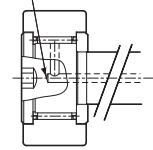
CFS...V  
CFS...FV

|       |       |       |     | Mounting dimension<br>$f$<br>Min.<br>mm | Maximum tightening<br>torque<br>N-cm | Basic dynamic<br>load rating<br>$C$<br>N | Basic static<br>load rating<br>$C_0$<br>N | Maximum<br>allowable load<br>N |
|-------|-------|-------|-----|-----------------------------------------|--------------------------------------|------------------------------------------|-------------------------------------------|--------------------------------|
| $B_1$ | $B_2$ | $C_1$ | $H$ |                                         |                                      |                                          |                                           |                                |
| 8     | 4     | 0.7   | 0.9 | 4.3                                     | 9.1                                  | 288<br>768                               | 202<br>734                                | 202<br>229                     |
|       |       |       |     |                                         |                                      | 230<br>614                               | 161<br>587                                | 161<br>229                     |
| 9.5   | 5     | 0.7   | 0.9 | 4.8                                     | 18.7                                 | 428<br>1 000                             | 351<br>1 080                              | 351<br>360                     |
|       |       |       |     |                                         |                                      | 342<br>800                               | 281<br>862                                | 281<br>360                     |
| 11.5  | 6     | 0.7   | 1.3 | 5.8                                     | 33.5                                 | 629<br>1 420                             | 611<br>1 790                              | 484<br>484                     |
|       |       |       |     |                                         |                                      | 504<br>1 140                             | 488<br>1 430                              | 484<br>484                     |
| 15    | 8     | 1.0   | 1.5 | 7.7                                     | 77.7                                 | 1 120<br>2 370                           | 1 120<br>3 000                            | 919<br>919                     |
|       |       |       |     |                                         |                                      | 897<br>1 900                             | 894<br>2 400                              | 894<br>919                     |
| 18    | 10    | 1.0   | 2   | 9.6                                     | 158                                  | 1 570<br>3 180                           | 1 850<br>4 700                            | 1 570<br>1 570                 |
|       |       |       |     |                                         |                                      | 1 250<br>2 540                           | 1 480<br>3 760                            | 1 480<br>1 570                 |
| 21.5  | 12    | 1.2   | 2.5 | 11.6                                    | 268                                  | 2 090<br>4 610                           | 2 200<br>6 250                            | 2 150<br>2 150                 |
|       |       |       |     |                                         |                                      | 1 670<br>3 690                           | 1 760<br>5 000                            | 1 760<br>2 150                 |

Model CF-A (Cam Follower with Hexagon Socket (Cylindrical Outer Ring)), Model CF-M-A (Stainless Steel Type)  
 Model CF-R-A (Cam Follower with Hexagon Socket (Spherical Outer Ring)), Model CF-MR-A (Stainless Steel Type)

