

Needle roller and cage assemblies

Product overview Needle roller and cage assemblies

Single row

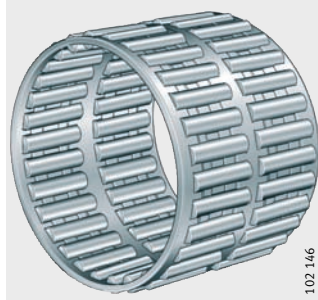
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102 149a

Double row

K..-ZW

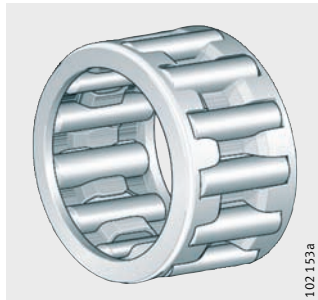


102 146

Other products

Needle roller and cage assemblies
for crank pin bearing arrangements

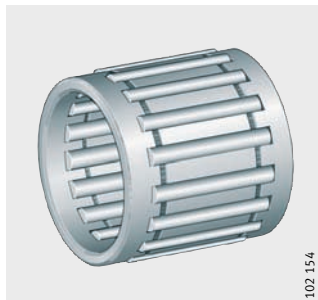
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102 153a

Needle roller and cage assemblies
for piston pin bearing arrangements

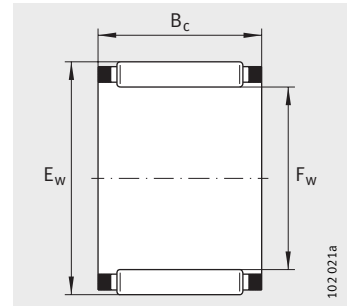
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102 154

Needle roller and cage assemblies

Single row



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Dimension table - Dimensions in mm

Designation	Mass m ≈g	Dimensions			Basic load ratings		Fatigue limit load C _{ur} N	Limiting speed n _G min ⁻¹	Reference speed n _B min ⁻¹
		F _w	E _w	B _c	dyn. C _r N	stat. C _{0r} N			
K3X5X7-TV	0,3	3	5	7	1 540	1 290	152	50 000	78 000
K3X5X9-TV	0,4	3	5	9	1 710	1 480	188	50 000	80 000
K3X6X7-TV	0,4	3	6	7	1 430	970	109	47 000	75 000
K4X7X7-TV	0,5	4	7	7	1 740	1 270	145	42 500	59 000
K4X7X10-TV	0,7	4	7	10	2 330	1 840	236	42 500	59 000
K5X8X8-TV	0,7	5	8	8	2 350	1 920	237	39 000	48 000
K5X8X10-TV	0,9	5	8	10	3 000	2 650	350	39 000	47 000
K6X9X8-TV	0,8	6	9	8	2 600	2 280	285	36 500	41 000
K6X9X10-TV	1,1	6	9	10	3 350	3 150	420	36 500	40 000
K6X10X13-TV	1,9	6	10	13	3 800	3 100	395	35 500	40 000
K7X9X7-TV	0,6	7	9	7	1 730	1 770	215	35 500	40 000
K7X10X8-TV	0,9	7	10	8	2 850	2 650	330	34 500	36 000
K7X10X10-TV	1	7	10	10	3 650	3 600	485	34 500	35 000
K8X11X8-TV	1	8	11	8	3 100	3 000	375	32 500	32 000
K8X11X10-TV	1,2	8	11	10	3 950	4 100	560	32 500	31 000
K8X11X13-TV	1,7	8	11	13	5 100	5 800	790	32 500	30 500
K8X12X10-TV	2	8	12	10	5 000	4 700	560	31 500	29 000
K9X12X10-TV	1,5	9	12	10	4 500	5 000	680	31 000	27 500
K9X12X13-TV	2,1	9	12	13	5 900	7 100	970	31 000	27 000
K10X13X10-TV	1,6	10	13	10	4 750	5 500	750	29 500	24 900
K10X13X13-TV	2,3	10	13	13	6 200	7 800	1 060	29 500	24 400
K10X13X16-TV	2,9	10	13	16	7 100	9 300	1 310	29 500	24 600
K10X14X10-TV	2,5	10	14	10	5 800	6 000	720	29 000	23 500
K10X14X13-TV	4,6	10	14	13	7 500	8 400	1 020	29 000	23 000
K10X16X12-TV	5,5	10	16	12	8 100	7 200	1 000	27 500	21 800
K12X15X10-TV	2,9	12	15	10	4 900	6 100	830	27 000	21 500
K12X15X13-TV	2,3	12	15	13	6 400	8 500	1 170	27 000	21 100
K12X16X13-TV	5,5	12	16	13	8 000	9 400	1 150	26 500	19 900
K12X17X13-TV	4,9	12	17	13	9 600	10 400	1 330	26 500	18 800
K12X18X12-TV	6	12	18	12	10 000	9 900	1 400	26 000	18 100

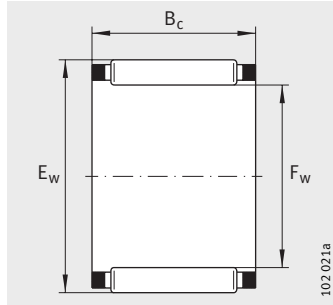
Dimension table (continued) - Dimensions in mm

Designation	Mass	Dimensions			Basic load ratings		Fatigue limit load C_{ur} N	Limiting speed n_G min^{-1}	Reference speed n_B min^{-1}
		F_w	E_w	B_c	dyn. C_r N	stat. C_{0r} N			
	m \approx g								
K14X18X10	4	14	18	10	7 100	8 500	1 060	25 000	17 300
K14X18X13	6,5	14	18	13	8 200	10 100	1 320	25 000	17 700
K14X18X15-TV	5	14	18	15	9 500	12 300	1 540	25 000	17 400
K14X18X17	8	14	18	17	10 800	14 400	1 890	25 000	17 300
K14X20X12	8,5	14	20	12	10 300	10 600	1 490	24 300	16 200
K15X18X17-TV	4,6	15	18	17	8 000	12 100	1 730	24 600	17 700
K15X19X10	5	15	19	10	7 500	9 200	1 140	24 300	16 200
K15X19X13	7	15	19	13	8 500	10 900	1 420	24 300	16 600
K15X19X17	9,5	15	19	17	11 300	15 600	2 040	24 300	16 200
K15X20X13	7	15	20	13	9 900	11 500	1 430	23 900	15 900
K15X21X15	11	15	21	15	14 300	16 400	2 210	23 600	14 700
K15X21X21	17	15	21	21	19 400	24 300	3 300	23 600	14 400
K16X20X10	5,5	16	20	10	7 800	9 900	1 230	23 600	15 200
K16X20X13	7,5	16	20	13	8 900	11 800	1 530	23 600	15 600
K16X20X17	10	16	20	17	11 700	16 800	2 190	23 600	15 200
K16X22X12	10	16	22	12	11 500	12 500	1 780	22 900	14 300
K16X22X16	12	16	22	16	14 800	17 500	2 390	22 900	14 100
K16X22X20	17	16	22	20	18 300	22 800	3 050	22 900	14 000
K16X24X20	22	16	24	20	21 400	23 500	2 950	22 400	13 200
K17X21X10	5,5	17	21	10	8 100	10 600	1 310	22 900	14 400
K17X21X13	6,5	17	21	13	10 400	14 600	1 810	22 900	14 100
K17X21X17	9,5	17	21	17	12 200	17 900	2 350	22 900	14 400
K18X22X10	6	18	22	10	8 400	11 300	1 400	22 400	13 600
K18X22X13	8	18	22	13	9 200	12 700	1 650	22 400	14 200
K18X22X17	11	18	22	17	12 100	18 000	2 360	22 400	13 900
K18X24X12	12	18	24	12	12 800	14 900	2 120	21 800	12 700
K18X24X13	13	18	24	13	13 100	15 300	1 990	21 800	12 900
K18X24X20	18	18	24	20	20 200	27 000	3 550	21 800	12 400
K18X25X22	23	18	25	22	23 100	29 000	3 750	21 600	12 200
K19X23X13	8	19	23	13	9 500	13 500	1 750	21 800	13 500
K19X23X17	11	19	23	17	12 500	19 200	2 500	21 800	13 200

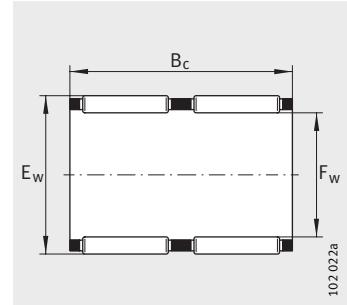


Needle roller and cage assemblies

Single row and double row



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K..-ZW

Dimension table (continued) · Dimensions in mm

Designation	Mass m ≈g	Dimensions			Basic load ratings		Fatigue limit load C _{ur} N	Limiting speed n _G min ⁻¹	Reference speed n _B min ⁻¹
		F _w	E _w	B _c	dyn. C _r N	stat. C _{0r} N			
K20X24X10	6,5	20	24	10	8 900	12 600	1 570	21 300	12 400
K20X24X13	9	20	24	13	9 800	14 300	1 860	21 300	12 800
K20X24X17	12	20	24	17	12 900	20 400	2 650	21 300	12 500
K20X26X12	11	20	26	12	13 400	16 200	2 310	20 900	11 700
K20X26X13	12	20	26	13	14 400	17 900	2 330	20 900	11 600
K20X26X17	16	20	26	17	19 200	26 000	3 300	20 900	11 200
K20X26X20	19	20	26	20	21 100	29 000	3 900	20 900	11 400
K20X28X16	20	20	28	16	19 800	22 400	3 000	20 400	11 100
K20X28X20	27	20	28	20	23 900	28 500	3 600	20 400	11 100
K20X28X25	32	20	28	25	30 500	39 000	5 300	20 400	10 800
K20X30X30	49	20	30	30	35 500	41 500	5 500	19 600	10 800
K21X25X13	9	21	25	13	10 100	15 100	1 970	20 900	12 300
K22X26X10	7,5	22	26	10	9 100	13 400	1 670	20 400	11 500
K22X26X13	9,5	22	26	13	10 400	15 900	2 080	20 400	11 800
K22X26X17	12	22	26	17	13 700	22 700	3 000	20 400	11 500
K22X28X17	18	22	28	17	19 400	27 000	3 450	19 600	10 500
K22X29X16	16	22	29	16	20 000	25 500	3 350	19 200	10 300
K22X30X15-TV	18	22	30	15	20 100	23 400	3 050	18 800	10 200
K22X32X24	43	22	32	24	34 000	40 000	4 900	18 100	9 700
K23X35X16-TV	29	23	35	16	24 500	23 900	2 950	16 900	9 500
K24X28X10	8,5	24	28	10	9 600	14 800	1 840	18 800	10 600
K24X28X13	10	24	28	13	11 000	17 600	2 290	18 800	10 800
K24X28X17	13	24	28	17	14 500	25 000	3 300	18 800	10 600
K24X30X17	19	24	30	17	19 500	27 500	3 500	18 100	10 000
K24X30X31-ZW	32	24	30	31	27 500	43 500	5 800	18 100	10 400

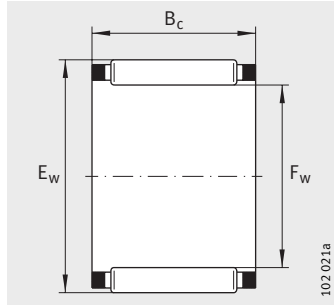
Dimension table (continued) - Dimensions in mm

Designation	Mass m ≈g	Dimensions			Basic load ratings		Fatigue limit load C _{ur} N	Limiting speed n _G min ⁻¹	Reference speed n _B min ⁻¹
		F _w	E _w	B _c	dyn.	stat.			
					C _r N	C _{0r} N			
K25X29X10	8,5	25	29	10	9 900	15 400	1 930	18 100	10 200
K25X29X13	11	25	29	13	11 300	18 400	2 400	18 100	10 400
K25X29X17	14	25	29	17	14 900	26 000	3 450	18 100	10 200
K25X30X17	16	25	30	17	18 700	30 000	3 850	17 800	9 600
K25X30X20	18	25	30	20	21 700	36 500	4 850	17 800	9 500
K25X30X26-ZW	19	25	30	26	21 400	35 500	4 500	17 800	10 400
K25X31X17	19	25	31	17	19 600	28 500	3 600	17 500	9 600
K25X31X21	20	25	31	21	24 700	38 000	5 100	17 500	9 400
K25X32X16	21	25	32	16	20 800	27 500	3 650	17 200	9 400
K25X33X20	33	25	33	20	28 500	38 000	4 850	16 900	9 000
K25X33X24	39	25	33	24	34 000	47 000	6 300	16 900	8 900
K25X35X30	65	25	35	30	47 000	62 000	8 300	16 300	8 500
K26X30X13	11	26	30	13	11 600	19 200	2 500	17 500	10 100
K26X30X17	15	26	30	17	15 200	27 500	3 600	17 500	9 800
K26X30X22-ZW	12	26	30	22	15 700	28 500	3 550	17 500	10 400
K28X33X13	13	28	33	13	15 300	24 200	3 100	16 100	8 900
K28X33X17	17	28	33	17	19 700	33 500	4 250	16 100	8 700
K28X34X17	24	28	34	17	21 800	33 500	4 300	15 800	8 600
K28X35X16	24	28	35	16	21 500	29 500	3 950	15 600	8 700
K28X35X18	27	28	35	18	24 000	34 000	4 700	15 600	8 600
K28X40X25	70	28	40	25	45 500	55 000	6 600	14 400	7 700
K30X34X13	14	30	34	13	12 300	21 700	2 850	15 300	8 900
K30X35X13	14	30	35	13	15 600	25 500	3 250	15 100	8 400
K30X35X17	19	30	35	17	19 600	34 000	4 300	15 100	8 300
K30X35X27	30	30	35	27	30 500	59 000	8 500	15 100	8 100
K30X37X16	27	30	37	16	23 100	33 500	4 450	14 600	8 000
K30X37X18	30	30	37	18	26 000	38 500	5 300	14 600	8 000
K30X40X18	48	30	40	18	32 000	40 000	5 000	14 000	7 600
K30X40X30	73	30	40	30	49 000	69 000	9 200	14 000	7 500

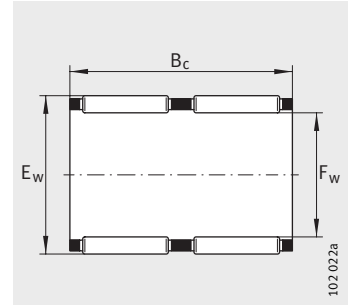


Needle roller and cage assemblies

Single row and double row



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K..-ZW

Dimension table (continued) · Dimensions in mm

Designation	Mass m ≈g	Dimensions			Basic load ratings		Fatigue limit load C _{ur} N	Limiting speed n _G min ⁻¹	Reference speed n _B min ⁻¹
		F _w	E _w	B _c	dyn. C _r N	stat. C _{0r} N			
K32X37X13	18	32	37	13	15 500	25 500	3 300	14 200	8 100
K32X37X17	19	32	37	17	19 900	35 500	4 500	14 200	7 900
K32X37X27	30	32	37	27	30 000	60 000	8 500	14 200	7 800
K32X38X20	30	32	38	20	26 500	45 000	6 000	14 000	7 700
K32X39X16	37	32	39	16	23 800	35 500	4 700	13 800	7 600
K32X39X18	31	32	39	18	26 500	41 000	5 600	13 800	7 500
K32X40X25	49	32	40	25	37 500	58 000	7 900	13 600	7 400
K32X40X42-ZW-TV	77	32	40	42	50 000	84 000	10 500	13 600	7 800
K32X46X32	119	32	46	32	66 000	84 000	11 100	12 600	6 700
K35X40X13	19	35	40	13	16 200	28 000	3 600	13 100	7 500
K35X40X17	21	35	40	17	20 800	38 500	4 900	13 100	7 400
K35X40X25	31	35	40	25	29 500	60 000	8 400	13 100	7 200
K35X40X27-TV	39	35	40	27	25 000	48 500	6 700	13 100	7 900
K35X42X16	34	35	42	16	24 400	37 500	5 000	12 700	7 100
K35X42X18	34	35	42	18	27 500	43 000	6 000	12 700	7 100
K35X42X20	37	35	42	20	30 000	49 000	6 200	12 700	7 000
K35X42X30	67	35	42	30	39 000	68 000	9 400	12 700	7 200
K35X45X20	56	35	45	20	37 000	50 000	6 500	12 300	6 800
K35X45X30	80	35	45	30	53 000	79 000	10 500	12 300	6 700
K37X42X17	22	37	42	17	22 400	43 000	5 500	12 400	6 900
K38X43X17	29	38	43	17	20 500	38 500	4 850	12 100	7 000
K38X43X27	43	38	43	27	31 500	68 000	9 600	12 100	6 800
K38X46X20	47	38	46	20	35 500	57 000	7 200	11 700	6 300
K38X46X32	76	38	46	32	55 000	99 000	14 200	11 700	6 200
K39X44X26-ZW	45	39	44	26	27 500	56 000	7 100	11 800	7 000

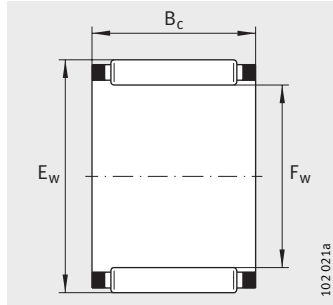
Dimension table (continued) - Dimensions in mm

Designation	Mass m ≈g	Dimensions			Basic load ratings		Fatigue limit load C _{ur} N	Limiting speed n _G min ⁻¹	Reference speed n _B min ⁻¹
		F _w	E _w	B _c	dyn. C _r N	stat. C _{0r} N			
K40X45X13	22	40	45	13	17 600	32 500	4 200	11 500	6 600
K40X45X17	31	40	45	17	21 400	41 500	5 200	11 500	6 700
K40X45X27	46	40	45	27	33 000	73 000	10 300	11 500	6 500
K40X47X18	39	40	47	18	29 500	50 000	6 900	11 300	6 300
K40X47X20	42	40	47	20	32 500	57 000	7 200	11 300	6 200
K40X48X20	49	40	48	20	36 000	59 000	7 500	11 100	6 100
K42X47X13	18	42	47	13	17 800	33 500	4 350	11 000	6 400
K42X47X17	32	42	47	17	21 700	43 000	5 400	11 000	6 400
K42X47X30-ZW	54	42	47	30	33 500	76 000	10 000	11 000	6 400
K42X50X20	53	42	50	20	35 000	57 000	7 300	10 700	6 000
K43X48X17	30	43	48	17	21 600	43 000	5 400	10 800	6 300
K43X48X27	50	43	48	27	33 500	75 000	10 700	10 800	6 200
K45X50X17	34	45	50	17	22 500	46 000	5 800	10 300	6 100
K45X50X27	51	45	50	27	34 500	80 000	11 400	10 300	5 900
K45X52X18	42	45	52	18	31 500	57 000	7 900	10 100	5 700
K45X53X20	55	45	53	20	39 000	67 000	8 700	10 000	5 500
K45X53X21	60	45	53	21	38 500	67 000	8 600	10 000	5 600
K45X53X28	81	45	53	28	52 000	98 000	13 700	10 000	5 400
K45X59X18-TV	72	45	59	18	44 500	54 000	6 900	9 400	5 400
K45X59X32	148	45	59	32	73 000	103 000	13 800	9 400	5 300
K47X52X17	35	47	52	17	23 300	49 000	6 100	9 900	5 800
K47X52X27	51	47	52	27	35 000	83 000	11 800	9 900	5 700

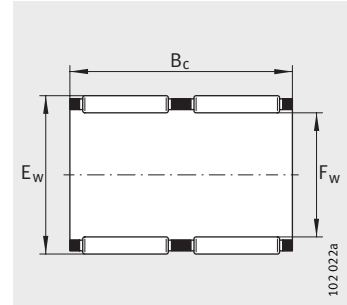


Needle roller and cage assemblies

Single row and double row



K



K..-ZW

Dimension table (continued) · Dimensions in mm

Designation	Mass m ≈g	Dimensions			Basic load ratings		Fatigue limit load C _{ur} N	Limiting speed n _G min ⁻¹	Reference speed n _B min ⁻¹
		F _w	E _w	B _c	dyn. C _r N	stat. C _{0r} N			
K50X55X13,5	30	50	55	13,5	18 200	36 500	4 600	9 300	5 700
K50X55X17	35	50	55	17	22 100	47 000	6 300	9 300	5 700
K50X55X20	43	50	55	20	26 500	60 000	7 800	9 300	5 500
K50X55X30	65	50	55	30	39 000	97 000	13 900	9 300	5 400
K50X57X18	47	50	57	18	33 500	63 000	8 800	9 200	5 200
K50X58X20	75	50	58	20	35 500	62 000	8 800	9 100	5 400
K50X58X25	90	50	58	25	44 000	81 000	10 800	9 100	5 300
K52X57X12	24	52	57	12	18 000	36 500	4 600	9 000	5 400
K55X60X20	40	55	60	20	28 500	66 000	8 600	8 500	5 100
K55X60X27	60	55	60	27	38 000	97 000	13 600	8 500	4 950
K55X60X30	71	55	60	30	41 000	108 000	15 400	8 500	4 950
K55X62X18	52	55	62	18	35 500	70 000	9 800	8 400	4 750
K55X63X20	67	55	63	20	40 000	74 000	9 500	8 300	4 800
K55X63X25	80	55	63	25	50 000	100 000	13 700	8 300	4 700
K55X63X32	102	55	63	32	62 000	130 000	18 600	8 300	4 650
K58X65X18	52	58	65	18	35 000	70 000	9 800	8 000	4 650
K58X65X36-ZW	127	58	65	36	49 000	107 000	14 600	8 000	5 100
K60X65X20	52	60	65	20	29 500	72 000	9 300	7 800	4 750
K60X65X30	77	60	65	30	42 500	116 000	16 600	7 800	4 650
K60X66X33-ZW	104	60	66	33	46 000	112 000	15 100	7 800	4 800
K60X66X40-ZW	116	60	66	40	58 000	151 000	19 900	7 800	4 650
K60X68X20	71	60	68	20	43 500	85 000	11 000	7 700	4 400
K60X68X23	94	60	68	23	49 500	101 000	13 500	7 700	4 350
K60X68X25	89	60	68	25	53 000	111 000	15 200	7 700	4 350
K60X68X30-ZW	129	60	68	30	44 500	88 000	11 300	7 700	4 950
K60X75X42	240	60	75	42	118 000	199 000	27 000	7 300	4 050
K62X70X40-ZW	174	62	70	40	66 000	146 000	20 500	7 400	4 550
K64X70X16	53	64	70	16	28 000	60 000	8 100	7 300	4 500

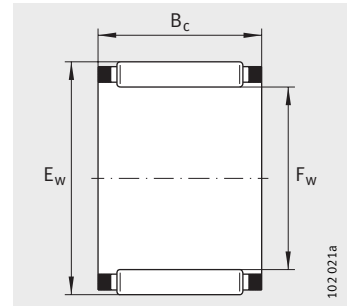
Dimension table (continued) - Dimensions in mm

Designation	Mass m ≈g	Dimensions			Basic load ratings		Fatigue limit load C _{ur} N	Limiting speed n _G min ⁻¹	Reference speed n _B min ⁻¹
		F _w	E _w	B _c	dyn. C _r N	stat. C _{0r} N			
		K65X70X20	56	65	70	20			
K65X70X30	83	65	70	30	44 000	124 000	17 800	7 300	4 350
K65X73X23	108	65	73	23	46 000	94 000	12 200	7 100	4 300
K65X73X30	141	65	73	30	57 000	123 000	17 100	7 100	4 300
K68X74X20	71	68	74	20	35 500	84 000	11 000	6 900	4 200
K68X74X30	100	68	74	30	46 500	118 000	16 900	6 900	4 300
K68X74X35-ZW	120	68	74	35	48 500	125 000	17 200	6 900	4 450
K70X76X20	71	70	76	20	36 000	86 000	11 300	6 700	4 100
K70X76X30	110	70	76	30	52 000	139 000	20 100	6 700	4 000
K70X78X30	148	70	78	30	60 000	135 000	18 800	6 600	4 000
K72X80X20	98	72	80	20	41 500	85 000	11 900	6 400	4 000
K73X79X20	75	73	79	20	37 000	90 000	11 800	6 400	4 000
K75X81X20	79	75	81	20	37 500	94 000	12 300	6 300	3 850
K75X81X30	114	75	81	30	52 000	143 000	20 400	6 300	3 850
K75X83X23	124	75	83	23	50 000	109 000	14 200	6 200	3 800
K75X83X30	147	75	83	30	62 000	143 000	20 000	6 200	3 800
K75X83X35-ZW	182	75	83	35	63 000	147 000	19 900	6 200	3 950
K75X83X40-ZW	211	75	83	40	73 000	177 000	25 000	6 200	3 900
K80X86X20	60	80	86	20	38 500	98 000	12 900	5 900	3 700
K80X88X30	138	80	88	30	71 000	176 000	25 000	5 800	3 400
K80X88X40-ZW	227	80	88	40	76 000	192 000	27 000	5 800	3 700
K80X88X46-ZW	260	80	88	46	88 000	231 000	30 000	5 800	3 650
K85X92X20	102	85	92	20	44 500	108 000	15 100	5 500	3 450
K90X97X20	109	90	97	20	45 000	113 000	15 800	5 200	3 300
K90X98X27	150	90	98	27	61 000	150 000	20 300	5 200	3 300
K90X98X30	172	90	98	30	68 000	172 000	24 000	5 200	3 300
K95X103X30	165	95	103	30	69 000	180 000	25 000	4 950	3 150
K95X103X40-ZW	266	95	103	40	83 000	228 000	32 500	4 950	3 200



