



Vortex Brewer® Build Kit

For growers who already have a proper tank/stand or air pump, or who are inclined to build their own circulation systems, we offer the **Vortex Brewer® Build Kit**.

Note that we are not able to consult technically on construction. These instructions provide the most detailed analysis you can find on building your own **Vortex Brewer®**.

All sales on the **Vortex Brewer® Build Kits** are final after parts have been used. Due to the fact that the remainder of the build out will be done by the grower, we cannot be responsible for warranty replacement after the unit is constructed.

We offer a 60 day money back guarantee on **Vortex Brewers®** built in-house. There is a 1-year warranty on the **Vortex Brewer® Manifold Assembly**.

INCLUDED ITEMS:

- (3-4) Bulkhead assemblies (number depending on kit size)
- (1) **Vortex Brewer®** Manifold Assembly
- (1) Drain pipe
- (3-4) Outlet tees (number depending on kit size)
- (1) 2" PVC nipple
- (3-4) 1-1/2" black rubber couplings (number depending on kit size)
- (3-4) 1-1/2" black rubber cap and 3/8" ID tubing assembly (number depending on kit size)
- 1/2" ID tubing (amount depending on kit size)
- (1) 1/2" black plastic tee and 1/2" tubing tail to connect to air pump
- Recipe Ingredients = **Earth Compound, Earth Tonic, Earth Syrup & Earth Kelp**

NOT INCLUDED:

- Tank / Stand
- Air Pump
- Emergency Shutoff Valve
- 6' Premium Applicator Hose

MATERIALS/TOOLS REQUIRED:

- 1-1/2" Flexible PVC spa hose
- PVC cleaner/primer and PVC cement
- Teflon tape or paste
- 2-3/8" hole saw
- Power drill **WITH A SIDE HANDLE**
- Large pair of channel lock type pliers
- Sharp knife
- Air pump (60 Watt minimum, 100 Watt recommended up to 150 gallons, 190 Watt for 250 Gallon and up)

CONSTRUCTION STEPS:

1. Measure from front of tank 3"-6" to the right and make a mark. (ideally you want your first mark to be approx.. 45 degrees from the center of the tank) *See figure-1*
2. Wrap a piece of flexible material (such as some spare tubing or small rope or string) around the circumference of the tank and either cut or mark the point where it wraps around. Now measure the total length of your material and divide by 3 or 4 depending on the number of outlets your VB will have. Now either cut or mark the material at the length you calculated. This will determine the locations for the other 2 or three outlets.
3. Working your way around the tank starting at the first mark you made on step 1, mark the location for the other outlets. You can double check by working back around in reverse. Within 1/2"-1" variance is acceptable if you're off a little. *See figure-2*



Figure 1



Figure 2



Figure 3

4. Using a nut from one of the large bulkhead fittings that are provided, mark where the center of your hole will be on the tank being sure to leave enough room at the top to be able to install the

bulkhead from inside the tank. (sometimes the lid rim is in the way) Do this for all outlet locations. *See figure-3*

- Using a power drill with a side handle and a 2-3/8" hole saw cut outlet holes for all outlets. **WARNING: DO NOT ATTEMPT TO CUT HOLES WITH A DRILL THAT IS NOT EQUIPPED WITH A SIDE HANDLE. YOU WILL BREAK YOUR WRIST.** *See figure-4*
- Remove any burrs with a knife that were created by cutting the holes in the tank, paying special attention to the inside surface of the tank around the holes. Burrs could cause leaking here.
- Install the bulkheads in the tank being sure to have the outlets all pointing in the same direction, and ensuring that the gaskets are arranged as they are in *figure-5*. Note the pen is displaying where the tank wall would be in relation to the gaskets.
- Tighten down all the bulkhead fittings with a large pair of pliers until snug.
- Clean the mating surfaces of the bulkhead and the provided tee fittings. Then, cement them together with the tee at a 45 degree angle. *See figure-6 & figure-7*



Figure 4



Figure 5



Figure 6



Figure 7

- Apply Teflon tape or paste to the threads of the 2" nipple that is provided and screw it into the 2" bulkhead that should be on the bottom of your tank. *See figure-8*
- Cut the provided piece of 2" PVC drain pipe at the appropriate length to suit your tank. To do this measure between the PVC on the provided manifold and the bottom of the nipple installed in step 10. Subtract approx.. 1/4" and cut to size. *See figure-9*
- Now install the drain and manifold as shown in *figure-9*.

13. Attach the 1-1/2" black rubber couplings to the tees that were installed in step 9. *See figure-10*



Figure 8



Figure 9



Figure 10

14. Now measure and cut your 1-1/2" flexible PVC to the appropriate length to fit your tank. To do this first install one end of the flex PVC into one of the top rubber coupling, then bring it down to where it will be mating to the manifold and make a mark if cutting is necessary. Repeat for all outlets. *See figure-11*

15. Install all the flex PVC and tighten all black rubber fittings that are installed on the unit.

16. Cut the 3/8" ID clear tubing that is attached to a black rubber cap to the same length as the flex PVC. Do this for all outlets.

17. Install the black rubber cap and 3/8" ID tubing assembly into the top of the tee installed in step 9. *See figure-12*

18. Cut to length and install the 1/2" ID clear tubing around the top of the unit connecting all the outlets together. *See figure-13*



Figure 11



Figure 12



Figure 13

19. Cut the section of ½” tubing spanning the back section of the tank in half and install the ½” black plastic tee and tubing tail to the cut section. *See figure-14 & 15*

20. Connect the ½” tubing tail to your air pump, fill tank, and start your brewing adventure.



Figure 14 & 15

Happy Brewing!!



For Complete Information Visit:
www.VortexBrewer.com