

The Complete Guide to Bearings in Food Production.

Author: Tom Hamlett



GODIVA BEARINGS

The Complete Guide to Bearings in Food Production.

Why Bearings Matter in Food Production

You don't often see them, but you'd notice pretty quickly if they failed. Bearings are the unsung heroes of food production – quietly powering conveyor belts, bottling lines, mixers, ovens, and packaging machines across every corner of the plant.

From processing raw ingredients to boxing the final product, they keep things moving, rotating, lifting, sealing, slicing and stacking.

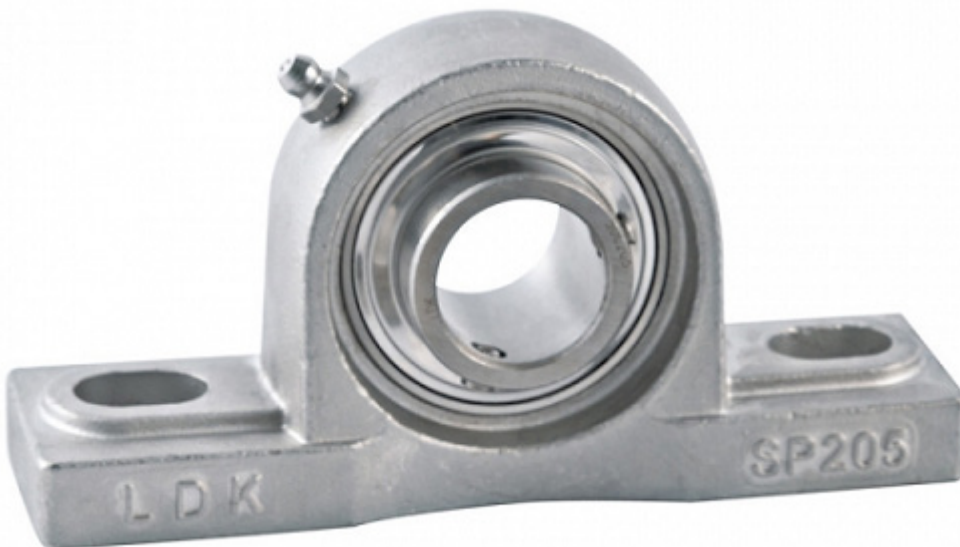
What's so special about food-safe bearings?

Well, imagine dropping a regular bearing into a biscuit factory. Not only is it not designed to deal with the wet washdowns and temperature swings, but it could also contaminate your Hobnobs – and no one wants that.

Food-safe bearings, on the other hand, are built differently. Think:

- Corrosion resistance – often stainless steel or polymer-based.
- Sealed for hygiene – to stop bacteria build-up.
- Lubricated with food-safe greases – so even in a worst-case scenario, the line's not compromised.

They're also designed to handle constant cleaning, temperature extremes, and often operate in very wet or very dry environments — all without drawing attention. Because nobody wants a breakdown during the 4pm sausage roll rush.



Key Applications in Food Processing

Here's where bearings show up and show off – quietly keeping production smooth and safe:

Conveyor Systems

Where: Almost everywhere – transporting goods from one part of the process to the next.

Bearing needs: High endurance, sealed against debris, easy to replace.

Example: LDK food-safe bearings are designed to handle wet, high-load environments.

Filling & Capping Lines

Where: Bottling liquids, sauces, yoghurt etc.

Bearing needs: High precision, corrosion-resistant, often low-maintenance.

Solution: Perma automatic lubricators ensure constant lubrication – no shutdowns needed.

Ovens & Cooling Systems

Where: Heat in, cold out – think baking tunnels and blast chillers.

Bearing needs: Temperature tolerance, thermal expansion protection.

Approach: High-temp food-safe bearing greases and protected housings.

Solution: Beco Bearings offer High Temperature solutions for oven applications.

Washdown Areas

Where: Any place where hygiene rules the day.

Bearing needs: IP-rated seals, stainless components, fast-dry capability.

Tool tip: Ambersil NSF-registered sprays support safe maintenance in hygiene zones.

Did You Know?

- Up to 80% of bearing failures are caused by improper lubrication or contamination — not wear and tear.
- Newer food-grade systems may include visual grease indicators or smart sensors.
- Downtime from a single bearing failure can cost £3,000/hour or more in production losses.

What makes a bearing food safe?

Material

- Stainless steel (AISI 440 or 304) resists rust and won't flake.
- Polymer housings handle chemicals and repeated washdowns.
- Avoid low-grade or untreated steels.

Lubrication

- NSF H1 food-safe grease means even accidental contact is safe.
- Perma systems automate this and reduce manual maintenance.

Seals & Shields

- Multi-lip designs protect against water, bacteria, and cleaning chemicals.
- High IP ratings mean they can take heavy washdowns.

Certifications

- Look for NSF, FDA, and EU 1935/2004 compliance.
- Use certified products to stay audit-proof and factory floor safe.



Choosing the right bearing: Quick reference table.

