

The Evangel UCO/WVO Drum Filter System

System is quite simple (takes longer to explain than set up....) once you have gathered together the parts required.

7 x 35 litre drums (free from local Indian restaurants)
7 x drum taps (from any garden centre)
3 x 2 metre lengths of garden hose
2 x 100mic filter bags
1 x 50mic filter bag
1 x 25mic filter bag
1 x 10mic filter bag
1 x 5mic filter bag
1 x 1mic filter bag
6 x Old oil cans to use as stands (or you can build a low bench)

Pictures at end of article.

Drums 1 & 2 (100mic) are separate as they need the most attention. Oil from these is manually transferred to drum 3 (50mic) that sits on top of array with tap over drum 4 (25mic)

drum 4 tap is connected with a 1/2 inch garden hose from the tap to inside bottom of drum 5 filter bag (10mic).

Repeat connections for 5 to 6 (5mic) and 6 to 7 (1mic).

Clear oil is drawn from 7.

Once set up, the system operates with minimal attention.

Oil from 1 & 2 goes into 3. Use tap to control flow into 4.

When 4 is full, lower 5 to ground and oil will flow to bag. Once flowing well, raise 5 back up onto stand.

Repeat process for 6 & 7.

You have now set up the syphon and oil will transfer from 4 to 7 automatically.

Drums 1 & 2 will take your WVO (rubbish and all) so they will need semi hard deposits scooped out from time to time (I have a long handled chef's spoon). Occasionally you will need to take them out and wash them in hot water and detergent (if only to kill off any microbes that are growing; I do not waste energy heating/de-watering the oil). The filtering process will normally separate any water. Once the bags are coated with fats, the oil will start to flow clear.

Drum 3 (50mic) bag further improves the quality and removes any remaining water (not normally more than 1 litre in 1000 litres).

The "automated" part of the system is purely a polishing operation and will operate for months without attention. Eventually these will need bag replacements. This is indicated by slow transfer. For example, if level in bags 6 & 7 drops fairly quickly after oil is drawn off but the level in 4 & 5 does not respond, bag 5 is clogged.

Changing a bag takes about 10 minutes! Simply turn off all taps and lower the offending drum to the ground. If you are operating the system correctly this bag will have processed over 1000 litres so its not worth washing. I pierce the bottom with a long screwdriver so that the oil can drain. Remove bag and empty drum into Drum 1 or 2. You can now clean the drum, fit a new bag, reprime the syphon by turning on the tap from previous drum, raise it back to the stand and turn on connecting taps.

