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There are few things in human history that have availed themselves to the expression of the soul and passions of the mind like coffee. Warm companion to the sharpest wits who have pondered our greatest awakenings in thought and deed. Revolution and social reinvention in smokey Parisian cafés. Powerful intrigue and splendor in Viennese soiree. Intrepid cultural collision in art deco African cities.

The heart of most city, town or village throughout the world affords us a place where the spirit of the human condition flows and interacts with a buzzing vitality of contemporary vigor. Coffee has never, since its marriage to the human mind, been anywhere else but at the vanguard of our expression. This is the inspiration that drives mahalia coffee. A connection not only to the lively world of coffee connoisseurs, but also to the exotic passions of the lands where it grows, and the rich histories it has infused.

The core philosophy of mahalia coffee is the pursuit of perfection in the development of the full intrinsic flavour of the coffee bean. The origins used in our blends are chosen only for the quality. There is no compromise in the pursuit of perfect blended flavour with our sources embracing all coffee growing regions of the world, including Australia, and all doctrines within the industry: Rainforest Alliance; Fair Trade; organic; shade grown; Swiss Water Method, or none of the above. In short, if it tastes good, it’s in! mahalia coffee is, and intends to remain, an epicurean roasting house. Focusing on quality and not quantity, flavour and not cost.

Mahalia Layzell, our master roaster and trained chef, has chosen to pursue and explore the intricate and intense path of profile roasting. Profile roasting demands the exacting scrutiny and personal attention to detail which appeals to few, but exposes the disciplines of a chef trained in the art of haut cuisine.

1. Daily Start up

1.1 Mise en place

As a chef, I would arrive at work in the morning to be given a list of foods that I had to prepare before service started. This is what we called ‘Mise en place’; as a barista this same method is applied to our craft.

Below is a detailed list of what is required before the first coffee of the day is served.

1.2 Espresso Machine Preparation

To prepare the machine:

1. Check that the espresso machine is clean, then turn it on.

2. Ensure that the group handles contain clean filter baskets then lock the handles into the group heads.

3. Most machines will take about 20 to 25 minutes to be fully operational, when the pressure gauge reads 1.2 bars, or is within its indicated normal pressure region.

4. Open the steam wands for 20 seconds. This will eliminate any vacuum that could have been formed overnight.

5. Run water through both group heads - approximately 2 cups per group head, this will bring the group heads to proper temperature, and purge any stale water.

6. Let the machine build up to full pressure again.

7. Season the filter baskets by running at least 3 double shot coffees through each group head and discard them. These coffees will taste bitter and sour, and are used to ‘season’ the group handles and baskets. During this process examine the used coffee grounds (the cake or puck in the filter basket) and adjust the grinder if necessary to ensure the correct pour rate of 28ml in 28 seconds.

It will take the production of up to 25 espresso shots before the machine hits its peak operating temperature and all cold spots are eliminated.
1.3 Grinder Preparation

The grinder is often overlooked in espresso making yet, next to the coffee machine, it is the most important piece of equipment in the production chain of the perfect espresso shot. A bad grind setting can produce either bitter, burnt coffee, or watery, flavourless coffee.

Ensure that both the hopper and the ground coffee dosing chamber are clean and free of any oils accumulated from the day before. If coffee beans have been left in the hopper overnight, they will oxidize and become stale, and the espresso extracted will be flat and devoid of crema, and therefore will have no flavour.

Preparing the grinder:

**DOSAGE CHAMBER GRINDER**

1. Check to ensure the grinder is clean, switch on.
2. Pour beans into the hopper until it is about 2/3 full.
3. Open the bean hopper gate.
4. Grind until the ground coffee dosing chamber is 2/3 full.
5. Ensure that the coffee in the dosing chamber is evenly distributed.

**ON DEMAND GRINDER**

1. Check to ensure the grinder is clean, switch on.
2. Pour beans into the hopper until it is about 3/4 full.
3. Open the bean hopper gate.
4. Grind a double dose and check grams are correct.
5. Check grind and timing.

1.4 Storing coffee

- Store coffee in the Mahalia Coffee one-way valve bags, and reseal.
- Store coffee in a cool, dark place away from heat i.e. a refrigeration motor or in a hot kitchen.
- Do not store coffee in the fridge, cool room or freezer as it will deteriorate and lose crema.

