



# Enviro-Pur™ & Enviro-Pur Maxx™

## Installation Instructions & Maintenance Manual

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|--------------------------------|--------------------------|
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**Technical Support** .....Call Toll Free (866) OILPURE (645-7873) Option 4

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#### **Technologies For a Greener Future**

OPS prides itself on being a green company and is committed to protecting the environment by providing high-quality "green" products, and technologies for a wide range of industrial and commercial applications. Our goal is to aggressively reduce consumption of petroleum and synthetic based lubricants and fluids.

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## ***Installation***





### ***Safety Precautions Before Beginning Work***

- Work in a clean, well-lighted area.
- Wear proper safety apparel.
- Ensure proper welding equipment is available.

### ***Notes for all Hose Connections***

- Ensure that all hoses are of adequate length to prevent kinking.
- Route all hoses away from extremely hot parts.
- Route all hoses away from moving parts.
- Use tie straps to secure hoses in place.
- Leave a slight amount of slack in the hoses to allow for equipment vibration.
- Use the shortest length of hose that will meet these guidelines.
- Use two wrenches when tightening fittings to ensure secure connections.

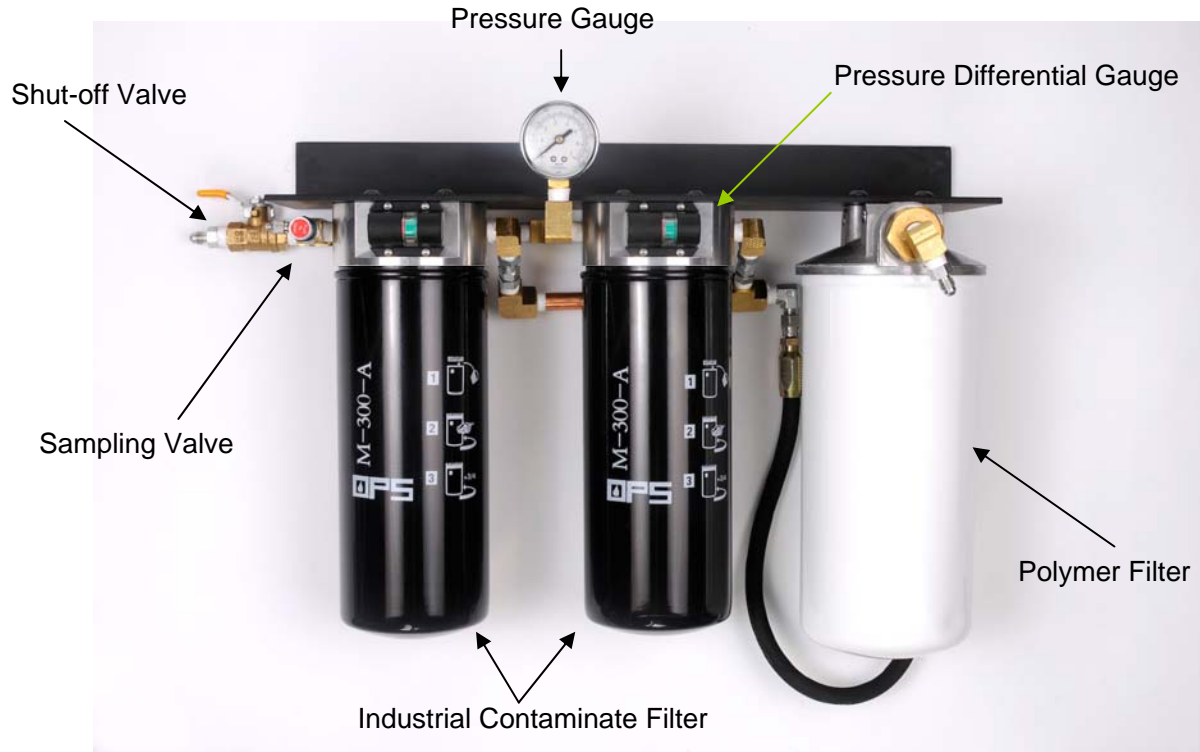
### ***Before Installing This System***

- For optimal performance, OPS recommends changing the fluids and filters at the time of installation.
-  Be sure to handle used fluids and filters in compliance with all applicable laws. This usually includes making provisions for recycling.
-  Always wear proper personal protection equipment such as oil-resistant gloves and safety glasses when handling oil products.

