YANGJIANG

重庆阳江机械制造有限公司

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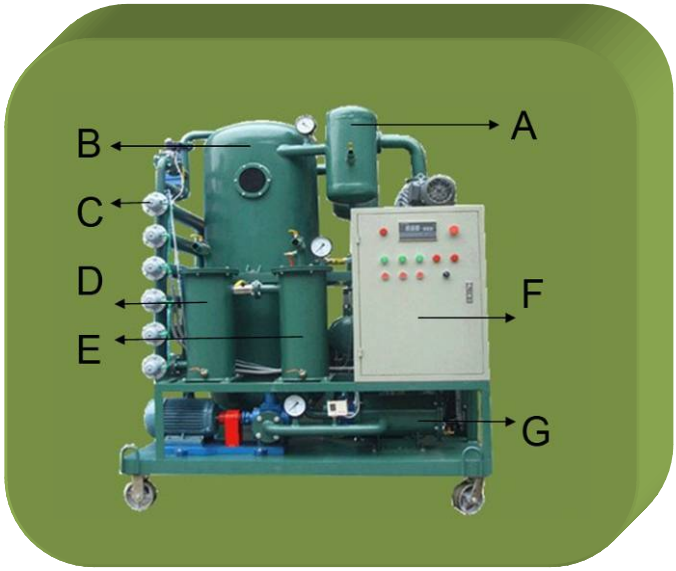
ZLA Two-Stage Vacuum Transformer Oil Purification Machine

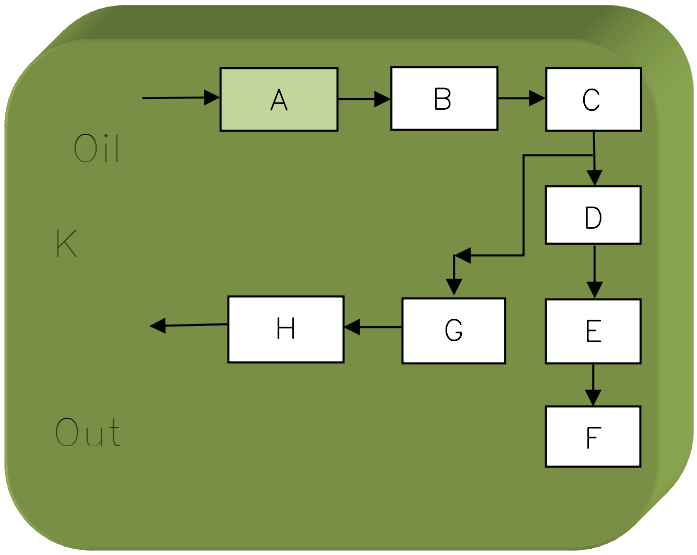
Why we should recycle the used transformer oil? Did you know that used oil never wears out? It just gets dirty and can be recycled, re-refined, and then used again. Recycling oil conserves a natural resource (oil) and is good for the environment too! This machine mainly used to recycling transformer oil, insulating oil and super HV transformer oil, particularly applied in large scale 110KV transport voltage device and the national transformer substations

Electricity factory
Transformer station
Oil connection stations
Transformer repair shop

ITEM		UNIT	ZLA-30	ZLA -50	ZLA -75	ZLA -100	ZLA -150	ZLA -200	ZLA -300
Flow Rate		L/H	1800	3,000	4,500	6,000	**9,000**	12,000	18,000
Vacuum Range		MPa	-0.092----0.099						
Max Vacuum Range		Pa	<=50						
Working Pressure		MPa	<=20						
Temperature Range		C	45-65						
Power Supply		V	-20Hz 380V (or as needed)						
Working Noise		dB	<=72						
Water Content		PPm	<=4 after treat						
Gas Content		%	<=0.1 after treat						
Impurities size		um	<=5 after treat						
Breakdown Voltage		Kv	75KV after treat						
Heating Power		Kw	30	48	50	90	120	150	180
Total power		Kw	33	52	54	97	131	165	195
Inlet or outlet		Mm	DN25	DN32	DN32	DN40	DN50	DN50	DN60
Net Weight		Kg	650	850	850	1300	2200	2800	2800
size	**L**	1500	1450	1600	1700	1900	1600	2000	2200
	W	1100	1000	1100	1150	1200	2200	1500	1500
	H	1750	1800	1800	1800	2100	1500	2200	2400



A	WATER TANK
B	VACUUM SEPARATOR
C	HEATER
D	FINE FILTER
E	PRE-FILTER
F	CONTROL BOX
G	SECONDARY FILTER



A	PRE-FILTER
B	HEATER
C	VACUUM SEPARATOR
D	WATER COOLER
E	CONDENSER
F	WATER TANK
G	OIL PUMP
H	FINE FILTER
I	OIL PUMP
J	VACUUM PUMP
K	ROOTS PUMP

Standard model ZLA:

Front

Left

Right

Back

Standard model ZLA-150:

Front

Left

Right

Back

Standard model with trailer and box:

Trailer

Trailer with box

Small capacity have two wheels, big capacity with 4 wheels

Application

ZLA series is main used to improve the properties of insulation 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. ZLA 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.

Description

ZLA series utilizes coacervation 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 of ZLA

- To remove free, soluble water, carbon, free and dissolved gases and particulate matters from insulating oil effectively and rapidly.
- Enhance the value of breakdown voltage greatly..
- Easy handling and maintenance.
- Inject oil into the transformers.
- Online work
- Lower maintenance and replacement expenses.
- High efficiency and effectiveness.
- Small size, light weight, low noise
- Various sizes and configurations (shield) available.
- Low maintenance and replacement experses.
- Low operation cost.
- High regeneration rate.

