

THE  
  
**essencia**  
**SUPER EXPRESS STILL**  
**27L (7 gal), 3000W**



- Based on the market leading *essencia* Express Condenser which was invented by *essencia* in 2004, this still represents the next generation in distillation equipment.
- Taking 45 minutes to heat up, then producing distillate at a rate of over 3 L (3 qt) per hour, your processing time is slashed to around 2 1/4 hours from switch on.
- The *essencia* Super Express Still not only produces distillate at a very fast rate, it produces distillate at around 90% ABV!
- Comes supplied with a tap for easy emptying.
- When you use the *essencia* Super Express Still in conjunction with other products in the *essencia* range you will soon be producing the finest quality spirits and liqueurs available to the home distiller.

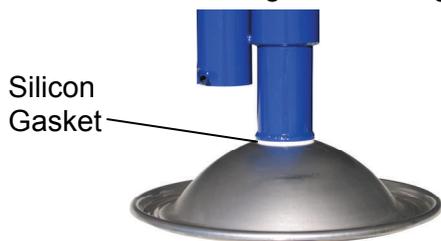
**WARNING**

- It is legal in New Zealand to own and operate a still for the purpose of producing alcohol for your own consumption.
- It is illegal to sell home distilled alcohol.
- In areas outside New Zealand you will need to check with the local authorities.
- If it is not legal to distil your own alcohol, skip this section on distillation. You will need to filter and carbon treat the cleared wash to produce an alcohol at around 16%.

# Distillation using the *essencia* Super Express Still

## Assembly.

1. Fit the reflux column/condenser to the domed lid ensuring the silicon gasket sits between the column and the **outside** surface of the lid. Tighten until a good seal is achieved (do not over tighten).



2. Fit the supplied tap as shown. Ensure the ring below the tab is screwed down tight.
3. Fit the thermometer probe fully into the rubber bung (wetting the bung will make this easier).
4. Locate the still on a firm, heat resistant base ensuring the water hoses reach a cold water supply and drain.

## Distillation.

1. Make sure the tap on the boiler is closed. Pour the fully fermented and cleared wash, (use *essencia* Ultra Clear for best results), into the boiler leaving the sediment in the fermenter. The liquid level must not rise above the top indentation ring in the boiler, ie no more than 25 L (6.6 gal).
2. Add one capful of *essencia* Foam Stop to the wash in the boiler. **Note:** Due to the power of the Super Express Still, you **must** add Foam Stop at this stage or the wash **will** boil through the condenser.
3. Place the opened clamping ring onto the boiler so it rests at the base.
4. Fit the lid and condenser unit. Fit the clamping ring to secure the lid to the boiler. Fit the bung, with thermometer probe inserted, firmly into the top of the reflux column.



5. Plug in the two elements ensuring the plugs are pushed fully and firmly into the element bases.  
**Note:** Each element must be supplied from a separate power outlet. A double wall outlet, individually switched, is fine. **Do not** use a double adaptor, a multi board or anything similar.  
From a 230 volt mains system, each element will draw 6.5 amps.  
From a 115 volt mains system, each element will draw 13 amps.  
Make sure that your power outlet limit is not exceeded.



Double wall outlet



Double Adaptor



Multi Board

6. The *essencia* Super Express Still will come up to temperature in approximately 45 minutes. Start running the cooling water within 35 minutes of turning on the still.  
Assuming a cooling water temperature of 20°C (68°F), you need to set the cooling water running at 1.4 L (1.5 qt) per minute. You **must** get this right **before** the boiler gets up to temperature.  
For more information see '**Notes on cooling water flow**'.

7. The temperature display during heat up will stay low. After about 45 minutes it will rise rapidly. At about 75°C (160°F) the distillate will start to flow.

Collect and discard the first 50 ml (1.5 fl oz) of distillate that comes off. This first 50 ml is the 'heads' and is not drinkable. **It must be discarded.**

Once the 'heads' have been removed, collect the 'heart' of the distillate in a container which is large enough to hold the expected quantity of distillate (generally a 5 L (1.3 gal) jug is ideal).

