



Transmission Technology  
for Transport Mixers



Innovations  
of Great Value.



## ECOMIX II: The new generation of ZF transmissions for transport mixers



In driveline technology for concrete mixers ZF is extending its lead in the world's market. Vehicle manufacturers from the USA to China put their trust in the high quality of ZF mixer transmissions. ZF fulfills this demand through continual product innovation.

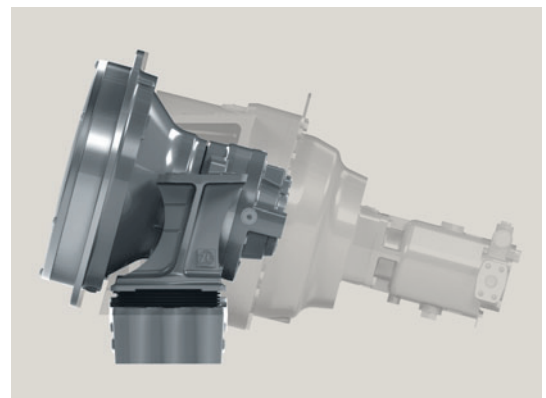
ZF has developed the new generation of the ECOMIX range type CML (Concrete Mixer Lowspeed) for transport mixers up to 10 m<sup>3</sup> drum capacity and an output torque up to 62,000 Nm. Mixer transmissions ECOMIX II are based on the achievements of the first Ecomix generation, however, they are smaller, lighter, tougher, more flexible, quieter, more noise reduced and easier to service.

The Ecomix II transmission CML 10 in comparison to previous models is approx. 24 % lighter and 50 % shorter. However, the special design of the new mixer transmission range Ecomix II also offers a wide range of further advantages. Thanks to a tough bearing concept it was possible to significantly increase the output bearing strength, which leads to less sensibility at off-road operation. The use of patented Elastomer units from ZF Boge Elastmetall allow an increase of the axial runout at drum bottom and an increase of misalignment of the drum. With the new bearing concept the installation angle is no longer dependent on drum size and drum filling. An installation angle up to 20° is always possible. Acoustic and mechanic decoupling of

drum and vehicle frame leads to considerable noise reduction during operation and improved driving comfort.

The service-friendliness has been improved by an adapted, weight-optimized slow running radial-piston motor and a separate oil volume for the transmission, as well as better accessibility. Instead of the previous sealing collar, a cassette seal is used, making the transmission more robust and increasing the service life. The transmission is fitted with lifetime oil lubrication.

This saves costs and preserves the environment. The compact lightweight construction also offers the vehicle manufacturer more design freedom.

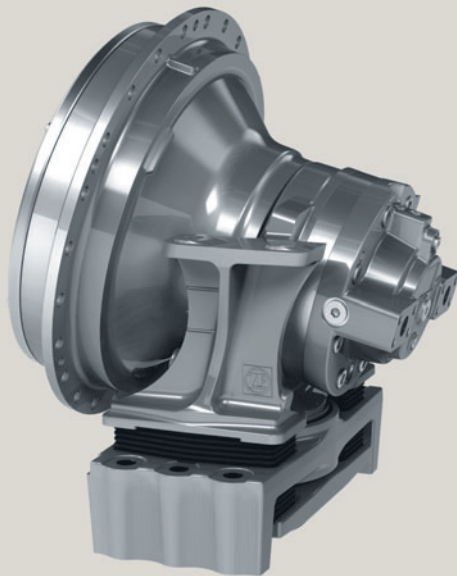


### The new ECOMIX II

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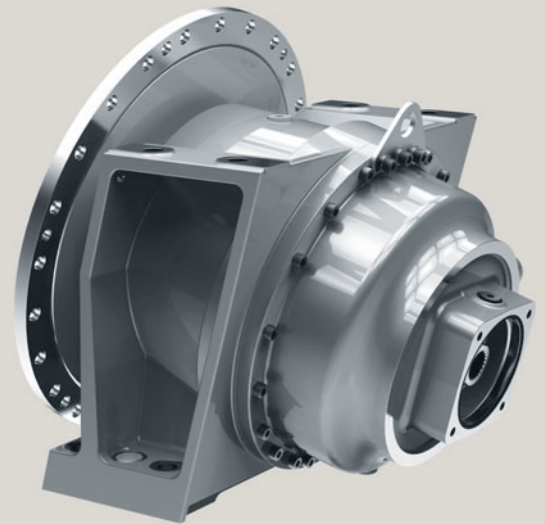
**ZF-ECOMIX II**

