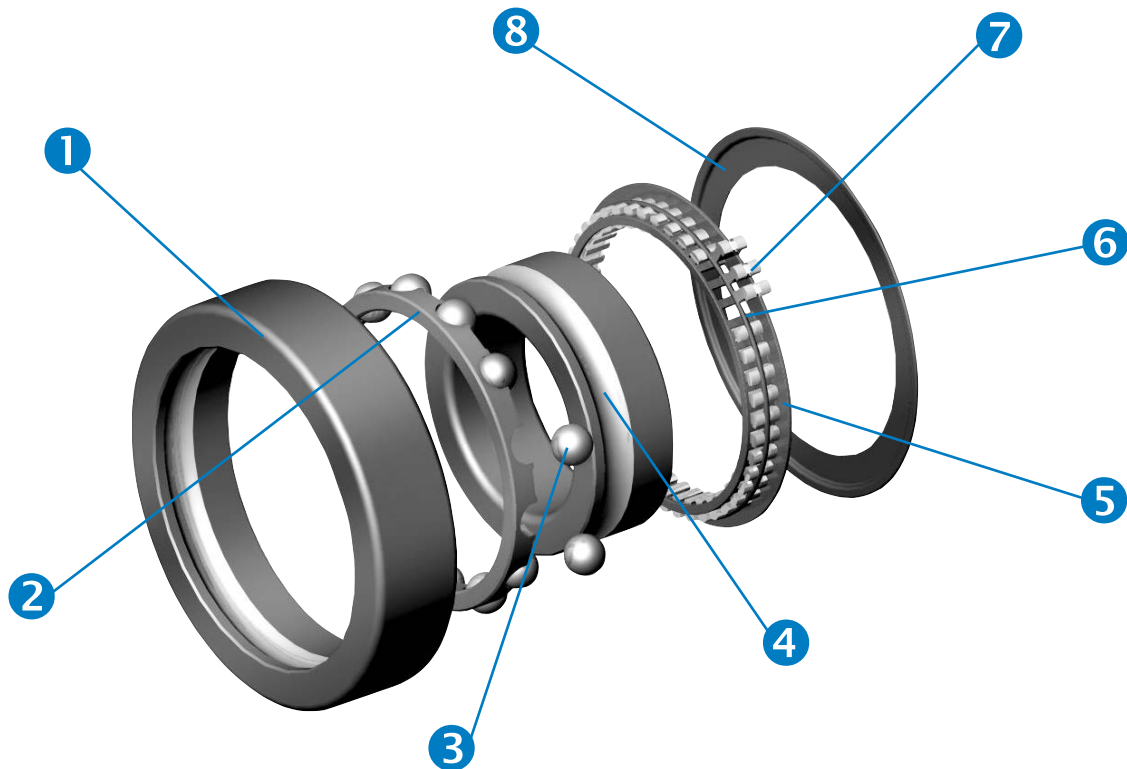


## Continuous Enhancements, Reliable Clutches



- 1 - High-Strength Outer Race** - Made from high carbon alloy steel, our precision-ground outer race provides fatigue life reliability.
- 2 - Rotating Bearing Retainer** - Located flush with the outer race, this retainer contains evenly spaced, hardened steel balls to provide equal distribution of load for optimized concentricity between the inner and outer races.
- 3 - Hardened Steel Ball Bearings** - Individually formed from hardened chrome alloy steel, the balls are secured within the retainer to provide concentricity and equal distribution of radial load within the clutch.
- 4 - Precision-Ground Inner Race** - Similar to a 6000 Series metric bearing, the ball pathway and cam wear surface are hardened and ground to enable rapid cam engagement and low drag operation.
- 5 - Durable Cam-Cage** - Made from molded nylon, the cam-cage provides equal spacing between each cam. When cams articulate within the cage, cam engagement is uniform providing equal distribution of load and more uniform stress on the cams and inner race.
- 6 - Heavy-Duty Garter Spring** - Located within the cam cage, the energizing garter spring creates the drag torque needed for accuracy of cam engagement.
- 7 - Profiled Cams** - Manufactured from high carbon steel, the cams carry high compressive loads when the clutch is locked and transmitting torque.
- 8 - Lightweight Retaining Endplate/Dust Shield** - Attached to the outer race, the end plate helps retain lubrication and protect components within the clutch assembly. Felt and contact lip seal designs are available.

Morse brand KK clutches incorporate a compact cam clutch with built-in bearing support. This unique construction is a combination ball bearing and cam clutch. This provides radial anti-friction support for the shaft and fits into same space as standard 6200 series ball bearing for use in applications ranging from exercise equipment to industrial machinery. This general purpose clutch is intended for back-stopping, indexing and overrunning applications and can be utilized with either oil or grease lubrication. Comes lightly greased.



