



SYNESSO

Artistry ♦ Ingenuity ♦ Understanding



Owner's Manual
Sabre™ Espresso Machines

Safety Warnings

IMPORTANT Information for the Sabre Espresso Machine Manufactured by Synesso, Inc.

- DISCONNECT FROM ALL POWER SOURCES BEFORE SERVICING
- Read the entire manual BEFORE operating this machine
- Steam and condensation from the steam wand discharge is HOT and may cause burns
- The steam wand tips and bases become HOT during use, do not touch them - Use Caution
- Always have the steam wand tip covered or inserted in the product to be steamed before opening the steam valve
- Never remove the steam wand from the product that is being heated when the valve is open
- Never remove the portafilter from the machine during the brewing process
- Keep water and moisture away from any electrical device or live power.
- Steam tank water is heated to 260°F (126°C), Use caution around this tank.
- The brew groups deliver water as hot as 210°F (99°C), Use Caution
- The hot water mix valve can be adjusted to deliver water as hot as 212°F (100°C), Use Caution

Label Locations

WARNING: Disconnect from power supply before servicing
AVERTISSEMENT: Couper l'alimentation avant l'entretien et le dépannage.

See this label on the electrical box

The conductors of the power supply cord are marked "L1", "L2" for the ungrounded ("hot") supply conductors and "G" for an equipment grounding lead.

Warning: Risk of Fire. Use UL Listed Grounding Type Plug rated for 220 Volts, _____ Amperes, _____ Phase, # _____ Wire. Plug to be Selected and Installed only by Qualified Service Personnel.

See this label on the end of the electrical cord.

This equipment is to be installed to comply with the applicable federal, state or local plumbing codes.

See this label on the on inside edge of the frame under the drain tray on the front left side.

NOTE: For single line 220 vac use:

- White wire as supply
- Black wire as neutral
- Green wire as earth (ground)

Materials Information

- All stainless steel that comes into contact with the water supply, used to fabricate Synesso espresso machines is 300 series
- All brass fittings are low lead per the CA360 specifications or better
- All electronic devices are lead free
- All gaskets are made from a food contact safe material

Test Information

- Brew (coffee) tanks are hydrostatically tested to 375 psi
- Steam tanks are hydrostatically tested to 75 psi
- The electrical system is subject to an electrical withstand test of: 1.20 kvac, at 5.00 mA, for 1 (one) second

Congratulations on the purchase of your Sabre™ espresso machine.

Synesso™, Sabre™, DigiZone™ are all Trademark names of Synesso, Inc

Factory Information

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Seattle, WA 98108
Tel: 206-764-0600
Fax: 206-764-0601
Email: info@synesso.com
Web: www.synesso.com

Please have your Serial Number available
BEFORE calling for service or technical support.
Thank you.

S/N: _____

The offsets for this machine are:

Zone 1 _____ °F / Zone 2 _____ °F Zone 3 _____ °F
Zone 4 _____ °F / Zone 5 _____ °F (Steam Tank)

Included in the Box

- * Espresso Machine
- * Owner's Manual
- * Pump/Motor Combination
- * 8' Flexible 3/4" ID Flexible Drain Hose
- * Hose Clamp
- * 48" Stainless Steel Braided Hose
- * 84" Stainless Steel Braided Hose, Qty 2
- * Tamper, 58 mm
- * Fitting, 3/8" Pipe x 3/8" Compression
- * Accessory Package & Synesso 3oz Shot Glass
- *A combination of portafilters based on the size of the machine: (not all items below are included)

Model:	3 Group	2 Group
Portafilters:	4	3
Double Spout:	3	2
Single Spout:	1	1
Double Basket:	3	2
Single Basket:	1	1
Blind Basket:	1	1

Installation Instructions

To maintain the warranty, an authorized or certified espresso service representative must perform the installation of the Sabre™ espresso machine.

Site Preparation

The Sabre must be placed on a level horizontal surface that can be easily cleaned and is capable of sustaining a minimum of 300 lbs. of weight.

The surface depth should allow for a minimum clearance of 1" behind the Sabre and 3" in front.

Make a 2 ½" round hole through the countertop, 4" from the back center of the machine. This should provide ample room for the hoses and electrical lines.

A 3/8" cold water supply line with a shut off valve is needed within 5' of the machine, preferably located directly underneath the Sabre.

A proper water filtration or softening system must be installed on the incoming water supply. Types and sizes of the water treatment systems will vary. It is important to use a system designed to match the needs of your specific area. Most water filtration systems require periodic maintenance, cartridge or filter replacement. This is vital to the proper functioning of the machine and the quality of the espresso served. Follow the instructions provided by your water treatment system for proper installation.

Note: Improper water filtration can result in water damage inside the machine causing scale and corrosion. **THIS WILL VOID YOUR WARRANTY.**

There must be adequate room underneath the Sabre to locate the motor and pump. This should be within 5' of the cold water supply line. The pump may need periodic adjustment, so easy access should be available. The pump and motor should have proper ventilation and a minimum of 3" clearance on all sides.

