



# American Electric Components, Inc.

4901 Fruitland Ave. Vernon, CA 90058  
Phone (323) 771- 4888, Fax (323) 771- 4775

[www.aecin1.com](http://www.aecin1.com)

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## Manufacturer of Electrical Transformers & Reactors

New, Rebuilt, & Emergency Repairs Up to 10,000 KVA, and 69,000 Volts  
**Quick delivery, ask for: Raúl Bañuelos**





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## AEC American Electric Components Inc.

Established in 1995, **AEC** is a reliable manufacturer of electrical Transformers. As a family owned and operated company with over 100 years of cumulative experience, **AEC** applies its knowledge and expertise to all design and fabrication. Sitting on a 78,400 sq. ft. property with a 47,000 sq. ft. shop, **AEC** produces and designs all its products in-house in Vernon, Los Angeles county.

### Quality Products, Reliable, & High-End Materials.

All Transformers are designed and manufactured to meet or exceed the latest **NEMA, ANSI, IEEE and UL STANDARDS**. **AEC's** Transformer capabilities range up to 10,000 KVA and 69,000 Volts, One or Three Phase, Dry and Oil Types.

### CUSTOM MAGNETICS, QUICK DELIVERY, AND SUPERIOR QUALITY IS OUR MAIN BUSINESS.

#### TESTING:

Transformers undergo a series of tests broken down into three classifications: routine, design and prototype.

These routine tests are made on all DRY TYPE and LIQUID IMMERSED Transformers to insure quality is met:

1. Visual
2. Ratio
3. Polarity and Phase Relations
4. No-load Losses and Excitation Current
5. Applied Induced and Potential Dielectric Test

These design tests are made on a sufficient number of Transformers to insure uniform results:

1. Impedance Voltage
2. Load Losses
3. Impulse Dielectric
4. Audible Sound level
5. Resistance Measurements
6. Temperature Rise

These prototype tests are made to insure basic designs and materials of quality:

1. Short-Circuit Capability
2. Insulation System
3. Weather Classification

#### WARRANTY:

**AEC** guarantees that each Transformer purchased directly is free from defects in material and workmanship, when properly used the product will perform in full accordance with applicable specifications. Any Transformer or component found within **Two Years** from the date of shipment that does not meet these standards will be reshipped to our facility, at owners expense. The Transformer or Component will be repaired or replaced in a timely manner at no additional charge.



DRY TYPE - PADMOUNTED



DRY TYPE - SUBSTATION



DRY NEMA -3R, WITH COMP.



OIL TYPE - SUBSTATION



OIL POLE MOUNTED



OIL PADMOUNTED WITH COMP.



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## Dry Type Transformers:

AEC Dry Type Transformers have excellent High-Temperature characteristics with **UL approved 220 °C rated Insulation System.**

### Magnetic Cores:

Cores are fabricated from: Precision-Cut, Burr-Free, Grain Oriented, High Electrical Grade Silicon Steel. These cores are designed for Low Losses and to reduce the users operating cost.

### Coils:

Precision-Hand Made, Barrel Wound Coils are built with the most advanced Coil Winding Equipment using only Copper Magnet Wire as our conductor, with layered Insulation, and Cooling Spacers for improved performance.

### Dip & Bake:

Each Dry Type Transformer consists of one or two cycles of Varnish Impregnation and baking stages which assures a reliable, long service life, for greater Electrical Strength.

## Optional Designs Available:

[Lower than NEMA Standards Sound Level.](#)

Higher than NEMA Standards **BIL** Ratings.

Special Impedances.

Padmounted Construction with:

- Mc Graw Edison HV Switch-Current Limiting Fuses.
- LV Molded Case C. Breaker, or Panelboard.
- Watt Hour Meter System.
- Totally Enclosed, Non-Ventilated.

Special Operating Frequency: 50, 400 HZ, etc.

