



ZEN Bearings Launches its New Food and Beverage-Safe Line

Aware of the needs of the food and beverage industry, the global bearings manufacturer has launched a new food-safe and hygienic line engineered to tackle the industry's toughest challenges.

With its new range of stainless steel, ceramic, and hybrid bearings, along with housings and inserts, ZEN Bearings offers a durable and reliable solution for those seeking food-safe and hygienic products that comply with industry regulations.

As we all know, the food and beverage industry presents significant challenges regarding bearing requirements due to its unique demands for safety, hygiene, and performance.

For bearings to thrive in this industry, they must meet strict hygiene and cleanliness

standards. In addition, they must be made of corrosion-resistant and food-safe materials and food-grade lubricants must be used. But that's not all. Bearings must comply with food safety regulations and standards such as those set by the FDA (Food and Drug Administration) or the NSF (National Sanitation Foundation). They

should withstand continuous operation, high speeds, and specific mechanical loads while minimising downtime. It sounds like a lot, right?

Meeting these requirements is no small feat, and thankfully for us, the new FBS line ZEN Bearings line delivers on all fronts:

- All the bearings, housings and inserts within this line are made with materials that comply with the industry standards and regulations and offer excellent corrosion protection.
- The ZEN FBS Line is supplied with

- FDA-compliant Mobilgrease™ FM, which, among other properties, meets global performance & cultural requirements (NSF H1 Registered, Kosher/Parve, Halal)
- They are designed to prevent the entry of contaminants such

as dust, moisture, or cleaning agents into the bearing and to withstand frequent washdowns.

- They are easy to clean, non-toxic and protect against contamination and lubricant leakage.

The ZEN FBS Line in Detail

Food safe Ball Bearings:

Stainless Steel FBS Bearings

- FDA-compliant AISI 420 and AISI 304 stainless steel.
- Exceptional corrosion and extreme temperature resistance.
- Endures frequent high-pressure washing and chemicals.
- Non-toxic, easy to clean, and non-porous.
- Handles high loads and vibrations for extended life.
- Equipped with FDA-approved NBR seals and metal shields for lubricant retention and corrosion prevention.
- NBR seals that resist oils, fats, mould, and water, maintaining food integrity.
- Supplied with FDA-compliant Mobilgrease™ FM (NSF H1 Registered, Kosher/Parve, and Halal compliant).



AISI 420 AC+ FBS Bearings

- Enhanced with a special surface treatment developed by their engineers.
- Lasts twice as long as standard stainless steel bearings, cutting replacement costs and downtime due to corrosion.
- Virtually untouched by corrosion after 120 hours of Salt Spray testing.
- Compliance with FDA and RoHS standards.
- Supplied with FDA-compliant Mobilgrease™ (FM NSF H1 Registered, Kosher/Parve, and Halal compliant).



Ceramic & Hybrid FBS Bearings



Rings and balls

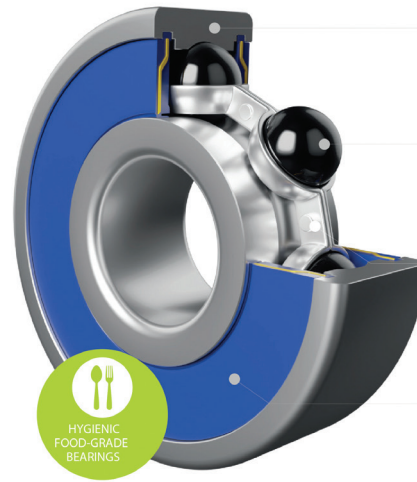
Silicon nitride (Si₃N₄), zirconium (ZrO₂) or aluminium oxide (Al₂O₃)

Cage

Plastic (T9H), PTFE, PEEK Cages and without cage (FC)

Seal and shields

PTFE and open



Rings

AISI 420 or AISI 440 stainless steel

Balls

Silicon nitride (Si₃N₄) or zirconium (ZrO₂)