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# Enviro-Pur™ Fluid Cleaning System

## Major Components



## Section 1 – Locate the Supply and Return Ports on Equipment

### ***Supply Port (Pressurized Port)***

This port supplies the Enviro-Pur System with pressurized fluid through a ¼” supply line. This port can be found on the engine block or oil cooler area. It is also recommended that a shut-off valve be installed at this location to stop flow to the system for servicing.

**Pressure at this port can not exceed 125 psi. If pressure exceeds 125 psi a pressure regulator must be installed in the system.**

### ***Return Port (Non-Pressurized Port)***

This port is used to return cleaned fluid under pressure from the Enviro-Pur System through a ¼” return line. **A return port can be found on the engine block or an unused plug in the oil pan.**

## Section 2 – Mounting the System

### ***Select a location***

Selecting the optimal mounting location is key to insuring that the Enviro-Pur System operates properly.

Follow these guidelines when determining a final mounting location, which should:

- Allow the unit when mounted to sit level and plumb
- Provide easy access to the filters and sampling valve

*If you're unable to determine a proper mounting location, call OPS Technical Services at 1-866-OIL-PURE Ext. 4 for support.*

### ***Mounting the unit***

**If a suitable location on existing framework can not be found a pedestal mount may have to be used (Recommended). OPS can provide the pedestal mount, or a drawing upon request.**

## Section 3 – Installing Fittings and Connecting Hoses

After a suitable location for the Enviro-Pur has been determined and the unit installed, proceed with hose fabrication and installation.

**Hose Specifications (Supplied):**

Supply line:

- ¼" reinforced nitrile hose with an operating temperature of -40°F to 212°F designed to be used with field installable fittings

Return line:

- ¼" reinforced nitrile hose with an operating temperature of -40°F to 212°F designed to be used with field installable fittings

*Note: If using pre-fabricated hose assemblies, #4 JIC female swivel connections are required at each end of the ¼" hose assembly. The same is true for the ¼" return line as well.*

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**Connecting to the Supply Line**

Connecting to the selected supply source will require replacing a plug with an adapter, or another combination of fittings that will provide a #4 JIC male termination for connecting the supply line. A #4 JIC termination is also provided on the Enviro-Pur unit for the opposite end of the supply.

Once the proper fittings have been installed, measure the distance between them by running a tape measure along the intended route for the hose. Add a few inches to the measured length to accommodate vibration, movement, and hose-bend radius. Use cable ties to secure the lines and to minimize chafing and wear.

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**Connecting the Oil Return Line**

Connecting to the selected return location will require replacing a plug with an adapter, or another combination of fittings that will provide a #4 JIC male termination for connecting the supply line. A #4 JIC termination is also provided on the Enviro-Pur unit for the opposite end of the supply.

Use cable ties to secure the lines and to minimize chafing and wear.

## Section 4 – Pressure Verification

After installing the Enviro-Pur; it will be necessary to **be sure the operating pressure does not exceed 125 psi.** If so a pressure regulator must be installed.

## Section 5 – Operational Verification

After installing the Enviro-Pur and verifying there is flow through the system.

With the equipment operating:

- Verify there are no leaks after reaching full operation temperature.

## *Maintenance*

## Section 6 – Service Parts

| Part Description           | P/N     |
|----------------------------|---------|
| Replacement Filter (black) | M-300-A |
| Replacement Filter (white) | M-301-A |
| Flow Control Orifice       | P-568-A |
| Sampling Valve             | P-104-A |
| Pressure Gauge             | P-565-A |

## Section 7 – Replacing the OPS Filters

The recommended service intervals for various applications are listed on page 14. These should only be considered guidelines and ultimately intervals should be based on many factors including sample results, operating environment, maintenance practices, and company objectives.

To replace the OPS Filters on the Enviro-Pur system:

1. Close the shut-off valve and verify that the system pressure is zero (0).

2. Place an oil drain pan below the filter being changed.
3. Remove the used filter either by hand or with a filter wrench/strap. When using a filter wrench/strap make sure the tool is positioned within 2 inches of the top.
4. Before installing the new filter, lubricate the O-ring with clean oil (do not pre-fill filter). Tighten by hand until the gasket contacts the base, then rotate an additional 3/4 turn to ensure proper seating. **DO NOT USE A FILTER WRENCH AND DO NOT OVERTIGHTEN** as this may damage the unit.
5. Check the reservoir fluid level and fill as necessary.
6. Open the shut-off valve and check for leaks.



Always wear proper personal protection equipment such as oil-resistant gloves and safety glasses when handling oil products.

## Section 8 – Taking an Oil Sample

### Frequency

We recommend that you:

- Take fluid samples when filters are changed
- or
- Take oil samples at reduced intervals if results of the previous sample indicate a potential issue.

