WBW BEARINGS

STAINLESS STEEL BEARINGS

Ningbo Amol Machinery Co., Ltd.
Jiangsu Amol Bearing Co., Ltd.
Ningbo Amol Intl. Trade Co., Ltd.

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AISI 440C stainless steel bearings, resistant to rust, corrosion, and high temperature, are available from stock, in the series of 6000, 6200, 6300, 6800, 6900 and inch R series

Higher resistance to rust and corrosion than SAE 52100 chrome bearing steel

Working Temperature Range

Specifications	*Temperature*
ZZ type	-40～+150℃ / -40∽+302°F
2RS type	-30～+110℃ / -22∽+230°F
OPEN type	Subject to lubrication

Available with snap ring

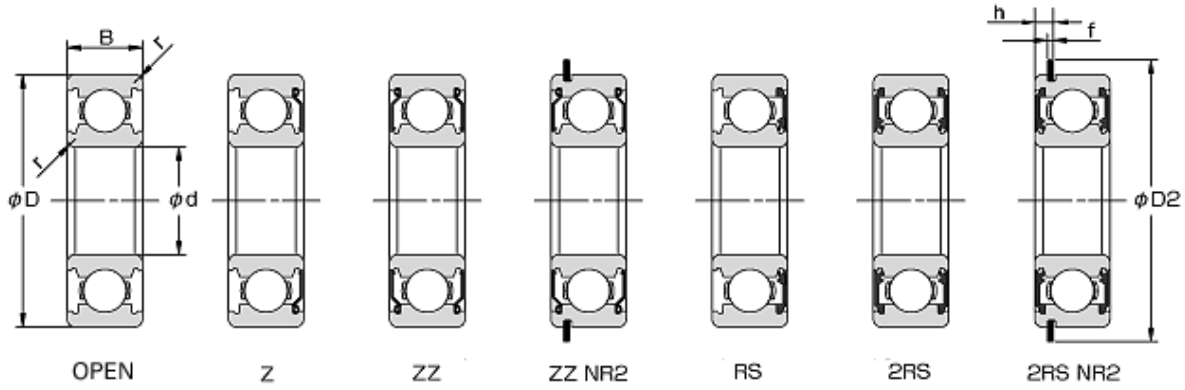
Product Specifications

Inner and Outer Rings	*AISI 440C*
Balls*1	AISI 440C
Retainer	AISI 304
Shield	AISI 304
Seal*2	Nitrile rubber
Snap Ring	AISI 304
Lubricant*3	Heat-resistant grease
Precision Grade	JIS0

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
*4 C3 or C4 radial clearance

Applications
Food processing machinery, cleaning equipment, carrier device in watery environment, LCD and semiconductor manufacturing equipment, other equipment used in high temperature and humidity environments.

Reminder:
AISI 440C stainless steel is magnetizable.
AISI 440C stainless steel may corrode depending on the environments and conditions.



