THE GRAINFATHER
ALL GRAIN BREWING

GLYCOL CHILLER INSTRUCTIONS

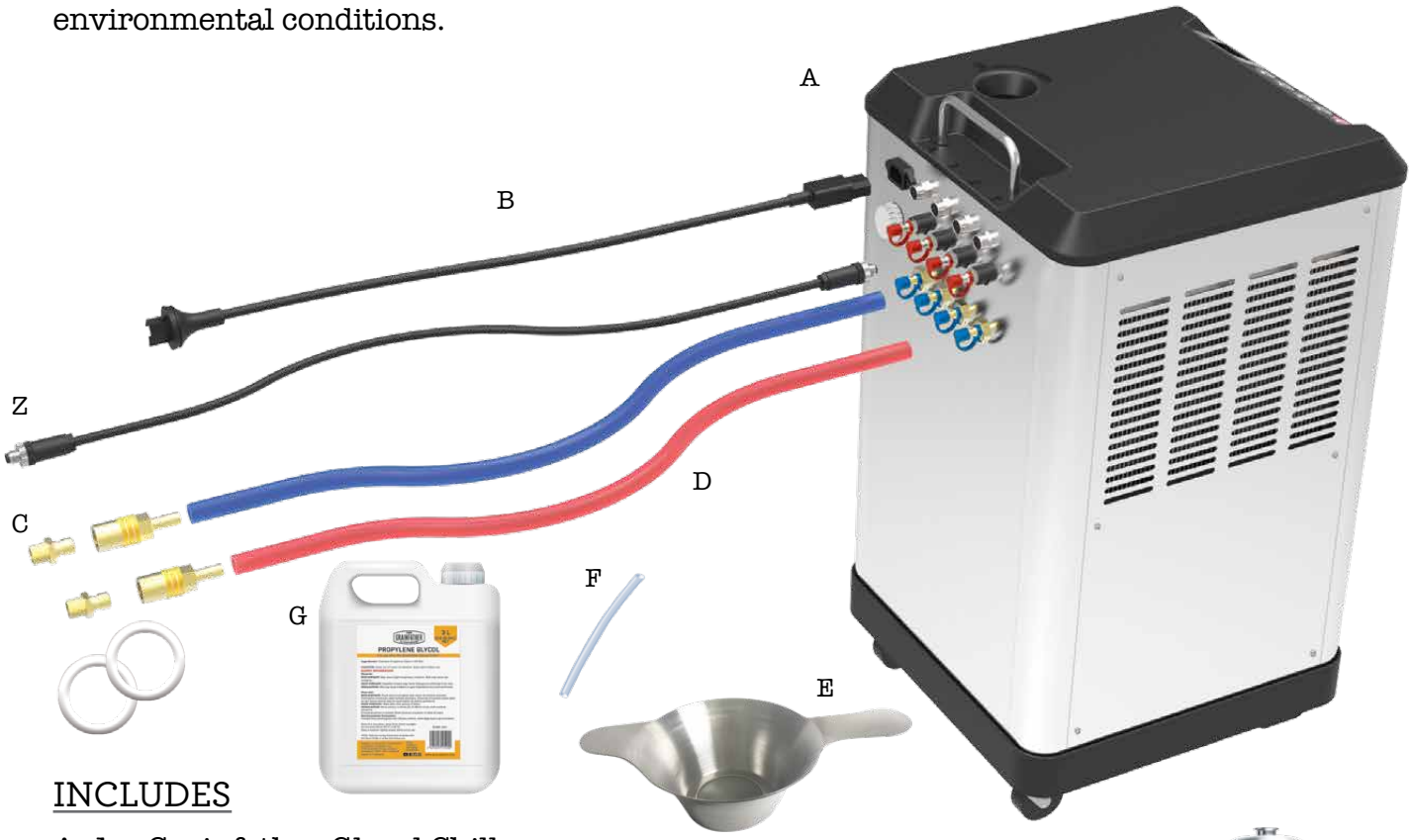
IMPORTANT: BEFORE OPERATING PLEASE SEE INSTRUCTIONS ON PAGE 5

CONTENTS

KEY FEATURES

- LED & Touch Display
- 6 L (1.6 US Gal) glycol tank.
- Cools a Grainfather Conical Fermenter to a minimum temperature of 4 - 6°C (39 - 43°F)*.
- Connect up to four fermenters and ferment each one at a different temperature.
- Glycol temperature controller.
- 3 pin power connections for fermenters.
- The R600a refrigerant used is an environmentally friendly replacement for other refrigerants causing no effects to the ozone layer or the greenhouse effect.
- Glycol filter for inline cleaning of glycol mixture.

