CHEERS, NICE TO MEET YOU

GRAINFATHER

LET'S BREW BIG TOGETHER
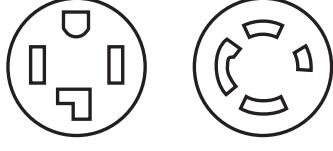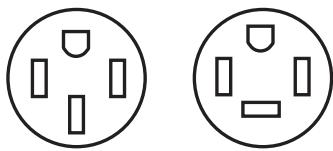
GRAINFATHER
3
YEAR WARRANTY

THANK YOU FOR CHOOSING THE GRAINFATHER G70²

Get started by following these instructions on how to assemble and use your **G**70². We recommend reading the following safety information before use. Please also find enclosed, advice for cleaning and storing your **G**70².

WARNING! (NORTH AMERICA 220V ONLY)		
Please check your unit rating label for the voltage, this socket guide is only applicable to North America 220V units. If your unit is a North America 220V product, the power cord, controller and boiler body included in the box are designed to be used together with a 220V supply. Using any of these components with another product may result in hazards and equipment damage.		
SOCKET GUIDE (NORTH AMERICA 220V ONLY)		
POWER SUPPLY SOCKET	**DESCRIPTION**	**COMPATIBILITY**
NEMA 6–20R	3-pin workshop and power tools supply.	Brewing system is compatible using power cord supplied in-box.
NEMA L6–20R	3-pin workshop and power tools supply.	Brewing system is compatible by using an adapter that includes a ground connection and has appropriate electrical certification.
NEMA 10–30R NOT SUITABLE	3-pin laundry dryer supply, most common installation prior to 1996.	This power supply socket is **NOT SUITABLE** for use with the brewing system. This socket provides hot-hot-neutral connections. The brewing system requires a ground connection to perform safely in the event of an electrical fault.
NEMA 14–30R NEMA L14–30R	4-pin modern laundry dryer supply, commonly installed after 1996.	Brewing system is compatible by using an adapter that includes a ground connection and has appropriate electrical certification.
NEMA 14–50R NEMA 14–60R	4-pin electric oven supply.	Brewing system is compatible by using an adapter that includes a ground connection and has appropriate electrical certification.

SAFETY INFORMATION

1. Read all instructions before using the Grainfather **G**70^2.

2. If the supply cord is damaged, it must be replaced by the manufacturer, its service agent, or a qualified person to avoid a hazard.

3. This appliance is intended to be used in household and similar applications such as staff kitchen areas in shops, offices, and other working environments; farmhouses and by clients in hotels, motels and other residential type environments; bed and breakfast type environments; catering and similar non-retailed applications.

4. The appliance is for indoor use only.

5. The appliance is not suitable for installation in an area where a water jet could be used.

6. The appliance must not be cleaned by a water jet.

7. The appliance must be in an upright position at all times when in use.

8. The appliance is only to be installed in locations where it can be overseen by trained personnel.

9. The installation of a residual current device (RCD) having a rated residual operating current not exceeding 30mA is advisable.

10. The A-weighted sound pressure level of the appliance is below 70dB.

11. Always unplug the unit before cleaning, during storage or in the event of a fault.

12. The boiler, lid and pipes may reach temperatures of up to 100°C (212°F) and therefore must be handled with caution. Never move the unit while it is in operation.

13. Handles on the side of the unit are only meant for transportation once the unit is empty and in a cooled, non-use state.

14. Please note that a two-person or mechanical lift is required when using this system. A single person lift may lead to serious injury.

15. Access of the service area is restricted to persons having knowledge and practical experience of the appliance. The maximum and minimum ambient temperatures for normal use of the appliance is: 40°C (104°F) to -20°C (-4°F).

16. To protect against fire, electric shock, and injury, do not immerse cord/plugs in water or other liquid.

THE FOLLOWING STATEMENT APPLIES TO GRAINFATHER PRODUCTS SOLD IN EUROPE:

- This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved.

- Children shall not play with the appliance. Cleaning and user maintenance shall not be made by children without supervision.

