

TRANSMAG
ÉNERGIE

POWER TRANSFORMERS

A subsidiary of



SGE Société
Générale
d'Électrotechnique

A Canadian company

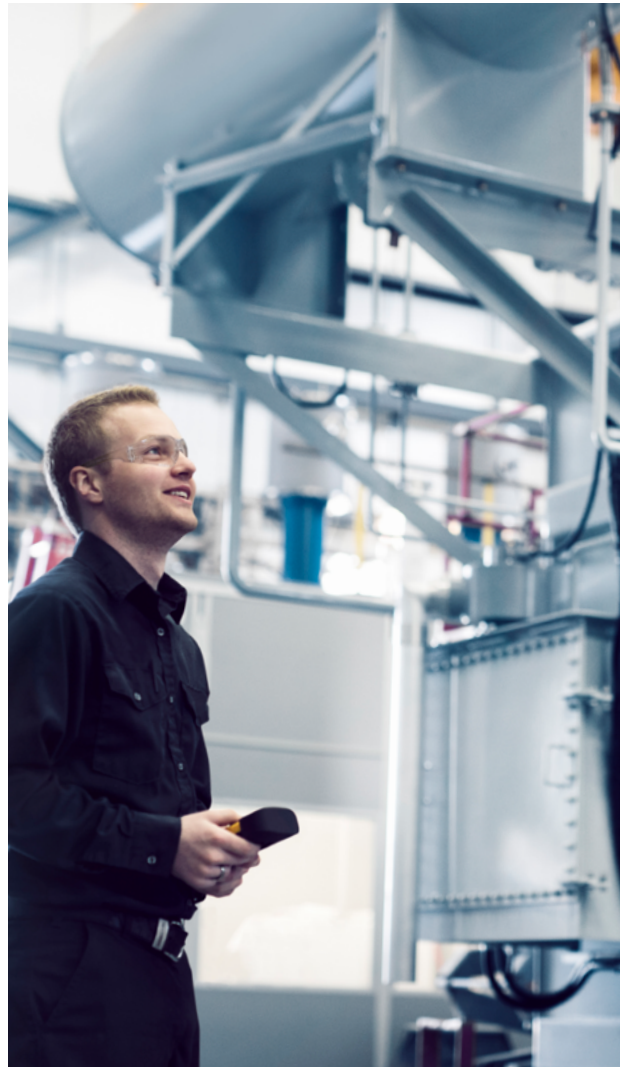
PRESENTATION OF TRANSMAG ÉNERGIE

In 2008, Mr. Jean-Yves Côté shared with some friends — all experts in the transformer field — his idea of creating a company capable of designing and manufacturing transformers. In 2013, that dream became a reality with the creation of Transmag Énergie, a company that designs and manufactures transformers for the Canadian market.




Transmag Énergie has extensive expertise in designing and manufacturing custom-built transformers. Our specialized employees — including engineers, technicians, drafters, winders, welders, assemblers, electricians, testers, and managers — work together as one team to design, build, and provide support for each transformer until it is in service. We ensure personalized service for every customer before, during, and after the manufacturing process.

We specialize in liquid-filled power transformers ranging from 3 to 47 MVA and up to 138 kV. We also design and manufacture custom transformers up to 88 MVA.

- Three-phase transformers
- Single-phase transformers
- Autotransformers
- Isolation transformers
- Zigzag grounding transformers
- Station Service Transformers



TRANSMAG ÉNERGIE HAS THREE PLANTS:

-  **Quebec City** : Corporate headquarters, engineering, workshop assembly, and testing
-  **Sainte-Agathe** : Refurbishment of pole-mounted transformers
-  **Saint-Jean-sur-Richelieu** : Winding production for the Quebec City plant

CLIENTS & PARTNERS

Since our founding, we have had the opportunity to serve clients such as

BBA, Boralex, Canadian Malartic Mining, Canadian Forces Base in Valcartier, City of Summerside, Construction Énergie Renouvelable, Électro Saguenay, Elkem Metal Canada, Enerkem, Éoliennes Mont-Louis, **Hydro-Québec (our main customer)**, Infasco, Kruger Products, Minerai de fer Québec, Niobec, Revenco, Root Data Center, SCHM, Shawinigan Aluminium, Société ferroviaire et portuaire de Pointe-Noire, Ville de Baie-Comeau, Ville de Coaticook, Ville de Saguenay, Ville de Sherbrooke, and Ville de Westmount.