Needle roller and cage assemblies

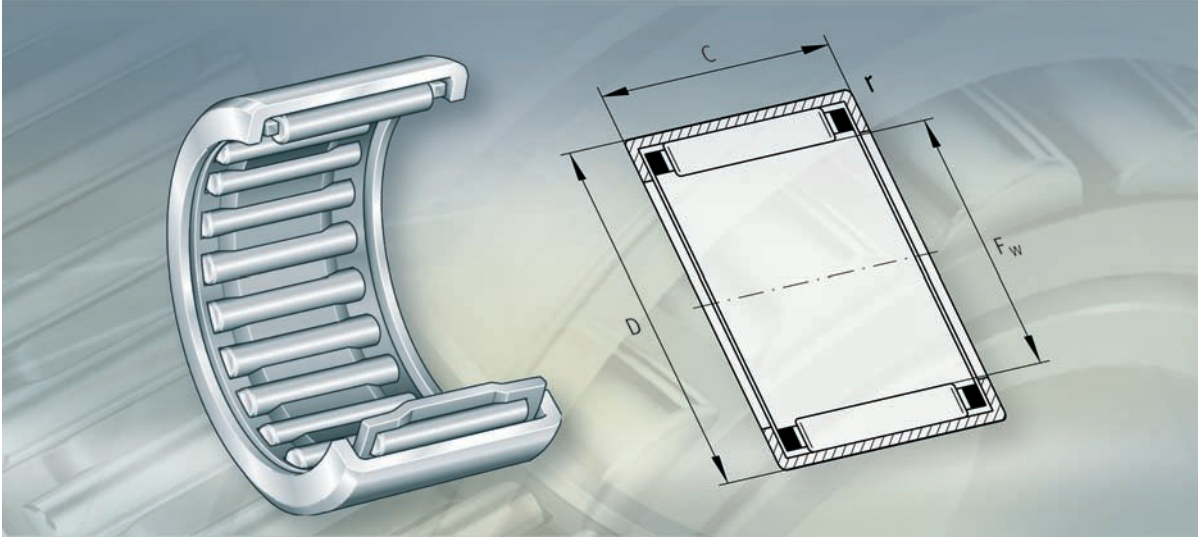
Single row



K

Dimension table (continued) · Dimensions in mm

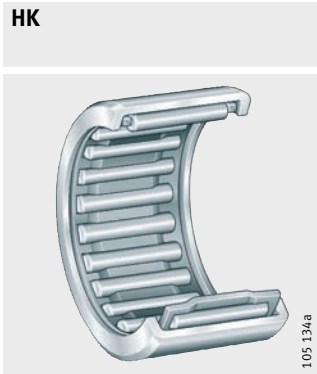
Designation	Mass m ≈g	Dimensions			Basic load ratings		Fatigue limit load C _{ur} N	Limiting speed n _G min ⁻¹	Reference speed n _B min ⁻¹
		F _w	E _w	B _c	dyn. C _r N	stat. C _{0r} N			
K100X107X21	120	100	107	21	48 000	127 000	17 600	4 750	3 100
K100X108X27	185	100	108	27	57 000	143 000	18 900	4 700	3 200
K100X108X30	180	100	108	30	71 000	188 000	26 000	4 700	3 050
K105X112X21	129	105	112	21	47 500	127 000	17 400	4 500	3 000
K110X117X24	172	110	117	24	56 000	158 000	19 800	4 300	2 850
K110X118X30	217	110	118	30	78 000	219 000	29 500	4 300	2 750
K115X123X27	200	115	123	27	63 000	170 000	21 600	4 100	2 850
K120X127X24	165	120	127	24	59 000	174 000	21 400	3 950	2 650
K125X133X35	275	125	133	35	86 000	260 000	34 500	3 800	2 600
K130X137X24	170	130	137	24	61 000	186 000	22 300	3 650	2 500
K135X143X35	300	135	143	35	91 000	290 000	37 500	3 550	2 390
K145X153X26	262	145	153	26	74 000	225 000	27 000	3 300	2 280
K150X160X46	570	150	160	46	147 000	470 000	60 000	3 150	2 100
K155X163X26	265	155	163	26	75 000	236 000	28 000	3 100	2 180
K160X170X46	550	160	170	46	152 000	510 000	63 000	2 950	1 970
K165X173X26	320	165	173	26	81 000	265 000	30 500	2 900	2 030
K175X183X32	400	175	183	32	99 000	350 000	41 500	2 750	1 930
K185X195X37	607	185	195	37	128 000	425 000	48 500	2 600	1 840
K195X205X37	620	195	205	37	133 000	450 000	51 000	2 450	1 760
K210X220X42	740	210	220	42	154 000	560 000	63 000	2 280	1 590
K220X230X42	790	220	230	42	158 000	590 000	66 000	2 180	1 510
K240X250X42	850	240	250	42	164 000	630 000	69 000	2 000	1 390
K265X280X50	1 810	265	280	50	255 000	860 000	91 000	1 800	1 160



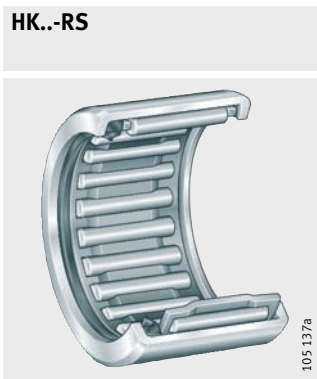
**Drawn cup needle roller bearings
with open ends**
**Drawn cup needle roller bearings
with closed end**

Product overview Drawn cup needle roller bearings

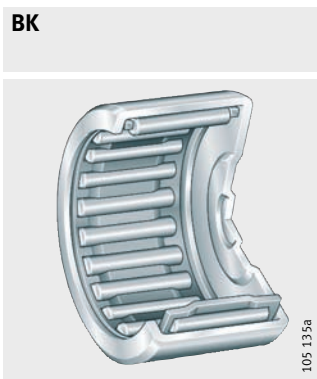
**Drawn cup
needle roller bearings
with open ends**
With cage or
full complement



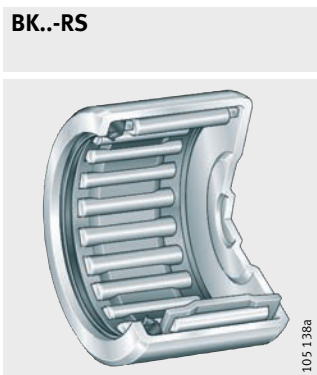
Lip seals



**Drawn cup
needle roller bearings
with closed end**

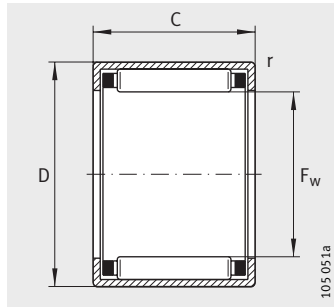


Lip seal

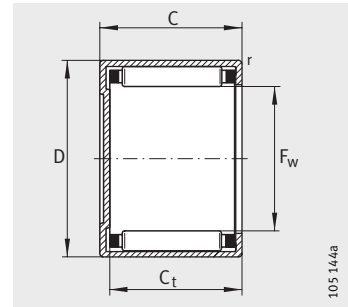


Drawn cup needle roller bearings with open ends
Drawn cup needle roller bearings with closed end

Unsealed



HK



BK

Dimension table - Dimensions in mm

Drawn cup needle roller bearings with open ends		Drawn cup needle roller bearings with closed end		Dimensions				
Designation	Mass m ≈g	Designation	Mass m ≈g	F _w	D	C	C _t	r
						-0,3	min.	min.
+ HK0205-TV	0,3	-	-	2	4,6	5	-	0,3
+ HK0306-TV	1	+ BK0306-TV	1	3	6,5	6	5,2	0,3
+ HK0408	2	+ BK0408	2,1	4	8	8	6,4	0,3
+ HK0509	2	+ BK0509	2,1	5	9	9	7,4	0,4
+ HK0606	1,5	-	-	6	10	6	-	0,4
+ HK0608	2,1	-	-	6	10	8	-	0,4
HK0609	2,5	BK0609	2,6	6	10	9	7,4	0,4
HK0709	2,6	BK0709	2,9	7	11	9	7,4	0,4
HK0808	2,7	BK0808	3	8	12	8	6,4	0,4
HK0810	3	BK0810	3,4	8	12	10	8,4	0,4
HK0908	3	-	-	9	13	8	-	0,4
HK0910	4	BK0910	4,3	9	13	10	8,4	0,4
HK0912	4,6	BK0912	4,9	9	13	12	10,4	0,4
HK1010	4,1	BK1010	4,3	10	14	10	8,4	0,4
HK1012	4,8	BK1012	5	10	14	12	10,4	0,4
HK1015	6	BK1015	6,2	10	14	15	13,4	0,4
HK1210	4,6	BK1210	5,2	12	16	10	8,4	0,4
HK1212	9	BK1212	10	12	18	12	9,3	0,8
HK1312	10	BK1312	11	13	19	12	9,3	0,8
HK1412	10,5	BK1412	12	14	20	12	9,3	0,8
HK1512	11	BK1512	13	15	21	12	9,3	0,8
HK1516	15	BK1516	17	15	21	16	13,3	0,8
HK1522-ZW	20	-	-	15	21	22	-	0,8
HK1612	12	BK1612	14	16	22	12	9,3	0,8
HK1616	16	BK1616	18	16	22	16	13,3	0,8
HK1622-ZW	22	BK1622-ZW	24	16	22	22	19,3	0,8
HK1712	12	-	-	17	23	12	-	0,8
HK1812	13	BK1812	15	18	24	12	9,3	0,8
HK1816	18	BK1816	20	18	24	16	13,3	0,8
HK2010	12	-	-	20	26	10	-	0,8
HK2012	14	-	-	20	26	12	-	0,8
HK2016	19	BK2016	22	20	26	16	13,3	0,8
HK2020	24	BK2020	27	20	26	20	17,3	0,8
HK2030-ZW	35	-	-	20	26	30	-	0,8

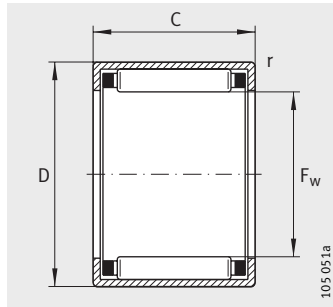
+ Not available with lubrication hole.

Basic load ratings		Fatigue limit load C_{ur} N	Limiting speed n_G min^{-1}	Reference speed n_B min^{-1}	Suitable inner rings (to be ordered separately)	
dyn. C_r N	stat. C_{0r} N				LR Designation	IR Designation
465	265	28,5	58 000	93 000	–	–
1 230	840	113	48 000	57 000	–	–
1 780	1 310	144	42 500	44 500	–	–
2 400	1 990	239	39 000	36 500	–	–
1 610	1 220	167	36 500	31 500	–	–
2 030	1 650	184	36 500	31 500	–	–
2 850	2 600	310	36 500	30 500	–	–
3 100	2 950	355	33 000	26 500	–	–
2 750	2 600	290	29 500	23 800	–	–
3 800	3 950	500	29 500	23 200	–	IR5X8X12
3 550	3 750	440	26 500	20 600	–	–
4 250	4 650	600	26 500	20 600	–	–
5 300	6 300	860	26 500	20 200	–	IR6X9X12
4 400	5 100	650	24 300	18 700	LR7X10X10,5	IR7X10X10,5
5 500	6 800	930	24 300	18 400	–	IR7X10X12
6 800	8 800	1 210	24 300	18 200	–	IR7X10X16
4 950	6 200	800	20 700	15 700	LR8X12X10,5	IR8X12X10,5
6 500	7 300	860	20 000	15 500	LR8X12X12,5	IR8X12X12,5
6 800	7 900	940	18 700	14 400	LR10X13X12,5	IR10X13X12,5
7 100	8 500	1 010	17 500	13 500	–	IR10X14X13
7 900	9 400	1 150	16 300	12 300	LR12X15X12,5	IR12X15X12,5
10 500	14 400	1 780	16 500	12 300	LR12X15X16,5	IR12X15X16,5
13 400	19 500	2 380	16 500	12 300	LR12X15X22,5	IR12X15X22,5
7 600	9 700	1 160	15 600	11 900	–	IR12X16X13
10 900	15 300	1 900	15 600	11 600	–	IR12X16X16
13 100	19 400	2 310	15 600	11 700	–	IR12X16X22
7 900	10 300	1 230	14 700	11 200	–	–
8 100	10 900	1 300	14 000	10 700	LR15X18X12,5	–
11 600	17 300	2 140	14 000	10 400	LR15X18X16,5	IR15X18X16,5
6 400	8 200	1 040	12 700	10 000	–	–
8 600	12 100	1 450	12 700	9 700	–	IR15X20X13
12 700	20 100	2 500	12 700	9 300	LR17X20X16,5	IR17X20X16,5
15 700	26 000	3 500	12 700	9 300	LR17X20X20,5	IR17X20X20,5
21 800	40 000	5 000	12 700	9 200	LR17X20X30,5	IR17X20X30,5

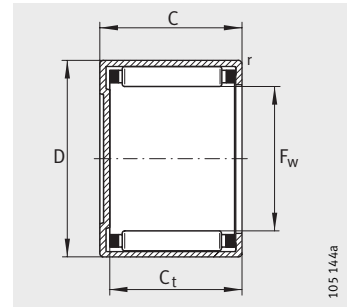


Drawn cup needle roller bearings with open ends
Drawn cup needle roller bearings with closed end

Unsealed



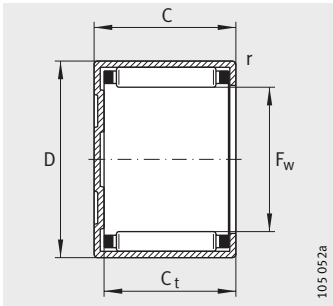
HK



BK with $F_w < 25$ mm

Dimension table (continued) · Dimensions in mm

Drawn cup needle roller bearings with open ends		Drawn cup needle roller bearings with closed end		Dimensions				
Designation	Mass m ≈g	Designation	Mass m ≈g	F_w	D	C -0,3	C_t min.	r min.
HK2210	13	-	-	22	28	10	-	0,8
HK2212	15	BK2212	18	22	28	12	9,3	0,8
HK2216	21	BK2216	24	22	28	16	13,3	0,8
HK2220	26	-	-	22	28	20	-	0,8
HK2512	20	-	-	25	32	12	-	0,8
HK2516	27	BK2516	32	25	32	16	13,3	0,8
HK2520	33	BK2520	38	25	32	20	17,3	0,8
HK2526	44	BK2526	48	25	32	26	23,3	0,8
HK2538-ZW	64	BK2538-ZW	68	25	32	38	35,3	0,8
HK2816	29	-	-	28	35	16	-	0,8
HK2820	36	-	-	28	35	20	-	0,8
HK3012	23	BK3012	28	30	37	12	9,3	0,8
HK3016	31	BK3016	38	30	37	16	13,3	0,8
HK3020	39	BK3020	47	30	37	20	17,3	0,8
HK3022	42	-	-	30	37	22	-	0,8
HK3026	51	BK3026	58	30	37	26	23,3	0,8
HK3038-ZW	76	BK3038-ZW	84	30	37	38	35,3	0,8
HK3220	40,6	-	-	32	39	20	-	0,8
HK3224	49	-	-	32	39	24	-	0,8
HK3512	27	-	-	35	42	12	-	0,8
HK3516	36	-	-	35	42	16	-	0,8
HK3520	44	BK3520	53	35	42	20	17,3	0,8
HK4012	30	-	-	40	47	12	-	0,8
HK4016	39	-	-	40	47	16	-	0,8
HK4020	54	BK4020	62	40	47	20	17,3	0,8
HK4512	33	-	-	45	52	12	-	0,8
HK4516	46	-	-	45	52	16	-	0,8
HK4520	56	BK4520	72	45	52	20	17,3	0,8
HK5020	70	-	-	50	58	20	-	0,8
HK5025	90	-	-	50	58	25	-	0,8
HK5520	74	-	-	55	63	20	-	0,8
HK5528	105	-	-	55	63	28	-	0,8
HK6012	49	-	-	60	68	12	-	0,8
HK6020	81	-	-	60	68	20	-	0,8
HK6032	136	-	-	60	68	32	-	0,8



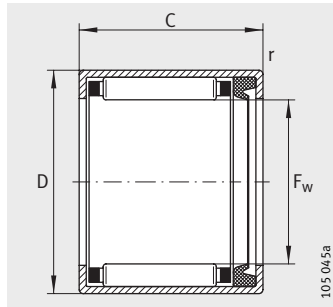
BK with $F_w \geq 25 \text{ mm}$

Basic load ratings		Fatigue limit load C_{ur} N	Limiting speed n_G min^{-1}	Reference speed n_B min^{-1}	Suitable inner rings (to be ordered separately)	
dyn. C_r N	stat. C_{0r} N				LR Designation	IR Designation
7 500	10 500	1 360	11 700	9 000	–	–
9 100	13 400	1 600	11 700	8 900	–	IR17X22X13
13 400	22 100	2 800	11 700	8 500	–	IR17X22X16
16 500	29 000	3 850	11 700	8 500	–	IR17X22X23
11 000	15 200	1 990	10 200	7 800	LR20X25X12,5	–
15 600	24 000	3 150	10 200	7 500	LR20X25X16,5	IR20X25X17
19 900	33 000	4 200	10 200	7 400	LR20X25X20,5	IR20X25X20,5
25 500	45 000	6 200	10 200	7 300	LR20X25X26,5	IR20X25X26,5
34 000	66 000	8 400	10 200	7 300	LR20X25X38,5	IR20X25X38,5
16 400	26 500	3 450	9 200	6 800	–	IR22X28X17
20 900	36 000	4 650	9 200	6 700	LR22X28X20,5	IR22X28X20,5
12 100	18 200	2 390	8 600	6 600	LR25X30X12,5	–
17 200	29 000	3 750	8 600	6 400	LR25X30X16,5	IR25X30X17
22 000	39 500	5 100	8 600	6 300	LR25X30X20,5	IR25X30X20,5
24 800	46 000	6 100	8 600	6 200	–	–
28 000	54 000	7 400	8 600	6 200	LR25X30X26,5	IR25X30X26,5
37 500	79 000	10 100	8 600	6 200	LR25X30X38,5	IR25X30X38,5
23 000	42 500	5 500	8 100	5 900	LR28X32X20	–
27 500	54 000	7 300	8 100	5 800	–	–
13 100	21 300	2 800	7 500	5 800	LR30X35X12,5	–
18 700	33 500	4 400	7 500	5 600	LR30X35X16,5	IR30X35X17
23 800	46 000	5 900	7 500	5 500	LR30X35X20,5	IR30X35X20,5
14 000	24 300	3 200	6 600	5 200	LR35X40X12,5	–
20 000	38 500	5 000	6 600	5 000	LR35X40X16,5	IR35X40X17
25 500	52 000	6 800	6 600	4 900	LR35X40X20,5	IR35X40X20,5
14 900	27 500	3 600	5 900	4 650	–	–
21 300	43 000	5 700	5 900	4 550	LR40X45X16,5	IR40X45X17
27 000	59 000	7 600	5 900	4 450	LR40X45X20,5	IR40X45X20,5
31 000	63 000	8 200	5 300	4 050	LR45X50X20,5	–
38 500	84 000	11 700	5 300	4 000	LR45X50X25,5	IR45X50X25,5
31 500	67 000	8 700	4 850	3 800	LR50X55X20,5	–
44 000	103 000	14 700	4 850	3 700	–	–
17 400	32 000	4 250	4 450	3 750	–	–
33 500	75 000	9 800	4 450	3 500	–	–
53 000	135 000	19 700	4 450	3 400	–	–

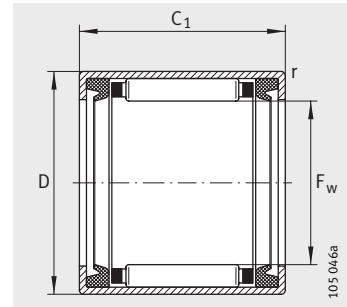


Drawn cup needle roller bearings with open ends
Drawn cup needle roller bearings with closed end

Sealed



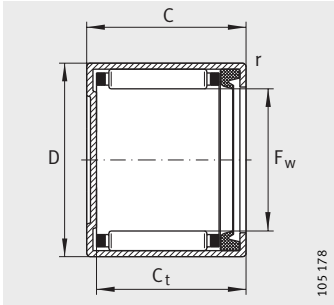
HK..-RS



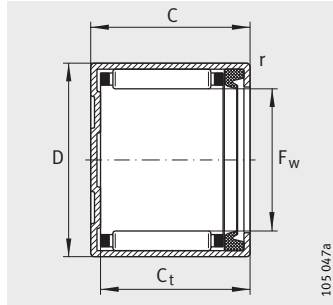
HK..-2RS

Dimension table - Dimensions in mm

Drawn cup needle roller bearings with open ends				Drawn cup needle roller bearings with closed end		Dimensions			
Sealed on one side		Sealed on both sides		Sealed		F _w	D	C	C ₁
Designation	Mass m ≈g	Designation	Mass m ≈g	Designation	Mass m ≈g				
-	-	HK0810-2RS	3,2	-	-	8	12	-	10
HK0810-RS	3	HK0812-2RS	3,3	-	-	8	12	10	12
HK0812-RS	3,1	-	-	-	-	8	12	12	-
-	-	HK1012-2RS	4,3	-	-	10	14	-	12
HK1012-RS	4,2	HK1014-2RS	4,6	BK1012-RS	4,3	10	14	12	14
-	-	HK1214-2RS	8	-	-	12	16	-	14
HK1214-RS	10	HK1216-2RS	11	-	-	12	18	14	16
HK1414-RS	12	HK1416-2RS	13	BK1414-RS	13	14	20	14	16
HK1514-RS	12	HK1516-2RS	15	-	-	15	21	14	16
HK1518-RS	16	HK1520-2RS	18	-	-	15	21	18	20
HK1614-RS	13	HK1616-2RS	14	BK1614-RS	15	16	22	14	16
-	-	HK1620-2RS	18	-	-	16	22	-	20
HK1814-RS	14	HK1816-2RS	15	-	-	18	24	14	16
-	-	HK2016-2RS	18	-	-	20	26	-	16
HK2018-RS	21	HK2020-2RS	23	BK2018-RS	24	20	26	18	20
HK2214-RS	16	HK2216-2RS	18	-	-	22	28	14	16
HK2218-RS	24	HK2220-2RS	26	-	-	22	28	18	20
-	-	HK2516-2RS	27	-	-	25	32	-	16
HK2518-RS	29	HK2520-2RS	31	BK2518-RS	34	25	32	18	20
-	-	HK2524-2RS	40	-	-	25	32	-	24
-	-	HK2530-2RS	47	-	-	25	32	-	30
HK2818-RS	31	HK2820-2RS	34	-	-	28	35	18	20
-	-	HK3016-2RS	31	-	-	30	37	-	16
HK3018-RS	37	HK3020-2RS	36	-	-	30	37	18	20
-	-	HK3024-2RS	44	-	-	30	37	-	24
-	-	HK3516-2RS	32	-	-	35	42	-	16
HK3518-RS	39	HK3520-2RS	41	-	-	35	42	18	20
-	-	HK4016-2RS	37	-	-	40	47	-	16
HK4018-RS	45	HK4020-2RS	48	-	-	40	47	18	20
HK4518-RS	50	HK4520-2RS	54	-	-	45	52	18	20
HK5022-RS	76	HK5024-2RS	81	-	-	50	58	22	24



BK..-RS with $F_w < 25$ mm



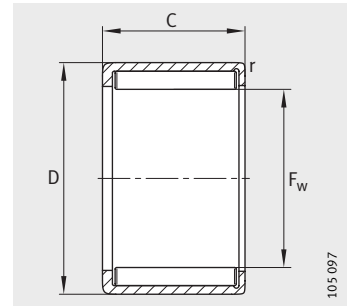
BK..-RS with $F_w \geq 25$ mm

		Basic load ratings		Fatigue limit load C_{ur} N	Limiting speed n_G grease min^{-1}	Suitable inner rings (to be ordered separately)		
C_t min.	r min.	dyn. C_r N	stat. C_{0r} N			For HK..-RS and HK..-2RS		For BK..-RS, LR, IR
					LR Designation	IR Designation	Designation	
-	0,4	2 180	1 930	265	20 000	-	-	-
-	0,4	2 750	2 600	290	20 000	-	-	-
-	0,4	3 800	3 950	500	20 000	-	-	-
-	0,4	3 200	3 350	380	17 000	-	-	-
-	0,4	4 400	5 100	650	17 000	-	-	-
-	0,4	4 950	6 200	800	14 000	-	-	-
-	0,8	6 500	7 300	860	14 000	-	-	-
11,3	0,8	7 100	8 500	1 010	12 000	-	-	-
-	0,8	7 800	9 800	1 190	11 000	LR12X15X16,5	IR12X15X16,5	LR12X15X12,5
-	0,8	10 500	14 400	1 780	11 000	-	-	-
11,3	0,8	7 600	9 700	1 160	11 000	-	IR12X16X20	IR12X16X13
-	0,8	10 900	15 300	1 900	11 000	-	-	-
-	0,8	8 100	10 900	1 300	9 500	LR15X18X16,5	IR15X18X16,5	-
-	0,8	8 600	12 100	1 450	8 500	LR17X20X16,5	IR17X20X16,5	-
15,3	0,8	12 700	20 100	2 500	8 500	LR17X20X20,5	IR17X20X20,5	LR17X20X16,5
-	0,8	9 100	13 400	1 600	8 000	-	IR17X22X16	-
-	0,8	13 400	22 100	2 800	8 000	-	IR17X22X23	-
-	0,8	11 000	15 200	1 990	7 000	LR20X25X16,5	IR20X25X17	-
15,3	0,8	15 600	24 000	3 150	7 000	LR20X25x20,5	IR20X25X20,5	LR20X25X16,5
-	0,8	19 900	33 000	4 200	7 000	-	-	-
-	0,8	25 500	45 000	6 200	7 000	-	IR20X25X30	-
-	0,8	16 400	26 500	3 450	6 000	LR22X28X20,5	IR22X28X20,5	-
-	0,8	12 100	18 200	2 390	6 000	LR25X30X16,5	IR25X30X17	-
-	0,8	17 200	29 000	3 750	6 000	LR25X30X20,5	IR25X30X20,5	-
-	0,8	22 000	39 500	5 100	6 000	-	-	-
-	0,8	13 100	21 300	2 800	5 000	LR30X35X16,5	IR30X35X17	-
-	0,8	18 700	33 500	4 400	5 000	LR30X35X20,5	IR30X35X20,5	-
-	0,8	14 000	24 300	3 200	4 500	LR35X40X16,5	IR35X40X17	-
-	0,8	20 000	38 500	5 000	4 500	LR35X40X20,5	IR35X40X20,5	-
-	0,8	21 300	43 000	5 700	4 000	LR40X45X20,5	IR40X45X20,5	-
-	0,8	31 000	63 000	8 200	3 600	LR45X50X25,5	IR45X50X25,5	-



