



# TURBO AIR STILL SYSTEM MANUAL

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The Turbo Air Still System is designed for Water Distillation, Bio Fuel Manufacture, Essential Oil Extraction or Alcohol Distillation for making spirits & liqueurs.



## THE STILL SPIRITS AIR STILL SYSTEM PROCESS

### 1. THE WASH

Firstly the sugar and water is turned into alcohol by fermenting with yeast. This is known as "the wash".

### 2. DISTILLATION

Separate the purified alcohol from the wash by distilling, this leaves behind most of the water and other impurities. Distillation is done by heating the wash, boiling off the alcohol and condensing the va-pour back into a liquid. The alcohol that comes off does contain some water and is typically 60% ABV.

### 3. CARBON FILTRATION & BOTTLING

Use specially formed activated carbon cartridges to filter out most of the remaining trace impurities.

### 4. FLAVOURING

Finally, adjust the finished strength of your alcohol by adding some water, then simply add your favourite spirit or liqueur flavour.





**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 intended 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 cool down before reusing.
- Be aware that when operating the still contains boiling liquid. 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 cut-out. This is used as an automatic cut-out 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 back-up 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.



Model# MH943T/S Z988  
AS/NZ Approval NSW22926

## **WATER DISTILLATION**

Before use, clean the inside of the still and fill it with clean water to the 4 litre (1 US gallon) 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.

1. Fit the top cover of the still in place and plug the fan lead into the socket in the still body.
2. Place a 4 litre (1 US gallon) collection jug (not supplied) under the outlet nozzle.
3. Press the reset button on the base of the still.
4. Connect the main power cord between the still and the mains power socket.
5. Turn on the mains power socket switch.
6. You will hear the fan in the top cover of the still start.
7. It will take about 1½ hours for the water to heat up.
8. Once distillation starts, water will begin to drip into the collection bottle.
9. The still will take about 10 hours to distil off the 4 litres (1 US gallon) .
10. The power supply reset switches off automatically when the distillation is completed.
11. You will need to press the reset button on the base of the still before you next use it. After distillation the water needs to be polished. We recommend filtering the distilled water through a Still Spirits Air Still Carbon Filter.

## **CARBON FILTRATION**

1. Fit the carbon cartridge to the Filter Holder taking care to ensure the foam washers are fitted between the filter and both ends of the cartridge.
2. Place the Filter Holder on the top of the Filter Container.
3. Pour water into the Filter Holder and top up as necessary.

## **ALCOHOL DISTILLATION**

*See the back page of this manual for legal information.*

You can use the still to produce your own alcoholic sprits and liqueurs at a fraction of the retail price. This can become a fascinating hobby and you will be able to amaze your family and friends with the quality of the drinks 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 have been able to reduce this to four simple steps for producing your own drinks.

### **STEP 1 - MAKING THE WASH**

To produce a wash most suited to the Air Still Distillation System, you will need an Air Still Fermenter and an Air Still Fermentation Kit which contains all the ingredients you'll need to produce 10 Litres (2.5 US Gal.) of wash ready for distilling through your Air Still. You will also need a new carbon cartridge for each run and these are available separately in packs of 10.

### **Instructions for making a 10 Litre (2.5 US Gallon) wash ready for distilling:**

1. Make sure the tap is securely fitted to the bucket. Clean and sterilise your fermenter. We recommend that you always replace the carbon cartridge each run, this is situated in the lid of your fermenter and helps to remove any fermentation odours.
2. Add 7.5 litres (2 US Gal) of water to your fermenter at 30°C (86°F).
3. Add 2.2kgs (4Lb 14oz) of Turbo Sugar and stir well to dissolve. (Alternatively you can use white sugar, or 2.4kg (5Lb 5oz) Dextrose or corn sugar.)

