BrewBuilt

X1 UNI PRO

ASSEMBLY AND INSTRUCTION GUIDE

CONTENTS:

⚠ WARNING

Read entire manual for important safety information before using your BrewBuilt X1 Uni Conical Fermenter. Failure to follow warnings could result in serious injury or death.

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GETTING STARTED

This guide will walk you through assembling and using your new conical fermenter.

1. **READ AND UNDERSTAND THIS FULL MANUAL**

Before your first use, read through this full manual, and make sure you understand the use & warnings. Failure to follow these warnings could result in serious injury or death.

2. **CLEAN THE CONICAL**

Before your first use, clean and rinse the conical along with all the parts and fittings. This will remove any leftover oil or dust from the manufacturing process. We recommend using PBW cleaner. Do not use bleach.

3. **WATER TEST**

After cleaning and rinsing, we also recommend filling your conical with water and familiarizing yourself with its operations prior to your first use.

First Time Working With TC Clamps?

Before you tighten down TC clamps, make sure the gasket is seated properly into both flanges.

Once the gasket is in place, loosen the clamp so it can be fitted around the flange ends.

You do not need to use any tools for leverage when tightening TC clamps. Hand tightening is enough for a secure, leak-proof connection.

⚠️ WARNING! ⚠️

ALWAY RELEASE PRESSURE from the fermenter before removing any TC connection, fitting, accessory, or lid clamp connected to the Fermenter. Read section below on how to release pressure from Fermenter.

Parts List

ITEM	DESCRIPTION	QTY
A	Pressure Lid	1
B	4" TC Clamp	1
C	4" TC Gasket	1
D	1.5" Blow Off Barb	1
E	Silicone Blow Off Tube	1
F	1.5" TC Clamp	3
G	1.5" TC Gasket	3
H	Conical Lid	1
I	Lid Clamp	1
J	Lid Gasket	1
K	Conical Body	1
L	1.5" TC Thermowell	1
M	1.5" TC Sample Valve	1
N	2" TC Gasket	1
O	2" TC Clamp	1
P	2" Butterfly Valve	1
Q	Flex Chamber	1
R	3/8" Leveling Foot	4

Additional Parts Included:

1. Neoprene Jacket

2. Pressure Pack
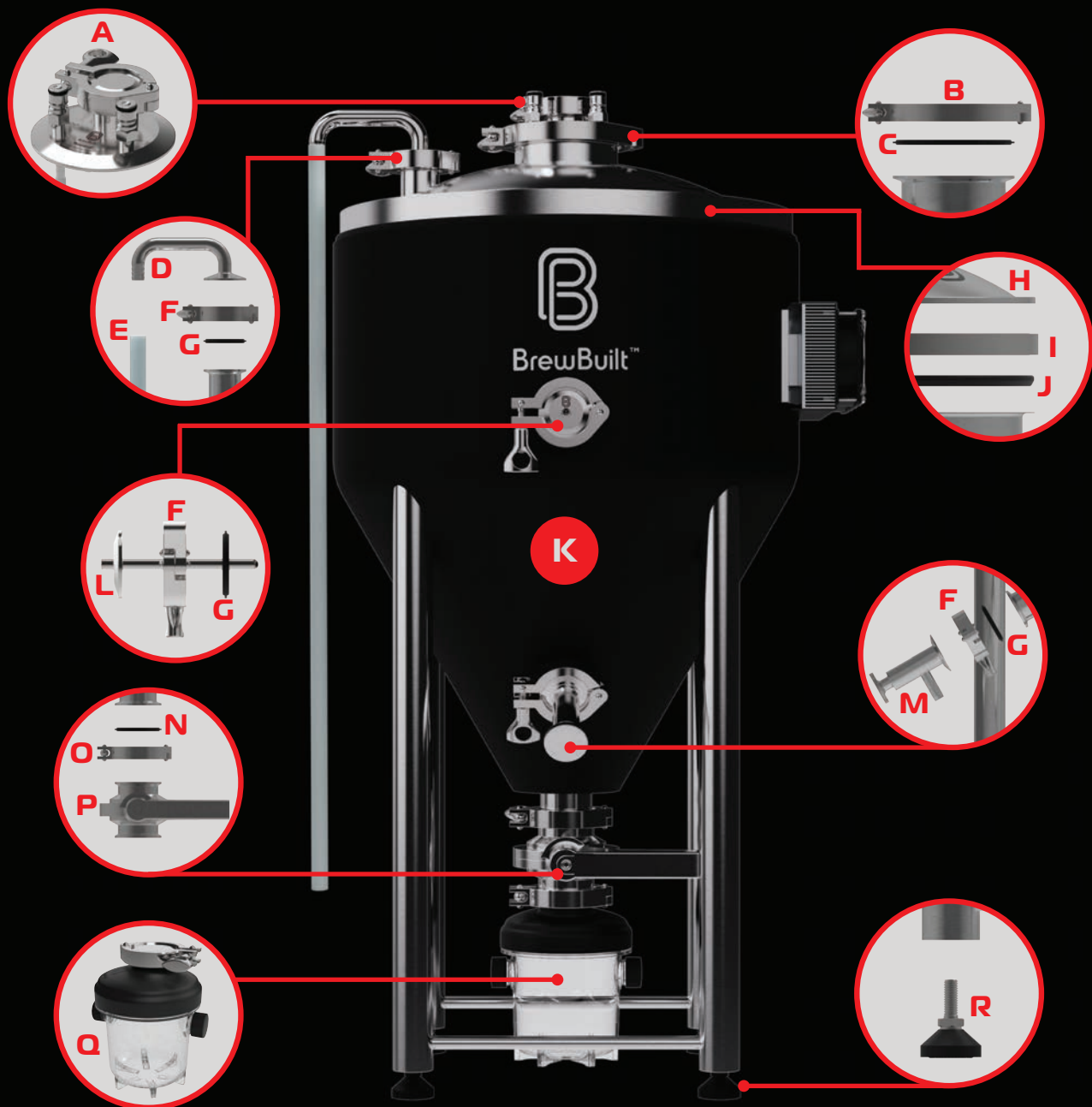
ASSEMBLING FOR ALL X1 CONICALS

FEET
Thread each foot into the bottom of the legs on the Conical leaving about half an inch of thread visible. Adjust as needed.

BLOW OFF
Place 1.5" TC gasket into the open blow off port on the conical lid and fasten the Blowoff U Barb with a 1.5" TC clamp, ensuring that the U Barb is pointing downward off the side of the conical. Slide ½" Silicone tubing over the barbed side of the U Barb. It's easiest to start with one side and then work it around until barbs are fully covered.

THERMOWELL
Place 1.5" TC Gasket and Thermowell into the open port in front of the conical just below the etched BrewBuilt Logo and fasten in place using 1.5" TC clamp.
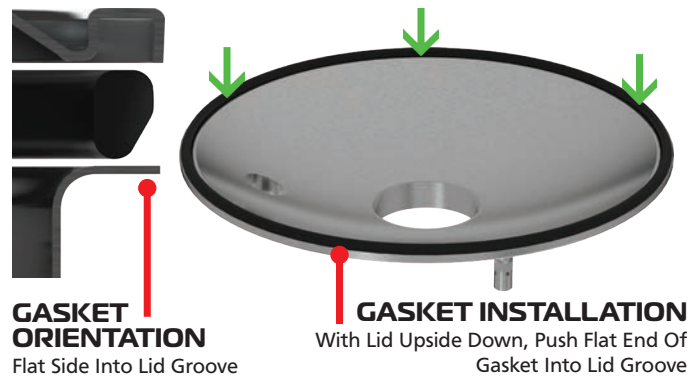
SAMPLE VALVE
Place 1.5" TC Gasket and Sample Valve into the open port halfway down the conical base on the front of the unit and fasten in place using 1.5" TC clamp. Make sure the Sample Valve is closed by turning it clockwise until it stops.

BUTTERFLY VALVE
The Butterfly Valve opens in one direction, so be sure to install it so the valve handle opens downward away from the conical bottom. Place 2" TC Gasket and Butterfly Valve on the bottom port of the conical and fasten in place using 2" TC clamp.

LID GASKET

- Flip the lid upside down and install a section of the gasket, flat side seating into the lid groove first. Lightly push the gasket in, installing it in the groove as you go around the lid.