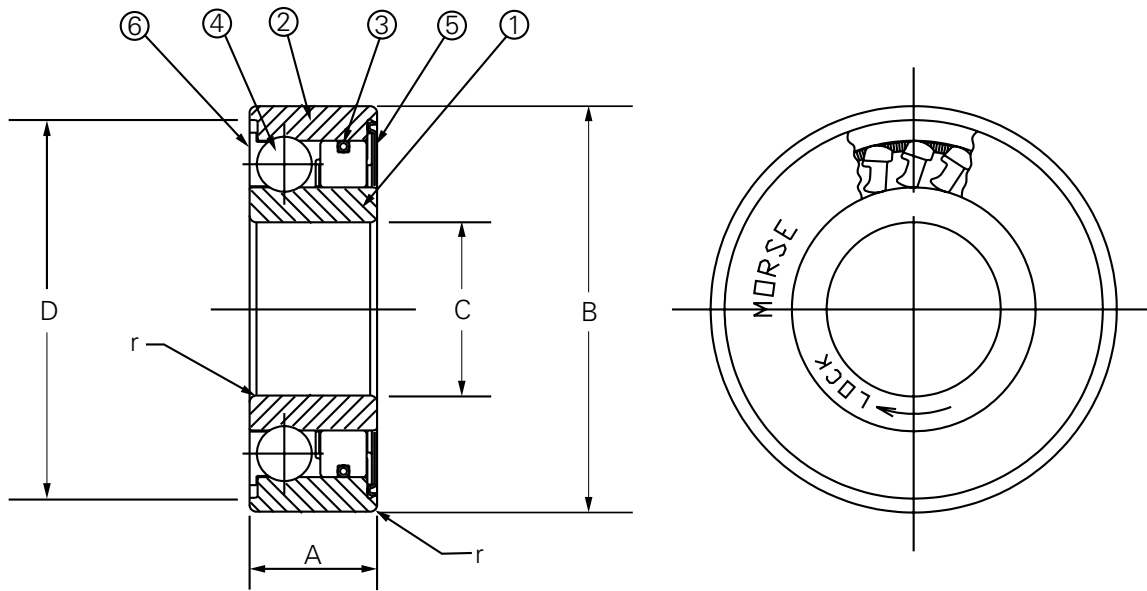
## DIMENSIONS AND CAPACITIES

| SIZE | A  |       | B  |       | C  |       | D    |       | R   |       | WEIGHT |     |
|------|----|-------|----|-------|----|-------|------|-------|-----|-------|--------|-----|
|      | MM | INCH  | MM | INCH  | MM | INCH  | MM   | INCH  | MM  | INCH  | G      | LB  |
| 15   | 11 | 0.433 | 35 | 1.378 | 15 | 0.591 | 32.6 | 1.283 | 0.6 | 0.024 | 50     | 0.1 |
| 17   | 12 | 0.472 | 40 | 1.575 | 17 | 0.669 | 36.1 | 1.421 | 0.6 | 0.024 | 80     | 0.2 |
| 20   | 14 | 0.551 | 47 | 1.850 | 20 | 0.787 | 41.7 | 1.642 | 1.0 | 0.039 | 120    | 0.3 |
| 25   | 15 | 0.591 | 52 | 2.047 | 25 | 0.984 | 47.1 | 1.854 | 1.0 | 0.039 | 150    | 0.3 |
| 30   | 16 | 0.630 | 62 | 2.441 | 30 | 1.181 | 56.6 | 2.228 | 1.0 | 0.039 | 230    | 0.5 |
| 35   | 17 | 0.669 | 72 | 2.835 | 35 | 1.378 | 64.0 | 2.520 | 1.1 | 0.043 | 320    | 0.7 |
| 40   | 22 | 0.866 | 80 | 3.150 | 40 | 1.575 | 71.0 | 2.795 | 1.1 | 0.043 | 400    | 0.9 |

| SIZE | TORQUE CAPACITY |       | MAX. OVERRUNNING SPEED |                | DRAG TORQUE |        | RADIAL LOAD CAPACITY |        |        |        |
|------|-----------------|-------|------------------------|----------------|-------------|--------|----------------------|--------|--------|--------|
|      | N-M             | FT-LB | INNER RACE RPM         | OUTER RACE RPM | N-M         | FT-LB  | DYNAMIC              |        | STATIC |        |
|      |                 |       |                        |                |             |        | N                    | LB     | N      | LB     |
| 15   | 29              | 21.4  | 3,600                  | 2,000          | 0.010       | 0.0074 | 5,950                | 1337.6 | 3,230  | 726.1  |
| 17   | 43              | 31.7  | 3,500                  | 1,900          | 0.010       | 0.0074 | 7,000                | 1573.7 | 3,700  | 831.8  |
| 20   | 61              | 45.0  | 3,000                  | 1,600          | 0.014       | 0.0103 | 8,500                | 1910.9 | 4,900  | 1101.6 |
| 25   | 78              | 57.5  | 2,500                  | 1,400          | 0.017       | 0.0125 | 10,700               | 2405.5 | 6,300  | 1416.3 |
| 30   | 140             | 103.3 | 2,000                  | 1,100          | 0.030       | 0.0221 | 11,900               | 2675.2 | 7,900  | 1776.0 |
| 35   | 173             | 127.6 | 1,800                  | 1,000          | 0.034       | 0.0251 | 13,500               | 3034.9 | 9,700  | 2180.6 |
| 40   | 260             | 191.8 | 1,800                  | 900            | 0.040       | 0.0295 | 14,500               | 3259.7 | 11,700 | 2630.3 |

