PRO-VAC
VACUUM DEHYDRATION OIL PURIFIER

INDUSTRIAL FILTRATION EQUIPMENT
REMOVES FREE, EMULSIFIED & DISSOLVED WATER TO < 20 PPM
SYSTEM DESIGNS FOR INDUSTRIAL OILS UP TO ISO VG 680
HARMFUL EFFECTS OF WATER

Water ingestion into hydraulic and lubricating oils is a detriment to not only the fluid, but the entire system. Water causes fluid breakdown such loss of lubricity, change in viscosity, additive depletion, hydrolysis, aeration and oxidation. As the oil’s physical properties change the result is acid formation, varnish and sludge. Furthermore, aeration leads to increased foaming. All these factors have mechanical consequences.

Water in a hydraulic system causes pump cavitation. Water in lubricating oil promotes premature bearing life and ultimately leads to bearing failure.

Recirculating oil through our PRO-VAC oil purifier will rapidly remove water resulting in maximized fluid and component life.

OPERATION

Oil is drawn into the system via vacuum (VP1) and pulled through an inlet strainer (MF1), low watt density aluminum fin tube heater (H1) and into the vacuum chamber. Surface area inside the vacuum chamber is created by stainless steel permanent packing material. Water and gasses are distilled off as the oil cascades through the packing material.

Dried oil is pumped out of the vacuum chamber and through a filter vessel (F1) that holds a pleated filter element to remove solid contamination.

Fluid level in the vacuum chamber is maintained automatically using level switches (S1 & S2). A vacuum relief valve is used to adjust vacuum level (W3) inside the vacuum chamber.

A recirculation valve (V4), located on the discharge piping, can be used to divert 0-100% of the oil back to the system inlet. This valve is useful when manual vacuum chamber liquid level adjust is required, such as cold start up or high viscosity fluids.
Standard Features:

⇒ Oversized Vacuum Chamber with Permanent Stainless Steel Dispersion Media
  ⇒ Centralized Gauge Panel
  ⇒ NEMA 4 Control Panel
    ⇒ HMI Screen
    ⇒ Power & Phase Lights
    ⇒ Main Disconnect
  ⇒ Pump Speed Control (VFD)
    ⇒ E-Stop Button
  ⇒ Low Watt Density Fin Tube Heaters
    ⇒ Air Cooled Vapor Condenser
  ⇒ Two Stage Condensate Collection System
⇒ Heavy Duty Filter Vessel with Swing Bolt Lugs
  ⇒ Flanged Components
  ⇒ Outer Cage with Lifting Eyes
    ⇒ Fork Lift Slots
    ⇒ High Quality Casters
⇒ Inlet/Outlet Valves with Camlock Fittings
  ⇒ Rotary Claw Vacuum Pump
⇒ Rotary Vane Vacuum Pump Option
  ⇒ Outlet Gear Pump
⇒ Rotary Vane Vacuum Pump
  ⇒ Foam Control System
## PRO-VAC NOMENCLATURE

### Flow Rate

<table>
<thead>
<tr>
<th>Flow Rate</th>
<th>5 gpm</th>
<th>10 gpm</th>
<th>20 gpm</th>
<th>30 gpm</th>
<th>50 gpm</th>
</tr>
</thead>
</table>

### Power Supply

<table>
<thead>
<tr>
<th>Power Supply</th>
<th>230V / 3Ph / 50/60 Hz</th>
<th>380V / 3Ph / 50 Hz</th>
<th>415V / 3 Ph / 50 Hz</th>
<th>480V / 3 Ph / 60 Hz</th>
<th>575V / 3 Ph / 50/60Hz</th>
</tr>
</thead>
</table>

### Heat

- 8 kW
- 16 kW
- 32 kW
- 48 kW
- 64 kW
- 72 kW
- 96 kW
- 112 kW
- 128 kW
- 144 kW
- 160 kW
- 176 kW
- 192 kW
- 208 kW

### Filtration

<table>
<thead>
<tr>
<th>Filtration</th>
<th>Filter Media</th>
</tr>
</thead>
<tbody>
<tr>
<td>IF (Requires Inlet Pump)</td>
<td>1M [ \beta_{2.5} = 1000, \beta_1 = 200 ]</td>
</tr>
<tr>
<td>OF</td>
<td>3M [ \beta_3 = 1000, \beta_3 = 200 ]</td>
</tr>
<tr>
<td></td>
<td>6M [ \beta_6 = 1000, \beta_6 = 200 ]</td>
</tr>
<tr>
<td></td>
<td>12M [ \beta_{12} = 1000, \beta_{12} = 200 ]</td>
</tr>
<tr>
<td></td>
<td>25M [ \beta_{22} = 1000, \beta_{22} = 200 ]</td>
</tr>
<tr>
<td></td>
<td>0.5P [ 0.5 \mu m Nominal ]</td>
</tr>
<tr>
<td></td>
<td>1P [ 1 \mu m Nominal ]</td>
</tr>
<tr>
<td></td>
<td>3P [ 3 \mu m Nominal ]</td>
</tr>
<tr>
<td></td>
<td>5P [ 5 \mu m Nominal ]</td>
</tr>
<tr>
<td></td>
<td>10P [ 10 \mu m Nominal ]</td>
</tr>
<tr>
<td></td>
<td>25P [ 25 \mu m Nominal ]</td>
</tr>
</tbody>
</table>

### Condenser

- AC: Air Cooled
- WC: Water Cooled (Tube & Shell)
- AW: Air/Water Combination

### Options

- A: Auto Water Drain
- B: Inlet Bag Filter Vessel
- C: CE Mark
- D: Dirty Filter Indication
- F: Foam Control System
- H: Outlet Heater Bank
- I: Inlet Pump
- L: Laser Particle Monitor
- M: Moisture Monitor with Panel Display (inlet and/or outlet)
- N7: NEMA 7 Explosion Proof
- NP: NEMA 4X Purge Panel
- V: VFD - Variable Speed Drive
- P: Caster Portability Package
- T: Trailer
- 4S: 304SS Wetted Components
- 6S: 316SS Wetted Components
- VC4: 304SS Vacuum Chamber
- 4L: Four Point Lifting Lugs
- 4C: Cage with Four Point Lifting Lugs
- 4CE: 4C With Metal Enclosure
- PC-: Power Cord "Specify Length"
- U-: Inlet/Outlet Hose Kit "Specify Length"
- R: Hose Reels
- R2: Power Cord Reel
- R3: Grounding Wire Reel
- S1: Pan Leak Detection Switch
- Z: Custom Equipment