

Transformer Oil Filtration Machine

Transformer plays an important role in power generation. Present transformer oil requires high quality and high purity of insulating oil to get the performance of the transformer to its peak level. The transformer oil filtration plant works on the principle of filter out the impurities through stage-wise filtration, water, dissolved gasses, acetylene, hydrogen, and other gasses through vacuum extraction and acid removal through the ion exchange principle. Additionally transformer oil filtration plant equipment with an evacuation system to dry out the system in maintenance time.

The systems are capable of removing water contamination from the oil more than 5% to less than 0.01% in a short time. The system is well designed with stage-wise filtration arrangement which can ensure contamination level under control.



TOFM-600-Single



TOFM-3000-Double

Watch Video 

Product Details 

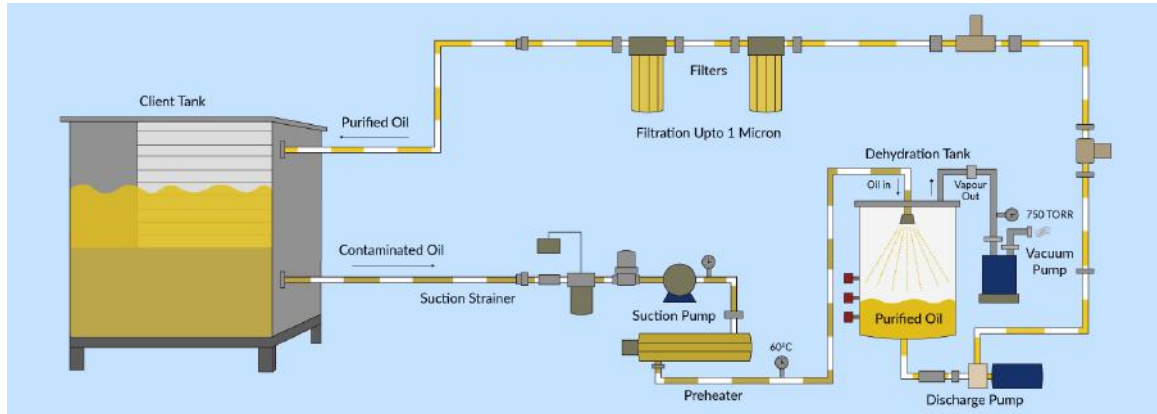
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Technology- Low Vacuum Dehydration



This technique is used for removal of moisture content from the oil which is present in three forms:

- 1) Dissolved
- 2) Emulsified
- 3) Free form

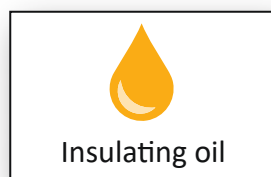
The technology evolves around the fact that the water boiling point is 100°C, when the vapor pressure above the water surface is atmospheric pressure. But when we reduce the vapor pressure to a vacuum condition, say 750 torr, it's evident that the boiling point of water reduces from 100°C to 60°C.

Under this technique, there is a vacuumized chamber and a shower arrangement for the oil (mixed with moisture). There is a heater arrangement which heats up the oil under controlled temperature settings of maximum 60°C, when the heated oil is showered inside the vacuum chamber which is controlled at 750 torr vacuum, moisture particles would be evaporated or vaporized under the vacuumized conditions thereby separating the moisture from the oil. Clean oil is collected at the bottom of the chamber and delivered into the system using a delivery power.

This technique is quite popular and it is the latest. It's better than the previous techniques of centrifuging, coalescing and moisture absorption because of the very reason that:

- (i) it removes all three forms of moisture
- (ii) it does not involve any consumables or costly spares because of rotating parts

Types of fluid which can be cleaned



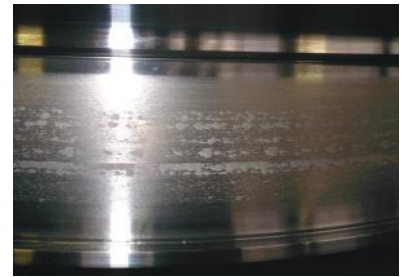
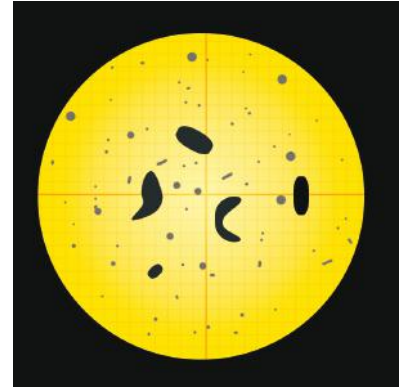
Why Oil Purification Important

A lubrication system generates metallic wear particles (of < 5-micron size) during its operations.