Temperature Rise at 80 °C, 115 °C, etc.

Electrostatic Shield.

Forced Air Cooling, for 33% Extra KVA.

Lightning Arresters.

Retrofit Enclosure / Special Terminal Location.

Throats / Flanges / Air Terminal Chambers.



**ZIG-ZAG GROUNDING  
AUTOTRANSFORMER**

**RETROFIT CORE & COIL  
2000/2666 KVA, 13200-480Y/277V**



**MOTOR STARTING  
AUTOTRANSFORMER**



**LINE REACTOR**



**1 PH, DRY TYPE TRANSFORMER  
WALL MOUNTED, NEMA 3R**



**3 PH, AIR REACTOR  
INDUCTOR FILTER**



**12 PULSE RECTIFIER D-D  
ISOLATION TRANSFORMER**



**MULTI-TAPS TRANSFORMER  
AUTO OR ISOLATION**





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**DRY, NEMA1, & 3R ENCLOSURE, 5 & 15 KV HV CLASS  
LV COULD BE ANY VOLTAGE, AS REQUIRED**



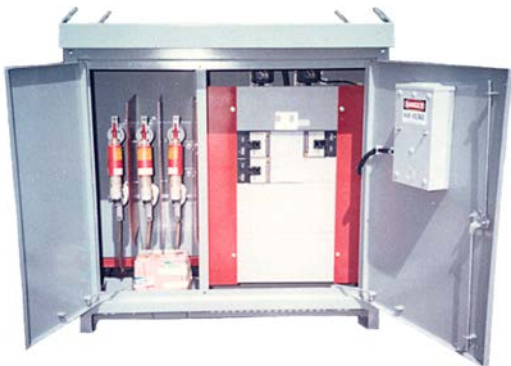
**DRY NEMA 3R, 750 KVA, 5 KV, WITH Mc GRAW EDISON SW. BLADE  
AND FUSES, DIST. CLASS LIGHTNING ARRESTERS**



**DRY Substation WITH TEMPERATURE INDICATOR, & FANS  
FOR 33 % EXTRA KVA RATING, FOR 500 KVA, AND ABOVE**



**DRY 1 PH, NEMA 3R, PAD. COMPARTMENTAL 50 KVA  
WITH ARC-STRANGLER FUSES**



**DRY PADMOUNTED COMPARTMENTAL, WITH 5 KV Mc GRAW  
EDISON SWITCH, LV PANELBOARD, AND W.H.M. SYSTEM**



**DRY, NEMA 3R, LV ISOLATION DRIVE, WITH ELECTROSTATIC  
SHIELD, SPECIAL IMPEDANCE FOR HARMONICS FILTER**



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## Oil-Filled Distribution Transformer:

AEC offers a complete line of Oil Submersed Transformers ranging from: 10 to 100,000 KVA, 69,000 Volts max, Single or Three Phase, 65 °C or 55 °C Winding rise temperature, 60 Hz or 50 Hz used for Exportation, and Insulation Temperature System of 105°C. AEC manufactures all types of Transformer Styles that include, but are not limited to: Pole mounted, Substation, Platform, and Padmounted Compartmental, Custom built **Retrofit** units for special replacement of old unreliable substation Transformers. **Emergency Repairs** are also available with short lead time. AEC also **Resells & Remanufactures** Pole Mounted Transformers.



SMALL 3 PH POLE TYPE



MEDIUM 3 PH POLE TYPE COIL

## Coils:

The Coils are wound with soft, annealed Copper Wire that has been drawn through smoothing dies by the manufacturer. The wire insulation is half-lapped with Nomex Paper, or GP-200(Polyester/Polyamide Imide), with the wire size and voltages accordingly. Barrier and Layer Insulations are thermally upgraded, 100% electrical Kraft Paper, and have structural materials including vulcanized fiber, rigid laminates and electrical grade hard wood. The windings are designed to avoid unbalanced electro-magnetic forces, enabling them to withstand the mechanical forces of a full short circuit with a full load voltage applied. The entire core and coil assembly is oven dried of humidity before tanking and oil submersion.