**Note:** It is very important that the distillate collection tube remains above the level of the collected distillate. **Never** let the distillate collection tube become immersed in the collected distillate.

8. Once you are collecting the 'heart', check your cooling water flow rate. The *essencia* Super Express Still is quite forgiving on water flow fluctuations, however you may find the flow will slowly decrease during distillation so it pays to recheck it every half hour or so.

Once the 50 ml (1.5 fl oz) of 'heads' have been collected the thermometer should be reading 79-80°C (174-176°F). It should stay at this temperature for about the first 1 hour of collecting.

In the next 30 minutes, the temperature will rise towards 86°C (187°F), the distillate flow will slow and the alcohol strength will be falling towards 85%. This is the end of the 'heart'.

9. **Either**, stop collecting and turn the still off, **or**, start collecting the distillate in a separate container as this is the 'tails'. The 'tails' from several distillations can be collected together for re-distillation.

The 'tails' should only be collected until the temperature reaches 92°C (198°F).

10. To achieve the highest quality drinking alcohol it is recommended that you use *essencia* Super 6 Yeast. This yeast produces virtually no volatiles during fermentation, which means the distilled product is a lot cleaner. This being the case you should now have collected over 3.5 L (3.7 qt) of distillate at around 90% ABV.

A 'Yeast Efficiency Calculator' is available from the 'downloads' page of the *essencia* website which enables you to compare the efficiency of the yeasts you use.

### Notes on cooling water flow.

Cold water temperatures vary greatly between winter and summer, and in different locations. While the *essencia* Super Express Still is relatively tolerant of these changes in temperature you will have to adjust the average flow of the water to maintain optimum performance.

As a guide, for cold water temperatures of 15°C (59°F) and below, approx. 1 L (1 qt) per minute will do the job.

At 20°C (68°F), increase this to 1.4 L (1.5 qt) per minute.

At 25°C (77°F), increase this to 1.7 L (1.8 qt) per minute.

At 30°C (86°F), increase this to 2 L (2.1 qt) per minute.

The *essencia* Super Express Still is so fast, you must have everything ready before it comes up to temperature. Most importantly you must have the cooling water right. It is definitely worth investing in a cheap stopwatch and some accurate measuring jugs for this. When the cooling water flow is right, the whole process is very simple.

When making adjustments to the cooling water flow rate during distillation, make the adjustments **very** small, and always allow at least 2 minutes following an adjustment for the Still to get back to a balanced state.

Basically, during the first hour of collecting you want the temperature at 79-80°C (174-176°F).

### Cleaning.

Your *essencia* Super Express Still should be cleaned regularly.

After running the still, turn it off and empty the boiler, via the tap, directly into a sink or tub. Rinse out the boiler.

#### To clean the reflux column and condenser.

1. Fit the bung (with the thermometer probe in place) firmly into the top of the reflux column.
2. Place the condenser/reflux column (still attached to the lid) upside down into the top of the empty boiler. Leave the tubing and thermometer **outside** the boiler.
3. Dissolve one teaspoon of citric acid in 600 ml (20 fl oz) of hot water. Pour this into the up-turned base of the reflux column until full. Make sure the end of the distillate collection tube is outside the boiler and higher than the edge of the up-turned lid.
4. Leave soaking for around 20 minutes. The digital thermometer will show the temperature of the fluid inside the reflux column. Do not proceed further until the temperature has dropped below 40°C (104°F).
5. Lift the lid from the boiler just enough to allow you to remove the bung and allow the citric acid solution to drain into the boiler. Transfer the lid, reflux column, condenser and tubing to a laundry tub or similar.
6. Keeping the lid and condenser inverted, flush the reflux column and packing thoroughly with cold water. To flush the condenser, stick the end of the distillate collection tube up the tap. Water will flow through the condenser and out the bung hole in the top of the column.
7. Empty the citric acid solution from the boiler and rinse out the boiler thoroughly.



