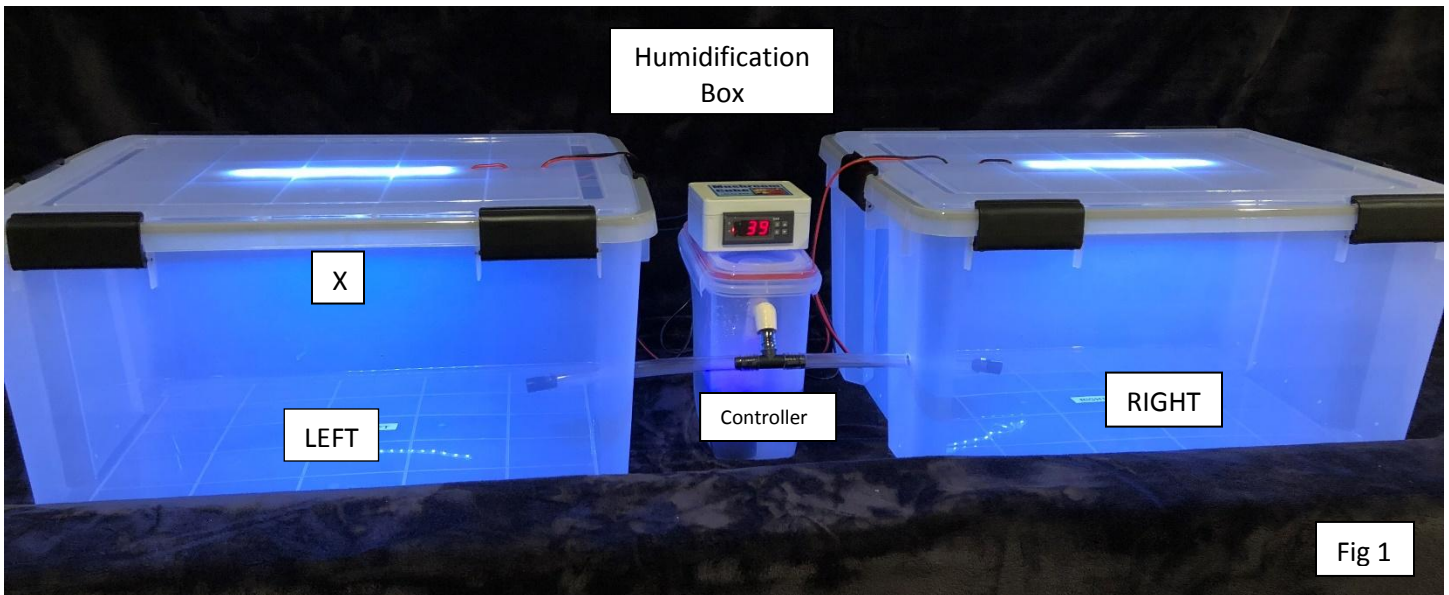




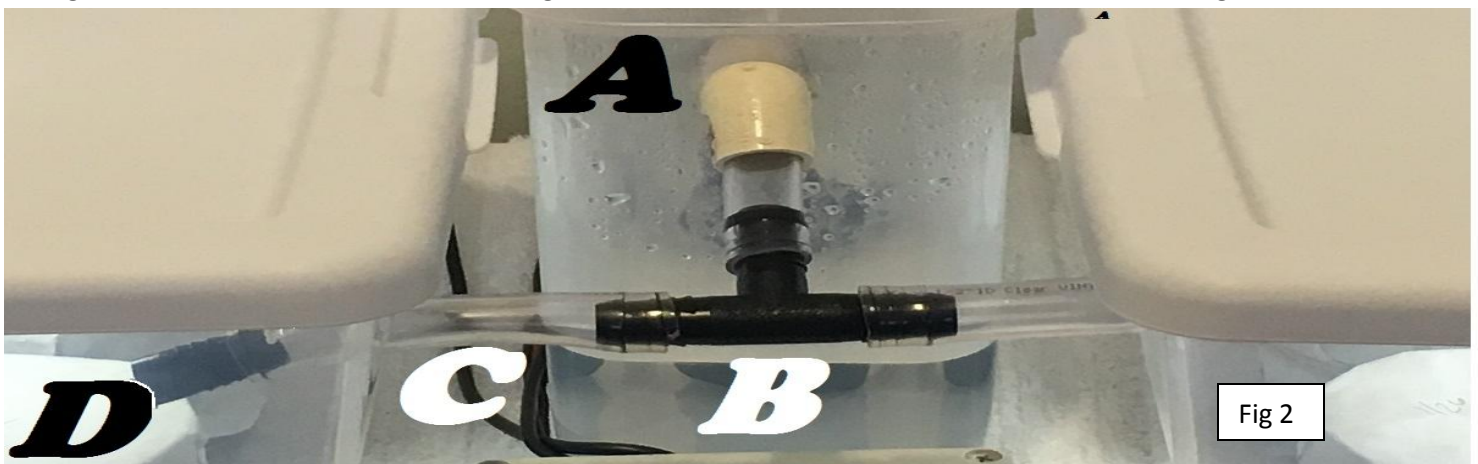
PACKING LIST

- 1- System Controller Unit with attached humidification box and two LED light lids
- 2- Two Clear Tote Boxes (Note Right/Left Marking)
- 3- Air Flow Tubing Kit
- 4- Ultrasonic Humidifier (In humidification box)



1- Layout clear totes, controller, humidification box and LED Lids. Make sure to organize and untangle wire layout.

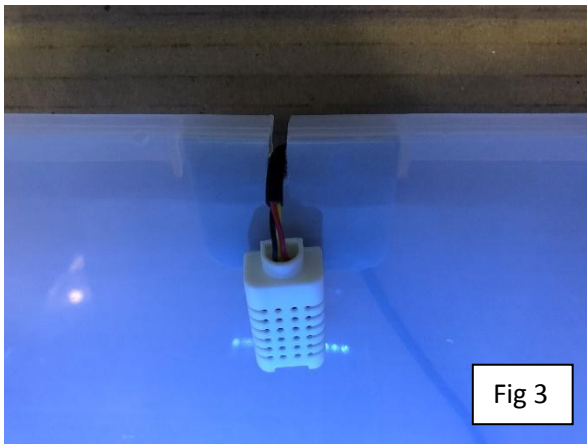
2- Assembly of airflow tubing (Fig 2). Part 'A' is $\frac{1}{2}$ " CPVC 45° degree elbow with male side carefully pushed into humidification box as shown and attached to 2 more CPVC fittings inside of the container. Part 'B' is composed of black 'T' fitting with clear tubing on three sides. Place the short leg of the clear tubing into the CPVC fitting – note that the fittings are not intended to be glued in place so that the pieces will separate in case the boxes are impacted instead of breaking. Remove Part 'D' – a black insert from both sides of remaining legs (and save). Insert Part 'C' tubing into the side of Left Tote. Then repeat with remaining tube on Right Side. Re-Insert Part 'D' back into the ends of the tubing now terminating in each tote. Part D only needs to be inserted $\frac{1}{2}$ of way into clear tube to prevent the tubes from sliding out of Totes. Be careful when inserting clear tubes into the totes – excessive force could damage tote.



3- The Ultrasonic humidifier rests flatly on the bottom of humidifier box – NEAR THE FRONT OF THE HUMIDIFIER (away from the fan!) - with power supply wire exiting from a hole toward the top of the box. A rubber stopper in the box – with supply wire passing through – prevents leakage. The end of the humidifier power supply wire attaches to the pigtail connector extending 6 inches from the controller box. The humidifier works best with the water supply approximately 1 – 1.5 inches over the top of the black ultrasonic humidifier. If there is too much water in the box humidification will be greatly reduced. The lack of mist will be readily apparent. *There is a short piece of clear vinyl tubing inserted into the CPVC fitting inside of the humidification chamber. This is to increase humidification efficiency for the large totes. It can be removed if you find too much moisture entering your system.