Dimensions of the pump and motor are:
6 ½" Height x 5 ½" Width x 9 ½" Depth

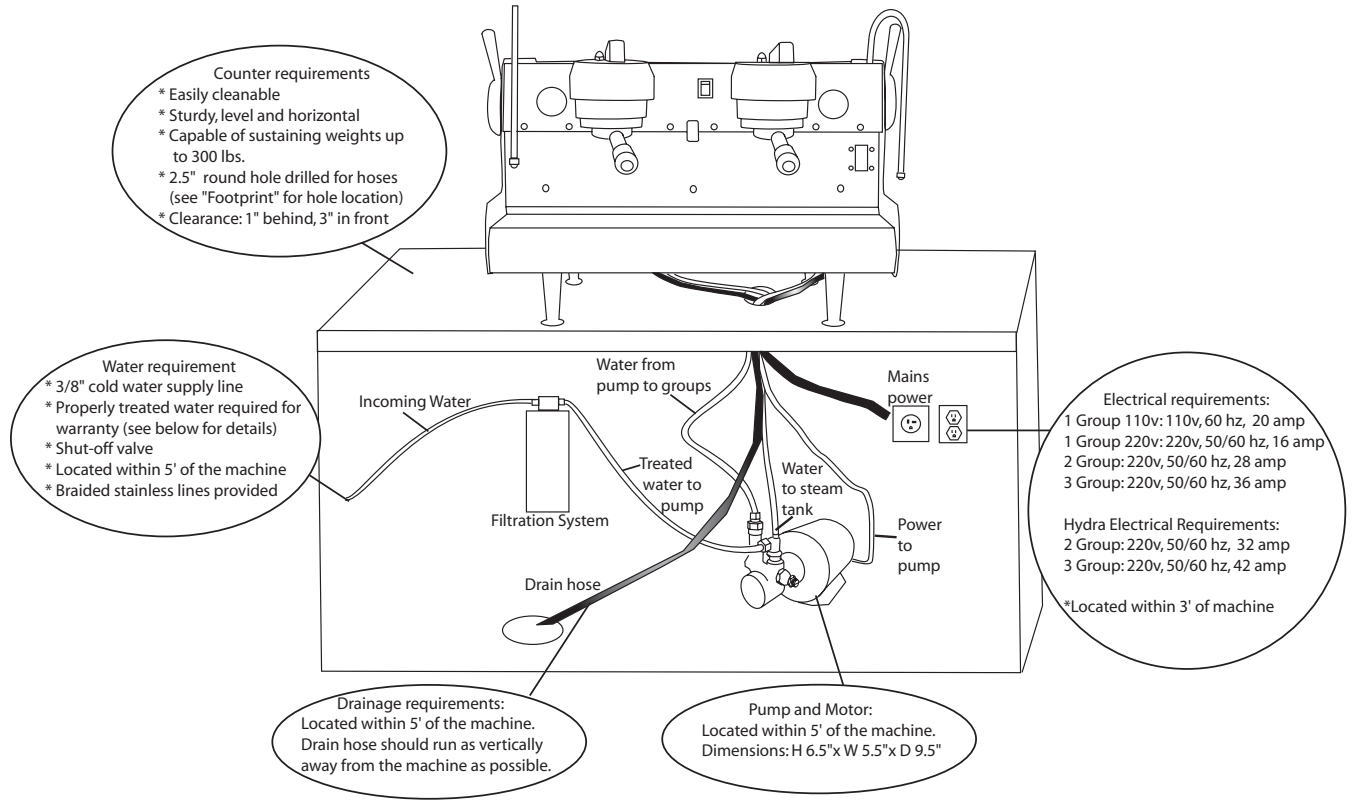
A floor drain or sink should be readily available. The best location is directly under the installation site of the machine.

An electrical receptacle and matching plug, rated at the proper voltage and amperage is required within 3' of the location of the machine.



SYNESSO

INSTALLATION DIAGRAM



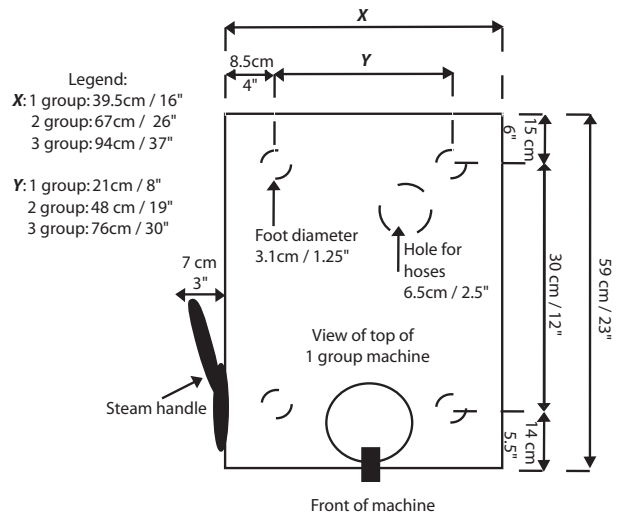
Water Requirements

Proper water filtration and regular filter changes are a requirement to keep your factory warranty valid and your machine functioning properly. It is highly recommended that you contact a professional water filtration specialist in your area and have your water tested to determine the proper filtration system. It is important to note that many municipalities change their water sources throughout the year, so periodic water tests may be necessary.

Water Standards to keep your warranty valid:

- Total Dissolved Solids (TDS) 30 to 200 ppm (parts per million)
- Total Hardness - in ppm Less than 85 ppm
- Total Hardness - in grains 3 to 5 grains (divide ppm by 17.1 to get grains)
- pH 6 pH to 8 pH
- Chloride 0 ppm - any Chlorides can be corrosive and harmful
- Total Alkalinity Less than 100 ppm
- Chlorine 0 ppm
- Iron 0 ppm

MACHINE FOOTPRINT



Plumbing Instructions

This equipment is to be installed to comply with the applicable federal, state or local plumbing codes.

Connect the 3/8" compression fitting of the provided stainless steel braided hose to the connection from the filtered, cold water line.

Fittings on the hoses are 3/8" compression type fittings; thread sealant or Teflon tape is not necessary. Make connections snug, but do not over tighten. Turn water ON and check for leaks.

The 3/4" inside diameter clear vinyl ribbed hose connects the outlet fitting of the drain box to the drain (located on the right hand, bottom, rear corner). Run this hose to the floor drain or floor sink.

NOTE: The Sabre requires a minimum of 35 PSI of line pressure to have the auto fill system for the steam tank function properly.

Electrical Instructions

After you make sure your receptacle and circuit are properly rated (see specifications chart on page 16) for your model, then install a matching plug on the power cord provided with the Sabre.

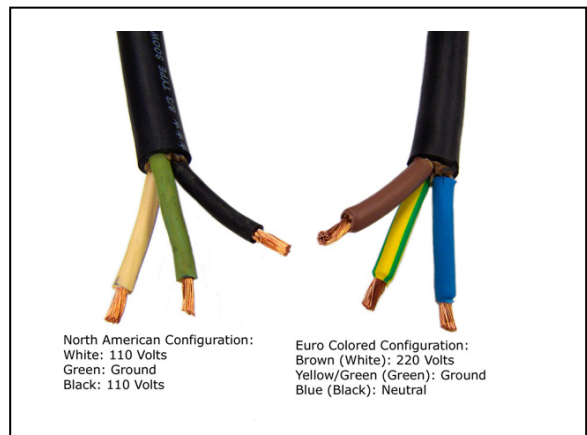
Power Cord wire connections for plug installation:

North American Configuration		Outside of North America	
Green	Ground	Green & yellow	Ground
White	110 V	Brown	220 V
Black	110 V	Blue	Neutral

Make sure that the On/Off electronics switch (red rocker) and the heating element breaker on the Sabre are in the OFF (0) position, then plug the power cord into the receptacle.

