

EURO 5 STAINLESS STEEL REFLUX STILL

IMPROVED VERSION 2007



Patent Application
Number 331170

HEAT UP TIME:
1 HOUR

DISTILLATION
TIME:
1 HOUR 40 MINS

PRODUCTION:
500MLS @ 92%

FINISHED
PRODUCT:
1150MLS @ 40%

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Welcome to a new hobby, one that is a lot of fun and saves lots of dollars.

The instructions that follow should be read carefully, if anything is unclear write or phone for more details.

Your Spirits Unlimited Still is manufactured in New Zealand to the highest standards and can be expected to perform very well over a lifetime. Always rinse the unit after use with warm water.

**DO NOT USE SCOURING PADS OR CAUSTIC CLEANERS ON
STILLS**

A well made home spirit should be equal to any commercial type and you have the chance to make it exactly to your taste.

Cheers
Spirits Unlimited

Sterilisation

Sterilisation is one of the keys to producing high quality spirits.

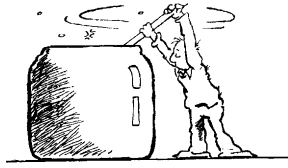
Before starting a brew it is important to thoroughly wash and sterilise ALL fermentation equipment.

A solution of sodium metabisulphite (2 tablespoons per 5 litres of water) or preferably sodium hypochlorate (janola bleach - 250 mls per 5 litres of water) is made up and all items soaked overnight, then rinsed and reassembled the following day.

NOTE:

Stills should not be cleaned with sterilising solution, use clean hot water only

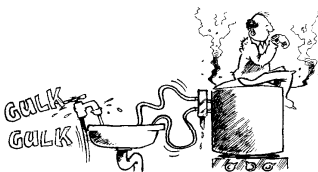
Fermentation



USING A FERMENTATION BARREL

1. To make 10L - in a fermenter
dissolve 2.25 - 2.5 kg of sugar in 5 - 6 litres of water at 30°C
To make 25 litres—in a fermenter dissolve 4.5 - 6 kg of sugar in
10 - 12 litres of water at 25°C
2. When the sugar is dissolved add contents to Spirits Unlimited
SUPERBREW. Mix well and top up to 10 litres with water or if making
25 litres, (as above top up to 25 litres)
3. Seal fermenter under an airlock
(do not use airlock if using Alcotec 24 hour)
4. Place the fermenter in a warm place away from drafts and in 3 - 4 days
the fermentation will cease (in colder weather this may take a few more
days). Temperature best around 22°C.
5. Allow 1 - 2 days for the wash to clear.
6. After the wash has cleared use a plastic hose to siphon wash to fill the
base of still - 4.7 litres. Avoid syphoning the dead yeast cells from the
bottom of the fermenter. A container pre-measured to 4.7 litres can assist
accurate filling. The left over wash will be distilled later. Seal container
again to stop any contamination occurring.

Still Assembly



Fit the stainless steel condenser pipe to the top of the reflux tower. Soften the high density polypropylene plug in the top of the tower with hot water if necessary.



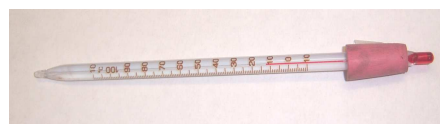
Wet the rubber tower seal and slide onto the tower,.



Place the tower into the polypropylene flange then press down on the rubber seal to ensure a good fit. (this may be pre-fitted). After the still has cycled the rubber seal will stick in place.



Using hot water fit the rubber sleeve to the thermometer leaving only the red bulb protruding (this may be pre-fitted).



Put the thermometer into the hole in the top of the reflux tower next to the condenser.



Fit the cold water connector to the tap and trial flow to fill hoses. Make sure the water flows as this is essential to proper cooling of the tower.

You are ready to start.

NOTE: once the condenser pipe has been attached to the reflux tower it should remain permanently assembled.

Distillation



Fill the Spirits Unlimited Euro 5 with 4.7 litres of wash. The level should be 90 - 100mm from the top of the reflux collar. If below this level add water to bring to the correct level.

Place still on a non-combustible surface which has sufficient height to allow for a container to collect the source and direct the outlet flow into a sink. Turn the power on and then turn cooling water to a low flow.

Collect and discard the first 1/4 cup or 2 tablespoons (30mls) this is the methanol and is harmful and must be discarded.

NOTE as the still heats up and starts to distill check the water outlet temperature from the still. If the water starts to feel warm increase the cold water flow.

Use the cold water flow to hold the still thermometer at 78 - 80°C or as close as you can.

When the temperature can no longer be controlled and reaches 80 - 92°C, shut down the still. Still output will be approximately 500mls of spirit.

Clean out the still as soon as it is cool enough to handle, the old wash is very acidic and must be discarded as soon as possible.