1.5 Storing milk

- Milk textures best from cold.
- At the end of each busy period during the day, discard any leftover textured milk and start afresh with a clean jug.
- Keep milk in the fridge between use. If you leave the milk on the bench for long periods of time, its temperature will rise above the 4°C maximum food-safe temperature range, and sour quickly.
2. Grinding Coffee

It all starts here. The grinder is the first stage in the espresso production cycle. Baristas’ check the grind constantly throughout the day, making small adjustments as they are needed. These small changes make the difference between coffee being good and the coffee being perfect.

Quick Reference

1. 18gm = 28ml in 28 seconds.
2. Assess your espresso by tasting, looking at depth of crema colour and aroma.
3. Be aware of environment changes that effect the fineness and coarseness of the grind.
4. On Demand grinder check grams are correct: Dosage chamber grinder is always 2/3 full.
5. Thoroughly clean bean hopper out every day.

2.1 Factors that affect the coarseness/fineness of the grind

• Untrained Staff

Often the main cause of poor grind control is inexperienced staff trying to adjust the grind by ‘fiddling’. It is essential that the grinder is only adjusted by experienced staff, and only one staff member per shift.

• Weather Changes

Imagine a day that starts sunny and then becomes very humid and wet. The grind will certainly be affected and will need adjusting. It is difficult to lay hard and fast rules, however as a guideline, when the humidity is high, the grind needs to be a little coarser, and a little finer when the humidity is low. You will find the adjustment is small, possibly one to two millimetre at a time.

• Incorrect Dosage

An incorrect coffee dose, say 23g when the on demand grinder timing has been set for the correct 18g dose, will make coffee taste bitter, burnt, molasses like and grainy. Overdosing wastes coffee and unnecessarily increases the cost to produce each cup, reducing profitability. For perfect aromatics and cup flavour the dose is 18gm of coffee ground to pour 28ml in 28 seconds, or as we like to say it:

18gm = 28ml in 28 seconds

• Change in Coffee Blend

Each blend has its own characteristics of roast profile, bean density, and moisture content, meaning that a change in blend requires resetting the grind.

Refer back to the Daily Start up YouTube clip: Coffee description, Group head temperatures and grams, found at the end of the segment.
In this part of the manual, we go through how to set and operate On Demand coffee grinders

2.2 How to Judge the Correct Grind

The best way to test for the desired grind is by checking the extraction rate. It should take 28 seconds to extract 28ml of coffee from the time you engage the coffee machine.

Correct Grind

- There is a 5-7 second delay before the coffee appears out of the group handle spouts
- The coffee flow should be smooth and a rich golden crema forms.
- The flow is thin and pours like liquid honey.

Too Coarse

- Coffee flows after 2-3 second delay.
- The extraction is quick, and will develop into a weak, sour, watery espresso.
- The crema dissipates quickly and is pale.

Too Fine

- Coffee flows after 9-11 second delay.
- The coffee does not flow, rather drips from the group handles.
- The crema will be very dark with an almost black ring forming on the outside within the cup
- This ‘over extraction’ will produce a bitter, burnt flavour.

Compensating for a coarse grind by overdosing the filter basket, say by dosing with 22g of coffee rather than 18g, will make rough tasting coffee, and will significantly add to your coffee costs and customer dissatisfaction.
2.3 On Demand Grinders

Pre set up notes: It is quicker, and more efficient in a busy café to work out the dosage (weight) first, then find the correct grind.

The two brands that are the most common On Demand grinders are the Compak and Mazzer, we are working with the Compak Grinder in our manual, all setting are associated for that brand of grinder.

2.4 Setting up the Pre Select Mode

Setting the grinder to Pre Select Mode. Why this mode is used as a permeant operational setting is so when engaging the group handle into the grinder cradle, the handle also pushes the silver button in at the same time as you lock the handle into the cradle, then it automatically doses the coffee into the double basket.