THE FOLLOWING STATEMENT APPLIES TO GRAINFATHER PRODUCTS SOLD IN THE UNITED KINGDOM:

- This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved. Children shall not play with the appliance. Cleaning and user maintenance shall not be made by children without supervision.

- Means for disconnection must be incorporated in the fixed wiring in accordance with the wiring rules.

- The fixed wiring insulation must be protected, for example, by insulating sleeving having an appropriate temperature rating.

THE FOLLOWING STATEMENT APPLIES TO GRAINFATHER PRODUCTS SOLD IN AUSTRALIA AND NEW ZEALAND:

- This appliance is not intended for use by persons (including children) with reduced physical, sensory, or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.

- Children should be supervised to ensure that they do not play with the appliance.

NOTE: Further to the safeguards listed above, we do not recommend the use of this product by children. Not following the safety information above could result in serious injuries and may void your warranty.

ANATOMY ✦ DIAGRAM & PARTS LIST

1. Glass lid
2. Support ring
3. Support ring retainer
4. Hop filter
5. Controller, cable and M16 DC connector
6. Body
7. M16 socket
8. Pump
9. Power box
10. Base
11. Recirculation pipe, sight glass, ball valve and fittings
12. Lifting bar
13. Recirculation barb and hose
14. Grain plate
15. Grain basket
16. Counterflow chiller
17. Ball valve tap
18. Tap adapter set

PRE-BREWING
ASSEMBLY 🔧

Before use, we recommend cleaning your **G**70^2 and all of its components using the Grainfather High Performance Cleaner.
For detailed cleaning instructions, see page 14.

1. INSTALLING THE FILTER

Take the hop filter (4) and place it into the base inside the **G**70^2 body (6). It should be a tight fit and you'll need to apply some pressure to make sure that it is securely in place.

2. ATTACHING THE CONTROLLER

Remove the **G**70^2 controller (5) and the power cord from its packaging and place the controller securely on the bracket on the front of the unit. Next, remove the small cap from the M16 socket (7) on the front of the **G**70^2. Plug the M16 cable (5) into the socket, making sure that the right-angle connector is facing upwards. Finally, tighten the securing nut.

3. CONNECTING TO POWER

Take the main power cable and plug it into the base at the back of the **G**70^2. Next, plug the other end of the cable into the professionally installed 15A (13A in UK) power socket. Turn on the master switch at the base of the **G**70^2 body. The controller should now receive power and the display will turn on. If this does not occur, please check that both the M16 controller cable and the main power cable are securely connected.

THE G70² CONTROLLER

The **G**70² smart controller has built-in wireless connectivity, allowing you to use your mobile device as a remote control. Connect to the free Grainfather App for step-by-step brewing and access bazillions of recipes.

CONNECTION SETUP

When you first turn on the controller, you will be greeted with the connection setup screen. Press 'set' to go to the default screen.
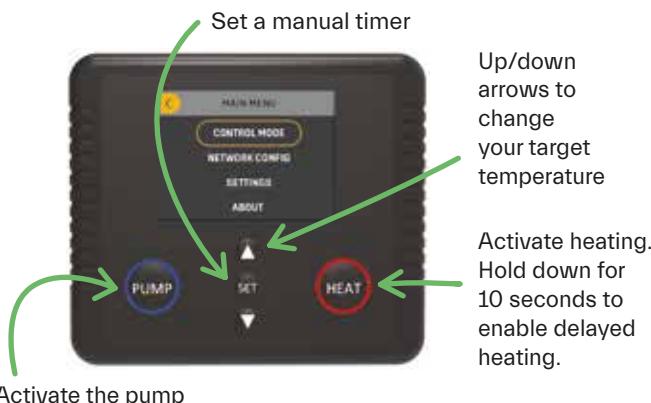
DEFAULT SCREEN

The default screen shows the current temperature and target temperatures, unit symbol (Celsius or Fahrenheit), timer (when active), wireless connection and status symbol.

MAIN MENU

This screen displays the main menu options:
- Control mode • Network configuration • Settings • About

Set a manual timer

Up/down arrows to change your target temperature

Activate heating. Hold down for 10 seconds to enable delayed heating.

