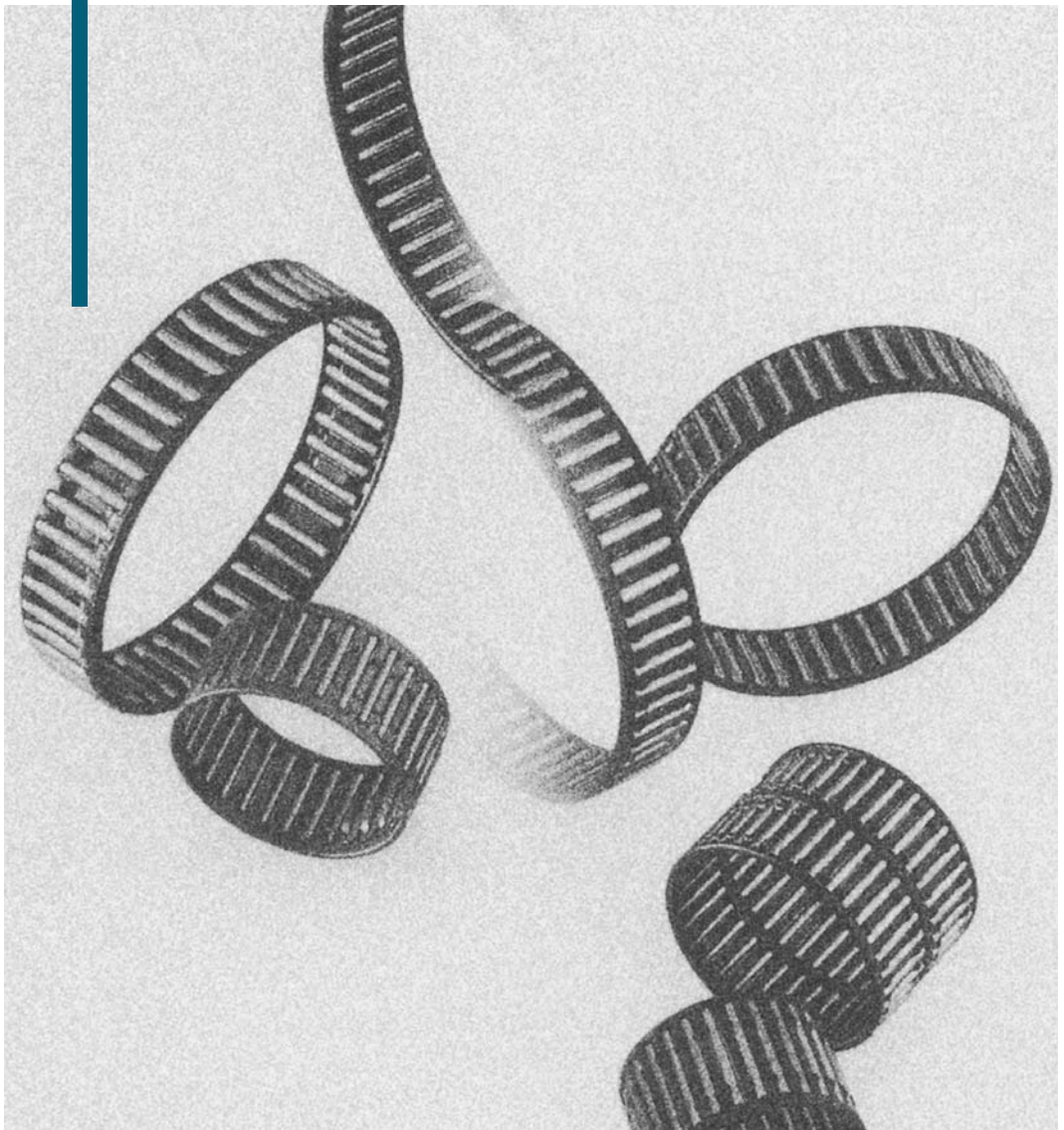


Needle Roller Bearings

BEARING TABLES

Needle roller and cage assemblies	B- 3~ 22
Needle roller and cage assemblies for connecting rod bearings	B- 23~ 30
Drawn cup needle roller bearings	B- 31~ 54
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Needle Roller and Cage Assemblies

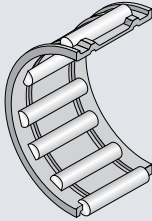
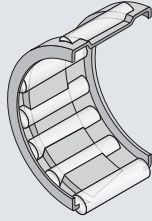
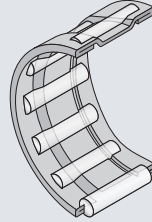
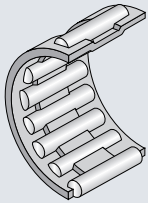
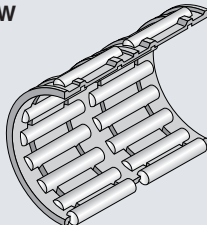
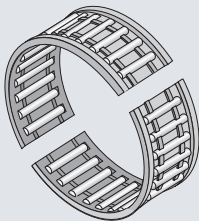


Needle Roller and Cage Assemblies

This needle roller and cage assembly is one of the basic components for the needle roller bearing of a construction wherein the needle rollers are fitted with a cage so as not to separate from each other. The use of this roller and cage assembly enables to design a compact and lightweight construction by utilizing a shaft

or a housing as the direct raceway surface, without using inner ring and outer ring.

The needle rollers are guided by the cage more precisely than the full complement roller type, hence enabling high speed running of bearing. In addition, its rigidity and load capacity are high for the specific space.

Type of needle roller and cage assembly	Cage type	Applicable shaft diameter (mm)	Composition of bearing number	Bearing number	Code items and respective dimensions
K (K·S) (K·T2) 	Machined ring type Polyamide resin type	$\phi 3 - \phi 285$	K 20 × 24 × 10 S Roller set bore diameter Roller set outer diameter Width Suffix Type code	K20×24×10S	Roller set bore diameter : $\phi 20$ Roller set outer diameter : $\phi 24$ Width : 10 S : Welded type
	Welded type	$\phi 10 - \phi 100$			
KMJ (KMJ·S) (PCJ) 	Punched type	$\phi 15 - \phi 100$	KMJ 20 × 26 × 13 Roller set bore diameter Roller set outer diameter Width Type code	KMJ20×26×13	Roller set bore diameter : $\phi 20$ Roller set outer diameter : $\phi 26$ Width : 13
	Welded type	$\phi 10 - \phi 40$			
KJ·S 	Welded type	$\phi 20 - \phi 40$	KJ 30 × 35 × 17 S Roller set bore diameter Roller set outer diameter Width Suffix Type code	KJ30×35×17S	Roller set bore diameter : $\phi 30$ Roller set outer diameter : $\phi 35$ Width : 17 S : Welded type
KV·S 	Welded type	$\phi 7 - \phi 100$	KV 30 × 35 × 17 S Roller set bore diameter Roller set outer diameter Width Suffix Type code	KV30×35×17S	Roller set bore diameter : $\phi 30$ Roller set outer diameter : $\phi 35$ Width : 17 S : Welded type
K·ZW 	Machined ring type	$\phi 8 - \phi 285$	K 20 × 24 × 45 ZW Roller set bore diameter Roller set outer diameter Width Suffix Type code	K20×24×45ZW	Roller set bore diameter : $\phi 20$ Roller set outer diameter : $\phi 24$ Width : 45 ZW : Double-row type
GK 	Machined ring type Split type	$\phi 8 - \phi 285$	GK 30 × 35 × 17 Roller set bore diameter Roller set outer diameter Width Type code	GK30×35×17	Roller set bore diameter : $\phi 30$ Roller set outer diameter : $\phi 35$ Width : 17

The ones with tail code T2 using polyamide resin cage shall be used at allowable temperature 120°C and, under continuous running, at 100°C or less. The applied shaft diameter of welded type are described based on size that manufacturers can deal with a manufacturing. Therefore, it has nothing to do with the Dimension Table. Data for the GK type is not included in the dimension table. For detailed information, contact NTN Engineering.

Diameter variation of needle rollers

Diameter variation of needle rollers within one cage is less than 2μm. The diameter tolerance groups for built-in needle rollers are identified by identification colors on the package label, as shown in **Table 1**.

The standard identification colors marked on each label are red, dark blue, blue, black and white, unless otherwise specially indicated.

In case of two or more bearings are mounted in tandem, those of same identification color must be used for equal distribution of bearing load.

Table 1 Color identification of diameter tolerances for needle rollers

Identification color on label	Diameter tolerance μm	Classification
Red	0~ - 2	Standard
Dark blue	- 1~ - 3	
Blue	- 2~ - 4	
Black	- 3~ - 5	
White	- 4~ - 6	
Gray	- 5~ - 7	Semi-standard
Green	- 6~ - 8	
Brown	- 7~ - 9	
Yellow	- 8~ - 10	

Radial Clearance

When a shaft and a housing are used as the direct raceway surface, the radial clearance is determined by the shaft diameter and the housing hole dimension. Where the diameter tolerances for needle rollers are standard (tolerances color-identified in red, dark blue, blue, black, white), the shaft diameters and housing hole dimensions shown in **Table 2** are used.

Table 2 Recommended fits

Shaft diameter mm	Radial clearance					
	Smaller than ordinary clearance		Ordinary clearance		Larger than ordinary clearance	
	Shaft	Housing	Shaft	Housing	Shaft	Housing
~80	j5	G6	h5	G6	g6	G6
80~140	h5	G6	g5	G6	f6	G6
140~	h5	G6	f5	H6	f6	G6

Shaft and housing specifications

Where a shaft and a housing are used as the direct raceway surface, the raceway surface must meet the specifications described in **Table 3**.