IMPORTANT - If the voltage on the receptacle used is less than 210 Volts, Synesso recommends installing an In-Line Buck-Boost transformer to increase this voltage.

- 1 and 2 Group 220 Volt Machines require a 1.0 KVA transformer
- 3 Group 220 Volt Machines require a 1.5 KVA transformer.



Start-Up Instructions

1. To fill the coffee brew tanks, turn the water ON.
2. Switch the electronics On/Off switch to ON. This activates the machine's water auto-fill feature for the steam tank and the electronics, but NOT the heating elements.

3. The water level sight glass for the steam tank is located on the right side of the machine. As the tank fills, the water level will rise in the sight glass and will automatically stop when the preset level is reached.
4. To bleed the air from each brew group, use the electronics override button on the right side of the brew group. Leave it ON until all the air has escaped and water starts flowing.
5. Make sure the water level in the sight glass reads at least $\frac{1}{2}$ full and then turn the heating element breaker to the ON or (1) position.
6. To adjust the pump pressure, activate the pump infusion by turning on a Volume button on the keypad.
7. Locate and read the pump pressure / brew gauge.
8. Set the pump pressure to 9 Bar. To do this, locate the pump adjusting screw on the right side of the brass pump housing. Loosen the lock nut and turn screw with a screwdriver.
 - Clockwise to INCREASE pressure
 - Counterclockwise to DECREASE pressure
9. Please allow at least $\frac{1}{2}$ hour of “warm up” time before using your Sabre espresso machine to brew shots or steam milk. The steam gauge should read a minimum of 1.1 Bar.

Unplugging EMC Compliant Machines

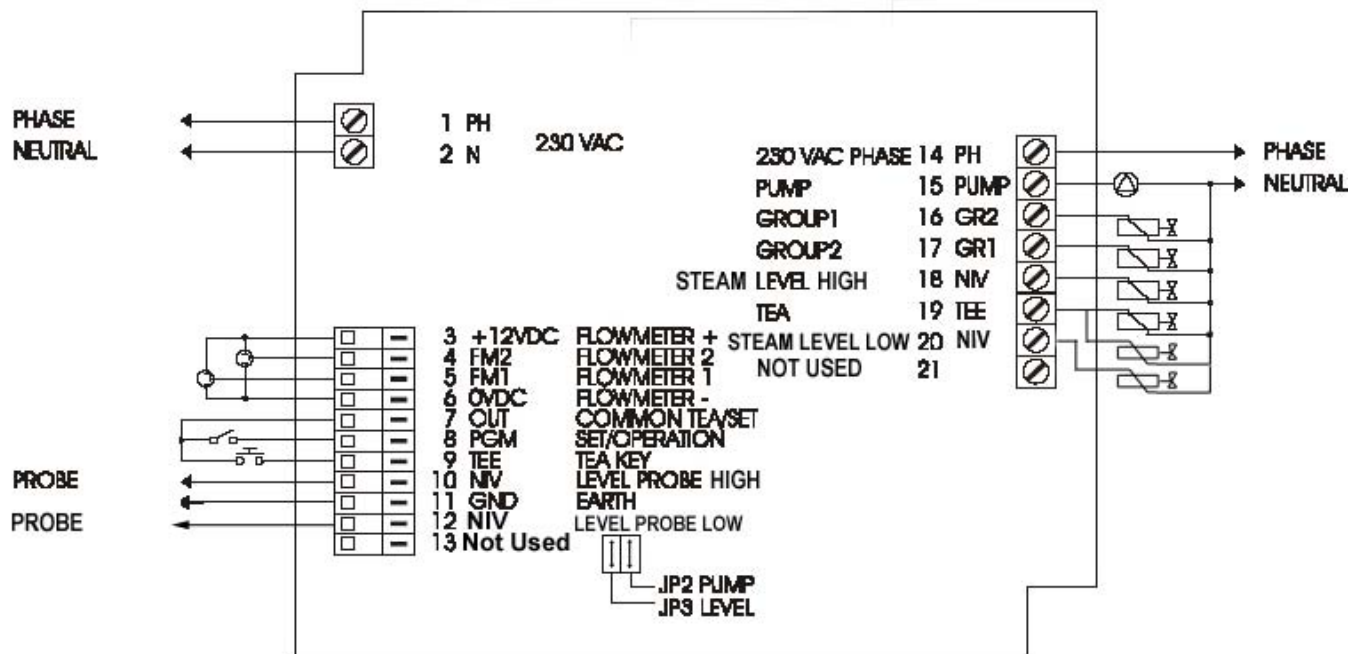
(C-Tick for Australia and NZ, CE for Europe)

To comply with EMC (Electromagnetic Compatibility) regulations, Synesso is required to install a capacitor in the electronics box across the main power IN. To avoid an electric shock from the charge held in the capacitor, leave the electronics ON/OFF red rocker switch in the ON position when unplugging the machine. When the electronics “go dark” or OFF, the charge has dissipated.

Sabre Volumetric Dosing Electronics Instructions

1A. Duo - Terminal Assignment & Diagram (2 Group)

