



SKF®

SKF solutions for the
food and beverage industry



Overview

INTRO



Challenges



Risks



Certifications



Benefits

FOOD LINE



Non-corrosive environments



Non-corrosive environments, heavy loads



Corrosive environments



Very corrosive environments



Harshest environments



Solid Oil

AND MORE



Other food and beverage bearings



Lubrication



Seals



Power transmission



Condition monitoring



Client needs analysis – Asset management



Bearing feature table



Are you facing these challenges?



Strict cleaning regime

- Water and detergent ingress.
 - Grease separates into oil and thickening agent.
 - Reduced bearing lifetime.
- Unplanned and frequent production stops.



Frequent relubrication

- Labor intensive maintenance.
 - Insufficient lubrication.
 - Reduced bearing lifetime.
- Unplanned and frequent production stops.



Grease leakage

- Bacteria adhere to the grease with the potential risk of cross-contamination at washdown.
 - Production stop and product recall.
- Damaged brand image and additional costs.



Long-term risks of food contamination...



Consumer attitudes*

- 18% would abandon a brand if a recall was issued due to consumer sickness.
- 43% would leave the brand for a few months before coming back.



Online search trends

Digital footprint can remain long after the remedy of the problems.



Legal processes

Putting things right usually takes a lot of time, money and effort.

*) According to Trustwell. 2021



SKF Food line certifications

FDA – U.S Food & Drug Administration

EC – European Commission



Food-grade seals

Food-grade grease



NSF category H1 grease
(National Sanitation Foundation)

Halal

Kosher

Allergen-free and approved to have incidental food contact

IP69

Fully sealed
SKF Food line
ball bearing units



Benefits based on your application needs



Food safety

- Improved food safety in all applications.
- Virtually no grease leakage.
- Less risk for cross-contamination.
- Certified grease, allergen-free and approved to have incidental food contact.



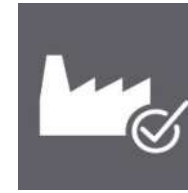
Maintenance

- Bearings and bearing units last longer.
- Lower the total cost of ownership.
- Significantly less relubrication tasks.
- Possibility to optimize manpower.



Environment

- Supporting a sustainable development with reduced environmental impact.
- Less replacement of bearings and bearing units reduce the demand on raw material, manufacturing, and transport.
- Low friction seal reduce energy consumption – less CO₂ emissions.
- Minimized grease consumption, purchase, and disposal.



Output

- Less production stops and higher number of units produced.
- Higher durability, better strength, and reliability without compromising food safety.
- No unplanned maintenance.



For non-corrosive environments

Post-processing and packaging | E.g. grinders, mixers, filling, packaging, palletizing



SKF Food line deep groove ball bearing with seals

Design. suffix: VA947

Bore diameter: 10–30 mm

Limiting speed: 7500–19000 r/min

Temp. limits: –40 to +100 °C



Food-grade seal

- Low friction, blue contact seal made of FDA- and EC-approved nitrile butadiene rubber.
- Excellent exclusion of water and solid contaminants.
- Blue colour makes eventual fragments easily detectable.

Food-grade grease

- Pre-filled with certified grease.
- Effective even in cases of incidental water or detergent penetration.
- Variable percentage of grease fill as an option.
- Also available with Solid Oil lubrication as an option.

High-performance bearing

- SKF Explorer performance class.

Food safety



Relubrication-free



Corrosion



Washdown



Load



Speed



[Read more](#)



For heavy loads

Preparation | E.g. food processing



SKF Food line spherical roller bearing with seals

Design. suffix: VA944

Bore diameter: 25–85 mm

Limiting speed: 260–780 r/min

Temp. limit: –40 to +100 °C



Food-grade seal

- Low friction, blue contact seal made of FDA- and EC-approved nitrile butadiene rubber.
- Excellent exclusion of water and solid contaminants.
- Blue colour makes eventual fragments easily detectable.

Food-grade grease

- Pre-filled with certified grease.
- Effective even in cases of incidental water or detergent penetration.
- Variable percentage of grease fill as an option.
- Also available with Solid Oil lubrication as an option.

High-performance bearing

- High fatigue resistance for increased dynamic load carrying capacity.
- SKF Explorer performance class.

