

Examples of Use and Improvement

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

Meat Slicer

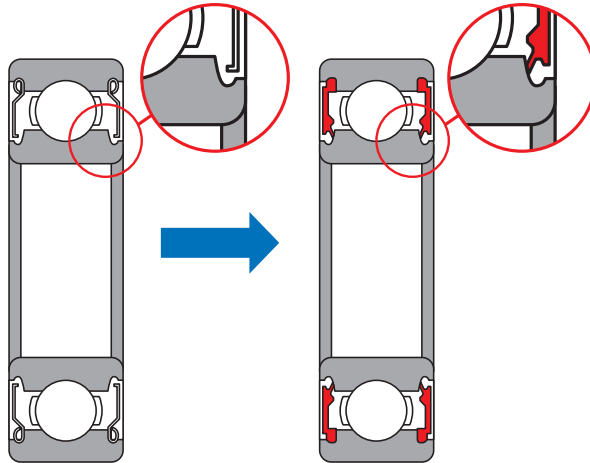
General



Bearings with contact rubber seals are used in areas requiring dust resistance.

◆ Usage Conditions

Environment : Air
 Temperature : Room temperature to 60°C/140°F
 Rotating speed: 1200min⁻¹



◆ Conventional Bearings

AISI 440C stainless steel bearings (non-contact steel plate shield type)

◆ Problems

Bearing life due to foreign matter intrusion



◆ Bearings Adopted

SS Series AISI 440C
 Stainless steel bearing
 Seal type

◆ Effect

Improved dust resistance and reduction in bearing replacement frequency due to contact rubber seal

Examples of Use

LCD Panel Conveyance Equipment

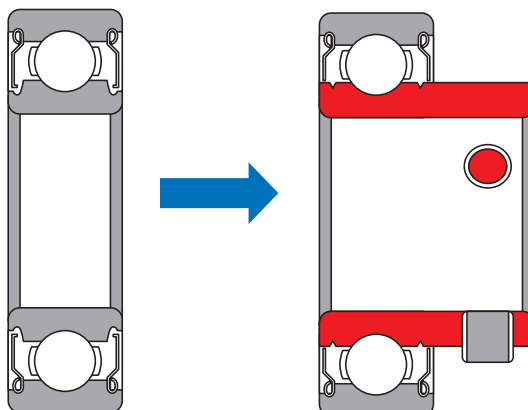
General



Conveyance equipment, such as for liquid crystal panels, is equipped with stainless bearings with set screw (SSXC Series) that can be easily fastened to the shaft, improving assembly workability, and eliminating the need for other accessories.

◆ Usage Conditions

Environment : Clean room
 Temperature : Room temperature
 Rotating speed: 50min⁻¹



◆ Conventional Bearings

AISI 440C stainless steel bearings

◆ Problems

Generation of abrasive wear dust due to creep with the shaft




◆ Bearings Adopted

SSXC Series AISI 440C
 Stainless bearings with set screw

◆ Effect

Creep prevented and the bearing replacement frequency reduced due to fixing with set screws

Film Manufacturing Equipment

General 

Bearing selection

Products Series

AISI 440C

AISI 304

AISI 630

Pure Titanium

Ceramic

Heat Resistance

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Low Torque

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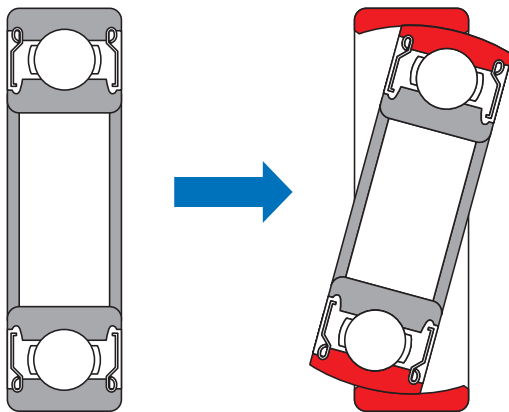
Customization

Examples of Use

Film production equipment that suffers from problems caused by shaft flexure and misalignment is equipped with stainless bearings with an alignment function (SH Series).

◆ Usage Conditions

Environment : Air
 Temperature : 120°C/248°F
 Rotating speed: 100min⁻¹



◆ Conventional Bearings

SAE 52100 steel bearings

◆ Problems

Grease deterioration and flexure of the shaft due to high temperatures, and an increase in rotational torque and shortened life (3 months) due to an error of the shaft center.

