

RADIAL NEEDLE ROLLER AND CAGE ASSEMBLIES

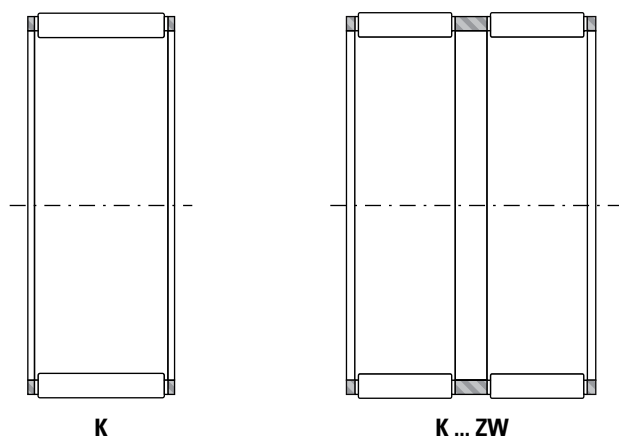


Technical features

Radial needle rollers and cage assemblies



TYPES OF RADIAL NEEDLE ROLLER AND CAGE ASSEMBLIES



SUFFIXES

TN	molded cage of reinforced engineered polymer
ZW	double-row
TNZW	molded cage of reinforced engineered polymer - double-row
H	hardened steel cage
F	machined cage
FH	machined cage, case hardened
FV	machined cage, hardened and tempered

Radial needle roller and cage assemblies have a steel cage that provides both inward and outward retention for the needle rollers. The designs provide maximum cage strength consistent with the inherent high load-ratings of needle roller bearings.

Accurate guidance of the needle rollers by the cage bars allows for operation at high speeds. Needle roller and cage assemblies have either one or two rows of needle rollers.

Also listed are needle roller and cage assemblies using molded, one-piece glass-reinforced engineered polymer cages (suffix **TN**). These operate well at temperatures up to 120° C over extended periods. However, care should be exercised when these assemblies are lubricated with oils containing additives as service life may be reduced if the operating temperature exceeds 100° C. At such high temperatures oil can deteriorate with time and it is suggested that oil change intervals are observed.

Needle rollers with relieved ends used in these assemblies are made of high-carbon chrome steel, through-hardened, ground and lapped to close tolerances for diameter and roundness.

Reference standards are:

- **ISO 3030** - needle roller bearings - radial needle roller and cage assemblies - boundary dimensions and tolerances.
- **DIN 5405 Section 1** - rolling bearings - needle roller bearings - radial needle roller and cage assemblies.
- **ANSI/ABMA 18.1**- needle roller bearings – radial, metric design.

DIMENSIONAL ACCURACY

Needle roller groups

Radial needle roller and cage assemblies are supplied with needle roller complements subdivided into groups. The groups are decided by Nadella if not differently decided during the order and with Grade G2 specified in **ISO 3096** standard (see needle rollers, page 195).

The needle roller and cage assemblies of one shipment usually contain needle rollers with group limits of between 0 ... to -2, and -5 ... -7 µm. For needle roller and cage assemblies with needle rollers of different group limits contact Technical Service Nadella.



Technical features

Radial needle rollers and cage assemblies

MOUNTING DIMENSIONS

Design of raceways

Radial needle roller and cage assemblies use the housing bore as the outer raceway and the shaft as the inner raceway. To realize full bearing load rating and life, the housing bore and the shaft raceways must have the correct geometric and metallurgical characteristics.

The housing should be of sufficient cross section to maintain adequate roundness and running clearance under load. Additional design details for housings and shafts used as outer and inner raceways can be found in the "MOUNTING" section of this catalogue. The only limit to precision of the radial clearance of a mounted assembly is the capability of the user to hold close tolerances on the inner and outer raceways. The suggested shaft tolerances are based on housing bore tolerance G6 and apply to metric series radial needle roller and cage assemblies with needle rollers of group limits between 0.000 and -0.007.

Suggested shaft tolerances for housing bores machined to G6

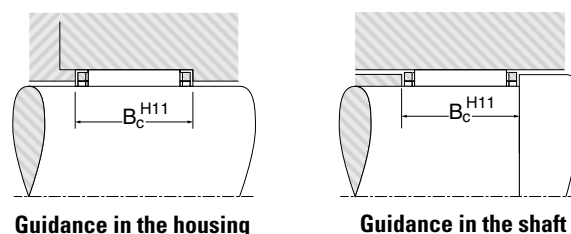
Nominal shaft diameter in mm	≤80	>80
Radial clearance	Shaft tolerance	
Smaller than normal	j5	h5
Normal	h5	g5
Larger than normal	g6	f6

Axial guidance requirements

Radial needle roller and cage assembly must be axially guided by shoulders or other suitable means. The end guiding surfaces should be hardened to minimize wear and must provide sufficient axial clearance to prevent end-locking of the assembly.

Length tolerance H11 is suggested on dimension BC. If end guidance is provided by a housing shoulder at one end and by a shaft shoulder at the other end, the shaft must be axially positioned to prevent end-locking of needle roller and cage assembly.

The housing and shaft shoulder heights should be 70 percent to 90 percent of the needle roller diameter to provide proper axial guidance.



Mounting in sets

Radial needle roller and cage assemblies that are mounted side by side must have needle rollers of the same group limits to ensure uniform load distribution.

LUBRICATION

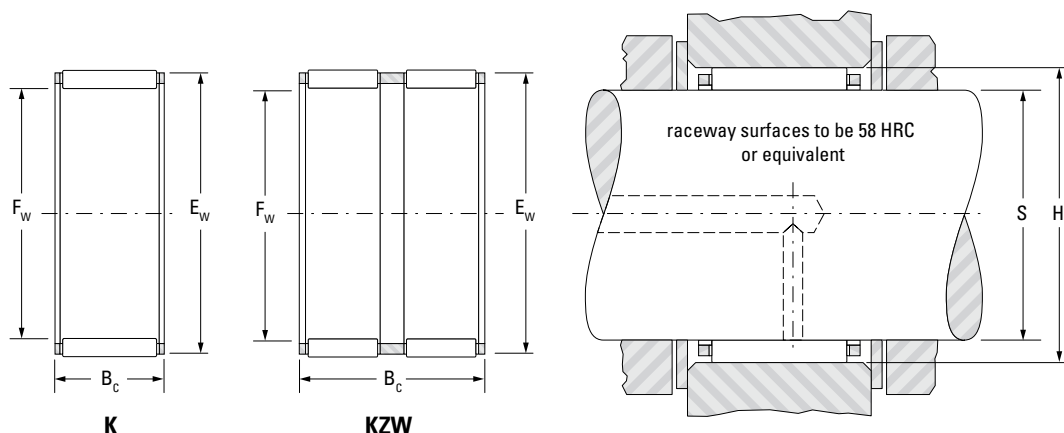
Oil is the preferred lubricant for most applications. In critical applications involving high speeds, ample oil flow must be provided. Where assemblies are subjected to high centrifugal forces – such as in epicyclic gearing, or inertia forces, as in the small end of a connecting rod – the contact pressure between the cage and the raceway guiding surface becomes critical. The allowable contact pressure depends on a combination of the induced force and the relative velocity between the cage and raceway and the rate of lubricant flow. Consult the Nadella Technical Service when cages will be subjected to high induced forces.

SPECIAL DESIGNS

Radial needle roller and cage assemblies made to special dimensions or configurations – such as those which are split to assemble around a one-piece crankshaft – can be made available on special order. Special coated or plated cages to enhance life, under conditions of marginal lubrication and high induced forces, also can be made available.

