

AC/DC KIT

CONVERSION AND INSTALLATION INSTRUCTIONS



Kit required for conversion of electric units to also operate in non-electric or 12 Volt mode. For use with Excel and all Centrex Systems.

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Each vent must be installed independently to ensure odor free operation.

When using unit in AC mode, both the AC and DC fan must be in operation to prevent recirculation of air between vents.

CONVERTING YOUR COMPOSTING UNIT

The AC/DC kit is required to convert an electric Excel or Centrex Systems for use without electricity or where 12 volt DC electricity is available only. Non-electric units have certain features which the electric units do not have. The non-electric units have a 4" vent stack and do require the installation of a drain hose to the 1" diameter drain assembly. The drain is required on the non-electric units since evaporation is not assisted by the heating element, there will be overflow liquid. The installation of a 4" vent stack is required.

PARTS IN THE KIT

5 X 4"X 31.5" Vent Pipe	4 X 4" ABS Coupling
1 X Clear Scoop	1 X 4.25" Hole Saw
1 X 6" Diffusor	1 X Microbe Mix 50g.
1 X 12 Volt 2.4 Watt Fan	1 X Compost Quick 250ml.
1 X 4" Inlet Pipe	1 X 1" SS Hose Clamp
1 X 1"X 8'4" Drain Pipe	

**You may also require a marker pen, a phillips screwdriver, an exacto knife, masking tape, a drill and a 1/8" drill bit

CREATING THE HOLE FOR THE VENT



1. UNPLUG YOUR COMPOSTING UNIT and disconnect the 2" vent stack. If the vent connection is sealed with silicone, use exacto knife to break the seal between the vent stack and the unit.
2. Locate the composting unit in an area where you have access to the top of the unit.
3. Removing the fan from the unit. The area where you will need to create the hole for the 4" vent is directly above the fan assembly. To remove the fan, locate the 8 snap caps around the large plate near where the 2" vent stack connects to the unit. Using your exacto knife, pry the 8 snap caps off, exposing the screw heads. Remove the all 8 screws and set all parts aside for reuse. Lift the fan out of the unit and set aside.

4. Locating the center for the hole. Use the picture to locate the location for the hole for the 4" vent on your composting unit.



Once you have located the center, make a mark for the pilot hole.

5. Once you have marked the hole for the pilot, use a 1/8" drill bit to drill a small pilot hole on the mark.
6. Before you drill the 4" hole, place the 4.25" hole saw on the unit (as shown above) with the pilot bit in the pilot hole you have drilled. Ensure that the alignment is exact before you drill. Ensure that the hole is centered in the correct area (as shown in the pictures above). Once you are satisfied that the hole is in the proper location, proceed to step 7.
7. Using the hole saw. Make sure to press down with even pressure on the hole saw so that the blades bite evenly into the top of the unit. Carefully apply firm pressure until the hole is cut in the unit.
8. Excel Unit Only: Use masking tape to secure the handle under the seat. This will ensure that the handle will not end up at an odd angle when the fan is replaced. Once the handle is secure, ensure that the opening in the drum is centered under the opening in the bowl liner. Slide the stainless steel shaft into the cone on the bottom right corner of the fan plate. Once you have completed this step, you may proceed with replacing the fan.
9. Replacing the fan:
Replace the fan plate over the hole in the unit from where it was removed. Line up the screw holes. Insert the screws into the holes, making sure each screw has a CKS washer around the screw. Fasten all 8 screws. Ensure that the screws are not to over-tightened. Replace the snap caps.

INSTALLING THE VENT

INLET COUPLING



Place the vent inlet coupling into the hole that you have created for the 4" vent so that the 1" of smaller diameter pipe is protruding into the hole in the top of the unit. This is the first piece of the venting. Once you have finished assembling the vent, you should run a bead of silicone around the inlet coupling to prevent odor from escaping.

- The 12 volt fan should be used if there will be any bends in the vent pipe configuration, if you have a Centrex 3000, if the toilet will be used as an AF waterless toilet or if you are in an area where you will experience regular downdraft.
- The 12 volt fan may not be necessary if the vent is installed vertically as per specifications outlined under "Vent Pipe Location".
- If you do choose to install the 12 volt fan (included with kit), it must run continually for the duration of the time that you will spend at your house or camp.
- If the 12 volt fan is not running, it will cause a blockage in the vent pipe and will reduce the venting capacity of the 4" vent. The fan draws less than 0.2 Amp and has a power output of 2.4 Watts.

12 VOLT FAN



INSTALLING THE 12 VOLT FAN

Install the 12 volt fan on the inlet coupling with the large side with the wires protruding facing upwards (as shown in the picture at right). When the 12 Volt Fan is turned off, it forms an obstruction in the vent, and should therefore run continuously while the cottage or home is occupied. An optional switch (as small as 1 amp) may be installed, and the fan turned off when the toilet will not be used for several weeks. The red wire should be connected to the positive (+) terminal on your battery or DC system, and the blue wire to the negative terminal (-).

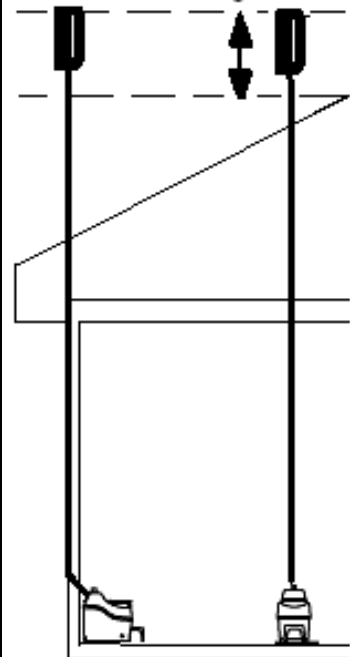
Use silicone caulking to seal the connections between the inlet coupling where the bottom contacts the composting unit and all connections on the vent. Do not glue the fan to the vent stack.

