Transformers
Ampcontrol’s high specification, custom designed transformers are known for their quality and durability.

Our designs cover dry and oil type transformers for electrical distribution substations, power generation, voltage regulation, mining, traction and refining applications as well as retrofits and OEM replacement.

Not just a manufacturer, we also add value through our solutions based approach to specialised projects. With our broad capabilities and product ranges, we are uniquely positioned to integrate power and distribution transformers with other Ampcontrol products and capabilities including fixed, modular, relocatable and transportable substations, switchrooms and switchyards, as well as third party products to deliver complete power infrastructure requirements.

We also offer a range of field, workshop and laboratory services that support high voltage assets.

Our Facilities

Ampcontrol’s transformers are engineered, manufactured and overhauled within our ISO 9001 accredited Australian facilities in New South Wales and Queensland. Across these facilities Ampcontrol have the capacity to manufacture and overhaul transformers up to 50MVA, 132kV, and weighing up to 80 tonnes.

All transformers are stringently tested to IEC standards in our high voltage transformer test bay, which is fully equipped with a 1000kV/75kJ impulse generator, DFF, SFRA, PD, noise level, temperature rise and harmonic testing equipment.
Our Transformer Types

- Substation transformers with ratings of 3 to 50MVA and primary voltages up to 132kV
- Hermetically sealed GNAN mining transformers 200kVA to 8MVA 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 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 heavy rail and tram traction applications
- Motor drive transformers
- Regulating transformers
- Auto transformers
- Earthing transformers
- Oil filled reactors
- Custom mobile substation transformers for mining, industrial and utility applications at voltages of up to 132kV
- Special purpose individually designed transformers
Field Services

We provide a comprehensive range of onsite services to ensure operational availability and compliant management of any sized transformer in Australia.

- Comprehensive high voltage testing, diagnostics and condition assessments
- General maintenance activities
- Installation and commissioning services
- Site based refurbishments including:
  - Winding dry outs
  - Winding set clamp re-tensioning
  - Paper samples
  - Comprehensive internal inspections and engineering assessments
  - Re-gasketing and general refurbishment
  - Bushing retro-fits
  - Oil treatment and replacement
  - Design modifications
  - Painting
  - Protection system upgrades and calibration
  - Maintenance and management planning
  - Fault repairs
  - OLTC maintenance and refurbishments

Remote Transformer Condition Auditing and Diagnostic Support

Ampcontrol transformer experts audit and assess transformer test, inspection and maintenance data to provide information to understand the health of your transformer, prioritise corrective measures to extend asset life, prevent failures and ensure safe operation of assets.

We offer flexible choice of assessment levels and can scale our services from a single transformer to an entire fleet.
Electrical Testing

We provide onsite services for the electrical testing of transformers, supported by comprehensive workshop facilities and experienced design engineers.

Our range of transformer electrical testing includes:

- Ratio
- Phase error
- Power factor
- Winding resistance
- Insulation resistance
- Dirana
- Dielectric loss angle (tan Delta)
- Polarisation index
- Magnetising curve
- Burden
- Sweep frequency response analysis
- Excitation current
- Leakage, resistance and impedance
- Sensor testing and calibration

Onsite High Voltage Transformer Testing

Our member company Verico maintain a comprehensive mobile HV test capability (single phase) including 36kV AC, 200kV AC and 720kV AV (resonate) mounted on dedicated heavy vehicles.

This capability is extended by a number of uncommitted HV sources that can be transported to site as required, ranging from 22kV AC – 100kV AC as well as 52kV AC p-p, 3ph switchboard test set.
Oil Handling, Management and Disposal

If oil needs to be removed from site we can arrange removal and transportation of oil and associated materials, including oil where PCB contamination is present. We also retrofit transformers with mineral or natural ester fluids.

Mobile Oil Services

- Mobile online and offline oil regeneration and filtration
- Single and multi-column mobile oil regeneration plants
- Portable filtration units
- Vacuum drying and de-gassing machines for larger transformers
Oil sampling is a cost effective way of determining the health of your transformer with no need for down time. Our oil sampling services are conducted by specialist personnel who have vast experience in the electrical industry. We can also train your staff in the standard methods of sampling.

Additionally, our insulating oil laboratory provides access to a wide range of insulating oil analysis methods to keep you informed on the overall health of your transformer. Our lab is NATA accredited and compliant with ISO/IEC 17025 with all work performed to Australian and international standards.

Following testing we leverage our specialist expertise to analyse the results and deliver insights to maintain and improve the integrity of your transformer assets, optimising equipment performance over its lifecycle.
Overhauls, Upgrades and Rewinds

To complement site works we can overhaul and upgrade your transformer in our purpose built transformer facilities in NSW and QLD, which have the capacity to overhaul transformers up to 50MVA, 132kV and weighing up to 80 tonnes.

Overhaul works can include:
- Transformer upgrades
- Replacement of gaskets and service bushings
- Winding repairs and replacement
- Controlled oven drying of windings
- Tank repairs and modifications, repainting, vacuum and pressure testing
- Fitting of additional protection devices and cable boxes
- Tap changer service or replacement
- Oil leak repairs
- Full testing to Australian standards
Ampcontrol offer a range of SDMyers courses in transformer management and maintenance. These specialist courses cover areas such as insulation maintenance, electrical testing, inspecting and testing tap changers and condition monitoring.

Verico Training Services (RTO No. 45425)

Verico Training Services, a member of Ampcontrol Group, offers training, assessment and consultancy services for mining, engineering, electrical and civil construction industries.

Their courses include AS/NZS 3800 Overhaul and Repair, Electrical Equipment in Hazardous Areas (EEHA), and other relevant industry courses. They can also develop customised training to suit your site.