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Basic Part No.	d	D	B	r (min)	Basic Load Ratings		Limiting Speeds (min -1)			D2 (max)	f (max)	h (max)
					Cr	Cor	Grease		Oil			
	mm	mm	mm	mm	N	N	Open Z・ZZ	RS・2RS	Open Z	mm	mm	mm
SS 6800	10	19	5	0.3	2120	985	34000	24000	41000	–	–	–
SS 6900	10	22	6	0.3	2700	1270	31000	22000	38000	24.8	0.70	1.75
SS 6000	10	26	8	0.3	4600	1970	28000	22000	33000	28.8	0.84	2.19
SS 6200	10	30	9	0.6	5100	2390	24000	18000	29000	34.7	1.12	3.18
SS 6300	10	35	11	0.6	8100	3450	22000	18000	27000	39.7	1.12	3.18
SS 6801	12	21	5	0.3	1920	1040	30000	20000	36000	–	–	–
SS 6901	12	24	6	0.3	2890	1460	28000	19000	33000	26.8	0.70	1.75
SS 6001	12	28	8	0.3	5100	2390	24000	18000	29000	30.8	0.85	2.20
SS 6201	12	32	10	0.6	6800	3050	23000	17000	27000	36.7	1.12	3.18
SS 6301	12	37	12	1.0	9700	4200	20000	17000	24000	41.3	1.12	3.18
SS 6802	15	24	5	0.3	2080	1260	26000	17000	31000	–	–	–
SS 6902	15	28	7	0.3	4300	2250	23000	16000	28000	30.8	0.85	2.15
SS 6002	15	32	9	0.3	5600	2840	21000	15000	26000	36.7	1.12	3.18
SS 6202	15	35	11	0.6	7650	3750	20000	14000	24000	39.7	1.12	3.18
SS 6302	15	42	13	1.0	11400	5450	17000	13000	20000	46.3	1.12	3.18
SS 6803	17	26	5	0.3	2230	1460	23000	15000	28000	–	–	–
SS 6903	17	30	7	0.3	4600	2550	21000	14000	26000	32.8	0.85	2.15
SS 6003	17	35	10	0.3	6000	3250	19000	14000	23000	39.7	1.12	3.18
SS 6203	17	40	12	0.6	9600	4800	17000	13000	21000	44.6	1.12	3.18
SS 6303	17	47	14	1.0	13600	6600	15000	12000	18000	52.7	1.12	3.58
SS 6804	20	32	7	0.3	4000	2460	20000	13000	24000	–	–	–
SS 6904	20	37	9	0.3	6400	3700	18000	12000	21000	39.8	0.85	2.55
SS 6004	20	42	12	0.6	9400	5050	16000	12000	19000	46.3	1.12	3.18
SS 6204	20	47	14	1.0	12800	6650	14000	11000	17000	52.7	1.12	3.58
SS 6304	20	52	15	1.1	15900	7850	14000	11000	17000	57.9	1.12	3.58
SS 6805	25	37	7	0.3	4300	2940	16000	10000	20000	–	–	–
SS 6905	25	42	9	0.3	7000	4550	15000	9700	18000	44.8	0.85	2.55
SS 6005	25	47	12	0.6	10100	5850	14000	9600	17000	52.7	1.12	3.18
SS 6205	25	52	15	1.0	14000	7900	13000	8800	15000	57.9	1.12	3.58
SS 6305	25	62	17	1.1	20600	11200	11000	8100	13000	67.7	1.70	4.98
SS 6806	30	42	7	0.3	4550	3400	14000	8800	17000	–	–	–
SS 6906	30	47	9	0.3	7250	5000	13000	8500	16000	49.8	0.85	2.55
SS 6006	30	55	13	1.0	13200	8300	12000	8100	14000	60.7	1.12	3.20
SS 6206	30	62	16	1.0	19500	11300	11000	7500	13000	67.7	1.70	4.98
SS 6306	30	72	19	1.1	26700	15000	9600	6900	12000	78.6	1.70	4.98
SS 6807	35	47	7	0.3	4750	3800	12000	7600	15000	–	–	–
SS 6907	35	55	10	0.6	10400	7200	11000	7300	13000	–	–	–
SS 6007	35	62	14	1.0	16000	10300	10000	6900	12000	67.7	1.70	3.78
SS 6207	35	72	17	1.1	25700	15400	9200	6400	11000	78.6	1.70	4.98
SS 6307	35	80	21	1.5	33300	19100	8600	6200	10000	–	–	–

Basic Part No.	d	D	B	r (min)	Basic Load Ratings		Limiting Speeds (min -1)			D2 (max)	f (max)	h (max)
					Cr	Cor	Grease		Oil			
	mm	mm	mm	mm	N	N	Open Z・ZZ	RS・2RS	Open Z	mm	mm	mm
SS 6808	40	52	7	0.3	4950	4200	11000	6700	13000	–	–	–
SS 6908	40	62	12	0.6	13700	9900	9800	6400	12000	–	–	–
SS 6008	40	68	15	1.0	16800	11600	9200	6100	11000	74.6	1.70	4.19
SS 6208	40	80	18	1.1	29100	17900	8300	5700	10000	–	–	–
SS 6308	40	90	23	1.5	40700	24000	7700	5500	9200	–	–	–
SS 6909	45	68	12	0.6	14100	10900	8900	5700	11000	–	–	–
SS 6009	45	75	16	1.0	21000	15100	8300	5500	10000	–	–	–
SS 6209	45	85	19	1.1	32700	20500	7700	5300	9200	–	–	–
SS 6309	45	100	25	1.5	53000	32000	6800	4800	8200	–	–	–
SS 6910	50	72	12	0.6	14500	11700	8200	5200	9800	–	–	–
SS 6010	50	80	16	1.0	21800	16600	7600	5000	9200	–	–	–
SS 6210	50	90	20	1.1	35100	23200	7100	4800	8500	–	–	–
SS 6310	50	110	27	2.0	62000	38200	6100	4300	7300	–	–	–
SS 6911	55	80	13	1.0	16600	14100	7400	4700	8900	–	–	–
SS 6011	55	90	18	1.1	28300	21300	6900	4500	8300	–	–	–
SS 6211	55	100	21	1.5	43400	29400	6300	4300	7600	–	–	–
SS 6311	55	120	29	2.0	71600	44800	5600	4000	6700	–	–	–
SS 6912	60	85	13	1.0	20200	17300	6800	4400	8200	–	–	–
SS 6012	60	95	18	1.1	29400	23200	6500	4200	7700	–	–	–
SS 6212	60	110	22	1.5	52400	36100	5800	3900	6900	–	–	–
SS 6312	60	130	31	2.1	81800	52000	5200	3700	6300	–	–	–
SS 6013	65	100	18	1.1	30500	25200	6100	3900	7300	–	–	–
SS 6213	65	120	23	1.5	57200	40000	5400	3700	6500	–	–	–
SS 6014	70	110	20	1.1	38000	30900	5600	3600	6700	–	–	–
SS 6214	70	125	24	1.5	62200	44000	5100	3500	6200	–	–	–
SS 6015	75	115	20	1.1	39500	33500	5300	3400	6300	–	–	–
SS 6016	80	125	22	1.1	47700	39700	4900	3200	5900	–	–	–