Place into boiler



Pour into up-turned base



Remove bung and drain



Flush column and packing

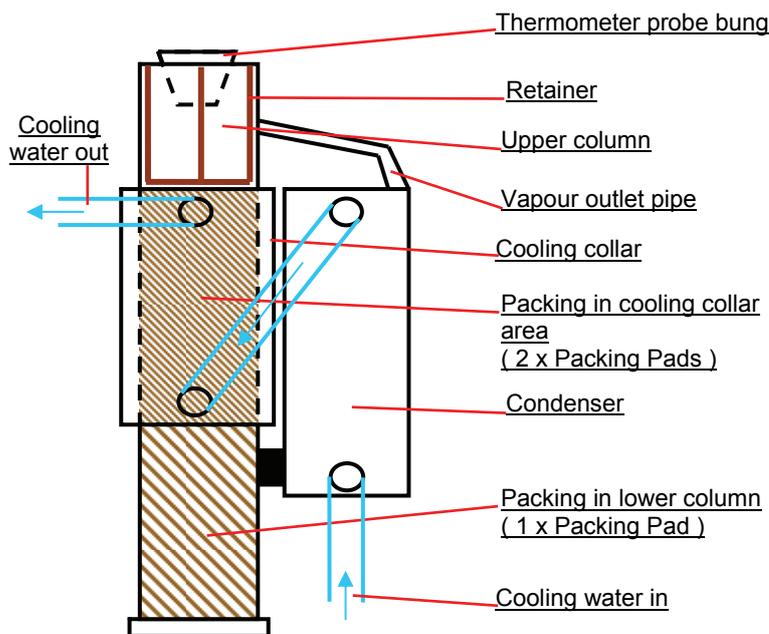


Flush condenser via tube

**Note:** The packing will need to be replaced periodically as it does wear out and become less efficient. New packing is available from your specialist home brew store.

### Replacing the column packing.

1. Remove the column from the lid.
2. Remove the three packing pads through the bottom of the column. Use a large screwdriver etc through the bung hole to push the top two packing pads down.
3. Holding the column upside down, make sure the retainer is in place at the top of the column. Fit the first packing pad through the bottom of the column. Using the handle of a hammer or similar, push the pad up the column and compact it against the retainer.
4. Fit the second pad and compact it so that it is level with the **bottom** edge of the cooling collar.
5. Fit the third pad into the lower column but **do not** compact this pad.
6. Check that the packing at the top of the column is level with the **top** edge of the cooling collar.



### Troubleshooting.

**\* Distillate flow is slow and alcohol % is low soon after distillate starts flowing:**

- Check for vapour leaks around the lid clamping ring, the base of the reflux column or the thermometer probe bung. If a leak is found, turn off the still, check for obstructions in seal areas, rotate the lid about 45 degrees on the boiler and ensure all seals are tight. Turn on the still again and recheck for leaks once the still has come up to temperature. If leaks are still present contact your retailer.

**\* Alcohol % is low (65%) when distillate starts flowing, and stays that way:**

- Turn off the still, wait for the condenser to cool and remove the lid. Take precautions to avoid scalding, as the wash will be hot. Remove the packing and re pack the column following the procedure described previously. Return the low strength distillate to the wash. Reassemble the still, and start again.

**\* Alcohol % is low to mid 80's, temperature won't go below 84°C (183°F), distillate flow is generally slow and the cooling water flow rate needs to be high:**

- This problem occurs when the column packing pushes up past the retainer in the upper column. To rectify the problem simply turn off the still and remove the bung and thermometer probe. Push the packing down using a blunt instrument through the bung hole at the top of the column. The top of the packing should be level with, or slightly below the top of the cooling collar.

#### Safety Note

- **When using or troubleshooting the still, the metal body becomes very hot.**
- **Do not allow skin to come in contact with it.**
- **Be especially careful if you are disassembling the still, for any reason, that the metal parts and the liquid inside are allowed to cool to a safe temperature before handling.**