DECENT ESPRESSO DE1 MANUAL



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Introduction

This MANUAL covers our DE1 line of espresso machine, when used with the de1app (sometimes called the Decent app).

However: in 2026 several things occurred:

1. We released a new espresso machine model called "Bengle"
2. We released into beta a new software program called Decaid
3. Several not-made-by-us programs for controlling the DE1 were released by community members.

You should keep in mind:

- ➡ Bengle provides everything the DE1 can, and more.
- ➡ The Decaid app provides almost everything the de1app does, and more.

- ➡ This means that most of this manual is relevant to users of Bengle and Decaid.
- ➡ **However, as this manual covers 10 years of the DE1's evolution, many sections aren't relevant to Bengle or to Decaid.**

It's mostly the case that community-created programs do not have the entire feature set of de1app/Decaid. That's because they tend to focus on the core experience of making drinks and editing profiles. Some people thus choose to use two programs.

1. First steps on your DE1

1.1. Read this first (and watch the videos)

If you just received your machine, we recommend that you start simple and first get acquainted with the app and everything involved with making coffee on a Decent. We recommend the **Quickstart Guide** to get you started, and in addition to that, the two books **Everybody Espresso!** and **Everybody Latte Arts!** with very in-depth barista knowledge.

Back to machine specifics.

Start with the basics, geek out on the advanced stuff later.

So here's the type of question we receive frequently and our reply and the videos we would like you to watch first below:

Dan wrote:

What would have (and would still be) extremely useful is a tutorial/reference for each of the main profiles.

The kind of content I think would be useful:

- Background info (ie, Scott Rao designed this profile in order to...)
- Approximate ratio
- Approximate time (differentiating between steps as appropriate)
- Flow/Pressure targets at key points
- Sample graph
- Rules of thumb regarding suggested bean/roast types
- Etc

What you're asking for is reasonable. But making good coffee is a skill, and requires a bit of learning, and there are very few "rules" that hold definitely true everywhere.

Coffee beans, and their roasts, and age, and water, make the variables change HUGELY.

What we recommend is that if you are completely new to espresso: please watch the following videos we link, and stick with the "GENTLE AND SWEET" profile, and then the "DEFAULT" profile for a few weeks.

Once you are consistently making good tasting espresso, try different beans, as well as different dose weights (15g v 18g v 20g) in the puck. As you increase the dose weight, you will probably have to coarsen the grind slightly.

Then, also read our **Decent Profile Guide** and the **Dial-In Guide**.

Here are the recommended videos, in order:

- **Unboxing your DE1**



To unbox and set up your DE1, pull the V2 suitcase from the box and preserve the packaging for future travel. Remove the water tank, drip tray, tablet, and hidden portafilter accessories from underneath the machine. Finally, slide in the filled tank, mount the tablet, plug in all power cables, and power on the main switch to begin the automatic heating cycle.

- ## Your first espresso



To make your first Decent espresso, select the **"Gentle and Sweet"** profile on the tablet, as it is the easiest preset to get right. Use a scale to evenly distribute and tamp a standard 18g dose in your portafilter, then pull the shot aiming for a **2:1 extraction ratio**. If the flow rate is a bit fast, increase the coffee dose slightly rather than adjusting the grind size. Before your first espresso, we also recommend checking out our **Quickstart Guide**.

- **Dialing in your grind**



To dial in your grind, use a scale to weigh a consistent 18g dose and aim for a 2:1 espresso yield. If the water barely drips, your grind is **too fine**; if it gushes out too quickly, it is **too coarse**. Adjust the grind size until the extraction naturally finishes **between 25 and 45 seconds**.

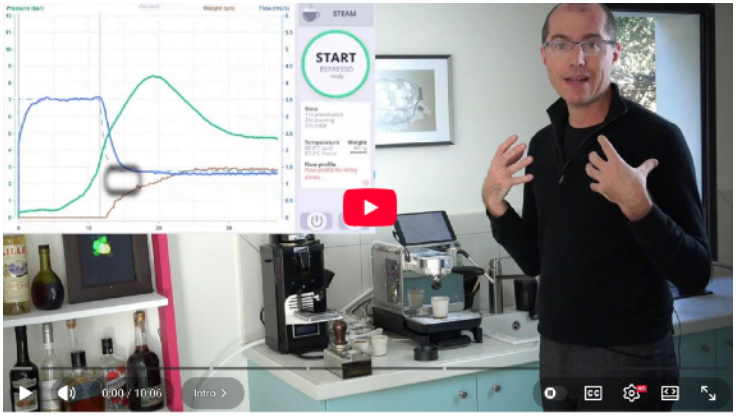
If your espresso is taking less than 25 seconds to make (or more than 50 seconds) you should re-watch this video. Also check out our **Dial-In Guide**.

- ## Using and tweaking presets



To use and tweak presets on the Decent espresso machine, adjust the profile's pre-infusion flow, peak pressure, and declining end-pressure to match your tamping consistency and taste. Utilize a connected Bluetooth scale to automatically stop the extraction at your target weight, then steam your milk to under 65°C using a thermometer for the best flavor.

- ## Comparing espresso profiles



To compare and dial in espresso profiles, analyze the visual gap on the tablet graph between the water flow going into the puck and the coffee flowing into your cup. If a flow-controlled profile creates too much pressure, manually reduce the target flow rate or slow down the pre-infusion step. For the most balanced extraction, use a pressure-profile that exits pre-infusion at a higher pressure and steadily declines to keep the flow rate flat.

- **Real-time control**



To use the Decent Espresso Group Head Controller (GHC), tap or trace the touch-sensitive dial to adjust your extraction in real time. For standard profiles, use it to subtly lower the pressure or flow rate to salvage a channeling puck. For full manual extraction, build a blank, zeroed-out profile to completely control the shot from pre-infusion to finish by hand.

1.2. What’s included with your machine

Congratulations, if you're reading this, you're probably about to receive your Decent Espresso machine. That means that, unless you specified otherwise, you're set to receive the following items with your machine (links included if ever you want/need a replacement. Just click on the names of the items):



1. **The espresso machine itself** (whatever model you ordered)
2. **An Android tablet**
   You can find lots of tips and tricks on how to operate it in **chapter 2**.
3. **A suitcase with foam inserts.** Dimensions: 32cm x 43cm x 56cm
   Even though we ship the machine in a suitcase, the transport might sometimes bend the machine legs. If so, please write us an email
4. **A power cord for your country**
5. **A ceramic drip tray**
   Please note that ceramic is a natural product that can shrink differently during the firing process. Slight deviations from one tray to another are common.
6. **A drip tray cover**
7. **A bottomless portafilter**
   If ever you want to make your own handles, you can find the needed documentation here.

8. **An 18g basket**
9. **A tablet stand**
10. **A blank basket for cleaning**
11. **A USB charging cable**
    USB cables can sometimes be faulty. If your tablet doesn't seem to recharge, check out **chapter 6.4.2**. and drop us a line via email.
12. **A group head handle**
    If ever you want to make your own handles, you can find the needed documentation here.
13. **A ceramic water tank**
    Please note that ceramic is a natural product that can shrink differently during the firing process. Slight deviations from one tank to another are common.

All of the above items as well as a few accessories fit into the suitcase. If you ordered any additional accessories on top of what you could customize, these will be shipped via standard post, as nothing additional fits in.

Would you like to order a refill kit? Read more about that here.

Are you wondering what else you might need to start exploring coffee? If so, check out the next chapter.
Check out chapter 1.5 or the **Quickstart Guide** if you want to see how to unbox your machine.

Lastly, did you not receive all the items you were supposed to receive, or are there any other problems with them? **Drop us a line here.**

1.3. Additional things you need to get started

If you're new to the world of espresso, you'll need a few more things in order to have some coffee. Here's a list. Each item has at least one link that you can try (often to a Decent product). Please don't take these suggestions as definitive rules—they're just starting points for your own research.

- **Coffee.** Get whole bean coffee, not pre-ground. Once ground, coffee quickly loses aromatics that are important. Within reason, darker roasts are less fidgety than lighter roasts, and you might be better off starting off with a blend designed for espresso rather than with a single-origin roast. (Lighter roasts and single origin espresso are great, but they might be harder to pull espresso from as a beginner.) To read up on different coffee types, check out the book **Everybody Espresso!**, starting on page 82.
- **Grinder.** You need something to grind those beans! You need a burr grinder, and ideally a very nice one. The received wisdom is that your grinder is more important

than your machine—many would suggest budgeting more on your grinder than on your machine. You know what you paid for your Decent machine, so... (That said, there are many on this forum that are getting by with grinders in the US$400-$800 range.) Note that there's also a chapter on different grinders in **Everybody Espresso!**, starting on page 37.

- **Tamper.** You need to compress the ground beans in the portafilter. For this, you use a tamper. You should get one that is 58 to 58.5 mm in diameter. It probably should be flat-bottomed, perhaps should be calibrated (to deliver a repeatable pressure), and you might want one that is self-leveling.
- **Water**. Yes, you'll need water. Read up on our water recommendations in **this document.** Note that there's also a full chapter about water in **Everybody Espresso!**, starting on page 116.

That's the bare minimum.

You might also want the following:

- **Portafilter funnel.** Many will find that it helps to have a funnel designed for a 58 mm portafilter, to help keep the grinds in the basket.
- **Knockbox.** For spent coffee pucks.
- **Milk jug.** For steaming milk. They come in a variety of sizes. Aim for one at least 2x the amount of milk you will be steaming, to allow for milk expansion and to give room to swirl.
- **Thermometer.** For checking the temperature on your steamed milk.
- **Scale.** For measuring beans, and your espresso shot. You want at least whole-gram resolution, and ideally tenth-gram resolution.
- **Speciality cups.** For shots or caps.
- **Group brush.** For cleaning the group head.
- **Detergent.** For cleaning many things.
- **Grinder cleaner.** To remove oils from the burrs.
- **Citric acid.** For descaling.

1.4. What About the Refill Kit? (Catering, plumbing, and drain kit)

Part of our offering is a refill kit that will help you avoid having to refill the water tank manually, or to drain the water from your drip tray. This kit and its separate parts aren't included with any of our machines, so you have to order them separately.

The refill kit includes the following parts:

- **Drain kit:** for getting rid of dirty water from your drip tray (-> https://decentespresso.com/cart?filter=drain) (8mm silicon tubing from brass fitting) (Drip Tray fitting : Outer Diameter 14mm, Inner Diameter 10mm)
- **Catering kit:** for pulling water from a tank and automatically refilling your espresso machine (-> https://decentespresso.com/c?filter=catering%20kit)
- **Plumbing kit:** for accepting pressurized water and automatically refilling your espresso machine. (-> https://decentespresso.com/c?filter=plumbing%20kit)

In tubing (from tap water to plumbing kit), the size is 1/4" (OD 6.3mm, ID4.3mm) and the material is PE.
The second tubing (from plumbing kit to DE machine), the size is OD.10mm x ID.5mm. The material is silicone.

The following documents will help you connect whatever refill kit parts you use to your machine:

- **How to connect your Drain Kit v1 to your machine**
- **DE1 drip tray v2 fittings how-to**
- **How to connect your Catering Kit to the machine**
- **How to connect your Plumbing Kit to the machine**

1.5. Unboxing your Decent Espresso Machine

In these short videos, we will show you how to set up your Decent Espresso machine when you receive it from us.

- **Unboxing a DE1 (DE1PRO, DE1XL, DE1XXL)**



To unbox and set up the Decent Espresso DE1XL v1.45, pull the hinged V2 suitcase from the packaging. Remove the water tank, drip tray, tablet, and hidden portafilter accessories from inside. Finally, mount the components, plug in the power cables, and turn on the main switch to begin heating.

- **Unboxing a Bengle**



To unbox and set up the Bengle espresso machine, unzip the ultra-premium travel suitcase and lift out the main unit. Slide the Samsung tablet into place, connect its charging cable, attach the portafilter handle, and slide the water tank onto its rails. Assemble the multi-piece drip tray, magnetically remove the lower back panel to firmly plug in the safety-focused power cable, and then fill the tank before flipping the power switch. Also check out our **Quickstart Guide** on how to get started on your espresso machine.

1.6. The 5 buttons on the DE1

There are **5** power buttons on the DE1:

1. The **rear power button:** turns off all electricity. The tablet will lose its charge if you do this.

2. The **front standby power button:** turns off AC power, such as heaters, pumps. Bluetooth can continue, and the tablet remains charged.

    - ➡ You can use this as an emergency off at any point. Push it while steaming or making espresso, and those functions will stop.

    - ➡ You can also use this to make absolutely sure that the machine will not warm up. A common case for this is at a cafe, at the end of the night, you could press the standby button on your machines, to disable AC power, but keep the tablet charged.

✓ In **v1.44 and later machines**, when the button is **IN**, power is **ON**. When it's **OUT**, power is **OFF**.



Left image: Button is **IN**, so power is **ON**.
Right image: Button is **OUT** so power is **OFF**.

✓ In **v1.4 to v1.43 machines**, when the button is **IN**, power is **OFF**. When it is **OUT**, power is **ON**.



Left picture: The button is **OUT** so the power is **ON**.
Right picture: The button is **IN** so the power is **OFF**.

✓ Note that **in all versions**, when the switch button is **FLUSH with the housing**, the switch is **ON**.

3. The **tablet's power button:**

➡ A short tap on tablet power button will put the screen asleep, but the tablet is still running. Another short tap to the tablet power button will turn the screen on.

➡ A long held push on the tablet power button will bring up a "power off?" dialog, and you can choose to turn the tablet completely off, or reboot.

4. The "**power icon" in the de1app**. Tapping the icon will put the machine to sleep and cut AC power. It is the same thing as pushing the standby button. With either approach, you'll hear a "click" as an internal mechanical switch physically disconnects the AC power.

   However, when you tap the screen again, AC power will turn back on. Some people want their DE1 to be harder-to-wake, and so they press the standby button.

5. The **center STOP icon** on the group head controller (GHC). Hold this down for a few seconds to sleep or wake the DE1 . This has exactly the same function as the "power icon" on the de1app.

1.7. How to pair your Bluetooth scale

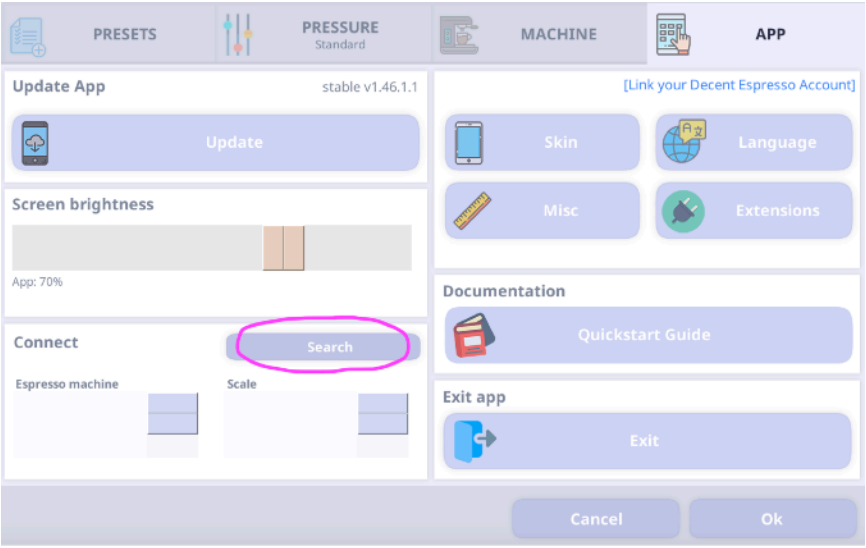
If you buy a **Bluetooth scale** from us to enable **gravimetric dosing** on your machine, here is how you go ahead and pair it with your Decent Espresso Machine. **You can also watch a video on it here**.

➡ Step 1: Preparation & app initialization

1. Wake up the DE1 app and turn on your Bluetooth scale.
2. Ensure the scale's Bluetooth function is enabled.

➡ Step 2: Scale search & selection

1. Navigate to the **[Settings -> App]** page in the app.
2. Locate the Scale section and tap on your scale when it appears.
3. Tap the **"Search"** button if no device is listed and wait for the scale to be discovered.



➡ Step 3: App reset & connection verification

1. Tap **OK**, then tap **Wait** to close the DE1 app completely.
2. Restart the DE1 app to apply the connection.
3. Verify the connection status based on your active skin:

- **Insight skin:** Check the "Weight" section in the information card; a blue line will move when weight is registered on the scale.
- **Streamline skin:** Check for the live weight reading to display directly on the screen.

➡ Step 4: Troubleshooting connection failures

1. Power off the scale if the scale fails to connect after the restart and put the DE1 app into sleep mode.
2. Re-establish the connection using one of the following two timing methods:
   - **A:** Turn the scale back on (verify Bluetooth is active) and immediately wake up the DE1app.
   - **B:** Wake up the DE1 app first, and then turn on the scale immediately after.

     *** Note:** The scale must be turned on **right before or immediately after** waking the app.

1.8. What the symbols on the Group head controller (GHC) mean

Starting with the v1.1 machines, all Decent Espresso machines were equipped with a so-called group head controller. In short, it's called GHC.



You can think of this controller as analogous to a clock face. Each tick represents the number that would correspond on a clock (see title picture above).

Here's what the symbols mean:



At 12 o'clock, there's the symbol for **water**. Use this if you want to make a tea, or if you need water for an Americano.



At 3 o'clock, you'll find the **steam** symbol. Use this to steam milk. Keep in mind that a few seconds after stopping the steam, the machine will purge the steam wand. Remove the milk jug before it does!



The symbol at 6 o'clock is a coffee cup. With it, you can **brew coffee**.



You'll find the **flush** on 9 o'clock. Use this to flush the machine after every shot, to clean the group head. You can also use the flush to warm the portafilter and cup before use.



In the middle of the group head controller, you'll find a hand making the **stop** sign. **Use this button to stop any function in progress**. You also **put the machine to sleep** and **wake it up** by holding that button. If the machine is out of water, holding the stop button will allow you to clear the warning and sleep the machine.

Besides the above functions, you can also control the pressure or flow manually via the group head controller. How this works is explained in the next chapter.

If you're looking to understand the lighting codes of the group head controller, here's the **article explaining all of the LED patterns**.

If you have any further questions, don't hesitate to contact our **customer service team**.

1.9. How to change pressure and flow on the Group Head Controller (GHC)

The following video explains how to use the GHC to control pressure and flow during a shot. It shows how to manually tweak presets or completely control an extraction from scratch:



In summary, you can do the following:

➡ **Tweak an automatic shot:** Using a preset (in this example: the Default profile), you can intervene in a shot mid-extraction. For example, if you're in a pressure profile, if the puck is eroding too quickly and the espresso begins flowing too fast, tapping the GHC reduces the pressure by 0.1 bar per tap to salvage the shot.

There are two ways to affect the current pressure, in a pressure-profiled shot:

- Tap around the current pressure, to move it +/- 0.1 bar, in the direction you tapped. The new setting is kept.
- Or hold your finger down anywhere, and the pressure will move to your finger. Lift your finger, and the DE1 will go back to what is programmed.

The same applies for flow, in a flow profiled shot.

So, in essence, you just choose a pressure profile if you want to control the pressure via the GHC, and you choose a flow profile if you want to control flow.

- **Adjust Flow Profiling:** During a flow-controlled profile, if the pressure spikes dangerously high (e.g., to 12 bar), tapping the GHC interactively lowers the target flow rate. Because pressure responds dramatically to flow changes, this quickly brings the extraction back into a safe 7-to-9 bar range.
- **Fully Manual Extractions:** The GHC allows a user to run the DE1 like a manual machine. To make a 100% manual espresso on the Decent, unhide the hidden "manual flow" or "manual pressure" presets on the tablet. These zeroed-out profiles give the Group Head Controller complete, real-time command over the extraction, allowing you to manually adjust pressure or flow rates on the fly.

Ultimately, the controller seamlessly matches whatever profile mode you are in, providing unparalleled real-time control over both flow and pressure.

1.10. Customer Question: Serviceability after Decent?

I've been asked on the UK forum: **"What if Decent as a company disappeared? Then how would the machine be repaired"**

The serviceability question is totally fair, and we've tried to reassure people as much as we can, with a set of decisions.

- **How do I get parts?** All our parts are available to anyone, not just authorized service people, and at reasonable (not car repair!) prices:
- **How does it work?** A massive catalog of videos to do repairs is available. (Check out our **repair guides**). A huge manual with massive detail is available. A large and active user community shares info. Our CAD is open sourced.

- **What if a pump or valve or heater breaks?** The pumps are a much nicer version of the standard ULKA pump. The valves come from ODE, who also makes for LM. The 1500W heaters are available off the shelf, though they're also very unlikely to break: more likely a broken heater would be fixed with cleaning.
- **What if the tablet breaks?** Buy another off Amazon
- **What if the software stops being maintained or is now incompatible?** The software is open source, and today runs on Android, Linux, Windows, Mac. It can be maintained or improved by others.
- **What if Bluetooth becomes obsolete?** The communications chip is a socketed computer, based on the Arduino standard, and can be easily upgraded to wifi, and USB. In fact, with our new USBC adaptor, which adds a USBC port to the machine, you get the option to connect your DE1 to a computer or tablet with a cable instead of relying on Bluetooth. Check out our documentation on this here.

➡ **What if the PCB breaks?** You can buy another from our web site, or repair it. The AC PCB is a 1 layer board, and the DC PCB is a 4 layer board. A competent repairman can swap parts (we do).

➡ **What if tubing leaks?** We use the same standard as Nespresso, and those parts (tubes and o rings) are widely available.

➡ **What if the 24V power supply dies?** It's made by Meanwell, and is widely available.

➡ **What if I need portafilters or baskets?** We're using the 58mm standard and are La Marzocco Compatible.

Did we miss anything? If so, please let us know via our **tech support**. We've tried hard to attack this problem head on with the decisions we've made these past 5 years.

- Decent Espresso

What kills companies most often is money. So, let's address that separately:

We've only ever been self-funded, with money from our founder, his wife and her mum.

As of January, 2019 we were profitable.

At around 600 machines sold per year, we become profitable.

In 2019 already, we sold 750 machines, and in 2020 we sold around 1500 machines.

We don't have a desire for massive expansion or world domination, i.e., we won't be "taking on" any large established companies.

Our manufacturing cap is 2000 machines per year. Why? Because we can make that quantity ourselves and it'll make a manageable sized company (about 20 people) who can still run everything out of one office, we all get on, we all fit around one lunch table each day, and life is fun & good.

Small is beautiful, and sustainable (both from a money and human energy perspective).

A nice surprise is that our accessories business is growing much faster than expected. From 10% of our business at the start of 2019 to 20% at the start of 2020, and that's even with the big growth in espresso machine sales. And about 20% of accessory clients later turn into DE1 clients, so we'll find the required 600 sales per year, for a good while.

2. Things about your tablet

2.1. Why were earlier Decent tablets rooted?

Chris wrote:
Can you elaborate on why we'd need to root the tablet?

You do not need to root your android tablet in order to run the Decent tablet software.

However, for convenience sake, our programmers liked putting the app in the root directory /sdcard/de1plus up to the M50mini.

The need for a rooted device was pretty essential, because otherwise we couldn’t write a script which will automatically configure new tablets for customer use. Besides installing the app, we also, still now, change a bunch of Android OS defaults, such as the wallpaper, and auto bluetooth pairing the app to the espresso machine.

2.2. Why Android?

Android was chosen primarily so we have **full control** over the software experience, without being subject to the restrictions of other brands. An example of those restrictions being Apple's walled garden. This way, we can develop and update our app without going through a gatekeeper.

Furthermore, our philosophy is built on **openness**: the CAD files, the software on the tablet, and even support for devices not sold by us are all open. Android aligns with this principle, allowing us to create a slimmed-down, custom version of Android that runs faster because there is no "Googlebloat" running in the background.

Lastly, Android was the **best and cheapest solution** for the task of powering the DE1's tablet at the time of the decision. It allowed us to ship a dedicated tablet with a custom, pre-installed app rather than requiring users to install an app themselves.

2.3. Doing things with your Android

2.3.1. Getting started on your tablet

First, charge the tablet!

Please use the enclosed USB cable

- ➡ plug one end into the tablet
- ➡ and plug the other end into a computer
- ➡ and wait for the tablet to indicate that it is **100% charged**.

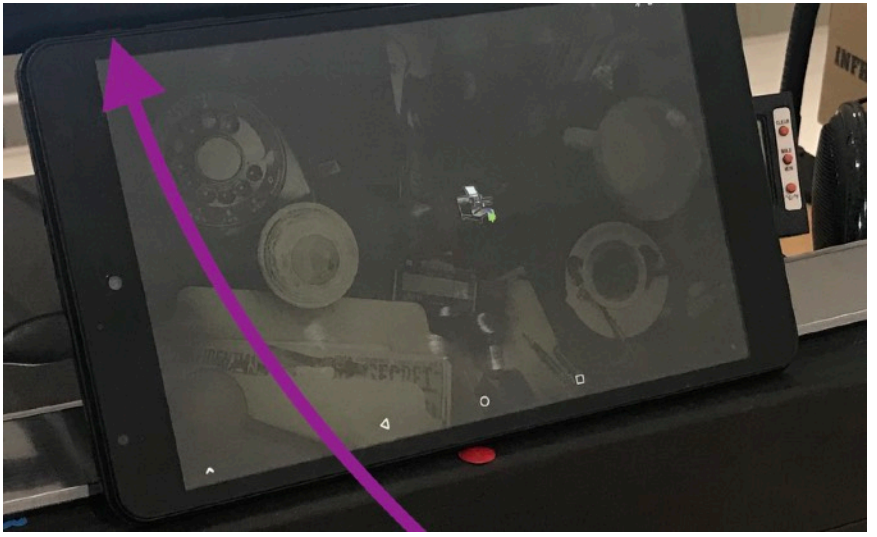
We charged your tablet to 100% before it shipped. However, during shipping (especially during cold weather) the battery can naturally lose its charge.

Turn the tablet on

You will have to hold down the power button a long time, to turn it on. Much longer than seems reasonable.

If the tablet is off, hold down the button until it turns on.

It can take **between 8 and 15 seconds** of holding the power button before the tablet turns on.



The Decent app

The Decent app is on the main pane. It's the main program you will be using. Tap the icon, and you're good to go.

We have already Bluetooth paired your tablet to your espresso machine.



2.3.2. The "Cloud update" app



The "Cloud update" app is on the pane to the right. You swipe to the left to see it. Depending on your Android version, you might also have to swipe right to see it. You will rarely (if ever) need this app. It is only if something goes wrong and you need to update the main Decent App, but can't get that to work.

It's there just for emergency purposes, in case programmers push out a tablet software update which breaks the software, such that you can't get to the settings->machine->update page.

The cloud update is an extremely simple app, doesn't really give you any progress, but it's rarely updated it so it should be very reliable.

You only ever need to use this app, if for some reason the update feature is not working for you in the main DE1app.

2.3.3. Connecting your tablet to a computer

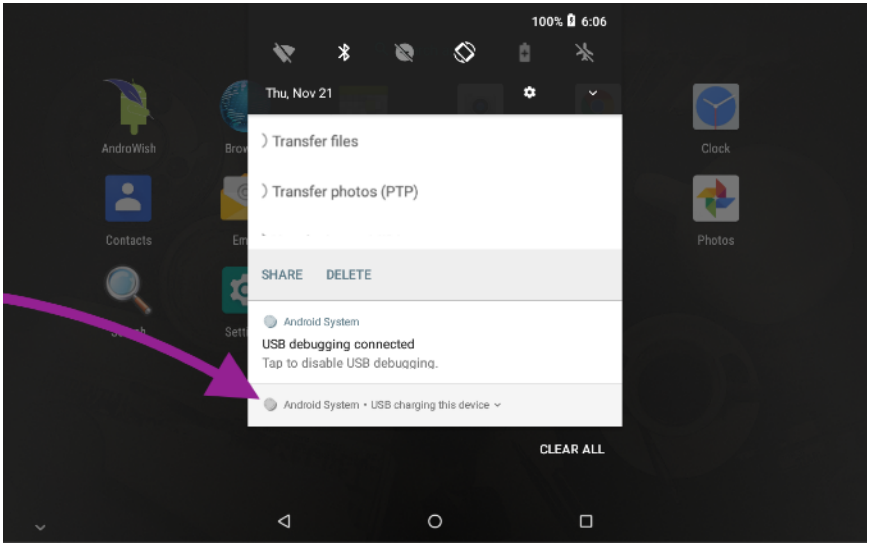
It can be helpful to connect the USB cable that came with your tablet, to a computer, so that you can transfer files.