## Tanks and Compartments:

Heavy gauge Cold Rolled Annealed Spring Steel, Hot Rolled Pickled and Oiled, and/or Stainless Steel is used in the fabrication of the tanks and compartments. The tank is further braced with metal fins to withstand pressure of 7 PSI without permanent distortion. The sealed tank construction is used, with either a removable main cover or welded main cover with access through a hand hole on the cover. A resealing pressure relief valve, with a cracking pressure of 10 PSI is provided. **NEMA** grounding pads are provided in both compartments, and there are provisions for anchoring the tanks and compartments.



1 PH PAD COMPARTMENTAL



SUBSTATION REPAIR-REBUILT



3 PH PAD COMPARTMENTAL



SUBSTATION RETROFIT



1 PH POLE TYPE



SMALL SUBSTATION



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## Pad-Compartment Transformers:

Tamper-resistant tank design with compartments assembled as integral units for flush mounting on a flat, rigid surface (generally on a concrete pad). The entire unit may be rolled, skidded, jacked, or hoisted by its lifting hooks into place. The Pad-Compartment design is used to step down high voltage from distribution power supplies via underground cables. The cables can be economically connected to the bushings or to factory-installed auxiliary equipment with minimal labor. For safety purposes, the high voltage compartmental door on the left can only be opened after the low voltage door on the right has been opened. The door has a pad-lockable handle to its 3-point latch. The compartments are separated by a metal barrier, to further ensure safety.

## Optional Features:

- Radial or Loop Feed. Live or Dead Front.
- Load break switch 15 KV, 200A, on-off.
- Load break switch 15 KV, 200A, 4 position (loop feed system).
- Lightning arresters: Live or Dead Front.
- Bayonet Expulsion Fusing.
- Bayonet with ELSP Current-Limiting Backup Fuse.
- Dry well canister with Current-Limiting Fuse.
- McGraw Edison NX Current-Limiting with ARC-Strangler Loadbreak Device.
- De-energized Dual Voltage Switch.
- Liquid Level Gage.
- Dial type Thermometer.
- Pressure Vacuum Gage.
- Drain Valve with Sampling Device.
- Pressure Relief Valve or Device.
- One piece HV Integral Bushings.
- HV Bushing Insert, Single or Feed thru
- Secondary LV Circuit Breaker or Panel Board.
- Watt per Hour Meter System.
- Special Low Sound Level.
- Improved Higher than Standard BIL.
- Pentahead Bolt Latching System.
- Mechanical Interlock Switch-Fuses.
- Special "Retrofit-Features".



3 PH, RADIAL W/ BAYONETS



3 PH, LOOP, W/ MCCB



3 PH, LOOP, D.W. CAN. FUSES



RAD. W/ FEED THRU INSERTS



3 PH, DEAD FRONT, RAD. FEED



1 PH, RADIAL FEED



LOOP, W/ BAYONETS



RADIAL W/ D.W. CAN





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## Dry & Oil Type Reactors:

When used in electrical systems as filters or to limit short circuits to a safe value, Dry & Oil Type Reactors are called **Current Limiting Reactors**. Reactors are placed on SCR Drives or Inverters to absorb electrical noise created by the drive called notching. Pulse distortion and harmonics are bi-directional protecting filtering devices, which solve many problems associated with electrical power conversion equipment.

Most VFD manufacturers incorporate a DC Link Choke ahead of the DC bus capacitors, in the ripple filter circuit, this limits the rate of change of line current relative to time (di/dt) into the capacitors. This results in a lower peak current by 40% to 60%, or when substituted by three phase input reactor typical values are 3% or 5% of the line impedance.

UL Recognized Insulation System DV-220 for up to 600 Volts, UR labeled.

