

# Alex

by



## PID Controlled Espresso Machine

Owner's Manual.....



## Diagram



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1. Cup Warming Tray
  2. Hot Water Knob
  3. Pump Pressure Gauge
  4. Steam Pressure Gauge
  5. Portafilter

6. PID Controller
  7. Steam Knob
  8. E61 Group Head
  9. Brew Lever
  10. Drip Tray
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## Introduction

First of all, thank you for your business!

You are going to love your Alex espresso machine— it combines beauty, value, and great brewing for making the best espressos, cappuccinos, and lattes you've ever tasted! These instructions include hints that will help you get started quickly.

## First Time Set Up

- Remove the machine from the box and screw the legs into the threaded inserts on the base of the machine.
- Remove the water reservoir located under the top cup tray and rinse with clean water.
- Before filling the reservoir with tap water, test your water for hardness using the provided test strips. Fill a glass with cold tap water; dip the tip of the test strip into water for one second, then pull the strip out of the water and hold it horizontally for fifteen seconds. After fifteen seconds, compare the color of the strip to the chart on the side of the package to determine how many grains of hardness are in your tap water. Three grains or less of hardness is acceptable.

**Note:** Should your water's hardness level exceed three grains, contact Chris' Coffee Service to discuss your options for addressing this problem.

- Fill the reservoir with water being careful not to overfill and place it back in the machine with both silicone hoses in the reservoir.
- Before plugging the machine in, verify the steam and hot water valves are closed and the brew lever should be pointing straight down.
- Remove the drip tray and verify the gray water switch on the right is in the reservoir position or it may result in damage to the pump.
- Plug the machine in and turn on the power switch located on the right side. Your pump will start filling the boiler in approximately three seconds.

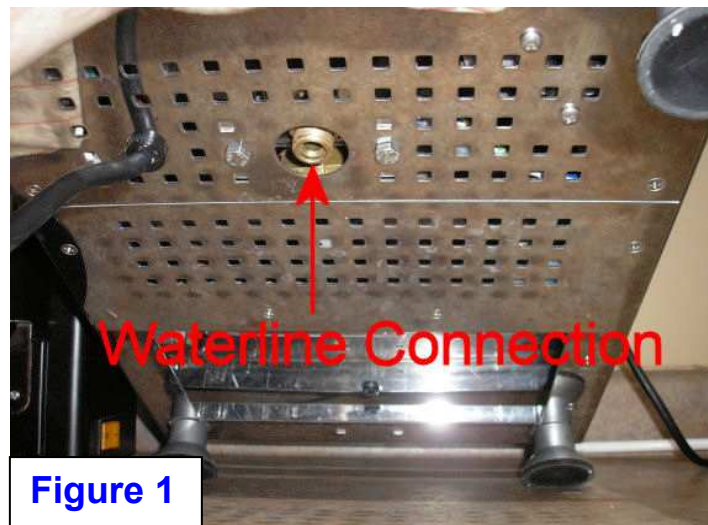
- Open the steam knob to help prime the pump and speed up the initial fill process. When the pump is done filling, close the steam knob.
- When the pump stops, place either one of your portafilters into the group. Next, lift the brew lever to start the pump and keep the lever up until water comes out of the portafilter and then lower the brew lever.
- The boiler should now be heating up. Keep the portafilter locked into the group. You may hear some hissing and gurgling noises as the boiler heats, this is normal.

## Normal Operation

- The lower gauge is your steam pressure gauge. Proper pressure ranges are from 1.0 to 1.5 bar maximum as a matter of desired steam pressure. Our technicians set the boiler pressure to 1.2 bar before shipping.
- The upper gauge is your pump pressure gauge. The gauge is only accurate when the pump is activated and should be around 9 bar. When sitting idle the gauge will read trapped pressure in the system which is normal.
- Although your machine may reach it's operating boiler pressure in less than ten minutes, it is not ready to make espresso. To make great espresso with thick, rich crema, everything must be hot: the brew group, the portafilter, and the cup you are brewing into. It will take between 30 and 40 minutes for the group and portafilter to reach proper brew temperature.
- The boiler pressure cycles about 0.2 bar between the high and low point. For example, if your machine is set so the maximum pressure is 1.2 bar the heating element should come on at 1.0 bar and then turn off at 1.2 bar. This on-off cycle will occur approximately once every minute and the heating element will only be on for five to ten seconds to maintain pressure.
- **Note:** Your machine is equipped with a low water shut off micro switch. If the water level in the reservoir gets too low then an audible alert will sound alerting you to refill the reservoir.

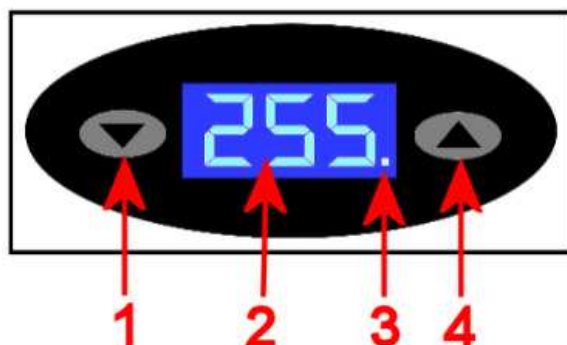
## How To Connect To A Water Source

- When plumbing the machine, we recommend that you install a filter and Softening system to prolong the life of your machine.
- Connect the braided line to the bottom of the machine. (Figure 1). Connect the other end to your filtered water supply.
- Pull out the drip tray and locate water switch on the right side (Figure 2) Turn switch to the “Main Water” position. (Shown in reservoir position)
- Turn on water supply to machine and make sure there are no leaks.



**Important:** When you connect the machine to a water source you still must have water in the reservoir to weigh it down or the Low water level alarm will beep.

## PID Controller Instructions



1. Scroll Down/ Cycle Settings
2. Boiler Temperature
3. Heating Indicator
4. Scroll Up/ Select

The PID controller has been set before shipping and should not require any adjustment. The recommended temperature setting is 255 which is about 1.2 bars of steam pressure. For safety reasons the maximum temperature is limited to 266 degrees. Keep in mind this is the temperature of the water in the steam boiler, the temperature of the water in the heat exchange for making espresso will vary depending on how long the machine has been sitting and the length of your cooling flush. The heating indicator light will only be visible when the machine is heating and will cycle on and off to maintain the proper boiler temperature.

### Setting Temperature

With the machine turned on, press and hold the down arrow key until the display reads **PRG**, release the key and then press the up arrow key to change the setting. (times out after 3 seconds)

### Changing to Fahrenheit or Celsius

With the machine turned off, press and hold both arrow keys and then turn the machine back on. When **F.03** appears on the display then release the arrow keys. Press the up arrow key to change the setting to "F" for Fahrenheit or "C" for Celsius. To save the setting turn the machine off and then back on again.

This menu will also let you change the other PID setting, but it is strongly recommended that you keep the default settings.

**Note** - Whenever the pump comes on to refill the steam boiler the PID will turn off to protect the heating element, this is normal.

## Espresso Tips And Technique

### *Golden rules according to Dr. Illy*

Each 1oz shot of espresso requires seven grams of finely ground coffee, tightly compacted (approximately 30 pounds of pressure) and should take between 18 and 23 seconds to extract.

### *Great espresso made easy according to Chris*

Let me begin by explaining the three main variables of preparing great espresso.

1. Quantity of ground coffee
2. Tamp firmness
3. The grind

**The quantity of ground coffee.** Loosely fill the basket slightly mounding over the top. Then lightly run your finger flat across the top of the basket, front to back and then side to side to help fill in any voids. You will then compress (tamp) the grounds with approximately 30 lbs of pressure.

**Tamp firmness.** The only thing you need to remember about tamping is consistency. Don't press with five pounds of pressure in the morning and fifty pounds of pressure when you come home from a tough day at work. If I apply twenty pounds of tamp pressure and you apply thirty pounds, my grind will be slightly finer than yours will, but we can both achieve the same result – great espresso.

**The last variable, the grind.** Before discussing the grind, allow me to share a tip to make this even easier. Take your double filter basket out of your double-spouted portafilter and put it into the single-spouted portafilter. Why did I have you do this? Simple – it is always easier to make double shots than single shots. This is because doubles are more forgiving if you have slight variations in the two previous variables: quantity of ground coffee and tamp firmness.

Adjust your grind so that when you activate the pump, the flow of coffee coming out of the portafilter spout looks like the tapered tail of a mouse and has approximately the thickness of ballpoint pen filler. Your pump pressure gauge should read somewhere between 8 to 9 bar.

Now, last but not least, when is it done? The coffee tells you when it is finished; simply observe the color of the crema. When the crema changes from a reddish brown color to a lighter blond color, it is done; stop brewing by pressing the lever all the way down. If you run the pump after the color has changed to light blond, you will only dilute the coffee and extract undesirable bitters.

You have to admit that is a lot easier than using shot glasses and timers!

**Tip:** Get into the habit of disposing of the spent grounds immediately after brewing espresso. After disposing of the grounds, return the portafilter to the group and lift the lever up for three to five seconds to rinse away excess oils and loose grounds. By regularly following this procedure, you will greatly reduce the tar-like buildup on the dispersion screen that occurs if you allow coffee oils to dry and bake on the hot group.

## Steaming Milk

First, let's talk about some of the first things you need to learn in order to become 'Barista-like' in your techniques.

**Milk** – Whole milk works best to steam, both in technique and in flavor! Lower fat milks contain mostly water which will not foam well and will be almost tasteless when steamed. After all your hard work you will be left with a less than desirable tasting beverage.

**Milk** – Your whole milk needs to be as cold as possible to ensure the creamiest, sweetest, and best tasting micro-foam. Once the milk has reached a temperature between 150-160 degrees, you must stop the process. The longer amount of time you have with the cold milk gives you that extra time to continue making the milk creamy and sweet tasting. Milk heated above 160 degrees will be burnt and taste terrible.

**Frothing Pitcher** – Keeping your stainless steel pitcher in the freezer is another tip which helps keep the milk its' coldest. The size of your pitcher is relative to the size and number of drinks you will be preparing at the time. Of course our recommendation on pitcher choices would be our own “**Pro Barista Steaming Pitcher**” – which has become the pitcher of choice of the renowned baristas who helped train Chris' Coffee Service in this frothing technique. These baristas felt the Pro Barista Steaming Pitcher promoted a user friendly rolling of the milk which made it simple to create thick micro-foam for pouring Latte Art.

**Amount of Milk** – Too little milk in your frothing pitcher will cause splashing when you turn on the steam arm; too much milk will cause overflow and make a huge mess. The pitcher must be filled between 1/3 and ½ full to have the maximum capacity for properly steaming milk. If your pitcher has a spout, fill it to half an inch below where the spout starts.

**Stretching the milk** – Refers to the initial heating of the milk and the forceful introduction of air into the milk (using the steam wand pressure) – **stretching** the consistency of the milk. Stretching continues until the milk reaches an approximate temperature of 100 degrees (body temperature).

**Texturizing the milk** – Refers to the next phase of frothing whereby the steam wand is submerged in the milk and the pressure continues to roll the milk. The process breaks down the large air bubbles into tiny air bubbles which then creates the smooth and creamy **texture** that is most desirable.

## Technique

As you face your espresso machine, point the steam arm over your drip tray and open up the steam valve in order to purge out any unwanted water that may have collected inside the wand due to condensation – you do not want that added to your delicious beverage! Next, position the steam arm so it is facing directly toward you and slightly angle it 45 degrees from the base.

Holding your half-filled steam pitcher with the handle facing you, submerge the tip of the steam wand approximately an inch below the surface of the cold milk. Your pitcher bottom should be parallel with the countertop. The steam arm should gently rest in the spout of the steam pitcher. Now slightly tilt the pitcher left, keeping the arm away from the side of the pitcher. Open the steam valve completely and position the pitcher so the tip is just below the surface of the milk. This action creates the **'stretching'** of the milk – in other words, adding air to the milk. When done properly, the sound you hear at this point resembles 'sucking'. You continue this until the milk reaches an approximate temperature of 100 degrees.

After your milk has reached this 'body temperature', submerge the tip of the steam arm approximately one inch below the surface of the milk. This process continues to roll the milk over itself again and again – breaking the large air bubbles into tiny air bubbles – resulting in a new, creamy and sweeter, **texture** of the milk. When your milk has reached approximately 155 degrees – turn the steam valve off.

## Helpful Tips

- When turning the steam valve off, always keep the tip under the surface of the milk for approximately 3 seconds. If you pull it out too soon, you will destroy the nice velvety micro-foam.
- While texturizing the milk, if you lower the tip too far into the milk you create turbulence rather than rolling. Turbulence will not make micro-foam.
- If there are a few bubbles in the milk after you have finished, wait 5-10 seconds to allow all the remaining bubbles to surface, then simply tap the edge of the pitcher on the counter and swirl the milk slightly and they will disappear. This is often a good time to purge your steam arm and wipe it down.
- Be sure to keep your steamed milk moving/swirling until you are ready to pour since milk has a natural tendency to separate.

## Regular Maintenance

Backflushing is a vital maintenance procedure you must follow to help keep your machine running flawlessly for years to come. There are two types of backflushing: one with plain water, and the other with espresso machine cleaner.

**Plain water backflushing** should be done at least once a week, however if you are so inclined, feel free to backflush with plain water as often as you like.

To backflush, you use the portafilter's blank insert (the round stainless steel disk without holes). To remove your single or double portafilter basket, use the blank portafilter insert. Turn it upside down and use its edge to pry the basket out of one of your portafilters. (If you always make double espressos, you may choose to keep the blank portafilter insert in your other portafilter so you always have one ready.) Next, place the blank insert into the portafilter and slap it hard with the palm of your hand to secure it in place. To perform a plain water backflush, place the portafilter into the group and snug it firmly. Next, raise the brew lever all the way up for 15 seconds, and then lower it all the way down. Water will forcefully discharge out of the bottom of the group into the drip tray; this is normal. Repeat three to five times.

**Backflushing with espresso machine cleaner** is the same procedure as above with a few minor differences. The first difference is backflushing with espresso machine cleaner only needs to be done approximately once a month or every 35-50 espressos. I don't recommend backflushing with cleaner more often than once every three weeks since overuse will remove oils that lubricate the brew lever and valves. You can water backflush as often as you prefer.

To begin, place 1/3 of a teaspoon of espresso machine cleaner into the blank portafilter insert, then lock the portafilter into the group. Now follow the same procedure as above until the cleaner is dissolved and the water runs clear (about 5-10 flushes). Remove the portafilter from the group and rinse thoroughly, then take a damp cloth and wipe the underside of the group. After you have finished this procedure, I recommend you pull a shot of espresso and dispose of it to cure the group. You're finished and ready for another month of espresso.

**Note:** I only recommend using either Puro Café or Urnex Cafiza Espresso Machine Cleaner because they are specially formulated for this purpose. The use of other cleaners may affect the performance of your machine and could even damage it.

## We're Here To Help

Enjoy your espresso machine and remember, should you have any questions, either visit our FAQ section at the bottom of our web site or contact my staff or me.

Phone: 518-452-5995

Email: [chris@chriscoffee.com](mailto:chris@chriscoffee.com).

Technical support: [service@chriscoffee.com](mailto:service@chriscoffee.com)

**Please remember:** Save the shipping carton and all the packing material that came with your machine. This is very important should you need to return your machine to us. If you do need to send your machine back for any reason, you must first call our service department and obtain a Return Authorization number prior to shipping. Be sure to insure your machine and pack it securely. We can't be responsible for any damage that might occur while in transit to us. Properly packing your machine with the original carton and packing material minimizes this possibility. Should it be necessary for you to file a damage claim with the shipper, we will of course be happy to assist you with the required forms.

Thanks again you for your business,

Chris