Installation manual Slim Jim Idrocompresso espresso machines

(Original instructions)

Document ID: Sup-Jlim-Eng Date of issue: May 31, 2022 Revision date: June 16, 2023

CONTENTS

Designation

This manual applies to the Slim Jim Mirage 2-group (Duette) and 3-group (Triplette) espresso machines with Idrocompresso operation manufactured by Kees van der Westen Espressonistic Works B.V. A separate rotational pump with electric motor and adjustable pressure reducer can be part of the appliance.

Precaution

Hot surfaces!

Parts of the machine will be hot when the machine is turned ON.

- The cup tray is equipped with an active heating element and can reach temperatures up to 75°C.
- The metal groups are intended to radiate heat and can reach a set-temperature of up to 99°C.

Hot water and/or steam!

When the machine is heated up, hot water and steam can escape from various parts of the machine upon manipulation of a corresponding interface (valve, switch, touch-button, …).

- Activating the group will lead to water being dispensed with a temperature of up to 99°C.
- Activation of the hot water dispense can lead to steam escaping with temperatures up to 130°C as well.
- Activating the mix-water dispense can lead to overheated water (steam) being dispensed when the cold-water addition is not set correctly.
- Opening the steam tap will start steam escaping from the steam wand-tips, the steam can reach temperatures up to 130°C.

Safe operation

- It is possible that the brew-lever returns to resting position with high velocity, force and momentum. When not completely familiarised with the machine, keep body-parts other than your hand away from the reach of the brew-lever.
- The espresso machine has to be placed in a horizontal position on a sturdy and flat surface.
- If the supply cord is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard.
- The new hose-sets supplied with the appliance are to be used. Old hose-sets should not be reused.
- Intended use of the appliance is restricted to well-trained personnel only.
- The appliance must be installed in locations where it can be overseen by trained personnel.
- The appliance may not be left unattended when there is the possibility that children and/or vulnerable people can reach the machine.
- This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved. Children shall not play with the appliance. Cleaning and user maintenance shall not be made by children without supervision.
- The mains electricity the appliance is connected to must include a residual-current-circuit-breaker of 30 mA.
- The appliance may not be cleaned with the aid of a water jet.
- The appliance is not suited for outdoor use.
- Ambient temperature for correct operation of the appliance is 10-30°C (50-86°F).
- If ambient temperature falls below 5°C (41°F), keep the machine at ECO or ON to prevent freezing of water inside the machine.
  Whenever the machine has been at freezing conditions, ask a technician to start-up the appliance again.
- It is advised to install a leak prevention system as the appliances is directly connected to the water mains. An unattended leak can cause serious damage to the premises.