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◆ Bearings Adopted
 SH Series AISI 440C
 Stainless bearings with aligning ring

◆ Effect
 Improved heat resistance and alignment
 Low torque
 Extended bearing life (12 months or more)

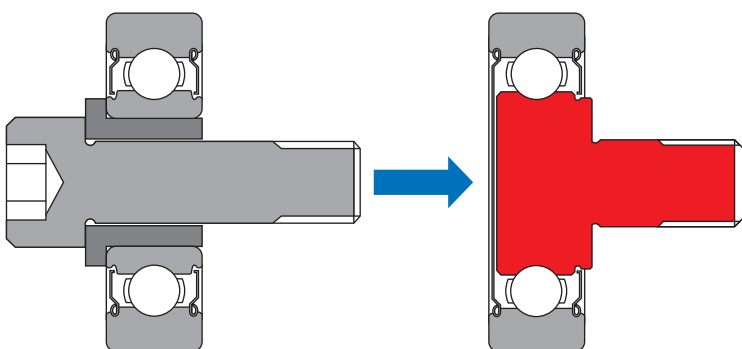
Transportation Conveyor

General 

Specially shaped bearings with integrated shafts and inner rings are used in areas where the number of accessory parts needs to be reduced or assembly accuracy needs to be improved.

◆ Usage Conditions

Environment : Air
 Temperature : Room temperature to 40°C/104°F
 Rotating speed: 120min⁻¹



◆ Conventional Bearings

SAE 52100 steel bearings

◆ Problems

Waste of assembly time and money

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◆ Bearings Adopted
 Customization: Special design

◆ Effect
 Reduced assembly time and cost

Drying Furnace Fan

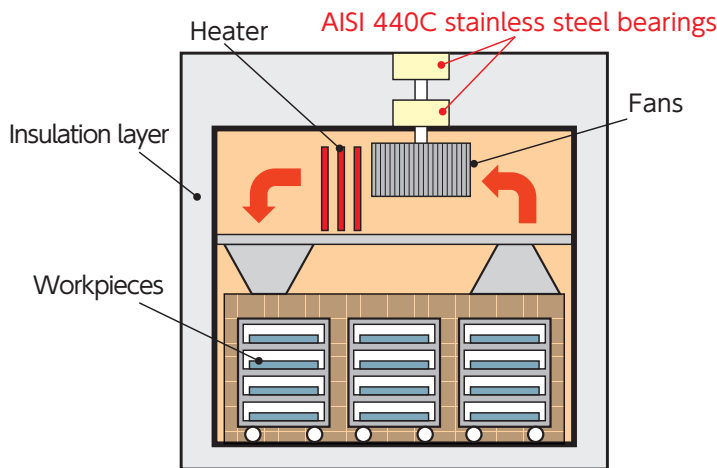
High-Temperature



Grease degradation and seizure become a problem in environments with high temperatures exceeding 100°C /212°F. For such environments, AISI 440C stainless steel bearings (SS Series) with heat-resistant grease as standard are adopted.

◆ Usage Conditions

Environment : Air
Temperature : 130°C/266°F
Rotating speed: 1800min⁻¹



◆ Conventional Bearings

SAE 52100 steel bearings

◆ Problems

Short bearing life (2 months) due to grease deterioration



◆ Bearings Adopted

SS Series AISI 440C
Stainless steel bearings

◆ Effect

Improved lubricity and extended bearing life (12 months) due to heat-resistant grease as standard

Film Manufacturing Equipment

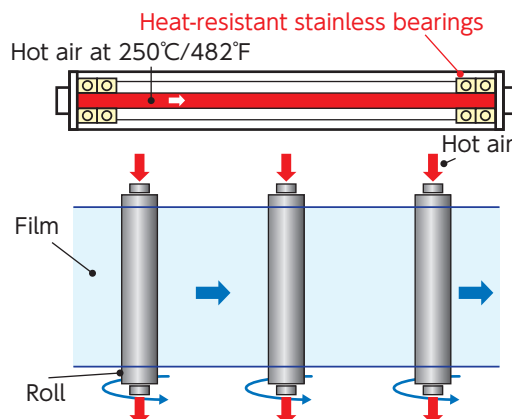
High-Temperature



Heat-resistant stainless bearing, made of AISI 440C stainless steel with heat-resistant fluorine grease are used at high temperatures exceeding 200°C/392°F.