### Procedure

1. Insure that the sampling valve is closed (as shown in Figure 1).
2. Remove the cap from the sampling valve.

*Note: To ensure an accurate sample reading, purge the sampling valve to flush out impurities that may have settled in the valve opening.*

3. Hold a clean sampling bottle under the sampling valve and open the valve until the bottle is filled to the top line. **DO NOT completely fill the sample bottle as it may cause leaking during shipping.**
4. Screw the cap tightly onto the sample bottle.
5. Screw the Safety Cap back onto the Sampling Valve.



## Section 9 – Sample Submission and Registration

To submit samples please ensure that the labels and forms are filled out completely and accurately.

- On the sample bottle enter: the Company Name, the Company Unit number (in the Unit ID: field), and the date (*Fig. 7*).
- On the sample processing form below, you must complete all of the items in **bold** in order to receive a complete sample analysis (*Fig. 8*).
- Include hours on the equipment and hours on the fluid on the sample bottle label. This important information helps oil analysts determine correct contamination levels.



**Fig. 7 – Sample bottle and shipping container. (Be sure to completely fill out the information on the label.)**

If the sample is the first taken for the unit, the account registration form must also be filled out and submitted with the sample.

**Fig. 8 – The Account Registration Form**

**OIL PURIFICATION SYSTEMS, INC.**

| <b>ACCOUNT REGISTRATION FORM</b>   |                   |  |  |
|--|-------------------|--|--|
| I would like to receive my reports via: <input type="checkbox"/> E-mail <input type="checkbox"/> Fax   |                   | 00000A00000<br>www.trackmysample.com   |  |
| Customer (sample source)   |                   |  |  |
| Distributor/Sales Rep  |                   |  |  |
| Attention  |                   |  |  |
| Telephone  |                   |  |  |
| Email Address  |                   | Fax Number   |  |
| Customer's Address   |                   | City   |  |
| State/Province   | Postal Code       | Country  |  |
| <b>COMPONENT REGISTRATION FORM</b>   |                   |  |  |
| <small>Mandatory for first time component sampling or to make changes. Always use same unit ID on future samples.</small>  |                   |  |  |
| *Account Number (If not available Account Registration Form must be completed)   |                   |  |  |
| OPSTRT   |                   | Secondary ID   |  |
| Unit ID  |                   | Secondary ID   |  |
| POSITION (if applicable): <input type="checkbox"/> Chassis <input type="checkbox"/> Left <input type="checkbox"/> Right <input type="checkbox"/> Front <input type="checkbox"/> Rear <input type="checkbox"/> Center   |                   |  |  |
| UNIT TYPE (check sampled component)  |                   |  |  |
| <b>ENGINES</b>   |                   | <b>MOBILE GEAR / BEARING SYSTEM</b>  |  |
| <input type="checkbox"/> Diesel  | AA                | <input type="checkbox"/> Differential  | BBDF   |
| <input type="checkbox"/> Gasoline  | ABUNL             | <input type="checkbox"/> Final Drive   | BBFDR  |
| <input type="checkbox"/> Natural Gas   | BANGE             | <input type="checkbox"/> Planetary   | BBPLT  |
| <input type="checkbox"/> LP Gas  | BALPG             | <input type="checkbox"/> Steering  | BBSTG  |
| <input type="checkbox"/> Dual Fuel   | AZ2F              | <input type="checkbox"/> Wheel Hub   | BGWHL  |
|  |                   | <input type="checkbox"/> Other   |  |
| <b>TRANSMISSION</b>  |                   | <b>HYDRAULIC</b>   |  |
| <input type="checkbox"/> Manual  | BBMNT             | <input type="checkbox"/> Piston Pump   | BHPIP  |
| <input type="checkbox"/> Auto/PowerShift   | BBAPT             | <input type="checkbox"/> Gear Pump   | BHGPP  |
| <input type="checkbox"/> Torque Converter  | BBTRQ             | <input type="checkbox"/> Vane Pump   | BHVAN  |
| <input type="checkbox"/> Hydrostatic Trans   | BHHYD             | <input type="checkbox"/> Other   |  |
| <input type="checkbox"/> Other   |                   |  |  |
| Unit Manufacturer  |                   | Unit Model   |  |
| <b>Application</b> <input type="checkbox"/> Transportation-100 <input type="checkbox"/> O-T-R Trucking-110 <input type="checkbox"/> Pickup/Delivery-120 <input type="checkbox"/> City/Highway Transit-130<br><input type="checkbox"/> Municipal Vehicle-155 <input type="checkbox"/> ReadyMix Concrete-160 <input type="checkbox"/> Off Highway-200 <input type="checkbox"/> Construction-220<br><input type="checkbox"/> Waste Handling/Landfill-230 <input type="checkbox"/> Agricultural-280 <input type="checkbox"/> Quarry-288 <input type="checkbox"/> Marine-500<br><input type="checkbox"/> Mining-600 <input type="checkbox"/> Coal Mining-640 <input type="checkbox"/> Aggregate-650 <input type="checkbox"/> Automotive-700<br><input type="checkbox"/> Railroad-800 <input type="checkbox"/> Other |                   |  |  |
| Lube Manufacturer  | Lube Product Name | Lube Grade   | <input type="checkbox"/> SAE<br><input type="checkbox"/> ISO |
| Filter <input type="checkbox"/> Full-Flow-10 <input type="checkbox"/> By-pass-11 <input type="checkbox"/> Kidney Loop - 16 <input type="checkbox"/> Extended Drain - EX <input type="checkbox"/> None <input type="checkbox"/> Other   |                   |  |  |
| Filter Size <input type="checkbox"/> 4 in <input type="checkbox"/> 6 in <input type="checkbox"/> 8 in <input type="checkbox"/> 10 in <input type="checkbox"/> Cartridge  |                   | Filter Brand <input type="checkbox"/> OPS <input type="checkbox"/> Other           |  |
| Smallest Filter Micron Rating In System  |                   | Sump Capacity  |  |
| Specify additional testing requested   |                   |  |  |
| Special comments or problems?  |                   |  |  |

For U.S. Mail: apply address label for lab nearest your location (supplied with bottle label form), add proper postage and mail the mailing container.

For UPS in optional UPS Prepaid box: place mailing container in UPS box (provided), apply shipping label and drop in UPS box, bring to UPS Store or hand to a UPS Driver. (UPS Prepaid boxes are available from OPS at an additional cost.)

## Section 10 – Troubleshooting

| <i><b>Issue</b></i>         | <i><b>Resolution</b></i>   |
|-----------------------------|--|
| Leak at filter-to-base Seal | <ul style="list-style-type: none"><li>• Check for dirt around O-Ring &amp; that it's seated properly</li><li>• Ensure proper installation (i.e.: Seal lubricated before installation and filter is properly tightened)</li></ul> |
| Leak at hose connections    | <ul style="list-style-type: none"><li>• Ensure that all connections are properly tightened</li><li>• Verify use of thread tape or sealant on all NPT (pipe) threads</li></ul>  |
| No Flow Through Filters     | <ul style="list-style-type: none"><li>• Check orifice to be sure it is not clogged</li><li>• If orifice is clogged remove it and clean with brake clean or similar product and blow out with air.</li></ul>                      |

If you have any additional issues, questions or concerns, call a Field Service Tech at 866-OILPURE (645-7873) Option 4.

## OIL PURIFICATION SYSTEMS, INC.

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Oil Purification Systems, Inc. ("OPS") warrants that Enviro-Pur shall be free from defects in materials and workmanship, and will substantially conform to its specifications for a period of two (2) years after the date of purchase (the "Period"), provided Enviro-Pur is properly installed, operated, and maintained, and, in each instance, in accordance with the documentation.

Should Enviro-Pur have been found and demonstrated to be defective during the Period for the reasons covered by this Limited Warranty, OPS, at its option, shall:

1. REPAIR Enviro-Pur or part thereof; or
2. REPLACE Enviro-Pur or part thereof.

In the event of a discrepancy between any purchase order accepted by OPS and this warranty, the terms of this warranty apply. OPS reserves the right to use either new, used, or refurbished parts.

This Limited Warranty does not cover any damages caused by you or due to external causes, including any act of God, natural disaster, accident, flood, war, sabotage, terrorism, military actions, or problems with the engine, e.g., failure to maintain the engine in accordance with its documentation (other than manufactures recommended oil changes). OPS does not warrant that Enviro-Pur will be free from design defects or errors.

To request warranty service from OPS, you need to contact OPS within five (5) calendar days following discovery of the defect or damage at the following telephone number: (866) OIL-PURE (645-7873) Option 4; or address:

Oil Purification Systems, Inc.  
2176 Thomaston Ave  
Waterbury, Connecticut 06704

and return Enviro-Pur or the defective part for inspection, including in such package a copy of the applicable warranty card, a detailed description of the problem, proof of purchase, and detailed records associated with the installation and maintenance of Enviro-Pur and the engine, and such other information as requested by OPS.

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