Metallic wear particles are highly abrasive in nature. Increase of wear particles is highly damaging to machine components. Wear particles typically cause 50% of all failures. These multiply due to wear and tear on the surfaces of machine components. The most harmful particles are trapped in the dynamic tolerance, like bearings.

Another critical issue is the presence of free, emulsified, and dissolved water in lube oils which is detrimental to the overall performance of the lubricating system. This causes Oil oxidation and breakdown, Sludge formation, Seal Deterioration and leakages, Metal etching through Corrosion, etc.

- It removes the moisture and impurities from the oil
- It keeps the breakdown voltage of the transformer oil within the permissible limit
- It increases the life of transformer oil as well as transformer
- It can be operated while the transformer is in charged condition
- It can protect the transformer from unplanned shutdown and heavy monetary losses



Nomenclature - Model No. TOFM -

T1

T2

T1	Pump Flow Rate (LPH)	Filtration Capacity (LPH)
600 LPH	600 LPH	600 LPH
1200 LPH	1200 LPH	1200 LPH
2000 LPH	2000 LPH	2000 LPH
2400 LPH	2400 LPH	2400 LPH
3000 LPH	3000 LPH	3000 LPH
4000 LPH	4000 LPH	4000 LPH
6000 LPH	6000 LPH	6000 LPH
10000 LPH	10000 LPH	10000 LPH
12000 LPH	12000 LPH	12000 LPH

T2	No. of Filtration Stages Present
1S	1 stage filtration
2S	2 stage filtration

For customizations please contact Minimac® Sales Representative. All specifications and configurations are indicative and should be verified with Minimac® Sales Office prior to ordering

Application



Power Generation
Plants



Power Utility
Plants



Power
Substations



Metallurgical
Fields



Railway
Sector



Oil & gas Industries
CPP Plants



Steel
Plants



Coal &
Metal Mines



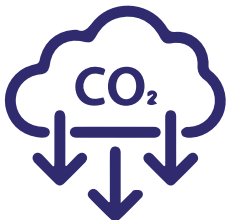
Chemical
Sector



Automobile
Manufacturing



Industries with an
On-site Transformer



REDUCE YOUR CARBON FOOTPRINT

Specifications

Type of Design	High Vacuum, Low Temp
Capacity of Plant	As per your requirement
Maximum Power	Depends on capacity
Plant Operation	Depends on capacity
Quality of Conditioned Oil	After filtration
BDV	up to 70 KV
Suspended Impurity	Less than 1 micron
Gas content	up to 0.1% by volume
Moisture Content	Less than 5 PPM
Neutralization Value	≤ 0.03 mg KOH/g
Inlet Pump	
Rating	Depends on capacity
Type	Monoblock Centrifugal / Positive Displacement
Seal	Oil Seal
Capacity of Pump	Depends on capacity
Head	Depends on capacity
Non Return Valve	Will be provided to prevent flooding
Outlet Pump	
Rating	Depends on capacity
Type	Monoblock Centrifugal / Positive Displacement
Seal	Oil Seal
Capacity of Pump	Depends on capacity
Head	Depends on capacity
Non Return Valve	Will be provided to prevent flooding
Mounting Available	Castor Wheels
	Pneumatic Wheels
	Vehicle Mounted
	Trolley Mounted

Specifications

Vacuum Pumping System	
Pumping speed	Depends on capacity
Model & stage	As per Mfrs. Standard/ Single Stage
Motor Rating	Depends on capacity
NRV	Will be mounted
Mounting Available	Castor Wheels
	Pneumatic Wheels
	Vehicle Mounted
	Trolley Mounted