## Designs Available:

- DC link choke, one per line or in differential mode
- Interphase reactor for 12-pulse DC rectifier filter
- Input line reactor: could be 1 or 3 phase
- Non-saturating air-core reactors.

## Optional Add-Ons:

Optional Temperature rises are 80°C or 115°C.  
 Higher than standards **BIL** rating.  
 Open core and coil, special OEM Terminal locations.  
 Ventilated Enclosure, Indoor or Outdoor.  
 Totally enclosed non-ventilated.  
 Operating Frequency: 50, 60, 400 Hz or special.



**WELDING TRANSFORMER REPAIR**  
116 KVA, 480-5.8 to 11.6V



**AIR-CORE REACTOR**  
425  $\mu$ H, 50 Amps



**DIFFERENTIAL TYPE DC REACTOR**  
1700  $\mu$ H, 250 Amps



**LINE REACTOR**  
500  $\mu$ H, 125 Amps



**INVERTER OUTPUT FILTER**  
(3) 72  $\mu$ H, 260 Amps



**DC Choke, Interphase**  
3.0 mH, 75 Amps



**5 Pieces: Line Reactors**  
500  $\mu$ H, 125 Amps



**DC MAGNET COIL repair, 68A, 230 V DC, 2.7 H, WT=6000 lbs.**



# American Electric Components Inc. Dry type repairs 2



510273-1 Underground Elec. 500 KVA, 4160 - 208Y/120



510280-1 H&H Denver CO, 2000 KVA, 13200 - 480Y/277



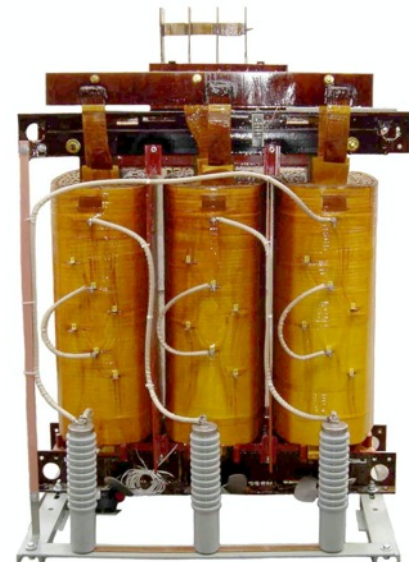
506167-1 AZ Elec. Apparatus, 1000 KVA, 4160 - 480



508232-1 GE Tucson AZ, 100 KVA, 4160 - 480Y/277



505121-1 GE Denver CO, 1500 KVA, 7200 - 480Y/277



504078-1 H&H Denver CO, 1000 KVA, 13200 - 480Y/277





# American Electric Components Inc. 2005-06 Dry Type Transformers



607124-1 GE Anaheim CA, 2000 KVA, 12470 - 480Y/277



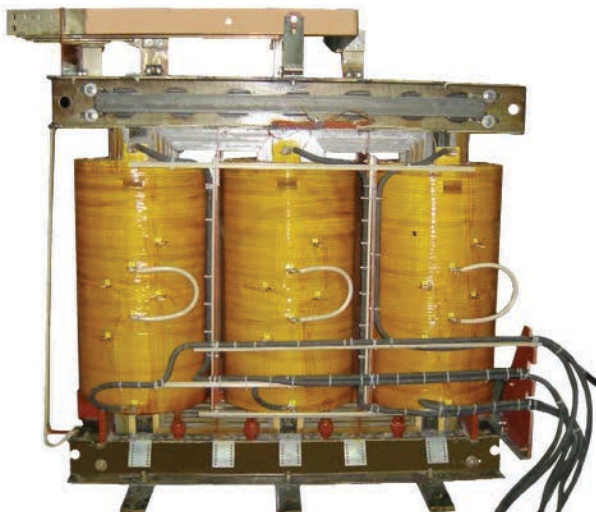
604082-1 H&H Denver CO, 2000 KVA, 13200 - 480Y/277



