



**Sino-NSH Vacuum Double-stage  
Transformer Oils Purification  
System with double axle trailer**

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## **Sino-NSH Vacuum Double-stage Transformer Oils Purification system with double axle trailer**

**Sino-NSH VFD series is mainly used to improve the properties of transformer insulating oil. It can remove trace water, gas, particulate matters etc. from the insulating oil effectively and rapidly so as to boost performance of transformers, circuit breakers, mutual inductors, cable and capacitors which has insulation system.**

**VFD series specialize in purifying branded oil, insulating oil of high voltage and super high voltage transformer. Additionally, it is suitable for treating low viscosity lubrication oil.**

**Operating conditions: The installation shall be designed to operate satisfactory at ambient temperatures ranging from -20 deg.C to 55 deg. C**

### **Description**

**VFD series utilizes coagulation technology, coalescing technology, separating technology and refined purification technology. To remove free, soluble water, carbon, free and dissolved gases and particulate matters from insulating oil effectively and rapidly.**

### **Edges**

- ◆ **Enhance the value of breakdown voltage of oil greatly.**
- ◆ **Easy handling and maintenance. It is available that online work. The plant can provide the ability of injection oil into the transformers without extra accessory.**
- ◆ **Lower maintenance and replacement expenses.**
- ◆ **High efficiency and effectiveness while small size, light weight, and low noise.**



## 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  $\mu\text{m}$  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/cm<sup>2</sup>. 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.**

### **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-30	VFD-50	VFD-100	VFD-150	VFD-200	VFD-300
Flow Rate		L/H	1800	3000	6000	9000	12000	18000
Vacuum Range		MPa	-0.092 ~ -0.099					
Max Vacuum Range		Pa	≤ 50					
Working Pressure		MPa	≤ 0.2					
Temperature Range		°C	45-65					
Water Content		PPm	≤ 4					
Gas Content		%	≤ 0.1					
Breakdown Voltage		Kv	75					
Power Supply		V	~50Hz 380V (or as needed)					
Working Noise		dB	≤ 72			≤ 78		
Heating Power		Kw	30	48	90	120	180	240
Total Power		Kw	33	52	95	126	186	248
Inlet(Outlet)Diameter		Mm	DN25	DN32	DN40	DN50	DN65	DN65
Net Weight		Kg	350	480	750	1100	1250	1420
Size (excluded trailer)	length	Mm	1500	1500	1900	2100	2400	2600
	width	Mm	1100	1250	1400	1600	1700	1800
	height	Mm	1750	1750	1800	1900	1900	2000

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

### Structure and Appearance options:

- 1. Stationary**
- 2. Mobile**
- 3. Single axle trailer**
- 4. Double axle trailer**



**Double axle trailer Type:** mounted on chassis with 4 pneumatic tyres; covered steel shield. Air brake system, hand brake, rear lights, tow-eye etc.



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