



## VPI Transformers

JST Power Equipment is more than a manufacturer – we are a solutions innovator at the cutting edge of transformer technology. We continually work to create products with

higher efficiencies and lower costs. Each year, we make substantial investments in research and development of new products and manufacturing techniques.

We regularly innovate on behalf of our customers, collaborating with them to find solutions to their specific challenges. Explore JST's systems and solutions.

# VPI Transformers

VPI transformers are an excellent alternative in applications which call for an environmentally friendly, economical solution. They reduce flammability concerns, require less maintenance, and are less prone to contaminating the surrounding environment than liquid filled

transformers and avoid the need for oil containment during construction. The high caliber of engineering design ability has allowed JST Power Equipment, Inc. to provide transformers in many different applications around the world.

### Standard features include

- Voltage: Up to 15 kV
- BIL: Up to 125kV BIL
- Ratings: Up to 14.5 MVA
- Enclosure NEMA 1, 12, 3R, 4 & 4X (IP Ratings available upon request)
- Rated power: 100kVA – 14.5 MVA
- High Voltage: 600V - 15kV
- Typical High Voltages (kV): 2.3, 4.16, 8.7, 12.47, 13.2, 13.8, 15
- Low Voltage: 0.208, 0.24, 0.48, 2.4, 4.16

### Special Options

- Reactor
- Up to 36 pulse transformer
- Water cooled reactor
- Specialty applications



## TECHNICAL SPECIFICATIONS

6 Pulse and Conventional Distribution Transformer (10kVA)

Model	Impedance UK%	Dimensions (W x D x H) (inches / mm)	Weight (lbs / kg)
5G-315/10	4%	55.11 x 35.11 x 47.24 in / 1400 x 900 x 1200 mm	2866 lb / 1300 kg
5G-400/10	4%	55.11 x 35.11 x 51.18 in / 1400 x 900 x 1300 mm	3527 lb / 1600 kg
5G-500/10	4%	55.11 x 35.11 x 51.11 in / 1400 x 900 x 1400 mm	3747 lb / 1700 kg
5G-6--/10	4%	59.05 x 35.11 x 51.11 in / 1500 x 900 x 1400 mm	4188 lb / 1900 kg
5G-800/10	6%	59.05 x 47.24 x 78.74 in / 1500 x 1200 x 2000 mm	4629 lb / 2100 kg
5G-1000/10	6%	62.99 x 39.37 x 62.99 in / 1600 x 1000 x 1600 mm	5511 lb / 2500 kg
5G-1250/10	6%	66.92 x 43.30 x 66.92 in / 1700 x 1100 x 1700 mm	6383 lb / 2900 kg
5G-1600/10	6%	70.86 x 47.24 x 70.86 in / 1800 x 1200 x 1800 mm	7716 lb / 3500 kg
5G-2000/10	6%	70.86 x 47.24 x 74.80 in / 1800 x 1200 x 1900 mm	9259 lb / 4200 kg
5G-2500/10	6%	74.80 x 47.24 x 78.74 in / 1900 x 1200 x 2000 mm	11464 lb / 5200 kg

## MARKETS AND APPLICATIONS

- Renewables: wind, solar, and BESS
- Utilities: power generation and substations
- Construction: industrial and commercial
- Data centers, cryptocurrency, and mining
- Marine and Transportation
- Industrial/Manufacturing
- Variable Frequency drives
- Variable Speed drives
- Converter applications
- Thermal loading designs (furnace, ovens, etc.)
- General purpose auxiliary power



## Accessories

**Temperature Controller** – Temperature Controller will automatically monitor the ambient temperature and will start fan, or even trip alarm if ambient temperature is higher than setpoint.

**Temperature Switch** – Bimetal switch sensing element offers thermal protection when temperature exceeds operating temperature.

**Arrester** – Arrester can absorb atmospheric overvoltage and switching overvoltage and protect transformer from damage of transient overvoltage.

**Bottom Fan** – Mounted on the bottom of the dry-type transformer core and coil. Cooling fans provide auxiliary heat dissipation. The Temperature Controller device will control the fan's start and stop.

**Enclosure** – Options include NEMA rated, or IP rated customer enclosures. Designed and fully tested to meet different environmental concerns.

### PRODUCT STANDARDS

#### IEC Standards

- IEC 60076-1-5 Electrical Transformer
- IEC 61378 – 1:1997 Converter Transformer

#### IEEE Standards

- C57.12.01-2020 Dry-Type Power Transformer

#### GB or JB Standards

- JB/T 8636-1997 Power Converter Transformer
- GB1094.11-2007 Dry-Type Power Transformer
- GB1094.1-1996 Power Transformer-General
- GB1094.2-1996 Temperature Rise

*Note: Specific Requirements Determined by Customer Specification*

# VPI Transformers

## DRY TYPE TRANSFORMER WITH NOMEX® INSULATION

### Special Electrical Properties

NOMEX insulation with compact structure has low dielectric constant. This makes the electric field between insulation and cooling medium

more uniform, reducing dielectric loss. Under 482 degrees F (250 degrees C) it still has high specific resistance and excellent dielectric under power frequency and impulse.

