



## Biodiesel & WVO Gravity System Operation

WVO is normally collected in 5 or 55 gallon containers. In warm weather (the warmer the better) the WVO can be poured directly into the filter bag which has been installed in the filter bag holder. The WVO will pass through the bag into the drum. In cold weather, it will be necessary to heat the WVO before gravity filtration. 90° to 100° F. is good. This can be accomplished with hot plates or other methods.

Polyester felt filter bags with nominal micron ratings of 1 or 5 microns are recommended. Bag sizes are trade size #1 and size #2. A #1 size bag will allow the drum to hold 40 gallons of filtered WVO while a #2 size will only allow the drum to hold 16 gallons due to the 32" length.

A 55 Gallon steel drum without a cover is the recommended container for the filtered WVO. Two 7/16 dia. holes near the top of the drum are used for mounting the filter bag holder to the inside of the drum. A 3/4" NPT coupling is welded to the bottom of the tank and supplied with a street elbow and valve which will enable the water which has been separated from the WVO to be drained.

A 1" NPT coupling is welded to the side of the tank as near as possible to the bottom. This can be used to attach a transfer pump to, or can be used to convert the gravity WVO system into a complete pump / filter system capable of processing 40 gallons of WVO in one hour or less. Four support legs are provided on the bottom of the drum. These elevate the drum to allow complete draining of any water which has settled out from the WVO. They also provide an important feature should it be desired to incorporate a pump / filter system at a later date.

A band type drum heater is provided, which in the gravity system is used to accelerate the time required to separate the water. This can be considered optional if water is not thought to be a problem or if enough time is allowed for it to occur without heat. In a pump / filter system, the drum heater serves an additional purpose in addition to rapid water separation. It is used to heat the WVO during filtration to speed up the entire process. This is especially important in cold weather.

When the WVO has been filtered and the water, if any, has been removed, it can be transferred from the 55 gallon drum into a storage container for future use in your vehicle. This can be accomplished with a drum or transfer pump.

