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
MGM Transformer Company was established in 1975 as a dry transformer manufacturer. After the acquisition of Sierra Transformer Company in 1982, MGM introduced liquid units to its product line. By 1990, MGM Transformer had grown to become the largest independent transformer manufacturer west of the Mississippi.

To continue the growth of products within the transformer world, MGM Transformer Company opened a 125,000 square foot satellite manufacturing plant in 1991 for the production of 600V class general purpose lighting transformers. Presently, there are warehouse operations in major cities throughout the continental United States.

The last two decades saw a significant growth in the SCR/VFD drives industry, as users have looked for ways to improve efficiencies to reduce power costs. MGM Transformer Company has responded to this new demand with an engineering staff that specializes in the application and design of these sophisticated systems. Consequently, the company has become an established leader of drives isolation transformers.

Located on a five-acre site just southeast of metropolitan Los Angeles, the manufacturing plant encompasses 120,000 square feet. Adjacent to the manufacturing plant is a separate 20,000 square foot facility, housing offices for administration, engineering and sales.
Special Design Dry Type Transformers

**Barrel wound**

The barrel wound style is the most common method in the industry for 600V and 5kV applications. MGM only uses the barrel wound method for 600V class and 5kV class, 45kV BIL maximum.

**Section wound**

The section wound style is rarely used in industry due to higher cost vs. barrel or random wound.

**Disk wound**

Continuous disk or pancake wound style is very costly and not widely used. Due to its superior design criteria, MGM uses this method on 15kV class, above 1,000kVA and 60 to 125 kV BIL.

### Range

9kVA-10MVA, 2.4kV/5kV, 3 phase
30kVA-10MVA, 15kV, 3 phase
500kVA-10MVA, 34.5kV, 3 phase
9kVA-2,500kVA, 600V, 3 phase
10kVA-1,667kVA, 2.4kV/5kV, 1 phase
15kVA-3,333kVA, 15kV/34.5kV, 1 phase
10kVA-500kVA, 600V, 1 phase

### Design Specifications

- Aluminium/Copper
- 150°C / 115°C / 80°C or Special Request
- 220°C insulation
- NEMA standard/special sound levels
- ANSI standard/special BIL levels
- Dip/bake or VPI (upon request)
- UL K-factor ratings
- UL/CUL/CE/CSA listings (check with factory)
- Multi-voltage input/output
- 50/60/400 Hz
- OEM core and coil
- Multiple electrostatic shields
- Design to meet customer impedance and loss criteria
- Zig-Zag Grounding

MGM Transformer Company has established itself as a custom manufacturer of dry type transformers. With the exceptionally large and experienced engineering staff, the ability to design to the varying criteria of differing industries, while maintaining short lead times, has positioned the company as a leader in the transformer industry. Core and coil application for regulators and UPS systems, low loss/high efficiency drives isolation transformers, and K-factor rated substation transformers for retrofit are but a few of the special transformers MGM has designed and manufactured.

Within the Special Design Dry Type transformers, MGM employs three winding styles based on kVA, voltage and BIL requirements. The ability to select a specific winding style assures the highest degree of mechanical strength under short circuit stress conditions and suitability for different voltage classes.

Most transformer companies offer standard engineered products only, and ask the users to make it fit their applications. MGM however, can engineer the product both electrically and mechanically to fit any given and unique application.
Substation Transformers

For over four decades, MGM Transformer Company has been a reliable source for quality unit substation transformers. Our standard designs cover the full range of requirements from 600V to 34.5kV, 500kVA to 10,000kVA, in both liquid and dry type.

As an engineering oriented transformer company, we maintain a large engineering staff. Our experience in working with various switchgear manufacturers enables us to design the high voltage/low voltage switchgear interface, assuring the proper match in the field. Flex connectors can be supplied.

Non-standard substation designs are also available for special situations such as failed unit retrofitting or PCB replacement.

All manufacturing processes are done on the premises. This advantage, along with a large inventory of electrical steel and wire, assures our customers of the industry’s shortest lead times, regardless of the interface requirements.

Design Specifications

<table>
<thead>
<tr>
<th>RANGE</th>
<th>3-PHASE</th>
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<tbody>
<tr>
<td>500kVA-10MVA, 2.4/5kV</td>
<td></td>
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<tr>
<td>500kVA-10MVA, 15kV</td>
<td></td>
</tr>
<tr>
<td>500kVA-10MVA, 34.5kV</td>
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</tbody>
</table>

- Aluminum/Copper
- 150°C / 115°C / 80°C
- 220°C insulation
- Indoor/outdoor
- ANSI standard/special BIL levels
- Dip/bake or VPI (upon request)
- UL K-factor ratings
- UL/CUL/CSA listings (check with factory)
- *DOE 2016 Compliant
MGM Transformer Company has built a reputation for providing rugged, conservatively designed substation transformers.

Our experienced manufacturing team, backed by a rigorous QA/QC system requirement, results in a superior transformer in quality and performance. With an extensive inventory of raw materials on site, industry's shortest lead times are maintained.

As a benefit to our customers, fused and non-fused 600A 15kV load interrupter switches are maintained in inventory. These can be mated to our transformers and shipped in the same short cycle lead time as transformers without switches.
MGM Transformer Company has earned the respect of the major drives manufacturers as a supplier of reliable, high quality drives isolation transformers. All transformers are custom-designed to meet the customer’s exact specifications, using the latest ANSI/IEEE criteria for harmonic loads. Derated standard distribution transformer designs are never used.

