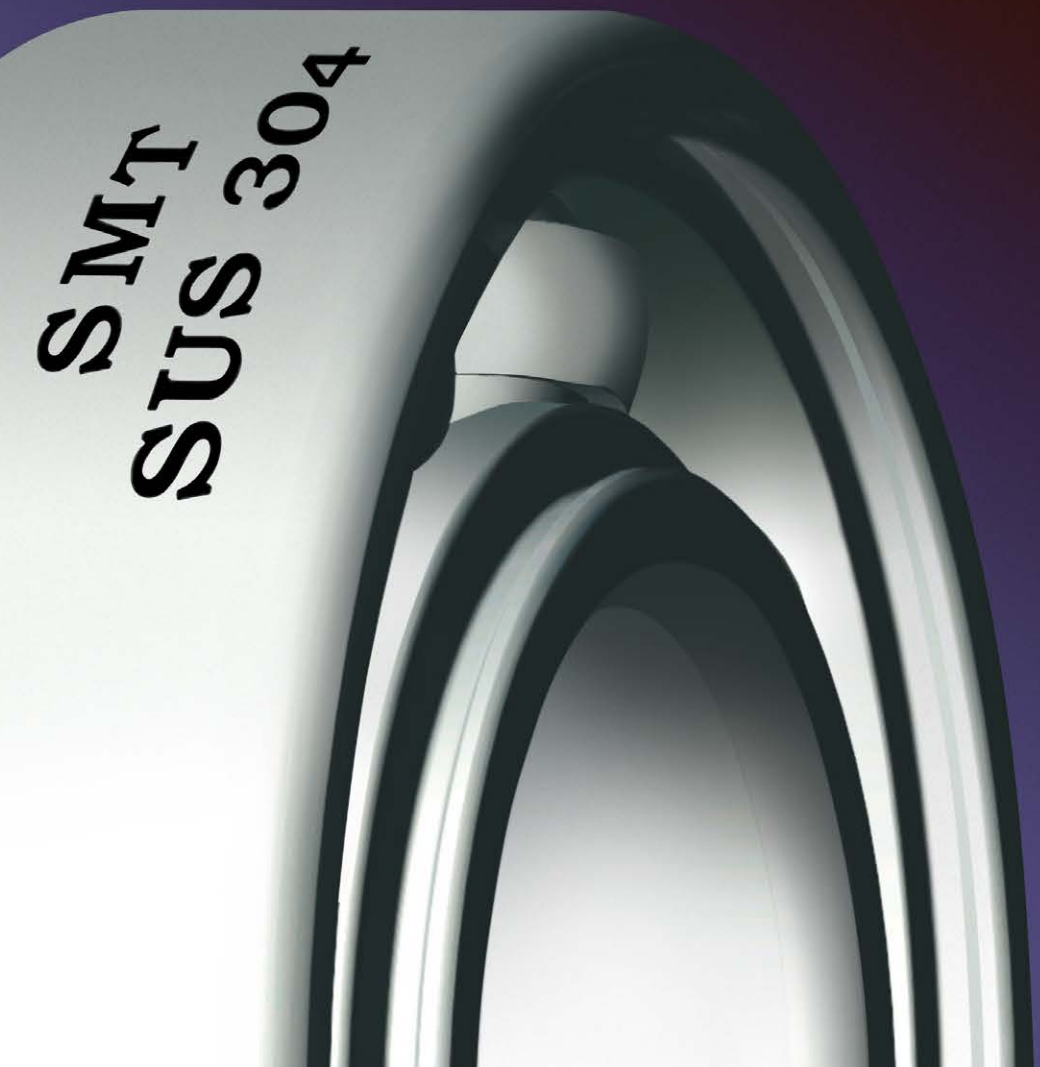
SMT

AISI 304
Stainless Steel Ball Bearings



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AISI 304
Stainless Steel Ball Bearings

AISI 304 stainless steel, widely used as corrosion- and heat-resistant steel and also as nonmagnetic steel, is most suitable in corrosive environments where AISI 440C stainless steel can not be used.

Features

1. Higher corrosion resistance than AISI 440C stainless steel ball bearings
2. Non-magnetic*1
3. Difference in properties by the material used

		AISI 304	AISI 440C	SAE 52100
Specific Gravity	—	7.93	7.8	7.8
Tensile Strength	N/mm²	520 ~ 600	1900 ~ 2000	1680
Elongation	%	45 ~ 60	—	—
Elastic Modulus	N/mm²	193000	203000	212000
Hardness	HV	170	700	740
	HRC	3.0	60.1	61.8
Magnetism	—	Non magnetic*1	Magnetic	Magnetic

Note: The properties listed in the table are typical values.
*1 AISI 304 stainless steel may be magnetized depending on the processing method used.

