

## Feroball® FBT-series (ND & HD)



### Product description:

Feroball® is a special designed self lubricating spherical plain bearing for slow moving/oscillating applications. Feroball® bearings are designed for wet or humid situations, Feroball® bearings are also known for their specific low stick-slip limits. Feroball® spherical bearing are available in full composite (FBA series) and Steel or Stainless Steel (FBT and FBX series).

The Feroball® FBT series is a product made of Feroform T814 and Stainless Steel (1.4404). This combination makes that the Feroball® has a superior corrosion resistance against other Cr-Ni steel materials. On request various combinations are possible

### Standard materials

- Inner ring: Stainless Steel 316L (1.4404)
- Outer ring: Stainless Steel 316L (1.4404)
- Sliding material: Feroform T814

### Standard sizes

Feroball® FBT ND-series and HD-series are the standard range of the Feroball® spherical plain bearing design. The ND-series start with a shaft size of Ø20 going up to Ø1000 mm. HD-series start with a shaft size of Ø100 going up to Ø1000 mm.

### ND-series

ND stands for Normal Duty design

### HD-series

HD stands for Heavy Duty design. The HD-series is identical compared to the ND-series in terms of construction and properties, only dimensions are different. Due to a larger effective bearing sliding surface a higher load is possible compared to the ND-series. The maximum angle of tilt is smaller compared to the ND-series.

### Grease grooves

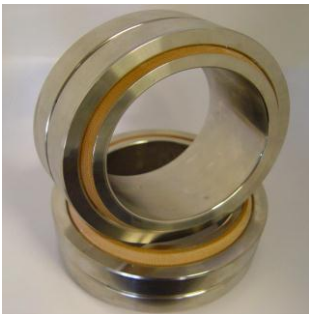
Although Feroball® FBT-series bearings are a self lubricating design, it is possible to grease the bearings to increase lifetime. Feroball® FBT-series bearings are produced in the range Ø20 up to Ø140 without grease grooves, above these sizes grease grooves are standard on the outer-ring. On request grease grooves can be produced in smaller diameter FBT-series. All grooves come with three grease holes.

### Specials

For special applications special changes can be made to the Feroball® concept. Kuhne Industrie BV has designed many changes to fit Feroball® bearings in existing applications or on design request to avoid thermal expansions and other combined radial and longitudinal movements.

### Lifetime Calculation

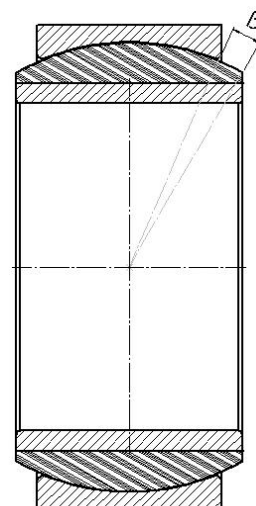
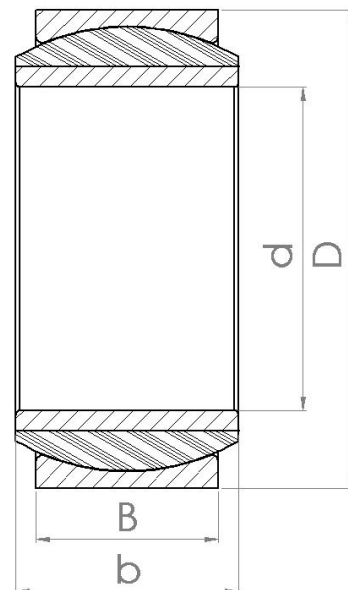
To prevent bearings from failure it is important to choose the right bearing design. Kuhne Industrie BV can advise for design and calculate life time prediction as an extra service to the Feroball® products.



Feroball® bearings are original designed and produced by Kuhne Industrie BV, Feroball® is a registered trademark of Kuhne Industrie BV