Table 3 Shaft and housing specifications (recommended)

Characteristics	Shaft	Housing
Roundness (max)	IT3	IT4
Cylindricity (max)	IT3	IT4
Surface roughness (max)	Refer to Table 8.4 on page A-40.	
Surface hardness	HRC58~64	
Depth of hardened layer (min)	Refer to formula (8.1) on page A-40.	

Bearing installation related dimensions

The tolerances for the nominal dimension "Bc" of cage specified in **Table 4** are recommended as the guide width b of cage.

Table 4 Guide width dimensions (recommended)

Unit : mm

Classification	Tolerances for guide width <i>b</i>	
	Single row	Double row
Metric system	$B_c \begin{smallmatrix} +0.2 \\ 0 \end{smallmatrix}$	$B_c \begin{smallmatrix} +0.3 \\ +0.1 \end{smallmatrix}$
Inch system	$B_c \begin{smallmatrix} \pm 0.4 \\ +0.2 \end{smallmatrix}$	$B_c \begin{smallmatrix} \pm 0.5 \\ +0.3 \end{smallmatrix}$

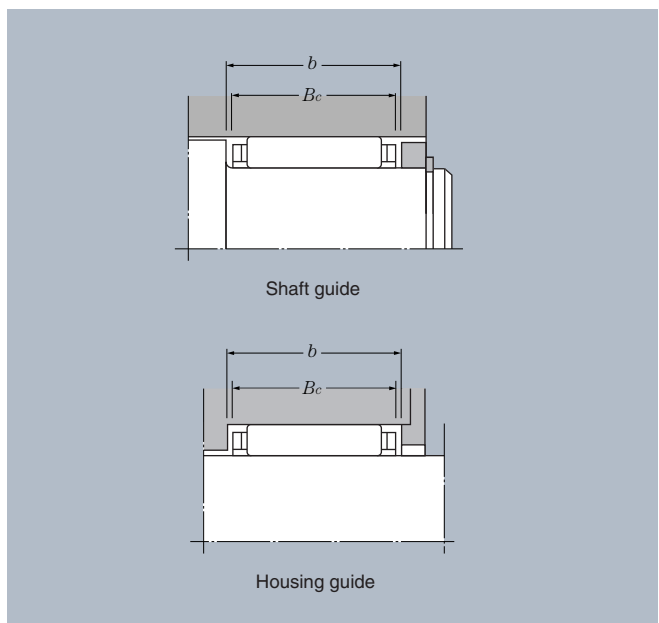
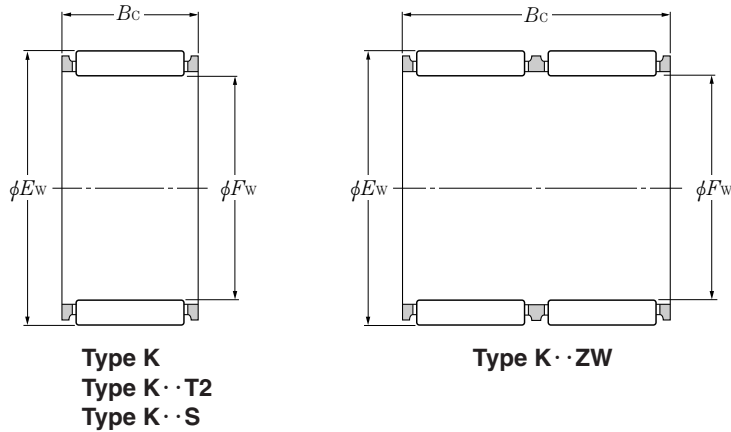


Fig. 1

Type K
Type K··T2
Type K··S
Type K··ZW
Type KMJ
Type KV··S



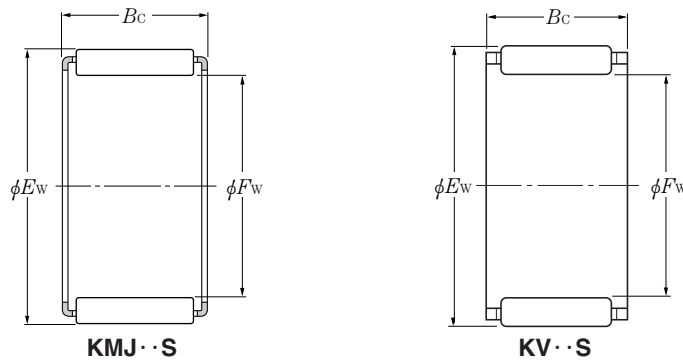
Type K
Type K··T2
Type K··S

Type K··ZW

F_w 3~10mm

Boundary dimensions			Basic load ratings				Limiting speeds		Bearing numbers	Mass kg (approx.)
mm			dynamic	static	dynamic	static	grease min ⁻¹	oil		
F_w	E_w	B_c	N		kgf					
			C_r	C_{or}	C_r	C_{or}				
3	6	7 ^{-0.2}	1 460	970	149	99	33 000	50 000	K3×6×7T2	0.0004
	6	8 ^{-0.55}	1 560	1 330	159	136	30 000	45 000	K4×6×7.8XT2	0.0003
4	7	7 ^{-0.2} -0.55	1 770	1 270	180	129	30 000	45 000	K4×7×7T2	0.0005
5	8	8 ^{-0.2}	2 640	2 190	269	224	27 000	40 000	K5×8×8T2	0.0007
	8	10 ^{-0.55}	2 720	2 250	277	230	27 000	40 000	K5×8×10T2	0.0009
6	9	8	2 660	2 280	272	233	25 000	37 000	K6×9×8T2	0.0009
	9	10 ^{-0.2}	3 400	3 150	345	320	25 000	37 000	K6×9×10T2	0.0011
	10	13 ^{-0.55}	4 400	3 700	450	380	25 000	37 000	K6×10×13T2	0.0019
7	10	8	2 670	2 350	272	239	23 000	34 000	K7×10×8T2	0.0009
	10	10 ^{-0.2}	3 400	3 200	345	330	23 000	34 000	K7×10×10T2	0.0011
	10	13 ^{-0.55}	5 050	5 400	515	550	23 000	34 000	KV7×10×12.8X3S	0.0023
8	11	8	3 150	3 000	320	305	21 000	32 000	K8×11×8T2	0.0011
	11	9	3 150	3 000	320	305	21 000	32 000	8E-KV8×11×8.8X2S	0.0019
	11	10	4 000	4 100	410	420	21 000	32 000	K8×11×10T2	0.0013
	11	12 ^{-0.2}	4 450	4 650	450	475	21 000	32 000	8E-KV8×11×11.8X2S	0.0025
	11	13 ^{-0.55}	4 850	5 200	495	535	21 000	32 000	K8×11×13	0.0026
	12	10	4 650	4 150	475	425	21 000	32 000	K8×12×10T2	0.0020
	12	12	5 600	5 300	570	545	21 000	32 000	8E-KV8×12×11.8X1S	0.0040
9	12	10 ^{-0.2}	4 550	5 000	465	510	20 000	30 000	K9×12×10T2	0.0015
	12	13 ^{-0.55}	5 500	6 400	560	650	20 000	30 000	K9×12×13T2	0.0021
10	13	10	4 550	5 100	460	520	19 000	28 000	K10×13×10T2	0.0016
	13	13	5 450	6 450	555	660	19 000	28 000	8E-KV10×13×12.8XS	0.0032
	14	8	4 300	3 950	435	405	19 000	28 000	K10×14×8	0.0027
	14	10 ^{-0.2}	5 500	5 450	560	555	19 000	28 000	K10×14×10	0.0034
	14	11 ^{-0.55}	5 500	5 450	560	555	19 000	28 000	8E-KV10×14×10.8XS	0.0039
	14	11.5	6 800	7 200	695	730	19 000	28 000	KMJ10×14×11.3XS	0.0040
	14	13	6 600	6 900	675	705	19 000	28 000	K10×14×13	0.0044
	14	14	7 150	7 650	730	780	19 000	28 000	8E-KV10×14×13.8X4S	0.0050

Remarks: Even when an order is placed with reference to "Nominal bearing number" listed in this table, the ordered bearings are subject to being delivered with different cage type.