*Minimum temperature will vary based on external factors such as ambient room temperature, the number of fermenters connected and other environmental conditions.



INCLUDES

A 1 x Grainfather Glycol Chiller

B 1 x wall outlet power cord (with plug based on country of sale)

C 2 x couplers & seals

D 2 x 2 m (6.5 ft) hoses

E 1 x glycol funnel

F 1 x silicon tube (8 mm inner diameter for priming pump)

G 1 x 3 L (0.8 US Gal) propylene glycol.

H 1 x Conical Coat (2 parts; body & cone jacket)

ALSO SHOWN (not included):

Z 1 x M12 power cord (included with Conical Fermenter)

CAUTION - Risk of Fire or Explosion

Failure to follow this safety information can cause a fire hazard.

SAFETY INFORMATION

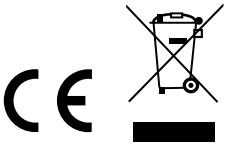
1. When transporting, keep level and lift from the base.
2. Never tip the unit on its side or upside down. This will void the warranty as it will damage the electronics.
3. Always operate on a flat surface in a well-ventilated environment.
4. Keep the sides of the unit where the vents are located, at least 20cm (7.8") clear of any objects as it requires uninterrupted airflow to operate.
5. Avoid getting any liquid on the control touch panel.
6. Use food grade propylene glycol. Seek glycol manufacturers specifications for more information.
7. Do not store explosive substances such as aerosol cans with a flammable propellant on or in this appliance.
8. WARNING - Do not use mechanical devices or other means to accelerate the defrosting process, other than those recommended by the manufacturer.
9. WARNING - Do not damage the refrigerant circuit.
10. 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.
11. CAUTION - Risk of Electric Shock. If the cord or plug becomes damaged, replace only with a cord and plug of the same type.
12. CAUTION - Avoid any act of moving and handling of the chiller/refrigerator/freezer that may cause damage to the refrigerant tubing or increase the risk of a leak.

MAINTENANCE

1. Turn off chiller before cleaning.
2. Regularly clean the ventilation louvres using a soft brush.
3. **DO NOT** clean the stainless steel or plastic casing with a wire brush or steel wool.
4. Use water or washing liquid that does not contain alkali or chlorine.
5. **DO NOT** spray water onto ventilation louvres.
6. Regularly check the glycol mixture level to make sure it is not too low. For optimal performance it is recommended to replace the glycol mixture every 6 months.

PRODUCT NAME: Glycol Chiller
Rated: 300W
220-240V ~ 50Hz (NZ, AU, UK, EU, SA)
110-120V ~ 60Hz (US, CA)
Dimensions (mm) - 390W x 405D x 656H
Total Weight - 28.3 Kg (63 lb)
Made in China

NZ, AU, SA



EU, UK

US, CA


THE
GRAINFATHER
ALL GRAIN BREWING

CONTROL YOUR FERMENTATION TEMPERATURE ACCURATELY. EVERY TIME.

TEMPERATURE CONTROL IS ONE OF THE MOST CRUCIAL ELEMENTS FOR PRODUCING A GOOD QUALITY BEER. IT NEEDS TO BE REGULATED AND STABLE THROUGHOUT THE WHOLE FERMENTATION PROCESS TO ENSURE THE YEAST DOESN'T GET STRESSED AND FERMENTS CORRECTLY TO GET THE RIGHT FLAVOUR PROFILE.

WITH THE ABILITY TO INDIVIDUALLY CONTROL THE TEMPERATURE OF UP TO FOUR GRAINFATHER CONICAL FERMENTERS, EACH WITH THEIR OWN FERMENTING SCHEDULES, THE GRAINFATHER GLYCOL CHILLER IS THE PERFECT ADDITION TO YOUR BREWERY TO ENSURE SUPERIOR RESULTS.

HOW IT WORKS

This product cools a Grainfather Conical Fermenter to a minimum optimal temperature of 4 - 6°C (39 - 43°F)*. The cold glycol can be used to keep the beer in a fermenter at a desired temperature.

The Glycol Chiller includes a pump with 4 connections to make it possible to connect and control the temperature of up to four 30 L (8 US Gal) Grainfather Conical Fermenters in total.

PRIMING PUMP BEFORE FIRST TIME USE

IMPORTANT

Make sure the chiller has been standing upright for 24 hours before turning it ON. Before using the Glycol Chiller, you must prime the pump by carefully following the instructions below.

