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

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

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

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
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 Compartamental, 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.

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.
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.
- 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, DEAD FRONT, RAD. FEED  3 PH, RADIAL W/ BAYONETS  3 PH, LOOP, W/ MCCB

3 PH, RADIAL W/ BAYONETS  3 PH, LOOP, D.W. CAN. FUSES  RAD. W/ FEED THRU INSERTS

3 PH, LOOP, W/ MCCB  1 PH, RADIAL FEED  LOOP, W/ BAYONETS  RADIAL W/ D.W. CAN
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 \((\text{di/dt})\) 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.
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 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
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
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

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

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

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

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

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

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

905106 Southern California Edison, 1500 KVA, 12000-480Y/277
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/277
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
1102018, H&H Transformer, 500 KVA, 12470-480Y/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. 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