Step 1. Press the menu/ok button and scroll through by pressing the [+3] button
Step 2. Scroll to set up ‘Settings’
Step 3. Scroll to ‘Operating Mode’
Step 4. Scroll to ‘Pre Select Mode’
Step 5. Wait a few seconds, then it will go back to main screen

2.5 Stage One: The dosage (Weight)

Allow yourself 5—10 minutes to set the weight of coffee for a double basket.

Equipment required:

- Set of electronic scales
- Pen and paper
- Timer or stop watch
- 2 x 30ml marked glass

How to adjust the Grind time and why

The LCD screen will show three different buttons for dose mode, 1, 2 and 3 in the colour green, accompanied by the time configured to the dose, which will count down to zero as the dose cycles through.

You will only need to program button 1, as you are using the same sized baskets for each handle with the same ground coffee weight, every day.

To modify the time of one dose, press the respective dose button [-1], [2+] or [3+] on the touch screen twice, followed immediately (2 seconds or less) by pressing the menu/ok button. Automatically the icon of the desired dose will change to active colour and the dose numbers will begin to flash on the LCD screen.

Now to modify the time, which equals to the amount of ground coffee going into the double basket.

1. Press the button [3+] on the LCD screen and the time will increase = more weight
2. Press [-1] to decrease the time = less weight
3. Press Menu/ok to now save the new grind time setting to that button [1+]
2.6 Stage Two: Setting the correct Grind Particles

Weighting

Step 1. Turn on the scales. Place a small plastic cup on the scales and press the [TARE] button.
Step 2. Grind a dose and weigh coffee grounds (should be 18gm)
Step 3. Increase or decrease grinding time to achieve desired 18gm weight
Step 4. Tare double group handle and ensure the handle is sitting diagonally across the scales, not overhanging of handle as incorrect weight will occur, now place handle into grinder cradle, grind coffee, then weigh coffee grounds (should be 18gm)
Step 5. Repeat Step 3, until desired weight achieved
Step 6. Tamp as normal, and then lock the handle into the group head.
Step 7. Pour a shot of coffee, directing each stream into a measuring glass. Use your timer to count the seconds from the moment you start the machine until reaching 28ml in each glass. Write down what the timing was.
Step 8. Assess the espresso made: was it too fast, 20 seconds in 28ml, or was it too slow?

Now onto setting the correct grind

Step 1. If the grind is too fine, turn the collar one/two millimetres at a time in the direction of coarse - sign
Step 2. Check the weight as when making the grind coarser, it will increase the dosage
Step 3. Decrease the grinding time to achieve the correct weight
Step 4. If the grind is too coarse, turn the collar one/two millimetre at a time in the direction of fine + sign
Step 5. Check the weight as when making finer, it will decrease the dosage
Step 6. Increase the grinding time to achieve the correct weight
Step 7. Check timing 28ml in 28 seconds, taste for smooth, strong sweet espresso.

IMPORTANT NOTE: After each and every single grind adjustment, you have to ‘waste’ a whole dose (18gm) I know this sounds like a lot of waste, however, a good 1/2 of the old incorrect grind is STILL trapped inside the shoot and will come out with the next dose, and therefore will give an incorrect pour ratio if a coffee was made with it.

Additional information:

Tare the group handle each time as they hold water and excess grind and will tare at different weights.

IMPORTANT: by increasing the time it will ALSO increase the weight, by decreasing it will decrease the weight.
2.7 Mazzer Electronic Grinders: How to adjust the Dosage (Weight)

To set the desired amount of grinding time press [MENU] for 3 seconds, then select the dose you wish to adjust by holding the relevant button:

a. Single dose (indicating one cup)

b. Double dose (indicating two cups)

c. The picture of the hand is for continuous grinding

The display will show the grinding time (in seconds) of the selected dose. By pressing the push buttons [+] and [−] the grinding time can be increased or decreased and consequently the selected dose will be increased or decreased.

A flashing of the display will confirm the new grind time has been saved and then will exit from the adjusting program.

As a general rule of thumb, a change of 0.10 seconds is equivalent to a change of dose of 0.3 grams

Note: When you have the grinder in adjustment mode, it is not possible to operate the grinder. If the grinder is powered off before exiting from the adjustment mode your changes will not be saved.