Food safety



Relubrication-free



Corrosion



Washdown



Load



Speed



[View brochure](#)



For corrosive environments

Preparation | Wet and contaminated areas, e.g. milk processing

Post-processing and packaging | E.g. bottle filling machines



SKF Food line stainless steel deep groove ball bearing with seals

Design. suffix: VP311

Bore diameter: 8–40 mm

Limiting speed: 5600–22000 r/min

Temp. limits: –40 to +100 °C



Food-grade seal

- Low friction, blue contact seal made of FDA- and EC-approved nitrile butadiene rubber.
- Excellent exclusion of water and solid contaminants.
- Blue colour makes eventual fragments easily detectable.
- Stainless steel backing plate.

Food-grade grease

- Pre-filled with certified grease.
- Effective even in cases of incidental water or detergent penetration.
- Variable percentage of grease fill as an option.
- Also available with Solid Oil lubrication as an option.

Stainless steel bearing

- High-performance stainless-steel bearing (rings, balls and cage).

Food safety



Relubrication-free



Corrosion



Washdown



Load



Speed



[Catalogue](#)



For very corrosive environments

Preparation | Abrasive, wet and corrosive environments. E.g. lemon juice producing, ice cream hardening tunnels



MRC Ultra corrosion-resistant sealed deep groove ball bearings

Design. suffix: HNCR-HYB

Bore diameter: 10–50 mm

Limiting speed: 4000–23000 r/min

Temp. limits: –20 to ~ 110 °C



Food-grade seal

- FDA- and EC approved.
- Low friction seals save energy.
- Excellent sealing properties.
- Blue colour for fragment detection.

Food-grade grease

- Pre-filled with certified grease.
- High-performance grease.
- Variable percentage of grease fill as an option.
- Also available with Solid Oil.

Superior corrosion resistant bearing

- Rings made from high nitrogen corrosion resistant stainless steel (HNCR).
- Ceramic balls further improve corrosion resistance and fatigue life.

Food safety



Relubrication-free



Corrosion



Washdown



Load



Speed



[Read more](#)



For the most demanding and harshest environments

Preparation, Post-processing-packaging | E.g. conveyors with frequent washdowns



SKF Food Line ball bearing units

Design. suffix: DFH

Bore diameter: 20–50 mm

Limiting speed: 2200–5000 r/min

Temp. limits: –30 to +100 °C

Fully sealed or composite: –20 to +80 °C



Food-grade seal

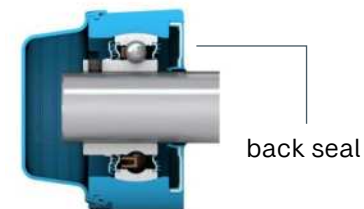
- Available both as open or completely sealed units with end cover and **back seal**.
- Sealed versions are IP69 certified.

Food-grade grease

- Pre-filled with certified grease.
- Effective against water or detergent penetration.
- Option for variable grease fill percentage.
- Option for Solid Oil lubrication.

Food-safe units

- Hygienic design prevents contaminant traps, reducing bacteria and allergen risks.
- Smooth 0.8-micron surface finish.
- Bearings: Stainless steel or zinc-coated.
- Housings: Composite or stainless steel for strength, lightness, and chemical resistance.



Food safety



Relubrication-free



Corrosion



Washdown



Load



Speed



[Read more](#)



Solid Oil for wet and humid environments

Processing food by removal of heat | Ice cream machines | Washdowns



Solid Oil

Design. suffix: W64
Food grade W64F
Low temp. W64L

Temp. limits: -50 to 85 °C
Food grade: -25 to 85 °C
Low temp. -55 to 85 °C

Available for most common bearing types and sizes.



What is Solid Oil

- Solid Oil is a lubrication technology where an oil-saturated polymer matrix virtually fills the free space within the bearing.
- It provides efficient lubrication, protects the bearing from water and contaminant ingress, and prevents oil leakage.

Where to use

- Withstands the negative effects of high humidity, as well as the breathing effect caused by air volume expansion and contraction.
- Ideal for rapid operating temperatures changes, as in freezer applications.
- Where frequent washdowns.

What you gain

- Reduce costs by increasing reliability of bearing in high moisture environments.
- Meet proactive food safety requirements.
- Increase production output.
- Safer working conditions for maintenance personnel.

