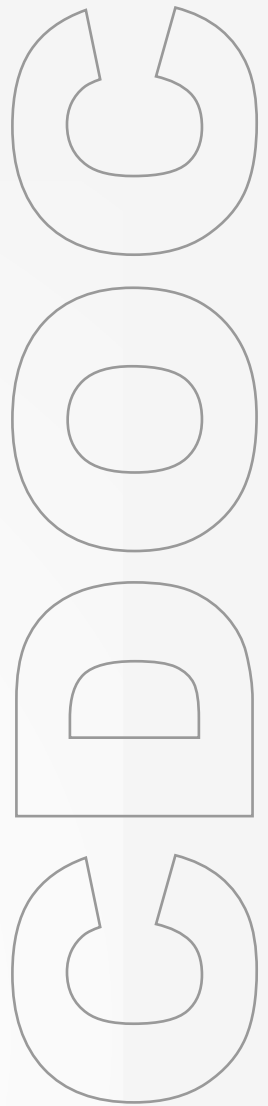


**Your Partner in Resource Recovery**



**N O  
M O R E  
O I L  
C H A N G E**

**ELECTROSTATIC  
OIL  
CLEANER**



**CEE DEE  
VACUUM EQUIPMENT PVT. LTD.**



# With CDOC

## Continuous Oil Purifying System

### No more oil changes

**Cee Dee** Vacuum having been in the field of oil filtration for past two decades. We are diversified in manufacturing of transformer / insulation oil filtration equipment, vacuum pressure impregnation equipment, autoclave and vacuum system along with **Electrostatic Oil Cleaner(CDOC)**

Cee Dee is certified for ISO 9001:2000 certification for design, manufacturing, installation and commissioning. Also been backed by team of engineers who command combined experience and expertise of decades with constant efforts in research & development to give extensive & relentless service to customer in its' segment

Supplying the Optimum, Cee Dee is committed in keeping its' customers investments productive and profitable throughout the equipment's life cycle. This incorporates several goals such as **low maintenance cost, high productivity, low operating cost and long life of oil as well machine parts.**

### **TURBINE**

As Turbines run, a combination of friction & heat degrade soft contaminants / by-products lead to formation of varnish. This Varnish settle throughout the system & which is typically smaller than 1 micron in size - too small to be removed by traditional oil filters. This results in blockage of Servo Valves. CDOC offers the most effective technology, which removes both hard & soft contaminants from the oil, which avoid the turbine failure.

### **Problems Due to Contaminated Oil**

It is known that most of hydraulic machinery failure / troubles are originated in the hydraulic oil (more than 85% of failure of hydraulic, contaminated substances in hydraulic oil are cause) by the past research. Water and contaminants (metal processing powder, friction powder, dust, fiber thrash and contaminated substances) reduces the original ability of oil, deteriorate lubricant film to lower the performance of machine also causing drop in oil viscosity. Also contamination when adhered to parts surface it causes failure and also leads further to an increase of electric power consumption.

CDOC cleans the oil so effectively that it can improve the performance of machine with oil related problems and provide indefinite oil life for hydraulic systems. CDOC retains clean hydraulic oil and maintains the oil better than new oil.

### **Principle of Working**

System uses electrostatic precipitation to remove sub - micron particle of insoluble material, without effecting soluble oil additives. Tiny particles are electrostatically driven to, then captured on, the positively or negatively charged walls of electrodes. Large particles are trapped in the resin impregnated cellulose filter. Coalesce filter in dehydration cell is used for removal of moisture/water up to 5000 PPM.

**Modern additives treated oil is highly resistant to deterioration, it can continue service indefinitely, if kept clean and free from moisture & contamination.**

### **OPERATING PARAMETER**

Temperature :- below 75° C

Oil viscosity :- below 200 cst.

Moisture Content :- below 5000 ppm.

No water base / detergent oil.



CDOC-250 (SS)



# Why CDOC ? - Technical Anecdote



## CDOC cleans

- ▶ Contamination up to < 0.01 μ
- ▶ Metallic contaminant
- ▶ Non Metallic contaminant
- ▶ Dust, rust
- ▶ Moisture up to 5000 PPM
- ▶ Traps contaminant occurs due to oxidation viz. suspended carbon particles, sludge, tar and varnishes
- ▶ And maintains oil quality better than new oil i.e. Nas class 5-6.

### Specially designed construction

Oil tanks are designed **cylindrical with stainless steel** construction instead of conventional Rectangular shape to ensure **faster cleaning rate** and **less power consumption**.

### Moisture Removal

Only unit in its class to provide dehydration cell for eliminating **water / moisture up to 5000 PPM** as compared to any other brand of only **500 PPM**.



### Varied Voltage

CDOC unit is provided with transformer for **voltage variation**, which can be varied as per requirement which in return gives to optimum level of contamination removal and work only in exact required power consumption, whereas other brand work only on **2 modes**.

