



STILL SPIRITS

TRUSTED SINCE 1989

Air Still

Instructions

The easiest way to distil spirits and liqueurs, water and essential oils right in your kitchen, boat or campervan.



PLEASE READ ALL OF THESE SAFETY INSTRUCTIONS CAREFULLY BEFORE USING YOUR STILL.

- The still should always be run on a flat dry surface in a well ventilated area.
- Always unplug the power cord when filling or cleaning. Only use the wall socket switch for turning power on/off.
- Never immerse the still in water, or allow the body base or the top cover to become wet inside.
- This unit is not for use by children. Do not operate this unit where it is possible for children to reach it.
- Do not remove the top cover when the still is operating.
- Allow at least 20 minutes for cooling, after switching the power off, before you remove the lid. It is important that the still cools down before reusing.
- Be aware that the still contains boiling liquid during operation. Occasionally the lid may lift without warning and spill boiling liquid. Keep hands and face clear from the immediate vicinity of the still when operating.
- The still is fitted with a high temperature cutout. This is used as an automatic cutout for water distilling and must be reset before the still can be used again. Use the reset button on the base of the still. It is not applicable for alcohol distilling as you are only distilling off about 20% of the starting volume. However it will provide a safety backup if you forget to turn the still off and it is allowed to boil dry. If this happens you will need to press the reset button on the base of the still before it can be operated again.

CORRECT DISPOSAL OF THIS PRODUCT:

This marking indicates that this product should not be disposed with other household wastes throughout the EU. To prevent possible harm to the environment or human health from uncontrolled waste disposal, recycle it responsibly to promote the sustainable reuse of material resources. To return your used device, please use the return and collection systems or contact the retailer where the product was purchased. They can take this product for environmentally safe recycling.



WHAT'S IN THE KIT?

AIR STILL

- Air Still

MINI DISTILLERY

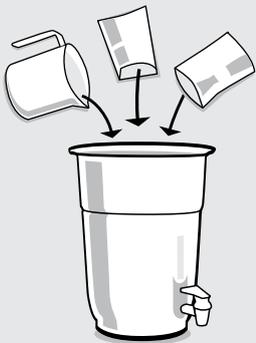
- Air Still
- Spirit Collector
- 10 L (2.6 US Gal) Fermenter with Thermometer
- Carbon Filter System
- Mixing Spoon
- Distilling Conditioner
- Boil Enhancers
- Air Still Fermentation Kit (Turbo Yeast & Nutrients, Turbo Carbon, Turbo Clear for making a wash)
- 2 x Flavour Essences (for flavoured water or vodka)
- Hydrometer

ALCOHOL DISTILLATION

You can use the Air Still to produce your own alcoholic spirits and liqueurs at a fraction of the retail price or even distil water and essential oils. This can become a fascinating hobby and you will be able to amaze your family and friends with what you have produced. The art of distilling has been known for many centuries but has been surrounded by much secrecy and mythology. With scientific advances in understanding the process, we are now able to understand exactly what happens and Still Spirits has been able to reduce this to just a few simple steps.

5 Easy Steps for Vodka Distillation

Refer to instructions overleaf for full directions.



MIX – Make a 10 L (2.6 US Gal) wash by mixing water, sugar, carbon, yeast and yeast nutrient in the fermenter. Allow to sit and ferment for 7-10 days before clearing with Turbo Clear.



DISTIL – Put 4 L (1 US Gal) of the fermented wash into the Air Still and turn on. Place a bowl or jug under the Air Still outlet nozzle. 700 ml (23.6 US fl oz) of 60% ABV will be collected in approx 2 hours.



DILUTE AND FILTER – Dilute alcohol from 60% to 40% by adding 300 ml (10.1 US fl oz) of water. Filter the alcohol by using a carbon based filter.



FLAVOUR – Flavour your alcohol by adding your favourite Still Spirits spirits or liqueur essence.



REPEAT – Repeat with the second half of your wash.

GETTING STARTED

 Watch our video if possible before starting.

To produce a wash most suited to the Air Still Distillation System, you will need an Air Still Fermenter (or other fermenter with at least 10 L (2.6 US Gal) capacity) and an Air Still Fermentation Kit (or other sugar, carbon and clearing agent) which contains all of the ingredients you'll need to produce 10 L (2.6 US Gal) of wash ready for distilling through your Air Still.

You will also need a new carbon cartridge for each run (when using the Air Still filter system), as well as Ceramic Boil Enhancers and Distilling Conditioner which are used to prevent surge boiling and foaming respectively. These are included in the Air Still Mini Distillery or can be purchased separately.