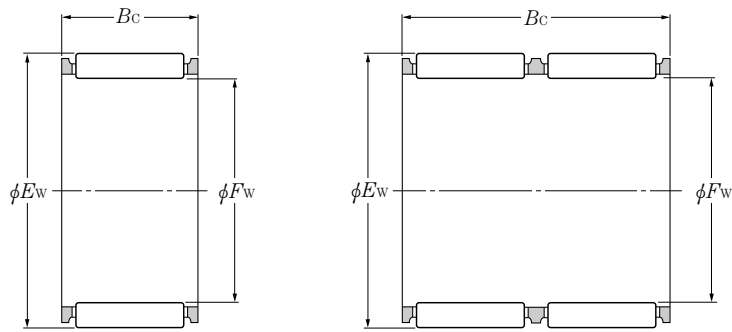


F_w 10~15mm

Boundary dimensions mm	Basic load ratings				Limiting speeds		Bearing numbers	Mass kg (approx.)
	dynamic N	static	dynamic kgf	static	min ⁻¹			
					grease	oil		
F_w E_w B_c	C_r	C_{or}	C_r	C_{or}				
10	14	17 ^{-0.2}	8 050	8 850	820	900	8E-K10×14×16.8X1	0.0064
	16	12 ^{-0.55}	7 100	5 950	720	610	K10×16×12	0.0066
11	14	10 ^{-0.2}	5 050	6 000	515	615	K11×14×10	0.0028
	15	9	4 450	5 250	455	535	K12×15×9	0.0027
12	15	10	5 000	6 100	510	620	8Q-K12×15×10	0.0030
	15	13	6 000	7 700	615	785	K12×15×13	0.0038
	15	20	8 550	12 200	875	1 240	K12×15×20ZW	0.0059
	16	8	4 850	4 900	495	500	K12×16×8	0.0034
	16	11.5	6 750	7 400	685	755	KMJ12×16×11.3XS	0.0047
	16	13 ^{-0.2}	7 500	8 500	765	870	8Q-K12×16×13	0.0060
	16	18	9 800	11 900	1000	1220	8E-K12×16×17.8X1	0.0070
	16	20	10 300	12 800	1 050	1 300	K12×16×19.8X4	0.0100
	17	10	7 350	7 200	745	735	KMJ12×17×9.8XS	0.0050
	17	13	9 000	9 400	920	960	K12×17×13	0.0075
	17	18	12 600	14 400	1 280	1 470	KV12×17×17.8XS	0.0080
	18	12	8 650	8 000	880	815	8Q-K12×18×12	0.0089
14	17	10	5 400	7 050	550	720	KV14×17×10S	0.0040
	18	10	6 900	8 000	705	815	K14×18×10	0.0046
	18	11	7 600	9 050	775	925	K14×18×11	0.0053
	18	13	8 300	10 100	845	1 030	K14×18×13	0.0063
	18	15 ^{-0.2}	9 650	12 300	985	1 250	K14×18×15S	0.0076
	18	17 ^{-0.55}	10 900	14 400	1 120	1 470	K14×18×17V5	0.0079
	18	39	18 800	28 900	1 910	2 950	K14×18×39ZW	0.0180
	19	13	8 950	9 650	915	985	K14×19×13	0.0080
	20	12	9 350	9 150	955	930	K14×20×12	0.0095
	20	17	13 500	14 600	1 370	1 490	K14×20×17	0.0140
15	18	14	7 850	11 600	800	1 190	K15×18×14	0.0060
	19	8 ^{-0.2}	5 350	5 850	545	600	KV15×19×7.8XS	0.0033
	19	10 ^{-0.55}	6 850	8 050	700	820	K15×19×10	0.0055
	19	13	8 250	10 200	840	1 040	K15×19×13	0.0067

Remarks: Even when an order is placed with reference to "Nominal bearing number" listed in this table, the ordered bearings are subject to being delivered with different cage type.

Type K
Type K··T2
Type K··S
Type K··ZW
Type KMJ
Type KV··S



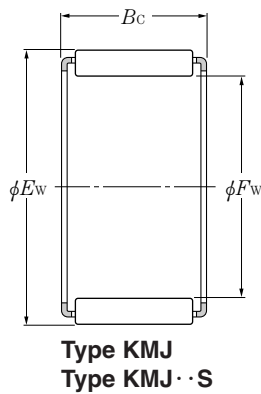
Type K
Type K··T2
Type K··S

Type K··ZW

F_w 15~18mm

Boundary dimensions			Basic load ratings				Limiting speeds		Bearing numbers	Mass
mm			dynamic	static	dynamic	static	min ⁻¹			kg (approx.)
F_w	E_w	B_c	N		kgf		grease	oil		
			C_r	C_{or}	C_r	C_{or}				
15	19	17	10 900	14 600	1 110	1 490	15 000	23 000	K15×19×17	0.0090
	19	24	14 100	20 400	1 440	2 080	15 000	23 000	K15×19×24ZW	0.0130
	20	13	10 100	11 500	1 030	1 170	15 000	23 000	K15×20×13	0.0088
	20	16 ^{-0.2} -0.55	12 600	15 200	1 280	1 550	15 000	23 000	KMJ15×20×15.8XS	0.0090
	21	15	11 900	12 500	1 210	1 280	15 000	23 000	K15×21×15	0.0130
	21	17	14 900	16 800	1 510	1 720	15 000	23 000	KMJ15×21×16.8X1SK	0.0120
	21	21	16 500	19 100	1 680	1 950	15 000	23 000	K15×21×21	0.0170
16	20	10	7 500	9 250	765	945	15 000	23 000	K16×20×10	0.0057
	20	11	8 300	10 500	845	1 070	15 000	23 000	K16×20×11	0.0061
	20	13	9 050	11 800	925	1 200	15 000	23 000	K16×20×13	0.0071
	20	17	11 900	16 800	1 220	1 710	15 000	23 000	K16×20×17S	0.0092
	22	12 ^{-0.2} -0.55	11 700	12 500	1 190	1 280	15 000	23 000	K16×22×12	0.0100
	22	13	12 600	13 900	1 290	1 410	15 000	23 000	KMJ16×22×13	0.0110
	22	16	13 600	15 200	1 380	1 550	15 000	23 000	K16×22×15.8X	0.0140
	22	17	14 400	16 400	1 470	1 670	15 000	23 000	K16×22×17	0.0150
22	20	16 000	18 800	1 640	1 920	15 000	23 000	K16×22×20	0.0170	
17	21	10	7 450	9 300	760	950	15 000	22 000	K17×21×10S	0.0056
	21	13	9 400	12 600	960	1 280	15 000	22 000	K17×21×13S	0.0075
	21	15	10 400	14 400	1 060	1 460	15 000	22 000	K17×21×15	0.0089
	21	17 ^{-0.2} -0.55	11 800	16 900	1 210	1 720	15 000	22 000	K17×21×17	0.0095
	22	20	14 700	19 200	1 500	1 960	15 000	22 000	K17×22×20	0.0150
	23	17	14 400	16 500	1 460	1 690	15 000	22 000	K17×23×17	0.0160
	23	23	16 800	20 200	1 710	2 060	15 000	22 000	K17×23×22.8X1T2	0.0130
18	22	10	7 400	9 400	755	955	14 000	21 000	K18×22×10	0.0061
	22	13	8 900	11 900	910	1 210	14 000	21 000	K18×22×13	0.0077
	22	17 ^{-0.2} -0.55	11 700	17 000	1 200	1 730	14 000	21 000	K18×22×17	0.0110
	23	20	14 600	19 300	1 490	1 970	14 000	21 000	K18×23×20S	0.0150
	24	12	12 300	13 800	1 250	1 410	14 000	21 000	K18×24×12	0.0120
	24	13	11 600	12 800	1 180	1 300	14 000	21 000	K18×24×13	0.0130

Remarks: Even when an order is placed with reference to "Nominal bearing number" listed in this table, the ordered bearings are subject to being delivered with different cage type.

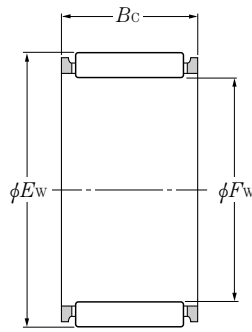


F_w 18~22mm

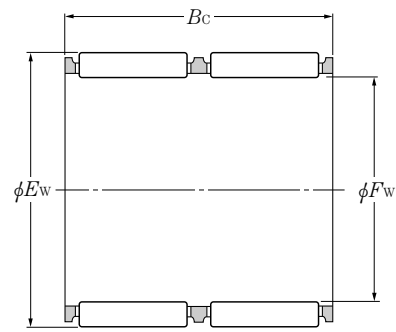
Boundary dimensions			Basic load ratings				Limiting speeds		Bearing numbers	Mass
mm			dynamic	static	dynamic	static	min ⁻¹			kg (approx.)
F_w	E_w	B_c	N		kgf		grease	oil		
			C_r	C_{or}	C_r	C_{or}				
18	24	17	16 000	19 300	1 630	1 970	14 000	21 000	KMJ18×24×17SV1	0.0140
	24	20 ^{-0.2}	17 000	20 900	1 730	2 130	14 000	21 000	K18×24×20	0.0190
	25	17 ^{-0.55}	18 000	20 400	1 830	2 080	14 000	21 000	K18×25×17	0.0190
	25	22	22 100	26 600	2 250	2 710	14 000	21 000	K18×25×22	0.0240
19	23	13 ^{-0.2}	9 650	13 500	985	1 370	14 000	21 000	K19×23×13	0.0082
	23	17 ^{-0.55}	12 700	19 200	1 300	1 960	14 000	21 000	K19×23×17	0.0110
20	24	10	8 300	11 200	845	1 150	13 000	20 000	K20×24×10S	0.0065
	24	11	9 500	13 400	970	1 370	13 000	20 000	K20×24×11	0.0072
	24	13	10 000	14 300	1 020	1 460	13 000	20 000	K20×24×13S	0.0086
	24	17	13 200	20 400	1 340	2 080	13 000	20 000	K20×24×17S	0.0110
	24	45	16 400	27 100	1 680	2 760	13 000	20 000	K20×24×45ZW	0.0280
	25	40	29 000	48 000	2 950	4 900	13 000	20 000	K20×25×40ZW	0.0330
	26	12 ^{-0.2}	12 900	15 100	1 320	1 540	13 000	20 000	K20×26×12	0.0130
	26	13 ^{-0.55}	14 000	16 700	1 420	1 700	13 000	20 000	KMJ20×26×13	0.0120
	26	14	15 800	19 600	1 610	2 000	13 000	13 000	KMJ20×26×13.8X1S	0.0130
	26	17	17 800	22 800	1 810	2 330	13 000	20 000	KMJ20×26×17S	0.0160
	26	20	20 600	27 600	2 100	2 820	13 000	20 000	KMJ20×26×20S	0.0190
	28	17	21 700	2 4600	2 210	2 510	13 000	20 000	KMJ20×28×16.8XS	0.0220
	28	20	24 600	2 8900	2 500	2 940	13 000	20 000	KMJ20×28×19.8X4S	0.0260
28	25	27 100	3 2500	2 760	3 300	13 000	20 000	8Q-K20×28×25	0.0390	
21	25	13 ^{-0.2}	10 700	1 5900	1 090	1 620	13 000	19 000	KMJ21×25×12.8X1S	0.0081
	25	17 ^{-0.55}	13 600	2 1500	1 380	2 200	13 000	19 000	K21×25×17	0.0120
22	26	10	8 500	1 1900	865	1 220	12 000	18 000	K22×26×10S	0.0071
	26	11	10 100	1 4900	1 030	1 520	12 000	18 000	8Q-K22×26×11	0.0090
	26	13	10 200	1 5200	1 040	1 550	12 000	18 000	K22×26×13	0.0094
	26	17 ^{-0.2}	13 500	21 600	1 370	2 200	12 000	18 000	K22×26×17S	0.0120
	27	20 ^{-0.55}	17 500	2 5900	1 780	2 640	12 000	18 000	K22×27×20	0.0200
	27	28.5	24 200	3 9500	2 470	4 000	12 000	18 000	K22×27×28.3X	0.0276
	27	40	50 500	10 3000	5 150	10 500	12 000	18 000	K22×27×40ZW	0.0390
28	17	17 700	2 3300	1 810	2 380	12 000	18 000	K22×28×17V1	0.0200	

Remarks: Even when an order is placed with reference to "Nominal bearing number" listed in this table, the ordered bearings are subject to being delivered with different cage type.