Radial needle rollers and cage assemblies

single-row, double-row assemblies

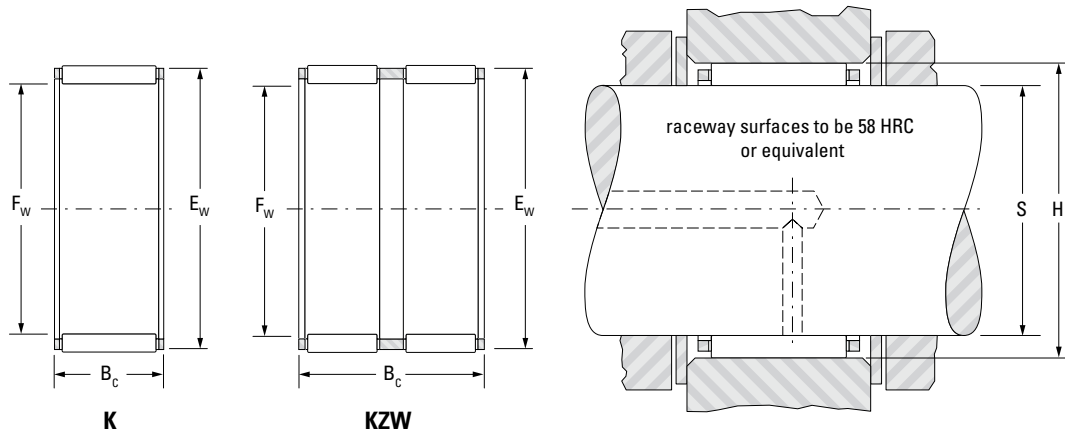


Shaft ∅ mm	Designation	F _w mm	E _w mm	B _c -0.20 -0.55 mm	Load ratings kN		Speed rating min ⁻¹		S		H		Wt. kg
					Dynamic C	Static C ₀	Grease	Oil	Mounting dimensions				
									Max. mm	Min. mm	Max. mm	Min. mm	
4	K4x7x7TN	4	7	7	1.83	1.32	34000	52000	4.000	3.995	7.014	7.005	0.0005
5	K5x8x8TN	5	8	8	2.18	1.71	31000	47000	5.000	4.995	8.014	8.005	0.0007
	K5x8x10TN	5	8	10	3.04	2.63	31000	47000	5.000	4.995	8.014	8.005	0.0008
	K5x9x13TN	5	9	13	4.29	3.55	26000	40000	5.000	4.995	9.014	9.005	0.002
6	K6x9x8H	6	9	8	3.19	2.90	29000	44000	6.000	5.995	9.014	9.005	0.0008
	K6x9x8TN	6	9	8	2.47	2.07	29000	44000	6.000	5.995	9.014	9.005	0.001
	K6x9x10TN	6	9	10	3.07	2.74	29000	44000	6.000	5.995	9.014	9.005	0.001
7	K7x10x8TN	7	10	8	2.74	2.44	28000	42000	7.000	6.994	10.014	10.005	0.001
	K7x10x10TN	7	10	10	3.40	3.22	28000	42000	7.000	6.994	10.014	10.005	0.001
	K7x11x15TN	7	11	15	6.44	6.24	23000	35000	7.000	6.994	11.017	11.006	0.003
8	K8x11x8FV	8	11	8	3.23	3.11	26000	41000	8.000	7.994	11.017	11.006	0.002
	K8x11x8TN	8	11	8	2.34	2.05	26000	41000	8.000	7.994	11.017	11.006	0.001
	K8x11x10H	8	11	10	4.57	4.89	26000	41000	8.000	7.994	11.017	11.006	0.002
	K8x11x10FV	8	11	10	4.01	4.11	26000	41000	8.000	7.994	11.017	11.006	0.002
	K8x11x10TN	8	11	10	3.84	3.91	26000	41000	8.000	7.994	11.017	11.006	0.001
	K8x11x13TN	8	11	13	5.18	5.75	26000	41000	8.000	7.994	11.017	11.006	0.002
	K8x11x13H	8	11	13	5.22	5.78	26000	41000	8.000	7.994	11.017	11.006	0.003
9	K9x12x10FH	9	12	10	4.27	4.60	26000	40000	9.000	8.994	12.017	12.006	0.003
	K9x12x10FV	9	12	10	4.27	4.60	26000	40000	9.000	8.994	12.017	12.006	0.002
	K9x12x13FH	9	12	13	5.57	6.47	26000	40000	9.000	8.994	12.017	12.006	0.003
	K9x12x13FV	9	12	13	5.57	6.47	26000	40000	9.000	8.994	12.017	12.006	0.003
	K9x13x8H	9	13	8	3.96	3.50	21000	32000	9.000	8.994	13.017	13.006	0.003
10	K10x13x10H	10	13	10	5.40	6.43	25000	39000	10.000	9.994	13.017	13.006	0.002
	K10x13x10TN	10	13	10	4.29	4.77	25000	39000	10.000	9.994	13.017	13.006	0.002
	K10x13x13	10	13	13	5.90	7.16	25000	39000	10.000	9.994	13.017	13.006	0.003
	K10x13x16	10	13	16	7.43	9.64	25000	39000	10.000	9.994	13.017	13.006	0.004
	K10x14x10H	10	14	10	6.12	6.29	20000	31000	10.000	9.994	14.017	14.006	0.003
	K10x14x13H	10	14	13	7.88	8.71	20000	31000	10.000	9.994	14.017	14.006	0.004
	K10x16x12F	10	16	12	8.39	7.47	15000	24000	10.000	9.994	16.017	16.006	0.006
	K10x16x12TN	10	16	12	7.50	6.40	15000	24000	10.000	9.994	16.017	16.006	0.005



Radial needle rollers and cage assemblies

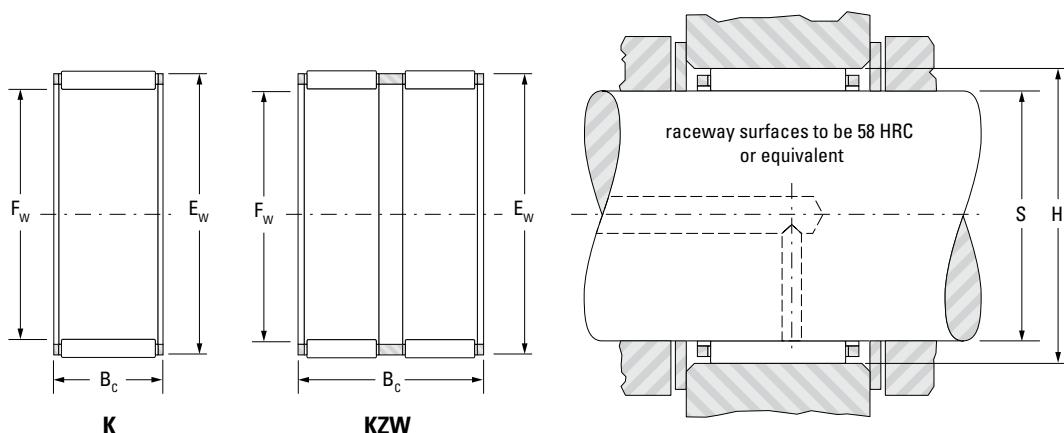
single-row, double-row assemblies



Shaft Ø mm	Designation	F _w mm	E _w mm	B _c -0.20 -0.55 mm	Load ratings kN		Speed rating min ⁻¹		S		H		Wt. kg
					Dynamic C	Static C ₀	Grease	Oil	Mounting dimensions				
									Max. mm	Min. mm	Max. mm	Min. mm	
12	K12x15x10H	12	15	10	5.85	7.51	24000	37000	12.000	11.992	15.017	15.006	0.003
	K12x15x13H	12	15	13	6.78	9.03	24000	37000	12.000	11.992	15.017	15.006	0.004
	K12x16x13H	12	16	13	7.49	8.51	19000	30000	12.000	11.992	16.017	16.006	0.006
	K12x17x13	12	17	13	8.93	9.29	16000	25000	12.000	11.992	17.017	17.006	0.008
	K12x18x12H	12	18	12	9.76	9.40	14000	22000	12.000	11.992	18.017	18.006	0.009
13	K13x17x10	13	17	10	7.22	8.33	19000	29000	13.000	12.992	17.017	17.006	0.004
	K13x18x15F	13	18	15	10.8	12.1	16000	25000	13.000	12.992	18.017	18.006	0.008
14	K14x18x8	14	18	8	5.39	5.82	19000	29000	14.000	13.992	18.017	18.006	0.004
	K14x18x10	14	18	10	7.17	8.41	19000	29000	14.000	13.992	18.017	18.006	0.005
	K14x18x13	14	18	13	9.73	12.5	19000	29000	14.000	13.992	18.017	18.006	0.006
	K14x18x15	14	18	15	10.5	13.8	19000	29000	14.000	13.992	18.017	18.006	0.007
	K14x18x17H	14	18	17	12.4	17.1	19000	29000	14.000	13.992	18.017	18.006	0.008
	K14x19x13H	14	19	13	10.2	11.4	16000	24000	14.000	13.992	19.020	19.007	0.008
	K14x19x18F	14	19	18	13.2	16.0	16000	24000	14.000	13.992	19.020	19.007	0.011
15	K14x20x12	14	20	12	10.5	10.6	14000	21000	14.000	13.992	20.020	20.007	0.009
	K15x18x14TN	15	18	14	7.92	11.9	13000	23000	15.000	14.992	18.017	18.006	0.003
	K15x18x16F	15	18	16	8.36	12.6	13000	23000	15.000	14.992	18.017	18.006	0.005
	K15x18x17	15	18	17	8.08	12.1	23000	36000	15.000	14.992	18.017	18.006	0.005
	K15x19x10	15	19	10	7.87	9.69	18000	28000	15.000	14.992	19.020	19.007	0.005
	K15x19x13	15	19	13	9.66	12.6	18000	28000	15.000	14.992	19.020	19.007	0.007
	K15x19x17H	15	19	17	12.3	17.2	18000	28000	15.000	14.992	19.020	19.007	0.009
	K15x19x22ZW	15	19	22	12.2	17.0	18000	28000	15.000	14.992	19.020	19.007	0.010
	K15x20x13H	15	20	13	9.93	11.3	16000	24000	15.000	14.992	20.020	20.007	0.008
	K15x21x15	15	21	15	13.4	14.8	14000	21000	15.000	14.992	21.020	21.007	0.013
K15x21x21H	15	21	21	18.0	21.7	14000	21000	15.000	14.992	21.020	21.007	0.018	