- **Please Note**, the gasket is larger than the groove to help ensure a tight seal during fermentation. Continue pushing the gasket against itself and into the lid until it is in the groove and equally distributed without stretch points. Once you get the first piece of the gasket in the groove then you can use both hands to work the gasket around the lid and into the groove with your thumbs.
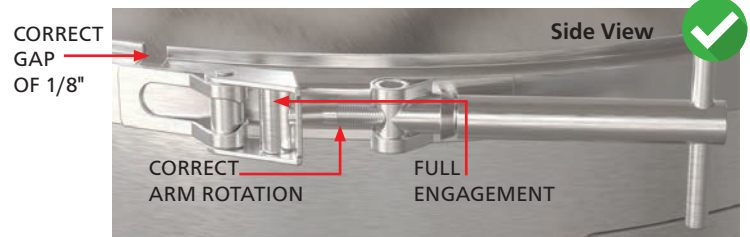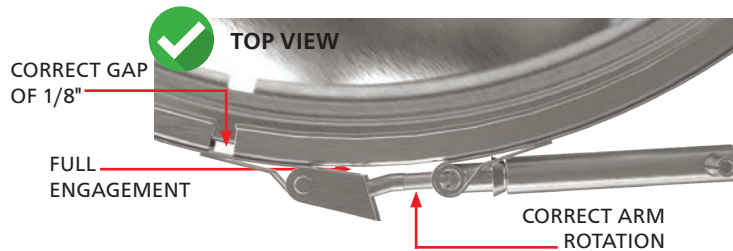
GASKET ORIENTATION
Flat Side Into Lid Groove

GASKET INSTALLATION
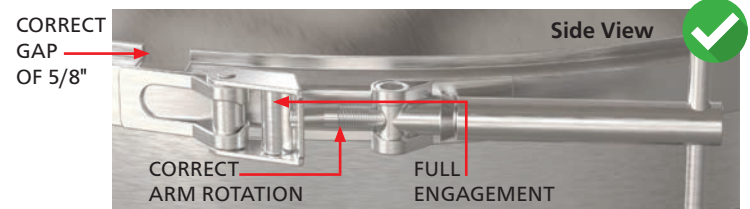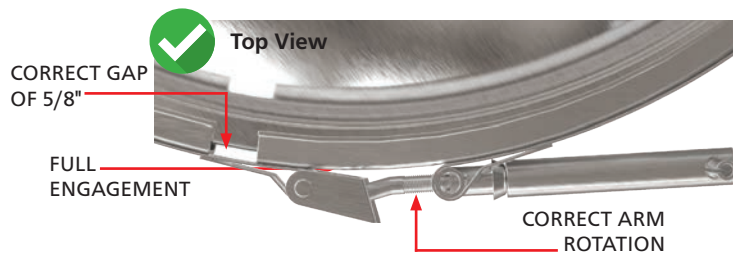With Lid Upside Down, Push Flat End Of Gasket Into Lid Groove

LID CLAMP

⚠️ *WARNING: Improper assembly of the lid clamp can cause the X1 Lid to be released while under pressure, possibly resulting in injury or death.*

- When installing the lid clamp, be careful to install it according to the pictures shown here. Incorrect assembly can be hazardous to both equipment & user.

- Ensure that the lid is centered on top of the conical body during assembly. The two should be centered so that the clamp seals down evenly.

- Lid Clamp should be hand tightened fully so there is a 5/8" gap between the ends on the 27 and 42 gallon models and a 1/8" gap on the 7 and 14 gallon models. See assembly pictures below for proper setup.
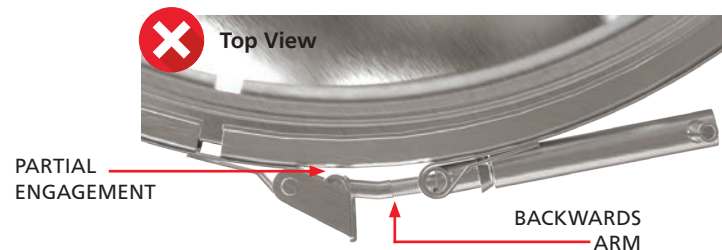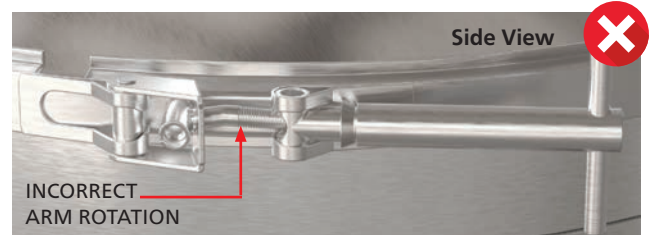
Correct Lid Clamp Assembly for 7 and 14 Gallon X1

