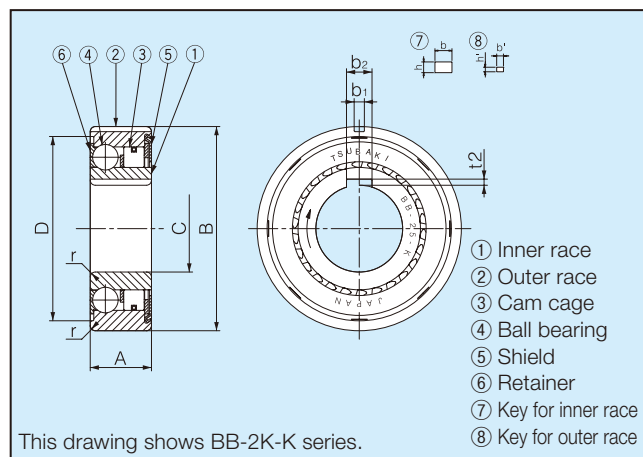
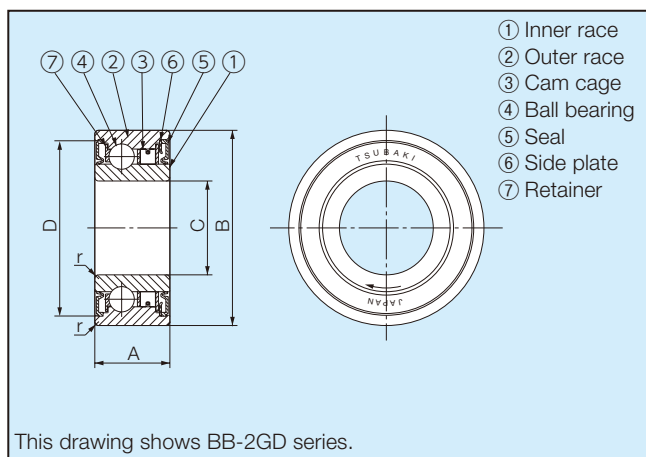


# BB SERIES CAM CLUTCH BB, BB-1K-K, BB-2K-K, BB-2GD, BB-2GD 1K-K



## Dimensions and Capacities

Dimensions in mm

| Model | Torque Capacity (N·m) | Max. Overrunning (r/min) |            | Drag Torque (N·m)  |                    | A                  |                    | B  | C  | D               |             | r   | Inner race key b×h×length |                    | Outer race key b'×h'×length | Weight (g) |     | Bearing Loads (N) |       |
|-------|-----------------------|--------------------------|------------|--------------------|--------------------|--------------------|--------------------|----|----|-----------------|-------------|-----|---------------------------|--------------------|-----------------------------|------------|-----|-------------------|-------|
|       |                       | Inner Race               | Outer Race | BB BB-1K-K BB-2K-K | BB-2GD BB-2GD 1K-K | BB BB-1K-K BB-2K-K | BB-2GD BB-2GD 1K-K |    |    | BB-1K-K BB-2K-K | BB-2GD-1K-K |     | BB-2K-K                   | BB BB-1K-K BB-2K-K | BB-2GD BB-2GD 1K-K          | Cr         | Cor |                   |       |
|       |                       |                          |            |                    |                    |                    |                    |    |    |                 |             |     |                           |                    |                             |            |     |                   |       |
| BB15  | 29                    | 3600                     | 2000       | 0.010              | 0.040              | 11                 | 16                 | 35 | 15 | 32.6            | 32.45       | 0.6 | 5×3×11                    | 5×3×16             | 2×2×11                      | 50         | 70  | 6010              | 3230  |
| BB17  | 43                    | 3500                     | 1900       | 0.010              | 0.050              | 12                 | 17                 | 40 | 17 | 36.1            | 36.45       | 0.6 | 5×3×12                    | 5×3×17             | 2×2×12                      | 80         | 100 | 7380              | 3890  |
| BB20  | 61                    | 3000                     | 1600       | 0.014              | 0.055              | 14                 | 19                 | 47 | 20 | 41.7            | 42.35       | 1.0 | 6×4×14                    | 6×4×19             | 3×3×14                      | 120        | 150 | 8950              | 5090  |
| BB25  | 78                    | 2500                     | 1400       | 0.017              | 0.055              | 15                 | 20                 | 52 | 25 | 47.1            | 47.05       | 1.0 | 8×5×15                    | 8×5×20             | 6×4×15                      | 150        | 200 | 11200             | 6560  |
| BB30  | 140                   | 2000                     | 1100       | 0.030              | 0.058              | 16                 | 21                 | 62 | 30 | 56.6            | 55.60       | 1.0 | 8×5×16                    | 8×5×21             | 6×4×16                      | 230        | 280 | 12500             | 8330  |
| BB35  | 173                   | 1800                     | 1000       | 0.034              | 0.060              | 17                 | 22                 | 72 | 35 | 64.0            | 64.60       | 1.1 | 10×6×17                   | 10×6×22            | 8×5×17                      | 320        | 410 | 14500             | 10300 |
| BB40  | 260                   | 1800                     | 900        | 0.040              | 0.080              | 22                 | 27                 | 80 | 40 | 71.0            | 71.60       | 1.1 | 12×8×22                   | 12×8×27            | 10×6×22                     | 400        | 600 | 14500             | 11700 |

