

Drum drive for concrete truck mixers

500



BONFIGLIOLI

Mobile Equipment Drives for Building Industry Machines

Product diversification, process automation, and quality have enabled Bonfiglioli to play a leading role in the industry. Bonfiglioli's policy focuses on integrated solutions, competence and innovative technology as key factors, indispensable to ensure customer satisfaction, while production is aimed at achieving the highest standards.

Bonfiglioli product portfolio meets the toughest and most sophisticated requirement for Industrial Process and Automation Solution and for Mobile Equipment Solutions.

Such market areas are covered through the following Product Lines:

 **BONFIGLIOLI
RIDUTTORI** representing Helical, Bevel
and Worm Gearmotors and Gear Units

 **BONFIGLIOLI
TRASMITAL** representing Planetary Gearmotors
and Gear Units

 **BONFIGLIOLI
VECTRON** representing AC drives



Drives for building industry machines

TRASMITAL BONFIGLIOLI presents its new line of drives for truck mixer use. The newly designed product replaces drives from current production, which totalled 60,000 units sold and satisfactorily installed world-wide.

The renovated 500 series benefits from the experience gathered with the former product style, maintaining and enhancing the positive features that were appreciated by numerous OEM's and users in a variety of operating conditions.



At the same time market feedback was considered when redesigning the new 500 series that now sees new features added, eliminating weaknesses and limitations of the older design.

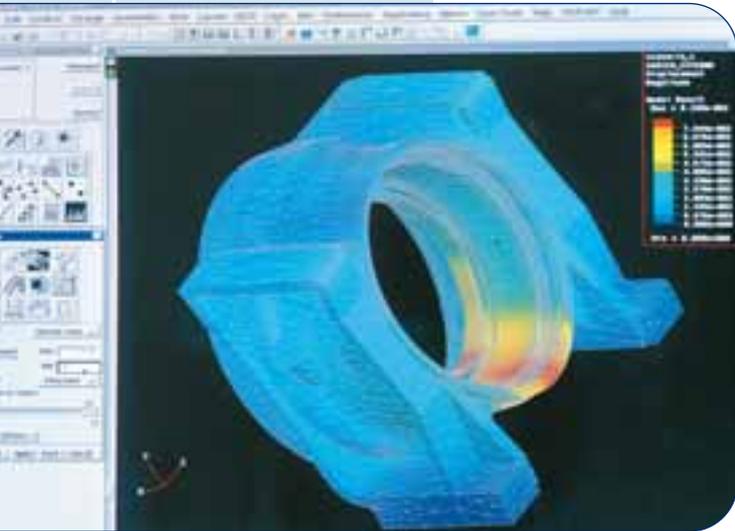
When elaborating the specifications for the new gear units, both design and production wise, stringent guidelines prioritised the highest reliability along with overall price competitiveness.

The new truck mixer drives therefore feature:

- Innovative construction
- New design concept
- Compact dimensions
- Reliability
- Easy installation
- Reduced maintenance

Series is made up of three models, namely type 575, 577 and 580 covering the requirements of truck mixers in the 6 through 12 m³ mixing range.

Drum drive for concrete truck mixers from 6 to 12 m³



The newly designed drives of the 500 series benefited from the most modern technologies available today. The design was developed entirely on CAE 3D, which produced solid models of both single component parts and the complete drive unit.

The main parts, including safety components, underwent FEM analysis for optimisation of geometry and stress condition.

Extensive prototyping has been conducted, including severe endurance testing. A specially developed test bench was used to simulate and amplify the duty cycle of drives operating on truck mixers, with particular reference to:

- Torque and power transmission
- Loads generated by the drum, both statically and dynamically.
- Tilting under load due to bending of truck chassis during travelling on roads as well as on building yards.



Production of planetary drives at TRASMITAL BONFIGLIOLI benefits from a highly specialised and automated manufacturing plant with its output of planetary drives representing a significant share of the total production of power transmission equipment from the BONFIGLIOLI GROUP.

