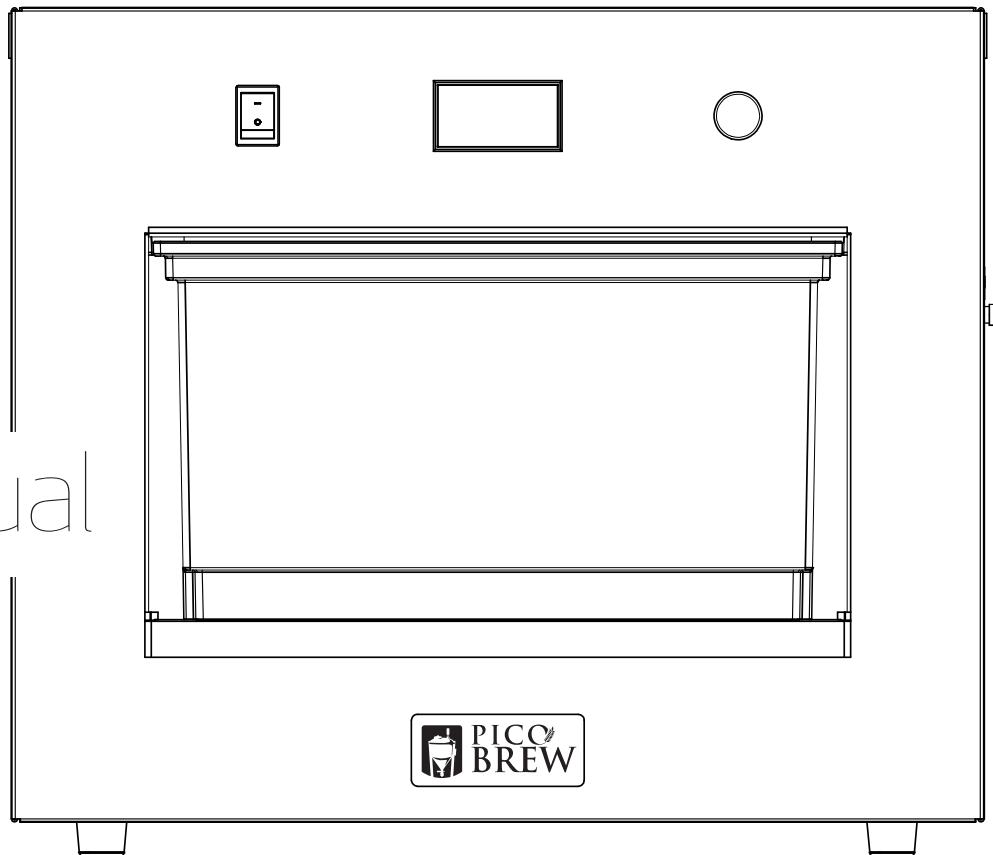




Zymatic

User Manual



Important Safety Information



- Exercise common sense while operating the Zymatic.
- Always use the keg cozy to shield the hot metal of the keg.
- Close supervision is needed when used around children.
- Allow machine to fully cool before removing or replacing parts.
- Do not operate with a frayed cord or broken plug.
- Test the GFCI circuit breaker on the plug before every brew.
- Do not remove step filter from the Zymatic unless in pause mode or brew cycle is completed.
- The step filter and contents may be hot when removing from the machine.
- Do not immerse or soak the machine.
- Make sure all hoses are connected before starting a brewing, rinsing or cleaning cycle.
- To avoid risk of electrical shock hazard do not disassemble the Zymatic. There are no user serviceable parts inside.
- Various surfaces can get extremely hot during the brewing cycle, use caution when handling the keg, hoses and components.
- Do not remove the hose clamps, hot liquid spray may result.
- Do not remove the keg attachments while brewing.

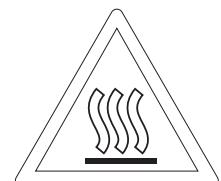
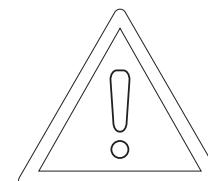
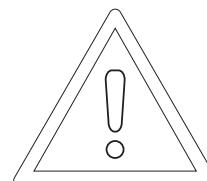


TABLE OF CONTENTS

Important Safety Information 2

SECTION 1 — Introduction to the Zymatic

1.1 Zymatic Components 6

1.2 How the Zymatic Works 10

1.3 Required Materials 12

SECTION 2 — Setting Up Your Zymatic

2.1 Zymatic Setup 14

2.2 Zymatic Assembly 15

2.3 Initial Rinse 18

SECTION 3 — Brewing on your Zymatic

3.1 Selecting/Crafting a Recipe 22

3.2 Preparing Ingredients 29

3.3 Brewing 33

3.4 Chill 33

3.5 Pitch Yeast 36

3.6 Fermentation 37

3.7 Rack 39

3.8 Carbonate 41

SECTION 4 — Care and Maintenance

4.1 General Cleaning (after every brew) 44

4.2 General Maintenance 45

4.3 Deep Clean (every 3-4 brews) 46

SECTION 5 — Advanced Brewing Techniques

SECTION 6 — Menu Screens

6.1 Main Menu 50

6.2 Brew Menu 52

SECTION 7 — Troubleshooting

SECTION 1

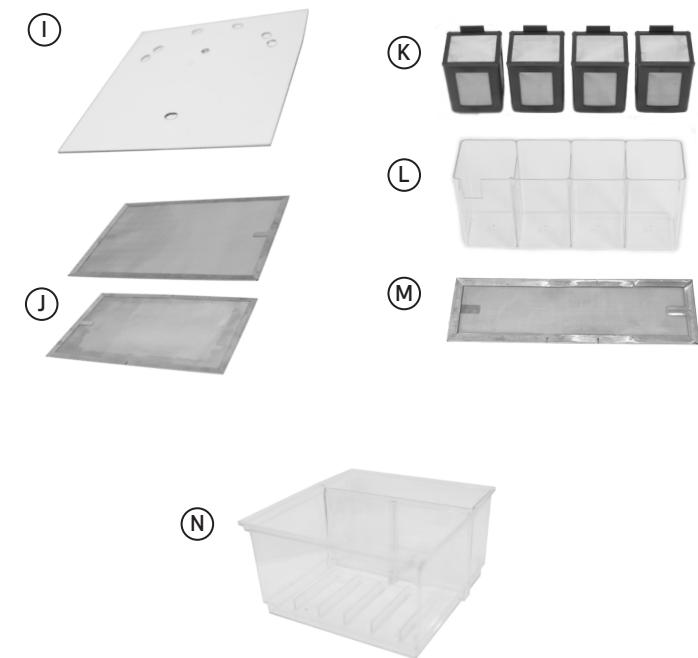
1.1 Zymatic Components

Please check to make sure you have all components before continuing. If any parts are missing contact PicoBrew immediately.