504087 H&H Trans., 2000 KVA, 550/7200-600Y//600Y



602036-1 B.L. Elec. Anaheim CA 1500 KVA, 12470 - 480Y/277



601002-1 Underground Elec. 2500 KVA, 4160 - 277



509249-1 Romac, Commerce CA 2000 KVA, 2400 - 480Y/277



# American Electric Components Inc. 2005-06 Oil type Transformers



608148-1 GE Anaheim CA, 2500 KVA, 43800 - 4160Y/2400



509268-1 BreitBurn Energy, 1500 KVA, 12470GRY/7200-480



605098-1 IEM / Shell Oil, 2500 KVA, 12000 - 480Y/277



503073-1 GE Anaheim CA, 7500 KVA, 1200 - 4160Y/2400



511288-1 Delta Power, Bakersfield CA 833 KVA, 16500 - 480



602032-1 Delta Power System, 3000 KVA, 16500 - 480Y/277





# American Electric Components Inc. 2007 Oil Type Transformers



710207-1 Novatech, 3750 KVA, 12000-4160Y/2400



709184-1 Southern California Edison, 3750 KVA, 12470-4160Y/2400



704081-1 Underground Electric, 1500KVA, 12000-480Y/277



705102-1 Romac, 1500 KVA, 34500 - 13800



709190-1 H&H Trans., 2500 KVA, 24940GRDY/14400-4160Y/2400



712272-1 Pacific Energy, 7500 KVA, 34500-4160Y/2400



# American Electric Components Inc. 2007 Dry Type Transformers



706138 Alliance Elec. Supply, 2000/2666 KVA, 4800-480Y/277



707148 H&H Trans., 3000/4000 KVA, 13200-480Y/277



709192 H&H Trans., 2000 KVA, 4160x7200-600Y//600Y



705095 Alliance Elec. Supply, 2000 KVA, 13200-480Y/277



708171 Underground Elec., 1500 KVA, 12000-480Y/277



704063 KTI, 1500/2000 KVA, 16500-480Y/277





# American Electric Components Inc. 2008 Oil Type Transformers



809171 DCOR LLC, 3000 KVA, 34500-480Y/277



803050 KTI, 7500 KVA, 13800-4160Y/2400



807132 NovaTech., 3750 KVA, 12000-460



805099 GE Anaheim, 5000 KVA, 12470-4160Y/2400



802038 Chevron, 3750 KVA, 16500-2400Y/1385



803058 DCOR LLC, 3000 KVA, 34500-600Y/346



# American Electric Components Inc. 2008 Dry Type Transformers



810183 H&H Transformer, 1500 KVA, 7200-480Y/277



808140 GE Anaheim, 1000 KVA, 13200-480Y/277



802032 Underground Elec. Supply, 2000/2666 KVA, 4160-480Y/277



809162 H&H Transformer, 3PH Line Reactor, 700 V L.L.



808136 Romac, 1000 KVA, 4160-2400



803048 H&H Transformer, 2000 KVA, 7200X4160-600Y//600Y





# American Electric Components Inc. 2009 Oil Type Transformers



905112 Chuck's Electric, 500 KVA, 4160-480/277



909180 AEC, Inc, 2500 KVA, 12470-480



903056 Underground Electric Supply, 500 KVA, 16340-2400Y/1386



909166 West Coast Switch Gear., 3750 KVA, 16500-2400Y/1386



905111 Southern California Edison, 10000 KVA, 69000-7200Y/4160



903057 Romac, 2500 KVA, 2400/4160Y/2400-480



# American Electric Components Inc. 2009 Dry Type Transformers



905106 Southern California Edison, 1500 KVA, 12000-480Y/277



905113 KTI, 1000 KVA, 4160-480Y/277



902042 H&H Transformer, 2000/3484 KVA, 7200-770Y//990Y



905103 H&H Transformer, 2500 KVA, 13200-480Y/277



910196 Power Systems Services, 2000 KVA, 12000-480Y/277



912213 H&H Transformer, 1600 KVA, 13800-960Y-480Y





# American Electric Components, Inc. 2010 Oil Type Transformers



1010160 CES Santa Maria, 500 KVA, 12000-480Y/277



1007118 GE Anaheim, 1500 KVA, 70000-500/100



1009158 K.T. Industries, 7500 KVA, 13800-4160Y/2400



1001011 BP Arco, 7500 KVA, 12470-4160Y/2400



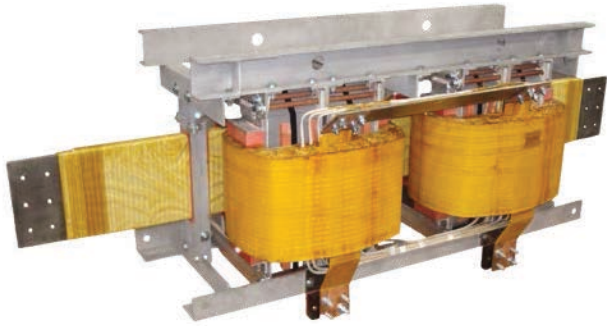
1001006 Romac, 750 KVA, 2400-480Y/277



1001005 GE Anaheim 2750 KVA, 12470-600-600Y



# American Electric Components, Inc. 2010 Dry Type Transformer



1011173 AEPCO, Saturable Current Transformer



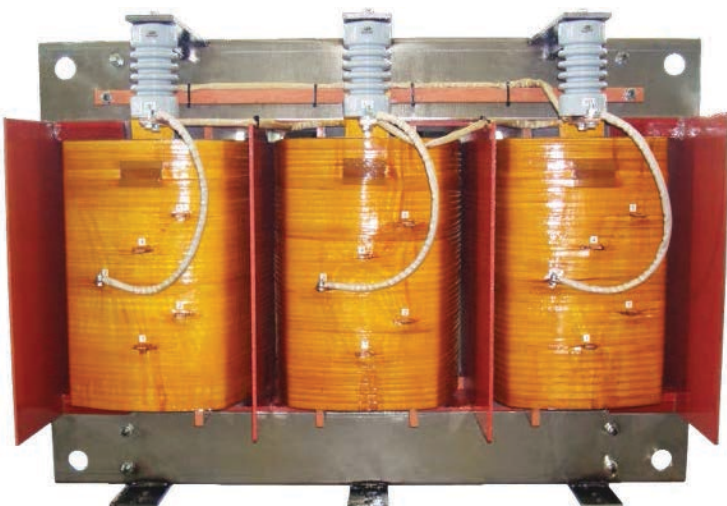
1011182 General Atomics, 1688 KVA, 3860±22 1/2 -1800Y/1039



1004059 H&H Transformer, 2500 KVA, 13200-480Y/277



1005079 Advanced Energy, 400 KVA, 480-480Y/277



1003044 Atlas Electric, 1000 KVA, 13800-480Y/277



1001017 Sloan Electric, 2500 KVA, 12470-480Y/277





# American Electric Components, Inc. 2011 Oil Type Transformers



1104051 Beta Offshore, 2500 KVA, 4160-2100Y/1213



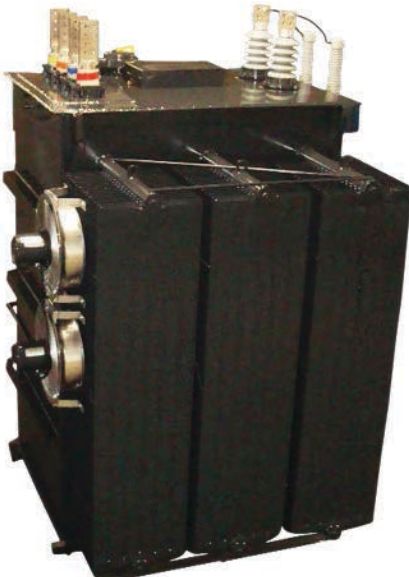
1107105 Delta Power Systems, 2500 KVA, 4160-600Y/346