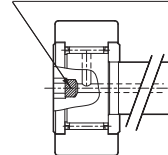


Oil hole is a blind hole



CF12A to 20-1A  
 CF12AM to 30-2AM

Plug pressed into hexagon socket  
 to render oil hole as a blind hole



CF24A to CF30-2A

| Stud diameter | Model No. | Main dimensions  |                    |            |                |      |                |                |                |                |                |                |         |                   | Shoulder height f (Min.) |
|---------------|-----------|------------------|--------------------|------------|----------------|------|----------------|----------------|----------------|----------------|----------------|----------------|---------|-------------------|--------------------------|
|               |           | Outer diameter D | Outer ring width C | Threaded G | G <sub>1</sub> | B    | B <sub>1</sub> | B <sub>2</sub> | B <sub>3</sub> | C <sub>1</sub> | d <sub>1</sub> | d <sub>2</sub> | H*      | r <sub>smin</sub> |                          |
| 3             | CF 3-A    | 10               | 7                  | M3×0.5     | 5              | 8    | 17             | 9              | —              | 0.5            | —*             | —              | 2 (1.5) | 0.2               | 6.8                      |
| 4             | CF 4-A    | 12               | 8                  | M4×0.7     | 6              | 9    | 20             | 11             | —              | 0.5            | —*             | —              | 2.5 (2) | 0.3               | 8.6                      |
| 5             | CF 5-A    | 13               | 9                  | M5×0.8     | 7.5            | 10   | 23             | 13             | —              | 0.5            | —*             | —              | 3 (2.5) | 0.3               | 9.7                      |
| 6             | CF 6-A    | 16               | 11                 | M6×1       | 8              | 12   | 28             | 16             | —              | 0.6            | —*             | —              | 3       | 0.3               | 11                       |
| 8             | CF 8-A    | 19               | 11                 | M8×1.25    | 10             | 12   | 32             | 20             | —              | 0.6            | —*             | —              | 4       | 0.3               | 13                       |
| 10            | CF 10-A   | 22               | 12                 | M10×1.25   | 12             | 13   | 36             | 23             | —              | 0.6            | —*             | —              | 5       | 0.3               | 15                       |
| 10            | CF 10-1-A | 26               | 12                 | M10×1.25   | 12             | 13   | 36             | 23             | —              | 0.6            | —*             | —              | 5       | 0.3               | 15                       |
| 12            | CF 12-A   | 30               | 14                 | M12×1.5    | 13             | 15   | 40             | 25             | 6              | 0.6            | 6              | 3              | 6       | 0.6               | 20                       |
| 12            | CF 12-1-A | 32               | 14                 | M12×1.5    | 13             | 15   | 40             | 25             | 6              | 0.6            | 6              | 3              | 6       | 0.6               | 20                       |
| 16            | CF 16-A   | 35               | 18                 | M16×1.5    | 17             | 19.5 | 52             | 32.5           | 8              | 0.8            | 6              | 3              | 6       | 0.6               | 24                       |
| 18            | CF 18-A   | 40               | 20                 | M18×1.5    | 19             | 21.5 | 58             | 36.5           | 8              | 0.8            | 6              | 3              | 6       | 1                 | 26                       |
| 20            | CF 20-A   | 52               | 24                 | M20×1.5    | 21             | 25.5 | 66             | 40.5           | 9              | 0.8            | 8              | 4              | 8       | 1                 | 36                       |
| 20            | CF 20-1-A | 47               | 24                 | M20×1.5    | 21             | 25.5 | 66             | 40.5           | 9              | 0.8            | 8              | 4              | 8       | 1                 | 36                       |
| 24            | CF 24-A   | 62               | 29                 | M24×1.5    | 25             | 30.5 | 80             | 49.5           | 11             | 0.8            | 8              | 4              | 8       | 1                 | 40                       |
| 24            | CF 24-1-A | 72               | 29                 | M24×1.5    | 25             | 30.5 | 80             | 49.5           | 11             | 0.8            | 8              | 4              | 8       | 1                 | 40                       |
| 30            | CF 30-A   | 80               | 35                 | M30×1.5    | 32             | 37   | 100            | 63             | 15             | 1              | 8              | 4              | 8       | 1                 | 46                       |
| 30            | CF 30-1-A | 85               | 35                 | M30×1.5    | 32             | 37   | 100            | 63             | 15             | 1              | 8              | 4              | 8       | 1                 | 46                       |
| 30            | CF 30-2-A | 90               | 35                 | M30×1.5    | 32             | 37   | 100            | 63             | 15             | 1              | 8              | 4              | 8       | 1                 | 46                       |

Note) The seal must be used at temperature of 80°C or below.

Those models marked with “\*” do not have a greasing hole and cannot be replenished with grease.