- A - Zymatic
- B - 6' Power cord
- C - USB cable
- D - 25' Ethernet cable
- E - Diptube cleaning brush
- F - Transfer tube
- G - IN hose (gray ball lock)
- H - OUT hose (black ball lock)



- I - Step filter lid
- J - 2 Mash screens (1 large and 1 small)
- K - 4 Hop cages and lids
- L - Adjunct compartment
- M - Adjunct screen
- N - Step filter



O - Foam trap (with spindle and felt washer)

P - Needle-less syringe

Q - Package of PBW

R - Dishwasher tablet

S - Bottle of antifoam

T - 2 Cleaning tubes

U - Keg cozy

Included, not pictured:

- Plastic hose wrench
- 4 small white nylon washers
- 4 silicone bands
- Keg seal
- Airlock
- Pico Pale ingredient kit



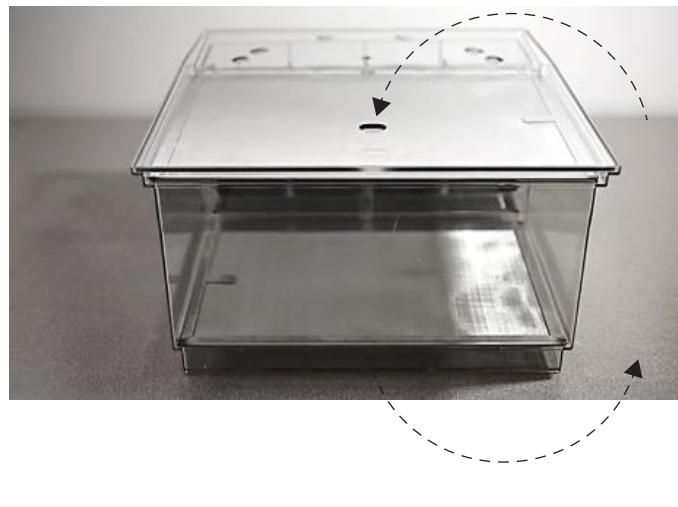
1.2 How the Zymatic Works

Heat

To heat the wort up to temperature, the Zymatic will bypass the grain and hops in an area of the Step Filter called the Pass Through. The Pass Through is the narrow area between the Mash Compartment and the Adjunct Compartment. When wort is heating up, it passes directly to the bottom of the step filter, where it circulates through the drain and back into the keg. The wort flow is controlled by the stepper (fluid) arm, which is located above the step filter lid, in the Zymatic. The Zymatic has been calibrated to keep the water level in the bottom of the step filter below the grain and hops, so they are only incorporated when the recipe calls for them.

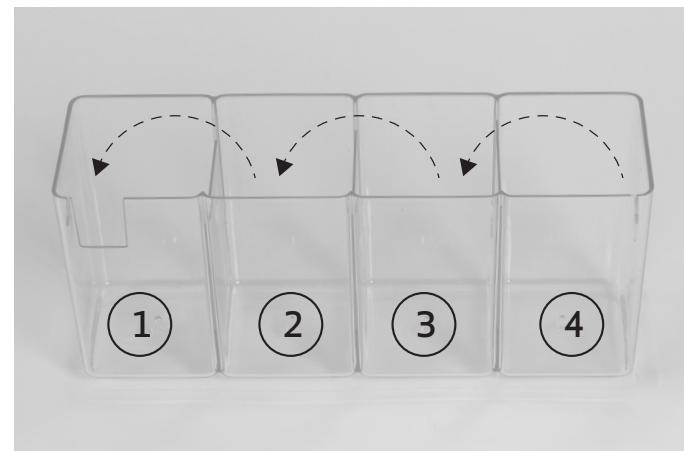
Mash

Grains go in the mash compartment, where water is filtered through the top and bottom mesh filter screens and recirculated through the keg and Zymatic. This circulation allows for temperature control.



Boil

Hops are boiled in cages in the Adjunct Compartment. Each cage corresponds to a timed addition to the boil. The cascading motion caused by the Adjunct Compartment mimics manually adding hops to a boil pot. When a new hop addition is added, the cascading motion allows the previous addition to continue to boil, as well as the new addition



1.3 Required Materials

Before Your First Brew

1. Zymatic (A)
(assembled with power cord (B), IN hose (G), OUT hose (H), and plastic hose wrench)
2. Step filter lid (I)
3. Step filter (N)
4. Small mash screen (J)
5. Adjunct screen (M)
6. Corny keg
7. Keg seal
8. 1 gallon of water

During Your Brew

1. Zymatic
2. Step filter lid (I)
3. Adjunct compartment (L)
4. Hop cages (K)
5. Step filter (N)
6. Adjunct screen (M)
7. Small and large mash screens (J)
8. Foam trap (with spindle and felt washer) (O)
9. Anti-foam (S)
10. Keg cozy (U)
11. 5-gallon corny keg
12. Keg seal
13. Water (amount varies by recipe)
14. Recipe kit (grains, hops, yeast)

Post-Brew

1. Yeast
2. Airlock
3. Sanitized water or alcohol
4. 5-gallon corny keg (with wort)
5. Ice (optional)
6. 5-10 gallon bucket (optional)

Rinse

1. Zymatic
2. Step filter (N)
3. 2 large containers for water
4. 1 gallon of water
5. 2 cleaning tubes (T)

Miscellaneous

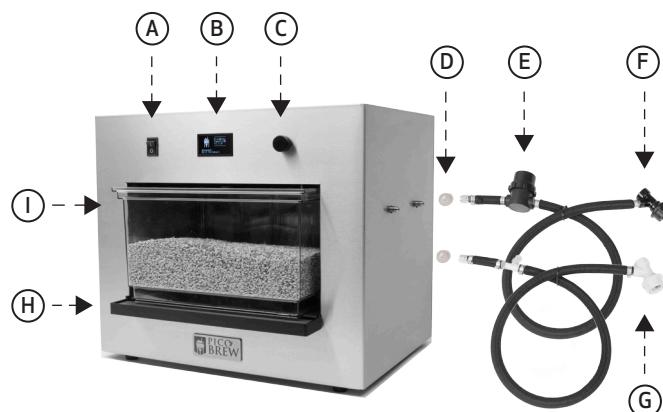
1. Sampling from the Sampling Port
 - (a) Needleless syringes (P)
2. Keg Cleaning
 - (a) Diptube cleaning brush (E)
 - (b) Pro Brewers Wash (Q)
 - (c) Racking/transferring
 - (d) Transfer tube (F)
3. Non-WiFi Internet Connection
 - (a) Ethernet cord (D)
4. Firmware Updates
 - (a) USB cable (C)

SECTION 2

Setting Up Your Zymatic

2.1 Zymatic Setup

- A - On/Off switch
- B - OLED display
- C - Control knob (twist to scroll, press to select)
- D - White nylon washers
- E - Inline filter
- F - OUT (black) hose connects to OUT post of keg, controls flow into step filter
- G - IN (gray) hose connects to IN post of keg, controls flow into keg
- H - Drip tray
- I - Step filter



2.2 Zymatic Assembly

- ① Set the Zymatic on a sturdy, level surface. Peel off any remaining white protective film from all surfaces.
- ② Insert the white nylon washers into the flare nut fittings on the ends of each hose. This prevents the hoses from pumping air or leaking.



1. Match the BLACK hose to the BLACK sticker and the GRAY hose to the GRAY sticker.



2. Hand tighten by screwing the flare nut onto the Zymatic, then use the black plastic wrench to tighten further.



3. Keep the black plastic wrench and extra nylon washers with this manual in case they are needed for any repairs or replacements.

- ③ Remove red plug from the stepper arm. During plug removal exercise caution so as to not yank or pull on stepper arm.



- ④ Plug the power cord into the back of the machine and into an outlet. The Zymatic requires at least a 15 amp outlet (standard in most houses). Do not overload the outlet with other appliances that will use more than 15 amps.



If you are using Ethernet, plug the Ethernet cord into the back of the machine. If you are using WiFi, skip this step. WiFi set up will be completed upon the initial startup of the Zymatic with on-screen instructions.

2.3 Initial Rinse

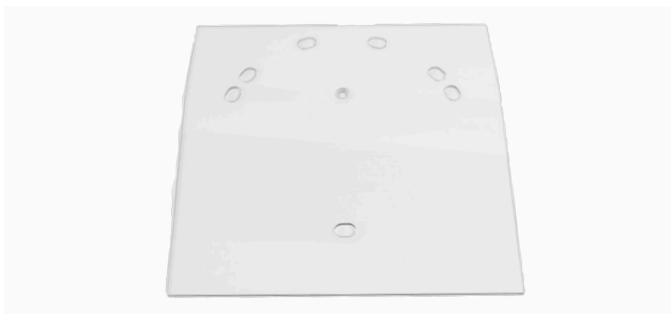
- ① Before you start your first brew, you need to run a quick rinse cycle using an empty bucket, your keg, and the cleaning wand.