Material	Dielectric Constant	Material	Dielectric Constant
NOMEX	1-5, 2-5	Fiber Paper	4,5
Inorganic Materials	3.0, 5.0	Polyester Resin/Varnish	3.1, 3.2
Air	1	Transformer Oil	2.2
Fiberglass	5.0, 6.0	Polyester Film	3.1

### Additional NOMEX Benefits

**Fire Resistance** – NOMEX won't burn under temperatures of 428°F (220 degrees C).

**Moisture Resistance** – In applications with high humidity, (under 95% RH), 90 percent of dielectric strength remains totally dry.

**Mechanical Toughness** – NOMEX Insulation possesses high-strength, flexibility, and tear resistance.

**Thermal Stability** – Temperatures under 392 degrees F (200 degrees C) won't affect NOMEX Insulation's electrical or mechanical capabilities. And its special polymerization structure makes it applicable for low temperature applications.

**Chemical Compatibility** – NOMEX Insulation does not react with most solvents. It cannot be damaged by insects, fungus, or mold.

**Radio Resistance** – Radiation of 800M Candela won't affect NOMEX.

**Non-Toxic** – Transformer can be disassembled after service life and coils and iron core can be recycled safely. And there is no toxic reaction to humans or animals.

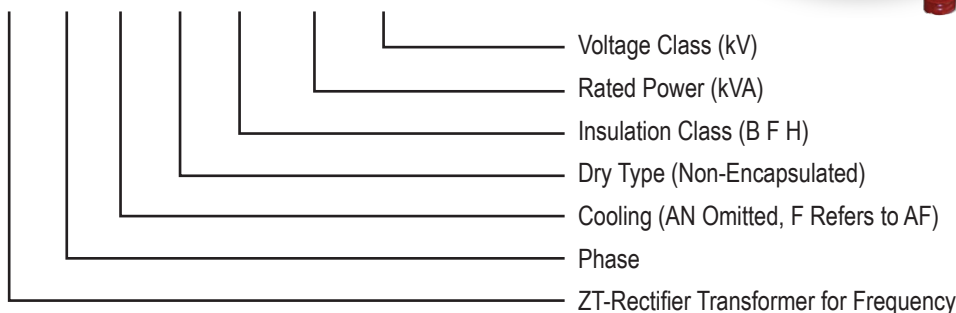
*NOMEX is a trademark of DUPONT SAFETY & CONSTRUCTION, INC*



### HOW TO SPECIFY

Understanding Product Naming Convention and Specifications

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## The JST Difference

### First and Focused on Uptime

JST Power Equipment developed and marketed the first independent pole-operated breaker with a three-phase system that helps utilities improve their delivery performance by isolating outages to prevent a whole-system shutdown.

### Delivering Complete Unit Substations and Single Source Accountability

A turnkey transformer and switchgear package streamlines everything from installation to troubleshooting and service – not to mention, acquiring and implementing new substations for growing companies. With a single point of contact at JST Manufacturing, our customers can easily access support when and where they need it.

### Beyond Manufacturing—Addressing Operational Obstacles

A lot of providers talk about being a partner, but what does that really mean? At JST Power Equipment our role is to provide solutions and listen to our customers challenges and goals to ultimately provide customized product and system solutions that allow you to better compete in your marketplace.

### Quality Certifications

JST Power Equipment fully meets ISO9001, ISO14001, and OHSAS18001 certifications and standards. Our products meet GB, IEC, IEEE, NEMA, CSA, JEC and other international and domestic electrical engineering standards including UL, CE, and EU.

### Market Leadership

JST is the largest dry-type transformer manufacturer, delivering over 100,000 units with transformers installed in more than 57 countries and regions. JST is the No. 1 dry-type transformer exporter.

In North America, JST is a leader in the market of cast-coil transformers, vacuum pressure impregnation (VPI) transformers, medium-voltage (MV) air-insulated switchgear (AIS), gas-insulated switchgear (GIS), and skid solutions.



# POWER EQUIPMENT

## HEADQUARTERS

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## MANUFACTURING FACILITIES



Lake Mary, Florida



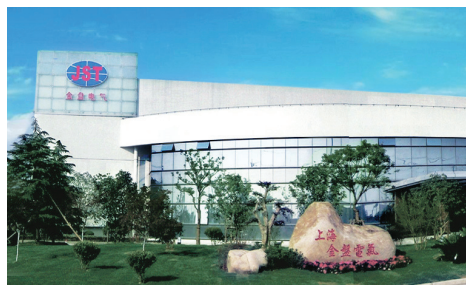
Nogales, Mexico



Haikou, Hainan



Wuhan, Hubei



Shanghai



Guilin, Guangxi