

# **E-Z TREAT Synthetic Media Filter**

## ***Operation and Maintenance Manual***

**E-Z Treat Company** requires regular life time annual inspection and lifetime annual maintenance of the E-Z Treat Re-Circulating Media/Media Filter, as a condition of purchase and ongoing operation compliance. The mandatory service contract will include a performance based system inspection. The service provider must be trained and certified by E-Z Treat Company.

All inspection and maintenance reports must be forward, along with any additional documentation, to E-Z Treat Company, the local authorized E-Z Treat Dealer, Property Owner and all required or designated regulatory agencies.

The following is a list of the routine maintenance and cleaning procedures that are required by E-Z Treat Company. Failure to perform the required system maintenance could reduce the desired performance of the system and will void the warranty on the E-Z Treat Media Filter System.

### **E-Z Treat Systems should be inspected by a trained operator at start up and all inspections thereafter.**

#### **Septic Tank**

The septic and recirculation tank shall be inspected annually to ensure they are operating properly. Remove the access covers over the tank openings to perform the inspection.

1. Verify the lid and riser assemblies are watertight. Check for any damaged, water weeping marks, holes or cracks. The system must remain watertight to perform properly.
2. Remove, clean and replace the outlet effluent filter in accordance with the instructions provided by the effluent filter manufacturer.
3. Inspect the liquid level in the septic tank, it should be level with the bottom of the outlet pipe.
4. Inspect the effluent and scum layers in the septic tank. Look for oil or any other contaminants that are not normal.
5. Verify the tank has received its scheduled pumping and cleaning. Check the solids layer in each of the tanks. If the solids layer is excessive have the tank pumped.

#### **Recirculation Tank**

The recirculation tank shall be inspected annually to ensure it is operating properly. Remove the access covers over the tank openings to perform the inspection.

Verify that the lid and riser assemblies are watertight. Check for any damaged, water weeping marks, holes or cracks, the system must remain watertight to perform properly.

1. Inspect the liquid level in the recirculation tank, it should be level with the bottom of the outlet pipe.
2. At initial Starting-Up of the system remove the end caps from the spray manifold. Operate the recirculation pump by turning the pump control to the “Hand- On” position. Let the pump run for 1 (one) minute the turn the pump control to the “Off” position repeat this procedure three

# E-Z TREAT Synthetic Media Filter

## Operation and Maintenance Manual

times to flush any construction debris such as dirt or pipe shavings from the spray manifold. Replace the end caps “Hand Tight” do not use wrenches or pliers. Re-set the pump control selector switch to the “Auto” position.

3. Inspect the float by-pass valve. Manually start the recirculation pump and observe the float ball valve, the ball should drop as the liquid in the recirculation tank drops the effluent returning from the media filter pod should flow back into the recirculation tank and should not flow out the discharge pipe.
4. Verify that all the recirculation pump floats are in good condition, properly secured to the float bracket and are able to move freely within the recirculation tank.
5. Observe the system as it re-circulates. Visually verify all flows thru the system.

### Control Panel/Pumps/Alarms

1. Check the functions of the E-Z Treat Media Filter control panel.

Control: **Main Control** “On/Off Switch”

Function: Turns Power ON or OFF

Control: **System Setting Switch** “Manual ON” and “Auto On”

Function: “Manual ON” overrides all Float Switches and Time Clock Switches “Auto On” allows for normal operations dictated by the Time Clock and Float Switches.

Control: **Time Clock** “Minutes On” and “Minutes Off”

Function: Controls run time of recirculation pump i.e. GPD re-circulated thru media

Control: **High and Low Water Alarm** “Alarm On”, “Alarm Auto” and “Alarm Silence”.