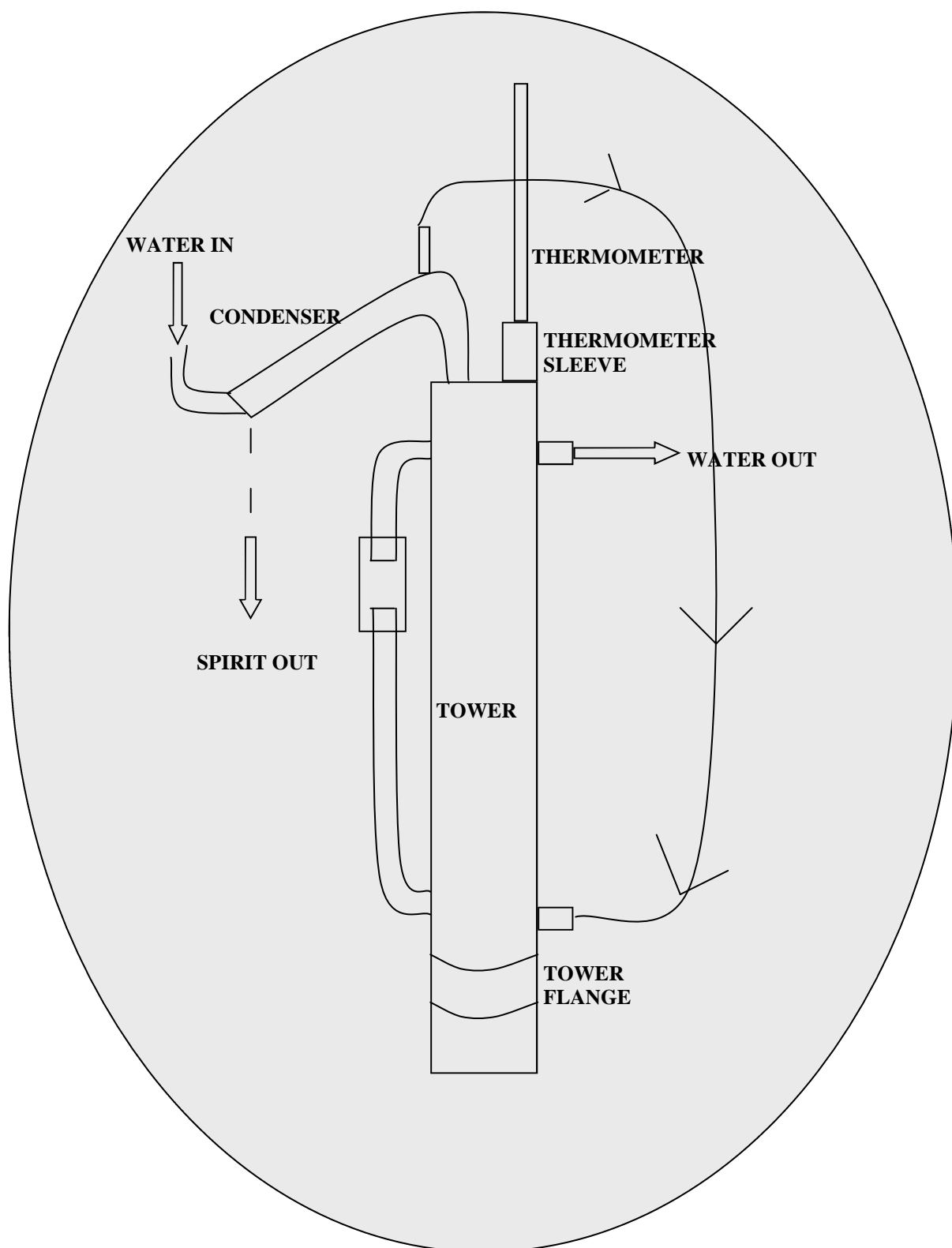
IMPORTANT - Flush the tower with hot water before further use

DO NOT EXCEED 80°C WITH THIS STILL. (NOTE: Thermometer can vary by 2°C)

IF TEMPERATURE GETS TO 80°C PLEASE TURN OFF POWER AND CEASE COLLECTING DISTILLATE.

SPIRIT COLLECTED OVER 82°C WILL BE CONTAMINATED.

Water flow



Treating the Spirit

Post distillation treatment can make the difference between an average brew and something very special.

To treat your spirit:

- 1 Pour spirit into a clean 1.5 litre cordial bottle
- 2 Add clean water to your distilled spirit to make up to 1150mls
- 3 Add one of the two Spirits Unlimited Carbon Treatment packs, this will temporarily blacken the spirit. Store in a cool place for 2 to 3 day, leave the bottle cap loose to allow the spirit to 'breathe'.
- 4 Using a funnel and 2 coffee papers carefully pour the now cleared spirit off the carbon and into a 1125ml bottle.
- 5 Congratulations you now have a bottle of cleared spirit.

Alternatively, you could use one of Spirits Unlimited Vertaflow Filter systems.