Drawn cup needle roller bearings with open ends

Full complement needle roller set
Unsealed



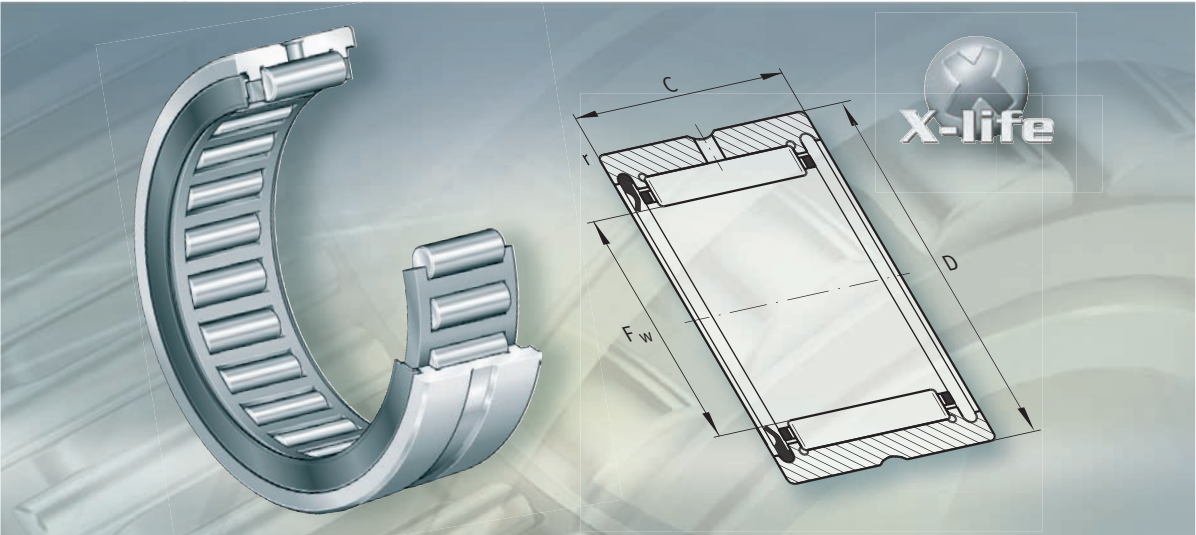
HN

Dimension table - Dimensions in mm

Designation	Mass m ≈g	Dimensions				Basic load ratings	
		F _w	D	C	r min.	dyn. C _r N	stat. C _{0r} N
HN0808	3	8	12	8	0,4	5 000	6 700
HN1010	4,6	10	14	10	0,4	7 200	11 100
HN1210	5,3	12	16	10	0,4	8 000	13 400
HN1212	10,5	12	18	12	0,8	10 200	15 200
HN1412	12	14	20	12	0,8	11 000	17 500
HN1516	14	15	21	16	0,8	15 400	27 500
HN1612	13	16	22	12	0,8	12 000	20 300
HN1816	20	18	24	16	0,8	17 000	32 500
HN2016	22	20	26	16	0,8	18 100	36 500
HN2020	29,5	20	26	20	0,8	22 400	48 000
HN2520	39,6	25	32	20	0,8	28 000	59 000
HN2820	44	28	35	20	0,8	30 000	67 000
HN3520	54	35	42	20	0,8	33 500	83 000
HN4020	60,5	40	47	20	0,8	36 000	95 000
HN4520	66	45	52	20	0,8	38 500	108 000
HN4525	85	45	52	25	0,8	47 000	139 000
HN5020	85,3	50	58	20	0,8	44 500	119 000
HN5025	107	50	58	25	0,8	54 000	152 000

Fatigue limit load C_{ur} N	Limiting speed n_G grease min^{-1}	Reference speed n_B min^{-1}	Suitable inner rings (to be ordered separately)	
			LR Designation	IR Designation
870	12 700	18 000	–	–
1 540	10 400	14 200	LR7X10X10,5	IR7X10X10,5
1 850	8 900	11 900	LR8X12X10,5	IR8X12X10,5
1 950	8 900	11 400	LR8X12X12,5	IR8X12X12,5
2 260	7 500	10 400	–	IR10X14X13
3 600	7 100	9 600	LR12X15X16,5	IR12X15X16,5
2 600	6 700	9 200	–	IR12X16X13
4 250	6 000	8 000	LR15X18X16,5	IR15X18X16,5
4 750	5 400	7 300	LR17X20X16,5	IR17X20X16,5
6 600	5 400	7 200	LR17X20X20,5	IR17X20X20,5
7 900	4 350	5 800	LR20X25X20,5	IR20X25X20,5
9 000	3 950	5 200	LR22X28X20,5	IR22X28X20,5
11 100	3 200	4 250	LR30X35X20,5	IR30X35X20,5
12 700	2 800	3 750	LR35X40X20,5	IR35X40X20,5
14 500	2 500	3 400	LR40X45X20,5	IR40X45X20,5
19 500	2 500	3 350	–	–
16 200	2 260	3 100	LR45X50X20,5	–
21 700	2 260	3 050	LR45X50X25,5	IR45X50X25,5





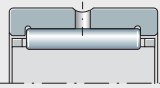
Machined needle roller bearings

- Needle roller bearings with ribs
- Needle roller bearings without ribs
- Aligning needle roller bearings
- Combined needle roller bearings
- Inner rings

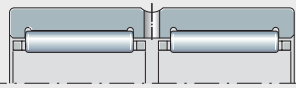


Machined needle roller bearings

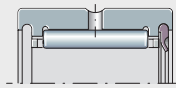
X-life Needle roller bearings with ribs 702
	In needle roller bearings with ribs, the outer ring forms a self-retaining unit with the needle roller and cage assembly. These radially compact bearings with high load capacity are highly suitable for designs with limited radial space. The bearings are available with and without inner ring and in both sealed and open versions. Bearings without an inner ring are the best solution for bearing arrangements where the shaft can be hardened and ground. Needle roller bearings with inner ring are used if the shaft is not configured as a rolling bearing raceway.
X-life Needle roller bearings without ribs 736
	Needle roller bearings without ribs on the outer ring are not self-retaining. This means that the outer ring, needle roller and cage assembly and inner ring can be fitted independently of each other. This makes fitting of the bearings considerably easier. The bearings are available with and without an inner ring and in single row and double row designs. Bearings without an inner ring are used if the shaft is hardened and ground.
X-life Aligning needle roller bearings 750
	Aligning needle roller bearings have a raceway ring with a spherical outside surface and a concave support ring. As a result, they can compensate for static misalignment of the bearing axis by up to 3°, but are not suitable for supporting swivel or tumbling motion. The bearings are available with and without an inner ring. Bearings without an inner ring are used if the shaft is hardened and ground.
X-life Combined needle roller bearings 758
	Combined needle roller bearings are radial bearings with an axial component capable of supporting loads. They are used as locating or semi-locating bearings and do not permit any skewing between the shaft and housing. The bearings are available with and without an inner ring. Bearings without an inner ring are used if the shaft is hardened and ground.
Inner rings 776
	Inner rings are used as raceways for rolling elements or seal lips where the shaft is unsuitable for this purpose. Where there is considerable axial displacement between the shaft and housing, wider inner rings can be used.



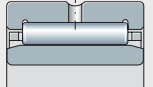
**NK, NKS,
RNA48, RNA49, RNA69**



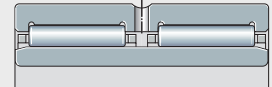
RNA69..-ZW



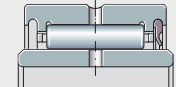
RNA49..-RSR



**NKI, NKIS,
NA48, NA49, NA69**

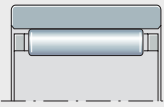


NA69..-ZW

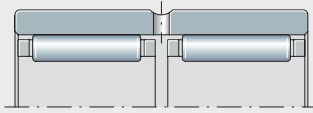


NA49..-RSR

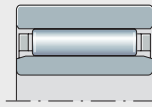
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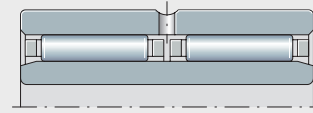
RNAO



RNAO..-ZW

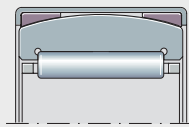


NAO

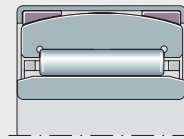


NAO..-ZW

105174

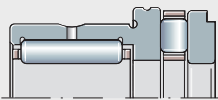


RPNA

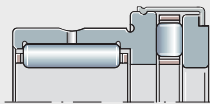


PNA

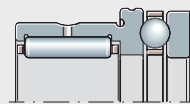
106016c



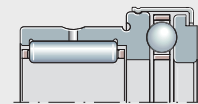
NKXR



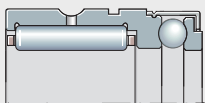
NKXR..-Z



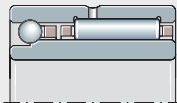
NKX



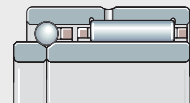
NKX..-Z



NX, NX..-Z

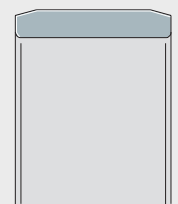


NKIA

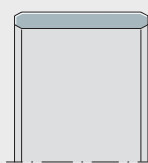


NKIB

107545



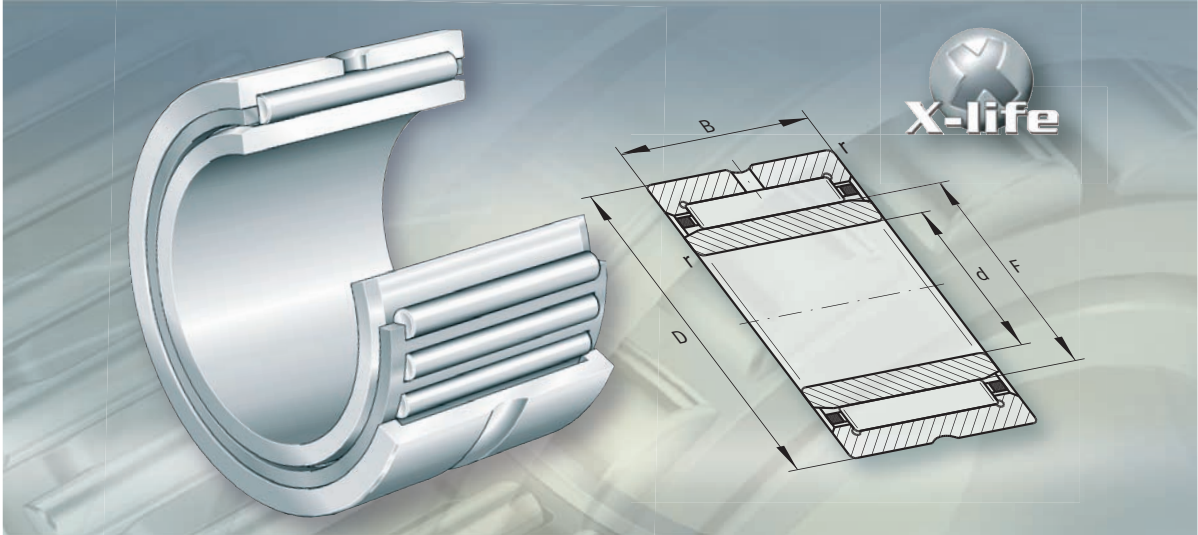
IR, IR..-IS1



LR

103267



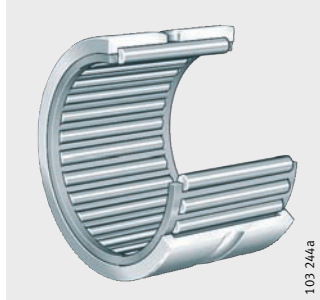


Needle roller bearings with ribs

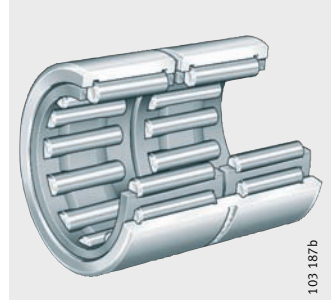
Product overview Needle roller bearings with ribs

Without inner ring
Single row or double row

NK, NKS, RNA48, RNA49, RNA69

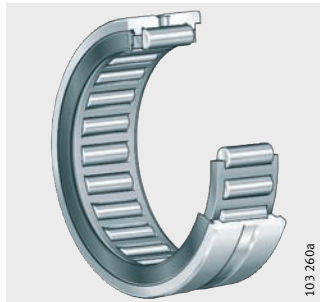


RNA69..-ZW

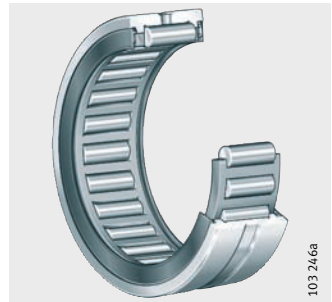


Lip seals

RNA49..-RSR

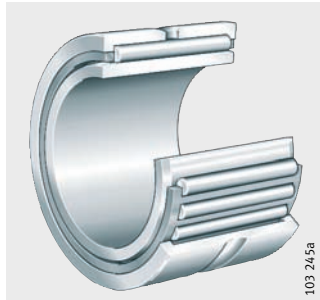


RNA49..-2RSR

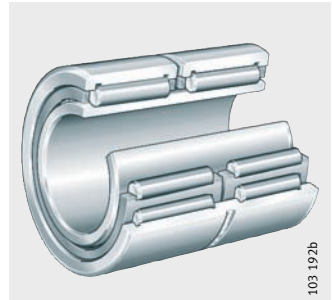


With inner ring
Single row or double row

NKI, NKIS, NA48, NA49, NA69

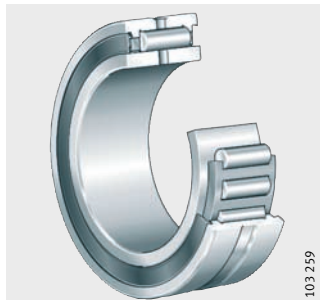


NA69..-ZW

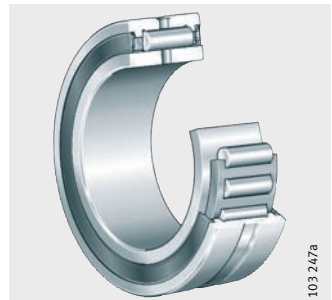


Lip seals

NA49..-RSR

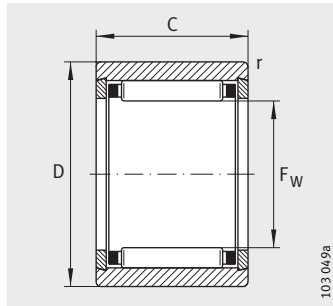


NA49..-2RSR

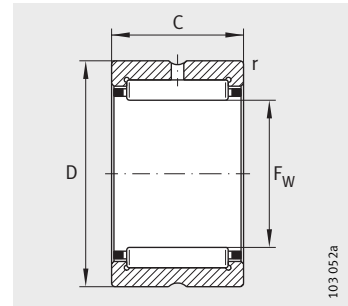


Needle roller bearings

Without inner ring



NK ($F_w \leq 10 \text{ mm}$)



NK ($F_w \geq 12 \text{ mm}$),
RNA49, RNA69

Dimension table - Dimensions in mm

Designation			X-life	Mass m ≈ g	Dimensions			
					F_w	D	C	r min.
NK5/10-TV ¹⁾	-	-	XL	3,1	5	10	10	0,15
NK5/12-TV ¹⁾	-	-	XL	3,7	5	10	12	0,15
NK6/10-TV ¹⁾	-	-	XL	4,7	6	12	10	0,15
NK6/12-TV ¹⁾	-	-	XL	5,7	6	12	12	0,15
NK7/10-TV ¹⁾	-	-	XL	6,9	7	14	10	0,3
NK7/12-TV ¹⁾	-	-	XL	8,2	7	14	12	0,3
NK8/12-TV ¹⁾	-	-	XL	8,7	8	15	12	0,3
NK8/16-TV ¹⁾	-	-	XL	12	8	15	16	0,3
NK9/12-TV ¹⁾	-	-	XL	10,3	9	16	12	0,3
NK9/16-TV ¹⁾	-	-	XL	12,8	9	16	16	0,3
NK10/12-TV ¹⁾	-	-	XL	10,1	10	17	12	0,3
NK10/16-TV ¹⁾	-	-	XL	13,3	10	17	16	0,3
NK12/12	-	-	XL	12,1	12	19	12	0,3
NK12/16	-	-	XL	15,9	12	19	16	0,3
NK14/16	-	-	XL	20,7	14	22	16	0,3
NK14/20	-	-	XL	25,5	14	22	20	0,3
-	RNA4900	-	XL	16,5	14	22	13	0,3
NK15/16	-	-	XL	21,8	15	23	16	0,3
NK15/20	-	-	XL	26,6	15	23	20	0,3
NK16/16	-	-	XL	22,4	16	24	16	0,3
NK16/20	-	-	XL	28,4	16	24	20	0,3
-	RNA4901	-	XL	17,4	16	24	13	0,3
-	-	RNA6901	XL	31	16	24	22	0,3
NK17/16	-	-	XL	23,7	17	25	16	0,3
NK17/20	-	-	XL	29,8	17	25	20	0,3
NK18/16	-	-	XL	24,9	18	26	16	0,3
NK18/20	-	-	XL	31,4	18	26	20	0,3
NK19/16	-	-	XL	26,1	19	27	16	0,3
NK19/20	-	-	XL	32,2	19	27	20	0,3

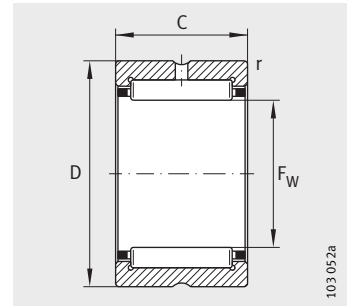
¹⁾ With closing rings, without lubrication hole and groove.

Basic load ratings		Fatigue limit load	Limiting speed	Reference speed
dyn. C_r N	stat. C_{0r} N	C_{ur} N	n_G min^{-1}	n_B min^{-1}
2 650	1 920	295	39 000	55 000
3 400	2 650	435	39 000	54 000
2 950	2 280	355	36 500	48 500
3 800	3 150	520	36 500	47 500
3 250	2 650	410	34 500	43 000
4 150	3 600	600	34 500	42 000
4 450	4 100	690	32 500	37 000
5 800	5 800	970	32 500	36 500
5 100	5 000	840	31 000	32 000
6 600	7 100	1 190	31 000	32 000
5 300	5 500	930	29 500	29 000
7 000	7 800	1 310	29 500	28 500
7 200	7 100	1 280	26 500	22 400
10 100	11 000	1 920	26 500	21 600
11 400	11 500	2 100	24 600	18 600
14 500	15 600	2 700	24 600	18 300
9 600	9 200	1 630	23 600	15 400
12 100	12 700	2 320	23 900	17 300
15 400	17 200	3 000	23 900	17 000
12 800	13 900	2 550	23 200	16 200
16 300	18 800	3 250	23 200	15 900
10 600	10 900	1 940	23 200	15 900
18 100	21 600	3 800	23 200	15 900
13 500	15 000	2 750	22 600	15 300
17 100	20 400	3 550	22 600	15 000
14 100	16 200	3 000	22 100	14 400
17 900	22 000	3 850	22 100	14 100
14 700	17 400	3 200	21 600	13 700
18 700	23 600	4 150	21 600	13 400



Needle roller bearings

Without inner ring
Open



NK, NKS, RNA49, RNA69

Dimension table (continued) · Dimensions in mm

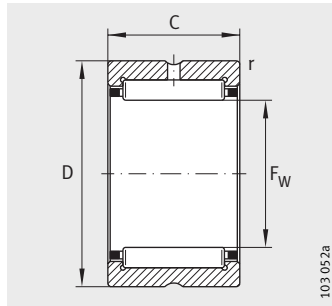
Designation				X-life	Mass m ≈g	Dimensions			
						F _w	D	C	r min.
NK20/16	–	–	–	XL	27	20	28	16	0,3
NK20/20	–	–	–	XL	33,9	20	28	20	0,3
–	RNA4902	–	–	XL	21,7	20	28	13	0,3
–	–	RNA6902	–	XL	39,7	20	28	23	0,3
–	–	–	NKS20	XL	48,7	20	32	20	0,6
NK21/16	–	–	–	XL	28,1	21	29	16	0,3
NK21/20	–	–	–	XL	35,2	21	29	20	0,3
NK22/16	–	–	–	XL	30	22	30	16	0,3
NK22/20	–	–	–	XL	37	22	30	20	0,3
–	RNA4903	–	–	XL	22,2	22	30	13	0,3
–	–	RNA6903	–	XL	42,4	22	30	23	0,3
–	–	–	NKS22	XL	61,5	22	35	20	0,6
NK24/16	–	–	–	XL	31,9	24	32	16	0,3
NK24/20	–	–	–	XL	40	24	32	20	0,3
–	–	–	NKS24	XL	65,5	24	37	20	0,6
NK25/16	–	–	–	XL	32,6	25	33	16	0,3
NK25/20	–	–	–	XL	42	25	33	20	0,3
–	RNA4904	–	–	XL	52,3	25	37	17	0,3
–	–	RNA6904	–	XL	100	25	37	30	0,3
–	–	–	NKS25	XL	68,1	25	38	20	0,6
NK26/16	–	–	–	XL	34	26	34	16	0,3
NK26/20	–	–	–	XL	42	26	34	20	0,3
NK28/20	–	–	–	XL	52,2	28	37	20	0,3
NK28/30	–	–	–	XL	82	28	37	30	0,3
–	RNA49/22	–	–	XL	50,2	28	39	17	0,3
–	–	RNA69/22	–	XL	98	28	39	30	0,3
–	–	–	NKS28	XL	83,6	28	42	20	0,6
NK29/20-TV	–	–	–	XL	50	29	38	20	0,3
NK29/30	–	–	–	XL	84,3	29	38	30	0,3
NK30/20-TV	–	–	–	XL	61	30	40	20	0,3
NK30/30-TV	–	–	–	XL	92,4	30	40	30	0,3
–	RNA4905	–	–	XL	61	30	42	17	0,3
–	–	RNA6905	–	XL	112	30	42	30	0,3
–	–	–	NKS30	XL	104	30	45	22	0,6

Basic load ratings		Fatigue limit load C_{ur} N	Limiting speed n_G min^{-1}	Reference speed n_B min^{-1}
dyn. C_r N	stat. C_{0r} N			
14 600	17 500	3 200	21 100	13 200
18 600	23 800	4 150	21 100	12 900
12 000	13 600	2 430	20 400	10 800
19 500	25 500	4 450	20 400	10 600
26 000	25 000	4 400	18 800	10 700
15 200	18 700	3 450	20 600	12 600
19 300	25 500	4 450	20 600	12 300
15 800	19 900	3 650	20 000	12 000
20 000	27 000	4 700	20 000	11 700
12 400	14 600	2 600	18 800	9 900
21 100	29 000	5 100	18 800	9 500
27 500	28 000	4 900	17 200	9 700
16 900	22 300	4 100	18 500	11 000
21 400	30 500	5 300	18 500	10 700
29 500	31 000	5 400	16 100	9 100
16 800	22 400	4 150	17 800	10 700
21 300	30 500	5 300	17 800	10 400
23 700	25 500	4 600	15 800	8 900
40 500	51 000	9 100	15 800	8 500
31 000	33 500	5 800	15 600	8 700
17 300	23 600	4 350	17 200	10 300
22 000	32 000	5 600	17 200	10 100
24 800	34 000	5 900	15 800	9 300
37 000	57 000	10 500	15 800	9 000
26 000	29 500	5 300	14 600	8 000
42 000	55 000	9 900	14 600	7 800
32 500	36 500	6 400	14 000	7 900
27 500	39 000	6 900	15 300	8 700
37 000	57 000	10 600	15 300	8 800
28 000	41 000	7 200	14 800	8 500
42 000	69 000	12 700	14 800	8 200
26 500	31 500	5 700	13 600	7 400
44 000	59 000	10 600	13 600	7 200
36 500	40 000	6 900	13 100	7 600