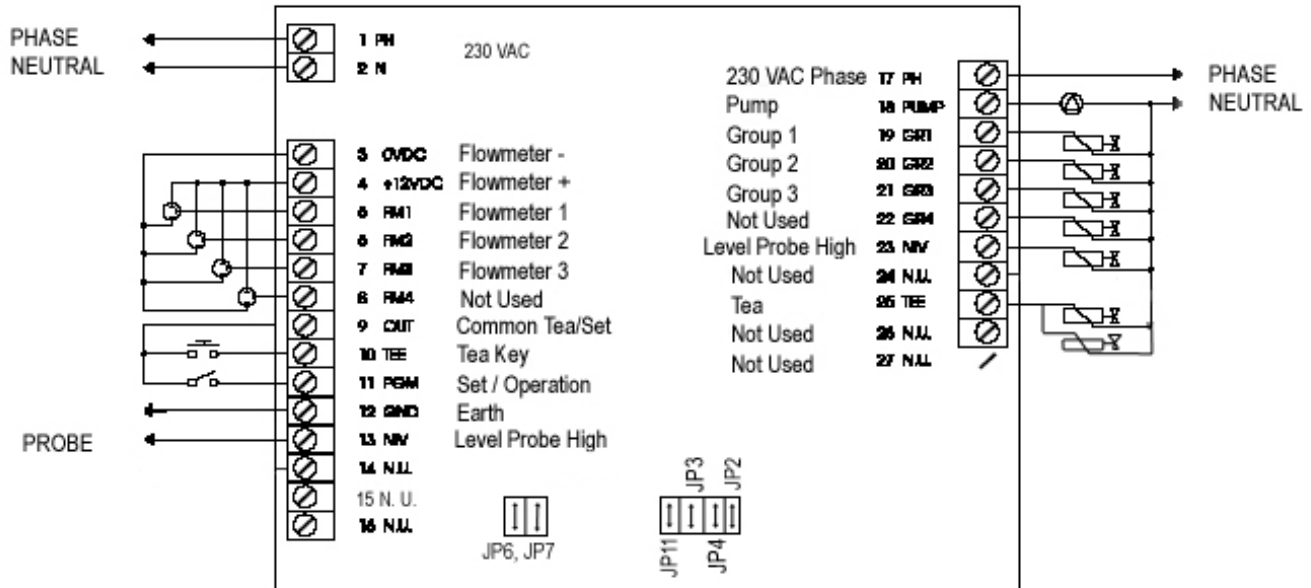
Synesso Sabre - DUO



- 1st main voltage terminal. The phase is usually connected here (L1)
- 2nd main voltage terminal. The neutral conductor is usually connected here (L2)
- + Supply to all flowmeters (+)
- Pulse input flowmeter # 2.
- Pulse input flowmeter # 1.
- Earth to all flowmeters (-). Ground to frame
- Common tea/set. Common return line for the tea key and the Set/Operation switch
- Set / Operation switch Terminal.
- Hot water key Terminal. Input of the tea key. The return line is connected to terminal 8
- Level Probe High. Input from the Level probe to control the water level into the boiler.
- Earth Terminal. Ground to Frame
- Level Probe Low.
- Not Used.
- Common lead for contact assemblies. (L1)
- Pump Control Terminal. To the pump relay
- Group 2 Control Terminal. Relay contact to the solenoid of group 2
- Group 1 Control Terminal. Relay contact to the solenoid of group 1
- Steam Level High Probe. Relay contact to fill solenoid
- Hot water Control Terminal. Relay contact to hot water solenoid.
- Steam Level Low Probe. Relay contact to element cut out relay
- Not Used.

1B. Quattro - Terminal Assignment & Diagram (3 Group)

Synesso Sabre - Quattro



1. 1st main voltage terminal. The phase is usually connected here (L1)
2. 2nd main voltage terminal. The neutral conductor is usually connected here (L2)
3. Earth to all flowmeters (-).
4. + Supply to all flowmeters (+)
5. Pulse input flowmeter # 1.
6. Pulse input flowmeter # 2.
7. Pulse input flowmeter # 3.
8. Not Used
9. Common tea/set. Common return line for the tea key and the Set/Operation switch
10. Hot water Tea key Terminal. The return line is connected to terminal 8
11. Set/Operation switch Terminal. The return lead is connected to terminal 8.
12. Earth Terminal Important: Please read the section "EARTHING" in this manual.
13. Steam Level Probe High.
14. Not Used.
15. Not Used.
16. Not Used.
17. Common lead for contact assemblies. (L1)
18. Pump Control Terminal. To the pump relay
19. Group 1 Control Terminal Relay contact to the solenoid of group 1
20. Group 2 Control Terminal Relay contact to the solenoid of group 2
21. Group 3 Control Terminal Relay contact to the solenoid of group 3
22. Not Used.
23. Level probe High. Control Terminal Relay contact to fill solenoid
24. Not Used.
25. Not Used.
26. Not Used.

2. Earthen (Earth Ground)

To ensure that the Sabre Duo/Quattro Electronics operates perfectly, the following specifications must be met:

- The earth terminal (No.11) must be connected to the housing of the coffee machine by means of a flexible lead
- The flexible lead must have a large cross-section, minimum 1.5mm²
- The flexible lead must be as short as possible and bolted to the housing by means of a serrated lock washer

3. Keypads

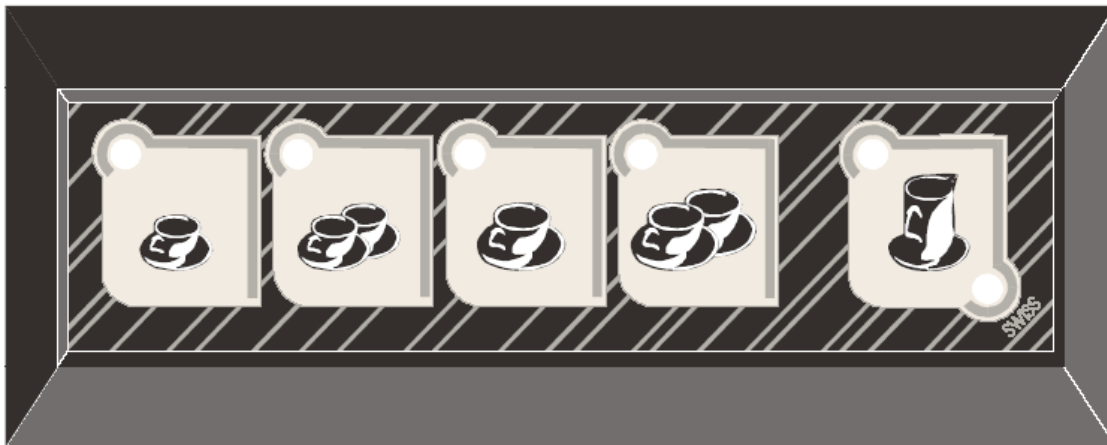
The keypads (max. 2) of the Sabre Duo and (max 4) Quattro Electronics are connected to the control unit by only one cable (loop). As a result each keypad has its own address, programmable by a jumper. Therefore the keypads within the system must not be interchanged, i.e. keypad with designation "Group No. 1" always controls group No. 1.

4. Maintenance

The Sabre Duo/Quattro Electronics is basically maintenance-free for the end user.

