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### Technical Document #32

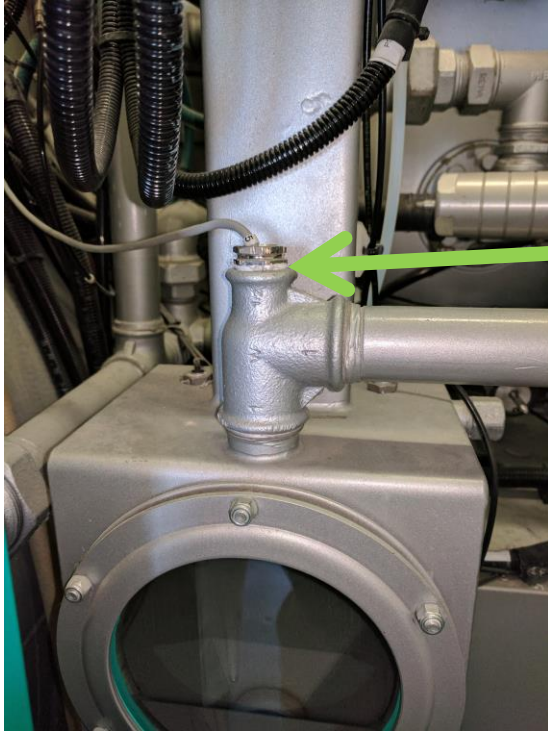
#### FMB Group “Automatic Water Separator Cleaning” Program

Around 2007, Union, Firbimatic, and Realstar updated the HL-series (HL860, HL880 etc. and the equivalent machines by the latter two brands such as L2125, KM503, etc.) to the diaphragm vacuum pump which is mounted on top of the machine, doing away with the older liquid-ring pump which was on top of the base tanks on the left side. At the same time, the water separator was updated to the commonly-found “Three-Window Separator” we see in the photo below.



This separator included a new feature where the machine can drain the Primary and Secondary separators into the still, and then rinse out the separators using a jet spray built inside the separator tanks.

This spray is fairly effective, however the machine manual does not go into good detail on how to run the “Auto Separator Cleaning” program. Frequently the operator will experience a Distillation Water alarm after running this program while the still is operating (cooking back the GreenEarth and water that came from the separators).



The alarm occurs because there is too much humid silicone, or even just free water, going into the still from the separator. When the still heats up, the water boils very quickly, causing foam and steam to go over the still condenser coil and overheating the PTC 5 probe located here, above the Still Pre-Separator.

This condition can be avoided by following three rules before running the Automatic Separator Cleaning program.

#### **THREE RULES BEFORE RUNNING THE AUTOMATIC SEPARATOR CLEANING PROGRAM**

- 1. First, the still should be totally empty and raked clean**
- 2. The still should be cold (has not been used yet today)**
- 3. Drain about 16 ounces of fluid from the bottom of the Primary Separator.**

The separator we are discussing has three windows on it:

- Top Window: Secondary Separator (Still Separator)
- Middle Window: Primary Separator (Drying Separator)
- Lower Window: Water Decanter / Waste water holder (drained daily by hand)



By draining 16 ounces from the bottom of the middle (primary) separator, we remove most of the free water from the bottom of the tank. Use a clear measuring cup like the one shown.

After draining 16 ounces, set the cup to the side and run the Automatic Separator Cleaning Program. It will take about 20 minutes to complete.

At the end of the program, this is a great time to shut off the machine and remove the glass windows from the separators, since the top two tanks, the Primary and Secondary Separators, will be nearly empty at the end of the program. Be sure to shut off the machine as soon as the program is over so that the still does not start re-filling the separators. Clean the separators by hand with cotton towels and spray them out with Yellow Liquid Lysol (shown). Do NOT use aerosol Lysol.



When you are done cleaning the separators, or when the Automatic Separator Cleaning program has finished, you can pour the 16 ounces you removed earlier back into the separator using the black funnel on top.



Turn on the machine and push the DOOR OPEN button. This unlocks all the doors as well as opens valve 33M. Hold open the yellow ball valve and pour the 16 ounces back into the separator. It will go into the Primary Separator.

Then, turn on the still and complete the distillation process.

The Automatic Separator Cleaning program should be run once a week, and the best time to do it is right after raking out the still so that it is empty and cold.

Clean the separators by hand once a month or as needed (if lint or mud is collecting in the bottom).

If you have any questions, email us at [technical@greeneearthcleaning.com](mailto:technical@greeneearthcleaning.com)

Or, give us a call at 877-926-0895.