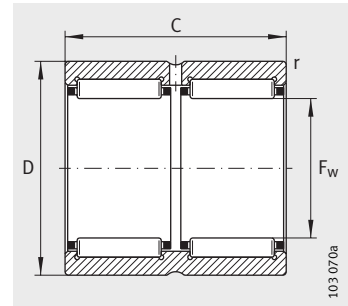


Needle roller bearings

Without inner ring
Open



NK, NKS, RNA49, RNA69



RNA69...-ZW

Dimension table (continued) · Dimensions in mm

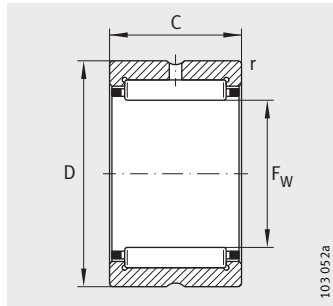
Designation				X-life	Mass m ≈g	Dimensions			
						F _w	D	C	r min.
NK32/20-TV	–	–	–	XL	64	32	42	20	0,3
NK32/30	–	–	–	XL	102	32	42	30	0,3
–	RNA49/28	–	–	XL	73,2	32	45	17	0,3
–	–	RNA69/28	–	XL	135	32	45	30	0,3
–	–	–	NKS32	XL	110	32	47	22	0,6
NK35/20-TV	–	–	–	XL	69,4	35	45	20	0,3
NK35/30-TV	–	–	–	XL	106	35	45	30	0,3
–	RNA4906	–	–	XL	69,4	35	47	17	0,3
–	–	RNA6906	–	XL	126	35	47	30	0,3
–	–	–	NKS35	XL	118	35	50	22	0,6
NK37/20	–	–	–	XL	77	37	47	20	0,3
NK37/30	–	–	–	XL	113	37	47	30	0,3
–	–	–	NKS37	XL	123	37	52	22	0,6
NK38/20	–	–	–	XL	79,4	38	48	20	0,3
NK38/30	–	–	–	XL	116	38	48	30	0,3
NK40/20-TV	–	–	–	XL	78	40	50	20	0,3
NK40/30	–	–	–	XL	125	40	50	30	0,3
–	RNA49/32	–	–	XL	89,1	40	52	20	0,6
–	–	RNA69/32-ZW	–	XL	162	40	52	36	0,6
–	–	–	NKS40	XL	129	40	55	22	0,6
NK42/20	–	–	–	XL	85,8	42	52	20	0,3
NK42/30	–	–	–	XL	130	42	52	30	0,3
–	RNA4907	–	–	XL	107	42	55	20	0,6
–	–	RNA6907-ZW	–	XL	193	42	55	36	0,6
NK43/20	–	–	–	XL	86	43	53	20	0,3
NK43/30	–	–	–	XL	133	43	53	30	0,3
–	–	–	NKS43	XL	139	43	58	22	0,6
NK45/20-TV	–	–	–	XL	85,3	45	55	20	0,3
NK45/30-TV	–	–	–	XL	132	45	55	30	0,3
–	–	–	NKS45	XL	145	45	60	22	0,6
NK47/20	–	–	–	XL	94,5	47	57	20	0,3
NK47/30	–	–	–	XL	142	47	57	30	0,3
–	RNA4908	–	–	XL	140	48	62	22	0,6
–	–	RNA6908-ZW	–	XL	256	48	62	40	0,6

Basic load ratings		Fatigue limit load C_{ur} N	Limiting speed n_G min^{-1}	Reference speed n_B min^{-1}
dyn. C_r N	stat. C_{0r} N			
29 500	44 500	7 800	14 000	8 000
39 000	63 000	11 700	14 000	9 300
27 500	33 500	6 100	12 700	6 900
45 500	63 000	11 400	12 700	6 700
38 000	43 500	7 400	12 400	7 200
31 000	48 500	8 500	12 900	7 400
46 000	81 000	15 000	12 300	6 600
28 500	35 500	6 400	12 000	6 400
49 000	71 000	12 900	12 000	6 100
39 500	47 000	8 000	11 500	6 700
28 000	43 500	7 600	12 300	7 400
42 000	73 000	13 500	12 300	7 200
41 500	50 000	8 600	11 000	6 400
29 000	45 000	7 900	12 000	7 200
43 000	76 000	14 000	12 000	7 000
33 500	56 000	9 800	11 400	6 500
44 000	79 000	14 600	11 400	6 700
34 500	47 500	8 900	10 700	6 000
53 000	82 000	15 100	10 700	6 000
42 500	54 000	9 200	10 300	6 100
30 000	49 000	8 600	10 900	6 600
44 500	82 000	15 200	10 900	6 400
35 500	50 000	9 400	10 100	5 600
54 000	86 000	15 900	10 100	5 700
30 500	51 000	8 900	10 700	6 500
45 500	85 000	15 800	10 700	6 300
44 000	57 000	9 800	9 700	5 800
35 000	62 000	10 800	10 200	5 900
52 000	103 000	19 100	9 800	5 400
45 500	60 000	10 400	9 300	5 600
32 500	56 000	9 900	9 800	6 000
48 500	94 000	17 500	9 800	5 800
48 500	67 000	11 500	8 900	5 000
74 000	116 000	19 400	8 900	5 100

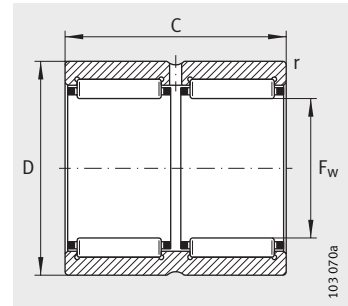


Needle roller bearings

Without inner ring
Open



NK, NKS, RNA49



RNA69...-ZW

Dimension table (continued) · Dimensions in mm

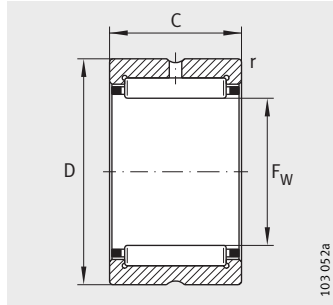
Designation				X-life	Mass m ≈g	Dimensions			
						F _w	D	C	r min.
NK50/25-TV	–	–	–	XL	146	50	62	25	0,6
NK50/35-TV	–	–	–	XL	207	50	62	35	0,6
–	–	–	NKS50	XL	157	50	65	22	1
–	RNA4909	–	–	XL	182	52	68	22	0,6
–	–	RNA6909-ZW	–	XL	338	52	68	40	0,6
NK55/25	–	–	–	XL	180	55	68	25	0,6
NK55/35	–	–	–	XL	250	55	68	35	0,6
–	–	–	NKS55	XL	221	55	72	22	1
–	RNA4910	–	–	XL	163	58	72	22	0,6
–	–	RNA6910-ZW	–	XL	310	58	72	40	0,6
NK60/25-TV	–	–	–	XL	170	60	72	25	0,6
NK60/35	–	–	–	XL	258	60	72	35	0,6
–	–	–	NKS60	XL	335	60	80	28	1,1
–	RNA4911	–	–	XL	255	63	80	25	1
–	–	RNA6911-ZW	–	XL	470	63	80	45	1
NK65/25	–	–	–	XL	221	65	78	25	0,6
NK65/35	–	–	–	XL	310	65	78	35	0,6
–	–	–	NKS65	XL	356	65	85	28	1,1
NK68/25	–	–	–	XL	241	68	82	25	0,6
NK68/35	–	–	–	XL	338	68	82	35	0,6
–	RNA4912	–	–	XL	275	68	85	25	1
–	–	RNA6912-ZW	–	XL	488	68	85	45	1
NK70/25	–	–	–	XL	260	70	85	25	0,6
NK70/35	–	–	–	XL	370	70	85	35	0,6
–	–	–	NKS70	XL	380	70	90	28	1,1
–	RNA4913	–	–	XL	312	72	90	25	1
–	–	RNA6913-ZW	–	XL	580	72	90	45	1
NK73/25	–	–	–	XL	302	73	90	25	1
NK73/35	–	–	–	XL	428	73	90	35	1
NK75/25	–	–	–	XL	315	75	92	25	1
NK75/35	–	–	–	XL	445	75	92	35	1
–	–	–	NKS75	XL	402	75	95	28	1,1

Basic load ratings		Fatigue limit load C_{ur} N	Limiting speed n_G min^{-1}	Reference speed n_B min^{-1}
dyn. C_r N	stat. C_{0r} N			
48 500	87 000	14 800	9 200	5 700
67 000	132 000	23 900	8 800	4 900
48 000	67 000	11 500	8 500	5 100
51 000	73 000	12 600	8 200	4 550
79 000	127 000	21 400	8 200	4 600
45 500	82 000	14 000	8 400	5 200
60 000	118 000	21 300	8 400	5 200
51 000	74 000	12 700	7 700	4 700
53 000	80 000	13 800	7 500	4 100
82 000	139 000	23 400	7 500	4 150
53 000	103 000	17 500	7 400	4 350
63 000	130 000	23 500	7 700	4 800
71 000	98 000	17 300	7 000	4 350
65 000	100 000	17 300	6 900	3 900
102 000	176 000	30 000	6 900	3 900
50 000	98 000	16 700	7 200	4 500
66 000	142 000	25 500	7 200	4 450
75 000	108 000	19 100	6 500	4 100
49 500	89 000	15 200	6 800	4 500
70 000	139 000	25 500	6 800	4 350
68 000	108 000	18 800	6 400	3 600
106 000	191 000	32 500	6 400	3 600
50 000	92 000	15 700	6 600	4 450
71 000	144 000	26 500	6 600	4 300
77 000	113 000	20 000	6 100	3 900
69 000	112 000	19 500	6 000	3 400
108 000	198 000	33 500	6 000	3 400
60 000	100 000	17 500	6 300	4 150
85 000	156 000	27 000	6 300	4 050
61 000	104 000	18 200	6 100	4 050
87 000	162 000	28 000	6 100	3 950
81 000	123 000	21 900	5 800	3 700

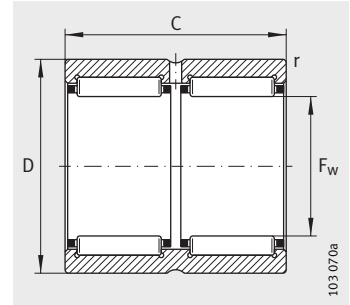


Needle roller bearings

Without inner ring
Open



NK, RNA49



RNA69...-ZW

Dimension table (continued) · Dimensions in mm

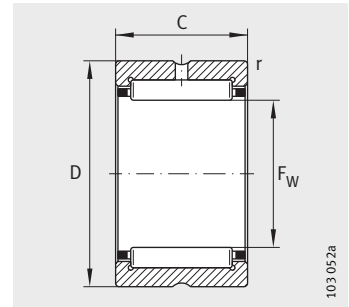
Designation			X-life	Mass m ≈ g	Dimensions			
					F _w	D	C	r min.
NK80/25	–	–	XL	301	80	95	25	1
NK80/35	–	–	XL	425	80	95	35	1
–	RNA4914	–	XL	460	80	100	30	1
–	–	RNA6914-ZW	XL	857	80	100	54	1
NK85/25	–	–	XL	425	85	105	25	1
NK85/35	–	–	XL	600	85	105	35	1
–	RNA4915	–	XL	489	85	105	30	1
–	–	RNA6915-ZW	XL	935	85	105	54	1
NK90/25	–	–	XL	450	90	110	25	1
NK90/35	–	–	XL	630	90	110	35	1
–	RNA4916	–	XL	516	90	110	30	1
–	–	RNA6916-ZW	XL	987	90	110	54	1
NK95/26	–	–	XL	490	95	115	26	1
NK95/36	–	–	XL	680	95	115	36	1
NK100/26	–	–	XL	515	100	120	26	1
NK100/36	–	–	XL	715	100	120	36	1
–	RNA4917	–	XL	657	100	120	35	1,1
–	–	RNA6917-ZW	XL	1 200	100	120	63	1,1
NK105/26	–	–	XL	540	105	125	26	1
NK105/36	–	–	XL	713	105	125	36	1
–	RNA4918	–	XL	745	105	125	35	1,1
–	–	RNA6918-ZW	XL	1 330	105	125	63	1,1
NK110/30	–	–	XL	650	110	130	30	1,1
NK110/40	–	–	XL	830	110	130	40	1,1
–	RNA4919	–	XL	719	110	130	35	1,1
–	–	RNA6919-ZW	XL	1 460	110	130	63	1,1

Basic load ratings		Fatigue limit load	Limiting speed	Reference speed
dyn. C_r N	stat. C_{0r} N	C_{ur} N	n_G min^{-1}	n_B min^{-1}
63 000	119 000	19 700	5 800	3 750
89 000	184 000	32 500	5 800	3 650
95 000	156 000	27 500	5 400	3 200
145 000	265 000	47 500	5 400	3 250
78 000	123 000	21 700	5 400	3 550
111 000	193 000	34 500	5 400	3 450
97 000	162 000	28 500	5 200	3 050
147 000	275 000	49 500	5 200	3 050
81 000	132 000	23 300	5 100	3 400
116 000	208 000	37 000	5 100	3 250
101 000	174 000	30 500	4 900	2 850
153 000	300 000	53 000	4 900	2 850
83 000	137 000	24 000	4 850	3 300
121 000	223 000	39 500	4 850	3 150
86 000	146 000	25 000	4 600	3 150
125 000	237 000	41 500	4 600	3 000
125 000	237 000	41 500	4 450	2 650
188 000	400 000	71 000	4 450	2 700
89 000	155 000	26 500	4 400	3 050
129 000	250 000	43 500	4 400	2 850
129 000	250 000	43 500	4 250	2 500
195 000	425 000	74 000	4 250	2 700
111 000	210 000	35 500	4 200	2 800
143 000	290 000	50 000	4 200	2 750
131 000	260 000	44 500	4 100	2 410
197 000	440 000	76 000	4 100	2 450



Needle roller bearings

Without inner ring
Open



RNA49, RNA48

Dimension table (continued) · Dimensions in mm

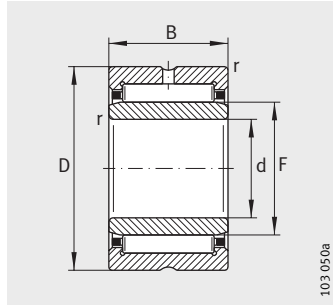
Designation		X-life	Mass m ≈ g	Dimensions			
				F _w	D	C	r min.
RNA4920	–	XL	1 150	115	140	40	1,1
–	RNA4822	XL	670	120	140	30	1
RNA4922	–	XL	1 240	125	150	40	1,1
–	RNA4824	XL	730	130	150	30	1
RNA4924	–	XL	1 860	135	165	45	1,1
–	RNA4826	XL	990	145	165	35	1,1
RNA4926	–	XL	2 210	150	180	50	1,5
–	RNA4828	XL	1 050	155	175	35	1,1
RNA4928	–	XL	2 350	160	190	50	1,5
–	RNA4830	XL	1 600	165	190	40	1,1
–	RNA4832	XL	1 700	175	200	40	1,1
–	RNA4834	XL	2 540	185	215	45	1,1
–	RNA4836	XL	2 680	195	225	45	1,1
–	RNA4838	XL	3 210	210	240	50	1,5
–	RNA4840	XL	3 350	220	250	50	1,5
–	RNA4844	XL	3 620	240	270	50	1,5
–	RNA4848	XL	5 400	265	300	60	2
–	RNA4852	XL	5 800	285	320	60	2
–	RNA4856	XL	9 300	305	350	69	2
–	RNA4860	XL	12 700	330	380	80	2,1
–	RNA4864	XL	13 400	350	400	80	2,1
–	RNA4868	XL	14 000	370	420	80	2,1
–	RNA4872	XL	14 800	390	440	80	2,1
–	RNA4876	XL	26 000	415	480	100	2,1

Basic load ratings		Fatigue limit load	Limiting speed	Reference speed
dyn. C_r N	stat. C_{0r} N	C_{ur} N	n_G min^{-1}	n_B min^{-1}
144 000	270 000	45 500	4 000	2 650
106 000	216 000	36 000	3 750	2 220
149 000	290 000	47 500	3 700	2 430
112 000	239 000	39 000	3 500	2 030
205 000	390 000	64 000	3 400	2 250
134 000	310 000	48 500	3 150	1 920
229 000	470 000	74 000	3 100	2 080
136 000	325 000	50 000	2 950	1 800
237 000	500 000	78 000	2 900	1 910
172 000	400 000	62 000	2 750	1 750
181 000	435 000	66 000	2 600	1 630
209 000	510 000	75 000	2 450	1 550
219 000	550 000	80 000	2 330	1 430
255 000	690 000	100 000	2 180	1 290
260 000	720 000	102 000	2 090	1 220
275 000	790 000	110 000	1 920	1 080
400 000	1 080 000	150 000	1 730	940
415 000	1 160 000	158 000	1 620	860
510 000	1 300 000	175 000	1 500	810
700 000	1 770 000	235 000	1 380	710
710 000	1 850 000	242 000	1 310	660
730 000	1 940 000	249 000	1 240	620
740 000	2 020 000	255 000	1 180	580
1 130 000	2 900 000	370 000	1 090	500

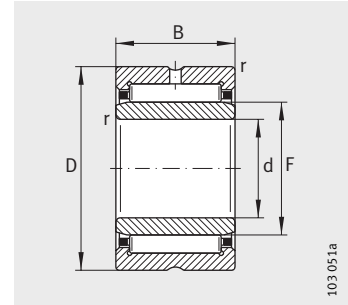


Needle roller bearings

With inner ring
Open



NKI ($d \leq 7 \text{ mm}$)

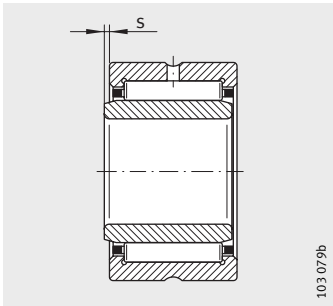


NKI ($d \geq 9 \text{ mm}$), NKIS, NA49, NA69 ($d \leq 30 \text{ mm}$)

Dimension table - Dimensions in mm

Designation				X-life	Mass m \approx g	Dimensions		
						d	F	D
NKI5/12-TV ¹⁾	-	-	-	XL	11,5	5	8	15
NKI5/16-TV ¹⁾	-	-	-	XL	15,3	5	8	15
NKI6/12-TV ¹⁾	-	-	-	XL	13,5	6	9	16
NKI6/16-TV ¹⁾	-	-	-	XL	17,4	6	9	16
NKI7/12-TV ¹⁾	-	-	-	XL	13,7	7	10	17
NKI7/16-TV ¹⁾	-	-	-	XL	18,2	7	10	17
NKI9/12	-	-	-	XL	16,6	9	12	19
NKI9/16	-	-	-	XL	21,9	9	12	19
NKI10/16	-	-	-	XL	29,4	10	14	22
NKI10/20	-	-	-	XL	37,1	10	14	22
-	NA4900	-	-	XL	23	10	14	22
NKI12/16	-	-	-	XL	33,3	12	16	24
NKI12/20	-	-	-	XL	41,9	12	16	24
-	NA4901	-	-	XL	26	12	16	24
-	-	NA6901	-	XL	46	12	16	24
NKI15/16	-	-	-	XL	38,8	15	19	27
NKI15/20	-	-	-	XL	48,7	15	19	27
-	NA4902	-	-	XL	34	15	20	28
-	-	NA6902	-	XL	63,6	15	20	28
-	-	-	NKIS15	XL	92	15	22	35
NKI17/16	-	-	-	XL	42,4	17	21	29
NKI17/20	-	-	-	XL	53,4	17	21	29
-	NA4903	-	-	XL	37	17	22	30
-	-	NA6903	-	XL	72	17	22	30
-	-	-	NKIS17	XL	98	17	24	37

¹⁾ With closing rings, without lubrication hole and groove.



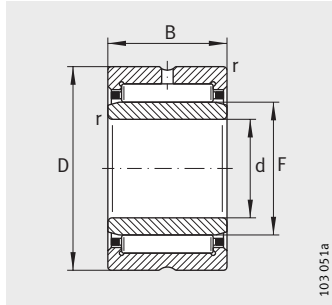
2) Axial displacement "s"

B	r min.	s ²⁾	Basic load ratings		Fatigue limit load	Limiting speed	Reference speed
			dyn. C _r N	stat. C _{0r} N	C _{ur} N	n _G min ⁻¹	n _B min ⁻¹
12	0,3	1,5	4 450	4 100	690	32 500	32 500
16	0,3	2	5 800	5 800	970	32 500	32 000
12	0,3	1,5	5 100	5 000	840	31 000	28 500
16	0,3	2	6 600	7 100	1 190	31 000	28 000
12	0,3	1,5	5 300	5 500	930	29 500	26 000
16	0,3	2	7 000	7 800	1 310	29 500	25 500
12	0,3	1,5	7 200	7 100	1 280	26 500	20 200
16	0,3	2	10 100	11 000	1 920	26 500	19 500
16	0,3	0,5	11 400	11 500	2 100	24 600	16 400
20	0,3	0,5	14 500	15 600	2 700	24 600	16 100
13	0,3	0,5	9 600	9 200	1 630	25 000	17 300
16	0,3	0,5	12 800	13 900	2 550	23 200	14 500
20	0,3	0,5	16 300	18 800	3 250	23 200	14 200
13	0,3	0,5	10 600	10 900	1 940	23 600	14 900
22	0,3	1	18 100	21 600	3 800	23 600	13 900
16	0,3	0,5	14 700	17 400	3 200	21 600	12 400
20	0,3	0,5	18 700	23 600	4 150	21 600	12 100
13	0,3	0,5	12 000	13 600	2 430	21 600	12 000
23	0,3	1	19 500	25 500	4 450	21 600	11 700
20	0,6	0,5	27 500	28 000	4 900	19 600	10 300
16	0,3	0,5	15 200	18 700	3 450	20 600	11 400
20	0,3	0,5	19 300	25 500	4 450	20 600	11 200
13	0,3	0,5	12 400	14 600	2 600	20 600	10 900
23	0,3	1	21 100	29 000	5 100	20 600	10 500
20	0,6	0,5	29 500	31 000	5 400	18 100	9 500

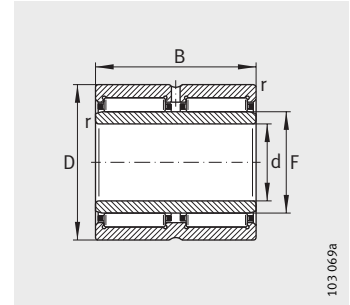


Needle roller bearings

With inner ring
Open



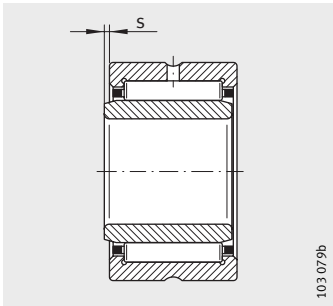
NKI, NKIS, NA49,
NA69 ($d \leq 30$ mm)



NA69..-ZW

Dimension table (continued) · Dimensions in mm

Designation				X-life	Mass m ≈ g	Dimensions		
						d	F	D
NKI20/16	-	-	-	XL	49	20	24	32
NKI20/20	-	-	-	XL	61	20	24	32
-	NA4904	-	-	XL	75,2	20	25	37
-	-	NA6904	-	XL	141	20	25	37
-	-	-	NKIS20	XL	129	20	28	42
NKI22/16	-	-	-	XL	52	22	26	34
NKI22/20	-	-	-	XL	65,4	22	26	34
-	NA49/22	-	-	XL	80	22	28	39
-	-	NA69/22	-	XL	150	22	28	39
NKI25/20-TV	-	-	-	XL	75,8	25	29	38
NKI25/30	-	-	-	XL	124	25	29	38
-	NA4905	-	-	XL	88	25	30	42
-	-	NA6905	-	XL	161	25	30	42
-	-	-	NKIS25	XL	162	25	32	47
NKI28/20-TV	-	-	-	XL	92,4	28	32	42
NKI28/30	-	-	-	XL	146	28	32	42
-	NA49/28	-	-	XL	97,7	28	32	45
-	-	NA69/28	-	XL	182	28	32	45
NKI30/20-TV	-	-	-	XL	108	30	35	45
NKI30/30-TV	-	-	-	XL	165	30	35	45
-	NA4906	-	-	XL	101	30	35	47
-	-	NA6906	-	XL	192	30	35	47
-	-	-	NKIS30	XL	184	30	37	52
NKI32/20	-	-	-	XL	118	32	37	47
NKI32/30	-	-	-	XL	180	32	37	47
-	NA49/32	-	-	XL	158	32	40	52
-	-	NA69/32-ZW	-	XL	288	32	40	52
NKI35/20-TV	-	-	-	XL	122	35	40	50
NKI35/30	-	-	-	XL	193	35	40	50
-	NA4907	-	-	XL	170	35	42	55
-	-	NA6907-ZW	-	XL	310	35	42	55
-	-	-	NKIS35	XL	220	35	43	58



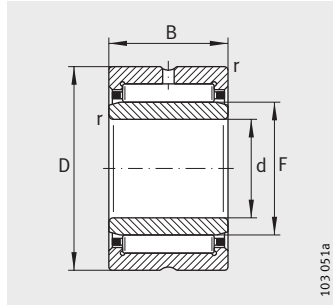
1) Axial displacement "s"

B	r min.	s ¹⁾	Basic load ratings		Fatigue limit load	Limiting speed	Reference speed
			dyn. C _r N	stat. C _{0r} N	C _{ur} N	n _G min ⁻¹	n _B min ⁻¹
16	0,3	0,5	16 900	22 300	4 100	18 500	10 100
20	0,3	0,5	21 400	30 500	5 300	18 500	9 900
17	0,3	0,8	23 700	25 500	4 600	17 200	9 600
30	0,3	1	40 500	51 000	9 100	17 200	9 200
20	0,6	0,5	32 500	36 500	6 400	15 800	8 300
16	0,3	0,5	17 300	23 600	4 350	17 200	9 500
20	0,3	0,5	22 000	32 000	5 600	17 200	9 300
17	0,3	0,8	26 000	29 500	5 300	16 100	8 700
30	0,3	0,5	42 000	55 000	9 900	16 100	8 500
20	0,3	1	27 500	39 000	6 900	15 300	8 100
30	0,3	1,5	37 000	57 000	10 600	15 300	8 200
17	0,3	0,8	26 500	31 500	5 700	14 600	7 900
30	0,3	1	44 000	59 000	10 600	14 600	7 700
22	0,6	1	38 000	43 500	7 400	13 600	7 400
20	0,3	1	29 500	44 500	7 800	14 000	7 500
30	0,3	1,5	39 000	63 000	11 700	14 000	8 600
17	0,3	0,8	27 500	33 500	6 100	13 400	7 200
30	0,3	1	45 500	63 000	11 400	13 400	7 000
20	0,3	0,5	31 000	48 500	8 500	12 900	6 800
30	0,3	1	46 000	81 000	15 000	12 900	6 600
17	0,3	0,8	28 500	35 500	6 400	12 700	6 800
30	0,3	1	49 000	71 000	12 900	12 700	6 400
22	0,6	1	41 500	50 000	8 600	12 000	6 600
20	0,3	0,5	28 000	43 500	7 600	12 300	6 900
30	0,3	1	42 000	73 000	13 500	12 300	6 600
20	0,6	0,8	34 500	47 500	8 900	11 700	6 500
36	0,6	0,5	53 000	82 000	15 100	11 700	6 500
20	0,3	0,5	33 500	56 000	9 800	11 400	6 100
30	0,3	1	44 000	79 000	14 600	11 400	6 200
20	0,6	0,8	35 500	50 000	9 400	10 900	6 000
36	0,6	0,5	54 000	86 000	15 900	10 900	6 100
22	0,6	0,5	44 000	57 000	9 800	10 500	5 900

