TRANSFORMER FEATURES

Range – Up to 15 MVA, 35 kV voltage class, 150 kV BIL
Loading – Designed to deliver rated current and MVA in all tap positions
Service – Indoor
Basic Impulse Level (BIL) – Per ANSI standard
Impedance – ANSI standard
Coils – Aluminum or copper conductor, circular construction
Paint – ANSI 61 enamel on phosphatized surface
Nameplate – Metalized mylar
Other – Provisions on base for lifting, jacking and skidding, stainless steel ground pads

OPTIONAL FEATURES

• Reconnectable windings
• Non-standard impedance
• Epoxy paint in your choice of color
• Fan cooling for increased MVA
• Available at 150˚C rise
• Outdoor, NEMA 3R enclosure
• TENV – For harsh environment
• Temperature Monitoring – Choose from coil winding temperature sensors and indicators, gauges or temperature controllers
• Terminations – Copper or aluminum bus with NEMA hole patterns and optional plating, flexible bus connection provisions also available
• Special flanged throats or custom air terminal chambers

UNICLAD® BENEFITS

• Impressive 3-year warranty
• Circular design above 750 kVA
• Copper conductor – aluminum available
• 115˚C rise – 80˚C rise optional
• 220˚C insulation class
• Distribution class kV BIL ratings
• 15 percent overload capacity without fans at 115˚ rise
• Self-extinguishing internal and external arc
• Partial discharge free to 120%
• Water submersion 24 hours
• Thermal shock – no cracks
• Humidity 100% for 48 hours
• Vibration 1.5 Gs
• Shock 30 Gs

PRODUCT RANGE

• Dry Type 15 MVA, 35 kV
• Uniclad® (encapsulated coils) – 15 MVA, 35 kV
• Liquid Filled – 300 MVA, 230 kV
• LTC Transformers – 300 MVA, 230 kV
• Voltage Regulators – 3-phase, 46 kV
• Drive Isolation – 50 MVA, 138 kV
• Traction Duty – 50 MVA, 138 kV
• Air Core Reactor – 15 kV
**UNICLAD® SPECIFICATION DATA**

<table>
<thead>
<tr>
<th>KVA Sizes Available</th>
<th>300-15,000</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Primary Voltage Classes</strong></td>
<td>2.5, 5, 8.7, 15, 25, 34.5 kV</td>
</tr>
<tr>
<td><strong>Secondary Voltage</strong></td>
<td>208Y/120, 240, 480Y/277, 480V, 2.5 kV and 5 kV Class</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Basic Impulse Level (kV)</th>
<th>Standard (kV)</th>
<th>UNICLAD®</th>
<th>Optional (kV)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.2</td>
<td>10</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>2.5</td>
<td>45</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>5.0</td>
<td>60</td>
<td>75</td>
<td></td>
</tr>
<tr>
<td>8.7</td>
<td>75</td>
<td>95</td>
<td></td>
</tr>
<tr>
<td>15.0</td>
<td>95</td>
<td>110</td>
<td></td>
</tr>
<tr>
<td>25.0</td>
<td>125</td>
<td>150</td>
<td></td>
</tr>
<tr>
<td>34.5</td>
<td>150</td>
<td>–</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Insulation System</th>
<th>220°C</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Winding Temperature Rise</th>
<th>115°C</th>
<th>80°C</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Impedance</th>
<th>5.5% - 7.5% depending on HV BIL and LV rating.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forced Air Rating (KVA)</td>
<td>500-750 133% – 1,100-15,000 133% 150%</td>
</tr>
<tr>
<td>Ambient Temperature Range</td>
<td>-40°C to +40°C Max. +50°C</td>
</tr>
</tbody>
</table>

*Application Note: Vacuum circuit breakers switching is known to produce voltage resonance. Use appropriate caution in circuit design. (See IEEE Draft #C57.142)*

