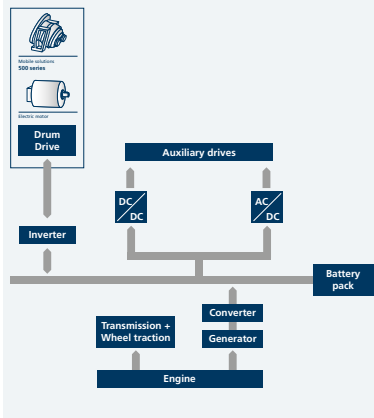


500 series: drum drive with electric motor

Functional diagram



Solutions for hybrid concrete mixers.

This solution is designed for use with medium/ large mixer trucks that have medium/long delivery distances to travel. Drum rotation speed is between 15 and 22 rpm and capacity between 6 and 14 m³. Bonfiglioli innovative solution comprises a gearbox of Bonfiglioli's historical 500 Series coupled to an AC electric motor that provides normal power and a DC electric motor for emergency use. This solution not only guarantees greater energy efficiency and reduced fuel consumption, but also helps cut cement mixer truck operating costs (for example by extending service intervals and making servicing simpler than on hydraulic drive solutions). Performance is improved too: rotation speed control is more accurate, operating noise levels are significantly lower (thanks to the electric motor and the helical tooth profile of the high speed gearbox stage).

Finally, functionality remains higher in the event of a failure: the presence of a second, backup DC motor gives reassuring redundancy and eliminates the risks and potentially hazardous situations caused by failures of the drum emptying system (if the drum cannot rotate, the cement can solidify and put the mixer truck out of action).

Main benefits

- Increased Energy Efficiency
- Reduced fuel consumption
- Service intervals less frequent and simplified vs the standard hydraulic solution
- Better drum rotation speed control
- Optimised gear design for maximum efficiency and minimum noise
- The emergency electric DC motor allows a higher availability in case of machine failure

Solution main features

Gearbox data

Ratio

Main: 1:220

Emergency: 1:2200

Max output torque

Main: 60000 Nm

Emergency: 10500 Nm

Max input speed

Main: 3500 rpm

Emergency: 2000 rpm

Oil quantity

8 lt

Dry weight

328 kg

Motor data

Type

Main: Induction AC

Emergency: PM DC motor

Rated Power

Main: 40 kW

Emergency: 2 kW

Voltage

Main: 170 Vac

Emergency: 24 Vdc

Protection degree

IP66

Cooling

Main: Liquid

Emergency: Air forced