Type K
Type K · T2
Type K · S
Type K · ZW
Type KMJ
Type KMJ · S
Type KV · S



Type K
Type K · T2
Type K · S

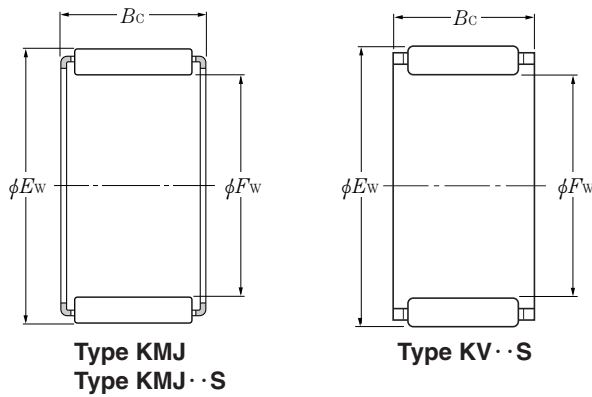


Type K · ZW

F_w 22~25mm

Boundary dimensions			Basic load ratings				Limiting speeds		Bearing numbers	Mass
mm			dynamic	static	dynamic	static	min ⁻¹			kg (approx.)
F_w	E_w	B_c	N		kgf		grease	oil		
			C_r	C_{or}	C_r	C_{or}				
22	29	16	18 700	2 2700	1 910	2 310	12 000	18 000	K22×29×16	0.0230
	30	15 ^{-0.2}	19 300	21 700	1 970	2 210	12 000	18 000	K22×30×15	0.0220
	30	17.5 ^{-0.55}	23 200	2 7500	2 370	2 800	12 000	18 000	KMJ22×30×17.3X2S	0.0240
	30	24	31 000	4 0000	3 150	4 100	12 000	18 000	KMJ22×30×23.8X3S	0.0348
23	27	13	11 400	1 7700	1 160	1 800	11 000	17 000	KMJ23×27×12.8X1S	0.0086
	28	24 ^{-0.2}	19 800	3 1000	2 020	3 150	11 000	17 000	K23×28×24	0.0230
	29	18 ^{-0.55}	20 600	2 8800	2 100	2 930	11 000	17 000	KMJ23×29×17.8X2S	0.0190
24	28	10	9 000	1 3200	915	1 350	11 000	17 000	K24×28×10	0.0080
	28	13	10 800	16 800	1 100	1 710	11 000	17 000	K24×28×13	0.0100
	28	17 ^{-0.2}	14 300	23 900	1 460	2 440	11 000	17 000	K24×28×17	0.0130
	29	13 ^{-0.55}	12 300	16 900	1 250	1 720	11 000	17 000	K24×29×13	0.0120
	30	17	18 400	25 200	1 880	2 570	11 000	17 000	K24×30×17	0.0220
	30	31	27 900	43 000	2 840	4 350	11 000	17 000	K24×30×31ZW	0.0390
25	29	10	8 950	13 300	910	1 350	11 000	16 000	K25×29×10	0.0083
	29	13	10 800	16 900	1 100	1 720	11 000	16 000	K25×29×13	0.0100
	29	17	14 200	24 000	1 450	2 450	11 000	16 000	K25×29×17S	0.0140
	30	13	13 200	18 800	1 350	1 920	11 000	16 000	K25×30×13	0.0130
	30	17	17 400	2 6800	1 770	2 730	11 000	16 000	K25×30×17S	0.0170
	30	20	19 400	3 1000	1 980	3 150	11 000	16 000	K25×30×20SV3	0.0210
	30	22	22 300	3 7000	2 270	3 750	11 000	16 000	KMJ25×30×21.8XS	0.0200
	30	26 ^{-0.2}	36 500	7 1500	3 750	7 300	11 000	16 000	K25×30×26ZW	0.0270
	30	39 ^{-0.55}	29 800	5 3500	3 050	5 450	11 000	16 000	K25×30×39ZW	0.0400
	31	13	15 200	19 900	1 550	2 030	11 000	16 000	K25×31×13V3	0.0180
	31	14	16 500	22 100	1 680	2 250	11 000	16 000	K25×31×14	0.0180
	31	17	18 300	25 300	1 870	2 580	11 000	16 000	K25×31×17	0.0220
	31	18.5	21 000	30 000	2 140	3 050	11 000	16 000	KMJ25×31×18.3X1SK	0.0210
	31	21	22 500	33 000	2 290	3 350	11 000	16 000	K25×31×21V3	0.0283
	32	16	19 500	24 700	1 990	2 520	11 000	16 000	K25×32×16	0.0270
33	24	34 500	47 000	3 500	4 800	11 000	16 000	KMJ25×33×24S	0.040	

Remarks: Even when an order is placed with reference to "Nominal bearing number" listed in this table, the ordered bearings are subject to being delivered with different cage type.

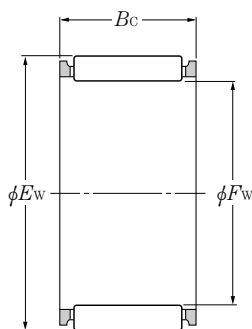


F_w 26~30mm

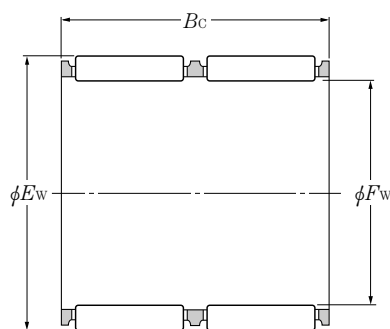
Boundary dimensions			Basic load ratings				Limiting speeds		Bearing numbers	Mass
mm			dynamic	static	dynamic	static	min ⁻¹			kg (approx.)
F_w	E_w	B_c	N		kgf		grease	oil		
			C_r	C_{or}	C_r	C_{or}				
26	30	13	11 800	19 200	1 200	1 960	10 000	15 000	K26×30×13	0.011
	30	17 ^{-0.2}	15 500	27 400	1 580	2 790	10 000	15 000	K26×30×17	0.015
	31	24 ^{-0.55}	21 400	35 500	2 180	3 600	10 000	15 000	8E-K26×31×23.8X1ZW	0.029
	34	22	24 200	30 000	2 470	3 050	10 000	15 000	K26×34×22	0.041
28	32	17	15 300	27 500	1 560	2 810	9 500	14 000	K28×32×17	0.017
	32	21	18 700	35 500	1 910	3 650	9 500	14 000	K28×32×21	0.020
	33	13	13 900	20 900	1 420	2 130	9 500	14 000	K28×33×13	0.015
	33	17	18 300	29 800	1 870	3 050	9 500	14 000	K28×33×17S	0.020
	33	26 ^{-0.2}	23 900	42 000	2 430	4 250	9 500	14 000	K28×33×26ZW	0.033
	33	27 ^{-0.55}	28 300	52 000	2 890	5 300	9 500	14 000	K28×33×27	0.032
	34	14	17 500	24 800	1 790	2 530	9 500	14 000	K28×34×14	0.020
	34	17	18 100	25 800	1 850	2 630	9 500	14 000	K28×34×17V1	0.025
	35	16	21 200	28 400	2 160	2 900	9 500	14 000	K28×35×16	0.029
29	35	18	21 500	28 900	2 190	2 950	9 500	14 000	K28×35×18	0.031
	34	17 ^{-0.2}	18 900	31 000	1 920	3 200	9 500	14 000	K29×34×17S	0.022
30	34	27 ^{-0.55}	28 100	52 000	2 870	5 300	9 500	14 000	K29×34×27	0.033
	34	14	12 400	21 500	1 260	2 190	8 500	13 000	KV30×34×13.8XS	0.014
	34	23	18 000	34 500	1 830	3 500	8 500	13 000	K30×34×22.8X1T2	0.013
	35	11	12 200	18 000	1 240	1 840	8 500	13 000	K30×35×11S	0.014
	35	13	14 700	22 900	1 500	2 340	8 500	13 000	KV30×35×13S	0.017
	35	17	18 800	31 500	1 910	3 200	8 500	13 000	KJ30×35×17S	0.021
	35	20	21 600	37 500	2 200	3 850	8 500	13 000	K30×35×20S	0.025
	35	26 ^{-0.2}	25 200	46 000	2 570	4 650	8 500	13 000	K30×35×26ZWV1	0.036
	35	27 ^{-0.55}	29 900	57 000	3 050	5 800	8 500	13 000	K30×35×27S	0.033
	36	14	18 600	27 400	1 900	2 790	8 500	13 000	KMJ30×36×14V2	0.021
	37	16	21 900	30 500	2 230	3 100	8 500	13 000	K30×37×16	0.029
	37	18	23 300	33 000	2 370	3 350	8 500	13 000	K30×37×18	0.034
	37	20	26 200	38 000	2 670	3 850	8 500	13 000	KMJ30×37×20S	0.032
	37	48	40 000	65 500	4 050	6 700	8 500	13 000	K30×37×48ZW	0.075
	38	18	25 000	33 000	2 550	3 350	8 500	13 000	K30×38×18	0.036

Remarks: Even when an order is placed with reference to "Nominal bearing number" listed in this table, the ordered bearings are subject to being delivered with different cage type.