5. Commissioning

The Sabre Duo/Quattro Electronics control unit must be connected according to our installation specifications. After the coffee machine has been fully wired, connect the keypads to the control unit using the ribbon cable enclosed. In the operating instructions the term "volume" is used for the portion keys. The double function of the STOP key is designated "Stop/Continuous 5".



Volume 1

Volume 2

Volume 3

Volume 4

"Stop/Continuous 5" (Buttons)

6. Machine Specific Programming

6.1 Programming the Delay Time

The delay time between the time at which the level probe responds and the main valve of the boiler opens can be set to the following values ranging from 2s to 20s: 2s, 5s, 10s, 15s, 20s.

Programming can only be performed on group 1.

The delay time is programmed as follows:

Insert the enclosed program plug (jumper) at position JP3 in accordance with the diagram for Duo on page 6 and Quattro page 7:

- The LEDs for lines 1 to 4 then light up on the keyboard of group 1
- If a delay time of 2s is desired, remove the program plug again to program the delay time.

- If a delay time of more than 2s is desired, this can be programmed by pressing a line key in accordance with the following code:
Volume 1 = 5s, Volume 2 = 10s, Volume 3 = 15s, Volume 4 = 20s
- When a key is pressed the LED of the key begins to flash. The input can be corrected at any time by pressing another key. When the desired delay time has been selected, it is programmed by removing the program plug.

Note: Whenever the program plug is inserted the time which was programmed previously is cleared for safety reasons and a value of 2s is preset.

6.2 Programming the Pump Operation

The Sabre Duo/Quattro Electronics control unit can also activate the pump when opening the main valve of the boiler to prevent the boiler from emptying if the pressure in the water circuit should become too low. The pump is programmed as follows:

- Program plug JP2 not inserted = pump is activated when the main valve of the boiler is opened

7. Setting Portions - The "Setting" Section is Divided into 5 Subsections

7.1 Setting all Groups Together

The Sabre Duo/Quattro Electronics can set the individual volumes of several or all the groups in one operation. This is done as follows:

1. Switch the "Set / Operation" switch to the "Set" position. The machine is then in the setting mode.
2. Press the "Stop/ continuous 5" keys of all the groups to be set. All of the LEDs of volumes 1 to 4 light up to acknowledge this input.
3. Select a volume of a chosen group. The LED of this key and the corresponding LED of the selected groups begin to flash. Water is dispensed.
4. When the desired volume of water is delivered, press the same key again. The LED of this key and the corresponding LEDs of the selected groups continue to flash and the flow of water is stopped. While the LED is flashing (15s). The volume button can be pressed again starting the flow of water to obtain the desired volume.
5. Switch the "Set / Operation" switch to the "Operation" position.

7.2 Setting Separately

The Sabre Duo/Quattro Electronics also allows you to set all groups individually. This is done as follows:

1. Switch the "Set / Operation" switch to the "Set" position.
2. Then press the "Stop/ Continuous 5" key of the group to be set. All of the LEDs of volumes 1 to 4 light up to acknowledge this input.
3. Select a line. The LED of this key begins to flash. See 7.1

7.3 Setting the 5th Button "Stop/Continuous 5"

The Sabre Duo/Quattro Electronics can dispense a set portion by means of the "Stop/ Continuous 5" key. The procedure for programming the 5th portion is slightly different to that for the other volumes. The "Stop/ Continuous 5" key is a multi-function key with the following functions:

- STOP (interrupt a dispensing process) - possible whenever the group is active
- Dispense a portion which has not been set (the procedure is activated by pressing the "Stop/ Continuous 5" key and is terminated by pressing the key again) or
- Dispense a set portion (the procedure is activated by pressing the " Stop/ Continuous 5" key and is terminated automatically when the set amount has been reached)

The setting procedure is:

1. Switch the "Set / Operation" to the "Operation" position
2. Press the "Stop/ Continuous 5" key of a group. The green LED of the group lights up and water flows.
3. Switch the "Set / Operation" to the "Set" position. The green LED of the group turns off, the flow of water stops and the machine is now in the setting mode for line 5

4. Press the "Stop / Continuous 5" key for this group again. The green LED begins to flash and water flows until the desired volume is reached.
5. When there is enough water, press the " Stop / Continuous 5" key again. The green LED continues to flash. The flow of water is stopped. The LED will flash for (15s)
6. If the volume is correct, allow the 15s to expire; this button is now programmed
7. If you are not satisfied with the portion, in the 15s time period more water can be added by selecting the button again.

Note: Several groups can be prepared simultaneously for setting line 5: press the " Stop / Continuous 5" of the groups when the Sabre Duo/Quattro Electronics is in "Operating" mode. When the water flows on each group turn the "Set / Operation" switch to "Set", then proceed with 7.3

7.4 Setting the “Stop / Continuous 5” Button to Continuous Flow

When line 5 of one or more groups are set as portion, the setting of continuous flow is:

1. Switch the "Set / Operation" to the "Operation" position.
2. Press the "Stop / Continuous 5" key for one or more groups. The green LED of the group lights up and water flows out.
3. Switch the "Set / Operation" to the "Set" position. The green LED of the group is extinguished and the flow of water is stopped.
4. The "Stop / Continuous 5" key is then reprogrammed for dispensing an unlimited portion (continuous flow)
5. Switch the "Set / Operation" to the "Operation" position.

7.5 Setting the Hot Water Timer for Tea

The Sabre Duo/Quattro Electronics can also proportion hot water for tea using a timer. This timer is set as follows:

1. Switch the "Set / Operation" to the "Set" position.
2. Press the tea key Hot water flows out
3. When the cup is full, press the tea key again. The quantity of the hot water is set. The system does not have a correction facility for setting the hot water timer. If the setting must be corrected, the procedure must be repeated from the beginning.
4. Switch the "Set / Operation" to the "Operation" position.

8. Operation

In the "Operation" mode the "Set / Operation" switch is at the "Operation" position. In this mode any portion can be dispensed. Water is dispensed by selecting a volume button.

However, the following limitations apply:

- Only one button per group can be active at any time. All volume portion buttons, with the exception of the “Stop / Continuous 5” button, are disabled.
- If the "Stop / Continuous 5" key is pressed for a group while a button of this group is active, it is interpreted as a STOP command. If no button is active a portion (depending on setting) or a continuous flow is dispensed.

