

# Technical Bulletin 32

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## DIY Oil/Water Separator

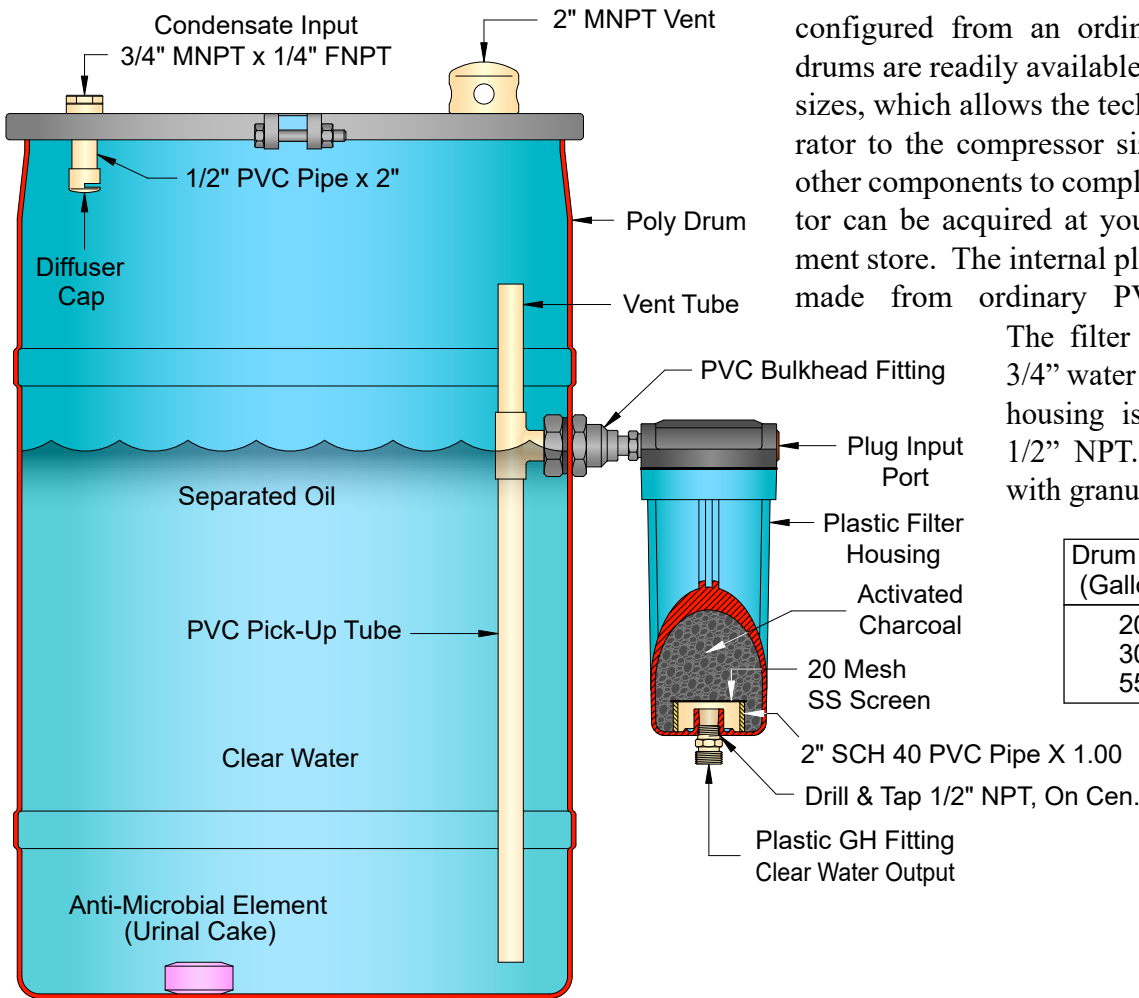
by Brian S. Elliott

The condensate that is drained from most compression systems is contaminated with emulsified oil and, to a lesser extent, other toxic contaminants. Most compressed air users don't give this topic a second thought. They simply discharge the condensate into the storm or sanitary sewer. In many other cases, the condensate is blown out into the adjacent yard or back lot. What most compressor users don't know is that both federal and state environmental regulations classify this discharge as hazardous waste. In addition to being an environmentally unsound practice, hefty fines can be levied on any company or individual that engages in this practice.