4- Controller is adjusted prior to delivery. To change desired set point: Press and RELEASE the ‘S’ on the front of controller (which will now show the current set point) then use UP and DOWN arrows to adjust desired set point and Press and RELEASE the ‘S’ again to return to run mode. If internal settings get changed and RESET is required see the instructions with original kit or contact us by email.

5- Humidity sensor wire passes through a notch along the top side edge of the LEFT tote. Sensor should be placed high on the side wall as pictured using the included adhesive putty(See ‘X’ on Fig 1 and Fig 3)



When fresh cakes are placed in totes it is normal for humidity to soar, possibly to 99-100%+ (shown as 010 on controller). Within a couple of days the humidity should begin to drop and the humidifier should activate more often to maintain humidity.

There is also a link to a very basic video of a kit being assembled on youtube if you are a ‘visual assembler.

<https://www.youtube.com/watch?v=GeSICPR9YPE>

NOTE: There is a low water sensor in the humidifier that requires minute mineral content in the water to read accurately. Using distilled/deionized water may not have enough mineral content to read accurately and turn off humidifier due to false low water level reading. Clean tap or bottled water should work well.



Detailed Mushroom Instructions:

There are Four phases you will be working through in your objective to grow mushrooms: 1) Inoculating your jars 2) Incubating the Jars 3) Birthing Cakes + 'Dunk and Roll' 4) Fruiting Mushrooms

Inoculating Jars:

Inoculating jars is the process of introducing the mushroom spores/culture into the jars to allow the jars to become colonized with the species of mushrooms you desire. The spores/cultures generally arrive in a 10-12cc syringe and can be purchased from a reputable vendor online. If you end up purchasing a syringe that is contaminated your jars will grow the contamination and fail. For your purposes spore syringes and culture syringes are used interchangeably. Spore syringes contains spores in sterile water, spores are like 'seeds' for mushrooms. Culture syringes contain fragments of mushroom tissue suspended in sterile water. Either will begin the process of inoculating your jars – it generally depends on the species of mushroom as to whether your syringe contains spores or culture. Both should be well agitated prior to use to evenly suspend the spores/culture. Here is a link to an inoculation technique we like. https://www.youtube.com/watch?v=-Fhlfcl_i8M&t=15s The traditional technique uses an alcohol burner to heat the needle and sterilize it between each jar instead of the rubbing alcohol-paper towel as shown in the video. Either will work fine. The tote used in video to cover your work area is also not 'required' – but the cleaner you keep your work area the higher your odds of success. If you use the flame technique to sterilize the needle use caution as the alcohol in the alcohol burner is quite flammable.

Incubating the Jars:

Once inoculated the jars can be placed in a clean area to incubate. Most mushroom species do well incubating in a 'room temperature' environment. A few degrees above room temp may speed growth but also makes a better environment for bacteria and contaminates. Research the needs of your specific species. Incubation can take place in a box or tote. There is no need for humidification, lighting or airflow at this point – so the MushroomCube does not need to be used or running at this point. Allow the jars to incubate for several weeks until all of the jars are completely covered in the white mycelium (COMPLETELY). Then wait 5 more days. If any jars are growing anything other than the white mycelium they are likely contaminated and should be discarded as to not contaminate the other jars.

Birthing Cakes/Dunk and Roll:

Birthing the cake is simply removing the white contents – 'cake' from the jars. Remove the lid from the jar, turn the glass jar upside down and tap lightly on a firm surface. The cake should easily fall from the jar onto a cleaned surface. The 'Dunk and Roll' technique rehydrates the cakes and increases the yield.