| CLUTCH / BEARING SIZE COMPARISON TABLE* |              |              |               |
|-----------------------------------------|--------------|--------------|---------------|
|                                         | (MM)<br>O.D. | (MM)<br>I.D. | (MM)<br>WIDTH |
| NSS25                                   | 52           | 25           | 15            |
| 6205                                    | 52           | 25           | 15            |
| KK25                                    | 52           | 25           | 15            |
| NFS25                                   | 62           | 25           | 24            |
| 6305                                    | 62           | 25           | 17            |

\*Clutch sizes NSS25, NFS25 and KK25 used as an example



### SHAFT TOLERANCE

| SIZE | SHAFT DIAMETER |                    |    |                  |
|------|----------------|--------------------|----|------------------|
|      | INCHES         |                    | MM |                  |
| 15   | 0.5906         | +0.0009<br>+0.0005 | 15 | +0.023<br>+0.012 |
| 17   | 0.6693         | +0.0009<br>+0.0005 | 17 | +0.023<br>+0.012 |
| 20   | 0.7874         | +0.0011<br>+0.0006 | 20 | +0.028<br>+0.015 |
| 25   | 0.9843         | +0.0011<br>+0.0006 | 25 | +0.028<br>+0.015 |
| 30   | 1.1811         | +0.0011<br>+0.0006 | 30 | +0.033<br>+0.017 |
| 35   | 1.3780         | +0.0013<br>+0.0007 | 35 | +0.033<br>+0.017 |
| 40   | 1.5748         | +0.0013<br>+0.0007 | 40 | +0.033<br>+0.017 |

### HOUSING TOLERANCE

| SIZE | HOUSING DIAMETER |                    |    |                  |
|------|------------------|--------------------|----|------------------|
|      | INCHES           |                    | MM |                  |
| 15   | 1.3779           | -0.0005<br>-0.0011 |    | -0.012<br>-0.028 |
| 17   | 1.5748           | -0.0005<br>-0.0011 | 40 | -0.012<br>-0.028 |
| 20   | 1.8504           | -0.0005<br>-0.0011 |    | -0.012<br>-0.028 |
| 25   | 2.0472           | -0.0006<br>-0.0013 | 52 | -0.014<br>-0.033 |
| 30   | 2.4409           | -0.0006<br>-0.0013 | 62 | -0.014<br>-0.033 |
| 35   | 2.8346           | -0.0006<br>-0.0013 | 72 | -0.014<br>-0.033 |
| 40   | 3.1496           | -0.0006<br>-0.0013 | 80 | -0.014<br>-0.033 |

- ① Inner race
- ② Outer race
- ③ Cam cage
- ④ Ball
- ⑤ Shield
- ⑥ Retainer

### Part Number Explanation

**KK 25 2GD 1K**

- Series
- Bore size
- Incorporates 2 seals
- Keyed inner

**KK 25 2K**

- Series
- Bore size
- Keyed inner and outer

Morse brand KK clutches incorporate a compact cam clutch with built-in bearing support. This unique construction is a combination ball bearing and cam clutch. This provides radial anti-friction support for the shaft and fits into same space as standard 6200 series ball bearing for use in applications ranging from exercise equipment to industrial machinery. This general purpose clutch is intended for backstopping, indexing and overrunning applications and can be filled with either oil or grease lubrication. Comes lightly greased.

