

CORE & COIL



NEMA 1 & 3R ENCLOSURES

Dry-Type Transformers
Designed & Manufactured
in the United States
& Canada

wrxfo.com

855-294-1559



Since 2013, WR Transformers has been a top North American manufacturer of high-performance dry-type electrical transformers. With more than 9,000 units installed globally, our transformers support critical operations across a wide range of industries that depend on reliable power transformation systems.

Major data centers need reliable power solutions to run 24/7/365.

WR bridges the gap between the grid and servers with turnkey dry-type transformer solutions.



An off-grid mine needed mobile electrical dry-type transformers to power its equipment.

WR provided a custom solution to keep them mining in an extremely harsh environment.

When high-power-usage operations, such as aluminum smelters or heavy-industrial facilities, need consistent power with no interruption, they depend on WR Transformers!



Transformer Product Overview

WR offers a comprehensive portfolio of low- to medium-voltage dry-type transformers, with voltages up to 49kV and insulation classes up to 220kV BIL with a power rating range from 5kVA to 20MVA.

Our Markets

- Mining
- Oil & Gas
- Data Centers
- Tunneling
- Utilities
- Smelters & Metal Refining
- MV Switchgear



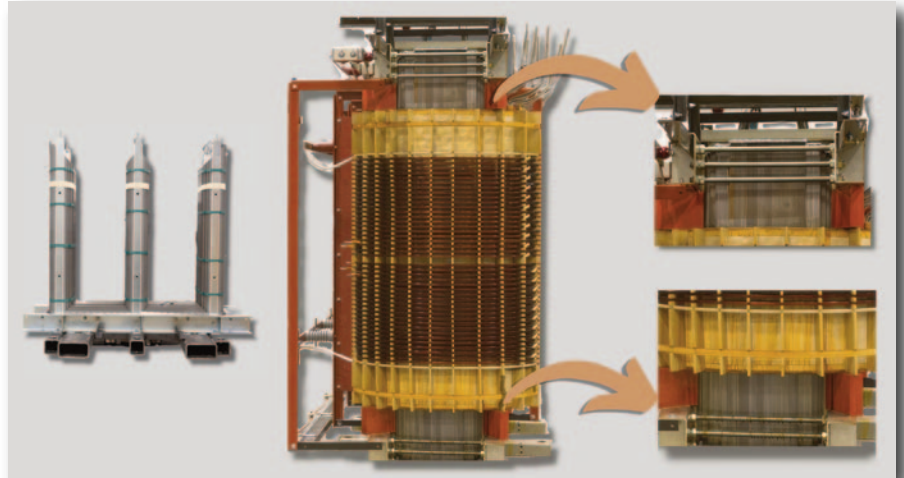
“High-quality, experienced product craftsmanship and outstanding customer service from design to delivery. That’s what you can expect as our customer.”

– Christian Roberge
President

WR Transformers
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Core Construction