2.8 Grinder Blade Wear

As the blades wear, it is normal that small adjustments need to be made. These can only be assessed by the barista. However, eventually the blades will wear out and require replacement. When blades become blunt, it becomes impossible to get an accurate setting of 9gm of coffee allowing a pour of 28ml in 28 seconds. Indications that the blades are worn out are:

1. Coffee takes a long time to grind.

2. The coffee going into the dispensing chamber is hot as the beans are staying between blades for too long. Overheating the coffee during the grinding process destroys the aromatics and delicate flavours of the coffee.

3. The grind is turned down as fine as it can go, yet the grind remains the same (too coarse).

4. You use over a kilogram of coffee each day, and your blades are over a year old.

Replace grinder blades after about 400kg of coffee, or every eight months.
3. **The Science of Espresso Extraction**

<table>
<thead>
<tr>
<th>Quick Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Remove the group handle from the group head, and knock out the spent coffee puck.</td>
</tr>
<tr>
<td>2. Dose into the cleaned, dry filter basket fresh ground coffee, and then tamp.</td>
</tr>
<tr>
<td>3. Flush group head, then load the handle into the group head.</td>
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<tr>
<td>4. Start the extraction.</td>
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<tr>
<td>5. Select the glass, cup etc that is required.</td>
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<tr>
<td>6. Check for a 5—7 second delay before the crema flows.</td>
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<tr>
<td>7. Watch for a consistent flow of espresso.</td>
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<tr>
<td>8. Check that the extraction rate is 28ml in 28 seconds, including the crema.</td>
</tr>
<tr>
<td>9. Stop the extraction at 28ml.</td>
</tr>
<tr>
<td>10. Check for a viscous honey like crema that is at least 5mm thick.</td>
</tr>
</tbody>
</table>
3.1 Tamping

Ensure that you are using a hand tamp that fits snugly into the filter basket. Do not use the tamp that is attached to the coffee grinder as this will not provide the correct tamping pressure that is required for espresso extraction.

Step 1. Remove group handle from the espresso machine and knock out the spent coffee grounds into the waste tube.

Step 2. Wipe out the filter basket quickly with a dry cloth to remove spent coffee, this helps the packed coffee adhere to the sides of the coffee basket and form a watertight seal.

Step 3. Using the hand held tamp, pack the coffee straight down with a level, even pressure holding the tamp at a perpendicular angle to the group handle. Twist the tamp 180° left then right, applying around 30kg of force (as hard as you can), then release. Make sure you keep your wrist straight when tamping so you don’t strain it, and are able to more easily maintain control of the tamp.

Step 4. Tap the side of the basket gently with the tamp to dislodge coffee from the inner wall of the basket.

Step 5. Tamp again very lightly, twisting through 360° to pack down the loose coffee, and ‘polish’ the surface for even extraction.

Notes on tamping

- Uneven tamping produces a puck that is not level. As water takes the path of least resistance, the shot will pour unevenly into the cups below, and the coffee will taste bitter because part of the shot is over extracted, and the other part is under extracted.

- Tamping too lightly will mean that the coffee puck will not provide enough resistance during the pour, and the water will run through the ground coffee too quickly. This makes the shot taste watery, weak, and bitter, with poor crema extraction.

Now you are ready to pour the shot...
3.2 Pouring the perfect shot

Step 1. Wipe the rim of the filter basket with the palm of your hand, this will stop coffee grounds building up on the gasket and locking rim of the group head, then lock the handle into the group head of the machine.

Step 2. Select the appropriate cup or glass as required. Check that they are clean, pre-heated, and not cracked or chipped.

Step 3. Start the pour, there will be a pause of 5-7 seconds as the brewing water works its way through the compressed coffee. As the espresso is released into the cup, it should hang from the spout

Step 4. Stop the pour at 28ml of extracted espresso—if the grind and dosage are correct, this will take around 28 seconds from engaging the machine.

Notes on the pour

- If it is taking too long—say 40 seconds to achieve the 28ml extraction, or running too fast at say 15 seconds through the filter basket into the cup, the grinder will need to be adjusted to keep the flow of coffee at the correct consistency and timing of 28 seconds for 28ml.

- When more than 28ml has been extracted from the coffee, the shot becomes watery and weak, losing the fine oily crema, which will make the espresso taste bitter. This is a common mistake made by baristas, and can be avoided simply by remaining observant of timing, volume, and the rate of pour.