The procedure is divided in two parts:

The Dunk

In this step you will be replacing the water lost during incubation:

1. Rinse off your cakes under the tap, rubbing them softly to dislodge any loose material. Be careful not to break off any pins (little immature mushrooms) as they will be your next crop. Pins will survive the dunk and roll, so no need to take them off. Just be delicate with them.
2. Submerge the cakes under cold tap water for 12-24h inside a clean container. Try to avoid dunking for much longer than 24h – but close to 24 is preferable as the cakes are very dense and need time to absorb the water. You can use a clean tupperware container or a bucket. You will notice that the cakes actually bob about like corks so you will need to put something heavy on top to keep them fully submerged. This is important as it that the extra bit of water pressure that comes from being totally submerged aids the rehydration process.
3. There is no need to dunk inside a fridge. As long as your water stays cool you will be fine. The cool temperatures reduce any bacterial growth while you are dunking (it has nothing to do with cold shocking the mycelium). Using your fridge is not recommended as they likely harbors many contaminants, so it can be counterproductive. Use some ice to keep water cool if necessary (40F is ideal temp to prevent bacterial growth).
4. Once your dunk has finished, re-rinse your cakes under the tap and proceed to...

The Roll

Rolling your cakes in vermiculite increases the water holding capabilities of the cake.

1. Roll your cakes in dry vermiculite so they are evenly coated with it. You can optionally bake your vermiculite in the oven for an hour at 350°F if you think it might not be clean (the bag has been opened for a long time for example) but it is not necessary if the vermiculite is out of a new bag.
2. Place the cakes inside your fruiting chamber
3. Mist your cakes well with clean water making sure you wet all the vermiculite.
4. Maintain fruiting conditions as usual.

Fruiting:

Fill Humidification Chamber to appropriate water level and replace lid. Plug System in and set humidity – 90% is a good starting point. Post ‘dunk and roll’ place cakes in each tote. A good initial misting with water/spray bottle is a good way to get the mycelium started off right. System may initially take an hour to achieve set point. The LED lights remain on during fruiting as they use very little power and help signal mushrooms to fruit. If convenient you can mist the cakes with clean water/spray bottle 1-3x per day but is not required. After the initial flush (Harvest) you can redo the ‘dunk’ part of the ‘dunk and roll’. This rehydrates the cakes and allows them to have another flush of mushroom (3+ flushes likely). Avoid directly misting the sensor.

ADVANCED OPTIONS: You can collect the spores from some of your healthiest specimens to keep your system producing without having to continue purchasing more syringes. The jars from your kits can be refilled/sterilized and used numerous times. You can also make media trays using aluminum ‘turkey trays’ that hold much greater quantities of growing media. Online searches will readily provide many options to expand your production.

Additional Info Contact: mushroomcube@usa.com

Enclosed are the instructions for the Custom Large 2 Unit Kit. You are essentially building that system using your own larger totes. Two of my favorites are:

1) IRIS 62 Quart Weathertight® Box

UCB-LD

17.7W x 23.6L x 11.8H

Store your favorite keepsakes, photos and sentimental items in a weathertight storage box.