◆ Usage Conditions

Environment : Air
Temperature : 200°C/392°F
Rotating speed: 30min⁻¹



◆ Conventional Bearings

SAE 52100 steel bearings

◆ Problems

Short bearing life (2 months) due to grease deterioration



◆ Bearings Adopted

Heat-resistant series
Heat-resistant stainless bearings

◆ Effect

Improved lubricity and extended bearing life (24 months) due to heat-resistant fluorine grease

Firing Furnace Conveyor

High-Temperature

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

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SS5200
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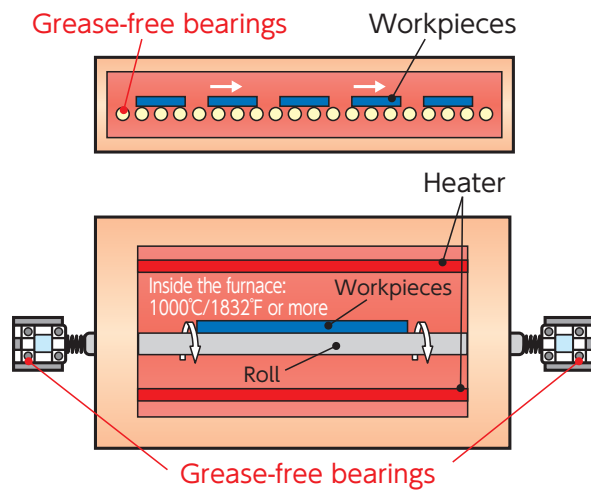
Customization

Examples of Use

High temperatures exceeding 250°C/482°F make it impossible to use grease. Grease-free bearings (TC Series) with a special coating of solid lubricant are used in this environment.

◆ Usage Conditions

Environment : Air
 Temperature : 280°C/536°F
 Rotating speed: 10min⁻¹




◆ Conventional Bearings

AISI 440C stainless steel bearings

◆ Problems

Short bearing life (1 month) due to grease deterioration



◆ Bearings Adopted

TC Series AISI 440C Grease-free bearings

◆ Effect

Improved lubricity and extended bearing life (12 months or more) due to solid lubricants

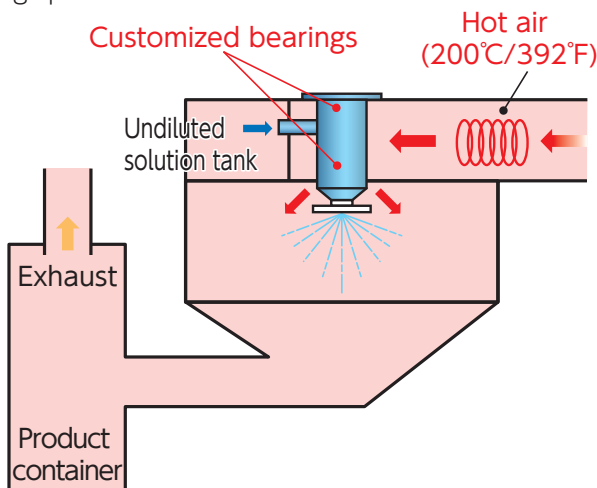
Spray Dryer

High-Speed Rotation

The centrifugal force of the ball is a problem in equipment that uses bearings at high speeds. Customized bearings using low-density ceramic balls are used for such equipment.

◆ Usage Conditions

Environment : Air
 Temperature : 130°C/266°F
 Rotating speed: 40000min⁻¹




◆ Conventional Bearings

SAE 52100 steel bearings

◆ Problems

Short bearing life (1 month) due to high-speed rotation



◆ Bearings Adopted

Customization: Various materials
 SS Series AISI 440C
 Stainless steel bearings + Ceramic balls

◆ Effect

Reduced centrifugal force of the balls and extended bearing life (12 months) due to use of ceramic balls

Plating Equipment

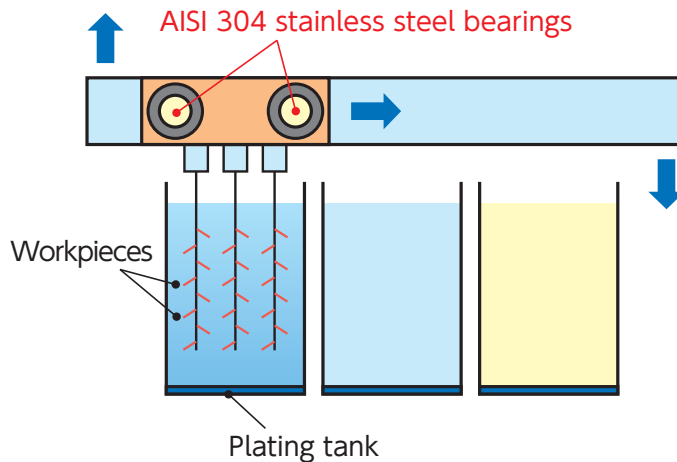
Corrosion resistance



AISI 304 stainless steel bearings (6S Series) made of corrosion-resistant materials are used for plating equipment that uses liquids such as acids and alkalis.