ENGINEERING

Our engineering team is structured around three core areas of expertise:



ELECTRICAL DESIGN

core, windings, tap changers, bushings



MECHANICAL DESIGN

core, tank



CONTROL SYSTEMS

control panels, protection and measurement accessories, communication networks, gas analyzers, etc.

We rely on advanced design tools such as AutoCAD, SolidWorks, and Ansys 18 to develop precise and reliable solutions. Our team produces detailed drawings for both internal assembly and customer documentation.

To ensure that each transformer meets all technical requirements, we perform comprehensive simulations before fabrication. We also conduct collaborative design reviews with our clients, covering key aspects such as the active part, dielectric performance, short-circuit withstand capability, thermal behavior, and overall layout and dimensions.



QUALITY CONTROL

Transmag Énergie has a dedicated quality control department consisting of professionals. Their mandate is to closely monitor each stage of the manufacturing process to ensure that the final product complies with the customer's technical specifications as well as recognized national standards such as CSA C88 and IEEE C57.12.

As part of our ISO 9001 certification, we have integrated key quality checkpoints into our production process. These control points ensure that each stage in the manufacturing of the transformer meets the required quality standards before proceeding to the next step.



FABRICATION

Transmag Énergie relies on specialized suppliers for key operations such as tank and core fabrication, control cabinet assembly, and tank painting. Throughout the manufacturing process, our engineering and quality control teams are actively involved in supervising and verifying the technical progress of these outsourced activities.

In-house, we carry out several critical operations, including winding production (at our winding shop), active part assembly, drying, repackaging, installation of all required accessories, and final transformer preparation prior to testing.

Our 1,400 m² assembly facility, located in Quebec City, is equipped with a 50-ton overhead crane, a 10-ton overhead crane, a drying oven capable of handling a 100 MVA three-phase active part, and a degasser with a treatment capacity of 4,500 liters per hour.





TESTING

Our testing team is composed of specialized technicians who perform the testing and engineers who prepare the test procedures, oversee the process, complete the test reports, and approve the final results.

The test laboratory is located within the same facility as the assembly workshop and is equipped with advanced instrumentation, including:

- An impulse voltage generator (BIL)
- A sound intensity and pressure meter
- A dielectric (hipot) test station
- A high-precision loss measurement system
- Modular electronic power sources with variable voltage and frequency for induced voltage, no-load, and load testing
- A partial discharge measurement system
- A capacitance and dielectric loss factor measurement system
- A sweep frequency response analysis (SFRA) unit
- A winding resistance measurement system
- A transformer turns ratio meter

The lab also features a custom-designed transformer equipped with three tap changers, allowing for voltage ratio adjustments across 280 steps. This transformer has a rating of **150 MVA, 142 kV / 25 kV / 4.16 kV**, and a **YNyn0d1** connection configuration.

At Transmag Énergie, we work closely with our customers during the final testing phase. Prior to testing, we submit a detailed procedure for review and approval. Customers are welcome to attend the tests either on-site or remotely. Our facility is conveniently located just 20 minutes from the Quebec City Jean Lesage International Airport.



INSTALLATION AND COMMISSIONING

In collaboration with our sister company, Gemitech Électrotechnique, we offer services for transformer installation, assembly, commissioning, training, and troubleshooting.

Our team has extensive experience managing these operations from start to finish — ensuring the transformer is fully operational and in service. Upon completion, a comprehensive final report is provided to the client, including test results that confirm the transformer's performance and reliability.

We also offer technical support when customers have their own team handling the assembly and commissioning, providing guidance as needed to ensure successful deployment.



HEALTH AND SAFETY



At Transmag Énergie, the health and safety of our employees and subcontractors is a top priority. Senior management is actively involved in promoting, improving, and approving safe work practices both in our workshops and on customer sites.

We are ISO 45001 certified and undergo annual audits conducted by an independent external firm. In addition, we perform regular internal audits and hold dedicated meetings to review our processes, identify potential risks, and implement corrective actions where necessary.

Our Health and Safety Committee includes both employer representatives and employee members, ensuring open communication and continuous improvement in workplace safety.



FUTURE DEVELOPMENT

Transmag Énergie plans to double the size of the shop floor in order to increase our fabrication volume. This expansion will be complemented by the acquisition of a vapor-phase oven, further enhancing our production capabilities.

