

Plastic Bearings

Water Resistant & Non-Magnetic Type

Plastic Bearings – Water Resistant & Non-Magnetic Type

Type	Material			Operating Temp
	Main Body	Retainer	Rolling Element	
UKB6__ZZ	UHMW	Soda-Lime Glass		-50 – +60°C
PTN6__ZZ	PTFE		Alumina Ceramics	-40 – +150°C
PKB6__ZZ	PEEK			-50 – +180°C

Installation Diagram

kgf=Nx0.101972

Part Number	Type	Bearing No.	d	Tolerance	D	Tolerance	B	Tolerance	c	Relative Dimensions			Allowable Load (kgf/1 Pc.)			Allowable Rotational Speed (rpm) Underwater values in ()			Mass (g) (Reference)			
										Ds		dh (max.)	UKB	PTN	PKB	UKB	PTN	PKB	UKB	PTN	PKB	
										(min)	(max.)											
UKB UHMW Water Resistant, Non-Magnetic	UKB	624ZZ	4		13					5	6	12	0.29	—	—	1120 (3140)	—	—	0.55	—	—	
		625ZZ	5		16		5			6	7.4	14	0.6	0.4	1.5	900 (2540)	540	1800	0.9	1.9	1.3	
		605ZZ	5		14					6	6.8	13	0.4	—	—	1000 (2800)	—	—	0.65	—	—	
		626ZZ	6		19		6			7	9	17	0.7	0.5	1.5	760 (2140)	450	1500	1.5	3.1	2.0	
		606ZZ	6		17					7	8.4	16	0.7	—	—	830 (2320)	—	—	1.2	—	—	
		696ZZ	6		16	+0.08		5			7	7.8	14	0.5	—	—	900 (2540)	—	—	0.75	—	—
		628ZZ	8		22	0		8			9	12	22	1.3	0.8	2.8	600 (1670)	350	1200	3.2	6.7	4.4
		608ZZ	8		24			7			9	10.7	20	1.3	—	—	630 (1780)	—	—	2.4	—	—
		698ZZ	8		19			6			9	10.6	18	0.6	—	—	700 (1980)	—	—	1.3	—	—
		6200ZZ	10		30	±0.03		9			12	15.3	28	2.2	—	—	460 (1300)	—	—	5.6	—	—
6000ZZ	10		26			8			12	13.8	24	1.3	0.8	3.0	520 (1470)	310	1000	3.5	7.7	5.1		
6900ZZ	10		22			6			12	12.6	21	1.3	—	—	590 (1670)	—	—	1.9	—	—		
6201ZZ	12		32	+0.1		10	±0.1		14	16.3	30	2.5	—	—	430 (1210)	—	—	7	—	—		
6001ZZ	12		28	+0.08		8			14	15.5	26	1.6	1	4.0	470 (1330)	280	950	4	8.5	5.6		
6901ZZ	12		24	0		6			14	14.8	21	1.2	—	—	530 (1480)	—	—	1.9	—	—		
6202ZZ	15		35	+0.1		11			17	19.4	33	3	—	—	380 (1070)	—	—	8.8	—	—		
6002ZZ	15		32	0		9			17	18.6	30	2.5	1.5	5.5	400 (1140)	240	810	5.7	11.0	7.8		
6902ZZ	15		28	+0.08		7			17	18.2	26	1.6	—	—	440 (1240)	—	—	3	—	—		
6203ZZ	17		40	+0.12		12			19	22.6	38	4	—	—	330 (930)	—	—	12.8	—	—		
6003ZZ	17		35	+0.1		10			19	21	33	3	1.8	6.5	360 (1000)	220	730	7.3	14.2	9.4		
6903ZZ	17		30	+0.08		7			19	20	28	2	—	—	400 (1130)	—	—	3.3	—	—		
6204ZZ	20		47	+0.12		14			22	26.5	43	5	—	—	280 (790)	—	—	20	—	—		
6004ZZ	20		42	0		12			0.5	22	25	38	3.6	2.3	8.0	300 (860)	180	610	12.6	24.6	16.2	
6904ZZ	20		37	+0.1		9			0.3	22	23.6	35	3.3	—	—	330 (930)	—	—	6.8	—	—	

① The tolerance above is the dimension at standard temperature 24°C±1°C at the time of manufacture. ② The allowable values are for reference, not guaranteed.
 ③ Soda-lime glass may be broken when temperature changes rapidly. ④ PEEK is available only in Japan.

Part Number Example: UKB6002ZZ

Plastic Bearings

Water Resistant & Non-Magnetic Type, *continued*

Characteristic Values of Plastic Bearing Material

Item	UHMW	PEEK	PTFE	Soda-lime Glass	Alumina Ceramics
Specific Gravity	0.94	1.32	2.14–2.20	2.5	3.9
Tension Strength (kgf/cm ²)	460	1,000	210–350	600	—
Elongation (%)	400	20	200–400	—	—
Compression Strength (kgf/cm ²)	—	1,210	120	9,000	25,000
Compression Elasticity Modulus (kgf/cm ²)	9,170	42,000	4,200	—	—
Bending Strength (kgf/cm ²)	250	1,730	—	—	—
Izod Impact Strength Test	Does Not Break	20	15.8	—	—
Hardness	R Scale 56	R Scale 120	Durometer D 50–55	Mohs Hardness 6.5	Vickers Hardness 1800 (kgf/mm ²)
Deflection Temperature Under Load (°C) 0.45 MPa	80 (0.45 MPa)	155 (1.82 Mpa)	—	—	—
Thermal Linear Expansion Coefficient	1.7 x 10 ⁻⁴	5.0 x 10 ⁻⁵	12.4 x 10 ⁻⁵	—	7.8 x 10 ⁻⁶
Heat Resistance Temperature (°C)	-100–80	-50–250	-40–260	-50–60	-50–1,600

① Listed values represent reference values, not guaranteed.

Performance Comparison of Bearings for Special Environments

Part Number	Inner / Outer Ring	Shield	Rolling Element	Retainer	Low Particulate Generation	Abrasion Resistance	Corrosion & Chemical Resistance						Heat Resistance	Vacuum	Insulation	Non-Magnetic	High Load	High Speed	
							Acid			Alkali	Solvent	Seawater							Water
							Hydrochloric	Sulfuric	Nitric										
UKB6__ZZ	UHMW	—	Soda-Lime Glass	UHMW	G	G	A	A	A	P	E	E	E	P	E	E	P	P	
PKB6__ZZ	PEEK	—	Alumina Ceramics	PEEK	G	G	G	G	G	E	E	E	E	P	E	E	P	P	
PTN6__ZZ	PTFE	—	Alumina Ceramics	PTFE	A	A	E	E	E	E	E	E	E	P	E	E	P	P	

① P = Poor, A = Acceptable, G = Good, E = Excellent
 ② Some bearings may not be suitable for a certain concentration, temperature or application variables.