

# SKF Explorer spherical roller bearings for vibratory applications

By design, SKF spherical roller bearings can accommodate very heavy radial and heavy axial loads in applications prone to misalignment or shaft deflections. In addition, SKF spherical roller bearings for vibratory applications are designed to accommodate very high vibration levels.

SKF Explorer spherical roller bearings provide a significant improvement in key operational parameters. These bearings are so robust that they can last several times longer than other spherical roller bearings under typical heavy-duty conditions.

## Upgraded self-aligning SKF Explorer bearings

All SKF Explorer spherical roller bearings have been upgraded to a new level of performance, featuring a combination of high-quality steel and an improved heat treatment. Upgraded SKF Explorer spherical roller bearings provide longer service life, particularly in applications where there are high levels of contamination or poor lubrication conditions.

## Product features

- Designed for high vibration levels
- Made of super-clean and tough upgraded steel
- Reduced dimensional tolerances
- Special cage design
- C4 Clearance as standard
- Available with a PTFE coated bore (designation suffix VA406)

## Common applications

- Vibrating screens
- Compactors
- Road rollers

## User benefits

- Lower operating temperatures
- Increased bearing service life
- Improved wear and contamination resistance
- Excellent high speed performance
- Reduced risk of fretting corrosion and induced axial preload (VA406)