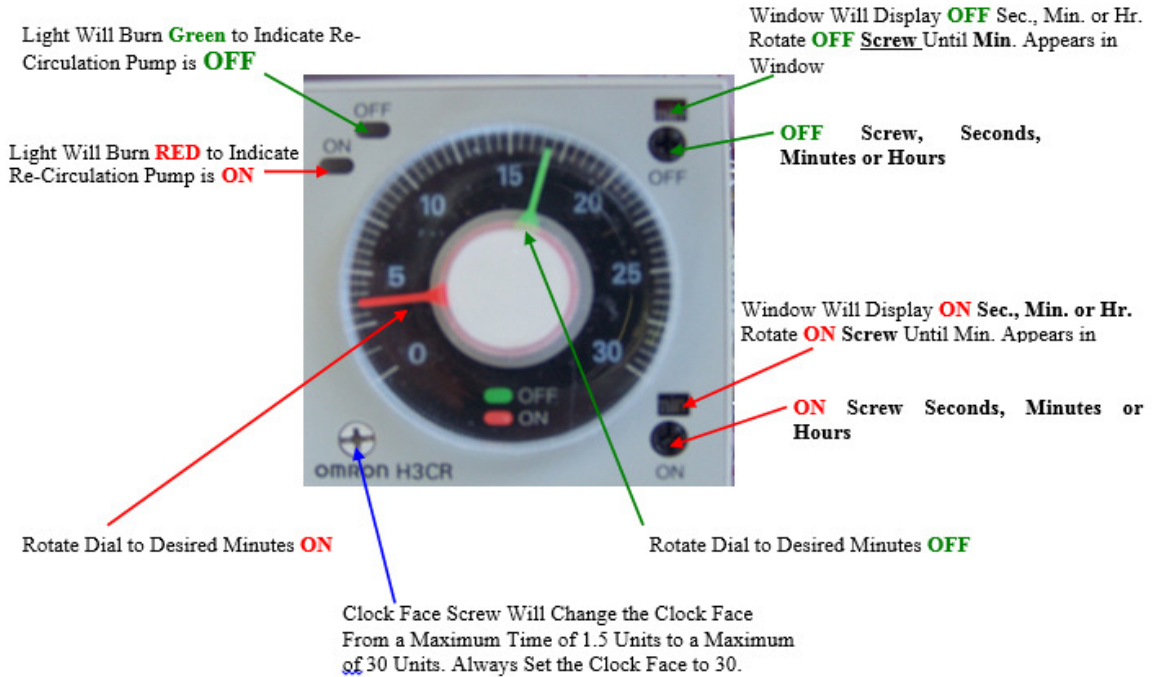
Function: “Alarm On” will manually turn on the audio/visual alarms. “Alarm Auto” is the normal operational setting and “Alarm Silence” turns off the alarms.

2. Check recirculation pump. Place the system in the manual mode by turning the recirculation pump switch to “ON”. The recirculation pump should begin to supply effluent to the spray nozzles in the treatment pod.
3. Check the voltage and motor amp draw and record the readings. If the readings are beyond the limits of the NEC recommendations, have an electrician check the main service line feeding the system control panel.
4. Place the system in the normal operating mode by turning the recirculation pump switch to “AUTO”. Verify the Time Clock ON/OFF settings are the same as set at system start-up. Record those timer settings in the system log.
5. Verify the accuracy of the system ON/OFF Timer Clock. To accomplish this use a stop watch and verify the length of time the recirculation pump is OFF then verify the time the recirculation pump is ON, those times should match the ON/OFF Timer Clock settings in the control panel.

# E-Z TREAT Synthetic Media Filter

## Operation and Maintenance Manual

### Recirculation Pump Time Clock



6. Confirm the operation of the visual and audible “HIGH” and “LOW” water alarms. The control has an alarm switch clearly marked Alarm “ON”, Alarm “Auto” and Alarm “Silence” Place the Alarm Switch in the “ON” position, you will hear a loud buzzer and see a red flashing light. Move the switch to the Alarm” Silence” position the red light and buzzer will go dormant.
7. Once the alarms have been triggered return all settings to their original position of Alarm “AUTO”
8. Verify the floats are operational by manually raising and lowering the floats to simulate the systems normal operation. Verify proper operation of “High Level Float” by lifting the float while the system Timer Clock is in the “OFF” time mode, the recirculation pump should turn on over riding the “OFF” timer, the Visual and Audible alarms should activate. Return the float to its normal position the recirculation pump will turn off. Reset the alarms and manually lower the “Low Water Float” with Timer Clock in the “ON” mode, the recirculation pump will turn off and the visual/audible alarms will activate. Return the float to the normal position and the recirculation pump will run. Reset the Alarms.
9. Properly re-install and secure all tank accesses!

# E-Z TREAT Synthetic Media Filter

## *Operation and Maintenance Manual*

### **E-Z Treat Synthetic Media Filter**

The E-Z Treat Synthetic Media Filter should be inspected to ensure it is operating properly. Remove the pod cover to perform this inspection. Each E-Z Treat system should be installed with a sample box located on the final discharge side of the treatment system, this sample box is ideal for grab samples. If the installer failed to install a sample box grab samples can be taken from the pump discharge tank. Many state regulations include instructions for taking grab samples those rules and procedures supersede E-Z Treat.