- The perfect espresso should always have a thick layer of golden brown ‘crema’. The crema should be of a consistency so that when a level teaspoon of granulated sugar is sprinkled on top, the sugar will hesitate for a few seconds before sinking through to the bottom of the cup.

- Never pre-fill the filter baskets and lock them into the machine. Coffee spoils if the pour is not commenced within 20 seconds, because heat from the group head assembly burns the coffee bringing out a bitter/sour/charcoal taste in the pour.

Step 5. Serve the coffee immediately. Never leave an espresso for longer than 10 seconds, otherwise the crema thins and the temperature drops in the cup, which affects the overall taste of your espresso based drink.

After extraction, the coffee grinds should be packed and dry with a slight impression of the centre shower head screw (if your machine has one) on the surface of the puck. If the puck is wet and sloppy, this indicates a problem with the grind.
3.3 Lever Press Tamping Device

Why we recommend using the lever press

The lever press tamper is a constant pressure system that is designed to streamline espresso production by ensuring that all users produce the same tamp pressure.

Using a lever applies uniform and level pressure to the ground espresso in the group handle. The result is a consistent extraction, and using one is quicker than hand tamping, allowing you to produce more shots in any given time frame.

How to use

Step 1. Remove group handle from the espresso machine and knock out the spent coffee grounds into the waste tube.

Step 2. Wipe out the filter basket quickly with a dry cloth to remove spent coffee, this helps the packed coffee adhere to the sides of the coffee basket and form a watertight seal.

Step 3. Insert the group handle into the lever press cradle.

Step 4. Pull down lever handle as far as it will go.

Step 5. Release handle back to starting position.

Step 6. Lock group handle into group head, engage machine.
4. Working with Milk

Set up notes

- Use a stainless steel jug with a good sized lip, this will allow easier pouring of the textured milk.

- Pick the right size jug, appropriate for the number of coffees that are being made. Milk expands as it is textured, and as a rule of thumb, the cold milk should occupy no more than half the capacity of the jug.

- We recommend full cream milk as it complements espresso coffee best due to the high levels of fat (4%). This makes for textured milk which is full bodied, creamier and flavoursome.

- Remember you are aiming to produce heavy, creamy, dense foam. Light, bubbly, tasteless, burnt froth makes even the best coffee taste horrible.

4.1 Texturing milk

Step 1. Fill the jug to one third of its capacity, this allows the milk to stretch and produce dense creamy foam.

Step 2. Expel excess water and any milk residue inside the steam wand by positioning it over the drip tray and running the steam for 3 to 4 seconds.

Step 3. Before starting to steam the milk, ensure the tip of the wand is just below its surface. This is so that you do not get a burst of steam over the milk surface creating large bubbles.

Step 4. Fully open the steam valve.

Step 5. Maintain the position of the jug so that the tip of the steam wand is in the centre of the jug and just below the milk’s surface. This will make the milk roll in the jug and a whirlpool appears around the steam wand. You should hear a hissing sound as the milk is aerated and the volume increases.

Step 6. As the milk begins to expand, slowly move the jug down to maintain the position of the steam wand. Do not swirl the jug, jiggle it up and down, or move it from side to side. Let the machine do the work and keep the jug movements smooth and to a minimum.

- If the milk splatters, the steam wand tip is too high, so raise the jug a little.
- If you do not hear any hissing sounds, lower the jug a little again.

Step 7. Above 40°C it is crucial that the steam establishes a spinning, rolling movement in the milk, this whips the air and milk into a dense microfoam. If you break the surface with the steam wand, when the milk is above 40°C, you will introduce large bubbles, and it will be difficult to obtain perfect texture.

Near the final stages, the surface of the milk takes on a glossy appearance.
Step 8. When the milk reaches 65°C, turn the steam off. At this point the milk will continue to rise to 73°C. This is the temperature at which to pour the milk.

Step 9. Wipe the steam wand of excess milk.

Step 10. If you do not have a thermometer, keep your hand on the side of the jug as you texture the milk, and as soon as it becomes too hot to touch, count 3 seconds and then turn the steam off. As we all have different sensitivity in the hand and fingers, we will have different thresholds of what is too hot to touch. Experience will teach you to judge this correctly.

