

Enviromentally Friendly Distribution Transformer Using Fully Biodegradable oil.

Rating : 11 kv , 22kv/ 415 V. , 50 HZ

Catalog No 11458745

Up to 10 MVA



DESCRIPTION FEATURES

- **Amorphous Core Materials -Low Load and No Load Losses**
- **Filled with Ester Oil – Fully Biodegradable oil**
- **Complete with Condition Monitoring – Optimising Performance and reducing waste using IOT**

APPLICATIONS

- 1. Grid Decarbonisation , Grid Efficiency**
- 2. Complementary Equipment for Renewable Projects**
- 3. For Sustainability Objective for green projects**

AMORPHOUSE CORE MATERIALS FOR TRANSFORMERS



JIAQIAO, YANDIAN TECHNOLOGY CO., LTD.

Amorphous transformers represent a significant advancement in transformer technology by leveraging the unique properties of amorphous metal cores. Through reducing core losses, improving energy efficiency, and offering environmental benefits, they align well with global efforts to create more sustainable and efficient power systems. For engineers and utilities aiming to reduce energy wastage and carbon footprint, amorphous transformers provide a compelling option that is shaping the future of electrical power distribution.

-Amorphous materials for transformers offer several advantages that contribute to their efficiency and environmental benefits:

- 1. Reduced Core Losses:** Amorphous cores typically have 70-80% lower core losses compared to traditional silicon steel transformers, leading to significant energy savings over the transformer's lifespan.
- 2. Lower Temperature Rise:** The lower losses from amorphous cores result in cooler operation, potentially extending the insulation life of the transformer.
- 3. Environmental Impact:** By reducing waste energy and emissions, amorphous transformers contribute to a greener power distribution system.



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- 4. Lower Operating Costs:** The increased efficiency of amorphous core transformers translates into lower energy consumption, leading to long-term savings on electricity costs.

- 5. Sustainability:** Amorphous core transformers provide a sustainable alternative to traditional transformer designs, aligning with the growing focus on eco-friendly technology.

These benefits make amorphous materials a compelling choice for modern power distribution systems, offering a greener and more efficient solution for energy infrastructure.

CHOICE OF ESTER OIL FOR TRANSFORMER

ENVIRONMENTAL SUSTAINABILITY : Ester Oils are Biodegradable and do not contain Petrol , Halogens or silicones minimising Ecological impacts It Is :-

Safe

Green



Long Life

Product Parameters

Test Items		Technical requirements (DL1811)	ZD natural ester SGS test value
1、Physical characteristics			
Appearance		Clear and transparent	Clear and transparent
Kinematic viscosity	100°C / (mm ² /s)	≤ 15	8.118
	40°C / (mm ² /s)	≤ 50	35.64
Pour point / °C		≤ -10	-18
Water content / (mg/kg)		≤ 200	77
Density (20°C) /kg/m ³		≤ 1000	918
2、Electrical Characteristics			
Breakdown voltage / kV (2.5mm clearance)		≥ 40	85
Dielectric loss factor (90°C, %)		≤ 0.04	0.0111
3、Chemical Properties			
Acid value / (KOH mg/g)		≤ 0.06	0.03
Corrosive sulfur		Non corrosive	Non corrosive
Fire point / °C		≥ 300	>350
Flash point / °C		≥ 250	289

Improving the fire safety of transformer/prolonging the life of transformer/
improving the environmental performance of transformer

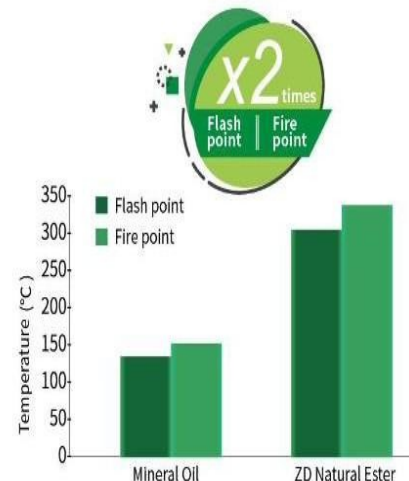


Safe

Flash point > 250 °C, Fire point > 350 °C,
K Class insulating fluid.

Fire point is one time higher than
mineral oil.