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Chemicals	Conditions	Temperature	Material	
			AISI 440C	SAE 52100
Acetic Acid			○	×
Acetone		normal	○	—
Air		normal	○	△
Carbon Tetrachloride	dry/wet	normal	○	×
Carbonic Acid gas			○	×
Chloric Gas	dry	normal	△	△
Chloric Gas	wet	100°C／212°F	×	×
Hydrochloric Acid	75% solution		×	×
Hydrogen Peroxide			○	△
Hydrogen Sulfide Gas	dry		○	△
Hydrogen Sulfide Gas	wet		○	△
Naphtha		normal	○	—
Natural Water		normal	○	×
Nitric Acid	90-100% solution	normal	○	×
Nitric Acid	90-100% solution	boiling	×	×
Sea Breeze		normal	○	×
Sea Water		normal	△	×
Sulfurous Acid	90-100% solution	normal	○	△
Sulfurous Acid	90-100% solution	boiling	×	×
Sulfurous Acid	50% solution	normal/boiling	×	×
Sulfurous Acid Gas	dry		○	×
Sulfurous Acid Gas	wet		○	×
Water vapor		100°C／212°F	○	×

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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. Higher corrosion resistance than AISI 440C stainless steel bearings

Non-magnetic *
Difference in properties by the material used

		AISI 304	*AISI 440C*	*SAE 52100*
Density	g/cm3	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 *	Magnetic	Magnetic

* AISI 304 stainless steel may be magnetized depending on manufacturing process.

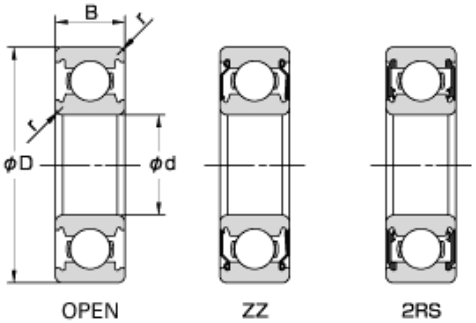
Product Specifications

Inner and Outer Rings	*AISI 304*
Balls*1	AISI 304
Retainer	AISI 304
Shield	AISI 304
Seal*2	Nitrile rubber
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
Food processing machinery, cleaning equipment, LCD and semiconductor manufacturing equipment, metal plating equipment, other equipment used in environments where the bearings come into contact with acid or alkaline chemicals.

Reminder:
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.



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Bearing No.	d		D		B		r (min)	Allowable Radial Load	Allowable Rotatlon
	Boundary Dimension	Tolerance	Boundary Dimension	Tolerance	Boundary Dimension	Tolerance			
	mm		mm		mm		mm	N	min-1
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		24	0 -0.030	6		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	15		28		7		0.3	215	1500
6S 6002B	15		32		9		0.3	280	1400
6S 6202B	15	+0.050 0	35	0 -0.035	11	0 -0.120	0.6	383	1300
6S 6302B	15		42		13		1.0	570	1100
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	20		37		9		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

AISI 630 stainless is excellent in corrosion resistance and can be hardened by heat treatment. These bearings can offer longer operation life under various corrosive environments with the excellent corrosion resistance and hardness. Corrosion resistance superior to AISI 440C stainless steel bearings. Can be used for heavy-load and high-rotation applications for which AISI 304 stainless steel ball bearings would be unsuitable.

