



- Quality
- Reliability
- Increased output

## High Voltage Coil Manufacturing for Hydro Power Generation

Sulzer is your global partner with reliable and sustainable solutions for your key operations. You benefit from repair and maintenance services for pumps, turbines, compressors, generators and motors. With one of the biggest service networks comprising more than 100 service centers and more than 3.600 employees worldwide, we are always close to you.

### Generator refurbishment for increased output

From the purpose-built, comprehensively equipped coil manufacturing facility at the Birmingham Service Center you receive high voltage hydro coils designed to match or exceed existing efficiency levels.

Hydro generator insulation systems have a finite life and generally need to be rewound after 40 to 50 years. Refurbishment offers opportunities to redesign the stator coil to improve insulation performance. It is possible to upgrade the generator to provide improved efficiency assuming generator data is available.

Dedicated design software is used to remodel coil insulation systems and calculate machine performance. These models help us to evaluate machine performance with either new coils and/or a new core.



### Manufacturing capabilities

- 2-layer lap and single-layer winding coils for all multi-turn hydro generator stators
- Lap or wave stator bars, with or without Roebel transpositions for any air-cooled hydro generator stator
- Concentric coils either as drop-in concentric or hairpin for semi-closed slot applications
- Proven insulation for all hydro generators



### Transpositions

- Manufacturing of best possible transposition option for your machine
- Inverted turn or group transpositions for generators of less than 30 MW with multi-turn coils
- Roebel transposition with single-turn half bars for generators of more than 30 MW
- Roebel transposition is most effective in controlling circulating current losses. It is possible to reduce the circulatory current losses to zero.



### Quality approved

- Birmingham Service Center operates BS EN ISO 9001 and 14001 management systems
- 3rd party voltage endurance testing to IEEE standards 1043 and 1554
- Thermal cycle testing to IEEE standard 1310

