

# Heat-Resistant Grease Filled Ball Bearings - Max. Operating Temperature 160°C

# Heat-Resistant Grease Filled Ball Bearings - Max. Operating Temperature 230°C / With Set Screws

Heat-Resistant Grease Filled Ball Bearings - Max. Operating Temperature 160°C

**HHB6**    **ZZ**  
**HHB6**     **ZZ**

Bearing Accuracy: JIS B 1514 Class 0  
 Operating Temperature: -20 ~ +160°C

Type	Inner and Outer Ring		Shield	Rolling Element	Retainer
	Material	Hardness	Material	Material	Material
<b>HHB ZZ</b>	SUS440C Equivalent	57-63HRC	SUS304	SUS440C	SUS304

RoHS10

Heat-Resistant Grease Filled Ball Bearings - Max. Operating Temperature 230°C

**KB6**    **ZZ**

Bearing Accuracy: JIS B 1514 Class 0  
 Operating Temperature: -20 ~ +230°C

Type	Inner and Outer Ring		Shield	Rolling Element	Retainer
	Material	Hardness	Material	Material	Material
<b>KB ZZ</b>	SUS440C	57-63HRC	SUS304	SUS440C	SUS304

RoHS10

For details on the tolerance and allowable values of inner and outer rings, see P.2243

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Part Number	d	D	B	r (min)	Basic Load Rating			Relative Dimensions			Mass (g) (Reference)	Unit Price			
					Cr (Dynamic) kN	Cor (Static) kN	Allowable Rotational Speed rpm (Reference)	Ds (min)	dh (max)	R (max)					
													Cr (Dynamic) kN	Cor (Static) kN	Allowable Rotational Speed rpm (Reference)
<a href="#">HHB695ZZ</a>	5	13	4	0.2	915	346	43000	6.6	11.4	0.2	2.4				
<a href="#">HHB605ZZ</a>					1130	406	40000						12.4	3.5	
<a href="#">HHB625ZZ</a>					1470	540	36000						7	14	0.3
<a href="#">HHB696ZZ</a>	6	15	5	0.3	1139	418	40000	7.6	13.4	0.2	3.8				
<a href="#">HHB606ZZ</a>					1924	677	38000						8	15	6.0
<a href="#">HHB626ZZ</a>					1986	717	32000							17	8.1
<a href="#">HHB698ZZ</a>	8	19	6	0.3	1901	734	36000	10	17	0.3	7.3				
<a href="#">HHB608ZZ</a>					2799	1103	34000						20	12	
<a href="#">HHB628ZZ</a>					2833	1138	28000						22	17	

Part Number	d	D	B	r (min)	Basic Load Rating			Relative Dimensions			Mass (g) (Reference)	Unit Price			
					Cr (Dynamic) kN	Cor (Static) kN	Allowable Rotational Speed rpm (Reference)	Ds (min)	dh (max)	R (max)					
													Cr (Dynamic) kN	Cor (Static) kN	Allowable Rotational Speed rpm (Reference)
<a href="#">HHB6900ZZ</a>	10	22	6	0.3	2.29	1.01	34000	12	12.5	20	0.3	10			
<a href="#">HHB6000ZZ</a>					3.90	1.57	31000		13	24				19	
<a href="#">HHB6200ZZ</a>					4.35	1.91	24000		16	26				0.6	32
<a href="#">HHB6901ZZ</a>	12	24	6	0.3	2.45	1.16	31000	14	14.5	22	0.3	11			
<a href="#">HHB6001ZZ</a>					4.35	1.89	27000		15.5	26				22	
<a href="#">HHB6201ZZ</a>					5.80	2.44	22000		17	28				0.6	37
<a href="#">HHB6902ZZ</a>	15	28	7	0.3	3.70	1.80	26000	17	17	26	0.3	17			
<a href="#">HHB6002ZZ</a>					4.75	2.26	23000		19	30				30	
<a href="#">HHB6202ZZ</a>					6.50	3.00	20000		20.5	31				0.6	45
<a href="#">HHB6903ZZ</a>	17	30	7	0.3	3.90	2.04	23000	19	19.5	28	0.3	18			
<a href="#">HHB6003ZZ</a>					5.10	2.60	21000		21.5	33				39	
<a href="#">HHB6203ZZ</a>					8.15	3.84	17000		23.5	36				0.6	65
<a href="#">HHB6904ZZ</a>	20	37	9	0.3	5.40	2.96	19000	22	24	35	0.3	36			
<a href="#">HHB6004ZZ</a>					7.95	4.00	17000		24	38				0.6	69
<a href="#">HHB6204ZZ</a>					10.90	5.28	15000		25	42				1.0	106

