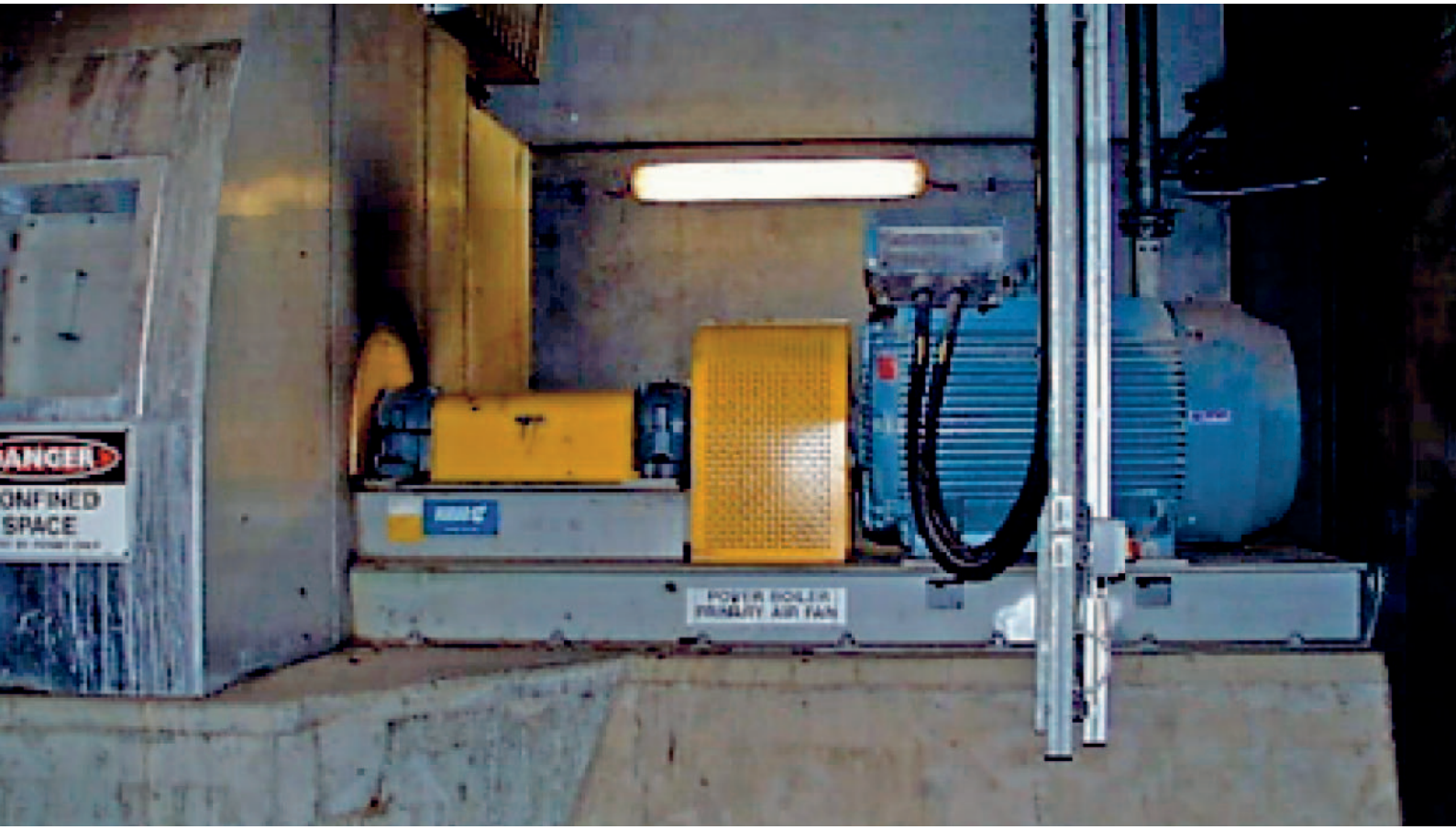
Split Spherical Roller Bearings in Fans

FAG

Examples of Application Engineering

WL 22 503 EA



Radial-Fan Koja KSB-071/090-7

Photo: VISY Pulp and Paper, Tumut

Visy Pulp and Paper is a part of Visy Industries, a company owned by the Pratt family. Visy Industries was established in Melbourne, Australia in 1948. Visy Industries employs more than 8 000 people in Australia, New Zealand and in the USA. Visy Industries now operates nine paper recycling machines, seven in Australia and two in the USA. Together the machines produce more than 1,6 million tonnes of packaging paper paper of which 1,35 million tonnes is 100% recycled testliner, coated liner and plasterboard liner as well as 270 000 tonnes from virgin unbleached kraft.

In addition, Visy Pulp and Paper operates an off-line coating operation which coats either clay or barrier coats to Visy's recycled or kraft liners.

This added value operation allows Visy Board's preprinting facility to print sophisticated prints for demanding high end graphics.

The Power Boiler Primary Air Fan is one of the most critical fans within the plant, if this fan stops, the plant stops. The impellor end bearing was detected as critically damaged and required urgent replacement.

To keep the shutdown of the machine as short as possible, a split FAG spherical roller bearing was mounted.

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Technical Data

Fan-Type	Radial-Fan Koja KSHB-071/090-7
Drive	Direct Drive with clutch
Revolutions	1 488 rpm
Power	315 kW
Air volume stream	15,94 m^3/s at 0,12 bar
Temperature	60–70 °C
Environment	Dusty

Arrangement

The former bearing arrangement had two separate plummer block housings with solid spherical roller bearings 22224-ES-K-C3 with H3124 adapter sleeve. Because the fan had to be completely disassembled for the change of the bearing, FAG recommended using a FAG split spherical roller bearing **222SM110-TVPA**. Split bearings can be installed in existing arrangements without removing any of the existing components. The only work required is to open the housing and after jacking up the shaft, to remove the load from the bearing, cutting out the old bearing and installing the new split bearing.

Tolerances

Shaft tolerance **h7** / Housing tolerance **H7**

Lubrication

The relubrication is realized with grooves and bores in the outer ring and by the use of grease of consistency class 2 like FAG Arcanol Multitop. The relubrication times are equal to those of the unsplit bearing.

Benefits for Customer

For the customer the use of split bearings has some advantages:

- Reduced installation time (from 36 hrs to 6 hrs)
- Reduce manpower requirements (2 people instead of 3)
- No need for use of a crane
- No need for re-alignment
- No need for special tools
- No need to replace the DE bearing

Customer Feedback: "The FAG-Split Bearings saved us many hours. Now we appreciate the savings in down time and the ease of installation".

Split sherical roller bearing with split moulded cage of glass-fibre reinforced polyamide or with a split machined brass cage.

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