

**TURBINE OIL FILTRATION PLANT*****CMM-4.0T(4000 l/h)***

- ***Elimination of free and dissolved water***
  - ***Particles***
  - ***Carbon black***
- ***Water soluble acids and alkalis***
- ***Easy to operate and maintain***

**APPLICATION**

CMM systems serve for inline dehydration and filtration of turbine oils for removal of free and soluble water and particulate matter.

Most frequently encountered contaminants in turbine oil are water and solids. These contaminants are detrimental to the performance and life of the oil. CMM oil purification plant are fully acceptable for removing of these contaminations.

## TECHNICAL PARAMETERS

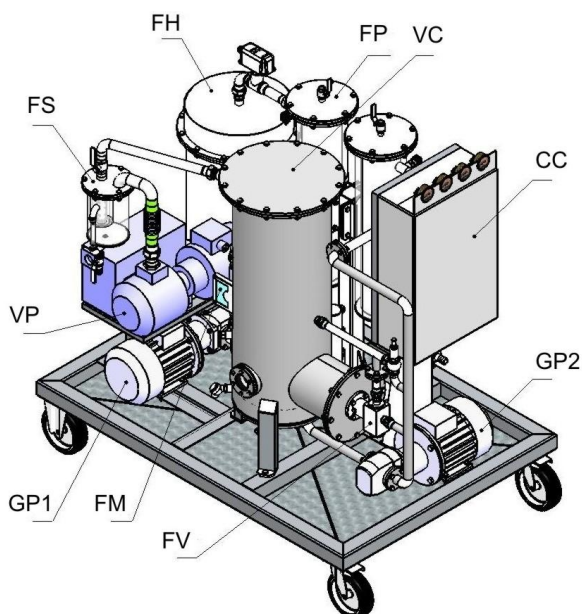
Parameter	Value	
1. Capacity, m <sup>3</sup> /h	4	
2. Parameters of treated oil	Filtration fineness, micron	1 ... 20
	Humidity content, ppm	10
3. Vacuum pressure, bar	Vacuum pump	0,2
	Vacuum vessel	0,33
	Inside the system, max	7
3. Specific capacity of oil heater, W/cm <sup>2</sup>	1,2	
4. Oil heater capacity, kW	28,8	
5. Set power consumption, kW	33	
6*. Power supply, V, three phase, 50 Hz	400	
7. Outlet oil temperature, °C	35	
8. Dimensions, mm:		
- length	1650	
- width	1150	
- height	1820	
9. Weight, kg	1200	

**\*Power supply parameter as per clients' requirement**

### WORKING PRINCIPLE

Input pump **GP1** feeds the oil via mesh filter, heater and cartridge filter **FP1** into the vacuum column **VC**, through oil sprayer. In the vessel, the oil flows down the filling, which consists of polypropylene rings. The rings are supported by a mesh above the bottom of the column. The flow is adjusted by input pump bypass line and can be controlled by **FM** flowmeter. Oil temperature is controlled by thermistor, which provides signal to the control panel **CC**. The oil heater **FH** is equipped with a flow relay interlock, which prevents operation of the heater with no oil flow. When temperature reaches maximum, the heater automatically disengages and reengages when the temperature drops below minimal. The control panel **CC** also starts and stops the pumps.

The vacuum pump **VP** ejects the air from the upper part of the column. Air enters the column through a trottle valve **TV** in its lower part. When contaminated oil flows on the rings, it forms a very thin oil film with constantly changing surface. Vacuum lowers partial pressure of water in the oil and the water in free or emulsified state quickly evaporates. The moisture is separated in the moisture separator filter **FS**. Purified oil accumulates at the bottom of the vessel and is sucked out through the cartridge filter **FP2** by the output pump **GP2**.



**GP1** – oil inlet pump  
**VC** – vacuum chamber  
**FM** – flow meter  
**CC** – control cabinet  
**FH** – oil heater  
**VP** – vacuum pump  
**GP2** – oil outlet pump  
**FP** – filters  
**FS** – moisture separator  
**FV** – float valve

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