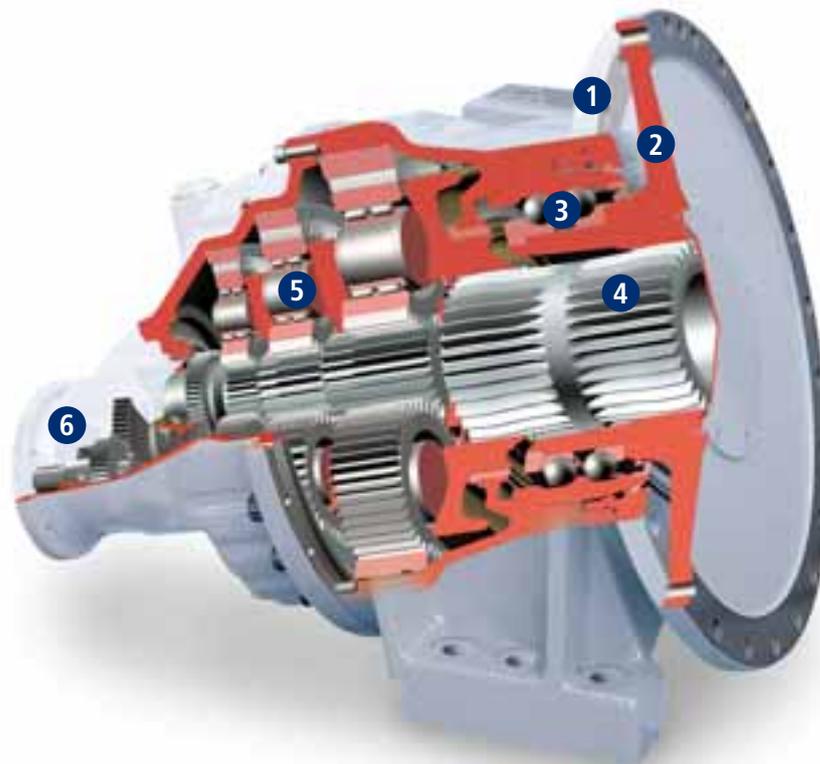


Single component parts are produced with modern, state-of-the-art CNC machinery. Assembling and final testing are also conducted on automated work stations providing consistently high quality standards and excellent cost effectiveness.

Drum drive for concrete truck mixers from 6 to 12 m³**Construction Features**

Gearboxes from the latest generation feature numerous innovative solutions shared by all three models 575, 577 and 580.

Design focus placed on main bearing that supports the load transmitted through the drum, a critical factor on truck mixers.



- ❶ Rotating flange transmits loading from drum to main ball bearing which is double-row, angular contact type.
- ❷ Tilting output flange, allowing for bending of chassis during travelling, unlike competition, is external to main bearing and connected to gear case through a spherical coupling. The final assembly is extremely robust and dependable. A patent applies on this particular technical solution.
- ❸ Main bearing, due to the wide contact angle, offers high rigidity and capacity to bear thrust and radial loads generated from drum.
- ❹ Torque transmission relies on a crowned, twin-spline shaft connecting gearing to rotating output flange. Total tilting angle of output flange is thus equally shared by each spline gear, with the reduced angle resulting into increased lifetime in operation.
- ❺ Gears are planetary type, two or three reductions, depending on model, and are designed to offer absolute reliability in operation, even under the severest duties, for the entire lifetime of the truck mixer.
- ❻ All of the three models:
 - feature hydraulic motor mounting pattern to SAE J744c standard.
 - offer the P.T.O. option for the water pump either on right or the left hand side.
 - can be optionally fitted with pick-up for speed sensing
 - offer same mounting pattern onto: truck frame, drum and water tank for maximum standardisation.
 Require a minimum of maintenance as periodical oil change is only necessary.

Quality has Always Been the Distinctive Trait of Bonfiglioli

Total quality for customer satisfaction: this is the underlying concept of the Bonfiglioli philosophy. The Bonfiglioli Quality System applies to all the activities conducted in all production sites. This synergical approach translates into a common Quality Management throughout the Company, which ensures that every process is carried out according to the ISO 9001 : 2000 standards.



For Bonfiglioli, this involved significant changes in all areas of the company, as well as substantial investments. By achieving the ISO 9001: 2000 certification, the Bonfiglioli facilities proved their ability to design, produce and guarantee a quality product.

The Bonfiglioli Group can flaunt the European record scored by its division, who were the first to obtain a quality system certification from two different internationally acknowledged authorities, members of Sincert: Det Norske Veritas and TÜV.

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