**Note:** Model No. marked on the inner race is only "K" for both "1K" and "2K". (Example: the mark "BB25-K" for both BB25-1K and BB25-2K)

## Recommended tolerance for Shaft and Housing

Dimensions in mm

| Model |          | Shaft Dia.                               | Housing Dia.                             |
|-------|----------|------------------------------------------|------------------------------------------|
| BB15  | BB15-2GD | 15 <sup>+0.023</sup> / <sub>+0.012</sub> | 35 <sup>-0.012</sup> / <sub>-0.028</sub> |
| BB17  | BB17-2GD | 17 <sup>+0.023</sup> / <sub>+0.012</sub> | 40 <sup>-0.012</sup> / <sub>-0.028</sub> |
| BB20  | BB20-2GD | 20 <sup>+0.028</sup> / <sub>+0.015</sub> | 47 <sup>-0.012</sup> / <sub>-0.028</sub> |
| BB25  | BB25-2GD | 25 <sup>+0.028</sup> / <sub>+0.015</sub> | 52 <sup>-0.014</sup> / <sub>-0.033</sub> |
| BB30  | BB30-2GD | 30 <sup>+0.028</sup> / <sub>+0.015</sub> | 62 <sup>-0.014</sup> / <sub>-0.033</sub> |
| BB35  | BB35-2GD | 35 <sup>+0.033</sup> / <sub>+0.017</sub> | 72 <sup>-0.014</sup> / <sub>-0.033</sub> |
| BB40  | BB40-2GD | 40 <sup>+0.033</sup> / <sub>+0.017</sub> | 80 <sup>-0.014</sup> / <sub>-0.033</sub> |

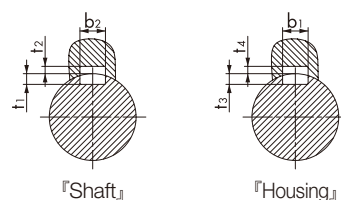
| Model     |               | Shaft Dia.                               | Housing Dia.                             |
|-----------|---------------|------------------------------------------|------------------------------------------|
| BB15-1K-K | BB15-2GD 1K-K | 15 <sup>-0.008</sup> / <sub>-0.028</sub> | 35 <sup>-0.012</sup> / <sub>-0.028</sub> |
| BB17-1K-K | BB17-2GD 1K-K | 17 <sup>-0.008</sup> / <sub>-0.028</sub> | 40 <sup>-0.012</sup> / <sub>-0.028</sub> |
| BB20-1K-K | BB20-2GD 1K-K | 20 <sup>-0.010</sup> / <sub>-0.031</sub> | 47 <sup>-0.012</sup> / <sub>-0.028</sub> |
| BB25-1K-K | BB25-2GD 1K-K | 25 <sup>-0.010</sup> / <sub>-0.031</sub> | 52 <sup>-0.014</sup> / <sub>-0.033</sub> |
| BB30-1K-K | BB30-2GD 1K-K | 30 <sup>-0.010</sup> / <sub>-0.031</sub> | 62 <sup>-0.014</sup> / <sub>-0.033</sub> |
| BB35-1K-K | BB35-2GD 1K-K | 35 <sup>-0.012</sup> / <sub>-0.037</sub> | 72 <sup>-0.014</sup> / <sub>-0.033</sub> |
| BB40-1K-K | BB40-2GD 1K-K | 40 <sup>-0.012</sup> / <sub>-0.037</sub> | 80 <sup>-0.014</sup> / <sub>-0.033</sub> |

| Model     |  | Shaft Dia.                               | Housing Dia.                             |
|-----------|--|------------------------------------------|------------------------------------------|
| BB15-2K-K |  | 15 <sup>-0.008</sup> / <sub>-0.028</sub> | 35 <sup>-0.002</sup> / <sub>-0.018</sub> |
| BB17-2K-K |  | 17 <sup>-0.008</sup> / <sub>-0.028</sub> | 40 <sup>-0.002</sup> / <sub>-0.018</sub> |
| BB20-2K-K |  | 20 <sup>-0.010</sup> / <sub>-0.031</sub> | 47 <sup>-0.003</sup> / <sub>-0.022</sub> |
| BB25-2K-K |  | 25 <sup>-0.010</sup> / <sub>-0.031</sub> | 52 <sup>-0.003</sup> / <sub>-0.022</sub> |
| BB30-2K-K |  | 30 <sup>-0.010</sup> / <sub>-0.031</sub> | 62 <sup>-0.003</sup> / <sub>-0.022</sub> |
| BB35-2K-K |  | 35 <sup>-0.012</sup> / <sub>-0.037</sub> | 72 <sup>-0.006</sup> / <sub>-0.025</sub> |
| BB40-2K-K |  | 40 <sup>-0.012</sup> / <sub>-0.037</sub> | 80 <sup>-0.006</sup> / <sub>-0.025</sub> |