Some reasons to do this might be:

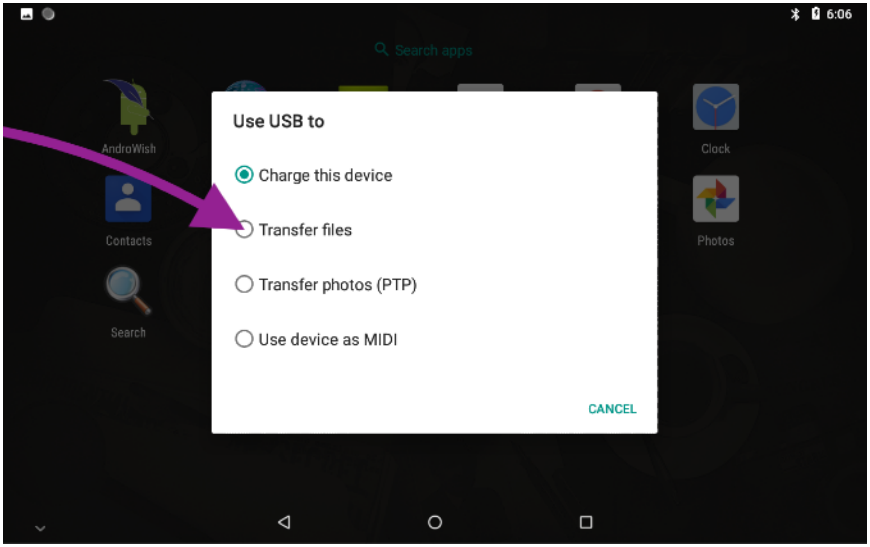
- to copy Screen Pictures of your favorite espressos
- to copy Espresso Profiles you've downloaded from others
- to install 3rd party skins that others (not Decent) have written
- to download CSV files (spreadsheets) of your espresso history

Some Android versions disable file access by default, and it must be enabled each time you connect the USB cable to a computer.

After you plug the tablet into a computer, swipe down from the top middle of the screen, to reveal this, and tap on the words "USB charging this device":



That will bring up this page, and you should tap "transfer files”



If you are running Windows or Linux, you should be able to directly access the tablet.

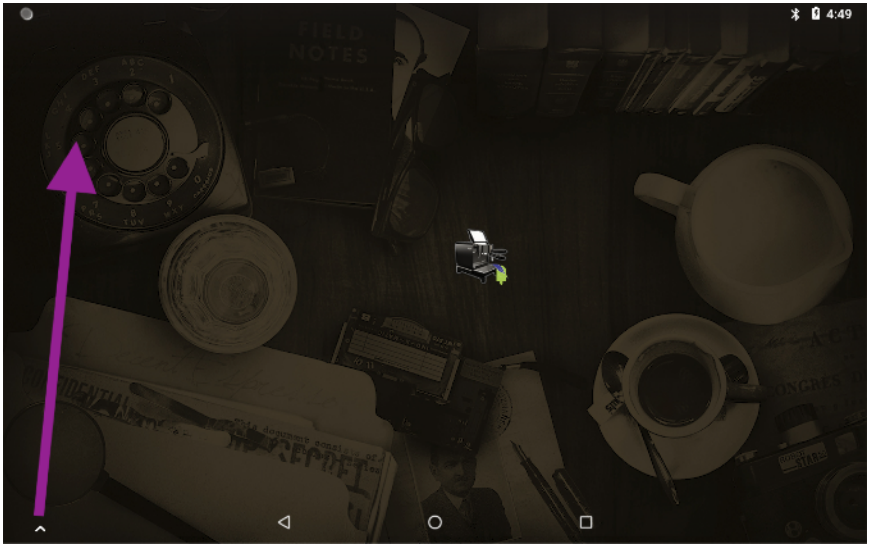
On Mac OSX, you might need to use MacDroid: https://apps.apple.com/us/app/macdroid-manager-for-android/id1476545828?mt=12 to be able to transfer files.

Note that the Decent app is installed in the **/de1plus** directory.

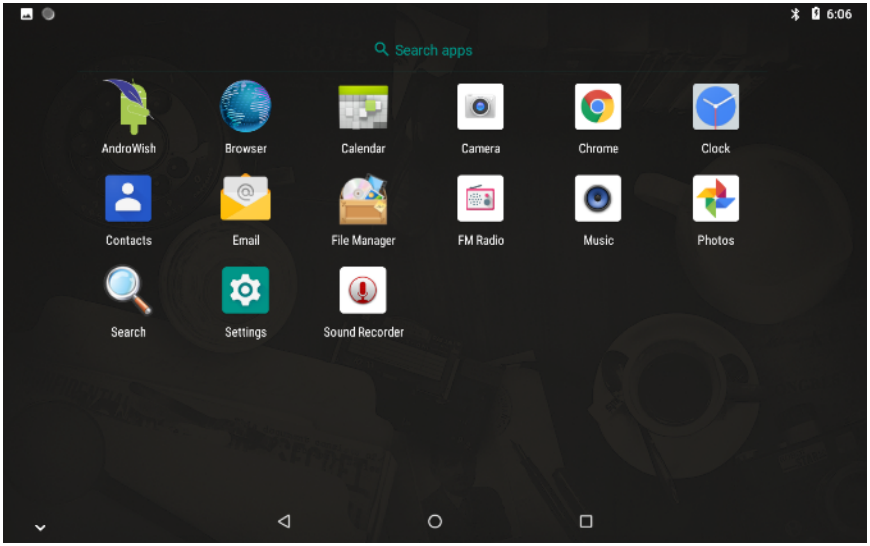
2.3.4. Other Android Apps (and settings)

On this version of Android, the other apps (such as Settings, and Chrome) are a bit hard to find.

To show the other apps, you need to swipe up from the bottom left:



Here is what you'll find:



Note that the "Google App Store" is intentionally not installed. We'd prefer that you keep this tablet fairly clean of other stuff, so that it can be used reliably to make your espresso. The more you complicate your Android setup, the more likely the tablet will be harder to use, slower and unreliable.

You can "side load" .apk apps (that's how we installed Chrome for you) but we've intentionally made that "not so easy" to motivate you to leave this tablet alone, functioning nicely as we delivered it.

2.3.4.1. Alternative apps to run your DE1

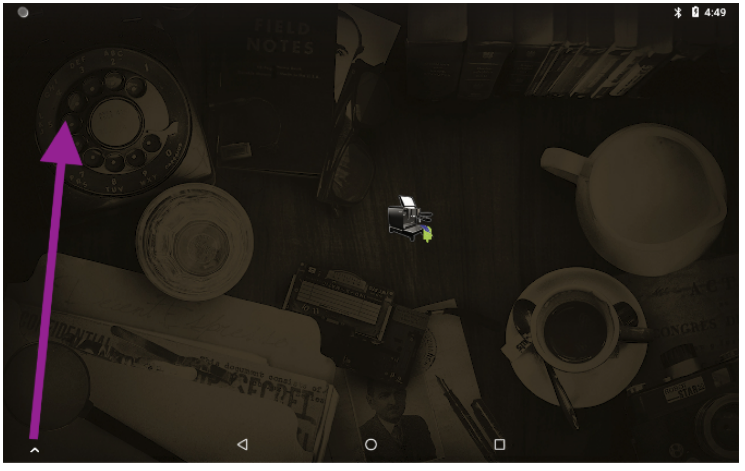
Thanks to our open source approach, multiple apps have seen the light of day that you can use to run your Decent Espresso machine instead of the de1app.

Here's a list of all these alternative apps.

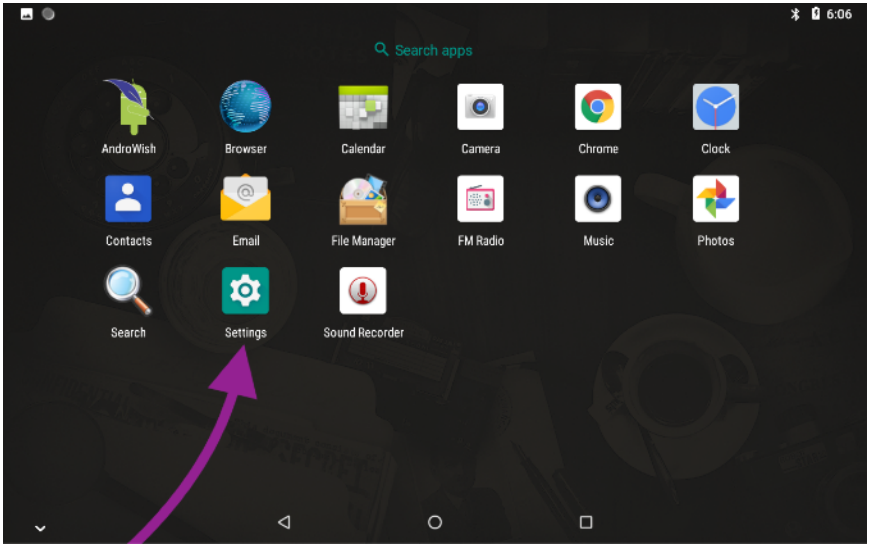
2.3.5. WiFi

You might want to connect to your Wifi network, so that you can download updates to the Decent Software.

To do so, go to Settings, by swiping up from bottom left of the main menu:

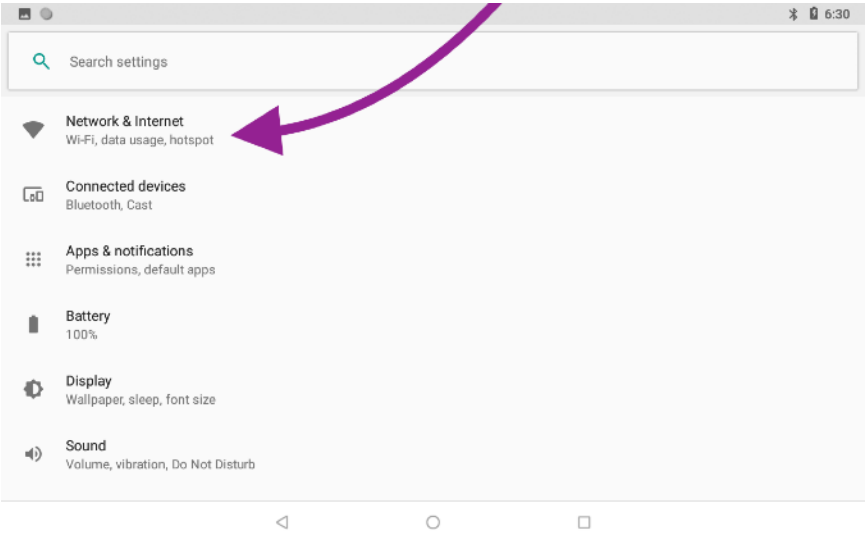


and then tapping the **Settings** icon.

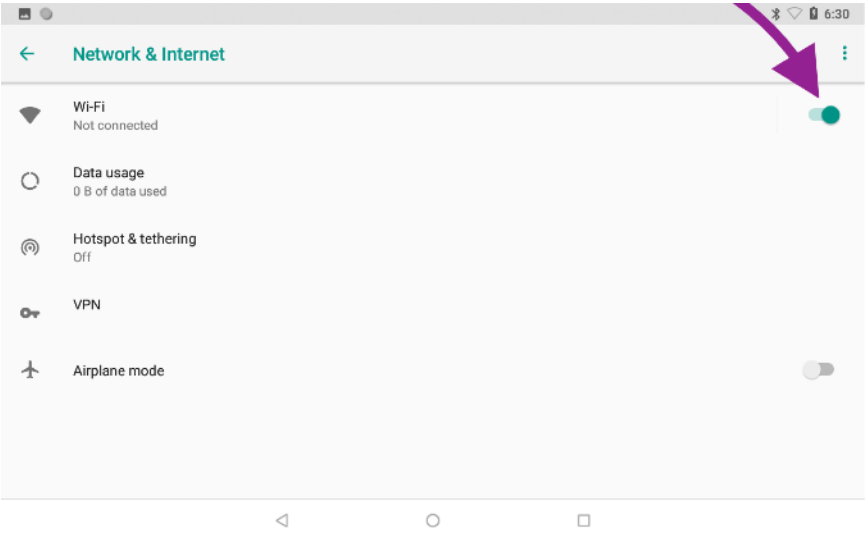


Then, tap on:

➡ Network & Internet



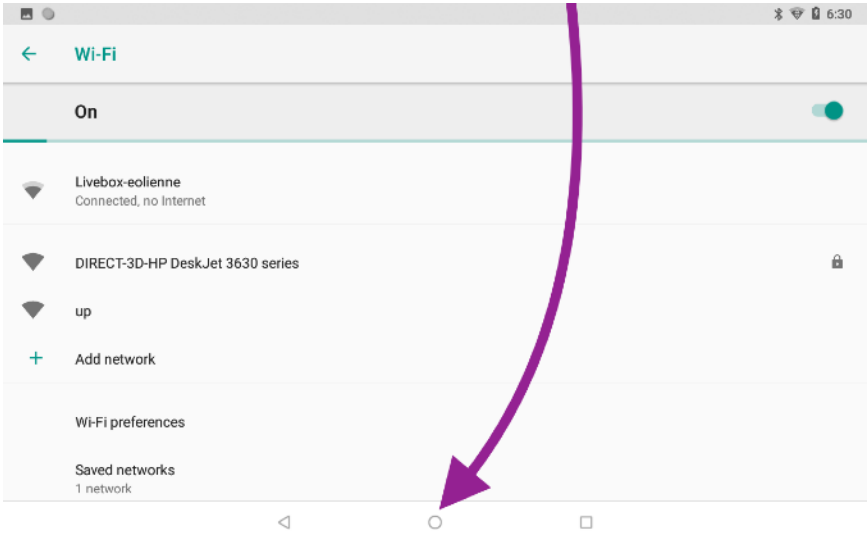
➡ Tap on the control on the top right corner to ENABLE WIFI



➡ Next, tap on the word "WI-FI"

➡ Tap on your house network name. It will hopefully connect successfuly.

➡ Tap on the O button to go back to the main Android menu:



2.3.6. Downloading the Decent App

If you want to reset your tablet, or use your own tablet, or run the app on Windows/Mac/Linux (you can't yet control the machine from a PC, though), the Decent app is available for download at https://decentespresso.com/downloads -- If you install the software yourself or reset your tablet to factory settings and reinstall the tablet software (**page 86**), you will afterwards need to pair a new tablet to the DE1. We explain how to do both of those things in the following chapters.

We don't recommend that you bother installing the Decent App on a mobile phone, as it is very hard to use the app on a small screen.

2.4. Troubleshooting

2.4.1. Connected/ Connecting Problem

If your tablet is repeatedly displaying "connected" and then "connecting", this is most likely caused by your *having accidentally Bluetooth-paired another device to your espresso machine.*

Only one device can connect to a Decent Espresso Machine at a time.

To solve this problem, disable Bluetooth on any other Bluetooth device (tablet, phone, iPad, computer, etc) that you might have used to (even for a second) check your Decent Espresso Machine.

Your tablet should now stay “connected.”

You will then need to determine which of your other devices was the problem, and choose "forget" on that device, so it no longer tries to connect to the Decent espresso machine.

You can also use the following steps to solve the connection issue:

1. Turn the machine and scale off and exit the app
2. Turn the machine on and wait until it goes into the preheating mode
3. Turn the scale on
4. Start the app
5. Go to **settings -> app** and tap **"Search"** in the "Connect" section.
6. Tap the machine and scale that appear in the Machine and Scale sections.

2.4.2. How to reset your tablet to factory settings and reinstall the tablet software



If your tablet is running slowly because you decided to install all the latest googly stuff, you can restore it to its original zippy speed by resetting it back to factory settings, installing the DE1app, and leaving the tablet alone.

Before watching this video, you'll want to download:

1. Androwish APK https://decentespresso.com/downloads
2. Android File Transfer for your computer https://www.android.com/filetransfer/
3. The DE1app https://decentespresso.com/downloads

And you'll need a USB cable around to connect the tablet to your computer. The very short cable that is included with your DE1 is "charge only" and will not work.

Steps to reset to factory settings and reinstall software

1. Navigate to the **system settings** and initiate a **factory data reset**, which reboots the device.
2. Once it restarts, **skip the initial Google setup prompts and enable Bluetooth**.
3. Next, connect the tablet to a computer to transfer the necessary configuration files, specifically **"AndroWish"** and the **"DE1plus"** software folder.

4. Adjust critical tablet settings after file transfer to match Decent's standard configuration: set the screen sleep timer to "never sleep," remove the lock screen security swipe, and change the device wallpaper.

5. **Remove the default Google widgets** to clean up the home screen and keep the interface clear.

6. **Install the software** by using the built-in file manager to open the transferred installation file. You must **temporarily allow installations from "unknown sources"** in the security settings. Got to Settings > Privacy >Permission manager > Files and media, and make sure Androwish has permission to manage all files. The DE1plus folder once it's unzipped should be copied to your tablet's sdcard/ directory.

7. **Open AndroWish**, locate the “DE1plus” folder on the SD card directory, and select the option to **create a home screen shortcut icon**. Note that if you open the Androwish app from its Console window you should be able to navigate to the decent folder using the change dir command:

   cd sdcard/de1plus

8. Finally, **launch the newly created DE1plus application**, go to the machine settings to search and pair with your espresso machine and Bluetooth scale, and verify connectivity.

If you do not see any directories when you open the Androwish, it's because your version of Android is hiding the directories (for your safety).

Type /sdcard into "File name:" and then "open" and you'll be fine.

Some Android versions are hiding the /sdcard directory so you have to manually type /sdcard in. If that doesn't work, try /storage/emulated/0/

2.5. Changing the Android wallpaper

The Android wallpaper we set by default is this:

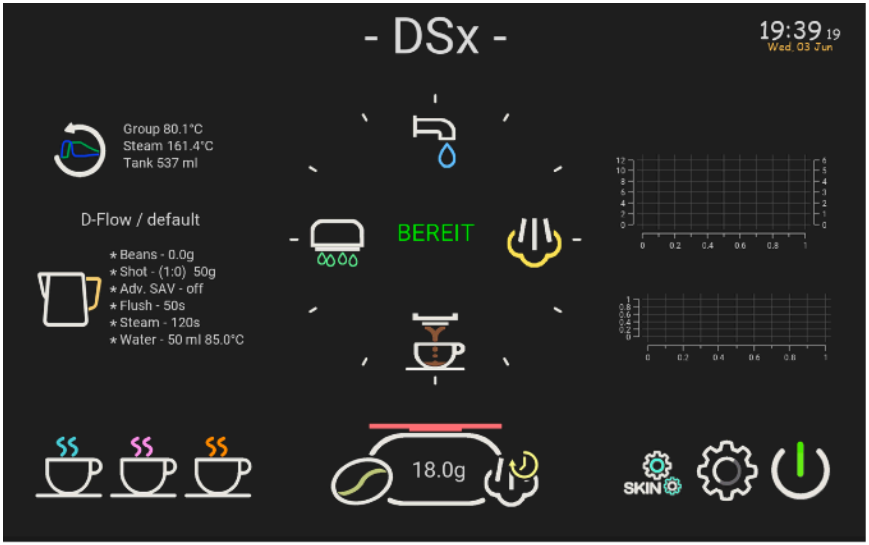


To change your wallpaper, use the Android Settings app, and go to "Display".

Note that by default, these wallpaper files are already on your tablet in the directory:

```
/sdcard/de1plus/wallpaper/
```

2.6. How to change the look (skin) of your DE1 app



Go to Settings (the cog wheel) > App > Skin > choose whatever skin you like > click “Done”.

The app will then restart itself with the skin you chose.

2.7. Screen resolution

By default, the tablet app tries to determine your screen resolution. It is optimized for:

- 1280x800

and

- 2560x1600
- 1920x1200

If you are buying a replacement tablet, we recommend you buy one at one of these resolutions.

However, if your tablet (or phone) has a different resolution, it might not look good. Or, the tablet app might not be able to guess the right resolution.

In such a case, you can set the resolution by hand.

To change the resolution, go to Settings (cog wheel) > App > Misc and change it to whatever works for you.

If you set it to something that really doesn't work on your tablet, use **the Cloud Update app** (page 50) to reset settings to default.

You will likely need to adjust your font size setting as well, so that it looks good at whatever resolution you choose.

MANUALLY ADJUSTING RESOLUTION

After

1. **Run the app once after installing it** from https://decentespresso.com/downloads.
2. **Go to settings> machine>exit.**
3. **Use a USB cable to copy** /sdcard/de1plus/settings.tdb to your computer
4. **Edit settings.tdb** on your computer.

5. **Find these lines and edit them** appropriately for your tablet:

```
screen_size_height 800
screen_size_width 1280
```

6. **Copy settings.tdb** back to your tablet.

7. **Run the DE1+ app.**

   The DE1+ app will take up to 5 minutes to resize its images, at very high quality, to your new resolution.

   You will see a spinning icon, over and over, as this happens. Don't kill the app

8. **Exit the app** after it loads.

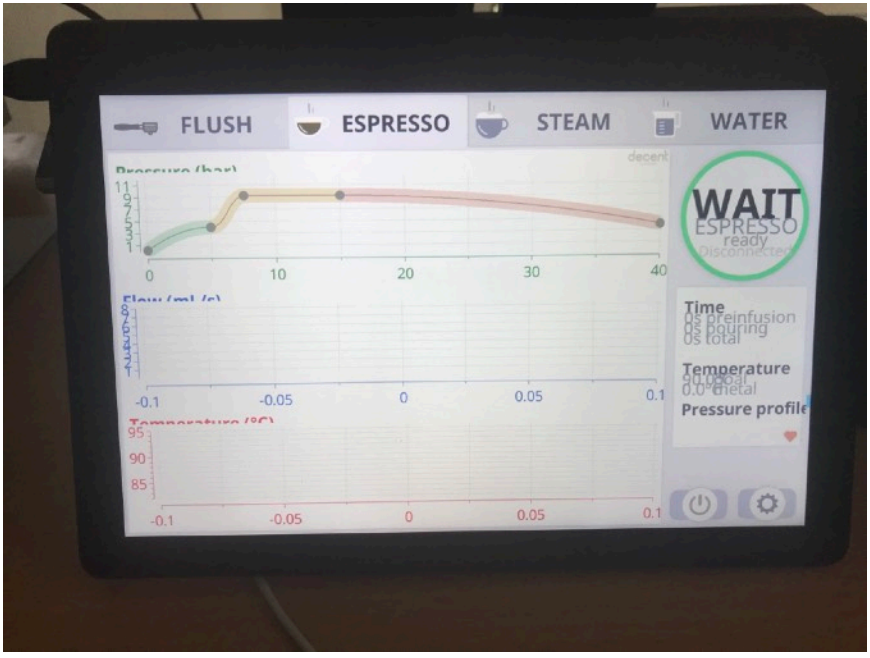
   And when you relaunch the app, it will start quickly.

   You might also need to do a font size adjustment as described in the next chapter.

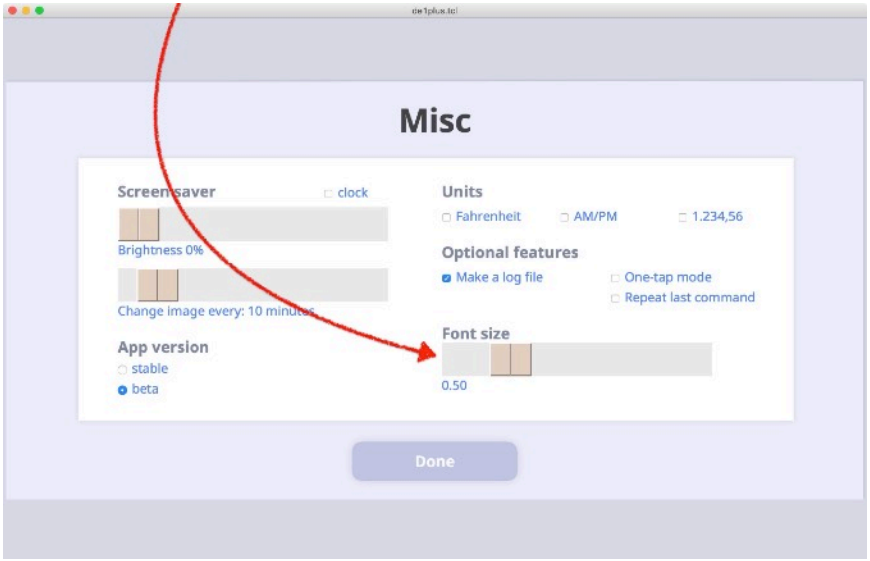
2.8. Font size adjustment

If you're using your own tablet, and the tablet app's font size choices aren't good, you can fix this.

For example, this Lenovo tab e10 TB-X104F tablet defaults to fonts that are much too large:



You can easily change the font size under Settings (cog wheel) > App > Misc.



If your fonts are currently too large, you should make the font size number smaller. If you would like your font to be larger, make this number larger.

We recommend small incremental changes.

The fonts are defined as "1" for the maximum tablet resolution of 2560x1600.

As the standard resolution of the Decent-provided tablets is half this, ie 1280x800, this is why the default font size is 0.5.

The tablet app will try to guess the appropriate font size for your resolution if you are running a non-Decent provided tablet. However, it will not always guess correctly, and that is why this setting is here.

3. The DE1 software

3.1. All about updates

3.1.1. Where to find info about the newest updates

There exist nightly, beta, and stable versions of the DE1 tablet app.

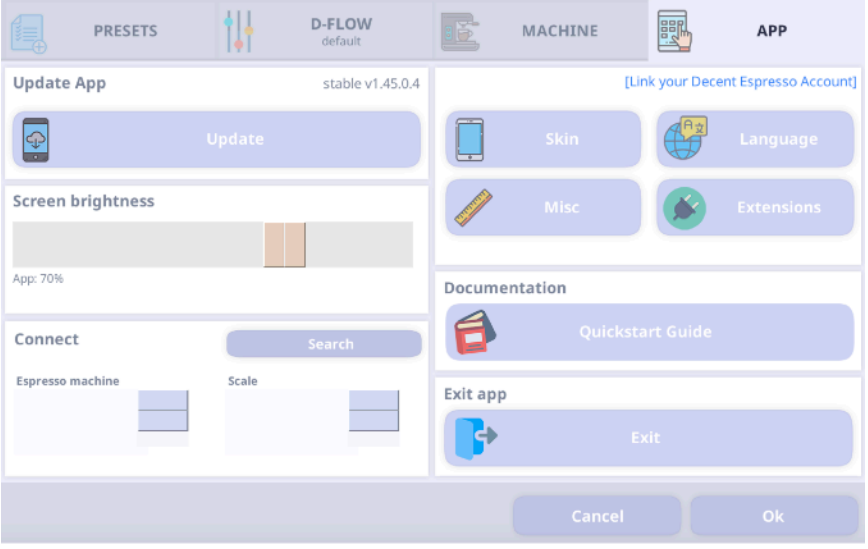
Decent Espresso follows an Open Source approach and encourages third party programmers to develop their own skins, extensions and software programs for the Decent Espresso machines. This means that many programmers are working on updates for the DE1 software, too. Consequently, there's a daily update for the app, **nightly**, for all those who want cutting edge and don't mind the bugs.

If you don't want to deal with bugs, but you want the newest updates, fast, choose **beta**.

Stable is for all those who want a stable user experience. Updates happen every 6 months and are documented here.

3.1.2. How to update the DE1 app and firmware

3.1.2.1. To update the DE1 app

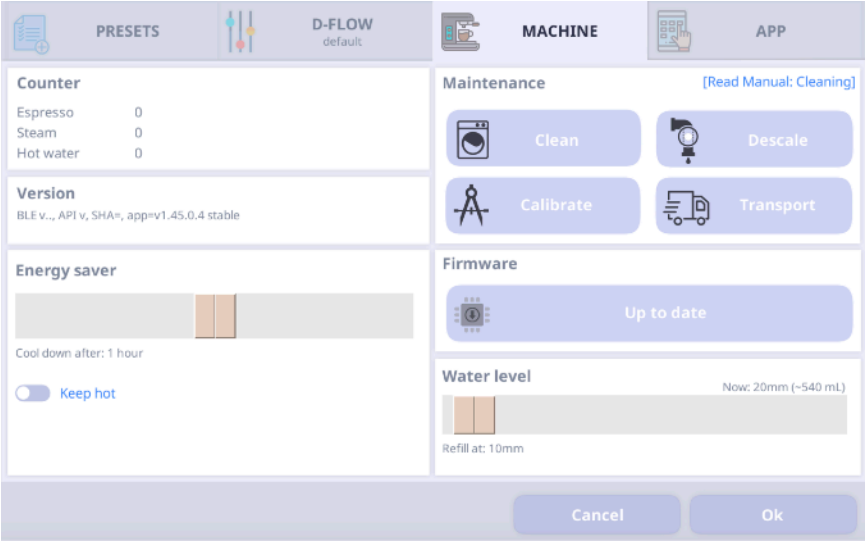


1. In the DE1plus app, **go to SETTINGS->APP and tap the "APP UPDATE" button**. You'll see the number of files that will update and an UPDATING progress message. (To access SETTINGS, tap the gear icon on the main ESPRESSO page)

2. **Tap EXIT after the message changes to UPDATED**, and wait for the app to quit.

3. **Run the DE1plus app** again.

3.1.2.2. To update the DE1 firmware



1. In the DE1plus app, go to **SETTINGS->MACHINE and tap the "FIRMWARE UPDATE" button**.
   The update will begin and display its progress. It will take about 45 minutes until the message changes to UPDATED.

2. **Turn off the DE1 espresso machine** when the message says "UPDATED"(with the switch on the back).

3. **Turn the machine back on**.
   The espresso machine will do nothing for about 30 seconds. Don't panic. It's now updating.

You'll eventually hear the pumps fire, and now your machine has been updated.
The firmware version is indicated by the Info SHA value in SETTINGS->MACHINE.

Note that the machine will allow you to overwrite the firmware with another copy of the same firmware. To avoid doing this and wasting time installing the same firmware, make sure to only update when you see **"Firmware Update Available."**

3.1.2.3. Firmware update troubleshooting

A failed firmware update won't damage your espresso machine in any way.

