

THE

essencia

EXPRESS STILL
4L (1 gal), 1500W



- Based on the market leading *essencia* Express Condenser which was invented by *essencia* in 2004, this still represents the next generation in distillation equipment.
- Distillation takes about 1 hour from switch on to switch off, and produces enough alcohol to make about 1½ x 1 L (34 fl oz) bottles.
- This *essencia* Express Still not only produces distillate at a fast rate, it can produce it at around 90% ABV! This means premium quality alcohol.
- Long life stainless steel boiler. High quality, pure copper condenser.
- When you use the *essencia* Express Still in conjunction with other products in the *essencia* range you will be producing the finest quality spirits and liqueurs available to the home distiller.

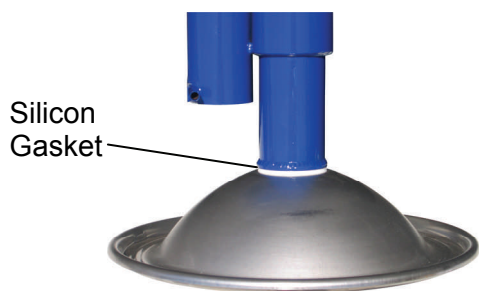
WARNING

- 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* 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 thermometer probe fully into the rubber bung (wetting the bung will make this easier).
3. Locate the still on a firm, heat resistant base ensuring the water hoses reach a cold water supply and drain.

Distillation.

1. Pour 4.1 - 4.2 L (1 - 1.1 gal) of fully fermented and cleared wash (use *essencia* Ultra Clear for best results), into the boiler leaving the sediment in the fermenter. Leave a gap of 25mm (1 inch) between the liquid and the top of the boiler.
2. Add one capful of *essencia* Foam Stop to the wash in the boiler.
Note: Due to the power of the 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 element ensuring the plug is pushed fully and firmly into the element base. Make sure that no other high drain device is plugged into the same outlet.
6. The *essencia* Express Still will come up to temperature in only **16 minutes**. For this reason you **must** start running the cooling water **within 5 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 450 ml (15 fl oz) 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 16 minutes it will rise rapidly. At about 72°C (162°F) the distillate will start to flow.
Collect and discard the first 50 ml (1.5 fl oz) of distillate that comes off the still. This first 50 ml (1.5 fl oz) is the 'heads' and is not drinkable. **It must be discarded.**
Note: If you are distilling from a 25 L (6.6 gal) wash, you can return the 50 ml (1.5 fl oz) of 'heads' to the remaining wash. Do this for each batch until the last batch, then **discard** the 50 ml from the last batch only.
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 1 L (1 qt) 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', recheck your cooling water flow rate. The *essencia* Express Still is quite forgiving on water flow fluctuations, however you may find the flow will decrease during distillation so it pays to recheck it every 15 minutes or so.

Once the 50 ml (1.5 fl oz) of 'heads' have been collected the thermometer should be reading 78-79°C (172-174°F). It should stay at this temperature for about the first 20 minutes of collecting.

For the next 25 minutes the temperature will rise towards 88°C (190°F), the distillate flow will slow dramatically and the alcohol strength will fall. Once the flow becomes a slow drip (approx. 2 per second) there is no point in continuing to collect, so turn off the still.

9. If you want to obtain 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 about 650 ml (22 fl oz) of distillate at around 90% ABV and it should have taken about 60 - 65 minutes from the time you turned the still on.

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* 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, 400 ml (14 fl oz) per minute will do.

At 20°C (68°F), increase this to 450 ml (15 fl oz) per minute.

At 25°C (77°F) and above, you will need to increase this to 550 ml (19 fl oz) per minute or greater.

You must have everything ready before the *essencia* Express Still 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 rate is right, the whole process is very simple.

Cleaning.

Your *essencia* Express Still should be cleaned regularly.

After running the still, turn it off and wait an hour or so for it to cool to a safe temperature. Empty the boiler directly into a sink or tub. Rinse out the boiler with water only. Do not use detergents.

To clean the reflux column, packing 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 a bucket, a large jug, pot or similar holding vessel. Leave the tubing and thermometer **outside** the holding vessel.
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 holding vessel 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 holding vessel just enough to allow you to reach the thermometer probe and bung. Remove the bung and allow the citric acid solution to drain into the holding vessel. 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 holding vessel and rinse thoroughly.



Place into holding vessel



Pour into up-turned base



Remove bung and drain



Flush column and packing

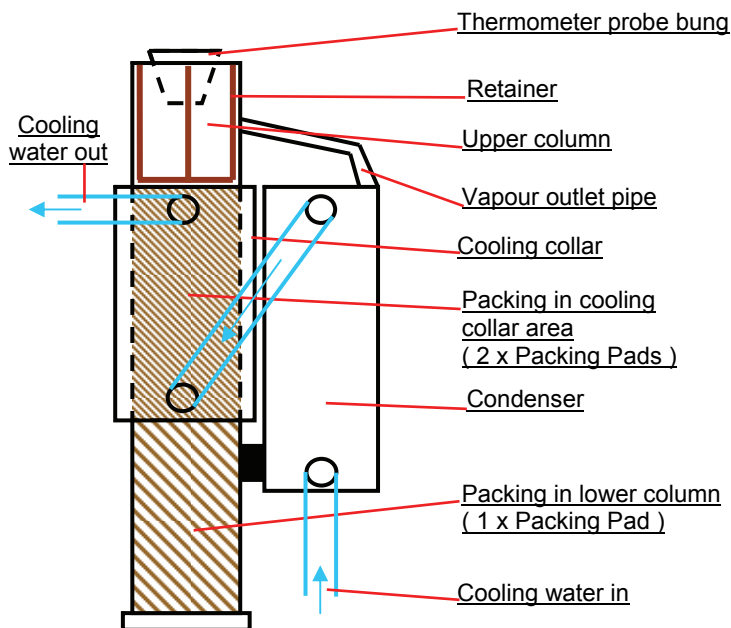


Flush condenser via tube

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.

* **Soon after distillate starts to flow, temperature is unstable then a lot of cloudy wash flows through the distillate collection tube into the collection vessel.**

- This problem is commonly known as boil through. To avoid this problem the boiler must not be over filled and a capful of *essencia* Foam Stop **must** be added to every batch in the boiler.

* **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.

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.**