Model number coding

**CF12 V M UU R -A N**

Model number

No symbol: With cage

V : Full-roller Type

No symbol: Carbon steel

M : Stainless steel

no symbol: without seal

UU : With seal

No symbol: Standard accessories

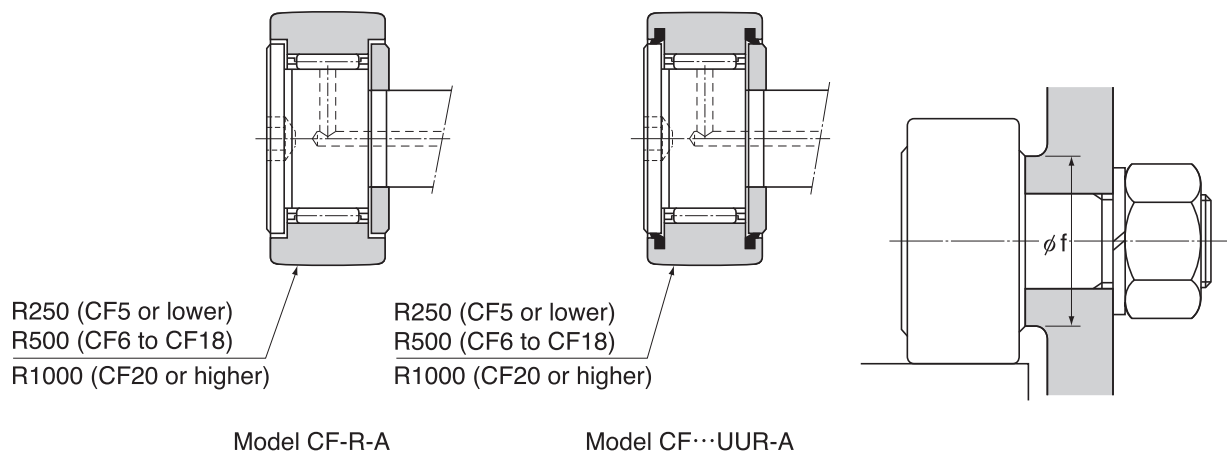
N : Dedicated grease nipple

Stud with a hexagon socket

No Symbol : Cylindrical outer ring

R : Spherical outer ring

Note) Full-roller Type is applicable for Stud Diameter 6 to 30.



Unit: mm

|  | Basic load rating |                      |              |                      | Maximum<br>permissible<br>load | Track load capacity       |                         | Rotational speed limit * |              | Mass         |                 |
|--|-------------------|----------------------|--------------|----------------------|--------------------------------|---------------------------|-------------------------|--------------------------|--------------|--------------|-----------------|
|  | With cage         |                      | Full rollers |                      |                                | Cylindrical<br>outer ring | Spherical<br>outer ring | With cage                | Full rollers | With<br>cage | Full<br>rollers |
|  | C<br>kN           | C <sub>0</sub><br>kN | C<br>kN      | C <sub>0</sub><br>kN |                                |                           |                         |                          |              |              |                 |
|  | 1.47              | 1.18                 | —            | —                    | 0.36                           | 1.37                      | 0.37                    | 47000                    | —            | 4.5          | —               |
|  | 2.06              | 2.05                 | —            | —                    | 0.78                           | 1.76                      | 0.47                    | 37000                    | —            | 7.5          | —               |
|  | 3.14              | 2.77                 | —            | —                    | 1.42                           | 2.25                      | 0.53                    | 29000                    | —            | 10.5         | —               |
|  | 3.59              | 3.58                 | 6.94         | 8.5                  | 2.11                           | 3.43                      | 1.08                    | 25000                    | 11000        | 18.5         | 19              |
|  | 4.17              | 4.65                 | 8.13         | 11.2                 | 4.73                           | 4.02                      | 1.37                    | 20000                    | 8700         | 28.5         | 29              |
|  | 5.33              | 6.78                 | 9.42         | 14.3                 | 5.81                           | 4.7                       | 1.67                    | 17000                    | 7200         | 45           | 46              |
|  | 5.33              | 6.78                 | 9.42         | 14.3                 | 5.81                           | 5.49                      | 2.06                    | 17000                    | 7200         | 60           | 61              |
|  | 7.87              | 9.79                 | 13.4         | 19.8                 | 9.37                           | 7.06                      | 2.45                    | 14000                    | 5800         | 95           | 97              |
|  | 7.87              | 9.79                 | 13.4         | 19.8                 | 9.37                           | 7.45                      | 2.74                    | 14000                    | 5800         | 105          | 107             |
|  | 12                | 18.3                 | 20.6         | 37.6                 | 17.3                           | 11.2                      | 3.14                    | 10000                    | 4500         | 170          | 173             |
|  | 14.7              | 25.2                 | 25.2         | 51.3                 | 26.1                           | 14.4                      | 3.72                    | 8500                     | 3800         | 250          | 255             |
|  | 20.7              | 34.8                 | 33.2         | 64.8                 | 32.1                           | 23.2                      | 8.23                    | 7000                     | 3400         | 460          | 465             |
|  | 20.7              | 34.8                 | 33.2         | 64.8                 | 32.1                           | 21                        | 7.15                    | 7000                     | 3400         | 385          | 390             |
|  | 30.6              | 53.2                 | 46.7         | 92.9                 | 49.5                           | 34.2                      | 10.5                    | 6500                     | 2900         | 815          | 820             |
|  | 30.6              | 53.2                 | 46.7         | 92.9                 | 49.5                           | 39.8                      | 12.9                    | 6500                     | 2900         | 1140         | 1140            |
|  | 45.4              | 87.6                 | 67.6         | 145                  | 73.7                           | 52.6                      | 14.9                    | 5000                     | 2300         | 1870         | 1870            |
|  | 45.4              | 87.6                 | 67.6         | 145                  | 73.7                           | 56                        | 16.1                    | 5000                     | 2300         | 2030         | 2030            |
|  | 45.4              | 87.6                 | 67.6         | 145                  | 73.7                           | 59.3                      | 17.3                    | 5000                     | 2300         | 2220         | 2220            |

