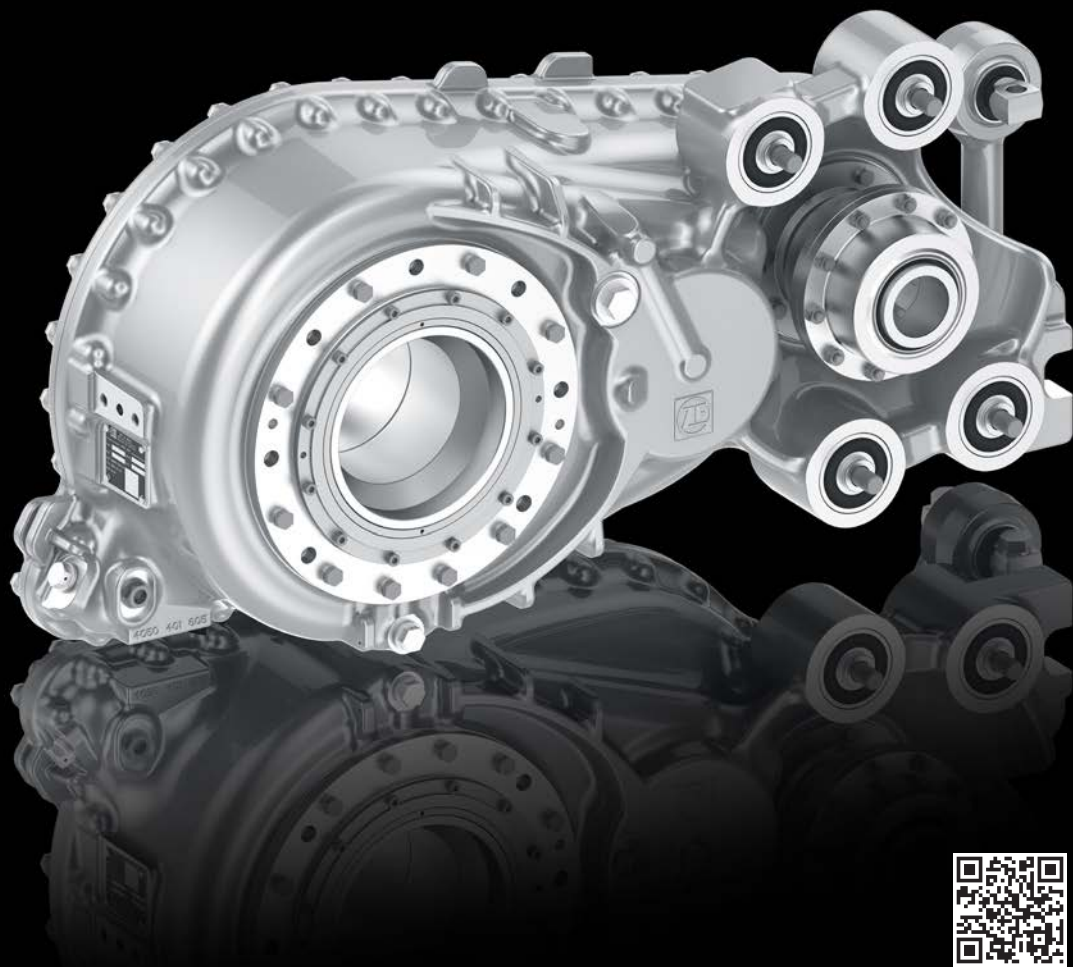


METRO DRIVELINE SYSTEMS

METRO TRANSMISSION FOR LOS ANGELES



MOTION AND MOBILITY

INNOVATIVE AND LIGHT RAIL DRIVES



ZF is the leader in gear boxes and aluminum gear box design/installed base in Europe. For the first time, ZF used aluminum housings for metro transmission for North American EMUs (electric multiple units). This reduces the weight of the metro transmissions.

Low weight and high reliability are the two essential qualities for the construction of electric metro trains. Every kilo saved in the vehicle is available for efficient passenger transport. The operators and thus also the manufacturers of metro trains encourage suppliers to contribute to weight reductions without cutting back on operational reliability.

For the first time, ZF uses aluminum housings in an EMU metro transmission for North America. Compared to the previously common casting process, this reduces the transmission units' weight by 15 percent. That way, the rail vehicle manufacturer can save more than 200 kilos per railroad car. This innovative lightweight construction in conjunction with the easy-to-service design were the decisive factors in awarding the contract to ZF. For the ZF engineers placed an additional focus on long service intervals as early as during product development.

Technical Data Metro Los Angeles

Max. speed	70 mph = 113 km/h
Ratio	$i = 6.426$
Max. input speed	$n = 5,833$ rpm
Max. axle load	23,290 lbs = 10,564 kg
Motor performance	135 kW at 2,221 rpm
Acceleration torque	1,207 Nm
Weight with torque support, without oil	728 lbs (330 kg)

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