STEP 1 - MAKING THE WASH

Make a 10 L (2.6 US Gal) wash ready for distilling:

- Make sure the tap is securely fitted to the Air Still Fermenter. Clean and sterilise your fermenter thoroughly (we recommend using Mangrove Jack's two part cleaner and steriliser system). We recommend always using a new carbon cartridge for each run, this is situated in the lid of your Air Still Fermenter and helps remove any fermentation odours.
- Add 7.5 L (1.98 US Gal) of water to your fermenter at 30°C (86°F).
- Add 2.2 kg (4.9 lb) of Turbo Sugar and stir well to dissolve. (Alternatively you can use white sugar, or 2.4 kg (5.3 lb) dextrose or corn sugar.)
- Add Turbo Yeast and nutrient packs.
- Gently massage the Turbo Carbon sachet and then add to the mix. Stir well.
- Sit the fermenter at room temperature - approx 18-24°C (64-75°F) for 7 days or until wash has stopped bubbling.
- To confirm fermentation is complete test the wash with a hydrometer. The wash has completed fermentation when the Specific Gravity (SG) reading is below 990 and stable for 2 consecutive days.
- Now clear your wash. First, stir vigorously to remove all gases. Once degassed, add Turbo Clear Part A. Stir well then stand for 1 hour.
- Add Turbo Clear Part B whilst stirring. Stop stirring as soon as all of Part B has been added. You must stir very gently, otherwise you will disrupt the clearing process. Stand for 24 hours then carefully remove clear wash for distilling.
- You will end up with around 8 L (2.1 US Gal) of purified wash ready for distilling.

STEP 2 - DISTILLING THE WASH

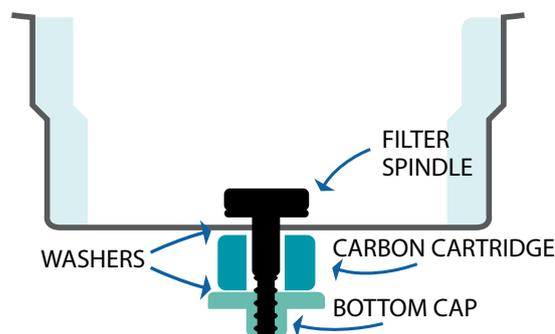
- Clean the inside of the Air Still and then fill it with wash to the 4 L (1 US Gal) mark. Take care that no wash is spilt on the outside of the body.
- Add the Ceramic Boil Enhancers and Distilling Conditioner (see bottle for amount to add) to the still. These are used to reduce the risk of surge boiling and foaming, which can happen occasionally.
- Make sure that both electrical sockets are clean and dry.
- Press the reset button on the base of the still.
- Clip the nozzle onto the still head. This is required to ensure the spirit flows directly into your collector.
- Fit the top cover of the still in place and plug the fan lead into the socket in the still body. Place the spirit collector under the outlet nozzle. This should have a usable capacity of at least 800 ml (27 US fl oz).

- Connect the main power cord between the still and the mains power socket and turn on the mains power socket switch. You will hear the fan in the top cover of the still start immediately.
- The wash will take just over 1 hour to heat up. Once distillation begins you will see the alcohol starting to drip slowly into the spirit collector.
- Allow the Air Still to run until you have collected 700 ml (23.6 US fl oz) of alcohol. This will be at a strength of 60% ABV and you can use this to make up a 1 L (1 US qt) bottle at 38 - 40 % alcohol. This should take just over 1 further hour (that is 2 hours from start to finish). After you have collected 700 ml (23.6 US fl oz) turn off the Air Still. NOTE: If you wish to produce 1.125 L (1.2 US qt) then you can collect 800 ml (27 US fl oz) but the quality will be slightly reduced. Do not try to collect more alcohol than this, as the quality will drop away quickly.
- Allow the still to cool before removing the top cover. Empty out the remaining wash and clean the inside with clean warm water. Dry the still thoroughly. Start again with remaining wash, or put still away for next time.

STEP 3 - FILTERING THE WASH

We recommend that the 700 ml (23.6 US fl oz) of collected alcohol be mixed with 300 ml (10.1 US fl oz) of water before passing through the Air Still Carbon Filter System (or other carbon filtration) to improve the purity before you add your selected flavour and make up to the final volume of 1 L (1 US qt).

- Rinse the carbon cartridge under running water for 20 seconds before use. This removes any excess mineral salts.
- Fit the carbon cartridge to the top filter piece (see below) taking care to ensure the foam washers are fitted between the filter and both ends of the cartridge.



- Place the top filter piece into the top of the larger filter container.
- Dilute the 700 ml (23.6 US fl oz) distilled spirit to 40% by adding 300 ml (10.1 US fl oz) of clean water. This is necessary for the filter to operate properly. If you choose to produce 1.125 L (38 US fl oz) of spirit from each run through the Air Still then you will have collected 800 ml (27 US fl oz). Add 325 ml (11 US fl oz) of clean water.
- Fill the top filter piece with filter attached with the distilled spirit and allow to drip into the filter container.

NOTE: We recommend changing the cartridge after each bottle has been filtered for best results. Replace polyethylene washers when they are flattened and no longer recover.

STEP 4 - FLAVOURING THE SPIRIT

- Flavour your spirit with Still Spirits essences. Follow instructions on bottle or sachet for mixing. Check before you get started whether or not you need a 'base' (mixture of sugar and modified starch that will add sweetness and mouth feel to the liqueur) for your chosen essence.

WATER DISTILLATION

Before use, clean the inside of the Air Still and fill it with clean water to the 4 L (1 US Gal) line which is marked on the inside. Make sure that no water is spilt on the outside of the body and ensure that both electrical sockets are clean and dry.