IMPORTANT

BEFORE FIRST TIME USE,
PLEASE PRIME YOUR GLYCOL CHILLER PUMP AS PER INSTRUCTIONS BELOW!

Make sure the Glycol Chiller has been standing upright for 24 hours before use.

1. Begin with the Glycol Chiller off, and ensure that the glycol filter cap is screwed on tightly.
2. Open the cap on the top of the Glycol Chiller. Using the included Grainfather glycol funnel with mesh filter, pour 4 L (1.06 US Gal) of water into the tank. Close the cap and let the chiller rest for a minimum of 5 minutes.
3. Connect the included silicon hose to the glycol mixture outlet connection (silver in colour with blue cap) under number 4. Open the cap and insert the free end of the hose into the opening of the glycol tank (shown in the image).

4. Prepare 2 L (0.53 US Gal) of propylene glycol in a jug.
5. Turn on your chiller by plugging in the power cord and pressing the power button. When turned on, the chiller will make a beeping noise and an exclamation warning light will flash. This is the low glycol level warning.

6. You need to override the low glycol level warning to prime the pump. Press and hold the "▲" button for 5 seconds to enter the pump override mode. The SET button should be flashing to indicate the chiller is in pump override mode. This causes the low glycol level warning to stop and allows the pump to run without a cooling signal from a Grainfather Conical Fermenter.
7. Press the number 4 button to start the pump. This should cause the button to begin flashing. If not, check that the chiller is in pump override mode (step 5). After 2 minutes, press the number 4 button again to stop the pump. Pour the pre-prepared 2 L of propylene glycol into the tank (using the funnel with mesh filter). 1 minute after the pump was stopped, press the number 4 button again to start it. You should start to see bubbles and liquid in the hose flowing from the outlet connection to the opening of the glycol tank.
8. Repeat the cycle of having the pump on for 2 minutes, then off for 1 minute until only liquid (no visible bubbles) is flowing in the hose. Then, press the number 4 button to stop the pump and close the port.
9. Turn your chiller off, disconnect the silicon hose and close the cap.

Your Glycol Chiller is now ready for use. Enjoy your new Grainfather Glycol Chiller!

TOPPING UP THE GLYCOL TANK

NOTE: If this is the first time adding glycol into your Glycol Chiller, please refer to the Priming Pump Before First Time Use sub-section instead (page 5).

Once your Glycol Chiller starts pumping glycol to your fermenter (when the corresponding number button lights up), the glycol level will drop. We recommend topping up the tank until it is FULL to maintain optimum cooling performance. The FULL level is slightly over 6 L (1.5 US Gal) and is indicated by when the liquid level is high enough so that the glycol just submerges the cross bar (the flat metal piece that the float indicator slides through).

NOTE: Please follow topping up instructions exactly as instructed below.

The glycol mixture used to top up should always consist of the following proportions:
- 33% propylene glycol
- 67% water

i.e. 1 part glycol, 2 parts water

1. Turn the Glycol Chiller off.
2. Make up the necessary amount of glycol mixture in a clean jug as per the above proportions. *Always combine the glycol and water in a jug prior to adding into the tank.
3. Open the cap on the top of the Glycol Chiller. Using the included Grainfather Glycol Funnel with mesh filter, slowly pour the glycol mixture into the tank. Pouring too quickly may cause air bubbles to be trapped.
4. Replace and tighten the cap.
5. Wait a minimum of 5 minutes prior to turning the unit back on. This lets any air bubbles that may have been trapped in the mixture to escape. Trapped air bubbles can prevent the pump from operating correctly.

* We recommend making up in a jug more than enough mixture, then storing the remaining unused glycol mixture in a bottle to top up next time. As a guide, the approximate volumes required to top up the tank until it is FULL are as follows:

- 1.2 L (40 US fl oz) of mixture (consisting of 400 ml (13.5 US fl oz) glycol & 800 ml (27 US fl oz) water) if you have just primed your pump and then connected one fermenter.

- 600 ml (20 US fl oz) of mixture (consisting of 200 ml (6.7 US fl oz) glycol & 400 ml (13.5 US fl oz) water) if your tank was FULL and then connected an additional fermenter.

IMPORTANT

If contaminants enter the glycol tank, they can cause blockages. To prevent contaminants from entering the glycol tank ALWAYS follow these steps:

- Use a clean vessel free from any foreign matter when making up the mixture.
- Use the included Grainfather Glycol Funnel to transfer mixture into the Glycol Chiller.
- Replace the cap immediately after adding the mixture into the tank.