Cage

AISI 304 stainless steel, plastic (T9H), PEEK, or PTFE cages

Seal and shields

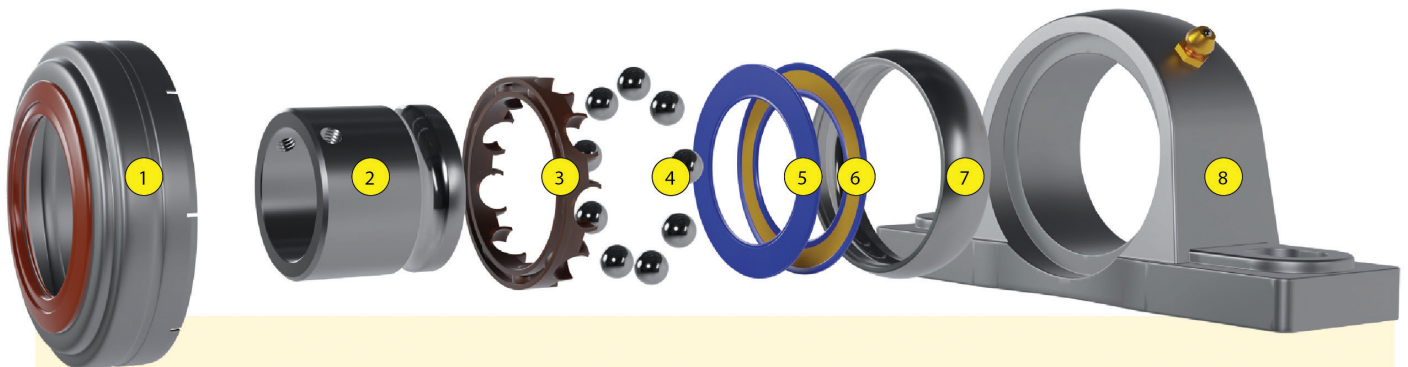
AISI 304 stainless steel, PTFE and FDA-approved synthetic rubber (NBR)



- Ideal for food applications requiring superior corrosion resistance and higher temperature capabilities than stainless steel bearings.
- Excellent durability against continuous exposure to water, harsh chemicals, acids, and alkalis, minimising maintenance requirements.
- Low friction coefficient contributes to cost savings through extended lifespan, reduced lubrication needs, and lower energy consumption.
- Equipped with PTFE seals providing excellent thermal stability and optimal resistance to industry cleaners and disinfectants, effectively protecting against contamination.
- Full Ceramic FBS Bearings can run lubrication-free, and Hybrid FBS Bearings require less lubrication than stainless steel bearings due to their lower friction coefficient and lighter balls.

Food Safe Housings and Inserts

FBS Stainless Steel Housings with stainless steel inserts:



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The AISI 420 stainless steel end cap provides additional protection against contamination that increases hygiene properties.

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The AISI 420 stainless steel insert reinforces the corrosion and temperature resistance of the overall bearing assembly and provides hardness and toughness.

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The smooth surface of the stainless steel AISI 304 housing is resistant to bacterial growth with exceptional corrosion and temperature resistance.

