

Series LOP Vacuum Lubricating Oil Purifier

IT FILTERS & PURIFIES :

- INDUSTRIAL LUBE OIL
- COMPRESSOR OIL
- HYDRAULIC OIL
- GEAR OIL

- TRANSMISSION OIL
- HEAT TREATMENT OIL
- MOTOR OIL
- QUENCH OIL
- CAR OIL
- ENGINE OIL



- MULTI-STAGE FILTRATION
- HEATING
- BRAKING EMULSIFICATION
- VACUUM DEHYDRATION
- DEGASSING

- PARTICLES REMOVAL
- OIL FILLING & TRANSFERRING
- RECOVERS THE OIL'S PROPERTIES

15 years

of manufacturing and exporting experience
in Oil Filtration Machines

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WHO WE ARE

- ◆ **Fuootech Oil Filtration Group** is one of largest R&D based high-tech group engaged in designing, developing, manufacturing and exporting various vacuum oil/fluid purifiers, oil filtration system, oil regeneration machine and oil testing kits for various industries, helping clients all over the world solve various oil problems.
- ◆ **Fuootech** develops custom solutions for virtually any application involving industrial oil management. With **Fuootech** oil management systems, oils can be re-used indefinitely, thus drastically reducing new oil purchasing and waste oil disposal, protecting environment, and improving productivity for industries to be more competitive in the global economy.
- ◆ Nowadays, the company's sales and service network covers all the provinces of China and exports to more than 118 countries. Our products are more and more popular in domestic market and international market based on High quality, advanced technology, competitive price and excellent before & after sales service, as well as continuous technical supports.
- ◆ **Fuootech's** oil filtration systems & oil testing kits are extensively used in the fields of electrical power, power station, power transmission, power generation, Petrochemical, petroleum, Paper and Pulp, compressor, mechanical manufacture, steel mills, electrical utilities, engineering contractors, metallurgy, railway, aviation etc. which are consuming various oils. More than 100 standard models are offered to different clients and also can be customised according to actual need of oil solutions in different areas.





PRODUCT INTRODUCTION & FEATURES

Introduction

- ◆ Lubricating oil contaminated by water, gas, impurities will decrease the life of machines and equipments. Series LOP vacuum Lubricating oil purifier has perfect capability of removing impurities, gas, water and doing deep precision filtering. It can improve properties of lubricating oil, such as viscosity and flash point. After purification by this oil purifier machine, the oil can be reused in various industrial equipment and reduce ecological disposal problems.
- ◆ Series LOP vacuum Lubricating oil purifier is widely applied in petroleum, chemical, mining, metallurgy, electric power, transportation, machinery manufacturing, railway etc. And it is the most reliable, versatile, durable, and user-friendly purification systems in the industry nowadays.
- ◆ This machine can not only rapidly remove water, gas and impurities from lubrication oil, but also remove the carbon, deep oxides, acid, solvent and pitch, etc... So it can highly boost the oil's value, making the oil more suitable for the lubricating system.

Features

- ◆ Advance water, gas separating system, duplex 3D-stereo evaporating technology, ensure fast separation and removal of water and gas in the oil, it has a strong demulsifying capability, which could separate the large amount of water from oil and the minimal amount of water from oil.
- ◆ Strong ability of breaking emulsification, remove more free water and dissolved water content.
- ◆ Strong ability of removing particle & impurities through three-stage high precision filters. And these high quality filter materials have a good function in anti-corrosive, thermostable, mechanical strength. Especially, the precision of eliminates impurity is high and the service life is long.
- ◆ Advanced automatic medium cooling system, improving working efficiency and making water content cooled down quickly and removed.
- ◆ Electric control panel with vacuum indicator, pressure indicator, digital type temperature controlling system with indicator and automatic shut-down system.
- ◆ Top-quality components, good mechanical performance and workmanship ensure years of maintenance-free operation and performance
- ◆ Advanced fully automatic temperature controlling system, liquid-level controlling system, pressure protecting system and excellent configuration can ensure operation of the equipment with high performance.
- ◆ Interlock protection system, pressure protection device, interaction of oil inlet ad heating, which avoid influence of incorrect manipulation.
- ◆ low maintenance cost and time



