

# BB SERIES CAM CLUTCH



BB Series



BB-1K-K Series



BB-2K-K Series



BB-2GD Series



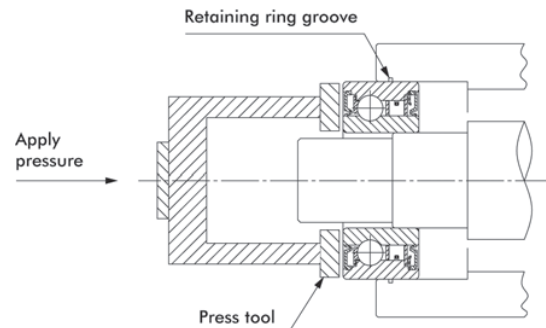
BB-2GD 1K-K Series

## General Information of Installation and Usage for BB Series Cam Clutch / One-Way Bearing

1. BB Series Cam Clutches are designed for press fit installation.
2. Keyways except BB25 are manufactured according to DIN6885.3. BB40-1K-K and BB40-2GD 1K-K are manufactured according to DIN6885.1.
3. BB-2K-K Series have keyways on inner- and outer race. Inner race keys for 1K-K and 2K-K Cam Clutches are included.
4. Correct interference dimensions on shaft and housing must be maintained to obtain maximum bearing and clutch performance.
5. Refer to the table on next page for shaft- and housing tolerances.
6. BB-2GD and BB-2GD 1K-K Cam Clutches have special lip seals for the effective protection against dust and splash water.
7. The arrow on the inner race shows the direction of inner race engagement.
8. For installation of the clutch use a press tool with an appropriate diameter to ensure even pressure over the entire surface of inner and outer race.
9. Never use a hammer or apply any other shock load to the clutch.
10. Make sure that the housing has enough strength to withstand the pressure required for the press fit installation of the clutch.
11. Operating temperature range:  $-30^{\circ}\text{C}$  to  $+100^{\circ}\text{C}$  (Consult Tsubaki for temperatures which exceed this range).

## Lubrication

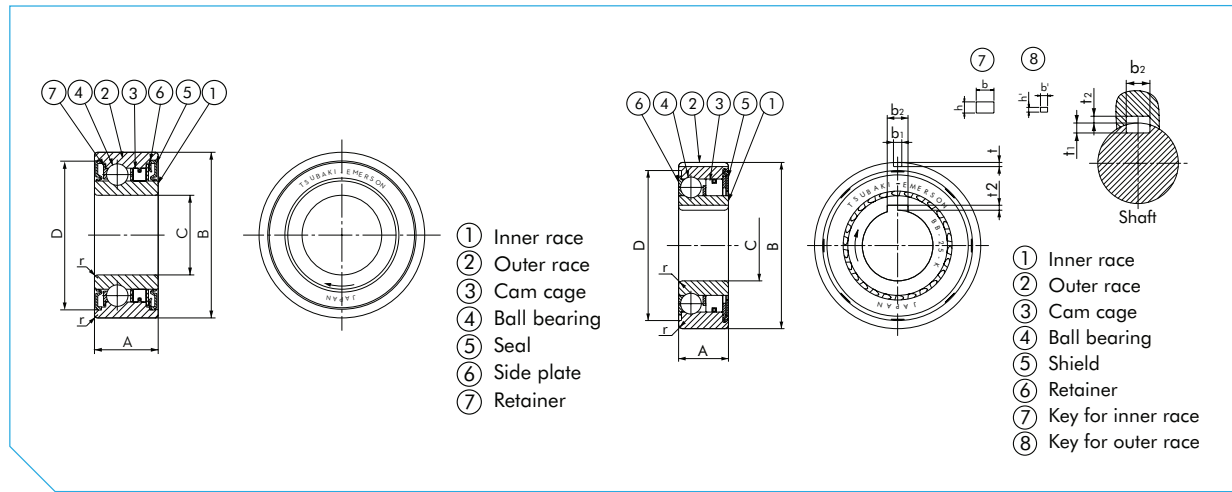
1. BB Series Cam Clutches are pre-lubricated with special grease and do not need any maintenance or additional grease before use.
2. If the clutch is used with an oil lubricant, the oil must be applied on the inside of the clutch as well.
3. Never use oil or any other lubricant containing EP additives.