9. Malfunctions

During operation the Sabre Duo/Quattro Electronics performs continuous checks on the electrical connections to all the connected flowmeters and the flowmeter itself. During dispensing, if no pulses are registered from the flowmeter for 3s the Sabre Duo/Quattro Electronics switches over to the malfunction mode.

A malfunction is displayed as follows:

- The LED of the selected line and the red LED of the "Stop / Continuous 5" key flash alternately
- This fault message has the following consequences for the user:

- The water portion must be manually interrupted (by pressing the "STOP" key)
- This portion cannot be recorded in conjunction with the calculating systems
- The pump is switched off after a maximum of 90s in order to protect it from being damaged.

Possible sources of faults:

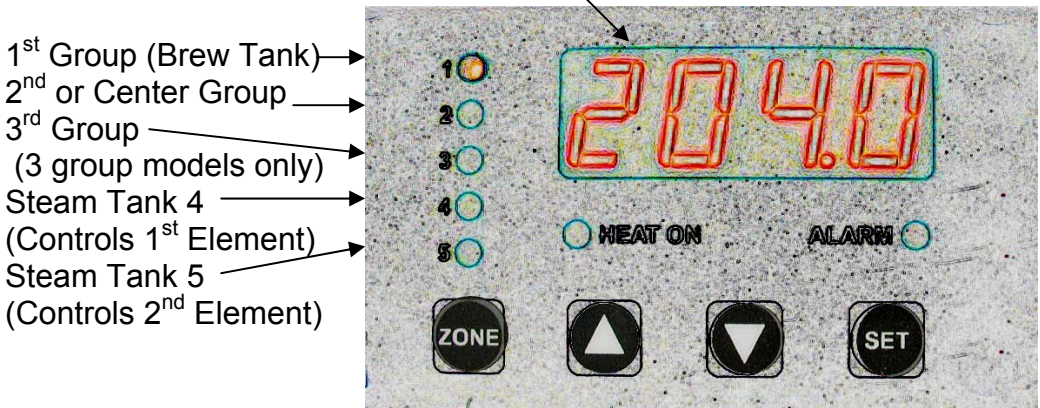
- Water supply is interrupted.
- Coffee grounds are too fine which prohibits water flow.
- The flowmeter is blocked as a result of calcification and therefore no longer emits pulses.
- The input of the flowmeter to the Sabre Duo/Quattro Electronics is interrupted.

DigiZone™ Controls

A custom PID Electronics System

The 5 Zone Control System for 2 & 3 Group Models

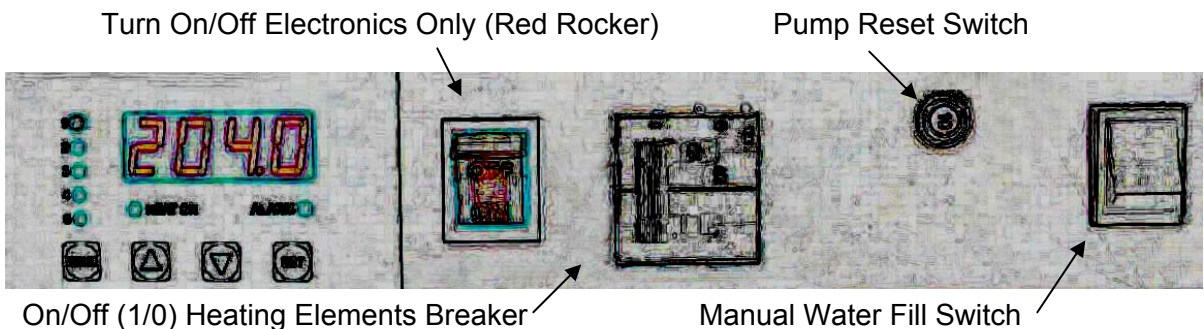
Temperature readout for selected Zone



The 2 Zone Control System for 1 Group Models: #1 LED is the brew tank; # 4 LED is the steam tank

The Electronics Box, Located Under the Machine

- CAUTION: Disconnect from Power Source before opening this box
- Unauthorized work in this box may void the warranty



Setting the DigiZone™ Temperatures

1. Select the desired zone by pressing the ZONE button. Press and hold the SET button to check the current set point.
2. To adjust a zone temperature, use the ZONE button to cycle to the zone you want to adjust.
3. Press and hold the SET button while using the ARROW keys to adjust up or down to the desired temperature.
4. The heating element has 2 separate coils. Zone 4 is the primary coil and it is recommended that you set the temperature to read about 1.2 to 1.4 Bar (approximately 250°F – 255°F) on the steam gauge. Zone 5 should be set about 5°F to 8°F lower, so the 2nd coil is only active when needed.

Toggle Display Between C and °F

Press and hold the Down Arrow and the Zone Button until you hear a beep. It is encouraged to set and adjust your temperatures in °F as it is the more accurate scale. (* for s/n 0303 forward)

Steam Tank Pressure & the Relationship to Temperature

- Pressure = Bar or PSI (pounds per square inch)
- 1 Bar = 1 Atmosphere = 14.7 PSI at sea level

Temperature as it Relates to Pressure in the Steam Tank:

Temperature	Bar	PSI
230°	.40 to .50	6 to 8
240°	.75 to .85	10 to 12
250°	1.10 to 1.20	15 to 17
260°	1.40 to 1.60	23 to 25
270°	1.80 to 2.00	30 to 32

Removal of Right Hand Side Panel

CAUTION: This should ONLY be done by Qualified Personnel

Use a 5/8" wrench, remove the 4 nuts & O-rings; the steam lever will stay attached to the panel

1. Adjust the expansion valve – locate valve, use 12mm wrench, loosen or tighten to relieve pressure at 12 Bar.
2. Turn off the steam valve – locate the inline ball valve, turn stem clockwise with an adjustable wrench.
3. Rebuild the steam valve – purchase the kit from Synesso and install it.
4. Adjust hot water mix valve – turn handle clockwise to close valve completely, giving you steam tank water only, turn handle counterclockwise ¼ turn (this adds cold water), measure water temperature at the hot water spout, continue with ¼ turn increments until desired temperature is achieved.
5. Locate the drain box, remove and clean.