### INDUSTRIES SERVED

- Fitness
- Manufacturing
- Printing
- Textile

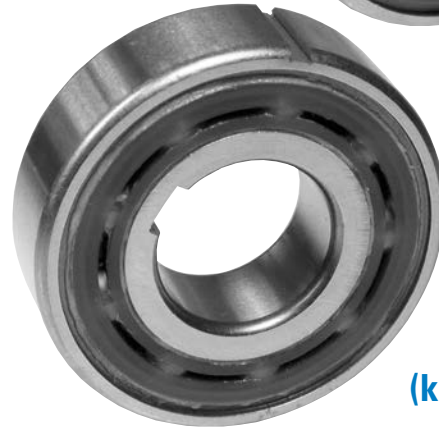
### FIELD APPLICATIONS

- Electric motor backstops
- Exercise equipment
- Household appliances
- Pump backstops

### ENHANCEMENTS

- New sizes added
- New sealing and shielding options
- Both inner and outer race keyway options

**KK-1K**  
(keyed inner)



**KK-2K**  
(keyed inner and outer)

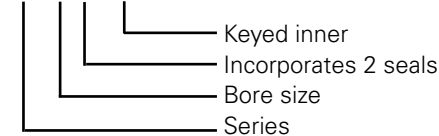
### DIMENSIONS AND CAPACITIES

| SIZE | TORQUE CAPACITY |       | MAX. OVERRUNNING SPEED |                      | DRAG TORQUE |        | RADIAL LOAD CAPACITY |        |        |        |
|------|-----------------|-------|------------------------|----------------------|-------------|--------|----------------------|--------|--------|--------|
|      | N-M             | FT-LB | INNER RACE<br>.R/MIN   | OUTER RACE<br>.R/MIN | N-M         | FT-LB  | DYNAMIC              |        | STATIC |        |
|      |                 |       |                        |                      |             |        | N                    | LB     | N      | LB     |
| 15   | 29              | 21.4  | 3,600                  | 2,000                | 0.010       | 0.0074 | 5,950                | 1337.6 | 3,230  | 726.1  |
| 17   | 43              | 31.7  | 3,500                  | 1,900                | 0.010       | 0.0074 | 7,000                | 1573.7 | 3,700  | 831.8  |
| 20   | 61              | 45.0  | 3,000                  | 1,600                | 0.014       | 0.0103 | 8,500                | 1910.9 | 4,900  | 1101.6 |
| 25   | 78              | 57.5  | 2,500                  | 1,400                | 0.017       | 0.0125 | 10,700               | 2405.5 | 6,300  | 1416.3 |
| 30   | 140             | 103.3 | 2,000                  | 1,100                | 0.030       | 0.0221 | 11,900               | 2675.2 | 7,900  | 1776.0 |
| 35   | 173             | 127.6 | 1,800                  | 1,000                | 0.034       | 0.0251 | 13,500               | 3034.9 | 9,700  | 2180.6 |
| 40   | 260             | 191.8 | 1,800                  | 900                  | 0.040       | 0.0295 | 14,500               | 3259.7 | 11,700 | 2630.3 |

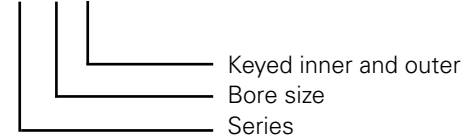
Note: Model No. marked on the inner race is only K for both 1K and 2K. (I. R. the marked KK17-K for both KK-17-1K and KK-17-2K).

