VIRGINIA - GEORGIA TRANSFORMER
ONE SOURCE–ONE COMMITMENT

TOTALLY ENCLOSED, NON-VENTILATED
DRY-TYPE TRANSFOREMRS

TENV

Combining the best of dry-type and liquid-filled transformers

THE TENV SOLUTION, DESIGNED FOR YOUR APPLICATION

For nearly two decades, Virginia Transformer Corporation (VTC) has been bringing its customers the best of both worlds: cost-effective solutions for difficult environments. Our customers often turn to conventional dry-type transformers for low cost, safety and reliability.

But in environments where the ambient air is subject to contamination, conventional ventilated dry-type transformers are prone to dielectric problems. For these situations, VTC offers a superior solution: Totally Enclosed, Non-Ventilated (TENV) transformers. Since the 1980s, we've manufactured these units for both U.S. and international customers for a variety of applications in corrosive environments. Our transformers have been the top pick for Fortune 500 companies, engineering firms, government and military installations, and utility projects.

VTC offers a full range of custom-designed TENV transformers up to 5000 kVA and 34.5 kV class, for both indoor and outdoor applications. We also design these units for rectifier duty (harmonic loading), special overloads, special BIL level, and other unique requirements.

DESIGNED FOR THE JOB AT HAND

Our TENV transformer enclosures are not ventilated, thereby preventing the core and coil from coming into contact with contaminants in the ambient air. Our designs ensure adequate heat dissipation, a critical factor for this type of transformer.

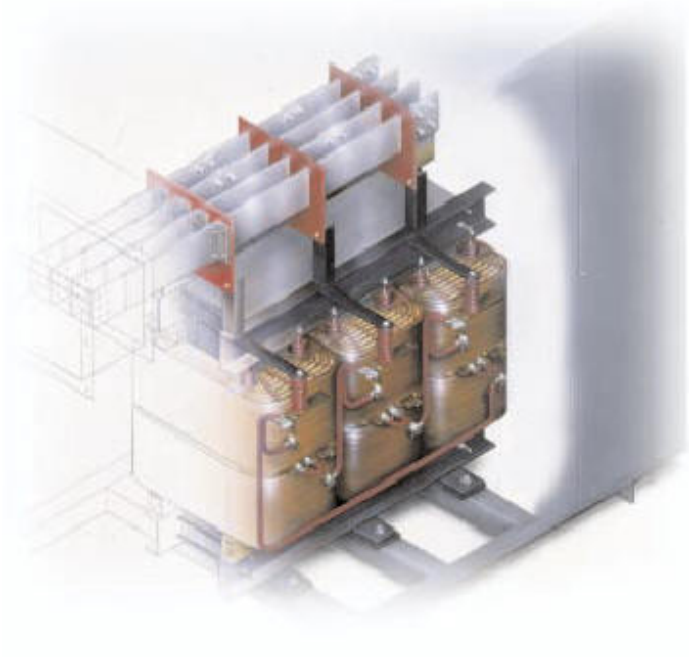
ADVANTAGES

- Totally enclosed, non-ventilated construction ensures that ambient contamination never contacts the 220° C rated core & coil assembly.
- Install TENV indoors or outdoors.
- TENV offers all the advantages of dry type transformers – lower cost, ease of installation and maintenance.
- With TENV, there is none of the environmental or fire risk inherent with liquid-filled units.

Heat transfer takes place in two stages in our TENV units: first from the core and coil to the internal air, and then from the internal air to the outside atmosphere through the walls of the enclosure. Since the enclosure is not ventilated, the interior temperature is higher than ambient.

To prevent overheating of the core and coil, we design our TENV transformers for low temperature rise. We also design our enclosures to be larger than those for conventional ventilated, dry-type transformers to ensure sufficient surface area for radiant heat exchange. If required, we can extend the enclosure surfaces for additional cooling. We've even built TENV units with stainless steel enclosures, which are resistant to most corrosive environments and are practically maintenance-free.

Virginia Transformer Corp					Georgia Transformer
			P1	P2	
1936 Blue Hills Drive Roanoke, VA 24012 USA Phone: 540.345.9892	220 Glade View Drive Roanoke, VA 24012 USA Phone: 540.245.9892	3770 Poleline Road Pocatello, ID 83201 USA Phone: 208.238.0720	Complejo Industrial Chihuahua. Ave. Homero #3307, Chihuahua, MX Phone: 52.614.483.0000	Avenida de las Industrias 6899 Nombre de Dios, Chihuahua, Chih. Phone: 52.614.483.0000	2789 Highway 21 South Rincon, GA 31326 USA Phone: 912.754.5300



SUPERIOR MATERIALS, SUPERIOR CONSTRUCTION

VTC engineers design core geometry to minimize core losses. We design and construct coils appropriate to the kVA rating of the transformer. After winding, we dry and preheat our coils to remove moisture, then move them into our VPI tank where a high vacuum enables polyester resin to flow into the coil, filling voids. We then use positive pressure to drive resin into the coil.
After impregnation we bake the coils to cure the resin and form a solid mass. VTC can also provide TENV transformers with our premium Uniclad® core and coil assembly.

VTC terminates HV and LV windings inside the enclosure or within full or partial height air terminal chambers. Where the application demands it, we provide bushings similar to those provided with liquid-filled transformers. All of our TENV transformers come with a winding temperature gauge as a standard accessory.
We also offer surge arresters, CTs and PTs as optional accessories.

APPLICATIONS

- Chemical plants
- Cement plants
- Environments with contaminants such as:
  - Gases, including chlorine and sulfur
  - Solids such as coal dust, metal dust and textile fibers
  - Fumes and vapors in industrial plants
  - Salt-laden air

QUALITY BY THE NUMBERS

To ensure the highest quality we conduct routine tests per ANSI on all of our TENV transformers. We also test to CSA or IEC standards upon request.

VIRGINIA - GEORGIA TRANSFORMER
ONE SOURCE–ONE COMMITMENT