4. Add Yeast and Nutrient packs.
5. Gently massage the Turbo Carbon sachet and then add to the mix. Stir well.
6. Sit the Fermenter at room temperature to (approx 18-24°C (65-75°F) for 7 days or until mix has stopped bubbling.
7. To confirm fermentation is complete test the wash with a wash hydrometer. The wash has completed fermenting when the SG (specific gravity) reading is below 990.
8. Now add the Turbo Clear. First stir vigorously to remove all gas. Once degassed add Finings A. Stir well then stand for 1 hour.
9. Add Finings B whilst stirring. Stop stirring as soon as all Finings B has been added. Do not stir vigorously as it will disrupt the clearing process. Stand for 24 hours then carefully remove clear wash for distilling.
10. You should finish up with 8 litres (2.1 US Gal.) of purified wash ready for distilling.

**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.



## STEP 2 - DISTILLING THE WASH

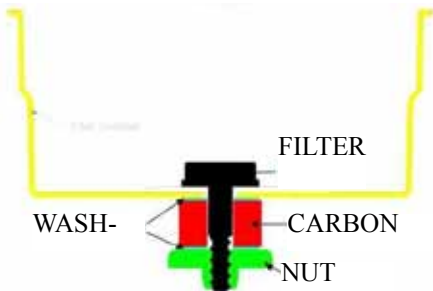
1. Clean the inside of the still and then fill it to the 4 Litre (1 US Gal.) mark. Take care that no wash is spilled on the outside of the body.
2. Add the Ceramic Boil Enhancers and one capful of Distillers Conditioner to the still. These are used to reduce the risk of surge boiling, which can happen occasionally.
3. Make sure that both electrical sockets are clean and dry.
4. Fit the top cover of the still in place and plug the fan lead into the socket in the still body.
5. Place a collector under the outlet nozzle. This should have a useable capacity of at least 800 ml (27 fl oz US).
6. 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.
7. The wash will take just over an hour to heat up. Once distillation begins you will see the alcohol starting to drip into the collector.
8. Allow the still to run until you have collected 700ml (23 fl oz US) of alcohol. This will be at a strength of 60% ABV and you can use this to make up a 1 litre bottle at 38 - 40 % alcohol. This should take just over a further hour (that's two hours from start to finish). After you have collected 700ml (23 fl oz US) turn off the still. If you wish to produce 1125ml (38 fl oz US) collect 800ml (27 fl oz US) but the quality will be slightly reduced. Do not try to collect more alcohol than this, as the quality will drop away quickly.
9. 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 and put away for next time.

## STEP 3 - FILTERING THE WASH

We recommend that the 700ml (23 fl oz US) of collected alcohol be mixed with 300ml (10 fl oz US) of water and then passed through a Still Spirits Air Still Carbon Filter System to improve the purity before you add your selected flavour and make up to the final volume of 1 Litre (1 US Quart).

### Instructions for using the Still Spirits Air Still Carbon Filter

1. Rinse the Carbon cartridge under running water for 20 seconds before use. This removes any excess mineral salts.
2. Fit the carbon cartridge to the Filter Holder ( Fig 1) taking care to ensure the foam washers are fitted between the filter and both ends of the cartridge.



3. Place the filter holder into the top of the Filter Container .
4. Dilute the distilled spirit to 40% by adding 300ml (10 fl oz US) of clean water. This is necessary for the filter to operate properly.
5. Fill the Filter Holder with the distilled spirit and allow to drip into the Filter Container. Leave room to add the flavour.
6. The spirit is now ready to be flavoured with Still Spirits flavour essences to make your favourite spirits and liqueurs.

### TIPS

If you chose to produce 1125ml (40 fl oz US) of spirit from each run through the still then you will have collected 800mls (27 fl oz US). Add 325ml (11 fl oz US) to this and make up to 1125ml (40 fl oz US) leaving room for the flavour.

Remember to change the carbon cartridge after each bottle.

If you use another type of filter then follow the instructions supplied with your filter.



## 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 2 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 alcohol beverage containing at least 20% alcohol v/v and with no added sugar  
Wash - Liquid containing Alcohol which has been produced by yeast fermenting sugars.



[www.stillspirits.com](http://www.stillspirits.com)

#### 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 Customs & Excise Department.

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 2500 litres 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.

Your local Still Spirits stockist

Reorder # 800016