Available for various types of applications with its heat- and chemical-resistant fluorine grease pre-packed as standard lubricant. Hybrid type with silicon nitride ceramic balls.

Difference in properties by the material used

		AISI 630	*AISI 304*	*AISI 440C*
Density	g/cm3	7.8	7.93	7.8
Tensile Strength	N/mm2	1379	520～600	1900～2000
Elongation	%	14	45～60	—
Elastic Modulus	N/mm2	196000	193000	203000
Hardness	HV	434	170	700
	HRC	44.0	3.0	60.1
Magnetism	—	Magnetic	Non magnetic *	Magnetic

* AISI 304 stainless steel may be magnetized depending on manufacturing process.

Product Specifications

Inner and Outer Rings	*AISI 630*
Balls	Ceramic Balls(Silicon nitride Si3N4）
Retainer	AISI 304
Shield	AISI 304
Seal*1	Nitrile rubber
Lubricant*2	Fluorine Grease
Precision Grade	JIS0

Products with specifications differing from the above are also available:
*1 Also available with fluorine rubber seals.
*2 Other special grease also available.

Corrosion Resistance

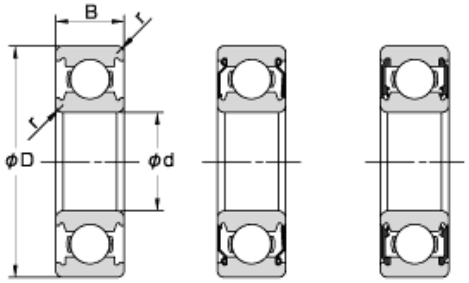
Material	*Condition*	*Corrosion Weight Loss（mm／Year）*								
		Sulfuric Acid			Hydrochloric Acid		Nitric Acid	Acetic Acid	Phosphoric Acid	
		5% 35℃ / 95°F	1% 80℃ / 176°F	2% 80℃ / 176°F	0.5% 35℃ / 95°F	1% Boiling	66% Boiling	33% Boiling	20% Boiling	70% Boiling
AISI 630	Aging Heat Treatment	0.1	＜0.1	0.2	＜0.1	0.9	0.7	1.5	＜0.1	3.0
AISI 304	Solution Heat Treatment	＜0.1	0.6	2.0	0.2	0.4	0.2	＜0.1	＜0.1	1.0

Note that results may differ from the data listed, depending on the environment and conditions under which the bearings are used.

Applications

LCD and semiconductor manufacturing equipment, film manufacturing equipment, metal plating equipment, other equipment used in acid or alkaline environment.

Reminder:
Due to the properties of AISI 630 stainless steel, bearings made of this material are not suitable for applications used under heavy loads or at high rotation that AISI 440C stainless steel ball bearings can carry.



Bearing No.	d	D	B	r(min)	Basic Load Ratings		Limiting(min -1)		
					Cr	Cor	Grease		Oil
	mm	mm	mm	mm	N	N	OPEN Z・ZZ	2RS	OPEN
4S 6000 CB	10	26	8	0.3	1420	610	8400	8400	10000
4S 6200 CB	10	30	9	0.6	1590	740	7300	7300	8800
4S 6001 CB	12	28	8	0.3	1590	740	7300	7300	8800
4S 6201 CB	12	32	10	0.6	2110	945	6800	6800	8200
4S 6002 CB	15	32	9	0.3	1730	880	6400	6400	7700
4S 6202 CB	15	35	11	0.6	2370	1150	5900	5900	7100
4S 6003 CB	17	35	10	0.3	1860	1010	5800	5800	6900
4S 6203 CB	17	40	12	0.6	2970	1480	5200	5200	6200
4S 6004 CB	20	42	12	0.6	2910	1570	4800	4800	5700
4S 6204 CB	20	47	14	1.0	4000	2060	4300	4300	5200
4S 6005 CB	25	47	12	0.6	3100	1810	4200	4200	5000
4S 6205 CB	25	52	15	1.0	4350	2440	3800	3800	4600
4S 6006 CB	30	55	13	1.0	4100	2570	3500	3500	4200
4S 6206 CB	30	62	16	1.0	6050	3500	3200	3200	3900