Parts identification

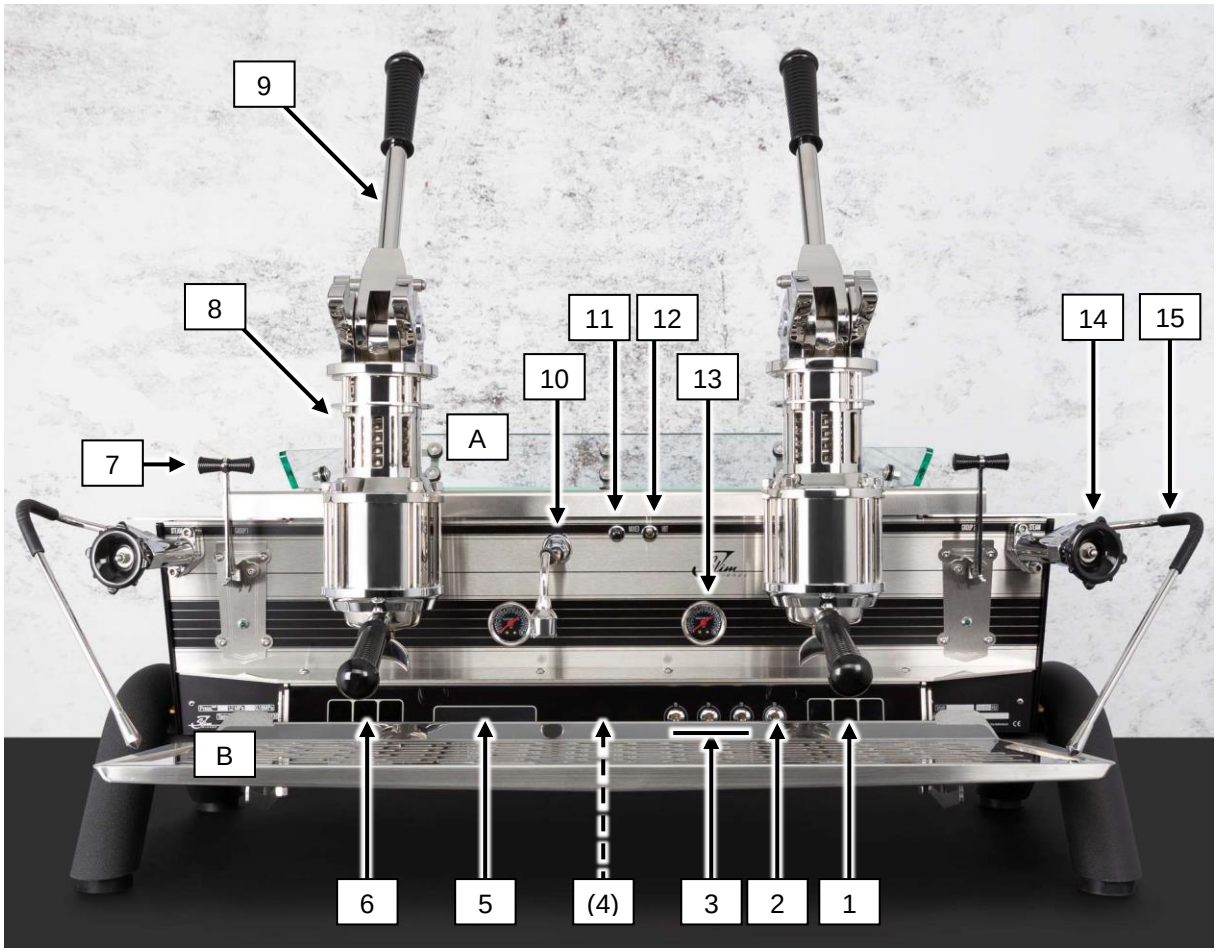


Figure 1. Showing the main operational parts of the Slim Jim Duette Idrocompresso version with fat-tube legs. The Slim Jim Triplette has three groups but its functions are identical to the Duette.

1. Right hand group 3-digit display (shot-timer and/or temperature)
2. Main switch (switches power to everything but the heating circuits)
3. Heat switches 1, 2 and 3 (switches power to steam boiler and group heating)
4. (Centre group 3-digit display; only on Triplette: shot-timer and/or temperature)
5. Capacitive interface and display of controller
6. Left hand group 3-digit display (shot-timer and/or temperature)
7. Flush and relief handle
8. Group
9. Group lever
10. Hot water spout
11. Hot water button switch (mix-water)
12. Hot water toggle switch (hot water only)
13. Coffee brew pressure gauge (right group)
14. Steam valve (right)
15. Steam wand (right)

A. Cup-rack (glass-look version)
B. Drip-tray

Not visible on this photo:

- Green indicator lights for heating spirals (one for each spiral; see page 22)
- Connection for external temperature probe (see page 22).