Activate the pump

CONTROL MODE:

This is to manually change the controller between PID mode for brewing and power control mode for distillation.

- **Power control mode:** This mode allows for manual control of the power from the element in 5% increments. This can be used to control the power when distilling. Simply press 'power control' and use the up and down button to control the power.

NOTE: This can also be controlled through the Grainfather App. Choose between manual or power mode on the main app screen and use the up and down buttons on the app.

NETWORK CONFIGURATION

On this screen, you can add a new wireless network and connect your **G**70² controller. To add a network, select 'add new network', then follow the instructions on the next page. If you've previously connected your **G**70² to other networks, you can also clear these here.
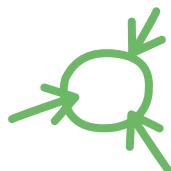
SETTINGS

This screen displays the main settings:

- **Change units:** Choose between Celsius or Fahrenheit.

- **Boil temperature:** Here you can adjust your boiling temperature based on the elevation of your brewing location. To use this function you can find the altitude of your location online, and also the boiling point of water at that altitude. Change the boil temperature from 100°C (212°F) to your new boil temperature.

- **Calibrate temperature:** The **G**70² has 2 probes that are NTC (negative temperature coefficient) type temperature sensors. An NTC thermistor uses electrical resistance properties of ceramic or metal composites to measure temperature. These sensors are accurate to 0.050°C (0.025 °F). This feature allows for an offset to be applied to the reading of the temperature probe if it is inaccurate. This should only be used if the temperature probe is compared to a certified calibrated thermometer which has a resolution of +/-0.010°C (0.005°F).

- **Buzzer settings:** Within this section you can select silent mode for your controller. When enabled, you'll no longer hear beeping to alert you when you've reached the next step during your brew.

ABOUT

This is where you can find details about your device. When connected to the internet, you can also check and install new updates to the **G**70² controller from here.

WIRELESS CONTROL & APP INTEGRATION

For the ultimate brewing experience, connect your controller to the Grainfather App.

1. Make sure that your wireless network reaches the location where you will be using your **G**70^2. While a wireless connection can be made over long distances, we recommend placing your unit within 10m (30ft) of the wireless router. If you wish to use your **G**70^2 further away, we recommend using a wireless range extender to avoid connection issues.

2. Download the Grainfather App on your mobile device from the App Store or Google Play Store and register an account if you're a new user.
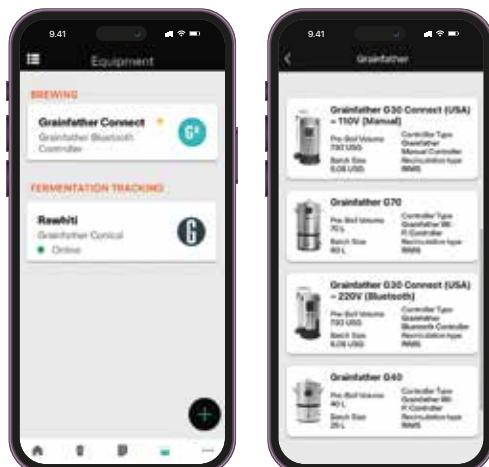

SCAN AND EXPLORE THE FREE GRAINFATHER APP

3. When you first switch on the controller, you will be greeted with the connection setup screen. If you do not see one of the screens below, then press the 'set' button on the controller and go to 'network config' then 'add new network'. Once on the connection setup screen, open the Grainfather App on your mobile device.
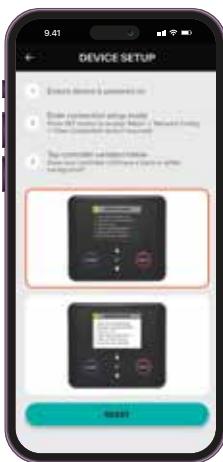

4. Once in the app, navigate to the equipment screen. The equipment screen shows all the brewing and fermenting equipment that you have set up on your account.

5. To add a new device, tap on the '+' icon on the bottom right of the screen and select 'brewing equipment'.

6. Select 'Grainfather' on the list of brands and subsequently select 'Grainfather **G**70^2' on the list of equipment and save.