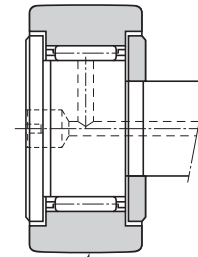
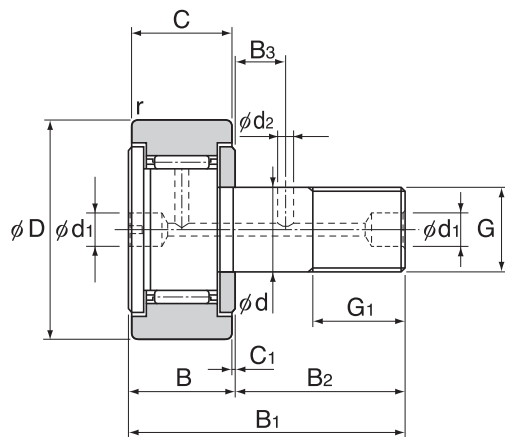
Note) "★" indicates that the dimensions in the parentheses in this row apply to stainless steel types.

The rotation speed limit value in the table (\*) applies to models that have no seal and use grease lubrication. With those models using oil lubrication, up to 130% of this value is permitted. With those attached with seals, up to 70% of this value is permitted.

Note) CF24 or larger cam followers with hexagon sockets (symbol - A, excluding SUS models) are constructed with a plug fitted into the through hole that links the hexagon socket to the greasing hole (see dimensional drawing  $\phi d_1, \phi d_2$ : **A19-14**) to prevent grease leakages from the hexagon socket.

During greasing, take care to ensure that the plug is not forced out of the hexagon socket by excessive pressure.

Model CF (Popular Type (Cylindrical Outer Ring)), Model CF-M (Stainless Steel Type)  
 Model CF-R (Popular Type (Spherical Outer Ring)), Model CF-MR (Stainless Steel Type)



R250(CF5)  
 R500(CF6 to CF18)  
 R1000(CF20 to CF30)

