



Koepe Hoist / Drum: MAG with large split pulse wheel for improved control accuracy

- Custom-made attachment solution with pulse wheel diameter of 1300 mm
- Easy retrofit solution thanks to split pulse wheel and adapter ring
- Significantly higher resolution in comparison with original tooth wheel scanning solution
- Optimized sensor systems compensate eccentricity to ensure the drive pulley runs true



Before: The resolution of the existing optical tooth wheel scanning solution is no longer sufficient for high-precision speed control.



After: The tailor-made magnetic encoder system MAG 1300 provides 2460 square pulses per revolution.

Task

The objective is to improve the accuracy of the closed-loop speed control system on a Koepe winder with an integrated motor. The resolution of the existing inductive tooth wheel scanning solution no longer meets customer requirements, so that a new sensor system is needed. The Koepe principle utilizing an integrated motor sees a drive pulley rotate around a fixed axle. Consequently, the magnetic scale of the speed measuring sensor cannot be attached to a rotating shaft. The task was made even more difficult by the fact that the drive pulley runs out of true (eccentricity) by several millimeters, which is something the measuring system must compensate.

The Hübner Giessen solution

An encoder system was developed to meet the exact requirements of the application. This consists of a pulse wheel with a diameter of 1300 mm and a magnetic scale. The pulse wheel has a split design consisting of two halves to considerably simplify installation. Both pulse wheel halves are precisely bolted to an equally split adapter ring fastened to the drive pulley. The sensor system is well-protected in a scanning head, which is fastened to a fixed part of the Koepe winder with a special bracket. Optimized at the maximum gap between the pulse wheel and scanning head the measuring system supplies 2460 square pulses per revolution.

Products

- MAG incremental
- Engineering support