

TYREE

future ready...

Behind every transformer Tyree produce is a team that's passionate about continuous improvement.... about always looking for a better way to help customers to use electrical power more effectively and to increase productivity in a sustainable way



Quality
ISO 9001
SAI GLOBAL



future ready...



LOCALLY SUPPORTED, GLOBALLY CONNECTED

Australian Capability

Tyree's renowned innovation in transformer manufacturing is uniquely Australian and locally owned, operated and focused. The company's operations embrace a multi-faceted mix of transformer technology, purposefully structured to provide a range of transformer products from 2kVA to 35MVA, up to 132kV class.

Tyree's Distribution and Power transformer divisions are vertically integrated wherever possible. In house manufacture of winding conductors, coating and wrapping of copper and aluminium as well as conversion and fabrication of insulation materials and components all contribute to self reliance with materials supply. Electrical steel processing and complete metal fabrication capability, including radiator and tank fabrication, assist with improving flexibility and lead times. This depth of integration allows Tyree to quickly react to the industry's shortest lead-time requirements and buying critical materials including electrical steel, copper, aluminium, mild steel and kraft paper, direct from the mills and primary producers, ensures customers receive the most competitive pricing.

International Partnership

Tyree has formed a strategic partnership with Efacec, a company based in Portugal, to share expertise and design technology for Power Transformers. Efacec was originally established in 1948 and is now the largest Portuguese company in the field of power network solutions.

The Tyree alignment with Efacec provides valuable access to an enormous bank of knowledge that has come from their proven track record of exporting to over 65 countries. Efacec favours technological development as the main contributor to ensuring competitiveness and quality of its products.

The Efacec range includes Shell and Core type designs up to 1500MVA 525kV as well as mobile substations, cast resin and oil cooled distribution and power transformers.



future ready...



DISTRIBUTION DIVISION

Pole Mounted Distribution Transformers

The standard range covers transformers 10 to 500kVA up to 36 kV. Single Phase, SWER, SWER Isolator, Three Phase Dyn and Ttn vector configurations.

All products comply with ENA specifications and relevant Australian Standards including the Minimum Performance Energy Standard. All products are fully routine tested. Type tests include impluse, temperature rise, sound level and short circuit as required.

Pole hanging configurations are available to suit individual customer needs and units are supplied with hot dipped galvanized finish to optimise the life of the tanks.

Value added components such as surge arrestors, dropper cables, earth screens and mounting adaptors can be fitted and supplied if required.

Kiosk and Pad Mounted Transformers

A large range of pad mounted and kiosk style products are available up to 2500kVA, 36kV. The range includes square and rectangle designs, with or without plinths and oil containment.

Different adaptations to assist with transportation and lifting are available on request and product can be supplied with or without switchgear.

Included in this range are also Rural kiosks - 25kVA single phase to 100kVA three phase.

Ground Mount and Industrial Transformers

This range includes compact, robust, fully sealed pre-engineered designs complemented by custom built products to suit customer requirements up to and including 5000kVA 72kV.

Standardised Cable Box Designs for open air and insulated terminations are available as well as screening variations to suit most applications.

Engineered for site specific applications these products can be skid mounted or wheeled and mounting brackets or lifting points can be customer fitted for positioning and transportation.

Standard finish is hot dipped galvanised which suits many onerous environments however custom paint finishes are available if required.

Most versions of protective devices, automation interlinking and condition monitoring equipment are available and customers are encouraged to submit requests for non-standard installations.





PASSIONATELY PREPARED

Future Ready

A constant theme within the various iterations of the company for over 50 years has been continuous improvement and innovation. The company was an early adopter of quality management and originally gained accreditation to AS/NZS ISO 9001 in 1990.

In-house testing, product prototyping and product development, in conjunction with customers and key academic institutions, has helped the company to remain focused on innovative solutions and leading edge initiatives to improve competitiveness and provide customer solutions.

On-going investment in information technology such as Computer Aided Design, Enterprise Resource Planning and web enabled infrastructure ensures that all functional areas within the business are equipped to maintain and improve supply chain integrity and customer service. Significant investment in automation, including robotics, has been made in the production area to maintain quality and improve capacity availability.

Strategic alignment with key supply chain providers has resulted in consistent, reliable competitive sourcing of materials and suppliers are actively encouraged to contribute to product improvement. On-going investment in Information Technology such as Computer Aided Design, Enterprise Resource Planning and Web Enabled infrastructure has ensured that all functional areas within the business are equipped to maintain and improve supply chain integrity and customer service.

Operational Excellence

Tyree embraced the latest Lean Manufacturing Principles, thus increasing “OEE” (Overall Equipment Effectiveness) along with significant reductions in manufacturing variances through Six Sigma methodologies.

This equates to high levels of consistency, flexibility and predictability throughout its transformer operations. The end result ensures that the customer is offered the most cost effective, quality product that will exceed their future needs and more...and make them truly “future ready”.

Not only have these improvements been applied to the pole mount range, but over the last decade Tyree has expanded vertically into the manufacture of Industrial Distribution transformers to 5000kVA. Units for industry, mining and utilities are all produced using flexible design and manufacturing processes which can meet the most demanding specifications.

Tyree’s policy is to invest in continual development of engineering resources, both in direct employees and through close involvement with local universities, including the University of New South Wales and Wollongong University. Tyree staff includes over 20 Degree engineers, including disciplines of electrical, mechanical, chemical and industrial.



POWER DIVISION

Solution Focussed, Vertically Integrated

Tyree prides itself on making a distinction between distribution and power transformer technology that is designed for the Australian market. The company utilises modern core type power transformer design philosophy to engineer highly reliable constructions with proven performance for Power Transformers up to 35MVA, 132kV class.

The Tyree Power factory is a fully integrated transformer manufacturing plant, including capability and experience for production of winding conductors, state-of-the-art core cutting plant, engineered power transformer winding shop, tank fabrication shop, radiator manufacture and full capability testbay. The new factory is adjacent to Tyree's existing Distribution Transformer factory utilising the synergies of a transformer company capable of locally producing transformers ranging from 25kg to over 50,000kg.

Tyree engineers design and produce their own winding conductors, including hardened copper for short circuit proof winding design. They use best in class CTC (Continuously Transposed Conductor) for high current applications. The team utilise the most modern NC controlled step-lapped mitre cut core design. This, combined with low loss, Hi-B core materials, produces the most efficient core performance available and ultimately the lowest life cycle cost transformer available. Tyree integrates the highest in quality componentry into its Australian designed, built and proven transformers, including bushings, tapchangers and insulation.

Proven Technology

Tyree maintains a supply and verification database containing proven design history verified by extensive type testing. This empirical data mobilised by state-of-the-art 3D CAD and analysis software enables rapid design development to be coupled with the cost and schedule advantage of standard tooling and a mature material supply chain utilising the highest quality transformer material.

Power Transformers manufactured in Tyree's Mittagong facility are core type designs utilizing the most reliable and robust winding constructions available including:

- Continuous disc
- Helical
- Shielded disc
- Machine wound disc

Tyree's Power Transformer Range and Experience:

- 3MVA to 35MVA, Single Phase, 3-Phase Isolation and Auto
- Up to 132kV (650kV BIL)
- Up to 10kA continuous current ratings
- Special application including Generator, Rectifier, Traction and Rail, Mining and Mobile Substation

Tyree design philosophy is based on Westinghouse round coil type technology which has an excellent track record for transformers rated from 3MVA through to 300MVA, 330kV.

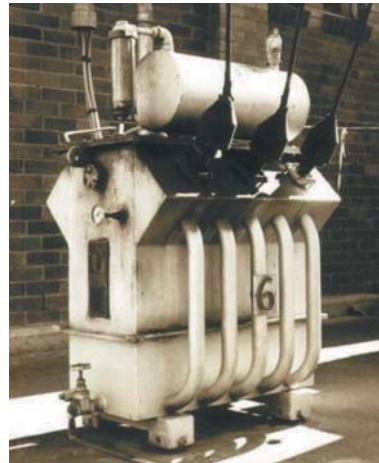
HISTORY

Proud of the Past, Focused on the Future

Originally established in 1946 by Bill Tyree (later Sir William Tyree) the Tyree brand has become synonymous with transformer manufacture through-out Australasia and beyond.

Tyree Transformers is part of the Tyree Group of companies that has manufacturing and distribution facilities strategically located with Australia and New Zealand. Tyree Transformers is a 'can-do' privately owned and operated business that is committed to maintaining and growing Australian manufacturing and distribution capability and creating opportunities for local employment and investment.

Located at Mittagong in the Southern Highlands of NSW, south of Sydney, the business has good access to major transport facilities and corridors and is well located and equipped to service customers within the Australasian region. The plants were originally built on a green fields site and designed with potential expansion in mind. Over the years the factories have evolved into a state of the art facilities that are not only equipped to meet current customer requirements but also can be continually expanded to service growing demand.



The first order for transformers from the original factory at Camperdown in Sydney was placed in 1948 by The Sydney Water Board - two 50kVA, 11kV 415 units



In 1952 the new factory at Kingsgrove (a Sydney suburb) extended production to include up to 1500kVA 33kV products and the first of these was delivered in 1953.

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