The firmware update from the tablet simply uploads the firmware to the Decent, but the update isn't applied until it gets to 100%, displays the "completed" message, and then you power cycle the espresso machine. It takes a long time because transferring data over Bluetooth is slow. The file itself is only a few hundred kB.

Probably, if your machine acts weirdly (unpaired, etc) after a firmware update, it's that Bluetooth has crashed on your tablet. You should reboot the tablet, and if that doesn't fix it, reset your Bluetooth.

3.1.2.4. How to reset Bluetooth on your tablet

Android 5.1

To completely reset a flaky or bugged Bluetooth connection on your Android tablet, follow these steps:

1. **Access Settings**: Exit the Decent app and open the tablet's system **Settings**.
2. **Locate Apps**: Tap on **Apps** and swipe to the **All** tab to view every installed application.
3. **Reset Bluetooth Share**: Scroll down to find and select **Bluetooth Share**. From its App Info screen, tap **Force Stop** and then select **Clear Data**.
4. **Cycle Bluetooth & Reboot**: Go back to the main Settings menu, select **Bluetooth**, and toggle it **Off**. Proceed to **Reboot** the tablet.
5. **Reconnect**: Once the tablet finishes restarting, return to **Settings**, toggle **Bluetooth** back **On**, and wait for your DE1 machine to appear under available devices.

After completing these steps, you can safely launch the DE1plus app to resume normal operations.

View a video on how to reset Bluetooth on Android 5.1.

Android 9.1

To reset the Bluetooth on your Android 9.1 tablet, follow these steps:

1. **Access App Menu:** Swipe up from the bottom of your screen to open your apps menu.
2. **Open Settings:** Find and select the **Settings** icon.
3. **Navigate to System:** Scroll to the bottom of the Settings menu and tap **System**.
4. **Find Advanced Options:** Tap **Advanced** to reveal more choices, then select **Reset options**.
5. **Select Network Reset:** Tap Reset Wi-Fi, mobile & Bluetooth.

6. **Confirm Reset:** Tap the **Reset settings** button at the bottom of the screen. You may need to confirm again; tap **Reset settings** one final time to finalize the action.

7. **Verify Bluetooth Status:** Once the network settings are reset, go back to your main menu, swipe down from the top to open your quick settings, and ensure that Bluetooth is toggled **ON**.

After performing this reset, you should be able to return to your DE1 app and successfully connect to your espresso machine.

View a video on how to reset Bluetooth on Android 9.1.

The PIPO, P80X and P85Pro tablets

If your PIPO, P80X, or P85Pro tablet is acting up with its Bluetooth connections, clearing out the saved cache or refreshing the system options is usually the quickest fix.

Here's how to do it:

1. **Turn off Bluetooth:** Swipe down from the top of the screen to open the Quick Settings panel and turn Bluetooth off.
2. **Navigate to App Settings:** Swipe up on the screen to open your app list, tap the **Settings** app, and select **Apps and notifications**.
3. **Show System Apps:** Tap **See all apps**, then tap the three dots in the top-right corner and select **Show system**.
4. **Force Stop Bluetooth:** Scroll down the list, tap on **Bluetooth**, select **Force stop**, and tap **Ok**.

5. **Clear Bluetooth Storage:** Tap Storage, then tap Clear cache and Clear storage (confirming by tapping Ok).

6. **Turn Bluetooth Back On:** Tap the circle icon at the bottom center of the screen to return home. Swipe down from the top of the screen to open the Quick Settings panel again, and tap the Bluetooth icon to turn it back on.

After completing these steps, you can safely launch the DE1plus app to resume normal operations.

View a video on how to reset Bluetooth on PIPO, P80X and P85PRO tablets.

The M50Mini

To reset the Bluetooth on your M50Mini tablet, follow these steps:

1. **Turn off Bluetooth:** Swipe down from the top of your screen to open the Quick Settings panel, and tap the Bluetooth icon to turn it off.
2. **Navigate to Reset Options:** Tap the gear icon to open the **Settings** page, scroll down and tap **System**, then scroll down again and select **Reset options**.
3. **Perform the Reset:** Tap Reset Bluetooth and Wi-Fi, and then tap Reset.
4. **Return Home:** Tap the circle icon at the bottom center of the screen to go back to your home screen.
5. **Turn Bluetooth Back On:** Swipe down from the top of the screen to open the Quick Settings panel once more, and tap the Bluetooth icon to turn it back on.

Once Bluetooth is reset, just launch the DE1app again and brew your next coffee.

View a video on how to reset Bluetooth on M50Mini tablets.

Every Samsung tablet model

Resetting Bluetooth on Samsung tablets is equally as easy as on other tablets. To reset Bluetooth on a Samsung tablet, do as follows:

1. **Open Settings:** Swipe up on the screen to open your app list, then tap the **Settings** app.
2. **Navigate to the Reset Menu:** Scroll down and tap on **About tablet**, scroll down again, and select **Reset**.
3. **Perform the Reset:** Scroll down to tap Reset Wi-Fi and Bluetooth settings, then tap the Reset settings button to finish.

Now, you're ready to launch the DE1app again and brew your next coffee.

3.1.2.5. How to manually update the tablet (DE1) software

1. **Open AndroWish:** Exit the standard app to the main Android menu and tap on the **AndroWish** app icon (represented by an Android robot holding a feather).
2. **Access the File Explorer:** Once inside AndroWish, tap anywhere on the main window, then select **File** followed by **Source**.
3. **Minimize the Keyboard:** If the digital keyboard blocks your view, tap the down triangle button to hide it.
4. **Locate the DE1plus Folder:** From the storage menu, select **SD card**. Scroll through the directory and select the **de1plus** folder.
5. **Run the Update Script:** Find the file named `app_update.tcl`, tap it to select it, and then press the **Open** button.

Troubleshooting & Debugging

The software update script will now execute in the background. The text log on your screen will display real-time debug information:

- ➡ If your software is already up to date, it will simply display a **"successful update"** notice.
- ➡ If the update fails, the screen will populate with warnings or error codes. Take a photograph of these errors to send directly to the Decent Espresso support team for further assistance.

Click here to see a video on how to manually update

3.1.3. Switching the app between nightly, beta and stable versions

Here are the 3 different versions of the de1app:

- **Nightly:** changes to the app, available minutes after they are programmed. Most unstable version. Not feature complete.
- **Beta:** no known bugs when released, but more people use it, so bugs do get found. Fairly stable. Feature complete, but not well tested.
- **Stable:** no known bugs. What most people should run. Feature complete and well tested.

To find the app versions, go to

Settings (cog wheel) ->APP -> Misc

and choose the version you want. Then, update the app.


Misc
Screen saver
clock
Brightness 0%
Change image every: 10 minutes
App version
stable
beta
nightly
AM/PM
Celsius
Fahrenheit
1.234,56
Dim screen when battery low
Fast tap mode
Sounds
Font size
0.5
Resolution
flip
1280 x 800
Smart charging
off
on
night
Ok

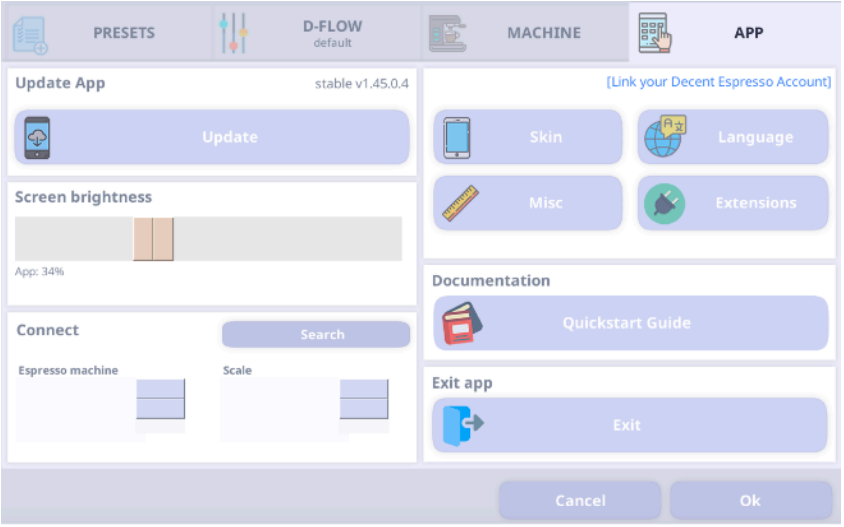
3.2. Make the app do what you want

3.2.1. Changing the app's screen brightness

To change screen brightness of your app, go to

Settings (cog wheel) > APP

The screen brightness can be changed on the left-hand side, right under the UPDATE button.

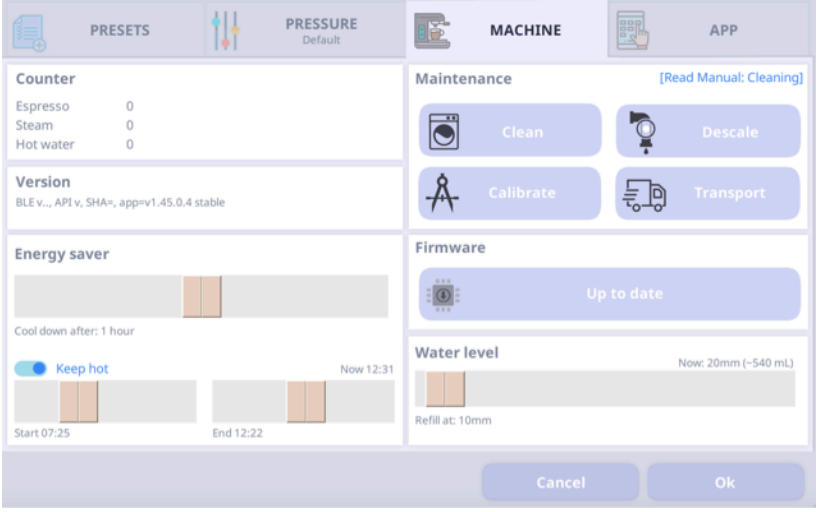


3.2.2. How to program the machine to warm up automatically in the morning

You can make your espresso machine wake up and heat up itself in the morning. To do so, go to

Settings (cog wheel) > MACHINE

Turn on the **Keep hot** toggle and adapt the start time and the end time with the rulers.



3.2.3. Scale tare only on espresso start

To change the tablet software so that a scale tare only occurs when you press the START ESPRESSO button, you need to edit the settings text file, which is on your tablet at **/sdcard/de1plus/settings.tdb**

Locate the line that is:

```
tare_only_on_espresso_start 0
```

and change it to:

```
tare_only_on_espresso_start 1
```

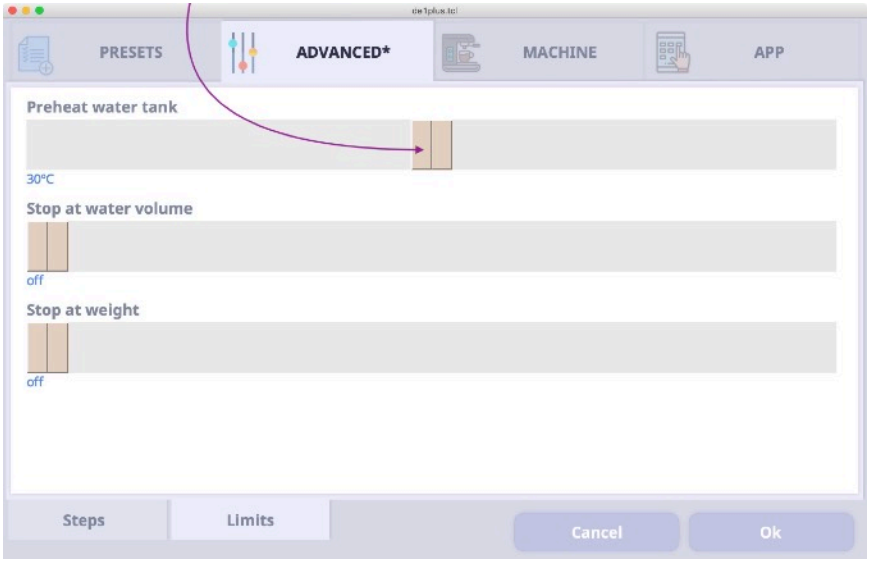
This is useful if you're using the scale to weigh your beans before making the shot.

3.2.4. Pre-heat your water tank

In ADVANCED profiles, you can preheat the water tank to as much as 60°C. To go there, choose any advanced profile, for example Extractamundo Dos!, and then go into the ADVANCED tab to the right. There, click on the LIMITS tab on the bottom.



You can then change the water tank temperature via the ruler:



Summary

This feature gives the DE1 some of the advantages of a traditional boiler based espresso machine. Namely: stored energy. However, because we can mix on-demand heating with stored-energy heating, this DE1 change causes only a short heating delay for the user (2.5 minutes more) instead of the usual ~15 to ~30 minutes delay of a traditional boiler espresso machine.

tldr:

- ➡ At 14°C tank temperature (tap temp), the DE1 can sustain 8 ml/s for 20 seconds. That's plenty for most uses (180ml of water), except for pour overs, which need much more hot water.
- ➡ At a 30°C tank temperature the DE1 can sustain 7.5 ml/s at 90°C indefinitely. It takes 2.5 minutes for the DE1 to preheat 1 liter of water from room temp (20°C) to 30°C.

➡ If you choose to preheat the water tank, whenever you choose OK in settings, the DE1 will briefly circulate the water in order to test its temperature. After a few seconds, the circulating will stop if no further tank heating is needed.

Next steps:

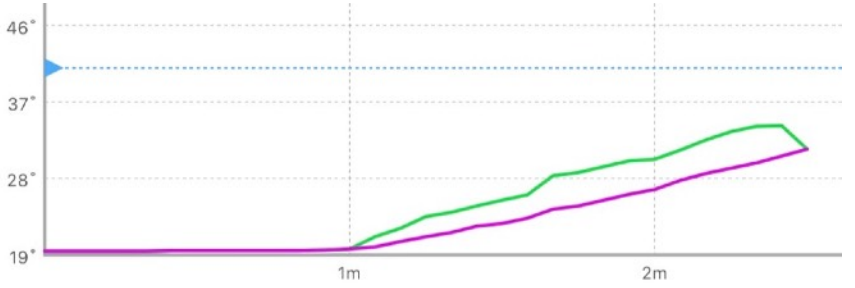
➡ It's likely that we can sustain higher flow rates with tank preheating. We will continue to work on this.

Note on heating the tank:

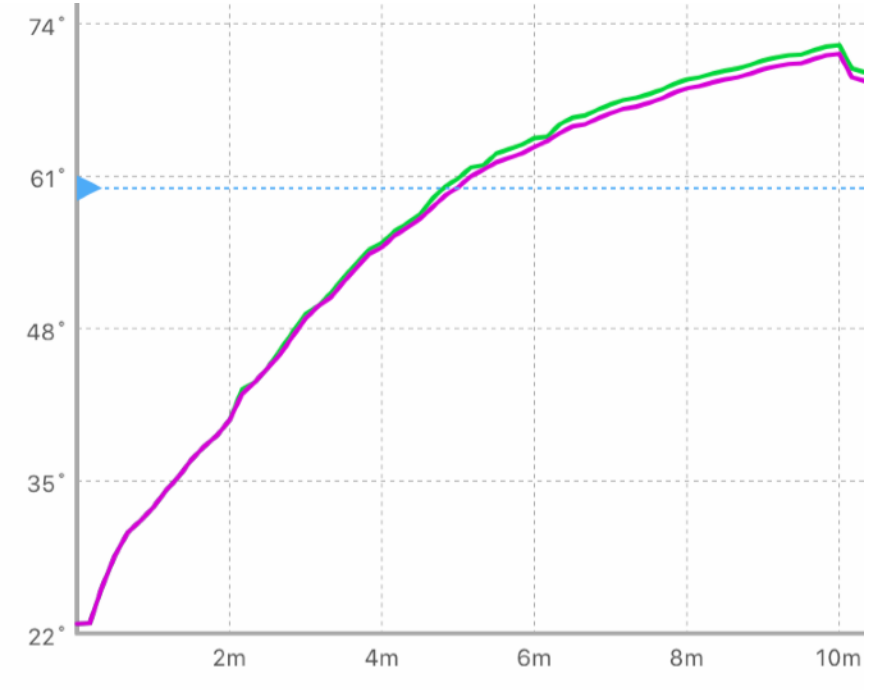
➡ When you power on your DE1, the electricity will be shared between the steam heater, water heater, and group head heater. Thus, the tank heating will be slower. Once the rest of the machine is hot, tank heating can use 100% of the electricity.

- Heating above 30°C is not of any use, at the moment, and as the DE1 can sustain max flow rate, and keep the temperature accurate, with just a 30°C tank. Higher temperature might become useful in the future, when faster flow rates are enabled, but not currently.
- Heating of the water tank becomes progressively slower, the higher the temperature.

Here is a chart showing heating the tank to a 30° target temp. It takes 2.5 minutes:



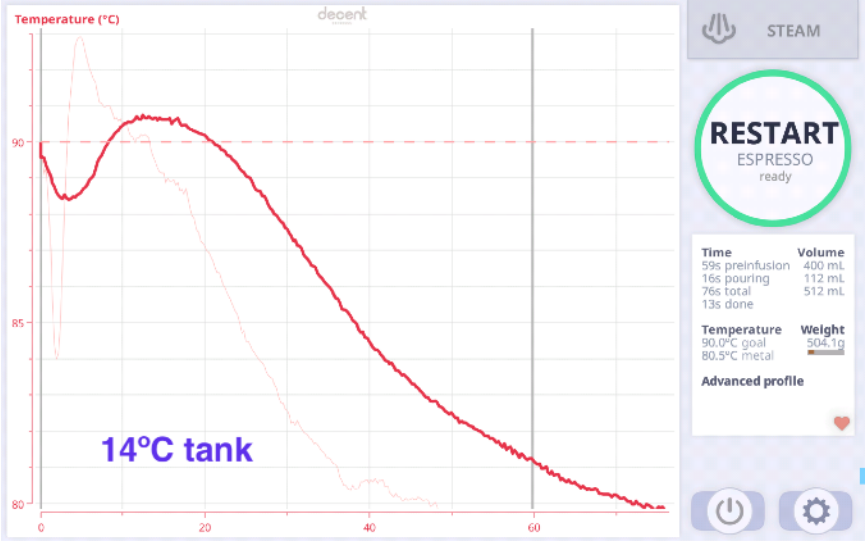
And here is a chart showing heating the tank to 72°C. Note the decreasing slope:



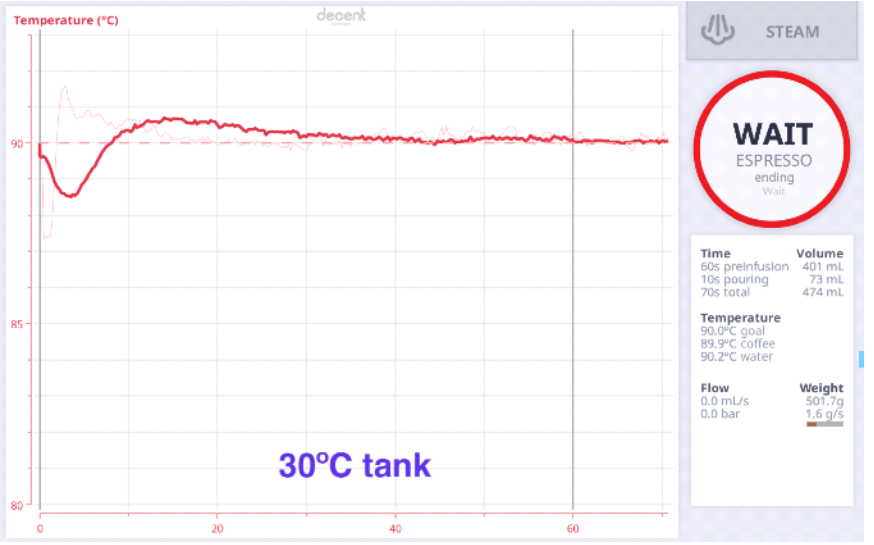
Full version:

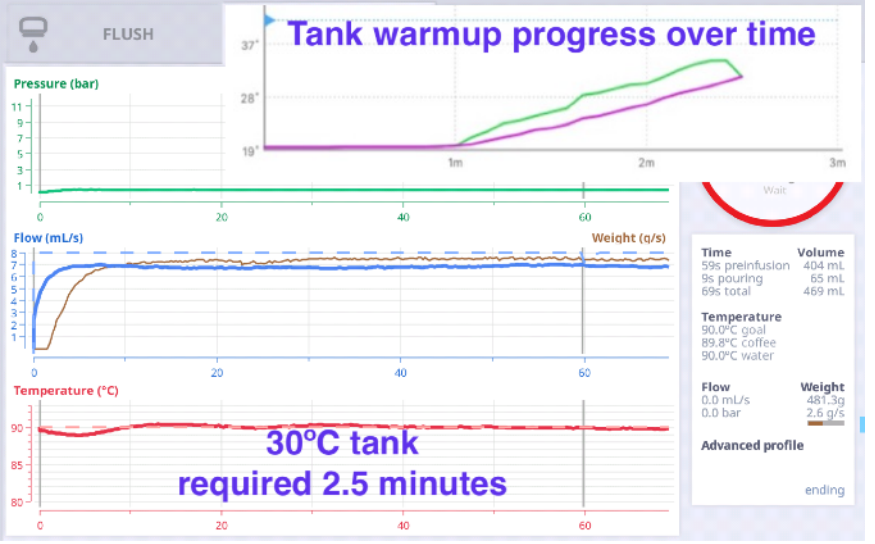
At tap water temperature (14°C) the DE1 can only sustain 90° at 8 ml/s, for 20 seconds.



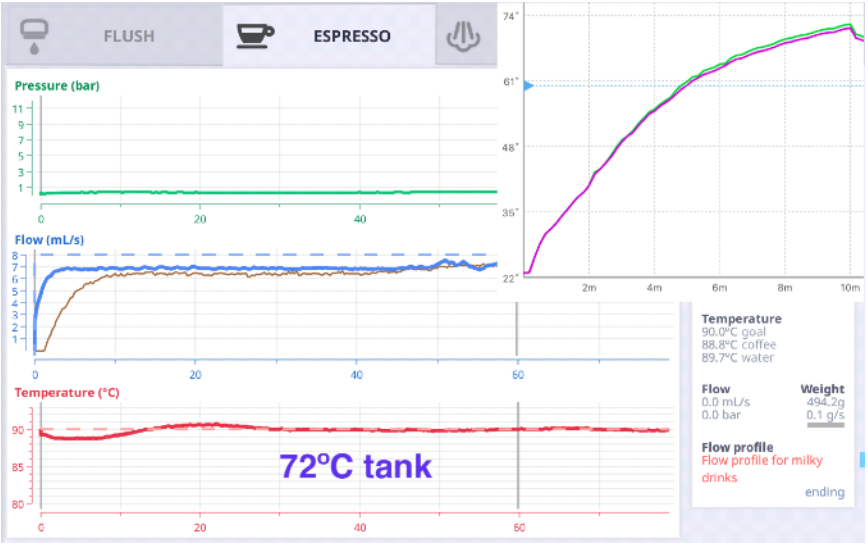

Temperature (°C)
decent
90
85
80
0
20
40
60
14°C tank
STEAM
RESTART
ESPRESSO
ready
Time
59s preinfusion
16s pouring
76s total
13s done
Volume
400 mL
112 mL
512 mL
Temperature
90.0°C goal
80.5°C metal
Weight
504.1g
Advanced profile

By raising the tank temperature to 30°C





Note that heating the tank takes progressively more time, the higher the temperature requested. Note the decreasing slope in the top right of this image, which is showing the 10 minutes it took to reach ~70°C.

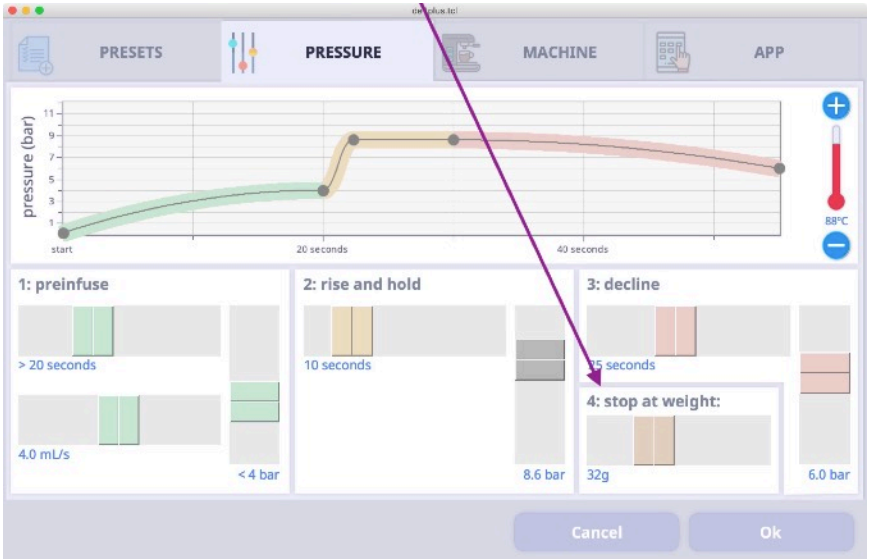

FLUSH
ESPRESSO
Pressure (bar)
Flow (mL/s)
Temperature (°C)
72°C tank
74°
61°
48°
35°
22°
2m
4m
6m
8m
10m
Temperature
90.0°C goal
88.8°C coffee
89.7°C water
Flow
0.0 mL/s
0.0 bar
Weight
494.2g
0.1 g/s
Flow profile
Flow profile for milky drinks
ending

3.2.5. Stop at weight & stop at pour

If you have a bluetooth scale paired to your Decent software, you can have your espresso stop when a weight is reached in your cup.

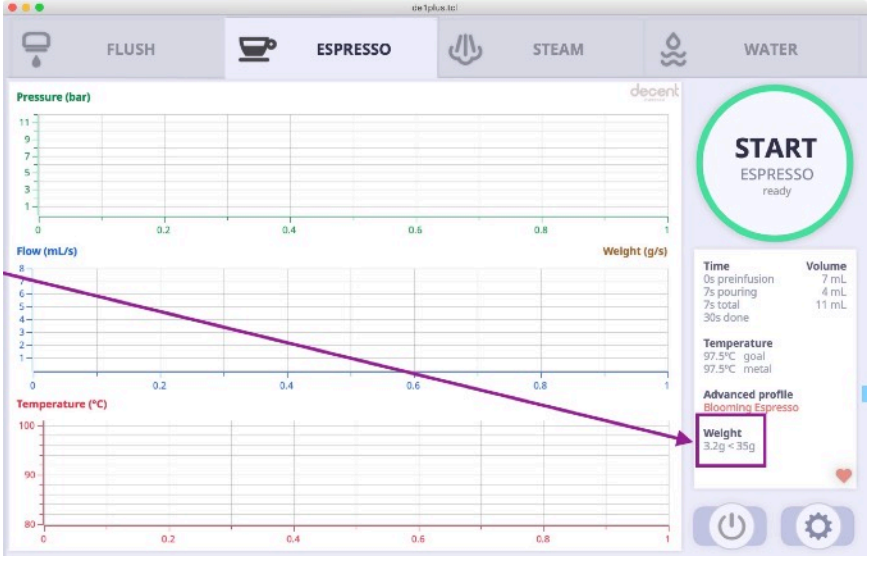
Espresso professionals generally recommend a ratio of beans in (your dose weight) with a desired in-cup weight (the weight in cup), as a way to achieve consistent espresso. This is much more reliable than stopping espresso based on extraction time, as time varies significantly between each shot.

PRESSURE and FLOW shots can stop by weight, which is set here:

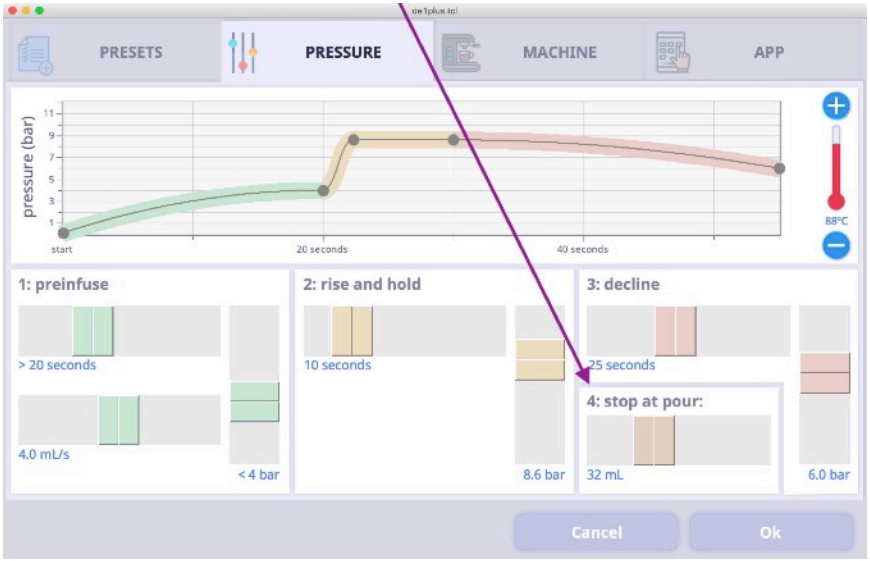


So in order to get to that feature, choose any pressure or flow profile from the PRESETS and then change into the tab on the right-hand side of it, which then displays PRESSURE or FLOW.