Step filter set-up:

1. Place the smaller of the mash screens into the mash compartment, so that it rests on the bottom ledge of the step filter. This is the false bottom that the grain will sit on.
2. Place the adjunct screen on the other side of the step filter (the adjunct compartment), also resting on the bottom ledge.



3. Place the lid on top of the step filter, ensuring that the holes are aligned correctly. The indented (beveled) side of the center hole should be facing up.



- ② Slide step filter into Zymatic. There should be a little resistance as the drain slides into place and the step filter presses against the back of the Zymatic. Do not excessively force step filter into drain. The step filter will stick out of the machine by about an inch to allow for easy removal. If you are having issues sliding step filter into place please contact support@picobrew.com for assistance.

- ③ Switch on Zymatic. Scroll and click through menus. Follow the on screen instructions if you are using WiFi.

- ④ Fill your keg with approximately 1.5 gallons of clean, hot tap water. Place the keg either on the floor or on the counter next to your Zymatic.

- ⑤ Connecting your keg to the Zymatic: Connect the black ball lock to the keg post labeled OUT, and the gray ball lock to the keg post labeled IN. Lift the outer ring of the ball lock, place it on the appropriate keg post, let go of the outer ring and press down firmly. The ball lock will click when it fits into place.

In the same manner, attach a cleaning wand to the GRAY ball lock. Allow the gray hose to sit in an empty bucket.



- ⑥ A welcome screen will appear on the OLED display. Press the control knob once to get to the menu. Select “Clean/Rinse.” Then, select “Rinse” and the Zymatic will begin the initial rinse cycle.



-
- ⑦ Once the rinse cycle completes, the Zymatic returns to the main menu. Remove your step filter and dump out any remaining water.
- ⑧ Disconnect the keg from the machine. To disconnect the ball locks, pull up on the outer ring of the ball lock, and pull the ball lock off of the kegpost. Dump any remaining water out of the keg.

SECTION 3

Brewing on your Zymatic

3.1 Selecting/Crafting a Recipe

NOTE: If you prefer to use metric units in the recipe crafter, change the option on the "Settings" tab in your picobrew.com account. This adjusts all recipe measurements except text in recipe notes.

Selecting a recipe

- ① Login to your PicoBrew account, click the Community tab, and choose "Recipe Library".
- ② Find the recipe you wish to brew by searching for the recipe name or beer style in the "Search by Name" field. You can also find recipes by author using the "Search by Author" field. Click the recipe name to view recipe details and notes.

The screenshot shows the PicoBrew website's Recipe Library. A specific recipe for 'Anny's Pale Ale' is selected. The 'Copy to My Brewhouse' button is highlighted with a red oval. The page displays vital stats, malts, and hops information for the recipe.

VITAL STATS

| | |
|----------------|-------------------------|
| Style | 10. A American Pale Ale |
| OG/FG/IBU | 1.05 / 1.01 / 38 |
| SRM | 8 |
| ABV | 5.2% |
| Starting Water | 3.51 gal Tap Water |
| Starting Water | 29.29 lbs |
| Weight | 2.5 gal |

A pie chart shows the grain bill: American Two-Row Pale (81.5%), American Crystal 40L (10.5%), and Belgian Carapils (1%).

MALTS

| Type | Amount (lb) | Gravity (pts) | Color (pts) |
|-----------------------|-------------|---------------|-------------|
| American Two-Row Pale | 6 lbs | 44.7 | 4.5 |
| American Crystal 40L | 8 oz | 3.42 | 7.4 |
| Belgian Carapils | 4 oz | 1.51 | 0.7 |

HOPS

| Type | Amount (oz) | Alpha Acid % | Time |
|---------|-------------|--------------|------|
| Summit | 0.19 | 18.5 | 60 |
| Cascade | 0.75 | 6.2 | 10 |
| Cascade | 0.75 | 6.2 | 5 |

- ③ When you find a recipe you want to brew, click "Copy to My Brewhouse" at the top of the recipe. The recipe will appear in your Brewhouse and transfer automatically to your Zymatic.

Crafting a recipe

- ① Login to your PicoBrew account, click the My Recipes tab and choose "Craft Recipe."

Specification

| | |
|---------------|---|
| Recipe Name | New Recipe |
| Author | Nicole Steward on 7/11/2014 |
| Recipe Type | Beer |
| BJCP Style | 1A. Lite American Lager |
| Finished Beer | 2.5 |
| Tasting Notes | A clear, watery, very light-bodied Lite American Lager. |

MIN Actual MAX

| | | | |
|--------|-------|---|-------|
| OG | 1.028 | 0 | 1.04 |
| FG | 0.998 | 0 | 1.008 |
| IBU | 0 | 0 | 12 |
| SRM | 2 | 0 | 3 |
| ABV(%) | 2.8 | 0 | 4.2 |

- ② **Recipe Name:** Enter the name of your recipe. This will be shown on your OLED display during your brew and if you choose, shared with other users in our Recipe Library. Recipe names cannot be longer than 20 characters, and can contain only alphanumeric characters, single quote ('), period (.), dash (-), or underscore (.). Accented characters (such as è and ü) are not allowed.

Recipe Type: Choose Beer or Sous Vide.

BJCP Style: Choose the style of beer you wish to create. If you're unsure about the beer styles offered, check <http://www.bjcp.org/2008styles/catdex.php> for descriptions.

Finished Beer: Input the desired amount of finished beer. This is the amount of drinkable beer you will have after fermentation and racking. The default amount is 2.5 gallons. To increase or decrease this volume, please contact info@picobrew.com for assistance.

Tasting Notes: A description of the recipe. This field will auto-fill while you create your recipe with a description of the color, bitterness, and body. If you wish to give a different description, click on the field and enter your own.

OG: As the recipe is crafted, the Original Gravity (OG) will update depending on the amount of fermentables selected. The OG is shown in the Vital Statistics box in the upper right hand corner of the Recipe Crafter page. You can also input the OG and your recipe will scale accordingly.

FG: A general prediction of the final gravity of your beer based on the given OG and yeast attenuation. Fermentation time, temperature, and other variables are not taken into account here.

IBU: Calculated IBU (International Bittering Units) is based on the hop types, amounts, alpha acid% (AA%), content, and given time. The recipe crafter uses a Tinseth calculation that is modified for the Zymatic's boiling system based off laboratory IBU testing. This field does not require editing, but if you wish to input a specific IBU, select hops being used, input the AA% and the time. Change the IBU number in the Vital Statistics box to your desired IBU level and the recipe crafter will scale accordingly.

SRM: The calculated Standard Reference Method (SRM) is based on the color points of the malts selected. Use the pint glass located to the left of the Vital Stats box as a visual aid. As malts are selected, the pint glass changes color.

ABV%: A prediction of the alcohol by volume of your finished beer. The actual ABV % is a calculation of the OG and FG.

| Fermentables | | | | |
|--------------|-------------|---------------|-------------|---------|
| Malt Type | Amount (lb) | Gravity (pts) | Color (pts) | Percent |
| | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 |
| Total | 0 | 0 | 0 | 0 |

- ③ **Fermentables:** Enter all grains, extracts and sugars that will be used in your brew.