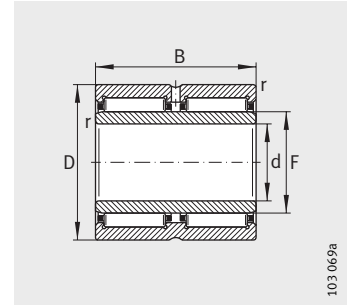


Needle roller bearings

With inner ring
Open



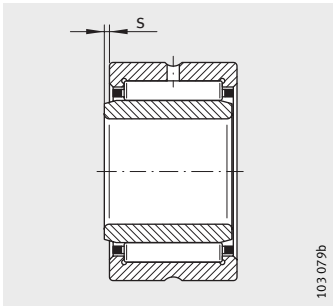
NKI, NKIS, NA49



NA69..-ZW

Dimension table (continued) · Dimensions in mm

Designation				X-life	Mass m ≈g	Dimensions		
						d	F	D
NKI38/20	–	–	–	XL	136	38	43	53
NKI38/30	–	–	–	XL	207	38	43	53
NKI40/20-TV	–	–	–	XL	136	40	45	55
NKI40/30-TV	–	–	–	XL	216	40	45	55
–	NA4908	–	–	XL	230	40	48	62
–	–	NA6908-ZW	–	XL	430	40	48	62
–	–	–	NKIS40	XL	281	40	50	65
NKI42/20	–	–	–	XL	148	42	47	57
NKI42/30	–	–	–	XL	222	42	47	57
NKI45/25-TV	–	–	–	XL	217	45	50	62
NKI45/35-TV	–	–	–	XL	308	45	50	62
–	NA4909	–	–	XL	271	45	52	68
–	–	NA6909-ZW	–	XL	495	45	52	68
–	–	–	NKIS45	XL	336	45	55	72
NKI50/25	–	–	–	XL	270	50	55	68
NKI50/35	–	–	–	XL	379	50	55	68
–	NA4910	–	–	XL	274	50	58	72
–	–	NA6910-ZW	–	XL	515	50	58	72
–	–	–	NKIS50	XL	518	50	60	80
NKI55/25-TV	–	–	–	XL	255	55	60	72
NKI55/35	–	–	–	XL	379	55	60	72
–	NA4911	–	–	XL	393	55	63	80
–	–	NA6911-ZW	–	XL	780	55	63	80
–	–	–	NKIS55	XL	558	55	65	85
NKI60/25	–	–	–	XL	394	60	68	82
NKI60/35	–	–	–	XL	553	60	68	82
–	NA4912	–	–	XL	426	60	68	85
–	–	NA6912-ZW	–	XL	808	60	68	85
–	–	–	NKIS60	XL	560	60	70	90



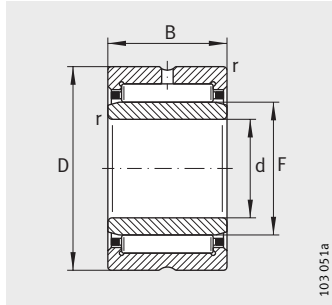
1) Axial displacement "s"

B	r min.	s ¹⁾	Basic load ratings		Fatigue limit load	Limiting speed	Reference speed
			dyn. C _r N	stat. C _{0r} N	C _{ur} N	n _G min ⁻¹	n _B min ⁻¹
20	0,3	0,5	30 500	51 000	8 900	10 700	6 000
30	0,3	1	45 500	85 000	15 800	10 700	5 900
20	0,3	0,5	35 000	62 000	10 800	10 200	5 600
30	0,3	1	52 000	103 000	19 100	10 200	5 400
22	0,6	1	48 500	67 000	11 500	9 600	5 300
40	0,6	0,5	74 000	116 000	19 400	9 600	5 400
22	1	0,5	48 000	67 000	11 500	9 300	5 200
20	0,3	0,5	32 500	56 000	9 900	9 800	5 600
30	0,3	1	48 500	94 000	17 500	9 800	5 400
25	0,6	1,5	48 500	87 000	14 800	9 200	5 300
35	0,6	2	67 000	132 000	23 900	9 200	4 950
22	0,6	1	51 000	73 000	12 600	8 700	4 750
40	0,6	0,5	79 000	127 000	21 400	8 700	4 850
22	1	0,5	51 000	74 000	12 700	8 400	4 750
25	0,6	1,5	45 500	82 000	14 000	8 400	4 950
35	0,6	2	60 000	118 000	21 300	8 400	4 900
22	0,6	1	53 000	80 000	13 800	8 000	4 350
40	0,6	0,5	82 000	139 000	23 400	8 000	4 400
28	1,1	2	71 000	98 000	17 300	7 500	4 450
25	0,6	1,5	53 000	103 000	17 500	7 700	4 400
35	0,6	2	63 000	130 000	23 500	7 700	4 550
25	1	1,5	65 000	100 000	17 300	7 300	4 100
45	1	1,5	102 000	176 000	30 000	7 300	4 100
28	1,1	2	75 000	108 000	22 200	7 000	4 150
25	0,6	1	49 500	89 000	15 200	6 800	4 200
35	0,6	1	70 000	139 000	25 500	6 800	4 050
25	1	1,5	68 000	108 000	18 800	6 800	3 750
45	1	1,5	106 000	191 000	32 500	6 800	3 750
28	1,1	2	77 000	113 000	23 400	6 500	3 950

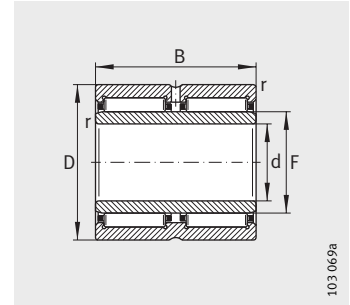


Needle roller bearings

With inner ring
Open



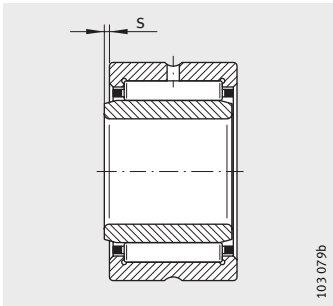
NKI, NKIS, NA49



NA69..-ZW

Dimension table (continued) · Dimensions in mm

Designation				X-life	Mass m ≈ g	Dimensions		
						d	F	D
NKI65/25	–	–	–	XL	467	65	73	90
NKI65/35	–	–	–	XL	659	65	73	90
–	NA4913	–	–	XL	456	65	72	90
–	–	NA6913-ZW	–	XL	833	65	72	90
–	–	–	NKIS65	XL	641	65	75	95
NKI70/25	–	–	–	XL	521	70	80	95
NKI70/35	–	–	–	XL	737	70	80	95
–	NA4914	–	–	XL	728	70	80	100
–	–	NA6914-ZW	–	XL	1 340	70	80	100
NKI75/25	–	–	–	XL	641	75	85	105
NKI75/35	–	–	–	XL	908	75	85	105
–	NA4915	–	–	XL	775	75	85	105
–	–	NA6915-ZW	–	XL	1 450	75	85	105
NKI80/25	–	–	–	XL	677	80	90	110
NKI80/35	–	–	–	XL	959	80	90	110
–	NA4916	–	–	XL	878	80	90	110
–	–	NA6916-ZW	–	XL	1 522	80	90	110
NKI85/26	–	–	–	XL	743	85	95	115
NKI85/36	–	–	–	XL	1 040	85	95	115
–	NA4917	–	–	XL	1 250	85	100	120
–	–	NA6917-ZW	–	XL	2 200	85	100	120
NKI90/26	–	–	–	XL	778	90	100	120
NKI90/36	–	–	–	XL	1 090	90	100	120
–	NA4918	–	–	XL	1 312	90	105	125
–	–	NA6918-ZW	–	XL	2 310	90	105	125
NKI95/26	–	–	–	XL	816	95	105	125
NKI95/36	–	–	–	XL	1 145	95	105	125
–	NA4919	–	–	XL	1 371	95	110	130
–	–	NA6919-ZW	–	XL	2 500	95	110	130



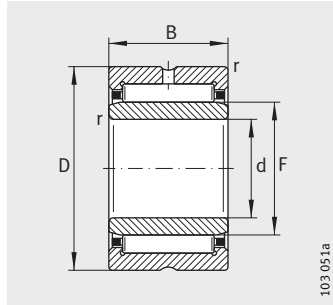
1) Axial displacement "s"

B	r min.	s ¹⁾	Basic load ratings		Fatigue limit load	Limiting speed	Reference speed
			dyn. C _r N	stat. C _{0r} N	C _{ur} N	n _G min ⁻¹	n _B min ⁻¹
25	1	1	60 000	100 000	17 500	6 300	3 900
35	1	1	85 000	156 000	27 000	6 300	3 750
25	1	1,5	69 000	112 000	19 500	6 300	3 500
45	1	1,5	108 000	198 000	33 500	6 300	3 550
28	1,1	2	81 000	123 000	25 500	6 100	3 700
25	1	0,8	63 000	119 000	19 700	5 800	3 500
35	1	0,8	89 000	184 000	32 500	5 800	3 350
30	1	1,5	95 000	156 000	27 500	5 800	3 350
54	1	1	145 000	265 000	47 500	5 800	3 400
25	1	1	78 000	123 000	21 700	5 400	3 300
35	1	1	111 000	193 000	34 500	5 400	3 200
30	1	1,5	97 000	162 000	28 500	5 400	3 150
54	1	1	147 000	275 000	49 500	5 400	3 200
25	1	1	81 000	132 000	23 300	5 100	3 150
35	1	1	116 000	208 000	37 000	5 100	3 050
30	1	1,5	101 000	174 000	30 500	5 200	2 950
54	1	1	153 000	300 000	53 000	5 200	3 000
26	1	1,5	83 000	137 000	24 000	4 850	3 100
36	1	1,5	121 000	223 000	39 500	4 850	2 950
35	1,1	1	125 000	237 000	41 500	4 800	2 800
63	1,1	1	188 000	400 000	71 000	4 800	2 850
26	1	1,5	86 000	146 000	25 000	4 600	2 950
36	1	1,5	125 000	237 000	41 500	4 600	2 800
35	1,1	1	129 000	250 000	43 500	4 550	2 650
63	1,1	1	195 000	425 000	74 000	4 550	2 700
26	1	1,5	89 000	155 000	26 500	4 400	2 850
36	1	1,5	129 000	250 000	43 500	4 400	2 700
35	1,1	1	131 000	260 000	44 500	4 350	2 550
63	1,1	1	197 000	440 000	76 000	4 350	2 600

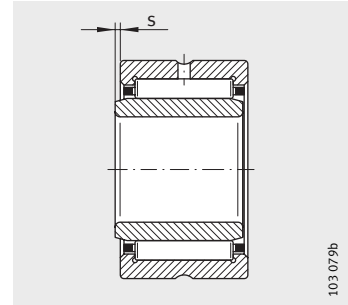


Needle roller bearings

With inner ring
Open



NKI, NA49, NA48



1) Axial displacement "s"

Dimension table (continued) · Dimensions in mm

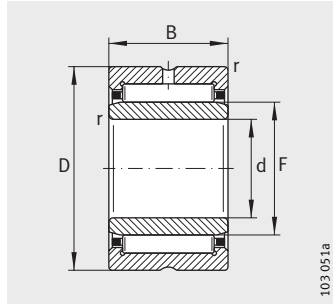
Designation			X-life	Mass m ≈g	Dimensions		
					d	F	D
NKI100/30	–	–	XL	990	100	110	130
NKI100/40	–	–	XL	1 330	100	110	130
–	NA4920	–	XL	1 900	100	115	140
–	NA4922	–	XL	2 070	110	125	150
–	–	NA4822	XL	1 080	110	120	140
–	NA4924	–	XL	2 860	120	135	165
–	–	NA4824	XL	1 170	120	130	150
–	NA4926	–	XL	3 900	130	150	180
–	–	NA4826	XL	1 810	130	145	165
–	NA4928	–	XL	4 150	140	160	190
–	–	NA4828	XL	1 920	140	155	175
–	–	NA4830	XL	2 720	150	165	190
–	–	NA4832	XL	2 890	160	175	200
–	–	NA4834	XL	3 960	170	185	215
–	–	NA4836	XL	4 200	180	195	225
–	–	NA4838	XL	5 610	190	210	240

B	r min.	s ¹⁾	Basic load ratings		Fatigue limit load	Limiting speed	Reference speed
			dyn. C _r N	stat. C _{0r} N	C _{ur} N	n _G min ⁻¹	n _B min ⁻¹
30	1,1	1,5	111 000	210 000	35 500	4 200	2 650
40	1,1	2	143 000	290 000	50 000	4 200	2 600
40	1,1	2	144 000	270 000	45 500	4 100	2 600
40	1,1	2	149 000	290 000	47 500	3 750	2 400
30	1	0,8	106 000	216 000	36 000	3 900	2 300
45	1,1	2	205 000	390 000	64 000	3 450	2 200
30	1	0,8	112 000	239 000	39 000	3 650	2 090
50	1,5	1,5	229 000	470 000	74 000	3 150	2 080
35	1,1	1	134 000	310 000	48 500	3 300	2 000
50	1,5	1,5	237 000	500 000	78 000	2 950	1 920
35	1,1	1	136 000	325 000	50 000	3 100	1 870
40	1,1	1,5	172 000	400 000	62 000	2 900	1 810
40	1,1	1,5	181 000	435 000	66 000	2 700	1 680
45	1,1	1,5	209 000	510 000	75 000	2 550	1 610
45	1,1	1,5	219 000	550 000	80 000	2 420	1 490
50	1,5	1,5	255 000	690 000	100 000	2 280	1 350

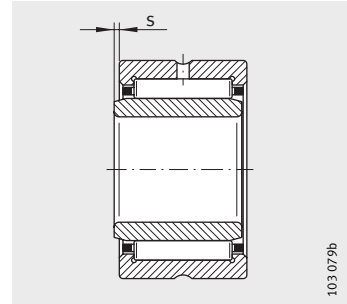


Needle roller bearings

With inner ring
Open



NA48



1) Axial displacement "s"

Dimension table (continued) · Dimensions in mm

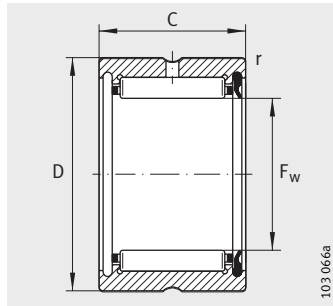
Designation	X-life	Mass m ≈g	Dimensions					
			d	F	D	B	r min.	s ¹⁾
NA4840	XL	5 840	200	220	250	50	1,5	1,5
NA4844	XL	6 380	220	240	270	50	1,5	1,5
NA4848	XL	10 000	240	265	300	60	2	2
NA4852	XL	10 600	260	285	320	60	2	2
NA4856	XL	15 300	280	305	350	69	2	2,5
NA4860	XL	21 800	300	330	380	80	2,1	2
NA4864	XL	23 000	320	350	400	80	2,1	2
NA4868	XL	24 200	340	370	420	80	2,1	2
NA4872	XL	25 600	360	390	440	80	2,1	2
NA4876	XL	42 600	380	415	480	100	2,1	2

Basic load ratings		Fatigue limit load	Limiting speed	Reference speed
dyn. C_r N	stat. C_{0r} N	C_{ur} N	n_G min^{-1}	n_B min^{-1}
260 000	720 000	102 000	2 150	1 250
275 000	790 000	110 000	1 980	1 110
400 000	1 080 000	150 000	1 780	960
415 000	1 160 000	158 000	1 660	870
510 000	1 300 000	175 000	1 540	840
700 000	1 770 000	235 000	1 420	720
710 000	1 850 000	242 000	1 340	670
730 000	1 940 000	249 000	1 270	620
740 000	2 020 000	255 000	1 210	590
1 130 000	2 900 000	370 000	1 130	510

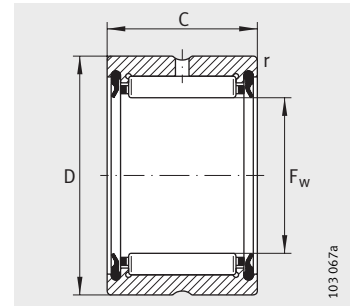


Needle roller bearings

Without inner ring
Sealed



RNA49...-RSR



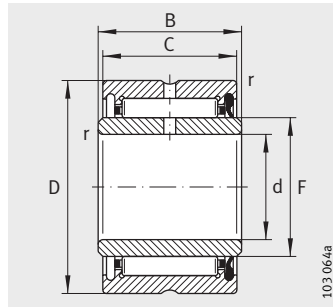
RNA49...-2RSR

Dimension table - Dimensions in mm

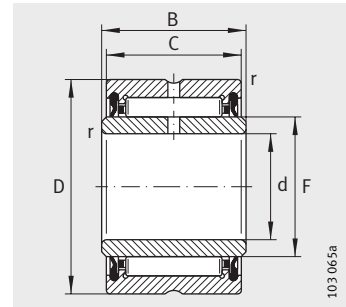
Designation			Mass m ≈ g	Dimensions				Basic load ratings		Fatigue limit load C _{ur} N	Limiting speed n _{G grease} min ⁻¹
				F _w	D	C	r min.	dyn. C _r N	stat. C _{0r} N		
RNA4900-RSR	RNA4900-2RSR	XL	16	14	22	13	0,3	7 700	6 900	1 360	13 000
RNA4901-RSR	RNA4901-2RSR	XL	18	16	24	13	0,3	8 600	8 300	1 630	12 000
RNA4902-RSR	RNA4902-2RSR	XL	21,5	20	28	13	0,3	9 700	10 300	2 040	10 000
RNA4903-RSR	RNA4903-2RSR	XL	23	22	30	13	0,3	10 000	11 000	2 180	9 000
RNA4904-RSR	RNA4904-2RSR	XL	56	25	37	17	0,3	19 500	19 900	3 750	7 500
RNA4905-RSR	RNA4905-2RSR	XL	60	30	42	17	0,3	21 800	24 200	4 550	6 500
RNA4906-RSR	RNA4906-2RSR	XL	69	35	47	17	0,3	23 900	28 500	5 400	5 500
RNA4907-RSR	RNA4907-2RSR	XL	107	42	55	20	0,6	29 500	39 500	7 200	4 800
RNA4908-RSR	RNA4908-2RSR	XL	154	48	62	22	0,6	41 000	53 000	8 800	4 200
RNA4909-RSR	RNA4909-2RSR	XL	157	52	68	22	0,6	43 000	59 000	9 700	3 900
RNA4910-RSR	RNA4910-2RSR	XL	160	58	72	22	0,6	45 000	64 000	10 600	3 500

Needle roller bearings

With inner ring
Sealed



NA49..-RSR

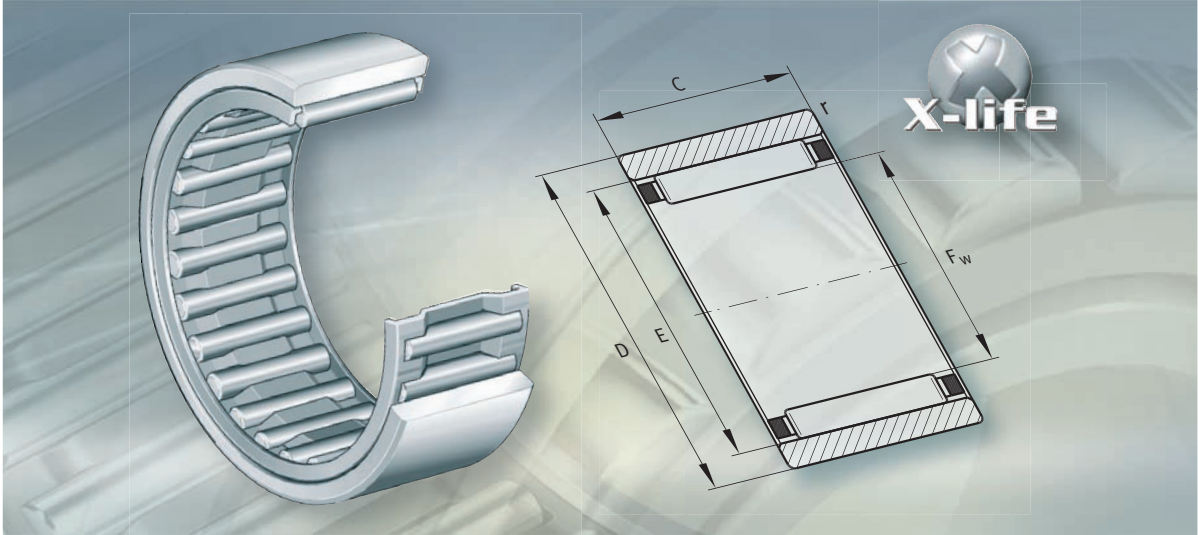


NA49..-2RSR

Dimension table · Dimensions in mm

Designation		X-life	Mass m ≈ g	Dimensions						Basic load ratings		Fatigue limit load C _{ur} N	Limiting speed n _{G grease} min ⁻¹
				d	F	D	C	B	r min.	dyn. C _r N	stat. C _{0r} N		
NA4900-RSR	NA4900-2RSR	XL	24,5	10	14	22	13	14	0,3	7 700	6 900	1 360	13 000
NA4901-RSR	NA4901-2RSR	XL	27,5	12	16	24	13	14	0,3	8 600	8 300	1 630	12 000
NA4902-RSR	NA4902-2RSR	XL	37	15	20	28	13	14	0,3	9 700	10 300	2 040	10 000
NA4903-RSR	NA4903-2RSR	XL	40	17	22	30	13	14	0,3	10 000	11 000	2 180	9 000
NA4904-RSR	NA4904-2RSR	XL	80	20	25	37	17	18	0,3	19 500	19 900	3 750	7 500
NA4905-RSR	NA4905-2RSR	XL	89,5	25	30	42	17	18	0,3	21 800	24 200	4 550	6 500
NA4906-RSR	NA4906-2RSR	XL	104	30	35	47	17	18	0,3	23 900	28 500	5 400	5 500
NA4907-RSR	NA4907-2RSR	XL	175	35	42	55	20	21	0,6	29 500	39 500	7 200	4 800
NA4908-RSR	NA4908-2RSR	XL	252	40	48	62	22	23	0,6	41 000	53 000	8 800	4 200
NA4909-RSR	NA4909-2RSR	XL	290	45	52	68	22	23	0,6	43 000	59 000	9 700	3 900
NA4910-RSR	NA4910-2RSR	XL	295	50	58	72	22	23	0,6	45 000	64 000	10 600	3 500





Needle roller bearings without ribs

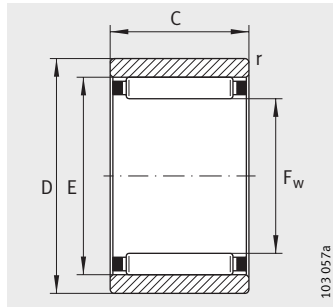
Needle roller bearings without ribs

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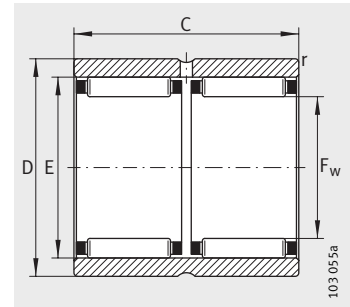


Needle roller bearings without ribs

Without inner ring
Open



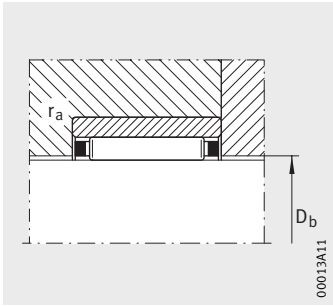
RNAO



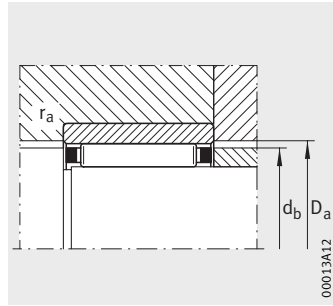
RNAO..-ZW-ASR1

Dimension table - Dimensions in mm

Designation	X-life	Mass m ≈ g	Dimensions					Mounting dimensions	
			F _w	D	C	E	r min.	D _b	d _b
RNAO5X10X8-TV	XL	3	5	10	8	8	0,15	5,3	7,7
RNAO6X13X8-TV	XL	6	6	13	8	9	0,3	6,3	8,7
RNAO7X14X8-TV	XL	6	7	14	8	10	0,3	7,3	9,7
RNAO8X15X10-TV	XL	8	8	15	10	11	0,3	8,3	10,7
RNAO10X17X10-TV	XL	10	10	17	10	13	0,3	10,3	12,7
RNAO12X22X12-TV	XL	19	12	22	12	18	0,3	12,3	17,6
RNAO15X23X13	XL	20	15	23	13	19	0,3	15,4	18,6
RNAO16X24X13	XL	21	16	28	12	20	0,3	16,4	19,6
RNAO16X28X12	XL	32	16	28	12	22	0,3	16,4	21,6
RNAO17X25X13	XL	22	17	25	13	21	0,3	17,4	20,6
RNAO18X30X24-ZW-ASR1	XL	69	18	30	24	24	0,3	18,4	23,6
RNAO20X28X13	XL	25	20	28	13	24	0,3	20,4	23,6
RNAO20X28X26-ZW-ASR1	XL	50	20	28	26	24	0,3	20,4	23,6
RNAO20X32X12	XL	38	20	32	12	26	0,3	20,4	25,6
RNAO22X30X13	XL	27	22	30	13	26	0,3	22,4	25,6
RNAO22X35X16	XL	59	22	35	16	29	0,3	22,4	28,4
RNAO25X35X17	XL	53	25	35	17	29	0,3	25,6	28,4
RNAO25X35X26-ZW-ASR1	XL	76	25	35	26	29	0,3	25,6	28,4
RNAO25X37X16	XL	60	25	37	16	32	0,3	25,6	31,4
RNAO30X40X17	XL	60	30	40	17	35	0,3	30,6	34,4
RNAO30X42X16	XL	59	30	42	16	37	0,3	30,6	36,4
RNAO30X42X32-ZW-ASR1	XL	137	30	42	32	37	0,3	30,6	36,4
RNAO35X45X13	XL	53	35	45	13	40	0,3	35,6	39,4
RNAO35X45X17	XL	69	35	45	17	40	0,3	35,6	39,4
RNAO35X45X26-ZW-ASR1	XL	91	35	45	26	40	0,3	35,6	39,4
RNAO35X47X16	XL	78	35	47	16	42	0,3	35,6	41,4
RNAO35X47X18	XL	89	35	47	16	42	0,3	35,6	41,4
RNAO35X47X32-ZW-ASR1	XL	156	35	47	32	42	0,3	35,6	41,4