7. You are now on the controller equipment page. To link your controller to your wifi home network select the 'link controller button'.

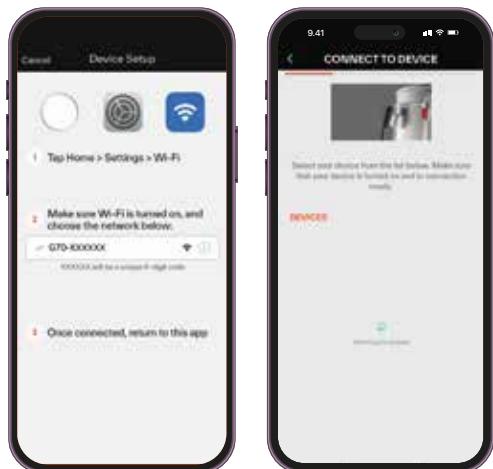**8.** Once on the device setup screen select the colour of the screen you see (white or black) and tap 'ready'.
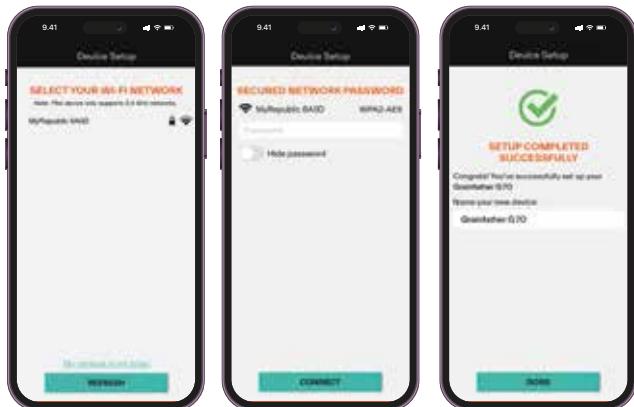

9. FOR ANDROID USERS

If setting up the **G**70^2 via an Android device, choose your controller in the list (see step 11 next).

10. FOR iOS USERS

If setting up using an iOS mobile device, follow the instructions on the screen and connect your mobile device to the controller. Once the connection is established, you may receive a notification on your mobile device and select allow to continue the process.

11. Once your phone has successfully connected to the **G**70^2 (Android and iOS), select your wireless network from the list and enter in your network password, and then tap 'connect'. Once completed, add a name for your device and press 'done'.

12. Set up is now complete and you will return to the equipment screen.

13. On the **G**70^2 controller, you will be prompted to grant permission for remote control. Press the 'set' button and select 'yes'. The **G**70^2 is now ready for you to start controlling your brew session via your mobile device.

NOTE: This permission request for remote control is in accordance with IEC/EN 60335–1 and will appear each time you connect to the **G**70^2 via a mobile device.

Within the Grainfather App you can now select recipes or even create your own. You can also use the step-by-step brewing system to brew confidently.

BREWING ON THE G70²

You are now set up and ready to start brewing! Follow these instructions to guide you through your brew on the **G**70².

1. ADD THE MASH WATER

Place your **G**70² on a flat, stable surface before you start brewing. We recommend positioning your **G**70² on the floor due to heavy lifting that is required later in the brewing process. Add the volume of mash water required by your recipe – you can use the advanced calculators available on the Grainfather App.

NOTE: Ensure that the recirculation ball valve is open and the lower ball valve is closed during this step to avoid a pump airlock.

2. SET THE MASH/STRIKE TEMPERATURE

Using the **G**70² controller or your mobile device, set the required mash temperature and press the 'heat' button to begin heating. Place the lid on the **G**70² to reduce the heating time. At this stage, if your **G**70² is connected to the Grainfather App, you can run your brew session remotely from your mobile device.

3. ASSEMBLE THE GRAIN BASKET

Place the grain plate (14) inside the grain basket (15) and ensure that the plate is sitting firmly on the bottom of the basket.

4. INSTALL THE GRAIN BASKET

Slowly insert the assembled grain basket into the **G**70². Ensure that the top of the grain basket rests flat on the support ring (2).

5. ADD GRAINS AND STIR

Once your water reaches the set temperature, slowly add the grain to the grain basket, stirring well to avoid any dry clumps.