TECHNICAL SPECIFICATION

Item	Unit	LOP-10	LOP-20	LOP-30	LOP-50	LOP-100	LOP-150	LOP-200	LOP-300
Flow rate	L/H	600	1200	1800	3000	6000	9000	12000	18000
Vacuum degree	Mpa	-0.06 ~ - 0.095							
Working pressure	Mpa	≤0.5							
	°C	0 ~ 100							
Operation Temperature	°C	50 ~ 80							
Demulsification	Min	New oil≤15min, running oil≤30min							
Power supply		A/C 440 VAC, 60Hz, 3 Phase (or as per required)							
Working noise	DB (A)	≤ 65 ~ 85							
Electric heating power	KW	18	24	26	30	48	60	96	240
Total electric power	KW	19.3	25.3	27.6	32.6	56	69	106.5	280
Inlet (outlet) caliber	mm	Φ25	Φ25	Φ25	Φ32	Φ42	Φ50	Φ50	Φ75
Dimension (L × W × H)	mm	1500 x1000 x 1500	1550 x1050 x1600	1600 x1050 x1650	1600 x 1150 x1700	1750 x1250 x 1800	1900 x1600 x1950	1900 x1700 x2000	2500 x1800 x2300
Weight	Kg	450	550	600	750	850	1200	1900	2300

The dimension and weight will be changed with changing of technical specs.



OIL RESULT AND WORKING PRINCIPLE

Oil Result After Treatment

Moisture (water content)	≤ 80 PPM (remove 100% of free water and 99% of dissolved/emulsified water)
Gas Content	$\leq 0.01\%$
Suspended Particles (Filtration precision)	≤ 5 micron
Demulsification	New oil ≤ 15 min, running oil ≤ 30 min
Cleanliness	\leq NAS 1638-Grade 6

Working Principle

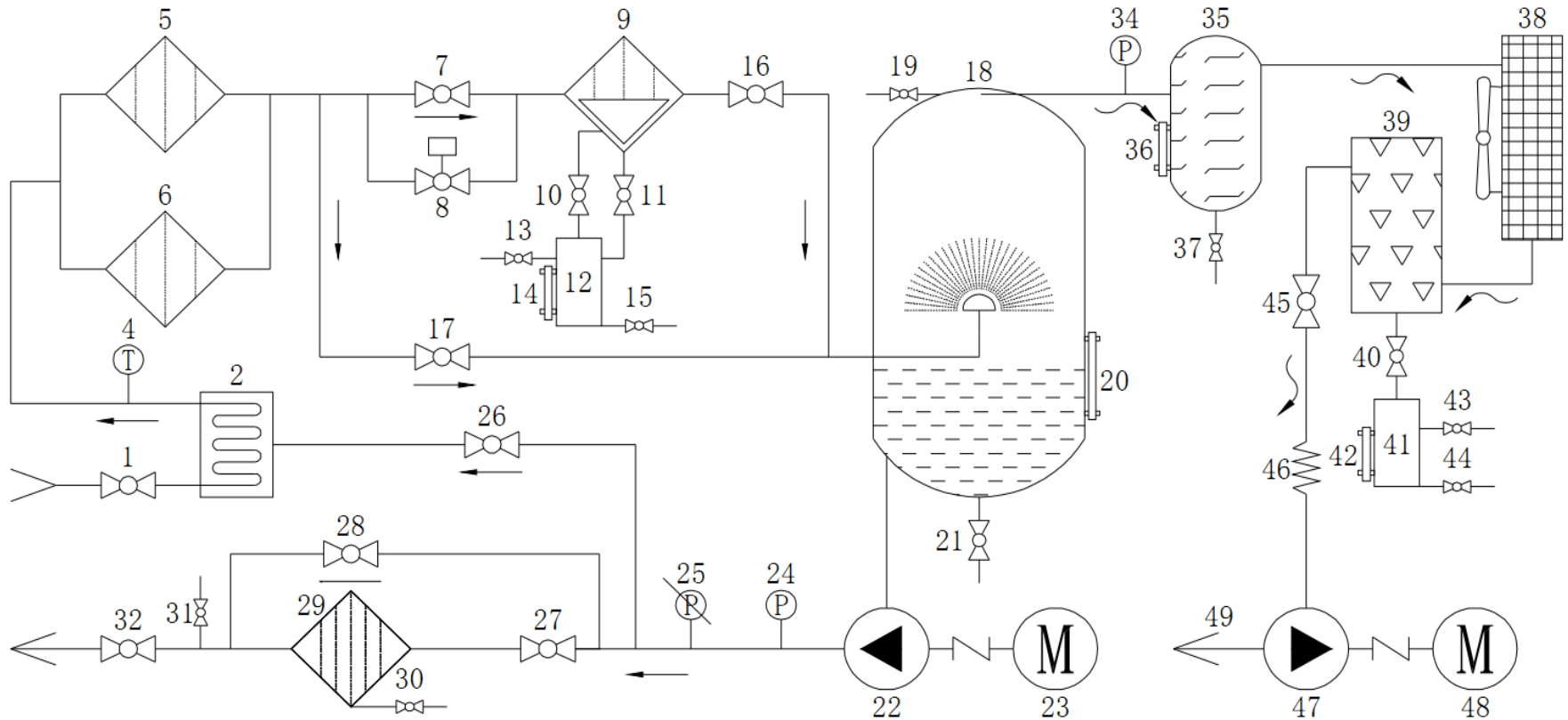
When it starts working, the used oil will be poured into the heater to heat under the vacuum pressure, then the heated oil enters into the primary filter which will eliminate the big impurities, then the oil enters into the Vacuum separator, the oil will flow through the special radiation device, which makes the unit/volume oil to produce a large surface area, lets the polluted 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 flows into fine filter where can remove more tiny particulates (oil purification). According to the quantity of the water content, a whole purification needs many times circulation to drain away the water.