- Automatic reverse-washing system will extend the lifetime of filters and improve the performance of the filters.
- High performance security system including pressure protection device and automatic temperature controller makes purifier operate safely.
- Small size, light weight, low noise.

Structure

◆Dehydration (Degas) System

1, The vacuum vessel can 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.

2, 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)

1, 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.

2, The filtering system has stable and prefect filtering fineness. The filtering fineness has several grades, including 1, 2, 3, 5, 6, 10 um etc. Oil β >=1000 after filter.

3, 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

1, The unique heater structure heats the oil uniformly.

2, Oil Heater System assures less then 1.0 w/cm2. During the heating process, the deterioration of the oil caused by overheating is avoided.

3, The oil temperature can be sdjusted between 20C to 80C. The heater is controlled manually or automatically. The heater will stop automatically when the oil temperature reaches a certain degree.

4, 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

1, The main components of the electrical apparatus made by Schneider, Siemens and so on ensure the safety of the controlling system.

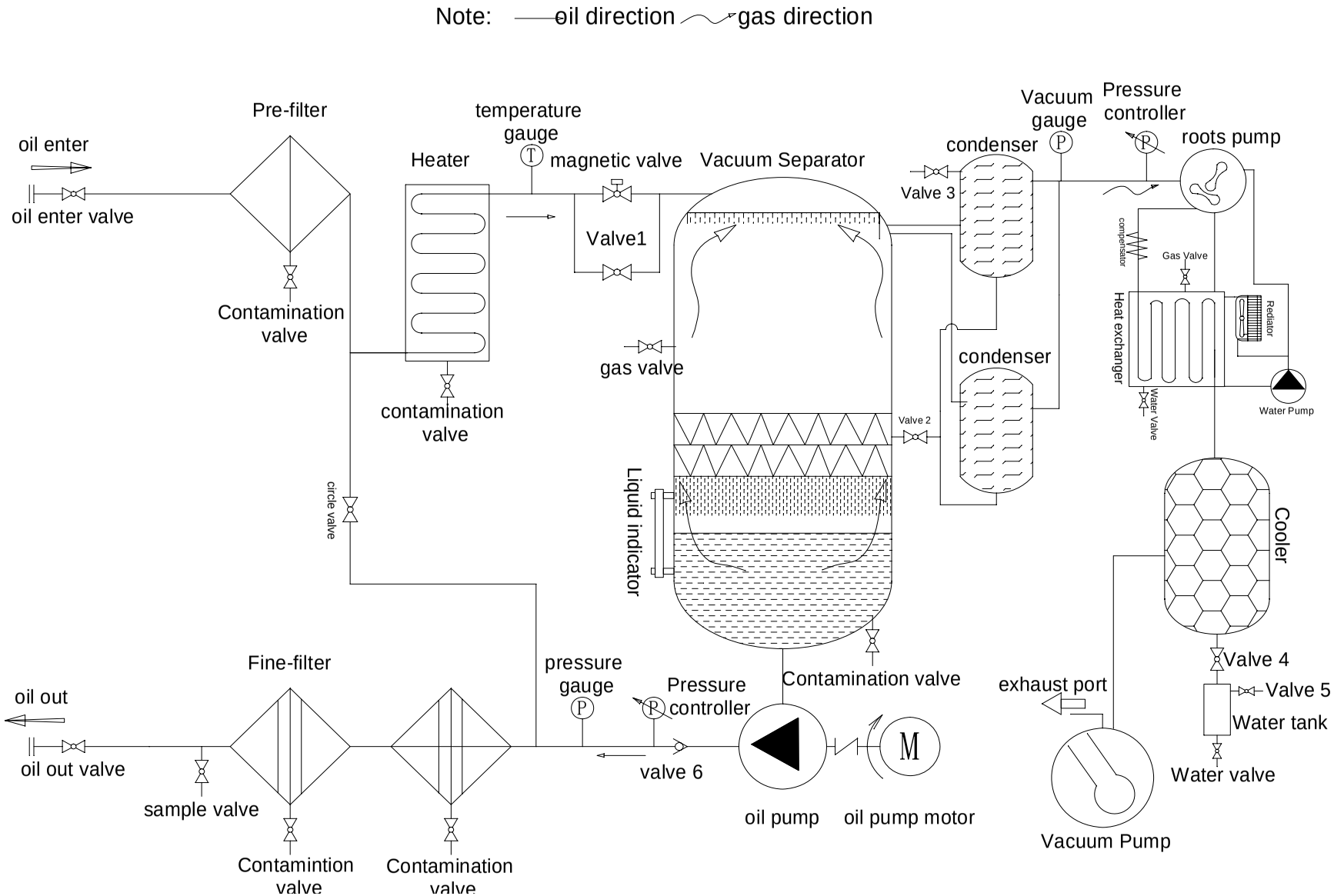
2, Having several protection systems which will avoid oil ejection, overload and over voltage etc.

◆Oil-level Controlling System

1, 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.

2, The new innovation of eliminating froth can avoid the oil being suctioned into vacuum pump.

FLOW CHART


Note: oil direction gas direction
Pre-filter
oil enter
oil enter valve
Contamination valve
Heater
temperature gauge
magnetic valve
Valve1
Vacuum Separator
gas valve
contamination valve
circle valve
Liquid indicator
Valve 2
condenser
Valve 3
Vacuum gauge
Pressure controller
roots pump
compensator
Gas Valve
Heat exchanger
Rediator
Water Valve
Water Pump
Cooler
Valve 4
Valve 5
Water tank
Water valve
exhaust port
Vacuum Pump
Fine-filter
oil out
oil out valve
sample valve
Contamintion valve
Contamination valve
pressure gauge
Pressure controller
valve 6
Contamination valve
oil pump
oil pump motor
M