



Feroball

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).

Product Description

Feroball® FBT-series (FBT Normal Duty Series and FBT Heavy Duty Series). The Feroball® FBT series is a product made of Feroform T814 and Stainless Steel (1.4404). This combination means that the Feroball® has a superior corrosion resistance against other Cr-Ni steel materials.

Feroball® FBA-series (full composite). The Feroball® FBA series is a product made of Feroform PR18. This means that the Feroball® FBA is a superior corrosion resistant spherical bearing. Although Feroball® bearings are a low stick-slip design, Feroball® FBA bearings have a higher coefficient of friction than Feroball FBT series. Feroball® FBA bearings are specially designed for applications where the use of metal parts must be avoided.

Feroball® FBK-series (full composite). The Feroball® FBK series is a product made of Railko NF22 (for shaft Ø16 and Ø20 mm) and Feroform PR18 (for shaft Ø25 and bigger). Although Feroball® bearings are a low stick-slip design, Feroball® FBK bearings have a higher coefficient of friction than Feroball FBT series. Feroball® FBK bearings are specially designed for applications where the housing already has a spherical shape.

The Feroball® FBX series is a product made of Feroform PR18 and Stainless Steel (1.4404). This makes the Feroball® FBX a superior corrosion resistant spherical bearing. Although Feroball® bearings are a low stick-slip design, Feroball® FBX bearings have a higher coefficient of friction than Feroball FBT series. Being able to offer a wide variety of different types of Feroball bearings ensures Tenmat can offer support across a wide range of demanding applications.

Product Advantages

- Very low stick-slip - High performance from the off
- Low maintenance - Fit and forget self lubricating solution
- Corrosion resistant - Non metallic components have no issues with corrosion
- Custom-made solutions - Bespoke solutions designed and manufactured outside of the standard size ranges

Approved Applications

For slow moving/oscillating applications.

Storage

- To be stored in a dry location
- Take care not to exceed safe working loads and heights for storage shelves and racks

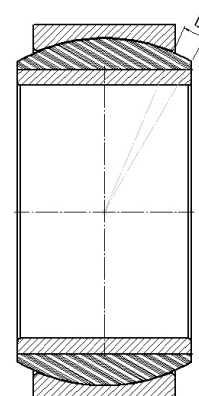
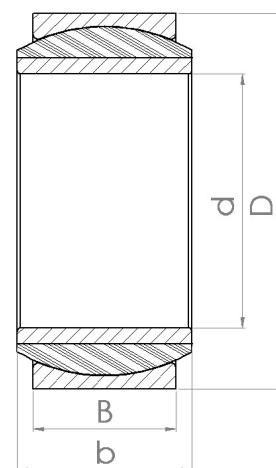
Physical Properties

		Grade		
Property	Units	PR18	T814	NF
Density	g/cm ³	1.26	1.31	1.64
Compressive Strength	MPa	260	310	190
Charpy Impact Notched	kJ/m ²	30	75	30
Shear Strength	MPa	55	72	40
Compressive Yield @ 68.9 Mpa	%	2.5	3.8	2.0
Brinell Hardness			20	
Shore D Hardness		84		90
Swell in Water (24 hours)	%			
20 °C		0.2	0.2	0.2
80 °C		0.6	0.4	0.5
Coefficient of Thermal Expansion	x 10 ⁻⁶ /°C			
Parallel		40	36	43
Perpendicular		90	45	43
Coefficient of Friction (Unlubricated)		0.18-0.31	0.04-0.28	0.34-0.42
Scar Wear, Dry	mm	7.5-9.5	5.2-6.1	7.0-9.2
Maximum Operating Temperature	°C			
Continuous		100	100	120
Intermittent		120	120	140
Normal Working Pressure	MPa	87	75	55

Sizes

Feroball® ND-series

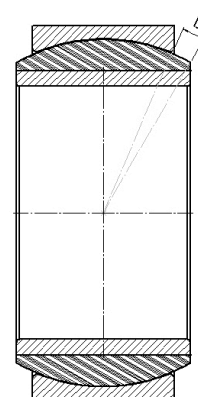
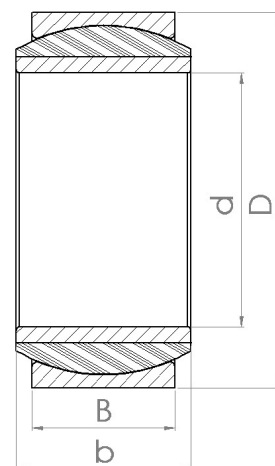
	Sizes				Ang. of tilt	Dyn. load	Stat. load
Art. Nr.	d	D	B	b	β	C	C0
	mm	mm	mm	mm	°	x10 ³ N	x10 ³ N
FBT-20	20	35	12	16	6	71	114
FBT-25	25	42	16	20	6	116	186
FBT-30	30	47	18	22	6	148	236
FBT-35	35	55	20	25	6	192	307
FBT-40	40	62	22	28	7	236	378
FBT-45	45	68	25	32	7	297	475
FBT-50	50	75	28	35	6	370	592
FBT-60	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



Sizes

Feroball® HD-series

	Sizes				Ang. of tilt	Dyn. load	Stat. load
Art. Nr.	d	D	B	b	β	C	C0
	mm	mm	mm	mm	°	x10 ³ N	x10 ³ N
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