CML 8  
CML 10



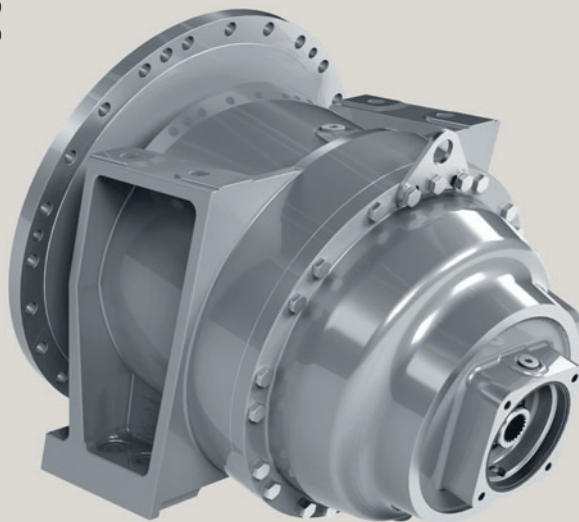
**ZF-ECOMIX I**

P-3301



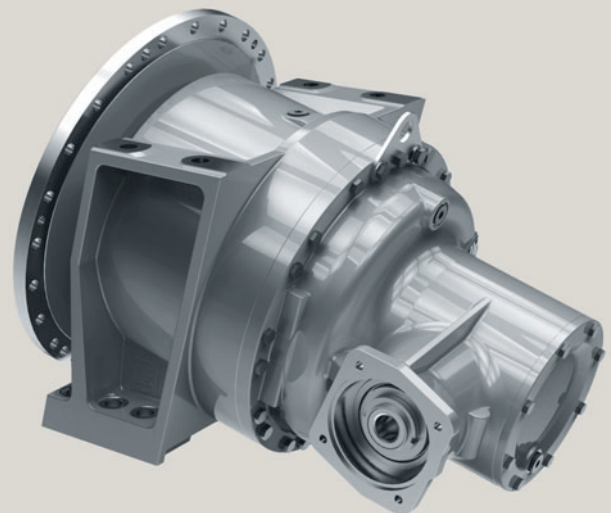
**ZF-ECOMIX I**

P-4300  
P-5300  
P-7300



**ZF-ECOMIX I**

PK-7500



**Compact power packs from ZF for the world of concrete**

The experience of more than 300,000 mixer gearboxes in the rough and tough concrete mixer market, led ZF to their newest gearbox development, the ECOMIX II family. With the CML 8 and the CML 10 ZF designed a new gearbox range, which fulfills with the revolutionary design all the requests, OEM and enduser expect from a modern drive.

Weight saving, low noise, increased life time, easier maintenance and assembly and eco friendliness are all features of the new range. In addition to the new range, ZF continues to offer the well proven P-Series which has been continuously upgraded in design and specifications.