Radial needle rollers and cage assemblies

single-row, double-row assemblies

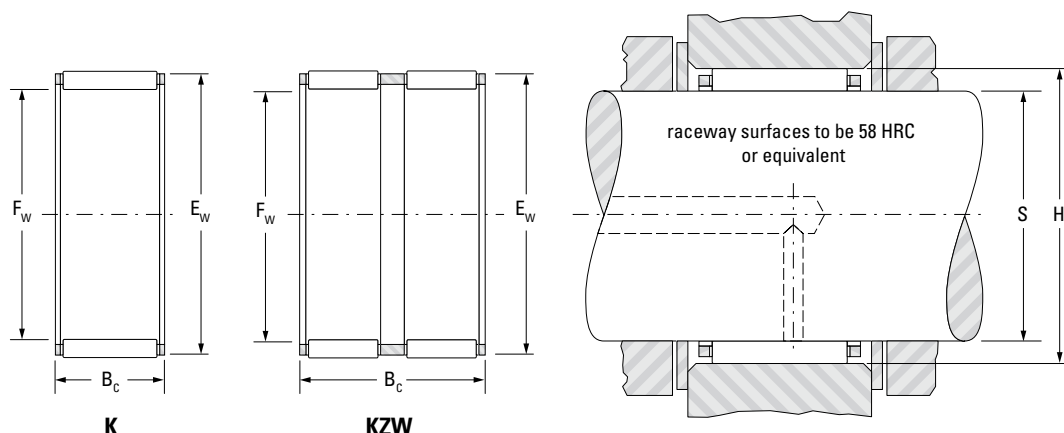


Shaft Ø mm	Designation	F _w mm	E _w mm	B _c -0.20 -0.55 mm	Load ratings kN		Speed rating min ⁻¹		S		H		Wt. kg
					Dynamic C	Static C ₀	Grease	Oil	Mounting dimensions				
									Max. mm	Min. mm	Max. mm	Min. mm	
16	K16x20x8F	16	20	8	6.37	7.51	18000	28000	16.000	15.992	20.020	20.007	0.005
	K16x20x10H	16	20	10	7.82	9.76	18000	28000	16.000	15.992	20.020	20.007	0.006
	K16x20x13	16	20	13	10.1	13.5	18000	28000	16.000	15.992	20.020	20.007	0.007
	K16x20x14	16	20	14	10.8	14.8	18000	28000	16.000	15.992	20.020	20.007	0.007
	K16x20x17H	16	20	17	12.9	18.5	18000	28000	16.000	15.992	20.020	20.007	0.008
	K16x20x20	16	20	20	13.4	19.5	18000	28000	16.000	15.992	20.020	20.007	0.011
	K16x22x12	16	22	12	11.2	11.9	19000	29000	16.000	15.992	22.020	22.007	0.010
	K16x22x16H	16	22	16	14.9	17.2	19000	29000	16.000	15.992	22.020	22.007	0.014
	K16x22x20	16	22	20	18.6	22.9	19000	29000	16.000	15.992	22.020	22.007	0.017
K16x24x20	16	24	20	20.2	21.4	20000	30000	16.000	15.992	24.020	24.007	0.025	
17	K17x20x10	17	20	10	5.96	8.53	16000	25000	17.000	16.992	20.020	20.007	0.004
	K17x21x10	17	21	10	8.12	10.4	17000	26000	17.000	16.992	21.020	21.007	0.006
	K17x21x13H	17	21	12.8	10.5	14.5	17000	26000	17.000	16.992	21.020	21.007	0.008
	K17x21x15	17	21	15	11.4	16.1	17000	26000	17.000	16.992	21.020	21.007	0.008
	K17x21x17H	17	21	17	13.4	19.8	17000	26000	17.000	16.992	21.020	21.007	0.011
	K17x22x20FH	17	22	20	17.0	23.3	17000	27000	17.000	16.992	22.020	22.007	0.015
	K17x23x15F	17	23	15	14.1	16.3	18000	27000	17.000	16.992	23.020	23.007	0.010
18	K18x22x8F	18	22	8	6.32	7.70	16000	24000	18.000	17.992	22.020	22.007	0.005
	K18x22x10H	18	22	10	8.41	11.1	16000	24000	18.000	17.992	22.020	22.007	0.006
	K18x22x13H	18	22	13	10.8	15.4	16000	24000	18.000	17.992	22.020	22.007	0.008
	K18x22x14	18	22	14	11.6	16.8	16000	24000	18.000	17.992	22.020	22.007	0.009
	K18x22x14FV	18	22	14	11.3	16.3	16000	24000	18.000	17.992	22.020	22.007	0.009
	K18x22x17H	18	22	17	13.3	19.9	16000	24000	18.000	17.992	22.020	22.007	0.009
	K18x22x20F	18	22	20	15.0	23.4	16000	24000	18.000	17.992	22.020	22.007	0.011
	K18x24x12	18	24	12	11.8	13.1	17000	25000	18.000	17.992	24.020	24.007	0.011
	K18x24x20H	18	24	20	19.4	24.9	16000	25000	18.000	17.992	24.020	24.007	0.019
	K18x25x22H	18	25	22	23.3	28.6	17000	26000	18.000	17.992	25.020	25.007	0.025
	K18x26x12FV	18	26	12	13.8	13.5	11000	17000	18.000	17.992	26.020	26.007	0.020
	K18x26x20F	18	26	20	21.7	24.1	17000	26000	18.000	17.992	26.020	26.007	0.027



Radial needle rollers and cage assemblies

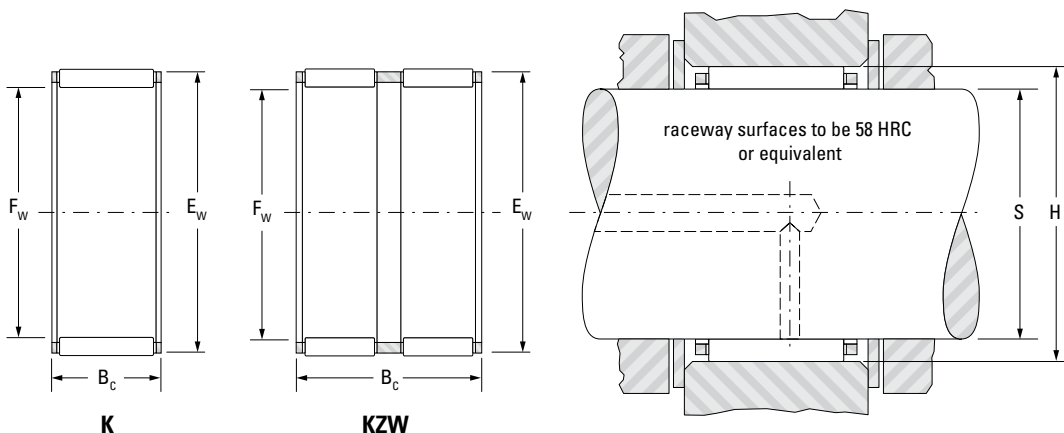
single-row, double-row assemblies



Shaft Ø mm	Designation	F _w mm	E _w mm	B _c -0.20 -0.55 mm	Load ratings kN		Speed rating min ⁻¹		S		H		Wt. kg
					Dynamic C	Static C ₀	Grease	Oil	Mounting dimensions				
									Max. mm	Min. mm	Max. mm	Min. mm	
19	K19x23x13	19	23	13	10.8	15.5	15000	23000	19.000	18.991	23.020	23.007	0.008
	K19x23x17	19	23	17	13.4	20.6	15000	23000	19.000	18.991	23.020	23.007	0.011
20	K20x24x8F	20	24	8	7.31	9.60	14000	22000	20.000	19.991	24.020	24.007	0.005
	K20x24x10H	20	24	10	8.97	12.5	14000	22000	20.000	19.991	24.020	24.007	0.006
	K20x24x12	20	24	12	10.7	15.7	14000	22000	20.000	19.991	24.020	24.007	0.008
	K20x24x13H	20	24	13	11.5	17.3	14000	22000	20.000	19.991	24.020	24.007	0.009
	K20x24x14	20	24	14	12.4	18.9	14000	22000	20.000	19.991	24.020	24.007	0.009
	K20x24x17H	20	24	17	14.8	23.7	14000	22000	20.000	19.991	24.020	24.007	0.011
	K20x26x12	20	26	12	13.0	15.3	15000	23000	20.000	19.991	26.020	26.007	0.012
	K20x26x13H	20	26	13	13.4	15.9	15000	23000	20.000	19.991	26.020	26.007	0.014
	K20x26x17H	20	26	17	19.3	25.5	15000	23000	20.000	19.991	26.020	26.007	0.017
	K20x26x20	20	26	20	20.3	27.2	15000	23000	20.000	19.991	26.020	26.007	0.020
	K20x28x20H	20	28	20	24.6	29.0	15000	23000	20.000	19.991	28.020	28.007	0.028
	K20x28x25H	20	28	25	29.7	37.0	15000	23000	20.000	19.991	28.020	28.007	0.036
	K20x30x30H	20	30	30	38.9	45.8	16000	24000	20.000	19.991	30.020	30.007	0.055
K20x32x36H	20	32	36	49.9	57.0	16000	25000	20.000	19.991	32.025	32.009	0.082	
21	K21x25x17H	21	25	17	14.3	23.1	14000	21000	21.000	20.991	25.020	25.007	0.013
22	K22x26x10H	22	26	10	9.81	14.5	13000	20000	22.000	21.991	26.020	26.007	0.007
	K22x26x13H	22	26	13	11.8	18.3	13000	20000	22.000	21.991	26.020	26.007	0.012
	K22x26x17H	22	26	17	15.6	26.3	13000	20000	22.000	21.991	26.020	26.007	0.012
	K22x26x18H	22	26	18	15.3	25.5	13000	20000	22.000	21.991	26.020	26.007	0.017
	K22x28x13	22	28	13	13.9	17.1	13000	20000	22.000	21.991	28.020	28.007	0.015
	K22x28x17H	22	28	17	18.2	24.2	13000	20000	22.000	21.991	28.020	28.007	0.020
	K22x30x15H	22	30	15	19.7	22.3	14000	21000	22.000	21.991	30.020	30.007	0.023
	K22x30x20FV	22	30	20	24.4	29.4	14000	21000	22.000	21.991	30.020	30.007	0.031
	K22x32x24F	22	32	24	33.1	37.9	14000	22000	22.000	21.991	32.025	32.009	0.046
	K22x32x30H	22	32	30	41.8	51.3	14000	22000	22.000	21.991	32.025	32.009	0.057