Step 11. Combine the milk with fresh espresso as soon as possible.

**Note about thermometers**

- Thermometers are a convenience, however they do loose their calibration over time as they age, and are subject to the rough and tumble of normal life in a cafe. We encourage people to learn the technique described in Step 11 above, initially use a thermometer to help learn how to judge the correct temperature of the milk through the sense of touch.

### 4.2 Pouring the milk

The quality of the crema is a huge part of the enjoyment of the taste of coffee. It is for this reason, that the final stage of making a milk based espresso drink is critical to whether you serve a great beverage to your customer, or a forgettable one. The key here is to protect the integrity of the crema, and not allow it to tumble into the beverage.

Step 1. Ensure that your shots of espresso are fresh, and haven’t stood for so long that their crema has dissipated.

Step 2. Ensure your textured milk has a nice dense foam.

Step 3. Start the pour very slowly, it is at this early stage that turbulence from a too fast pour is most likely to disrupt the crema. You may find this stage easier if you use a spoon to guard the milk as it pours and to ensure that not too much foam is poured in at this stage.

Step 4. As you pour, gradually increase the rate, but never so that turbulence within the cup destroys the crema. At this stage you should start to feed in the foam required for the type of beverage you are making.

Step 5. If you pour correctly, the crema will rise to the surface of the beverage and cut through leaving a perfect golden brown ‘crust’ on top of the milk.
4.3 Texturing Soy, Rice and Almond Milks

Alternative milks are a popular choice for customers who have dietary intolerances, allergies, or for other reasons of wellbeing. Being able to successfully use all alternative milks is a mandatory part of a great barista’s toolkit.

Alternative milks can be difficult to texture, and this is compounded by the fact that the quality can change with the season, much like regular milk can. Also not all brands work as well with espresso. We recommend Vitasoy Brand as we have found this brand is easy to use and of good quality. All Mahalia Coffee blends and origins were tested, and worked well with this brand.

These milks are sensitive to heat and if overheated will turn sour, and in the process, the milk will separate into a watery liquid and a stiff foam. Our recommendations for a great alternative milk based espresso drink are:

1. Start with very cold milk.
2. These milks heats more quickly than regular milk, so you need to be extra vigilant when texturing; aim to stop the steam at about 5°C less than you would regular milk—about 60°C.
3. When texturing soy, hold the steam wand a little deeper in the jug to reduce the risk of over texturing the milk.
4. Check that the milk hasn’t separated and if it has started to, you can gently fold some of the foam back into the solution with a spoon, and swirl the jug a little before you pour.
STYLES OF ESPRESSO
Five points to the perfect cup

1. Correct grind = 28ml in 28 seconds
2. Heavy, even tamp
3. Watch the flow of crema
4. Milk like silk
5. Slow down your pour of the milk into the cup/glass

**Espresso or Short Black**
*Served in a demi tasse cup*
Either a restricted double shot 40ml extracted in 20 secs or a traditional single shot of 28ml extracted in 28 seconds. The Espresso is the foundation for all coffee styles. To be served immediately to the customer before the rich golden crema dissipates.

**Long Black**
*Served in a mahalia coffee cup*
Fill the cup 2/3 with hot water from the boiler, not the group head, then place the filled cup under the double porta filter, and extract a restricted double shot of 40ml in 20 seconds.

**Short Macchiato**
*Served in a shot glass style*
An espresso (single shot), 28ml extracted in 28 seconds. This is an espresso ‘stained’ with a dash of hot milk and textured foam to give a striped effect within the small glass. Pour the milk very slowly, about 2 tablespoons and then finish with a dollop of textured foam.

**Cappuccino**
*Served in a mahalia coffee cup*
Extract 28ml (single shot) in 28 seconds. The cappuccino displays a cream enriched dense foam cap, then chocolate sprinkled generously on top. Remember to slow down the pour of ‘milk like silk’ to ensure the crema cuts through the foam giving customers a divine full flavoured coffee every time.

**Café Latte**
*Served in a 220ml Province latte glass*
Extract 28ml (single shot) in 28 seconds, fill the remainder of the glass with textured milk ensuring that there is 15mm band of creamy dense foam at the top of the glass with a crema cutting through the foam.

CONTINUED OVERLEAF...
Flat White
Served in a mahalia coffee cup
(Single shot): 28ml extracted in 26 seconds. Pour hot milk (always steamed to 66°C) into the centre of the coffee slowly. This will allow the crema of the coffee to rise to the top of the cup, thus creating a visually beautiful coffee that is full flavoured. If you pour the milk too fast, the delicate crema will tumble into the beverage giving a weak, milky coffee.

Hot Chocolate
Served in a 220ml Province latte glass
To create the Chocolate syrup mix - Combine 1kg of Mahalia Chocolate Powder and 250ml of boiling water. Mix together to form a smooth paste - to the consistency of melted chocolate. Fill a 1 litre warm water bottle and keep refrigerated.
To make the Hot Chocolate - Fill jug 1/5 full of milk; add 3 big squirts of chocolate syrup mix; steam milk as normal and pour, with a dense foam cap, sprinkle with chocolate. Serve with vanilla marshmallows.

How to Program the volumetric buttons on an espresso machine

BEFORE YOU START...
A. SCALES - For setting your on-demand grinder to dose for a double basket 18.8g to 21g depending on what blend or origin in use
B. TWO ESPRESSO Shot measuring glasses or pedestal medicine cups
C. GRINDER HOPPER at least half full of coffee beans
D. THE CORRECT GRIND is not important for programming: the weight is what is required to be 100% accurate
E. THE MILLAGE extracted includes the crema of the coffee, you are measuring TOTAL BODY OF COFFEE
F. ESPRESSO MACHINE only stays in Program Mode for about 30 seconds and will go out of this mode if not in use. Follow Step 1 to reactivate

STEP 1
To enter program mode
EXPobar

STEP 2
PRESS & HOLD 10-15 SECS
EXPobar

STEP 3
NO GROUP HANDLE ENGAGED
EXPobar

STEP 4
FILL SINGLE GROUP Handle 12g coffee TAMP as normal, lock into group head. Place cup under spout; millage facing you, select 2nd button, turn off same button just before reaching 28ml in glass. Now that button is programmed for a SINGLE STANDARD SHOT

STEP 5
FILL DOUBLE GROUP Handle 18.8g coffee TAMP as normal, lock into group head. Place 2 cups under spout; millage facing you, select 3rd button, turn off same button just before reaching 20ml in each glass. This will give a combined total of 40ml. Now that button is programmed for a RESTRICTED DOUBLE SHOT

STEP 6
FILL DOUBLE GROUP Handle 18.8g coffee TAMP as normal, lock into group head. Place 2 cups under spout; millage facing you, select 4th button, turn off same button just before reaching 28ml in each glass. This will give a combined total of 56ml. Now that button is programmed for TWO STANDARD SHOTS OR FULL DOUBLE SHOT

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6. **Daily Coffee Machine Maintenance**

A dirty machine will ruin the best quality coffee regardless of the expertise of the barista. There is no substitute for daily cleaning, not only will your coffee taste better, but your machinery will last longer and be more reliable too.

As coffee is made, oils from within the coffee will build up on all surfaces that come into contact with it. These deposited oils quickly become bitter and rancid (just like butter does) due to the chemical instability of the flavour compounds. When fresh espresso comes into contact with these old deposited coffee oils the result is an unmistakable rancid bite in the final cup.

In addition to the cleaning and maintenance of your coffee machine, you should also familiarise yourself with and conduct the daily maintenance on your grinder, as described in Section 2.8.

6.1 **During the day**

- Check quality of water exiting the group head. It should be clear without solids.
- Quickly flush out any water that has built up in the head from previous coffees.
- Wipe steam wand after each use with a damp cloth.
- Regularly expel excess water from steam wands.

6.2 **At the end of the day**

Follow this three step process at the end of each day to prepare the machine for back flushing:

- **Steam wand**: Wipe down and check for any milk deposits. Use a wet, soft cloth only. Don’t use scouring pads, steel wool or knives on the steam wand. Check that the steam holes are clear. Use a paperclip to dislodge any milk build up.
- **Group handle**: Take out the group handle and using a scouring pad, remove all deposits from the outside and inside of the basket.
- **Filter basket**: Hold basket up to the light and check that all holes are clear. Soak group handles in hot soapy water to dissolve oily coffee deposits that build up in the spouts.

