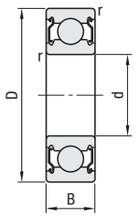
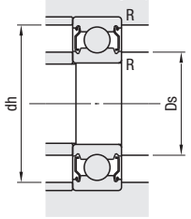
■SUS304 Ball Bearings
(Water Resistant, Heat Resistant)

RoHS10

SUB6□□ZZ
SUB6□□□ZZ



(Installation Diagram)



Operating Temperature: -40 ~ +150°C
SUS304 may be slightly magnetized after machining.

Component	Material
Inner/Outer Rings, Shield, Retainer, Ball	SUS304

Part Number	d	Tolerance	D	Tolerance	B	Tolerance	r (min)	Basic Load Rating Cr (Dynamic) N	Cor (Static) N	Allowable Rotational Speed rpm (Reference)	Relative Dimensions Ds (min)	Ds (max)	dh (max)	R (max)	Mass (g) (Reference)	Unit Price
SUB626ZZ	6	+0.05 0	19	0 -0.03	6	0 -0.12	0.3	52	32	2100	8	10	17	0.3	8.2	
SUB608ZZ	8		22		7			66	41	2000	10	11.5	20		12	
SUB628ZZ			24		8			67	42	1900		12	22		18	
SUB6000ZZ	10		26					91	59	1800	12	13.5	24		19	
SUB6200ZZ			30		9		0.6	102	72	1500	14	16	26	0.6	32	
SUB6001ZZ	12		28		8		0.3							0.3	21	
SUB6201ZZ			32	0 -0.035	10		0.6	136	92		16	17	28	0.6	37	
SUB6002ZZ	15				9		0.3	112	85	1300	17	19	30		30	
SUB6202ZZ			35		11		0.6	153	113		19	20	31		46	
SUB6003ZZ	17				10		0.3	120	98	1200		21	33		41	
SUB6203ZZ			40		12		0.6	192	144	1100	21	22	36		66	
SUB6004ZZ	20		42					188	152	1000	24	25	38		68	
SUB6204ZZ			47		14		1.0	256	200	900	25	27	42	1.0	105	

kgf=Nx0.101972

■Non-Grease, Non-Oil Ball Bearings

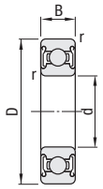
RoHS10

Clean Type
SE6□□ZZPR
SE600□ZZPR
SE620□ZZPR

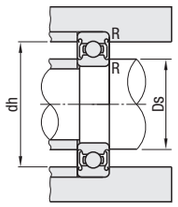
Vacuum
3NC600□ZZST

Highly Corrosion Resistant
3NC600□ZZMD

The SUS304 specification has a large radial internal clearance due to machining accuracy.



(Installation Diagram)



Bearing Accuracy	JIS B 1514 Class 0
Bearing Internal Clearance	C3
Operating Temperature	-100~+200°C
Operating Vacuum Level	10^{-5} Pa

Type	Inner and Outer Ring Material	Hardness	Shield Material	Rolling Element Material	Retainer Material
SE ZZPR	SUS440C (Special Fluoro-Macromolecule Coating)	60HRC	SUS304	SUS440C (Special Fluoro-Macromolecule Coating)	SUS304 (Special Fluoro-Macromolecule Coating)
3NC ZZST	SUS440C	40HRC		Ceramics (Silicon Nitride)	Fluororesin
3NC ZZMD	SUS630				

For details on the tolerance and allowable values of inner and outer rings, P2243

Part Number: Clean Type	Vacuum	Highly Corrosion Resistant	d	D	B	r (min)	Allowable Radial Load N SE6 Type	3NC Type	Allowable Rotational Speed rpm (Reference)	Relative Dimensions Ds (min)	Ds (max)	dh (max)	R (max)	Mass (g) SE□ZZPR	3NC□ZZST	3NC□ZZMD	Unit Price SE□ZZPR	3NC□ZZST	3NC□ZZMD
SE624ZZPR	-	-	4	13	5	0.2	40	-	1000	5.6	6.9	11.4	0.2	2.93	-	-		-	-
SE626ZZPR	-	-	6	19	6	0.3	80	-		8	10.6	17	0.3	7.90	-	-		-	-
SE608ZZPR	-	-	8	22	7	0.3	100	-		10	12.4	20		11.81	-	-		-	-
SE6000ZZPR	3NC6000ZZST	3NC6000ZZMD	10	26	8	0.3	135	35		12	13	24		19	16	17			
SE6200ZZPR	-	-		30	9	0.6	155	50	860	14	15	26	0.6	32	-	-		-	-
SE6001ZZPR	3NC6001ZZST	3NC6001ZZMD	12	28	8	0.3	155	40	830				0.3	20	17	18			
SE6201ZZPR	-	-		32	10	0.6	205	70	770	16	16.5	28	0.6	36	-	-		-	-
SE6002ZZPR	3NC6002ZZST	3NC6002ZZMD	15	32	9	0.3	170	45	660	17	18.5	30	0.3	30	26	27			
SE6202ZZPR	-	-		35	11	0.6	230	75	610	19	19.5	31	0.6	44	38	-		-	-
SE6004ZZPR	3NC6004ZZST	-	20	42	12		280	70	500	24	25	38	0.3	63	56	-			-
SE6204ZZPR	-	-		47	14	1.0	385	130	450	25	26.5	42	0.6	105	92	-		-	-