Food safety



Relubrication-free



Corrosion



Washdown



Load



Speed



SolidOil



Other bearings for food and beverage



Extreme high-temperature deep groove ball bearings

+350 °C



Extreme high-temperature Y bearings

+350 °C



Extreme high-temperature Y-bearing units

+350 °C



Double-shielded deep groove ball bearings

+150 °C



Fryer bearings

+180 °C



Wafer oven units

+350 °C



Y-bearing units, composite housings

Corrosion



Y-bearing units, stainless steel housings

Corrosion, Washdown



Slewing bearings, stainless steel (highly customizable)

Corrosion, Washdown
 -50 to 120 °C



Lubrication



Food grade lubricants

To meet strict hygienic requirements.

- Improved safety.
- Reduced maintenance costs.
- Improved processing efficiency.
- NSF H1 registered and Kosher and Halal certified.



Gas driven lubricators

Single point automatic lubricators – SKF SYSTEM 24.

- Flexible dispense rate from 1 to 12 months.
- Stoppable or adjustable if required.
- Intrinsic safety rating: ATEX approved for zone 0.



Electro-mechanical lubricators

Single point automatic lubricators – SKF SYSTEM 24.

- Filled with SKF lubricants especially developed for bearing applications.
- Temperature independent dispense rate.
- Maximum discharge pressure of 5 bar over the whole dispensing period.



Lubrication systems

Automatic lubrication systems for increased machine reliability.

- Suitable pumps for each system.
- Basic and smart versions.
- Ensure right lubrication interval.
- Increase workers safety.
- Reduce lubricant consumption.
- Reduce environment impact.



Chain lubrication kit

For conveyor chains with pitches from 50 to 250 mm.

- Reduced maintenance costs compared to manual lubrication.
- Eliminates manual lubrication.
- Improves productivity by eliminating unscheduled downtime.

[Read more](#)



Seals



Dosing piston seals (D1P, D2P, D3P)

- Able to withstand exposure to abrasive food products and high pumping pressures.
- Maintains precise sealing for consistent filling volume.

[View brochure](#)



Homogenizer seals (H1R, H2R)

- Performance upgrade compared to the conventional elastomer chevron style seal assemblies.
- Frequently used in homogenizers.



Rotary union seals (R1U, R2U)

- Seals with flexible, low-friction performance.
- Suitable for rotary union applications.
- Springless sealing solution with options for direct retrofits, high-speed and high-temperature conditions.



Hygienic rotary shaft seal (R11-VL)

- Designed according to hygienic design principles.
- Prevents dead spots that can lead to contamination.
- Suitable for industrial processes such as clean-in-place (CIP) and sterilization-in-place (SIP).
- Can be custom-designed.

[Hygienic rotary shaft seal](#)



Power transmission



Chains for all your needs

- **Stainless steel chain** – for corrosive environments and frequent washdowns. –40 to 400 °C.
- **Self-lubricating chain** – where chain lubrication is difficult or undesired, as e.g. in packaging lines, and palletizing.
- **Nickel plated chain** – for outdoor operation and application that might be in contact with food, e.g. fish processing.
- **Dacromet plated** – for very corrosive environments with exposure to chemicals and salt spray. (Not suitable for direct food contact.)
- **Double pitch conveyor chain** – Less wear, light construction for conveying applications.
- **Heavy duty chains and more specialized roller chains** for demanding applications, e.g. dough mixers in bakeries.



Belts

- **EPJ belts** – for roller conveyors e.g. fruit sorting conveyors.
- **CRE belts** – High efficiency belts compared to wrapped. EPDM compound suitable for high temperature applications (–50 to +120 °C). For fan drives, blowers, blenders and most industrial belt applications.
- **XP2 belts** – up to 40% more power than std. wrapped belts. For blenders and agitators etc.



Wide range of couplings

- Wide range of couplings – e.g. tyre couplings and jaw couplings.
- Maintenance-free tyre couplings.
- Heavy duty gear and grid.
- All direct drive applications e.g. fans, conveyor drives and gear boxes.

We also have offerings in all auxiliary products including sprockets, pulleys, bushings.



Condition monitoring



SKF Microlog dBX & QuickCollect

Portable monitoring for on-the-spot indication of potential problems.

- Designed to help maintenance and operations professionals of all skill levels.
- From entry level (easy to get started and use), to expert level machine diagnostic tool.