AC/DC mode: When both vents are installed the 12 Volt fan must be running continuously even when using AC power to prevent re-circulation between the two vents.

VENT PIPE LOCATION

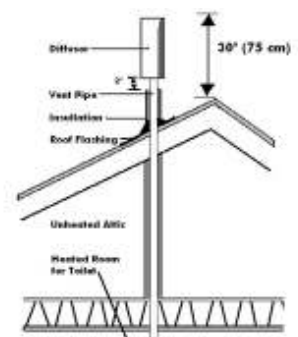
- 1) All vent should be vertically installed. Limit bends in the vent stack to no more than 2 - 45 ° bends. THERE SHOULD BE NO HORIZONTAL SECTIONS OF VENT.
- 2) If you will be installing venting on a steeply pitched roof where snow shear may occur; Install a heavier pipe through the roof and feed the enclosed vent through the heavier pipe. Seal between the pipes with expandable foam or other such water-tight substance. The heavier pipe should be able to withstand the weight of sliding snow.
- 3) If there is more than 36" of vent needed above the roof line to reach 24-30" above the highest peak of the roof (diffusor included in measurement), use guide wires to secure the vent above the roof.
- 4) The vent must be installed separately from ALL other household vents. Venting cannot be merged with other venting. Doing so will prevent the unit from operating in an odorless fashion.
- 5) All connectors in the vent pipe should be sealed. Use silicone caulking to seal the connections.
- 6) The diffusor should be glued vertically on to the top of the vent pipe. This assembly helps draw air up the vent pipe.

24- 30" Above Highest Peak



LEADING THE VENT THROUGH THE ROOF

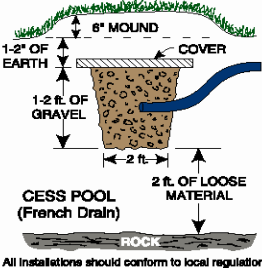
As shown in the installation, the vent stack should end about 30" above the peak of the roof so that it is less subject to downdraft. Where the pipe is taken through the roof, a roof flashing may be required to seal the installation. If you are in an area where snow shear is a danger, you may wish to install a heavier pipe around the vent pipe where it exits from the roof. If you do choose to do this, ensure that you seal the area between the pipes with a waterproof substance to prevent leaks.



INSTALLING THE OVERFLOW DRAIN

When used without electricity, evaporation is completely dependent upon the climate where the unit is installed. For this reason, the overflow drain must be connected as it will be required.

- Remove the orange cap from the drain assembly.
- Place a 1" SS hose clamp over the end of the drain hose that will be connected to the overflow drain assembly.
- The safety drain is gravity fed. The drain hose must be below the level of the safety drain in order to function.

<p>Handling Effluent</p>	<p>The following are possible options to take care of the liquid :</p> <ul style="list-style-type: none"> - Feed into a lined pit filled with gravel and sand. Such a recycling bed also ensures a closed loop system. - Feed into a small cesspit or “French drain”. - Plumb into an existing septic or holding tank line. <p>Installation should be in accordance with applicable local regulations.</p>	 <p>All installations should conform to local regulations.</p>																						
<p>Electrical Considerations</p>	<p>The 12 Volt Fan may be powered with a battery that is connected to a generator, solar panel, or other alternative energy system. For use in AC, purchase a 12 Volt to AC Adapter and snip off the female end. Wire the positive wire to the red wire on the fan, and the negative wire to the blue wire on the fan. Tie them off with wire connectors, and plug your AC Adapter into the wall.</p>																							
<p>Solar Panel</p>	<p>Use the table below to determine the gauge of wire required for your installation. Connect one wire from the positive (+) terminal on the solar panel to the positive (+) terminal on the battery. Connect one wire from the negative (-) terminal on the solar panel to the negative (-) terminal on the battery. Since this solar panel is only 10 watts, it is very unlikely that it will ever overcharge a car-sized battery, even if the fan is turned off. Power from the solar panel can be is connected, if so desired, by installing an optional switch (as small as 1 amp) in the positive line (Figure 1).</p> <table border="1" data-bbox="581 1083 1346 1451"> <thead> <tr> <th>Distance (in feet) of Solar Panel to 12 Volt Battery</th> <th>Gauge of Wire</th> </tr> </thead> <tbody> <tr><td>10'</td><td>18</td></tr> <tr><td>15'</td><td>18</td></tr> <tr><td>20'</td><td>16</td></tr> <tr><td>25'</td><td>16</td></tr> <tr><td>30'</td><td>16</td></tr> <tr><td>40'</td><td>14</td></tr> <tr><td>50'</td><td>12</td></tr> <tr><td>60'</td><td>12</td></tr> <tr><td>70'</td><td>12</td></tr> <tr><td>80'</td><td>10</td></tr> </tbody> </table> <p>Figure 1</p>		Distance (in feet) of Solar Panel to 12 Volt Battery	Gauge of Wire	10'	18	15'	18	20'	16	25'	16	30'	16	40'	14	50'	12	60'	12	70'	12	80'	10
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<p>12 Volt Battery</p>	<p>A deep cycle battery, which you can purchase at most RV or Marine supply stores, is ideal for residential or heavy seasonal use. If you are using a cottage only a few weekends in the summer, and all that you have available is a car battery, that should do for such limited usage. The solar panel will charge the battery and run the fan during the day. The battery will then have enough charge to run the fan through the night, or on cloudy days.</p>																							

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TOOLS REQUIRED



Sun-Mar

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