

Robust electric drives for construction machines

New electrifying solutions

Bonfiglioli is convinced that around 50 percent of all new self-propelled construction machines will be either electrically or hybrid driven by 2030. So it is high time for the globally active group based in Bologna, Italy, to take on the electric pioneering role in the machine groups that have previously been dominated by hydraulics. At bauma 2022, the company is presenting the current options for electric drive technology for construction machinery.

Based on a new development of a series of permanent magnet electric motors with a Bonfiglioli typical housing design in connection with the proven design principles of planetary gears, Bonfiglioli has succeeded in meeting the requirements of construction machinery manufacturers with a modular system. In addition to the basic technical properties and robustness, it is also the wide range of power and torque that is particularly appreciated by machine builders. Everyone also benefits from Bonfiglioli's IIoT experience, which is reflected in specific hardware and software products. Connectivity, models and analytics, edge computing and gateway technology up to the cloud with corresponding dashboards for the user are available.

Brand new electric drive concept

The new electric drive series itself is scalable in three diameters, each with several lengths of the electric motor. The concept thus allows a power range of 4 to 150 kilowatts for the series. With the motor diameter of 230 millimeters presented at bauma 2022, three lengths with 4, 7.5 and 15 kilowatts are available. Further diameter/length combinations are in preparation. In other words: The electric drives are suitable for very different performance requirements and installation conditions.

The electric drives, which can be used as travel and swing drives, are designed in principle in such a way that, like their hydraulic models, they have all the technical necessities and properties. The electric motor in its robust housing is air-cooled and corresponds to protection class IP67. The core of the drive, the permanent magnet motor itself, is maintenance-free. It is equipped with temperature and speed sensors. A single or multi-stage planetary gear is flanged directly to it, which is defined according to the requirements of the machine manufacturer. Its maintenance intervals are long, and maintenance itself is very easy thanks to the smart design. Other helpful features are that the planetary gear can be mechanically disengaged in order to be able to move the machine without blocking and also the integrated parking brake, which is released electrically.

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Bonfiglioli-FaustoCarboni.jpg



CEO Fausto Carboni presents the new electric drives for construction machinery at bauma 2022 in Munich.

Bonfiglioli-NEWeDrive-swing.jpg



New electric drive for construction machines from Bonfiglioli, here in the version as a swing drive.

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