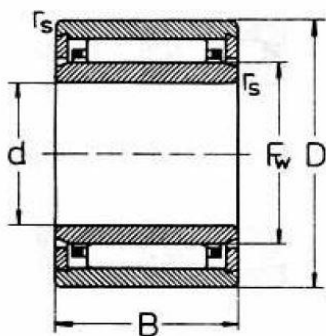


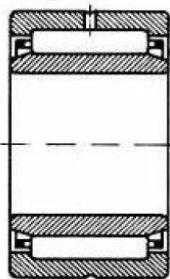
Needle roller bearings (standardized)

Dimensions					Basic radial load		Speed limit		Designation	Weight
d	D	B	r _s min.	F _w	dyn. C _r	stat. C _{0r}	grease min ⁻¹	oil min ⁻¹		
mm	mm	mm	mm	mm	KN	KN	min ⁻¹	min ⁻¹	-	Kg
5	15	12	0.3	8	3.7	3.95	19000	32000	NA051512	0.013
	15	16	0.3	8	4.95	5.65	19000	32000	NA051516	0.016
6	16	12	0.3	9	4.3	4.8	18000	30000	NA061612	0.014
	16	16	0.3	9	5.6	6.9	18000	30000	NA061616	0.018
7	17	12	0.3	10	4.5	5.35	17000	28000	NA071712	0.015
	17	16	0.3	10	5.8	6.5	17000	28000	NA071716	0.02
9	19	12	0.3	12	4.65	5.8	16000	26000	NA091912	0.018
	19	16	0.3	12	6.15	8.1	16000	26000	NA091916	0.023
10	22	13	0.3	14	8.25	9.1	15000	24000	NA4900	0.024
	22	16	0.3	14	9.8	11.3	15000	24000	NA102216	0.031
	22	20	0.3	14	11.8	15.4	15000	24000	NA102220	0.038
12	24	13	0.3	16	9.1	10.6	15000	24000	NA4901	0.027
	24	22	0.3	16	14.8	20.2	15000	24000	NA6901	0.048
15	28	13	0.3	20	10.4	13.2	13000	20000	NA4902	0.035
	28	23	0.3	20	16.8	24.5	13000	20000	NA6902	0.065
17	30	13	0.3	22	10.7	13.9	11000	18000	NA4903	0.039
	30	23	0.3	22	18.2	27.8	11000	18000	NA6903	0.074
20	37	17	0.3	25	20.6	24.4	9500	16000	NA4904	0.077
	37	30	0.3	25	33	47.6	9500	16000	NA6904	0.143
25	42	17	0.3	30	22.2	28.3	8000	13000	NA4905	0.096
	42	17	0.3	30	30	42.8	3000	6000	NA4905V	0.1
	42	30	0.3	30	40.1	60.1	8000	13000	NA6905	0.17
30	45	20	0.3	35	24.2	38.5	7000	11000	NA304520	0.117
	47	17	0.3	35	23.7	32.1	7000	11000	NA4906	0.107
	47	30	0.3	35	43.1	69.3	7000	11000	NA6906	0.202
35	55	20	0.6	42	29.8	45.5	6300	9500	NA4907	0.174
	55	36	0.6	42	52.7	95	6300	9500	NA6907	0.33
40	55	30	0.3	45	40.2	86.9	6000	9000	NA405530	0.221
	62	22	0.6	48	38.7	60.9	5600	8500	NA4908	0.239
	62	22	0.6	48	55	97.1	200	4000	NA4908V	0.266
	62	40	0.6	48	63.8	116	5600	8500	NA6908	0.45
	65	22	1	50	40.7	66.9	5600	8500	NA406522	0.29
45	62	25	0.6	50	36.3	76	5300	8000	NA456225	0.235
	62	35	0.6	50	49.4	114	5300	8000	NA456235	0.33
	68	22	0.6	52	46.4	73.9	5000	7500	NA4909	0.285
	68	40	0.6	52	64.5	123	5000	7500	NA6909	0.515
50	68	25	0.6	55	38.5	82.2	5000	7500	NA506825TN	0.268
	72	22	0.6	58	45	73.5	4800	7000	NA4910	0.28
	72	40	0.6	58	67.3	136	4800	7000	NA6910	0.545
55	72	25	0.6	60	40.2	87	4500	6700	NA557225TN	0.283
	72	35	0.6	60	55.7	130	4500	6700	NA557235	0.38
	80	25	1	63	59.3	101	4500	6700	NA4911	0.423
	80	25	1	63	80.3	151	1500	3000	NA4911V	0.448
	80	45	1	63	83.8	173	4500	6700	NA6911	0.795

