



IDC® - Bearings
by INTERPRECISE Germany

Needle Roller Bearings

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Needle roller bearings

Needle roller bearings with flanges — type series NA48..

General Description

Needle roller bearings type series NA48.. are single rowed needle roller bearings with two flanges on the outer ring. The inner ring is removable. The outer ring and the needle ring form a self-retaining unit.

Specification

Dimensions

The boundary dimensions of needle roller bearings type series NA48.. comply with DIN 617 and ISO 1206 respectively.

Operating Temperature

By standard needle roller bearings type series NA48.. are suitable for the operating temperatures from -20°C to +120°C.

Lubrication

The needle roller bearings type series NA48.. are treated with corrosion protection oil. These bearings are shipped without initial lubrication. For lubrication purpose they have lubrication holes and a lubrication groove on the outer ring.

Limiting rotational speed ng

The maximum permissible rotational speeds according to the respective tables are valid for oil lubrication. For grease lubrication the indicated values have to be reduced by 40%.



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Skewed run

At their ends the needle rollers have a slightly crowned profile. Thus minor skew positions between the shaft and the housing of maximum 1 angular minute are tolerable.

Tolerances

By standard needle roller bearings type series NA48.. are produced to tolerance class PN according to DIN 620-2 and ISO 492 respectively. On request these bearings can be produced in other tolerance classes as well.

Cage

The cages are made from sheet steel.



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Internal Clearance

The internal radial clearance of needle roller bearings type series NA48.. corresponds to Internal Clearance Group CN according to DIN 620-4 and ISO 5753 respectively.

On request these bearings can be produced with other internal clearances as well.

bore d [mm]		internal radial clearance [µm]			
		CN		C3	
over	to	min	max	min	max
-	24	20	45	35	60
24	30	20	45	35	60
30	40	25	50	45	70
40	50	30	60	50	80
50	65	40	70	60	90
65	80	40	75	65	100
80	100	50	85	75	110
100	120	50	90	85	125
120	140	60	105	100	145
140	160	70	120	115	165
160	180	75	125	120	170
180	200	90	145	140	195
200	225	105	165	160	220
225	250	110	175	170	235
250	280	125	195	190	260
280	315	130	205	200	275
315	355	145	225	225	305
355	400	190	280	280	370
400	450	210	310	310	410
450	500	220	330	330	440
500	560	240	360	360	480
560	630	260	380	380	500
630	710	285	425	425	565
710	800	310	470	470	630
800	900	350	520	520	690
900	1000	390	580	580	770
1000	1120	430	640	640	850
1120	1250	470	710	710	950
1250	1400	530	790	790	1050

For needle roller bearings which are installed without inner ring, the inner surrounding circle complies to standard.

Fw = F with tolerance zone F6.



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Axial Displacement

For needle roller bearing type series NA48.. the inner ring can be displaced axially in both directions relative to the outer ring by the value "s". The values for "s" are listed in the respective product table.

Minimum Radial Load

In order to ensure failure- and slip-free operation needle roller bearings type series NA48.. must be exposed to a minimum radial load of at least 2% of the dynamic load rating. This particularly applies for fast rotating bearings.

Radial Location

The needle roller bearings type series NA48.. are located by means of fit in the housing and on the shaft.

Axial Location

The bearing rings have to be located form- and force-fitted in order to prevent them from axial relocation in the housing towards adjacent components. The recommendations according to DIN 5418 have to be considered. Relief grooves according to DIN 509 can also be used. In either case attention should be paid to the minimum flange distance according to the respective product table.

The axial areas of contact have to be implemented sufficiently high. A sufficient overlap of the flange faces has to be ensured in case of the usage of other fastening elements.





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Replacement of the inner ring

The individual bearing components are matching. Therefore they may not be interchanged.

Suffixes

This list shows suffixes for deliverable designs which differ from the standard:

- C3 radial internal clearance higher than CN^{*1}
- P6 dimension and runout tolerance less than PN^{*1}
- P5 dimension and runout tolerance less than P6^{*1}

^{*1} upon request

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Series NA48..



description	weight [kg]	measures [mm]						load ratings		fatigue limit load	limiting speed
		d	D	B	r min.	s ¹⁾	F	dyn. C _r [kN]	stat. C _{or} [kN]	C _u [kN]	n _G [min ⁻¹]
NA4822	1,1	110	140	30	1	0,8	120	96	219	29	3800
NA4824	1,15	120	150	30	1	0,8	130	103	246	31	3600
NA4826	1,8	130	165	35	1,1	1,0	145	121	310	38	3200
NA4828	1,9	140	175	35	1,1	1,0	155	125	330	39	3000
NA4830	2,7	150	190	40	1,1	1,5	165	160	420	50	2800
NA4832	2,9	160	200	40	1,1	1,5	175	165	440	53	2600
NA4834	3,95	170	215	45	1,1	1,5	185	197	540	64	2400
NA4836	4,2	180	225	45	1,1	1,5	195	204	570	66	2400
NA4838	5,6	190	240	50	1,5	1,5	210	236	710	79	2200
NA4840	5,85	200	250	50	1,5	1,5	220	243	750	81	2000
NA4844	6,4	220	270	50	1,5	1,5	240	275	860	91	1900
NA4848	10	240	300	60	2	2,0	265	370	1100	115	1700
NA4852	10,5	260	320	60	2	2,0	285	380	1190	119	1500
NA4856	15,5	280	350	69	2	2,5	305	460	1350	135	1400
NA4860	22	300	380	80	2,1	2,0	330	630	1790	186	1300
NA4864	23	320	400	80	2,1	2,0	350	650	1910	192	1200
NA4868	24	340	420	80	2,1	2,0	370	670	1990	196	1200
NA4872	25,5	360	440	80	2,1	2,0	390	690	2110	202	1100
NA4876	42,5	380	480	100	2,1	2,0	415	1030	2900	275	1000



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