Model CF-R

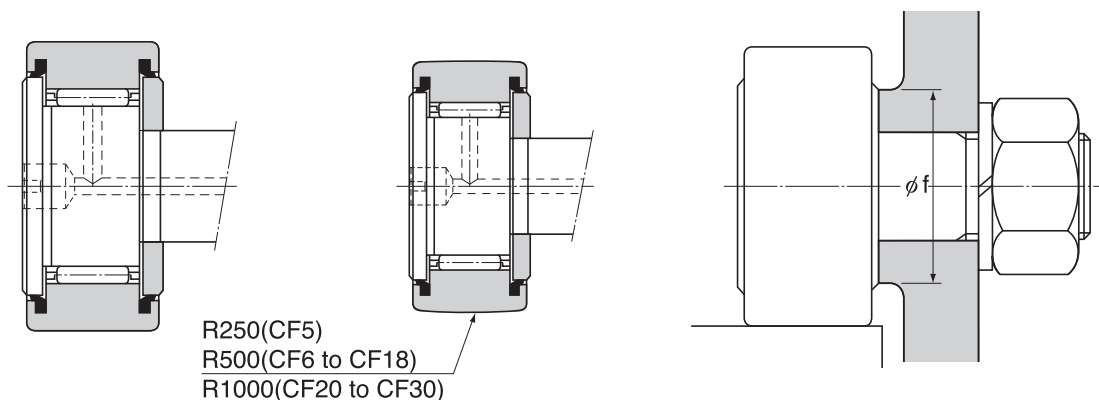
| Stud diameter | Model No. | Main dimensions |                  |          |                |      |                |                |                |                |                |                |                  | Shoulder height f (Min.) |
|---------------|-----------|-----------------|------------------|----------|----------------|------|----------------|----------------|----------------|----------------|----------------|----------------|------------------|--------------------------|
|               |           | Outer diameter  | Outer ring width | Threaded |                |      | Overall length |                |                |                |                |                |                  |                          |
| d             | Model No. | D               | C                | G        | G <sub>1</sub> | B    | B <sub>1</sub> | B <sub>2</sub> | B <sub>3</sub> | C <sub>1</sub> | d <sub>1</sub> | d <sub>2</sub> | r <sub>min</sub> |                          |
| 5             | CF 5      | 13              | 9                | M5×0.8   | 7.5            | 10   | 23             | 13             | —              | 0.5            | 3.1*           | —              | 0.3              | 9.7                      |
| 6             | CF 6      | 16              | 11               | M6×1     | 8              | 12   | 28             | 16             | —              | 0.6            | 4*             | —              | 0.3              | 11                       |
| 8             | CF 8      | 19              | 11               | M8×1.25  | 10             | 12   | 32             | 20             | —              | 0.6            | 4*             | —              | 0.3              | 13                       |
| 10            | CF 10     | 22              | 12               | M10×1.25 | 12             | 13   | 36             | 23             | —              | 0.6            | 4*             | —              | 0.3              | 15                       |
| 10            | CF 10-1   | 26              | 12               | M10×1.25 | 12             | 13   | 36             | 23             | —              | 0.6            | 4*             | —              | 0.3              | 15                       |
| 12            | CF 12     | 30              | 14               | M12×1.5  | 13             | 15   | 40             | 25             | 6              | 0.6            | 6              | 3              | 0.6              | 20                       |
| 12            | CF 12-1   | 32              | 14               | M12×1.5  | 13             | 15   | 40             | 25             | 6              | 0.6            | 6              | 3              | 0.6              | 20                       |
| 16            | CF 16     | 35              | 18               | M16×1.5  | 17             | 19.5 | 52             | 32.5           | 8              | 0.8            | 6              | 3              | 0.6              | 24                       |
| 18            | CF 18     | 40              | 20               | M18×1.5  | 19             | 21.5 | 58             | 36.5           | 8              | 0.8            | 6              | 3              | 1                | 26                       |
| 20            | CF 20     | 52              | 24               | M20×1.5  | 21             | 25.5 | 66             | 40.5           | 9              | 0.8            | 8              | 4              | 1                | 36                       |
| 20            | CF 20-1   | 47              | 24               | M20×1.5  | 21             | 25.5 | 66             | 40.5           | 9              | 0.8            | 8              | 4              | 1                | 36                       |
| 24            | CF 24     | 62              | 29               | M24×1.5  | 25             | 30.5 | 80             | 49.5           | 11             | 0.8            | 8              | 4              | 1                | 40                       |
| 24            | CF 24-1   | 72              | 29               | M24×1.5  | 25             | 30.5 | 80             | 49.5           | 11             | 0.8            | 8              | 4              | 1                | 40                       |
| 30            | CF 30     | 80              | 35               | M30×1.5  | 32             | 37   | 100            | 63             | 15             | 1              | 8              | 4              | 1                | 46                       |
| 30            | CF 30-1   | 85              | 35               | M30×1.5  | 32             | 37   | 100            | 63             | 15             | 1              | 8              | 4              | 1                | 46                       |
| 30            | CF 30-2   | 90              | 35               | M30×1.5  | 32             | 37   | 100            | 63             | 15             | 1              | 8              | 4              | 1                | 46                       |

Note) The seal must be used at temperature of 80°C or below.  
 Those models marked with “\*” have a greasing hole only on the head.

Model number coding

|                         |          |          |           |                                    |                                 |
|-------------------------|----------|----------|-----------|------------------------------------|---------------------------------|
| <b>CF6</b>              | <b>V</b> | <b>M</b> | <b>UU</b> | <b>R</b>                           | <b>-N</b>                       |
| Model number            |          |          |           |                                    |                                 |
| No symbol: With cage    |          |          |           |                                    | No symbol: Standard accessories |
| V : Full-roller Type    |          |          |           |                                    | N : Dedicated grease nipple     |
| No symbol: Carbon steel |          |          |           |                                    |                                 |
| M : Stainless steel     |          |          |           |                                    |                                 |
| no symbol: without seal |          |          |           | No Symbol : Cylindrical outer ring |                                 |
| UU : With seal          |          |          |           | R : Spherical outer ring           |                                 |

Note) Full-roller Type is applicable for Stud Diameter 6 to 30.



