BR-ECRPT/7

Manufactured by:

RITZ
Instrument Transformers

WTW

Dry-type Cast Resin Transformers

Glass Fibre reinforced Vacuum Technology (GVT)

- High mechanical strength
- Protection against short circuiting
- Cooling Channels in High Voltage and Low Voltage Coils
- Pre-galvanized steel frame
- Environmental Class E2
- Fire Protection Class F1

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Epoxy Cast Resin Power Transformers

RITZ produces transformers in Glass Fibre reinforced vacuum technology (GVT) for ratings up to 20MVA and 36kV voltage class for various applications as follows:

- Power Distribution
- Traction Supply Systems
- Rectifier Drives
- Oil Platforms/ Vessels
- Generator Excitation
- Injection Systems
- Transmitter Systems
- Laboratory Systems
- Earthing Systems

All transformers can be supplied inside enclosures up to protection class IP54.

No Load Losses

RITZ / WTW power transformer with step lap core construction and mitred joints have lower excitation currents thus reducing loses allowing more advantageous and cost effective designs and can even produce lower than 1.0% guaranteed total losses.

Noise Level

Low sound pressure level due to special core clamping and low core induction

Maintenance

RITZ / WTW cast resin power transformer are maintenance free.

Life Expectancy

The insulation systems governing RITZ / WTW power transformers is in accordance with temperature class F (155°C). Thermal ageing calculated according to IEC 216 is greater than 30 years.

Features and Design

Glass Fibre reinforced Vacuum Technology (GVT) is used for High Voltage coils and optionally for Low Voltage coils in order to guarantee the highest possible quality and reliability to avoid cracks or voids during manufacturing and service.

3700 kVA 580V / 1000V / 690V DTR 014000

The main design features are:

- Protection against electricity surges
- Free of partial discharge
- Protection against short circuiting
- High mechanical strength
- Cooling channels in HV & LV coils
- Pre-galvanised steel frame

RITZ Transformers are designed according to the required international standards such as DIN/VDE or IEC. Furthermore, they fulfill all climatic, environmental and fire protection requirements.

- Environmental class E2
- Climate Class C2
- Fire Protection Class F1
- Basic surge level, List 2

The environmental protection requirements are taken into account in the design of RITZ cast resin transformers.

400 kVA 20 kV / 8x210V DTR 208006 24 pulse rectifier transformer

Low Voltage Coil

The Low Voltage Coil (LV) consists of copper conductors formed in a vacuum process with epoxy resin impregnation to temperature class F. As an option, LV coils can be supplied as HV (GVT) design. This is usually undertaken for voltage ratings above 1 kV.

Core

The core lamination is made of low loss, cold rolled, grain oriented silicon steel. The cross-section of the iron has a circular shape. The core is cut and stacked using a "step lap" formation to keep the idle periods and magnetizing currents as low as possible. The core is completely coated with epoxy resin to protect it against corrosion and is earthed in accordance with the required standards.

High Voltage Coil

The copper winding of the High Voltage (HV) coil is insulated using a glass fibre epoxy resin laminate. The HV coil is cast into moulds in a vacuum process with pure epoxy resin. The manufacturing process ensures a cavity free insulating system of the highest quality. The HV coil is free of partial discharge and protected against surges. Tapping links are brought onto the outside of each coil and are readily adjustable when switched off. The HV coils are flame-resistant and self extinguishing. The HV coil can be designed with air ducts to cool the windings efficiently at a technically suitable coil length. Tapping links are brought out onto the outside face of each coil and are readily adjustable in de-energized state. The HV coils are hardly inflammable and self extinguishing. In case of fire, no toxic fumes are produced.

Assembly

The coils are mounted on pre-adjusted fibreglass reinforced supports with excellent thermal expansion and noise-absorbing properties. The complete assembly is mounted on bi-directional rollers which allow movement in both directions. HV terminals and LV bus bars are normally on opposite sides of the transformer and mounted at easily accessible positions.

1600 kVA 10 KV / 3x1520 V DTR 101600
18 pulse rectifier transformer with phase shift+-20°

Accessories

Thermistors (PTC) are embedded in each LV coil and connected to terminals mounted on the upper clamp. As an alternative, PT 100 can be provided for the US coils. An electronic relay with alarm and trip contacts (voltage free) is provided.

Tests

RITZ is certified according to DIN EN ISO 9001:2000 and undertakes testing to all applicable international standards. The complete transformer is subject to all routine testing including partial discharge test (pre-tested and complete). Type testing and special tests can be performed on request.

946 kVA 10KV / 2x700V DTR 101000 12 pulse rectifier transformer with phase shift +-7,5°

Production facilities allow manufacturing of custom made dry-type transformers and reactors. Flexible winding and core design is available to meet a wide range of transformers for special applications and requirements. Different manufacturing technologies such as Glass Fibre reinforced Vacuum Technology (GVT), vacuum impregnation, or encapsulation with mineral filled epoxy resin can be used. Application of heat shrinking tapes and protective resin provides the highest mechanical strength and good moisture protection.

Dry-type transformers are available for the following applications:

- Injection transformers for ripple control applications
- Reactors for ripple control applications
- High current transformers
- Earthing transformers
- Medium frequency transformers
- Filter and blocking reactors
- Smoothing reactors

Efficient Electricity Solutions

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