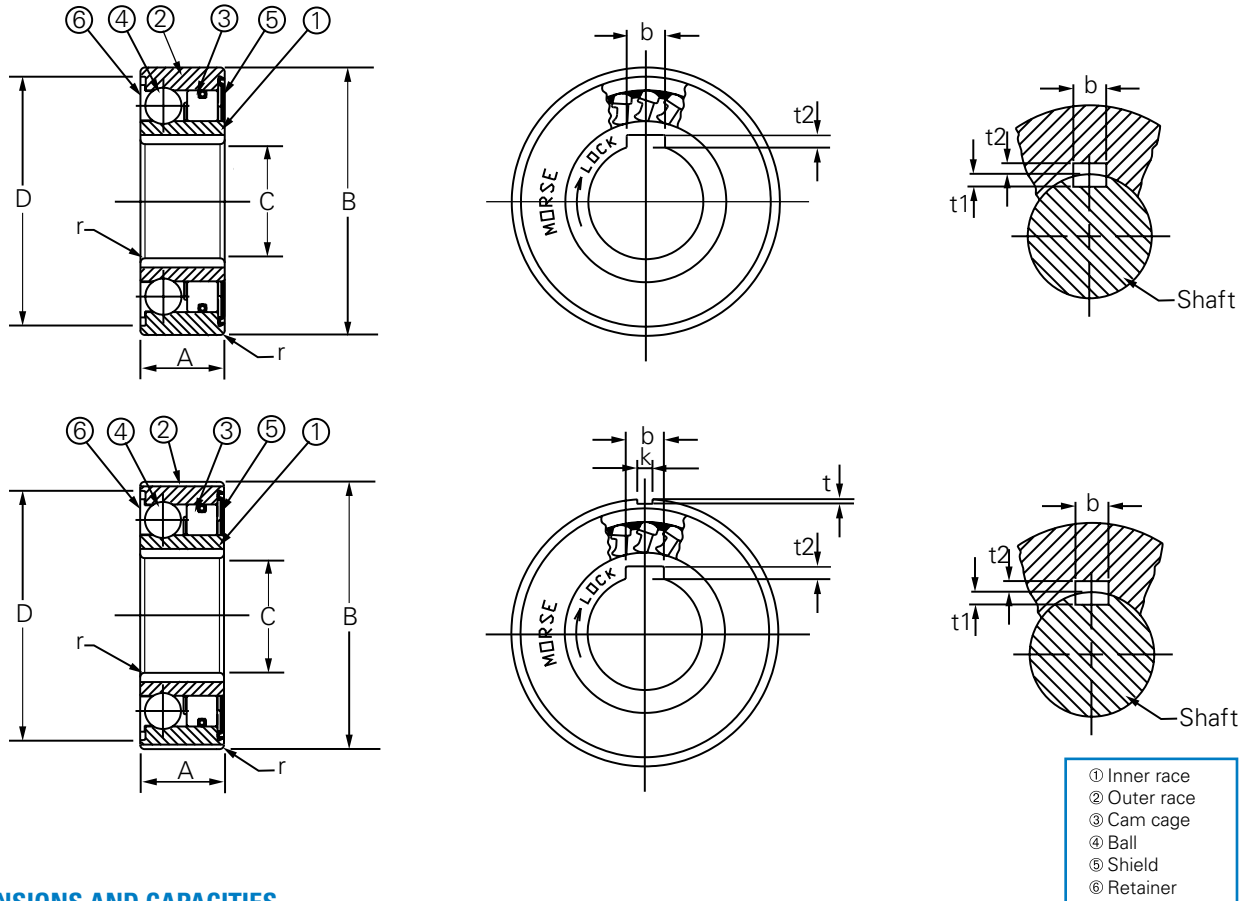
### Part Number Explanation

**KK 25 2GD 1K**



**KK 25 2K**





### DIMENSIONS AND CAPACITIES

| SIZE | A      |    | B      |    | C      |    | D      |      | R      |     | WEIGHT |     |
|------|--------|----|--------|----|--------|----|--------|------|--------|-----|--------|-----|
|      | INCHES | MM | INCHES | MM | INCHES | MM | INCHES | MM   | INCHES | MM  | IB     | G   |
| 15   | 0.433  | 11 | 1.378  | 35 | 0.591  | 15 | 1.283  | 32.6 | 24     | 0.6 | 0.1    | 50  |
| 17   | 0.472  | 12 | 1.575  | 40 | 0.669  | 17 | 1.421  | 36.1 | 24     | 0.6 | 0.2    | 80  |
| 20   | 0.551  | 14 | 1.850  | 47 | 0.787  | 20 | 1.642  | 41.7 | 39     | 1.0 | 0.3    | 120 |
| 25   | 0.591  | 15 | 2.047  | 52 | 0.984  | 25 | 1.854  | 47.1 | 39     | 1.0 | 0.3    | 150 |
| 30   | 0.630  | 16 | 2.441  | 62 | 1.181  | 30 | 2.228  | 56.6 | 39     | 1.0 | 0.5    | 230 |
| 35   | 0.669  | 17 | 2.835  | 72 | 1.378  | 35 | 2.520  | 64.0 | 43     | 1.1 | 0.7    | 320 |
| 40   | 0.866  | 22 | 3.150  | 80 | 1.575  | 40 | 2.795  | 71.0 | 43     | 1.1 | 0.9    | 400 |

Note: Model No. marked on the inner race is only K for both 1K and 2K. (I. R. the marked KK17-K for both KK-17-1K and KK-17-2K).

### KEYWAY DIMENSIONS

| MODEL   | B JS 10 | T1     | T2* | KJS9 | T                |
|---------|---------|--------|-----|------|------------------|
| KK15-1K | 5.0     | +0.024 | 1.9 | 1.2  | -                |
| KK15-2K | 5.0     | +0.024 | 1.9 | 1.2  | 2.0 +0.0125 6    |
| KK17-1K | 5.0     | +0.024 | 1.9 | 1.2  | 20 +0.0125 10    |
| KK17-2K | 5.0     | +0.024 | 1.9 | 1.2  | 20 +0.0125 10    |
| KK20-1K | 6.0     | +0.024 | 2.5 | 1.6  | 3.0 +0.0150 15   |
| KK20-2K | 6.0     | +0.024 | 2.5 | 1.6  | 3.0 +0.0150 15   |
| KK25-1K | 8.0     | +0.029 | 3.6 | 1.5  | 60 +0.0150 20    |
| KK25-2K | 8.0     | +0.029 | 3.6 | 1.5  | 60 +0.0150 20    |
| KK30-1K | 8.0     | +0.029 | 3.1 | 2.0  | 60 +0.0150 20    |
| KK30-2K | 8.0     | +0.029 | 3.1 | 2.0  | 60 +0.0150 20    |
| KK35-1K | 10.0    | +0.029 | 3.7 | 2.4  | 8.0 +0.0180 2.5  |
| KK35-2K | 10.0    | +0.029 | 3.7 | 2.4  | 8.0 +0.0180 2.5  |
| KK40-1K | 12.0    | +0.035 | 3.3 | 5.0  | 10.0 +0.0180 3.0 |
| KK40-2K | 12.0    | +0.035 | 3.3 | 5.0  | 10.0 +0.0180 3.0 |