Axial guidance of needle roller and cage assembly in housing



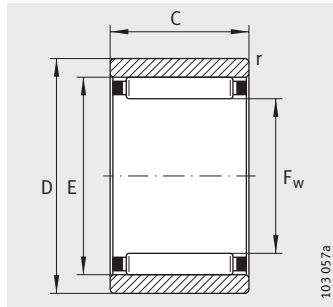
Axial guidance of needle roller and cage assembly on shaft

		Basic load ratings		Fatigue limit load	Limiting speed	Reference speed
D _a	r _a max.	dyn. C _r	stat. C _{0r}	C _{ur} N	n _G min ⁻¹	n _B min ⁻¹
		N	N			
8,3	0,1	2 650	1 920	295	39 000	53 000
9,3	0,3	2 950	2 280	355	36 500	48 500
10,3	0,3	3 250	2 650	410	34 500	41 500
11,3	0,3	4 450	4 100	690	32 500	35 500
13,3	0,3	5 300	5 500	930	29 500	28 000
18,3	0,3	11 300	9 900	1 740	26 000	19 700
19,3	0,3	9 700	10 900	1 760	22 900	15 000
20,3	0,3	10 100	11 800	1 890	23 600	16 800
22,3	0,3	13 000	12 500	2 210	22 900	15 900
21,3	0,3	11 700	14 600	2 240	22 900	15 200
24,5	0,3	24 800	30 000	5 300	21 800	14 000
24,3	0,3	11 100	14 300	2 310	21 300	13 700
24,3	0,3	19 000	28 500	4 600	21 300	13 700
26,5	0,3	15 100	16 200	2 850	20 900	12 700
26,3	0,3	11 800	15 900	2 550	20 400	12 400
29,5	0,3	22 600	25 500	4 200	19 200	11 200
29,5	0,3	16 800	26 000	4 250	18 100	11 000
29,5	0,3	21 900	37 000	5 900	18 100	11 200
32,5	0,3	23 800	28 000	4 650	17 200	10 000
35,5	0,3	22 100	34 000	5 300	15 100	8 800
37,5	0,3	26 000	33 500	5 500	14 600	8 500
37,5	0,3	45 000	67 000	11 100	14 600	8 500
40,5	0,3	18 300	28 000	4 450	13 100	7 800
40,5	0,3	23 500	38 500	6 100	13 100	7 700
40,5	0,3	31 500	56 000	8 900	13 100	7 800
42,5	0,3	27 500	37 500	6 200	12 700	7 500
42,5	0,3	31 000	43 000	7 400	12 700	7 400
42,5	0,3	47 500	75 000	12 400	12 700	7 500

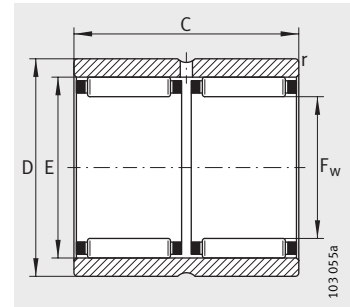


Needle roller bearings without ribs

Without inner ring
Open



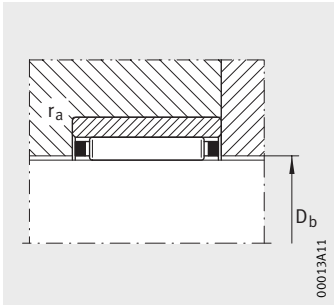
RNAO



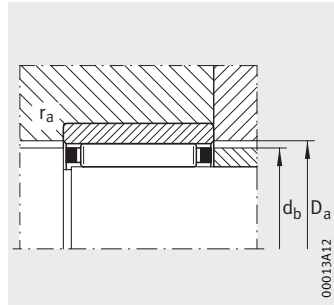
RNAO..-ZW-ASR1

Dimension table (continued) · Dimensions in mm

Designation	X-life	Mass m ≈ g	Dimensions					Mounting dimensions	
			F _w	D	C	E	r min.	D _b	d _b
RNAO40X50X17	XL	74	40	50	17	45	0,3	40,6	44,4
RNAO40X50X34-ZW-ASR1	XL	152	40	50	34	45	0,3	40,6	44,4
RNAO40X55X20	XL	145	40	55	20	47	0,3	40,6	46,2
RNAO40X55X40-ZW-ASR1	XL	275	40	55	40	48	0,3	40,6	47,2
RNAO45X55X17	XL	83	45	55	17	50	0,3	45,6	49,2
RNAO45X62X40-ZW-ASR1	XL	377	45	62	40	53	0,3	45,6	52,2
RNAO50X62X20	XL	140	50	62	20	55	0,3	50,6	54,2
RNAO50X65X20	XL	168	50	65	20	58	0,3	50,6	57,2
RNAO50X65X40-ZW-ASR1	XL	355	50	65	40	58	0,6	50,6	57,2
RNAO55X68X20	XL	166	55	68	20	60	0,6	55,8	59,4
RNAO60X78X20	XL	255	60	78	20	68	1	60,8	67,2
RNAO60X78X40-ZW-ASR1	XL	435	60	78	40	68	1	60,8	67,2
RNAO65X85X30	XL	464	65	85	30	73	1	66	72,2
RNAO70X90X30	XL	499	70	90	30	78	1	71	77,2
RNAO80X100X30	XL	580	80	100	30	88	1	81	87,2
RNAO90X105X26	XL	373	90	105	26	98	1	91	97,2
RNAO90X110X30	XL	610	90	110	30	98	1	91	97,2
RNAO100X120X30	XL	694	100	120	30	108	1	101	107,2



Axial guidance of needle roller and cage assembly in housing



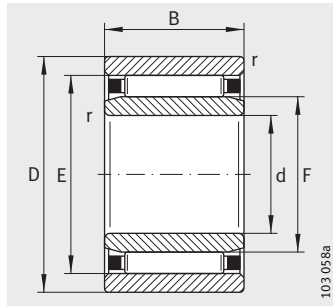
Axial guidance of needle roller and cage assembly on shaft

		Basic load ratings		Fatigue limit load	Limiting speed	Reference speed
D _a	r _a max.	dyn. C _r	stat. C _{0r}	C _{ur}	n _G min ⁻¹	n _B min ⁻¹
		N	N			
45,5	0,3	24 200	41 500	6 400	11 500	7 000
45,5	0,3	41 500	83 000	12 900	11 500	7 000
47,5	0,3	37 000	57 000	8 900	11 300	6 600
47,5	0,3	70 000	118 000	18 700	11 100	6 500
50,5	0,3	25 500	46 000	7 100	10 300	6 300
53,5	0,3	76 000	135 000	21 500	10 000	5 900
55,8	0,3	30 000	60 000	9 600	9 300	5 800
58,5	0,3	40 500	62 000	10 800	9 100	5 600
58,5	0,6	69 000	124 000	21 700	9 100	5 600
60,8	0,6	32 000	66 000	10 700	8 500	5 400
68,8	1	49 500	85 000	13 600	7 700	4 650
68,8	1	85 000	171 000	27 500	7 700	4 650
73,8	1	64 000	123 000	21 100	7 100	4 550
78,8	1	68 000	135 000	23 200	6 600	4 250
89	1	80 000	176 000	31 000	5 800	3 600
99	1	69 000	150 000	25 000	5 200	3 350
99	1	76 000	172 000	29 500	5 200	3 450
109	1	80 000	188 000	32 000	4 700	3 150

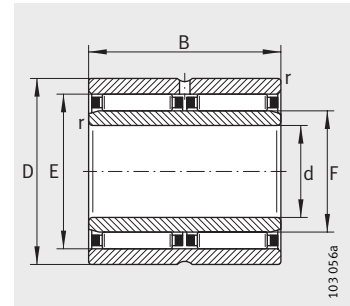


Needle roller bearings without ribs

With inner ring
Open



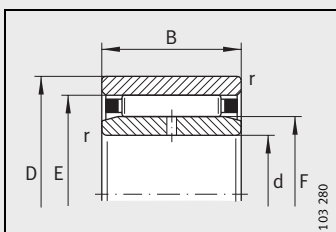
NAO



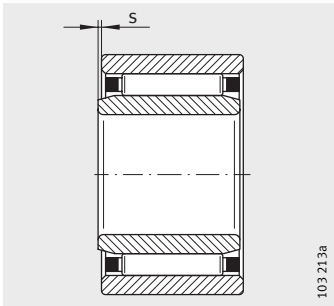
NAO..-ZW-ASR1

Dimension table - Dimensions in mm

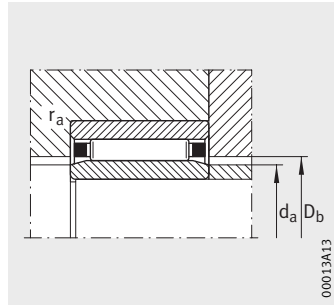
Designation	X-life	Mass m ≈ g	Dimensions						
			d	D	B	F	E	r min.	s ¹⁾
NAO6X17X10-TV-IS1	XL	14	6	17	10	10	13	0,3	0,5
NAO9X22X12-TV	XL	23,5	9	22	12	12	18	0,3	0,5
NAO12X24X13	XL	30	12	24	13	16	20	0,3	0,5
NAO12X28X12-IS1	XL	40	12	28	12	16	22	0,3	0,5
NAO15X28X13	XL	29	15	28	13	20	24	0,3	0,5
NAO15X32X12-IS1	XL	50	15	32	12	20	26	0,3	0,5
NAO17X30X13	XL	42	17	30	13	22	26	0,3	0,5
NAO17X35X16	XL	78	17	35	16	22	29	0,3	0,5
NAO20X35X17	XL	76	20	35	17	25	29	0,3	0,5
NAO20X37X16	XL	82	20	37	16	25	32	0,3	0,5
NAO25X40X17	XL	88	25	40	17	30	35	0,3	0,8
NAO25X42X16-IS1	XL	86	25	42	16	30	37	0,3	0,8
NAO25X42X32-ZW-ASR1	XL	190	25	43	32	30	37	0,3	0,8
NAO30X45X17	XL	102	30	45	17	35	40	0,3	0,8
NAO30X45X26-ZW-ASR1	XL	157	30	45	26	35	40	0,3	0,8
NAO30X47X16	XL	109	30	47	16	35	42	0,3	0,8
NAO30X47X18	XL	119	30	47	18	35	42	0,3	0,8
NAO35X50X17	XL	113	35	50	17	40	45	0,3	0,8
NAO35X55X20	XL	190	35	55	20	40	47	0,3	0,8
NAO40X55X17	XL	127	40	55	17	45	50	0,3	0,8
NAO50X68X20-IS1	XL	230	50	68	20	55	60	0,6	1
NAO70X100X30	XL	850	70	100	30	80	88	1	1
NAO80X110X30	XL	920	80	110	30	90	98	1	1
NAO90X120X30	XL	1 044	90	120	30	100	108	1	1



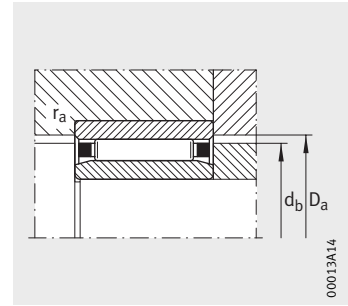
NAO..-IS1



1) Axial displacement "s"



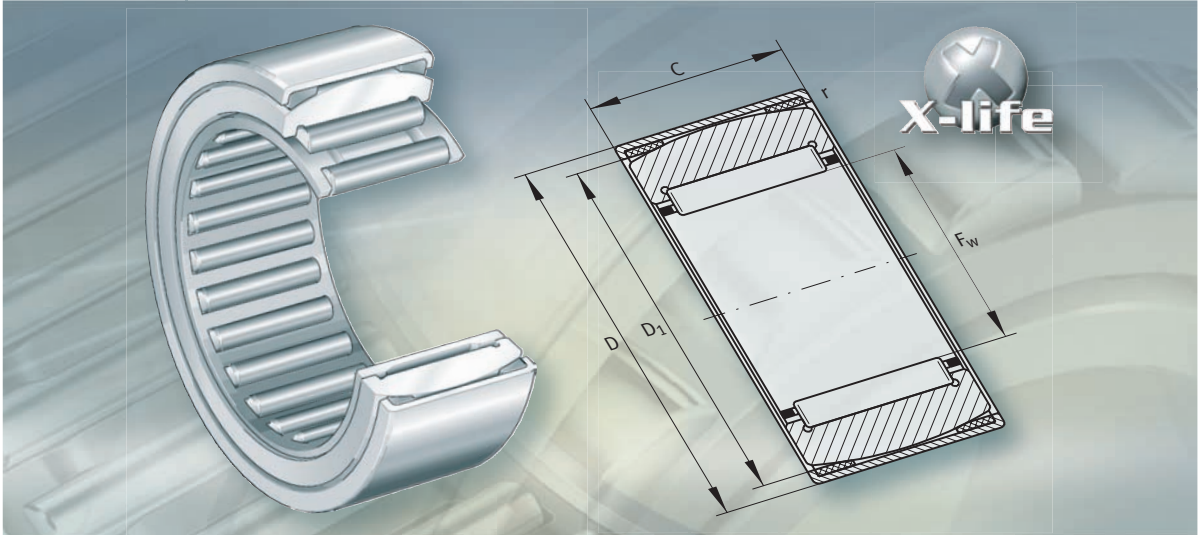
Axial guidance of needle roller and cage assembly in housing



Axial guidance of needle roller and cage assembly on shaft

Mounting dimensions					Basic load ratings		Fatigue limit load C_{ur} N	Limiting speed n_G min^{-1}	Reference speed n_B min^{-1}
d_a	D_b	d_b	D_a	r_a max.	dyn. C_r N	stat. C_{0r} N			
9,7	10,3	12,7	13,3	0,3	5 300	5 500	930	29 500	23 800
11,7	12,3	17,6	18,3	0,3	11 300	9 900	1 740	26 000	17 900
15,7	16,4	19,6	20,3	0,3	10 100	11 800	1 890	23 600	15 000
15,7	16,4	21,6	22,3	0,3	13 000	12 500	2 210	22 900	14 300
19,7	20,4	23,6	24,3	0,3	11 100	14 300	2 310	21 300	12 100
19,7	20,4	25,6	26,5	0,3	15 100	16 200	2 850	20 900	11 400
21,5	22,4	25,6	26,3	0,3	11 800	15 900	2 550	20 400	11 100
21,5	22,4	28,4	29,5	0,3	22 600	25 500	4 200	19 200	10 100
24,5	25,6	28,4	29,5	0,3	16 800	26 000	4 250	18 100	10 000
24,5	25,6	31,4	32,5	0,3	23 800	28 000	4 650	17 200	9 000
29,5	30,6	34,4	35,5	0,3	22 100	34 000	5 300	15 100	8 100
29,5	30,6	36,4	37,5	0,3	26 000	33 500	5 500	14 600	7 800
29,5	30,6	36,4	37,5	0,3	45 000	67 000	11 000	14 600	7 800
34,5	35,6	39,4	40,5	0,3	23 500	38 500	6 100	13 100	7 100
34,5	35,6	39,4	40,5	0,3	31 500	56 000	8 900	13 100	7 200
34,5	35,6	41,4	42,5	0,3	27 500	37 500	6 200	12 700	6 900
34,5	35,6	41,4	42,5	0,3	31 000	43 000	7 400	12 700	6 900
39,5	40,6	44,4	45,5	0,3	24 200	41 500	6 400	11 500	6 500
39,5	40,6	46,2	47,5	0,3	37 000	57 000	8 900	11 300	6 200
44,5	45,6	49,2	50,5	0,3	25 500	46 000	7 100	10 300	5 900
54,5	55,8	59,2	60,8	0,6	32 000	66 000	10 700	8 500	5 100
79,3	81	87,2	89	1	80 000	176 000	31 000	5 800	3 350
89,3	91	97,2	99	1	76 000	172 000	29 500	5 200	3 200
99,3	101	107,2	109	1	80 000	188 000	32 000	4 700	2 950



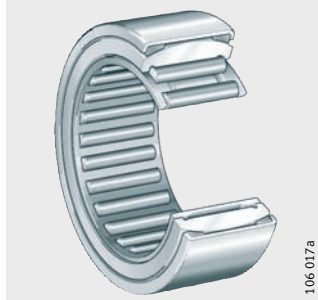


Aligning needle roller bearings

Product overview Aligning needle roller bearings

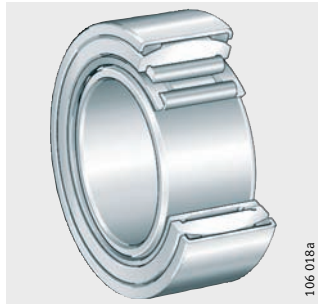
Without inner ring

RPNA



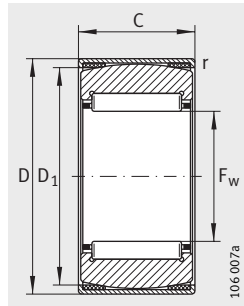
With inner ring

PNA

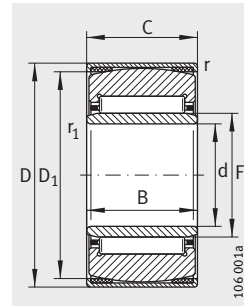


Aligning needle roller bearings

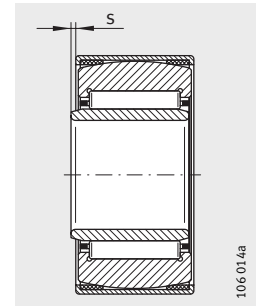
With or without inner ring



RPNA



PNA



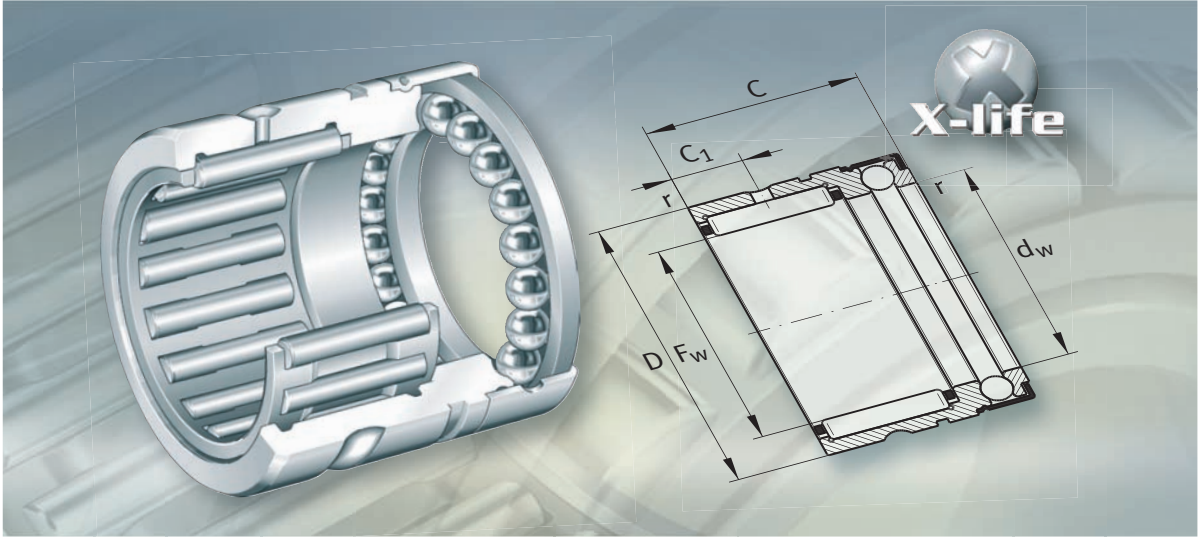
1) Axial displacement "s"

Dimension table - Dimensions in mm

Designation	X-life	Mass m ≈ g	Dimensions					Basic load ratings		Fatigue limit load C _{ur} N	Limiting speed n _G min ⁻¹
			F _w	D	C ±0,5	D ₁	r min.	dyn. C _r N	stat. C _{0r} N		
RPNA15/28	XL	32	15	28	12	24,5	0,8	7 800	7 900	1 430	24 000
RPNA18/32	XL	52	18	32	16	27	0,8	14 100	16 200	3 000	22 000
RPNA20/35	XL	62	20	35	16	30,5	0,8	14 600	17 500	3 200	21 000
RPNA25/42	XL	109	25	42	20	36,5	0,8	21 300	30 500	5 300	18 000
RPNA28/44	XL	112	28	44	20	38,5	0,8	24 800	34 000	5 900	16 000
RPNA30/47	XL	125	30	47	20	42	0,8	25 500	36 000	6 300	15 000
RPNA35/52	XL	131	35	52	20	47,5	0,8	27 500	41 500	7 300	13 000
RPNA40/55	XL	141	40	55	20	50,5	0,8	29 500	47 000	8 300	11 000
RPNA45/62	XL	176	45	62	20	58	0,8	31 000	53 000	9 300	10 000

Dimension table - Dimensions in mm

Designation	X-life	Mass m ≈ g	Dimensions									Basic load ratings		Fatigue limit load C _{ur} N	Limiting speed n _G min ⁻¹
			d	F	D	C ±0,5	B	D ₁	r min.	r ₁ min.	s ¹⁾ min.	dyn. C _r N	stat. C _{0r} N		
PNA12/28	XL	37	12	15	28	12	12	24,5	0,8	0,3	0,5	7 800	7 900	1 430	24 000
PNA15/32	XL	62	15	18	32	16	16	27	0,8	0,3	0,5	14 100	16 200	3 000	22 000
PNA17/35	XL	73	17	20	35	16	16	30,5	0,8	0,3	0,5	14 600	17 500	3 200	21 000
PNA20/42	XL	136	20	25	42	20	20	36,5	0,8	0,3	0,5	21 300	30 500	5 300	18 000
PNA22/44	XL	145	22	28	44	20	20	38,5	0,8	0,3	0,5	24 800	34 000	5 900	16 000
PNA25/47	XL	157	25	30	47	20	20	42	0,8	0,3	0,5	25 500	36 000	6 300	15 000
PNA30/52	XL	181	30	35	52	20	20	47,5	0,8	0,3	0,5	27 500	41 500	7 300	13 000
PNA35/55	XL	177	35	40	55	20	20	50,5	0,8	0,3	0,5	29 500	47 000	8 300	11 000
PNA40/62	XL	227	40	45	62	20	20	58	0,8	0,3	0,5	31 000	53 000	9 300	10 000



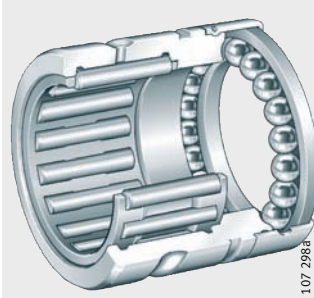
Combined needle roller bearings

Product overview Combined needle roller bearings

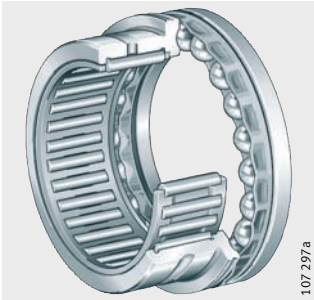
Needle roller/ axial deep groove ball bearings

Without inner ring
With or without end cap

NX, NX...-Z



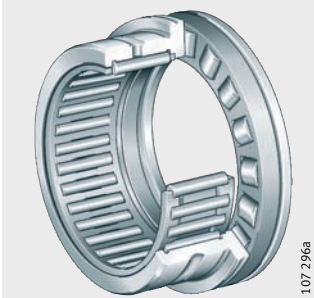
NKX, NKX...-Z



Needle roller/ axial cylindrical roller bearings

Without inner ring
With or without end cap

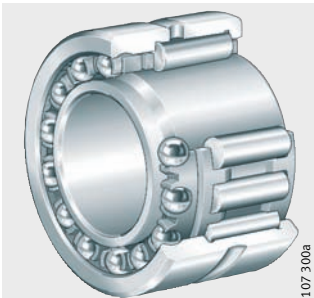
NKXR, NKXR...-Z



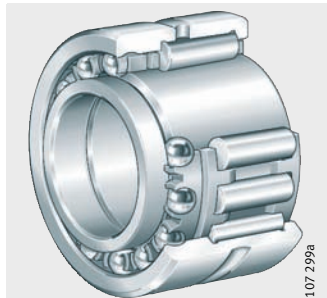
Needle roller/angular contact ball bearings

