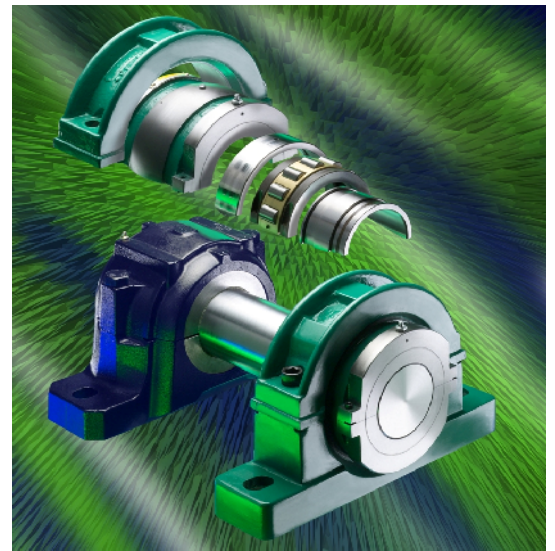




Advantages of SRB Split Cylindrical Roller Bearings in Fan Applications

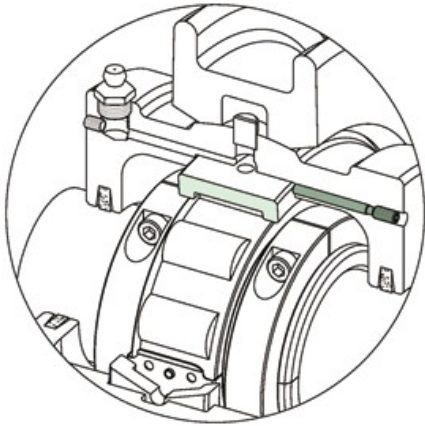
Split bearings have been used in a variety of industries in applications involving limited access and long change out times which result in significant production losses.

SRB roller bearings are completely split to the shaft dramatically reducing installation and inspection times. Additionally the time that is saved, costs eliminated and possible damage caused to other assemble equipment on the shaft (fans, motors drives, etc) results in even higher potential savings. Finally when a bearing fails on a fan, normally both bearings have to be removed and replaced, adding extra cost and time. With a split, each bearing on the fan can be run to failure without the risk of big downtime costs.



Advantages of Splits in Fans.

- Brass cage as standard allows higher speeds and better lubrication properties
 - Fast, accurate assembly & maintenance—components are split to the shaft and internal clearances are factory set
 - Stronger supports and housings—industry standard housings are 150 grade cast iron, SRB splits are 250 grade
 - Lower minimum loads = less skidding and greater reliability at high speeds .
-
- True rolling motion— SRB splits use cylindrical logarithmic profile rollers, rather than spherical rolling elements. This provides true rolling motion and vertically eliminates skidding.
 - Reduced minimum loads— most fans have large shaft diameters with relatively low loads— SRB splits accommodate this by reduced minimum load requirements when compared to spherical roller bearings
 - Efficient shaft expansion—Split cylindrical bearings expand internally, so there is no friction during expansion. SRB Floating bearings will allow shaft expansion without skidding, cross locating the fixed bearing, causing housing wear, heating up or simply not expanding like standard sphericals can.
 - Increased design flexibility— With three options of bearing/housing configuration for each shaft size the shaft can be selected based on what's best for the fan, not what's best for the bearing.



Retained Type Bearings (BR) **– Fixed Bearing.**

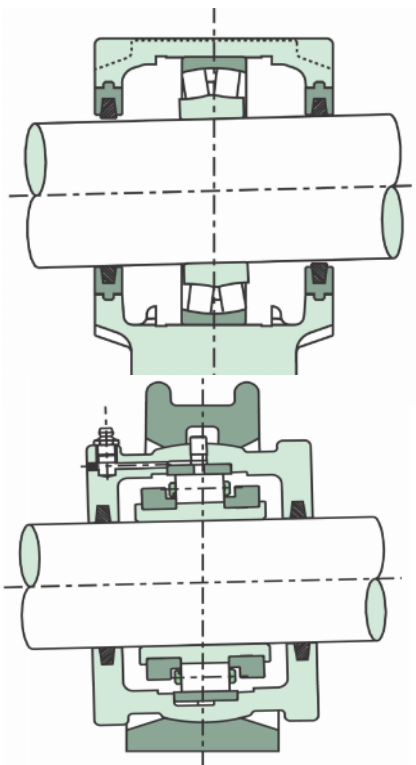
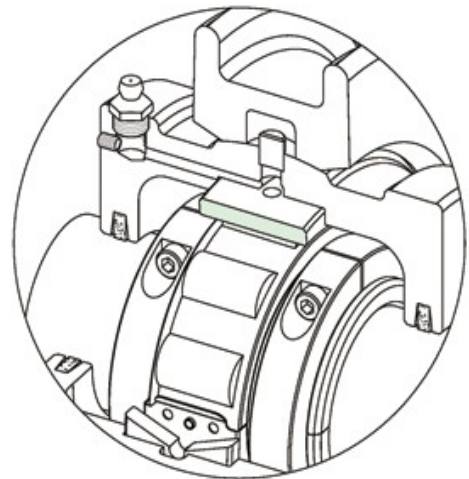
This bearing has integral lips on the outer race to provide a surface for axial load. This axial load is accommodated on the inner race via the hardened clamp rings, which both align the inner race halves and provide the roller guidance. In larger bearings the inner race is made with integral ribs for roller guidance and axial load.

This type of bearing will locate the shaft axially as well as provide a means for taking axial load. The retained outer race must be fixed sideways against one of the housing groove shoulders using the pins and screws provided.

Expansion Type Bearings (BX) **– Floating bearing.**

This bearing is designed for radial loads only. As in the retained type bearing, the rollers are guided on the inner race by the hardened shoulders of the clamping rings.

During expansion or contraction of the shaft, rollers are free to move across the plain outer race offering virtually no resistance to axial movement. This reduces skidding, housing wear, cross location and excess heat generation.



Sealing

Standard housing units like the one pictured left. The seal and housing are fixed while the bearing accommodates any shaft misalignment.

As a result the housing has to be manufactured to allow for this misalignment creating larger shaft entry and exit diameters. During misalignment the sealing gaps can become open allowing ingress of contaminants. As a result of this design problem, housing manufacturers will often recommend expensive and complicated taconite seals to provide adequate bearing protection.

In SRB split bearings, the housing and seals move as one and are always concentric to the shaft. In applications with fine contaminants like coal dust etc this sealing feature alone is a great reason to use Split bearings. Although external Lab seals can be added to SRB splits to create a “taconite” set up, they are almost never required.