FLOW CHART OF SERIES LOP

Oil Flow Direction \longrightarrow ; Air Flow Direction \curvearrowright



1, Oil Inlet Valve 2, Heater 4, Temperature Controller 5, Primary Filter 6, Secondary Filter 7/17/28, By-pass valve Solenoid valve 9, Water Separation Filter 10/11/27/40, Isolating Valve 12/35/41, Water receiver 13/43, Permeability valve 14/36/42, Liquid Level Indicator 15/21/30/37/44, Blow-down Valve 16, Oil Outlet Valve for water separation filter 18, Vacuum Separator 19, Vacuum Adjusting Valve 20, Oil Level Indicator 22, Oil Pump 23, Oil Pump Motor 24, Pressure Gauge 25, Pressure Controller 26, Circulating Valve 29, Fine Filter 31, Sampling Valve 32, Oil Outlet Valve 34, Vacuum Gauge 38, Radiator 39, Cooler 45, Vacuum Connection Valve 46, Vacuum Connection Hose 47, Vacuum Pump 48, Vacuum Pump Motor 49, Air outlet on Vacuum Pump



MAIN ADVANCED TECHNOLOGIES

Unique Dehydration (Degas) System

- ◆ We adopt Duplex 3D stereo-evaporation technology whose the evaporation area is three times more than that of normal evaporation technology. This innovation can dehydrate and degas effectively and efficiently.
- ◆ Meanwhile, we bring in UK G technology from Japan which eliminates the kinds of trace water content and dissolved water thoroughly.
- ◆ Sight Glass installed for observation of oil evaporation and oil flow level.
- ◆ Effective vacuum adjusting valve is designed specially for adjusting suitable vacuum degree inside of vacuum chamber according to actual operation condition.
- ◆ Blow-down valve and safety valve equipped for necessary operation while use.

High-tech Demulsification

- ◆ The quality of the lubricating oil purifier depends on the technology of breaking emulsification by the machine, if the machine cannot break the emulsification, it cannot dewater at all.
- ◆ Many traditional factories usually adopt two methods to solve this problem, one is to add the Emulsion-breaking agent or use the glass fiber cotton. But there are two defects by adding the emulsion-breaking agent: One is to damage the oil, the other one is that the oil will be emulsified again after putting the emulsion-breaking agent.
- ◆ Although it can break the emulsion by using the glass fiber cotton, the emulsion-breaking filter's life will be short and changed more often because of its easy-blocked disadvantage.
- ◆ Our company adopts H.P.M high molecule polymer material of breaking emulsion, it contains a large number of active elements of free verse polymer materials, these free verse polymer materials can directly go into the emulsion oil, emulsified oil will be cut off of molecular chain, separate the Oil molecules and water molecules, it easily solve the problem of emulsion. And it won't damage the oil, and use repeatedly without exhausting any supplies.

