Alex Duetto IV

Made In Italy

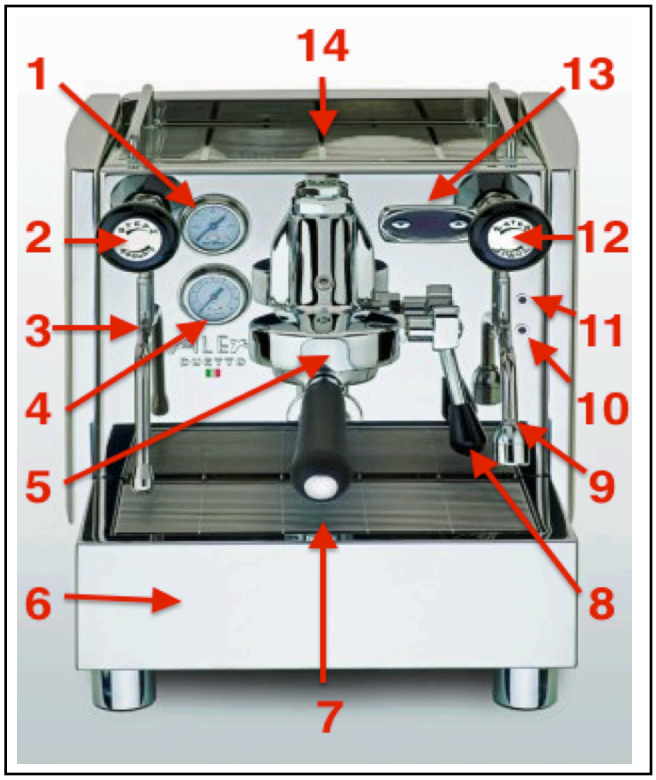
By

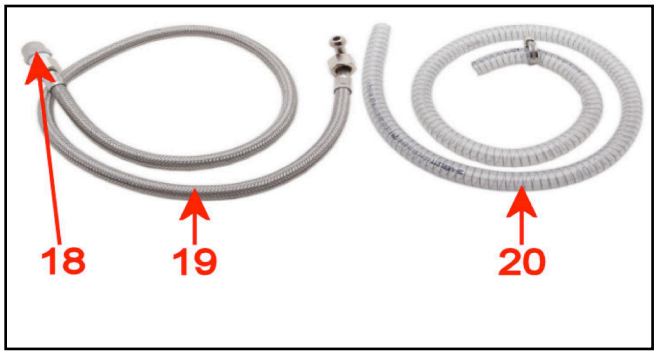
Izzo

Owner's Manual

CHRIS' COFFEE SERVICE

Diagrams





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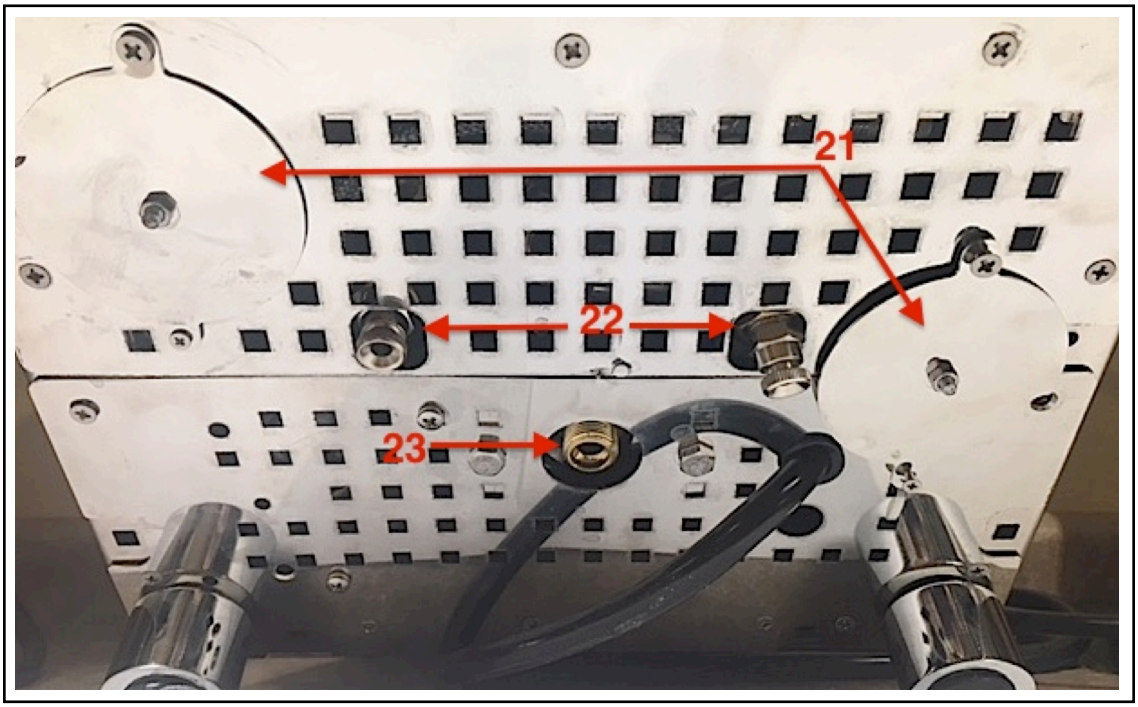

Introduction

First of all, thank you for your business! You are going to love your new Alex Duetto IV espresso machine. It combines classic beauty, value, and great performance for making the best espressos, cappuccinos, and lattes you've ever tasted! These instructions include tips that will help bring out the Barista that's hidden within! Enjoy your new machine!

First Time Set Up – Reservoir Mode

- Remove the machine from the box and screw the legs into the threaded inserts on the base of the machine.
- Before filling the reservoir with 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 the 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, then it is strongly recommended that a softener or a different source of soft water be used. If you are using bottled water then it should also be tested prior to use as some bottled water can also be very hard. A Brita or Pur style filter should only be used if the water is already soft as they DO NOT remove any hardness from the water. Using soft water will prolong the life of your machine and help prevent costly repairs.

- Remove the water reservoir and rinse thoroughly before use. The reservoir can be washed with mild dish detergent. It should NOT be cleaned in a dishwasher.
- Fill the reservoir with cold softened water being careful not to over fill it or it can splash out and get the electronics wet.
- Return the reservoir to the machine and be sure to put the silicone water line back into the reservoir.
- **Note:** Older style machines will have an additional shorter silicone water line going into the reservoir. It may have slits cut into it which is normal and no cause for concern. On heat up there will be a small amount of steam and water discharged into the reservoir which is normal.

First Time Set Up – Reservoir Mode – Continued

- Pull the drip tray out to expose the LEVER in the picture below. Make sure the lever on the right is in the RESERVOIR position and the Alarm switch is also ON.
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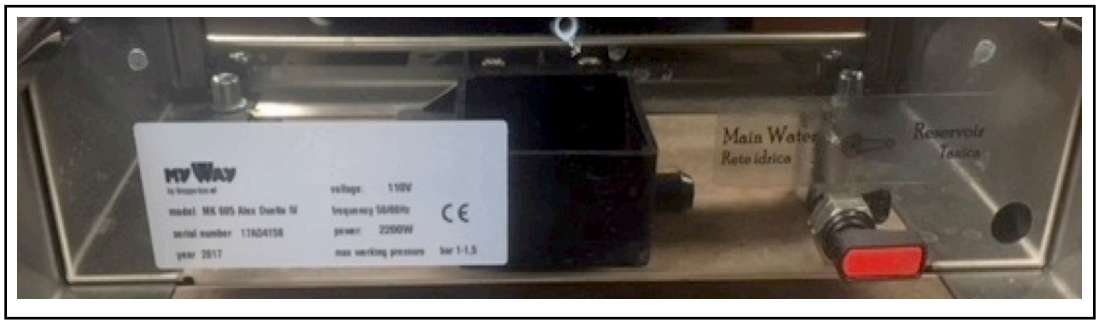

- Before plugging the machine in, verify the steam and hot water knobs are closed and the brew lever should be pointing straight down.
- Plug the machine into a 3 prong 120V grounded outlet. If you are using the machine in 20 amp mode then the outlet must also be rated for 20 amps or it may pose a fire hazard. A resettable GFCI outlet is strongly recommended, but is not necessary.

- Turn the main power switch to the on position. The pump will come on to start filling the boilers. Whenever the boiler fills the PID display will turn off to protect the heating

- element. After the pump has turned off then raise the brew lever until you have water coming out of the group head and then lower the lever.

- After filling the boilers then remove the reservoir to refill with water and return it to the machine. An audible alert will sound and the PID display will turn off whenever the water level in the reservoir gets low to indicate it needs to be refilled.

- Place whichever portafilter you intend to use into the grouphead so that it will heat up with the machine. It is also recommended that you keep your cups on the top cup warming tray to keep them warm. When making espresso if the portafilter or cups are not hot then it will cool down the shot and make it taste sour.

- If you are going to be using the steam boiler then make sure the steam boiler switch is turned on. If you are only making espresso then the steam boiler switch can be turned off to help conserve energy.

- The machine should reach temperature in approximately 15 minutes, but to make delicious espresso with thick rich crema it is necessary to allow the machine to be heated for 30-45 minutes with the portafilter kept in the grouphead.

- **Note:** During heat up a small amount of water and steam will be discharged into the drip tray which is normal and no cause for concern.

First Time Set Up – Plumbed In Mode

- Before hooking the machine up to a water line test your water for hardness using the provided test strips. If your water is above 3 grains of hardness then a softening system should be installed to prolong the life of the machine. Even if your water is soft it is still recommended to have either a sediment or carbon filter installed to protect your machine from any sediment or debris that can be found in the water.

- The machine comes with a braided water line that connects to a fitting on the bottom of the machine. Connect the elbow end of the braided water line to the bottom of the machine.

- The other end of the braided water line should come equipped with a 3/8” John Guest quick connect fitting. A 1/4” fitting can be substituted at the time of the order. If you are

not going to use the John Guest fitting then you will need a 3/8" Male BSPP fitting to connect to the braided water line.

- Connect the braided water line to your water source. If you have a filter or softener system installed then purge a few gallons of water into the sink to prevent any carbon dust or softening resin from getting inside the machine. Once the filters have been purged then connect the water line to the machine, turn on the water supply, and check for leaks.

- Pull the drip tray out to expose the LEVER. Make sure the lever is in the "MAIN WATER" position and the alarm switch is OFF.

- Before plugging the machine in, verify the steam and hot water knobs are closed and the brew lever should be pointing straight down.

- Plug the machine into a 3 prong 120V grounded outlet. If you are using the machine in 20 amp mode then the outlet must also be rated for 20 amps or it may pose a fire hazard. A resettable GFCI outlet is strongly recommended, but is not necessary.

First Time Set Up - Plumbed In Mode – Continued

- Turn the main power switch to the on position. The pump will come on to start filling the boilers. Whenever the boiler fills the PID display will turn off to protect the heating element. After the pump has turned off then raise the brew lever until you have water coming out of the group head and then lower the lever.

- Place whichever portafilter you intend to use into the grouphead so that it will heat up with the machine. It is also recommended that you keep your cups on the top cup warming tray to keep them warm. When making espresso if the portafilter or cups are not hot then it will cool down the shot and make it taste sour.

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- **Note:** During heat up a small amount of water and steam will be discharged into the drip tray which is normal and no cause for concern.

Before Each Use

- Verify the steam and hot water knobs are both closed and your brew lever is pointing straight down.
- If you are using the machine in reservoir mode make sure the reservoir is filled with cold softened water.
- Place whichever portafilter you intend to use into the group head and turn the power switch to the on position and let the machine warm up for 30-45 minutes for optimal performance.
- If you plan on using the steam or hot water wands then make sure the steam boiler power switch is also turned on.

Normal Operation

Reservoir

- The reservoir is located in the back of the machine under the cup warming tray. The reservoir should be filled with cold softened water only. The reservoir can be cleaned with mild dish detergent and should NOT be used in a dishwasher.
- The water reservoir is equipped with a magnetic float to detect the water level. When the machine gets low on water an audible alert will sound and the PID and pump will turn off to indicate the reservoir needs to be refilled with water.
- When placing the reservoir into the machine it is very important that the float be on the right side for the machine to function properly.

- It is also very important that the reservoir sit as far down as it can go. It may have to be jiggled a little bit for it to seat properly. If the reservoir is not seated properly then the silicone tubing will get pinched and restrict water flow to the machine which can damage the pump. When installed properly it should like the the two pictures shown below.

Audible Alert

- The machine is equipped with an audible alert to indicate when the reservoir is getting low on water. The audible alert can be turned off if you plumb the machine and are not using the reservoir. The audible alert will automatically turn off when the machine is plumbed to a water source.

- The alert may also sound if the steam boiler is not able to fill. If this happens turn the machine off and check to make sure the machine is getting water, then turn back on.

Normal Operation - Continued

Pressure Gauges

- The top gauge is your boiler steam pressure. When the heating light turns off the boiler is up to pressure and should be around 1.2 – 1.5 bar. If the steam boiler power switch is turned off then the steam gauge will not show any pressure.

- The lower gauge is your pump pressure. When the pump is not engaged the gauge will show the line pressure from your water supply. When you raise the brew lever then the pressure should go to 9 bar.

Pump

- The pump pressure has been set prior to shipping, but may differ based on your line pressure or if the machine is used in reservoir mode versus plumbed in. The recommended setting is 9 bar. Should you need to adjust your pump pressure please refer to the maintenance section of the owner's manual.

- Periodically the pump will come on by itself to maintain the proper water level in the steam boiler which is normal. When this happens the PID display will turn off to protect the heating element during filling.

Lights

- There are 2 red heating indicator lights on the front of the machine. Each is stamped with a white decal to indicate which light is for which heater.

- The top light is for the steam boiler. The light will illuminate whenever the steam boiler is heating. Once the steam boiler is up to pressure the light will go out and then it should cycle on and off approximately once a minute to maintain the steam pressure in the boiler.

- The bottom light is for the coffee boiler. The light will illuminate whenever the coffee boiler is heating. Once the coffee boiler is up to temperature then the light will cycle on and off approximately once a minute to maintain the temperature in the boiler. As it approaches temperature the coffee light will flash on and off rapidly which is normal. This is done for more precise temperature control and to prevent the temperature from exceeding the set point.

Normal Operation – Continued

Switches

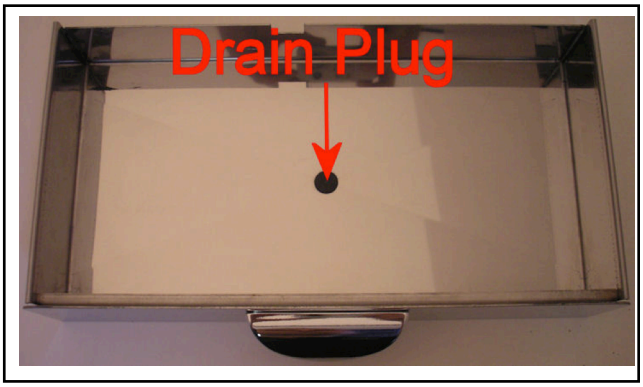
- On the right side on the base of the machine there are 2 power switches. The larger lighted switch in the back is the main power switch and will illuminate when the machine is turned on. The smaller black switch in front of the power switch can be used to turn the steam boiler on and off independently from the coffee boiler to conserve energy.

Drain Kit

- An optional drain kit can be attached for hooking the drip tray up to a drain. The drain tube can be routed into an open drain, dishwasher drain tail piece, or even a 5 gallon bucket can be used if a drain is not available.

- To install the drain kit, pull out the drip tray and then pull the rubber drain plug out of the center of the drip tray and save for future use.

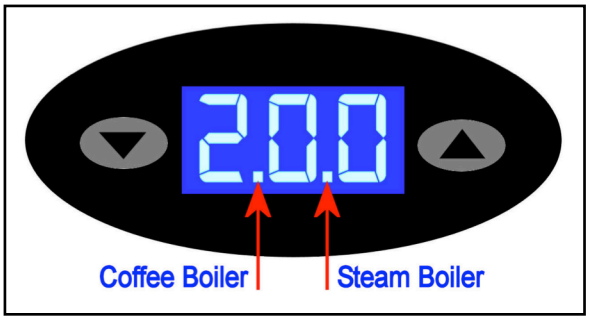
- Attach the drain hose to the black plastic drain box shown below and use the provided clamp to tighten the hose. Tighten the clamp enough so that it will not leak, being careful not to over tighten or it can crack the plastic drain box.



- When using the optional drain kit it is very important that the drain tube has a gradual descending pitch. If the tube lies too flat or goes up hill then the tube will not drain and will back up with water causing a leak. The drain should only be used for liquids, coffee grounds can cause the drain to be blocked and back up with water causing a leak.

PID Controller W/ Shot Timer

The PID controller's display will cycle back and forth to show the current temperature of each boiler. The position of the decimal point indicates which boiler the temperature is being shown for. The picture to the right shows which boiler is represented by which decimal point.



Shot Timer

The PID has an intergraded timer for your shot duration. When the timer is activated the counter begins to increase and is displayed on the PID.

The timer is activated when the lever is lifted to the brew position and the pump is on. When the lever is returned to the start position the timer ends the counting cycle and the finish time duration is displayed on the PID for 5 seconds.

Setting Temperature

With the machine turned on press and hold both arrow keys until the display reads **T1** then release the keys. **T1** is the coffee boiler temperature. Press the up arrow key to see the current temperature setting. While the temperature is still being displayed press either arrow key to change the temperature.

After a few seconds the display will revert back to **T1**, then press the down arrow key to display **T2** which is your steam boiler temperature. Press the up arrow key to see the current temperature setting. While the temperature is still being displayed press either arrow key to change the temperature.

After the display reverts back to **T2** then press the down arrow key to save the new temperature settings and go back to normal operation.

Coffee Boiler Temperature - By default the coffee boiler temperature has been set to 200°F The recommended brew range is between 195°- 205°F or 90°- 96°C. This can be easily changed to match the coffee blend you are using and to bring out the different flavor characteristics in the coffee.

A hotter temperature will bring out more of the bittersweet chocolate flavors and going colder will bring out more of the fruity flavors. Going too hot may cause the shot to taste bitter and going too cold it may taste sour. Experiment with different temperatures until you find the one you like best.

Steam Boiler Temperature – The steam boiler temperature has been set to 255°F by default, but can be easily changed. The table to the right shows what temperature settings corresponds to bar pressure. There may be a slight variance in pressure depending on elevation since water boils at different temperatures at different elevations.

Fahrenheit	Celsius	Bar
248°	120°	1.0
250°	121°	1.1
253°	123°	1.2
255°	124°	1.3
259°	126°	1.4
262°	128°	1.5

Note: The PID display will turn off whenever the reservoir is empty or if the pump comes on to re-fill the steam boiler which is normal and no cause for concern.

Advanced Settings And Modes

Warning: These instructions allow the user to change the machine from 15 amp to 20 amp mode. This should only be done if a 20 amp circuit is available. Operating the machine in 20 amp mode on a 15 amp circuit poses a serious fire hazard and should never be done. The manufacturer and/or its distributors assume no liability for failure to follow this warning.

To get into the advanced programming mode, with the machine turned off hold down both arrow keys and then turn the machine on. Keep holding the arrow keys until the display reads **F.01** and then release the keys.

Use the down arrow key to cycle through parameters and then use the up arrow key to select a parameter to change. Then use the arrow keys to change the selected parameter.

To save the new changes turn the machine off and then back on again.

Parameter	Setting	Description
F.01	F	Change temperature to Fahrenheit
	C	Change temperature to Celsius
F.02	2	Coffee boiler on only – 15 amps
	3	Steam boiler on only – 15 amps
	4	Disabled
	5	Both boilers on – 20 amps *See warning above
	6	Disabled
	7	Both boilers on – 15 amps (Default setting)
P	1.3	Proportional (Present error)
I	.06	Integral (Accumulation of past errors)
D	1.5	Derivative (Prediction of future errors based on rate of change)
T1	200°F	Coffee boiler temperature
T2	255°F	Steam boiler temperature
T3	XXX	Not active (Does not matter what value is)
E1	18	Offset (Temperature difference between group and boiler)
E2	0	Offset (Not used for steam boiler)
E3	XXX	Not active (Does not matter what value is)

PID Basic Theory - The PID calculation algorithm involves three separate constant parameters, the proportional, integral, and derivative values. These values can be interpreted in terms of time: **P** depends on the present error, **I** on the accumulation of past errors, and **D** is a prediction of future errors based on the current rate of change. These 3 settings work together to determine when and how to apply power to the heating element to allow for a more precise temperature control. It is not recommended to change the PID settings unless you have a thorough understanding of how a PID controller operates. To learn more about PID controllers visit the following link below.
http://en.wikipedia.org/wiki/PID_controller

15 and 20 Amp Modes - The Duetto can be used on a 15 or 20 amp circuit. In 15 amp mode it is only able to activate one heating element at any given time and always gives priority to the coffee boiler. In 15 amp mode it will cycle back and forth between the coffee and steam boiler heaters. In 20 amp mode both heating elements can be active at the same time and allows for quicker recovery for the steam boiler.

Offset - The offset has been calibrated using a special Scace device and should not be changed.

Reset Default Settings - To reset the PID controller to the default settings with the machine off press and hold the up arrow key while turning the machine back on. When the display reads **PrS** then release the arrow key and then turn the machine off and back on again. (Defaults to 15 amp mode)

Brewing Espresso

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

1. Quantity of ground coffee
2. Tamping
3. The grind

Quantity of ground coffee - Loosely fill the basket slightly mounding over the top. Then lightly run your finger arched across the basket from left to right, right to left, front to back, and then lay your finger flat on the basket and go from back to front to remove any excess coffee. This technique helps fill any voids in the basket to help achieve an even extraction.

Tamping - After filling the basket with coffee then use your tamper to apply 30lbs of pressure evenly on the coffee bed. Then without applying any pressure lightly twist the tamper on the bed of coffee to "polish" the loose grounds on top. Then lock the portafilter firmly into the group head and then raise the brew lever to start the extraction. When it has reached the desired level, lower the brew lever to stop the shot. It is very important to tamp consistently with the same pressure each time or your shot quality and timing will vary.

The grind - 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. It should take approximately 25 seconds for a 2 oz. double shot. If it is coming out quicker then the grind needs to be adjusted finer, if it is coming out slower or not at all then the grind should be adjusted coarser. The grind particle size should look in between powder and salt. Not as fine as powder, but not as coarse as salt. Getting the right grind is crucial to making delicious espresso with thick rich crema.

Consistency - The quantity of ground coffee and tamping pressure should always be the same. Using more or less coffee or tamping lighter or harder will greatly affect the outcome and timing of the shot. If the shots are not coming out properly then the only variable that should be changed is the grind.

Cleaning 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 head and raise the brew lever for a few seconds to rinse away excess oils and loose grounds. By regularly following this procedure, you will greatly reduce the tar-like buildup on the shower screen that occurs if you allow coffee oils to dry and bake on the hot group.

Steaming Milk – Basics

First, let's talk about some of the 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 Temperature – 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. 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 rich 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 to 1/2 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.

Steaming Milk - Technique

- As you face your espresso machine, point the steam arm over your drip tray and open up the steam knob 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 knob 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 or "body temperature".

- 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 or the pitcher becomes too hot to hold then turn the steam knob off.

- Using a steaming thermometer is helpful when you are learning to steam milk. As you gain more experience and become more comfortable with the process you will be able to steam milk without the help of a thermometer. If you notice in the procedure above we mention temperatures and we also mention "body temperature" and the pitcher being "too hot to hold" We mention this because body temperature is 98.6 which is real close to 100 degrees and when the pitcher becomes too hot to hold the milk will be around 150 degrees. This makes it very easy to steam milk without a thermometer. You will "**stretch**" the milk until the pitcher becomes body temperature and then you start the "**texturizing**" of the milk until the pitcher becomes too hot to hold on the bottom and then you're all done.

Helpful Tips and Information

- When turning the steam knob 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.

- After removing the steam wand from the milk, position it over the drip tray and then open the steam valve for 1-2 seconds to clean out any trapped milk inside the tip and then wipe it down with a damp cloth.

- 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.

- Be sure to keep your steamed milk moving/swirling until you are ready to pour since milk has a natural tendency to separate.

Hot Water Wand Operation

- The hot water wand uses the steam pressure to push the hot water out of the boiler so the machine must be up to temperature before it is able to give any hot water.

- To use the hot water wand, position the cup or pitcher under the wand and then open the hot water knob. Once the water has reached the desired level then close the hot water knob.

- It is not recommended to remove more than 8 oz. of water at any one time until the machine has had time to refill the boiler. Failure to do so may cause damage to the heating element.

Warning: The water from the hot water wand is approximately 250° and exits the boiler under force due to the steam pressure. Extreme caution is advised when using the wand or injury may occur.

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. It won't harm the machine and keeps the shower screen clean.

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.

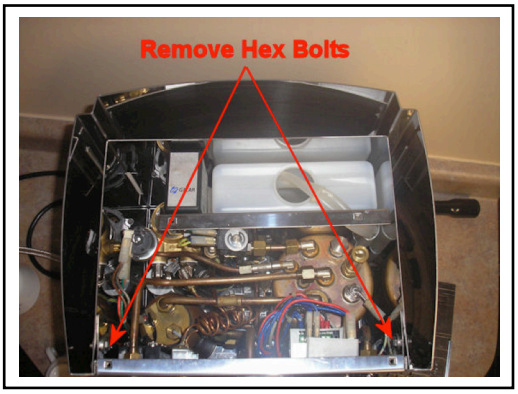
To begin, place 1/4 of a teaspoon of espresso machine cleaner into the blank portafilter insert, then lock the portafilter into the group. Now follow the same procedure as above until the cleaner is dissolved and the water runs clear (about 5-10 flushes). Remove the portafilter from the group and rinse 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 Caff or Urnex Full Circle Espresso Machine Wash 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.

Removing The Outer Shell

Warning: Unplug the machine from the outlet before removing the outer shell. Failure to do so may cause injury and/or electrical shock. The manufacturer and its distributors assume no liability for failure to follow this warning.

To remove the outer shell, remove the top cup warming tray. Under the cup warming tray there are 4 phillips screws to remove and then the top panel will lift off.



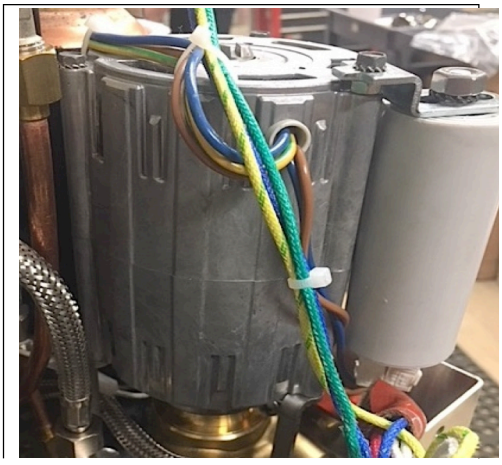
Unscrew the two 10mm hex bolts shown in the picture to the right. An open end or adjustable wrench can be used.

After removing the hex bolts grab the outer shell on the bottom of both sides and then lift the shell up and off of the machine.

Setting Pump (Brew) Pressure

The pump is mounted under the motor to avoid possible water damage from a leaking pump. This also allows the brew pressure to be adjust at anytime.

To adjust the pump pressure use a slotted screw-driver to turn the adjustment screw shown in the picture to the right. Turn clockwise to increase the pressure, counter clockwise to decrease.



The recommended setting is 9 bar. The pressure may vary based on your line pressure or if you are using the machine in plumbed mode versus reservoir mode. When plumbed in it is normal to see some pressure shown in the pump gauge when it is not being used which is showing the line pressure to the machine.

If you have fluctuating water pressure at your location

then it may be necessary to install a water pressure regulator valve to keep the pressure consistent. It may also be necessary to adjust the pump pressure again after installing the pressure regulator valve due to the change in water pressure.

Group Gasket And Shower Screen Replacement

- The group gasket is a black rubber gasket that makes the seal between the portafilter and the group head. We recommend replacing the gasket on a yearly basis. The Duetto uses an E61 8.5mm gasket. They can be purchased from our website at the link below.
  https://www.chriscoffee.com/Group_Gaskets_p/groupgasketg.htm

- Replacing the group gasket requires the removal of the shower screen as well so we also recommend replacing the shower screen at the same time. The E61 shower screen can be purchased from our website at the link below.
  https://www.chriscoffee.com/Group_Shower_Screens_p/groupshowerg.htm

- Before replacing the group gasket and shower screen the machine should be turned off and cooled down so that the grouphead is cool to the touch.

Gasket and Screen Removal

- There are two ways to remove the group gasket and shower screen depending on how old they are. If you replace the gasket yearly then the first method shown is recommended. If the gasket is older and dried out then the second method shown will be necessary.

  - Method 1

    In the picture to the right shows an indent that goes around the perimeter of the screen. Insert either a flat blade screwdriver or a spoon into the indent and then carefully pry the gasket and screen down. You may have to do this on a few spots to remove them.

Gasket and Screen Removal - Continued

- Method 2

  If the gasket and screen will not come out using the previous method then you will need a scratch awl or ice pick to remove them.

  Using the scratch awl or ice pick, deeply pierce the gasket and then pry it down. If the gasket is old and dried out then it will be more difficult to remove and will come out in pieces. Repeat until all remnants of the old gasket are removed.

Cleaning The Group

- Before installing the new gasket and screen it is very important to clean the group head. Make up a solution of hot water and backflushing cleanser. Using a group cleaning brush and cleanser, clean the group head and be sure the groove that the gasket sits in is completely free of any residual gasket material and coffee grounds or the new gasket will not seat properly.

Gasket And Screen Installation

- Step 1

  With the writing or beveled side of the gasket facing up insert the screen into the gasket as shown to the right. It is also recommended to use a little bit of food grade lubricant around the perimeter of the gasket to make installation easier.

Gasket And Screen Installation - Continued

- Step 2

  Remove the insert basket from one of your portafilters and then insert the screen and gasket into the portafilter as shown to the right.

- Step 3

  With the gasket and screen in the portafilter, press the portafilter into the group head as shown. Apply equal upward pressure on the portafilter so the gasket goes in evenly. Once the gasket is up far enough then lock the portafilter into the group head and turn as far right as possible. Then remove the portafilter and re-install the insert basket and then work the gasket up further into the grouphead using the portafilter with the basket installed. If you are having trouble then remove the portafilter and press the screen up further by hand and then try using the portafilter again.

Maintenance Tip: Replacing the gasket on a yearly basis will make the replacement procedure much easier. There are also benefits to having a new gasket. It will provide a better seal for a better espresso extraction and it also enables you to be able to remove the shower screen without ruining the gasket to provide for better cleaning which will result in better tasting shots.

Descaling

- Descaling is the process of running a descaling agent such as citric acid through the machine to remove the accumulation of mineral deposits.

- If you are using softened water then it should not be necessary to descale the machine.

- Often times descaling can cause more problems than it solves. It can react to the minerals and foam over ruining electrical components. If the solution is too strong it can cause the chrome plating inside the group to flake off and get in the coffee or if it's too weak it can dislodge minerals and cause a blockage. For liability reasons we strongly discourage descaling and will not provide any instructions on the process.

Troubleshooting

No Steam From Steam Wand

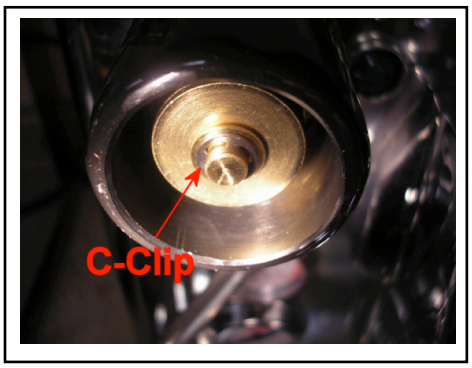
- Make sure the steam boiler power switch has been turned on for at least 15 minutes.

- Check the upper gauge for steam pressure. Pressure should be about 1.2 bar. If the gauge is at zero then refer to the **"Not Heating"** section of the troubleshooting manual. If pressure is good then continue with steps below.

- Check the steam tip for a blockage. Clean steam tip holes with a paper clip.

- Check the steam wand for a blockage by unscrewing the steam tip from the wand. Check the inside of the steam tip for dried up milk and then make sure the white teflon tube in the steam wand is also free of dried up milk.

- Check the steam knob for proper operation. Remove the end cap on the end of the steam knob. Check to make sure that the c-clip shown in the picture is attached.



No Water From Hot Water Wand

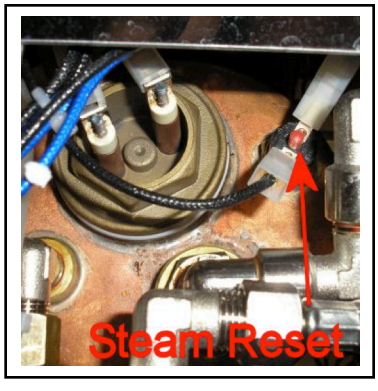
- Make sure the steam boiler power switch has been turned on for at least 15 minutes.
- Check the upper gauge for steam pressure. Pressure should be about 1.2 bar. If the gauge is at zero then refer to the **"Not Heating"** section of the troubleshooting manual. If pressure is good then continue with steps below.
- Check the hot water knob for proper operation. Remove the end cap on the end of the hot water knob. Check to make sure that the c-clip shown in the picture on the previous page is attached.

Note: If the steam gauge shows normal pressure, but when you open the steam knob the pressure immediately drops to zero then heats normally afterwards that is called a vapor lock. This is caused by a sticking vacuum breaker valve. A replacement vacuum breaker valve can be purchased from our website at the link below. https://www.chriscoffee.com/Vacuum_Breaker_Valve_p/f814.htm

Not Heating

- Verify the machine is plugged into the outlet and the outlet has power.
- Make sure the main power switch and steam boiler power switch are both on.
- Make sure the water is turned on to the machine. If the water was off, then turn the water back on. Turn the power switch off, unplug the machine and then wait 5 seconds and then plug the machine back in and turn the power switch back on.
- Check the F.02 setting in the PID controller. It should be set to either **7** for 15 amp mode or **5** for 20 amp mode.
- Check the resettable hi-limit on each boiler. The coffee boiler reset is located on the top of the boiler. The steam boiler reset is on the bottom of the boiler which can be accessed by removing the access panel on the bottom of the machine.

With the machine unplugged, firmly press the red reset button shown in the attached pictures.



PID Display Is Turned Off

- Make sure the main power switch is turned on and the outlet has power.
- Make sure the water reservoir is filled with cold softened water.
- If plumbed in make sure that the water supply is turned on to the machine.
- Turn the machine off for 3 seconds and then turn back on to reset.

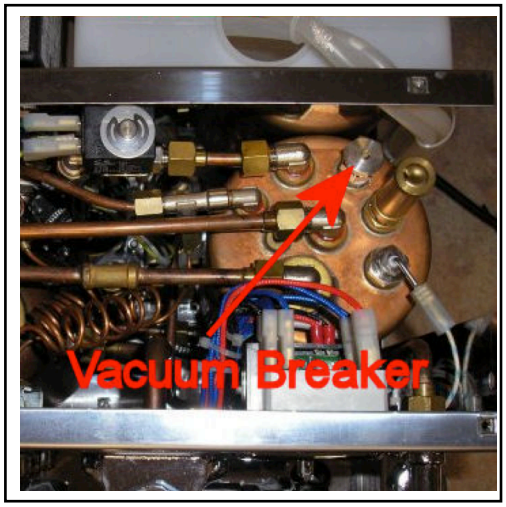
Steam Is Continually Discharged Into The Drip Tray

- During heat up a small amount of steam will be discharged into the drip tray. The steam should stop within a few minutes after the boiler pressurizes. If the steam continues to fill the drip tray after a few minutes then the vacuum breaker valve should be replaced. A replacement vacuum breaker valve can be found on our website at the link below.
  https://www.chriscoffee.com/Vacuum_Breaker_Valve_p/f814.htm

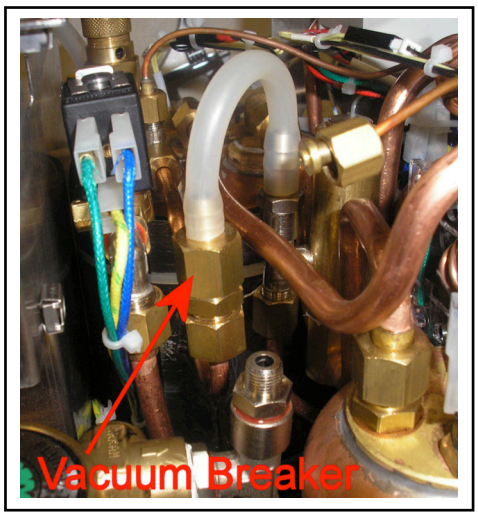
Steam Gauge Shows Full Pressure But Drops To Zero When Steam Knob Is Opened

- This is caused by a sticking vacuum breaker valve which causes the boiler to build air pressure instead of steam pressure. A replacement vacuum breaker valve can be found on our website at the link below.
  https://www.chriscoffee.com/Vacuum_Breaker_Valve_p/f814.htm

Old Style Vacuum Breaker



New Style Vacuum Breaker



Espresso Coming Out Too Slow Or Not At All

- Activate the brew lever and check the pump pressure. Recommended setting is 9 bar. Adjust pump pressure if necessary.
- If pump pressure is good then try adjusting grind coarser.
- Be sure the insert basket is not over filled with coffee and you are tamping with no more than 30lbs of pressure.

Espresso Coming Out Too Fast

- Activate the brew lever and check the pump pressure. Recommended setting is 9 bar. Adjust pump pressure if necessary.
- If pump pressure is good then try adjusting grind finer.
- Be sure the insert basket is filled with the proper amount of coffee and you are tamping with 30lbs of pressure.

Leaking Around Portafilter When Brewing

- Make sure portafilter is tightly locked into the grouphead as far right as it can go.
- Make sure the portafilter basket is not over filled with coffee.
- Replace the group gasket if more than a year old.

PID Alarm Codes

A1	Channel 1 Unplugged	Check temperature sensor, heater connections, and reset for coffee boiler.
A2	Channel 1 Short Circuit	Check for damaged temperature sensor in coffee boiler.
A3	Channel 2 Unplugged	Check temperature sensor, heater connections, and reset for steam boiler.
A4	Channel 2 Short Circuit	Check for damaged temperature sensor in steam boiler.
A5	Channel 3 Unplugged	Check PID programming, reset to default settings.
A6	Channel 3 Short Circuit	Check PID programming, reset to default settings.

Warranty

The Duetto comes with a 1 year warranty starting from the original date of purchase to protect against defects in materials or workmanship. The warranty is void if the product has been damaged by abuse, neglect, or modification. The warranty is provided by the seller. Contact your distributor for more information.

We Are Here To Help

Enjoy your new 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 by phone at 518-452-5995 or by email at 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.

Thank you again for your business,