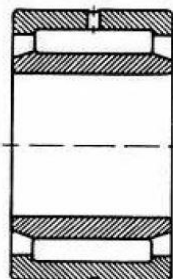
Dimensions					Basic radial load		Speed limit		Designation	Weight
d	D	B	r _s min.	F _w	dyn. C _r	stat. C _{0r}	grease min ⁻¹	oil min ⁻¹		
mm	mm	mm	mm	mm	KN	KN	min ⁻¹	min ⁻¹	-	Kg
60	85	25	1	68	62	109	4000	6000	NA4912	0.454
	85	25	1	68	83.4	163	1400	2800	NA4912V	0.48
	85	45	1	68	83.4	175	4000	6000	NA6912	0.836
65	90	25	1	72	58.3	110	3800	5600	NA4913	0.472
	90	45	1	72	91.3	193	3800	5600	NA6913	0.881
70	95	25	1	80	53.4	115	3400	5000	NA709525	0.538
	100	30	1	80	76.5	148	3400	5000	NA4914TN	0.725
	100	30	1	80	103	231	1200	2700	NA4914V	0.774
	100	54	1	80	125	254	3400	5000	NA6914	1.39
75	105	30	1	85	80.6	158	3200	4800	NA4915	0.796
	105	54	1	85	127	270	3200	4800	NA6915	1.51
80	110	30	1	90	84.9	169	3000	4500	NA4916	0.87
	110	54	1	90	144	316	3000	4500	NA6916	1.48
85	115	26	1	95	74.3	137	2800	4300	NA85/26	0.83
	120	35	1.1	100	98.8	222	2600	4000	NA4917	1.28
	120	63	1.1	100	143	378	2600	4000	NA6917	2.33
	130	45	1.1	104	121	408	900	1800	NA4616V	2.57
90	125	35	1.1	105	110	222	2400	3800	NA4918	1.34
	125	63	1.1	105	144	400	2400	3800	NA6918	2.47
95	130	35	1.1	110	105	244	2200	3600	NA4919	1.39
	130	63	1.1	110	149	411	2200	3600	NA6919	2.63
100	130	30	1.1	110	99.6	210	2200	3600	NA100/30	1
	140	40	1.1	115	124	267	2200	3600	NA4920	1.93
110	140	30	1	120	102	222	2000	3400	NA4822	1.15
	150	40	1.1	125	127	283	2000	3400	NA4922	2.09
120	150	30	1	130	86.8	228	1800	3000	NA4824	1.23
	165	45	1.1	135	170	385	1800	3000	NA4924	2.95
130	165	35	1.1	145	122	316	1700	2800	NA4826	1.9
	180	50	1.5	150	188	421	1700	2800	NA4926	3.98
140	175	35	1.1	155	128	323	1600	2600	NA4828	1.99
	180	32	1.5	155	116	258	1600	2600	NA140/32	2.05
	190	50	1.5	160	190	484	1600	2600	NA4928	4.32
	190	40	1.1	165	150	386	1500	2400	NA4830	2.85



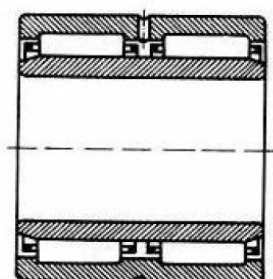
NA, d ≤ 9mm



NA



NAV



NA69

Needle roller bearings (non-standardized)