NOTE: The Grainfather Glycol Chiller has an inline filter that protects the solenoids from foreign matter. It should be cleaned referring to the instructions below whenever you replace your glycol. For optimal performance choose to replace the glycol mixture every 6 months.

NOTE: Follow the instructions below on replacing existing glycol mixture with new glycol mixture.

AIR FILTER CLEANING:

For optimal performance of your Glycol Chiller, it is recommended to clean the air filter every 6 months. If the Glycol Chiller is operated in a dusty environment, cleaning will need to occur more often.

1. Remove the right-hand side panel (vents at the base) by removing the screws and remove the panel, pulling first from the middle region.
2. Remove the black air filter from the inside of the panel.
3. Use a vacuum cleaner to remove any dust from the air filter.
4. Replace air filter.
5. Replace panel by fitting the bottom of the panel into the grove in the base and gently bending the panel to fit the top of the panel in the grove in the top.
6. Replace screws.

REPLACING EXISTING GLYCOL MIXTURE WITH NEW GLYCOL MIXTURE

1. Attach a hose to the glycol outlet connection of any channel.
2. Put the free end of the hose into a bucket or sink for the glycol mixture to exit into.
3. Turn the Glycol Chiller on. Then make sure all number buttons are in their OFF position (unlit).
4. Enter pump override mode by pressing and holding the "▲" button for 5 seconds. The SET button should be flashing to indicate the chiller is in pump override mode. This disables the low glycol level warning and also allows the pump to run without a cooling signal from a Grainfather Conical Fermenter.
5. To begin removing the existing glycol mixture from the glycol tank, press the number button on the Glycol Chiller that corresponds to the outlet where you have attached the hose. When the glycol stops flowing, press the number button to stop the pump.
6. Turn the chiller off.
7. Discard the glycol mixture you have removed from the chiller.
8. Before replacing the glycol in the tank, you will need to clean the glycol filter. Remove the white cap of the glycol filter located on the back of the chiller. Remove the filter from inside the housing, then rinse with clean water ensuring it's free from any foreign matter. Replace the filter into the housing and replace the cap tightly.
9. You will now need to top up the glycol tank with 6 L (1.6 US Gal) of glycol mixture (consisting of 2 L (0.5 US Gal) glycol & 4 L (1 US Gal) water). Top up as per the **Topping Up the Glycol Tank** sub-section (page 6).

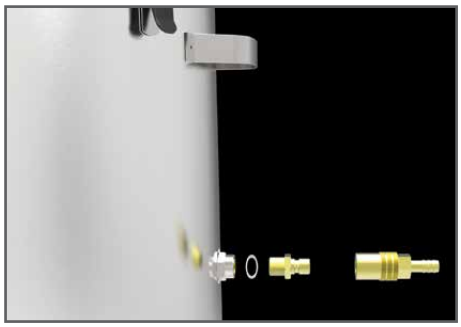
NOTE: running the pump dry for an extended period of time will cause damage to the pump. DO NOT leave the chiller unattended when in pump override mode.

PREPARING COOLING CONNECTIONS

A cooling connection kit is included with your Glycol Chiller (see page 1). This consists of brass couplers, seals and hoses. Firstly, connect the couplers to the fermenter:

1. Place a (included) white seal inside the threaded hole on the side of the Conical Fermenter.
2. Next take the threaded section of the coupler and screw it into the same side of the fermenter where you placed the seal. Make sure it is screwed in tightly. Use a spanner if necessary, but do not over tighten.
3. Connect the other end of the coupler to the section you just used by pushing the spring-loaded sleeve back and sliding it over.
4. Repeat these steps on the other side of the fermenter.

It is possible to cut the hoses shorter if necessary; this will also increase maximum cooling efficiency. Place the chiller and fermenter in their final place, measure and cut the hoses accordingly.



CONNECTING THE CHILLER TO A FERMENTER

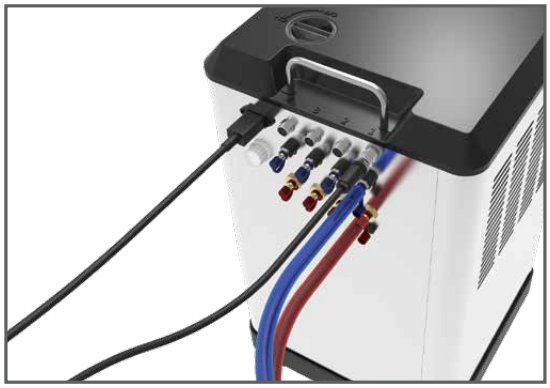
On the back panel of the Glycol Chiller are the connections for the hoses. You can connect up to four fermenters to the chiller. The outlet connections from the chiller are silver in colour and the return connections are gold.

