

Schaeffler Global Technology Solutions

Pulp and paper

Conversion of Dryer Roll to Self Aligning Cylindrical Roller Bearing

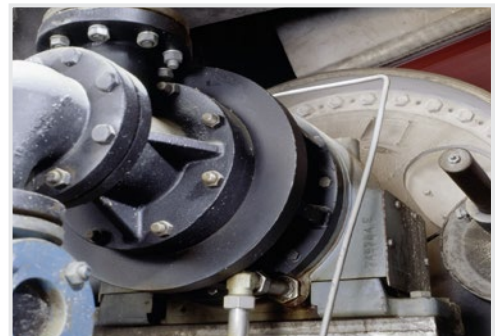
The customer is a leading European manufacturer of virgin-fibre paperboard.

Challenge for Schaeffler

A certain amount of linear expansion takes place as the dryer rolls heat up. To compensate this expansion, spherical roller bearings with a rocker block housing were mounted in the non-locating bearing position. An increased level of vibration near the dryer rolls caused wear of rocker blocks and supporting plates, which in turn caused increased vibration problems. As well as impairing the quality of the paperboard, this unacceptable vibrations led to premature bearing failures.

Schaeffler Solution

A self aligning cylindrical roller bearing (SACR) has been mounted in the non-locating position of dryer roll. The rocker blocks and plates have been removed and replaced by adapter blocks by means of which the existing housing can be fastened to the machine frame. The necessary modification was carried out by Schaeffler UK engineers and contractors. Schaeffler UK engineers designed the adapters which have been manufactured by Schaeffler UK Llanelli.



Technical Information about the Plant

Paper machine

Manufacturer:

Beloit

Paper grade:

Multilayered Folding Box Board (FBB)

Web width:

5 650 mm

Speed:

450 m/min

Production capacity:

200 000 t/a





Shaft ready for bearing mounting



FAG self aligning cylindrical roller bearing (SACR)



Mounting work at dryer roll

Customer Benefit

The use of a SACR bearing has reduced the vibration in this part of the machine which enables the customer to keep their high quality standards.

The change to this arrangement has only taken approximately 1.5 hours while the new SACR bearing offers a long service life and best maintenance.

Savings due to fast bearing replacement	
Common replacement time: 3 hours	€ 15 000
Current replacement time: 1.5 hours	€ 7 500
Savings:	€ 7 500

Due to Schaeffler's good cost-performance ratio this solution also saved the customer around 1 000 euros compared to a new housing and bearing by a competitor.

What's special

This solution can also be applied to other paper machines with rocker block housings.

Technical Information about the Solution

Original bearing in the rocker block housing:

Spherical roller bearing
22238-K-MB-C4

Conversion to FAG bearing:

SACR bearing
Z-566170.ZL-K-W209B-C5

Conversion procedure:

- Dismounting of the rolling bearing and housing
- Removal of the rocker blocks and plates
- Replacement with adapters for fixing the housing to the machine frame (no modification of oil inlet and outlet required)
- Mounting of SACR bearing