The maximum grain weight the step filter can hold is 9 lbs and the recipe crafter will produce a warning message if you exceed the 9 lbs limit, although it will still attempt to calculate. The only time a finished recipe should exceed 9 lbs is if you are adding sugar/extract to the keg and wish to calculate the gravity including the addition. If you are adjusting a recipe that wasn't created for the Zymatic (for example, a 5 gallon batch recipe), enter the recipe the way that it appears (this will probably exceed 9 lbs, but will be adjusted) and then enter the desired OG for the recipe into the OG field. The recipe will adjust itself to match the OG and keep the correct ratios of grains. **If your desired OG exceeds 1.060, you need to select the High Efficiency Multi-Step program under Mash Profile. Adjust the IBU levels in the same manner.**

| Hops | | Hop Type | Amount (oz) | Alpha Acid % | Use | Time | IBU |
|------|--|----------|-------------|--------------|------|------|-----|
| | | | | | | | |
| | | | 0 | 0 | Boil | 0 | 0 |
| | | | 0 | 0 | Boil | 0 | 0 |
| | | | 0 | 0 | Boil | 0 | 0 |
| | | | 0 | 0 | Boil | 0 | 0 |
| | | | 0 | 0 | Boil | 0 | 0 |
| | | | 0 | 0 | Boil | 0 | 0 |
| | | | 0 | 0 | Boil | 0 | 0 |

- ④ **Hop Type:** Select the hops you are using.

Amount (oz): Input the desired amount of hops (max 1.5 oz per compartment). If you are adjusting a recipe for a larger batch, you can choose to scale to the correct IBU amount afterward.

Alpha Acid %: This field will auto-fill with the average AA% for the hop type you select. If you know the AA% of the hop type (generally printed on the bag of hops), you can edit this field.

Time: The time (in minutes) that you would like to boil each hop. You may input the same time for different hop types. If you do, you need to combine them in the same cage. You are limited to four timed additions.

| Adjuncts | | | |
|--------------|-------------|------|------|
| Adjunct Type | Amount (oz) | Use | Time |
| | 0 | Boil | 0 |
| | 0 | Boil | 0 |

- ⑤ **Adjuncts:** Adjuncts is an optional field where you can select ingredients which do not fall under fermentables or hops—e.g. spices, wood, flowers, etc. **These do not impact the schedule—this section is for recipe notation only.**

If you don't see the adjunct you'd like to use, select "Other," and note the ingredient in the Notes section at the bottom of the page.

| Water | | | | | |
|------------|-----------|--------------|-----------|--------------|---------------|
| Water Type | Amendment | Amount (tsp) | Amendment | Amount (tsp) | Keg Water (G) |
| Water | 0 | 0 | 0 | 0 | 0 |

- ⑥ **Water Type:** Do not use distilled or reverse osmosis water (excessive foaming may result). If you are using tap water, be sure it is water that you would be willing to drink.

Amendment: You can choose between Calcium Carbonate, Calcium Chloride, Calcium Sulfate, or Magnesium Sulfate, which are the most common types of amendments. If you are not amending your water, just leave the field blank.

Amount: Amount of each amendment. You can make specific notes about the amendments in the Notes section.

| Mash Profile | Temp (F) | Time |
|-----------------------------------|----------|------|
| Mash Type Single Step Infusion | 152 | 90 |

⑦ **Mash Type:** Choose between Single Step Infusion or High Efficiency Multi-Step mash. If you choose Single Step Infusion, you can adjust the mash temperature and time (we do not recommend using less than 60 minutes for a single step infusion).

The **High Efficiency Multi- Step** schedule will increase your OG without changing your grain load. Notice that you cannot change the temperature and time if you select High Efficiency Multi-Step. Choosing a High Efficiency Multi-Step schedule will run the following steps:

- Dough In at 102°F for 20 minutes
- Mash 1 at 152°F for 30 minutes
- Mash 2 at 154°F for 60 minutes
- Mash Out at 175°F for 10 minutes
(typical schedule)

The High Efficiency Multi-Step schedule is longer than a typical brew—from start to finish, it takes approximately 5 hours to complete.

| Boil Profile | Temp (F) | Hop Boil Time | Pre-Hop Boil | Total Boil Time |
|--------------------------------------|----------|---------------|--------------|-----------------|
| Boil Type Normal Single-Temp Boil | 207 | 0 | 0 | 0 |

⑧ **Boil Type:** The only choice is Normal Single-Temp Boil. This means that all hops will be boiled at 207°F by default.

If you are a high altitude user—use the ADVANCED edit tool in the recipe crafter to change the boil temperature to 203°F. You may also want to check boiling temperature guidelines from your area for an accurate temperature assesment.

Temperature: 207°F is the default. We do not recommend changing it unless you are an advanced user or plan on brewing at a high altitude. The Zymatic is designed to operate at temperatures below the boiling point of water. Temperatures above 207°F may result in machine damage.

Time: The time will auto-fill to be the same as the longest boiling hop. If you want to boil your wort before adding hops, extend this time so that it is longer than your longest boiling hop. Adding extra time will result in circulation of the boiling wort through the pass-through area before the first hop addition.

| Yeast | Range AA% | Expected AA% | Range Temp (F) | Pitch Temp (F) |
|------------|-----------|--------------|----------------|----------------|
| Yeast Name | 0 - 0 | 75 | 0 - 0 | 70 |

⑨ **Yeast Name:** Select your yeast. The yeast list includes yeasts from Fermentis, White Labs, and Wyeast.

Range AA%: Range of attenuation given by the yeast manufacturer.

Expected AA%: Defaults to the average attenuation from the range. If you know your attenuation will be closer to the end of one of the ranges (due to closely controlled fermentation temps, yeast starters, etc.), this is an editable field.

Range Temp: The range of fermentation temperatures for the yeast strain given by the yeast manufacturer.

Pitch Temp: Defaults to the average temperature within the range. If you know what temperature you will be pitching your yeast, enter the temperature here. This field will dictate what temperature the batch will chill to if using a separate cooling apparatus such as chiller or bucket methods.

| Fermentation Directions | Description |
|-------------------------------------|--|
| Fermentation Type Normal Primary | Cool to 66 F and keep temperature consistant for 10 Days |
| Ale | |

⑩ **Fermentation Type:** Select either Normal Primary or Advanced/Custom and either Ale or Lager. Normal Primary fermentation will default to a typical ale or lager fermentation schedule.

The Advanced/Custom fermentation option allows you to input Names, Temperatures, and durations for custom steps.

These fermentation steps are used by the PicoBrew KegSmarts system for automatic fermentation management.

| Fermentation Directions | | | | |
|-------------------------|--------------|--|------|-------|
| Fermentation Type | | Description | | |
| Advanced/Custom | | KegSmarts will maintain the temperature of the last step after fermentation has ended. | | |
| Step | Name | Temp (F) | Days | Hours |
| 1 | Fermentation | 66 | 10 | 0 |
| 2 | Crash Chill | 44 | 0 | 0 |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |

Name: Input the name of your fermentation step. You may have up to 5 fermentation steps.

Temp: Input the temperature required for the fermentation step.

Days: Input the number of days the fermentation step will take.

Hours: Input the number of hours the fermentation step will take (in addition to, or in lieu of the Days section).

| Notes | |
|--------------|--|
| Recipe Notes | |
| | |

- (11) Any other notes you would like to add should go in the notes section. We encourage lots of detail—this is a great place to note dry-hopping and anything that was not already covered in the recipe crafter.

If you plan on using the Advanced Recipe Control Program Editor for your recipe—please note that here! Changes made to the Advanced Recipe Control Program Editor are not reflected on the recipe page so noting this in the Notes field is especially critical and helpful for those downloading your recipe from the library.

Note that any temperatures listed in this section do not automatically adjust if the units change between Imperial and Metric.

- (12) Save. Click the Save button when recipe crafting is complete. This will sync and upload to the Zymatic automatically.

If you run into any issues selecting or crafting a recipe, visit “Troubleshooting” under the “Support” tab of your PicoBrew account.

3.2 Preparing Ingredients

NOTE: Proper cleaning and sanitizing of brewing equipment is a CRITICAL part of the brewing process. Without it, you risk the introduction of bacteria and contaminants into your beer.