Bean Grinding

1. For best results, use fresh coffee.
2. Understand the properties of the coffee roasts you have chosen.
 - Generally, light roasts brew at hotter temperatures than dark roasts

3. Synesso recommends that ground coffee should be brewed within a few minutes of grinding.
4. Fill the portafilter basket just above level and wipe off the excess.
5. Press straight down evenly on top of the grounds with the tamper.
6. Use firm pressure and twist slightly to insure a level top.
7. Common causes if the shot is pouring too Slowly:
 - Grind is too Fine
 - Too much coffee in the basket
 - Tamp pressure was too firm
 - Diffusion screens are clogged – clean or replace
 - Pump pressure is too Low (should be set to between 8 to 9.5 Bar)
8. Common causes if the shot is pouring too Quickly:
 - Grind is too Coarse
 - Not enough coffee in the basket
 - Tamp pressure is too light
 - Portafilter baskets are worn – replace immediately
 - Water temperature is too cold

Espresso Brewing

1. The Sabre is supplied with both single and double portafilters. The single portafilter can only be used to brew a single shot of espresso. The double can be used to brew 1 double or 2 single shots of espresso. These portafilters should be warmed by keeping them engaged in the brew group before using.
2. Filter basket size: a single is 7 grams, a double is 14 grams, triples are 18 and 21 grams
3. In order to brew a satisfactory shot of espresso, the grind, the dose and tamp of the beans must be correct. This is critical to the quality of the shot.
4. Fill the portafilter basket with ground espresso roast beans. Using the supplied tamper, press ground coffee firmly, packing it into the portafilter basket. Make sure the top of the coffee is level for even brewing.
5. Engage the portafilter into the brew group that has the correct temperature setting for this espresso roast and pull firmly to the right to set the seal.
6. Press the desired volume button on the keypad.
7. If the coffee is ground, dosed and tamped to the proper consistency, it should take about 20 to 25 seconds to brew a 2 oz double shot.

Milk Steaming

1. The steam wands are used to both heat and expand the milk into tight-bubbled foam.
2. Pour fresh cold milk into a steaming pitcher. Fill to ½ full – do not overfill.
3. Insert the tip of the steam wand deep into the milk pitcher. This will prevent milk from overflowing once the steam is turned on.
4. Open the steam valve fully by pulling the handle towards you. Total travel is only a few inches.
5. Place one hand on the side of the steam pitcher to feel the rising temperature of the milk.
6. As the milk agitates and heats, lower the pitcher to keep the tip of the steam wand closer to the surface, but still beneath the surface. If an adequate amount of foam has been attained prior to reaching the desired temperature, raise the pitcher to lower the tip of the wand deeper into the milk. This will continue the heating process and minimize further foaming. Do not touch the steam wand to the bottom of the milk pitcher; this can create an inaccurate temperature measurement.
7. Heat milk to approximately 150°F to 170°F (65°C to 76°C). If you are using your hand to help determine the temperature, it will feel about as hot as you can stand without burning yourself. Steam thermometers are also an excellent way to determine the temperature of the milk.
Caution: Do not over heat the milk and scald it.

8. Wipe off and purge the steam wand immediately after each use.
9. Sabre steam wands are made with a proprietary double walled process that helps to keep the outer wall cooler. The tip and the base of the wand can heat to very high temperatures and caution must be used. The double wall process also makes wiping and cleaning the steam wand much easier.

Note: Whole Milk, 2%, 1%, Non-Fat, Soy Milk, Rice Milk and other milk type products may require a different technique to foam properly. In general, the higher the fat content, the easier it is to achieve consistent foam.

Cleaning and Maintenance

Proper and regularly scheduled cleaning and maintenance procedures are CRITICAL for trouble free and optimum quality performance from your Sabre espresso machine.

Back-Flushing

1. Replace the filter basket with the provided blind filter basket (a single solid basket without holes) in one of the portafilters.
2. Engage the portafilter in one of the brew groups, use the override electronics switch on the right side of the group top and leave on for 3 – 5 second. Repeat several times. This procedure should be preformed on EACH brew group daily.
3. This process forces water through the inlet tube and drain system.
4. When using an approved espresso industry detergent during back flushing, follow the manufacturer's instructions. It is extremely important to thoroughly rinse the blind filter basket and repeat back flushing several times with clean water to clear the system of any detergent residue.

Cleaning

1. Clean the surface of the machine using a soft damp cloth. Avoid using abrasive cleaners or cleansing pads. Take extra care on the mirror finish stainless steel surfaces.
2. Make sure the steam wands and tips are free of milk built-up. It is always best to clean the steam wand and tip after each use. Approved espresso industry cleaners can be used to help dissolve milk built-up.
3. The drip tray, drip tray grates, cup tray grates and portafilters should be removed and cleaned every day. If you clean the portafilters in the dishwasher, first remove the filter baskets and insert springs before placing all items in the dishwasher.

Maintenance Schedule

Daily

1. Back flush each brew group a few times without detergent, and **at least once** with an approved detergent (usually the final cleaning of the night, or after a busy period).
2. Wipe down the entire machine
3. Remove portafilters, baskets and springs, drip tray and grates, cup tray grates and clean thoroughly. These items are all dishwasher safe.
4. Slowly pour a pitcher of hot water down the drain.

Weekly

1. Back-flush each brew group using an espresso industry approved detergent (this is in addition to the daily back flushing).
2. Soak portafilters and the removed filter baskets in an approved espresso industry detergent and water solution overnight.
3. Rinse thoroughly before reassembling and using your portafilters.

- Carefully remove screens from each brew group using a short handled screwdriver and soak overnight in a similar solution as the portafilters.
- Rinse screens thoroughly before installing and using. Make sure you install the screens before brewing any shots of espresso. Failure to do so may plug the drain lines with coffee grounds.

Monthly


- Check your water filtration system and make sure the cartridges and filters are changed as needed. In areas of high mineral content, hard water, high particulate count or in very busy locations – the filtration systems will need to be checked more often.

Quarterly

- Change portafilter gaskets, closely inspect diffuser screens and filter baskets – change if showing wear. Call an authorized repair representative to perform routine maintenance.
- Please disconnect machine from the power supply;** Check inside the electronics box and gently remove any build up of dust or debris by using a soft brush and vacuum. It is also important to keep dust and debris off of your pump motor – this will extend the life of the motor.

Important: Machine service and repair procedures must be performed by authorized service personnel.