NOTE: The **G**70^2 does not require a top plate or an overflow pipe in the basket. The grain basket has extra drainage holes, removing the need for these parts. You can choose to use a top plate when brewing higher ABV beers if you will be maximising the amount of grain used in the **G**70^2. In this case, the top plate can help to keep grain in the basket if the wort levels are too high and stops any wort from draining through the lifting bar holes on the side of the basket. An additional grain plate can be purchased on the online Grainfather Store or at your local retailer.

The maximum grain weight that the **G**70^2 basket can hold is 17kg (37lb). However, this is affected by grain crush, type and variety, and it may be easier to manage this by using an additional grain plate on top of the mash. If you're unsure how well your particular grain bill will fit then we recommend mashing up to 16kg (35lb).

6. INSTALL THE RECIRCULATION HOSE

Ensure that the hose is securely attached to the recirculation barb (13) and insert the barb into the recirculation opening on the side of the **G**70^2 body. Rest the other end of the hose on the top of the grain.

7. RECIRCULATE YOUR MASH (WORT)

Ensure that the ball valve (11) on the top of the recirculation pipe (11) is open. Then, to begin recirculating, press the 'pump' button on the controller or via the Grainfather App. If recirculation doesn't start, press the 'pump' button to turn it off, blow into the hose to clear the airlock, then restart the pump.

TIP: To save time, we recommend preparing your sparge water during your mash.

8. LIFTING THE GRAIN BASKET

When the mash has finished, turn off the pump and remove the recirculation hose. Close the ball valve on the recirculation pipe and insert the lifting bar (12) into the holes inside the grain basket. Lift the grain basket and then turn it 45° so that the feet at the bottom rest on the basket support ring (2).

CAUTION

A TWO-PERSON or mechanical lift is required when using this system as the basket can weigh up to 60kg (132lb) during use. Please do not attempt to lift by yourself as this could lead to serious injury.
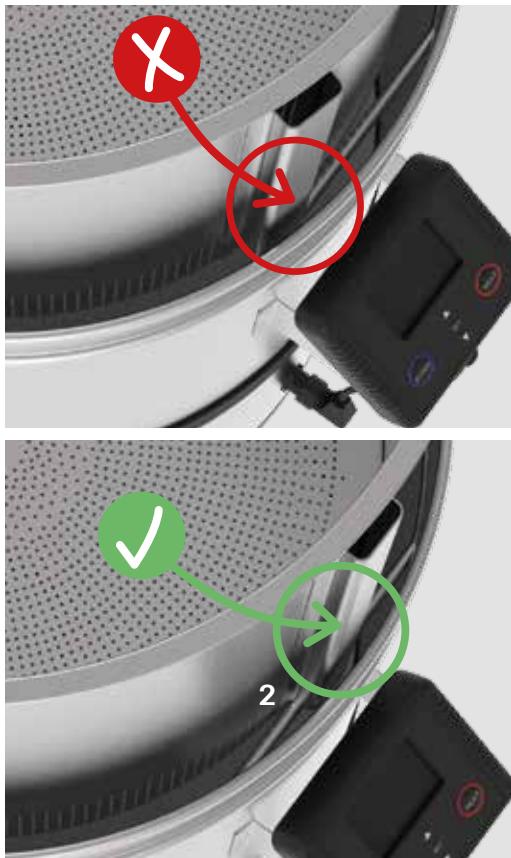

9. SPARGING AND BASKET REMOVAL

Allow the mash liquid to drain into the boiler. Then, gently pour the sparge water evenly over the grain until the water is a few millimetres above the grain and allow to drain.

TIP: To save time, you can now start to increase the temperature in preparation for the boil.

BE VERY CAREFUL not to twist the basket while it's in the sparge position as it could knock it off the support ring. If the sparge is stuck and not draining, then remove the top grain plate (if applicable), lower the basket and slice the grain bed with a stainless steel paddle or similar. Cut through the stuck grain from the centre towards the outside repeatedly until it loosens. Then, return the basket to the sparge position and replace the top grain plate (if applicable) to continue sparging.