- **Cleaning:** All equipment that comes into contact with beer must be thoroughly cleaned and rinsed prior to brewing. Unscented dish soap is effective, but must be thoroughly rinsed off before brewing.
- **Sanitizing:** All equipment that comes into contact with beer after it has been brewed needs to be sanitized. We recommend using Star-San, or a similar food-grade sanitizing solution. Generally, all equipment should be soaked in a diluted sanitizing solution for about 10 minutes before use. Kegs should be filled with a diluted sanitizing solution, and left to soak for about 10 minutes.

- (1) Fill your keg with the amount of water listed in your recipe. Use a gallon jug and measuring cup or a scale (8.33 lbs water = 1 gallon of water) to measure your water.

Accurate water measurement is important to ensure the best results for your brew. Water measurement errors are one of the most common problems brewers encounter. If you use a scale to measure your water, don’t forget to tare it to your container before adding water!



- ② To insert the black keg seal, start by inserting one end and firmly pressing around the edge of the seal until it has been pushed into place. Do not put too much pressure on the center of the seal as it may fall into your keg.



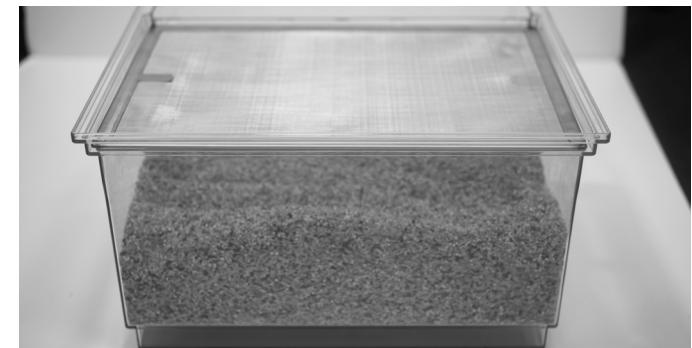
- ③ Assemble the foam trap. Place a few drops of antifoam on to the felt washer. Place the spindle on top of the felt washer (long side of spindle pointing down). Insert the assembled foam trap into the hole in the keg seal.



- ④ Measure (and grind, if necessary) your grain. Place the smaller of the mash screens into the mash compartment, so that it rests on the bottom ledge of the step filter. Pour grain into the mash compartment on top of the small mash screen.



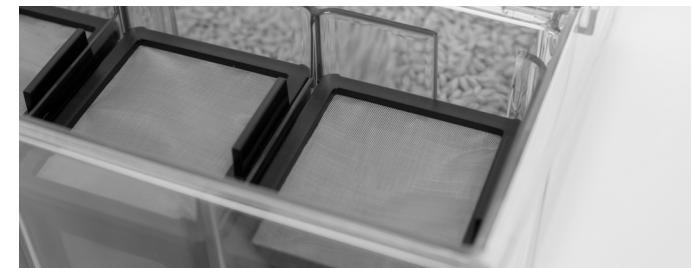
- ⑤ Level the grain with your hand. Do not compact. Place the large mash screen on the top ledge of the step filter so it rests over the grain.



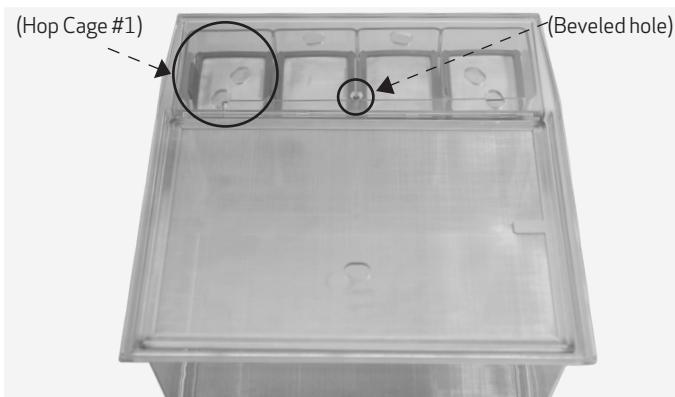
- ⑥ Measure hops and place in appropriate cages. Secure lids. Secure with silicone bands if lids feel loose.



- ⑦ Place the adjunct screen in the adjunct compartment of the step filter, resting on the bottom ledge. Place each cage into the adjunct compartment, on top of the adjunct screen, with the longest boiling hop going into the first compartment (the one with the notch).



- ⑧ Place the lid on the step filter, ensuring the holes are aligned correctly. The indented (beveled) side of the center hole should be facing up.



- ⑨ Slide the step filter into the Zymatic. The step filter will protrude slightly over the drip tray.

- ⑩ Connect the black ball lock to the OUT keg post and the gray ball lock to the IN keg post of your filled keg.



- ⑪ On the Brew Menu, press the selector knob and scroll to your recipe to begin the brewing cycle!

3.3 Brewing

Your brew will require little to no work on your behalf for the next few hours. Be sure to read through the recipe notes to see if any sugar, kettle finings, or any other special ingredients need to be added to the keg during the brew. We recommend that you do not add Irish Moss directly to your keg. You may add Irish Moss to your shortest boiling adjunct compartment or use other finings such as Whirlfloc or Super Moss which can be added directly to the keg.

While your Zymatic brews, you can watch its progress online. Login to your PicoBrew account, click the Sessions tab and choose "Brewing". Click your active session to view session data with current wort and heat loop temperatures. You may add notes to your Brewing Data graph by clicking a data point, adding, and saving text.



3.4 Chill

After your brew finishes, you need to chill the wort and then pitch your yeast. Chilling your wort beforehand is vital, as high temperatures will kill the yeast, resulting in no fermentation. We recommend chilling overnight but there are a variety of other chilling methods that could be used.

Chilling Overnight

- ① After your brew is complete, the Zymatic will pause and beep to alert you to prepare your chilling set up. Pressing the control knob once will silence the alarm.
- ② The next screen will give you an option to Begin the Chilling Process or End the Brewing Session. Choose End the Brewing Session.
- ③ Detach the hoses from the keg and gently pull off keg cozy.
CAUTION: The keg will be extremely hot!
- ④ Leaving the foam trap in place, let your keg sit for 10-12 hours, undisturbed. Once your wort has chilled to room temperature, you may pitch your yeast. Replace the foam trap with a sanitizer filled 3-piece airlock.

Ice Bucket Chill Method

In order to run the ice bucket chill, you will need two 5-10 gallon buckets, a long handled spoon, and about 10-15 pounds of ice. This process takes about 45 minutes.

- ① After your brew cycle completes, your Zymatic will pause and beep to alert you that it is time to chill the wort. Pressing the control knob once will silence the alarm. A second press will begin the chill process.
- ② While the Zymatic is paused, remove ball locks, carefully pull off your keg cozy, and reattach the ball locks.
CAUTION: The keg will be extremely hot!
- ③ Fill both buckets or large containers about a third with cold water and half the ice. Carefully place the keg in the ice bath.
- ④ Select "Continue" and the Zymatic will begin the chill cycle.

- ⑤ Monitor the ice bath. As it warms, switch to the second bucket in the same manner. Occasionally stir the ice water with a long handled spoon to ensure the wort is chilling uniformly.



- ⑥ After the Zymatic has indicated that the wort has reached pitching temperature, it will continue to circulate wort for 10 more minutes to ensure all wort is the same temperature.
- ⑦ The Zymatic will then drain the remainder of the wort.
- ⑧ Once the chill cycle is complete, you may remove the ball locks and pitch your yeast.

There are a variety of other wort chilling methods that one could use—a copper coil chiller, a plate chiller, etc. Find the method that suits you best. Consult the brewing videos and forums for help and advice.

3.5 Pitch Yeast

Yeast comes in either dry or liquid form. Both types of yeast can be used to ferment your wort. If you are using liquid yeast, be sure to take it out of refrigeration when you start your brew to give the yeast time to warm up. Prepare yeast following manufacturer's instructions. Dry yeast usually does not require any preparation, although some brewers prefer to proof their yeast.

- ① After your wort is chilled to pitch temperature, remove the keg seal and pour in your yeast. Your keg may have a large head of foam depending on the chilling method used. This is normal; give your keg a few swirls to incorporate the yeast fully into the wort. Replace the keg seal.



- ② Sanitize your airlock and fill with sterile water (or liquor) to the fill line. The airlock keeps the keg properly sealed against any wild yeast or bacteria, while still allowing it to release CO₂ as the beer ferments.

- ③ Insert the airlock into the keg seal hole until it feels snug. Carefully place your keg in a temperature controlled area, such as a garage or closet or fermentation chamber such as the KegSmarts system. Fermentation can take anywhere from a week to several weeks depending on the brew. Make sure to read your recipe for fermentation specifics.



Ales generally ferment at between 64°-70 °F (18°-21°C), while lagers generally ferment between 49°-55°F (9°-13°C).

3.6 Fermentation

For best results, ensure your keg stays in a temperature controlled area where it can sit undisturbed for a few weeks. The exact temperature range depends on what yeast you've selected, and what beer you've brewed.

As your beer ferments, CO₂ is released through the airlock. During the first few days of fermentation, you will likely see the water in your airlock bubbling. This is a sign of active fermentation.

The bubbling will slow down or completely stop when fermentation is nearing completion (on average, 10 days).

OPTIONAL:

If you have a hydrometer, use it to take a gravity reading after the recommended fermentation time is over to make sure the beer has fermented completely. Take an initial reading, then wait two days and take another reading. If the gravity reading has not changed, fermentation is complete. If the gravity continues to drop, your beer is still fermenting. If your beer did

not ferment to the desired gravity (a condition referred to as "stuck fermentation"), you may have fermented in an area that was too cool, or pitched with weak yeast. Try either moving the keg to a warmer area or pitching more yeast.



Once fermentation has completed, you may either rack your beer right away or keep it in cold condition (refrigerator temperature), and "cold crash" for a few days to drop the yeast out of suspension and give your beer a bit more clarity.

If you are looking for more precise fermentation control, PicoBrew also offers a smart kegerator called KegSmarts, which monitors fermentation temperatures and keg weights in order to track the fermentation process. To learn more about KegSmarts, visit <http://www.picobrew.com/store>

3.7 Rack

NOTE: It is CRITICAL that all equipment used in the racking process is both cleaned and sanitized. Check Section 3.2 for more information on cleaning and sanitization.

The racking process consists of transferring beer from the fermenting vessel to a serving vessel. This is an important step because it removes beer from the yeast cake that formed in the bottom of the keg fermentation. If beer is left on the yeast cake for too long (4 weeks or more) after fermentation is complete, off flavors will result.

To rack your beer via the transfer tube included with your Zymatic, you need a CO₂ tank and regulator to pressurize your keg, as well as a separate 2.5 or 5-gallon serving keg. Your regulator will allow you to control the amount of CO₂ coming out of the tank. Attach a gray (IN) ball lock to the hose on your regulator if it does not already have one attached. Ensure that all parts that may come into contact with your beer are sanitized before starting.

If you do not wish to rack with CO₂ and a transfer tube, you can use a siphon—just be sure to avoid any trub or yeast that has settled at the bottom of your keg. Siphons are available at your local homebrew shop.

Consult the brewing videos at www.picobrew.com/about/brewingvideos if you have further questions about how to rack or bottle your beer.



- ① Try not to move your fermentation keg very much during this process as it will stir up any yeast and trub sitting at the bottom of the keg.
- ② Remove the airlock and keg seal from the keg. Re-seal with metal lid.



- ③ Ensure that your serving keg is sanitized before beginning. Attach the transfer tube to the two kegs by connecting the ball locks to the OUT posts of both kegs.
- ④ Set your CO₂ regulator to a low pressure (4-6 psi).



- ⑤ Connect your CO₂ regulator hose to the IN post of the fermentation keg. Open the CO₂ gas valve; this will fill your keg with CO₂ and push the beer out of the fermentation keg through the transfer tube and into the diptube of the serving keg, which will fill slowly from the bottom up to minimize any splashing.

- ⑥ When racking is complete the transfer tubing will blow empty. Turn off the CO₂ tank, close any valves on the regulator and remove the transfer tubing from both kegs. At times, you may need to bleed off built up CO₂ pressure in the receiving keg. Periodically pull up on the Pressure Relief Valve (PRV) to relieve the built up pressure and restore a flow of beer.

The bottom few inches of beer in the fermentation keg will be full of trub and yeast. The diptube of the keg included with your Zymatic is cut shorter as to avoid the majority of the yeast and trub. Discard the trub and thoroughly clean and sanitize your keg as mentioned previously.

3.8 Carbonate

To carbonate your beer, you can either keg condition or connect your keg up to a CO₂ tank. CO₂ absorbs better in cold temperatures. Keep your keg and CO₂ tank in a cold area while it carbonates. (32°-42°F)

Forced Carbonation

Before serving, you need to carbonate your beer. Traditionally, beers were carbonated by adding sugar post-fermentation, which reacted with the residual yeast to produce carbon dioxide gas. This process can take weeks to complete, so most commercial breweries and many homebrewers use a process called "forced carbonation". With forced carbonation, CO₂ gas from an external tank is forced into suspension and typically carbonates a beer in 3-5 days.

To carbonate, attach a gas line from the CO₂ tank to your beer keg's IN post.

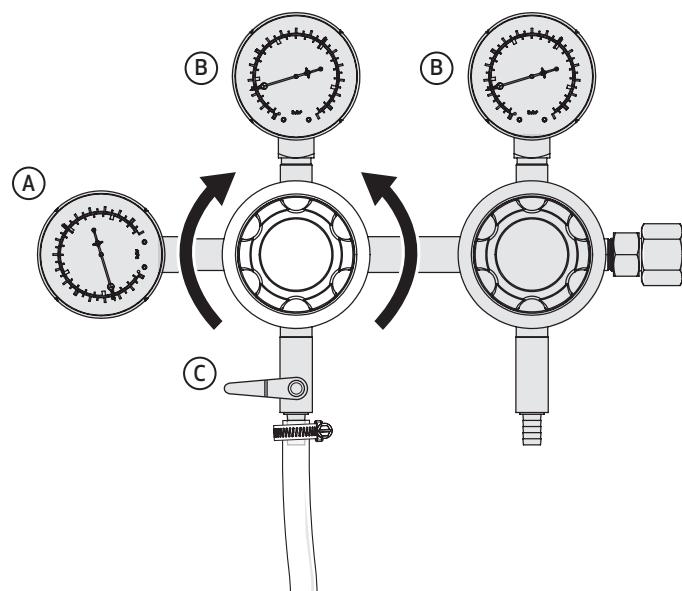
Set the gas line's regulator to the appropriate pressure setting. Carbonation charts and calculators, available on the Internet or from your local brewing supply shop, can provide detailed information about carbonation pressures and gas volumes for different beer styles. Generally, 10psi is sufficient to carbonate most beers in 3-5 days.

The carbonation period depends on the beer brewed and the psi pressure. In general it takes a pale ale seven to ten days to carbonate at 10psi. You may increase the pressure to speed the process, for example 4 days at 26psi.

CAUTION: Use extreme caution of setting your regulator psi over 28psi. Use the calculators!

To adjust pressure, pull red regulator knob straight out and turn clockwise to increase pressure and counter-clockwise to decrease pressure. Push regulator knob in to lock the pressure setting.

- A - CO₂ tank pressure (gas remaining)
- B - Gas line pressure (adjusted with corresponding regulator knob)
- C - Gas line cut-off switch (shown here in closed position)



SECTION 4

Care and Maintenance

4.1 General Cleaning (after every brew)

In order to complete the general cleaning process, you will need two cleaning wands and two buckets.

- ① Remove the step filter from the Zymatic and compost or dispose of the spent grain. Caution as the grain may still be hot. Be careful not to accidentally toss the screens.



- ② Remove adjunct compartment, hop cages, and all screens. Rinse each and place in dishwasher. Dispose of spent hops. Please note that hops are toxic to animals. Rinse the compartment, cages and place in dishwasher.
- ③ Rinse and place the empty step filter in the Zymatic.
- ④ Connect cleaning wands to both ball locks by lifting ledge of ball lock, and pressing firmly into place. Place the black (OUT) ball lock's cleaning wand into a bucket of approximately 1 gallon clean water. Place the gray (IN) ball lock's cleaning wand into an empty bucket to collect the rinse water.
- ⑤ On the Main Menu, scroll to the Clean/Rinse option and press selector knob. Scroll to Rinse and begin the rinse cycle. Select Rinse and begin the rinse cycle. This will cycle the clean water

through the machine, and rinse out any wort of grain that was left behind. Always allow this feature to complete fully.

- ⑥ After the Rinse cycle, remove the step filter from the Zymatic. Remove the rubber drain plugs from the step filter and place them in a safe place while you wash the step filter. All pieces, including the step filter and all pieces of the foam trap, can now be washed in the dishwasher.
- ⑦ Cleaning the inline filter (after every brew). The inline filter located in the OUT hose functions to catch debris and keeps the pumps and heat exchanger clean. This filter should be cleaned before every brew. To do this, unscrew the filter and remove the screen. Rinse the screen and scrub off all debris. A toothbrush comes in handy to scrub the fine mesh. Place the screen back inside the filter and screw the filter on tightly. Clean the inline filter after each deep clean.

4.2 General Maintenance

Cleaning the Zymatic:

Stainless steel cleaners are recommended for cleaning the outside of the Zymatic. Follow the instructions on the bottle and only use soft cloths during cleaning. Do not use abrasive materials or cleaners. Do not use cleaners on the OLED screen.

Cleaning the Step Filter, Cages, and Screens

The step filter, adjunct compartment, mesh screens, hop cages, cage lids, and foam trap (including spindle and fabric washer) are all dishwasher safe. Hot water soaks can be used in place of dish washing. DO NOT use PBW on the step filter.

Cleaning the Keg

Cleaning your keg is extremely important—a dirty keg can lead to contaminated batches. Using a wrench, remove both keg posts and clean out any debris that is inside. Remove the dip tube and use the dip tube brush to scrub the inside. Use a scrub brush to loosen any hardened yeast or trub on the walls of the keg. We highly recommend using Pro Brewer's Wash (included in your kit) to clean and Star San to sanitize your keg before the next brew. Consult the "How to clean your keg video" on the PicoBrew website for help here.

4.3 Deep Clean (every 3-4 brews)

Every 3-4 brews, you will need to run a deep clean cycle on your Zymatic. The deep clean cycle removes any buildup in the hoses, pumps, and heat exchanger and will keep your Zymatic running smoothly and efficiently. For the deep clean cycle, you will need Zymatic cleaning tabs.

CAUTION: The deep clean heats water to boiling temperature, do not use any unsafe cleaning agents.

To begin the deep clean cycle:

- ① Fill a keg with 1 gallon of water and attach hoses to keg. Place keg cozy on keg and insert a keg seal.
- ② Load your step filter with the small mash screen and adjunct screen.
- ③ Place the cleaning tablet on the small mash screen.
- ④ Place the lid on the step filter, ensuring the holes are correctly aligned.
- ⑤ Slide the step filter into the Zymatic.
- ⑥ Select Clean/Rinse on the OLED display.
- ⑦ Select Clean Cycle and press to begin.
- ⑧ After the Clean Cycle is complete, it is important to rinse with clean water. Run 5 gallons of water through your machine using the rinse cycle (section 4.1). Discard the rinse water.

The clean cycle will run for approximately 2 hours. You may notice the keg running empty, which will cause the flow from the nozzle to look erratic. This is normal—pulling air through the machine aids in removing buildup.

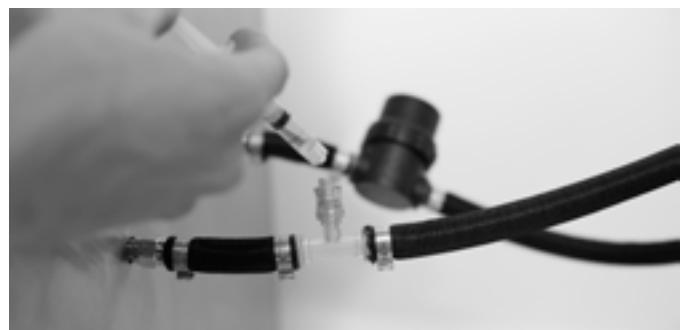
SECTION 5

Advanced Brewing Techniques

Sample port

Your Zymatic comes equipped with a sampling port on the IN hose. Standard size needleless syringes, such as the one that came with your kit, will fit into the sample port. You can use the sample port to draw a small sample of the beer for refractometer readings, tasting, or proofing yeast. The sample port may also be used to inject liquids into your beer.

To use, take a needleless syringe and twist it into the sample port. Once it is connected, draw your sample by pulling the plunger. Carefully unscrew the syringe. Be aware that over tightening can crack the port.



Adding Sugar During Boil

Some recipes call for the addition of sugars or Dry Malt Extract (DME) during boil. You can add sugars directly to the keg during boil by removing the keg seal and slowly adding it, giving the keg a few gentle swirls to incorporate. If adding sugar directly to the keg during boil, always completely dissolve any kind of sugar, syrup, or malt extract into hot water before adding to the keg.

Use caution while putting anything into the keg during the brew. The keg will be extremely hot and there will be steam. Use heat protection, such as a towel or potholder when handling the keg and keg seal.

Adding Clarifiers

If you wish to add any clarifiers to your beer that are typically added during the brew (such as whirlfloc, irish moss, or yeast nutrient) you can either place them in a hops cage (10-15 minute boil), or dissolve them into a liquid and inject it using the syringe and sample port. **Use caution while putting anything into the keg during the brew.** The keg will be extremely hot and there will be steam. Use heat protection, such as a towel or potholder when handling the keg and keg seal.

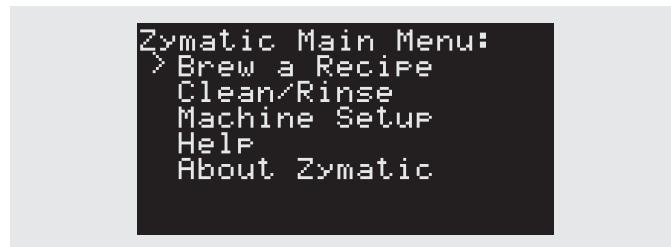
Dry Hopping

If your recipe calls for dry hopping after fermentation, you can sanitize a muslin bag to hold the hops and drop it into your keg. Dry hop at fermentation temperature for 5-7 days, then rack your beer out of the keg and leave the bag behind, or carefully pull the bag out of the keg before racking. Leaving dry hops in your beer for too long may lead to off flavors.

SECTION 6

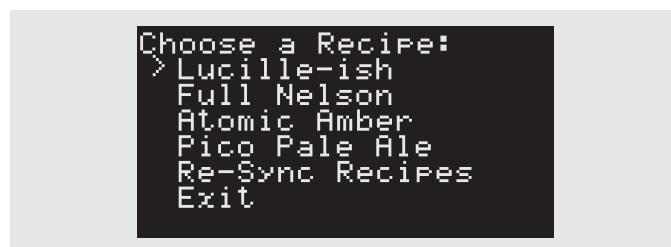
Menu Screens

6.1 Main Menu



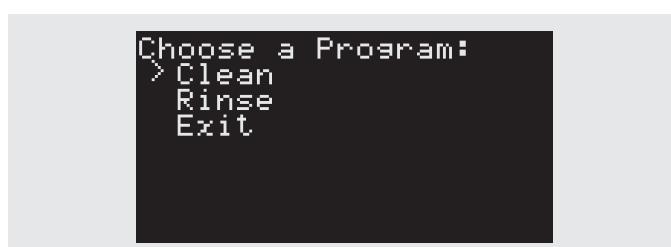
Main Menu

The Zymatic Main Menu appears when you click the control knob after the machine starts up.



Brew a Recipe

Select to see the list of recipes synced to your Zymatic, then select one to brew.



Clean/Rinse

Clean: Use this program for a deep clean every 3-4 brews with a Zymatic cleaning tablet.

Rinse: Use this program after initial set-up and after every brew to keep your Zymatic clean.



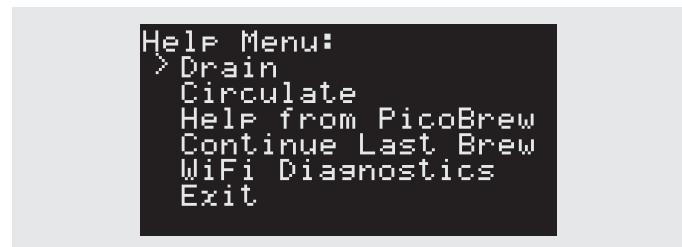
Machine Set-Up

Ethernet: Use to check your Ethernet connection. You must have an Ethernet cable connected.

WiFi: Use to check your WiFi connection.

Account Sync: Use to sync recipes to your account if they didn't automatically sync.

Factory Reset: Reset your Zymatic to all factory default settings. Do not choose this option unless directed to by PicoBrew support personnel.



Help

Drain: Drains the machine for 5 minutes or until you manually press stop.

Circulate: Runs the keg and drain pump while displaying the current temperature. Do not select this option if you do not have a step filter inserted and a keg or cleaning wands connected to your ball locks.

Help from PicoBrew: Select if you have any issues with your machine, and your Zymatic will send an error log to PicoBrew's customer support team.

Continue from Last Brew: If your Zymatic ran into an error and stopped your brew, and it is now safe to continue the brew, select this option to continue where it left off.

Wifi Diagnostics: This option runs a diagnostics test to help PicoBrew support personnel determine the cause of any issues you may encounter with your Zymatic.

```
PicoBrew Zymatic  
ver# 1.1.9  
ser# 111111111111  
brd 1234567890123456  
wrt 1234567890123456  
ht1 1234567890123456  
ht2 1234567890123456  
<Continue>
```

About Zymatic

Information regarding account details, serial numbers, and firmware version.

6.2 Brew Menu

Pressing the control knob during a brew displays the Brew Menu. Note that brewing continues while the Brew Menu is shown.

```
Do you want to Exit  
the brewing process,  
skip to the Next  
Step, Drain or just  
Continue brewing?  
> Continue <
```

Continue

Leaves the menu and returns to brewing. The time and temperature regulation continues while you are in the menu, although it will not move to a new step until you leave the menu.

```
Do you want to Exit  
the brewing process,  
skip to the Next  
Step, Drain or just  
Continue brewing?
```

```
> Next Step <
```

Next Step

Skips brewing immediately to the next programmed step in the brew. It does not recognize programmed drains, however, so use caution if you are skipping through during mash, as it will not automatically drain.

```
Do you want to Exit  
the brewing process,  
skip to the Next  
Step, Drain or just  
Continue brewing?
```

```
> Drain <
```

Drain

Flow from the keg will stop, and the Zymatic will drain the step filter until you press Continue.

```
Do you want to Exit  
the brewing process,  
skip to the Next  
Step, Drain or just  
Continue brewing?
```

```
> Exit <
```

Exit Brew

Exits brew immediately and goes to the main menu. Use caution as this will also skip all programmed drains and will not continue where you left off.

SECTION 7

Troubleshooting

My Zymatic won't turn on.

- Ensure the GFCI plug is securely inserted into the back of the Zymatic and into your outlet.
- Try resetting the GFCI by pressing “Reset” on the brick. The green light on the brick should turn off and back on.
- Check fans: if the Zymatic fan is not running, your machine is not on.

My Zymatic reset.

- “Power failure”: Your Zymatic is designed to detect power interruptions and offer you the ability to pick up brewing where it left off. If your machine shows this error screen, you may have had a power fault. If power service seems normal, restart the brew by selecting “Continue From Last Brew” from the Help Menu.
- “Error#”: Your Zymatic encountered a critical error that required a system reset. After verifying there is no obvious fault in the system (for example, the step filter is in place and the correct hoses are attached and not blocked), you can continue the brew by selecting “Continue from Last Brew” from the Help menu. If the Zymatic does not continue the brew or displays additional error messages, please contact PicoBrew support personnel.

My Zymatic is leaking.

- If you see puddles of wort underneath your machine or see it spilling from the sides, stop brewing immediately, run a drain cycle, and remove your step filter from the Zymatic.
- Thoroughly check your step filter for any cracks in the plastic.
- Check that both hoses are tightened and washers are in place.
- If you suspect the spilling was caused by the nozzle missing the holes in the lid (in this case, there will be a large puddle of wort on the lid), please dry off all

surfaces and check to see if the nozzle aligns with the mash hole in front upon restart. If not, please contact PicoBrew Product Support.

During mash, the fluid level is not covering my grain and I didn't hit my target gravity.

- This is a sign of a slowed flow, typically caused by a lack of cleaning. Try a deep clean on the machine. Remember to clean out the inline filter after every brew.
- Make sure to use the amount of water given in the recipe. If you are emptying your keg of water before the mash compartment fills up, you will end up with dry grain.
- You may be grinding your grain too fine which can clog the drain.

During a heating cycle or a boil cycle, the fluid level is rising into the mash.

- This is a sign of a slowed drain pump, typically caused by a lack of cleaning. Try a deep clean on the machine and include 1 tablespoon of Pro Brewer’s Wash, especially if you haven’t cleaned the machine recently.

There is no flow into or out of the keg during a brew.

- Make sure your ball locks are correctly attached. You should hear a small click when pushing them onto the keg posts.
- Make sure your dip tube is not clogged.
- Make sure hoses and washers are in place and secure.

I am consistently missing target gravity, even when following the recipe.

- If you are consistently low on gravity, there are a few things that could be interfering with your efficiency. Water chemistry and grind of the grain are the two most likely factors. Most cities have a water report available online for free—if you have very soft or hard water, it may not be ideal for your mash and you may need to use brewing salts to amend your water. Grind size of the grains can vary with different homebrew shops—the Zymatic can handle finely ground grains without getting a stuck mash, so a finer grind may be the solution to your low efficiency. A note of caution, never grind flaked grains or adjuncts such as oats, rice, etc.

My display went black, but the Zymatic is still running.

- Check the back of your Zymatic and look at the fan in the top center. If the Zymatic is on, the fan should be running. If it is not running, your display was likely overheated and shut off. Please contact PicoBrew Product Support for further information.

My hops cage lids are too loose and keep popping off.

- If this happens to you, please contact PicoBrew Product Support. Included with your kit are 4 orange silicone bands that can be wrapped around a cage if a lid is too loose.

If you have any problems, questions, or comments, contact PicoBrew:

- **Email:** info@picobrew.com
- **Submit a Support Request Ticket:** <http://www.picobrew.com>
- **Support Forums:** <http://picobrew.com/forum>

NOTES:
