Gaggia Classic + GaggiMate · Quick Start

> ⚠ **230 V.** Unplug the machine before opening the case. Even after the conversion this is still a machine with a heater, pressure and very hot water.

1 · Before the first power-up

- **Wiring** checked against the diagram, no bare strands, low voltage and mains routed separately.
- **Pressure sensor** (Pro only): wired per the wiring sheet, **sensor hose filled bubble-free** (syringe, or submerge it).
- **Leak test:** fill the tank, run water mode, watch the fittings with the case still open.
- **Idle pressure on screen ≈ 0 bar.** A fixed high reading points to the wiring; see section 8.

2 · Wi-Fi

1. On first boot GaggiMate generates a password and opens the **access point "GaggiMate"** (WPA2). The **info screen** in the main menu shows the password and a QR code. If the display cannot reach the home Wi-Fi within 10 s at a later start, it opens it again until the next power cycle; the Wi-Fi details stay saved.
2. Join it and open `http://4.4.4.1/` → *Settings* → enter your Wi-Fi. *(The docs link to 192.168.4.1 at this point; firmware and display both say 4.4.4.1.)*
3. After the reboot it lives at `http://gaggimate.local`.

3 · Temperature control

- Enter the **PID values** and the **temperature offset** in *Settings*. Starting points from the GaggiMate docs:

MACHINE	PID	OFFSET
Gaggia Classic	58.397, 1.027, 249.055	**8**
Classic Pro / Evo / E24	58.397, 1.027, 249.055	8
Rancilio Silvia	112.315, 0.658, 1436.887	5

- **Offset:** raises the *boiler wall temperature* by that amount. You set the brew temperature you want; the display shows the reading **minus** the offset. Only touch it once you measure at the puck.
- **PID autotune** (optional): web interface *Settings* → *Calibration*, boiler **below 50 °C**. Fields: *Test Duration* (default 120 s), *Slope Window* (default 6), *Heater Wattage* (default 1360 W, check the rating plate). The result is saved at once.

4 · Profiles

- Profile **"Default"**: 93 °C · one "Brew" phase · valve open · pump 100 % · 28 s · target **≥ 36 g**.
- **Which one counts depends on the scale:** with a Bluetooth scale **weight** ends the shot, the duration does not count. Without a scale the phase ends after **28 s** and the weight target does nothing.
- Profiles are made in the **web interface**; only the ones **favourited** there show on the display.
- **1:2 recipe (with a scale):** target = intended yield; shot time is a grind setting.

5 · What the switches do now

CONTROL	FUNCTION AFTER THE CONVERSION
Power switch (P.1–P.3)	unchanged: mains on/off
Brew switch	C.1–C.3 disconnected and insulated; via the buttons cable on **C.1/C.2** now a **"brew" button**
Steam switch	S.2 disconnected, S.1 extended; via **S.1/S.2** now a **"steam" button**
Thermostats	both removed: BT.A/BT.B joined with the red bridge cable, ST.A/ST.B to the **SSR** through the yellow cables
Ready lamp	no meaning left; the display temperature counts

Both thermostats are gone: temperature is controlled solely by GaggiMate through the probe, the PID and the SSR. The old trick of waiting for the lamp no longer applies.

6 · First shot

Let it heat up for **20–30 minutes**: the boiler is quick, the group head is not. The full routine with everything before and after is on **page 2, section 1.**

7 · Commissioning check

Load `GaggiMate_Self_Test.json` in the web interface under *Profiles* with **Import profiles** (tab *Utility*) and favourite it so it shows on the display. **Lock in a blind basket**, tank full, case still open. Start with ▶, ⏸ aborts.