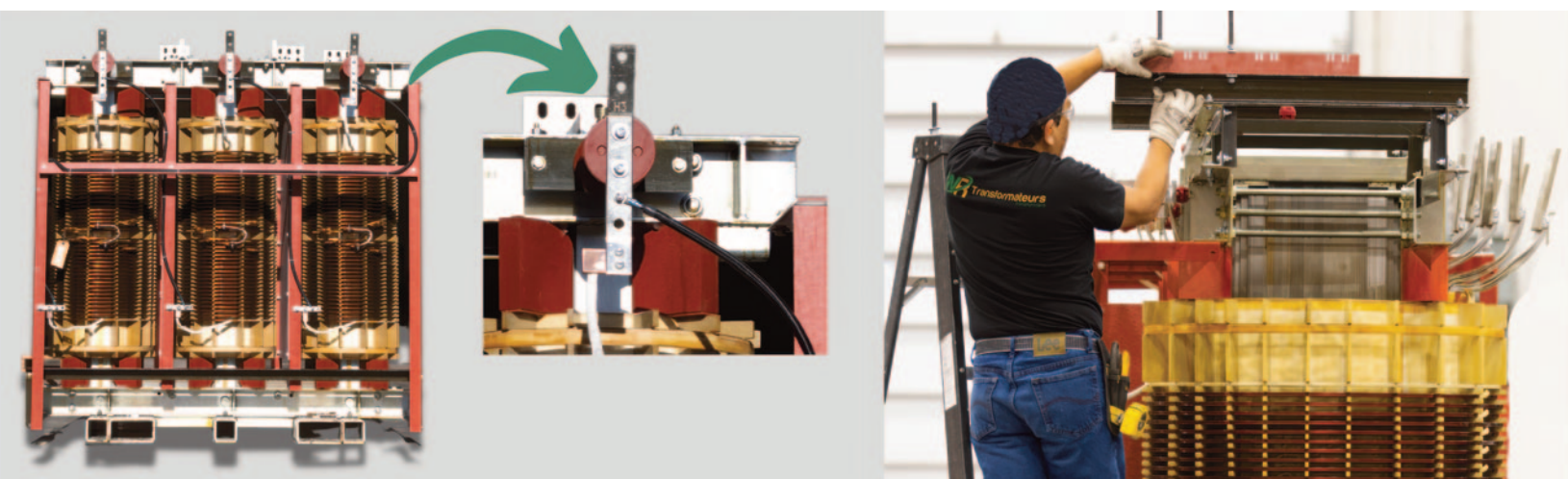
WR's cores are constructed of high-quality grain-oriented steel with high magnetic permeability. Magnetic steel is prepared free of burrs and appropriately stacked. Magnetic flux density is kept below the saturation point, which minimizes core losses and reduces the sound level. The core is electrically insulated except for one point, where a copper strip connects the core to the yoke. The steel cutting is done with high precision, and then the core is vacuum impregnated with resin to help prevent corrosion. For larger capacity transformers and to avoid saturation, an air gap in the middle of the core uses electrical insulation so that air can freely circulate and cool it.



Core & Coil Assembly

WR's cores are compressed by high-density insulation blocks between the upper and lower frames to help withstand short-circuit forces. The transformers used in the mining sector are mechanically reinforced to handle being oriented at 90°. The standard connection type is "stub up," utilizing NEMA-type holes with or without mechanical connectors. WR also offers the possibility of manufacturing and installing busbars to coordinate with low voltage (LV) and/or high voltage (HV) switches. This service is also available for adding Transition Chambers or an ATC Air Terminal Chamber.

As an option, the addition of flexible braids eliminates vibration transmission from the transformer to the switching devices. They can be factory installed and ready for connection at the job site.