Dimensions and characteristics

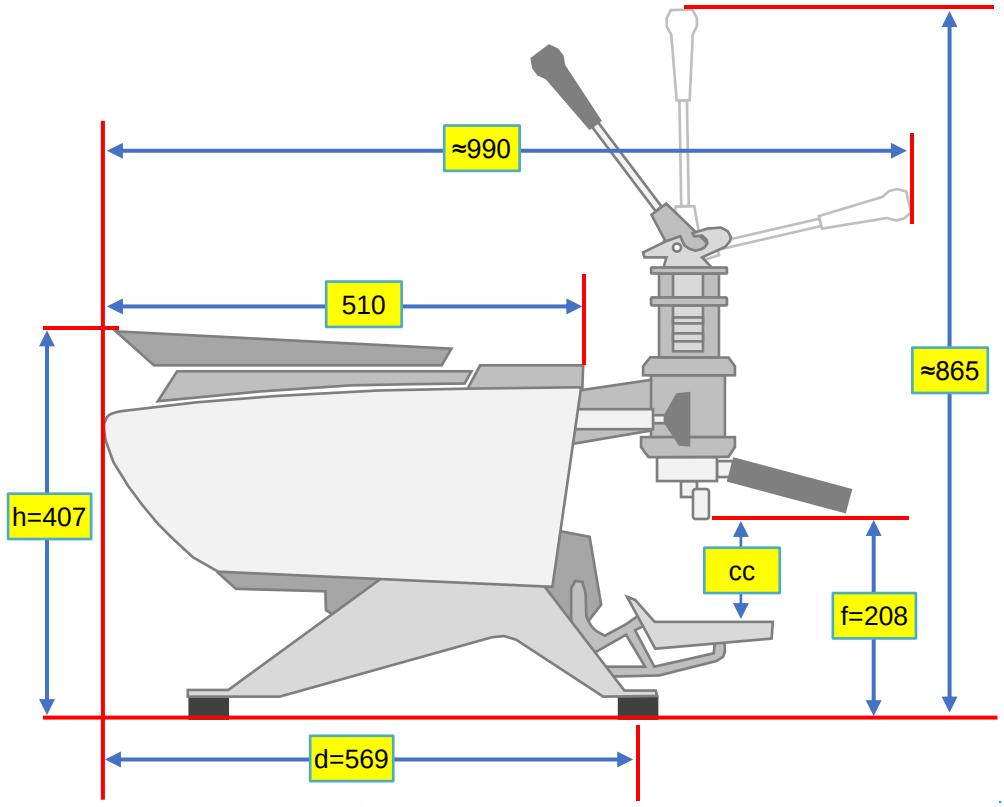


Figure 2. Side view of standard version Duette and Triplette (metal cup-rack and STRAIGHT-legs). cc (cup clearance) = 73-83-93-103-113. d, f and h depend on type of legs and type of cup rail, see next pages. Dimensions in mm.

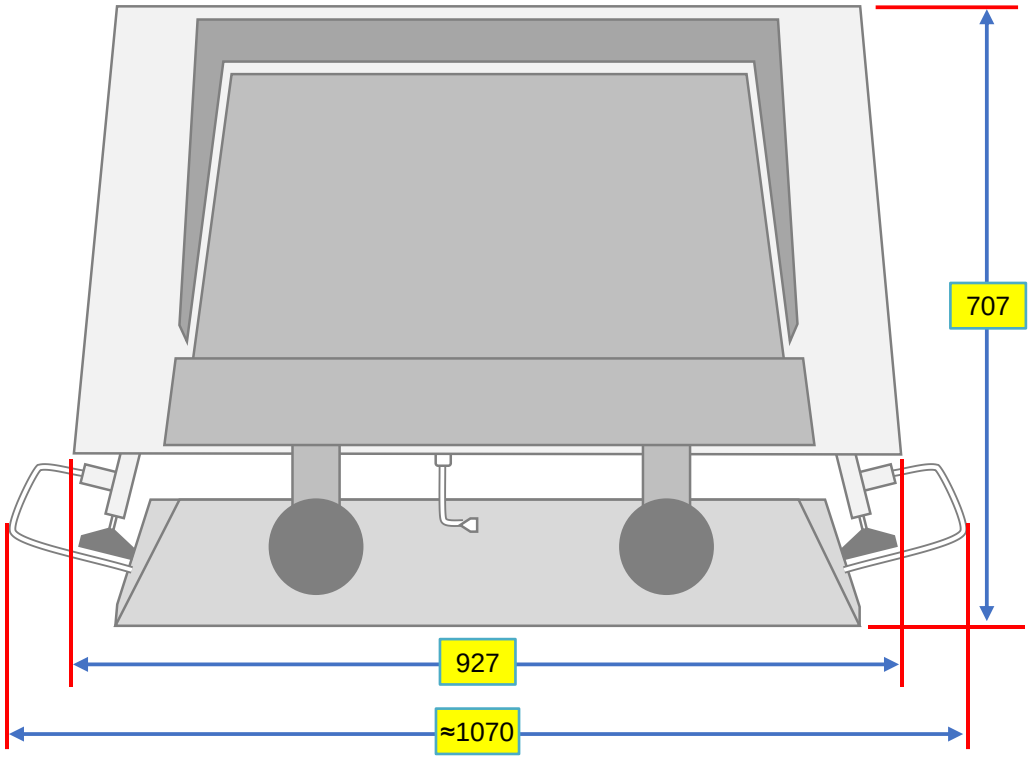


Figure 3. Top view of standard version Duette. The Triplette has the same dimensions (dimensions in mm).