With inner ring

NKIA

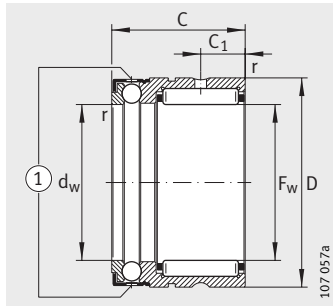


NKIB

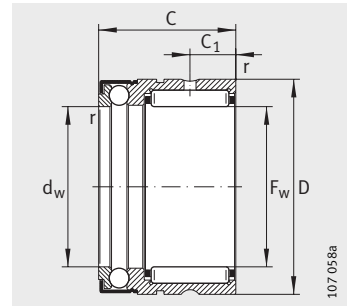


Needle roller/ axial deep groove ball bearings

Without inner ring



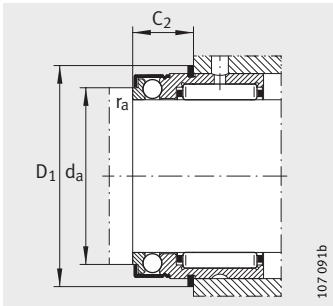
NX
① Oil holes



NX..-Z

Dimension table - Dimensions in mm

Designation				Dimensions						Mounting dimensions			
For oil lubrication	For grease lubrication	X-life	Mass m	F _w	D	C	C ₁	d _w	r	C ₂	D ₁	d _a	r _a
			≈ g			-0,25		E8	min.				max.
NX7-TV	NX7-Z-TV	XL	14	7	14	18	4,7	7	0,3	10	16,5	9,6	0,3
NX10	NX10-Z	XL	25	10	19	18	4,7	10	0,3	10	21,9	14,6	0,3
NX12	NX12-Z	XL	28	12	21	18	4,7	12	0,3	10	23,7	16,6	0,3
NX15	NX15-Z	XL	48	15	24	28	8	15	0,3	12,2	26,5	19	0,3
NX17	NX17-Z	XL	53	17	26	28	8	17	0,3	12,2	28,5	21	0,3
NX20	NX20-Z	XL	68	20	30	28	8	20	0,3	12,2	33,6	25	0,3
NX25	NX25-Z	XL	115	25	37	30	8	25	0,3	14,2	40,4	31,6	0,3
NX30	NX30-Z	XL	130	30	42	30	10	30	0,3	14,2	45,1	36,5	0,3
NX35	NX35-Z	XL	160	35	47	30	10	35	0,3	14,2	50,1	40,5	0,3



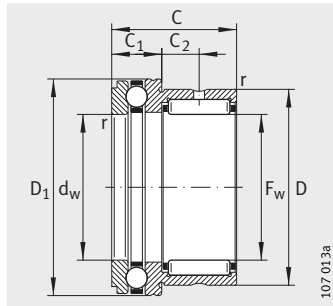
Mounting dimensions
Snap ring in outer ring

Basic load ratings				Fatigue limit load		Limiting speed n_G min^{-1}	Recommended inner rings Designation	Suitable snap rings
radial		axial		C_{ur}	C_{ua}			
dyn. C_r N	stat. C_{0r} N	dyn. C_a N	stat. C_{0a} N	N	N			
3 250	2 650	3 150	4 300	410	190	15 000	–	WR14, SW14
5 000	3 700	4 600	7 200	720	320	11 000	IR6X10X10-IS1	WR19, SW19
5 400	4 300	4 850	8 200	830	365	9 500	IR8X12X10-IS1	WR21, SW21
12 100	12 700	5 600	10 400	2 320	460	8 000	IR12X15X16	WR24, SW24
13 500	15 000	5 800	11 500	2 750	510	7 500	IR14X17X17	WR26, SW26
14 600	17 500	7 000	14 700	3 200	650	6 500	IR17X20X16	WR30, SW30
16 800	22 400	11 100	24 300	4 150	1 080	4 900	IR20X25X16-IS1	WR37, SW37
25 500	36 000	11 700	28 000	6 300	1 230	4 300	IR25X30X20	WR42, SW42
27 500	41 500	12 400	32 500	7 300	1 440	3 700	IR30X35X20	WR47, SW47

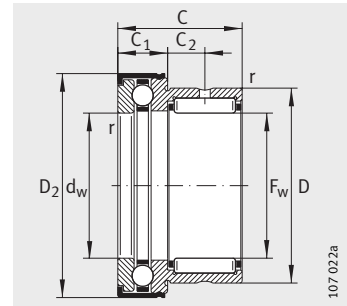


Needle roller/ axial deep groove ball bearings

Without inner ring
With or without end cap



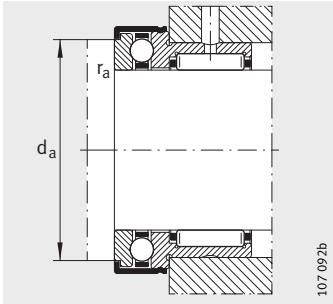
NKX



NKX..-Z

Dimension table - Dimensions in mm

Without end cap Designation	X-life	Mass m ≈g	With end cap Designation	X-life	Mass m ≈g	Dimensions					
						F _w	D	D ₁ max.	D ₂ max.	C -0,25	C ₁ -0,2
NKX10-TV	XL	34	NKX10-Z-TV	XL	36	10	19	24,1	25,2	23	9
NKX12	XL	38	NKX12-Z	XL	40	12	21	26,1	27,2	23	9
NKX15	XL	44	NKX15-Z	XL	47	15	24	28,1	29,2	23	9
NKX17	XL	53	NKX17-Z	XL	55	17	26	30,1	31,2	25	9
NKX20	XL	83	NKX20-Z	XL	90	20	30	35,1	36,2	30	10
NKX25	XL	125	NKX25-Z	XL	132	25	37	42,1	43,2	30	11
NKX30	XL	141	NKX30-Z	XL	148	30	42	47,1	48,2	30	11
NKX35	XL	163	NKX35-Z	XL	168	35	47	52,1	53,2	30	12
NKX40	XL	200	NKX40-Z	XL	208	40	52	60,1	61,2	32	13
NKX45	XL	252	NKX45-Z	XL	265	45	58	65,2	66,5	32	14
NKX50	XL	280	NKX50-Z	XL	300	50	62	70,2	71,5	35	14
NKX60	XL	360	NKX60-Z	XL	380	60	72	85,2	86,5	40	17
NKX70	XL	500	NKX70-Z	XL	520	70	85	95,2	96,5	40	18



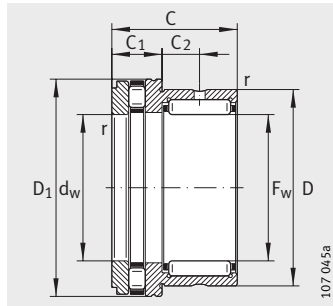
Mounting dimensions

			Mounting dimensions		Basic load ratings				Fatigue limit load		Limiting speed n_G min^{-1}	Recommended inner rings Designation
C_2	d_w	r	d_a	r_a	radial		axial		C_{ur}	C_{ua}		
	E8	min.		max.	dyn. C_r N	stat. C_{0r} N	dyn. C_a N	stat. C_{0a} N	N	N		
6,5	10	0,3	19,7	0,3	7 000	7 800	10 000	14 000	1 310	670	12 400	IR7X10X16
6,5	12	0,3	21,7	0,3	10 100	11 000	10 300	15 400	1 920	740	10 900	IR9X12X16
6,5	15	0,3	23,7	0,3	12 100	12 700	10 500	16 800	2 320	810	9 200	IR12X15X16
8	17	0,3	25,7	0,3	13 500	15 000	10 800	18 200	2 750	870	8 400	IR14X17X17
10,5	20	0,3	30,7	0,3	18 600	23 800	14 300	24 700	4 150	1 190	7 200	IR17X20X20
9,5	25	0,6	37,7	0,6	21 300	30 500	19 600	37 500	5 300	1 790	5 800	IR20X25X20
9,5	30	0,6	42,7	0,6	25 500	36 000	20 400	42 000	6 300	2 030	5 000	IR25X30X20
9	35	0,6	47,7	0,6	27 500	41 500	21 200	47 000	7 300	2 270	4 400	IR30X35X20
10	40	0,6	55,7	0,6	29 500	47 000	27 000	63 000	8 300	3 000	3 900	IR35X40X20
9	45	0,6	60,5	0,6	31 000	53 000	28 000	69 000	9 300	3 350	3 500	IR40X45X20
10	50	0,6	65,5	0,6	43 000	74 000	29 000	75 000	12 700	3 650	3 200	IR45X50X25
12	60	1	80,5	1	47 500	90 000	41 500	113 000	15 400	5 400	2 750	IR50X60X25
11	70	1	90,5	1	50 000	92 000	43 000	127 000	15 700	6 100	2 320	IR60X70X25

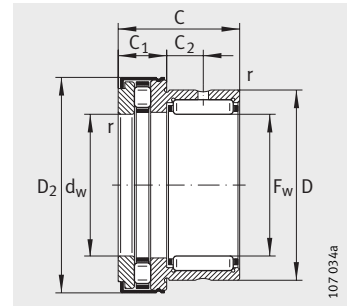


Needle roller/ axial cylindrical roller bearings

Without inner ring
With or without end cap



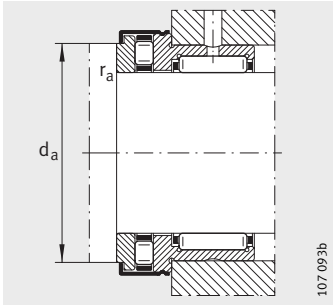
NKXR



NKXR..-Z

Dimension table - Dimensions in mm

Without end cap Designation	X-life	Mass m ≈ g	With end cap Designation	X-life	Mass m ≈ g	Dimensions					
						F _w	D	D ₁ max.	D ₂ max.	C -0,25	C ₁ -0,2
NKXR15	XL	42	NKXR15-Z	XL	45	15	24	28,1	29,2	23	9
NKXR17	XL	50	NKXR17-Z	XL	53	17	26	30,1	31,2	25	9
NKXR20	XL	80	NKXR20-Z	XL	84	20	30	35,1	36,2	30	10
NKXR25	XL	120	NKXR25-Z	XL	125	25	37	42,1	43,2	30	11
NKXR30	XL	135	NKXR30-Z	XL	141	30	42	47,1	48,2	30	11
NKXR35	XL	157	NKXR35-Z	XL	165	35	47	52,1	53,2	30	12
NKXR40	XL	204	NKXR40-Z	XL	214	40	52	60,1	61,2	32	13
NKXR45	XL	244	NKXR45-Z	XL	260	45	58	65,2	66,5	32	14
NKXR50	XL	268	NKXR50-Z	XL	288	50	62	70,2	71,5	35	14



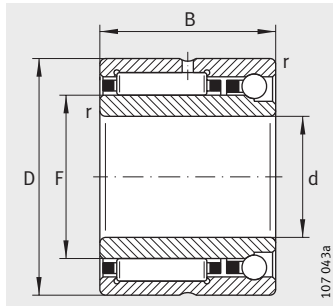
Mounting dimensions

C ₂	d _w	r	Mounting dimensions		Basic load ratings				Fatigue limit load		Limiting speed n _G min ⁻¹	Reference speed n _B min ⁻¹	Recommended inner rings Designation
			d _a	r _a	radial		axial		C _{ur} N	C _{ua} N			
			min.	max.	dyn. C _r N	stat. C _{0r} N	dyn. C _a N	stat. C _{0a} N					
6,5	15	0,3	23,7	0,3	12 100	12 700	14 400	28 500	2 320	4 000	9 200	6 500	IR12X15X16
8	17	0,3	25,7	0,3	13 500	15 000	15 900	33 500	2 750	4 650	8 400	5 500	IR14X17X17
10,5	20	0,3	30,7	0,3	18 600	23 800	24 900	53 000	4 150	7 300	7 200	4 200	IR17X20X20
9,5	25	0,6	37,7	0,6	21 300	30 500	33 500	76 000	5 300	7 100	5 800	3 400	IR20X25X20
9,5	30	0,6	42,7	0,6	25 500	36 000	35 500	86 000	6 300	8 000	5 000	2 900	IR25X30X20
9	35	0,6	47,7	0,6	27 500	41 500	39 000	101 000	7 300	9 500	4 400	2 500	IR30X35X20
10	40	0,6	55,7	0,6	29 500	47 000	56 000	148 000	8 300	14 500	3 900	2 000	IR35X40X20
9	45	0,6	60,6	0,6	31 000	53 000	59 000	163 000	9 300	16 000	3 500	1 900	IR40X45X20
10	50	0,6	65,5	0,6	43 000	74 000	61 000	177 000	12 700	17 400	3 200	1 700	IR45X50X25

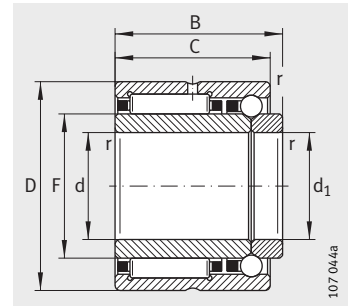


Needle roller/ angular contact ball bearings

With inner ring



NKIA
Single direction



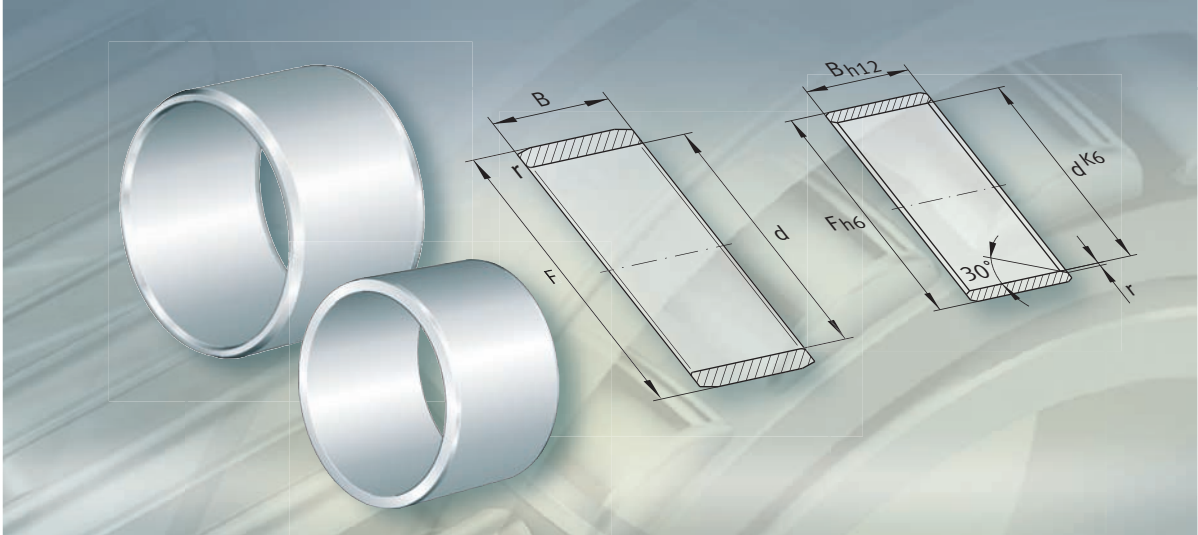
NKIB
Double direction

Dimension table - Dimensions in mm

Designation	X-life	Mass m ≈g	Dimensions						Basic load ratings		
			d	F	D	B	C	r min.	radial		
									dyn. C _r N	stat. C _{0r} N	
NKIA5901	XL	40	12	16	24	16	–	0,3	8 600	8 300	
NKIB5901	XL	43	12	16	24	17,5	16	0,3	8 600	8 300	
NKIA5902	XL	50	15	20	28	18	–	0,3	12 000	13 600	
NKIB5902	XL	52	15	20	28	20	18	0,3	12 000	13 600	
NKIA5903	XL	56	17	22	30	18	–	0,3	12 400	14 600	
NKIB5903	XL	58	17	22	30	20	18	0,3	12 400	14 600	
NKIA5904	XL	103	20	25	37	23	–	0,3	23 700	25 500	
NKIB5904	XL	107	20	25	37	25	23	0,3	23 700	25 500	
NKIA59/22	XL	118	22	28	39	23	–	0,3	26 000	29 500	
NKIB59/22	XL	122	22	28	39	25	23	0,3	26 000	29 500	
NKIA5905	XL	130	25	30	42	23	–	0,3	26 500	31 500	
NKIB5905	XL	134	25	30	42	25	23	0,3	26 500	31 500	
NKIA5906	XL	147	30	35	47	23	–	0,3	28 500	35 500	
NKIB5906	XL	151	30	35	47	25	23	0,3	28 500	35 500	
NKIA5907	XL	243	35	42	55	27	–	0,6	35 500	50 000	
NKIB5907	XL	247	35	42	55	30	27	0,6	35 500	50 000	
NKIA5908	XL	315	40	48	62	30	–	0,6	48 500	67 000	
NKIB5908	XL	320	40	48	62	34	30	0,6	48 500	67 000	
NKIA5909	XL	375	45	52	68	30	–	0,6	51 000	73 000	
NKIB5909	XL	380	45	52	68	34	30	0,6	51 000	73 000	
NKIA5910	XL	380	50	58	72	30	–	0,6	53 000	80 000	
NKIB5910	XL	385	50	58	72	34	30	0,6	53 000	80 000	
NKIA5911	XL	550	55	63	80	34	–	1	65 000	100 000	
NKIB5911	XL	555	55	63	80	38	34	1	65 000	100 000	
NKIA5912	XL	590	60	68	85	34	–	1	68 000	108 000	
NKIB5912	XL	595	60	68	85	38	34	1	68 000	108 000	
NKIA5913	XL	635	65	72	90	34	–	1	69 000	112 000	
NKIB5913	XL	640	65	72	90	38	34	1	69 000	112 000	
NKIA5914	XL	980	70	80	100	40	–	1	95 000	156 000	
NKIB5914	XL	985	70	80	100	45	40	1	95 000	156 000	

axial		Fatigue limit load		Limiting speed	Reference speed
dyn. C _a N	stat. C _{0a} N	C _{ur} N	C _{ua} N	n _G min ⁻¹	n _B min ⁻¹
2 700	3 450	1 630	152	23 600	21 000
2 700	3 450	1 630	152	23 600	21 000
2 900	4 200	2 430	186	21 600	17 000
2 900	4 200	2 430	186	21 600	17 000
3 150	4 900	2 600	216	20 600	15 000
3 150	4 900	2 600	216	20 600	15 000
4 900	7 400	4 600	330	17 200	14 000
4 900	7 400	4 600	330	17 200	14 000
5 300	8 600	5 300	380	16 100	12 000
5 300	8 600	5 300	380	16 100	12 000
5 400	9 300	5 700	410	14 600	12 000
5 400	9 300	5 700	410	14 600	12 000
5 900	11 200	6 400	495	12 700	10 000
5 900	11 200	6 400	495	12 700	10 000
7 400	14 900	9 400	660	10 900	9 000
7 400	14 900	9 400	660	10 900	9 000
9 200	19 400	11 500	860	9 600	7 500
9 200	19 400	11 500	860	9 600	7 500
9 600	21 400	12 600	950	8 700	7 000
9 600	21 400	12 600	950	8 700	7 000
10 100	24 300	13 800	1 080	8 000	6 500
10 100	24 300	13 800	1 080	8 000	6 500
12 100	29 500	17 300	1 300	7 300	6 000
12 100	29 500	17 300	1 300	7 300	6 000
12 400	32 000	18 800	1 410	6 800	5 500
12 400	32 000	18 800	1 410	6 800	5 500
12 800	34 000	19 500	1 510	6 300	5 500
12 800	34 000	19 500	1 510	6 300	5 500
16 800	44 500	27 500	1 970	5 800	4 900
16 800	44 500	27 500	1 970	5 800	4 900





Inner rings

Product overview Inner rings

Precision machined raceway

IR



103 205a

With lubrication hole

IR..IS1



103 271

Ground raceway

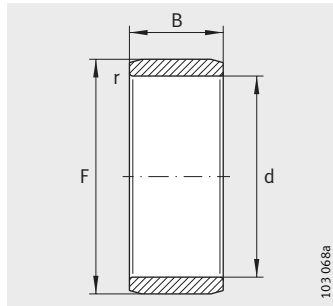
LR



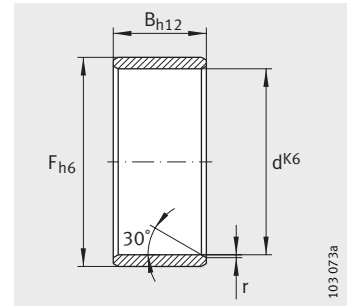
103 206a

Inner rings

Without lubrication hole



IR



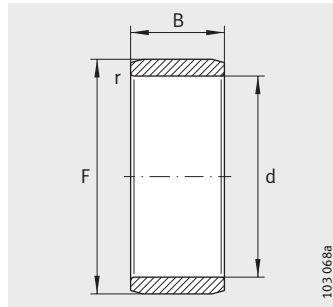
LR

Dimension table - Dimensions in mm							
Designation	Mass m ≈g	Dimensions				Tolerance of raceway F μm	
		d	F	B	r	upper	lower
					min.		
IR5X8X12	2,8	5	8	12	0,3	-7	-23
IR5X8X16	3,7	5	8	16	0,3	-7	-23
IR6X9X12	3	6	9	12	0,3	-7	-23
IR6X9X16	4,3	6	9	16	0,3	-7	-23
IR7X10X10,5	3,1	7	10	10,5	0,3	-7	-23
LR7X10X10,5	3,1	7	10	10,5	0,3	-	-
IR7X10X12	3,6	7	10	12	0,3	-7	-23
IR7X10X16	4,9	7	10	16	0,3	-7	-23
IR8X12X10,5	5	8	12	10,5	0,3	-4	-18
LR8X12X10,5	5	8	12	10,5	0,3	-	-
IR8X12X12,5	5,9	8	12	12,5	0,3	-4	-18
LR8X12X12,5	5	8	12	12,5	0,3	-	-
IR9X12X12	4,4	9	12	12	0,3	-4	-18
IR9X12X16	6	9	12	16	0,3	-4	-18
IR10X13X12,5	5,2	10	13	12,5	0,3	-4	-18
LR10X13X12,5	5,2	10	13	12,5	0,3	-	-
IR10X14X13	7,4	10	14	13	0,3	-4	-18
IR10X14X16	9,2	10	14	16	0,3	-4	-18
IR10X14X20	11,5	10	14	20	0,3	-4	-18
IR12X15X12	5,7	12	15	12	0,3	-4	-18
IR12X15X12,5	6,1	12	15	12,5	0,3	-4	-18
LR12X15X12,5	6,1	12	15	12,5	0,3	-	-
IR12X15X16	7,6	12	15	16	0,3	-4	-18
LR12X15X16,5	8,1	12	15	16,5	0,3	-4	-18
LR12X15X16,5	8,1	12	15	16,5	0,3	-	-
IR12X15X22,5	10,9	12	15	22,5	0,3	-4	-18
LR12X15X22,5	10,9	12	15	22,5	0,3	-	-
IR12X16X13	8,5	12	16	13	0,3	-4	-18
IR12X16X16	10,7	12	16	16	0,3	-4	-18
IR12X16X20	13,5	12	16	20	0,3	-4	-18
IR12X16X22	14,9	12	16	22	0,3	-4	-18
IR14X17X17	9,5	14	17	17	0,3	-4	-18

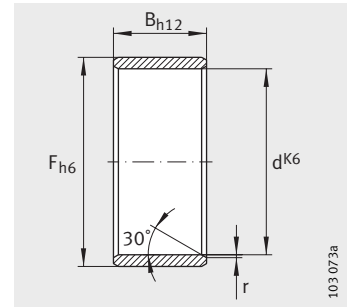
Dimension table (continued) - Dimensions in mm							
Designation	Mass m ≈g	Dimensions				Tolerance of raceway F μm	
		d	F	B	r	upper	lower
					min.		
LR15X18X12,5	7,2	15	18	12,5	0,3	-	-
IR15X18X16	9,4	15	18	16	0,3	-4	-18
IR15X18X16,5	9,8	15	18	16,5	0,3	-4	-18
LR15X18X16,5	9,8	15	18	16,5	0,3	-	-
IR15X19X16	12,9	15	19	16	0,3	0	-12
IR15X19X20	16,3	15	19	20	0,3	0	-12
IR15X20X13	13,5	15	20	13	0,3	0	-12
IR15X20X23	24,4	15	20	23	0,3	0	-12
IR17X20X16	10,6	17	20	16	0,3	0	-12
IR17X20X16,5	11,1	17	20	16,5	0,3	0	-12
LR17X20X16,5	11,1	17	20	16,5	0,3	-	-
IR17X20X20	13,5	17	20	20	0,3	0	-12
IR17X20X20,5	13,8	17	20	20,5	0,3	0	-12
LR17X20X20,5	13,8	17	20	20,5	0,3	-	-
IR17X20X30,5	20,6	17	20	30,5	0,3	0	-12
LR17x20X30,5	20,6	17	20	30,5	0,3	-	-
IR17X21X16	15	17	21	16	0,3	0	-12
IR17X21X20	18	17	21	20	0,3	0	-12
IR17X22X13	14,9	17	22	13	0,3	0	-12
IR17X22X16	18,4	17	22	16	0,3	0	-12
IR17X22X23	27,1	17	22	23	0,3	0	-12
IR17X24X20	33,8	17	24	20	0,6	0	-12

Inner rings

Without lubrication hole



IR



LR

Dimension table (continued) · Dimensions in mm

Designation	Mass m ≈g	Dimensions				Tolerance of raceway F μm		
		d	F	B	r	μm		
						min.	upper	lower
IR20X24X16	15	20	24	16	0,3	0	-12	
IR20X24X20	21,3	20	24	20	0,3	0	-12	
LR20X25X12,5	16,3	20	25	12,5	0,3	-	-	
LR20X25X16,5	21,7	20	25	16,5	0,3	-	-	
IR20X25X17	25	20	25	17	0,3	0	-12	
IR20X25X20	27,5	20	25	20	0,3	0	-12	
IR20X25X20,5	27,4	20	25	20,5	0,3	0	-12	
LR20X25X20,5	27,4	20	25	20,5	0,3	-	-	
IR20X25X26,5	38	20	25	26,5	0,3	0	-12	
LR20X25X26,5	38	20	25	26,5	0,3	-	-	
IR20X25X30	40,4	20	25	30	0,3	0	-12	
IR20X25X38,5	52,5	20	25	38,5	0,3	0	-12	
LR20X25X38,5	52,5	20	25	38,5	0,3	-	-	
IR20X28X20	45,2	20	28	20	0,6	0	-12	
IR22X26X16	18,2	22	26	16	0,3	0	-12	
IR22X26X20	23	22	26	20	0,3	0	-12	
IR22X28X17	29,5	22	28	17	0,3	0	-12	
IR22X28X20	35	22	28	20	0,3	0	-12	
IR22X28X20,5	36	22	28	20,5	0,3	0	-12	
LR22X28X20,5	36	22	28	20,5	0,3	-	-	
IR22X28X30	54,4	22	28	30	0,3	0	-12	

