

Bearing selection

Products Series

AISI 440C

AISI 304

AISI 630

Pure Titanium

Ceramic

Heat Resistance

Grease Free

Low Torque

Solid Grease

Set Screw

Alignment Function

Flange Unit

Guide Wheel

6800
6900

SS5200
5200

5800

Customization

Examples of Use

4S Series AISI 630 Stainless Steel Bearings



Corrosion resistance



Chemicals



High temperature



Insulation



AISI 630 stainless steel 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.

Features

1. Higher corrosion resistance than AISI 440C stainless steel bearings.
2. Can be used for heavy-load and high-rotation applications for which AISI 304 stainless steel ball bearings would be unsuitable.
3. Available for various types of applications with its heat- and chemical-resistant fluorine grease pre-packed as standard lubricant.
4. Hybrid type with silicon nitride ceramic balls (Si₃N₄).

[Difference in properties by the material used]

	Unit	AISI 630	AISI 304	AISI 440C
Density	g/cm ³	7.8	7.93	7.8
Tensile Strength	N/mm ²	approx.1379	520 - 600	1900 - 2000
Elongation	%	approx.14	45 - 60	—
Elastic Modulus	N/mm ²	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

Standard Specifications	
Inner and Outer Rings	AISI 630
Balls	Silicon nitride ceramics (Si ₃ N ₄)
Retainer	AISI 304
Shield	AISI 304
Seal*1	Nitrile rubber
Lubricant*2	Fluorine grease
ISO Tolerance Class	Normal

The following special specifications are also available.

*1 Fluorine rubber seals

*2 Food grade grease and other special greases

Applications

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

Corrosion Resistance

Materials	Conditions	Corrosion Weight Loss (mm / Year)								
		Sulfuric Acid			Hydrochloric Acid		Nitric Acid	Acetic Acid	Phosphoric Acid	
		5% 35 °C /95 °F	1% 80 °C /176 °F	2% 80 °C /176 °F	0.5% 35 °C /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.

Precautions

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.

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Composition of bearing number

4S 6200 ZZ CB

1 2 3 4

- 1 4S : Material AISI 630
- 2 Basic number
- 3 Blank : Open
ZZ : Double steel plate shields
2RS : Double contact rubber seals
- 4 CB : Silicon nitride ceramic balls

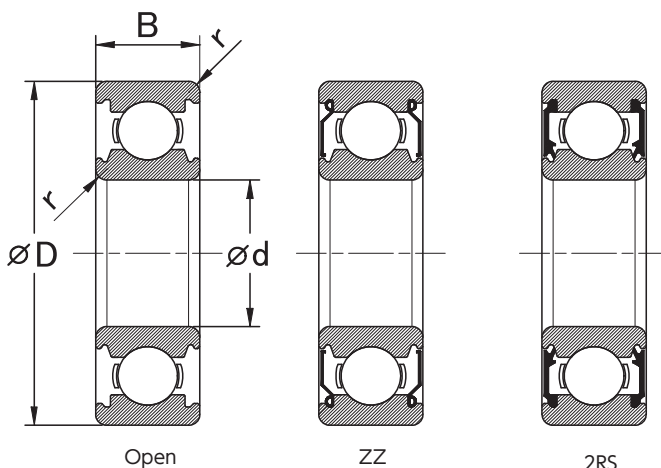


Table of Dimensions

Bearing Numbers	d mm	D mm	B mm	r min. mm	Basic Load Ratings		Limiting Speed (min ⁻¹)		
					C _r N	C _{0r} N	Grease		Oil Open
							Open·ZZ	2RS	
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

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