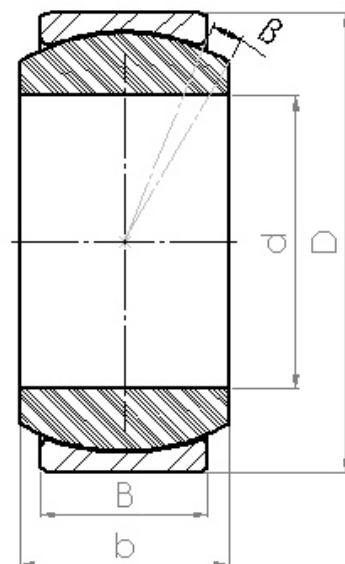
Remark

- 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

Sizes

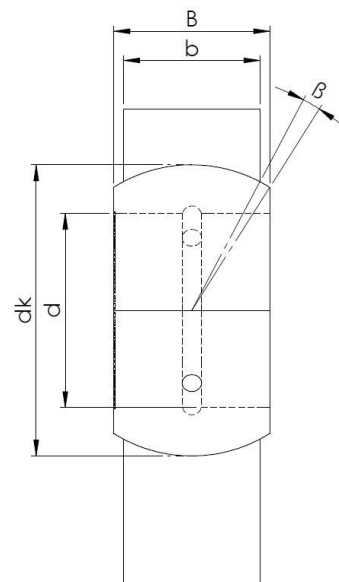
Feroball® FBA-series

	Sizes				Ang. of tilt	Dyn. load	Stat. load
Art. Nr.	d	D	B	b	β	C	C0
	mm	mm	mm	mm	°	x10 ³ N	x10 ³ N
FBA-25	25	42	16	20	6	43	157
FBA-30	30	47	18	22	6	55	199
FBA-35	35	55	20	25	6	72	259
FBA-40	40	62	22	28	7	89	319
FBA-45	45	68	25	32	7	111	401
FBA-50	50	75	28	35	6	139	499
FBA-60	60	90	36	44	6	216	777
FBA-70	70	105	40	49	6	272	978
FBA-80	80	120	45	55	6	355	1278
FBA-90	90	130	50	60	5	433	1561
FBA-100	100	150	55	70	7	537	1933
FBA-110	110	160	55	70	6	580	2088
FBA-120	120	180	70	85	6	809	2912
FBA-140	140	210	70	90	7	941	3386



Feroball® FBK-series

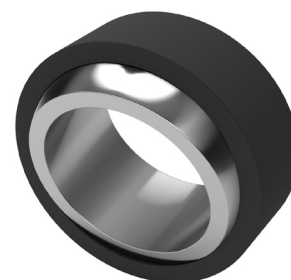
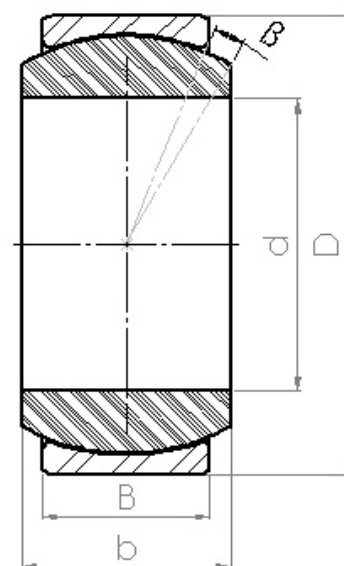
	Ball sizes			Housing		Ang. of tilt	Dyn. load	Stat. load
Art. Nr.	d	B	dk	b	dk C9	β	C	C0
	mm	mm	mm	mm	Mm	°	x10 ³ N	x10 ³ N
FBK-16S	16	16	28	14	28	4	17	65
FBK-20S	20	20	33	18	33	4	28	108
FBK-25S	25	26	44	22	44	6	77	256
FBK-32S	32	26	48	22	48	5	85	282
FBK-35S	35	32	55	26	55	5	120	397
FBK-40S	40	32	60	28	60	4	131	433
FBK-50S	50	50	75	45	75	5	244	809
FBK-60S	60	60	90	50	90	8	357	1185
FBK-70S	70	65	100	60	100	3	422	1402
FBK-80S	80	70	110	60	110	6	511	1695
FBK-90S	90	80	125	70	125	5	660	2190
FBK-100S	100	90	140	80	140	5	828	2748
FBK-110S	110	100	155	90	155	4	1015	3368
FBK-125S	125	100	166	90	166	4	1103	3659
FBK-140S	140	125	194	110	194	5	1596	5298
FBK-150S	150	140	210	130	210	3	1895	6288
FBK-160S	160	150	225	140	225	3	2172	7208
FBK-180S	180	160	250	150	250	3	2599	8625
FBK-200S	200	190	290	180	290	2	3548	11775



Sizes

Feroball® FBX-series

	Sizes				Ang. of tilt	Dyn. load	Stat. load
Art. Nr.	d	D	B	b	β	C	C0
	mm	mm	mm	mm	°	x10 ³ N	x10 ³ N
FBX-20	20	35	12	16	6	30	88
FBX-25	25	42	16	20	6	48	143
FBX-30	30	47	18	22	6	61	182
FBX-35	35	55	20	25	6	80	236
FBX-40	40	62	22	28	7	98	291
FBX-45	45	68	25	32	7	123	365
FBX-50	50	75	28	35	6	154	455
FBX-60	60	90	36	44	6	239	708
FBX-70	70	105	40	49	6	301	892
FBX-80	80	120	45	55	6	393	1165
FBX-90	90	130	50	60	5	480	1422
FBX-100	100	150	55	70	7	595	1762
FBX-110	110	160	55	70	6	643	1903
FBX-120	120	180	70	85	6	896	2653
FBX-140	140	210	70	90	7	1043	3086
FBX-160	160	230	80	105	8	1316	3896
FBX-180	180	260	80	105	6	1468	4345
FBX-200	200	290	100	130	7	2095	6202



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