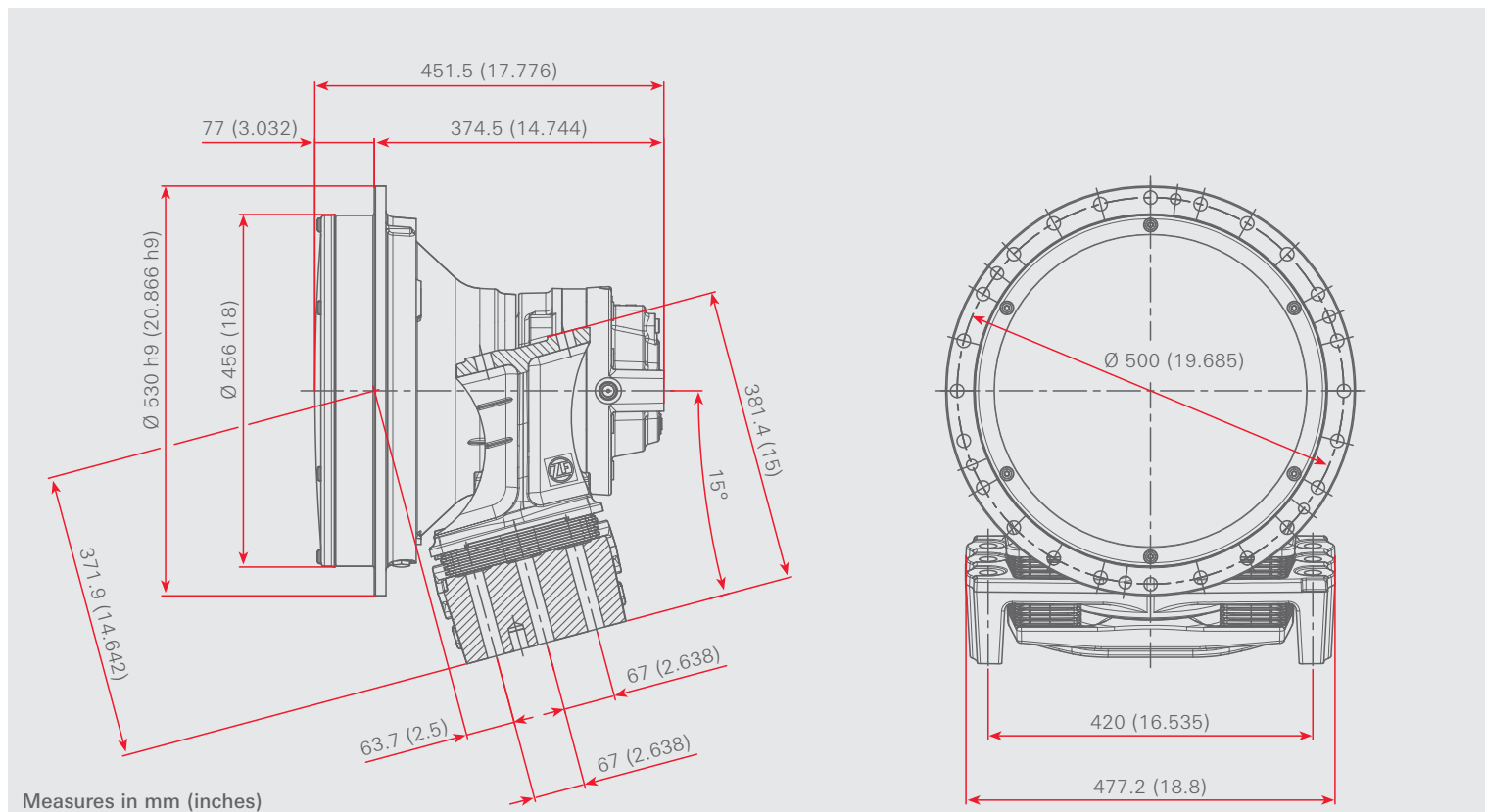


Weight savings, combined with low noise and environmental protection as well as easier maintenance are main aspects required by modern markets.

#### Main product advantages of ZF-ECOMIX II

- **Smaller**  
The new drives are up to 554 mm (21.8") shorter than comparable systems.
- **Lighter**  
Significant weight reduction up to 24 % due to the revolutionary design.
- **Tougher**  
Improved robustness in off-road operation because of the new tough bearing concept.
- **More flexible (installation)**  
The compact design offers different options in the entire truck design as well as flexibility on the drum installation angle up to 20°.
- **Quieter**  
Low noise because of decoupling of drum and vehicle frame via elastomer unit and low-speed motor.
- **Vibration isolation**  
Vibration absorption via elastomer unit, which improves the driving comfort.
- **Easier maintenance**  
Weight optimized hydromotor and life time oil filling offer considerable advantages and cost savings.
- **Improved installation conditions**  
The handling of the gearbox is much easier (since smaller and lighter), accessibility for pedestal and watertank bolt connection is improved, and the welding of stop bars can be avoided.

#### Key measures of ZF-ECOMIX II



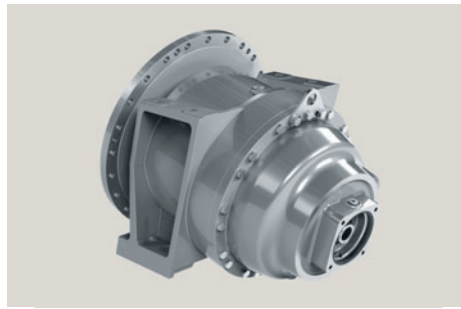


**ZF-ECOMIX II**  
CML 8 / CML 10

**Applications**  
Transport Mixer

**Product features**

- For 6-10 m<sup>3</sup> mixing capacity
- With elastomer bearing
- With adapted low-speed radial piston motor
- With life time oil filling