Distinctive Filtering System

- ◆ The filtering system, which is combined double FH trapezoidal network with H.P.M high molecule polymer material absorbing for demulsification, distinctively remove various impurities, particles and water content. The filtering system owns back flush function to clean the filters and clear the impurities automatically. It improves the effectiveness of filtering and extends the lifetime of filter awfully.

A: First-stage Filter

- ◆ Made of Stainless steel material, Double FH trapezoidal network filtering technology, it removes particles and impurities down to 80 microns.



MAIN ADVANCED TECHNOLOGIES

B: Second-stage Filter

- ◆ Made of Stainless steel material, Double FH trapezoidal network filtering technology, it removes particles and impurities down to 20 microns.

C: Water Separation system

Made by lignocelluloses and imported from Italy, separates and removes 100% of free water and 99% of dissolved / emulsified water in the waste oil directly and effectively.

Multi-stage water separation systems is designed specially for purifying the oils which contain too much water.

D: Fine Filter:

- ◆ Made by High Polymer Materials and imported from Germany, thorough demulsification and separate water from the waste oil, it removes particles and impurities down to 5 microns, making oil clean.
- ◆ Also other filters can be designed to install on the machine according to customer's actual requirements.

Electrical Control System & Control Panel (Cabinet)

- ◆ Electrical control system is one of the most important parts for oil filtration machine, which control and protect the whole filtration process, keeping danger away from operators.
- ◆ All the electrical parts are chosen and compared by our professional electrical engineers from hundreds of brands products, currently we mainly choose CHINT and Germany Schneider brands. And the wiring & installation of electrical parts are well designed according to operators' operation habit.
- ◆ All Electrical Control Gear, Mains Isolating Arrangement, Starters, Contactors, Fuses, Relays, Indicating Lamps and Interlocking, etc... are well housed in a Compact Control Cabinet, as well as the lights, pushing buttons, vacuum gauge, pressure gauge, temperature controller screen, indicators, etc.. are also well installed on the control panel.
- ◆ German 3UG3 Relay keep the machine safe working efficaciously at any situations such as power off, lack of phase, wrong phase position, etc...

Carbon Fiber Infrared Oil Heating System

- ◆ Heating by Carbon fiber infrared heating system which is the most advanced heating technology, the unique heater structure heats the oil uniformly and easily controlled, it gives out the heat quickly (in 3 seconds after power on) and Efficiency of electricity transforming to heat is very high (more than 98%).
- ◆ 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 ~ 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.
- ◆ The material is good at oxidation resistance at high temperature and can be used for more than 10 years.



MAIN ADVANCED TECHNOLOGIES

Double-infrared fluid level auto-control system instead of oil-level controlled by manually and float valve

- ◆ Double-infrared fluid level auto-control system is installed in the vacuum vessel to control the oil level automatically so as to avoid the oil leaking in the operation. It can help machine working continuously for 150 hours even online without worker monitor. 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, FUOOTECH and AMICO etc. Kinds of brands are optional according to customer's specific requirement. It ensures our products high quality and reliability.
- ◆ Some extra components are available to install on our oil filtration machine as per client's requirements, such as flow meter, PLC, hooks, doors, covers, alarms, special Logo, etc...