It's simple to act in an environmentally responsible manner and eliminate the possibility of an unpleasant encounter with your local environmental code enforcement officers. The illustration to the left shows a simple and

effective DIY oil/water separator that can be configured from an ordinary poly drum. Poly drums are readily available in 20, 30 and 55-gallon sizes, which allows the technician to match a separator to the compressor size. Virtually all of the other components to complete the oil/water separator can be acquired at your local home improvement store. The internal plumbing components are made from ordinary PVC pipe and fittings

The filter housing is an ordinary 3/4" water filter. The bottom of the housing is drilled and tapped to 1/2" NPT. The housing is filled with granulated activated charcoal.



Drum Size (Gallons)	Compressor Horsepower
20	1 ~ 7.5
30	10 ~ 15
55	20 & Up

JTDryers.com

**Air Options, Inc.**  
 P.O. Box 35984  
 Houston, Texas 77235-5984  
 Ph.: 713-721-9619  
 E-Mail: Info@Air-Options.com

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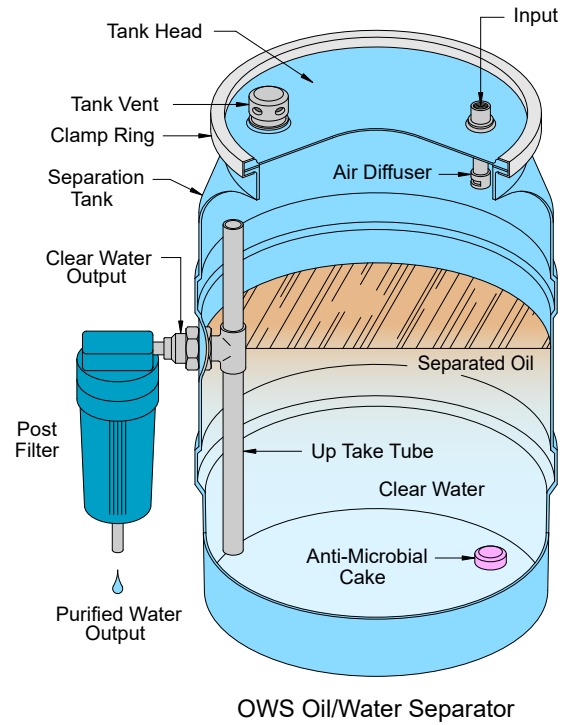
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The finished separator, as shown in the illustrations, is very simple to operate and nearly maintenance-free. The only maintenance required is changing out the activated charcoal and replacing the anti-microbial cake. This maintenance is done once yearly.

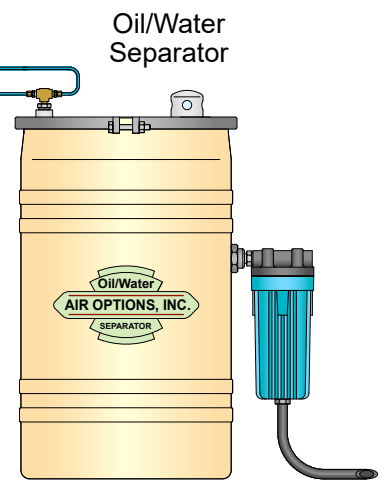
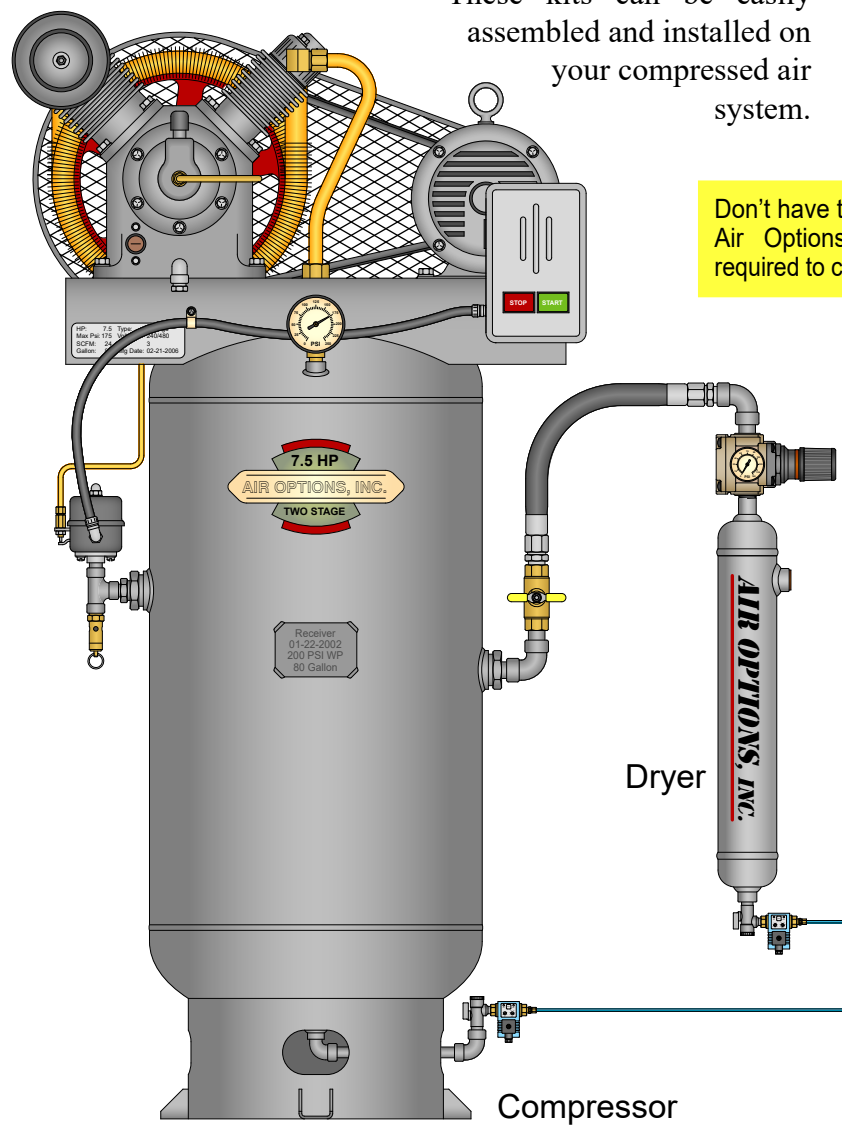
If the final assembly is properly constructed and installed, the clear water output will have less than 1 part per million of hydrocarbon contamination. This is well within the range of most federal and state environmental regulations. If further verification is desired, then a sample can be sent to a commercial laboratory that can conduct a petroleum products survey.

For those professionals that do not have the time nor inclination to build a DIY oil/water separator, Air Options offers a complete kit for converting 20, 30 or 55-gallon poly drums into highly efficient oil/water separators. These kits can be easily assembled and installed on your compressed air system.



Don't have the time to shop for all of the components? Air Options offers complete kits with everything required to complete an OWS except the drum. \$189.95

- Remember, it is a violation of both state & federal law to dump untreated compressor condensate into sanitary or storm sewers, drainage ditches or yards.
- You can avoid the possibility of significant fines and even jail time by simply installing an Oil/Water Separator.



**Air Options, Inc.** P.O. Box 35984  
Houston, Texas 77235-5984  
Ph.: 713-721-9619  
E-Mail: Info@Air-Options.com

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