Type K
Type K··T2
Type K··ZW
Type KMJ
Type KJ··S
Type KV··S



Type K
Type K··T2

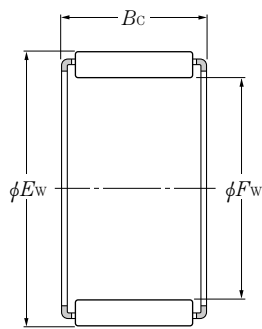


Type K··ZW

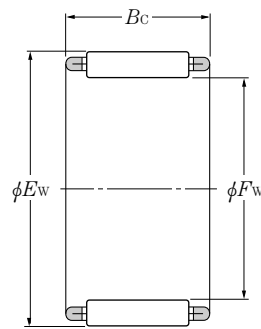
F_w 31~35mm

Boundary dimensions			Basic load ratings				Limiting speeds		Bearing numbers	Mass
mm			dynamic	static	dynamic	static	min^{-1}			kg
F_w	E_w	B_c	N		kgf		grease	oil		(approx.)
			C_r	C_{or}	C_r	C_{or}				
31	35	24 ^{-0.2}	21 200	43 500	2 160	4 400	8 500	13 000	KV31×35×23.8XS	0.022
	36	14 ^{-0.55}	15 800	25 400	1 610	2 590	8 500	13 000	KV31×36×13.8XS	0.017
32	36	15	14 300	26 400	1 460	2 700	8 500	13 000	K32×36×15S	0.017
	37	13	14 500	23 000	1 480	2 350	8 500	13 000	K32×37×13	0.018
	37	17	19 200	33 000	1 950	3 350	8 500	13 000	K32×37×17S	0.022
	37	24	22 900	41 500	2 340	4 200	8 500	13 000	K32×37×24.8X2	0.018
	37	26	24 900	46 000	2 540	4 700	8 500	13 000	K32×37×26ZWV3	0.032
	37	27 ^{-0.2}	29 600	57 500	3 000	5 850	8 500	13 000	K32×37×27	0.037
	38	14 ^{-0.55}	19 800	30 500	2 020	3 100	8 500	13 000	KMJ32×38×14	0.022
	38	20	25 100	41 000	2 560	4 150	8 500	13 000	KJ32×38×20S	0.031
	38	26	31 500	54 000	3 200	5 550	8 500	13 000	K32×38×26	0.041
	39	16	22 600	32 000	2 310	3 300	8 500	13 000	K32×39×16V1	0.033
	39	18	24 000	35 000	2 450	3 550	8 500	13 000	K32×39×18	0.037
39	20	26 800	40 000	2 740	4 100	8 500	13 000	KJ32×39×20S	0.041	
33	38	30.5 ^{-0.2}	28 400	55 000	2 900	5 600	8 000	12 000	K33×38×30.3X1T2	0.026
34	40	39.5 ^{-0.2}	39 000	73 500	4 000	7 500	8 000	12 000	KV34×40×39.3X1ZWS	0.066
35	39	22.5	21 500	46 000	2 200	4 700	7 500	11 000	KV35×39×22.3XS	0.024
	39	24	21 300	45 000	2 170	4 600	7 500	11 000	K35×39×23.8X1T2	0.015
	40	13	15 200	25 100	1 550	2 560	7 500	11 000	K35×40×13	0.019
	40	17	20 000	36 000	2 040	3 650	7 500	11 000	K35×40×17	0.025
	40	19	22 300	41 000	2 270	4 200	7 500	11 000	K35×40×19	0.029
	40	26	44 000	100 000	4 450	10 200	7 500	11 000	K35×40×26ZW	0.037
	40	27 ^{-0.2}	32 000	65 000	3 250	6 600	7 500	11 000	KJ35×40×27S	0.039
	40	30 ^{-0.55}	26 100	50 000	2 660	5 100	7 500	11 000	K35×40×30ZW	0.043
	41	14	19 400	30 500	1 980	3 100	7 500	11 000	K35×41×14	0.026
	41	15	20 900	33 500	2 130	3 400	7 500	11 000	K35×41×15	0.027
	41	24	31 000	55 500	3 200	5 650	7 500	11 000	K35×41×23.8X1	0.042
	41	40	72 000	168 000	7 350	17 100	7 500	11 000	K35×41×40ZW	0.055
	42	16	24 100	36 000	2 450	3 650	7 500	11 000	K35×42×16	0.035
42	18	24 700	37 000	2 510	3 750	7 500	11 000	K35×42×18	0.039	

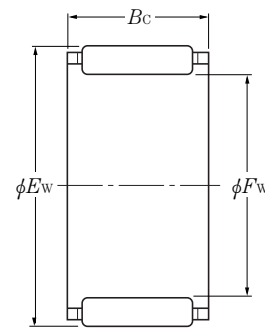
Remarks: Even when an order is placed with reference to "Nominal bearing number" listed in this table, the ordered bearings are subject to being delivered with different cage type.



Type KMJ



Type KJ··S



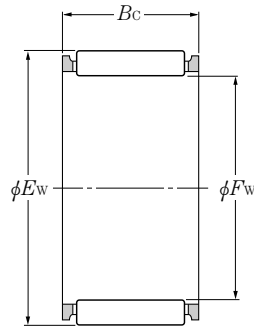
Type KV··S

F_w 35~42mm

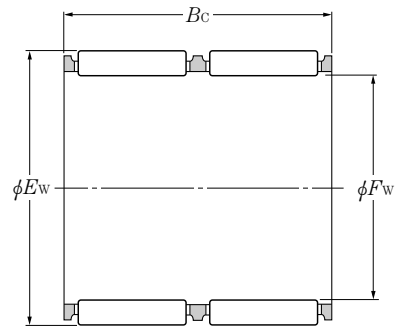
Boundary dimensions			Basic load ratings				Limiting speeds		Bearing numbers	Mass
mm			dynamic	static	dynamic	static	min ⁻¹			kg
F_w	E_w	B_c	N		kgf		grease	oil		(approx.)
			C_r	C_{or}	C_r	C_{or}				
35	42	20	26 500	40 500	2 700	4 100	7 500	11 000	KV35×42×20SV2	0.040
	42	30 ^{-0.2} -0.55	39 500	68 000	4 050	6 950	7 500	11 000	K35×42×30	0.062
	42	45	42 500	74 000	4 300	7 550	7 500	11 000	K35×42×45ZW	0.106
36	42	46 ^{-0.2} -0.55	51 000	106 000	5 200	10 800	7 500	11 000	K36×42×46ZW	0.086
37	42	13	15 900	27 100	1 620	2 770	7 500	11 000	K37×42×13V4	0.021
	42	17	21 000	38 500	2 140	3 950	7 500	11 000	K37×42×17V2	0.026
	42	27 ^{-0.2} -0.55	32 500	67 500	3 300	6 900	7 500	11 000	KJ37×42×27S	0.041
	43	33.5	39 000	76 000	4 000	7 750	7 500	11 000	KV37×43×33.3XS	0.062
	44	18	26 300	41 000	2 680	4 150	7 500	11 000	K37×44×18	0.042
	45	25	37 000	58 000	3 800	5 900	7 500	11 000	K37×45×24.8XT2	0.039
38	43	17	20 900	38 500	2 130	3 950	7 500	11 000	8E-K38×43×17	0.027
	43	27	32 000	67 500	3 300	6 900	7 500	11 000	K38×43×27	0.043
	43	29 ^{-0.2} -0.55	32 500	68 000	3 300	6 950	7 500	11 000	K38×43×28.8X	0.047
	46	20	34 000	52 000	3 450	5 350	7 500	11 000	KMJ38×46×20	0.046
	46	32	54 000	95 500	5 500	9 700	7 500	11 000	K38×46×32	0.073
40	45	13	16 500	29 200	1 680	2 980	6 500	10 000	K40×45×13V2	0.023
	45	17	21 800	41 500	2 220	4 250	6 500	10 000	K40×45×17	0.027
	45	21	26 700	54 000	2 720	5 500	6 500	10 000	K40×45×21V2	0.035
	45	27	33 500	72 500	3 400	7 400	6 500	10 000	K40×45×27	0.044
	46	17 ^{-0.2} -0.55	24 600	43 000	2 500	4 350	6 500	10 000	K40×46×17	0.030
	46	34	40 500	80 500	4 100	8 250	6 500	10 000	KV40×46×33.8XS	0.063
	47	18	27 700	45 000	2 820	4 550	6 500	10 000	K40×47×18	0.045
	47	20	31 000	51 500	3 150	5 250	6 500	10 000	K40×47×20	0.048
	48	20	33 000	51 000	3 350	5 200	6 500	10 000	K40×48×20	0.052
	48	25	41 000	68 000	4 200	6 900	6 500	10 000	KV40×48×25SV1	0.065
41	49	22 ^{-0.2} -0.55	30 500	46 000	3 100	4 700	6 500	9 500	8E-KV41×49×21.8XS	0.065
42	47	17	22 100	43 000	2 250	4 400	6 500	9 500	K42×47×17	0.028
	47	27 ^{-0.2} -0.55	34 000	75 500	3 450	7 700	6 500	9 500	K42×47×27	0.047
	48	17	25 700	46 000	2 630	4 700	6 500	9 500	K42×48×17	0.036
	50	20	34 000	53 500	3 450	5 500	6 500	9 500	K42×50×20	0.054

Remarks: Even when an order is placed with reference to "Nominal bearing number" listed in this table, the ordered bearings are subject to being delivered with different cage type.

