



**Sino-NSH Vacuum Double-stage
Transformer Oil Regeneration
Machine**

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Sino-NSH Vacuum Double-stage Transformer Oil Regeneration Machine

Sino-NSH VFD-R series is adapt to regenerate and activate the deteriorated transformer oil. It is capable of removing the moisture, gas and mechanical impurities as well as eliminating organic acid, sludge, pitches and dissociated carbon in the deteriorated transformer oil which are difficult to be removed by conventional oil purifier plants.

After treatment, not only the technical specification but the color of the insulation oil would be dramatically improved. The regenerated insulation oil can meet the required standard and life span of new insulation oil.

Edges

- ◆ Adopt both physical and chemical methods to regeneration the aging insulating oil, and remove acid, suspending materials and contaminates.
- ◆ Using special adsorbent. It can be normally run without switching off the power and changing the oil of transformer.
- ◆ Treated transformer oil will maintain basic ingredients and anti-oxidation capacity to meet the standard of new transformer oil.
- ◆ Keep the power equipment insulating and safe by less cost than maintenance.

Structure

Dehydration (Degas) System

- ◆ The vacuum vessel can enlarge evaporation area efficiently. The heater, being placed on the vacuum vessel, becomes an evaporator. Thus the evaporation area of vacuum vessel is three times more than that of the general vacuum vessel. This innovation can dehydrate and degas effectively and efficiently.
- ◆ The optimal structure of the dehydration (degas) system enlarges the surface area of oil exposed to the vacuum system and extends the flowing distance of the oil in the



vacuum system. Thus there has sufficient time to remove the moisture and gas from the oil by vaporization.

Filtering System(particulate matter removal)

- ◆ The filtering materials with variable apertures are made of specialized glass fiber. The sizes of the filtering fiber and aperture dwindle gradually in the different filtering stages. The impurities with different particulate sizes are filtered step by step. The capability of removing particulate matters and impurities is improved greatly by this method.
- ◆ The filtering system has stable and perfect filtering fineness. The filtering fineness has several grades, including 1, 2,3,4,5,6,10 μm etc. Oil $\beta \geq 1000$ after filter.
- ◆ The filtering system is equipped with reverse rinse and filth device. It improves the effectiveness of filtering and extends the lifetime of filter awfully.

Oil heating System

- ◆ The unique heater structure heats the oil uniformly.
- ◆ Oil Heater System assures less than 1.0 w/cm². During the heating process, the deterioration of the oil caused by overheating is avoided.
- ◆ The oil temperature can be adjusted between 20°C to 80°C. The heater is controlled manually or automatically. The heater will stop automatically when the oil temperature reaches a certain degree.
- ◆ Being installed with safety protection devices, the heating system is secure and reliable. The heater will stop operation automatically when the oil volume of inlet is too low to avoid the damages of the heater.

Electrical Apparatus controlling System

- ◆ The main components of the electrical apparatus made by Schneider, Siemens and so on ensure the safety of the controlling system.
- ◆ Having several protection systems which will avoid oil ejection, overload and over voltage etc.



Oil-level Controlling System

- ◆ The oil-level floating ball or infrared liquid level automatic controller system are installed in the vacuum vessel to control the oil level so as to avoid the oil being suctioned into vacuum pump in the operation.
- ◆ The new innovation of eliminating froth can avoid the oil being suctioned into vacuum pump.

Regeneration System

- ◆ Eliminating organic acid, sludges, pitches and dissociated carbon in the deteriorated transformer oil which are difficult to be removed by conventional oil purifier plant.

High quality components

- ◆ The main component parts of NSH products such as vacuum pump, oil pump and electric apparatus are from Siemens, Leybold, Omron, Schneider, Hydac, NSH, Amico etc. It ensures NSH products high quality and reliability.

Technical Specifications

Item	Unit	VFD-R
Flow Rate	L/H	1800~18000
Breakdown voltage	KV	≥ 75
Flash point (close)	$^{\circ}\text{C}$	≥ 140
Dielectric loss tangent to (90 $^{\circ}\text{C}$)	%	≤ 0.002
Water Pressure	MPa	≤ 0.4
Precision	μm	≤ 5
Power Condition		380V/50Hz (or as needed)
Breakdown Voltage	Kv	≥ 72

SINO-NSH reserves the right to change any part of this specification without notification due to improvement or any other reasons.



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