## Feroball® ND-series

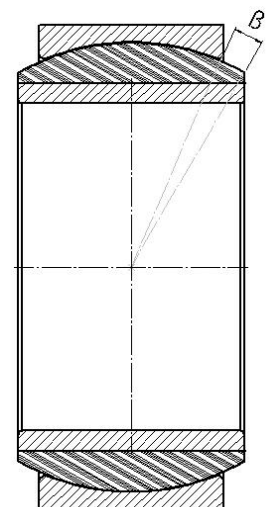
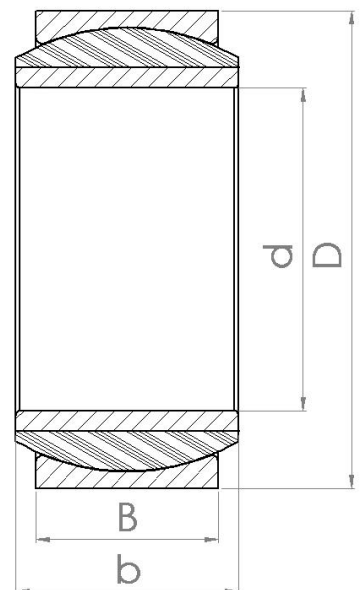
Art. Nr.	Sizes				Ang. of tilt	Dyn. load	Stat. load
	d mm	D mm	B mm	b mm	$\beta$ °	C x10 <sup>3</sup> N	C <sub>0</sub> x10 <sup>3</sup> N
FBT-20	20	35	12	16	6	71	114
FBT-25	25	42	16	20	6	116	186
FBT-30	30	47	18	22	6	148	236
FBT-35	35	55	20	25	6	192	307
FBT-40	40	62	22	28	7	236	378
FBT-45	45	68	25	32	7	297	475
FBT-50	50	75	28	35	6	370	592
FBT-60	60	90	36	44	6	576	921
FBT-70	70	105	40	49	6	725	1159
FBT-80	80	120	45	55	6	947	1515
FBT-90	90	130	50	60	5	1156	1849
FBT-100	100	150	55	70	7	1432	2291
FBT-110	110	160	55	70	6	1547	2475
FBT-120	120	180	70	85	6	2157	3451
FBT-140	140	210	70	90	7	2508	4013
FBT-160	160	230	80	105	8	3167	5067
FBT-180	180	260	80	105	6	3532	5651
FBT-200	200	290	100	130	7	5042	8067
FBT-220	220	320	100	135	8	5498	8797
FBT-240	240	340	100	140	8	6034	9655
FBT-260	260	370	110	150	7	7234	11574
FBT-280	280	400	120	155	6	8393	13429
FBT-300	300	430	120	165	7	8985	14376
FBT-320	320	440	135	160	4	10205	16327
FBT-340	340	460	135	160	3	11039	17663
FBT-360	360	480	135	160	3	11594	18550
FBT-380	380	520	160	190	4	14591	23345
FBT-400	400	540	160	190	3	15250	24400
FBT-420	420	560	160	190	3	15908	25453
FBT-440	440	600	185	218	3	19757	31611
FBT-460	460	620	185	218	3	20519	32831
FBT-480	480	650	195	230	3	22363	35782
FBT-500	500	670	195	230	3	23166	37065
FBT-530	530	710	205	243	3	25549	40878
FBT-560	560	750	215	258	4	28048	44877
FBT-600	600	800	230	272	3	32252	51604
FBT-630	630	850	260	300	3	38328	61324
FBT-670	670	900	260	308	3	40471	64753
FBT-710	710	950	275	325	3	45493	72789
FBT-750	750	1000	280	335	3	49149	78639
FBT-800	800	1060	300	335	3	55542	88867
FBT-850	850	1120	310	365	3	61744	98791
FBT-900	900	1180	320	375	3	66913	107061
FBT-950	950	1250	340	400	3	75756	121210
FBT-1000	1000	1320	370	438	3	86637	138619



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## Feroball® HD-series

Art. Nr.	Sizes				Ang. of tilt $\beta$ °	Dyn. load C x10 <sup>3</sup> N	Stat. load C <sub>0</sub> x10 <sup>3</sup> N
	d mm	D mm	B mm	b mm			
FBT-100HD	100	150	67	71	2	1675	2681
FBT-110HD	110	160	74	78	2	2012	3219
FBT-120HD	120	180	80	85	2	2423	3877
FBT-140HD	140	210	95	100	2	3286	5258
FBT-160HD	160	230	109	115	2	4246	6793
FBT-180HD	180	260	122	128	2	5344	8550
FBT-200HD	200	290	134	140	2	6528	10444
FBT-220HD	220	320	148	155	2	7855	12568
FBT-240HD	240	340	162	170	2	9304	14886
FBT-260HD	260	370	175	185	2	10975	17561
FBT-280HD	280	400	190	200	2	12815	20504
FBT-300HD	300	430	200	212	2	14410	23055
FBT-320HD	320	460	218	230	2	16698	26716
FBT-340HD	340	480	230	243	2	18747	29996
FBT-360HD	360	520	243	258	2	21197	33915
FBT-380HD	380	540	258	272	2	23614	37783
FBT-400HD	400	580	265	280	2	25522	40835
FBT-420HD	420	600	280	300	2	28413	45460
FBT-440HD	440	630	300	315	2	32031	51250
FBT-460HD	460	650	308	325	2	34072	54516
FBT-480HD	480	680	320	340	2	37249	59598
FBT-500HD	500	710	335	355	2	40870	65393
FBT-530HD	530	750	355	375	2	45499	72799
FBT-560HD	560	800	380	400	2	51425	82280
FBT-600HD	600	850	400	425	2	57985	92776
FBT-630HD	630	900	425	450	2	64654	103446
FBT-670HD	670	950	450	475	2	72656	116250
FBT-710HD	710	1000	475	500	2	81125	129800
FBT-750HD	750	1060	500	530	2	90060	144096
FBT-800HD	800	1120	530	565	2	102545	164073
FBT-850HD	850	1220	565	600	2	117918	188669
FBT-900HD	900	1250	600	635	2	129166	206666
FBT-950HD	950	1360	635	670	2	147745	236392
FBT-1000HD	1000	1450	670	710	2	166087	265739



**Remark:**

- ND-series Ø20 to Ø140mm contain a single-piece design outer-ring
- ND-series Ø150 and bigger contain a split-piece design outer-ring
- HD-series contain a split-piece design outer-ring

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