kgf=Nx0.101972

Ordering Example  
 Part Number  
**HHB696ZZ**  
**HHB6003ZZ**

Grease Performance and Operating Environment

Grease Performance	All-Purpose Grease Filled		Heat-Resistant Grease Filled	
	B6 <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <b>ZZ</b> SB6 <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <b>ZZ</b>		HHB6 <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <b>ZZ</b> HHB6 <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <b>ZZ</b>	
	Thickener	Lithium Soap	Diurea	Mineral Oil
Base Oil	Mineral Oil	Mineral Oil	Mineral Oil	
Base Oil Dynamic Viscosity (40°C, mm <sup>2</sup> /s)	26	26	88	
Worked Penetration	270	260	253	
Dropping Point (°C)	170-190	253		
Evaporation (wt%)	0.32 (99°Cx22h)	0.3 (99°Cx22h)	0.3 (99°Cx22h)	
Separation (100°Cx24h, wt%)	2.9	1.5		
Operating Temperature (°C)	In Air -25~+120	In Vacuum Unsuitable	-20~+160	
	In Vacuum Unsuitable	Unsuitable	Unsuitable	

For details on the tolerance and allowable values of inner and outer rings, see P.2243

Part Number	d	D	B	r (min)	Basic Load Rating			Relative Dimensions			Mass (g) (Reference)	Unit Price				
					Cr (Dynamic) kN	Cor (Static) kN	Allowable Rotational Speed rpm (Reference)	Ds (min)	dh (max)	R (max)						
													Cr (Dynamic) kN	Cor (Static) kN	Allowable Rotational Speed rpm (Reference)	
<a href="#">KB6900ZZ</a>	10	22	6	0.3	2.29	1.01	3100	12	12.5	20	0.3	10				
<a href="#">KB6000ZZ</a>					3.90	1.57	2700		13	24				19		
<a href="#">KB6200ZZ</a>					4.35	1.91	2500		16	26				0.6	32	
<a href="#">KB6901ZZ</a>	12	24	6	0.3	2.45	1.16	2700	14	14.5	22	0.3	11				
<a href="#">KB6001ZZ</a>					4.35	1.89	2500		15.5	26				22		
<a href="#">KB6201ZZ</a>					5.80	2.44	2200		17	28				0.6	37	
<a href="#">KB6902ZZ</a>	15	28	7	0.3	3.70	1.80	2300	17	17	26	0.3	17				
<a href="#">KB6002ZZ</a>					4.75	2.26	2100		19	30				30		
<a href="#">KB6202ZZ</a>					6.50	3.00	2000		20.5	31				0.6	45	
<a href="#">KB6903ZZ</a>	17	30	7	0.3	3.90	2.04	2100	19	19.5	28	0.3	18				
<a href="#">KB6003ZZ</a>					5.10	2.60	1900		21.5	33				39		
<a href="#">KB6203ZZ</a>					8.15	3.84	1700		23.5	36				0.6	65	
<a href="#">KB6904ZZ</a>	20	37	9	0.3	5.40	2.96	1700	22	24	35	0.3	36				
<a href="#">KB6004ZZ</a>					7.95	4.00	1600		24	38				0.6	69	
<a href="#">KB6204ZZ</a>					10.90	5.28	1400		25	42				1.0	106	
<a href="#">KB6905ZZ</a>	25	42	12	0.6	8.55	4.65	1300	27	28.5	40	0.3	38				
<a href="#">KB6005ZZ</a>					8.55	4.65	1300		29	30				43	0.6	74
<a href="#">KB6205ZZ</a>					11.9	6.30	1200		30	32				47	1.0	120
<a href="#">KB6906ZZ</a>	30	47	14	1.0	6.15	4.00	1100	32	34	45	0.3	50				
<a href="#">KB6006ZZ</a>					11.3	6.60	1100		35	36.5				50	1.0	107
<a href="#">KB6206ZZ</a>					16.5	9.05	1000		35	38.5				57	1.0	184

