



重庆特璞滤油机制造有限公司

Chongqing Top Oil Purifier Manufacture CO., LTD

Oil Purification Unit Series TYA



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CONTENT

I.	Company Profile-----	3
II.	Application and Features-----	3/4
III.	Working Principle and Flow Chart-----	4/5
IV.	Technical Data and Quality Indexes-----	6
V.	Machine Technology-----	7/8

I Company Profile

Chongqing Top Oil Purifier Co., Ltd is a professional leading manufacturer of oil purifiers and oil testers. We have tremendous strength in the fields of research, development and manufacturing with professional mass-production ability, perfect sales network, excellent after-sales service as well as a perfect image we earned in the competitive market.

Our main products are: Insulating Oil Purifier, Turbine Oil Purification machine, Hydraulic Oil Purifier, Lubricating oil filtration machine, Transformer Oil filtering machine, fuel oil restoration, Steam-Turbine Oil reconditioner, Dielectric fluid regeneration system, Circuit-Breaker Oil recovering system, Compressor Oil recovering machine, Gear Oil renewal machine, Coolant Oil treatment, Quenching Oil reclaiming machine, Oil and Water Separator, Steel-Rolling Oil regeneration equipment, Waste automobile Oil Recycling Equipment, petroleum machine and Oil Tester, etc.

Top Oil Purifiers are widespread in the fields of Electric Power, Petrification, Mineral, Shipbuilding, Steel Construction, Bridge, Automobile and Railway, playing a great role in the way of reducing energy consumption for the clients and meanwhile the environmental pollution.

The company takes the mission of existing on the basis of quality as well as developing in regard to technical innovation, introduces foreign advanced technology of vacuum oil purifying, moreover, continues researching and manufacturing the oil purifying equipments that available both in the domestic and international market.

“Not Best, Only Better” . Top will as always make great effort to provide you the better oil purifying equipments.

II Application and Features

Application

Series TYA oil purification plant can fast degas, dewater, and remove the impurity and the volatile matter (for example ethyl alcohol, gasoline, ammonia and so on). Enhances the oil quality, restores the lubricating oil viscosity, flash point and improves the oil capability. Guaranteed the hydraulic system, dynamic system and lubricating system running normally. The machine is suit for many lines, such as transportation, mine, metallurgy, electric power, manufactures and so on.. Regenerate the used lubricating oil, hydraulic oil, gear oil, motor engine oil, coolant oil, machine oil, fuel oil, base oil , used cooking oil and so on.

Features

1. With the strong ability to filter the impurity, which can filter the particles completely.
2. It has the back flush system, which can clear impurities automatically.
3. Advanced dielectric condensation device
4. This machine installs the new pressure protector, which can control the temperature automatically; also it can drain water on line by the water-separator device. So it is easy to control this machine.
5. We adopt the high quality filter materials, which has a good function in anti-corrosive, thermostable, mechanical strength. Especially, the precision of eliminates impurity is high and the service life is long. Also, it has a large volume for storing the impurities.
6. The unique degas and dewater system: Using the Stereo-Evaporation technical, which can separate the water and gas from the oil quickly by the Multi-level water-oil separation technology.