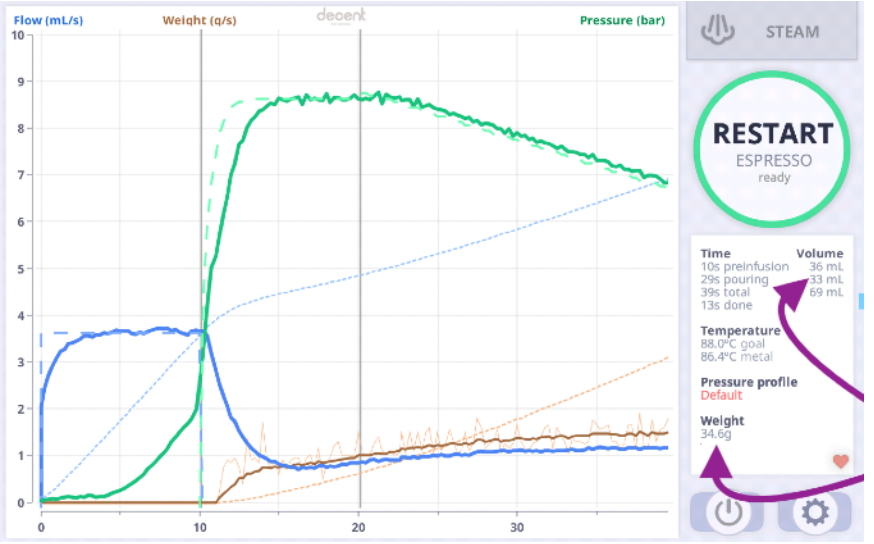
Your settings will be shown on the Insight skin here:



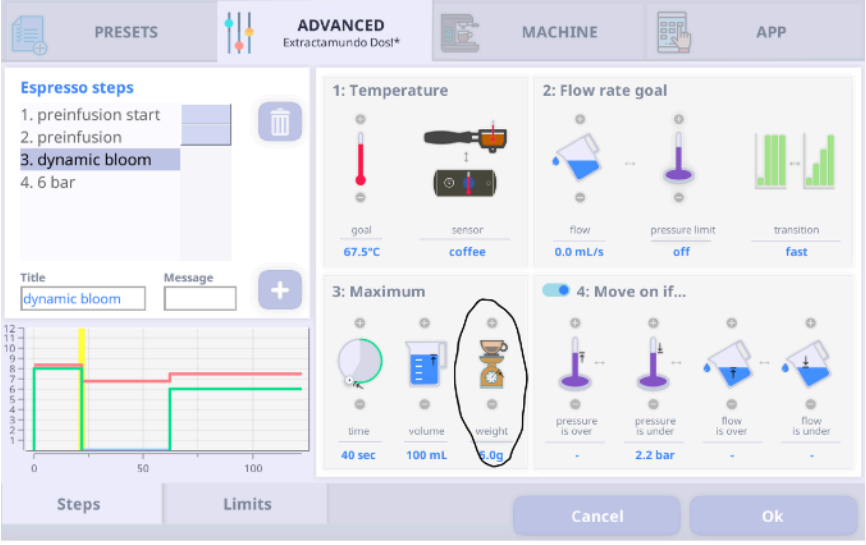
If you do ***not*** have a bluetooth scale connected, in PRESSURE and FLOW shots you will instead be able to stop shots based on “pour volume”.



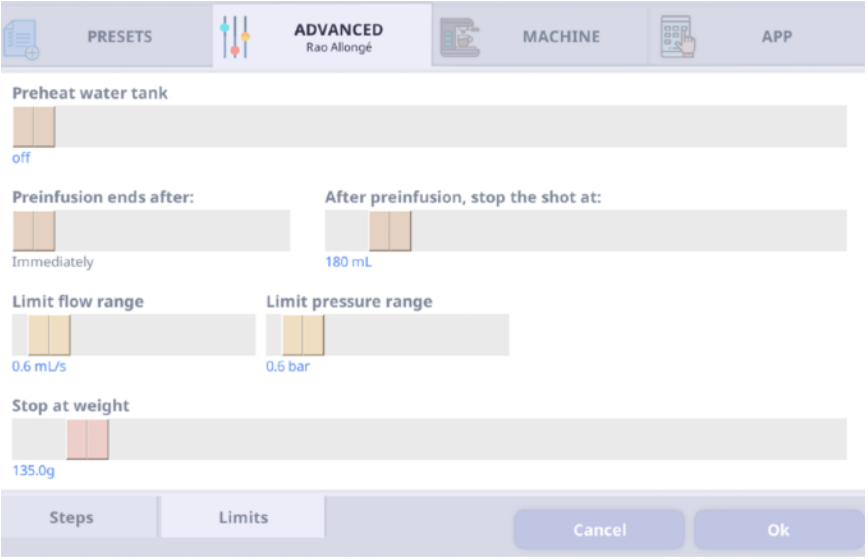
This is the amount of water dispensed after preinfusion ends, and is fairly accurate. In this typical shot, a 1.6g difference is noted (a 4.6% error).



Advanced profiles will show ADVANCED in the next tab. If you click on that tab, you get the option to change the weight limit for each profile step individually:



With ADVANCED profiles, you can stop on volume, but this works on the total volume dispensed. This is because ADVANCED profiles do not necessarily have a preinfusion step. You can find this in the Limits tab on the bottom.



These water volume based stop settings are then displayed in the Insight skin, like so

With PRESSURE and FLOW profiles:



With ADVANCED profiles:



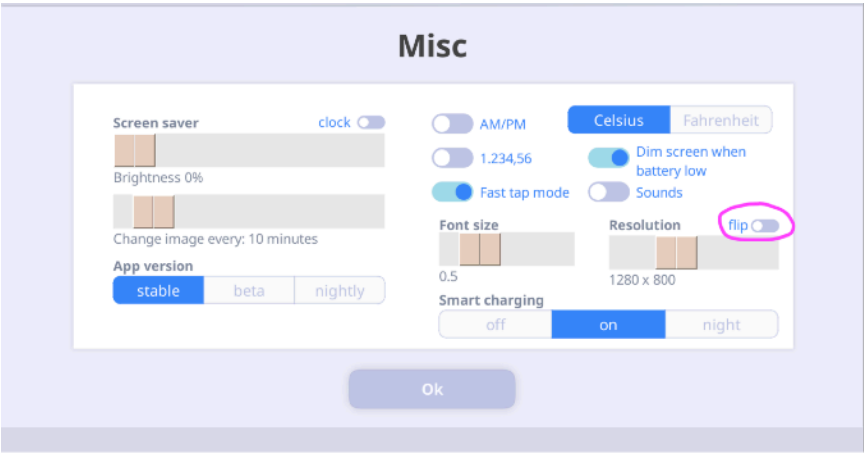
3.2.6. Tablet orientation (rotation)

By default, the Tablet App will run on Android, in "Landscape" mode.

If you want to rotate the screen 180°, you can do so, by **editing a file** or going to the '**misc settings page**'.

To flip the tablet via the **settings page**, go to

Settings > APP > Misc and then use the “flip” toggle.



To **edit the file**, to go

```
/sdcard/de1plus/settings.tdb
```

The default value for the setting you want is "landscape"

```
orientation landscape
```

to rotate this 180°, change it to:

```
orientation reverselandscape
```

Note that to edit the file, you should use a text editor. Don't use Androwish.

3.2.7. Fan control

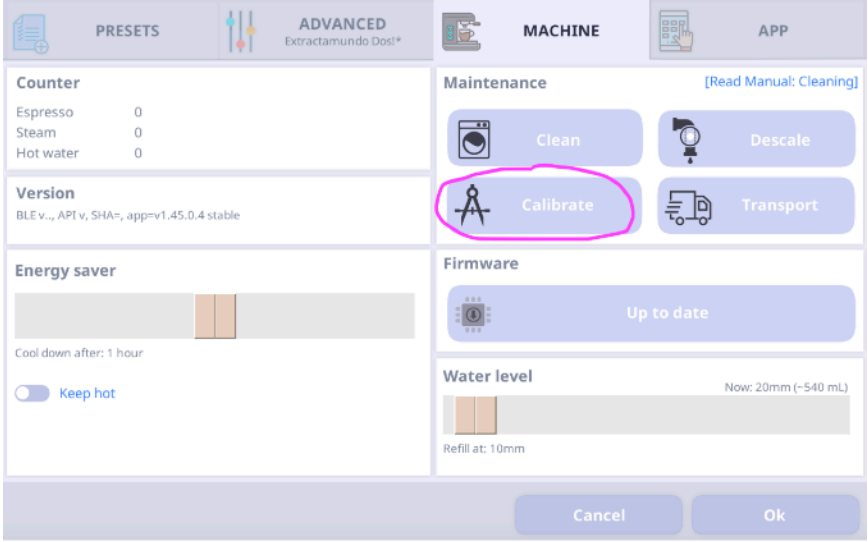
By default:

- ➡ The fan on the back of the DE1 turns on, whenever the machine isn't connected to the app, or when the PCB reaches the target temperature set for the fan.
- ➡ The fan temporarily turns off when you are making espresso, or during pre-heating.
- ➡ The fan turns completely off when the DE1 is put to sleep (it is cooling, or cool)

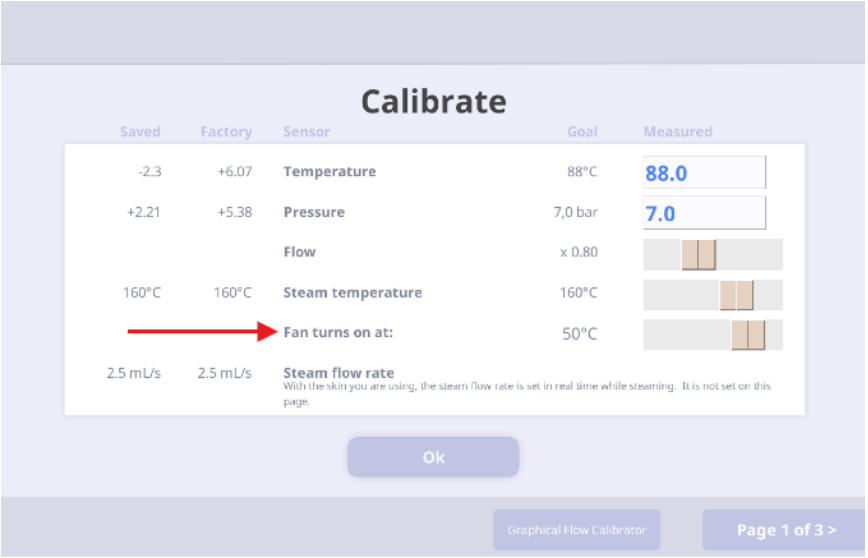
It is possible to change when the fan turns on, by going to the **Calibration** page.

You find the calibration page under the point "maintenance" at

Settings (cog wheel) > MACHINE > Calibrate > Page 1



If you set it to 50°C, then the fan will only turn on, if the temperature in the PCB area is over 50°C.



We limit the max temperature you can set to 60°C. This is because the components on the PCB are specified by the manufacturer to age faster (shorter life) when they are run above 65°C.

Note that Calibration is always done in Celsius. If you had your machine configured to Fahrenheit, it will switch to Celsius when you calibrate.

A setting of 50°C is recommend if you want the fan to almost never turn on. 40°C is a good setting for "fan is mostly off" if you are only temporarily turning the DE1 on to make an espresso, and the DE1 is not on for a long time.

Note that as the PCB approaches the temperature you set, the fan will slowly increase in speed. This is done to minimize the sound level the fan creates.

3.2.8. Keyboard shortcuts (v1.0 and v1.1 machines only)

On v1.0 and v1.1 DE1 machines, the tablet app has keyboard shortcuts for the common functions.

On v1.3 and later machines, you have to use the group head controller to start those operations.

space bar = idle

e = espresso

f = flush

s = steam

w = water

p = power (go to sleep)

Or use 1-2-3-4-0 (flush/espresso/steam/water/stop) (similar, but internally it's more like having a group head controller, and good for testing skins).

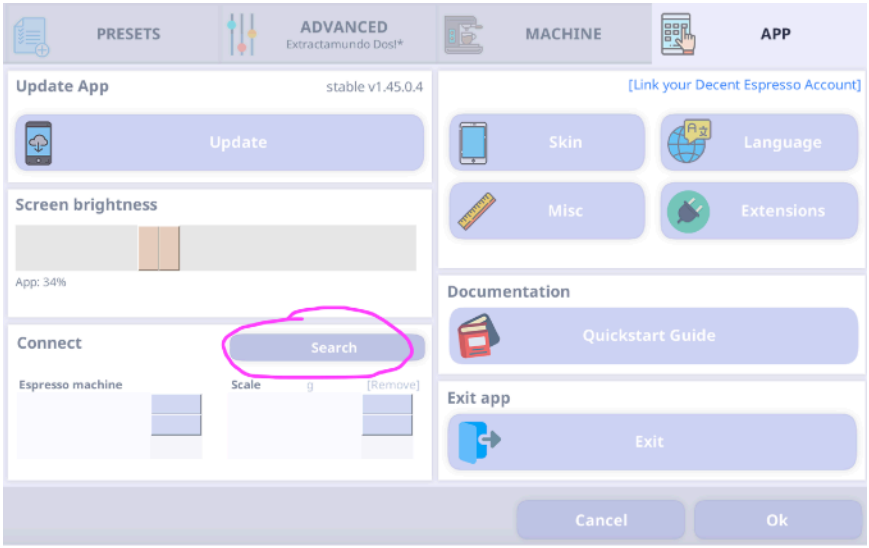
3.3. Got a new tablet

3.3.1. How to pair a new tablet to the DE1

If you've bought a new tablet from us, you need to pair it to your espresso machine.

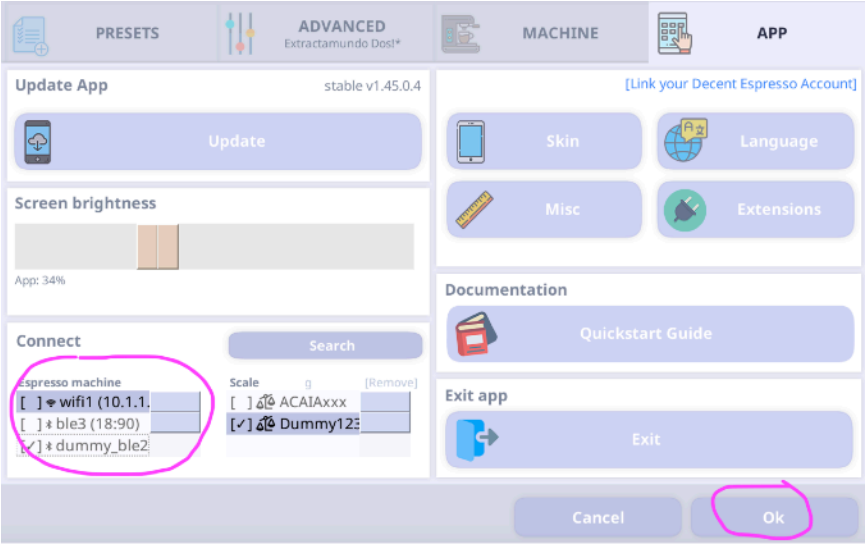
To pair your new tablet to the machine:

go to Settings (cog wheel) > APP > Search



Now, you should see your espresso machine listed under **Espresso machine**.

Tap on it to select it. Then, click **Ok**.



Restart the app, and the machine should now be connected to the tablet.

Watch a video here on how to do this

Note: if you received your tablet with your espresso machine, you don't need to do this, as we have pre-paired the tablet for you.

3.3.2. How to launch the DE1 Android app manually

If you've installed the DE1plus app by hand on your Android tablet from https://decentespresso.com/downloads and it's not working, try the following:

1. Find **Androwish** on your tablet. As specified in chapter 2.3.4., you might have to swipe to get to it.
2. Open the app.
3. Tap on the open window to open the on-screen keyboard.

➡ Type **cd /sdcard/de1plus**

➡ Hit enter on the on-screen keyboard

➡ Type **source de1plus.tcl**

➡ Hit enter on the on-screen keyboard

The app should launch now. **Here's a video showing it**.

3.3.3. How to transfer files to a new tablet

You can connect your tablet to a computer and transfer files as outlined in **chapter 2.3.3**. So you can transfer files from your tablet to your computer, and then transfer them via the same USB connection to the new tablet.

- To transfer your **shot count**, go to **settings.tdb.** Copy espresso_count from the old file into the new one.
- Copying the history folder (with *.shot files) into the de1plus folder should restore the **shot history**.
- For profiles, go into the **profiles** folder. Find the profiles you created (best give them distinctive names before, as you create them). Copy them over into the profiles folder of the new tablet, under the de1plus folder.

Note that all the standard profiles are already in the regular DE1plus app download, which you can find on **https://decentespresso.com/downloads**. So you don't need to transfer those over.

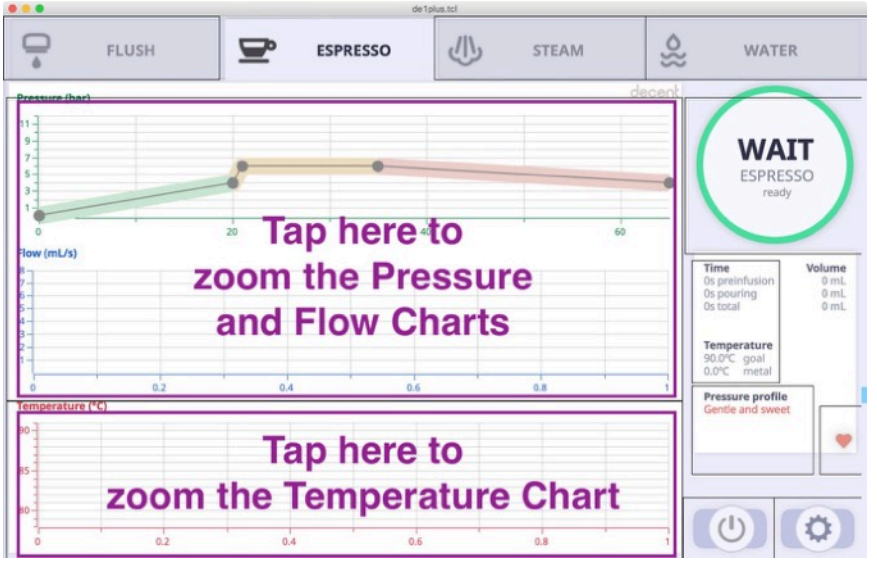
3.4. Tablet-things that are good to know

3.4.1. Tablet auto-dims when battery gets low

The DE1 tablet is so bright (220 lumens) that it uses the battery faster than the USB can charge it. This can cause a problem if you leave the tablet on all the time, at 100% screen brightness, because then the tablet will eventually run out of power. To avoid this problem, the tablet now progressively dims as the battery gets depleted.

3.4.2. Tap to zoom espresso

As you brew your espresso, you can tap anywhere into the espresso chart to zoom in. If you tap on the pressure or flow bar, it will zoom into the combined pressure and flow chart on a Y-axis from 0 to 15. If you tap on the temperature chart, it'll zoom in on the temperature, with 70°C to 100°C on the Y-axis.



Tap anywhere on the upper half in the combined pressure and flow chart, and it zooms in. Tap on the lower half, and it zooms out. Tap further out on the X-axis, and it brings you back to the non-zoomed view. Whereas, on the temperature chart, if you tap it when zoomed in, you will go back to the normal Espresso page, with 3 charts.



[Check out this video here to learn more](#).

3.4.3. Temperature chart Y axis

> Stéphane wrote:
>
> In the zoomed temperature graph is there an easy way to adjust the scale (vertical axis)?

The Y axis for temperature automatically scales +/- the "goal temperature" with a range defined by these two lines in **/de1plus/settings.tdb**:

```
espresso_chart_over 3
espresso_chart_under 10
```

Thus, if you have a goal of 90°, the chart will be from 80° to 93°

This is because the DE1 is much more likely to be under-temperature, than over-temperature.

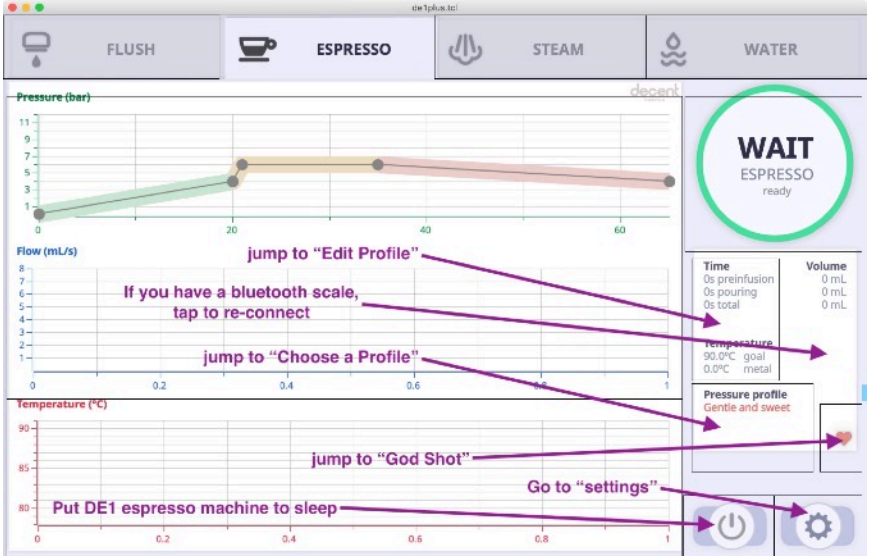
You're welcome to change those numbers as you see fit.

3.4.4. Tap zones in the Insight skin to change settings

The rectangles in this image show you where you can tap:



Annotated version:



3.4.5. Reading espresso charts in Insight skin

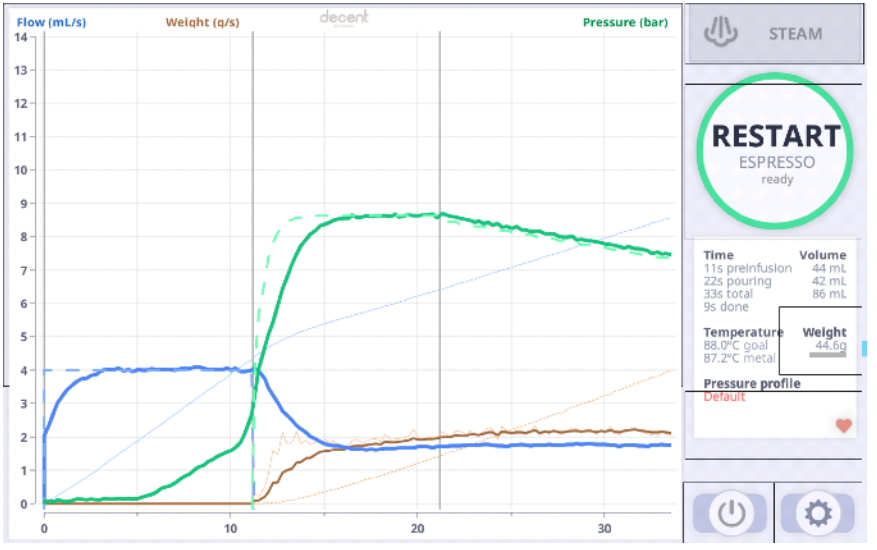
Here is an espresso chart:



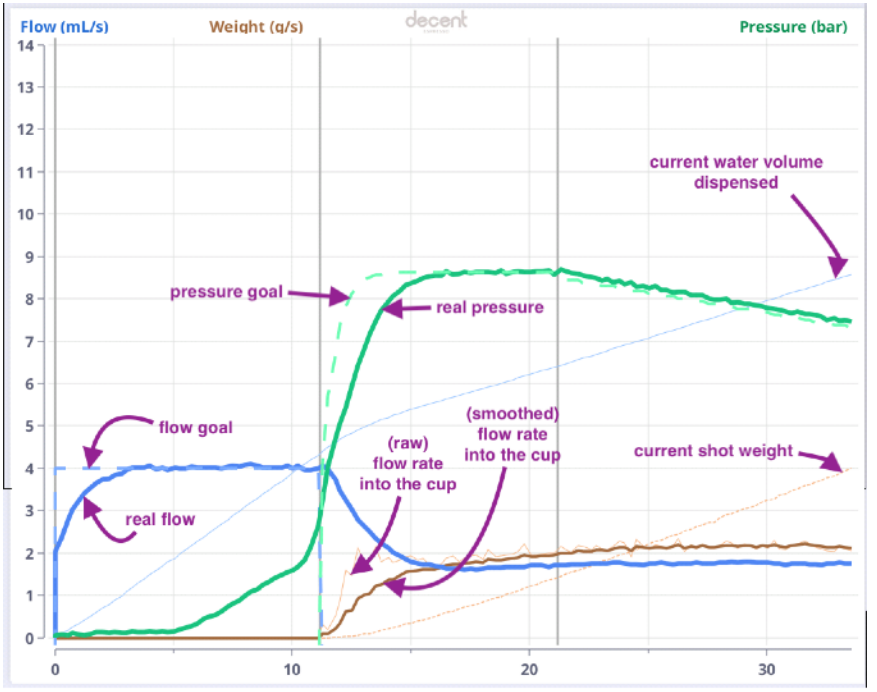
Annotated:


FLUSH
ESPRESSO
STEAM
WATER
Pressure (bar)
pressure at the coffee puck
Flow (mL/s)
flow rate goal
Weight (g/s)
flow rate into cup (measured by weight, with a bluetooth scale)
actual flow goal
Temperature (°C)
temperature at the coffee puck
WAIT
ESPRESSO
ending
Time
60s preinfusion
10s pouring
70s total
Volume
401 mL
73 mL
474 mL
Temperature
90.0°C goal
89.3°C coffee
90.0°C water
Flow
0.0 mL/s
0.0 bar
Weight
504.1g
0.4 g/s
Advanced profile
ending

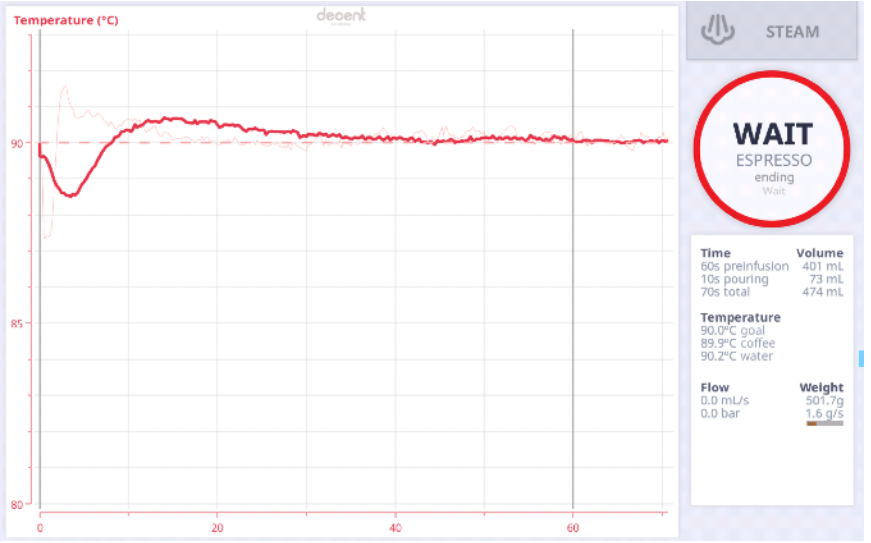
If you zoom into the pressure or flow section, by tapping the chart, you will see a chart like this:



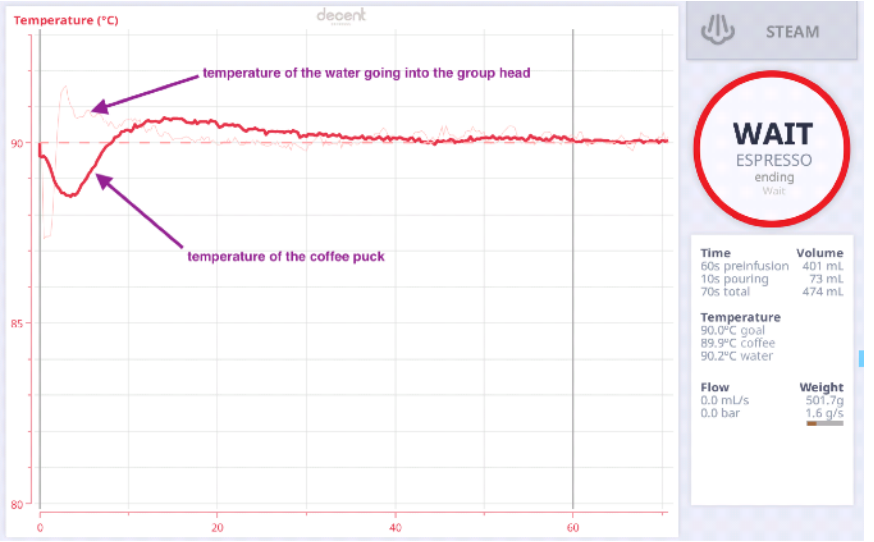
Annotated:


Flow (mL/s)
Weight (g/s)
Pressure (bar)
current water volume dispensed
pressure goal
real pressure
flow goal
real flow
(raw) flow rate into the cup
(smoothed) flow rate into the cup
current shot weight

If you tap on the temperature chart, it will zoom like so:



Annotated:


Temperature (°C)
decent
temperature of the water going into the group head
temperature of the coffee puck
90
85
80
0
20
40
60
STEAM
WAIT
ESPRESSO
ending
Wait
Time
60s preinfusion
10s pouring
70s total
Volume
401 mL
73 mL
474 mL
Temperature
90.0°C goal
89.9°C coffee
90.2°C water
Flow
0.0 mL/s
0.0 bar
Weight
501.7g
1.6 g/s

If you make steam, and zoom on it (by tapping it) you will seen something like this:



Annotated:


FLUSH
ESPRESSO
STEAM
WATER
Flow rate - pressure (bar)
steam pressure
water flow rate
Temperature
steam temperature
63s Steaming
8s Done
120s Auto-Off
163.0°C Temperature
0.0 bar Pressure (bar)
0.0 mL/s Flow rate

The main two insights we'd look for, when looking at the lines are:

- **Flow rate during extraction** (the last 3rd of the shot, typically). This seems to be the most correlated line with "success" of an espresso.

