TRident ENgineering

Total Oil Cleaning Solution

An ISO 9001 : 2015 Company

Electrostatic liquid cleaning (ELC) machine

APPLICATIONS

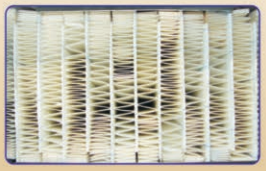
- Plastics Injection Moulding Machines.
- Hot Press in plywood Industries.
- Aluminum Extrusion & Die Casting Machines.
- Power Generation. Gas, Hydro & Thermal
- Steel Plant & CNC Machine Tools.
- Cement & Ceramics Industries
- Aviation, Railways & Automobiles.
- Hydraulic Press & Hot / Cold Steel Mills.
- Bearing Lubrication System.
- Earth Moving, Construction & Mining Equipments.
- Power Transmission Plant.

ADVANTAGES

- ✔ Eliminate Oil Changes.
- ✔ Eliminate Mechanical Filters.
- ✔ Increase Production And Reduce Rejection.
- ✔ Increase Life of pumps, Valves & Seals.
- ✔ E H & S (Environment, Health & Safety) friendl y.
- ✔ Longer Oil Life.
- ✔ No Oil Leakages
- ✔ Longer Equipment Life.
- ✔ Low Operation and Maintenance Cost.
- ✔ Energy Saving by keeping Oil Clean.

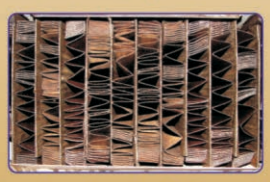
COMPARISONS

Oil Before Cleaning by ELC machine



Before cleaning by ELC machine

Oil After Cleaning by ELC machine



After cleaning by ELC machine

SPECIFICATION FOR SELECTION GUIDE

ELC Model \ Oil ISO VG	32	46	68	100	150	Electric Power	Dimension (L x W x H mm)	Pump Flow Ltr./Min.	Weight in Kg. Approx
ELC - 25L	6000 L	4200 L	2800 L	1500 L	600 L	225 W	635 x 450 x 850	6 at 50Hz	120
ELC - 50L	12000 L	8300 L	5600 L	3000 L	1500 L	425 W	835 x 450 x 850	12 at 50 Hz	150
ELC - 100L	30000 L	20000 L	17000 L	7600 L	3500 L	475 W	915 x 600 x 875	12 at 50 Hz	210

The above figures are from countries like USA, Canada, Japan and Europe. The Oil quantity of ELC model is indicating for dedicating Hydraulic systems, Selection of ELC is depend on quality of Oil and surrounding environment condition.

OIL CONDITION FOR ELC MACHINE

Temp : upto 60° c.
Viscosity below 320 CST Max.

Water content below 500 PPM.
Mineral Base oil except IC Engine Oil.

Hydraulic, Lubrication and Turbine Oil Conservation & Super Cleaning System.

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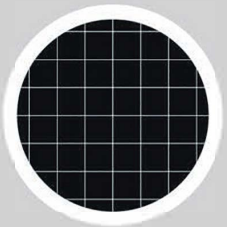
PRINCIPLES OPERATION OF ELECTROSTATIC LIQUID CLEANING (ELC) MACHINE

The **ELC** system uses the principles of electrostatics to collect fuild contaminants. **ELC** unique design with gradient force permits it to take advantage of the natural charge that each contaminant contains. Contamination that have a positive charge are drawn towards a negative electrode plate within the system while those with an inherent negative charge are drawn towards a positive plate. Neutral contaminants are drawn and deposited by gradient force to the edge of the collectors where the intensity of the deformed electric field is strongest.

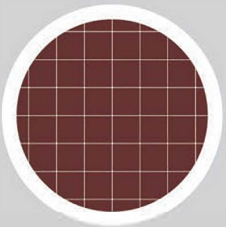
As the fluid flows freely through the system. **ELC** removes contaminants, submicronic particles as 0.01 micron, dust, dirt and products of oxidation such as tars and varnishes. **ELC** also removes particles such as paper, wood, plastic and rubber. Contaminants are trapped on Cellulose Collectors for easy disposal. **ELC will not affect soluble additives.**

The Dust collector paper(s) is hosted in the oil cleaning chamber. Each Dust Collector is made of disposable cellulose fiber and in form of pleated to hold the greatest quantity of contaminants. Dust collector can hold as much as 4.5 kgs. Before change is required and will furnish 2000 hours of use depending upon the actual contaminants of oil.

PHOTOGRAPHS OF MEMBRANE PATCHES FOR CONTAMINATION CONTROL

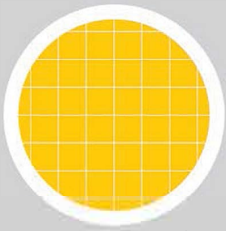


An example of very high contamination level which can critically damage hydraulic equipment (10 mg / 100 ml)
Above NAS 12

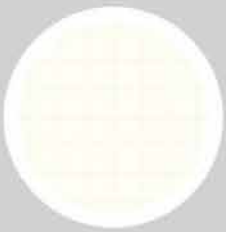


An example of contamination level which requires immediate cleaning (4 mg / 100 ml)
Above NAS 12

An example of contamination level to which the oil can be cleaned to (1 mg / 100 ml)
NAS 7-8-9



An example of contamination level which requires cleaning (2 mg / 100 ml)
NAS 10-11-12



An example of contamination level which the oil can be cleaned to (0.5 mg / 100 ml)
NAS - 6

NAS 1638 CONTAMINANTS SPECIFICATIONS in 100 ml OIL

Grade		00	0	1	2	3	4	5	6	7	8	9	10	11	12
Number& Sizes Of Contaminants	5 ~ 15 µm	125	250	500	1,000	2,000	4,000	8,000	16,000	32,000	64,000	128,000	256,000	512,000	1,024,000
	15 ~ 25 µm	22	44	89	178	356	712	1,425	2,850	5,700	11,400	22,800	45,600	91,200	182,400
	25 ~ 50 µm	4	8	16	32	63	126	253	506	1,012	2,025	4,050	8,100	16,200	32,400
	50 ~ 100 µm	1	2	3	6	11	22	45	90	180	360	720	1,440	2,880	5,760
	Upper 100 µm	0	0	1	1	2	4	8	16	32	64	128	256	512	1,024
		Not existing				For Missile				For NC M/C			New Oil		

RELATED PRODUCTS & CONSUMABLES

DUST COLLECTOR PAPERS

Dust collector paper zig-zag pleated, cured and cut to size condition, to facilitate convenient for various model of ELCs of any make.

CONTAMINATION CHEKING KIT (CCK)

This kit enables the determination if the oil cleanliness level before and after its filtration. Compare dirt and cleanliness with colour photo samples.

0.8 MICRON X 25 MM. DIA. MEMBRANES.

This Membrane can be used in contamination checking kit (CCK). Millipore / Nupore

ICM / PARTICLES COUNTER

Measures and display NAS 1638 & ISO 4406 : 1999

BAG FILTER HOUSING / DEHYDRATION CELL (C.S. or S.S.)
Size : Dia. 4" x 10" L / Dia. 4" x 17" L

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