Radial needle rollers and cage assemblies

single-row, double-row assemblies

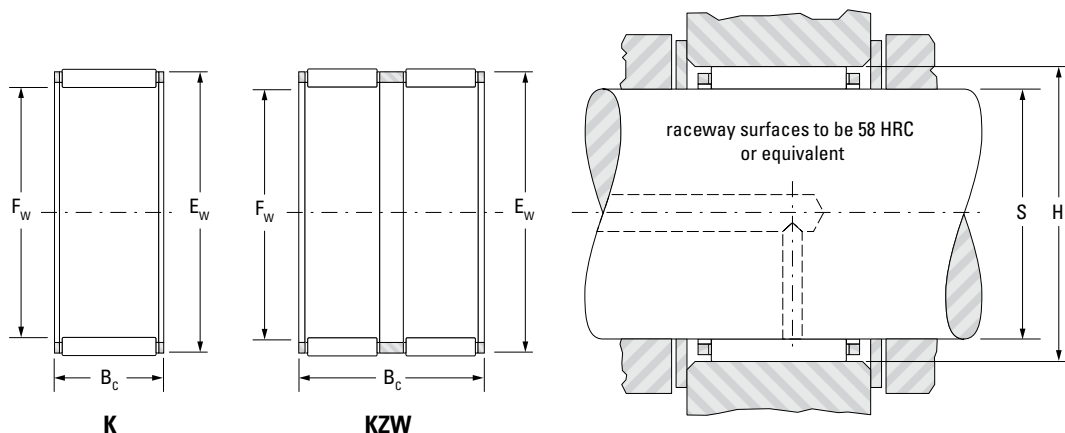


Shaft Ø mm	Designation	F _w mm	E _w mm	B _c -0.20 -0.55 mm	Load ratings kN		Speed rating min ⁻¹		S		H		Wt. kg
					Dynamic C	Static C ₀	Grease	Oil	Mounting dimensions				
									Max. mm	Min. mm	Max. mm	Min. mm	
23	K23x28x24F	23	28	24	22.4	36.2	12000	19000	23.000	22.991	28.020	28.007	0.023
	K23x35x16H	23	35	16	25.9	25.1	14000	21000	23.000	22.991	35.025	35.009	0.040
24	K24x28x10H	24	28	10	9.67	14.6	12000	18000	24.000	23.991	28.020	28.007	0.027
	K24x28x13H	24	28	13	12.5	20.2	12000	18000	24.000	23.991	28.020	28.007	0.010
	K24x28x16F	24	28	16					24.000	23.991	28.020	28.007	
	K24x28x17H	24	28	17	15.4	26.4	12000	18000	24.000	23.991	28.020	28.007	0.013
	K24x30x10TN	24	30	10	11.3	13.5	12000	19000	24.000	23.991	30.020	30.007	0.008
	K24x30x17H	24	30	17	19.8	27.7	12000	19000	24.000	23.991	30.020	30.007	0.020
	K24x30x22	24	30	22	25.0	37.3	12000	19000	24.000	23.991	30.020	30.007	0.024
25	K24x36x23H	24	36	23	37.1	40.1	13000	20000	24.000	23.991	36.025	36.009	0.070
	K25x29x10H	25	29	10	9.61	14.6	11000	17000	25.000	24.991	29.020	29.007	0.008
	K25x29x13H	25	29	13	12.8	21.1	11000	17000	25.000	24.991	29.020	29.007	0.010
	K25x29x17H	25	29	17	15.1	26.2	11000	17000	25.000	24.991	29.020	29.007	0.016
	K25x30x13	25	30	13	14.6	21.4	11000	17000	25.000	24.991	30.020	30.007	0.012
	K25x30x17H	25	30	17	18.8	29.8	11000	17000	25.000	24.991	30.020	30.007	0.016
	K25x30x18	25	30	18	20.6	33.4	11000	17000	25.000	24.991	30.020	30.007	0.017
	K25x30x20H	25	30	20	21.9	36.1	11000	17000	25.000	24.991	30.020	30.007	0.019
	K25x30x24H	25	30	24	24.8	42.4	11000	17000	25.000	24.991	30.020	30.007	0.024
	K25x30x26ZW	25	30	26	23.0	38.6	11000	17000	25.000	24.991	30.020	30.007	0.027
	K25x31x14H	25	31	14	16.8	22.7	12000	18000	25.000	24.991	31.025	31.009	0.017
	K25x31x17H	25	31	17	19.7	27.8	12000	18000	25.000	24.991	31.025	31.009	0.020
	K25x31x21H	25	31	21	25.1	38.0	12000	18000	25.000	24.991	31.025	31.009	0.026
	K25x31x24H	25	31	24	25.3	38.5	12000	18000	25.000	24.991	31.025	31.009	0.031
	K25x32x16	25	32	16	19.8	25.3	12000	18000	25.000	24.991	32.025	32.009	0.027
	K25x33x20H	25	33	20	28.8	37.6	12000	18000	25.000	24.991	33.025	33.009	0.035
	K25x33x24H	25	33	24	32.3	43.5	12000	18000	25.000	24.991	33.025	33.009	0.038
	K25x33x25H	25	33	25	33.0	44.6	12000	18000	25.000	24.991	33.025	33.009	0.041
	K25x35x23,7H	25	35	23.7	35.9	42.3	12000	19000	25.000	24.991	35.025	35.009	0.050
	K25x35x25H	25	35	25	37.8	46.2	12000	19000	25.000	24.991	35.025	35.009	0.054
K25x35x30H	25	35	30	44.6	57.2	12000	19000	25.000	24.991	35.025	35.009	0.060	
K25x35x36H	25	35	36	52.4	70.4	12000	19000	25.000	24.991	35.025	35.009	0.074	
K25x37x20H	25	37	20	32.5	34.1	12000	19000	25.000	24.991	37.025	37.009	0.055	



