

# CAST COIL TRANSFORMER



## **MGM Transformers**

For over 50 years, MGM Transformers has delivered reliable and efficient transformer solutions across data centers, renewable energy, industrial, and utility markets. With multiple U.S. manufacturing facilities, a highly skilled engineering team, and a reputation for speed and customization, MGM Transformers offers a complete portfolio of transformer technologies.

## **Cast Coil Transformers**

MGM Transformers' Cast Coil Dry-Type Transformers deliver a robust, low-maintenance solution for environments where safety and reliability are paramount. Their compact footprint and quiet operation make them a versatile fit for commercial, industrial, and renewable energy projects, delivering dependable performance where it matters most.



**Enhanced Safety –** Fire-resistant, self-extinguishing insulation.



**Low Maintenance** – Built for durability, helping reduce downtime.



**Environmentally Friendly –** No oil or liquid dielectric required.



**Custom Solutions –** Tailored designs for unique project needs.



**Long-Term Value –** Lower lifetime operating and cooling costs.



**Space & Energy Savings –** Compact footprint with lower heat emissions.



**Adaptability** – Proven performance in both indoor and outdoor installations.

## **Features and Construction:**

- Core Construction built from high-quality, grain-oriented electrical steel.
- Coil Construction epoxy and fiberglass encapsulated windings for durability and reliability.

# **Standard Specifications:**

- Construction: Primary and secondary cast resin with copper or aluminum windings. LV coil is wound using highly-purified round-edge foil strip and insulating material pre-saturated inepoxy resin.
- Enclosure: ANSI 61 gray powder-coated, with multiple/custom bus configurations.
- Taps: De-energized tap changer.
- Core: High-quality, grain-oriented electrical steel.
- Temperature Rise Options: 80°C and 115°C.
- Insulation: (180°C) Class H UL-listed.
- Certifications: UL and cUL listed.
- Electrical Ratings:
  - Up to 7.5MVA Secondary Voltage: Up to 15kV
  - Primary Voltage: Up to 35 kV Frequency: 50 / 60 Hz

## **Optional Features/Accessories:**

- **Protective Options:** Special paints, coatings, and enclosures (marine, UV, fungus-resistant).
- **Cooling Enhancements:** Forced air or water cooling.
- **Mounting & Noise Control:** Pad-mounted setups, jacking pads, anti-vibration mounts, and sound attenuation.
- **Electrical Protection:** Surge arresters, grounding resistors, ground fault relays, and electrostatic shielding.
- **Monitoring & Controls:** Temperature relays, metering, IR ports, custom control panels, digital/IoT sensors.
- Performance Designs: Drive isolation, low inrush current configurations.



#### **Enclosures**

- NEMA 1
- NEMA 3R
- Other enclosures available

# **Dimensions and Weights**

(All units in inches and lbs)

### **Cast Coil Transformer NEMA 3R Enclosure** 4160V, 30kV BIL, NEMA 3R Enclosure

kVA	Width	Depth	Height	Weight
250	64	56	92	3400
500	72	66	92	8000
750	80	66	92	9750
1000	90	78	92	11650
1500	90	78	92	14600
2000	100	78	102	16800
2500	108	78	110	19800
3000	108	78	110	21800

## **Testing:**

#### Standard



#### **Electrical Performance Tests:**

Voltage ratio, winding resistance, no-load loss and current, short-circuit impedance, and load loss.



#### **Insulation & Safety Tests:**

Insulation resistance, applied and induced voltage withstand, partial discharge, and phase displacement verification.

### **Optional**



#### **Performance & Reliability Tests:**

Lightning impulse, temperature rise, excitation, and harmonic distortion at maximum voltage.



**Mechanical & Environmental Tests:** 

Sound level, coupling factor and stiffness, and rain/weather-tightness verification.

# **Compliance & References:**

- IEEE Std. C57.12.01
- IEEE Std. C57.12.91
- C57.110 for non-linear loads,
- C57.18.10 for rectifier duty
- CSA C22.2, No. 47, CSA C9-02
- NRCAN- Canadian Energy Efficiency Regulations (SOR/94-651)
- US Energy Efficiency Regulations: DOE2016 CFR part 431)

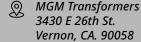














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