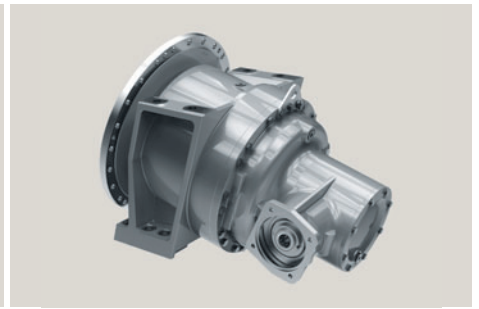


**ZF-ECOMIX I**  
P-3301 / P-4300 / P-5300 / P-7300

**Applications**  
Transport Mixer

**Product features**

- For 6-12 m<sup>3</sup> mixing capacity
- Two planetary stages
- To be driven by high-speed hydro motor
- Without oil filling



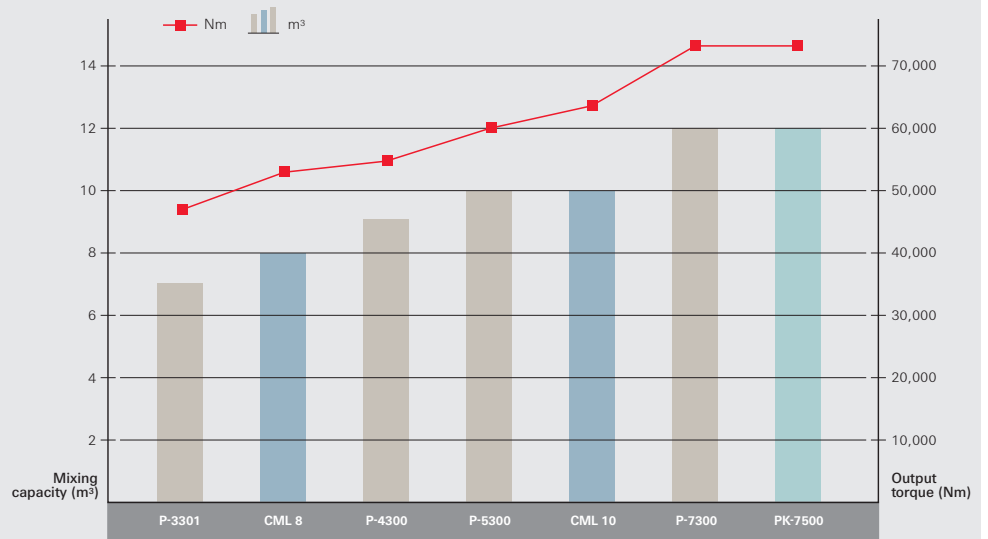
**ZF-ECOMIX I**  
PK-7500

**Applications**  
Transport Mixer

**Product features**

- For up to 12 m<sup>3</sup> mixing capacity
- With input via angle drive 90°
- To be driven by high-speed hydro motor
- Without oil filling

For various requirements and numerous classes of transport mixers, ZF offers a finely graded range of transmissions.



**Technical data ZF-ECOMIX series**

Model		P-3301	CML 8	P-4300	P-5300	CML 10	P-7300	PK-7500
Drum capacity (mixing capacity)	m <sup>3</sup>	7	8	9	10	10	12	12
	yd <sup>3</sup>	9.2	10.5	11.8	13.1	13.1	15.7	15.7
Output torque	Nm	48,000	52,000	54,000	60,000	62,000	72,000	72,000
	lb-ft	35,400	38,400	39,800	44,300	45,700	53,100	53,100
Max. installation angle of drum		15°	20°	12°	11°	20°	10°	10°
Max. input speed of hydro motor		2,500	120	2,500	2,500	120	2,500	2,500
Displacement hydro motor	cm <sup>3</sup> /rev	-	1,120	-	-	1,340	-	-
	in <sup>3</sup> /rev	-	68.32	-	-	81.74	-	-
Total ratio		141.0	7.77	135.3	135.3	7.77	144.3	138.6
Transmission weight without oil	kg	242	280	335	340	285	350	370
	pound	532	616	737	748	627	770	814
Oil volume	dm <sup>3</sup>	7.5	8.0	11.5	11.5	8.0	11.5	16.5
	gallon	1.95	2.08	3.0	3.0	2.08	3.0	4.3

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