TOP VIEW
CORRECT GAP OF 1/8"
FULL ENGAGEMENT
CORRECT ARM ROTATION

CORRECT GAP OF 1/8"
Side View
CORRECT ARM ROTATION
FULL ENGAGEMENT

Correct Lid Clamp Assembly for 27 and 42 Gallon X1

Top View
CORRECT GAP OF 5/8"
FULL ENGAGEMENT
CORRECT ARM ROTATION

CORRECT GAP OF 5/8"
Side View
CORRECT ARM ROTATION
FULL ENGAGEMENT

Incorrect Lid Clamp Assembly: Backwards Arm

Top View
PARTIAL ENGAGEMENT
BACKWARDS ARM

Incorrect Lid Clamp Assembly: Rotated Arm

Side View
INCORRECT ARM ROTATION

Incorrect Lid Clamp Assembly: Partial Engagement

Top View
ARM ROTATED CORRECTLY BUT NOT FULLY ENGAGED IN SADDLE
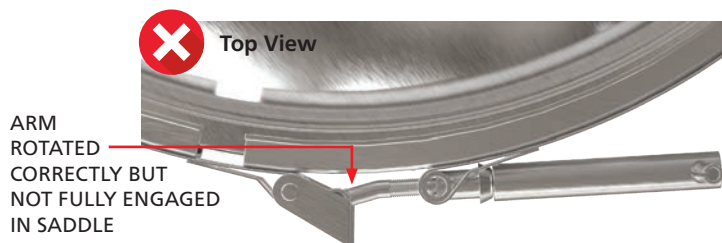
⚠️ WARNING

WARNING: Improper assembly of the lid clamp can cause the X1 Lid to be released while under pressure, possibly resulting in injury or death.

USING YOUR X1 PRO CONICAL

IMPORTANT SAFETY INFORMATION! Please read this entire instruction manual for important safety information prior to the use of your BrewBuilt X1 Uni Conical Fermenter. Failure to follow these warnings could result in serious injury or death.

GENERAL WARNINGS:

⚠ *WARNING: Follow all chemical labeling & cautions when cleaning and sanitizing Fermenter, always use approved cleaning agents.*

⚠ *WARNING: Do not pick up Fermenter when full.*

⚠ *WARNING: Do not overfill your conical past the maximum volumes listed below. Excess volume during fermentation can cause fermentation material called Krausen to clog the blow off and airlock causing dangerous over-pressurization of the conical to occur. Over-pressurization can result in injury or death.*

⚠ *WARNING: If using the optional Flex Chamber, always keep the bottom butterfly valve open to allow CO_2 to escape while the Flex Chamber is installed. Close valve only before removing.*

⚠ *WARNING: Do not place pellet hops, whole hops, oak chips, or other items directly into the fermenter. Loose material can clog the blow off and airlock causing dangerous over-pressurization of the conical to occur. Use a mesh bag to contain these types of materials.*

PRESSURE WARNINGS:

Failure to follow these instructions & warnings can cause a lid/clamp failure, possibly resulting in injury or death.

⚠ *WARNING: Only pressurize your Fermenter when using the optional BrewBuilt Pressure Pack accessory kit.*

⚠ *WARNING: If pressurizing, never exceed 15 PSI.*

⚠ *WARNING: Do not alter or change the Pressure Relief Valve (PRV) built into the lid.*

⚠ *WARNING: Always use an approved CO_2 regulator, with a functional low pressure gauge, to apply pressure to your BrewBuilt Fermenter.*

⚠ *WARNING: Incorrect assembly of the lid clamp can cause the X1 Lid to be released while under pressure.*

RELEASING PRESSURE WARNINGS:

⚠ *WARNING: If your Fermenter is under pressure, release all pressure before removing the lid clamp, tri-clamp (TC) fittings, or accessories. Failure to release pressure from the X1 could result in a fitting or lid being released while still under pressure, possibly resulting in injury or death.*

PRESSURE FERMENTATION WARNINGS:

Failure to follow these instructions & warnings can cause dangerous over-pressurization resulting in a lid/clamp failure, possibly resulting in injury or death.

⚠ *WARNING: Only ferment under pressure when using the optional BrewBuilt Pressure Fermentation Kit.*

⚠ *WARNING: Never close off/cap your X1 during fermentation at any time unless you are using the optional BrewBuilt Pressure Fermentation Kit.*

General Use

SANITIZE — Always sanitize your Conical before filling it with wort. This includes opening your sample valve and dump ports to ensure sanitizer makes contact with every nook 'n cranny. We recommend Star San or a similar sanitizer. Never use a bleach solution as bleach will cause pitting and corrosion on the surface of the stainless steel.

FILLING — Your conical can be filled by dumping wort through the top, or pumped in via the sample valve.

⚠ *WARNING: Do not overfill your conical past the maximum volumes listed below. Excess volume during fermentation can cause fermentation material called Krausen to clog the blow off and airlock causing over-pressurization of the conical to occur.*

MAXIMUM FILL LEVELS :

- 7 Gallon X1 – 5.5 gallons liquid
- 14 Gallon X1 – 11 gallons liquid
- 27 Gallon X1 – 21.5 gallons liquid

FERMENTATION — With the blow off barb and silicone blow off hose connected, place the end of the silicone blow off tubing into a bucket filled with water. We prefer the silicone tubing as opposed to a rigid stainless blow off as silicone tubing is much easier to remove and clean between batches. Silicone also allows greater flexibility with regards to blow off location.

⚠ *WARNING: Never remove the blow off tube during a fermentation. Capping the fermenter before ALL CO_2 production has finished can cause dangerous over-pressurization. Always use the optional BrewBuilt Pressure Fermentation Kit if you intend to capture ANY CO_2 from fermentation.*

If you wish to add pellet hops, whole hops, oak, or any other loose material to the fermentation we recommend using a mesh bag. Boil the mesh bag before use to ensure its sanitized.

⚠ *WARNING: Do not place pellet hops, whole hops, oak chips, or other items directly into the fermenter. Loose material can clog the blow off and airlock causing over-pressurization of the conical to occur. Use a mesh bag to contain these types of materials.*

DUMPING YEAST AND TRUB — One of the biggest benefits of a Conical Fermenter is the ability to dump yeast & trub from the bottom port. This couldn't be easier with the 2" TC

Butterfly Valve on the bottom of your conical. Another added advantage is being able to harvest your yeast for use on future batches. Regardless of whether you're dumping trub, hops, or yeast, you will want to guide that slurry into a drain or receiving vessel like a bucket or jar. Be sure to spray the Butterfly Valve down with sanitizer prior to dumping. Also keep in mind that you will need to open one of the ports on the top of the conical to allow air to replace the liquid that is flowing out the bottom. Another option is the included BrewBuilt Flex Chamber that connects to the bottom of the conical and allows you to collect and dump yeast and trub. Learn more about using the Flex Chamber on the following page.

TRANSFERRING FINISHED BEER — Racking your beer with the sample port is as easy as hooking up some sanitized tubing and opening the valve. Remember that you will need to either open one of the ports on the top of the conical to allow air to replace the liquid that is flowing out, or hook up CO_2 to the blow off port to replace the headspace and limit oxygen exposure. Using CO_2 also eliminates the need for the liquid to be gravity fed into the keg or other receiving vessel. Either way, we recommend pushing your finished beer into a sanitized keg via the bev-out body connect port. This will keep splashing to a minimum as beer will flow down the beverage dip tube and gently fill the keg from the bottom up. Lastly, pull up the PRV ring on the keg and set it in the open position to allow air (or CO_2 if you pre-purged the keg) to escape as your fresh beer flows in.

The Flex Chamber

⚠️ **WARNING:** *Always keep the bottom butterfly valve open when the flex chamber is installed so that CO_2 from fermentation can properly vent.*

The Flex Chamber is designed specifically for use with a BrewBuilt X1 conical Fermenter. It attaches directly to the 2" butterfly dump valve and can be used for removing trub, harvesting yeast, and many other tasks.

Always keep the butterfly valve open when the Flex Chamber is installed. When you are ready to remove the Flex Chamber, depressurize the system with the butterfly valve open. This allows any pressure to also leave the Flex Chamber. After relieving all pressure in the system you can close the butterfly valve and safely remove the Flex Chamber.

PREPARING YOUR FLEX CHAMBER FOR USE EACH TIME

1. Soak or spray the Flex Chamber and all parts — caps, gaskets, clamps, etc. — with sanitizer prior to assembling and attaching it to your conical dump port.