Type K
Type K · T2
Type K · ZW
Type KV · S



Type K
Type K · T2

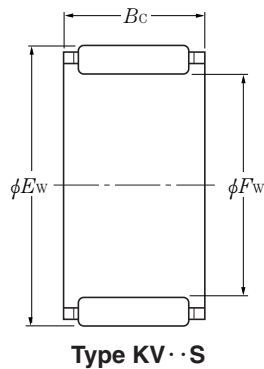


Type K · ZW

F_w 43~50mm

Boundary dimensions			Basic load ratings				Limiting speeds		Bearing numbers	Mass
mm			dynamic	static	dynamic	static	min ⁻¹			kg
F_w	E_w	B_c	N		kgf		grease	oil		(approx.)
			C_r	C_{or}	C_r	C_{or}				
43	48	17	22 000	43 000	2 240	4 400	6 500	9 500	K43×48×17	0.029
	48	27 ^{-0.2}	34 000	75 500	3 450	7 700	6 500	9 500	K43×48×27	0.046
	48	38 ^{-0.55}	41 000	96 000	4 150	9 800	6 500	9 500	KV43×48×37.8XZWS	0.058
	50	18	29 100	49 000	2 960	5 000	6 500	9 500	K43×50×18	0.049
44	50	31 ^{-0.2} ^{-0.55}	43 500	91 500	4 400	9 300	6 500	9 500	KV44×50×30.8XS	0.067
45	49	19	22 100	52 000	2 260	5 300	6 000	9 000	K45×49×19	0.027
	50	17	22 300	44 500	2 280	4 550	6 000	9 000	K45×50×17	0.033
	50	25.8	30 500	66 500	3 100	6 750	6 000	9 000	KV45×50×25.8XS	0.045
	50	27	34 500	78 000	3 500	7 950	6 000	9 000	K45×50×27	0.050
	51	27 ^{-0.2}	34 500	68 000	3 500	6 950	6 000	9 000	KV45×51×26.8XS	0.058
	52	18 ^{-0.55}	29 700	51 000	3 000	5 200	6 000	9 000	K45×52×18	0.051
	52	21	32 000	56 500	3 300	5 750	6 000	9 000	K45×52×21	0.061
	53	20	36 000	59 000	3 650	6 000	6 000	9 000	K45×53×20	0.062
	53	25	46 500	82 000	4 700	8 400	6 000	9 000	K45×53×25	0.077
53	28	49 500	90 000	5 050	9 200	6 000	9 000	KJ45×53×28S	0.078	
47	52	15.5	19 400	38 000	1 980	3 900	5 500	8 500	8E-K47×52×15.3X2	0.031
	52	17	23 200	47 500	2 360	4 850	5 500	8 500	K47×52×17	0.033
	52	23 ^{-0.2}	29 600	65 500	3 000	6 650	5 500	8 500	KV47×52×22.8XS	0.044
	52	24 ^{-0.55}	33 500	76 500	3 400	7 800	5 500	8 500	K47×52×23.8X	0.044
	52	27	35 500	83 000	3 650	8 450	5 500	8 500	K47×52×27	0.051
	52	33	38 000	90 500	3 900	9 250	5 500	8 500	KV47×52×32.8XZWS	0.064
48	53	22.5	31 000	69 500	3 150	7 050	5 500	8 500	KV48×53×22.3XS	0.042
	53	26	36 500	86 500	3 750	8 850	5 500	8 500	K48×53×25.8X3T2	0.029
	53	30	36 500	85 500	3 700	8 750	5 500	8 500	K48×53×29.8X1	0.062
	53	37 ^{-0.2} ^{-0.55}	45 000	112 000	4 550	11 400	5 500	8 500	KV48×53×36.8XZWS	0.064
	53	37.5	41 500	101 000	4 200	10 300	5 500	8 500	K48×53×37.5ZW	0.072
	54	19	31 000	61 000	3 150	6 250	5 500	8 500	K48×54×19	0.044
50	55	24.5	39 000	73 500	4 000	7 600	5 500	8 500	KV48×55×24.3XS	0.070
	55	13.5 ^{-0.2} ^{-0.55}	18 100	35 500	1 850	3 600	5 500	8 000	K50×55×13.5	0.023
	55	20 ^{-0.55}	27 900	62 000	2 850	6 300	5 500	8 000	KV50×55×20S	0.040

Remarks: Even when an order is placed with reference to "Nominal bearing number" listed in this table, the ordered bearings are subject to being delivered with different cage type.

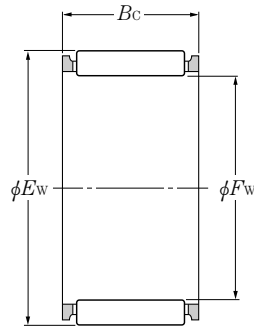


F_w 50~60mm

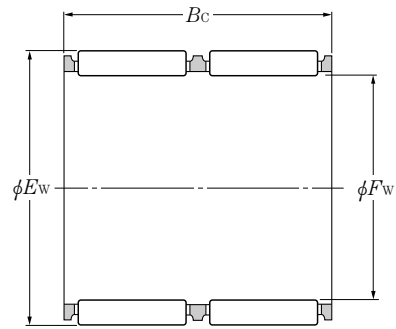
Boundary dimensions			Basic load ratings				Limiting speeds		Bearing numbers	Mass kg (approx.)
mm			dynamic	static	dynamic	static	min ⁻¹			
F_w	E_w	B_c	N		kgf		grease	oil		
			C_r	C_{or}	C_r	C_{or}				
50	55	27	37 000	88 500	3 750	9 000	5 500	8 000	K50×55×27	0.053
	55	30	39 500	97 000	4 050	9 900	5 500	8 000	K50×55×30	0.059
	57	18	31 500	57 000	3 200	5 800	5 500	8 000	K50×57×18	0.053
	58	20	38 500	67 500	3 950	6 850	5 500	8 000	K50×58×20	0.065
	58	25	48 500	90 000	4 950	9 150	5 500	8 000	K50×58×25	0.081
	58	58	83 500	181 000	8 500	18 400	5 500	8 000	KV50×58×57.8XZWS	0.188
52	57	18	22 800	48 000	2 320	4 900	5 000	7 500	KV52×57×17.8XS	0.037
	57	23	30 500	69 500	3 100	7 100	5 000	7 500	KV52×57×22.8X1S	0.048
	58	19	32 000	65 500	3 250	6 650	5 000	7 500	K52×58×19	0.048
54	59	23	31 500	73 500	3 200	7 500	5 000	7 500	KV54×59×22.8XS	0.049
55	60	17	25 800	58 000	2 630	5 900	5 000	7 500	K55×60×17	0.043
	60	20	28 800	66 500	2 940	6 750	5 000	7 500	K55×60×20	0.045
	60	30	42 000	108 000	4 300	11 000	5 000	7 500	KV55×60×30S	0.069
	60	37	47 500	127 000	4 850	12 900	5 000	7 500	K55×60×36.8X	0.086
	61	19	33 000	69 500	3 350	7 100	5 000	7 500	K55×61×19	0.051
	61	20	33 000	69 500	3 350	7 100	5 000	7 500	K55×61×20	0.054
	61	30	48 000	113 000	4 900	11 500	5 000	7 500	K55×61×30	0.081
	62	18	33 500	63 000	3 400	6 450	5 000	7 500	K55×62×18	0.054
	63	20	39 000	70 000	3 950	7 100	5 000	7 500	K55×63×20	0.073
	63	25	50 500	97 500	5 150	9 950	5 000	7 500	K55×63×25	0.088
63	32	61 000	125 000	6 200	12 700	5 000	7 500	K55×63×32	0.117	
56	66	41	90 000	178 000	9 200	18 100	5 000	7 500	K56×66×40.8XT2	0.148
57	65	40	66 000	140 000	6 750	14 300	4 700	7 000	KV57×65×39.8XZWS	0.145
58	64	19	34 000	73 500	3 450	7 500	4 700	7 000	K58×64×19	0.052
60	65	20	29 800	71 500	3 050	7 300	4 300	6 500	K60×65×20	0.051
	65	27	40 000	104 000	4 050	10 600	4 300	6 500	K60×65×26.8X	0.067
	65	30	43 500	116 000	4 450	11 800	4 300	6 500	K60×65×30	0.071
	66	19	33 500	73 500	3 450	7 500	4 300	6 500	K60×66×19	0.053
	66	20	33 500	73 500	3 450	7 500	4 300	6 500	K60×66×20	0.056

Remarks: Even when an order is placed with reference to "Nominal bearing number" listed in this table, the ordered bearings are subject to being delivered with different cage type.