20MVA 36kV to 4160 V
Main Entrance

1600 KVA 4160 V to 415 V
w/ Integrated Switchboard

3600 KVA 25kV to 415 V w/
Integrated Switchboard (500 Amps)

Data Centers

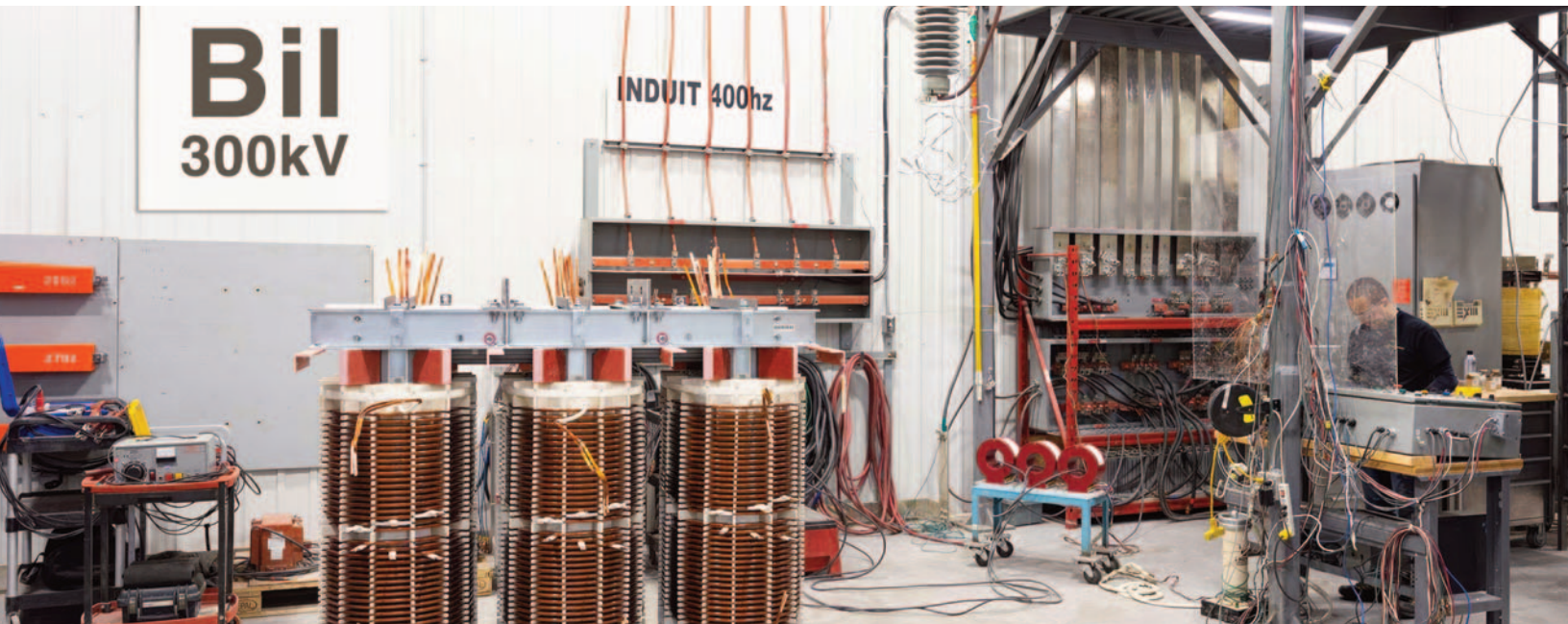
Medium-Voltage VPI
5kV, 35kV & 46kV Class
Transformers

WR Transformateurs
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ISO/IEC 17025-Certified Testing Labs

Before shipping, all WR Transformers are completely tested in-house by our technical team to this North American standard:

IEEE C57.12.91-2011: Test Code for Dry-Type Distribution and Power Transformer



Standard Testing

- Dielectric (Hipot & Induce)
- No load loss and excitation current test
- Polarity
- Ratio
- Resistance
- Load loss & impedance



Optional Testing:

- Heat run test
- BIL
- Partial discharge (Corona)
- Sound level



**Full Range of Custom
Industrial-Grade Transformers**

**14 MVA 49000V to 4160V NEMA 3R
Main Power Transformers**

**2500 KVA 600V to 480V Delta
ZigZag Mitigation Transformers**

**1000 KVA 600V to 60V
High-Capacity Rectifier with
Automatic Offload Tap Changer**

**65 KVA 600V to 12V
High-Capacity Rectifier**

Industrial Operations

**Custom Designed
& Manufactured
Transformers**

WR Transformers

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Enclosures

Mechanical housings are either **NEMA 1** or **NEMA 3R** type. These housings can have filters added to better protect the transformer from dust, water or snow. For greater strength and longevity, the enclosure can be manufactured with a range of thicknesses, such as 11, 12 and 14 gauge.

We also provide stainless steel enclosures for highly corrosive conditions, such as salt air. For mining operations, these transformers can be mounted on a stable metal base, making them easier to move and reducing the amount of work needed when connecting them to the control panel. For extremely harsh weather conditions, we offer a housing that has no ventilation.