If the filter baskets and group handles are very dirty, they can be soaked in a weak solution of chemical cleaner for a maximum of 30 minutes. Any longer and the chemical solution can taint the group handle and weaken the chrome plating. Never allow the plastic handle of the group handle to soak in the chemical solution.
6.3 Back flushing the machine

Back flushing is the process of cleaning the group head of the espresso machine by forcing water and chemicals through it under pressure by using the blind filter within the group handle. After each cycle, you will see that the built up pressure forces the dirty chemical and water mix forced out of the three way value that bleeds into the drip tray.

The procedure listed below must be completed every day in order to keep the inside of your machine clean, and free of rancid oils. If you have an Expobar machine, please refer to the procedure in Section 6.4

Step 1. Fit the blind filter to one of the group handles.

Step 2. Run water through the group and loosely place the group handle in the group and gently move it from left to right. The water will start dirty and run clear as all the built up coffee grounds are washed away. Stop when the water is clear. Be careful to avoid being burned by hot water running back down the handle.

Step 3. Using the group head brush, scrub inside and over the group head, while water is running through it.

Step 4. Place 1 level teaspoon of chemical cleaner into the blind filter.

Step 5. Lock the group handle and run the water for 10 seconds, then turn off the water flow. Pause for 10 seconds, then repeat this step until the discharge into the drip tray starts to look clean.

• If the discharge is particularly dirty, remove and clear out the blind filter, and repeat this rinsing process with fresh chemicals in the blind filter until all the oils have been stripped out of the machine.

• Depending on the number of coffees made each day, you may need to consider back flush without the chemical powder at regular intervals during the day to reduce build up of oils within the group head.

Step 6. When you are satisfied that the machine is clean, remove the group handle, clear the contents and repeat the Step 5 without chemicals in order to rinse the internals of the machine. Pay attention to the discharge in the drip tray to monitor when the machine has been thoroughly rinsed.

Step 7. Wash the drip tray in soapy water and rinse. While the tray is out, clean underneath the machine and check that the waste reservoir is not blocked.

Step 8. Wipe down the cup tray.
6.4 Back flushing an Expobar machine

Your Expobar machine has an automatic back flush programme which makes caring for your machine more convenient.

**Step 1.** Fit the blind filter to one of the group handles. If you have a multi-group machine, you may require more blind filters to make this process faster.

**Step 2.** Run water through the group and loosely place the group handle in the group and gently move it from left to right. The water will start dirty and run clear as all the build up coffee grounds are washed away. Stop when the water is clear. **Be careful to avoid being burned by hot water running back down the handle.**

**Step 3.** Using the group head brush, scrub inside and over the group head, while water is running through it.

**Step 4.** Place 1 level teaspoon of chemical cleaner into the blind filter.

**Step 5.** Turn Machine off at switch located either at the left side or right side of where you are standing.

**Step 6.** While the machine is in OFF mode, press the third programmable cup button along from the left on all group heads, then turn the coffee machine back on.

**Step 7.** Now the coffee machine is in the **Automatic Cleaning Cycle**.

**Step 8.** This Cycle will run four times then turn off. Repeat the above process until all the chemical powder has been dissolved and run through each group head. This can take up to three Run Cycles.

- If the discharge is particularly dirty, remove and clear out the blind filter, and repeat this rinsing process with fresh chemicals in the blind filter until all the oils have been stripped out of the machine.
- Depending on the number of coffees made each day, you may need to consider back flush without the chemical powder at regular intervals during the day to reduce build up of oils within the group head.

**Step 9.** When you are satisfied that the machine is clean, remove the group handle, clear the contents and repeat the Steps 5 to 8 without chemicals in order to rinse the internals of the machine. Pay attention to the discharge in the drip tray to monitor when the machine has been thoroughly rinsed.

**Step 10.** Wash the drip tray in soapy water and rinse. While the tray is out, clean underneath the machine and check that the waste reservoir is not blocked.

**Step 11.** Wipe down the cup tray.
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