Product Specifications

● Standard Specifications

Inner and Outer Rings	AISI 304
Ball*1	AISI 304
Retainer	AISI 304
Shield	AISI 304
Seal*2	Nitrile rubber (NBR)
Lubricant*3	Heat resistant grease
Precision Grade	See "Dimensions"

Special bearings are also available in quick delivery with the specifications below:

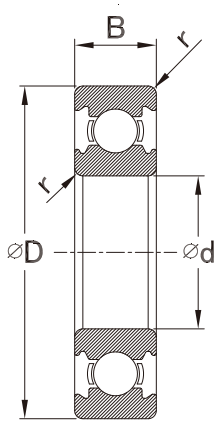
*1 Ceramic balls (Silicon nitride Si3N4)
*2 Fluorine rubber seal
*3 Heat- and chemical-resistant fluorine grease and other special greases

Applications

LCD and semiconductor manufacturing equipment, metal plating equipment, other equipment used in environments where the bearings come into contact with acid or alkaline chemicals.

Precautions

AISI 304 stainless steel is not appropriate for use under heavy load or at medium to high rotation where AISI 440C stainless steel is usable, because it can not be hardened by heat treatment.



Open Type

Shielded Type
ZZ

Sealed Type
2RS

Basic Part No.	d		D		B		r (min)	Allowable Radial Load	Allowable Rotation
	Boundary Dimension	Tolerance	Boundary Dimension	Tolerance	Boundary Dimension	Tolerance			
	mm		mm		mm		mm	N	rpm
6S 696B	6		15	$^{0}_{-0.025}$	5		0.2	60	2300
6S 626B*	6		19		6		0.3	130	2100
6S 698B*	8		19		6		0.3	113	2100
6S 608B*	8		22		7		0.3	165	2000
6S 628B	8		24		8		0.3	168	2000
6S 6800B	10		19	$^{0}_{-0.030}$	5		0.3	105	2200
6S 6900B	10		22		6		0.3	135	2000
6S 6000B	10		26		8		0.3	230	1800
6S 6200B	10		30		9		0.6	255	1600
6S 6300B	10		35	$^{0}_{-0.035}$	11		0.6	405	1400
6S 6801B	12		21		5		0.3	95	1900
6S 6901B	12		28	$^{0}_{-0.030}$	8		0.3	145	1800
6S 6001B	12		28		8		0.3	255	1600
6S 6201B	12		32	$^{0}_{-0.035}$	10		0.6	340	1500
6S 6802B	15		24	$^{0}_{-0.030}$	5		0.3	105	1600
6S 6902B	12		28		8		0.3	215	1500
6S 6002B	15	$^{+0.050}_{0}$	32	$^{0}_{-0.035}$	9	$^{0}_{-0.120}$	0.3	280	1400
6S 6202B	15		35		11		0.6	383	1300
6S 6903B	17		30	$^{0}_{-0.030}$	7		0.3	230	1300
6S 6003B	17		35		10		0.3	300	1200
6S 6203B	17		40		12		0.6	478	1100
6S 6804B	20		32		7		0.3	200	1200
6S 6904B	12		28		8		0.3	320	1100
6S 6004B	20		42	$^{0}_{-0.035}$	12		0.6	470	1000
6S 6204B	20		47		14		1.0	643	930
6S 6805B	25		37		7		0.3	215	1000
6S 6905B	25		42		9		0.3	350	940
6S 6005B	25		47		12		0.6	503	890
6S 6205B	25		52		15		1.0	700	820
6S 6006B	30		55		13		1.0	663	750
6S 6206B	30		62		16		1.0	975	690
6S 6007B	35		62	$^{0}_{-0.040}$	14		1.0	800	650
6S 6207B	35		72		17		1.1	1288	590
6S 6008B	40		68		15		1.0	838	590
6S 6208B	40		80		18		1.1	1450	530

Note: Allowable radial load and rotations are provided for reference only.

* OPEN & ZZ types only.

Corrosion Resistance

Chemicals	Condition	Temperature	AISI 304 Stainless Steel Ball Bearings
Chlorine	dry	≦30°C/86°F	○
	wet		×
Methylene Chloride	dry		○
	wet		○
Ammonium Chloride	50% solution		△
Sodium Chloride	saturation	100°C/212°F	○
Lithium Chloride	saturation	boiling point	○
Sulfuric Acid	solution up to 50%	60°C/140°F	○
	95% to 100% solution	149°C/301°F	○
Sulfurous Acid Gas	dry		×
	wet		○
Nitric Acid	0.5% to 40% solution	boiling point	○
	40% to 95% solution	70°C/158°F	○
Acetic Acid	solution up to 100%	boiling point	○
Citric Acid	solution up to 100%	≦30°C/86°F	○
	solution up to 15%	65°C/149°F	△
Phosphoric Acid	≦65%	≦30°C/86°F	○
Ethanol (Ethyl Alcohol)		≦30°C/86°F	○
Cresol (Cresylic Acid)	dry		○
Chlorine Gas	dry	≦30°C/86°F	○
Seawater			△
Caustic Soda	10% solution		○
Ammonium Sulfate	50.4% solution	120°C/248°F	○
Carbon Tetrachloride	dry		△

＊ ○not effected　△slightly effected　×effected

Note: This comparison list is provided as general guidance for the users. The performance level of corrosion resistance varies, depending upon the conditions of each application.

※ The performance values on this catalog are not guaranteed and the specifications may change without prior notice for improved performance.

SMT

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