Structure and Appearance of Oil purifier

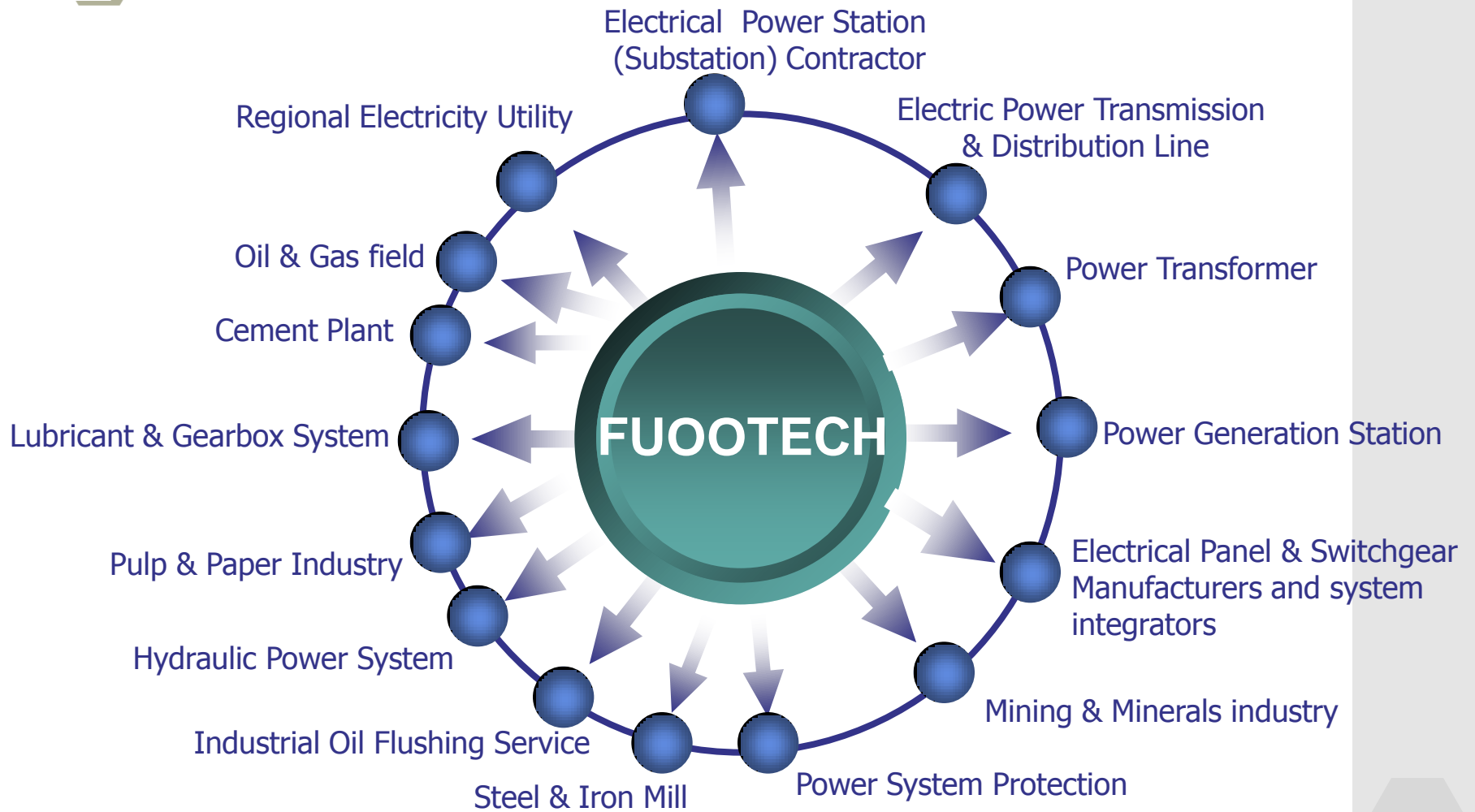
- ◆ Our products adopt ship-shape chassis-mount structure to ensure oil leak proof and protect the environment from pollution. The whole equipment is characterized by small size, light weight and convenient to move around.
- ◆ Available in mobile option, immovable option and trailer, etc...
- ◆ Oil purifier can be made in hermetical, canopy-covering, open and frame style, etc...
- ◆ Color of the oil purifier can follow customer's favor.
- ◆ Available in installing PLC controller for making machine operation Fully-automatically
- ◆ Equipped with Explosion Proof Materials when the machine is used in hazardous areas is optional.