---

**UNICLAD® ENCLOSEMENT DATA**

<table>
<thead>
<tr>
<th>KVA</th>
<th>Width (in. / mm)</th>
<th>Height (in. / mm)</th>
<th>Depth (in. / mm)</th>
<th>Weight (lbs. / kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>300</td>
<td>84 (2,130)</td>
<td>90 (2,290)</td>
<td>54 (1,370)</td>
<td>4,600 (2,090)</td>
</tr>
<tr>
<td>500</td>
<td>84 (2,130)</td>
<td>90 (2,290)</td>
<td>54 (1,370)</td>
<td>5,100 (2,300)</td>
</tr>
<tr>
<td>750</td>
<td>84 (2,130)</td>
<td>90 (2,290)</td>
<td>54 (1,370)</td>
<td>6,050 (2,750)</td>
</tr>
<tr>
<td>1,000</td>
<td>84 (2,130)</td>
<td>90 (2,290)</td>
<td>54 (1,370)</td>
<td>7,400 (3,350)</td>
</tr>
<tr>
<td>1,500</td>
<td>96 (2,440)</td>
<td>90 (2,290)</td>
<td>54 (1,370)</td>
<td>9,100 (4,120)</td>
</tr>
<tr>
<td>2,000</td>
<td>96 (2,440)</td>
<td>90 (2,290)</td>
<td>60 (1,520)</td>
<td>11,600 (5,300)</td>
</tr>
<tr>
<td>2,500</td>
<td>96 (2,440)</td>
<td>90 (2,290)</td>
<td>60 (1,520)</td>
<td>15,000 (6,800)</td>
</tr>
<tr>
<td>3,000</td>
<td>110 (2,800)</td>
<td>96 (2,440)</td>
<td>60 (1,520)</td>
<td>18,000 (8,180)</td>
</tr>
<tr>
<td>3,750</td>
<td>110 (2,800)</td>
<td>102 (2,590)</td>
<td>60 (1,520)</td>
<td>20,600 (9,300)</td>
</tr>
<tr>
<td>5,000</td>
<td>122 (3,100)</td>
<td>108 (2,740)</td>
<td>66 (1,680)</td>
<td>27,400 (12,400)</td>
</tr>
<tr>
<td>7,500</td>
<td>148 (3,760)</td>
<td>124 (3,150)</td>
<td>72 (1,830)</td>
<td>33,500 (15,250)</td>
</tr>
<tr>
<td>10,000</td>
<td>148 (3,760)</td>
<td>130 (3,300)</td>
<td>72 (1,830)</td>
<td>42,000 (19,100)</td>
</tr>
<tr>
<td>15,000</td>
<td>160 (4,064)</td>
<td>144 (3,657)</td>
<td>84 (2,134)</td>
<td>55,000 (25,000)</td>
</tr>
</tbody>
</table>

*Not for design purposes. Dimensions shown are for typical NEMA 1 enclosure. Smaller enclosure sizes are possible. For exact dimensions, weights, losses, features and warranty, call us.

Data is for estimating purposes only and should never be used for construction. Contact factory for actual dimensions, weights and oil volume.

---

**COIL SEALING AND CLADDING**

Each coil follows a carefully controlled, six-stage process to produce the desired level of protection. This proprietary process includes oven drying to remove moisture, vacuum-pressure impregnation with a flexible varnish, and coil end sealing with a resin mixture. A final outer-cladding mixture of varnish, resin and silica is applied to the entire coil assembly to provide a final protective seal against the environment.

---

**PRODUCTION TESTS**

Routine in-house tests per ANSI C57.12.91 include:
- Ratio
- Polarity
- Phase Relation
- No-Load Loss
- Excitation Current
- Impedance
- Load Loss
- Applied Voltage
- Induced Potential
- Resistance

Witness testing is offered and arranged according to your schedule.

---

**SELECTED CUSTOMERS**

- Alcoa
- PPG Industries
- Powell Electric
- Eaton Corp.
- Impulse NC, Inc.
- Long Island Railroad
- Consolidated Papers
- Georgia Pacific
- New York City Transit Authority
- GE Plastics
- Unocal Oil & Gas
- Reynolds Metals Co.
- Occidental Chemical Corporation
- Grand River Dam Authority
- City of Norfolk
- GTE Data Services
- Pratt & Whitney
- Westvaco Corp.

---

**TYPICAL INDUSTRIES**

- Paper Mill
- Transit
- Steel Mill
- Mining
- Hospital
- Computer Center