



**THE COMPLETE
BEER BREWING KIT**

INSTRUCTIONS





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Makes 23 Litres

Firstly, congratulations on becoming a BrewCellar brewer. Soon we'll have you at Master Brewer level. You'll get to know the right way to brew your favourite beer as well as the understanding that's necessary to make batch after batch, perfectly consistent. By the way, this beer kit contains everything you need for your first 30 bottle batch.

The Five Steps To Beer Making With BrewCellar

1. Assembling your BrewCellar 'Complete Brewing Kit'
2. Preparation – cleaning and sanitization.
3. Making up your first batch.
4. Bottling up the beer
5. Maturation & Cleaning up.

STEP 1 - ASSEMBLING YOUR BREW CELLAR COMPLETE BREWING KIT

Fermenter Set up

Assemble your Fermenter by first, fitting the tap/ sediment reducer assembly to the Fermenter ensuring that when tight, the spout of the tap is downwards and the slot in the sediment reducer is facing upwards. Then after making sure the seal under the lid is correctly fitted, fit the grommet into the hole in the lid then, after wetting the grommet, insert the air lock stem into the centre of the grommet ensuring a good seal. After peeling off the backing, affix the thermometer strip to the Fermenter below the halfway mark.

Beer Hydrometer

You will have noticed that we have included a beer hydrometer in your Brew-Cellar Beer Kit. A hydrometer is used for measuring the density (specific gravity - SG) of liquids. When a brew is first mixed up and full of sugars, it is quite dense. Once fermentation commences and the sugars are progressively converted into alcohol, the density of the brew will reduce thus, a hydrometer can be used to monitor the progression of fermentation. More importantly the hydrometer can be used to confirm that fermentation has finished by giving a low enough density SG reading. It's actually best not to monitor during fermentation as this requires drawing off samples from the Fermenter which can result in sucking bacteria into the Fermenter. Final readings are far more important. Starting SG readings range around 1,040, finishing SG readings range around 1,010 or below but this will completely depend on the ingredi-

STEP 2 - PREPARATION – CLEANING AND SANITIZATION

Thoroughly wash all equipment and utensils to be used with Morgan's LO SUDS detergent, rinsing well before sanitizing with Morgan's SANITIZE. Dilute Sanitize at a rate of 30 ml to a litre of water. Ensure all equipment and utensils used comes into contact with SANITIZE solution – do not rinse.

STEP 3 - MAKING UP YOUR FIRST BATCH

What is beer?

To put it simply, beer, as people know it and love it these days, is a malt based, hop flavoured, mildly alcoholic carbonated beverage. Beer is made by a process called "fermentation", which is the conversion of sugars by living yeast cells, producing alcohol and carbon dioxide gas. To make beer at home we mix up the sugars with water, inoculate this sugary wort (pronounced wert), as it's known with our yeast, then, once the fermentation has finished, we bottle the beer adding a specific small amount of sugar to each bottle to provide a small fermentation in the bottles that will carbonate (gas) the beer.

Mixing

- a.** Pour 2 litres of very hot water into your Fermenter then, dissolve contents of Morgan's can (not yeast sachet) into the water and stir to fully dissolve. Slowly add the 1kg of dextrose to this mix stirring to ensure that it also dissolves fully.
- b.** Fill your Fermenter to the 23 litre mark with clean cold water. The cold water will naturally lower the temperature of the liquid and while a final temperature of anywhere between 22 & 30C is fine, about 25C is the idea temperature for starting the fermentation process. You can simply achieve this ideal starting temperature by adjusting either cold or warm water when filling the Fermenter to the 23 litre mark.
- c.** Sprinkle the contents of the yeast sachet over the surface of the brew then, stir gently for 30 seconds or so.

Sealing & Standing

- a.** Seal the Fermenter with the large lid and air lock then, pour a little clean water into the air lock to effect a water lock seal.

b. Allow your Fermenter to stand in a select place in your home that offers as close to constant temperature of around 25C as possible. This position will depend on where you are as well as to whether its summer or winter. Remember that the temperature of the brew will remain roughly halfway between daytime and night time temperatures so, wherever you think there's a spot that will give an average closest to the 25C, that's the spot.

Fermenting

Complete fermentation will take around 5 days at a constant 25C but will take longer at lower average temperatures. Brew temperatures below 20C could stop the fermentation, should this ever happen, simply warm it up and it will start again. There are four distinct stages of the fermentation process.

First Stage

The first sign of fermentation you'll notice will be a slow bubbling of gas through the water filled air lock. You'll also notice through the opaque large lid that a heavy froth has developed on the surface of the brew – This is the first stage of fermentation. Should the froth be noticeable with no bubbling through the air lock, the seal under the lid is leaking gas, loosen and retighten. Don't over tighten as this can cause distortion and leaking.