As a design-and-build transformer company, we pride ourselves on our large and experienced engineering staff whose extensive experience in the drives industry has resulted in our success as a supplier of these special transformers. Applications ranging from pumps and fans, to heavy duty-cycle steel rolling mills, have been designed and manufactured.

We manufacture both liquid filled and dry type, from 15kVA to 10MVA. Our customers benefit because we are able to provide the best solution for any specific application.
To meet the demands of drives applications, special design and manufacturing processes are utilized. Engineering’s approach is to account for worst case scenarios, assuring conservative designs leading to long transformer life, even under severe applications. Manufacturing utilizes special winding techniques and equipment along with precision assembly and blocking methods, to maintain electrical and mechanical integrity while under stress.

MGM Transformer Company specializes in working with drives manufacturers to design and supply transformers to meet their exact equipment requirements. Once specifications are determined, a matrix of designs and pricing can be established for the manufacturer, streamlining the ordering process.

With a product range to 10MVA in both liquid-filled and dry type, and an engineering staff capable of designing to most any application, MGM Transformer Company is positioned as a leader in drives isolation transformer manufacturing.
MGM Transformer Company has established a national distribution network with locations in major cities in the continental U.S. Because of immediate availability from warehouse inventories and competitive pricing, MGM has become one of the leaders in this industry.

In addition to the standard warehouse products shown on this page, each warehouse location can supply, by special order, virtually any 600V class transformer to meet customer specifications. For a sampling of the requirements that can be supplied, please refer to the “Special Design Dry Type Transformers” page.
The US Department of Energy (DOE) has regulated the energy efficiency level of low-voltage (LV) dry-type distribution transformers in US since 2007, and liquid-immersed and medium-voltage (MV) dry-type distribution transformers since 2010.

The US Department of Energy has mandated new higher efficiency levels for Low and Medium Voltage distribution transformers effective January 1st 2016.

DOE’s CFR (Code of Federal Regulation) title 10, part 431 defines the current energy efficiency standards for distribution transformers sold in US also known as TP1 energy efficiency levels as adopted by NEMA. Effective Jan. 1st 2016 DOE’s CFR 10 p.431 will require new higher levels of Energy Efficiency for transformers installed in any US territory as published in the Federal Register Vol. 78, No. 75 on April 18, 2013.

Any Distribution transformer manufactured on or after Jan. 1st 2016 and sold in any US state will have to comply with the new energy efficiency levels defined by this document.

According to DOE, the new energy efficiency levels will reduce energy losses by an average of 18% in low voltage dry-type distribution transformers and by 13% in medium voltage dry-type transformers.
The resulting environmental benefits and savings for customers are both significant. Over the next 30 years, DOE projects savings of up to $12.9 billion in total costs for consumers, saving families and businesses money while reducing energy consumption. The new energy efficiency standard’s positive environmental impact includes 3.63 quadrillion BTU’s of energy saved during the above mentioned period, that translates in avoiding 265 million metric tons of CO2 emissions equivalent to the annual emissions of about 52 million automobiles.

MGM proudly supports these changes and the environmental benefits that will result from them. As a result of an exceptional team effort involving all MGM departments, manufacturing plants and warehouses, today we are ready to provide our customers with a completely redesigned DOE 2016 compliant product line which utilizes leading edge technologies and very high quality materials providing a technically advanced cost efficient solution for the most demanding customer applications.
### Liquid-Filled

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<th>kVA</th>
<th>Single Phase Efficiency</th>
<th>kVA</th>
<th>Three Phase Efficiency</th>
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<tr>
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<td>10</td>
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<tr>
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### Dry-Type

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<th>kVA</th>
<th>Three Phase Efficiency</th>
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<tr>
<td>20-45 kV</td>
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<tr>
<td>BIL</td>
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MGM Transformer Company is pleased to list a sample of our satisfied customers. For more information, please contact the factory.

**Drives Industry**
- Rockwell Automation
- Rockwell Reliance
- ABB
- Toshiba

**Industrial & Commercial**
- General Electric
- Siemens
- Westinghouse
- Proctor & Gamble
- EATON
- Motorola
- LTV Steel
- Toyota
- Hewlett-Packard

**Petrochemical**
- Amoco Oil
- Arco
- Chevron
- Mobil Oil
- Shell Oil
- Exxon
- Unocal

**Pulp & Paper**
- Weyerhauser
- Eddy Paper
- Georgia-Pacific

**Municipalities & Utilities**
- AT&T
- Commonwealth Edison
- L.A. Department of Water & Power
- Metropolitan Water District
- Florida Power & Light
- Pacific Bell
- Iowa Power & Light
- Wisconsin Power & Light
- Pacific Gas & Electric
- Edison International

**Architects & Contractors**
- ARAMCO
- Bechtel
- Brown & Root
- Fluor Daniel
- Ralph M. Parsons Co.
- Black & Veatch

**Universities / Labs**
- UCLA
- UC Berkeley
- UC San Diego
- Fermilab
- University of Michigan
- University of Minnesota
- Lawrence Livermore Labs
- Argon National Lab

**Wind-Turbine Power Generation**
- Palm Springs, California
- Tehachapi Pass, California
Quality you can see

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