Radial needle rollers and cage assemblies

single-row, double-row assemblies

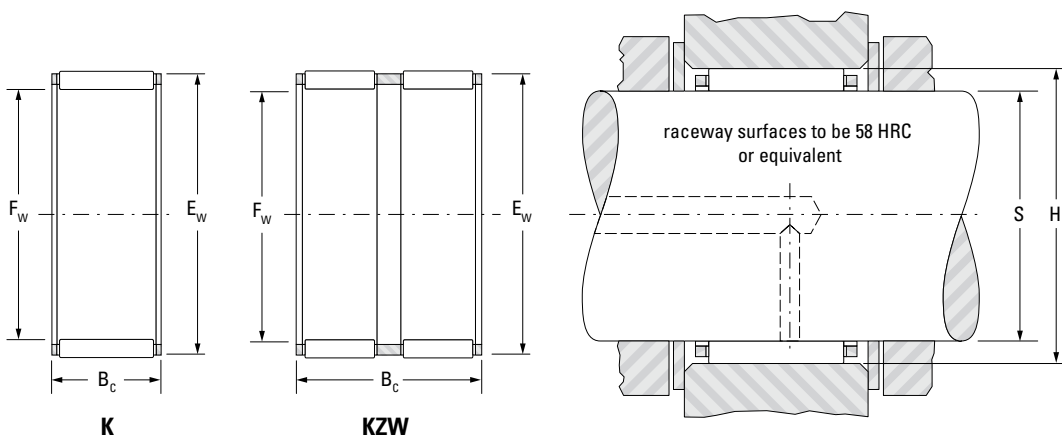


Shaft Ø mm	Designation	F _w mm	E _w mm	B _c -0.20 -0.55 mm	Load ratings kN		Speed rating min ⁻¹		S		H		Wt. kg
					Dynamic C	Static C ₀	Grease	Oil	Mounting dimensions				
									Max. mm	Min. mm	Max. mm	Min. mm	
26	K26x30x10F	26	30	10	9.46	14.5	11000	16000	26.000	25.991	30.020	30.007	0.007
	K26x30x13	26	30	13	12.3	20.4	10000	16000	26.000	25.991	30.020	30.007	0.011
	K26x30x17	26	30	17	15.0	26.3	10000	16000	26.000	25.991	30.020	30.007	0.014
	K26x30x22ZW	26	30	22	16.7	30.2	10000	16000	26.000	25.991	30.020	30.007	0.018
28	K28x32x21F	28	32	21	18.7	35.7	9900	15000	28.000	27.991	32.025	32.009	0.018
	K28x33x13F	28	33	13	14.1	21.4	10000	15000	28.000	27.991	33.025	33.009	0.015
	K28x33x13F	28	33	13	14.1	21.4	10000	15000	28.000	27.991	33.025	33.009	0.015
	K28x33x17H	28	33	17	19.8	33.0	10000	15000	28.000	27.991	33.025	33.009	0.018
	K28x33x27	28	33	27	29.0	53.8	10000	15000	28.000	27.991	33.025	33.009	0.027
	K28x34x17	28	34	17	21.1	31.5	10000	16000	28.000	27.991	34.025	34.009	0.022
	K28x34x20H	28	34	20	24.4	37.8	10000	16000	28.000	27.991	34.025	34.009	0.025
	K28x35x15H	28	35	15	19.5	25.6	10000	16000	28.000	27.991	35.025	35.009	0.025
	K28x35x16H	28	35	16	21.5	29.1	10000	16000	28.000	27.991	35.025	35.009	0.026
	K28x35x27H	28	35	27	35.2	54.7	10000	16000	28.000	27.991	35.025	35.009	0.042
	K28x36x20FV	28	36	20	27.8	37.0	10000	16000	28.000	27.991	36.025	36.009	0.039
	K28x38x25,5	28	38	25	40.9	52.7	11000	16000	28.000	27.991	38.025	38.009	0.059
	K28x40x18H	28	40	18	33.6	36.5	11000	17000	28.000	27.991	40.025	40.009	0.060
	K28x40x25H	28	40	25	45.5	54.0	11000	17000	28.000	27.991	40.025	40.009	0.072
K28x40x30H	28	40	30	54.3	67.8	11000	17000	28.000	27.991	40.025	40.009	0.100	
K28x41x25H	28	41	25	49.2	57.1	11000	17000	28.000	27.991	41.025	41.009	0.082	
29	K29x34x27F	29	34	27	28.9	54.0	9700	15000	29.000	28.991	34.025	34.009	0.033
30	K30x34x13	30	34	13	13.5	24.1	9200	14000	30.000	29.991	34.025	34.009	0.011
	K30x35x13H	30	35	13	15.6	24.9	9300	14000	30.000	29.991	35.025	35.009	0.017
	K30x35x17H	30	35	17	20.2	34.6	9300	14000	30.000	29.991	35.025	35.009	0.022
	K30x35x20H	30	35	20	23.5	41.9	9300	14000	30.000	29.991	35.025	35.009	0.023
	K30x35x23F	30	35	22.8	25.6	46.8	9300	14000	30.000	29.991	35.025	35.009	0.028
	K30x35x27H	30	35	27	30.6	59.0	9300	14000	30.000	29.991	35.025	35.009	0.032
	K30x35x27HZW	30	35	27	19.9	33.6	9300	14000	30.000	29.991	35.025	35.009	0.033
K30x36x14	30	36	14	18.0	26.2	9500	15000	30.000	29.991	36.025	36.009	0.020	



Radial needle rollers and cage assemblies

single-row, double-row assemblies

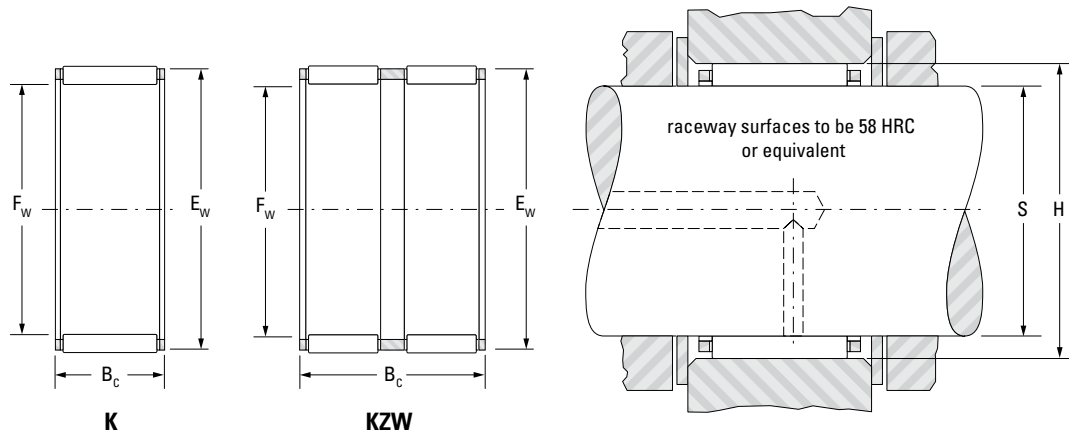


Shaft Ø mm	Designation	F _w mm	E _w mm	B _c -0.20 -0.55 mm	Load ratings kN		Speed rating min ⁻¹		S		H		Wt. kg
					Dynamic C	Static C ₀	Grease	Oil	Mounting dimensions				
									Max. mm	Min. mm	Max. mm	Min. mm	
30	K30x37x18	30	37	17.8	24.3	34.8	9600	15000	30.000	29.991	37.025	37.009	0.033
	K30x40x30H	30	40	30	49.2	67.8	9900	15000	30.000	29.991	40.025	40.009	0.077
	K30x42x30H	30	42	30	54.2	68.6	10000	16000	30.000	29.991	42.025	42.009	0.096
	K30x44x26H	30	44	26	52.4	59.9	10000	16000	30.000	29.991	44.025	44.009	0.095
32	K32x36x15F	32	36	15	11.6	20.2	8600	13000	32.000	31.989	36.025	36.009	0.015
	K32x37x13	32	37	13	15.2	24.4	8700	13000	32.000	31.989	37.025	37.009	0.018
	K32x37x17H	32	37	17	20.0	34.8	8700	13000	32.000	31.989	37.025	37.009	0.020
	K32x37x27	32	37	27	29.3	56.8	8700	13000	32.000	31.989	37.025	37.009	0.035
	K32x38x20H	32	38	20	27.3	45.7	8800	14000	32.000	31.989	38.025	38.009	0.030
	K32x38x26H	32	38	26	33.2	58.8	8800	14000	32.000	31.989	38.025	38.009	0.037
	K32x39x16H	32	39	16	23.0	33.0	8900	14000	32.000	31.989	39.025	39.009	0.030
	K32x39x18H	32	39	18	25.8	38.2	8900	14000	32.000	31.989	39.025	39.009	0.033
	K32x40x25H	32	40	25	37.9	57.2	9000	14000	32.000	31.989	40.025	40.009	0.052
	K32x40x36H	32	40	36	52.3	86.4	9000	14000	32.000	31.989	40.025	40.009	0.080
	K32x42x42H	32	42	42	69.2	108	9200	14000	32.000	31.989	42.025	42.009	0.110
	K32x46x18H	32	46	18	39.2	41.9	9600	15000	32.000	31.989	46.025	46.009	0.075
K32x46x32H	32	46	32	67.0	83.4	9600	15000	32.000	31.989	46.025	46.009	0.140	
K32x46x40H	32	46	40	81.7	108	9600	15000	32.000	31.989	46.025	46.009	0.158	
33	K33x51x23H	33	51	23	55.9	57.6	9600	15000	33.000	32.989	51.029	51.010	0.140
34	K34x38x11	34	38	11	12.2	21.9	8100	12000	34.000	33.989	38.025	38.009	0.011
	K34x44x26FH	34	44	26	42.9	58.9	8600	13000	34.000	33.989	44.025	44.009	0.080
35	K35x40x13H	35	40	13	16.2	27.2	7900	12000	35.000	34.989	40.025	40.009	0.018
	K35x40x17H	35	40	17	22.1	40.8	7900	12000	35.000	34.989	40.025	40.009	0.025
	K35x40x19F	35	40	19	23.2	43.2	7900	12000	35.000	34.989	40.025	40.009	0.025
	K35x40x19H	35	40	19	23.2	43.2	7900	12000	35.000	34.989	40.025	40.009	0.025
	K35x40x25H	35	40	25	28.4	56.2	7900	12000	35.000	34.989	40.025	40.009	0.035
	K35x40x27H	35	40	27	29.8	59.6	7900	12000	35.000	34.989	40.025	40.009	0.037
	K35x42x16H	35	42	16	24.5	36.8	8100	12000	35.000	34.989	42.025	42.009	0.032
K35x42x18	35	42	18	27.5	42.6	8100	12000	35.000	34.989	42.025	42.009	0.035	