For details on the tolerance and allowable values of inner and outer rings, see P.2243

Grease Performance and Operating Environment

Grease Performance	All-Purpose Grease Filled		Heat-Resistant Grease Filled	
	B6 <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <b>ZZ</b> SB6 <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <b>ZZ</b>		KB6 <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <b>ZZ</b>	
	Thickener	Lithium Soap	PTFE	Fluorinated Oil
Base Oil	Mineral Oil	Mineral Oil	Fluorinated Oil	
Base Oil Dynamic Viscosity (40°C, mm <sup>2</sup> /s)	26	26	420	
Worked Penetration	270	260	280	
Dropping Point (°C)	170-190	260	260	
Evaporation (wt%)	0.32 (99°Cx22h)	0.3 (99°Cx22h)	0.1 (99°Cx22h)	
Separation (100°Cx24h, wt%)	2.9	1.5	4.5	
Operating Temperature (°C)	In Air -25~+120	In Vacuum Unsuitable	-20~+230	
	In Vacuum Unsuitable	Unsuitable	Unsuitable	

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Bearings with Set Screws

**TB6**    **ZZ**

Bearing Accuracy: JIS B 1514 Class 0  
 \* Except I.D.  
 Operating Temperature: -25 ~ +120°C

Type	Material		
	Inner / Outer Rings, Rolling Element	Retainer / Shield	Set Screw
<b>TB ZZ</b>	SUS440C	SUS304	SUS304 Equivalent

For details on the tolerance and allowable values of outer rings, see P.2243

Part Number	d	Tolerance	D	W	B	M (Coarse)	r (min)	Allowable Rotational Speed rpm (Reference)	Basic Load Rating		Mass (g) (Reference)	Unit Price
									Cr (Dynamic) kN	Cor (Static) kN		
<a href="#">TB6900ZZ</a>	10	+0.015 0	22	13	6	M3	0.3	9100	2.70	1.27	13	
<a href="#">TB6000ZZ</a>			26	15	8	M3	0.3	7800	4.55	1.96	24	
<a href="#">TB6200ZZ</a>			30	17	9	M4	0.6	6800	5.10	2.39	41	
<a href="#">TB6901ZZ</a>	12	+0.015 0	24	13	6	M3	0.3	5200	2.89	1.46	15	
<a href="#">TB6001ZZ</a>			28	15	8	M3	0.3	7800	5.10	2.39	27	
<a href="#">TB6201ZZ</a>			32	19	10	M4	0.6	7500	6.80	3.05	47	
<a href="#">TB6902ZZ</a>	15	+0.015 0	28	14	7	M3	0.3	6500	4.30	2.25	22	
<a href="#">TB6002ZZ</a>			32	16.5	9	M3	0.3	4500	5.60	2.84	40	
<a href="#">TB6202ZZ</a>			35	20	11	M4	0.6	10000	7.65	3.75	59	
<a href="#">TB6904ZZ</a>	20	+0.018 0	37	18	9	M4	0.3	9100	6.40	3.70	51	
<a href="#">TB6004ZZ</a>			42	21	12	M5	0.6	7500	9.40	5.05	87	
<a href="#">TB6204ZZ</a>			47	23	14	M5	1.0	5800	12.80	6.65	132	

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Ordering Example  
 Part Number  
**KB6003ZZ**  
**TB6201ZZ**