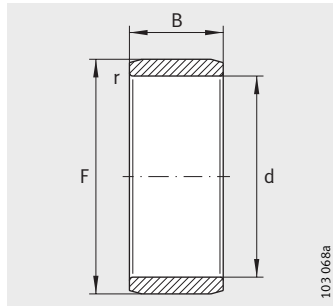
Dimension table (continued) · Dimensions in mm

Designation	Mass m ≈g	Dimensions				Tolerance of raceway F μm		
		d	F	B	r	μm		
						min.	upper	lower
IR25X29X20	25,9	25	29	20	0,3	0	-12	
IR25X29X30	39,3	25	29	30	0,3	0	-12	
LR25X30X12,5	20	25	30	12,5	0,3	-	-	
LR25X30X16,5	26,7	25	30	16,5	0,3	-	-	
IR25x30X17	27,4	25	30	17	0,3	0	-12	
IR25X30X20	32,8	25	30	20	0,3	0	-12	
IR25X30X20,5	33,4	25	30	20,5	0,3	0	-12	
LR25X30X20,5	33,4	25	30	20,5	0,3	-	-	
IR25X30X26,5	46	25	30	26,5	0,3	0	-12	
LR25X30X26,5	46	25	30	26,5	0,3	-	-	
IR25X30X30	53	25	30	30	0,3	0	-12	
IR25X30X32	56	25	30	32	0,3	0	-12	
IR25X30X38,5	64,5	25	30	38,5	0,3	0	-12	
LR25X30X38,5	64,5	25	30	38,5	0,3	-	-	
IR25X32X22	52,5	25	32	22	0,6	+5	-4	
IR28X32X17	24,5	28	32	17	0,3	+5	-4	
IR28X32X20	28,5	28	32	20	0,3	+5	-4	
IR28X32X30	43,5	28	32	30	0,3	+5	-4	
LR30x35X12,5	23,3	30	35	12,5	0,3	-	-	
IR30X35X13	25	30	35	13	0,3	+5	-4	
IR30X35X16	34	30	35	16	0,3	+5	-4	
LR30X35X16,5	31,4	30	35	16,5	0,3	-	-	
IR30X35X17	36	30	35	17	0,3	+5	-4	
IR30X35X20	39	30	35	20	0,3	+5	-4	
IR30X35X20,5	39,7	30	35	20,5	0,3	+5	-4	
LR30X35X20,5	39,7	30	35	20,5	0,3	-	-	
IR30X35X26	50,4	30	35	26	0,3	+5	-4	
IR30X35X30	58,5	30	35	30	0,3	+5	-4	
IR30X37X18	50	30	37	18	0,6	+5	-4	
IR30X37X22	61,6	30	37	22	0,6	+5	-4	
IR32X37X20	42	32	37	20	0,3	0	-9	
IR32x37X30	62	32	37	30	0,3	0	-9	
IR32X40X20	68	32	40	20	0,6	0	-9	
IR32X40X36	124	32	40	36	0,6	0	-9	
IR33X37X13	21,9	33	37	13	0,3	0	-9	

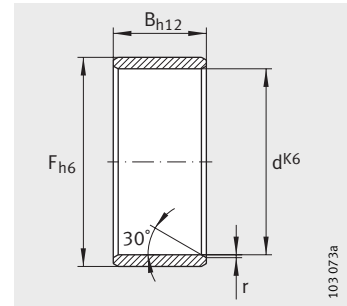


Inner rings

Without lubrication hole



IR



LR

Dimension table (continued) · Dimensions in mm

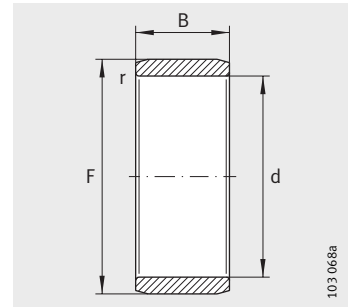
Designation	Mass m ≈g	Dimensions				Tolerance of raceway F μm		
		d	F	B	r	μm		
						upper	lower	
LR35X40X12,5	27,2	35	40	12,5	0,3	-	-	
LR35X40X16,5	37,4	35	40	16,5	0,3	-	-	
IR35X40X17	37,8	35	40	17	0,3	0	-9	
IR35X40X20	44,2	35	40	20	0,3	0	-9	
IR35X40X20,5	46,1	35	40	20,5	0,3	0	-9	
LR35X40X20,5	46,1	35	40	20,5	0,3	-	-	
IR35X40X30	67,1	35	40	30	0,3	0	-9	
IR35X42X36	117	35	42	36	0,6	0	-9	
IR35X43X22	82	35	43	22	0,6	0	-9	
IR38X43X20	48,1	38	43	20	0,3	0	-9	
IR38X43X30	73,6	38	43	30	0,3	0	-9	
LR40X45X16,5	41,4	40	45	16,5	0,3	-	-	
IR40X45X17	42,5	40	45	17	0,3	0	-9	
IR40X45X20	50,8	40	45	20	0,3	0	-9	
IR40X45X20,5	51,8	40	45	20,5	0,3	0	-9	
LR40X45X20,5	51,8	40	45	20,5	0,3	-	-	
IR40X45X30	84	40	45	30	0,3	0	-9	
IR40X48X22	91,6	40	48	22	0,6	0	-9	
IR40X48X40	170	40	48	40	0,6	0	-9	
IR40X50X22	118	40	50	22	1	0	-9	
IR42X47X20	52,8	42	47	20	0,3	-5	-19	
IR42X47X30	81	42	47	30	0,3	-5	-19	
LR45X50X20,5	58,8	45	50	20,5	0,3	-	-	
IR45X50X25	70,8	45	50	25	0,6	-5	-19	
IR45X50X25,5	75,1	45	50	25,5	0,3	-5	-19	
LR45X50X25,5	75,1	45	50	25,5	0,3	-	-	
IR45X50X35	101	45	50	35	0,6	-5	-19	
IR45X52X22	89	45	52	22	0,6	0	-11	
IR45X52X40	164	45	52	40	0,6	0	-11	
IR45X55X22	129	45	55	22	1	0	-11	
LR50X55X20,5	64,1	50	55	20,5	0,6	-	-	
IR50X55X25	78	50	55	25	0,6	0	-11	
IR50X55X35	112	50	55	35	0,6	0	-11	

Dimension table (continued) · Dimensions in mm

Designation	Mass m ≈g	Dimensions				Tolerance of raceway F μm		
		d	F	B	r	μm		
						upper	lower	
IR50X58X22	115	50	58	22	0,6	0	-11	
IR50X58X40	208	50	58	40	0,6	0	-11	
IR50X60X25	162	50	60	25	1	0	-11	
IR50X60X28	181	50	60	28	1,1	0	-11	
IR55X60X25	85,5	55	60	25	0,6	-10	-21	
IR55X60X35	121	55	60	35	0,6	-10	-21	
IR55X63X25	141	55	63	25	1	-10	-21	
IR55X63X45	256	55	63	45	1	-10	-21	
IR55X65X28	198	55	65	28	1,1	-10	-21	
IR60X68X25	152	60	68	25	1	-10	-21	
IR60X68X35	213	60	68	35	0,6	-10	-21	
IR60X68X45	276	60	68	45	1	-10	-21	
IR60X70X25	195	60	70	25	1	-10	-21	
IR60X70X28	215	60	70	28	1,1	-10	-21	
IR65X72X25	141	65	72	25	1	-10	-21	
IR65X72X45	259	65	72	45	1	-10	-21	
IR65X73X25	164	65	73	25	1	-10	-21	
IR65X73X35	231	65	73	35	1	-10	-21	
IR65X75X28	229	65	75	28	1,1	-10	-21	
IR70X80x25	221	70	80	25	1	-10	-26	
IR70X80X30	267	70	80	30	1	-10	-26	
IR70X80X35	312	70	80	35	1	-10	-26	
IR70X80X54	488	70	80	54	1	-10	-26	
IR75X85X25	238	75	85	25	1	-4	-17	
IR75X85X30	287	75	85	30	1	-4	-17	
IR75X85X35	336	75	85	35	1	-4	-17	
IR75X85X54	520	75	85	54	1	-4	-17	
IR80X90X25	253	80	90	25	1	-4	-17	
IR80X90X30	304	80	90	30	1	-4	-17	
IR80X90X35	355	80	90	35	1	-4	-17	
IR80X90X54	556	80	90	54	1	-4	-17	
IR85X95X26	277	85	95	26	1	-14	-27	
IR85X95X36	388	85	95	36	1	-14	-27	
IR85X100X35	582	85	100	35	1,1	-14	-27	
IR85X100X63	1 054	85	100	63	1,1	-14	-27	

Inner rings

Without lubrication hole



IR

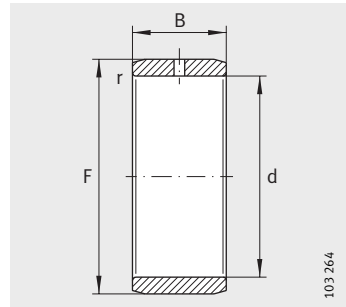
Dimension table (continued) - Dimensions in mm

Designation	Mass m ≈g	Dimensions				Tolerance of raceway F	
		d	F	B	r min.	μm	
						upper	lower
IR90X100X26	294	90	100	26	1	-14	-27
IR90X100X30	340	90	100	30	1	-14	-27
IR90X100X36	406	90	100	36	1	-14	-27
IR90X105X35	610	90	105	35	1,1	-14	-27
IR90X105X63	1 110	90	105	63	1,1	-14	-27
IR95X105X26	313	95	105	26	1	-14	-27
IR95X105X36	431	95	105	36	1	-14	-27
IR95X110X35	657	95	110	35	1,1	-14	-27
IR95X110X63	1 170	95	110	63	1,1	-14	-27
IR100X110X30	350	100	110	30	1,1	-14	-27
IR100X110X40	505	100	110	40	1,1	-14	-27
IR100X115X40	797	100	115	40	1,1	-14	-27
IR110X120X30	409	110	120	30	1	-14	-32
IR110X125X40	840	110	125	40	1,1	-7	-22
IR120X130X30	442	120	130	30	1	-7	-22
IR120X135X45	1 044	120	135	45	1,1	-7	-22
IR130X145X35	855	130	145	35	1,1	-17	-37
IR130X150X50	1 690	130	150	50	1,5	-17	-37
IR140X155X35	917	140	155	35	1,1	-17	-37
IR140X160X50	1 800	140	160	50	1,5	-17	-37
IR150X165X40	1 122	150	165	40	1,1	-27	-52
IR160X175X40	1 200	160	175	40	1,1	-27	-52
IR170X185X45	1 441	170	185	45	1,1	-25	-46
IR180X195X45	1 510	180	195	45	1,1	-25	-46
IR190X210X50	2 410	190	210	50	1,5	-40	-66
IR200X220X50	2 518	200	220	50	1,5	-40	-66
IR220X240X50	2 753	220	240	50	1,5	-55	-86
IR240X265X60	4 600	240	265	60	2	-55	-86
IR260X285X60	4 980	260	285	60	2	-69	-107
IR280X305X69	6 100	280	305	69	2	-69	-107
IR300X330X80	9 200	300	330	80	2,1	-69	-107
IR320X350X80	9 800	320	350	80	2,1	-83	-127
IR340X370X80	10 200	340	370	80	2,1	-83	-127
IR360X390X80	10 900	360	390	80	2,1	-128	-182
IR380X415X100	16 700	380	415	100	2,1	-122	-172



Inner rings

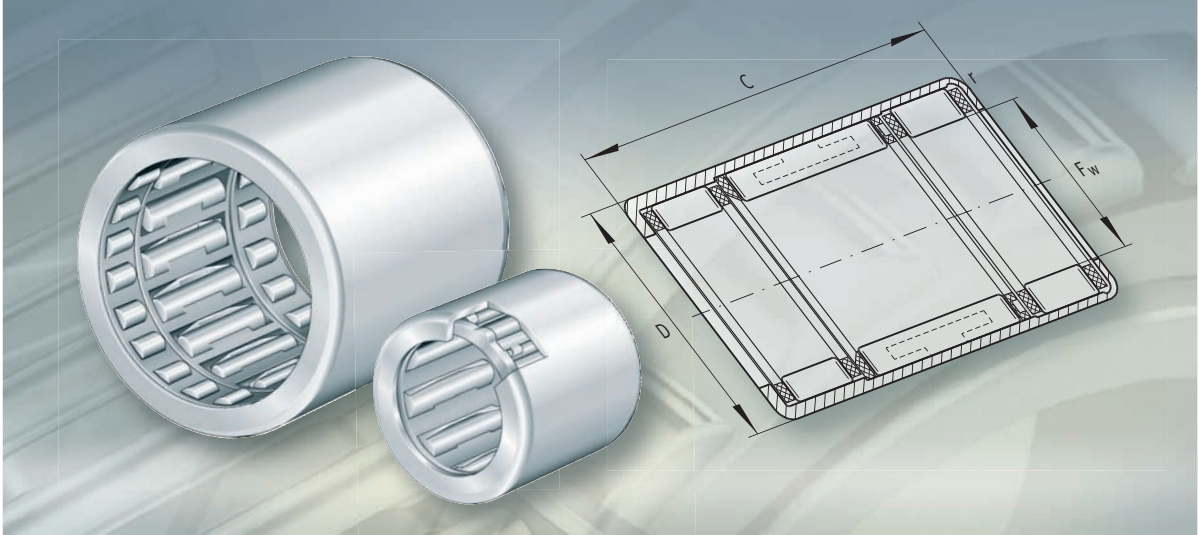
With lubrication hole



IR...IS1

Dimension table - Dimensions in mm

Designation	Mass m ≈g	Dimensions				Tolerance of raceway F	
		d	F	B	r min.	μm	
						upper	lower
IR6X10X10-IS1	3,7	6	10	10	0,3	-7	-23
IR8X12X10-IS1	4,8	8	12	10	0,3	-4	-18
IR10X14X12-IS1	7,3	10	14	12	0,3	-4	-18
IR12X16X12-IS1	7,9	12	16	12	0,3	-4	-18
IR15X20X12-IS1	12,2	15	20	12	0,3	0	-12
IR20X25X16-IS1	24	20	25	16	0,3	0	-12
IR25X30X16-IS1	25,7	25	30	16	0,3	0	-12
IR30X38X20-IS1	77	30	38	20	0,6	+5	-4
IR35X42X20-IS1	63,9	35	42	20	0,6	0	-9
IR40X50X20-IS1	106	40	50	20	1	0	-9
IR45X55X20-IS1	117	45	55	20	1	0	-11
IR50X55X20-IS1	62,5	50	55	20	0,6	0	-11
IR50X60X20-IS1	128	50	60	20	1	0	-11



Drawn cup roller clutches

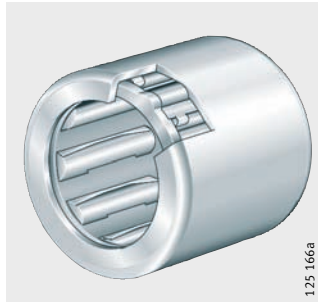
Product overview Drawn cup roller clutches

Without bearing arrangement

With or without knurling

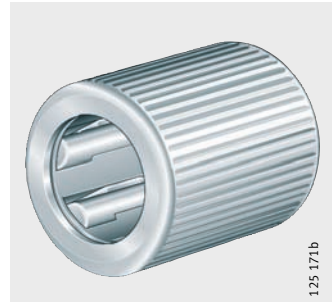
With steel springs

HF



125 166a

HF..-R

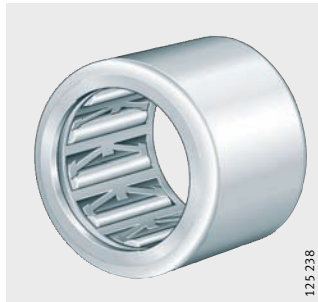


125 171b

With or without knurling

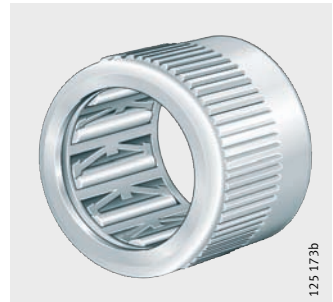
With plastic springs

HF..-KF



125 238

HF..-KF-R



125 173b

With bearing arrangement

With or without knurling

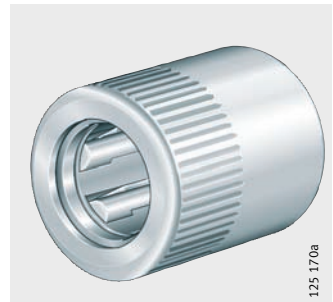
With steel springs

HFL



125 169a

HFL..-R

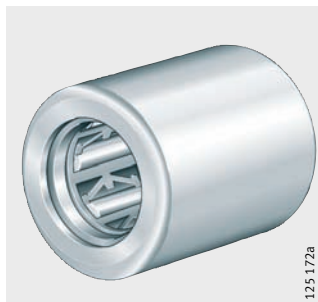


125 170a

With or without knurling

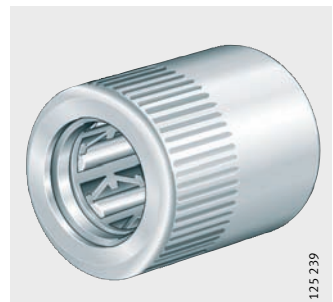
With plastic springs

HFL..-KF



125 172a

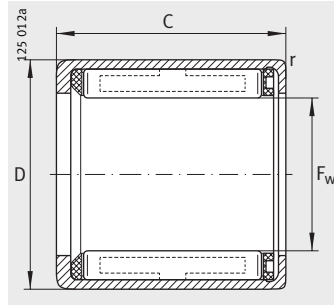
HFL..-KF-R



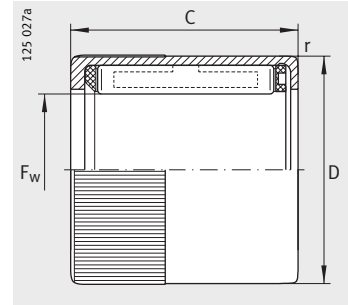
125 239

Drawn cup roller clutches

Without bearing arrangement
With or without knurling



HF, HF..-KF



HF..-R, HF..-KF-R
With knurling

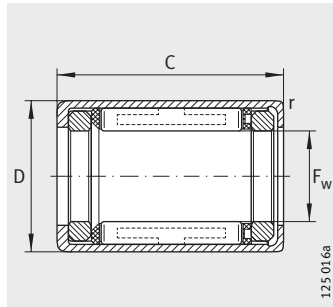
Dimension table · Dimensions in mm

Spring design		Mass m ≈g	Dimensions				Permissible torque M_d per Nm	Limiting speeds		Drawn cup needle roller bearings for radial bearing arrangement Designation
Plastic springs Designation	Steel springs Designation		F_w	D	C -0,3	r min.		n_{GW} min ⁻¹	n_{GA} min ⁻¹	
HF0306-KF	-	1	3	6,5	6	0,3	0,18	45 000	8 000	HK0306-TV
HF0306-KF-R	-	1	3	6,5	6	0,3	0,06	45 000	8 000	HK0306-TV
HF0406-KF	-	1	4	8	6	0,3	0,34	34 000	8 000	HK0408
HF0406-KF-R	-	1	4	8	6	0,3	0,1	34 000	8 000	HK0408
HF0612-KF	HF0612	3	6	10	12	0,3	1,76	23 000	13 000	HK0608
HF0612-KF-R	HF0612-R	3	6	10	12	0,3	0,6	23 000	13 000	HK0608
HF0812-KF	HF0812	3,5	8	12	12	0,3	3,15	17 000	12 000	HK0808
HF0812-KF-R	HF0812-R	3,5	8	12	12	0,3	1	17 000	12 000	HK0808
HF1012-KF	HF1012	4	10	14	12	0,3	5,3	14 000	11 000	HK1010
-	HF1216	11	12	18	16	0,3	12,2	11 000	8 000	HK1212
-	HF1416	13	14	20	16	0,3	17,3	9 500	8 000	HK1412
-	HF1616	14	16	22	16	0,3	20,5	8 500	7 500	HK1612
-	HF1816	16	18	24	16	0,3	24,1	7 500	7 500	HK1812
-	HF2016	17	20	26	16	0,3	28,5	7 000	6 500	HK2010
-	HF2520	30	25	32	20	0,3	66	5 500	5 500	HK2512
-	HF3020	36	30	37	20	0,3	90	4 500	4 500	HK3012
-	HF3520	40	35	42	20	0,3	121	3 900	3 900	HK3512

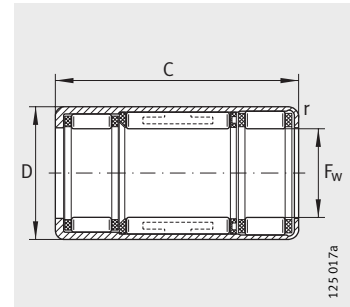


Drawn cup roller clutches

With bearing arrangement
With or without knurling



HFL, HFL..-KF, plain bearing arr.
(HFL0308-KF, HFL0408-KF,
HFL0615-KF, HFL0615)



HFL, HFL..-KF, rolling bearing arr.
($F_w \geq 8$ mm, $C \geq 22$ mm),
HFL0822-KF-R, HFL0822-R

Dimension table - Dimensions in mm

Spring design		Mass m ≈g	Dimensions				Permissible torque M_d per Nm
Plastic springs	Steel springs		F_w	D	C	r	
Designation	Designation				-0,3	min.	
HFL0308-KF	-	1,4	3	6,5	8	0,3	0,18
HFL0308-KF-R	-	1,4	3	6,5	8	0,3	0,06
HFL0408-KF	-	1,6	4	8	8	0,3	0,34
HFL0408-KF-R	-	1,6	4	8	8	0,3	0,1
HFL0606-KF-R	-	1	6	10	6	0,3	0,5
HFL0615-KF	HFL0615	4	6	10	15	0,3	1,76
HFL0615-KF-R	HFL0615-R	4	6	10	15	0,3	0,6
HFL0806-KF-R	-	2	8	12	6	0,3	0,7
HFL0822-KF	HFL0822	7	8	12	22	0,3	3,15
HFL0822-KF-R	HFL0822-R	7	8	12	22	0,3	1
-	HFL1022	8	10	14	22	0,3	5,3
-	HFL1226	18	12	18	26	0,3	12,2
-	HFL1426	20	14	20	26	0,3	17,3
-	HFL1626	22	16	22	26	0,3	20,5
-	HFL1826	25	18	24	26	0,3	24,1
-	HFL2026	27	20	26	26	0,3	28,5
-	HFL2530	44	25	32	30	0,3	66
-	HFL3030	51	30	37	30	0,3	90
-	HFL3530	58	35	42	30	0,3	121

1) Attention!

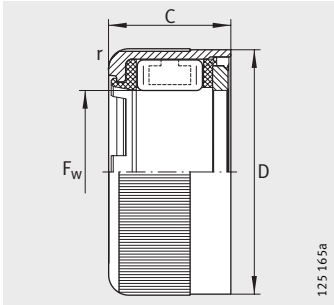
Drawn cup roller clutches with plain bearing arrangement:

During operation, the product of the actual speed n and the radial load F_r must not exceed the value stated for the limiting load $(F_r \cdot n)_{max}$.

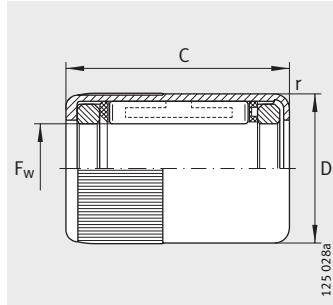
The operating limits are determined by the limiting speeds stated and the permissible radial load.

2) Drawn cup roller clutches with rolling bearing arrangement.

3) No arrow on end face.



HFL0606-KF-R³⁾, HFL0806-KF-R³⁾



HFL0308-KF-R, HFL0408-KF-R,
HFL0615-R, HFL0615-KF-R

Limiting speeds		Permissible radial load ¹⁾ $F_{r \max}$	Limiting load $(F_r \cdot n)_{\max}^1$	Basic load ratings ²⁾		Fatigue limit load C_{ur}
n_{GW} min^{-1}	n_{GA} min^{-1}			dyn. C_r N	stat. C_{0r} N	
45 000	8 000	60	16 000	–	–	–
45 000	8 000	60	16 000	–	–	–
34 000	8 000	80	16 000	–	–	–
34 000	8 000	80	16 000	–	–	–
23 000	13 000	40	4 200	–	–	–
23 000	13 000	110	18 000	–	–	–
23 000	13 000	110	18 000	–	–	–
17 000	12 000	54	4 200	–	–	–
17 000	12 000	–	–	3 650	3 950	550
17 000	12 000	–	–	3 650	3 950	550
14 000	11 000	–	–	3 950	4 500	630
11 000	8 000	–	–	6 300	6 700	920
9 500	8 000	–	–	6 800	7 800	1 080
8 500	7 500	–	–	7 400	9 000	1 250
7 500	7 500	–	–	8 000	10 200	1 420
7 000	6 500	–	–	8 500	11 400	1 590
5 500	5 500	–	–	10 600	14 000	1 900
4 500	4 500	–	–	11 600	16 900	2 290
3 900	3 900	–	–	12 200	18 800	2 550