Radial needle rollers and cage assemblies

single-row, double-row assemblies

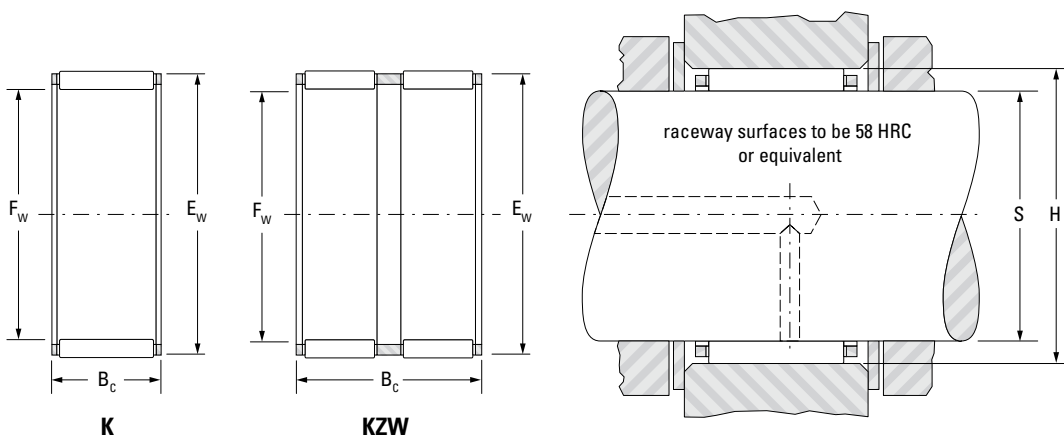


Shaft Ø mm	Designation	F _w mm	E _w mm	B _c -0.20 -0.55 mm	Load ratings kN		Speed rating min ⁻¹		S		H		Wt. kg
					Dynamic C	Static C ₀	Grease	Oil	Mounting dimensions				
									Max. mm	Min. mm	Max. mm	Min. mm	
35	K35x42x20H	35	42	20	30.4	48.5	8100	12000	35.000	34.989	42.025	42.009	0.037
	K35x42x30FH	35	42	30	40.5	70.0	8100	12000	35.000	34.989	42.025	42.009	0.061
	K35x45x20FH	35	45	20	36.5	49.9	8400	13000	35.000	34.989	45.025	45.009	0.059
	K35x45x30F	35	45	30	51.2	74.5	8400	13000	35.000	34.989	45.025	45.009	0.100
	K35x45x35H	35	45	35	62.1	95.5	8400	13000	35.000	34.989	45.025	45.009	0.085
	K35x45x41	35	45	41	70.8	113	8400	13000	35.000	34.989	45.025	45.009	0.120
	K35x45x49H	35	45	49	82.5	138	8400	13000	35.000	34.989	45.025	45.009	0.143
	K35x45x49HZW	35	45	49	71.8	115	8400	13000	35.000	34.989	45.025	45.009	0.143
	K35x50x40F	35	50	40	79.7	102	8700	13000	35.000	34.989	50.025	50.009	0.200
36	K36x40x29TN	36	40	29	21.2	45.2	7600	12000	36.000	35.989	40.025	40.009	0.029
	K36x42x16	36	42	16	22.8	37.7	7800	12000	36.000	35.989	42.025	42.009	0.027
37	K37x42x13H	37	42	13	16.9	29.4	7500	11000	37.000	36.989	42.025	42.009	0.017
	K37x42x17H	37	42	17	21.9	41.0	7500	11000	37.000	36.989	42.025	42.009	0.025
	K37x42x27F	37	42	27	32.1	66.9	7500	11000	37.000	36.989	42.025	42.009	0.039
	K37x44x19H	37	44	19	29.7	48.0	7600	12000	37.000	36.989	44.025	44.009	0.039
38	K38x41x9TN	38	41	9	5.93	11.0	7100	11000	38.000	37.989	41.025	41.009	0.004
	K38x43x17H	38	43	17	21.8	41.0	7300	11000	38.000	37.989	43.025	43.009	0.032
	K38x43x27	38	43	27	31.9	67.0	7300	11000	38.000	37.989	43.025	43.009	0.041
	K38x46x20H	38	46	19.8	33.3	51.0	7500	12000	38.000	37.989	46.025	46.009	0.055
	K38x46x32H	38	46	32	55.2	98.1	7500	12000	38.000	37.989	46.025	46.009	0.090
	K38x50x25	38	50	25	53.0	70.8	7800	12000	38.000	37.989	50.025	50.009	0.100
	K38x50x33H	38	50	33	68.3	98.2	7800	12000	38.000	37.989	50.025	50.009	0.126
	K38x50x40FH	38	50	40	76.2	113	7800	12000	38.000	37.989	50.025	50.009	0.170
40	K40x45x13H	40	45	13	17.6	31.7	6900	11000	40.000	39.989	45.025	45.009	0.022
	K40x45x18H	40	45	18	25.1	50.4	6900	11000	40.000	39.989	45.025	45.009	0.031
	K40x45x21H	40	45	21	23.3	45.2	6900	11000	40.000	39.989	45.025	45.009	0.033
	K40x45x27H	40	45	27	32.7	70.2	6900	11000	40.000	39.989	45.025	45.009	0.040
	K40x45x27TN	40	45	27	33.3	72.1	6900	11000	40.000	39.989	45.025	45.009	0.030
	K40x45x29H	40	45	29	34.7	75.9	6900	11000	40.000	39.989	45.025	45.009	0.050



Radial needle rollers and cage assemblies

single-row, double-row assemblies

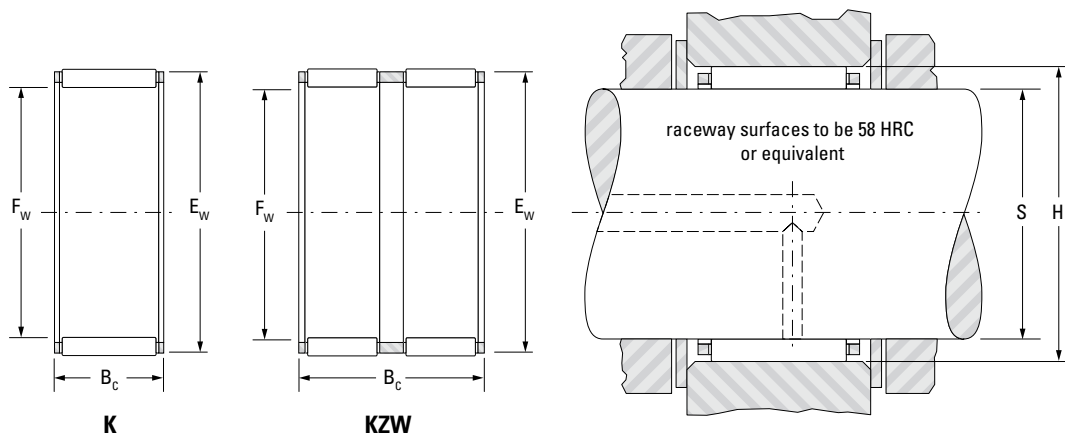


Shaft ∅ mm	Designation	F _w mm	E _w mm	B _c -0.20 -0.55 mm	Load ratings kN		Speed rating min ⁻¹		S		H		Wt. kg
					Dynamic C	Static C ₀	Grease	Oil	Mounting dimensions				
									Max. mm	Min. mm	Max. mm	Min. mm	
40	K40x46x17	40	46	17	25.2	44.0	7000	11000	40.000	39.989	46.025	46.009	0.033
	K40x47x18	40	47	18	28.0	45.6	7000	11000	40.000	39.989	47.025	47.009	0.041
	K40x47x20	40	47	20	31.1	52.1	7000	11000	40.000	39.989	47.025	47.009	0.042
	K40x48x20FV1	40	48	20	35.5	56.3	7100	11000	40.000	39.989	48.025	48.009	0.052
	K40x48x20H	40	48	20	35.5	56.3	7100	11000	40.000	39.989	48.025	48.009	0.050
	K40x48x35H	40	48	35	57.3	104	7100	11000	40.000	39.989	48.025	48.009	0.098
	K40x50x27H	40	50	27	53.0	81.0	7200	11000	40.000	39.989	50.025	50.009	0.084
	K40x55x45H	40	55	45	103	146	7500	12000	40.000	39.989	55.029	55.010	0.221
K40x56x26H	40	56	26	63.7	75.7	7600	12000	40.000	39.989	56.029	56.010	0.138	
41	K41x48x31HZW	41	48	31	38.0	68.1	6800	11000	41.000	40.989	48.025	48.009	0.067
42	K42x47x13H	42	47	13	18.7	34.9	6500	10000	42.000	41.989	47.025	47.009	0.027
	K42x47x17H	42	47	17	22.8	45.2	6500	10000	42.000	41.989	47.025	47.009	0.028
	K42x47x27H	42	47	27	33.8	74.7	6500	10000	42.000	41.989	47.025	47.009	0.041
	K42x48x24F	42	48	24	33.1	63.9	6600	10000	42.000	41.989	48.025	48.009	0.046
	K42x50x13H	42	50	13	20.9	28.9	6700	10000	42.000	41.989	50.025	50.009	0.035
	K42x50x20H	42	50	20	35.2	56.6	6700	10000	42.000	41.989	50.025	50.009	0.054
K42x50x30H	42	50	30	51.3	91.9	6700	10000	42.000	41.989	50.025	50.009	0.080	
43	K43x48x17FH	43	48	17	23.0	45.8	6400	9800	43.000	42.989	48.025	48.009	0.036
	K43x48x27H	43	48	27	34.8	78.0	6400	9800	43.000	42.989	48.025	48.009	0.050
44	K44x50x22H	44	50	22	31.6	60.6	6400	9900	44.000	43.989	50.025	50.009	0.046
	K44x50x30,5HZW	44	50	30	35.5	70.5	6400	9900	44.000	43.989	50.025	50.009	0.068
45	K45x50x13H	45	50	13	18.4	35.1	6100	9400	45.000	44.989	50.025	50.009	0.022
	K45x50x15H	45	50	15	19.4	37.3	6100	9400	45.000	44.989	50.025	50.009	0.028
	K45x50x17H	45	50	17	24.9	51.8	6100	9400	45.000	44.989	50.025	50.009	0.030
	K45x50x20F	45	50	20	27.0	57.4	6100	9400	45.000	44.989	50.025	50.009	0.040
	K45x50x21CH	45	50	21	24.6	50.4	6100	9400	45.000	44.989	50.025	50.009	0.036
	K45x50x27FH	45	50	27	34.2	77.4	6100	9400	45.000	44.989	50.025	50.009	0.043
	K45x50x27TN	45	50	27	31.8	70.7	6100	9400	45.000	44.989	50.025	50.009	0.048
K45x52x18H	45	52	18	30.1	52.0	6200	9500	45.000	44.989	52.029	52.010	0.045	