  After you get a flow rate that tastes best (i.e., by adjusting grind and dose), then when you make other shots later, you'll learn to compare the current shot's flow rate to what you know is best for your beans.

  And if you're using a Pressure Profile, and the flow rate shoots up faster than usual, then you can assume something is wrong (old beans, bad prep, wrong grind).

- **Pressure curve during a flow profile**. If the pressure drops quicker than your good shots do, something is wrong.

Then, depending on the profile, other things in the chart are important.

- For instance, for any profile that has a long "hold" stage, dripping during that stage (best shown on a scale) tells you how fine/coarse your grind is. Different profiles and beans prefer different things.
- For example, when using a medium roast, and LRv2 profiles (and its descendants D-Flow and Adaptive), about 4 to 6 grams of dripping seems optimal. With Blooming, 8g of dripping seems to produce the best results.

Bottom line, though, is that **COFFEE IS DIFFICULT** and there are no hard-and-fast rules.

Different beans, different grinders, and different personal tastes, will all affect what you think the "ideal lines" are.

To learn, your best bet is to

1. **Take a photo** of your screen after a shot,
2. **Describe your beans** (varietal, roast level, age),
3. **Describe what it tastes like** now, and what you'd like it to taste like

And the community can try to assist in converting the lines into real insights.

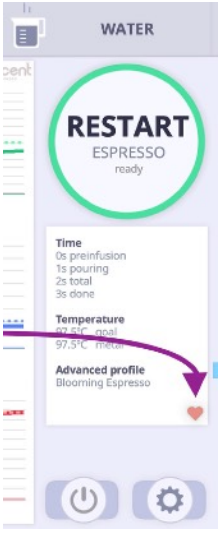
To read up on how to go about this, also read our **Profile Guide** and the **Dial-In Guide**.

3.4.6. God shots

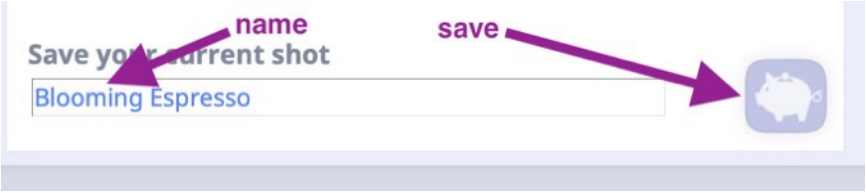
If you make an espresso that tastes good, you should save it as a **God Shot**.

This way, if you later start making bad tasting espresso, you can use the "god shot" as a reference to help you dial in "what was previously working well."

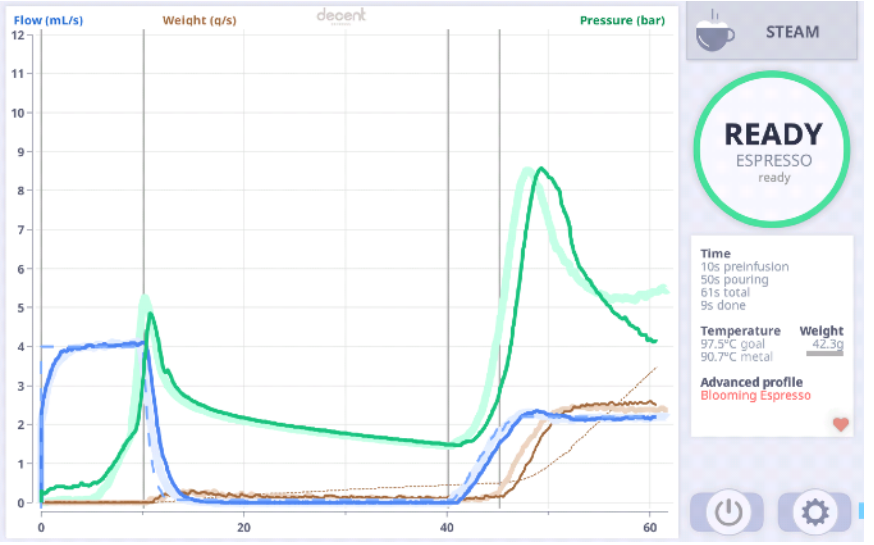
To save a GOD SHOT, after an espresso is made, tap the ❤️ symbol:



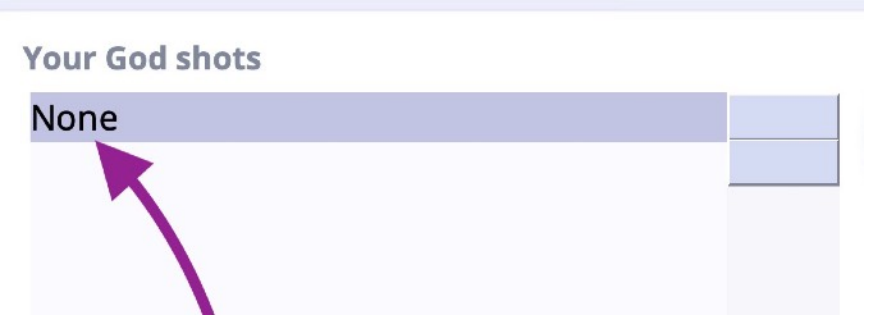
On the next page, optionally rename the default "god shot" name, and then tap the button to save:



When you tap OK, you will find that all your espressos now have faint "god shot" reference lines on them, and your shots will trace next to them, like this:



To remove the "god shot" reference lines, tap the "NONE" god shot:



and then tap OK to close this page.

3.4.7. Translations of the DE1app

The de1app is available in over 25 languages, which are maintained by a network of volunteers.

We discuss translations on a "app translators" Basecamp group (ask

John for access) and work from this shared google spreadsheet: https://docs.google.com/spreadsheets/d/1JKLZbzoTUAdxiA3APBAOpIRtXfEiW5RNXriXWxcoiDc/edit#gid=0

New versions of the de1app periodically suck down the google sheet and update the app, and those updates are posted to the "app translators" basecamp group.

4. Profiles and parameters

4.1. How to use the Advanced Profile Editor

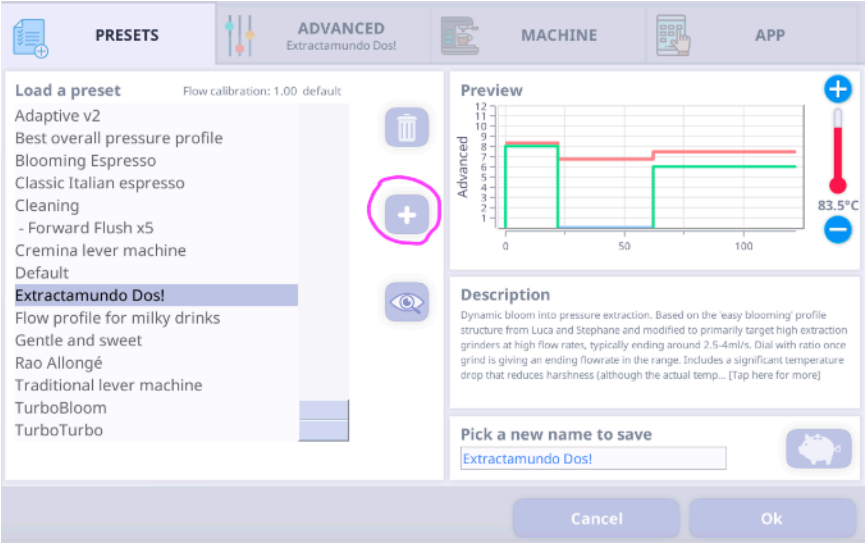
The Decent Advanced Profile Editor is a tool that allow defining and editing profiles. Probably the best way to learn to use it is by modifying a profile that's already done, preferably one as close to what you're looking for as possible.

If you prefer watching a video rather than reading, **here's Shin's video about how to use the advanced profile editor**.

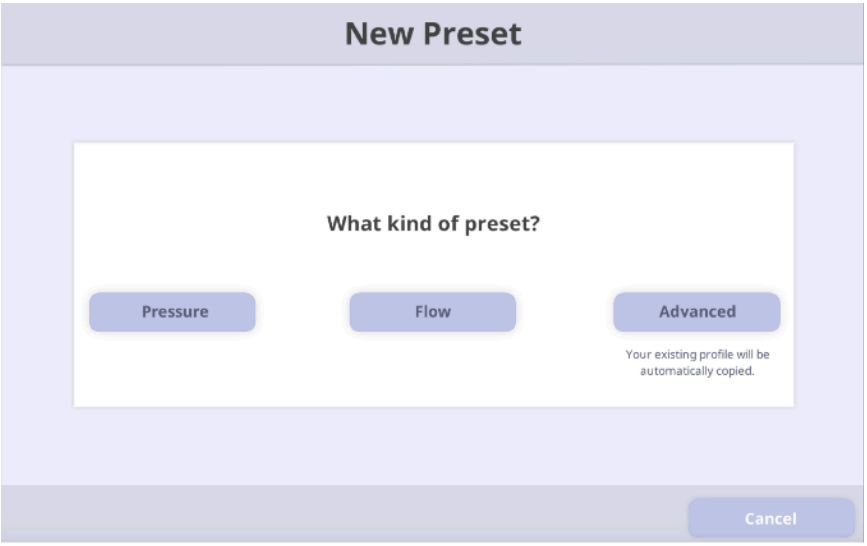
On the next pages, you'll find our written guide on how to use the Advanced Profile Editor.

4.1.1. How to create a new profile:

Pick the profile closest to what you want, then click the “+” button on the first tab (it’s labelled “PRESETS”). You can start with a profile of any type.



You will now be asked what kind of profile you wish to create.



➡ Your choices are the 2 simple ones, Flow or Pressure and the one we want for this, **Advanced**.

Note that the editor will be happy to convert between types, whatever you choose as the starting profile can be converted to any one of the 3 choices.

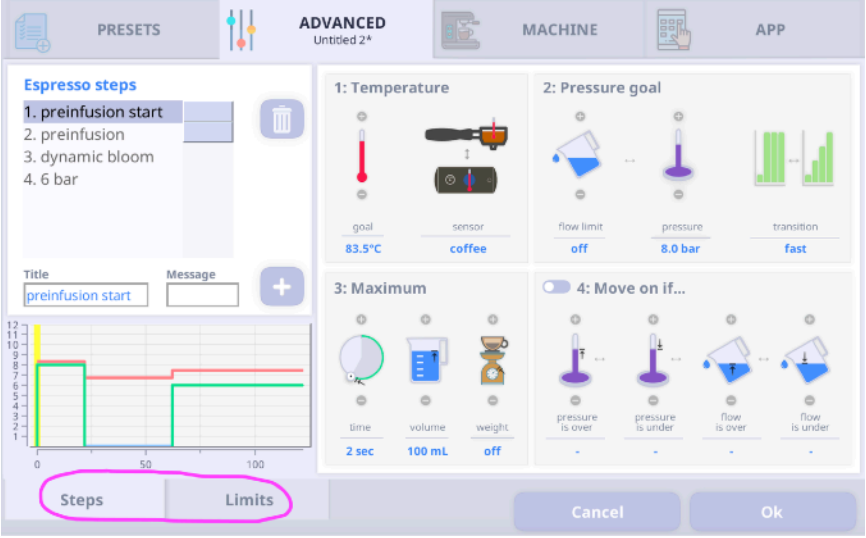
Not really clear why you'd want to go from advanced to simple, though you might find it entertaining to try and see what happens.

Another way to learn is to create a **Pressure Profile** that you like with the simple wizards, and then creating a new Advanced Profile. The app will automatically convert the steps from the Pressure Profile into steps in the Advanced profile.

The editor consists of two pages of settings,

➡ one for settings that apply to each step, entitled the Steps page, that allows defining every step of a profile.

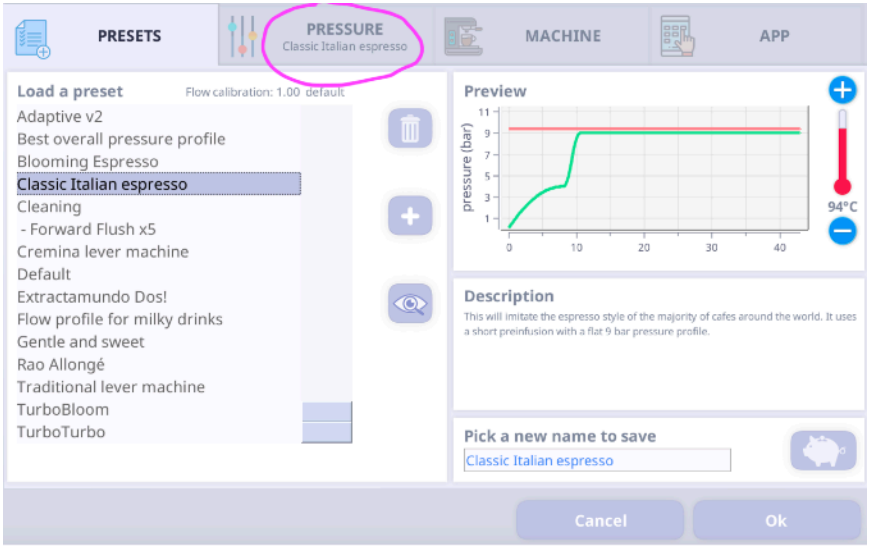
➡ one for settings that apply to the profile as a whole, entitled the **Limits page**.



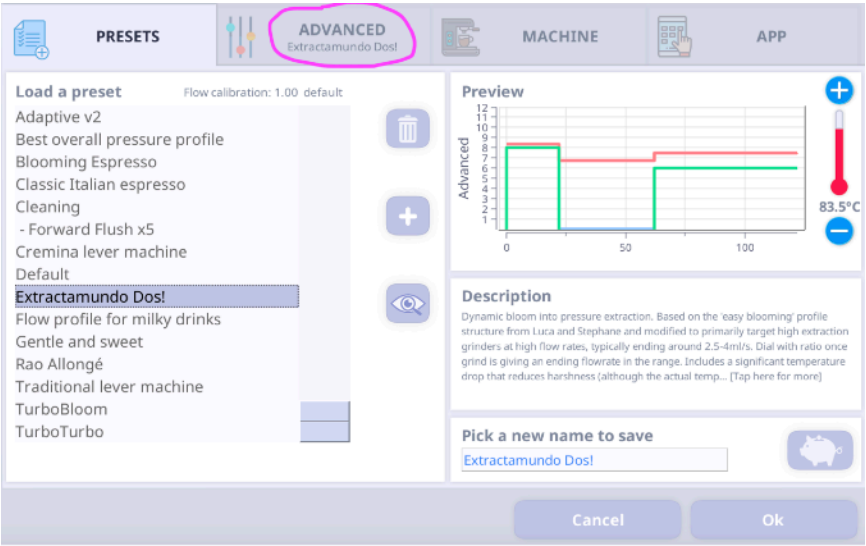
4.1.2. How do I know if a profile is “normal” or advanced?

When you’re looking at the available profiles you can see if they are Advanced Profiles by the word “Advanced” appearing on the second tab at the top of the page. If they show “Pressure” or “Flow” instead, they use the very basic Pressure Profile or Flow Profile Editors.

Here’s a **pressure profile**:



And here's an **advanced profile**:



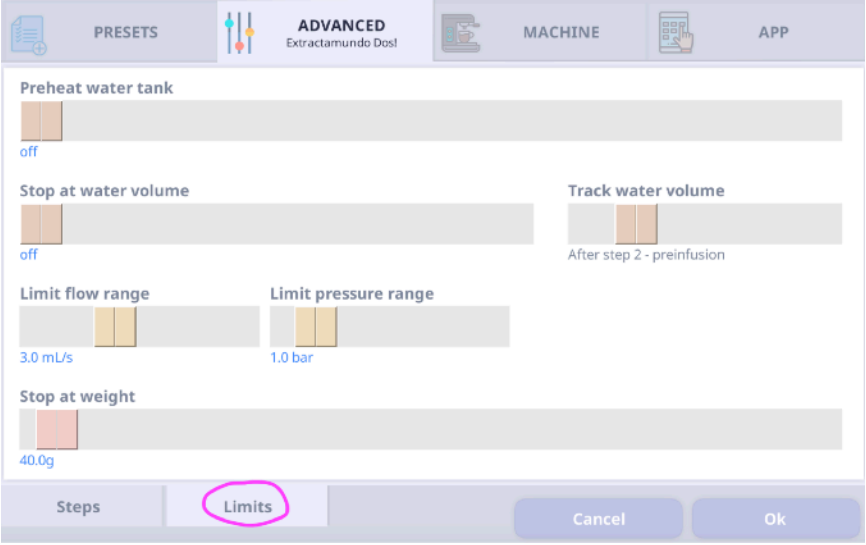
Note that while all the volume measurements are shown in ml, if a scale is connected, the Flow and Pressure profile will use the weight of the dispensed liquid instead. Because of the absorption of the coffee and the space in the portafilter, these two numbers may differ slightly. Advanced Profiles have the ability to use both volume and weight, independently, to decide when a shot should end.

4.1.3. Why use the Advanced Profile Editor?

- **More steps:** The Pressure Profile and Flow profile editors are limited to 3 steps or fewer. If you want more steps than that, you'll need to make an Advanced Profile. However, if you only need 3 or fewer steps, it's usually easier to not make an Advanced profile.

- **Infinitely editable:** Edit an existing Advanced Profile: most of the popular profiles shared in the Decent community are Advanced profiles.

4.1.4. The Limits page



4.1.4.1. Preheat Water Tank

This allows heating the water tank above room temperature. It's necessary if you're creating a profile that uses water faster than the Decent's thermoblock heater can keep up with.

You can see an example of its use in some of the pour over profiles. You likely only want to change this from OFF if you've made a profile and the graph shows the water cooling off over time or just not able to stay hot enough while the profile is running.

A 110V DE1PRO or DE1XL can manage about 25 seconds of constant highest-flow water, before the temperature drops. This is more than enough for espresso, but might not be enough for your pour-over recipe. Note that recipes like those for the Tea Portafilter, do not need to preheat the tank, because those recipes pause between runs of high flow water. The DE1XXL and Bengle models can sustain espresso temperatures at the maximum flow rates, forever.

4.1.4.2. Stop at Water Volume and Track Water Volume

Sets a maximum amount of water that can be used by this profile. By default, it looks at the total water used in the recipe, but you can change "Track Water Volume" so it only watches the last n steps of the profile. Use the Track Water Volume slider to select the step to start counting from.

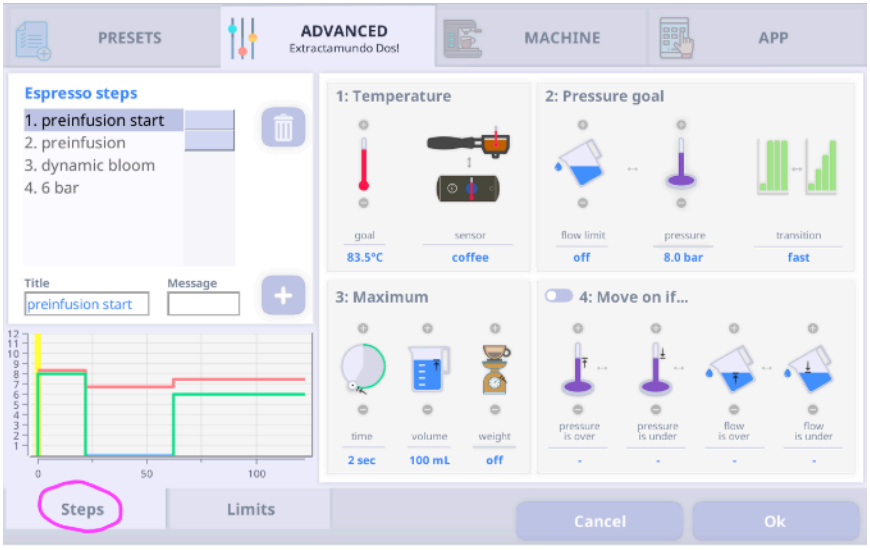
Generally, this feature works best when set to track water after preinfusion has concluded, so most recipes will set this feature in that way. Water usage before preinfusion has concluded can vary quite a bit, because (for instance) the first drink of the day starts with a completely dry group head, which needs to be filled with water. Successive drinks (if made soon after) don't need to. Therefore, tracking water volume after preinfusion ends, avoids that issue, and yields more accurate volumetric stopping than the entire-shot approach that competing machines use.

4.1.4.3. Limiter Ranges of Action

The limiter tries to avoid going over-pressure, or over the desired flow rate, as defined in the Advanced steps. The "Range of Action" defines at what point the DE1 should start to restrict flow or pressure, as it nears your limits. For instance, if you indicate that you want 9 bar of pressure, but no more than 3 mL/s, the DE1 will start to slow the increase in flow as it approaches 3 mL/s, but before it reaches it. This gives the shot a "soft landing" on the limit, instead of going over it (if there were no range) or never-reaching it (if the range is too large).

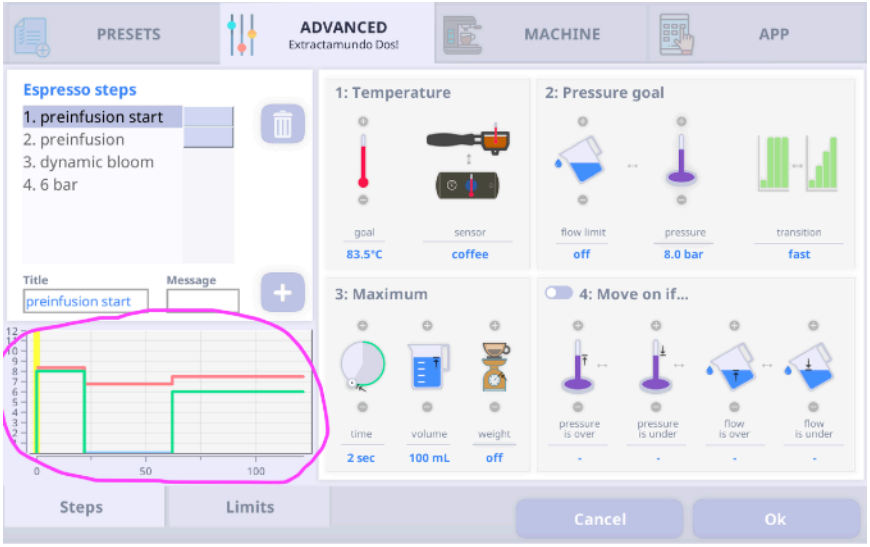
4.1.5. The Steps page

This is where you'll define your profile or investigate how the profile you're using works. There are **3 main sections**; on the lower left is a chart showing the general form of the profile, on the upper left is a list of the steps of the profile with the ability to add and delete steps and on the right is the Step Definition Editor where you'll define all the features of each step.



4.1.5.1. Profile chart

Shows the general outline of the profile. Sometimes the profile chart will look like something you'd recognize as an espresso profile and sometimes it will be difficult to imagine how what you're looking at could possibly work.



Part of the problem is that the chart cannot draw a line to represent the "exit if" feature, which is frequently used.

For instance, a 4 mL/s second step for 30 seconds will be shown as being 30 seconds long, even if there is an "exit if" condition to stop that step at 3 bar of pressure (such as during a fast preinfusion).

That says a lot to how powerful the Decent is and how flexible the Profile editor is. There are **4 different colored lines** on the chart, though not all of them may show at any given time:

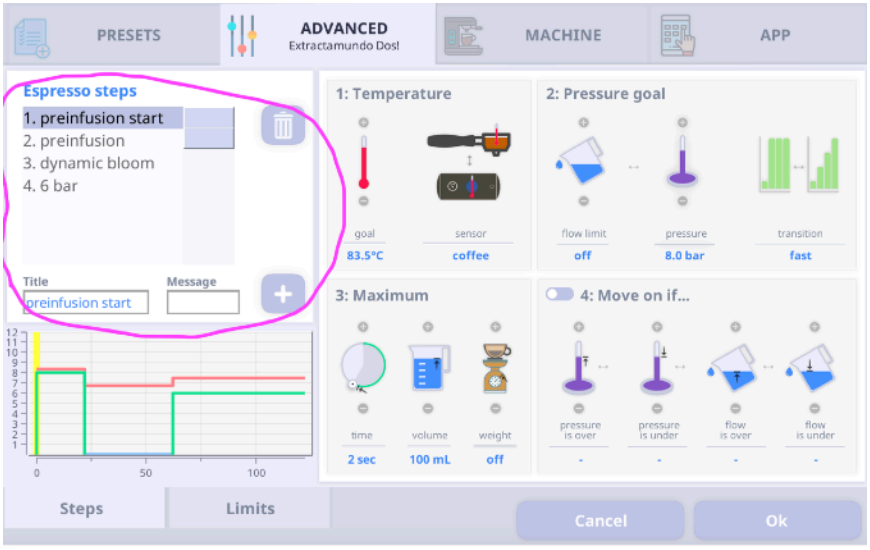
- Red is temperature
- Green is pressure
- Blue is flow
- The vertical yellow line indicates the start point of the currently selected step.

Note that a step allows exiting early for a number of reasons, so the curve you see when you make an espresso might look much different then than what the profile chart shows.

That's the magic of the Decent and why it's possible to have profiles that work wonderfully that don't look like anything that could possibly work.

4.1.5.2. Profile Steps - add or remove profile steps

This shows a list of the individual profile steps and allows you to select, add and remove steps.



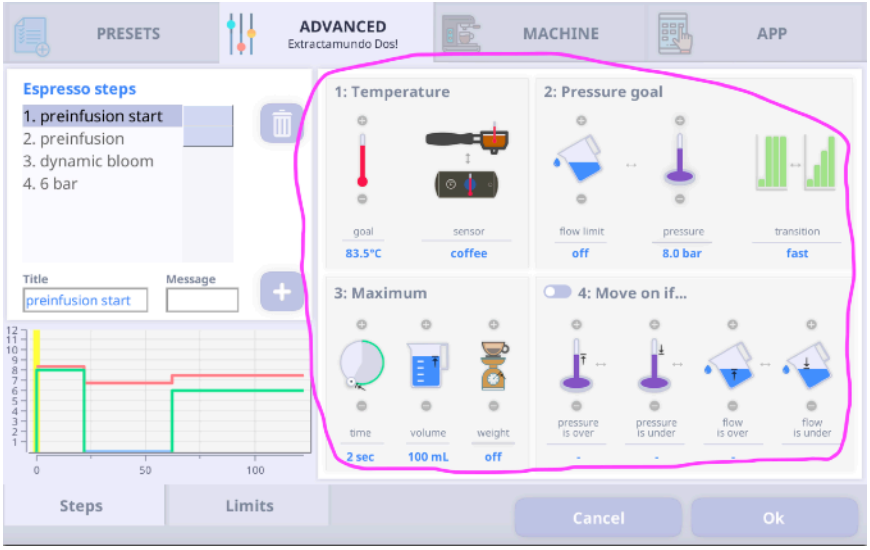
Clicking the **Trashcan** will delete the currently highlighted step and move the cursor to the top of the list. So if you want do delete the last two steps, you'll need to move the cursor back to the bottom before deleting the second one.

There is no undo, so if you make a mistake here, it's Cancel and then start over hoping you remember all your changes.

The **Plus button** adds a new step by making a copy of the current step and placing it right above the current step so you end up with 2 identical steps next to each other.

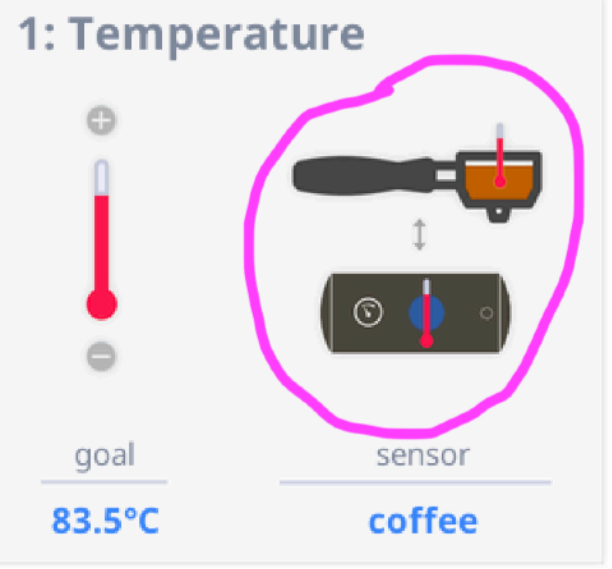
4.1.5.3. Step editor

This is the interesting part. It's where you define what each step in the profile does. Each step consists of up to 4 rules and decision points.