Cooler, Dielectric Condensation 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 dielectric condenser whose decalescence medium changes water vapour changes to liquid water quickly, then are condensed again in cooler.
- ◆ The reductive condensed water is 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 INDUSTRIES WE ARE ALSO INVOLVING AND SERVICING



More other industries are also not listed here, but also involved



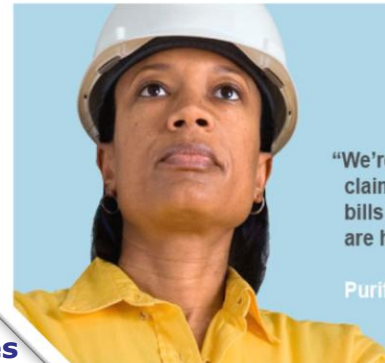
FUOTECH'S PRODUCTS ARE FILTERING, PURIFYING, REGENERATING

- ◆ **Insulating Oil**
- ◆ **Lubricating Oil**
- ◆ **Cable Oil**
- ◆ **Industrial Oil**
- ◆ **Transformer Oil**
- ◆ **Turbine Oil**
- ◆ **Vacuum Oil**
- ◆ **Transmission Oil**
- ◆ **Dielectric Oil**
- ◆ **Mutual Inductor Oil**
- ◆ **Switchgear Oil**
- ◆ **Circulating Oil**
- ◆ **Compressor Oil**
- ◆ **Cutting Oil**
- ◆ **Gear Oil**
- ◆ **Heat Transfer Oil**
- ◆ **Hydraulic Oil**
- ◆ **Cooking Oil (UCO)**
- ◆ **Fire Resistant Hydraulic Oil**
- ◆ **Engine Oil**
- ◆ **Coolant Oil**
- ◆ **Quench Oil**
- ◆ **Soluble Coolants**
- ◆ **Rolling Oil**
- ◆ **and more ...**



BENEFITS FROM FUOTECH'S PRODUCTS

- ◆ Removes Dissolved Moisture from Transformer Oil
- ◆ Reduces combustible gases and oxygen
- ◆ Improves oil dielectric values
- ◆ Improves transformer power factor
- ◆ Extends oil service life
- ◆ Extends transformer service life and reliability
- ◆ Protect transformer, power station, power plants
- ◆ Zero disposal of waste oil
- ◆ Eliminate new oil purchases and reduce oil inventories
- ◆ Keep equipment working more efficiently
- ◆ Protect machinery and reduce maintenance time
- ◆ Create a cleaner environment
- ◆ Extended lubricant life
- ◆ Minimized "stick-and-slip" of bearings and gears
- ◆ Less wear on servos and O-rings
- ◆ Reduced machine downtime
- ◆ Less equipment maintenance
- ◆ Significantly reduced overall costs
- ◆ Cost savings from fewer oil changes, less associated labor
- ◆ Eliminate oil changes by always keeping oil like new
- ◆ Fuel consumption savings through increased engine efficiency
- ◆ Extend engine life with resultant increased times between major overhauls and reduced capital expenditure to replace damaged equipment
- ◆ Win profits from our oil purifier machines when you resell or rent to others



"We're saving over \$150,000 a year, and reclaiming almost 100% our oil — our disposal bills are almost nothing. Plus, our employees are happier!"

Purify your waste oil — it's money in the bank.





FUOTECH'S OVERSEA PROJECTS & TRAINING



South Africa



Pakistan



Saudi Arabia



Tanzania



Bangladesh



Malaysia



Cambodia



Dubai, UAE



Zambia



Nigeria



Laos



Zimbabwe

More projects are not listed here

TECHNICAL SUPPORTS & AFTER-SALE SERVICES

FuooTech Oil Filtration Group has a professional after-sales service team, We are in the spirit of "high quality, excellent service, create first-class brand" and base on the principle of "quality equipments, reasonable price and warm-heat service". we can provide our customers free installation and adjustment of machine, free training and two years warranty from final acceptance.

During warranty period, if the purchaser discovers defects in workmanship and or material and so notifies the supplier promptly in writing, we have the responsibility to dispatch the technician and provide supplementary accessories within twenty days from the date of receipt of written notification from the purchaser.

We will provide 24-hour one-stop service to ensure that we can deal with customer issues in first time

Service target: Always to provide customers with satisfactory service.

We also provide OEM & ODM Service & Solutions to your specific needs according to the actual market plan. Please Contact Us for more details.

7*24 Technical Supports and After-sale services are also available for all clients.

We also provide the professional installation, commissioning, training services for customers at their working site.

Technical Upgrade and improvement are also belongs to our experienced services.

For more services, please don't hesitate to contact us. We will provide you the best solutions.



CONTACT US



Thank You!
LOOK FORWARD TO
COOPERATING WITH YOU!

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