Radial needle rollers and cage assemblies

single-row, double-row assemblies

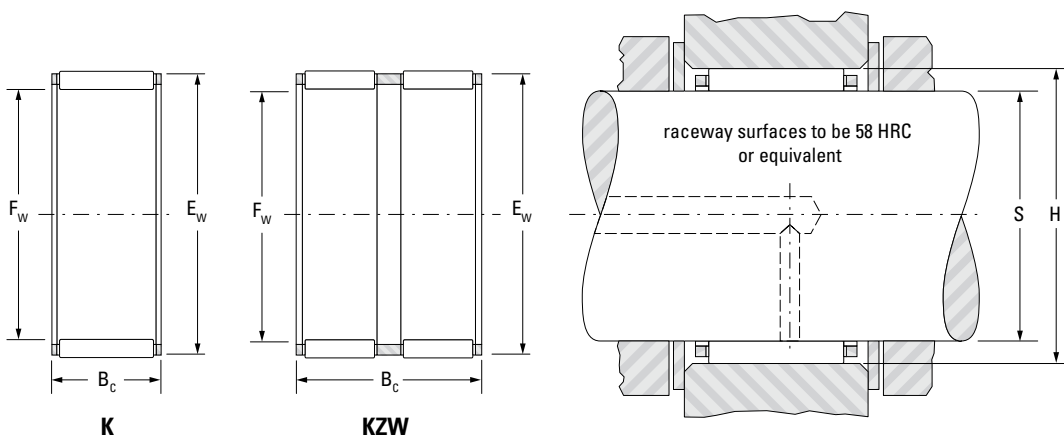


Shaft Ø mm	Designation	F _w mm	E _w mm	B _c -0.20 -0.55 mm	Load ratings kN		Speed rating min ⁻¹		S		H		Wt. kg
					Dynamic C	Static C ₀	Grease	Oil	Mounting dimensions				
									Max. mm	Min. mm	Max. mm	Min. mm	
45	K45x52x21F	45	52	21	35.0	63.2	6200	9500	45.000	44.989	52.029	52.010	0.055
	K45x53x20H	45	53	20	36.0	59.5	6200	9600	45.000	44.989	53.029	53.010	0.054
	K45x53x25H	45	53	24.8	45.9	81.5	6200	9600	45.000	44.989	53.029	53.010	0.072
	K45x53x25F	45	53	25	42.5	73.7	6200	9600	45.000	44.989	53.029	53.010	0.075
	K45x53x28H	45	53	28	49.3	89.2	6200	9600	45.000	44.989	53.029	53.010	0.078
	K45x55x20H	45	55	20	42.0	62.2	6400	9800	45.000	44.989	55.029	55.010	0.074
	K45x59x18H	45	59	18	47.8	58.9	6600	10000	45.000	44.989	59.029	59.010	0.107
	K45x59x18TN	45	59	18	45.7	55.4	6600	10000	45.000	44.989	59.029	59.010	0.097
	K45x59x36H	45	59	36	82.4	118	6600	10000	45.000	44.989	59.029	59.010	0.181
	K45x60x30H	45	60	30	75.5	101	6600	10000	45.000	44.989	60.029	60.010	0.171
K45x60x45H	45	60	45	108	160	6600	10000	45.000	44.989	60.029	60.010	0.280	
46	K46x53x36HZW	46	53	36	48.6	96.7	6100	9300	46.000	45.989	53.029	53.010	0.100
47	K47x52x15FH	47	52	15	20.1	39.8	5800	8900	47.000	46.989	52.029	52.010	0.030
	K47x52x17H	47	52	17	24.2	50.4	5800	8900	47.000	46.989	52.029	52.010	0.032
	K47x52x27H	47	52	27	36.6	85.9	5800	8900	47.000	46.989	52.029	52.010	0.045
	K47x55x28FV1	47	55	28	48.9	89.5	6000	9200	47.000	46.989	55.029	55.010	0.092
48	K48x53x17H	48	53	17	25.7	54.9	5700	8700	48.000	47.989	53.029	53.010	0.032
	K48x54x19H	48	54	19	30.9	61.2	5700	8800	48.000	47.989	54.029	54.010	0.042
49	K49x55x32HZW	49	55	32	40.2	86.4	5600	8600	49.000	48.989	55.029	55.010	0.080
	K49x65x38H	49	65	38	100	142	6100	9300	49.000	48.989	65.029	65.010	0.244
50	K50x55x17H	50	55	17	25.5	55.0	5400	8400	50.000	49.989	55.029	55.010	0.032
	K50x55x20H	50	55	20	30.2	68.5	5400	8400	50.000	49.989	55.029	55.010	0.038
	K50x55x30	50	55	30	38.2	92.4	5400	8400	50.000	49.989	55.029	55.010	0.057
	K50x55x30FV1	50	55	30	38.2	92.4	5400	8400	50.000	49.989	55.029	55.010	0.057
	K50x56x23	50	56	23	35.5	74.1	5500	8500	50.000	49.989	56.029	56.010	0.051
	K50x57x18FH	50	57	18	31.3	56.4	5500	8500	50.000	49.989	57.029	57.010	0.050
	K50x58x20H	50	58	20	38.8	67.8	5600	8600	50.000	49.989	58.029	58.010	0.065
	K50x58x25H	50	58	25	46.5	85.6	5600	8600	50.000	49.989	58.029	58.010	0.081



