Oil-immersed three-phase double-winding non-excited voltage regulating distribution transformer

Product Overview

The Oil-immersed three-phase double-winding non-excited voltage regulating distribution transformer uses a finned wave tank as the cooling element. Simultaneously, with the increase and decrease of transformer oil, it expands and contracts, isolating the inside of the transformer from the atmosphere to prevent deterioration of oil and insulation caused by moisture and aging, thereby enhancing operational reliability. The weld seams of the oil tank are full, smooth, flat, and evenly thick, ensuring no oil leakage. The core uses 0.23mm high magnetic permeability laser scribed sheets and a stepped five-level groove structure, which helps reduce no-load loss and no-load current. This is the next generation of environmentally friendly products. The core tension and clamping use locking nuts. The high-voltage winding is a multi-layer winding, and the interlayer insulation uses tape to enhance the mechanical strength of the coil. The low-voltage winding is either layered or new type. The insulation between each layer of the winding uses point tape. The low-voltage winding adopts a formed end ring, providing sufficient support without gaps, resulting in excellent mechanical strength. For pressure protection, a pressure relief valve is selected, and for gas protection, a QJ4 type gas relay is chosen for transformers above 800kVA. Transformers above 1000KVA come equipped with signal thermometers that can remotely monitor oil temperature.

Functional Features

Low Noise: The noise level of this transformer is below 60dB, 20dB lower than the standard. If users have special requirements, it can be specially designed and manufactured to meet the power supply needs of urban grids in China.
Low Partial Discharge: This oil-immersed transformer operates without cleaning throughout its process, with all internal metal components and insulating components being round, keeping partial discharge under 100pC.
Strong Short-Circuit Resistance Capability: Our company's oil-immersed transformers have passed the short-circuit endurance capability test conducted by the quality supervision and inspection center.
Aesthetic Appearance: The wave structure of the folded plates of the oil tank, spraying, powder electrostatic spraying, and wide flake-shaped heat dissipation fins ensure that the appearance never fades.

No Leakage: All sealing stop positions use dual-channel sealing for both upper and lower tanks, and all adhesives are imported.

Performance Parameters of Oil-immersed Three-phase Double-winding Non-excited Voltage Regulating Distribution Transformer

型 号	额定电压			联结组标号	空载损耗(W)	负载损耗(W)	短路阻抗(%)
	高压(KV)	分接范围	低压(KV)				
S20-30/10	10	±5% (±2×2.5)	0.4	Dyn11	65	455	4
S20-50/10					80	655	4
S20-80/10					105	945	4
S20-100/10					120	1140	4
S20-125/10					135	1360	4
S20-160/10					160	1665	4
S20-200/10					190	1970	4
S20-250/10					230	2300	4
S20-315/10					270	2760	4
S20-400/10					330	3250	4
S20-500/10					385	3900	4
S20-630/10					460	4460	4.5
S20-800/10					560	5400	4.5
S20-1000/10					665	7415	4.5
S20-1250/10					780	8640	4.5
S20-1600/10					940	10440	4.5
S20-2000/10					1085	13180	4.5
S20-2500/10					1280	13360	4.5

Advanced Production Equipment

GNEE Steel Group owns a full set of shearing, packaging, vacuum casting, vacuum impregnation, and testing stations that represent the high level of the industry. These top-notch production and testing equipment guarantee the creation of first-class products. The company continuously improves its design methods, achieving the most advanced computer-aided design to meticulously craft perfect products.

Production Environment

The workshop of GNEE Steel Group has strict process management and a closed management system. Regular purification and dust removal tests are conducted to meet the necessary requirements for producing high and low voltage transmission products. It has also passed ISO9001 quality certification and third-party inspection certification for international bidding.








Autonomous Raw Material Supply

The iron cores and electromagnetic wires used in our company's products are all produced independently, which allows better control over the quality and delivery time of raw materials while reducing product costs.

Raw Material Production Environment

INTIMATE COMMUNICATION

Pre-sale, during-sale, and after-sale, we are with you every step of the way.

As long as you get in touch with us, we will communicate with you sincerely. Pre-sale, we will provide you with relevant product information; if you have special requirements, we can develop according to your needs and propose solutions under mutual recognition; during-sale, we will keep in touch with you throughout the process and inform you of the production progress, strictly following all the requirements in the contract; after-sale, our comprehensive "three guarantees" service system will ensure that you use our products with comfort, confidence, and satisfaction.

Inspection, Training, Guidance - All Free Of Charge.

As long as you are interested in our products and get in touch with us, we will take the initiative to contact you and arrange free inspections and factory experiences. We can also dispatch technical personnel to provide you with a free customized overall solution. Before the implementation of the solution, we will offer free training for your technical staff to inform them of the relevant knowledge about installation, commissioning, and maintenance of the product. During the equipment installation process, we will also provide you with free installation guidance. As long as it is your requirement, it is our mission; we will provide you with perfect services throughout the entire process.

Power Supply System Solutions Equipment Provider

Real Estate Development

In real estate development, container substations are widely used. In addition to short construction periods, low investment, small land occupation, and a new and beautiful appearance, the greatest advantage of this transformer is that it is installed in a moisture-proof, anti-corrosion, dust-proof, fire-proof, theft-proof, heat-insulating, fully enclosed, and mobile steel structure box. It integrates electromechanical equipment and runs fully enclosed, ensuring safety and long-term usability.

Industrial Enterprises

The fully sealed oil-immersed power transformer has the advantages of low loss, low noise, and high efficiency, which can achieve good energy-saving effects and reduce pollution. Compared with ordinary oil-immersed transformers, fully sealed transformers eliminate the need for an oil reservoir, and the changes in oil volume are automatically compensated by the elasticity of the corrugated oil tank's corrugated plates. The transformer is isolated from the air, preventing and slowing down the aging of oil and insulation, enhancing operational reliability, and requiring no maintenance during normal operation. Epoxy resin cast dry-type transformers can be used as updated replacement products for oil-immersed distribution transformers and are the best-performing products among various two-type transformers. They are particularly suitable for urban grids, high-rise buildings, business centers, theaters, hospitals, hotels, tunnels, subways, underground stations, laboratories, stations, docks, airports, combined substations, and other important places.

Oil Fields and Mines

High-efficiency energy-saving adjustable capacity transformers are designed based on the working characteristics of oil field pumping units. When the pumping unit starts, the transformer's output voltage is the rated input voltage of the motor, ensuring that the pumping unit has sufficient starting torque. After the pumping unit starts and enters the normal state, the control system will detect the size of the effective power consumed by the motor through sensors and feed it back to the microcomputer intelligent control system. Through calculations, it automatically adjusts the output voltage and capacity of the transformer, then detects, records, and compares the effective power consumed by the motor on the pumping unit, eventually finding the operating point where the consumption of effective power is minimal, achieving the purpose of energy saving. In terms of structural design, strong anti-theft measures have been taken, effectively preventing the theft of high-efficiency energy-saving transformers. At the same time, during the energy-saving operation of the pumping unit, according to the set anti-electricity theft time method, the output voltage fluctuates, making it impossible for home appliances to function even if the electricity is stolen back. Therefore, the transformer has high-performance anti-theft functions.

Photovoltaic Power Generation Group

GNEE Steel Group launched wind power generation-specific step-up equipment - wind power dedicated combined transformers, which have the advantages of low no-load loss, high insulation strength, no leakage, strong adaptability to outdoor environments, and less maintenance.