Usage Conditions

Atmosphere : Acidic solution droplets
 Temperature : Room temperature
 Rotating speed: 20min⁻¹



Conventional Bearings

AISI 440C stainless steel bearings

Problems

Short bearing life (1 month) due to corrosive environment

Bearings Adopted

6S Series AISI 304
 Stainless steel bearings

Effect

Improved corrosion resistance and extended bearing life (6 months) due to use of AISI 304 stainless steel bearings

Substrate Cleaning Equipment

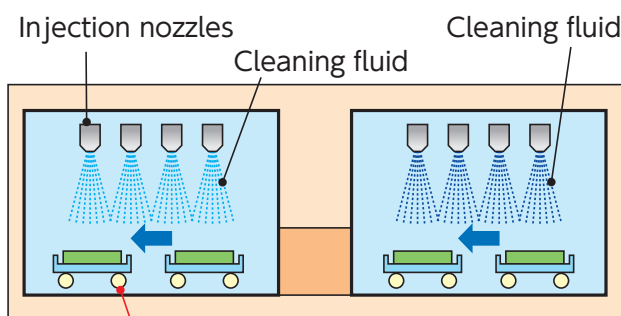
Corrosion resistance



AISI 630 stainless steel bearings (4S Series) made of corrosion-resistant materials are used for substrate cleaning equipment that uses liquids such as acids, alkalis, and water.

Usage Conditions

Environment : Cleaning solution droplets
 Temperature : Room temperature to 80°C/176°F
 Rotating speed: 20min⁻¹



Conventional Bearings

AISI 440C stainless steel bearings

Problems

Short bearing life (3 months) due to corrosive environment

Bearings Adopted

4S Series AISI 630
 Stainless steel bearings

Effect

Improved corrosion resistance and extended bearing life (12 months or more) due to use of AISI 630 stainless steel bearings

Film Cleaning Equipment

Corrosion resistance 

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
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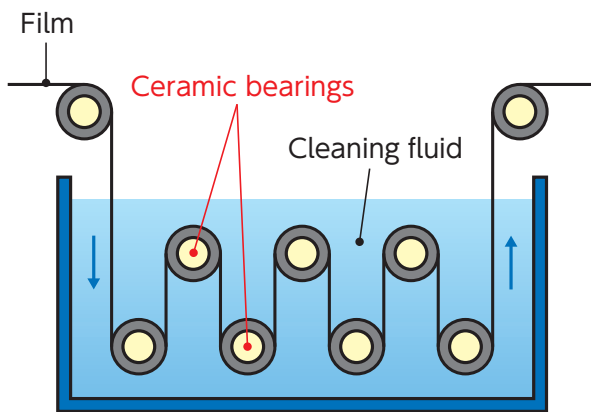
Customization

Examples of Use

Ceramic bearings (2C Series) made of highly corrosion-resistant materials are used for film cleaning equipment that uses liquids such as acids, alkalis, and water.

Usage Conditions

Environment : Weak alkaline solution
 Temperature : Room temperature to 80°C/176°F
 Rotating speed: 100min⁻¹



Conventional Bearings

AISI 440C stainless steel bearings

Problems

Short bearing life (1 month) due to corrosive environment


Bearings Adopted

2C Series
Ceramic bearings

Effect

Improved corrosion resistance and extended bearing life (24 months or more) due to use of ceramic bearings

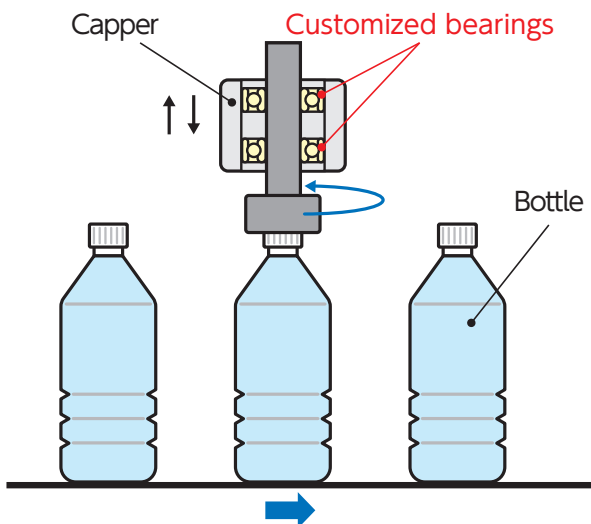
Capping Equipment

Food Machinery 

Bearings filled with food grade grease (Customization) are used in food machinery.

Usage Conditions

Environment : Air
 Temperature : Room temperature
 Rotating speed : 200min⁻¹



Conventional Bearings

AISI 440C stainless steel bearings

Problems

Danger of grease spills

Bearings Adopted

Customization: Specified grease
 SS Series AISI 440C
 Stainless steel bearings + Filled with food-grade grease

Effect

Improved safety due to filling with food-grade grease