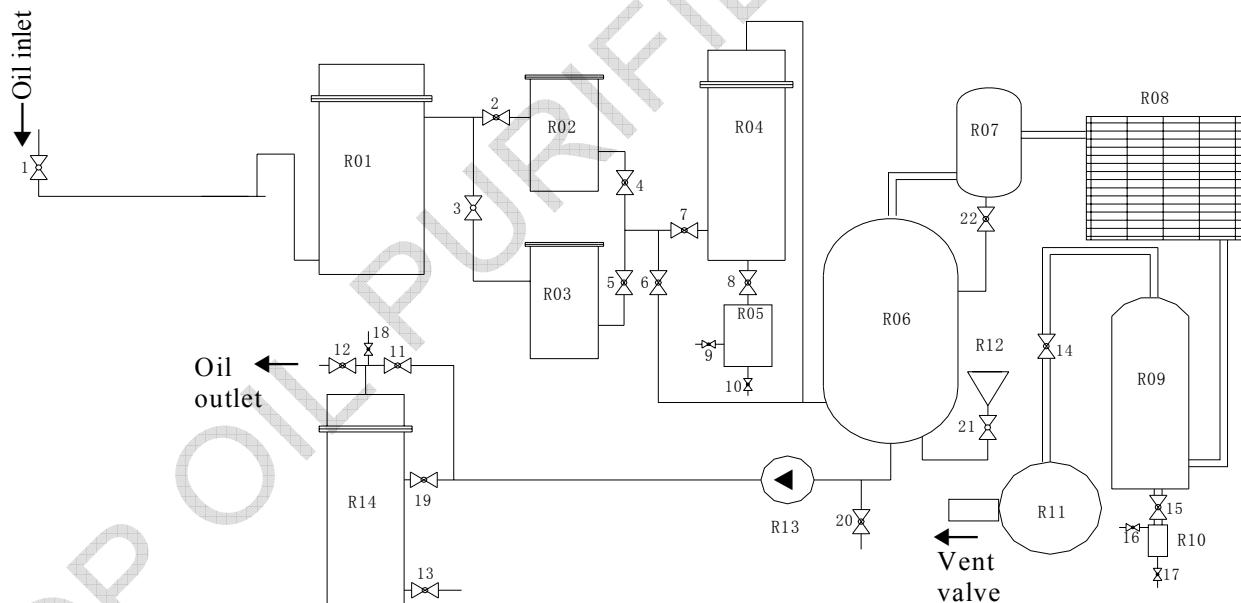
III Working Principle and Structure

1. Working Principle

When it starts working, the used oil will be poured into the heater to heat under the vacuum pressure, then the heated oil enter into the primary filter which will eliminate the big impurities, then the oil enter into the vacuum separator, the oil will flow the special radiation device, which make the unit/volume oil to produce a large surface area, lets the pollution oil exposure in the low humidity atmosphere, thus the water, air and gas can be eliminated. The treated vapor and gas form the gaseous mixture becomes the liquid through the water tank and the chiller condensation, then the liquid enters water receiver together, the vacuum extracts the surplus gas.

The oil which is drained away water flow into precision strainer where can exhaust particulates (oil purification). According the quantity of the water content, a whole purification needs many times circulation to drain away the water.

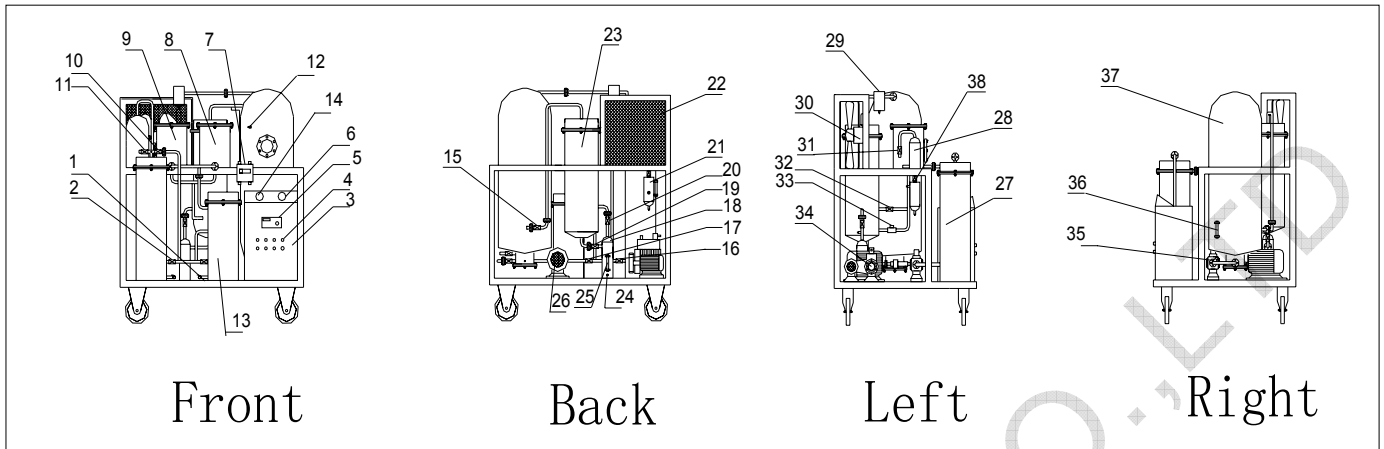
2. Flow Chart



1-22: Control Valve, Sampling Valve, Blowdown Valve

(1) R01, Heater (2) R02, Primary Filter (1) R03, Primary Filter (2) R04, Water Separator
 R05, R10, Water Receiver R06, Vacuum Separator R07, Scum Breaker R08, Air Forced System R09,
 Cooler R11, Vacuum Pump R12, Feed Hopper R13, Oil Pump R14, Fine Filter