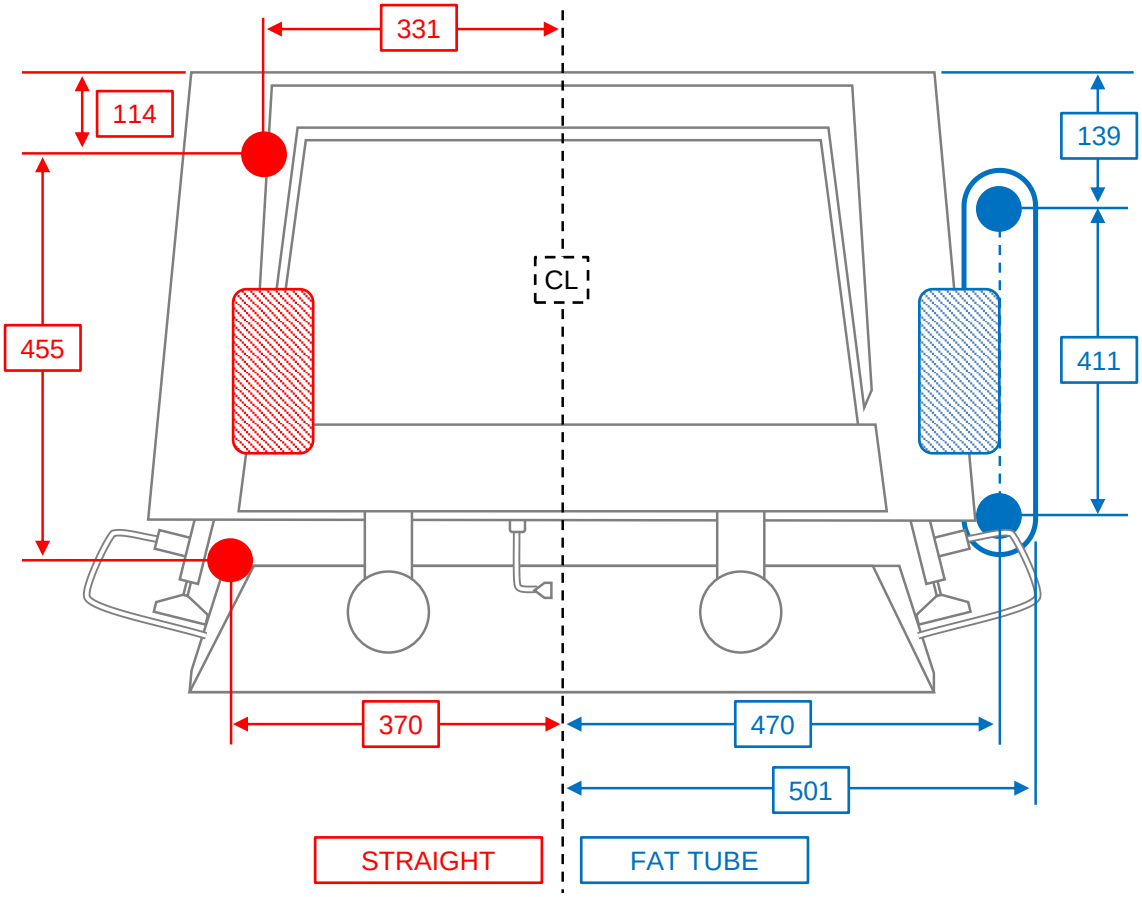


Figure 4. Foot-plan of Slim Jim with straight legs (left) or fat tube legs (right). Shaded area is good location for countertop openings (see Table 2). Extra depth for glass-look is 14mm, see below.