Dimensions in mm

### SHAFT TOLERANCE

| SIZE | SHAFT DIAMETER |                                        |
|------|----------------|----------------------------------------|
|      | MM             | INCHES                                 |
| 15   | 15             | -0.008<br>-0.028<br>-0.0003<br>-0.0011 |
| 17   | 17             | -0.008<br>-0.028<br>-0.0003<br>-0.0011 |
| 20   | 20             | -0.010<br>-0.031<br>-0.0004<br>-0.0012 |
| 25   | 25             | -0.010<br>-0.031<br>-0.0004<br>-0.0012 |
| 30   | 30             | -0.010<br>-0.031<br>-0.0004<br>-0.0012 |
| 35   | 35             | -0.012<br>-0.037<br>-0.0005<br>-0.0015 |
| 40   | 40             | -0.012<br>-0.037<br>-0.0005<br>-0.0015 |

### HOUSING TOLERANCE

| MODEL   | HOUSING DIAMETER |                                        |
|---------|------------------|----------------------------------------|
|         | MM               | INCHES                                 |
| KK15-1K | 35               | -0.012<br>-0.028<br>-0.0005<br>-0.0011 |
| KK15-2K | 35               | -0.002<br>-0.018<br>-0.0001<br>-0.0007 |
| KK17-1K | 40               | -0.012<br>-0.028<br>-0.0005<br>-0.0011 |
| KK17-2K | 40               | -0.002<br>-0.018<br>-0.0001<br>-0.0007 |
| KK20-1K | 47               | -0.012<br>-0.028<br>-0.0005<br>-0.0011 |
| KK20-2K | 47               | -0.003<br>-0.018<br>-0.0001<br>-0.0009 |
| KK25-1K | 52               | -0.014<br>-0.033<br>-0.0006<br>-0.0013 |
| KK25-2K | 52               | -0.003<br>-0.022<br>-0.0001<br>-0.0009 |
| KK30-1K | 62               | -0.014<br>-0.033<br>-0.0006<br>-0.0013 |
| KK30-2K | 62               | -0.003<br>-0.022<br>-0.0001<br>-0.0009 |
| KK35-1K | 72               | -0.014<br>-0.033<br>-0.0006<br>-0.0013 |
| KK35-2K | 72               | -0.006<br>-0.025<br>-0.0002<br>-0.0010 |
| KK40-1K | 80               | -0.014<br>-0.033<br>-0.0006<br>-0.0013 |
| KK40-2K | 80               | -0.006<br>-0.025<br>-0.0002<br>-0.0010 |

\* The dimension of t2 for KK25-1K and KK25-2K is 0.5 mm shallow compared to DIN 6885. 3. Process the keyway on the shaft 0.5 mm deeper to use DIN.

For selection assistance, call Application Engineering at 1-800-626-2093 or visit  
www.RegalPTS.com

