

TRANSFORMERS



SPECIALIST TRANSFORMER DESIGNERS AND MANUFACTURERS

Ampcontrol is experienced in the design, manufacture and overhaul of customised distribution and power transformers for hazardous area mining, electrical network and industrial applications.

Our robust, high specification, custom designed transformers are proven in the mining industry, where they are known for their quality and durability. We offer competitive transformers for industrial and electrical network applications, through a commitment to optimisation and efficiency.

Our quality designs cover dry and oil type transformers for electrical distribution substations, power generation, voltage regulation, mining, traction and refining applications. We are also experienced in the design and manufacture of transformers using alternative cooling fluids, including ester dielectric fluids, for service levels up to 132kV.

We don't just manufacture transformers, we add value through our solutions based approach to specialised projects. With our broad capabilities and product ranges we are uniquely positioned to integrate our power and distribution transformers with other Ampcontrol products and capabilities including fixed modular, relocatable and transportable substations as well as third party products.

Our range:

- Substation transformers for utilities, mining and industrial customers with ratings of 2 to 75MVA and primary voltages of up to 132kV
- Hermetically sealed GNAN mining transformers 200kVA to 8000kVA for mechanically demanding applications and resilience to high thermal shock. Certified explosion proof (Ex p) with bushing interfaces certified flameproof (Ex d) where applicable
- Generator step up transformers and wind and solar farm grid connection transformers
- Transformers for service on mobile plant including shovels and draglines
- Rectifier transformers (rectiformers) for high current electrolytic applications, such as metal refining and smelting along with rail and tram traction applications
- Motor drive transformers
- Regulating transformers
- Oil filled reactors
- Custom mobile substation transformers for mining, industrial and utility applications at voltages up to 132kV.



Engineering

Coil winding

Core and
lamination

Assembly

Engineering

Ampcontrol's highly experienced transformer engineering team assess your requirements and develop innovative and appropriate solutions. Our design engineers work with your project from concept through to final commissioning, and use the latest transformer design software including SPARON, VLN and Anderson programs and 3D mechanical design applications.



Coil winding

Our transformer facility features a dedicated and separate clean winding space, with a range of winding machines with expanding mandrels to suit required sizes. We work with copper aluminium, paper (including thermally upgraded paper) and Nomex coverings and continuously transposed conductors.

We have a vertical winding machine for larger power transformers and a foil winding machine for smaller distribution transformers.



Core slitting and lamination cutting

Ampcontrol's transformer facility includes slitting and mitre cutting lines capable of manufacturing transformer cores up to 75MVA with core design and construction choices of mitre, steplap and 'V' notch from 0.23mm to 0.3mm, with diameters of up to 650mm.



Assembly

Our experienced assembly team build transformer cores, assemble windings onto the core, build the cleat and lead arrangements and manage the drying and tightening process.

We utilise four drying ovens rated up to 220°C including a vacuum oven which features cyclically applied heat and vacuums ensuring moisture and water vapour are removed from the core and winding assembly.



Tank
production

Testing

Install and
commission

Overhaul and
upgrade

Tank production and repair

We have in-house fabrication facilities for the production and repair of tanks for liquid cooled (oil and other fluids) power and specialist transformers along with GNAN tanks for a range of challenging applications. Our stringent fabrication quality control standards enable us to produce high quality products.

Testing

All of Ampcontrol's transformers undergo comprehensive testing undertaken by our experienced test engineers. Our comprehensive testing facilities feature a high voltage test bay including 1000kV/75kJ impulse testing certified to ISO/IEC 17025, DDF, SFRA, PD, noise level and harmonics testing; a routine test bay with 11kV mains connected test supply and regulator to conduct load loss, no load loss and temperature rise testing up to 75MVA 132kV; a partial discharge free high frequency generator for induced over voltage and partial discharge testing and power frequency withstand voltage testing up to 350kV.

Install and commission

We conduct onsite assembly and commissioning of our transformers led by our experienced technicians and engineers as well as supervision services to work with your own competent installation and service team.

Overhauls and upgrades

Overhauling or upgrading your transformer can be a cost and time effective alternative to capital expenditure on new equipment. Our transformer overhaul work encompasses:

- Replacement gaskets and service bushings
- Winding repairs and replacement
- Controlled oven drying of windings
- Testing and filtering of oil including a mobile Fuller's Earth Oil Treatment facility
- Tank repairs and modifications, repainting, vacuum and pressure testing
- Fitting of additional protection devices and cable boxes
- Tap changer service
- Repair oil leaks
- Full testing to Australian standards





Our facility

At over 6400m², our specialised transformer facility in the Hunter Valley, NSW has the capacity to manufacture transformers up to 75MVA 132kV, as well as service and repair units weighing up to 80 tonnes.

Our facility also includes oil storage, filters, vacuum filling and drying equipment to process all forms of oil including mineral oils, silicon oil, MIDEI, FR3 and other specialist fluids. We have four drying ovens rated up to 220°C, including a vacuum oven.

Our comprehensive high voltage test bay includes 1000kV/75kJ impulse, DDF, SFRA, PD, noise level, temperature rise and harmonics testing, while the routine test bay is equipped to perform tests up to 75MVA 132kV.

In addition to our specialist transformer manufacturing services we also offer overhaul, repair and maintenance services both in our Mackay, QLD and Hunter Valley workshops providing local service and aiding fast turnaround. We also offer onsite testing service and repair.

ampcontrolgroup.com



1300 267 373

customerservice@ampcontrolgroup.com

