

Press release

Easy conversion to IE3 efficient motors

Lenze achieves IE3 without jumps in size

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Being more efficient does not automatically have to mean being bigger. The new m200-P and m500-P three-phase AC motors from Lenze achieve the premium IE3 efficiency class in accordance with IEC60034-30 without any jumps in size compared to IE2 motors. For direct-on-line mains operation with fixed speeds and 400V supply, the m200-P motors offer a power range between 5.5 and 45 kW with a variety of voltages. The m500-P motors cover the same power range and are optimised for use with frequency inverters, but can also be operated straight from the mains.

Compared with IE2 efficiency motors, the two new ranges reduce the amount of energy lost – and therefore also reduce the energy costs – by up to 20 per cent. This is why investment in this economical drive technology pays for itself in most cases within the first two years. Lenze also offers two gearbox ranges with high efficiency levels, the GnG and the g500. Making a change from IE2 to IE3 is made easy by the fact that the axis height remains the same and design changes are therefore unnecessary in most cases. So a frame size 132, for example, remains a frame size 132 with the same flange and shaft connection. Customers expecting an increase in motor length are in for a pleasant surprise – the maximum increase is only 26mm and in several cases the IE3 motor is shorter than the IE2. Lenze have achieved these compact dimensions by the use of higher quality materials and closer machining tolerances.

The m200-P motors are designed for simple fixed speed applications. Costs are minimised by limiting the range of options, although spring-applied brakes are available, and not grading the insulation for inverter operation. The m500-P motors suit more challenging applications. Use with inverters is unrestricted and the full range of options includes brakes, encoders, blowers and plug connectors.

Changing up to IE3 efficiency motors has consequences beyond saving energy. Generally speaking, the inertias, the starting torques and starting currents increase. This may require a re-evaluation of the drive train, for example the gearbox may not suit the increased starting torque. Lenze DSD Drive Solution Designer sizing software can evaluate the effects of such a change and check the service factors. It can even calculate the value of the energy savings.



Thanks to minimal size changes, the new IE3 motors from Lenze can be easily fitted to replace old IE1 and IE2 models.

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About Lenze Ltd

Established 45 years ago in Bedford, Lenze Ltd now has 55 employees and achieves sales of about £20M in power transmission equipment from the Lenze factories and other quality suppliers. Services to UK customers include application engineering, software writing, training, commissioning and service

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