

MGM



TRANSFORMER COMPANY

(323) 726-0888 • (800) 423-4366 • www.mgmtransformer.com

SPECIALTY PRODUCT BROCHURE

MGM Transformer Company Overview

With over forty years of transformer experience and our long standing commitment to quality and customer service, MGM Transformer will design and build the transformer that is right for your specific application.

MGM provides custom built dry and or liquid filled transformers for the Traction industry, designed by industry leading, experienced engineers for the unique requirements of Traction duty transformers. Our people, knowledge, and experience can provide a reliable, cost-effective transformer that will provide years of trouble free service.



Application

Traction rated transformers are critical components in the traction chain, affecting both train performance and operator services. MGM supplies traction substation transformers for all applications:

- High-speed, commuter and regional trains.
- Transit/Traction- In general, electricity is distributed along track as DC current. Converted to AC on trains to drive motors. 500VDC – 1500VDC is typical range.

These transformers are typically located in either indoor or outdoor traction substations.

TRACTION DUTY

Advantages with MGM

A highly experienced and trained engineering staff (ALL IN-HOUSE) for the design and manufacturing of standard and highly specialized products.

- Product offerings in both dry type and liquid filled to meet your specific demands.
- 220°C Nomex insulation for Dry-Type Transformers
- Self-Cooled or Forced Air Cooled
- Low Voltage and Medium Voltage solutions.
- All processes done in-house at our own UL, CUL, CSA and ISO 9001-2015 certified facilities.
- Shortest lead times in the industry.
- Every process is done under roof

Our Capabilities

- 10 KVA – 5 MVA, single phase transformers
- Dry type or Liquid filled
- 10 KVA – 10 MVA, three-phase transformers
- 120 volt – 34,500 volt range
- 10 KV – 250 KV Basic Impulse Level (BIL)

Features

- Compliance with IEEE 1653.1-2017
 - Typically Traction transformers experience a high number of short circuits while in operations and transformers may be exposed to 10-20 times their rated current.
 - Traction- Typically the temperature rise is determined by the transformer overload rating defined in IEEE P1653.2. Overloads are chosen to allow trains to function at peak passenger loads with failed substations in the system.
1. Light Traction duty (150% for 2 hrs.)
 - 100 % rated load cycle of the rectifier current in ampere continuously followed by either
 - 150 % of rated load cycle of the rectifier current in ampere for 2 hours or
 - 200% of rated load cycle of the rectifier current in ampere for 1 minute following 100% rated load
 2. Heavy Traction duty (150% for 2hrs)
 - 100% rated load cycle of the rectifier current in ampere continuously followed by either.
 - 150% of rated load cycle of the rectifier current in ampere for 2 hours or
 - 300% of rated load cycle of the rectifier current in ampere for 1 minute following 100% rated load
 3. Extra-Heavy Traction duty (162 % rms for 2 hours)
 - 100 % rated load cycle of the rectifier current in ampere continuously followed by

- 150% of rated load cycle of the rectifier current in ampere for 2 hours followed by
- 300% of rated load cycle of the rectifier current in ampere for 5 equally spaced periods, each 1 minute
- Followed by final 450% of rated load cycle of the rectifier current for 15 seconds.

Testing and Quality Control

MGM Transformer tests every Traction transformer to satisfy the requirements of IEEE 1653.1. Our testing equipment ensures the highest quality transformers that meet all IEEE, and NEMA standards. We also offer customer witness testing on individual transformers and we have the capability of providing a range of design tests and optional tests such as impulse, partial discharge, temperature rise, sound level, and others.

Tests specific to Traction include:

- Commutating Impedance.
- Losses- Guaranteed losses are based only on sinusoidal rated transformer current (no harmonics). Many rectifier types have special measurement procedure as per C57.18.10.
- Thermal Tests- Measured with losses equal to sinusoidal current losses corrected (increased) for harmonic load currents.

THE BETTER CHOICE!

MGM is a leader in the transformer industry and a premiere manufacturer capable of fulfilling the most demanding applications. **No one can provide a wider range of products and solutions than MGM!**

MGM Transformer Company - Product Catalogs

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ISO 9001 CERTIFIED

Special Design Dry Type Transformers
Liquid Filled and Dry Type Substation Transformers
Liquid Filled and Dry Type Drives Isolation Transformers
600V Class General Purpose Transformers
Low Voltage Custom Transformers

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600 V Class, Dry Type, General Purpose Distribution Transformers

BULLETIN 10

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Custom 600 V Class, Dry Type General Purpose Distribution Transformers

BULLETIN 15

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Dry Type Substation Transformers

BULLETIN 30

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Liquid-Filled Secondary Substation Transformers

BULLETIN 40

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With over forty years of transformer experience and our long standing commitment to quality and customer service, MGM Transformer will design and build the transformer that is right for your specific application.