1108112 Arizona Electric, 3000 KVA, 4160-480Y/277



1111170 Underground Electric, 1500 KVA, 4160-480Y/277



1111167 H&H Transformer, 1424 KVA, 12470-75//257



1112174 CES Santa Maria, 500 KVA, 4160-480Y/277



# American Electric Components, Inc. 2011 Dry Type Transformers



1102021 Underground Electric, 2000 KVA, 12000-480Y/277



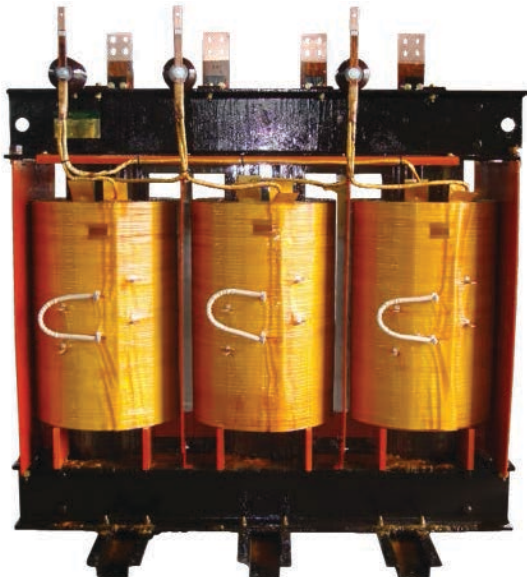
1104048 Atlas Electric, 1000 KVA, 13800-480Y/277



1109139 H&H Transformer, 2000 KVA, 4160x7200-600Y//600Y



1102018, H&H Transformer, 500 KVA, 12470-480Y/277



1104055 Underground Electric, 1250 KVA, 1200-480Y/277



1107106 Advanced Energy, 1750 KVA, 1000Y/577





# American Electric Components, Inc. 2012 Oil Type Transformers



121005 Yorba Linda Electric, 130 KVA, 480-750//2685



1202017 GE Anaheim, 1500 KVA, 13200-480Y/277



1207100 H&H Transformer, 1500 KVA, 18000-480



1208126 CoreSite, 6000 34500-12470Y/7200



1208132 Yorba Linda Electric, 2000 KVA, 12000-480Y/277



1209139 Southwest Energy, 10000 KVA, 70600-22900Y/13220



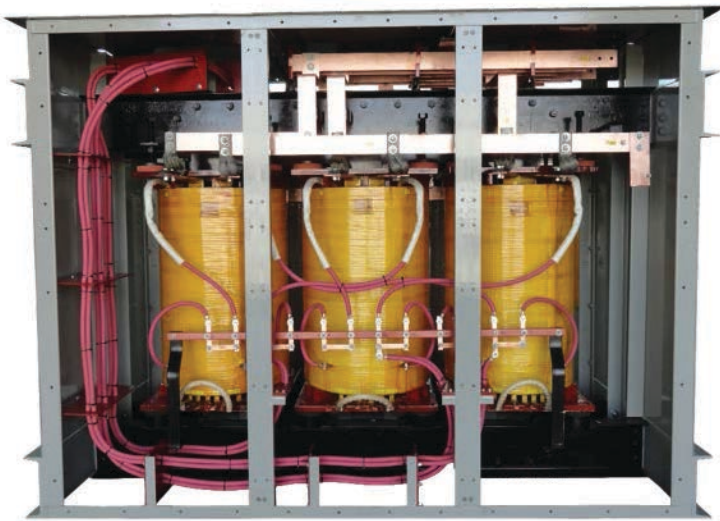
# American Electric Components, Inc. 2012 Dry Type Transformer