Priority is given to the life of solid lubricant (Fluororesin Retainer). Use within the allowable load range.
Allowable rotational speed is based on 1/2 of allowable load.

kgf=Nx0.101972

Ordering Example

Part Number
SUB6000ZZ
3NC6000ZZST

Performance Comparison of Bearings for Special Environment

Part Number	Inner/Outer Rings	Shield	Rolling Element	Retainer	Low Dust Generation	Abrasion Resistance	Corrosion Resistance and Chemical Resistance: Acid: Hydrofluoric Acid	Sulfuric Acid	Nitric Acid	Alkali	Solvent	Seawater	Water	Heat Resistance	Vacuum	Insulation	Non-magnetic	Heavy Load	High Rotational Speed
SE6□□□ZZPR	SUS440C Special Fluoro-Macromolecule Coating	SUS304	SUS440C Special Fluoro-Macromolecule Coating	SUS304 Special Fluoro-Macromolecule Coating	◎	×	×	×	×	×	×	×	×	◎ (-100~200°C)	◎	×	×	△	×
3NC6□□□ZZST	SUS440C	SUS304	Ceramics	Fluororesin	○	×	△	○	○	○	○	○	◎	◎ (-100~200°C)	◎	◎	×	×	×
3NC6□□□ZZMD	SUS630	SUS304	Ceramics	Fluororesin	○	×	○	◎	◎	◎	◎	◎	◎	◎ (-100~200°C)	◎	◎	△	×	×
SUB6□□□ZZ	SUS304	SUS304	SUS304	SUS304	×	△	○	◎	◎	◎	◎	◎	◎	○ (-40~150°C)	×	×	○	×	×

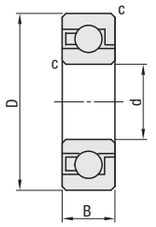
The service life may be shortened drastically when used in conditions where the product is soaked in corrosive solution.

(◎Well Suited ○Good △Questionable ×Not Suitable)

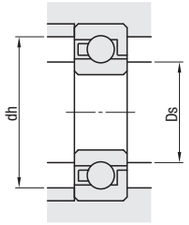
■Plastic Ball Bearings
(Water Resistant, Nonmagnetic)

RoHS10

UKB6□□□ZZ
PTN6□□□ZZ
PKB6□□□ZZ



(Installation Diagram)



Type	Material: Main Body	Retainer	Rolling Element	Operating Temp.
UKB6□□□ZZ	UHMW	Soda-lime Glass		-50°C~+60°C
PTN6□□□ZZ	PTFE	Alumina Ceramics		-40°C~+150°C
PKB6□□□ZZ	PEEK			-50°C~+180°C

As the resin part may expand due to temperature, these specifications have a large clearance.

