



ABS Certified Marine Duty  
**Dry Type &  
Liquid Filled  
Transformers**

For Shipboard and Offshore Applications

Propulsion Drive Systems | Oil Drilling | Power Distribution

Individual solutions | from a global perspective.



**VIRGINIA TRANSFORMER CORP**

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



What you need. Where you need it. When you need it.

**LIFE AT SEA IS TOUGH.  
SO ARE OUR TRANSFORMERS.**

Building transformers for harsh environments has been the core of Virginia Transformer Corp's (VTC) business for more than 30 years. Marine transformer applications are a natural extension of our business as we provide time-tested products and engineering services to the offshore and shipboard markets. With our certification by the American Bureau of Shipping (ABS) for dry and liquid transformers, we offer marine application solutions for all your generation distribution, propulsion drive systems, oil drilling and other offshore requirements.

Over the years we've evolved from a provider of transformers to a creator of productivity solutions. With competition intensifying globally, marine engineers are continually challenged to deliver the most economical and highly reliable transformers possible.



VTC can help. Our vast experience, broad product offering and proven performance make Virginia Transformer Corp your choice for success even in the toughest conditions.

**MORE THAN QUALIFIED. CERTIFIED.**

Our customers aren't the only ones who think VTC transformers are ideal for offshore use. We've met the requirements for Certification of Type Approval from the American Bureau of Shipping.

**VTC OUTFITS STATE-OF-THE-ART TIDEWATER VESSELS**

High tech is high priority at VTC. When Tidewater, one of the world's largest generation service vessel operators, wanted to update their fleet with larger diesel electronic propulsion vessels for deepwater drilling, they turned to us. We responded by supplying them with transformers for five anchor handling towing supply vessels (AHTSVs). Built in China's Yantai Raffles Shipyard, the AHTSVs are

280-foot KMAR design 404 class with the capacity for 8,125 bbl of liquid drilling mud, bulk mud tanks of 10,000 cubic feet at a dead weight of 4,613 LT and a winch pull of 600 tons. Our work for these cutting-edge vessels has shown the shipbuilding industry the value of transformers that use the latest technology to stand up to the rigors of the sea.

Type Approval, which is based on a number of factors from specific design compliance to quality management, certifies that VTC is an ABS-approved manufacturer of:

- Dry type and UNICLAD® transformers in the 5 KV Class within the range of 225 KVA to 5,000 KVA and the 15 KV Class within the range of 225 KVA to 3,600 KVA.
- Liquid filled transformers that are 5 KV Class through 35 KV Class, within the range of 500 KVA to 5,000 KVA.

VTC has also obtained UL listing for our dry type transformers and maintains a quality system in compliance with the ISO 9001 standard.

#### EXPERIENCE THAT CIRCLES THE GLOBE

VTC's application-savvy sales engineers, experienced design staff and manufacturing support team work closely with you to manage all aspects of your shipbuilding, support vessel, oil drilling or drive systems projects. As a VTC customer, you will deal directly with our experts at our Virginia headquarters and our Marine Duty and Offshore team in Mexico who have the comprehensive skills to oversee manufacturing processes, quality assurance, testing and shipping. Customers enjoy having direct contact with our applications and design staff that has up to 35 years experience on transformers and is always ready to tailor products to your specific needs.

Our people have experience in designs across the nation and in over 40 countries. They have met every standard: ANSI, IEEE, NEMA, CSA, IEC and of course ABS. Our performance-sensitive level of experience in both dry and oil marine duty transformers enables us to manage your most complex projects while meeting your special design, budgetary and timeline requirements. Throughout the world, we are here to serve you.

#### TRANSFORMER FEATURES

- **Increased thermal margin** insures heating due to the harmonics and overload does not decrease the useful life of the transformer.
- **Magnetically balanced winding designs** handle common faults and impact loads.
- **Surge shields** designed into the windings evenly distribute voltage surges.
- **Core construction** handles the heating and forces caused by the higher frequency voltage wave forms.



- **Lower insulation stresses** withstand the voltage surges and assure the design life of the transformer with 15 Torr./80 PSI.
- **Multiple VPI processing** of dry type transformers assures corona-free operation and increased mechanical strength of the coils.
- **Higher BIL-rated transformers** handle switching surges in PWM.
- **Lower current density** assures high radial short circuit strength in the winding.

## ON LAND OR AT SEA: THE CHOICE IS CLEAR

VTC offers the broadest product range for both land and sea applications with the fastest turnaround time because we know how important it is for you to have choices and meet critical deadlines. Fulfilling an order for marine duty applications on a tight timetable is our specialty. At VTC we know that our customers value reliability, efficiency and long performing life cycle. This is why we maintain our commitment to superior workmanship that exceeds customer expectations both on land and at sea.

### SPECIFICATION DATA

	Dry Type	Liquid Filled	UNICLAD®
KVA*	Up to 5,000 KVA	Up to 5,000 KVA	Up to 5,000 KVA
Primary Voltage	5 to 15 KV	5 to 35 KV	5 to 15 KV
Secondary Voltage**	Up to 5 KV	Up to 15 KV	Up to 5 KV
Primary BIL	Up to 95 KV	Up to 200 KV	Up to 95 KV
Frequency	25 Hz to 60 Hz	25 Hz to 60 Hz	25 Hz to 60 Hz
Impedance	4% to 18%***	4% to 18%***	4% to 18%***
Winding Material	Copper or aluminum	Copper or aluminum	Copper or aluminum
Insulation System	220°C	120°C	220°C
Winding Temperature Rise	65°C, 80°C, 115°C, 150°C	45°C, 55°C, 65°C	65°C, 80°C, 115°C, 150°C
Minimum Ambient Temperature	-40°C	-40°C	-40°C
Maximum Ambient Temperature (if specified)	55°C	55°C	55°C
Operation Environment	Per ABS Rules 4-8-3/7		

\* Secondary KVA may be higher than primary KVA, based on a rectifier circuit.

\*\* Number of secondaries up to 4. K factor up to 20.

\*\*\* Based on Primary KVA.



## VIRGINIA TRANSFORMER CORP

220 Glade View Drive Roanoke, VA 24012 USA (540)345-9892 fax (540)342-7694 [www.vatransformer.com](http://www.vatransformer.com)