1210168 GE Buffalo, NY, 225 KVA, 13800Y/7967-240



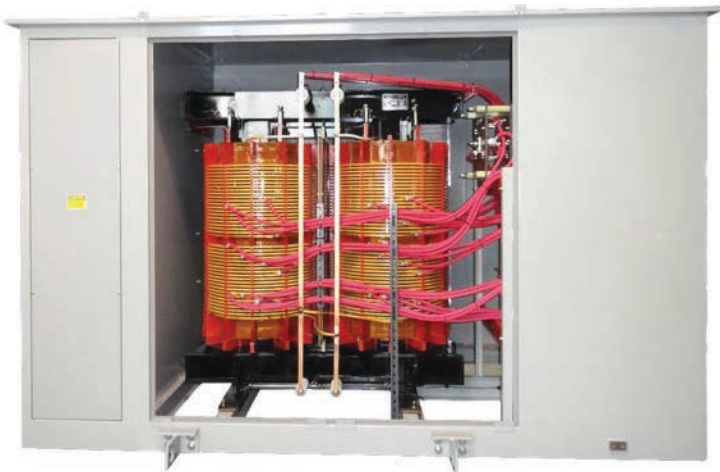
1211189 Atlas Electric, 1000 KVA, 13800-480Y/277



1202028 H&H Transformer, 2000 KVA, 7200x4160-600Y//600Y



1211188 H&H Transformer, 2500 KVA, 13200-480Y/277



1210167 Ind. Elec. Mach., 1150 KVA, 7200-120//438



1207108 West Coast SW, 1500 KVA, 4160/7200-600Y//600Y





# American Electric Components, Inc. Oil Type Transformers



1304036-1 GE Anaheim, 2000 KVA, 13800-480Y/277



1301008-1 GE Anaheim, 1000 KVA, 22900-480Y/277



1407110-1 Beta Offshore, 2500 KVA, 4160-480y/277



1407114-1 Arizona Electrical App., 3858 KVA, 13200-264Y/210



1410147-1 OCSD 2000 KVA, 12470-4160Y/2400



1411166-1 KTI 750 KVA, 12000-480/277

 American Electric Components, Inc. Dry Type Transformer



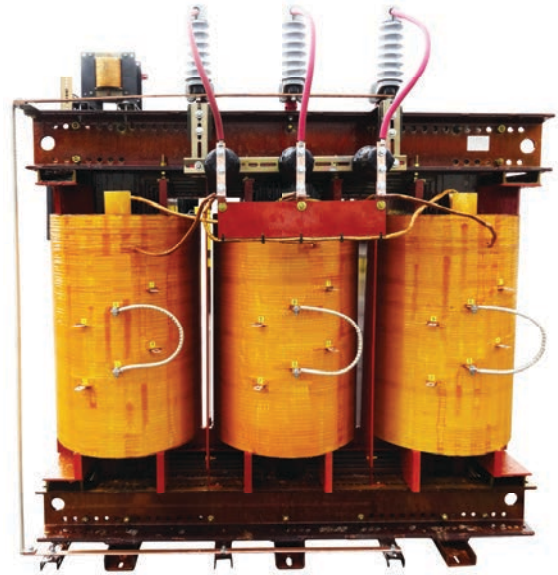
1405073-1 Wesco Spokane 1500 KVA, 13800-2300



1306089-1 H&H Transformers 2500 KVA, 132000-480Y/277



1303033-1 Atlas Electric, 16500 KVA, 13800Y/7967-670



1410161-1 KTI, 1500 KVA, 15600-480Y/277



1408129-1 H&H Transformers, 2063/2750 KVA, 6900-600Y/347



1409140-1 Arizona Electrical 2500 KVA, 7200Y/4160-4160Y/2400