The standard version of the Slim Jim has straight legs, metal cup rack and is without awning. Exchanging the legs or adding the optional glass-look or awning may affect the footprint and height of the machine.

Dimensions Duette and Triplette	straight legs	fat tube legs
Height (top of cup rack)	407 mm	
Height with glass-look cup rack	add 40 mm	
Depth drip-tray to back	710 mm	
Depth with glass-look cup rack	add 14 mm	
Width of body with legs	940 mm	1005 mm
Width including steam wands	1070 mm	

Footprint Duette and Triplette		straight legs	fat tube legs
Depth (between centre of feet)		455 mm	411 mm
Width (centre of feet)	front	740 mm	940 mm
	back	662 mm	

Peak power consumption at 230Vac	standard		high power	
	Watt	Amp	Watt	Amp
steam boiler	4800	20.9	6000	26.1
coffee boiler each	450	2.0	450	2.0
cup heater	200	0.9	200	0.9
Duette total	6437	28.0	7637	33.2
Triplette total	6921	30.1	8121	35.3

Volume capacity	litre	gal / floz (US)
Steam boiler	10.5	2.8 gal
Water in steam boiler	7-7.5	1.8-2.0 gal
Heat exchanger	0.7	24 floz
Coffee boiler (each)	0.8	27 floz

Weight	empty		filled		shipping crate	
	kg	pound	kg	pound	kg	pound
Duette					150	331
Triplette					150	331
Pump	5.3	12				

Table 1. General data for the Slim Jim. Shown are theoretical dimensions, actual values can deviate +/- 10 mm. Numbers in red have not been checked for accuracy.

Countertop opening(s)

	Minimum advised sizes (in mm's) of countertop openings Note that some connector types will not fit through these specified holes.
Pump hose	Ø25
Individual drain hose	Ø20
Two drain hoses	Ø40
Pump + drain combined	Ø40
Power cable	Ø20 without plug!
Power + pump cable	Ø30 insert pump-plug first
All combined	Ø55

Table 2. dimension of countertop openings needed to feed all cables and hoses through. Advised is to have one opening for water supply and discharge more or less behind the left front foot and another opening for power cable and optional pump cable, more or less behind the right front foot.

Installation summary

Check location

1. Check water quality.
2. Check water supply and pressure.
3. Have an adequate water treatment system installed.
4. Flush water treatment system.
5. Check water waste/drain.
6. Check countertop.
7. Check cupboard for optional pump location.
8. Check electric mains (3P-N-E or P-N-E or 2P-E; adequate power).

Unpack

9. Lift top from crate.
10. Check accessories.
11. Check for transport damage.
12. Read installation manual.
13. Lift machine onto countertop.

Install machine

14. Mount lever-release pin and lever on groups.
15. Mount one-way valve on inlet fitting of pressure reducer or optional pump.
16. Connect machine to water supply and waste.
17. Open water tap.
18. Optional: Plug power cord onto pump motor.
19. Check machine for 3P-N-E versus P-N-E electric mains.
20. Check wall socket wiring.
21. Connect machine to electric mains.
22. Fill machine with water with heating circuits OFF.
23. Run cold machine, check for leaks.
24. Switch heating circuits ON.
25. (Install and adjust grinder).
26. Program service telephone number into controller.
27. Adjust TIME/DAY (and perhaps Celsius – Fahrenheit)
28. Check main functions of machine.
29. Brew first coffee (optional: adjust pump-pressure).
30. Check/adjust hot water temperature.
31. Write machine number, installation date and other specifics in Service record.

Transfer machine to owner/user

32. Explain main features to new user(s) and manager.
33. Show User manual (on website).

Installation

Water Quality

Have the local water tested and ask the water supply company if there can be seasonal changes in water quality and when so, in what order these changes occur. Install a suitable treatment system that at least includes a carbon block in order to not only traps drug-remnants, Chlorine and organic compounds but also prevents rigid particles >30 µm to enter the system.

Optimally, the water fed into the espresso machine would fall in the high end of the SCA "core zone", see Figure 5, and have a pH of 7.0-7.5 (at 25°C).

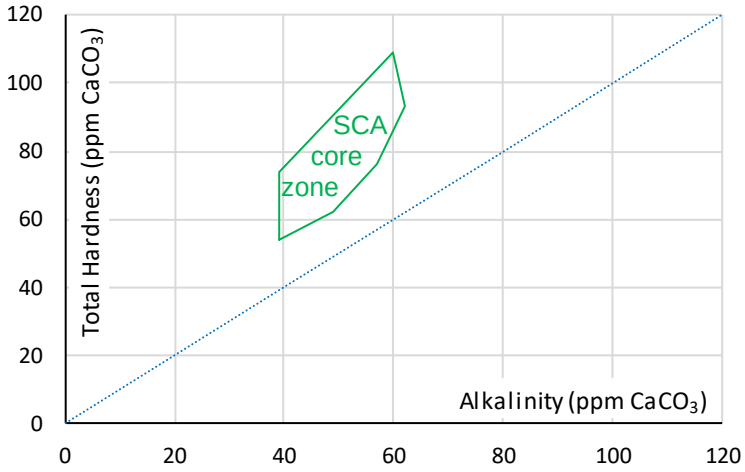


Figure 5. Alkalinity vs-Total Hardness graph showing the SCA "core zone" in green outline.

Besides the Alkalinity and Total Hardness requirements, the water should have the following properties:

Parameter	Target	Acceptable range	unit
Total Hardness	72	50-175#	ppm
Total Alkalinity	40*#	40-75#	ppm
pH	7.0*	6.5-7.5*, 6.5-8.0#	--
Electrical conductivity		< 3 times Alkalinity (in ppm) #	µS/cm[1]
Total Dissolved Solids	150*	75-250*	ppm[1]
Calcium Hardness	51-68*	17-85*	ppm
Sodium	10*	at or near 10*	ppm
Sulphate	30	0-50	ppm
Chloride	0	0-30	ppm
Silica	0	0-5	ppm
Odour and colour	clean*, fresh*, odour free*, clear*		
Taste influencing organic compounds*#	not present		
Chlorine#, Hypochlorite#, Chloramines#			
Iron#, Lead#, Manganese			

* SCAA Technical Standards Committee, 2009: water properties for optimum taste.
\# Values from "The SCAE water Chart" (2015?).

Table 3. Showing parameter values for water meant to brew coffee with.

Water with properties that lie within the SCA "core zone" and correct pH combines technical aspects enabling a safe operation and sensory aspects yielding a high-quality brew, provided the other parameters are met as well. High brew-ratio's, as for espresso, shift the optimum of total hardness and alkalinity towards higher values within the core zone.

[1] The conversion from electrical conductivity to TDS depends heavily on the water composition and temperature, yielding results that can vary significantly. Additionally, even if the estimated TDS value is accurate, it does not contain any information about what the TDS is actually made up of.

Water supply

Rated pressure: 0.3-0.8 MPa (3-8 bar)
Rated flow: minimum 4 litre/minute

The water supply should be able to deliver a minimum amount of 4 litres per minute in the range 0.3-0.8 MPa (3-8 bar). The machine, pressure reducer and optional rotary vane pump must be connected with the supplied new set of high-pressure hoses (one hose 0.5 meter long, other hose(s) 1.5 meter long), old hose-sets should not be re-used. The one-way valve supplied with the machine should be mounted on the inlet side of the pressure reducer or pump (see Figure 13). The distance between water treatment system and pump and the distance between pump and machine cannot be greater than 1.5 meter unless there is appropriate material available to increase these distances.

Notes!
Not included in the shipment are supplies to make the connection between the water-tap and the water treatment system.
National rules/regulations may apply when the appliance is connected to the water mains.

Water treatment system

The water treatment system should also be able to deliver a minimum amount of 4 litres per minute and should at least have a carbon block that not only traps drug-remnants, Chlorine and organic compounds but also prevents rigid particles >30 µm to enter the pump.

If the resulting water does not fall into the SCA “core-zone” (see Figure 5) have additional treatment installed.

Notes!
Flush the water treatment system according to the manufacturers instruction before connecting it to the pump-inlet.
Make sure that the functioning of the water treatment system will be checked on a regular basis.

Waste/drain

The appliance has two drain hoses: one for the drip tray and one for the machine itself. These semi-flexible hoses have an external diameter of 20 mm (inner diameter: 16 mm). The hoses must slope downwards all the way from machine to waste to prevent clogging. The waste at the location should have a minimum inside diameter of 38 mm to accommodate for the two hoses and incorporate a water-lock to prevent smelly odours.

Machine location

The machine is only to be installed in locations where it can be overseen by trained personnel. Areas where a water-jet could be used are not suitable as location for the machine.

Counter surface

The countertop must be sturdy enough to easily support the machines’ weight (when filled: up to 100kg) plus extra equipment (one or two coffee-grinders, tableware, …).

It is advised to think about the location of holes in the countertop where the water and waste hoses and electric cables should pass before the machine is installed.

Bar height

It requires force to pull the lever. For easiest operation it is advised to have the centre of the handle at approximately the same height of the operators’ eyes. Ideal bar height thus depends on average length of the operators and type of machine legs but in general will be about 5 cm lower than touchpad- or Bastone operated espresso machines. See Figure 6 to Figure 8.

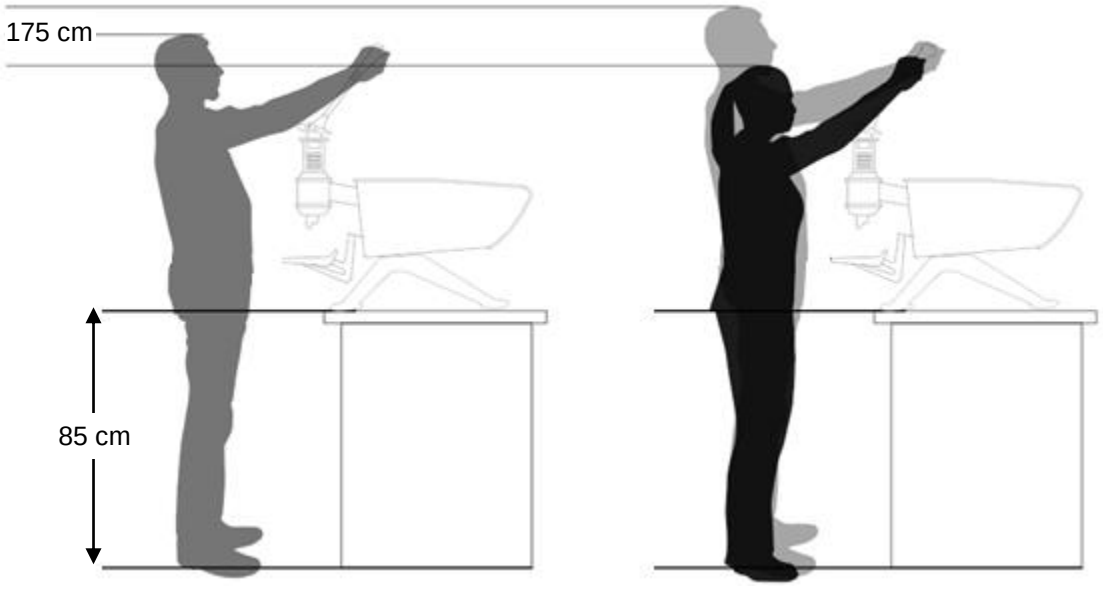


Figure 6. Ideal machine height (left) will be a compromise with baristas of different length (right). When the operator is 175 cm tall, the ideal bar height will be 85 cm.

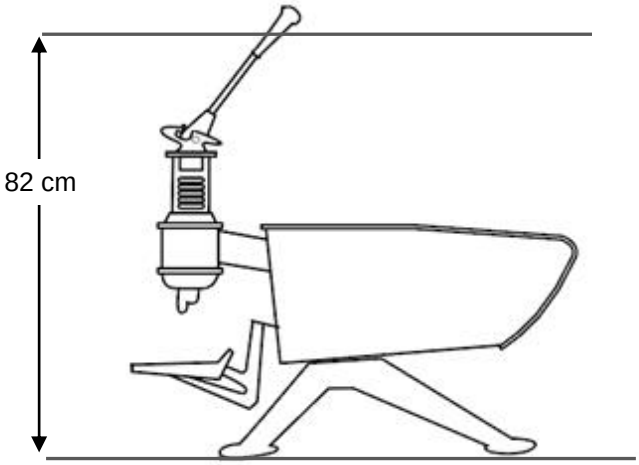


Figure 7. Height of centre of handle above bar is 82 cm.