Temperature

Defines the temperature for this step. You choose both the temperature, clicking on the + and – buttons around the thermometer to effect change and the location of where the temperature is measured. Choose between the **water above the puck** or the **temperature of the group** by clicking the picture above the word "sensor."



Pump by Pressure or Pump by Flow

Choose between Pressure and Flow by clicking on the Pitcher or Manometer icon.



Pump by Pressure

Selecting this lets you set the pressure used for this step. Transition lets you choose if the pressure changes instantly or gradually over the running of the step. At the same time, you may also limit flow and if you do, the pressure may never reach its target. Turning the flow limit Off means the machine will do everything it can to reach the target pressure.

A setting of zero for either flow or pressure will cause no water to come out, however the two settings are not identical.

➡ **Setting flow to 0.0** will stop the pump, but keep the flush valve closed, holding the current pressure. Recipes like Blooming use this to do a fast preinfusion followed by a pause. There is a secret feature built into the Pressure setting. Setting Flow=0.0 is the typical way to have a pause.

➡ **Setting the pressure to 0.0 bar** will cause the exhaust pressure release valve to open, relieving the pressure and flushing this excess water into the drip tray.

You can see examples of this in "Cleaning" profiles where they fill the blind basket with water up to a high pressure and then exhaust that water into the drip tray. On more normal profiles where you just want to pause, you'll probably want to set the pressure to 0.1 Bar which is effectively zero but doesn't open the exhaust valve.

There is a "no pressure" tea portafilter recipe that also uses this technique, for delicate teas that need a infusion step but absolutely no pressure, to avoid tannic flavors.

Setting **Transition** to *Fast* tells the machine to try and reach the setting as fast as possible, setting it to *Smooth* tells the machine to gradually ramp up to the new pressure.

There is a subtlety when using the "smooth transition" between steps that move between Pressure and Flow.

If you ask for a smooth transition from a Pressure step to a Flow step, the DE1 will use the actual, real-time flow occurring at the end of the Pressure step and calculate the smooth transition from that to the goal on the Flow step. This "trick" is how the Adaptive profile manages to hold the flow rate that occurred during the "Pressurize" step, in real-time.

Pump by Flow

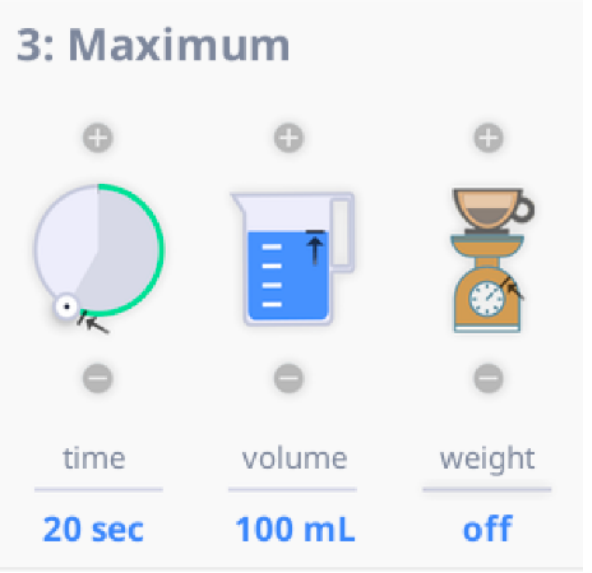
Selecting this allows setting the **target flow rate for the duration of this step**. If desired, you can set a maximum pressure for this step which will cause the flow to be lowered if the maximum pressure is exceeded. Setting the pressure limit to off may allow the pressure to far exceed what makes sense for an espresso so the pressure limit is an important feature.

If you're just wanting to pause and do nothing, choose "Pump by Flow" and set the flow to 0.0, then set the Maximum to the number of seconds you want to pause. Pressure is held during the pause.

Setting **Transition** to *fast* tells the machine to try and reach the new flow rate as fast as possible, setting it to *smooth* tells the machine to gradually ramp to the new flow rate, linearly over the number of seconds defined in that step.

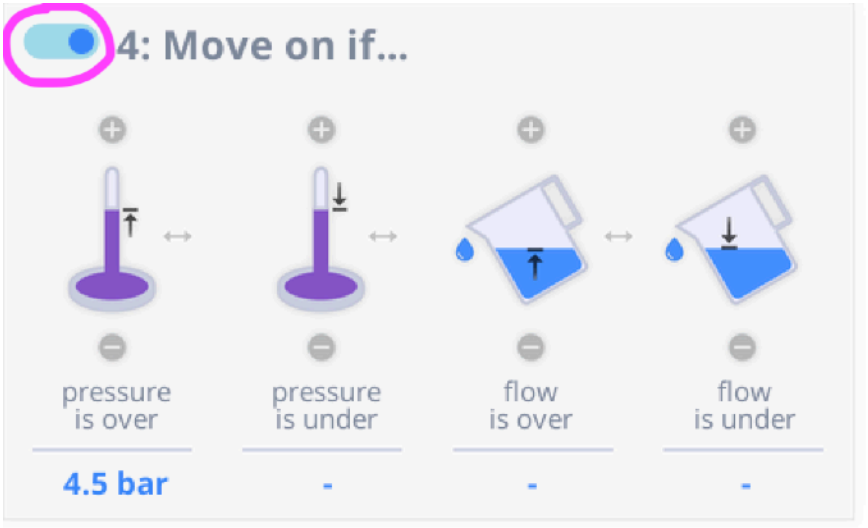
Maximum settings

Here you can set the maximum time, or maximum volume of water dispensed, maximum weight, or all that will cause this step to exit. Exit means, in this context, means moving on to the next step. If you put a limit on all three options, whichever one is reached first will cause the step to exit.



Move on if...

This lets you set exit conditions based on either pressure or flow limits. You will see these used a lot in the really odd-looking profiles and for features like figuring out when pre-infusion has finished for long pre-infusion profiles or when the flow is starting to increase as the puck erodes. Check the check box in the upper left corner (marked pink) to enable this feature **and then pick only one of the exit conditions**.



Note that each step may exit for any number of reasons other than the "Move on if" condition you've picked. So if you're troubleshooting a profile look at every reason before thinking this limit is not working correctly.

Also note that internally, the DE1 is testing "exit if" many thousands of times per second, while the chart on the tablet only refreshes every 1/10th of a second. Thus, it's possible for an "exit if" condition to occur on the DE1 but not be obviously visible on the chart. For example, if you set to "exit if" pressure is over 9 bar, the chart displayed might not show the shot ever reaching exactly 9 bar, because the next step started.

The "exit if" under pressure, or under-flow-rate, are especially likely to trigger unexpectedly, because pressure and flow can drop quickly, and come back just as quickly, faster than you might expect. If you want to use "exit if" with "less than" you should build a good margin of error into your recipe.

4.2. Flow calibration multiplier

4.2.1. The Graphical Flow Calibrator (easy way)

The Decent Espresso machine also has another, built-in way to calibrate flow: The Graphical Flow Calibrator.

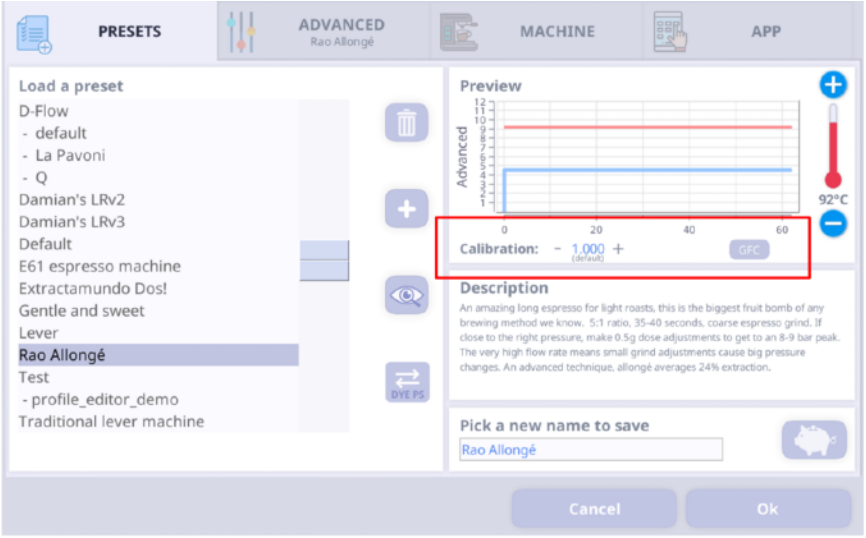
You can find it under

> Settings (cog wheel) > MACHINE > Calibrate

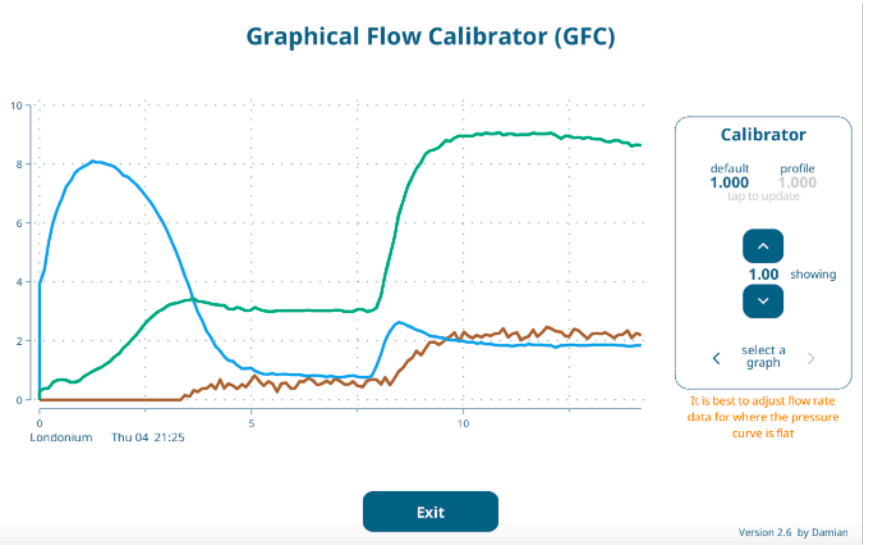
Click on Ok on the warning and then find the tool on the bottom of the Calibration page:



If you enabled the extensions under **Settings > APP > Extensions**, you can also find the Graphical Flow Calibrator as **GFC** right next to the profiles in the PRESETS page:



Here's what the flow calibrator looks like:



- The green line is the **pressure**
- The blue line is the **flow curve**, which you can move up or down with the arrows
- The brown line is the **weight** as measured by the scale

The value between the arrows is the current flow calibration value you're on.

Run any profile from the PRESETS. This will save the values into the history file, which the Graphical Flow Calibrator accesses. Then, enter the Graphical Flow calibrator and move the arrows up or down until the blue line hits the brown line.

Note that you best do this in places where pressure is flat.

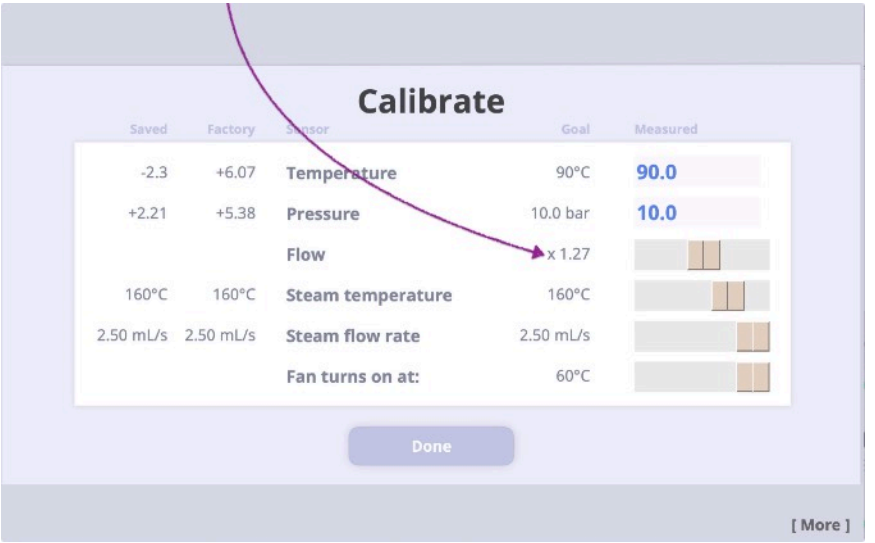
You can now either

- tap on **default** to make this your default flow rate for the machine, or
- tap on **profile** to set this as the flow calibration for this specific profile. You can set individual flow calibrations for different profiles.

If you don't want to save this flow calibration, just hit **Exit** and it'll leave things unchanged.

4.2.2. The Graphical Flow Calibrator (hard way)

In the Settings->Machine->Calibrate menu, you'll find a line labelled "Flow" :



This lets you adjust the internal calculation the DE1 makes about how much water flow it thinks it is producing.

Because of differences between voltage (mostly), pumps and other factors, the DE1 is not necessarily going to give you correct flow rate estimations. Calibration can really help.

4.2.3. Calibrating with only a bluetooth scale

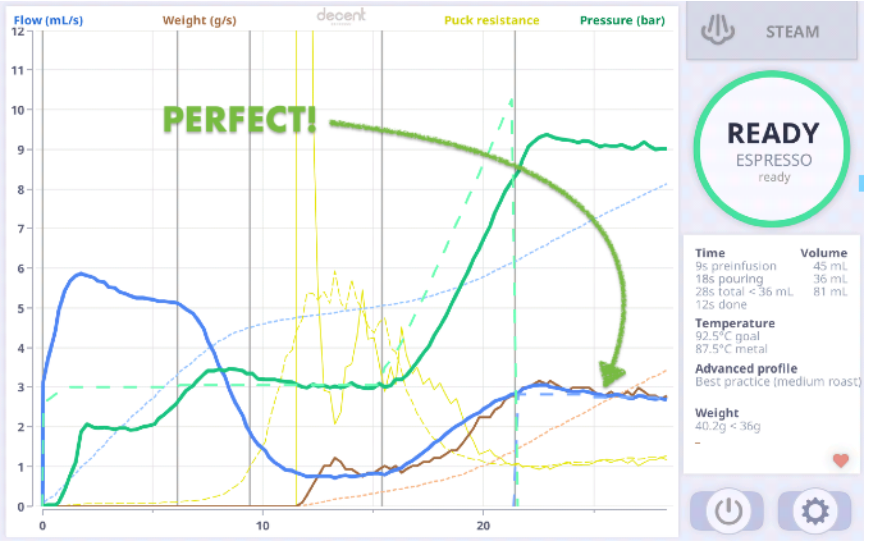
If you own a bluetooth scale, connected to the de1app, you might notice that the BROWN line does not always line up with the BLUE line. In the last 30% of the espresso shot, the two should normally touch. If they do not, you probably will benefit from adjusting the flow calibration.

A Flow calibration number of "1" means "no calibration".

To do so,

- if the **brown line is above the blue line**, you should *increase* your Flow calibration number
- and **if the brown line is under the blue line**, you should *lower* your Flow calibration number

until the two are close to touching at the end of the shot:



4.2.4. Calibrating precisely with a Puck Simulator

To calibrate precisely with a Puck Simulator, you will need:

- a bluetooth scale, connected to the de1app
- a 0.3mm "puck simulator" basket. A 0.2mm basket can be useful too
- a DE1 espresso machine

NOTE: if you do not have our puck simulator baskets, but you have a bluetooth scale, you can still calibrate, it just won't be as easy a process. In your case, you should simply observe whether the brown line is above or below the blue line, when you're making espresso. If the brown line is above the blue line, you should increase the "flow multiplier" number on the calibration page. If the brown line is below the blue line, you should decrease the flow multiplier number.

How to choose which basket?

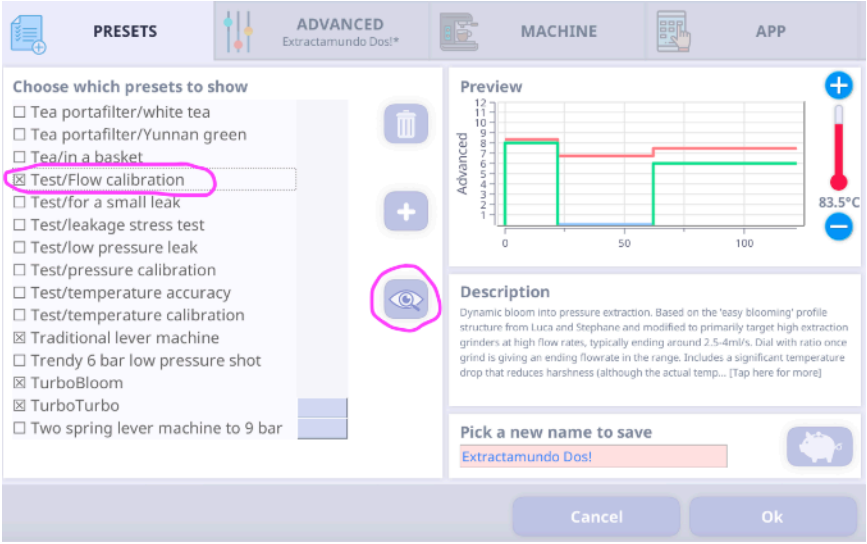
- The **0.3mm puck sim** basket should be used if you are mostly drinking lighter roasts, as this puck simulator emulates those beans better. They tend to have a faster flow rate.
- The **0.2mm puck sim basket** should be used if you are mostly drinking medium to dark roasts, and extracting them with slow flow rates.
- If you have **both puck simulator baskets**, you can calibrate to both styles, but the greatest accuracy will be achieved if you calibrate to the basket that most closely mimics the coffees you make.

You can find the puck simulator baskets here:

https://decentespresso.com/basket

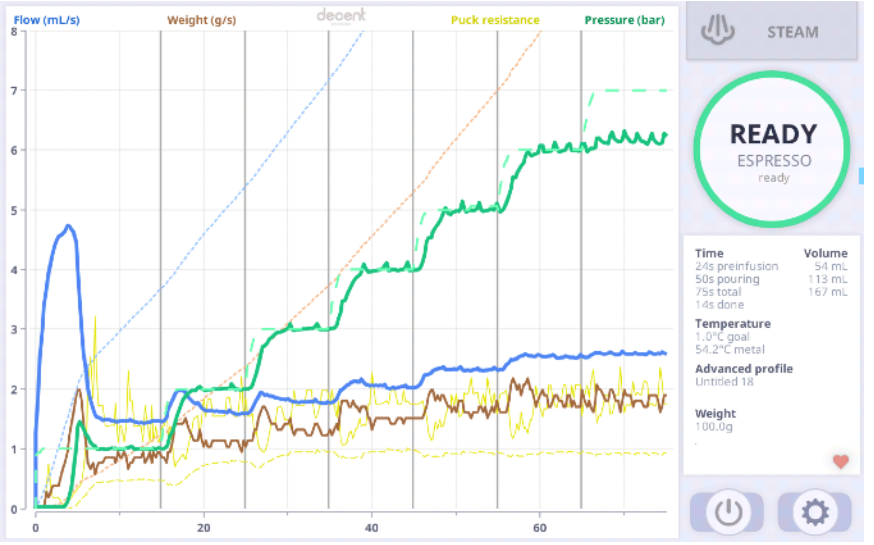
You will need to unhide and then choose the **Test/Flow calibration** profile.

To unhide it, go into Settings and click on the **eye symbol** in Presets. Then, put a checkmark into “Test/Flow calibration” and hit Ok. Go into Settings again, and you can now choose the profile.



Using the puck simulator basket, run the profile.

Look at the brown line, and the blue line. If they are not close to each other, then your DE1 will benefit from flow calibration. This here is with a 0.3mm basket:

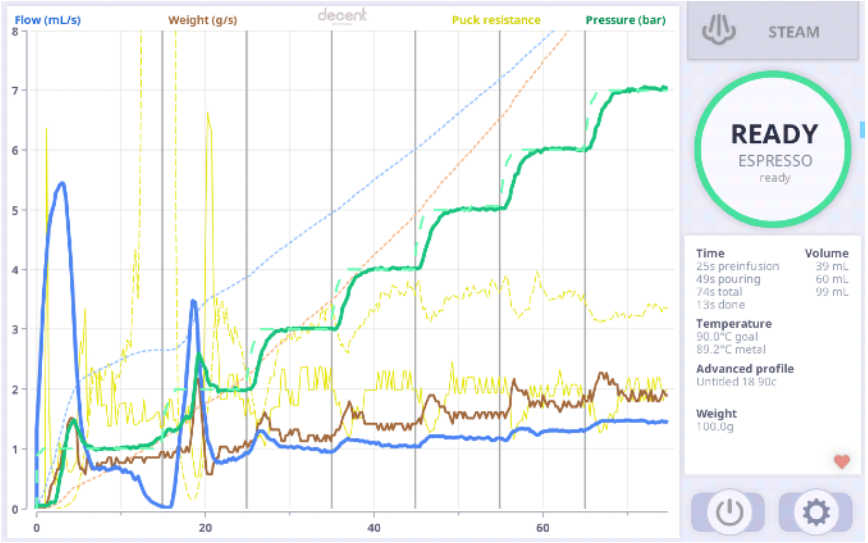


In the Settings->Machine->Calibrate menu, in the line **Flow**, you can enter settings between 0.5 and 2.

- ➡ You will want to **lower your flow calibration number if the brown line is below the blue line**
- ➡ You want to **increase your flow calibration number if the brown is above the blue line**.

After you change the flow calibration number, hit DONE and then OK, and re-run this espresso profile.

Above, since the brown line was below the blue line, we put a calibration setting of 0.5. This turned out to be too low, and it made the brown line move above the blue line:

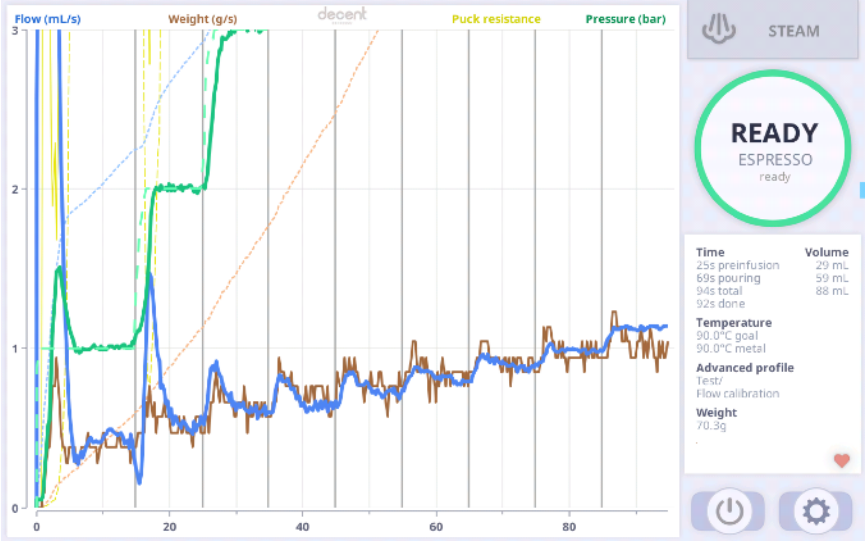


After repeatedly narrowing in on values that made the two lines move closer, we settled on a value of 0.67. Note that this is a value specific to your machine, your voltage and your circumstances. Your calibration value will be different.

In the end we were able to get them quite close

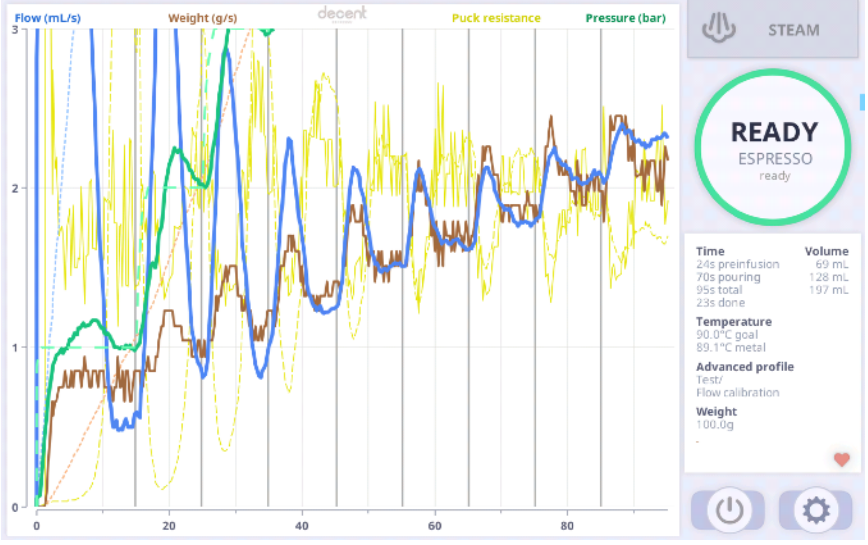


By tapping on the flow/pressure chart, and then zooming (by tapping on the upper left half of the chart), we were able to see how close they are.



We could continue fiddling, and maybe get closer, but this was good enough for us. This was with a 0.2mm basket.

When we switched to a 0.3mm basket, and reran the shot, you can see that a bit of inaccuracy crept back in at the extremes of 0 bar and 9 bar. The inaccuracy is about 0.2ml/s here.



We're not able to model the mathematics to be any more precise than this, for all types of espresso. Flow meters are typically accurate to within 90% at flow rates between 2ml/s and 10ml/s, but not very accurate at slower flow rates.

After this calibration, we're achieving comparable accuracy, even at the pressure extremes (maximum error = 10% at 9 bar, with 0.2mm calibration), but with much faster responsiveness, and at slower flow rates, than a physical flow meter would typically be able to do.

4.2.5. Voltages, frequency and default calibration for every country

Use this table in combination with the **Table of recommended flow calibration values** (next chapter).

Since the ODE pumps used in earlier DE1 models from v1.0 to early v1.46 have been discontinued, we're now using CEME pumps. The flow calibration differs depending on the pump type.

Of the over 200 countries listed below, most use 220-240 VAC. Others use between 100-120VAC. Some countries, including the United States (120V/240V), use dual voltages. 43 countries use 60Hz, while the rest use 50Hz.