Part Number: Type	Bearing No.	d	Tolerance	D	Tolerance	B	Tolerance	c	Relative Dimensions Ds (min)	Ds (max)	dh (max)	Allowable Load (kgf/1 pc.) UKB	PTN	PKB	Allowable Rotational Speed (rpm) Values in ( ) are those in underwater. UKB	PTN	PKB	Mass (g) (Reference) UKB	PTN	PKB	Unit Price UKB	PTN	PKB
UKB Water Resistant, Nonmagnetic	624ZZ	4	±0.03	13	+0.08 0	5	±0.1	0.3	5	6	12	0.29	-	-	1120(3140)	-	-	0.55	-	-		-	-
	625ZZ	5		16					6	7.4	14	0.6	0.4	1.5	900(2540)	540	1800	0.9	1.9	1.3			
	605ZZ			14						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			17						8.4	16	0.7	-	-	830(2320)	-	-	1.2	-	-		-	-
	696ZZ			15		5				7.8	14	0.5	-	-	900(2540)	-	-	0.75	-	-		-	-
	628ZZ	8		24		8			9	12	22	1.3	0.8	2.8	600(1670)	350	1200	3.2	6.7	4.4			
	608ZZ			22		7				10.7	20	1.3	-	-	630(1780)	-	-	2.4	-	-		-	-
	698ZZ			19		6				10.6	18	0.6	-	-	700(1980)	-	-	1.3	-	-		-	-
PTN PTFE Heat Resistant, Chemical Resistant	6200ZZ	10		30		9			12	15.3	28	2.2	-	-	460(1300)	-	-	5.6	-	-		-	-
	6000ZZ			26		8				13.8	24	1.3	0.8	3.0	520(1470)	310	1000	3.5	7.7	5.1			
	6900ZZ			22		6				12.6	21	1.3	-	-	590(1670)	-	-	1.9	-	-		-	-
	6201ZZ	12		32	+0.1 0	10			14	16.3	30	2.5	-	-	430(1210)	-	-	7	-	-		-	-
	6001ZZ			28	+0.08 0	8				15.5	26	1.6	1	4.0	470(1330)	280	950	4	8.5	5.6			
PKB PEEK Heat Resistant, Chemical Resistant	6901ZZ			24		6				14.8	21	1.2	-	-	530(1480)	-	-	1.9	-	-		-	-
	6202ZZ	15		35	+0.1 0	11			17	19.4	33	3	-	-	380(1070)	-	-	8.8	-	-		-	-
	6002ZZ			32		9				18.6	30	2.5	1.5	5.5	400(1140)	240	810	5.7	11.0	7.8			
	6902ZZ			28	+0.08 0	7				18.2	26	1.6	-	-	440(1240)	-	-	3	-	-		-	-
	6203ZZ	17	±0.04	40	+0.12 0	12			19	22.6	38	4	-	-	330(930)	-	-	12.8	-	-		-	-
	6003ZZ			35	+0.1 0	10				21	33	3	1.8	6.5	360(1000)	220	730	7.3	14.2	9.4			
	6903ZZ			30	+0.08 0	7				20	28	2	-	-	400(1130)	-	-	3.3	-	-		-	-
	6204ZZ	20		47	+0.12 0	14			22	26.5	43	5	-	-	280(790)	-	-	20	-	-		-	-
	6004ZZ			42		12		0.5		25	38	3.6	2.3	8.0	300(860)	180	610	12.6	24.6	16.2			
	6904ZZ			37	+0.1 0	9		0.3		23.6	35	3.3	-	-	330(930)	-	-	6.8	-	-		-	-

Note that sizes without Unit Price shown are not available.
The tolerance above is the dimension at standard temperature 24°C±1°C at the time of manufacture. The allowable values are for reference, not guaranteed.
Soda-lime glass may be broken when temperature changes rapidly. Exporting PKB6□□□ZZ (Material PEEK) requires export application to the Ministry of Economy, Trade and Industry.

kgf=Nx0.101972

Ordering Example

Part Number
UKB6002ZZ

Characteristic Values of Plastic Ball 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/cm²)	460	1000	210~350	600	-
Elongation (%)	400	20	200~400	-	-
Compression Strength (kgf/cm²)	-	1210	120	9000	25000
Compression Elasticity Modulus (kgf/cm²)	9170	42000	4200	-	-
Bending Strength (kgf/cm²)	250	1730	-	-	-
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/mm²)
Deflection Temperature under Load (°C) 0.45MPa	80(0.45MPa)	155(1.82MPa)	-	-	-
Thermal Linear Expansion Coefficient	1.7×10^{-4}	5.0×10^{-5}	12.4×10^{-5}	-	7.8×10^{-6}
Heat Resistance Temperature (°C)	-100~80	-50~250	-40~260	-50~60	-50~1600

Listed values are for reference, not guaranteed.

Performance Comparison of Bearings for Special Environment

Part Number	Inner/Outer Rings	Shield	Rolling Element	Retainer	Low Dust Generation	Abrasion Resistance	Corrosion Resistance and Chemical Resistance: Acid: Hydrofluoric Acid	Sulfuric Acid	Nitric Acid	Alkali	Solvent	Seawater	Water	Heat Resistance	Vacuum	Insulation	Non-magnetic	Heavy Load	High Rotational Speed
UKB6□□□ZZ	UHMW	-	Soda-lime Glass	UHMW	○	○	△	△	△	×	◎	◎	◎	× (-50~60°C)	×	◎	◎	×	×
PKB6□□□ZZ	PEEK	-	Alumina Ceramics	PEEK	○	○	○	○	○	◎	◎	◎	◎	○ (-30~180°C)	×	◎	◎	×	×
PTN6□□□ZZ	PTFE	-	Alumina Ceramics	PTFE	△	△	◎	◎	◎	◎	◎	◎	◎	○ (-50~150°C)	×	◎	◎	×	×

The service life may be shortened drastically when used in conditions where the product is soaked in corrosive solution.

(◎Well Suited ○Good △Questionable ×Not Suitable)