

New bull gears for extraction towers



*Segmented
bull gear*



*Lubrication
during operation*

In the past, it was usual practice to use single-piece bull gears with a diameter of up to 7,100 mm weighing about 15,000 kg for extraction towers. These dimensions and weights lead to considerable problems not only during transportation, but also during erection. In the course of the further development of drives for extraction towers, BMA introduced the segmented module-20 bull gear for new plants as early as 2003.

It has to be taken into account that the bull gear of an extraction tower represents a highly loaded component that is also subject to natural wear. In collaboration with our preferred drive supplier, we have therefore developed a replacement system for existing plants with module 14, which is also composed of individual segments.

This bull gear consists of the highly flexible material Kymenite, which is used in the non-hardened state. Each of the segments is machined with high precision, which also allows for the exchange of single segments. Unlike the materials used so far, this material does not tend towards crack formation.

Another advantage is the delivery in segments. Depending on its diameter, the bull gear is delivered in 17 to 18 segments, each weighing a maximum of only 1,000 kg. Usually, these segments can be lifted by the existing crane in the drive shelter.

Last year, BMA performed a total of three conversions, two towers at Nordzucker, Uelzen and one tower at DANISCO, Örtofta. Despite an extremely tight time schedule, the plants could successfully go on stream again for the 2006 campaign.

Hartmut Stolte

Benefits

- Improved quality
- Reduced cost for disassembly and re-assembly
- Short delivery periods
- Low purchase price