

Vantran

TRANSFORMERS



MV VACUUM PRESSURE IMPREGNATED TRANSFORMERS

VENTILATED DRY-TYPE

Ventilated dry-type transformers deliver safe, convenient, and environmentally responsible power solutions. Unlike liquid-filled transformers, our dry-type units require no liquid confinement area, automatic fire extinguishing system, or fire vault, making them a superior choice for both safety and simplicity. These transformers are also lightweight, allowing for flexible installations on upper floors, balconies, roof trusses, or even rooftops.

Built with durability in mind, VanTran's dry-type transformers feature vacuum-pressure-impregnated (VPI) coils with solventless polyester resin. This ensures complete impregnation of the windings and insulation, providing strong protection against moisture, dirt, and most industrial contaminants. The result is a robust, heat-dissipating design suitable for a wide range of voltages and applications, with a 220°C insulation system that offers reliable performance regardless of the average winding rise.

Whether for indoor or outdoor use, in schools, hospitals, industrial plants, or commercial buildings, VanTran ventilated dry-type transformers provide a dependable, economical solution. When installed and maintained properly, they offer unparalleled reliability, meeting the needs of any environment where safe and consistent power is essential.

Standard Features:

- UL Listing, CSA, & CUL
- 80°, 115°, 150°C avg winding rise ratings
- 60 Hz operation
- 220°C insulation system
- Aluminum or copper windings
- ANSI ground pads
- Core ground strap
- Indoor ventilated enclosure - NEMA 1
- Paint — ANSI 61 finish
- Provisions for lifting
- Removable front and rear panels
- Vibration isolating pads
- (2) 2.5 full capacity taps above & below nominal
- NEMA, ANSI, & IEEE compliant
- OSHPD Qualified

Available Options:

- Fans for 133% FA kVA rating
- Future fan wiring and control
- Ground bus - full length copper
- Impact indicator - Mechanical
- Outdoor enclosure NEMA 3R
- Paint — polyurethane overcoat
- Screened ventilation openings
- Enclosure — hinged panels
- Enclosure — knockdown
- Electrostatic Shield
- Space heaters
- Temperature monitor/fan controller
- Thermostat for space heaters
- Bus to End
- Flex Leads
- Low Noise





ENCLOSURE

The standard indoor enclosure is NEMA 1, Category "C" construction. Enclosures are suitable for lifting, jacking, rolling or skidding with provisions for lifting from the transformer base. High voltage and low voltage ANSI ground pads are provided. The enclosure paint finish is neat, clean and highly resistant to corrosion. Metal surfaces are thoroughly cleaned of oil, grease, rust and other foreign matter before painting. Unless specified otherwise, paint color shall be ANSI 61 (light gray). NEMA 3R and NEMA 4 outdoor enclosures are available for applications that prohibit indoor installation.

COILS

Generally, low voltage (LV) windings less than 2,400 volts are either multi-conductor barrel or sheet conductor types. Multi-conductor windings may be more economical and preferred in smaller kVA low voltage applications in which the current and axial short circuit forces are relatively small. High voltage (HV) windings 2,400 volts or greater may be single-section barrel, multi-section barrel or disk types. Ventilated dry-type coils may be either round, oval or rectangular through about 2,000 kVA. Transformers larger than 2,000 kVA generally are designed with round windings unless there are special considerations, such as limiting dimensions.

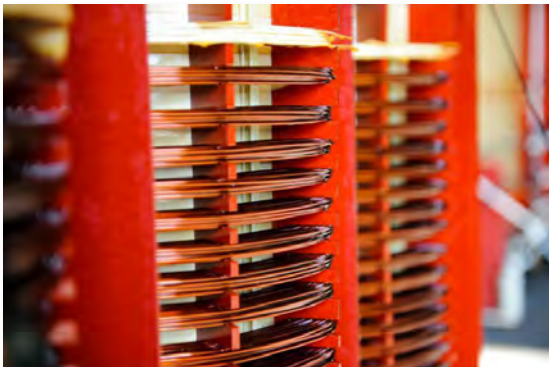


CORE

The transformer cores are constructed of non-aging, high grade, grain oriented silicon steel laminations with high magnetic permeability. Magnetic flux densities are kept well below the saturation point. Core laminations are free of burrs and stacked without gaps. Mitered STEPLAP construction cores may be provided when specified. The core clamping brackets are designed to provide even distribution of clamping forces to the core yokes and legs. The core is electrically isolated except for the factory-installed core ground strap, which provides a single path from the core to ground.

FORCED AIR COOLING

All units rated 750 kVA and higher can have added fans, increasing capacity in all current carrying parts for the fan-cooled rating and capability to add a thermometer relay to control fans. When specified, the transformer shall be provided with fans to give a forced air-cooled rating of 33% above the self-cooled rating. Control wiring (wire markers included), a thermal sensor and a fan controller will be supplied.



TESTING

Each transformer receives the following standard production tests in accordance with IEEE C57.12.91. Test results, when requested, are available by transformer serial number. In addition, the following special tests can be performed on each transformer in accordance with applicable ANSI standards at an additional cost.

Standard:

- Winding resistance
- Polarity & phase relation
- Turns ratio (all tap positions)
- No-load loss & exciting current
- Impedance and load-loss
- Applied voltage
- Induced voltage

Special:

- Temperature Rise
- Impulse
- Audible Sound
- Partial Discharge

BASIC IMPULSE RATINGS:

Nominal System Voltage kV	Standard BiL kV	Option BiL kV
1.2	10	20 / 30
2.5	30	30 / 45
5.0	30	45 / 60
8.7	45	60 / 95
15.0	60	95 / 110
25.0	110	95 / 125 / 150
34.5	150	125 / 200

SPECIAL DESIGN/APPLICATION

- Low loss
- Rectifier transformer
- Special ambient
- High overload capacity
- Sound level
- 50 Hz designs
- Series/parallel windings
- Retrofit dimensions
- K-factor ratings
- Auto transformers
- PCB replacement
- Grounding transformers
- Zig-zag transformers
- Scott-T transformers
- 6-36 pulse transformers
- Drive isolation transformers

AUDIO SOUND LEVELS

The transformer shall be designed to meet or exceed ANSI and NEMA sound levels for dry-type transformers. As an option, transformers designed at -3dB to -10dB below ANSI and NEMA standard sound levels are available.

SOUND LEVELS:

AA/FA kVA	Self-Cooled dB	Fan-Cooled dB
150	55	N/A
225	58	N/A
300	58	N/A
500 / 667	60	67
750 / 1000	64	67
1000 / 1333	64	68
1500 / 2000	65	69
2000 / 2667	66	71
2500 / 3333	68	71
3000 / 4000	68	73
3750 / 5000	70	73
5000 / 6667	71	74
7500 / 10000	73	76



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www.VanTran.com

(254) 772-9740

Sales@VanTran.com