

## Bucket elevator drive units with auxiliary drives for the cement industry.

Bucket elevators convey bulk materials such as the raw materials of limestone, clay and sand for the cement industry. These materials are conveyed across significant hoisting heights. The elevators are therefore an important part of this production chain. The drive units used must be designed for continuous operation and need to be modified with additional options such as auxiliary drives...



### Applications:

In cement works, the elevators are used in the area of the tube mill or the cement mill. Conveying the relevant materials for the individual process stages to the separators is ensured by using reliable drive units.

The material being conveyed is fed in at the lower diversion point (elevator base) and discharged at the top diversion point (elevator head).

A bucket elevator drive is always located at the top diversion point and has a backstop to prevent accidental elevator return should there be a break in operations.

### Gear unit design:

The gear unit used is a 3-stage helical bevel gear unit. A VOITH 487TV fluid coupling (see figure 1) is installed between the motor and gear unit. The coupling ensures a gentle start-up of the heavy loads, and it also limits the torque during start-up and acts as overload protection for the motor and the working machine.

The coupling design must be appropriate for the bucket elevator data calculated, and the coupling is filled with oil in line with the power levels calculated. The gear unit is equipped with an integrated backstop and has an auxiliary drive mounted on it.

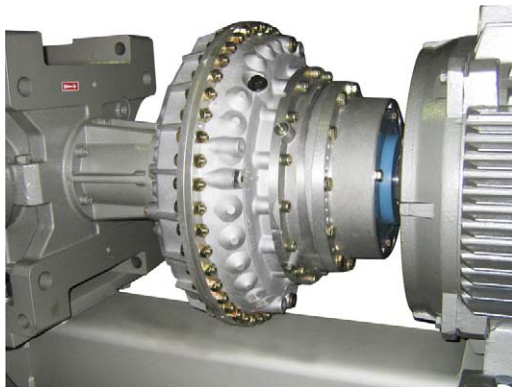


Fig. 1: VOITH 487TV fluid coupling

### Gear unit data:

KSS RXO2 818 – O140 WN RSG FK 316M4

- Motor power: 132kW
- Output speed: 28rpm
- Output torque: 45021Nm
- Nominal output torque: 61300Nm
- Auxiliary drive: 15kW, 2.7rpm

### Gear unit design:

- Backstop in the gear unit
- Shrink disc hollow shaft ( $d_H = 160\text{mm}$ )
- Fluid coupling
- Auxiliary drive (helical bevel geared motor)
- Swing base with elastic bush (60 Shore A)

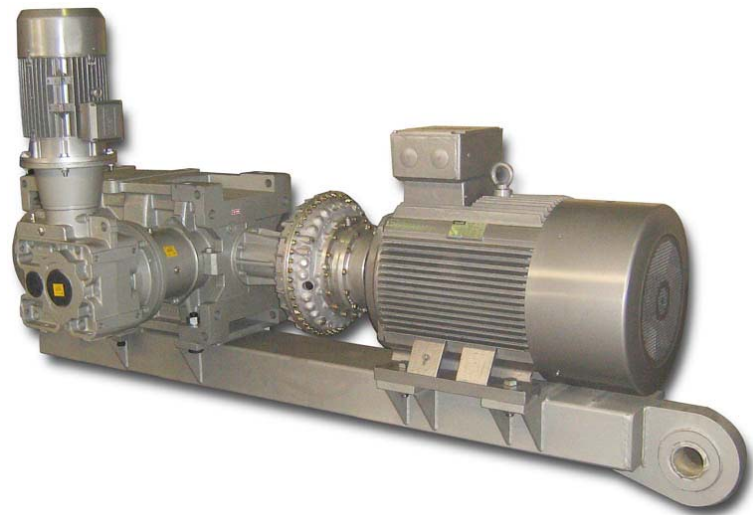


Fig. 2: KSS RXO2 818-O140 WN RSG FK 316M4

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