Application	Bearing Specification	Suggested Product Type
Washdown Area	Stainless steel, sealed, high IP rating.	LDK Food-safe housed unit
Conveyor line (dry goods)	Shielded bearing, corrosion-resistant	Deep groove ball bearing (SS)
Heat zones (ovens)	High-temp grease, thermal protection	High Temperature bearings
Auto-lubrication systems	Grease reservoir, hands-free maintenance	Perma FOOD LUBE system
Light packaging machines	Plastic housing, sealed unit	Composite housed insert bearing



What to ask when choosing a food-safe bearing.

What's the temperature range?

Bearings in food environments might face extremes:

- Chillers: down to -30°C .
- Ovens: up to $200\text{--}250^{\circ}\text{C}$.
- Standard food-safe greases handle -40°C to $+160^{\circ}\text{C}$. Beyond that, spec high-temp greases or ceramic-based solutions.

Will it be washed down daily?

Use High IP Rated sealed units and corrosion-resistant housings (polymer or SS)

Is it exposed to food product or dust?

Choose contact-sealed units, NSF H1 lubricants, and enclosed housings

Does it need to meet hygiene standards?

Check for NSF/FDA/EU 1935/2004 certifications and supporting documentation



Fitting, maintenance and troubleshooting

Would an auto-lube reduce downtime or call-outs?

Perma units help maintain performance 24/7 with no manual intervention

Fitting Tips

- Check the shaft and housing for damage.
- Avoid force-fitting with a hammer — use the right tools.
- Watch out for pinched or misaligned seals.

Maintenance Advice

- Inspect regularly: listen for noise, feel for vibration.
- Re-grease where needed, or install auto-lubrication.
- Keep cleaning pressure and direction in check — don't blast directly into seals.

Symptom	Likely Cause	Solution
Squealing noise	Lack of lubrication	Re-grease or fit a Perma unit
Visible rust	Unsuitable bearing type	Check fitting, adjust grease
Frequent failures	Poor spec. or fitting	Reassess and replace appropriately
Vibration	Contamination or cage wear	Replace, check seals and housing fit

Glossary for apprentices and new starters.

Bearing – Allows rotation or movement between machine parts

Inner Race – The inside ring that rotates with the shaft

Outer Race – The fixed outside ring the rollers move inside

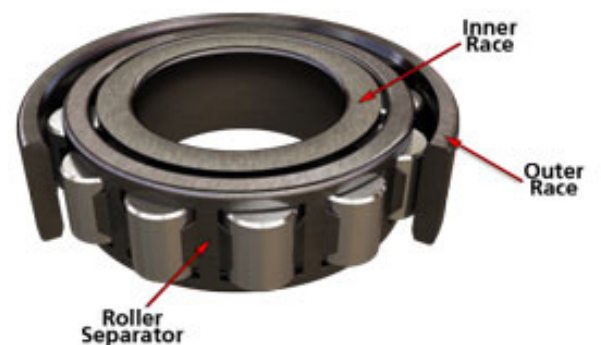
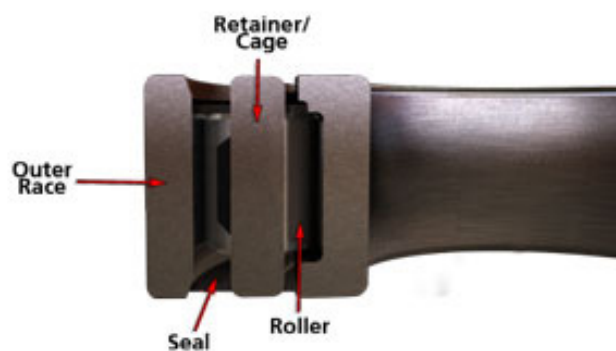
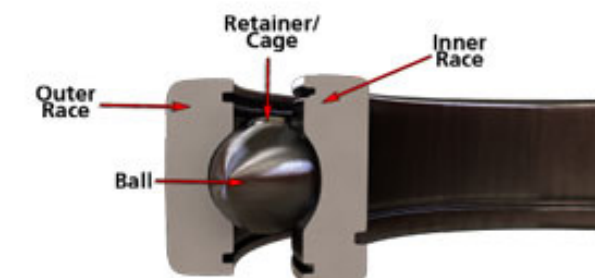
Seals/Shields – Keep contaminants out and lubrication in

Lubrication – The grease or oil that keeps bearings running smoothly

IP Rating – How well it resists dust and water

NSF H1 – Food-safe lubricant grade

Perma – A brand of automatic lubricators that reduce manual maintenance.



About Godiva Bearings

Whether you're new to the parts desk or you've been in the trade since bearings came in wooden crates, Godiva's here to keep your kit moving.

We stock food-safe solutions from trusted brands like:

LDK – reliable, high-performance bearings for food environments

Perma – champions of hands-free lubrication

Ambersil – NSF-approved sprays for safe maintenance

Schaeffler – FAG and INA Stainless Steel Pop-Met Bearings.

Beco Bearings – High Temperature bearings for Oven applications.

Need help?

We've got product info, technical support, and friendly advice — without the jargon.



Dudley

Call: +44 (0) 1384 240 005
dudley@godiva-bearings.co.uk

Units 1 & 2
Crackley Way
Peartree Lane
Dudley
West Midlands
DY2 0UW
United Kingdom

Newcastle

Call: + 44 (0) 191 272 5225
newcastle@godiva-bearings.co.uk

24/7/365 - Global Shipping

www.godiva-bearings.co.uk