Sabre™ Machine Specifications

<u>Model</u>	<u>2 Group</u>	<u>3 Group</u>
Voltage	220	220
Hertz	50 / 60	50 / 60
Amps - max draw	28	36
Brew and Steam Specifications:		
Watts per Element, Steam Tank	2000 x 2	2500 x 2
Total Steam Element Wattage	4000	5000
Steam Tank Capacity (Liters)	7.7	12.3
Watts per Element, Brew Tank	700 x 2	700 x 3
Brew Tank Capacities (Liters)	1.9 x 2	1.9 x 3
Machine Dimensions:		
	Inches / mm	Inches / mm
Height (Steam Wand 21", Handle 20.5")	18" / 457	18" / 457
Width (Steam Handle to Handle add 3")	29" / 736	40" / 1016
Depth	23" / 584	23" / 584
Weights & Dimensions:		
	Lbs / Kgs	Lbs / Kgs
Machine Weight, Empty	154 / 70	190 / 86
Machine Weight, Full of Water	173 / 77	215 / 98
Shipping Weight (approximate)	225 / 103	270 / 123
Boxed Dimensions: L" x W" x H"	41" x 32" x 31"	49" x 32" x 31"
Boxed Dimensions: L x W x H m/m	1042x762x787	1245x813x787
Plumbing (Compression)		
	3/8" OD	3/8" OD
<ul style="list-style-type: none"> CE Compliant (By request) C-Tick Compliant (By request) 		

IMPORTANT - If the voltage on the receptacle used is less than 210 Volts, it may be necessary to install an In-Line Buck-Boost transformer to increase this voltage.

1 and 2 Group 220 Volt Machines require a 1.0 KVA transformer and 3 Group 220 Volt Machines require a 1.5 KVA transformer.

Warranty

Synesso, Inc and/or your Distributor warrants to the original purchaser that Synesso espresso machines are free from defects in materials and workmanship under normal use and service for the period commencing upon the date of shipping and continuing for 12 months from the original date of shipment. Synesso will make a good faith effort for prompt correction or other adjustment with respect to any non wearing part that proves to be defective within the limited warranty period. This Limited Warranty is conditional upon proper use of the machine by the purchaser.

This Limited Warranty does not cover defects or damage resulting from: accident, misuse, abuse, shipping damage, neglect, unusual physical, electrical or electromechanical stress, unauthorized customer modifications or improper water filtration.

Proper water filtration and regular filter changes are a requirement to keep your factory warranty valid and your machine functioning properly. It is highly recommended that you contact a professional water filtration specialist in your area and have your water tested to determine the proper filtration system. It is important to note that many municipalities change their water sources throughout the year, so additional water tests may become necessary.

Water Standards to keep your warranty valid:

Total Dissolved Solids (TDS)	30 to 200 ppm (parts per million)
Total Hardness - in ppm	Less than 85 ppm
Total Hardness – in grains	3 to 5 grains (divide ppm by 17.1 to get grains)
pH	6 pH to 8 pH
Chloride	0 ppm – any Chlorides can be corrosive and harmful
Total Alkalinity	Less than 100 ppm
Chlorine	0 ppm
Iron	0 ppm

Any part which is determined to be defective in materials or workmanship should be returned to Synesso or to an authorized service location, shipping costs prepaid, as Synesso designates. Synesso may repair or replace the product or part with new or factory refurbished equipment at Synesso's sole discretion. If the product or part is determined to be defective and in compliance with the Limited Warranty conditions, the replacement part or product will be returned to the purchaser with shipping prepaid **.

Many jurisdictions have codes and regulations governing sales, construction, installation, and/or use of products for certain purposes, which may vary from area to area. While Synesso attempts to assure that its products comply with such codes, it cannot guarantee compliance and cannot be responsible for how the product is used or installed.

Synesso's liability is limited to the purchase price of the product and shall not be held liable for damages that extend beyond the product itself. Synesso's liability of consequential, incidental damages, indirect or direct damages for personal injury, inability to properly use this product, loss of business profits or interruption to business is expressly disclaimed.

** Equipment sold or residing outside the United States, purchaser maybe required to pay for the shipping and associated costs for warranty parts, repairs and services.

DigiZone™ Control Reset & Reboot Guide

If your electronics are out of the parameters you set and you are unable to make any adjustments, follow these steps to reset the electronics.

Section A – Reset DigiZone™ Electronics

1. Turn the red on/off **power switch** OFF, then back ON
2. Scroll the **zones** and press **set** to check the set points, reset if required
3. Press and hold the **up arrow**, then press and hold the **zone** button, hold both buttons together for 5 seconds to enter the common parameter adjusting mode.
 - 1st parameter is the **high alarm**, set to 275° F – holding the **set** button and using the **up** and **down arrow** keys. Press **zone** to go to the next parameter
 - 2nd parameter is the **low alarm**, set to 125° F
 - 3rd parameter is the **auto fill probe delay**, factory setting is 5 seconds
 - 4th - 8th parameters are the **temperature offset for Zone 1, 2, 3, 4 & 5 respectively**. The factory offsets for this machine are located on page 2 under the serial number
4. Press **zone** button to return to the operational mode

If the electronics do not respond to the above procedure, then a total system reboot is required

Section B – Total System Reboot

1. Turn red on/off **power switch** OFF and then turn the **element breaker** OFF
2. This can be difficult and may require assistance, press and hold **zone**, **up arrow**, **down arrow** and **set** buttons simultaneously, and turn the **power switch** ON. Continue to hold all buttons during the start up process and wait until the electronics **turn on** momentary, **then off** and **then on** again BEFORE you release the buttons. If 2 **ON** cycles are not achieved, please try again.
3. Release all 4 buttons
4. This is a total system reboot and all of your parameters and your temperature set points will need to be reentered. The electronics will show the factory temperature set points. Follow steps 1 -4 in section A to program your set points.
5. Turn the **element breaker** ON

Section C – Fill in your Temperature Set Points for Reference

Temperature	1 Group	Factory	2 Group	3 Group	Factory
Zone 1		200°			200°
Zone 2		250°			200°
Zone 3	N/A	N/A	* OFF		200°
Zone 4	N/A	N/A			250°
Zone 5	N/A	N/A			250°

- On a 2 group machine, lower the temperature setting for zone 3 until it reads OFF

Section D - Scroll Mode

- Turn ON by pressing **up & down arrows** together until scrolling starts
- Turn OFF scroll mode by pressing either the **set** or **zone** button