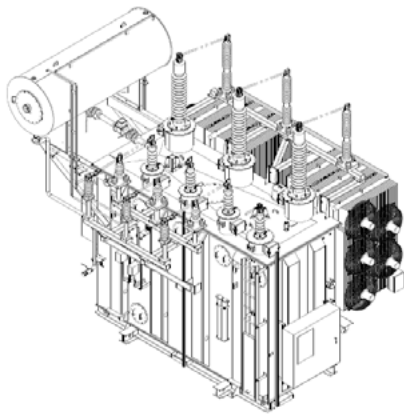
OUR ACHIEVEMENTS

Since 2013, Transmag Énergie has been designing and manufacturing power transformers, all custom-made for the Canadian market. Below are some of our achievements.

POWER TRANSFORMER

28/37/47 MVA, 120 kV to 26.4 kV, connection YNd1, OLTC 17 positions, three-phase, with conservator, mineral oil-filled.

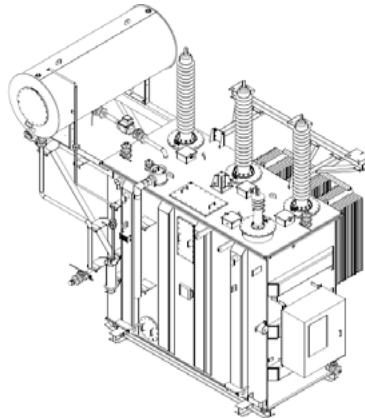
Completed in 2018 for Ville de Sherbrooke, QC (T0045)



GROUNDING TRANSFORMER

132 kV, 125 A, 69 ohms, zig-zag connection, three-phase, conservator type, mineral oil-filled, or outdoor installation.

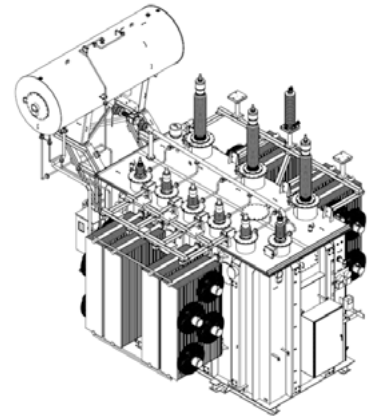
Completed in 2019 for Hydro-Québec (T0059)



POWER TRANSFORMER

50/67/83 MVA, 120 kV to 25 kV, connection YNyn0d1, OLTC 17 positions, three-phase, with conservator, mineral oil-filled.

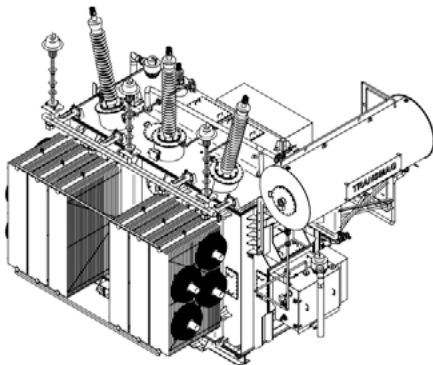
Completed in 2020 for Kruger Products, Sherbrooke, QC (T0068)



POWER TRANSFORMER

45/60 MVA, ONAN/ONAF, 161 kV to 25 kV, connection YNd1, OLTC 13 positions, three-phase, with conservator, mineral oil-filled.

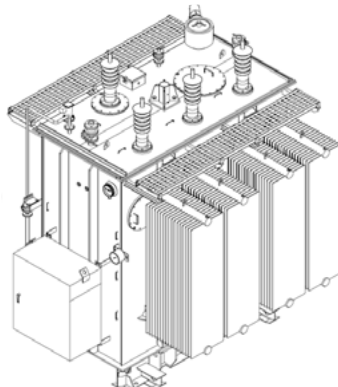
Completed in 2021 for Niobec, QC (T0133)



GROUNDING TRANSFORMER

34.5 kV, 630 A, 5.4 ohms, zig-zag connection, three-phase, breather-type tank, mineral oil-filled, for outdoor installation.

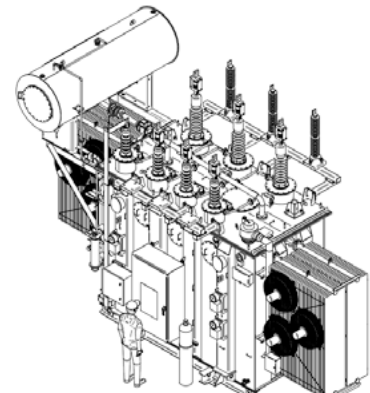
Completed in 2021 for Hydro-Québec (T0136)



POWER TRANSFORMER

22/27/33 MVA, 69 kV to 34.5 kV, connection Dyn11, DETC 5 positions, three-phase, with conservator, mineral oil-filled.

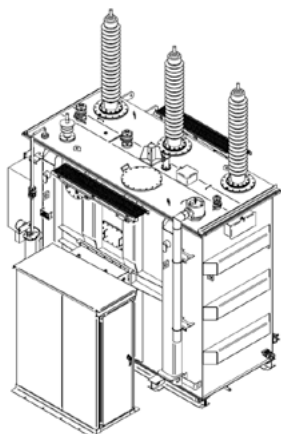
Completed in 2022 for City of Summerside (T0145)



SERVICE STATION TRANSFORMER

300 kVA, 120 kV to 600 V, connection YNyn0, three-phase, breather-type tank, mineral oil-filled, for outdoor installation.

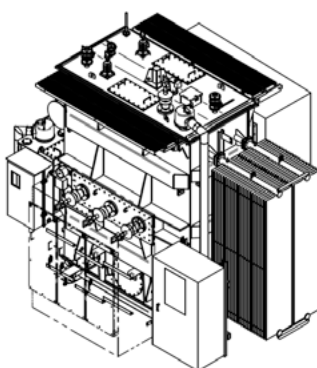
Completed in 2023 for Hydro-Québec (T0147)



GROUNDING AND SERVICE STATION TRANSFORMER

3 MVA, 12.5 kV to 600 V, connection YNyn0d1, OLTC 17 positions, three-phase, breather-type tank, mineral oil-filled, for outdoor installation.

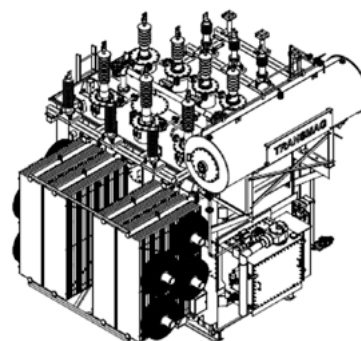
Completed in 2024 for Hydro-Québec, QC (T0156)



POWER TRANSFORMER

16.8/22.4/28 MVA, 69 kV to 13.2 kV and 26.4 kV, connection YNd1, OLTC 17 positions, three-phase, with conservator, mineral oil-filled.

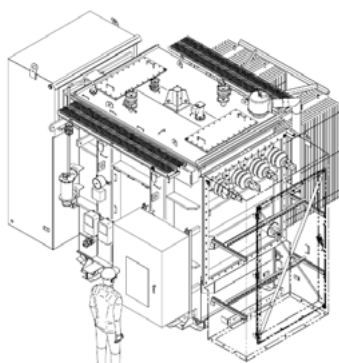
Completed in 2024 for Ville de Baie-Comeau, QC (T0157)



STEP-UP TRANSFORMER

6 MVA, 4.16 kV to 12.47 kV, connection YNd1, DETC 5 positions, three-phase, breather-type tank, mineral oil-filled, for outdoor installation.

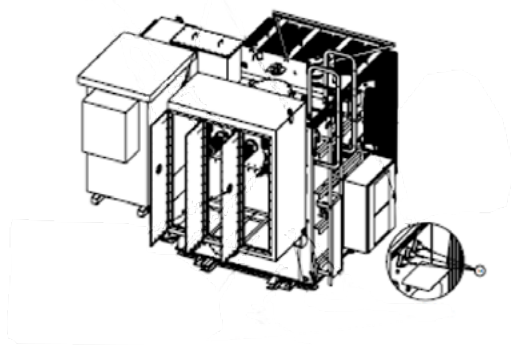
Completed in 2025 for Hydro-Québec (T0159)



POWER TRANSFORMER

7.5 MVA, 34.5 kV to 7.2 kV, connection Dyn1, off-load tap changer 5 positions, three-phase, sealed-type tank, mineral oil-filled, for outdoor installation.

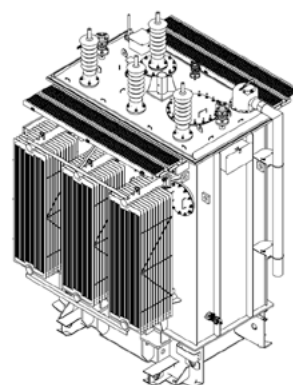
Completed in 2024 for Minerai de fer, QC (T0160)



GROUNDING TRANSFORMER

25 kV, 360 A, 5.75 ohms, zig-zag connection, three-phase, breather-type tank, mineral oil-filled, for outdoor installation.

Completed in 2024 for Hydro-Québec, QC (T0164)





TRANSMAG ÉNERGIE



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