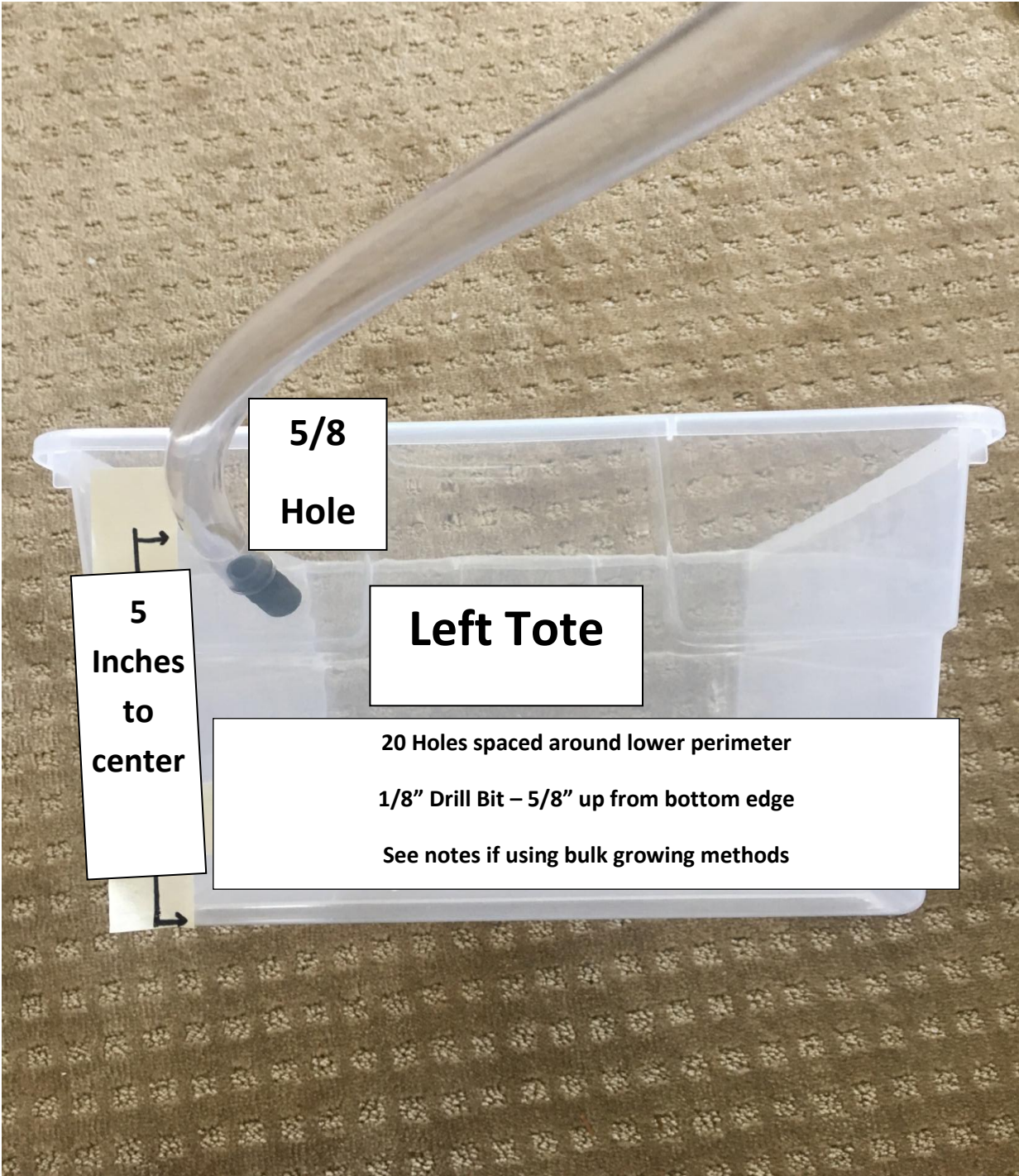
- Weathertight seal protects items from moisture, dust and pests
- Grooves in lid ensure boxes are secure when stacked
- Six extra-durable latches keep lid securely attached
- Stack with like and similar sizes for a customized storage solution
- Great for photo albums, seasonal clothing or outdoor gear
- 62 QT / 15.5 GAL
- Made in the USA

2) OR - Sterilite Gasket Boxes (various sizes)

With clear tote lids the existing lighted lids can be placed on top of the clear tote lids. Alternatively, the lighting can be mounted inside of totes by trimming the existing tote lids and using small bolts or zip ties to mount. The humidity hole is made with a 5/8" spade bit (See Pic Below) 5" up from bottom of tote. Place a block of wood on the inside of tote for the drill bit to press into as you drill to prevent cracking the tote with too much pressure. The ventilation holes are made 5/8" up from bottom of the tote to help reduce CO2. 20-30 holes spaced equally around the tote using 1/8" drill bit.

If you are using bulk grow methods the ventilation holes should be 5/8 above the top level of your substrate and you should make your holes 3/16" to allow the excess humidity held in the media to exit.

It is normal for humidity to surge to 100(Shown as 'H') when adding new cakes or media. It should start to come down in a couple of days. If not you may need to add some additional ventilation holes. Lay out the system as pictured in the instructions to visualize placement for your needs.



5/8

Hole

**5
Inches
to
center**

Left Tote

20 Holes spaced around lower perimeter

1/8" Drill Bit – 5/8" up from bottom edge

See notes if using bulk growing methods