1. Take a grab sample of the effluent check for:
  - a. Odor, the effluent may have an earthy or musty smell there should be no strong or offensive odors present.
  - b. Color, the effluent should be absent of any color.
  - c. Check the Turbidity of the effluent with a Turbidity Meter, it should read 5 or Less.
  - d. Solids, there should be no visible suspended solids
  - e. Solids, let sample set for 15 minutes, there should be no visible settling of solids.
  - f. Test the pH, it should measure 6.9 to 7.5

If there is odor, color or solids:

- a. Check the filter media for excess surface solids or standing effluent if present clean the media. If any of these are present clean the media.
  - b. Check the Spray Manifold Pressure it should be 18 to 25 PSI. If necessary adjust the pressure with the Manifold Ball Valve.
  - c. Observe the spray distribution nozzles during operation. If a nozzle appears to be clogged or if the spray pattern is not uniform, remove the nozzle and clean the nozzle using a pipe stem cleaning brush.
  - d. Check the treatment Pod drain for obstructions that could cause standing water in the Pod.
  - e. Check the Timer “ON” and “OFF” Settings to ensure they correspond to the recirculation rates prescribed in the table located on page 4.
  - f. If the pH is below 6.9 reduce the recirculation rate by increasing “Off” time on the Time Clock Control. Recheck the pH in 90 days.
2. Record the pressure reading on the distribution manifold gauge. Compare that pressure to the pressure recorded at the previous inspection. The pressure should read 18 to 25 PSI.
    - a. Verify the pressure gauge on the spray distribution manifold is performing properly.
    - b. Verify the flow rate at the spray nozzles (it should be 1.75 to 2 GPM).
    - c. Verify the recirculation pump is the same make and model pump that was specified for the original installation.
    - d. Verify the recirculation pump is performing in accordance to the pump manufacturers’ specifications including amp draw and flows at specific pressures.
    - e. If the pressure is above the prior recording or above the startup setting, open the ends of the distribution manifold lines, manually start the recirculation pump and allow it to run for 5 minutes. This should flush out the spray distribution lines. If the pressure remains too

# E-Z TREAT Synthetic Media Filter

## Operation and Maintenance Manual

- high, after cleaning the spray nozzles and flushing the spray distribution lines, adjust the pressure to the desired PSI using the ball valve on the main spray distribution supply line.
- f. If the pressure/flow is too low check for cracks, breaks or obstructions in the main distribution supply line.
3. Verify the treatment pod is properly draining by looking down the pod side wall vents, there should be no standing water, and the bottom of the pod should be visible.
  4. Visually inspect the surface of the treatment media for:
    - a. Holes, tears, loose seams
    - b. Foreign material
    - c. Black color on media (media should have light brown tint)
    - d. Excessive bio mat growth
    - e. Ponding
    - f. Clumping of the media.

**Note: If any of these conditions exist the media needs to be cleaned or repaired.**

5. Lift the corners of the media mattress and visually inspect the sides and bottom of the treatment media for:
  - a. Holes, tears, loose seams
  - b. Black color on media (media should have light brown tint)
  - c. Excessive bio mat growth
  - d. Clumping of the media.

**Note: If any of these conditions exist the media needs to be cleaned.**

### **Cleaning the Filter Media**

Depending upon influent strength and influent volumes, excessive biological growth can accumulate inside and on the surface of the media filter after 7 to 10 years of use. Cleaning of the media is a very simple and easy 10 step process.

**Step One:** Turn off power to any discharge pump.

**Step Two:** Remove the treatment pod cover and remove the spray distribution manifold.

**Step Three:** Connect wash down hose to the main spray distribution supply line.

**Step Four:** Manually turn on the recirculation pump.

**Step Five:** Pressure wash the surface of the media mattress, the wash water will drain into the recirculation tank and will be re-used as wash water.

# E-Z TREAT Synthetic Media Filter

## *Operation and Maintenance Manual*

**Step Six:** Roll the media mattress and wash the sides and bottom of the media mattress.

**Step Seven:** After the media is completely cleaned properly place the media mattress in the treatment pod.

**Step Eight:** Re-Install the spray distribution manifold.

**Step Nine:** Pump out and clean the Recirculation Tank removing all the wash down water. Pump out the Septic Tank.

**Step Ten:** Turn on power to discharge system and return the treatment system from Manual mode to Automatic mode.

### Replacement of Media Mattress

If the Filter Media is exposed to excessive concentrations of petroleum products, paints, glues, waxes etc. it will become necessary to replace the media. The replacement process it is a very fast and simple.

Removing the media mattress should be performed by service agents that are trained and certified by E

-

Z Set.

Step O

ne:

Turn off power to recirculation pump

, discharge pump and controls.

Step

Two:

Pump the Septic tank and re

-

circulation tank

to assure continued

service by residence during the replacement.

Step Three:

Remove the spray distribution manifold.

Step Four:

Lift the media mattress out of the filter pod.

Step Five:

Place the mattress into the fiberglass Transport Container provided by

E

-

Z Set Company.

# **E-Z TREAT Synthetic Media Filter**

## ***Operation and Maintenance Manual***

The  
Transport  
container  
is easily hauled in a pickup truck or  
on a light duty trailer.

Step Six

: Install new Filter Media and replace distribution manifold.

Step Seven:

Reset all system control settings to “AUTO” and turn the main

power switch to the ON position.

Once the material is returned to E

-

Z Set the material will be sent to the nearest re

-

cycler

to be reprocessed and sold on the open styrene market,

disposal of this product is easy

and economical.