

## The Air Still Water Distillation Unit

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### This unit can be used in 4 areas:

- Essential Oil Extraction
- Water Distillation
- Alcohol Distillation
- Alcohol for Bio fuel

### Essential Oil Extraction

The vast majority of Essential Oil is produced by distillation. There are many different processes used, however. In all of them water is heated to produce steam, which carries the most volatile chemical of the aromatic material with it. The heat from the steam causes globules of oil in the plant to burst and then evaporates. The essential oil vapour and the steam then pass out of the top of the still into a cooled pipe where the vapours are then condensed back to liquids. At this point, the essential oil separates from the water and floats to the top. To use this unit for this purpose we suggest you put the plant material, into the steel chamber with the water (about 3litres) and replace the lid. After about one hour the distillate will start to drip through into the container. If you are looking for a strong mixture it will be more concentrated at the start of the process. How much you produce will be down to the amount of product you have put in and the strength you are looking for.

### Water Distillation

To use the still for distilled water simply fill the container with water up to the 4 litre indentation on the inside. Use any of the sachets (like the tea bag) of charcoal. These can be placed in the black nozzle of the still. You can use the carbon cartridges included to filter through. The whole process for 4 litres will take up to 8 hours.

### Alcohol Distillation

Only use Turbo Pure Yeast with Turbo Carbon for fermentation and Turbo Clear as the Finings. Your fermented and cleared base known as the “wash” should be absolutely clear and this should always be siphoned off any sediment at the first opportunity into a clean container following the instructions on the packet of yeast & finings remembering to put the carbon in.

If the wash is not completely clear this can cause the machine to have to heat up more than it should do and can cause the lid to lift. If this happens it's because the liquid still has black carbon particles resting inside it. Either add more finings before proceeding or wait for it to clear. Distillers Conditioner (included) will also help. No other Turbo Yeast should be used with this Still.

Firstly place all the Ceramic Boil Enhancers in the bottom of the stainless steel chamber then add the “wash” filling up to the 4 litre mark, which can be seen, indented on the inside. Add one capful of the Distillers Conditioner to the still. The lid should be replaced and switched on. Some stills will have a black extension to the spout which you will need to fit. This just pushes into place. Finally, place the smaller collector under the black spout.

It will take about an hour to heat up before any alcohol will start to drip. Let this continue for approximately a further 60 minutes (a total of 2 hours from start to finish) or until you have collected 700ml (the alcohol strength will be approx 60%ABV). It doesn't matter if it's a bit more but no more than 800ml.

Take the 700ml and dilute this by adding 50% water, in this case 350ml (this will now be 40%ABV). This should then be  
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fed through the second container with the spouted bottom to purify the alcohol. To set this up you will need to screw in a carbon cartridge (fitted over the screw with the washers either side) into the bottom of the container. Run the cartridge under hot water for 45 seconds. This will activate the carbon. Place this into the top of the largest container and leave it resting. Now pour the alcohol into the top. this will then run through the carbon filter (4-6 hours) into the bottom container. If it takes longer than this, don't worry as it's removing any impurities in the spirit. If it takes less than this time, the screw holding needs tightening very slightly. Be careful not to overdo this as it will snap the screw.

We recommend the carbon cartridge is replaced each time you use the still although if you are running continuously you can use it once more, although the quality will suffer. Spirit or liqueur flavours can then be added to make your favourite drinks. The flavourings do improve if they are left a few days. Needless to say we only recommend Still Spirits flavourings.

If you want to experiment further after you have collected the first 700ml then you should move this to a separate container. Don't collect more than a further 300ml as this will cause you problems when you come to cleaning.

You will see how the quality is considerably reduced as is the alcohol strength. Once you have finished switch the machine off at the mains and allow cooling before you remove the lid and empty the contents. Clean the machine with clean hot water. A still cleaning agent is available separately and should be used from time to time. You should also remember that it is essential you clean the tubes in the lid. This can best be done by turning the lid upside down and pouring water into the hole in the middle of the lid. When the tubes are full, turn the lid the right way up and this will then drip through the black outlet spout. This should be done after every use. This is important as a build up of black carbon will cause the lid to dance. This should also be repeated from time to time with the special still cleaning solution. This should be mixed with hot water and left in the pipes for 2 hours. Rinse afterwards. The Ceramic Saddles should be cleaned from time to time by immersing in Coca Cola for 20mins and then rinsing afterwards. This just cleans any build up on them. They will last for many runs. If they start to break up then replace them. The spongy washers either side of the carbon should be replaced every 10 times or when they lose their bounce.

If you do happen to forget to switch off the machine at the right time and you collect a lot more than the 700ml simply put the contents back into the still and start again, no harm done.

## Important

Please note that in certain countries alcohol distillation is illegal and you will require a licence. Ask for advice or contact your local Customs and Excise Department. We would point out it is illegal to manufacture spirits in the UK without a distiller's licence which is required under the provisions of section 12 of the Alcoholic Liquor Duties Act 1979 and this includes manufacture for "own/domestic use".

Public Notice 39 – "Spirits production in the UK" dated July 2006 provides further information about HM Revenue and Custom's requirements.

If you require further assistance then please contact the National Advice Service on Telephone 0845 010 9000 or [www.hmrc.gov.uk](http://www.hmrc.gov.uk). Where you can obtain or view public notice 39.

If for some reason you find that you cannot operate this machine legally please return it to the place of purchase prior to use and a full refund will be given.

## Alcohol for Bio fuel

On 30th June 2007 the UK government made it legal for people to produce up to 2500litres without the need to pay duty or to hold a permit. To make your own bio fuel you will need to double distil the alcohol you make. You should check with car manufacturers as to the level you can add.