Model CF...UU

Model CF...UUR

Unit: mm

|  | Basic load rating |                      |              |                      | Maximum<br>permissible<br>load<br><br>F <sub>0</sub><br><br>kN | Track load capacity                 |                                   | Rotational speed limit *           |                                       | Mass                  |                          |
|--|-------------------|----------------------|--------------|----------------------|----------------------------------------------------------------|-------------------------------------|-----------------------------------|------------------------------------|---------------------------------------|-----------------------|--------------------------|
|  | With cage         |                      | Full rollers |                      |                                                                | Cylindrical<br>outer ring<br><br>kN | Spherical<br>outer ring<br><br>kN | With cage<br><br>min <sup>-1</sup> | Full rollers<br><br>min <sup>-1</sup> | With<br>cage<br><br>g | Full<br>rollers<br><br>g |
|  | C<br>kN           | C <sub>0</sub><br>kN | C<br>kN      | C <sub>0</sub><br>kN |                                                                |                                     |                                   |                                    |                                       |                       |                          |
|  | 3.14              | 2.77                 | —            | —                    | 1.42                                                           | 2.25                                | 0.53                              | 29000                              | —                                     | 10.5                  | —                        |
|  | 3.59              | 3.58                 | 6.94         | 8.5                  | 2.11                                                           | 3.43                                | 1.08                              | 25000                              | 11000                                 | 18.5                  | 19                       |
|  | 4.17              | 4.65                 | 8.13         | 11.2                 | 4.73                                                           | 4.02                                | 1.37                              | 20000                              | 8700                                  | 28.5                  | 29                       |
|  | 5.33              | 6.78                 | 9.42         | 14.3                 | 5.81                                                           | 4.7                                 | 1.67                              | 17000                              | 7200                                  | 45                    | 46                       |
|  | 5.33              | 6.78                 | 9.42         | 14.3                 | 5.81                                                           | 5.49                                | 2.06                              | 17000                              | 7200                                  | 60                    | 61                       |
|  | 7.87              | 9.79                 | 13.4         | 19.8                 | 9.37                                                           | 7.06                                | 2.45                              | 14000                              | 5800                                  | 95                    | 97                       |
|  | 7.87              | 9.79                 | 13.4         | 19.8                 | 9.37                                                           | 7.45                                | 2.74                              | 14000                              | 5800                                  | 105                   | 107                      |
|  | 12                | 18.3                 | 20.6         | 37.6                 | 17.3                                                           | 11.2                                | 3.14                              | 10000                              | 4500                                  | 170                   | 173                      |
|  | 14.7              | 25.2                 | 25.2         | 51.3                 | 26.1                                                           | 14.4                                | 3.72                              | 8500                               | 3800                                  | 250                   | 255                      |
|  | 20.7              | 34.8                 | 33.2         | 64.8                 | 32.1                                                           | 23.2                                | 8.23                              | 7000                               | 3400                                  | 460                   | 465                      |
|  | 20.7              | 34.8                 | 33.2         | 64.8                 | 32.1                                                           | 21                                  | 7.15                              | 7000                               | 3400                                  | 385                   | 390                      |
|  | 30.6              | 53.2                 | 46.7         | 92.9                 | 49.5                                                           | 34.2                                | 10.5                              | 6500                               | 2900                                  | 815                   | 820                      |
|  | 30.6              | 53.2                 | 46.7         | 92.9                 | 49.5                                                           | 39.8                                | 12.9                              | 6500                               | 2900                                  | 1140                  | 1140                     |
|  | 45.4              | 87.6                 | 67.6         | 145                  | 73.7                                                           | 52.6                                | 14.9                              | 5000                               | 2300                                  | 1870                  | 1870                     |
|  | 45.4              | 87.6                 | 67.6         | 145                  | 73.7                                                           | 56                                  | 16.1                              | 5000                               | 2300                                  | 2030                  | 2030                     |
|  | 45.4              | 87.6                 | 67.6         | 145                  | 73.7                                                           | 59.3                                | 17.3                              | 5000                               | 2300                                  | 2220                  | 2220                     |

Note) The rotation speed limit value in the table (\*) applies to models that have no seal and use grease lubrication. With those models using oil lubrication, up to 130% of this value is permitted. With those attached with seals, up to 70% of this value is permitted.