Transition Chambers

To facilitate the electrical interface between high-voltage (HV) and low-voltage (LV) cables, a specially designed transition chamber can be incorporated to provide a protected space to connect incoming and outgoing cables. This space separates the HV and LV into compartments to help prevent electrical interference or faults and ensures organized, safe and strain-relieved cable connections. Cable supports can be added for more secure installation.





7.5 MVA 25kV to 7.2 kV NEMA 3R
Portable Trailer Mount

1250 KVA 13800 & 4160
to 600V & 208V

25 KVA 24940 to 120/240V
1 Phase

Transformers for Tunnel Boring
Machines (TBM)

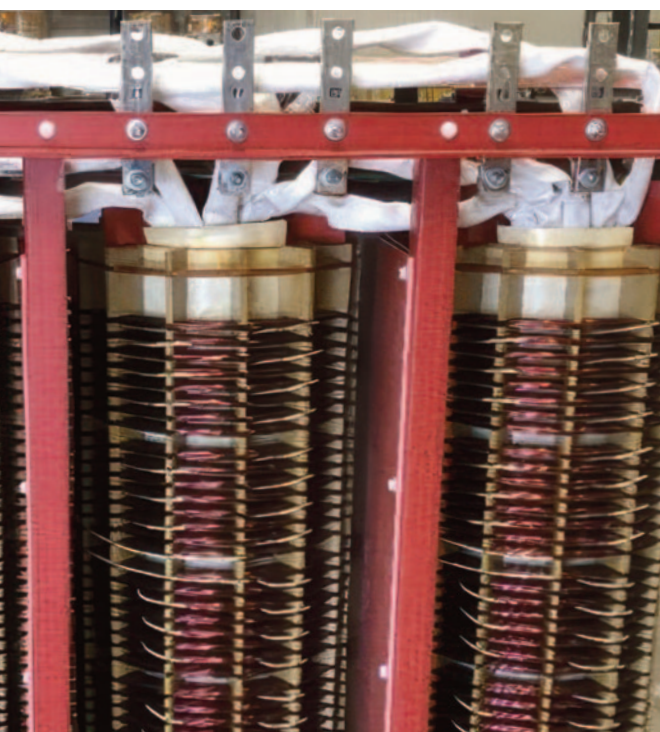
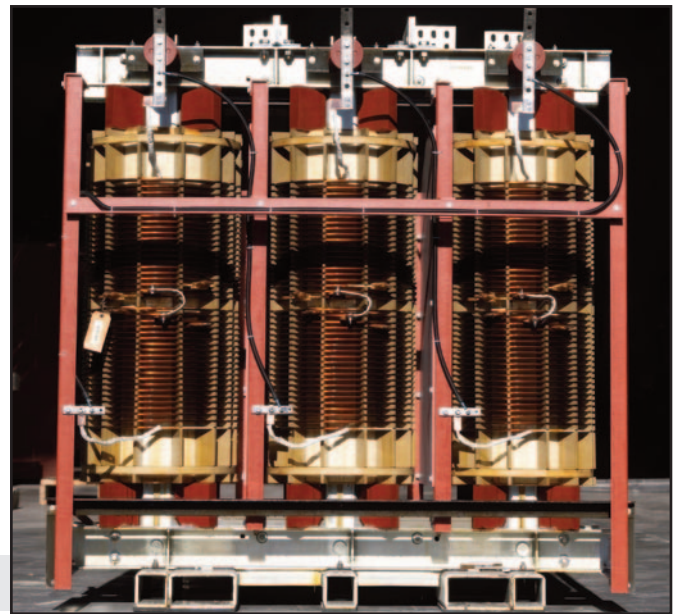
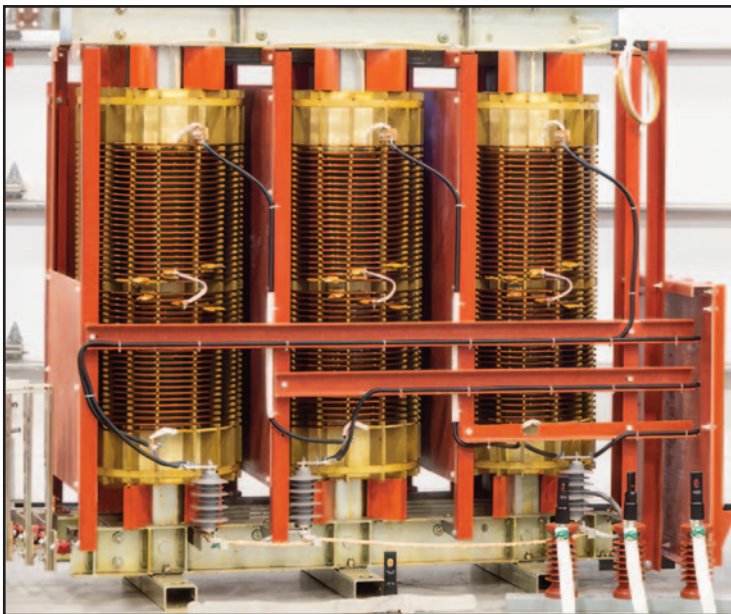
Mining Operations