[Microlog dBX](#)

[QuickCollect](#)



SKF Axios

The first line defense of your machinery.

- Scalable and cost effective.
- Automated anomaly detection.
- Easy install and use.
- Data at your fingertips.
- Reliable and secure.

[Read more](#)



SKF Enlight Collect IMx-1

Automated wireless machine monitoring for reliable rotation.

- Replacement of manual machinery health data collection.
- Increase of the frequency of monitoring from months and weeks to days and hours.
- Makes automated data collection easier and more affordable.
- Data from machines in inaccessible locations.

[Read more](#)



SKF IMx-8/16 and IMx-8/16Plus

Complete on-line monitoring system for early fault detection.

- Compact devices with analog and digital channels, mobile connectivity, and SKF Cloud integration.
- 24/7 measurement.
- Enable proactive maintenance scheduling and minimize downtime and costs in industrial settings.

[Read more](#)



Client needs analysis – Asset management

With SKF's Client Needs Analysis-Asset Management program, you can assess your current situation and highlight areas for **improvement**.

The program focuses on

- Maintenance strategy
- Work identification
- Work control
- Work execution

This allows you to **benchmark** your current maintenance process against best practice and your industry peers so you can start the journey toward better asset management and increased reliability.

Besides the improvement recommendations, we can also create business cases to show the **financial benefits**.





Bearing feature table

Product	Process Common applications	Temperature	Food safety	Virtually relubrication-free	Corrosion resistance	Wash-down	Load capacity	Speed
SKF Food line deep groove ball bearing	Post-processing-packaging Coffee grinders, mixers	-20 to ~ 110 °C	+	++	∅	∅	+	+++
SKF deep groove ball bearing with Solid Oil	Processing food by removal of heat Ice cream machines	-25 to ~ 85 °C	+	+++	∅	+	+	
SKF Food line stainless steel deep groove ball bearing (VP311)	Preparation, Post-processing-packaging Bottle filling machines, milk processing	-40 to ~ 100 °C	++	++	++	∅	∅	+++
SKF Food line stainless steel deep groove ball bearing with Solid Oil	Processing food by removal of heat, Post processing-packaging Ice cream machines with washdowns	-25 to ~ 85 °C	+++	+++	++	+	∅	∅
MRC Ultra corrosion-resistant sealed deep groove ball bearing	Preparation Lemon juice production, ice cream hardening tunnels	-20 to ~ 110 °C	++	++	+++	∅	++	+++
MRC Ultra corrosion-resistant sealed deep groove ball bearing with Solid Oil	Processing food by removal of heat	-25 to ~ 85 °C	+++	+++	+++	+	++	∅
SKF high-temperature deep groove ball bearing (VA228 or VA208)	Processing food by application of heat Wafer baking ovens	140 to ~ 350 °C	+	+++	∅	∅	∅	∅
SKF wafer oven unit	Processing food by application of heat Wafer ovens	140 to ~ 350 °C	+	+++	∅	∅	∅	∅
SKF Food line ball bearing units with composite housing – white line	Preparation, Processing food by removal of heat, Post processing-packaging Conveyors	15 to ~ 65 °C	++	++	++	++	+	++
SKF Food line ball bearing units	Preparation, post-processing-packaging Conveyors with frequent washdowns	-20 to ~80 °C	+++	+++	+++	+++	+	++
SKF Food line ball bearing units with stainless steel housing – white line	Post processing-packaging Conveyors, where is a risk of moisture leaking from final product	-30 to 100 °C	+++	+++	++	+++	+	++
SKF Fryer bearing	Processing food by application of heat Fryer	Up to 180 °C	++	∅	++	∅	∅	∅
SKF High-temperature ball bearing units	Processing food by application of heat Ovens where the product go through	Up to 350 °C	+	+++	∅	∅	∅	∅
SKF Food line spherical roller bearing	Preparation Food processing	-20 to 110 °C	+	+			+++	+
SKF Spherical roller bearing with Solid Oil (W64F)	Processing food by removal of heat Ice cream machines with higher load	-25 to ~85 °C	++	+++	∅	+	+++	∅
SKF Kaydon stainless steel slewing bearings (highly customizable)	Preparation, Post-processing-packaging Conveyors and bottle filling machines	-50 to 120 °C	+++	+++	++	+++	+++	∅

SKF®