Radial needle rollers and cage assemblies

single-row, double-row assemblies

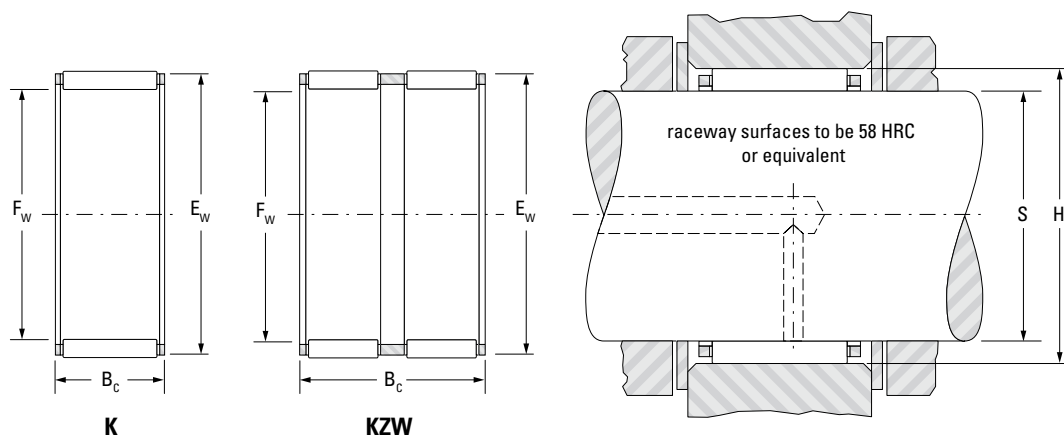


Shaft ∅ mm	Designation	F _w mm	E _w mm	B _c -0.20 -0.55 mm	Load ratings kN		Speed rating min ⁻¹		S		H		Wt. kg
					Dynamic C	Static C ₀	Grease	Oil	Mounting dimensions				
									Max. mm	Min. mm	Max. mm	Min. mm	
50	K50x58x35H	50	58	35	64.9	131	5600	8600	50.000	49.989	58.029	58.010	0.105
	K50x62x30H	50	62	30	64.6	98.1	5800	8900	50.000	49.989	62.029	62.010	0.136
	K50x66x30H	50	66	30	80.9	109	5900	9100	50.000	49.989	66.029	66.010	0.192
	K50x70x32H	50	70	32	103	129	6100	9300	50.000	49.989	70.029	70.010	0.224
52	K52x57x12	52	57	12	18.4	36.7	5200	8000	52.000	51.987	57.029	57.010	0.022
	K52x57x17H	52	57	17	21.4	44.3	5200	8000	52.000	51.987	57.029	57.010	0.035
	K52x60x24	52	60	24	47.1	88.3	5400	8200	52.000	51.987	60.029	60.010	0.078
55	K55x60x17	55	60	17	26.0	58.3	4900	7600	55.000	54.987	60.029	60.010	0.037
	K55x60x20H	55	60	20	30.7	72.4	4900	7600	55.000	54.987	60.029	60.010	0.042
	K55x60x27H	55	60	27	40.1	102	4900	7600	55.000	54.987	60.029	60.010	0.055
	K55x60x30FH	55	60	30	40.6	103	4900	7600	55.000	54.987	60.029	60.010	0.068
	K55x61x26H	55	61	26	44.3	102	5000	7600	55.000	54.987	61.029	61.010	0.063
	K55x62x18H	55	62	18	33.2	62.8	5000	7700	55.000	54.987	62.029	62.010	0.055
	K55x63x15F	55	63	15	30.5	51.5	5000	7800	55.000	54.987	63.029	63.010	0.054
	K55x63x20	55	63	20	40.3	73.5	5000	7800	55.000	54.987	63.029	63.010	0.072
	K55x63x25	55	63	25	49.8	96.5	5000	7800	55.000	54.987	63.029	63.010	0.080
	K55x63x32	55	63	32	62.3	129	5000	7800	55.000	54.987	63.029	63.010	0.108
K50x55x30	50	55	30	38.2	92.4	5400	8400	50.000	49.989	55.029	55.010	0.057	
58	K58x63x17F	58	63	17	27.0	62.6	4700	7200	58.000	57.987	63.029	63.010	0.037
	K58x64x19H	58	64	19	32.9	70.6	4700	7200	58.000	57.987	64.029	64.010	0.037
	K58x65x18H	58	65	18	34.3	67.1	4700	7300	58.000	57.987	65.029	65.010	0.058
60	K60x65x20H	60	65	20	31.9	78.1	4500	6900	60.000	59.987	65.029	65.010	0.046
	K60x65x27FH	60	65	26.8	39.5	103	4500	6900	60.000	59.987	65.029	65.010	0.059
	K60x65x30FH	60	65	29.8	42.9	114	4500	6900	60.000	59.987	65.029	65.010	0.085
	K60x65x30	60	65	30	42.9	114	4500	6900	60.000	59.987	65.029	65.010	0.070
	K60x68x17F	60	68	17	34.2	61.4	4600	7100	60.000	59.987	68.029	68.010	0.066
	K60x68x20H	60	68	20	41.8	79.2	4600	7100	60.000	59.987	68.029	68.010	0.066
	K60x68x23H	60	68	23	49.0	97.2	4600	7100	60.000	59.987	68.029	68.010	0.089
	K60x68x25	60	68	25	51.6	104	4600	7100	60.000	59.987	68.029	68.010	0.091
K60x68x30ZW	60	68	30	46.4	90.1	4600	7100	60.000	59.987	68.029	68.010	0.119	



Radial needle rollers and cage assemblies

single-row, double-row assemblies

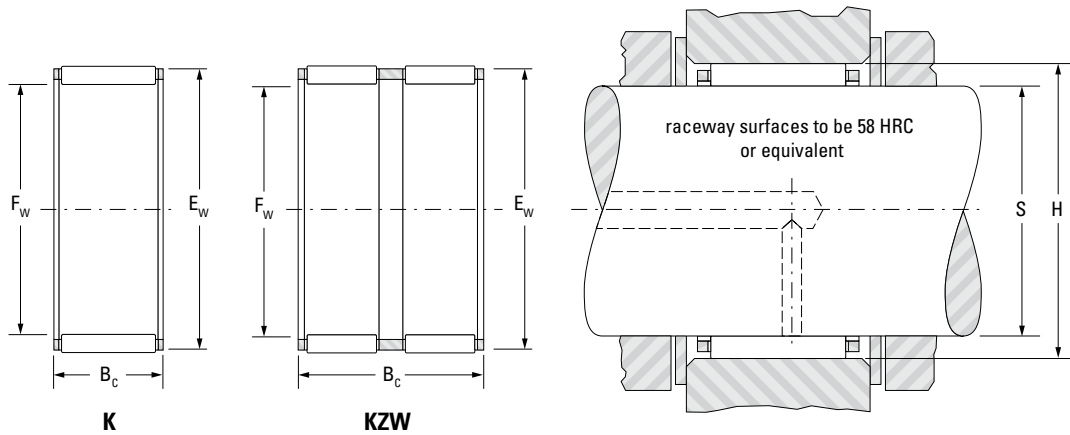


Shaft Ø mm	Designation	F _w mm	E _w mm	B _c -0.20 -0.55 mm	Load ratings kN		Speed rating min ⁻¹		S		H		Wt. kg
					Dynamic C	Static C ₀	Grease	Oil	Mounting dimensions				
									Max. mm	Min. mm	Max. mm	Min. mm	
63	K63x71x20	63	71	20	41.4	79.4	4400	6700	63.000	62.987	71.029	71.010	0.070
64	K64x70x16	64	70	16	26.4	55.1	4200	6500	64.000	63.987	70.029	70.010	0.049
65	K65x70x20CH	65	70	20	28.6	69.2	4100	6400	65.000	64.987	70.029	70.010	0.050
	K65x70x30	65	70	30	44.4	123	4100	6400	65.000	64.987	70.029	70.010	0.075
	K65x73x23H	65	73	23	48.2	97.7	4200	6500	65.000	64.987	73.029	73.010	0.091
	K65x73x30H	65	73	30	60.1	129	4200	6500	65.000	64.987	73.029	73.010	0.116
68	K68x74x20FH	68	74	20	37.5	88.1	4000	6100	68.000	67.987	74.029	74.010	0.062
	K68x74x28CH	68	74	28	44.8	110	4000	6100	68.000	67.987	74.029	74.010	0.082
	K68x74x30H	68	74	30	47.6	119	4000	6100	68.000	67.987	74.029	74.010	0.098
	K68x74x35HZW	68	74	35	45.1	111	4000	6100	68.000	67.987	74.029	74.010	0.120
	K68x76x20	68	76	20	43.8	87.8	4000	6200	68.000	67.987	76.029	76.010	0.086
	K68x82x38,5H	68	82	38.5	117	209	4200	6400	68.000	67.987	82.034	82.012	0.320
70	K70x76x20	70	76	20	36.1	84.7	3900	5900	70.000	69.987	76.029	76.010	0.065
	K70x76x30	70	76	30	51.6	134.0	3900	5900	70.000	69.987	76.029	76.010	0.097
	K70x78x20H	70	78	20	43.6	87.9	3900	6000	70.000	69.987	78.029	78.010	0.090
	K70x78x23F	70	78	23	49.8	104.0	3900	6000	70.000	69.987	78.029	78.010	0.115
	K70x78x25F	70	78	24.8	49.8	104.0	3900	6000	70.000	69.987	78.029	78.010	0.115
	K70x78x30H	70	78	30	62.2	139.0	3900	6000	70.000	69.987	78.029	78.010	0.140
	K70x78x46ZW	70	78	46	78.4	187.0	3900	6000	70.000	69.987	78.029	78.010	0.188
	K70x85x40F	70	85	40	118	203	4100	6300	70.000	69.987	85.034	85.012	0.338
	K70x88x30H	70	88	30	115	175	4100	6400	70.000	69.987	88.034	88.012	0.205
72	K72x80x20	72	80	20	44.4	90.7	3800	5800	72.000	71.987	80.029	80.010	0.084
73	K73x79x20	73	79	20	37.0	88.7	3700	5700	73.000	72.987	79.029	79.010	0.068
75	K75x81x20F	75	81	20	37.4	90.7	3600	5500	75.000	74.987	81.034	81.012	0.075
	K75x83x23	75	83	23	52.5	114.0	3600	5600	75.000	74.987	83.034	83.012	0.104
	K75x83x30	75	83	30	60.9	138	3600	5600	75.000	74.987	83.034	83.012	0.141
	K75x83x30FH	75	83	30	60.9	138	3600	5600	75.000	74.987	83.034	83.012	0.141
80	K80x86x20H	80	86	20	38.6	96.7	3400	5200	80.000	79.987	86.034	86.012	0.072
	K80x88x25FV1	80	88	25	54.0	121	3400	5200	80.000	79.987	88.034	88.012	0.134
	K80x88x30	80	88	30	67.5	161	3400	5200	80.000	79.987	88.034	88.012	0.153



Radial needle rollers and cage assemblies

single-row, double-row assemblies



Shaft ∅ mm	Designation	F _w mm	E _w mm	B _c -0.20 -0.55 mm	Load ratings kN		Speed rating min ⁻¹		S		H		Wt. kg
					Dynamic C	Static C ₀	Grease	Oil	Mounting dimensions				
									Max. mm	Min. mm	Max. mm	Min. mm	
85	K85x92x20H	85	92	20	39.9	91.7	3200	4900	84.988	84.973	92.034	92.012	0.085
	K85x93x25F	85	93	25	58.8	138	3200	4900	84.988	84.973	93.034	93.012	0.000
	K85x93x30H	85	93	30	31024"	3200	4900	4900	84.988	84.973	93.034	93.012	0.166
90	K90x97x20	90	97	20	46.3	114	3000	4600	89.988	89.973	97.034	97.012	0.095
	K90x98x25F	90	98	25	54.8	128	3000	4600	89.988	89.973	98.034	98.012	0.134
	K90x98x30	90	98	30	63.6	155	3000	4600	89.988	89.973	98.034	98.012	0.168
95	K95x103x20	95	103	20	49.3	114	2800	4400	94.988	94.973	103.034	103.012	0.130
	K95x103x30F	95	103	30	71.0	183	2800	4400	94.988	94.973	103.034	103.012	0.180
100	K100x108x30	100	108	30	72.4	191	2700	4200	99.988	99.973	108.034	108.012	0.210
110	K110x118x24	110	118	24	64.0	168	2400	3800	109.988	109.973	118.034	118.012	0.165
	K110x118x30H	110	118	30	75.3	207	2400	3800	109.988	109.973	118.034	118.012	0.200