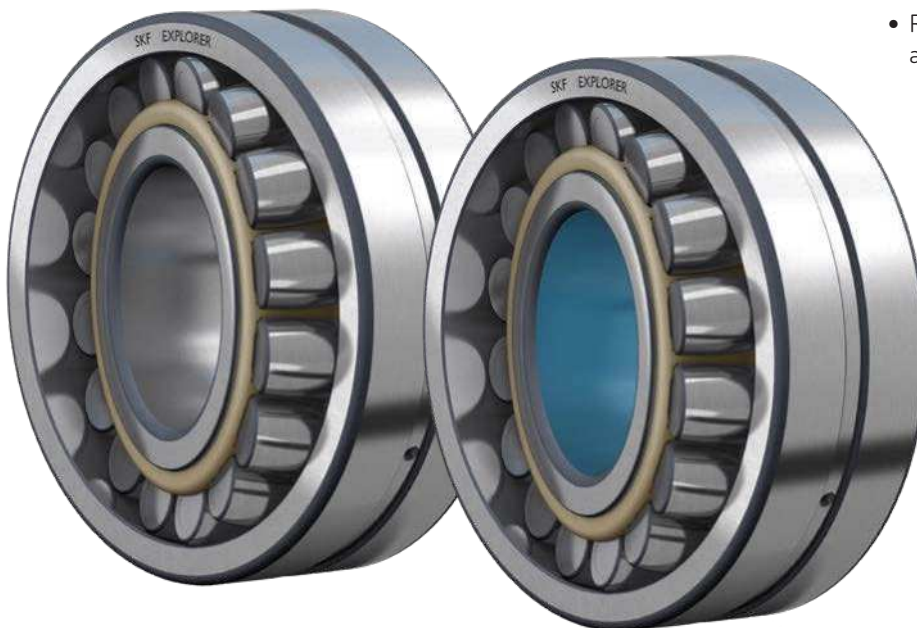


Diagram 1

Relative wear for different bearing steel

Relative weight loss

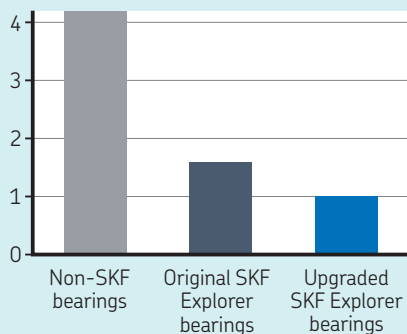


Diagram 2

Service life under poor lubrication conditions

Relative service life

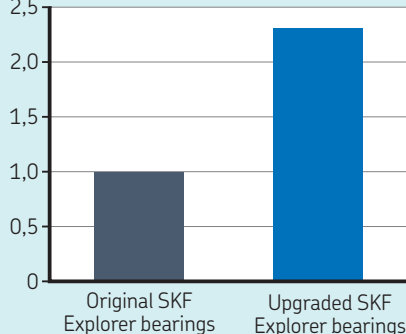
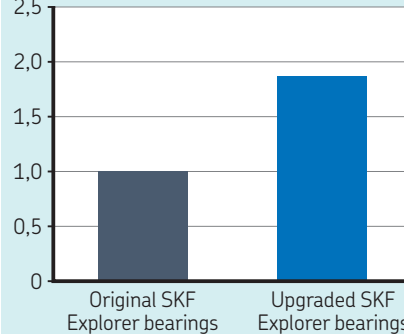


Diagram 3

Service life under contaminated conditions

Relative service life



Test conditions

Lubricant: Turbo T 68 mineral oil containing 3 g/l of cast iron powder  
 $\kappa = 1,2$   
 $C/P = 3,4$

Speed: 525 r/min  
 Running time: 72 h  
 All components were weighed before and after the test

Test conditions

Bearings: 22220 E  
 Load: 140 kN  
 Speed: 1 500 r/min

Lubricant: Turbo T 9 mineral oil  
 $\kappa = 0,45$   
 Temperature: 75 °C

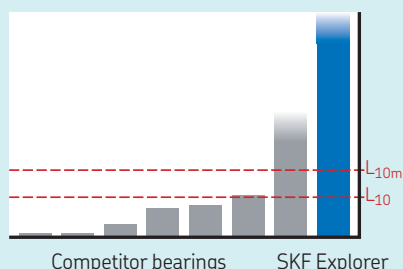
Test conditions

Bearings: 22220 E  
 The bearings were run-in under contaminated conditions.  
 $\eta_c = 0,2$

Operating conditions after cleaning  
 Load: 140 kN  
 $C/P = 3,0$   
 Speed: 1 500 r/min  
 Lubricant: Turbo T 68 mineral oil  
 $\kappa = 2,1$

Diagram 4

Bearing life



Test conditions

Test results of SKF Explorer performance class spherical roller bearings compared to competitor bearings.  
 Bearing basic designation: 22220  
 Sample: 35 bearings per brand  
 Load: 140 kN  
 $C/P = 3,0$   
 $\kappa = 1,76$   
 Speed: 1 500 r/min

Upgraded SKF Explorer spherical roller bearings

Upgraded SKF Explorer spherical roller bearings are identified on the packaging, and the bearing outer rings are marked "WR".



A complete assortment for vibratory applications

SKF offers spherical roller bearings for vibratory applications in the 223-series, identified with suffix VA405, or VA406 (PTFE coated cylindrical bore).

Table 3

SKF Explorer spherical roller bearings for vibratory applications

d	Bearing	VA405	VA406
mm	-	-	-
40	22308	•	
45	22309	•	
50	22310	•	
55	22311	•	
60	22312	•	
65	22313	•	
70	22314	•	
75	22315	•	•
80	22316	•	•
85	22317	•	•
90	22318	•	•
95	22319	•	•
100	22320	•	•
110	22322	•	•
120	22324	•	•
130	22326	•	•
140	22328	•	•
150	22330	•	•
160	22332	•	•
170	22334	•	•
180	22336	•	•
190	22338	•	•
200	22340	•	•
220	22344	•	

skf.com

© SKF and SKF EXPLORER are registered trademarks of the SKF Group.

© SKF Group 2019

The contents of this publication are the copyright of the publisher and may not be reproduced (even extracts) unless prior written permission is granted. Every care has been taken to ensure the accuracy of the information contained in this publication but no liability can be accepted for any loss or damage whether direct, indirect or consequential arising out of the use of the information contained herein.

PUB BU/P9 06551/2 EN · May 2019