OIL MIST ELIMINATOR
LWC SERIES

Lube oil Reservoirs of Rotating machines (such as Gas or Steam Turbines, gearboxes, Compressors, Diesel Engines) release an air flow, containing high concentration of oil mist, that needs to be evacuated to Atmosphere.

LWC OME ADVANTAGES

- ENVIRONMENTAL
The system fulfils the most strict environment specifications. The emission quantity of oil mist is less than 5mg/M³

- COST SAVING
Within a year, thousands of litres of oil can be lost by the machinery. “LWC separator systems” allow recovered oil to normally return to the system.

- OPERATING ADVANTAGES
A mechanical self-regulating valve, of property design, compensates the variation of the pressure loss of the system, keeping the same starting value of the vacuum in the tank. Therefore, no extra adjustment are required after start-up.
Working process

Oil mist is retained by mean of a special designed coalescing element, using direct interception and diffusion for the smallest droplets. Droplets are captured by the fibres and join together, becoming larger, slide off and drain through the coalescing media.

About mist forming

Forming of oil mist in the air is primarily determined by agitation, compression and expansion of lube oil in the system.

Other influencing factors:

- Air or N2 Buffer gas injection in the bearing seal gas turbines have normally seal air flow
- Temperature of both Air vent and Oil higher temperature reduces oil viscosity and facilitates production of smaller droplets
- Oil Tank Internal Pressure
- Oil type & additives
TECHNICAL FEATURES

**Design data**

- **Handled Fluid**: Vent Air + oil mist;
- **Oil type**: Mineral or synthetic oils
- **Vessel design Press./Temp.**: 0.5 barg / 100 °C
- **Oil content at the inlet**: up to 1,5
- **Residual oil content in the air vent outlet**: 5 mg/Nm³

**Expected distribution of particles:**

<table>
<thead>
<tr>
<th>Mist droplets dimension range (µm)</th>
<th>Percentage in weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.5 - 1.5</td>
<td>3 – 11%</td>
</tr>
<tr>
<td>1.5 - 1</td>
<td>5 – 10%</td>
</tr>
<tr>
<td>1 - 0.5</td>
<td>9 – 14%</td>
</tr>
<tr>
<td>0.5 - 0.25</td>
<td>53%</td>
</tr>
<tr>
<td>0.25 and smaller</td>
<td>12 – 30%</td>
</tr>
</tbody>
</table>

OME is manufactured at perfect workmanship, with the best practices, free of defects of any kind. Welding and NDE examination are executed by qualified personnel.

SAVE VALUABLE LUBE OIL

WITH OIL MIST ELIMINATORS

Series LWC
OIL MIST ELIMINATOR FEATURES
LOW FLOW RATE: UP TO 100 Nm³/H
Single blower – On request double blower can be supplied

SCHEMATIC DIAGRAM P&ID

Legend:

TP1: Air/Oil mist eliminator INLET.
TP2: Clean Air OUTLET
MP1: Oil return point.
MP2: Waste drain Maintenance point
SV1: Oil mist eliminator Vessel, design pressure 0.05 barG / 100°C (not subjected @ European Pressure Equipment Directive (PED 97/23))
PG-1: Inlet Vacuum Gauge to check the oil tank depression
PG-2: Delivery Vacuum Gauge to check the blower exhauster negative pressure
V01: Adjustable Self regulating & flow control (recycle) valve to maintain constant the vacuum set in the oil tank compensating the pressure loss variation in the system.
V02: Bypass check valve, opening set ≤ 20 mmH₂O
SG: Sight Glass
OIL MIST ELIMINATOR DIMENSIONS
LOW FLOW RATE : UP TO 100 NM$^3$/H

HIGH EFFICIENCY COALESCEING CARTRIDGE

CLEAN AIR OUTLET

VACUUM GAUGE DOWNSTREAM CARTRIDGE
SIDE CHANNEL BLOWER EXAUSTER

MIST OIL INLET

VACUUM GAUGE UPSTREAM CARTRIDGE
SELF REGULATING AND BYPASS VALVE

DIMENIONAL TABLE

<table>
<thead>
<tr>
<th>Code</th>
<th>Flow rate Nm$^3$/h</th>
<th>INLET</th>
<th>OUTLET</th>
<th>DRAIN</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>LWC050</td>
<td>0 to 50</td>
<td>1½&quot; #150</td>
<td>1½&quot; #150</td>
<td>¼&quot; NPT</td>
<td>860</td>
<td>650</td>
<td>180</td>
<td>680</td>
<td>1000</td>
<td>70</td>
</tr>
<tr>
<td>LWC100</td>
<td>50 to 100</td>
<td>2&quot; #150</td>
<td>2&quot; #150</td>
<td>¼&quot; NPT</td>
<td>1167</td>
<td>650</td>
<td>180</td>
<td>680</td>
<td>610</td>
<td>70</td>
</tr>
</tbody>
</table>
OIL MIST ELIMINATOR FEATURES
MEDIUM FLOW RATE: UP TO 500 NM³/H
Single blower – On request double blower can be supplied