## Recommended dimensions of keyways

Dimensions in mm

| Model     |               | b <sub>2</sub> (js10) | t <sub>1</sub>                     | t <sub>2</sub>                     | b <sub>1</sub> (js9) | t <sub>3</sub>                     | t <sub>4</sub>                     |
|-----------|---------------|-----------------------|------------------------------------|------------------------------------|----------------------|------------------------------------|------------------------------------|
| BB15-1K-K | BB15-2GD 1K-K | 5.0                   | 1.9 <sup>+0.1</sup> / <sub>0</sub> | 1.2 <sup>+0.3</sup> / <sub>0</sub> | —                    | —                                  | —                                  |
| BB15-2K-K | —             |                       |                                    |                                    | 2.0                  | 0.6 <sup>0</sup> / <sub>+0.1</sub> | 1.6 <sup>+0.3</sup> / <sub>0</sub> |
| BB17-1K-K | BB17-2GD 1K-K | 5.0                   | 1.9 <sup>+0.1</sup> / <sub>0</sub> | 1.2 <sup>+0.3</sup> / <sub>0</sub> | —                    | —                                  | —                                  |
| BB17-2K-K | —             |                       |                                    |                                    | 2.0                  | 1.0 <sup>0</sup> / <sub>+0.1</sub> | 1.2 <sup>+0.3</sup> / <sub>0</sub> |
| BB20-1K-K | BB20-2GD 1K-K | 6.0                   | 2.5 <sup>+0.1</sup> / <sub>0</sub> | 1.6 <sup>+0.3</sup> / <sub>0</sub> | —                    | —                                  | —                                  |
| BB20-2K-K | —             |                       |                                    |                                    | 3.0                  | 1.5 <sup>0</sup> / <sub>+0.1</sub> | 1.8 <sup>+0.3</sup> / <sub>0</sub> |
| BB25-1K-K | BB25-2GD 1K-K | 8.0                   | 3.6 <sup>+0.1</sup> / <sub>0</sub> | 1.5 <sup>+0.3</sup> / <sub>0</sub> | —                    | —                                  | —                                  |
| BB25-2K-K | —             |                       |                                    |                                    | 6.0                  | 2.0 <sup>0</sup> / <sub>+0.1</sub> | 2.3 <sup>+0.3</sup> / <sub>0</sub> |
| BB30-1K-K | BB30-2GD 1K-K | 8.0                   | 3.1 <sup>+0.2</sup> / <sub>0</sub> | 2.0 <sup>+0.3</sup> / <sub>0</sub> | —                    | —                                  | —                                  |
| BB30-2K-K | —             |                       |                                    |                                    | 6.0                  | 2.0 <sup>0</sup> / <sub>+0.1</sub> | 2.3 <sup>+0.3</sup> / <sub>0</sub> |
| BB35-1K-K | BB35-2GD 1K-K | 10.0                  | 3.7 <sup>+0.2</sup> / <sub>0</sub> | 2.4 <sup>+0.3</sup> / <sub>0</sub> | —                    | —                                  | —                                  |
| BB35-2K-K | —             |                       |                                    |                                    | 8.0                  | 2.5 <sup>0</sup> / <sub>+0.1</sub> | 2.8 <sup>+0.3</sup> / <sub>0</sub> |
| BB40-1K-K | BB40-2GD 1K-K | 12.0                  | 5.0 <sup>+0.2</sup> / <sub>0</sub> | 3.3 <sup>+0.3</sup> / <sub>0</sub> | —                    | —                                  | —                                  |
| BB40-2K-K | —             |                       |                                    |                                    | 10.0                 | 3.0 <sup>0</sup> / <sub>+0.2</sub> | 3.3 <sup>+0.3</sup> / <sub>0</sub> |



**Note:** The dimension of t<sub>2</sub> for BB25-1K-K, BB25-2K-K and BB25-2GD 1K-K is 0.5 mm shallow compared to DIN 6885. 3. Process the keyway on the shaft 0.5 mm deeply to use DIN standard key. All other models are dimensionally interchangeable with competitors.