3. Structure Diagram



2.15.16.17.31.32、 Pipeline Ball Valve 19.20.38、 Vacuum Isolation Valve 1、 Oil Inlet 3、 Electrical Control Cabinet 4、 Control Buttons 5、 Temperature Controller 6.14、 Pressure Gauge, Vacuum Gauge 7、 Double-infrared Oil Level Auto-controller 8.9、 Primary Filter 10、 Back-flush Valve 11、 Oil Outlet 12、 Defoam Device 13、 Heater 18.21.29、 Water Receiver 22、 heater exchanger (Condensation device) 23、 Water Separator Filter 24、 Drain Valve 25、 Water Level Indicator 26、 Oil Pump Motor 27、 Fine Filter 28、 Cooler 30、 Fan 33、 Solenoid Valve 34、 Vacuum Pump & Motor 35、 Oil Pump 36、 Liquid Level Indicator 37、 Vacuum Tank/ Separator

IV Technology Indexes (Table 1、 Table 2)

Table 1 Vacuum Oil Purifier Technology Standard

Parameters	Unit	TYA-10	TYA -20	TYA -30	TYA -50	TYA -100	TYA -150	TYA -200	TYA -300
Flow rate	L/h	600	1200	1800	3000	6000	9000	12000	18000
Vacuum degree	Mpa	-0.06 ~- 0.095							
Working pressure	Mpa	≤0.4							
Temperature degree	℃	0~100							
Power supply		3Phase, 380V, 50Hz(or as needed)							
Working noise	dB(A)	≤75	≤75	≤75	≤78	≤78	≤78	≤80	≤82
Electric heating power	KW	36	40	45	72	80	90	120	135
Total electric power	KW	38	42	47	75	87	101	135	147
Inlet (outlet) caliber	mm	Φ25	Φ25	Φ25	Φ32	Φ42	Φ50	Φ50	Φ60
Size	mm	1500x1000x 1600	1500x1050x 1600	1500x1050x 1650	1600x1150x 1700	1750x1150x17 50	1900x1600x19 50	1950x1600x195 0	2100x1600x20 00
Weight	Kg	350	380	400	450	550	650	700	750

Table2 TYA Oil Purifier Treated Guarantee Value

Item	Guarantee indexes
Moisture content	≤50 PPM
Demulsification value	New oil ≤15min, running oil ≤30min
Impurity size	≤1 micron
Gas content	≤0.1%
Clean degree	≤4 Grade (NAS1638)

V Machine Technology

Dehydration (Degas) System

The duplex-stereo vacuum evaporation vessel can enlarge evaporation area efficiently. The heater, being placed on the duplex-stereo vacuum evaporation vessel, becomes an evaporator. Thus the evaporation area of duplex-stereo vacuum evaporation vessel is three times more than that of the common 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

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.

• Electrical Apparatus controlling System

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

• 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 0°C to 100°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.

• Oil-level Controlling System

The oil-level floating ball and infrared liquid level automatic controller system are installed in the vacuum vessel to control the oil level so as to avoid the oil leaking in the operation.

The new innovation of eliminating froth can avoid the oil ejecting and gushing during the process.

• High quality components

The main component parts of our products such as vacuum pump, oil pump and electric apparatus are from SIEMENS, ABB, SCHNEIDER and AMICO etc. It ensures our products high quality and reliability.

• **Structure and appearance of Oil purifier**

Our products adopt ship-shape chassis-mount structure to ensure oil leak proof and protect the environment from pollution.

The whole equipment is characterized by small size, light weight and convenient to move around.

Various sizes and configurations(alloy shield) available

Available in mobile or stationary options

Automatic vacuum oil purifier or anti-explosion vacuum oil purifier is both available according to customers' needs.

Cooler, Condenser System

The system is composed of cooler, condenser, water receiver etc

The vapor and other gas, which is evaporated from vacuum separator, first drop in temperature and are rid of moisture in condenser, then are condensed again in cooler which has retarded exchange media. The reductive condensed water are discharged by water receiver. The dry gas, which are condensed and rid of moisture twice, are discharged to air by vacuum pump so that it protects vacuum pump.

The plant is characterized by small size, light weight, rich color. And our company can produce trail car type and whole lock (alloy shield) type according to the customers' requirement.

In order to make sure that the stable of oil purifier plant which can work long time and extend the life of the machine, the electric control parts and electric parts of TOP oil purifier are imported from (ZHENGTAI, DELIXI) SIEMENS, LEYBOLD, PALL, ABB etc



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