## Model KK- 2GD and KK-2GD 1K



**KK-2GD 1K**  
(sealed both sides,  
keyed inner)  
Comes greased

**KK-2GD**  
(sealed both sides)  
Comes greased



### DIMENSIONS AND CAPACITIES

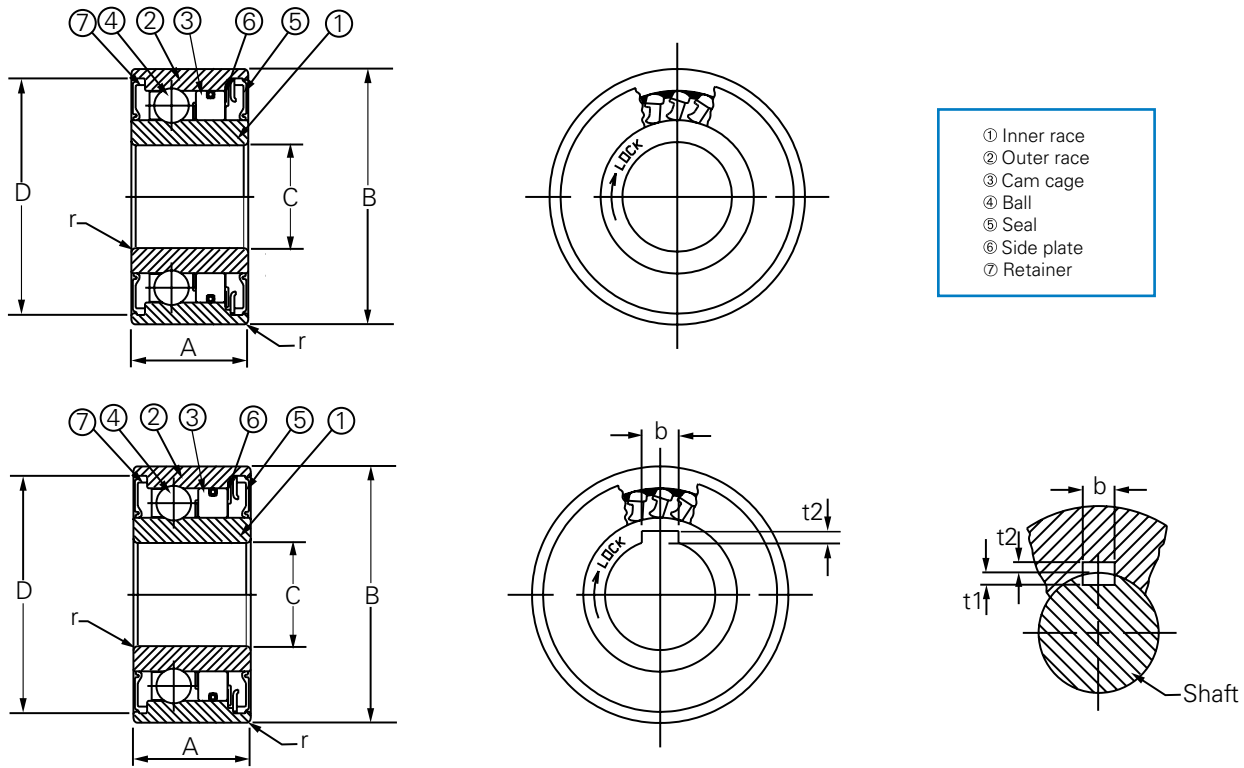
| Size | Torque Capacity |       | Max. Overrunning Speed |                     | Drag Torque |        | Radial Load Capacity |         |        |         |
|------|-----------------|-------|------------------------|---------------------|-------------|--------|----------------------|---------|--------|---------|
|      | N-m             | Ft-lb | Inner Race<br>r/min    | Outer Race<br>r/min | N-m         | Ft-lb  | Dynamic              |         | Static |         |
|      |                 |       |                        |                     |             |        | N                    | lb      | N      | lb      |
| 15   | 29              | 21.4  | 3,600                  | 2,000               | 0.040       | 0.0295 | 5,950                | 1,337.6 | 3,230  | 726.1   |
| 17   | 43              | 31.7  | 3,500                  | 1,900               | 0.050       | 0.0369 | 7,000                | 1,573.7 | 3,700  | 831.8   |
| 20   | 61              | 45.0  | 3,000                  | 1,600               | 0.055       | 0.0406 | 8,500                | 1,910.9 | 4,900  | 1,101.6 |
| 25   | 78              | 57.5  | 2,500                  | 1,400               | 0.055       | 0.0406 | 10,700               | 2,405.5 | 6,300  | 1,416.3 |
| 30   | 140             | 103.3 | 2,000                  | 1,100               | 0.058       | 0.0428 | 11,900               | 2,675.2 | 7,900  | 1,776.0 |
| 35   | 173             | 127.6 | 1,800                  | 1,000               | 0.060       | 0.0443 | 13,500               | 3,034.9 | 9,700  | 2,180.6 |
| 40   | 260             | 191.8 | 1,800                  | 900                 | 0.080       | 0.0590 | 14,500               | 3,259.7 | 11,700 | 2,630.3 |

### HOUSING TOLERANCE

| Size | Housing Diameter |                    |    |                  |
|------|------------------|--------------------|----|------------------|
|      | inch             |                    | mm |                  |
| 15   | 1.3779           | -0.0005<br>-0.0011 | 35 | -0.012<br>-0.028 |
| 17   | 1.5748           | -0.0005<br>-0.0011 | 40 | -0.012<br>-0.028 |
| 20   | 1.8504           | -0.0005<br>-0.0011 | 47 | -0.012<br>-0.028 |
| 25   | 2.0472           | -0.0006<br>-0.0013 | 52 | -0.014<br>-0.033 |
| 30   | 2.4409           | -0.0006<br>-0.0013 | 62 | -0.014<br>-0.033 |
| 35   | 2.8346           | -0.0006<br>-0.0013 | 72 | -0.014<br>-0.033 |
| 40   | 3.1496           | -0.0006<br>-0.0013 | 80 | -0.014<br>-0.033 |