Custom Designed
& Manufactured
Portable or Static
Transformers

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Windings

Copper or aluminum coils are vacuum-impregnated (VPI) with polyester resin, which seals out moisture from the windings and insulation and ensures reliable, longer-lasting performance in harsh environments. The plug adjustments, located at the front, are easily accessible. Windings are made in layers or discs depending on the voltage level and the insulation class (BIL). For some applications, the strip foil can be used for winding low voltage, which minimizes eddy current losses and provides higher short-circuit resistance.



Rectifier Dry-Type Transformer

A Rectifier Transformer is used to limit the magnitude of fault currents in a power system. This type of transformer consists of a primary winding and secondary winding(s), which are connected in series with an inductive reactance. The inductive reactance helps to limit the fault current, thus preventing damage to the system

components. Rectifier transformers are typically used in applications where the fault current must be limited to a low magnitude, such as in high-voltage transmission lines.

Connections on the secondary side can be customized according to the client's requirements, including delta, wye and wye zigzag. All our rectifier transformers are manufactured and tested according to IEEE, ANSI, CSA and UL Standards.

Sound Level

WR Transformers are designed not to exceed CSA C9's sound level.

5kV @ 15kV (95kV BIL @ 150kV BIL)	kVA
60dB @ 62dB	300 @ 500
62dB @ 64dB	>500 @ 750
64dB @ 66dB	>750 @ 1000
65dB @ 67dB	>1000 @ 15000

Note: If reduced sound levels are required, contact your WR rep for more details.

Insulation Class (Shock Hold) BIL

Tensions Nominal kV	Standard kV (BIL)
5.0	30
8.7	45
15.0	60
18.0	95
25.0	125
35.0	150



WR Transformers are built with Class 220°C insulation and are UL listed and CSA-certified.

Temperature Class for Transformers

These are the maximum temperature rise of our transformers' windings. Data is based on an ambient temperature of 30°C – not recommended for over 40°C.

Temperature Class (°C)	Temperature of Winding (Average) Measured by Rise of Resistance (°C)	Winding Hottest Spot Rise (°C)
Class 105	55	65
Class 130	75	90
Class 150	90	110
Class 180	115	140
Class 200	130	160
Class 220	150	180



**Ask About Our
Short Lead Times
on Custom-Designed
Transformers**



Facilities

WR Transformers' ISO 9001:2015-certified manufacturing facilities are located in the United States and Canada. Each operation is optimized to design and produce high-quality, custom dry-type transformers and features an ISO/IEC 17025-certified testing lab to ensure each transformer performs to its specifications prior to shipping.



Our U.S. facility, established in 2024, is in
Tomball, Texas, a suburb of Houston.

2013 S. Persimmon Street • Tomball, Texas 77375



Located south of Montreal in Granby, Québec,
this facility was established in 2013.

2961 Rue Brodeur E • Granby QC J0E2A0