2. Assemble your Flex Chamber by attaching the lid and threading the caps onto the threaded ports on each side.

3. Spray sanitizer into the closed butterfly valve on your conical dump port as well as the top of the Flex Chamber and its TC gasket. Fasten the Flex Chamber to the butterfly valve with a 2" TC clamp.

TIP: If you are connecting the Flex Chamber to a full X1 conical, it's important to understand some basic displacement concepts. The empty Flex Chamber is filled with gas (oxygen) that will be sent up through your beer. If this happens post fermentation it could negatively impact the beer's flavor. See below to learn how to use your Flex Chamber side ports to flush with CO_2.

COLLECTING AND DUMPING TRUB WITH FLEX CHAMBER

The ability to remove trub and hop sediment is one of the key advantages of a conical fermenter. With the butterfly valve open and the Flex Chamber attached, trub separates directly into the Flex Chamber, which can then be easily removed. Follow the process outlined below.

1. If you are using the conical with the Pressure Pack lid, make sure the entire conical system has been depressurized and that the bottom butterfly valve is in the open position. For instructions on releasing pressure see the section below titled 'Releasing Pressure'.

2. When you are sure the system has been depressurized, close the butterfly valve at the bottom of the conical.

3. Place a bowl, pan, or small bucket below the Flex Chamber to collect drips and un-clamp the Flex Chamber from the butterfly valve.

FLUSHING THE FLEX CHAMBER WITH CO_2

An optional step is to flush your Flex Chamber with CO_2 prior to attaching it. This will help eliminate oxygen from the Flex Chamber. You can easily do this by attaching a ball lock adapter (Part# KG500) to one of the threaded side ports. Here's how to effectively flush the Flex Chamber with CO_2.

1. Soak or spray the Flex Chamber and all parts — caps, gaskets, clamps, etc. — with sanitizer prior to assembling and attaching it to your conical dump port.

2. Attach the Flex Chamber to the bottom of the butterfly valve, keeping the butterfly valve closed. Remove one black side cap and install the KG500 ball lock adapter. Slightly loosen the other black cap on the opposite side of the Flex Chamber so that CO_2 can escape while flushing.

3. Set the regulator on your CO_2 tank to its lowest possible setting i.e. 1–2 psi and connect your Ball Lock Gas QD to the KG500 ball lock adapter.

4. Allow gas to flow out of the Flex Chamber for a few seconds to ensure all the oxygen has been flushed. Tighten the black cap. You can replace the KG500 with the black cap or leave it in place for fermentation.

Pressure Package

⚠️ **WARNING:** *Only pressurize your Fermenter when using the optional BrewBuilt Pressure Pack accessory kit.*

⚠️ **WARNING:** *If pressurizing, never exceed 15 PSI.*

⚠️ **WARNING:** *Do not alter or change the Pressure Relief Valve (PRV) built into the lid.*

⚠️ **WARNING:** *Always use an approved CO_2 regulator, with a functional low pressure gauge, to apply pressure to your BrewBuilt Fermenter.*

⚠ **WARNING:** *Before removing any tri-clamp, fitting or lid clamp connected to the conical, release pressure from conical following the instructions in this section. Failure to release pressure from your X1 Uni could result in a fitting or lid being released under pressure which could cause bodily harm or death.*

⚠ **WARNING:** *Before applying pressure make sure the Pressure Relief Valve (PRV) is properly installed in the lid.*

⚠ **WARNING:** *Always confirm your Lid PRV is clean and working properly before applying CO_2 pressure.*

The Pressure Pack, specifically designed to work with BrewBuilt X1 Conical Unitanks, unlocks many possibilities. Apply low pressure before cooling to eliminate sucking oxygen back in. Use it to grab a sample or transfer finished beer to a keg in a true oxygen-free environment. The Clear Float allows sampling or transferring of the clearest possible beer from the top down! In this guide. Please read and follow the additional instructions that come with your Pressure Pack Kit.

Whenever your X1 conical is under pressure be aware that you will need to relieve pressure before removing the lid clamp or any fitting that is attached to your X1 fermenter. If you are using a Flex Chamber collection vessel, make sure the bottom butterfly valve is always in the open position when in use and when relieving pressure from the conical.

INSTALLATION

Assemble the Pressure Pack lid per the diagram. **DO NOT USE TEFLON TAPE** to assemble threaded body connects as they seal with the included o-rings. When attaching the Pressure Pack lid to your X1 conical, be sure your TC gasket is properly seated and then tighten down the TC clamp. Follow instructions that come with your Pressure Pack lid.