### SHAFT TOLERANCE

| Model    | Shaft Diameter |                    |    | Model            | Shaft Diameter |        |                    |    |                  |
|----------|----------------|--------------------|----|------------------|----------------|--------|--------------------|----|------------------|
|          | inches         |                    | mm |                  | inches         |        | mm                 |    |                  |
| KK15-2GD | 0.5906         | +0.0009<br>+0.0005 | 15 | +0.023<br>+0.012 | KK15-2GD 1k    | 0.5906 | -0.0003<br>-0.0011 | 15 | -0.008<br>-0.028 |
| KK17-2GD | 0.6693         | +0.0009<br>+0.0005 | 17 | +0.023<br>+0.012 | KK17-2GD 1K    | 0.6693 | -0.0003<br>-0.0011 | 17 | -0.008<br>-0.028 |
| KK20-GD  | 0.7874         | +0.0011<br>+0.0006 | 20 | +0.028<br>+0.015 | KK20-2GD 1K    | 0.7874 | -0.0004<br>-0.0012 | 20 | -0.010<br>-0.031 |
| KK25-2GD | 0.9843         | +0.0011<br>+0.0006 | 25 | +0.028<br>+0.015 | KK25-2GD 1K    | 0.9843 | -0.0004<br>-0.0012 | 25 | -0.010<br>-0.031 |
| KK30-2GD | 1.1811         | +0.0011<br>+0.0006 | 30 | +0.033<br>+0.017 | KK30-2GD 1K    | 1.1811 | -0.0004<br>-0.0012 | 30 | -0.010<br>-0.031 |
| KK35-2GD | 1.3780         | +0.0013<br>+0.0007 | 35 | +0.033<br>+0.017 | KK35-2GD 1K    | 1.3780 | -0.0005<br>-0.0015 | 35 | -0.012<br>-0.037 |
| KK40-2GD | 1.5748         | +0.0013<br>+0.0007 | 40 | +0.033<br>+0.017 | KK40-2GD 1K    | 1.5748 | -0.0005<br>-0.0015 | 40 | -0.012<br>-0.037 |



### DIMENSIONS AND CAPACITIES

| Size | A      |    | B      |    | C      |    | D      |       | r      |     | Weight |     |
|------|--------|----|--------|----|--------|----|--------|-------|--------|-----|--------|-----|
|      | inches | mm | inches | mm | inches | mm | inches | mm    | inches | mm  | lb     | g   |
| 15   | 0.630  | 16 | 1.378  | 35 | 0.591  | 15 | 1.278  | 32.45 | 0.024  | 0.6 | 0.2    | 70  |
| 17   | 0.669  | 17 | 1.575  | 40 | 0.669  | 17 | 1.435  | 36.45 | 0.024  | 0.6 | 0.2    | 100 |
| 20   | 0.748  | 19 | 1.850  | 47 | 0.787  | 20 | 1.667  | 42.35 | 0.039  | 1.0 | 0.3    | 150 |
| 25   | 0.787  | 20 | 2.047  | 52 | 0.984  | 25 | 1.852  | 47.05 | 0.039  | 1.0 | 0.4    | 200 |
| 30   | 0.827  | 21 | 2.441  | 62 | 1.181  | 30 | 2.189  | 55.60 | 0.039  | 1.0 | 0.6    | 280 |
| 35   | 0.866  | 22 | 2.835  | 72 | 1.378  | 35 | 2.543  | 64.60 | 0.043  | 1.1 | 0.9    | 410 |
| 40   | 1.063  | 27 | 3.150  | 80 | 1.575  | 40 | 2.819  | 71.60 | 0.043  | 1.1 | 1.3    | 600 |

### KEYWAY DIMENSIONS

| Model       | b2js 10 | t1     | t2  |
|-------------|---------|--------|-----|
| KK15-2GD 1K | 5.0     | +0.024 | 1.9 |
| KK17-2GD 1K | 5.0     | +0.024 | 1.9 |
| KK20-2GD 1k | 6.0     | +0.024 | 2.5 |
| KK25-2GD 1k | 8.0     | +0.029 | 3.6 |
| KK30-2GD 1k | 8.0     | +0.029 | 3.1 |
| KK35-2GD 1k | 10.0    | +0.029 | 3.7 |
| KK40-2GD 1K | 12.0    | +0.035 | 3.3 |

Dimensions in mm

\* The dimension of t2 for KK25-2GD 1K is 0.5 mm shallow compared to DIN 6885. 3. Process the keyway on the shaft 0.5 mm deeper to use DIN.

For selection assistance, call Application Engineering at 1-800-626-2093 or visit [www.RegalPTS.com](http://www.RegalPTS.com)