This is a stainless steel unit that treats and filters your spirit at the same time.

It filters at approximately 1 drip per second.

Comes with a double pack of carbon, each pack treats 5 litres of spirit.



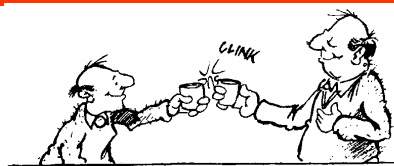
Testing the Spirit Strength

You will have produced 500mls of spirit at approximately 90%

As 'spirits' are generally 37.5-40% your brew will need diluting.

It is dangerous to drink over-strength spirit.

We recommend 30% for liqueurs.



Using a spirit hydrometer check the actual strength, correct for temperature and dilute with good, clean water. You can dilute your spirit before carbon filtering as this will filter the water as well. A reaction between water and strong spirit is common. The spirit will become hazy with tiny air bubbles and become warm. This will clear within 12 hours.

ADJUSTING THE SPIRIT STRENGTH

Because liquids become 'thinner' as temperature increases, the reading From your hydrometer must be adjusted to allow for this affect.

Example:

I have 1 litre of spirit at 20°C. The hydrometer reading is 90%.

The actual strength therefore is 92%

Temperature Correction

°C	40	45	50	55	60	65	70	75	80	85	90%
16	40	45	50	55	60	65	70	75	80	85	90
18	41	46	51	56	61	65.5	71	76	81	86	91
20	42	47	51.5	56.5	61.5	66	72	76	81	87	92
22	43	47.5	52	57	62	67	73	77	82	87	92
24	44	48	53	58	63	67.5	73	78	83	88	93

Dilution to 40%

Once you have determined the actual strength (temperature corrected)
% Alcohol as corrected

40	45	50	55	60	65	70	75	80	85	90	95
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Add this amount of water to each litre

-	125	250	375	500	625	750	875	1000	1125	1250	1500
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Flavouring The Spirit

FLAVOURING

Once you have a batch of clean spirit it becomes the base for a huge range of spirits, liqueurs, cocktails and RTD mixes.

In our range there's something to satisfy every taste and if not you can always enter the fascinating world of blending.

Each main type of spirit flavour we produce is designed to be 'most typical' of the type i.e. Bourbon—a medium sweet bourbon. Your own favourite brand can be closely matched by adjusting the level of flavouring/aging syrup you add.

A common household test for spirit purity is to mix your home made spirit with any one of the non-sweet mixes eg coke, tonic, lemonade. If the mix goes flat almost instantly, check the surface of the drink. The carbonated soda drink reacts with heavier oils and will leave an oil slick or scum on the top.

DON'T DRINK, RE-DISTIL

We recommend that spirit strength for rums, whiskies and gins etc be 35-40% while liqueurs should be made with 30% spirit. Spirits strength higher than these levels mask the flavour and gives drinks an unpleasant bite.

FLAVOURS

Under the Spirits Unlimited, Gold Medal, Heritage and RTR ranges there are over 185 flavours to choose from.

The Spirits Unlimited range of 50 ml concentrate flavours 5 litres, Gold medal and Heritage 2.25 litres, while the liqueur range produces 1— 1.5 litres per 50 ml and the RTR range 10 litres.

From each batch of refined spirit it is easy to make one bottle of a variety of spirits and Liqueurs.

AGING

All spirits benefit from aging.

Bulk aging can be achieved by leaving your spirit on reflux carbon longer. Two to three weeks on carbon will certainly improve smoothness. Double carbon treatment will have a similar effect. Oak aging—Oak imparts a mellowness to whisky, rum and brandy. Using plain oak chips or treated oak will improve new spirit over a two—three month period.

Alternatively the Jack Daniels, Wilson's and Plantation Rum chips made from wet distillery barrels have an immediate effect.

To soften and smooth new spirit, ageing syrup can be used. This is non sweet syrup mellows and softens instantly. The powder version (spirit mate) does a similar job.

BOTTLE AGING

It takes time for even the best concentrate to develop it's full flavour. All spirits and Liqueurs improve markedly within the first 14 days after bottling and certain liqueurs may take six months to become superb drinking.

Spirits Unlimited Ltd

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3 YEAR WARRANTY

.Congratulations on purchasing a SPIRITS UNLIMITED Still
.Manufactured in New Zealand your still will give reliable service for
many years. Please follow the care instructions.
.Should you experience any difficulties please contact your retailer first.
.Our factory staff are also happy to assist. PH(03)6880801
Happy Distilling and Cheers
Malcolm Willmott

THIS WARRANTY COVERS MATERIALS AND WORKMAN SHIP ONLY
ELEMENTS AND POWER CORDS ARE NOT COVERED BY THIS WARRANTY

REGISTRATION

Please complete the following and mail to:

Spirits Unlimited Ltd
60 Stafford Street
Timaru 7910

Name:

Address:

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Phone:

Date:

Where Purchased: