diyPresso One

quick installation & user guide

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Illustrations and text
Pieter Raat & Bernard Hulshof

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Please read the safety warnings first!

Since the diyPresso One is a DIY build kit, the builder is responsible for a proper assembly and for all safety aspects - including but not limited to electricity, pressure and temperature!

Dear customer,

Thank you and congratulations on getting yourself a diyPresso One! diyPresso One is world's first espresso machine designed for DIY enthusiasts and coffee lovers. We hope that you will enjoy the assembly and get the best extraction from your diyPresso in no time! All parts are manufacturerd with high quality and state-of-the-art technology and now it is up to you to assemble the DIY kit! Therefore, please follow carefully all steps in this assembly manual and read all the instructions of the Quick Installation & User Guide. Double check everythig before you start using your diyPresso One.

Bernard, Pieter & Joop

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Safety Warnings

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Read All Instructions: Before using the diyPresso One, carefully read the Assembly Manual and Quick Installation & User Guide and follow all assembly and operational guidelines.

Checking the appliance: After removing the packaging, make sure the product is complete and undamaged and that all accessories are present. Do not use the appliance if it is visibly damaged. Contact diyPresso Customer Services in case of doubt.

Electric Shock Hazard: diyPresso One contains electrical components. Avoid contact with water or any other liquids to prevent electric shock. Unplug the device before cleaning or performing any maintenance.

Hot Surfaces: This appliance produces hot water and steam may form while it is in operation. The diyPresso One becomes hot during use. Do not touch hot surfaces, including the coffee brewing parts, to avoid burns.

Proper Ventilation: Ensure the diyPresso One is used in a well-ventilated area. Do not block ventilation openings, and keep away from flammable materials or surfaces to avoid fire hazards.

Overheating Risk: Even tough the boiler is equipped with a auto reset thermostat and the diyPresso has a software-based temperature protection, do not leave the device unattended while in operation. If the device overheats or emits strange odors, turn it off immediately and unplug it.

Safe Use of Accessories: Only use compatible accessories or parts recommended by the manufacturer of the components. Using non-approved parts can result in injury or damage to the device. Incase of doubt, contact diyPresso.

Children and Pets: Keep diyPresso One out of reach of children and pets. The device contains small and sharp parts and produces hot liquids, posing a potential risk of injury.

Regular Inspection: Inspect the diyPresso One regularly for signs

of damage or leaks. If damaged or leaking, stop use immediately and inspect, repair or replace components.

Pressure Release: diyPresso One operates under high pressure during the brewing process. Ensure proper assembly and secure the components before use to prevent sudden release of pressure, which could cause injury.

Cleaning: Always unplug the device before cleaning and make sure the components are not hot. Do not submerge in water or use harsh chemicals.

Personal Injury: Since the diyPresso One is a DIY build kit, diyPresso B.V. cannot be held responsible for any direct or indirect damage or injury resulting from or during assembly or use. In case of assembly, taking apart or modification of the device, please follow the Assembly Manual. Any tampering with electrical components or internal mechanisms could result in serious injury or device malfunction. Be aware of sharp edges to avoid cutting yourself.

Certification: All parts and components used are certified either CE or foodsafe or PED.

Keep this Instruction for Use. If the appliance is passed to other persons, they must also be provided with this Instruction for Use.

Note: Misuse of diyPresso One or failure to follow these safety warnings may void the warranty. Always prioritize safety during use.

Technical data:
Mains voltage: 230V AC 50Hz
Absorbed power: 1300W
Dimensions: 390x210x365 mm
Heat source: Copper boiler
Pump pressure: 1-16bar (max 10 bar advised)
Volume Waterreservoir: 1,5 liter
Power cord length: 90° 1000 mm, Schuko Male to C13
Weight: 18 kgs

Disposal: The appliance must not be disposed of with household waste, but taken to an authorised waste separation and recycling centre.

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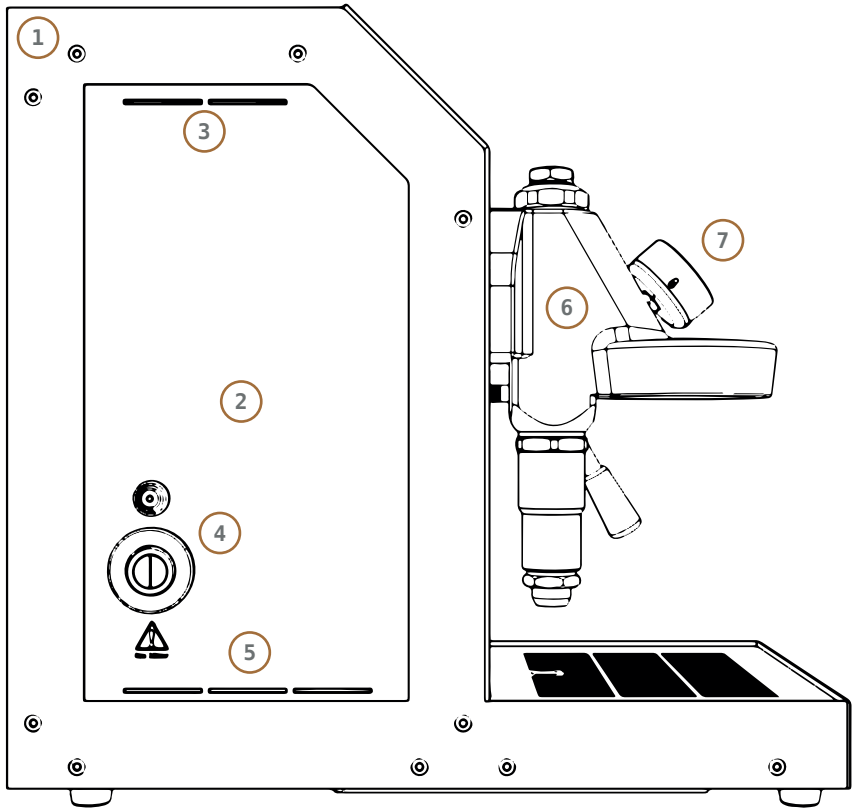
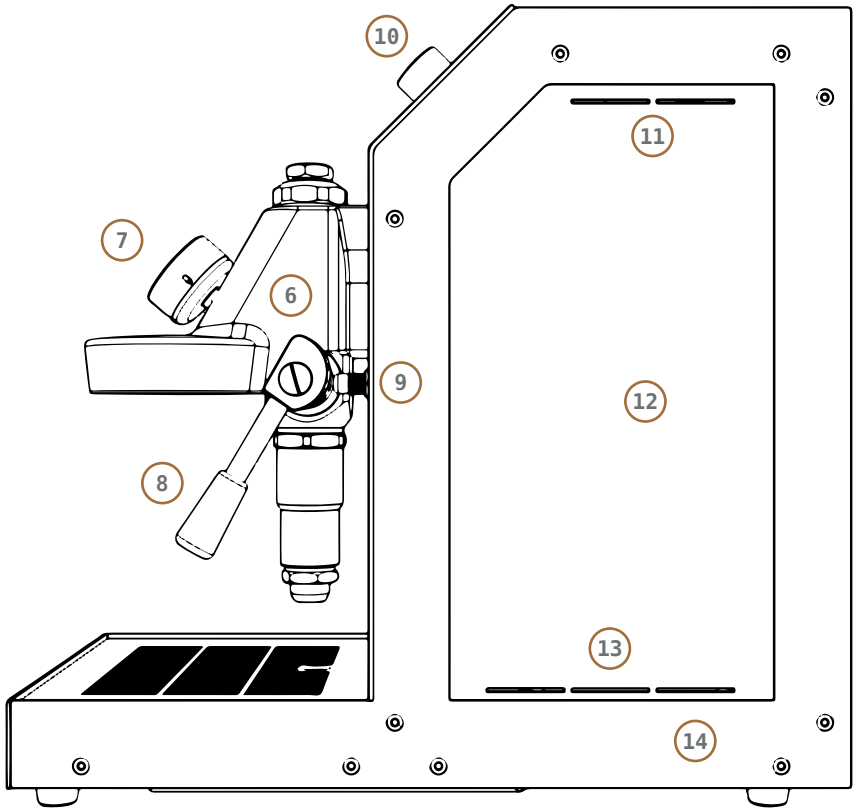
Side view left



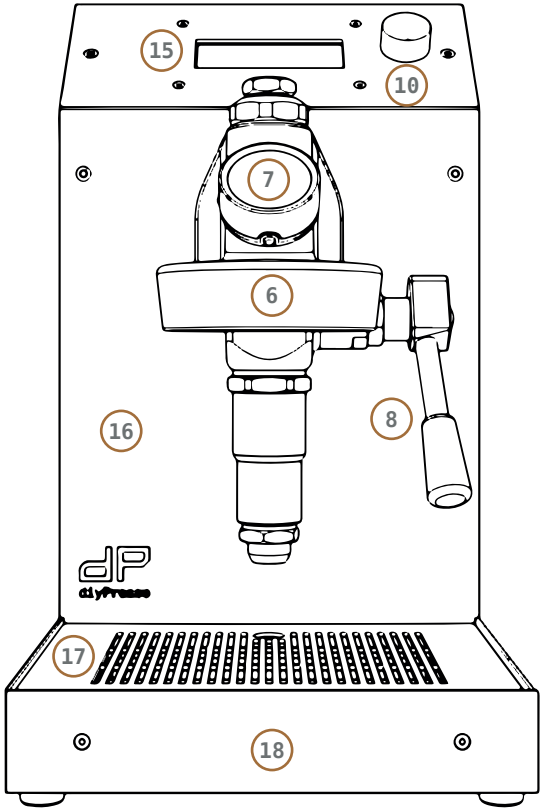
1. Stainless steel side panel, left
2. Acrylic side panel, left
3. Ventilation openings
4. Over Pressure Valve (OPV)
5. Ventialtion openings
6. E61 lever brewing group
7. Pressure gauge

Side view right



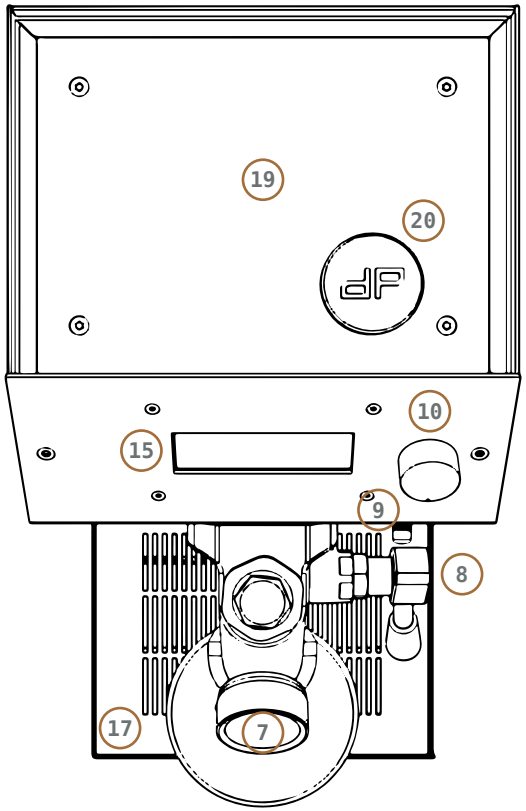
8. Brewing lever
9. Microswitch
10. Rotary push-turn button
11. Ventilation openings
12. Acrylic side panel, right
13. Ventilation openings
14. Stainless steel side panel, right

Front view



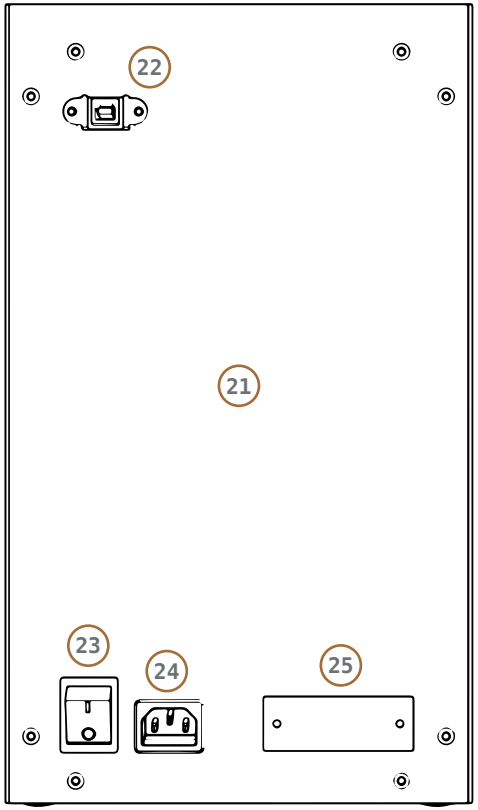
15. Screen
16. Stainless steel front panel
17. Stainless steel drip tray raster
18. Stainless steel drip tray panel

Top view



19. Stainless steel top panel
20. 3D printed refill cap

Rear view



21. Stainless steel rear panel
22. USB socket
23. On/off switch
24. C13 power socket 230V AC
25. Serial tag

First time power on instructions

Before we switch the On/off button and power the diyPresso up, there are some important steps to take and notices to read:

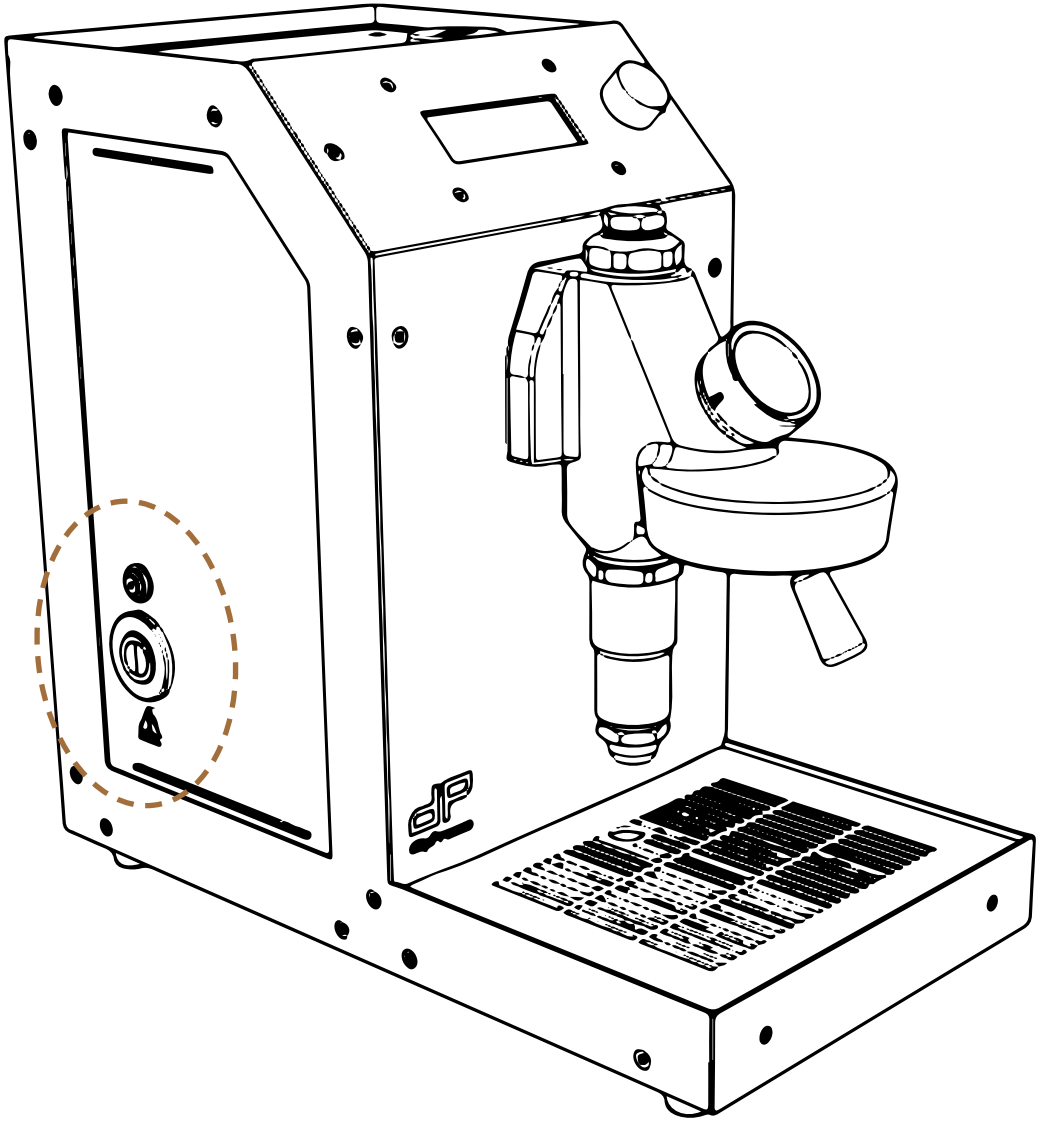
- Plugin the power cable and plug it into a power socket.
- Put a glass under the E61 brewing group.
- Make sure the lever of the E61 brew group is pointing downwards.
- Turn the diyPresso on by flipping the On/Off switch.
- Check if the display turns on.
- Follow the instructions on the screen.

IMPORTANT NOTICE:
- Before first use, make sure you have flushed at least three full reservoirs of water in order to rinse the inner spaces of the reservoir, tubes, boiler and E61 brewing group.

Adjustment of the pressure

The regular pressure for espresso is 9 bar. You can modify the pressure by turning the controller at the OPV, located on the left side panel. Use a coin or a large screwdriver to turn the screw of the OPV. In order to check the current pressure, use the blind filter. This is the metal cup without perforations. Remove the 2 cups filter from the portafilter and place the blind filter. Then turn the portafilter in the E61 brewing group. Pull the brewing lever up. The pressure will increase and this is shown on the pressure gauge. Once the pressure is stable, this is the set pressure. To increase the pressure, turn the screw of the OPV to the right, to decrease, turn the screw to the left. If the pump stops, pull down the lever and repeat the cycle.

The aim is 9 bar, but off course, your personal preference can be different. Please note: ***don't exceed 10 bar!***

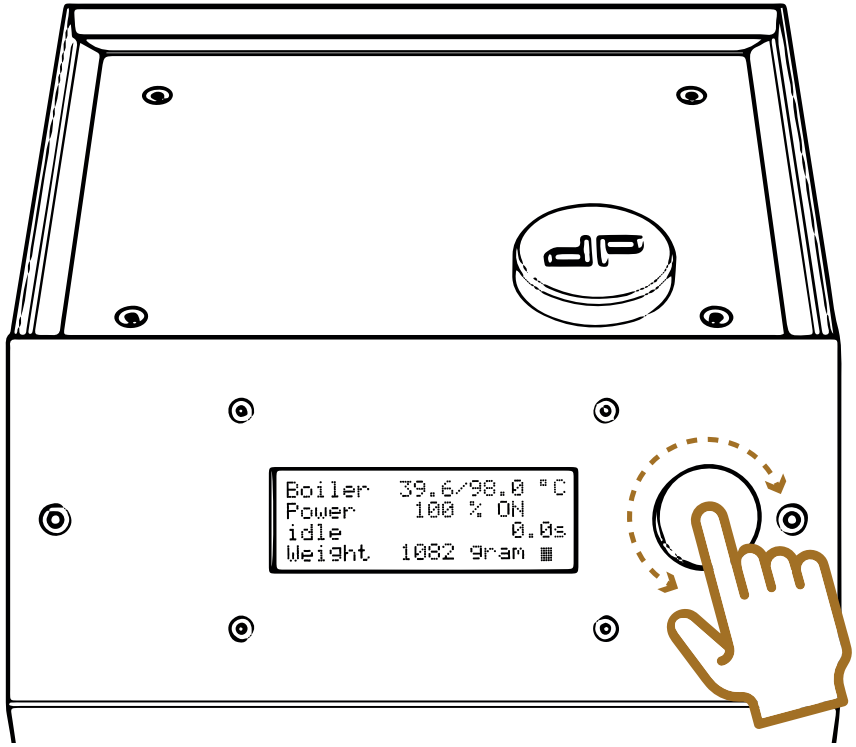


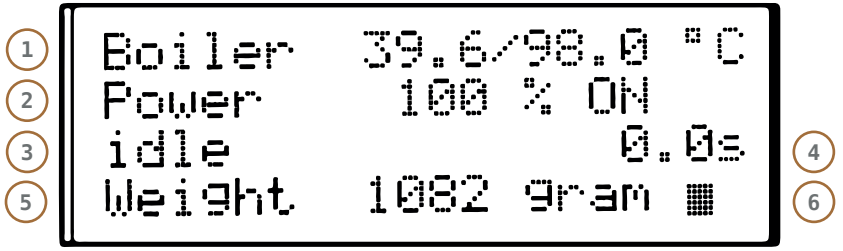
Menu structure and instructions

Once you have powered up your diyPresso, after the start-up screen, the main screen appears. On this screen you can find the current status and values of the machine.

1. Boiler temperature vs setpoint of boiler temperature.
2. Power indicator. How much power is delivered to the heating element at this moment.
3. Machine status: Idle/pre-infusion/ infusion/extraction
4. Timer: extraction time of last shot
5. Weight: current weight (holding capacity) of the water reservoir. During extraction: extraction weight.
6. Indicator of water level

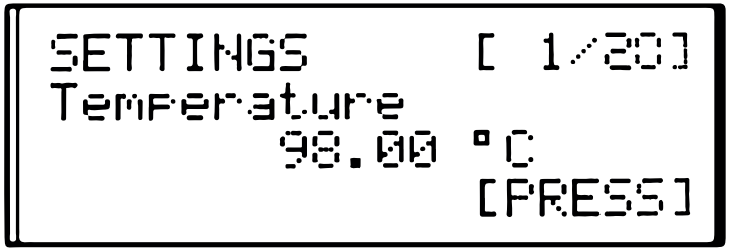
Turning the button in the main screen will bring you to the ‘machine status’ page.





Other settings

The menu has 20 pages at the moment. By pushing the button next to the screen, you enter the menu. On the right corner, you can see your position in the menu. By pushing the button on a specific page, you can adjust the setting by turning the button. Go to page 20 to save the adjusted settings.



1. Temperature: This is the value for the temperature setpoint of the boiler.

2. Pre-infusion time: This is the pre-infusion time, you can set the period that the pump is

3. Infusion time: Infusion time indicates the time the pump is of and the puck can settle.

4. Extraction time: Extraction time or shot time is the time the pump is on again after pre-infusion and infusion, actually extracting the espresso.

5. Extraction weight: This is the weight you can set for your espresso. After reaching this weight the pump is stopped. (setting not yet activated)

6. P-Gain: P-Gain setting of the PID temperature controller. See https://pidexplained.com/how-to-tune-a-pid-controller/ for explanation and tuning instructions. For now we have pretuned your machine, so normally you should not have to change these settings.

7. I-Gain: I-Gain, see setting 6

8. D-Gain: D-Gain, see setting 6

9. DFF Factor: the Dynamic Feed Forward Factor used for tuning the agrisiveness of the DFF. Default is 70%, range: 0%-150%

10. F-heat Value: This is the feed forward setting for the PID controller when the diyPresso is heating up. A higher setting makes the diyPresso heat up faster. If this setting is too high the diyPresso will go in overshoot.

11. FF-ready Value: This is the feed forward setting for the PID controller when the temperature is reached. This is the amount of power that is needed to float the temperature. Because the diyPresso is hotter than it's environment a small portion of heat is always lost to the surroundings. This setting should compensate for this loss. Using a feed forward value instead of relying merely on the PID controller PID setting helps lowering the temperature swing of the boiler.

12. Shot counter: Counts the shots that have been made since the last software update.

13. WIFI Mode: to put the diyPresso in a WIFI network. (setting not yet activated)

14. Weight trim: Here you can compensate the balance below the reservoir. If the balans (load cell) is slightly inaccurate, you can compensate for this with this setting.

15. Commissioning status: indicates that the machine has been correctly commissioned. Press and turn button to restart commissioning sequence

16. <Tare Weight>: Tare at full. Here you can tar the balance of the reservoir. Fill up the reservoir looking on the side of the diyPresso so you can make sure not to overflow the reservoir. When the reservoir is full. Push the button in this setting. The diyPresso will know the reservoir is tarred and will after this stop automatically when the water runs out.

17. Zero Counter: Here you can zero the shot counter.

18. <Reset to defaults>: Back to factory settings.

19. <EXIT>: Exit menu without saving changes.

20. <SAVE>: Save your changes and exit the menu.

First extraction

Now you're all set to extract your first espresso. Add around 18 grams of coffee in the 2-cups filter. Use the tamper to equalize the grind and provide a litte pressure to make the grind compact. Turn the portafilter into the E61 brewing group. Place an espresso cup underneath the portafilter and pull the brewing lever up.The extraction process starts.

There are many factors involved in the perfect extraction. To name a few: coarseness of the grind, weight of the grind, pressure delivered to the grind, extraction time, pressure and temperature. If the extraction is very fast, you will need to increase the coarseness of the grind. It will take some time and shots to find the best settings for a good result. And note: every coffee bean is different so adjustment of the grind is a recurring action when changing the beans.

Enjoy playing around in your search for the best extraction. Thanks for being part of the new coffee experience and if you have some feedback, we are happy to hear from you!

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