



MICROCARE

Electrostatic Oil Cleaners



MICROCARE Electrostatic Oil Cleaner (EOC)

Innovative way of improving Quality & Productivity of your HYDRAULIC SYSTEMS

MICROCARE EOC is designed, developed and manufactured in India using indigenous components.

MICROCARE electrostatic oil cleaner works on the principle of electrostatic separation of suspended contaminants. The oil while passing through the cleaner is subjected to high voltage (6KV/12KV) across positive & negative electrodes. The suspended particles irrespective of their shape, size, material, weight; get charged and get attracted towards either of the electrodes. These charged contaminants while moving, are trapped and get deposited on dielectric media and are separated from the oil. The MICROCARE electrostatic oil cleaner removes contaminants upto 0.8 micron size.

Salient Features

- Increase of hydraulic oil life and reduction in oil replacement cost.
- Increase in life of hydraulic system components.
- Reduction in machine downtime and system warm up periods.
- Improves the MTBF of precision machine components.
- Extends the life of online filter elements.

Highlights

- Removes contaminants in the oil upto 0.8 micron
- Achieves cleanliness class 5 to 6 as per NAS 1638

Types of Fluids Cleaned

- Hydraulic Oil
- Bearing lubrication Oil
- Any other non-conductive oil except engine Oil
- Turbine Oil
- Straight cutting Oil

Specification of Oils cleaned

- With viscosity upto 200 cst
- Moisture content upto 500 ppm

Technical Specifications

Model	MEOC-25	MEOC-50	MEOC-100
Cleaning Tank Capacity	25 litres	50 litres	100 litres
Length	550mm	630mm	740mm
Width	475mm	520mm	640mm
Height	750mm	860mm	940mm
Weight Approx.	75 kgs	90kgs	130kgs
Pump Capacity	3-4 LPM / 10-12 LPM		
Motor	0.25 HP@1500 RPM, 1Ph, 230V or 3Ph. 415 V	0.5 HP@1500 RPM, 1Ph, 230V or 3Ph. 415 V	
High Voltage Power Pack Output	Upto 6 KV D.C.		Upto 12 KV D.C.
Max. Permissible Load	10 Milliamps		20 Milliamps

Fine contamination in oil is the major cause of hydraulic system problem which leads to machine downtime. It is an established fact that wear and tear of hydraulic system components is caused mainly by sub-micronic contaminants. Removal of these contaminants regularly results in continuous working of machine, increased life of hydraulic system components and saving in replacement cost of oil.

With the application getting more critical involving servo and proportional valves, high pressure pumps in the HYDRAULIC SYSTEMS. It is imperative that not just care but MICROCORE is required to maintain the health of HYDRAULIC SYSTEMS. Their use in engineering and related applications has become widespread in sectors such as Automobile and Auto components, Steel plants, Rolling mills, Tiles manufacturing, Plastic goods industry, Cement and Defence equipments etc. The performance of hydraulically operated system depends essentially upon the purity and cleanliness of Hydraulic Oil.

COMPARISON OF FILTRATION SYSTEMS

Filtration Process	Media Filtration			Centrifuge	Electrostatic
	Glass Fiber	Bonded Polymer Cartridge	Graded Density RBC		
Absolute or Nominal	Absolute upto 1 micron	Absolute upto 1 micron	Nominal	Nominal	Nominal
Fluid Handled	Mineral Oil 1-600 cst	Water based coolants & Low viscosity oils	Water based coolants & Low viscosity oils	Oils upto 20 cst viscosity	Mineral & Synthetic oils upto 200 cst
Water Glycol	Possible	Possible	Possible	Not Possible	Not Possible
Dirt Holding Capacity	Low	High	High	Not Applicable	Very High
Filtration Cost per gm. Of particle	Moderate	High	High	Not Applicable	Very Low
Cleanliness Levels Achieved	Excellent upto NAS 3	Excellent upto NAS 4	Acceptable upto NAS 7/8	Not Applicable	Good upto NAS 6
Problems on Clogging	No	No	Yes	No	No
Standard System Recommendations	Fine & Very Fine Filtration Required	Fine & Very Fine Filtration Required	Moderate Filtration Required	Moderate Filtration Required	Moderate Filtration with very low cost

Recommended Class of Cleanliness of Hydraulic Oil to be maintained for various Hydraulic Components.

NO.	HYDRAULIC COMPONENTS	CLASS OF CLEANLINESS	
		ISO 4406 : 1999	NAS 1638
01	Gear / Vane Pump Cylinders, Valves	20/18/15	9
02	Fixed Piston Pump	19/17/14	8
03	Variable Vane Pump Variable Piston Pump	18/16/13	7
04	Proportional Valve	17/15/12	6
05	Hydrostatic Drives	16/15/12	6
06	Servo Valve	16/14/12	5

Checking of Oil

Microcare EOC unit is supplied with this contamination kit. Oil sample drawn from the EOC is subjected to Millipore Test. The results of this test are illustrated below.



Contamination kit