- **| Country | Voltage | Frequency |** Flow Cal ODE **| CEME**
  - | Afghanistan | 220V | 50Hz | 0.75 | 1.1
  - | Albania | 230V | 50Hz | 0.85 | 1.16
  - | Algeria | 230V | 50Hz | 0.85 | 1.16
  - | American Samoa | 120V | 60Hz | 1.1 | 1.5
  - | Andorra | 230V | 50Hz | 0.85 | 1.16
  - | Angola | 220V | 50Hz | 0.75 | 1.1
  - | Anguilla | 110V | 60Hz | 0.8 | 1.12
  - | Antigua | 230V | 60Hz | 0.55 | 0.93
  - | Argentina | 220V | 50Hz | 0.75 | 1.1
  - | Armenia | 230V | 50Hz | 0.85 | 1.16
  - | Aruba | 127V | 60Hz | 1.25 | 1.6
  - | Australia | 240V | 50Hz | 1 | 1.22

- **| Country | Voltage | Frequency |** Flow Cal ODE **| CEME**
  - | Austria | 230V | 50Hz | 0.85 | 1.16
  - | Azerbaijan | 220V | 50Hz | 0.75 | 1.1
  - | Azores | 230V | 50Hz | 0.85 | 1.16
  - | Bahamas | 120V | 60Hz | 1.1 | 1.5
  - | Bahrain | 230V | 50Hz | 0.85 | 1.16
  - | Balearic Islands | 230V | 50Hz | 0.85 | 1.16
  - | Bangladesh | 220V | 50Hz | 0.75 | 1.1
  - | Barbados | 115V | 50Hz | 1.4 | 1.52
  - | Belarus | 230V | 50Hz | 0.85 | 1.16
  - | Belgium | 230V | 50Hz | 0.85 | 1.16
  - | Belize | 110V | 60Hz | 0.8 | 1.12
  - | Belize | 220V | 60Hz | 0.5 | 0.85

- **| Country | Voltage | Frequency |** Flow Cal ODE **| CEME**
  - | Benin | 220V | 50Hz | 0.75 | 1.1
  - | Bermuda | 120V | 60Hz | 1.1 | 1.5
  - | Bhutan | 230V | 50Hz | 0.85 | 1.16
  - | Bolivia | 230V | 50Hz | 0.85 | 1.16
  - | Bosnia | 230V | 50Hz | 0.85 | 1.16
  - | Botswana | 230V | 50Hz | 0.85 | 1.16
  - | Brazil | 110V | 60Hz | 0.8 | 1.12
  - | Brazil | 220V | 60Hz | 0.5 | 0.85
  - | Brunei | 240V | 50Hz | 1 | 1.22
  - | Bulgaria | 230V | 50Hz | 0.85 | 1.16
  - | Burkina Faso | 220V | 50Hz | 0.75 | 1.1
  - | Burundi | 220V | 50Hz | 0.75 | 1.1

- **| Country | Voltage | Frequency |** Flow Cal ODE **| CEME**
  - | Cambodia | 230V | 50Hz | 0.85 | 1.16
  - | Cameroon | 220V | 50Hz | 0.75 | 1.1
  - | Canada | 120V | 60Hz | 1.1 | 1.5
  - | Canada | 240V | 60Hz | 0.6 | 1
  - | Canary Islands | 230V | 50Hz | 0.85 | 1.16
  - | Cape Verde | 230V | 50Hz | 0.85 | 1.16
  - | Cayman Islands | 120V | 60Hz | 1.1 | 1.5
  - | Central Africa | 220V | 50Hz | 0.75 | 1.1
  - | Chad | 220V | 50Hz | 0.75 | 1.1
  - | Channel Islands | 230V | 50Hz | 0.85 | 1.16
  - | Chile | 220V | 50Hz | 0.75 | 1.1
  - | China | 220V | 50Hz | 0.75 | 1.1

- **| Country | Voltage | Frequency |** Flow Cal ODE **| CEME**
  - | Colombia | 110V | 60Hz | 0.8 | 1.12
  - | Comoros | 220V | 50Hz | 0.75 | 1.1
  - | Congo (Zaire) | 220V | 50Hz | 0.75 | 1.1
  - | Cook Islands | 240V | 50Hz | 1 | 1.22
  - | Costa Rica | 120V | 60Hz | 1.1 | 1.5
  - | Côte d'Ivoire (Ivory Coast) | 220V | 50Hz | 0.75 | 1.1
  - | Croatia | 230V | 50Hz | 0.85 | 1.16
  - | Cuba | 110V | 60Hz | 0.8 | 1.12
  - | Cuba | 220V | 60Hz | 0.5 | 0.85
  - | Cyprus | 230V | 50Hz | 0.85 | 1.16
  - | Czech Republic | 230V | 50Hz | 0.85 | 1.16

- **| Country | Voltage | Frequency |** Flow Cal ODE **| CEME**
  - | Denmark | 230V | 50Hz | 0.85 | 1.16
  - | Djibouti | 220V | 50Hz | 0.75 | 1.1
  - | Dominica | 230V | 50Hz | 0.85 | 1.16
  - | Dominican Republic | 110V | 60Hz | 0.8 | 1.12
  - | East Timor | 220V | 50Hz | 0.75 | 1.1
  - | Ecuador | 127V | 60Hz | 1.25 | 1.6
  - | Egypt | 220V | 50Hz | 0.75 | 1.1
  - | El Salvador | 115V | 60Hz | 1 | 1.3
  - | Equatorial Guinea | 220V | 50Hz | 0.75 | 1.1
  - | Eritrea | 230V | 50Hz | 0.85 | 1.16
  - | Estonia | 230V | 50Hz | 0.85 | 1.16
  - | Ethiopia | 220V | 50Hz | 0.75 | 1.1

- **| Country | Voltage | Frequency |** Flow Cal ODE **| CEME**
  - | Faeroe Islands | 230V | 50Hz | 0.85 | 1.16
  - | Falkland Islands | 240V | 50Hz | 1 | 1.22
  - | Fiji | 240V | 50Hz | 1 | 1.22
  - | Finland | 230V | 50Hz | 0.85 | 1.16
  - | France | 230V | 50Hz | 0.85 | 1.16
  - | French Guyana | 220V | 50Hz | 0.75 | 1.1
  - | Gaza | 230V | 50Hz | 0.85 | 1.16
  - | Gabon | 220V | 50Hz | 0.75 | 1.1
  - | Gambia | 230V | 50Hz | 0.85 | 1.16
  - | Germany | 230V | 50Hz | 0.85 | 1.16
  - | Ghana | 230V | 50Hz | 0.85 | 1.16
  - | Gibraltar | 230V | 50Hz | 0.85 | 1.16

- **| Country | Voltage | Frequency |** Flow Cal ODE **| CEME**
  - | Greece | 230V | 50Hz | 0.85 | 1.16
  - | Greenland | 230V | 50Hz | 0.85 | 1.16
  - | Grenada | 230V | 50Hz | 0.85 | 1.16
  - | Guadeloupe | 230V | 50Hz | 0.85 | 1.16
  - | Guam | 110V | 60Hz | 0.8 | 1.12
  - | Guatemala | 120V | 60Hz | 1.1 | 1.5
  - | Guinea | 220V | 50Hz | 0.75 | 1.1
  - | Guinea-Bissau | 220V | 50Hz | 0.75 | 1.1
  - | Guyana | 110V | 60Hz | 0.8 | 1.12
  - | Guyana | 220V | 60Hz | 0.5 | 0.85
  - | Haiti | 110V | 60Hz | 0.8 | 1.12
  - | Honduras | 110V | 60Hz | 0.8 | 1.12

- **| Country | Voltage | Frequency |** Flow Cal ODE **| CEME**
  - | Hong Kong | 220V | 50Hz | 0.75 | 1.1
  - | Hungary | 230V | 50Hz | 0.85 | 1.16
  - | Iceland | 230V | 50Hz | 0.85 | 1.16
  - | India | 240V | 50Hz | 1 | 1.22
  - | Indonesia | 230V | 50Hz | 0.85 | 1.16
  - | Iran | 230V | 50Hz | 0.85 | 1.16
  - | Iraq | 230V | 50Hz | 0.85 | 1.16
  - | Ireland (Eire) | 230V | 50Hz | 0.85 | 1.16
  - | Isle of Man | 230V | 50Hz | 0.85 | 1.16
  - | Israel | 230V | 50Hz | 0.85 | 1.16
  - | Italy | 230V | 50Hz | 0.85 | 1.16
  - | Jamaica | 110V | 50Hz | 1.35 | 1.45

- **| Country | Voltage | Frequency |** Flow Cal ODE **| CEME**
  - | Japan | 100V | 50Hz | 0.85 | 1.3
  - | Japan | 100V | 60Hz | 0.5 | 0.8
  - | Jordan | 230V | 50Hz | 0.85 | 1.16
  - | Kenya | 240V | 50Hz | 1 | 1.22
  - | Kazakhstan | 220V | 50Hz | 0.75 | 1.1
  - | Kiribati | 240V | 50Hz | 1 | 1.22
  - | Korea, South | 220V | 60Hz | 0.5 | 0.85
  - | Kuwait | 240V | 50Hz | 1 | 1.22
  - | Kyrgyzstan | 220V | 50Hz | 0.75 | 1.1
  - | Laos | 230V | 50Hz | 0.85 | 1.16
  - | Latvia | 230V | 50Hz | 0.85 | 1.16
  - | Lebanon | 230V | 50Hz | 0.85 | 1.16

- **| Country | Voltage | Frequency |** Flow Cal ODE **|** CEME
  - | Lesotho | 220V | 50Hz | 0.75 | 1.1
  - | Liberia | 220V | 50Hz | 0.75 | 1.1
  - | Libya | 127V | 50Hz | 1.65 | 1.7
  - | Libya | 230V | 50Hz | 0.85 | 1.16
  - | Lithuania | 230V | 50Hz | 0.85 | 1.16
  - | Liechtenstein | 230V | 50Hz | 0.85 | 1.16
  - | Luxembourg | 230V | 50Hz | 0.85 | 1.16
  - | Macau | 220V | 50Hz | 0.75 | 1.1
  - | Macedonia | 230V | 50Hz | 0.85 | 1.16
  - | Madagascar | 127V | 50Hz | 1.65 | 1.7
  - | Madagascar | 220V | 50Hz | 0.75 | 1.1
  - | Madeira | 230V | 50Hz | 0.85 | 1.16

- **| Country | Voltage | Frequency |** Flow Cal ODE **|** CEME
  - | Malawi | 230V | 50Hz | 0.85 | 1.16
  - | Malaysia | 240V | 50Hz | 1 | 1.22
  - | Maldives | 230V | 50Hz | 0.85 | 1.16
  - | Mali | 220V | 50Hz | 0.75 | 1.1
  - | Malta | 230V | 50Hz | 0.85 | 1.16
  - | Martinique | 220V | 50Hz | 0.75 | 1.1
  - | Mauritania | 220V | 50Hz | 0.75 | 1.1
  - | Mauritius | 230V | 50Hz | 0.85 | 1.16
  - | Mexico | 127V | 60Hz | 1.25 | 1.6
  - | Micronesia | 120V | 60Hz | 1.1 | 1.5
  - | Moldova | 230V | 50Hz | 0.85 | 1.16
  - | Monaco | 230V | 50Hz | 0.85 | 1.16

- **| Country | Voltage | Frequency |** Flow Cal ODE **| CEME**
  - | Mongolia | 230V | 50Hz | 0.85 | 1.16
  - | Montserrat Islands | 230V | 60Hz | 0.55 | 0.93
  - | Morocco | 220V | 50Hz | 0.75 | 1.1
  - | Mozambique | 220V | 50Hz | 0.75 | 1.1
  - | Myanmar (Burma) | 230V | 50Hz | 0.85 | 1.16
  - | Namibia | 220V | 50Hz | 0.75 | 1.1
  - | Nauru | 240V | 50Hz | 1 | 1.22
  - | Nepal | 230V | 50Hz | 0.85 | 1.16
  - | Netherlands | 230V | 50Hz | 0.85 | 1.16
  - | Netherlands Antilles | 127V | 50Hz | 1.65 | 1.7
  - | Netherlands Antilles | 220V | 50Hz | 0.75 | 1.1
  - | New Caledonia | 220V | 50Hz | 0.75 | 1.1

- **| Country | Voltage | Frequency |** Flow Cal ODE **| CEME**
  - | New Zealand | 230V | 50Hz | 0.85 | 1.16
  - | Nicaragua | 120V | 60Hz | 1.1 | 1.5
  - | Niger | 220V | 50Hz | 0.75 | 1.1
  - | Nigeria | 240V | 50Hz | 1 | 1.22
  - | Norway | 230V | 50Hz | 0.85 | 1.16
  - | Okinawa | 100V | 60Hz | 0.5 | 0.8
  - | Oman | 240V | 50Hz | 1 | 1.22
  - | Pakistan | 230V | 50Hz | 0.85 | 1.16
  - | Palmyra Atoll | 120V | 60Hz | 1.1 | 1.5
  - | Panama | 110V | 60Hz | 0.8 | 1.12
  - | Papua New Guinea | 240V | 50Hz | 1 | 1.22
  - | Paraguay | 220V | 50Hz | 0.75 | 1.1

- **| Country | Voltage | Frequency |** Flow Cal ODE **| CEME**
  - | Peru | 220V | 60Hz | 0.5 | 0.85
  - | Philippines | 110V | 60Hz | 0.8 | 1.12
  - | Philippines | 220V | 60Hz | 0.5 | 0.85
  - | Poland | 230V | 50Hz | 0.85 | 1.16
  - | Portugal | 230V | 50Hz | 0.85 | 1.16
  - | Puerto Rico | 120V | 60Hz | 1.1 | 1.5
  - | Qatar | 240V | 50Hz | 1 | 1.22
  - | Réunion Island | 230V | 50Hz | 0.85 | 1.16
  - | Romania | 230V | 50Hz | 0.85 | 1.16
  - | Russian Federation | 230V | 50Hz | 0.85 | 1.16
  - | Rwanda | 230V | 50Hz | 0.85 | 1.16
  - | St. Kitts & Nevis Islands | 230V | 60Hz | 0.55 | 0.93

- **| Country | Voltage | Frequency |** Flow Cal ODE **| CEME**
  - | St. Lucia Island | 240V | 50Hz | 1 | 1.22
  - | St. Vincent Island | 230V | 50Hz | 0.85 | 1.16
  - | Saudi Arabia | 127V | 60Hz | 1.25 | 1.6
  - | Saudi Arabia | 220V | 60Hz | 0.5 | 0.85
  - | Senegal | 230V | 50Hz | 0.85 | 1.16
  - | Serbia & Montenegro | 230V | 50Hz | 0.85 | 1.16
  - | Seychelles | 240V | 50Hz | 1 | 1.22
  - | Sierra Leone | 230V | 50Hz | 0.85 | 1.16
  - | Singapore | 230V | 50Hz | 0.85 | 1.16
  - | Slovakia | 230V | 50Hz | 0.85 | 1.16
  - | Slovenia | 230V | 50Hz | 0.85 | 1.16
  - | Somalia | 220V | 50Hz | 0.75 | 1.1

- **| Country | Voltage | Frequency |** Flow Cal ODE **| CEME**
  - | South Africa | 230V | 50Hz | 0.85 | 1.16
  - | Spain | 230V | 50Hz | 0.85 | 1.16
  - | Sri Lanka | 230V | 50Hz | 0.85 | 1.16
  - | Sudan | 230V | 50Hz | 0.85 | 1.16
  - | Suriname | 127V | 60Hz | 1.25 | 1.6
  - | Swaziland | 230V | 50Hz | 0.85 | 1.16
  - | Sweden | 230V | 50Hz | 0.85 | 1.16
  - | Switzerland | 230V | 50Hz | 0.85 | 1.16
  - | Syria | 220V | 50Hz | 0.75 | 1.1
  - | Tahiti | 110V | 60Hz | 0.8 | 1.12
  - | Tahiti | 220V | 60Hz | 0.5 | 0.85
  - | Tajikistan | 220V | 50Hz | 0.75 | 1.1

- **| Country | Voltage | Frequency |** Flow Cal ODE **| CEME**
  - | Taiwan | 110V | 60Hz | 0.8 | 1.12
  - | Tanzania | 230V | 50Hz | 0.85 | 1.16
  - | Thailand | 220V | 50Hz | 0.75 | 1.1
  - | Togo | 220V | 50Hz | 0.75 | 1.1
  - | Tonga | 240V | 50Hz | 1 | 1.22
  - | Trinidad & Tobago | 115V | 60Hz | 1 | 1.3
  - | Tunisia | 230V | 50Hz | 0.85 | 1.16
  - | Turkey | 230V | 50Hz | 0.85 | 1.16
  - | Turkmenistan | 220V | 50Hz | 0.75 | 1.1
  - | Uganda | 240V | 50Hz | 1 | 1.22
  - | Ukraine | 230V | 50Hz | 0.85 | 1.16
  - | United Arab Emirates | 220V | 50Hz | 0.75 | 1.1

- **| Country | Voltage | Frequency |** Flow Cal ODE **| CEME**
  - | United Kingdom (UK) | 230V | 50Hz | 0.85 | 1.16
  - | United Kingdom (UK) | 240V | 50Hz | 1 | 1.22
  - | United States (USA) | 120V | 60Hz | 1.1 | 1.5
  - | United States (USA) | 240V | 60Hz | 0.6 | 1
  - | Uruguay | 220V | 50Hz | 0.75 | 1.1
  - | Uzbekistan | 220V | 50Hz | 0.75 | 1.1
  - | Venezuela | 120V | 60Hz | 1.1 | 1.5
  - | Vietnam | 220V | 50Hz | 0.75 | 1.1
  - | Virgin Islands | 110V | 60Hz | 0.8 | 1.12
  - | Western Samoa | 230V | 50Hz | 0.85 | 1.16
  - | Yemen | 230V | 50Hz | 0.85 | 1.16
  - | Zambia | 230V | 50Hz | 0.85 | 1.16
  - | Zimbabwe | 220V | 50Hz | 0.75 | 1.1

4.2.6. Table of recommended flow calibration values

At Decent Espresso we have a variable voltage/frequency generator. Our engineer tried every combination of voltage/frequency that exists in the world to make a table for us, of a Flow Calibration value that worked best.

We recommend you use the table below for two situations:

- you do own a bluetooth scale, and do intend to calibrate, but you'd like to set the calibration to something likely-to-be-close-to-correct first and then use the scale to fine tune the calibration
- you do not own a bluetooth scale, and thus cannot check whether your existing calibration is correct

Note that many countries have "standards" and "reality". These are the same thing. For instance, Australia is on a 240V standard, but 250V is common. Using a bluetooth scale to calibrate is still recommended.

Also, there is seasonal variation of voltage in some parts of the world, as the electrical grid switches between different power-generation approaches (renewable vs not), or voltage drops if the grid is overloaded (such as due to summertime air conditioning).

Here's the table of recommended flow calibration values:

	Flow Calibration Value (ODE)		Flow Calibration Value (CEME)	
Frequency	50Hz	60Hz	50Hz	60Hz
Operating Voltage				
100V	0.85	0.5	1.3	0.8
110V	1.35	0.8	1.45	1.12
115V	1.4	1	1.52	1.3
120V	1.6	1.1	1.6	1.5
125V		1.24		1.56
127V	1.65	1.25	1.7	1.6
220V	0.75	0.5	1.1	0.85
230V	0.85	0.55	1.16	0.93
240V	1	0.6	1.22	1
250V	1.1		1.3	

4.3. Community-created profiles

Decent has a very active community who have created many of their own profiles. Some of them, but not all of them, have been included in the app.

If you want to check out any of the community profiles, check out our **documents page, in which we list many of the community-created profiles**.

If you have any additional profiles that you would like to add to the list, don't hesitate to reach out to our **tech support** with the file and we'll add it.

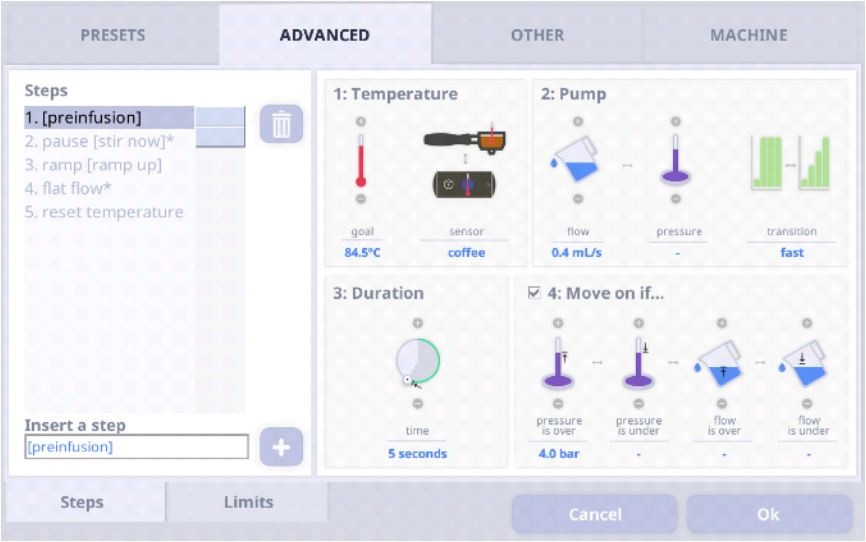
4.4. Beeps and notifications during advanced profiles

With ADVANCED profiles, you can choose to BEEP or display a popup on the screen, at steps in your profile.

To use these features:

- put a * somewhere in the title of the step, to cause a BEEP when that step happens
- or enclose the popup message in [brackets] in the title of the step
- you can mix both techniques together
- you cannot have more than one beep, or more than one message, in a single step.

Here is an example:

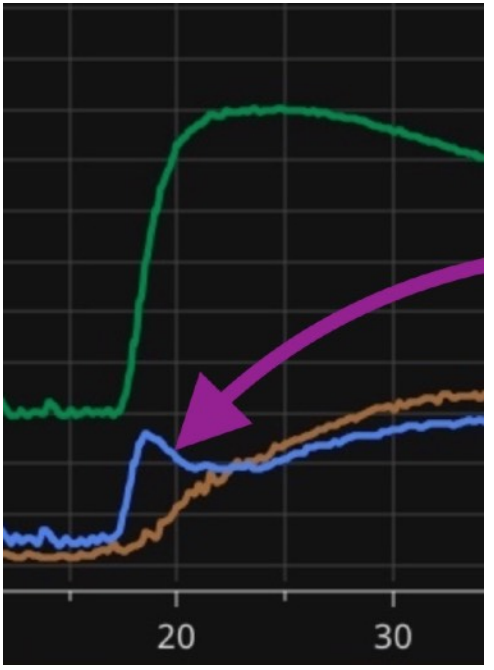


This feature is being extensively used in all the Pour Over profiles. Just check them out.

[Here is a video showing the feature]

4.5. Overshooting flow or pressure

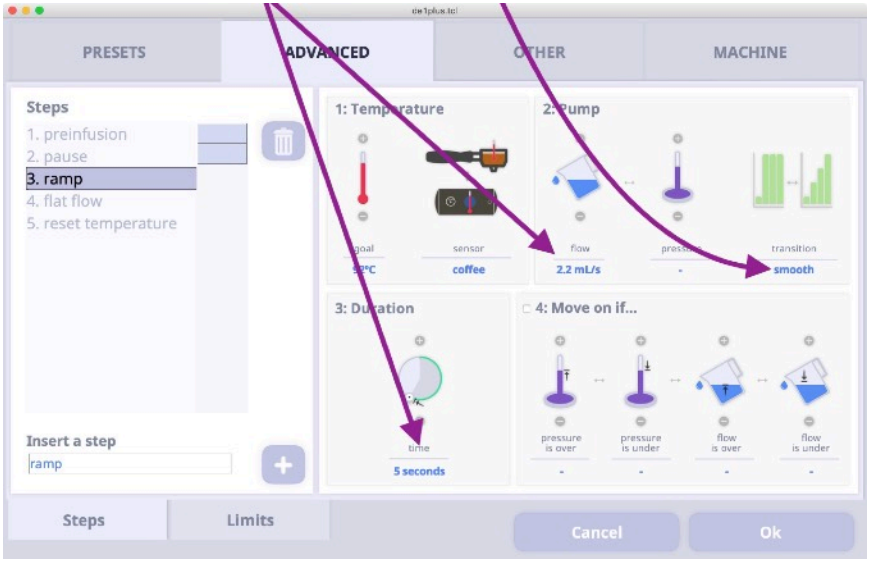
A note about overshooting your set flow or pressure goals:



Puck compaction causes the flow dynamics to change so quickly, that overshoots can happen.

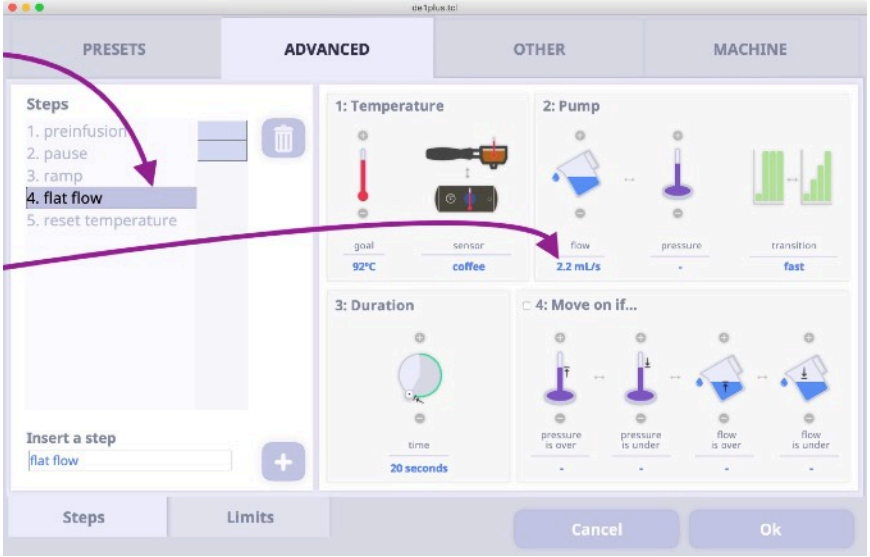
It's because the DE1 is set to achieve your stated pressure/flow goals as fast as possible, by default.

If you want to avoid this, you can program a short **smooth** transition step, and this is what Rao does on the "Blooming" profile's "ramp" step:



You're effectively telling the DE1 how long you want it to get to your goal, instead of "as fast as possible".

After Rao's "ramp" step, he has programmed "flat flow" at exactly the same rate as the ramp is exiting at.



Without the 5s ramp, he'd overshoot the flow.

4.6. Pressure calibration

You will need a portafilter fitted with a pressure gauge that leaks or has a slow flow rate.

You will also need to:

1. Get a double spouted portafilter
2. Remove the double spout
3. Attach the gauge to the portafilter
   Note: The pressure gauge will leak badly. To fix this, you will need some teflon tape.
4. Unscrew the pressure gauge, wrap the threads in teflon tape, and screw the gauge back in.
   Note: You don't have to make it very tight as the teflon tape will make the seal. A few drops of leaking is fine.
5. Remove the portafilter basket.

   You should mount the portafilter without any basket.

6. You will want to orient the gauge so you can read it when the portafilter is locked in.

It will look like this:



Go to Settings and unhide the profile entitled **Test pressure calibration**.



This profile will rise to 9 bar and hold it. Here is what this will look like:

Note that the profile has three pressure ramp stages, so that it does not overshoot, but also so that it runs as quickly as possible.

Compare what is on the screen with what your analog pressure gauge tells you.

If your gauge is telling you something much different than 9 bar, such as this one is doing (9.5 bar is reported):

Go to Settings->Machine->Calibrate and enter the held pressure value. In the case above, as my analog pressure gauge read 9.5 bar, I would enter 9.5 bar into this page, **press enter on the on-screen keyboard (important!!)**, observe the setting you entered changes color and then click DONE.

Then re-run this "test pressure calibration" profile. Repeat until the pressure from the DE1 agrees with your analogue



pressure gauge.

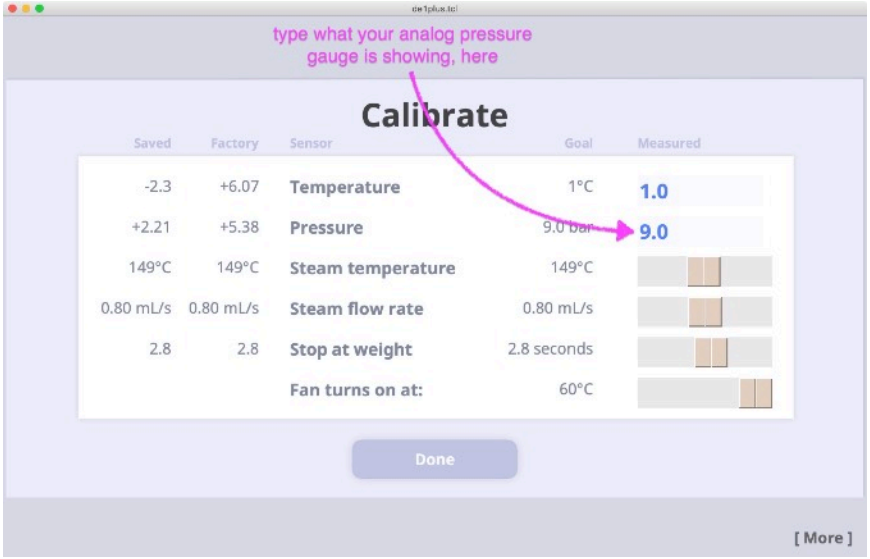

0
2
4
6
8
10
12
14
16
50
100
psi
50
200
230
0
bar

4.7. Temperature calibration

Quick Directions:

1. Make a device to read the temperature inside the basket.

➡ We recommend you take a blank (no hole) basket and



drill a 2mm hole in it.

Or use a puck simulator basket, and drill a 0.6mm hole in it just for the wire. That's what we use.

- ➡ Get a K type temperature bead and thread it through the hole.
- ➡ Bend the wire so it does not touch the shower screen.
- ➡ Put the basket into a portafilter, preferably double spouted, so as to catch the spraying.
- ➡ Tape the wire down with electrical tape.
- ➡ Plug the temperature bead into a temperature meter.

2. Unhide the profile **Test Temperature calibration**, then load it.

3. Then run the profile twice: once to warm up the basket and portafilter.

4. Look at your temperature meter.
   - ➡ If the temperature on the DE1 stabilizes at 90°C, proceed to Step 3.

- If the meter doesn't read 90°C, go to Settings > Machine > Calibrate and enter the temperature from your meter.

5. Press Enter, then Done, then Ok, and then run the profile again.
6. Repeat until the DE1 is within 0.3°C of the meter, though should be able to get within 0.1°C.

Directions with photos:

Make a device to read the temperature inside the basket.

- We recommend you take a blank (no hole) basket and drill a 2mm hole in it.
- Or use a puck simulator basket, and drill a 0.6mm hole in it just for the wire. That's what we use.
- Get a K type temperature bead and thread it through the hole.
- Bend the wire so it does not touch the shower screen.

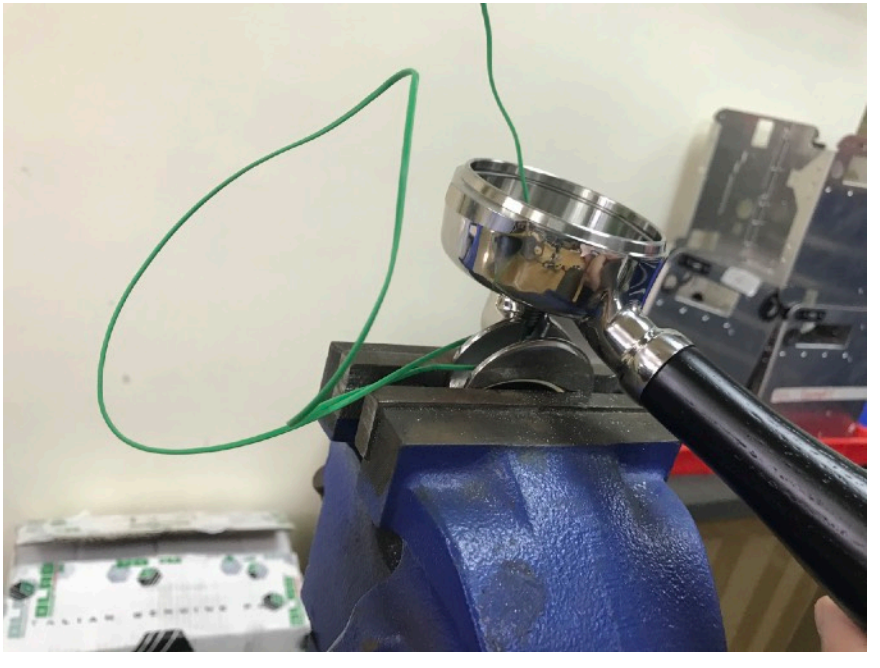


➡ Put the basket into a portafilter, preferably double spouted, so as to catch the spraying.









