Electromechanical drive system for Mixer

The demand for fuel consumption, higher efficiency and reduced noise emissions puts manufacturers of construction machinery operating in an increasingly challenging environment. Legislative changes and new guidelines for improving air quality mean that driving and working restrictions in cities, particularly for diesel engine vehicles, will continue to grow. To that end, ZF is developing low-emissions solutions for mixer applications. The electric-CMe Mixer Drive enables to operate the concrete mixer drum with zero emissions in downtown construction sites. The new mixer system raises the bar for efficiency, productivity and noise without neglecting the total cost of ownership.

ECOMIX CMe

The new electro-mechanic transmission (CMe) concept is replacing all hydraulic components. The Transmission is now driven by an integrated powerful PMSM machine with up to 100kW.

The System can be powered by the HEVs (hybrid electric vehicle), BEVs (battery electric vehicle) or FCEVs (fuel-cell electric vehicle) with an on-board high-voltage (HV) Battery.

Even with a HEV system, the truck can turn off its engine on the construction site as well as in the mixing plant and let the drum run independently and emission-free, powered by the high-voltage (HV) battery.

- Up to 12 m^3 mixing capacity
- Up to 64,000 Nm output torque
- E-motor power (liquid cooled):
  - Continuous power: 60 kW
  - Peak power: 100kW
- Battery voltage: 650 V (DC)
- Emission-free operation
- Less fuel/energy consumption
- Low noise level
- Lower CO_2 emissions

ZF Driveline Technology for electric Mixer

Product and performance classes

Mixing capacity	Transmission	Total ratio	Output torque	Installation angle max.	Electric motor
Class up to 12 m³	CMe 12	308	64,000 Nm	20°	PMSM