Second Stage

The second stage of fermentation will be evidenced by a substantial quickening of the bubbling through the air lock, through the opaque lid you'll notice that the heavy froth has all but disappeared, and the surface of the liquid looks very active and milky looking.

Third Stage

The third stage of fermentation shows a slowing of the bubbling through the air lock and through the lid you'll notice a calming down of the action however, the brew is still quite milky looking.

Stage Four

At the fourth stage of fermentation things change completely. The bubbling through the air lock all but ceases, you'll notice through the lid that the brew now looks darker and clearer, no longer milky looking. Your beer has now finished and is now ready for bottling. **Wait one day then bottle after final SG testing.**

STEP 4 - BOTTLING UP THE BEER

We have included 30 plastic PET bottles in your BrewCellar Beer Kit, they are now to be used.

WARNING - BE SURE FERMENTATION HAS FINISHED BEFORE BOTTLING, ADDING ONLY THE CORRECT AMOUNT OF CARBONATION DROPS TO EACH BOTTLE OTHERWISE BEER COULD BE OVER~GASSED. SEE 'NOTES ON BOTTLING' FOR INSTRUCTIONS AND WARNINGS IF EVER YOU ARE TO USE GLASS BEER BOTTLES.

a. Ensure your bottles are clean and sanitized. As a sound brewing practice, we should now check that our beer is ready to bottle. This is where your beer hydrometer comes in as it measures liquid density (SG), and providing our beer is showing a low enough reading SG, the sugars will all be fermented and the beer will ready. As earlier stated, this particular brews starting SG (original gravity or OG), would have been around 1,040, its final or finishing gravity FG being a pale beer made with 1kg of dextrose, will be around 1,005. See notes on Hydrometers etc for 'How To Read Accurately'. Assuming we have a low enough FG (1,005 or below) – lets get bottling.

b. After fitting "The Bottling Tube And Valve" supplied to the tap, turn on the tap and draw off a cup or two of beer by pushing the cup upwards on the valve tip, discard these two cups of beer. Now, fill each plastic bottle to 20mm below the threaded region, adding 2 carbonation drops (only two) to each bottle, seal bottles with screw caps provided.

c. Allow bottles to stand at room temperature (20C plus) for a minimum of 2 weeks.

STEP 5 - MATURATION & CLEANING UP

a. Your beer will be OK to consume after 2 weeks at room temperature (above 20C) but will greatly improve with further ageing especially if stored in the coolest place possible. The 2 weeks at room temp (20C) will give the small ferment in the bottle to gas the beer just right, after that, colder temperatures will accelerate the maturation as well as get the gas into a fine state of absorption.

b. Cleaning after a brew is most important. Wash all items used with Morgans LO SUDS detergent paying particular attention to any dried deposits inside the fermenter. Remove the tap, cleaning inside and out as well as the threaded area. Soak and properly clean the air lock. Thoroughly rinse all items after washing then sanitize using your Morgan's SANITIZE - Do not rinse. Allow to dry then cover from dust. Repeat sanitization before re-use. DO NOT leave equipment soaking in water between brews.

Notes

1. Hydrometers And Their Uses - As mentioned earlier, a hydrometer is used for measuring the density (specific gravity – SG) of liquids. To get an accurate reading from your hydrometer, float the hydrometer in water. Where the actual water level meets the scale is the correct reading – Practice getting readings in clean water – it should read 1,000 in water at 20C. Should your hydrometer read slightly different, adjust readings accordingly. Care should be taken when taking hydrometer readings in either fermenting or fermented beer, as these liquids contain dissolved gas. Due to the difference in temperature of liquid to glass, gas release from the liquid clinging to the hydrometer will give a higher than accurate reading. Spin the hydrometer in the liquid – wait a while and remember, the lowest reading attainable is the accurate one. Hydrometers can also be used to determine the alcohol percentage of a beer. We can't actually measure the alcohol but we can measure the amount of sugar that's been fermented from the original gravity OG and the final gravity FG. To do this , we take the difference between the OG and the FG, divide this difference by 7.36, then add .5% for the alcohol produced from the carbonation drops.

Eg., $1.040 - 1.005 = 35$ divided by $7.36 = 4.75 + .5 = 5.25\%$ alcohol by volume.

2. **Bottling** - Bottling is a very critical point when making home brew. You have to be sure that all the sugars in the 'primary' fermentation are finished before bottling otherwise too much sugar will be fermented in the bottles (secondary fermentation) which could over gas the beer. Over gassed bottles are prone to explode which can be very dangerous especially if the bottles are glass.

Priming rates for bottles –

375ml stubbies	1 carbonation drop or 3g of sugar per bottle
740ml Tallies	2 carbonation drops or 6g of sugar per bottle

NEVER USE non refillable or scratched bottles. Happy Brewing



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