### PLC Display (Two line display)

PLC is provided to give information on status of unit, **running mode, fault detection** in machine and **safety precaution** for user in alpha numeric.



## Applications

- ▶ Plastic machinery
- ▶ Construction machinery
- ▶ Hydraulic Press
- ▶ Aviation
- ▶ Turbine oil in hydro power station
- ▶ Instrumentation & Refrigeration
- ▶ Earth moving equipment
- ▶ Aluminum / non ferrous Extrusion plants
- ▶ Plywood hot press.
- ▶ Servo valve - controlled hydraulic system.
- ▶ Leather Processing
- ▶ Mining machinery
- ▶ Transmission equipments
- ▶ Machine tools
- ▶ Automobile Industry etc.
- ▶ Power Press
- ▶ Steel industries
- ▶ Sugar Mill



### Collector Paper

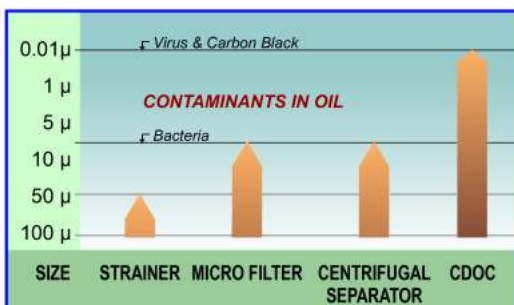
Collector Paper are resin-impregnated filters, which has **good life span** as compared to other brand. It can be **reused 3-5 times** by the process of cleaning when clogged. Collector paper offer easy replacement.

## Electrostatic oil cleaner CDOC .. A Must

1. No more oil changes.
2. Alpha-Numeric fault detection time
3. No attendance required during operation.
4. Cleans particulate from any non-conductive fluid.
5. Improve performance of hydraulic components to meet high speed & precision demand by today's computerized hydraulic control systems.
6. Eliminates oil related breakdown such as pump, motor, valve failures & leakages etc.
7. Eliminates oil disposal & recycling problem.
8. Easy to install.
9. Low operating cost.
10. Reduce Power consumption.
11. Extremely short payback.



## EFFICIENCY COMPARISON



## CLEANING TEST OF HYDRAULIC FLUID OF HYD. PRESS WITH 2,000 LITRES RESERVOIR.

CLEANING TIME (Hr)	NEW OIL	BEFORE CLEANING	IN PROCESS	IN PROCESS	AFTER CLEANING
CONTAMINANTS CONCENTRATION FILTERED BY MEMBRANE FILTER 0.8 Micron 100 ml.					
ENLARGED PHOTO					

## NAS 1638 CONTAMINANT SPECIFICATIONS (PER 100ml.)

Grade		00	0	1	2	3	4	5	6	7	8	9	10	11	12
No. &	5 - 15 $\mu\text{m}$	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
Size of	15 - 25 $\mu\text{m}$	44	44	89	178	356	712	1,425	2,850	5,700	11,400	22,800	45,600	91,200	182,400
Contami- nants (In microns)	25 - 50 $\mu\text{m}$	4	8	16	32	63	126	253	506	1,012	2,025	4,050	8,100	16,200	32,400
	50 - 100 $\mu\text{m}$	1	2	3	6	11	22	45	90	180	360	720	1,440	2,880	5,760
	Upper 100 $\mu\text{m}$	0	0	1	1	2	4	8	16	32	64	128	256	512	1,024

For Space

For NC M/C

New Oil

## Selection Guide

Type	Size (in mm) (L x B x H)	Weight (kg)	Pump Flow (LPM)
CDOC-08	580X500X760	70	3 LPM
CDOC-25	700X750X1100	120	5 LPM
CDOC-50	780X830X1100	135	10 LPM
CDOC-110	880X860X1100	180	10/20 LPM
CDOC-250	1350X1110X1225	300	40 (V)



**CDOC-250 (SS)**



**CDOC-110 (SS)**



**CDOC-110 (MS)**



**CDOC-50 (SS)**



**CDOC-50 (MS)**



**CDOC-25 (SS)**



**CDOC-08 (SS)**

## Cee Dee's range of product

- ▶ Vacuum Impregnation Plant
  - Casting ● Resin
- ▶ Vacuum Drying Plant
- ▶ Resin Casting plant
- ▶ Transformer Oil Filtration Plant
- ▶ Drying Ovens
- ▶ Vacuum Ovens
- ▶ Uni - Vac Oil Dehydration Unit
- ▶ Capacitor Impregnation Plant

\* The specifications & Design are subject to change without notice

Authorised distributors for UK and EU

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Manufacturer



**CEE DEE  
 VACUUM EQUIPMENT PVT. LTD.**

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