Dimensions						Basic radial load		Speed limit		Designation	Fig.	Weight
d	D	B	r_s	F_w	dyn.	stat.	grease	oil				
mm	mm	mm	mm	mm	KN	KN	min^{-1}	min^{-1}	-	-	-	Kg
10	33	24.5	24.5	1	12.3	27.3	43.3	15000	24000	492100V	4	0.145
28.575	47.625	26.654	24.5	1	34.925	36.1	55.2	7000	11000	NA294825ABW2	3	0.191
31.75	53.975	32	31.75	1.5	39.687	49.3	85.8	6300	9500	NA325432ABW2	3	0.318
35	55	36	36	1	41.51	46.1	97.8	6300	9500	NA6907A	6	0.33
38.1	60.325	32	31.75	1.5	46.037	53.1	98.8	5600	8500	NA386032ABW2	3	0.372
40	65	22	18	1.1	50	30.4	54.5	5600	8500	NAO406518BLC4	5	0.268
	72	40	22	0.6	58	45	73.5	4000	7000	NA4910B	4	0.393
41.275	63.5	32	31.75	1.5	49.7	79.8	174	4800	8000	NA416332ABVW2	3	0.406
	65.088	32	31.75	1	50.8	56.3	106	5600	8500	490110	4	0.401
44.45	76.2	44.7	44.45	1.5	57.15	97.3	185	4500	7500	NA447644ABW2	3	0.899
45	72	40	40	1	52	56.8	138	4500	7500	NA69/45F2	6	0.698
55.562	88.9	44.7	44.45	2	69.85	106	220	4800	6000	NA568944ABW2	3	1.14
60	100	38	38	1	78.3	92.9	303	3400	5000	NA6010038VNA	1	1.44
65	105	38	38	1	83.1	104	319	3400	5000	NA6510538VNA	2	1.49
70	95	25	25	1.5	80	49.5	108	3400	5000	NA709525	1	0.545
114.3	177.8	63.5	63.5	4	139.7	283	596	1700	2800	NA114/63A	3	6.25
120	165	45	45	1.1	135	515	1601	1800	3000	4xNA4924	7	11.8
150	215	72	72	1.5	179.3	372	1450	1800	3000	NA150/72VNAF2	2	10

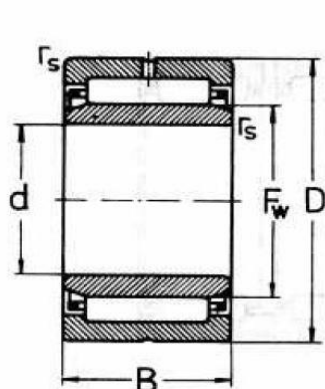


Fig.1

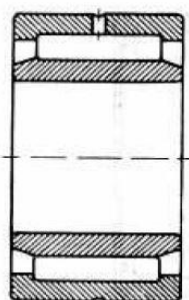


Fig.2

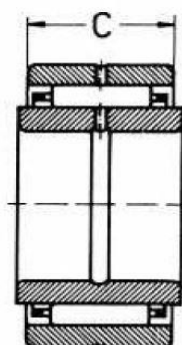


Fig.3

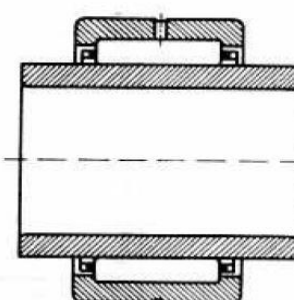


Fig.4

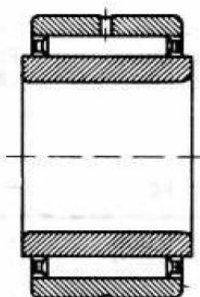


Fig.5

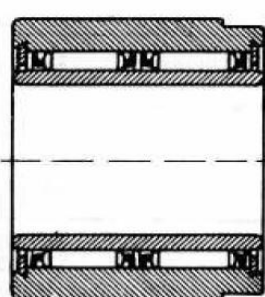


Fig.6

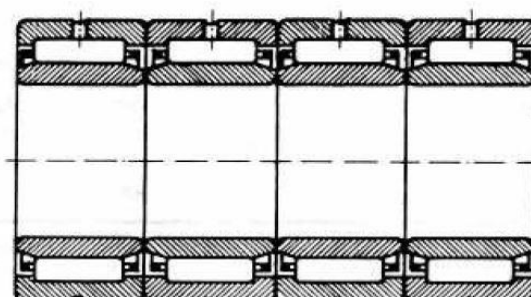


Fig.7