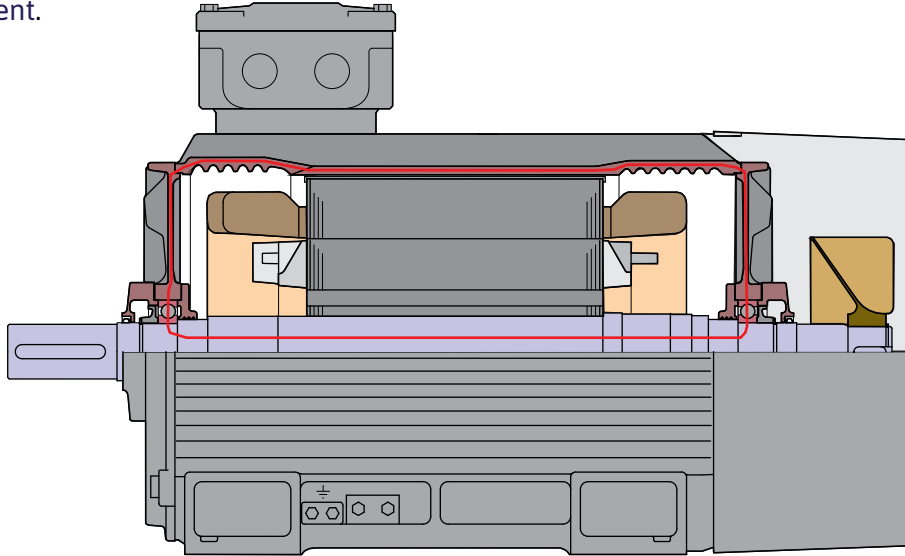


SHAFT VOLTAGE & SHAFT CURRENT

are generated by asymmetries resulting from manufacturing tolerances or by effects of non-sinusoidal voltage supplies. It has been known that **Frequency Inverters** generate non-sinusoidal supply and generate Shaft Voltage and Shaft Current.



The **Shaft Current** discharges through the bearings and motor frame.

Inverter-induced Shaft Current then results in damaging the inner race of the bearing and its premature failure. It is therefore common practise to use insulated bearing at NDE (Non Drive End) so the flow of the Shaft Current is prevented and the damage of the bearings avoided.

To insulate one of the bearings is generally recommended for motor frame sizes 225 and larger when motors are used for VSD application.

Insulated bearings are expensive to buy. The life of electric motors is much longer than the life of their bearings. This means that bearings need to be replaced a few times during the life time of electric motor and if an insulated bearing needs replacing the cost of ownership is increased.



MEZ Electric Motors do not use insulated bearings but insulate the shaft under the NDE standard bearing instead. This solution is much cheaper at the stage of motor ordering and when the bearings need replacing at the end of their life, standard bearings are cheaper to replace and the cost of maintenance is kept low.