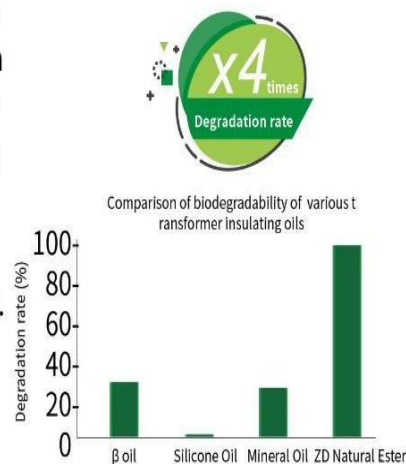
- ☀ High flash point, high fire point
- ☀ Low risk of fire and explosion



Green

The bio-degradation rate of ZD natural ester is almost 100%, which is about 2 times higher than mineral oil. In addition, the carbon emission in its life cycle is only 1 / 64 of that of mineral oil, ZD natural ester is the true green transformer insulating material. ZD natural ester will not cause any pollution to the environment and will not endanger the human health.

- ☀ Based on renewable material
- ☀ Fast degradation and high degradation rate
- ☀ Non-toxic
- ☀ It does not contain any petroleum, halogen and silicone





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Longlife

Can delay the aging of the insulation system, prolong the service life of the transformer and improve the overload capacity. High saturated water content. It can effectively absorb the water in the insulating paperboard. Higher thermal class and is suitable for safe operation under higher temperature conditions.



TECHNICAL SCHEDULE (6.6 Kv System)

Serial number	Items	Unit	Parameter
1	Model	-	SBH21-M.RL
2	Maximum equipment voltage	kV	12
3	Rated voltage of the high-voltage winding	kV	10
4	Rated voltage of the low-voltage winding	kV	0.4
5	Rated frequency	Hz	50/60
6	Core material	-	Amorphous alloy strip
7	Core structure	-	Closed three-dimensional wound core
8	Winding material	-	Enameled copper wire, copper foil
9	Coil structure (winding form)	-	High-voltage: Multi-layer cylindrical Low-voltage: Double-layer cylindrical/foil-wound
10	Rated capacity	kVA	100/200/400/630
11	Connection group	-	Dyn11
12	Phase number	-	3 phases
13	Voltage regulation method	-	No-excitation voltage regulation
14	Voltage regulation position	-	High-voltage side
15	Voltage regulation scope	-	$\pm 2 \times 2.5\%$
16	Cooling method	-	ONAN

17	Lightning full-wave impulse voltage of the high-voltage winding (peak)	kV	75
18	Lightning chopped-wave impulse voltage of the high-voltage winding (peak)	kV	85
19	Rated short-time power frequency withstand voltage of the high-voltage winding (RMS)	kV	35
20	Rated short-time power frequency withstand voltage of the low-voltage winding (RMS)	kV	5
21	Average temperature rise limit of the winding	K	65
22	Top-layer oil temperature rise limit	K	55

S(B)H15 SERIES 22 KV BASIC PARAMETERS

Model	KVA	Load loss(W)	No-load current (%)	Load Loss (75C)		Noise level (DB)
				Y	D	
S(B) H15-30/20	30	40	1.5	660	690	52
S(B) H15-50/20	50	55	1.3	960	1010	52
S(B) H15-63/20	63	65	1.0	1150	1200	54
S(B) H15-80/20	80	75	1.0	1370	1440	54
S(B) H15-100/20	100	90	1.0	1650	1730	54
S(B) H15-125/20	125	100	0.7	1980	2080	56
S(B) H15-160/20	160	120	0.7	2420	2540	56
S(B) H15-200/20	200	145	0.7	2860	3000	58
S(B) H15-250/20	250	165	0.7	3350	3520	58
S(B) H15-315/20	315	200	0.5	4010	4210	60
S(B) H15-400/20	400	240	0.5	4730	4970	60
S(B) H15-500/20	500	290	0.5	5660	5940	62
S(B) H15-630/20	630	370	0.3	6820	6820	62
S(B) H15-800/20	800	450	0.3	8250	8250	64
S(B) H15-1000/20	1000	530	0.3	11330	11330	64
S(B) H15-1250/20	1250	620	0.3	13200	13200	67
S(B) H15-1600/20	1600	750	0.2	15950	15950	67



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S(B) H15- 2000/20	2000	900	0.2	19140	19140	67
S(B) H15- 2500/20	2500	1080	0 . 2	22220	22220	69



ANHUI GREEN ENERGY ELECTRIC CO., LTD.

MANUFACTURER

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