PHASE	EXPECT
1. Idle	5 s: everything quiet. The reading shows boiler pressure: about 0 bar cold, a few bar warm
2. Valve opens	4 s: audible click; warm, the pressure drops to 1 to 2 bar as it spreads into the group
3. Pump to group	pressure rises within a few seconds; at 11 bar phase 4 begins
4. Hold pressure	6 s: pressure sits at the OPV setting (about 12 bar), every fitting dry
5. Hold, pump off	8 s: pump off, valve open. Pressure gives a little in the first few seconds, then holds; if it keeps falling, something leaks
6. Valve closes	4 s: second click, the group is relieved into the drip tray; the reading stays put. If it drops by several bar, the boiler-side seat of the solenoid valve is not sealing

Abort and unplug: water escapes, phase 3 builds no pressure, or a fixed high reading stands (section 8).

Then without the blind basket:

- ☐ heat-up runs, the LED on the SSR lights
- ☐ steam mode reaches its target
- ☐ brew and steam switch each trigger on the display
- ☐ after 30 minutes the temperature sits still

8 · If something is off during setup

SYMPTOM	CAUSE ACCORDING TO THE GAGGIMATE DOCS
pressure stuck around **14.5 bar**	the sensor's black wire is not making contact
pressure reads **16 bar**	red and black swapped at the board
pressure stays at **0 bar** while brewing	sensor not connected properly, wires not stripped to 11 mm, or tightened so far that the intake is blocked
pump and valve dead, everything else fine	L and N swapped at the board
brew switch triggers steam mode	the green wires were swapped during installation
no picture although the LEDs are on	re-check the screen's ribbon cable
temperature **jumps around**	the probe's ferrules are not fully seated; route the wire away from mains
autotune does not finish or returns odd values	always start from a **cold** machine

9 · Keeping up

- **Shot history** in the web interface: every shot with its pressure, flow and temperature curve, the right place to judge a recipe change.
- The **update icon** on the standby screen flags new firmware; if something misbehaves, try the **troubleshooting page** of the docs or Discord **#gaggimate-help**.

Daily use & maintenance

1 · The shot: before, during, after

BEFORE

1. **Switch on**, touch the screen to leave standby; it does not heat before that.
2. **Heat up 20–30 min**, portafilter locked in so it heats too, cup on the warming tray.
3. **Pick the profile:** shows the favourites, confirm with the check mark; the header gives target temperature and time.
4. **Flush:** portafilter out, **long-press** : 5 s of water through the group, "Flush recommended" clears. Wait until the display is back at the target.
5. **Wipe the shower screen, drip tray and basket dry**, dose, distribute, tamp, cup on the scale.

THE SHOT

6. **Start** with or the **brew switch** (off again afterwards). It ends after the set time, with a scale at the target weight; aborts.

STEAM AND MILK (FOR A CAPPUCCINO ONLY)

7. Select **Steam**, wait for the target, froth; adds pump support.
8. Afterwards **wipe the wand and give it a short blast:** dried milk is the usual cause of a blocked tip.
9. **Back to Brew:** boiler far too hot, run water through the group until the display is back at the brew target.

AFTER

10. **Note yield and time**, then **correct at the grinder only:** too fast → finer, too slow → coarser.
11. **Knock out the puck, rinse the basket, purge briefly**: washes the screen. Lock the portafilter back in.

2 · How the machine should be set

CONTROL	POSITION
Power switch (left)	**on**, lamp lit. It switches everything, GaggiMate included: off means dark screen, no heating, no pump
Brew switch	**off**. The start button now: on starts the shot, off ends it
Steam switch	**off**. Left on, steam mode is active: the boiler heats to steam temperature, and the brew switch only switches back to brewing
Ready lamp	meaningless, both thermostats are gone

Standby after 15 min without input, no heating (*Standby Timeout*).

Reminder only for flushing ("Flush recommended"), not for backflushing or descaling.

Main menu: Brew · Steam · Water · Grind, at the bottom returns to standby; gauges temperature left, pressure right.

Normal readings: standby 0 bar, no heating · heating up: LED on the SSR lit · ready: hovering around the target · brewing: a few degrees below the target, pressure as the profile sets it.

No Wi-Fi icon in standby: access point "GaggiMate" active, switch off and on.

3 · Volumetric: an estimate instead of a scale

On **GaggiMate Pro** (pump dimming and pressure sensor) the controller works the output out as it goes: whatever the pump delivers and does not go into building pressure runs through the puck. Once the puck resistance settles after the first drops, that flow is added up.