MGM provides custom built dry type transformers designed by industry leading, experienced engineers for the unique requirements of Auto transformers. Our people, knowledge, and experience can provide a reliable, cost-effective transformer that will provide years of trouble free service.

Application

As explained by the figure, an auto transformer has the ability to supply a varying secondary voltage to the externally connected load. So this is mostly used in applications where various voltage levels are required. Some of its applications are listed below:

- It is used in electronic testing centers where continuously varying voltage supplies are required.
- All power line power stations adjust voltage to step down the voltage, then increase it to match the voltage required by the device at the receiving end.
- For motor starting applications.

AUTO TRANSFORMER

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With over forty years of transformer experience and our long standing commitment to quality and customer service, MGM Transformer will design and build the transformer that is right for your specific application.

MGM provides custom built dry type transformers for the Electric Vehicle (EV) charging industry, designed by industry leading, experienced engineers for the unique requirements of EV charging stations. Our people, knowledge, and experience can provide a reliable, cost-effective transformer that will provide years of trouble free service.

Application

There is no doubt that the trend towards EV's here to stay. Motorists who purchase such a vehicle also need a charging station. The total number of electrically powered cars worldwide reached some 3.2 million in early 2012. That's a 55% increase over the previous year. The figure includes all the vehicles charged with electricity, such as plug-in hybrids.

ELECTRIC VEHICLE CHARGING

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With over forty years of transformer experience and our long standing commitment to quality and customer service, MGM Transformer will design and build the transformer that is right for your specific application.

MGM provides custom built dry and or liquid filled grounding transformers designed by industry leading, experienced engineers for the unique requirements of this specialty transformer. Our people, knowledge, and experience can provide a reliable, cost-effective transformer that will provide years of trouble free service.

Purpose

Simply put, a grounding transformer is used to provide a ground path to either an ungrounded "Y" or a delta connected system and is used to:

- Provide a relatively low impedance path to ground, thereby maintaining the system neutral at or near ground potential.
- Limit the magnitude of transient over voltages when re-energizing ground faults occur.
- Provide a source of ground fault current during line to ground faults.
- Permit the connection of phase to neutral loads if desired.

If a single line to ground fault occurs on an ungrounded or isolated system, no return path exists for the fault current, thus no current flows. The system will continue to operate but the other two un-faulted lines will rise in voltage by the square root of 3 resulting in overvoltage of the transformer insulation, and other associated components on the system, by 173%.

GROUNDING TRANSFORMER

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Application

Traction used transformers are critical components in the traction chain, affecting both train performance and operator services. MGM supplies traction substation transformers for all applications.

- High speed, commuter and regional trains.
- Transit/Traction - In general, electricity is distributed along tracks as DC current. Converted to AC to train to drive motors. 500VDC - 1500VDC is typical range.

These transformers are typically located in either indoor or outdoor traction substations.

TRACTION DUTY

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With over forty years of transformer experience and our long standing commitment to quality and customer service, MGM Transformer will design and build the transformer that is right for your specific application.

MGM provides custom built dry transformers for Triplex applications, designed by industry leading, experienced engineers for the unique requirements of Traction duty transformers. Our people, knowledge, and experience can provide a reliable, cost-effective transformer that will provide years of trouble free service.

Application

A triplex transformer is composed of three separate single phase transformers which are banked and connected directly together to form a single three phase unit in a common enclosure. While slightly larger than a dedicated three phase unit a triplex design can be broken down into three significantly smaller and lighter components when there are size and/or weight restrictions for transporting the transformer. These are often used in mining or high rise building installations where the unit must be transported in an elevator.

TRIPLEX TRANSFORMER

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With over forty years of transformer experience and our long standing commitment to quality and customer service, MGM Transformer will design and build the transformer that is right for your specific application.

MGM provides custom built dry and or liquid filled high rise transformers designed by industry leading, experienced engineers for the unique requirements of this specialty transformer. Our people, knowledge, and experience can provide a reliable, cost-effective transformer that will provide years of trouble free service.

HIGH RISE TRANSFORMER

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MGM provides custom built dry and or liquid filled transformers specifically for the mining industry, designed by industry leading experienced engineers for the unique requirements of mine duty transformers. Our knowledgeable staff, manufacturing standards and experience will provide a reliable, cost-effective transformer that will provide years of trouble free service.

Application

The mining industry requires many different types of Power Transformers, the need for high power in a compact robust transformer make these units unique to the industry. Examples include:

- Above/Ground Ground Application
- Headage Equipment
- Mining Distribution
- Low Profile Power Centers
- Multiple Input and/or Output Voltages
- Power Distribution
- Continuous Miners
- Low Profile Mining Transformers
- Longlead Transformers
- Special Environmental

MINING TRANSFORMER



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