Legend:

TP1: Air/Oil mist eliminator INLET.
TP2: Clean Air OUTLET
MP1: Oil return point.
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SV2: Oil mist eliminator Vessel, design pressure 0.05 barG / 100°C (not subjected @ European Pressure Equipment Directive (PED 97/23))
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OIL MIST ELIMINATOR DIMENSIONS
MEDIUM FLOW RATE: UP TO 500 NM³/H

<table>
<thead>
<tr>
<th>Code</th>
<th>ITEM</th>
<th>Flow rate Nm³/h</th>
<th>FREQUENCY HZ</th>
<th>INLET</th>
<th>OUTLET</th>
<th>OIL RETURN</th>
<th>Power installed</th>
<th>Qty of cartridges</th>
<th>Weight</th>
</tr>
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<tbody>
<tr>
<td>LWC160</td>
<td>3</td>
<td>100 to 160</td>
<td>50Hz</td>
<td>3&quot; #150</td>
<td>3&quot; #150</td>
<td>¾&quot; NPT</td>
<td>2.2 kw</td>
<td>2</td>
<td>290 kgs</td>
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<tr>
<td>LWC300</td>
<td>4</td>
<td>160 to 300</td>
<td>50Hz</td>
<td>3&quot; #150</td>
<td>3&quot; #150</td>
<td>¾&quot; NPT</td>
<td>4 kw</td>
<td>4</td>
<td>360 kgs</td>
</tr>
<tr>
<td>LWC350</td>
<td>5</td>
<td>300 to 350</td>
<td>50Hz</td>
<td>4&quot; #150</td>
<td>4&quot; #150</td>
<td>¾&quot; NPT</td>
<td>4 kw</td>
<td>4</td>
<td>380 kgs</td>
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<tr>
<td>LWC500</td>
<td>6</td>
<td>350 to 500</td>
<td>50Hz</td>
<td>6&quot; #150</td>
<td>6&quot; #150</td>
<td>¾&quot; NPT</td>
<td>5.5 kw</td>
<td>6</td>
<td>410 kgs</td>
</tr>
<tr>
<td>LWC200</td>
<td>7</td>
<td>100 to 200</td>
<td>60Hz</td>
<td>3&quot; #150</td>
<td>3&quot; #150</td>
<td>¾&quot; NPT</td>
<td>5 hp</td>
<td>2</td>
<td>290 kgs</td>
</tr>
<tr>
<td>LWC350</td>
<td>8</td>
<td>200 to 350</td>
<td>60Hz</td>
<td>4&quot; #150</td>
<td>4&quot; #150</td>
<td>¾&quot; NPT</td>
<td>7.5 hp</td>
<td>4</td>
<td>360 kgs</td>
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<tr>
<td>LWC500</td>
<td>9</td>
<td>350 to 500</td>
<td>60Hz</td>
<td>6&quot; #150</td>
<td>6&quot; #150</td>
<td>¾&quot; NPT</td>
<td>10 hp</td>
<td>6</td>
<td>410 kgs</td>
</tr>
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<table>
<thead>
<tr>
<th>Code</th>
<th>ITEM</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>H</th>
<th>L</th>
<th>M</th>
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<td>1000</td>
<td>500</td>
<td>170</td>
<td>350</td>
<td>170</td>
<td>1250</td>
<td>920</td>
<td>300</td>
<td>120</td>
<td>370</td>
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<tr>
<td>LWC300</td>
<td>4</td>
<td>1200</td>
<td>500</td>
<td>170</td>
<td>350</td>
<td>170</td>
<td>1250</td>
<td>920</td>
<td>300</td>
<td>120</td>
<td>370</td>
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<td>LWC350</td>
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<td>1200</td>
<td>500</td>
<td>170</td>
<td>350</td>
<td>170</td>
<td>1250</td>
<td>920</td>
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<td>LWC500</td>
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<td>290</td>
<td>480</td>
<td>290</td>
<td>1250</td>
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<tr>
<td>LWC200</td>
<td>7</td>
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<td>500</td>
<td>170</td>
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<td>350</td>
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<td>290</td>
<td>110</td>
<td>360</td>
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</table>
Our commitment to excellence is your path to success

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