TIP: A welded a hook on the bottom of the Pressure Pack Lid can be used to hang drawstring bags for flavoring additions.

APPLYING PRESSURE

First Test — First take a moment and read the warnings above. For safety we always recommend the first pressure test be made while the conical is filled with water. After the conical is completely filled with water, replace the u-shaped blowoff with an included tri-clamp end cap. Before connecting CO_2 pressure be sure you have a working, accurate regulator with a low pressure gauge. We recommend setting your regulator to 1–2 psi to start with, and always less than 15 psi. Connect your gas-in ball lock QD on your CO_2 draft system to the gas-in body connect located on the Pressure Pack. The gas-in body connect has a notch on the side, while the beverage-out body connect does not. With 1–2 psi applied to the conical, practice releasing pressure by unthreading the PRV cap. Read the section on releasing pressure slowly as instructed in the section 'Releasing Pressure' below.

TIP: When applying pressure some brewers choose to cap the blowoff port with an optional tri-clamp pressure relief valve with a gauge.

TRANSFERRING AND SAMPLING – The bev-out fitting is equipped with a unique floating dip tube that will pull beer from the top rather than the middle or bottom of the conical. We recommend using a ball lock jumper, a section of beer line with a beverage-out QD at both sides, to transfer beer from your X1 to the bottom of your keg. When applying pressure for sampling or transferring start with a low pressure and increase only as needed. Keep in mind that your X1 Uni and Pressure Pack lid is rated at 15 psi and the PRV will start releasing pressure around this point. Never apply more than 15 PSI to your X1.

TIP: Filling your keg from the bottom up will keep splashing to a minimum as beer will flow down the beverage dip tube and gently fill the keg from the bottom up. Lastly, pull up the PRV ring on the keg and set it in the open position to allow air (or CO_2 if you pre purged the keg) to escape as your fresh beer flows in.

RELEASING PRESSURE

⚠ **WARNING:** *Before removing the lid clamp, tri-clamp fitting, or any accessory it is required to first release any pressure from your BrewBuilt Fermenter.*

Releasing pressure from your X1 can be achieved by loosening the cap on the Pressure Relief Valve (PRV) that is built into the lid. Slowly loosen the cap counterclockwise until you hear the release of any CO_2 exiting the PRV. When the release has stopped, continue to slowly unthread the cap. At any point while loosening the cap if you hear additional CO_2 being released, stop and wait. When no additional CO_2 is being released slowly remove the cap completely to ensure that all pressure has been removed from the fermenter. Only then is it safe to begin removing fittings or the lid clamp.

TRANSFERRING CLEAR BEER TO KEG UNDER PRESSURE

Push your finished beer into a keg using CO_2 so it never becomes exposed to oxygen—it's simple and fast using the Pressure Pack. Thanks to the Clear Float stainless steel floating pick up, you'll be transferring the clearest beer from the top down.

Once your beer is ready to be packaged into a keg, follow these instructions. **NOTE:** you will need a Corny Keg Ball Lock Jumper Line (beverage tubing with bev-out ball lock connectors at both ends).

1. Fill your keg with sanitizer solution. Push the sanitizer out using CO_2. Open the keg pressure relief valve to let CO_2 exit the keg during filling.

2. Attach your CO_2 tank to the gas-in post on your Pressure Pack lid and set it to around 10–12 psi.

3. Attach the Corny Keg Ball Lock Jumper Line to the bev-out post on your Pressure Pack lid.

4. Once you hook up the bev-out to the keg, beer will start flowing from the pressurized X1 Unitank into the unpressurized keg.

5. Once your beer has transferred, unhook the bev-out and gas-in connectors. Pressurize your keg.

6. Be sure to release any pressure from inside your X1 before opening it for cleaning.

FERMENTING UNDER PRESSURE

⚠️ *WARNING: Follow all special warnings and instructions that come with the optional BrewBuilt Pressure Fermentation Kit. DO NOT pressure ferment without using the optional Pressure Fermentation Kit.*