Always ensure that the support ring fits tightly into its groove and is held in place by the support ring retainer (3). If you remove the support ring for cleaning, ensure that it is correctly reinstalled along with the support ring retainer.

Once the sparge has finished, refit the lifting bar to the grain basket to lift and remove the basket from the boiler.

NOTE: If you are using a large grain bill, we recommend scooping some of the grain from the basket to reduce the weight before lifting.

10. BOIL YOUR WORT

After removing the grain basket, complete the boil and add the hop additions required by your recipe.

Ensure that the unit does not reach the boil while the grain basket is still in place. During the boil, do not fit the glass lid as it may cause a boil over.

COOLING WITH THE COUNTERFLOW CHILLER ❄

The **G**70^2 includes a counterflow chiller. This has been designed to efficiently cool your wort, and allow easy and sanitary transfer directly into a fermenter.
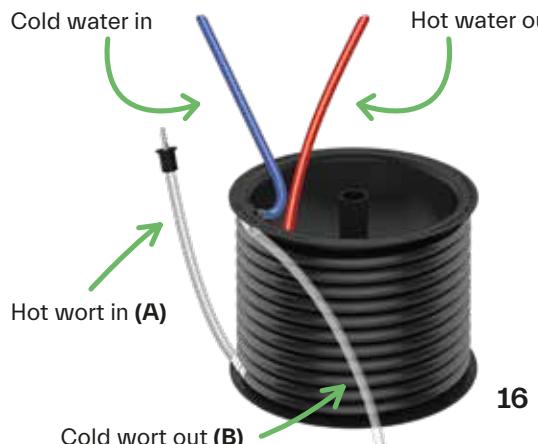
CLEANING

Before your first use, run cleaner through the counterflow chiller. For detailed instructions on how to clean your counterflow chiller, please refer to the CIP (Cleaning in Place) section on page 14. Also, ensure that your fermenter is clean and sanitised before cooling and transferring your wort.

FLOW RATES

The maximum flow rate of water through the counterflow chiller is 6 L (1.6 US Gal) per minute. Do not exceed this flow rate as it may cause damage to the product.

The maximum flow rate of wort through the counterflow chiller is 4 L (1.1 US Gal)/min. At this flow rate, with a tap water temperature of 20°C (68°F), the wort in the fermenter should be at approximately 25°C (77°F). You can get the wort in your fermenter close to 3°C (5.4°F) above your tap water temperature by reducing the flow of the wort through the counterflow chiller by adjusting the 1/2" ball valve (11).

Cold water in   Hot water out

Hot wort in **(A)**

Cold wort out **(B)**

16

1. At the end of the boil turn the heating element off. Create a whirlpool by stirring the wort vigorously with your paddle. Be careful not to dislodge the hop filter.

NOTE: A moderate whirlpool may automatically form due to the force of the pump.

2. Place the counterflow chiller on a table or bench and push fit the hose barb on the end of the hot wort in hose (A) into the recirculation opening on the inside of the **G**70^2 body.

NOTE: Ensure that none of your wort or water tubes are sitting underneath the counterflow chiller. The water tubes should be coming out from the top. If a tube is squashed or there is a kink, this will cause a pressure build up and liquid will not be able to pass through.

3. The coloured hoses are where the cold water enters (blue) and hot water exits (red). To allow cold water to enter, attach the blue hose to your tap using your tap adapter set (18). The red hose is where the hot water drains out as it flows through the counterflow chiller. The cold wort out hose (B) is where your wort exits the counterflow chiller. Ensure the red hose is directed somewhere to collect or drain safely.

TIP: Collect some of the hot water from the red hose to use as cleaning water after your wort has finished transferring.

4. To sanitise the counterflow chiller place connection B into the **G**70^2 body. Turn the pump on to recirculate hot wort back into the **G**70^2 to sanitise the inside of the coil. Complete this step without cold water circulating and recirculate for approximately 30–60 seconds, but no longer then turn the pump off.

NOTE: The **G**70^2 is designed to cool while simultaneously transferring your wort to your fermenter. You should not cool by recirculating into your **G**70^2 as this reduces the thermal efficiency.