STEP 1 - FILL

- Fit the top cover of the still in place and plug the fan lead into the socket in the still body.
- Fill the Air Still with water up to the 4 L (1 US Gal) mark.

STEP 2 - DISTIL

- Place a 4 L (1 US Gal) collection jug under the outlet nozzle.
- Press the reset button on the base of the still.
- Clip the nozzle onto the still head. This is required to ensure the water flows directly into your spirit collector.
- Fit the top cover of the still in place and plug the fan lead into the socket in the still body. Place the spirit collector under the outlet nozzle. This should have a usable capacity of at least 800 ml (27 US fl oz).
- Connect the main power cord between the still and the mains power socket and turn on the mains power socket switch. You will hear the fan in the top cover of the still start immediately.
- It will take about 1.5 hours for the water to heat up. Once distillation starts, water will begin to drip slowly into the spirit collector or jug. The still will take about 10 hours to distil the 4 L (1 US Gal).
- The power supply reset will switch off automatically when the distillation is completed. You will need to press the reset button on the base of the still before you next use it.

STEP 3 - FILTER & FLAVOUR

- After distillation the water needs to be polished which is achieved by filtering the distilled water through the Air Still Carbon Filter System (or other chosen carbon filtration).
- Fit the carbon cartridge to the top filter piece (see p.4) taking care to ensure the foam washers are fitted between the filter and both ends of the cartridge.
- Place the top filter piece with filter attached on the top of the filter container.
- Pour water into the top filter piece and top up as necessary.

NOTE: After distilling you need to filter through a carbon cartridge filter. Change the cartridge after each bottle has been filtered. Replace polyethylene washers when they are flattened and no longer recover.

- Flavour if you wish to simply with a lemon or lime wedge or, with Still Spirits essences (NOTE: some may appear cloudy depending on the flavour used).

ESSENTIAL OIL DISTILLATION

STEP 1 - FILL

- Place clean plant material in the Air Still and add enough water to cover. Each plant material will require different volumes of water, as an indication, for 300 g (10.6 oz) of rosemary leaves, add 3.65 L (3.86 US qt) of water. Do not fill beyond the maximum level. No Ceramic Boil Enhancers or Distilling Conditioner are required.

STEP 2 - DISTIL

- Press the reset button on the base of the still.
- Fit the top cover of the still in place and plug the fan lead into the socket in the still body. Place the spirit collector or jug under the outlet nozzle. This should have a usable capacity of at least 800 ml (27 US fl oz).
- Connect the main power cord between the still and the mains power socket and turn on the mains power socket switch. You will hear the fan in the top cover of the still start immediately.
- Allow to heat up.
- Collect the distillate in fractions (eg 500 ml (16.9 US fl oz) lots or smaller) so you can monitor quality of the output throughout. The quality will drop off at the end and may become more 'cooked'. Stop collecting when the quality drops.
Collect a maximum distillate of 80% of the volume of water put in the boiler to make sure it does not boil dry and cook the plant material.

The distillate collected will be mainly hydrosol (water based plant extract) but there will be essential oil with it. The oil will separate out over time and will float on the surface (for nearly all oils, there are a few which are denser than water and will end up on the bottom).

STEP 3 - SEPARATE THE OIL

- The oil can then be separated off from the hydrosol by pipette or with an oil separator used in cooking. The hydrosol can also often be used in many applications (rose water, lavender water etc). Yields of oil are low, a yield of 1-2% is considered good.

TERMINOLOGY

ALCOHOL – Most commonly used to describe ethanol, the type of alcohol in wine, beer, spirits and other alcoholic beverages. It is a chemical with the formula C_2H_5OH .

DISTILLATE - The concentrated component that condenses from a distillation process.

DISTILLATION – Method of separating two or more substances by heating the mixture to a temperature that is higher than the boiling point of one component and lower than the boiling point of the other component. The vapour of the lower boiling point component is captured and allowed to condense and is more concentrated compared to the original mixture.

FERMENTATION – Conversion of carbohydrates (sugars) into alcohol and carbon dioxide by yeast.

SPIRIT - An alcoholic beverage containing at least 20% alcohol with no added sugar.

WASH - Liquid containing alcohol which has been produced by yeast fermenting sugars.

ALCOHOL DISTILLATION

In New Zealand it is legal to distil your own spirits and liqueurs for personal consumption. However please note that in certain countries alcohol distillation may be illegal and you may require a licence. Ask for advice or contact your local Customs & Excise Department. In Australia it is illegal to use this unit to produce alcohol for consumption without a licence from the Australian Taxation Office. In the USA it is illegal to use this unit to produce alcohol for consumption without a licence from the relevant authorities. In the UK it is illegal to manufacture spirits without a distiller's licence which is required under the provisions.

ALCOHOL FOR BIO FUEL

On 30th June 2007 the UK Government made it legal for people to produce up to 2,500 L (660 US Gal) without the need to pay duty or to hold a permit. Always check with car manufacturers as to the level you can add. The USA authorities have recently allowed distillation for fuel alcohol and you can get a permit from the Federal Government very cheaply.

DRINK RESPONSIBLY.

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