- **Millilitres of liquid**, not weight in the cup, and only from the first drop on.
- A Bluetooth scale always takes priority. The estimate **ends a shot on nightly builds only**; on a release build without a scale, time still ends it.
- **It is always recorded** (a curve in the shot history), **but never gets more accurate by itself:** it rests on a fixed pump curve (*Pump Flow Coefficients*). Calibrating: both values × cup / estimate, averaged over a few shots below the OPV setting.
- **Lead time:** the stop comes 0.8 s early (*Brew Delay*), corrected by *Auto Adjust* against the stop source: with a scale the cup, otherwise the estimate itself.

4 · Cleaning and intervals

WHEN	WHAT
After every shot	section 1, plus wipe the steam wand
Daily	portafilter and baskets in hot water, empty the drip tray, wipe the case
Weekly	backflush with a **blind basket and clean water**, several short cycles; inspect the shower screen. A profile with the valve closed saves working the switch
Every 1–2 weeks	**Cafiza:** 1 tsp (about 5 g) in the blind basket, flush 5× · portafilter out, 1 L bowl under the group, flush 5× with clean water · spout off, portafilter into the bowl (**handle out**), 3 tsp Cafiza, top up with warm water, soak **30 min** · rinse well, discard the first shot
Monthly	unscrew shower screen and holder and clean them, check the group gasket for cracks
About every 2 months	**descale** (interval from the original manual, depending on water hardness)
Yearly	replace group gasket and shower screen, check the O-rings, a thin film of **food-safe** silicone grease on the sealing flanks

⚠ **Aluminium boiler:** backflush detergent must **never** reach the boiler, only portafilter, baskets and group. Descale with Gaggia's own descaler (lactic acid) or one sold explicitly **for aluminium boilers**, mildly dosed and not for too long.

Descaling per the original manual: screen off · solution into the tank · pump 15 s · a few seconds through brew head **and** steam nozzle · wait 20 min · repeat until it has run through · rinse well · refit the screen.

5 · When something is off

SYMPTOM	CAUSE
the shot does not stop at the target weight	without a paired Bluetooth scale only the phase duration counts (page 1, section 1)
the machine does not heat	it sits in standby; it goes there by itself after 15 min without input
temperature **oscillates** or overshoots	small overshoots are normal for a PID; retune if pronounced
a cold start does not show room temperature	the probe has an offset at low temperatures; it is gone at brew temperature
some pressure stands while hot and idle	thermal expansion in the closed boiler; a short purge resets the reading
brew switch does not start a shot	steam mode active (steam switch on): the first switch-on only switches back to brewing
the **pump runs while steaming**	intended: Pro Steam keeps water in the boiler
"Legacy controller", flush and shot do nothing	connection fault in v1.9.0: switch the machine off and on

Reference figures for this machine: Gaggia Classic 05/2004, 230–240 V, 1425 W, aluminium boiler, three-way valve · GaggiMate **Pro** Rev 1.1 with pressure sensor, Finglai SSR-40DA · PID 40.692, 0.291, 113.938, Kff 0.735 (autotune), offset 8 · OPV **12 bar** · recipe 16 g → 30–34 g in 27 s at 96 °C and 8.5 bar.

Sources: GaggiMate docs `docs.gaggimate.eu` (*Configuration*, *Troubleshooting*, *Touch Screen Usage*, *First Start*, *Profiles*, *Installation Gaggia Classic 1991–2014*) plus the wiring sheet linked there · firmware source `github.com/jniebuhr/gaggimate`, release v1.9.0 as on the machine, for the stock profile, standby, scale, switches, flush, notices, AP 4.4.4.1, autotune · descaling per the original manual (`gaggia-na.com/pages/gaggia-classic-manuals`) and the product sheet of Gaggia's descaler · example figures: own measurements, `ulrichlehner.com/blog` · cleaning intervals other than descaling are experience values · icons: Uicons by Flaticon.