### Note:

The indication "K" on the inner race of a clutch is applied for both types 1K as well as 2K

# BB SERIES CAM CLUTCH



## BB, BB-1K-K, BB-2K-K, BB-2GD, BB-2GD 1K-K

Dimensions in mm

Model	Torque Capacity Nm	Max. Overrunning Speed		Drag Torque Nm		A		B	C	D		r	Bearing Loads		Approx. Mass g/pc	
		Inner Race r/min	Outer Race r/min	BB	BB-2GD	BB	BB-2GD			BB	BB-2GD		C	C <sub>0</sub>	BB	BB-2GD
				BB-1K-K	BB-2GD 1K-K	BB-1K-K	BB-2GD 1K-K			BB-1K-K	BB-2GD 1K-K				BB-1K-K	BB-2GD 1K-K
BB15	29	3600	2000	0.010	0.040	11	16	35	15	32.6	32.45	0.6	5950	3230	50	70
BB17	43	3500	1900	0.010	0.050	12	17	40	17	36.1	36.45	0.6	7000	3700	80	100
BB20	61	3000	1600	0.014	0.055	14	19	47	20	41.7	42.35	1.0	8500	4900	120	150
BB25	78	2500	1400	0.017	0.055	15	20	52	25	47.1	47.05	1.0	10700	6300	150	200
BB30	140	2000	1100	0.030	0.058	16	21	62	30	56.6	55.60	1.0	11900	7900	230	280
BB35	173	1800	1000	0.034	0.060	17	22	72	35	64.0	64.60	1.1	13500	9700	320	410
BB40	260	1800	900	0.040	0.080	22	27	80	40	71.0	71.60	1.1	14500	11700	400	600

Model	Shaft Diameter	Housing Diameter	Model	Shaft Diameter	Housing Diameter	Model	Shaft Diameter	Housing Diameter
BB15	BB15-2GD 15 <sup>+0.023</sup> <sub>+0.012</sub>	35 <sup>-0.012</sup> <sub>-0.028</sub>	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>	BB15-2K-K	15 <sup>-0.008</sup> <sub>-0.028</sub>	35 <sup>-0.002</sup> <sub>-0.018</sub>
BB17	BB17-2GD 17 <sup>+0.023</sup> <sub>+0.012</sub>	40 <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>	BB17-2K-K	17 <sup>-0.008</sup> <sub>-0.028</sub>	40 <sup>-0.002</sup> <sub>-0.018</sub>
BB20	BB20-2GD 20 <sup>+0.028</sup> <sub>+0.015</sub>	47 <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>	BB20-2K-K	20 <sup>-0.010</sup> <sub>-0.031</sub>	47 <sup>-0.003</sup> <sub>-0.022</sub>
BB25	BB25-2GD 25 <sup>+0.028</sup> <sub>+0.015</sub>	52 <sup>-0.014</sup> <sub>-0.033</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>	BB25-2K-K	25 <sup>-0.010</sup> <sub>-0.031</sub>	52 <sup>-0.003</sup> <sub>-0.022</sub>
BB30	BB30-2GD 30 <sup>+0.028</sup> <sub>+0.015</sub>	62 <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>	BB30-2K-K	30 <sup>-0.010</sup> <sub>-0.031</sub>	62 <sup>-0.003</sup> <sub>-0.022</sub>
BB35	BB35-2GD 35 <sup>+0.033</sup> <sub>+0.017</sub>	72 <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>	BB35-2K-K	35 <sup>-0.012</sup> <sub>-0.037</sub>	72 <sup>-0.006</sup> <sub>-0.025</sub>
BB40	BB40-2GD 40 <sup>+0.033</sup> <sub>+0.017</sub>	80 <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>	BB40-2K-K	40 <sup>-0.012</sup> <sub>-0.037</sub>	80 <sup>-0.006</sup> <sub>-0.025</sub>

Model	Keyway	Inner Race Key		Outer Race Key		
		bz js10	t1	t2	b1 js9	t
BB15-1K-K	BB15-2GD 1K-K	5.0	1.9	1.2	-	-
BB15-2K-K	-	-	-	-	2.0	0.6
BB17-1K-K	BB17-2GD 1K-K	5.0	1.9	1.2	-	-
BB17-2K-K	-	-	-	-	2.0	1.0
BB20-1K-K	BB20-2GD 1K-K	6.0	2.5	1.6	-	-
BB20-2K-K	-	-	-	-	3.0	1.5
BB25-1K-K	BB25-2GD 1K-K	8.0	3.6	1.5	-	-
BB25-2K-K	-	-	-	-	6.0	2.0
BB30-1K-K	BB30-2GD 1K-K	8.0	3.1	2.0	-	-
BB30-2K-K	-	-	-	-	6.0	2.0
BB35-1K-K	BB35-2GD 1K-K	10.0	3.7	2.4	-	-
BB35-2K-K	-	-	-	-	8.0	2.5
BB40-1K-K	BB40-2GD 1K-K	12.0	5.0	3.3	-	-
BB40-2K-K	-	-	-	-	10.0	3.0

Note:

For BB25-1K-K, BB25-2K-K and BB25-2GD 1K-K the dimension of t2 is 0.5 mm shallower than DIN 6885.3. To use a DIN standard key, process the keyway 0.5 mm deeper on the shaft than according to DIN standard. All other models are dimensionally interchangeable.