



Double Stage Vacuum Insulation Oil Purification Plant

Under effect of heat and electric field, the exposure of insulation oil contained **trace water, gas and particulate matters** etc.

The use of *Vacuum Insulation Oil Purification Plant (VFD)* is necessary, which will help you maintain optimal oil cleanliness. Therefore, making the most use of your equipment to gain the highest and save your money.



Keep you oil to be Clean and Dry



What's make the best for you:

Efficient performance

- Enhance **breakdown voltage**
- High efficiency of **de-water, de-gass and particulate-remove**
- Multi-stages filtration system
- **PLC** programmable logic controller

Safety-ensuring systems

- **Auto** liquid controlling
- **Auto** pressure protection
- **Auto** stead temperature controlling
- **Auto** electrical protection

Compact design

- **National qualified** advanced components
- Small size, light weight, low noise
- **Low** maintenance
- **Long** servicing life

User-friendly design

- Oil vacuum **injection**
- Transformer **drying**
- **Continuous Online** working
- Highly automatic operation





VFD Optimized Structures:

Dehydration (Degassing) System

- ✓ Vacuum chamber utilizes coacervation, coalescing, separating and refined purification technology.
- ✓ To remove free, soluble water, free and dissolved gases.
- ✓ Complete with degassing elements, safety level switch, oil level controller, and oil level indicator, etc.

Filtering System

- ✓ Delamination gradual-close filtering
- ✓ Fineness has 1, 5, 80, 500 μm etc.
- ✓ Cartridges easy to replace.

Oil Heating System

- ✓ Adjustable temperature
- ✓ Overheating protection
- ✓ Manual and automatic available

Control panel

- ✓ The instruments, alarms and interlocks instruments and electrical controls.
- ✓ Buzz alarm, pilot lights



VFD Optimized Structures:

Pumps

- ✓ Vacuum pump from Germany Rietschle or Germany Leybold.
- ✓ Roots pump from Germany Allweiler technology
- ✓ Oil discharge pump is screw pump, gear pump available.

Cooling System and Condensing System

- ✓ Composed of heat exchanger, condensator, radiator, water pump and water container

Auto-Control And Protection System

- ✓ Composed of level controller, motor, electromagnetism valve, protection units etc.
- ✓ Protection avoid:
 - oil ejection
 - overload
 - abnormal pressure
 - abnormal oil level
 - high temperature
 - over voltage etc



Hygrometer - Vaisala
Water content testing result after treating by NSH VFD

Machine Spec:

- ✓ Flow rate in L/H: 600 ~ 18,000
- ✓ Vacuum range in Mpa: -0.092~-0.099
- ✓ Working pressure in Mpa: ≤ 0.2
- ✓ Max vacuum range in Pa: ≤ 5
- ✓ Temperature range °C: 45 ~ 80

** Operating voltage: 380 V (50 Hz), 380 V (60 Hz), 400 V (60 Hz), 415 V (50 Hz), 415 V (60 Hz), 220 V (60 Hz), 460 V (60 Hz), etc (customizable)

** The heating power and total power are different with different capacity, please consult sales for more.

Oil Spec:

- ✓ Water: ≤ 5 PPM
- ✓ Filter Fineness: $\leq 5 \mu\text{m}$ (or $\leq 1 \mu\text{m}$)
- ✓ Dielectric: $\geq 65\text{kV}\sim 75\text{kV}$
- ✓ Degassing: $\leq 0.1\%$

Adding VFD with **regeneration device**, the machine can also treat acid, sludges, carbon and remove color.

- ✓ Oil color: better than L=0.5
- ✓ Acid Value: ≤ 0.01 MgKOH/g
- ✓ Soluble Acid PH value: =5~7
- ✓ Dielectric loss tangent tg(90°C)% : ≤ 0.002

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