The buttons on the front of the chiller labelled 1,2,3,4, match up to the connections on the back labelled accordingly.

1. Make sure the unit is turned off.
2. On the back panel of the chiller locate the glycol mixture outlet connections; these are silver in colour with blue caps. Connect the blue hose to the first silver connector labelled with number 1. This hose then connects to the coupler on the fermenter that is attached in the lowest position.

3. The glycol inlet connection is where the glycol is returned to the chiller to cool back down; these are gold in colour with red caps. Connect the red hose to the glycol return inlet connection labelled with number 1. This hose then connects to the coupler on the fermenter that is attached in the highest position.

NOTE: Make sure that your glycol outlet connection (blue hose) is connected to the coupler in the lowest position, and the glycol inlet connection (red hose) is connected to the coupler in the highest position. The glycol needs to be pumped into the cooling sleeve from the bottom to maximise cooling efficiency.



OPERATING AND USING THE CHILLER

1. Plug the power cord into the back of the Glycol Chiller and the other end into a wall socket.
2. Connect the M12 power cord from your Grainfather Conical Fermenter to the connection under number 1.
3. Turn the power to the chiller on by pressing the power button on the front panel, the button will light up red.
4. The fermenter will now get its power from the Glycol Chiller and also turn on.

NOTE: Using the chiller with your Conical Fermenter eliminates the need for a separate fermenter power supply; the chiller provides power to all fermenters through their respective M12 power cords.

CONNECTING MORE THAN ONE FERMENTER

The Glycol Chiller can allow up to four 30 L (8 US Gal) Grainfather Conical Fermenters to be connected at one time. When connecting more than one fermenter, repeat the connection steps (see page 8) for each additional fermenter that needs to be connected by matching the remaining connections labelled from 2-4. Then complete the following:

1. Top up the glycol tank as per the **Topping Up the Glycol Tank** sub-section until it is FULL. For each additional fermenter (which does not already have glycol in its cooling sleeve) connected, you will need approximately 600 ml (20 US fl oz) of additional glycol mixture.
2. Check that each fermenter is plugged into the correct connections. Take care to make sure that each fermenter is plugged into the correct numbers on the Glycol Chiller. It is a good idea to label the fermenter and hoses to the matching number on the chiller to avoid any confusion.

NOTE: To prevent damage to internal chiller components, if the glycol level is too low, the pump and compressor will automatically switch off. The chiller will make a beeping noise and an exclamation warning light will flash. This is the low glycol level warning. When this happens, refill the glycol tank until it is FULL (see page 6); this will restart the pump.

TEMPERATURE CONTROL

NOTE: Please read this thoroughly first before use.

We have configured the unit to the optimal settings, as to provide the best cooling efficiency from the chiller to a fermenter for ANY required fermentation temperature. We highly recommend to not change these settings, as this could result in poor cooling performance and in extreme cases the glycol mixture may even freeze, which has the potential to cause damage to the chiller unit.

If your controller is required to be reset please see below the factory settings and method to complete this.

SET TEMPERATURE = -4.5°C (23.9°F)

HYSTERESIS = 3.0°C (5.4°F)

1. Press SET and using the "▲" and "▼" buttons select your desired set temperature. Press SET again to confirm.

2. Press and hold the "▼" button to enter the hysteresis setting mode. Using the "▲" and "▼" buttons select your desired hysteresis. Press SET to confirm.

NOTE: The set temperature is the compressor off temperature, and the hysteresis is the difference between the compressor on and off temperatures. To prevent accidentally changing the settings, if you wish you can lock the controller. To lock or unlock, press and hold the power button for 6 seconds.

TIP: To change between degrees Celsius and degrees Fahrenheit press and hold SET for 6 seconds.

SETTING FERMENTER TEMPERATURE

1. Set the desired fermenting temperature on the Grainfather Conical Fermenter's controller.
2. Press the number button on the Glycol Chiller that corresponds to the connections that will be in use.

3. The fermenter will now signal to the Glycol Chiller if it needs any additional glycol.

NOTE: Once a number button is pressed, it will light up blue. If it is also receiving a cooling signal from the connected fermenter, the light will flash.

NOTES

Reorder: 10233
Version: 7

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