Tape the wire down with electrical tape.

Plug the temperature bead into a temperature meter.



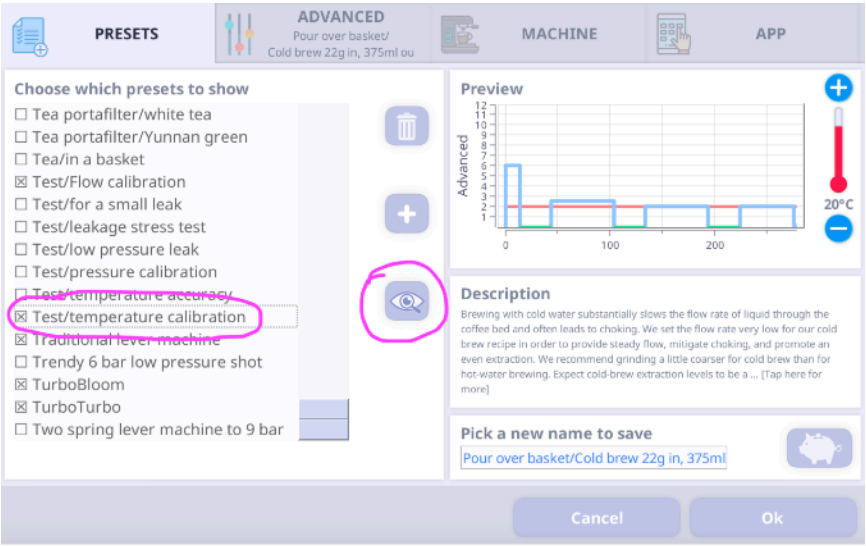
John bought this one for USD$20 from Amazon:

https://www.amazon.com/Leaton-Thermocouple-Thermometer-Dual-channel-Temperature/dp/B018QHQSB8/

Unhide the profile "Test Temperature calibration", then load



it. Then run twice: once to warm up the basket and portafilter.


PRESETS
ADVANCED
Pour over basket/
Cold brew 22g in, 375ml ou
MACHINE
APP
Choose which presets to show
☐ Tea portafilter/white tea
☐ Tea portafilter/Yunnan green
☐ Tea/in a basket
☒ Test/Flow calibration
☐ Test/for a small leak
☐ Test/leakage stress test
☐ Test/low pressure leak
☐ Test/pressure calibration
☒ Test/temperature calibration
☒ TurboBloom
☒ TurboTurbo
☐ Two spring lever machine to 9 bar
Preview
Advanced
20°C
Description
Brewing with cold water substantially slows the flow rate of liquid through the coffee bed and often leads to choking. We set the flow rate very low for our cold brew recipe in order to provide steady flow, mitigate choking, and promote an even extraction. We recommend grinding a little coarser for cold brew than for hot-water brewing. Expect cold-brew extraction levels to be a ... [Tap here for more]
Pick a new name to save
Pour over basket/Cold brew 22g in, 375ml
Cancel
Ok


PRESETS
FLOW
Test temperature calibrati
MACHINE
APP
Load a preset
Blooming Espresso
Cremina lever machine
Default
Flow profile for milky drinks
Gentle and sweet
Londonium
Rao Allongé
Test temperature calibration
Traditional lever machine
Preview
Flow rate
90°C
Description
Make a device to read °C inside a basket. Drill a 3mm hole in a no hole basket. Thread a K type temperature bead through. Bend the wire. Run this profile twice to warm up the basket and portafilter. When the DE1 stabilizes at 90°C, if the meter is not 90.0°C then go to Settings->Machine->Calibrate and enter the temperature on your meter. Press Enter, then Done, then Ok. Run the profile. Repeat until the DE1 is within 0.3°C of the meter.
Name and save
Test temperature calibration
Cancel
Ok
FLUSH
ESPRESSO
STEAM
WATER
Pressure (bar)
Flow (mL/s)
Temperature (°C)
START
ESPRESSO
ready
Time
0s preinfusion
0s pouring
0s total
0s done
Volume
0 mL
0 mL
0 mL
Temperature
90.0°C goal
0.0°C metal
Flow profile
Test temperature calibration



Once the temperature on the DE1 stabilizes at 90°C, look at your temperature meter. Here in the photo the DE1 is not quite stabilized, but the DE1 thinks it's at 89.8, whereas the meter reads 90.2. It'd be better if you waited until the DE1 says it's actually at 90.0°, but I cheated and entered "90.4°" in my calibration page, as I could see the error was 0.4°C.

If the meter does not also read 90°C then go to Settings->Machine->Calibrate and enter the temperature that your meter states. Make sure you tap ENTER on the on-screen keyboard after entering the new value. **You should observe that the field you just entered data into has changed color**.



- Tap Done, then Ok, and then run the profile again.
- Repeat until the DE1 is within 0.3°C of the meter, though should be able to get within 0.1°C.

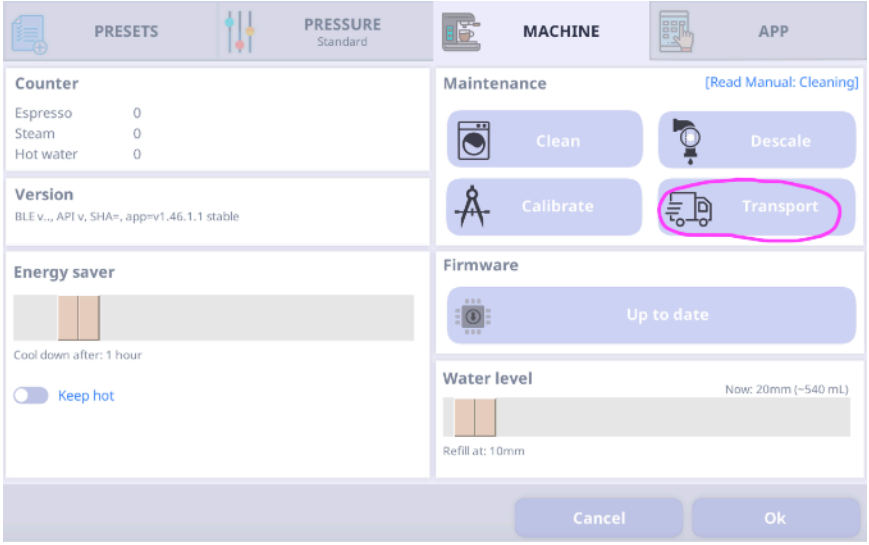


5. Maintenance & repacking your machine

5.1. The transport button

When you need to repack your machine to travel with it or to return it to us for repairs, you don't want residual water to leak out from the tubes. That's what the transport button is here for.

You can find it under **Settings** (cog wheel) > **MACHINE**.



When you click on the Transport button, you'll get the following instructions to empty the water out of the machine:

Remove the drip tray. Pull the water tank forward as shown in the picture, and click on Ok.



Wait for the machine to remove the water. Once it is finished, you can turn the machine off and it is ready for transport.

You could also use this feature to help clear out any citric acid solution when using "Clean" and “Descale."

Note: **After using** the transport feature: Ensure you have **filled the water tank BEFORE switching the DE1 back on**.

Even if you have your DE1 plumbed into a catering kit. As no water is inside the lines, the pumps will have to self-prime again and refill the internal lines with water. If the tank was not filled there is a risk of burning out the motors or at the very least having to manually self-prime the motors to start cycling the water again.

5.2. How to repack your machine

To safely repack your Decent Espresso machine, follow these steps:

➡ Step 1: Disassembly & cleaning

1. **Clean the drip tray:** Remove the drip tray and its metal cover, wipe both completely clean and dry, and set them aside.
2. **Empty the water tank:** Slide out the water tank, empty any remaining water, wipe it dry, and remove the wheels if they are attached.
3. **Strip the group head:** Unlock and remove the portafilter, then unscrew the group head handle.
4. **Remove the tablet:** Unplug the USBC cable and slide the tablet off its tablet stand.

➡ Step 2: Packing the Suitcase

5. **Place the machine:** Ensure the two basic bottom foam pieces are inside the suitcase, then carefully lift and place the espresso machine into the center.

6. **Secure the protective foam:** Fit the molded foam wrap around the main body of the machine.

7. **Pack the main components:** Slot the following items into their designated cutouts in the foam:

    - Water tank
    - Tablet (with its cable fully detached)
    - Portafilter & Group head handle
    - Drip tray & its cover

8. **Organize cables:** Place the tablet charger and main AC power cable into the small cardboard accessories box. Fold it closed and tuck it securely behind the steam wand.

➡ Step 3: Closing up

9. **Fit the top foam:** Take the large top piece of foam out of the suitcase lid and fit it directly over the packed machine first. *(This trick makes the suitcase much easier to shut).*

10. **Zip and secure:** Fold the hinged lid over the foam and zip the suitcase completely closed. Your machine is now ready for travel!

Here's a video showing the process.

5.3. What breaks on a DE1

Here is an overview of the things that go wrong with the DE1, and what to do if it does.

Gradual small problem develops:

- Gasket leaks (solution : get new gasket)
- Steam wand oscillates or gets slower to heat milk (solution: descale with citric acid)

Big problems:

- Electrical cable comes loose during shipping or travel. Effect caused can vary widely, from no steam, to group head header never reaching temp. (this is the most common). Solution: get on a video chat with us, and we'll help you diagnose the problem and fix it.

This was a common problem with v1.0, much less common with v1.1, and fairly rare with v1.3 or later machines, but still can happen. Usually, very easily spotted as the machine suddenly behaves very oddly.

- Temperature sensor is bad, or goes bad: (occasional) we've seen these pop out of heaters due to thermal cycling, or get corroded. Solution: get on a video chat with us, and we'll help you diagnose the problem and fix it. We can usually send you the part and have you replace it yourself.
- Fuse blows (very rare)
- PCB blows due to lightning (very rare)
- Valve breaks (very rare)

General wear and tear:

- Gaskets last at least 2 years, with normal use. That group head handle greatly helps train people to not overtighten the portafilter, which is the cause of premature gasket aging.

- By FAR FAR FAR the most common cause of problems is residue left behind by water, and sometimes by milk. This is the same for other espresso machines. Buy a big bag of citric acid. And Rinza for cleaning milk residue, if you steam milk. Cafiza for coffee oils can be useful too.

- And USE GOOD WATER. Please! Your machine will be 20x more reliable if you use store bought mineral water, or if you make your own water using the Rao or Perger recipes from Barista Hustle. If your steam wand needs to be descaled more often than every 90 days, you are not using good water.

- The tablet battery dies, if it is not kept regularly charged. Or if the USB cable was bad. This was more of a problem with the v1.0 machines, and has gradually gotten better as we have improved the quality of the USB connections (internal and external). Also the tablet dims automatically now as the battery level lowers. However, you can also cause this problem by regularly turning off the DE1, thus preventing the tablet from charging, which wears the tablet battery down quickly. For cafes that have the tablet on 100% brightness, all day long, we recommend that you use an external, dedicated USB charger. If your tablet dies, talk to us, and if you have a v1.0 or v1.1 machine, we might recommend changing the internal and external USB cables. But the fastest solution is to use an external, dedicated USB charger.

Tablet software problems:

The biggest software problems are:

- Bluetooth connectivity is not always reliable. If this happens: check out **chapter 3.1.2.4.** - as of November 2019, we are using Android 8 tablets, which do not have this problem.
- Tablet gets slow or unreliable, because you have installed other software, or logged into your google account, and google has installed tons of its own software. Solution: **Chapter 2.4.2**.

5.4. How to replace the v2 group head parts

Here is an easy-to-follow guide on how to upgrade the group head parts on your Decent Espresso machine. This process swaps out your older, tarnish-prone brass components for the new upgraded kit and converts the system to easy-to-use Torx screws.

Tools needed

- **Included in the kit:** Torx T10 screwdriver, Torx T20 screwdriver, new upper block, new shower holder, black O-ring, 3 small Torx screws, and 1 center Torx screw.
- **You must provide:** Two Phillips head screwdrivers (one large for the initial disassembly, one small/medium).

Step 1: Disassemble the old parts

1. **Remove the shower screen:** Use a PH2-size Phillips head screwdriver to remove the big center screw holding the shower screen in place. Gently pull the shower screen off as well as the lower block.

2. **Unscrew the upper block:** Use a PH2-size Phillips head screwdriver to remove the three screws holding the old brass block in place. Lift the block out of the group head.

Step 2: Install the upgraded upper block

3. **Align the block:** Grab the new upper block. It features specific alignment pins and cutouts designed for the water flush and temperature probe, meaning it can only fit in one direction. Slide it firmly into place.

4. **Secure with torx T10:** Locate the three inset holes. Use the new small Torx screws and the provided **Torx T10 screwdriver** to tighten them down. Tighten until they are **finger-tight**; do not over-tighten.

Step 3: Install the shower holder & screen

5. **Place the O-ring:** Stretch the provided black O-ring around the new shower holder until it snaps perfectly into its groove.

6. **Insert the holder (crucial step):** Insert the shower holder into the group head with the big hole facing you. Spin it until it locks onto the alignment pins and temperature probe.

    - *Check your work:* Press around the edges. The holder **must sit completely level** and not rock at all. If it is uneven, your espresso will channel.

7. **Attach the shower screen:** Place the shower screen over the holder. Insert the new large center screw and tighten it using the **Torx T20 screwdriver**.
    - *Note:* It is normal to feel the metal screen bend slightly as it creates a spring-like seal. Tighten until finger-tight.

Tip for Future Cleaning

Once this upgrade is complete, future maintenance is much faster. You can follow these exact same steps in reverse using your new Torx screwdrivers to quickly pull the group head apart, clean off coffee oils, and snap it back together in less than a minute!

Here's a video on how to install the v2 group head parts

6. Troubleshooting: Problem or not?

6.1. Noisy startup during winter

Decent users who experience winter or cold mornings may experience a noisier startup when it’s cold.

You will hear the vibe pumps running and you might also hear a tinkling sound of water splashing back into the water tank.

Have no fear, what's going on is that if the water temperature is below 20°C (68°F) the decent espresso machine might choose to circulate the water in the water tank through the hot water heater in order to bring up its temperature.

There is a limited amount of electric power available to heat water when you are making an espresso, and if the water is quite cold, we might not be able to hit the flow rate and temperature that you wanted. That's why we preheat the water slightly if needed.

When the warm weather returns, the decent espresso machine will return to warming up in the morning fairly silently.

Watch this video to hear the sound of the warm-up.

6.2. Noisy pumps due to air bubbles

Air bubbles in the tubes can cause your pumps to be pretty noisy. When we investigated the reason why, we found that a **dirty filter in the water uptake tube** can be the cause.

You can pull this filter out. It is held in only by a little bit of compression.

Clean it with a citric acid bath and dishwashing soap.

This makes the bubbles vanish and the pumps less noisy.

Note that a dirty intake filter could also give you lower waterflow than you expect, since the pump is moving an air/water mixture, and so our calculations will be off.

This dirty filter could also affect temperature accuracy, since it makes each pump stroke move less water than we expect, and thus our algorithms are getting incorrect data.

On Diaspora, you can find a very short video showing you how to take this filter out.

6.3. Shot ending sound of spontaneous boil

There is another sound that you might think is worrisome, but actually it's fine.

It's water hotter than boiling, being flushed away at the end of a shot. Normally it would be mixed down to under boiling, but since the shot has ended, it's disposed of. That super hot water was under pressure, and thus not boiling. As it is released to atmospheric pressure, it spontaneously turns into steam, and makes that sound.

You can hear this sound in this video

6.4. USB charging issue (tablet does not hold charge or dies)

We've seen USB charging issues every now and then. We've gone through several versions of USB cables over time, from V1 (so many fails…) to V2 and now v3, so USB cable problems are much less common than before. But some issues remain, so we'd like to explain how to trouble shoot USB charging when problems arise.

Note that if the USB charger and the port turn out to work fine, it's possible that another less common issue is at hand.

So here's how to check if the problem is caused by your USB cable (which is the most common cause of tablets dying):

6.4.1. Disclaimer

- The internal USB cable on the DE1 connects directly to the PCB solely to charge the tablet. The machine and the tablet do not communicate via this cable; instead, they pair exclusively over Bluetooth.
- On earlier DE1 models (v1.0 through v1.42), the machine temporarily stops charging the tablet whenever it is actively pulling an espresso shot, steaming, dispensing hot water, flushing, or when the machine is turned completely off (as opposed to being in sleep or standby mode). If you use the machine continuously without a break, the tablet battery can drain. Because of this, we recommend charging your tablet to at least 30% using a standard wall outlet before you begin your espresso session.
- The tablet screen should be on. Screen saver mode is fine.

- The machine's built-in charging power is relatively low. Please avoid setting the tablet brightness to 100%, as the battery will drain faster than the machine can charge it. This port does not support fast charging and will not replenish your tablet as quickly as a dedicated smartphone fast charger.

- If you ever need to replace your hardware setup, ensure you use a high-quality, working USB cable of the exact same type provided with your machine, along with a compatible charger.

- The DE1 app includes a Smart Charge feature that keeps the battery level between 55% and 65%. If the battery level stays within this range while the tablet is plugged in, the Smart Charge feature is likely working as intended rather than indicating that the battery has failed to charge.

➡ Please note that Smart Charge is controlled by the DE1 app. If the app is not running, the charging state may remain unchanged from when the app was closed. For example, if the app was closed while the battery was not charging, the battery may continue to drain.

6.4.2. USB cable

A faulty or damaged USB cable is the most common cause of tablet charging issues. Fortunately, this is very easy to test.

Step 1: External Power Test

Plug the USB cable directly into a wall charger or a computer's USB port, then check the tablet's battery indicator.

- **Look for the Charging Icon:** Verify whether the thunderbolt (charging) icon appears inside or next to the battery symbol.

Step 2: Evaluating the Results

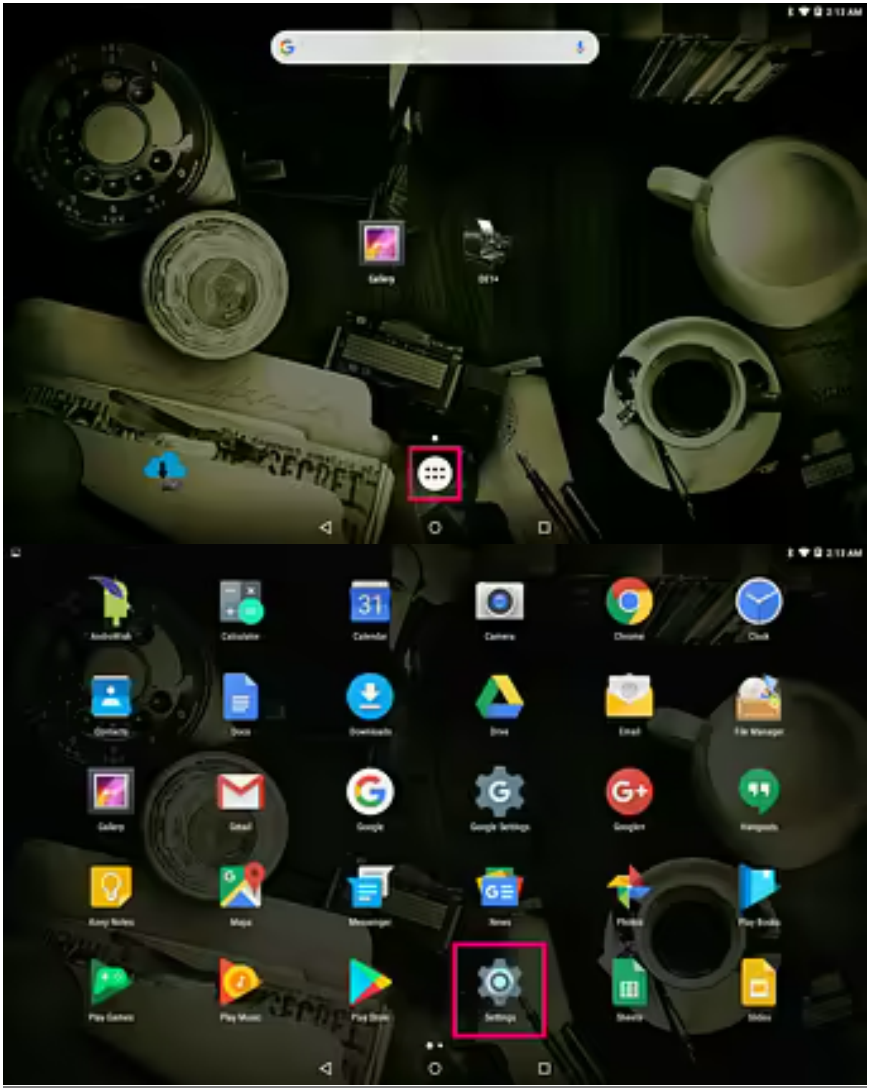
➡ **Scenario A:** The charging icon does **not** appear

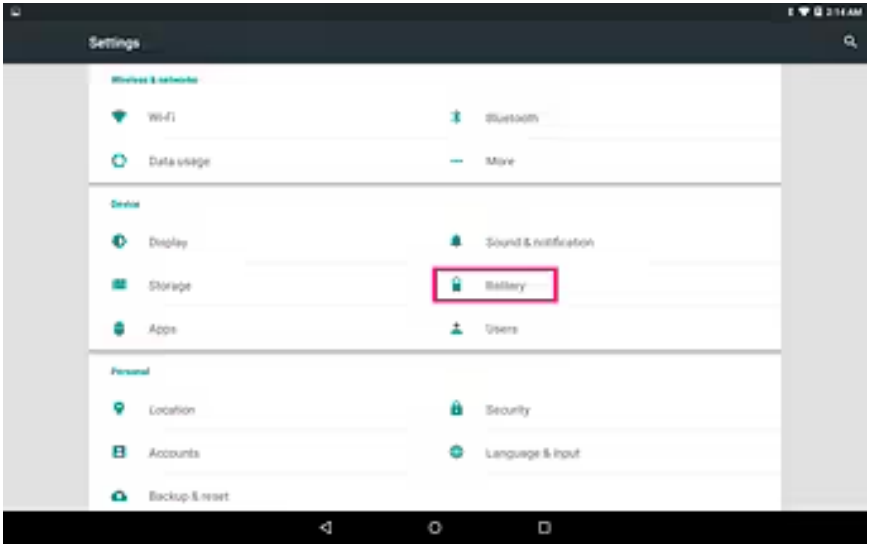
- If you do not see the thunderbolt icon (and the tablet is not already at 100% full charge), please contact us and include photos or videos of your setup.

➡ **Scenario B:** The charging icon appears, but **the tablet isn't gaining power**

If the icon is visible but the tablet still seems to be losing power, you will need to check the system battery logs:

1. Navigate to your tablet's system menu: **[Settings ➔ Battery]**.

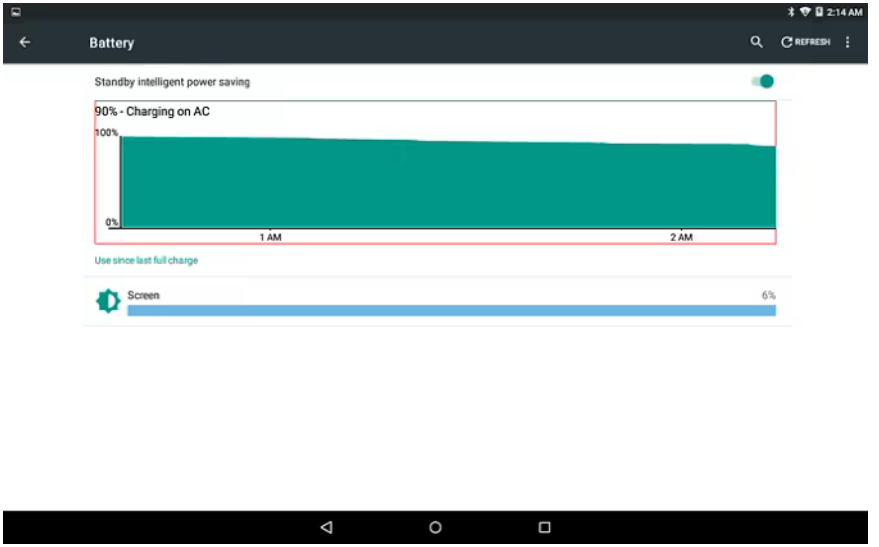



Settings
Wi-Fi
Bluetooth
Data usage
More
Display
Sound & notification
Storage
Battery
Apps
Users
Location
Security
Accounts
Language & input
Backup & reset

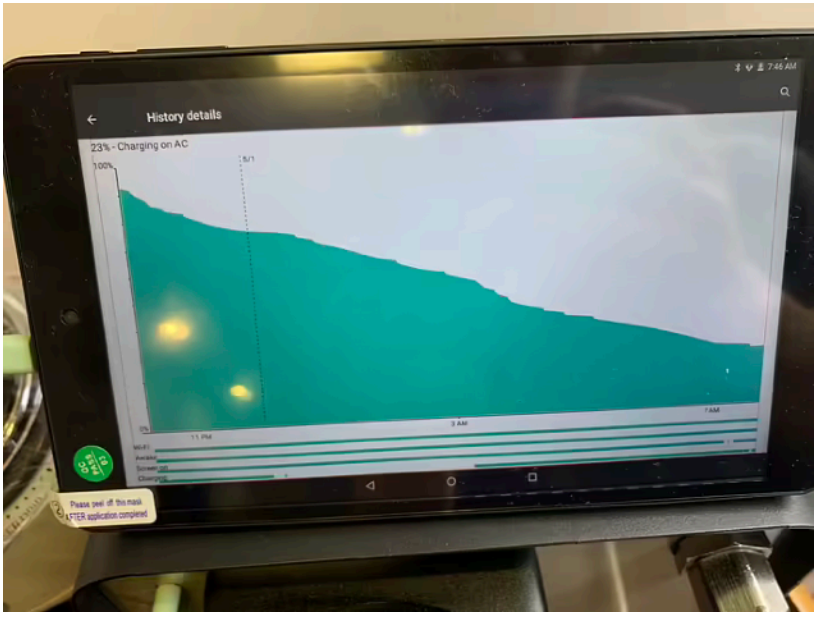
2. Examine the battery consumption graph.

3. **Analyze the Trend:** * If the graph line shows a steady upward trend, the cable is working normally.

   This is also fine.



   - If the graph line continues to decline from the exact moment you plugged it in, there is likely an issue with the USB cable or the internal PCB.



If your battery graph continues to decline while plugged in, please take a screenshot of the graph and message us with your photos or videos so we can assist you further.

6.4.3. The USB port of the machine

The USB connector on the machine serves only one purpose: to charge the mounted tablet. The DE1 machine does not have a physical data connection to the tablet; instead, they communicate entirely over Bluetooth.

Important Note: For this test, your espresso machine must be powered **ON**, but it must **NOT** be actively operating (do not pull a shot, steam, flush, or dispense hot water).

Step-by-Step Test Procedure

1. **Swap the Cable:** Unplug the current cable and plug in an alternative, known-working **USB cable (Micro-USB or USBC)** that you have on hand.
2. **Check for the Charging Icon:** Look at the battery indicator on the tablet screen to verify if the thunderbolt (charging) icon appears.

3. **Monitor the Charge:** Leave the tablet plugged in to charge for a few hours. Make sure to note the exact time you started the test.

Next Steps

Once the test is underway, refer back to the previous section to evaluate your results:

- ➡ If the **charging icon does not appear:** Follow the instructions in **Scenario A of chapter 6.4.2.** to contact support.
- ➡ **If the icon appears:** Follow the instructions in **Scenario B of chapter 6.4.2**. to check your battery graph after a few hours of charging.

6.4.4. Tablet USB port

While a faulty USB port on the tablet itself is extremely rare, it is still a technical possibility that should be ruled out.

Test Procedure

1. **Connect Directly to Power:** Plug a known-working, fitting, independent USB wall charger directly into the tablet's USB port (bypassing the espresso machine entirely).
2. **Verify Charging:** Check the screen to see if the tablet begins charging normally.

Next Steps

Based on your observations, evaluate the results using the same criteria outlined previously:

➡ **If the charging icon does not appear:** The tablet's physical USB port may be damaged. Please message support with photos or videos of the issue.

➡ **If the charging icon appears:** Monitor the device for a few hours and check the battery graph under **[Settings → Battery]** to ensure the power level is steadily rising rather than declining.

Once you have completed these tests, you should have a clearer idea of where the issue lies. Please reach out to us and share your findings by sending over a video or scheduling a video call to show us the affected part. From there, we will quickly resolve the issue for you via a replacement or repair!