Your reliable service partner for manufacture, overhaul and repair of impedance bonds

Impedance bonds are a critical aspect of rail infrastructure. The repair and manufacture of these bonds should not be left to chance. At Sulzer we control the entire process, from sourcing the best quality components through to the manufacture and final assembly of the product, to ensure that you have a premium quality product that will give years of trouble-free operation.

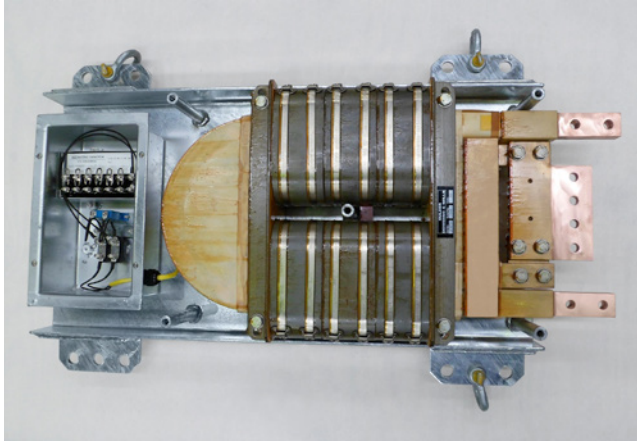
Operating one of the largest service networks in the industry, Sulzer is close to you with more than 100 service locations and more than 15’500 employees around the world.

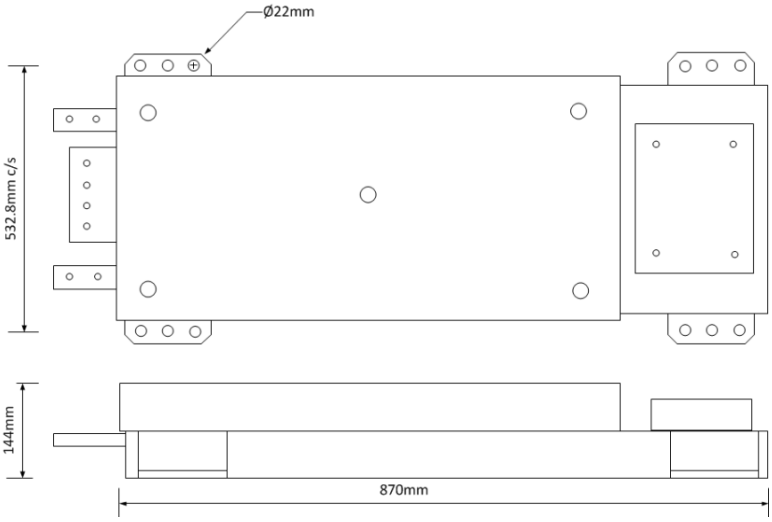
Customized solutions

Customized solutions significantly contribute to the optimization of operational efficiency. The reduction of maintenance costs results in lower operational expenses. The new Sulzer impedance bond has an additional multi-turn winding that is resonated at 50Hz by an adjustable capacitor.

The capacitor is housed either within the bond or in a nearby trackside shelter. The resonating bond achieves the same impedance with fewer winding turns. In fact, Sulzer even achieved impedance that is ca. three times greater than that of a non-resonated bond. As the winding’s length and resistance are reduced, the bond can carry considerably higher traction current without overheating.

- Style 2000R impedance bond
- Improved design
- Up to 4’000 amps





Construction

The coil and core assembly is clamped to a heavy folded steel base plate and continued overleaf providing a strong and quality casing. The traction winding of the style 2000R bond is fabricated from a 1 1/2in x 1in high-conductivity copper busbar formed on edge into two 'U' shaped pieces which are interconnected by a silver-soldered busbar to form a flat two-turn coil. Two coils are stacked to make a four-turn centre-tapped traction coil.

Within the tractions coil is the multi turn winding used for resonating the bond. The straight sides of both traction and resonating coils are enclosed by gapped 'C' cores. The complete assembly of coils and core are Vacuum Pressure Impregnated VPI with F - Class resin. The busbar ends of the traction windings are extended and drilled for direct bolting of bond-to-rail cable lugs (two per busbar).

The busbar ends forming the winding centre tap are interconnected by a heavy copper plate which is drilled for connection of bond-to-bond and cross-bonding cable lugs.