If you wish to ferment under pressure, or capture CO_2 at the end of fermentation, you must use the optional BrewBuilt Pressure Fermentation Hardware Kit. The optional hardware kit comes with a commercial-grade pressure relief that connects to the 1.5" TC port on the lid. It also comes with an adjustable spunding valve. The spunding valve allows you to set a safe pressure to ferment. With the Pressure Fermentation Kit installed, there are three safety relief valves: the standard pressure relief valve welded into the lid, the commercial 1.5" TC relief valve, and the PRV on the Spunding Valve. The Fermentation kit includes a no-foam krausen reducer, CellarScience® Foam-Axe to reduce the chance that krausen could enter any of the PRVs.
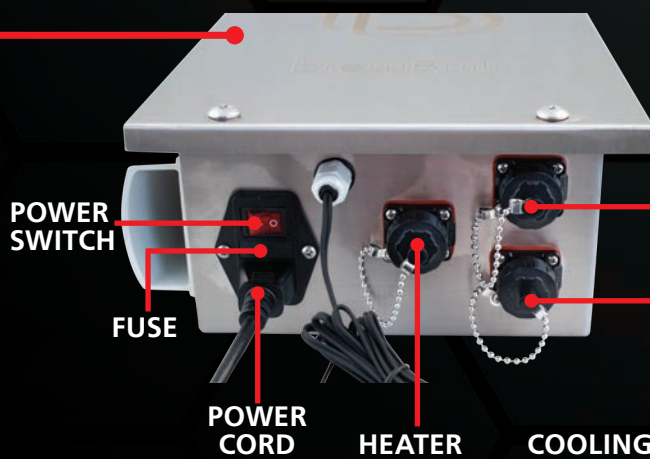
Connecting the Control Panel

⚠️ *WARNING: Always use a GFCI to power your control panel.*

⚠️ *WARNING: Do not use if there is any damage to the wiring.*

The BrewBuilt Control Panel has an included InkBird heating and cooling controller and a 500 watt 12V DC power supply. It has a tab welded to the top four screws and can be hung on a wall or one of our optional stainless controller stands (CONP735 & CONP736). On the bottom of the box there are 4 sockets. One socket is for the power cord and it contains the power switch and a fuse. There is a 3-pin connector for the heating element and two 2-pin connectors for the cooling. Depending on what system you have you may only need one cooling connector.

POWER SWITCH
FUSE
POWER CORD   **HEATER**   **COOLING**

The power connectors are sealed with a water-tight cap. It is best to leave the caps in place when not in use. The connectors are polarity sensitive and will only go in one way. Once aligned correctly they push in and rotate clockwise 1/4 turn to lock.

**DO NOT** spray or immerse the control panel. To clean wipe with a damp cloth when unplugged.

Setting Your Temperatures

The controller in your control panel comes programmed with a default setting of 68F, the most common fermentation temperature for ales. To change the temperature setting, follow these directions:

COOLING ON   **SET**   **DOWN**
HEATING ON   **POWER**   **UP**

FACTORY SETTINGS:

- **tS** = Set Point = 68
- **CF** = Celsius/Fahrenheit = F
- **CA** = Calibration Offset = 0
- **Pt** = Compressor Delay = 0
- **dS** = Differential = 1
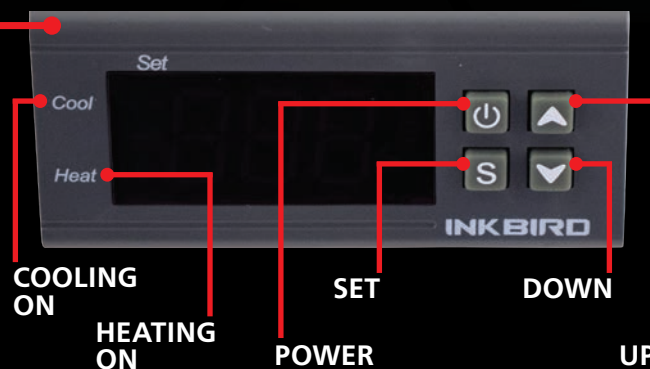
To change the settings hold the S button down till tS is showing (about 5 seconds). Using the up and down arrows find the setting you wish to check or change and press S. Set the new value with the up and down buttons and press S when finished. When all settings are correct press the power button to return to normal operation.

NOTE: Changing from Celsius to Fahrenheit resets the other settings.

To set the Calibration offset, place the temperature sensor in a glass of ice water and stir till the reading is stable. Subtract 32 from the reading and change the sign. If it reads 34, subtract 32 to get 2, change the sign, and set the offset to -2. This allows for changes in the resistance of the probe and connections.