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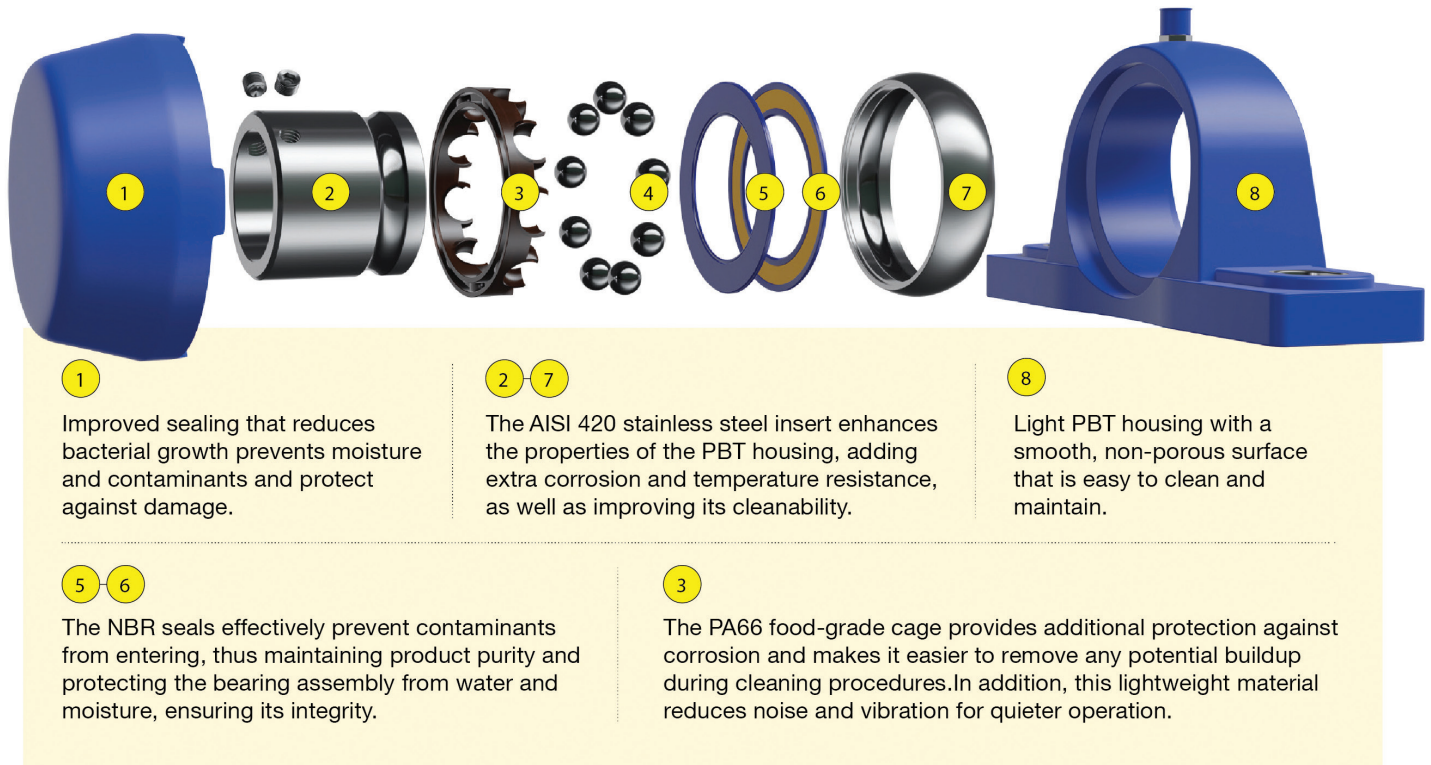
The non-toxic NBR seals protect the insert from foreign debris and keep the lubricant contained in compliance with the FDA.

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The PA66 food-grade cage provides additional protection against corrosion and makes it easier to remove any potential buildup during cleaning procedures. In addition, this lightweight material reduces noise and vibration for quieter operation.

- Made in AISI 304 stainless steel, which provides excellent corrosion and temperature resistance.
- Protection against rust and damage from moisture, liquids, and cleaning agents.
- Smooth surface that is easy to clean, promoting hygiene and reducing the risk of contamination.
- Strong, durable, and can withstand heavy loads, impacts, and frequent use, minimising downtime and maintenance costs.
- Lubricated with FDA-compliant Mobilgrease™ FM. NSF H1 Registered, Kosher/Parve, and Halal compliant).

FBS thermoplastic housings with stainless steel inserts:



- Made of PBT, known for excellent chemical resistance.
- Withstand acidic or alkaline substances and sanitising solutions without damage or corrosion.
- Smooth, easy-to-clean surface that reduces bacterial growth and promotes hygiene.
- Provides insulation and protection for internal electronic components, ensuring safe operation in food and beverage applications.
- Lubricated with FDA-compliant Mobilgrease™ (FM NSF H1 Registered, Kosher/Parve, and Halal compliant).



As you can see, ZEN's new Food and Beverage Safe (FBS) line meets the tough standards of the food and beverage industry with unmatched durability and safety. For more details on each product, just scan the QR code below to download the new FBS brochure and see how ZEN Bearings can improve your operations.

