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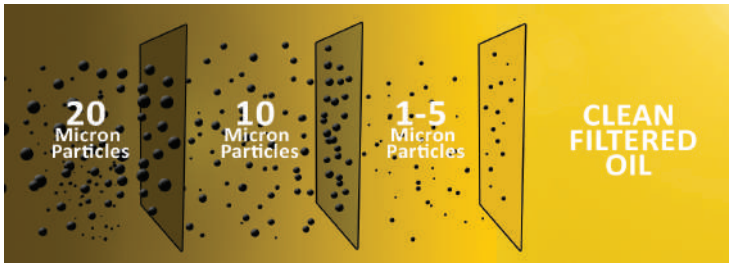
Systems pvt. ltd.

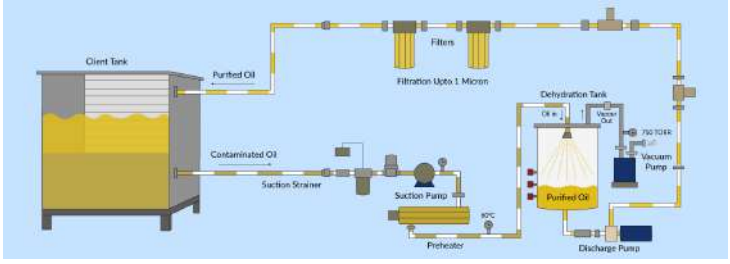
ISO 9001:2015 | ISO 14001:2015 | ISO 45001 : 2018

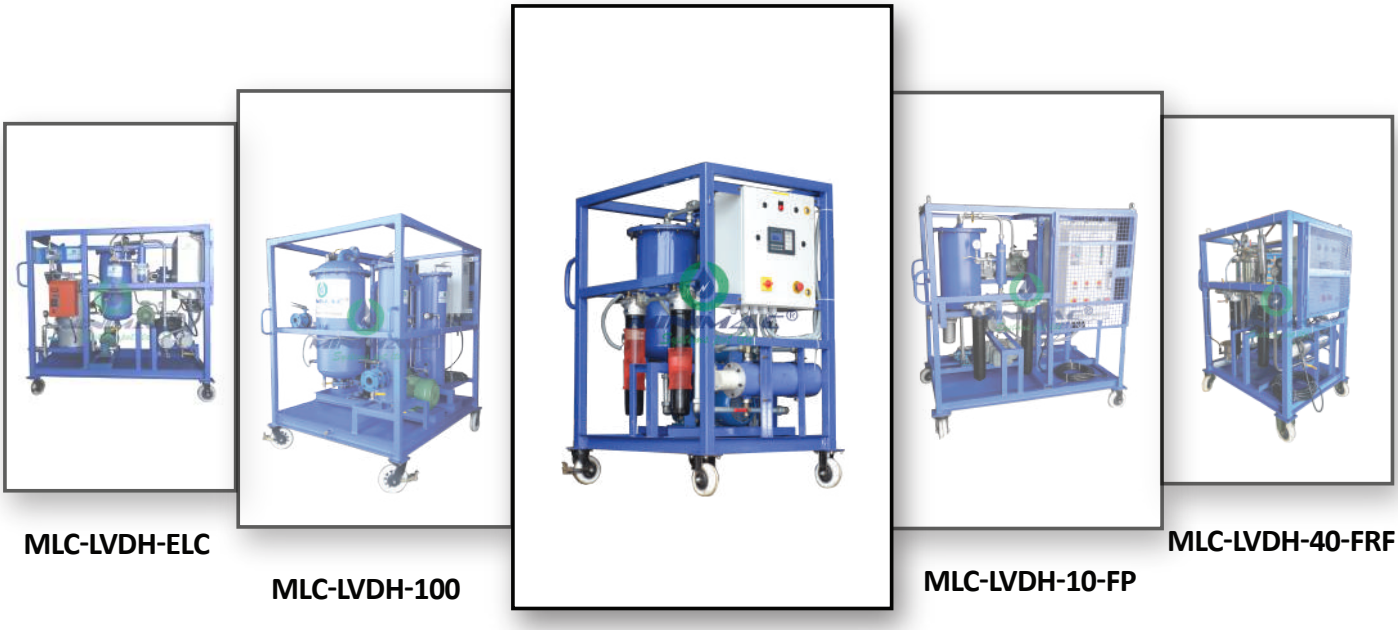
Oil Dehydration System

Minimac MLC-LVDH oil purification systems are high-end technology machines popularly used for filtration (fine solid particle removal) and dehydration (moisture removal) of lubricating and hydraulic oils. MLC-LVDH series machines are externally attached, independently operating by-pass oil purifying machines.

Technology: Stagewise Mechanical Filtration and low vacuum dehydration







MLC-LVDH-ELC

MLC-LVDH-100

MLC-LVDH-10

MLC-LVDH-10-FP

MLC-LVDH-40-FRF

Watch Video | Product Details | Read Article

MAKE IN INDIA | MSME Ministry of MSME, Govt. of India | GeM Government e Marketplace | एन एस आई सी NSIC National Small Scale Industries Corporation | EEPCINDIA ENGINEERING THE FUTURE

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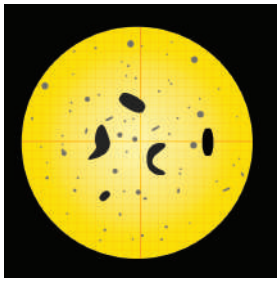
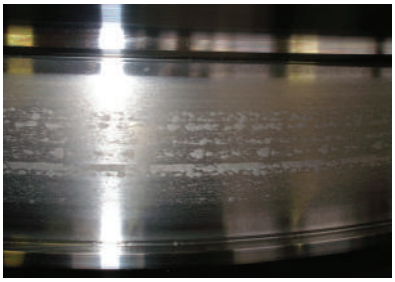
Why Oil Purification Important

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.





Types of fluid which can be cleaned

- Lubricant Oil
- Gear Oil
- Turbine Oil
- Hydraulic Oil
- Thermic Oil
- Quenching Oil
- FRF Oil
- EH Oil

Nomenclature - Model No. FS - T1 T2 T3 T4

T1	Pump Flow Rate (LPM)	Filtration Capacity (LPM)
10 LPM	10 LPM	10 LPM
20 LPM	20 LPM	20 LPM
40 LPM	40 LPM	40 LPM
60 LPM	60 LPM	60 LPM
80 LPM	80 LPM	80 LPM
100 LPM	100 LPM	100 LPM
150 LPM	150 LPM	150 LPM
200 LPM	200 LPM	200 LPM

T3	Fluid Type
H	Hydraulic Oil & Lube Oil (upto 220 cSt)
G	Gear Oil (320 cSt & above)
FRF	Synthetic Fluid - FRF (Phosphate Ester)

T4	Filter Clogging Indications
V	1 stage filtration
E	Electrical Indicaition

T2	No. of Filtration Stages Present
1S	1 stage filtration
2S	2 stage filtration
3S	3 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

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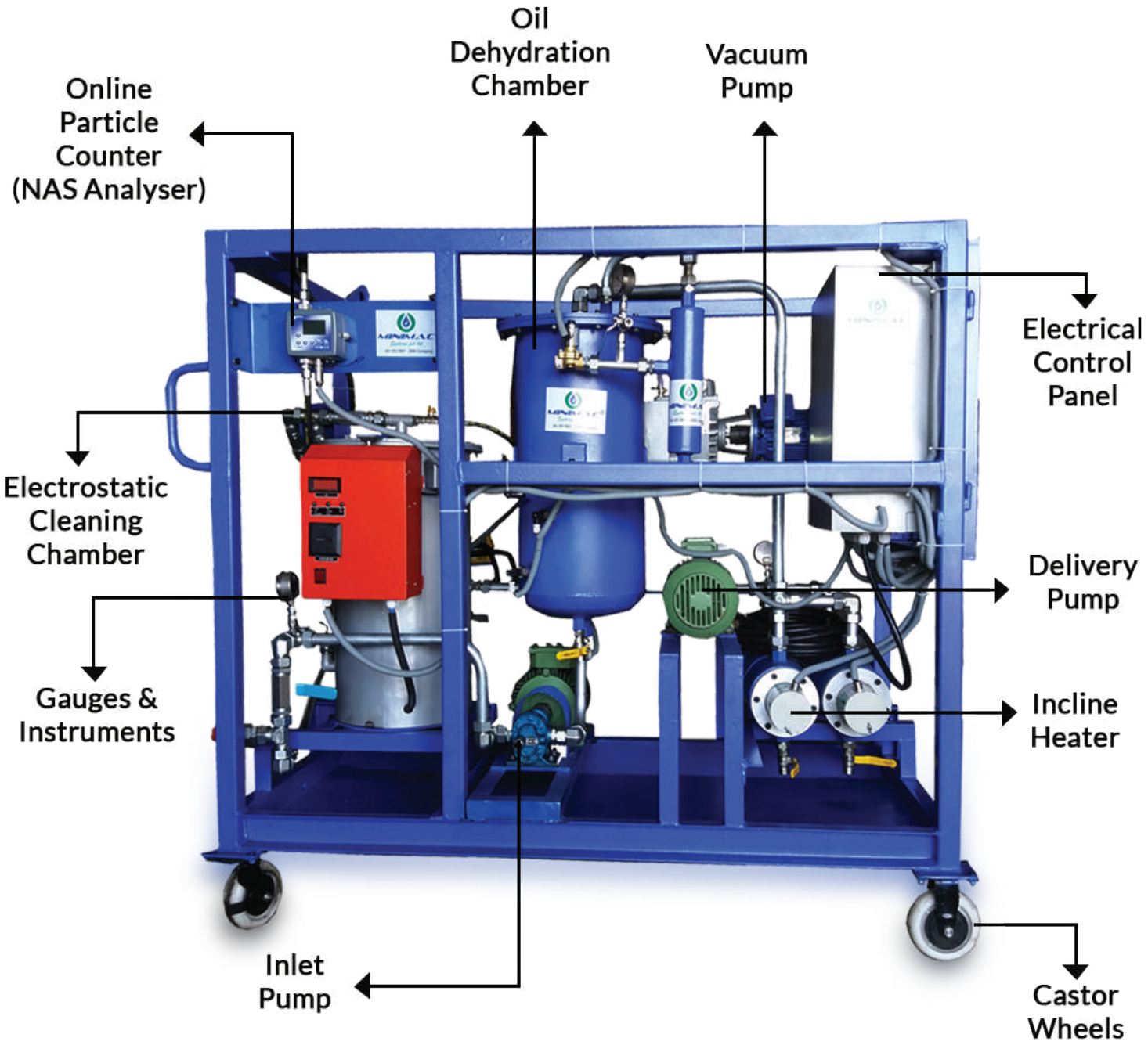
Features



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Specifications

Installation Scheme	Trolley Mounted, Portable Machine
Working	Online / Offline. Fitted externally to oil reservoir as a by-pass oil purification system
Operational Principle	
Filtration Principle	Stage Filtration of reducing microns Depth Type filters : The complete volume of the filter serves as a filtration media and provides efficient filtration of dust, metallic particles, sludge, soot etc.
Moisture Removal Principle	Thin Film Evaporation : Removes dissolved, emulsified and free moisture in oil. A very thin film of oil is allowed to spread evenly on fountain like evaporation plate, under a warm and un-saturated air chamber. Moisture in oil exposed to the vacuumized chamber gets converted to vapour form and escapes from the oil film. Low vacuum Dehydration : By creation vacuum pressure in air-tight chamber, the vapour conversion process is boosted in the in stage.
Benefits	
Filtration Capacity	NAS 5-6 Cleanliness Class
Moisture Removal Capacity	< 100 PPM moisture level
Moisture Separated	100% Moisture removal from oil in Dissolved, Emulsified or Free form
Oil Viscosity handled	0-460 CST; for higher viscosities customized model is to be ordered.
Oil Types handled	Hydraulic, Turbine, Gear, Lube, FRF, EH-Oil
Prevents oil oxidation	By removal of solid particles and moisture in oil
Ensures Higher Oil Life	By retaining Viscosity, TBN, Flash Point, Additive level etc.
Prevents Valve Failures	Due to removal of sticky sludge
Prevent Pump Failures	Due to removal of micronic particles
Increases bearing life	Due to moisture & sludge free oil
Oil Flow Systems	
Oil in-take system	Gear Type Monobloc Pump
Oil delivery System	Pressurized
Moisture discharge system	Diaphragm Type / Vane Type - Vacuum Pump
Filters	
Suction line Strainer	149-micron mesh (Washable) It can be provided in 3 Stages of filtration in the range of 0 - 100 microns. Customized filtration can be provided as per oil and conditions within range.
1st Stage Filter	10 micron (99.98% efficiency, Beta - 1000)
2nd Stage Filter	03 micron (99.98% efficiency, Beta - 1000)
Vacuum Chamber Capacity	Customised Vacuum Chamber as per flow rate.
Oil & Air Drive Systems	
Inlet Pump Details	
Type	Mechanical Gear Pump
Nominal Flow Rate	Same as desired LPM model
Operating Pressure	0-10 Bar, Max – 10 Bar
Motor Power	As per required capacity.
Discharge Pump Details	
Type	Mechanical Gear Pump
Nominal Flow Rate	Same as desired LPM model
Operating Pressure	0-10 Bar, Max – 10 Bar
Motor Power	As per required capacity.

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Specifications

Pre-heating of oil	Up to 50 LPM - 6 KW, Above 50 LPM - 12 KW, customized heating can also be provided.
Vacuum Pump	a. 20 to 60 LPM -215 LPM b. 60 and above 300LPM c. Drive: Direct Driven
Operating Vacuum	Up To 760 Mm Of Hg
Electrical Controls	Yes
Dry Run Protection	Temperature Controller / Thermostat
Pre-heater temp control	Yes
Overload pump protection	RCCB / ELCB based
Supply Protections	Double safety, based on level float switch
Anti Flood Protection	
Indications	
Oil Pressure	0 - 10 bar
Suction & Stage Filter Clog	Compound Gauge & Differential Pressure Gauge (optional)
Oil Temperature	Thermometer / Digital Display
Hour Meter	Analogue
Lamp Indications	Phase, Pumps Operation, Heaters Operation, Over-flooding, Low Press.
Hose Pipes	
Suction Pipe	3 m rubber hose pipe
Fine Filtration Delivery Pipe	3 m rubber hose pipe
Electrical Cable	10 M (4 core)
Fabrication Structure	MS (powder coated) structure frame Castor Wheels with swivel, bearing and pad brakes
Accessories	Online particle counters can be integrated with the machine for continuous condition monitoring of the oil.

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