SKF self-aligning ball bearings for food and beverage applications

Features

- Self-aligning up to a maximum of 3 degrees depending on series and design
- Virtually no risk of sliding during start-ups and light-load conditions
- Extremely low friction offers minimum operating temperature combined with high speed capability
- Sealed versions provide robust protection in harsh environments
- E design bearings with optimized internal geometry offer maximum load capacity

Benefits

- Long and reliable bearing service life
- Lower maintenance and operating costs
- Increased uptime and productivity
- Increased energy efficiency
- Reduced vibration and noise
- Lower operating temperatures

Applications

- Conveyors
- Separators
- Mixers

Run cooler, quieter and longer by managing misalignment

SKF self-aligning ball bearings offer important benefits in the food and beverage processing industries where bearings are commonly subject to light or variable loads, high speeds and variable degrees of misalignment due to flexing of shafts. They are insensitive to light loads and, depending on the series and design, can accommodate up to 3 degrees of misalignment without a detrimental effect on service life or performance. In addition, they generate less frictional heat and can run at higher speeds than other types of self-aligning rolling bearings. This results in longer service life when subject to misalignment, reduced operating temperature, longer lubricant life, smoother, quieter operation and lower overall operating and maintenance cost.

Separators

The performance attributes of SKF self-aligning ball bearings make them an excellent choice for a wide range of applications in the typical food or beverage processing plant. A good example is a centrifuge used to separate out one or more liquids or dissolved solids from a liquid. The separator, filled with material that is unevenly distributed, spins at a very high speed. The resultant rotating out-of-balance radial forces cause the spindle to bend, subjecting the bearings to rotating radial loads, rotating misalignments and vibration. SKF self-aligning ball bearings are also recommended for compact design separators where similar bearing operating conditions apply.

Conveyors

Self-aligning ball bearings are also ideal for conveyor systems characterized by light or variable loads and varying misalignment due to shaft deflection. When conveyors operate in wet or contaminated conditions, SKF recommends sealed self-aligning ball bearings, protected on both sides by rubber seals which help prevent ingress of contaminants and help extend grease service life.

For more information about SKF products and solutions for the food and beverage industry, contact your SKF Authorized Distributor.




A large range of products to meet your needs

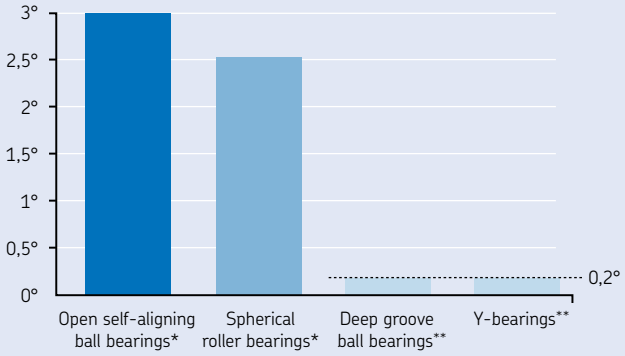
SKF self-aligning ball bearings are available with either a parallel or tapered bore in both open and sealed designs. Sealed bearings are available in series 22 and 23 and are suitable for contaminated operating conditions. Selection of the correct self-aligning ball bearing for food and beverage equipment should be based on consideration of the application speed, dynamic misalignment and maintenance goals. Critical to operational efficiency, all of these bearing types are readily available from SKF.

Open design

Sealed design

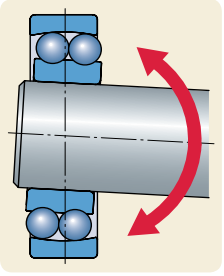
Tapered bore design

Maximum permissible misalignment



** Maximum permissible misalignment may be less for certain bearing series and versions, e.g. sealed bearings.*
*** These bearings are not self-aligning. Permissible dynamic misalignment is limited and depends primarily on size design and operating internal clearance. Y-bearing units can accommodate initial misalignment up to 5 degrees.*

Managing misalignment



The chart to the left shows the maximum misalignment that can typically be accommodated by various open bearing types. Optimally sized SKF open self-aligning ball bearings can compensate for up to 3 degrees of misalignment, depending on the series. SKF sealed self-aligning ball bearings can accommodate up to 1,5 degrees of misalignment.

E design bearings for maximum load capacity

Depending on the size of bearing required, SKF self-aligning ball bearings are available with an optimized internal design that carries the designation suffix “E”. These bearings incorporate more and/or larger balls and have a basic dynamic load rating up to 30% higher than standard bearings. SKF can help you select the correct self-aligning ball bearing type – sealed or open versions - to deliver a long, reliable service life with minimal maintenance.

Basic design *E design*

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