5. Ensure no hoses are kinked and that the water can flow freely then gradually turn on your cooling water and adjust the flow rate. Allow the cooling water to flow for two minutes then turn on the pump. Once the cold wort out hose (B) runs cool runs cool, switch the pump off and place the end of the hose inside your clean and sanitised fermenter and switch the pump back on. Always try to keep the fermenter opening covered to avoid contamination while transferring your wort.

WARNING

The counterflow chiller is not intended for continuous hot wort circulation without cooling water flowing through. Do not use during processes like whirlpooling and hop stands.

NOTE: Take an OG (original gravity) reading of your cooled wort before adding yeast as per the correct yeast pitching temperature within your recipe. Fit a bung and airlock to the top of your fermenter to keep it safe from contaminants that may spoil your brew.

ADVICE FOR
CLEANING
& STORAGE

No one really enjoys cleaning, but it's worth it for great beer!

- After use, the **G**70^2 and all of its components should be cleaned immediately and dried thoroughly. We recommend using the Grainfather High Performance Cleaner as it removes the need for tedious scrubbing. However, all stainless steel components can be cleaned using a conventional, unscented brewing detergent/cleaner.

- Abrasive agents and sponges/brushes could cause scratching and are not suitable for use. Ideally, use a dish brush or soft sponge to clean the unit.

- Do not store in a damp area as this could cause damage to the product.

- Once you have cleaned your equipment, dry, reassemble and store.

CLEANING IN PLACE (CIP)

1. Remove all trub and solids from the **G**70^2 by removing the hop filter from the **G**70^2, rinse thoroughly and then put aside. Open the lower ball valve tap and flush the rest of the trub and other remains from the **G**70^2. You can now close the lower ball valve tap.

2. Fill the unit with 15L (3.9 US Gal) of water and 1 cap of Grainfather High Performance Cleaner.

3. Heat the water to 60°C (140°F) and use a dish brush or soft sponge to clean the unit.

4. Attach the counterflow chiller and place the connection B hose from the counterflow chiller into a 5L (1.3 US Gal) jug. Once ready, switch the pump on and let the water run into the jug until the water clears. Now, place the hose into the unit so the water continues to recirculate and leave for 10–15 minutes.

5. Once complete, switch the heating and pump off, and open the lower ball valve to allow the unit to drain.

6. Once draining has finished, follow steps 2–5 again but this time with clean water to rinse and flush the **G**70^2 and counterflow chiller.

CAUTION: RISK OF BURNS

Use heat resistant brewing gloves or other suitable gloves during this process.

PUMP CLEANING

We recommend cleaning your pump every 5–10 brew sessions. This process should be done after you've cleaned your **G**70^2.

1. Turn the unit upside down and remove the 4 screws on the base of your **G**70^2.

2. Using pliers, squeeze and shift the hose clamps away from the pump inlet and outlet.

3. Remove the 4 screws that hold the pump in place and detach the inlet, and outlet hoses from the pump.

4. Remove the screws holding the impeller housing to the pump.

5. Remove the top cover of the impeller housing exposing the impeller.

NOTE: There is no need to expose the magnetic drive pump.

6. Use a pipe brush or something similar to clean the impeller and impeller housing.

NOTE: Do not submerge the pump in water.

7. Dry the components and reassemble the unit.

BREWING
NOTES

IMPORTANT ☺
SAFEGUARDS

READ AND FOLLOW ALL INSTRUCTIONS

CAUTION   – Risk of fires and electric shock.
                – Replace only with genuine Grainfather cord set, part No. SJTO.
                – Do not immerse in water.

SAVE ALL WARNINGS AND INSTRUCTIONS FOR FUTURE REFERENCE

FOR COMMERCIAL AND INDOOR USE ONLY

WARNING
AVERTISSEMENT

RISK OF ELECTRIC SHOCK . DO NOT OPEN.
RISQUE DE CHOC ÉLECTRIQUE. NE PAS OUVRIR

SCAN AND EXPLORE THE FREE GRAINFATHER APP

RESOURCES: Check out our YouTube Channel for helpful videos.
For more information or help, visit our Help Centre: **help.grainfather.com**