

# 1T Series Pure Titanium Bearings

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



Corrosion  
resistance



Chemicals



Non-magnetic



Insulation



“Rustproof and Human-friendly”  
Pure titanium bearings can be  
used for many special environment  
applications.

## Features

1. Corrosion resistance usable in severer corrosive environment than AISI 304 stainless steel bearing, by using high corrosion resistant pure titanium class 2 for outer and inner rings.
2. Human-friendly without allergen reactions, as usable as in artificial joints.
3. Non-magnetic bearing made of pure titanium rings and ceramic balls.  
By using ceramic balls allow insulation as well.
4. Usable in low temperature environment by good low temperature toughness.
5. Lower specific gravity: pure titanium 4.5 < SAE 52100 7.8

## Product Specifications

Standard Specifications	
Inner and Outer Rings	Pure titanium class 2
Balls	Silicon nitride ceramics (Si <sub>3</sub> N <sub>4</sub> )
Retainer	Fluorine resin

## Applications

Metal plating machine, seawater-related equipment, electronic device, equipment used in low temperature, etching equipment, developing machine, medical equipment.

## Sizes Available

Please contact SMT for the available sizes.

## Corrosion Resistance

Chemicals	Conditions	Temperature	Materials	
		°C/°F	Titanium	AISI 304
Hydrochloric Acid	10%	24°C/75°F	△	×
	30%	24°C/75°F	×	×
Aluminum Chloride	25%	Room	○	—
		Boiling	△	—
Nitric Acid	10%	Room	○	○
	50%	Boiling	○	△
Sulfurous Gas	Dry	30-60°C/86-140°F	○	×
Aqua Regalis	IHNO <sub>3</sub> +3HCl	Room	○	×
		Boiling	○	×
Lactic Acid	10%	100°C/212°F	○	△
	50%	100°C/212°F	○	×
Ferric Chloride	10%	24°C/75°F	○	×
	30%	24°C/75°F	○	×
Ferrous Sulfate	10%	24°C/75°F	○	△
	50%	24°C/75°F	○	△
Formic Acid	10%	100°C/212°F	△	×
	30%	100°C/212°F	×	×

\* ○ No effects  
 △ Slightly affected  
 × Affected  
 — No data

\* Results may differ from the data on the left depending on the environments and conditions.

## Comparison

	Unit	Pure titanium class 2	AISI 304	AISI 440C
Density	g/cm <sup>3</sup>	4.5	7.93	7.8
Tensile Strength	N/mm <sup>2</sup>	340 - 510	520 - 600	1900 - 2000
Elastic Modulus	N/mm <sup>2</sup>	106400	193000	203000
Hardness	HV	160	170	700
Magnetism	—	Non-magnetic	Non-magnetic*	Magnetic

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

Bearing selection

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AISI 304

AISI 630

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Low Torque

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Set Screw

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