Type K
 Type K · T2
 Type K · ZW
 Type KV · S



Type K
 Type K · T2

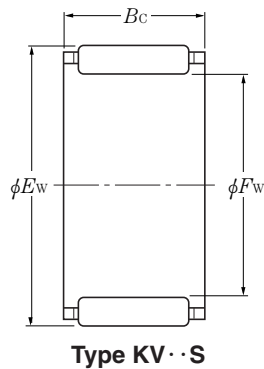


Type K · ZW

F_w 60~73mm

Boundary dimensions			Basic load ratings				Limiting speeds		Bearing numbers	Mass
mm			dynamic	static	dynamic	static	min ⁻¹			kg
F_w	E_w	B_c	N		kgf		grease	oil		(approx.)
			C_r	C_{or}	C_r	C_{or}				
60	66	30	49 000	119 000	5 000	12 200	4 300	6 500	K60×66×30	0.084
	68	15	27 200	45 500	2 780	4 650	4 300	6 500	K60×68×15	0.058
	68	20	40 000	75 000	4 100	7 650	4 300	6 500	K60×68×20	0.077
	68	23 ^{-0.2} -0.55	44 500	85 000	4 500	8 700	4 300	6 500	K60×68×23	0.092
	68	25	52 000	105 000	5 300	10 700	4 300	6 500	K60×68×25	0.097
	68	27	52 000	105 000	5 300	10 700	4 300	6 500	K60×68×27	0.098
	68	30	46 500	91 000	4 750	9 300	4 300	6 500	K60×68×30ZW	0.119
61	66	20 ^{-0.2} -0.55	29 700	71 500	3 050	7 300	4 300	6 500	K61×66×20	0.054
	66	30	43 500	116 000	4 400	11 900	4 300	6 500	K61×66×30	0.073
63	70	21 ^{-0.2} -0.55	44 500	95 500	4 500	9 700	4 300	6 500	K63×70×21	0.075
	71	50.5	74 500	167 000	7 600	17 000	4 300	6 500	KV63×71×50.3XZWS	0.193
64	70	16 ^{-0.2} -0.55	28 400	60 500	2 900	6 150	4 300	6 500	K64×70×16	0.053
65	70	20	30 500	75 000	3 100	7 650	4 000	6 000	K65×70×20	0.055
	70	21.5	30 500	75 000	3 100	7 650	4 000	6 000	KV65×70×21.3X1S	0.056
	70	30 ^{-0.2} -0.55	45 000	124 000	4 600	12 700	4 000	6 000	K65×70×30	0.083
	73	23	47 000	94 000	4 800	9 600	4 000	6 000	K65×73×23	0.100
	73	30	61 000	132 000	6 200	13 400	4 000	6 000	K65×73×30	0.126
68	74	20	36 000	83 500	3 700	8 550	4 000	6 000	K68×74×20	0.065
	74	30 ^{-0.2} -0.55	51 500	133 000	5 250	13 500	4 000	6 000	K68×74×30	0.097
	74	35	49 500	125 000	5 050	12 800	4 000	6 000	K68×74×35ZW	0.116
	75	21	45 500	101 000	4 600	10 300	4 000	6 000	K68×75×21	0.077
70	76	20	36 500	86 000	3 700	8 750	3 700	5 500	K70×76×20	0.070
	76	30	53 000	139 000	5 400	14 200	3 700	5 500	K70×76×30	0.100
	77	21 ^{-0.2} -0.55	45 000	101 000	4 600	10 300	3 700	5 500	K70×77×21	0.080
	78	23	49 500	103 000	5 050	10 500	3 700	5 500	K70×78×23	0.107
	78	30	65 500	149 000	6 700	15 200	3 700	5 500	K70×78×30	0.136
72	79	21 ^{-0.2} -0.55	46 500	106 000	4 750	10 800	3 700	5 500	K72×79×21	0.085
73	79	20 ^{-0.2} -0.55	37 500	90 000	3 800	9 150	3 700	5 500	K73×79×20	0.074
	79	30	54 500	146 000	5 550	14 900	3 700	5 500	K73×79×30	0.106
74	90	50 ^{-0.2} -0.55	157 000	287 000	16 000	29 200	3 700	5 500	K74×90×49.8XT2	0.380

Remarks: Even when an order is placed with reference to "Nominal bearing number" listed in this table, the ordered bearings are subject to being delivered with different cage type.

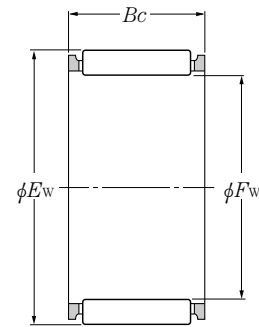


F_w 75~105mm

Boundary dimensions			Basic load ratings				Limiting speeds		Bearing numbers	Mass kg (approx.)
mm			dynamic	static	dynamic	static	min ⁻¹			
F_w	E_w	B_c	N		kgf		grease	oil		
			C_r	C_{or}	C_r	C_{or}				
75	81	20	40 000	99 500	4 100	10 200	3 700	5 500	KV75×81×19.8X1S	0.071
	81	30	56 000	152 000	5 700	15 500	3 700	5 500	K75×81×30	0.108
	82	21 ^{-0.2} -0.55	46 000	106 000	4 700	10 800	3 700	5 500	K75×82×21	0.088
	83	23	50 500	109 000	5 150	11 100	3 700	5 500	K75×83×23	0.113
	83	30	67 500	157 000	6 850	16 100	3 700	5 500	K75×83×30	0.147
80	86	20	39 000	98 000	4 000	10 000	3 300	5 000	KV80×86×20SV1	0.077
	86	30	57 000	159 000	5 800	16 200	3 300	5 000	K80×86×30	0.110
	88	23 ^{-0.2} -0.55	53 000	118 000	5 400	12 100	3 300	5 000	K80×88×23	0.125
	88	26	61 000	142 000	6 250	14 500	3 300	5 000	K80×88×26	0.131
	88	30	69 000	166 000	7 050	17 000	3 300	5 000	K80×88×30	0.157
85	92	20	47 500	115 000	4 850	11 700	3 100	4 700	KMJ85×92×20	0.083
	92	30 ^{-0.2} -0.55	66 000	176 000	6 750	18 000	3 100	4 700	K85×92×30	0.142
	93	27 ^{-0.2} -0.55	64 000	153 000	6 500	15 600	3 100	4 700	K85×93×27	0.145
	93	30	71 000	175 000	7 200	17 900	3 100	4 700	8Q-K85×93×30	0.174
90	97	20	46 000	113 000	4 700	11 500	2 900	4 400	K90×97×20	0.103
	97	30	67 500	184 000	6 850	18 700	2 900	4 400	K90×97×30	0.151
	98	26 ^{-0.2} -0.55	64 000	157 000	6 550	16 000	2 900	4 400	K90×98×26	0.148
	98	27	64 000	157 000	6 550	16 000	2 900	4 400	K90×98×27	0.150
	98	30	72 500	184 000	7 400	18 800	2 900	4 400	K90×98×30	0.172
95	102	21	48 000	122 000	4 900	12 400	2 800	4 200	K95×102×21	0.115
	102	31 ^{-0.2} -0.55	70 500	199 000	7 200	20 300	2 800	4 200	K95×102×31	0.172
	103	27 ^{-0.2} -0.55	65 500	165 000	6 700	16 800	2 800	4 200	K95×103×27	0.159
	103	30	74 000	193 000	7 550	19 600	2 800	4 200	K95×103×30	0.165
100	107	21	47 500	122 000	4 850	12 500	2 700	4 000	KV100×107×21S	0.120
	107	31 ^{-0.3} -0.65	71 500	207 000	7 300	21 100	2 700	4 000	K100×107×31	0.173
	108	27 ^{-0.3} -0.65	61 000	153 000	6 250	15 600	2 700	4 000	K100×108×27	0.176
	108	30	76 000	201 000	7 700	20 500	2 700	4 000	K100×108×30	0.190
105	112	21	48 500	127 000	4 950	12 900	2 500	3 800	K105×112×21	0.130
	112	31 ^{-0.3} -0.65	71 000	207 000	7 250	21 100	2 500	3 800	K105×112×31	0.176
	113	30	77 500	210 000	7 900	21 400	2 500	3 800	K105×113×30	0.198

Remarks: Even when an order is placed with reference to "Nominal bearing number" listed in this table, the ordered bearings are subject to being delivered with different cage type.

Type K Type K··L1



Type K
Type K··L1

F_w 110~195mm

Boundary dimensions			Basic load ratings				Limiting speeds		Bearing numbers	Mass
mm			dynamic	static	dynamic	static	min^{-1}			kg
F_w	E_w	B_c	N		kgf		grease	oil		(approx.)
			C_r	C_{or}	C_r	C_{or}				
110	117	24	54 500	149 000	5 550	15 200	2 400	3 600	K110×117×24	0.145
	117	34 $_{-0.3}^{-0.65}$	77 500	235 000	7 900	24 000	2 400	3 600	K110×117×34	0.205
	118	30	79 000	219 000	8 050	22 300	2 400	3 600	K110×118×30	0.217
115	123	27 $_{-0.3}^{-0.65}$	64 000	170 000	6 550	17 300	2 300	3 500	K115×123×27	0.200
	125	34 $_{-0.3}^{-0.65}$	95 000	241 000	9 700	24 600	2 300	3 500	K115×125×34	0.330
120	127	24 $_{-0.3}^{-0.65}$	57 500	165 000	5 850	16 800	2 200	3 300	K120×127×24	0.160
	127	34 $_{-0.3}^{-0.65}$	82 000	260 000	8 350	26 600	2 200	3 300	K120×127×34	0.235
125	133	35 $_{-0.3}^{-0.65}$	87 000	260 000	8 900	26 500	2 100	3 200	K125×133×35	0.275
	135	34 $_{-0.3}^{-0.65}$	100 000	265 000	10 200	27 000	2 100	3 200	K125×135×34	0.350
130	137	24 $_{-0.3}^{-0.65}$	59 000	175 000	6 000	17 900	2 100	3 100	K130×137×24	0.170
	137	34 $_{-0.3}^{-0.65}$	84 500	277 000	8 600	28 300	2 100	3 100	K130×137×34	0.240
135	143	35 $_{-0.3}^{-0.65}$	92 500	288 000	9 450	29 400	2 000	3 000	K135×143×35L1	0.313
	150	38 $_{-0.3}^{-0.65}$	145 000	325 000	14 800	33 500	2 000	3 000	K135×150×38	0.590
145	153	26	72 000	214 000	7 350	21 800	1 900	2 800	K145×153×26	0.250
	153	28 $_{-0.3}^{-0.65}$	80 500	247 000	8 200	25 200	1 900	2 800	K145×153×28	0.252
	153	36	100 000	325 000	10 200	33 000	1 900	2 800	K145×153×36	0.335
150	160	46 $_{-0.3}^{-0.65}$	149 000	470 000	15 200	48 000	1 800	2 700	K150×160×46	0.550
155	163	26 $_{-0.3}^{-0.65}$	73 500	224 000	7 500	22 800	1 700	2 600	K155×163×26	0.270
	163	36 $_{-0.3}^{-0.65}$	102 000	340 000	10 400	34 500	1 700	2 600	K155×163×36	0.355
160	170	46 $_{-0.3}^{-0.65}$	155 000	505 000	15 800	51 500	1 700	2 500	K160×170×46	0.570
165	173	26	79 000	251 000	8 050	25 600	1 600	2 400	K165×173×26	0.290
	173	32 $_{-0.3}^{-0.65}$	97 000	330 000	9 900	33 500	1 600	2 400	K165×173×32	0.340
	173	36	109 000	380 000	11 100	39 000	1 600	2 400	K165×173×36	0.375
170	180	46 $_{-0.3}^{-0.65}$	160 000	540 000	16 400	55 000	1 600	2 400	K170×180×46	0.620
175	183	32 $_{-0.3}^{-0.65}$	101 000	350 000	10 300	35 500	1 500	2 300	K175×183×32L1	0.379
185	195	37 $_{-0.3}^{-0.65}$	131 000	425 000	13 300	43 500	1 500	2 200	K185×195×37L1	0.581
195	205	37 $_{-0.3}^{-0.65}$	135 000	450 000	13 800	46 000	1 400	2 100	K195×205×37L1	0.620

Remarks: Even when an order is placed with reference to "Nominal bearing number" listed in this table, the ordered bearings are subject to being delivered with different cage type.

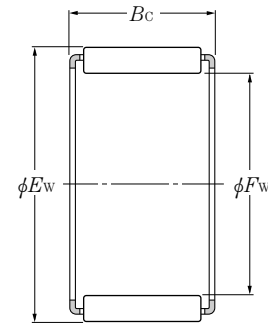
F_w 210~285mm

Boundary dimensions			Basic load ratings				Limiting speeds		Bearing numbers	Mass kg (approx.)
mm			dynamic	static	dynamic	static	min ⁻¹			
F_w	E_w	B_c	N		kgf		grease	oil		
			C_r	C_{or}	C_r	C_{or}				
210	220	42 $\begin{smallmatrix} -0.3 \\ -0.65 \end{smallmatrix}$	156 000	560 000	15 900	57 000	1 300	1 900	K210×220×42	0.740
220	230	42 $\begin{smallmatrix} -0.3 \\ -0.65 \end{smallmatrix}$	161 000	590 000	16 400	60 000	1 200	1 800	K220×230×42	0.790
240	250	42 $\begin{smallmatrix} -0.3 \\ -0.65 \end{smallmatrix}$	167 000	635 000	17 000	64 500	1 100	1 700	K240×250×42L1	0.849
265	280	50 $\begin{smallmatrix} -0.3 \\ -0.65 \end{smallmatrix}$	256 000	850 000	26 100	87 000	1 000	1 500	K265×280×50L1	1.768
285	300	50 $\begin{smallmatrix} -0.3 \\ -0.65 \end{smallmatrix}$	268 000	930 000	27 300	94 500	950	1 400	K285×300×50	1.970

Remarks: Even when an order is placed with reference to "Nominal bearing number" listed in this table, the ordered bearings are subject to being delivered with different cage type.

Inch System

Type PCJ



F_w 12.700~63.500mm

F_w	Boundary dimensions		Basic load ratings				Limiting speeds		Bearing numbers	Mass kg (approx.)
	mm E_w	B_c ${}_{-0.35}^0$ (${}_{-0.014}^0$)	dynamic N C_r	static C_{or}	dynamic kgf C_r	static C_{or}	grease min ⁻¹	oil		
12.700 ($\frac{1}{2}$)	15.875($\frac{5}{8}$)	12.70($\frac{1}{2}$)	6 650	8 600	680	875	16 000	24 000	PCJ081008	0.003
19.050 ($\frac{3}{4}$)	25.400(1)	25.40(1)	25 700	35 000	2 620	3 550	13 000	20 000	PCJ121616	0.023
22.225 ($\frac{7}{8}$)	28.575($1\frac{1}{8}$)	25.40(1)	29 600	44 000	3 000	4 450	11 000	17 000	PCJ141816	0.028
25.400 (1)	33.338($1\frac{5}{16}$)	19.05($\frac{3}{4}$)	29 200	38 500	2 980	3 950	10 000	15 000	PCJ162112	0.032
	33.338($1\frac{5}{16}$)	25.40(1)	38 000	54 000	3 850	5 500	10 000	15 000	PCJ162116	0.044
28.575 ($1\frac{1}{8}$)	38.100($1\frac{1}{2}$)	25.40(1)	44 000	59 500	4 450	6 050	9 500	14 000	PCJ182416	0.058
	38.100($1\frac{1}{2}$)	31.75($1\frac{1}{4}$)	53 500	77 000	5 450	7 850	9 500	14 000	PCJ182420	0.073
31.750 ($1\frac{1}{4}$)	41.275($1\frac{5}{8}$)	19.05($\frac{3}{4}$)	35 000	46 000	3 600	4 700	8 500	13 000	PCJ202612	0.045
	41.275($1\frac{5}{8}$)	25.40(1)	35 000	46 000	3 600	4 700	8 500	13 000	PCJ202616	0.062
	41.275($1\frac{5}{8}$)	38.10($1\frac{1}{2}$)	65 000	101 000	6 600	10 300	8 500	13 000	PCJ202624	0.096
34.925 ($1\frac{3}{8}$)	44.450($1\frac{3}{4}$)	31.75($1\frac{1}{4}$)	60 000	94 500	6 150	9 650	7 500	11 000	PCJ222820	0.090
	47.625($1\frac{7}{8}$)	25.40(1)	51 000	78 000	5 200	7 950	6 500	10 000	PCJ243016	0.075
	47.625($1\frac{7}{8}$)	31.75($1\frac{1}{4}$)	62 000	101 000	6 300	10 300	6 500	10 000	PCJ243020	0.095
38.100 ($1\frac{1}{2}$)	47.625($1\frac{7}{8}$)	38.10($1\frac{1}{2}$)	72 500	123 000	7 400	12 600	6 500	10 000	PCJ243024	0.114
	53.975($2\frac{1}{8}$)	25.40(1)	55 500	92 000	5 650	9 400	6 000	9 000	PCJ283416	0.086
	53.975($2\frac{1}{8}$)	31.75($1\frac{1}{4}$)	68 000	119 000	6 900	12 100	6 000	9 000	PCJ283420	0.110
44.450 ($1\frac{3}{4}$)	53.975($2\frac{1}{8}$)	38.10($1\frac{1}{2}$)	79 000	145 000	8 050	14 800	6 000	9 000	PCJ283424	0.132
	60.325($2\frac{3}{8}$)	25.40(1)	58 000	102 000	5 950	10 400	5 000	7 500	PCJ323816	0.094
	60.325($2\frac{3}{8}$)	31.75($1\frac{1}{4}$)	71 000	131 000	7 250	13 400	5 000	7 500	PCJ323820	0.120
50.800 (2)	60.325($2\frac{3}{8}$)	38.10($1\frac{1}{2}$)	83 000	160 000	8 450	16 300	5 000	7 500	PCJ323824	0.144
	52.388 ($2\frac{1}{16}$)	61.913($2\frac{7}{16}$)	25.40(1)	55 000	95 500	5 600	9 750	5 000	7 500	PCJ333916
53.975 ($2\frac{1}{8}$)	63.500($2\frac{1}{2}$)	25.40(1)	56 500	99 500	5 750	10 200	5 000	7 500	PCJ344016	0.091
	63.500($2\frac{1}{2}$)	38.10($1\frac{1}{2}$)	82 000	161 000	8 350	16 400	5 000	7 500	PCJ344024	0.144
57.150 ($2\frac{1}{4}$)	66.675($2\frac{5}{8}$)	25.40(1)	57 500	104 000	5 900	10 600	4 300	6 500	PCJ364216	0.094
60.325 ($2\frac{3}{8}$)	69.850($2\frac{3}{4}$)	38.10($1\frac{1}{2}$)	87 500	182 000	8 950	18 500	4 300	6 500	PCJ384424	0.161
63.500 ($2\frac{1}{2}$)	73.025($2\frac{7}{8}$)	25.40(1)	61 500	117 000	6 250	11 900	4 000	6 000	PCJ404616	0.105

F_w 63.500~101.600mm

F_w	Boundary dimensions		Basic load ratings				Limiting speeds		Bearing numbers	Mass kg (approx.)
	mm E_w	B_c ${}^0_{-0.35}$ (${}^0_{-0.014}$)	dynamic N C_r	static C_{or}	dynamic kgf C_r	static C_{or}	grease min ⁻¹	oil		
63.500(2½)	73.025(2⅞)	38.10(1½)	89 000	189 000	9 100	19 300	4 000	4 000	PCJ404624	0.167
69.850(2¾)	79.375(3⅛)	25.40(1)	65 000	130 000	6 650	13 200	3 700	5 500	PCJ445016	0.116
76.200(3)	85.725(3⅜)	25.40(1)	68 500	143 000	7 000	14 600	3 300	5 000	PCJ485416	0.127
	85.725(3⅜)	38.10(1½)	99 500	231 000	10 100	23 500	3 300	5 000	PCJ485424	0.201
88.900(3½)	98.425(3⅞)	25.40(1)	75 000	169 000	7 650	17 200	2 900	4 400	PCJ566216	0.149
	101.600(4)	25.40(1)	82 000	154 000	8 350	15 700	2 900	4 400	PCJ566416	0.187
	101.600(4)	38.10(1½)	121 000	253 000	12 300	25 800	2 900	4 400	PCJ566424	0.305
101.600(4)	114.300(4½)	25.40(1)	87 500	176 000	8 950	18 000	2 500	3 800	PCJ647216	0.212
	114.300(4½)	38.10(1½)	129 000	290 000	13 200	29 500	2 500	3 800	PCJ647224	0.345