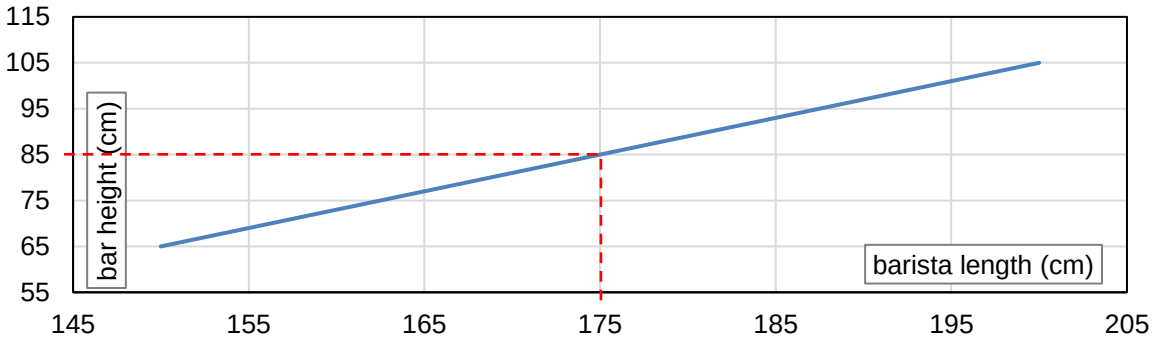


Figure 8. "Ideal" bar height as function of barista length.

Location of optional pump

When water pressure could fall below 3 bar at any time it is advised to install the optional pump. In that situation there should be nearby space for the electric motor with rotary vane pump. The pump-

assembly should not be able to touch the walls of the cabinet it is located in to prevent noise. Further noise reduction can be achieved by placing the assembly on a 2-4cm thick rubber-foam sheet with dimensions: 16x30cm (not supplied with machine). The pump will be electrically connected to the espresso machine with an approximately 2 m long cable.

Areas where a water-jet could be used are not suitable as location for the pump-assembly.

Make sure there is air-flow possible near the motor to prevent overheating.

Electric mains

Rated voltage: ~230V / 3N~400V, 50 / 60Hz
Rated power: max. 35.3 (230V) / 13.9 (400V) Amp per phase, see Table 4 for details.

☠ Danger

If the supply cord or the pump connection cord is damaged it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard.

The appliance is to be supplied through a residual current device (RCD) having a rated residual operating current not exceeding 30mA.

Slim Jim Idro peak power at 230 Vac	version / per phase		Duette 4800W steam power		Triplette 4800W steam power		Duette 6000W steam power		Triplette 6000W steam power	
			kW	Amp	kW	Amp	kW	Amp	kW	Amp
3-phase (3N~400V)	L1		2.1	8.9	2.1	8.9	2.5	10.7	2.5	10.7
	L2		2.1	8.9	2.1	8.9	2.5	10.7	2.5	10.7
	L3		2.4	10.3	2.8	12.1	2.8	12.1	3.2	13.9
	(N)		2.4	10.3	2.8	12.1	2.8	12.1	3.2	13.9
single phase (~230V)	L	L1	6.5	28.0	6.9	30.1	7.7	33.2	8.1	35.3
	(N)	L2	6.5	28.0	6.9	30.1	7.7	33.2	8.1	35.3

Table 4. Showing peak power in the different phases for different machine versions.

The machines' internal electrics consists of 3 heating circuits and an operation circuit. Each circuit is meant to function on 230Vac. The range in which it can function safely is 208-240Vac. Electric mains can be connected in two ways to the machine. Check if the electric mains of the location matches the configuration of the machine.

3-phase machine

What we call a three-phase machine must be connected to 3P-N-E power (3 Phases + Neutral + Earth, see Figure 9) with 120 degrees phase shift between phases. Such power is characterised by: 220-240Vac tension between each phase and neutral (or Earth) and 380-415Vac tension between the phases. For peak power, see Table 4.

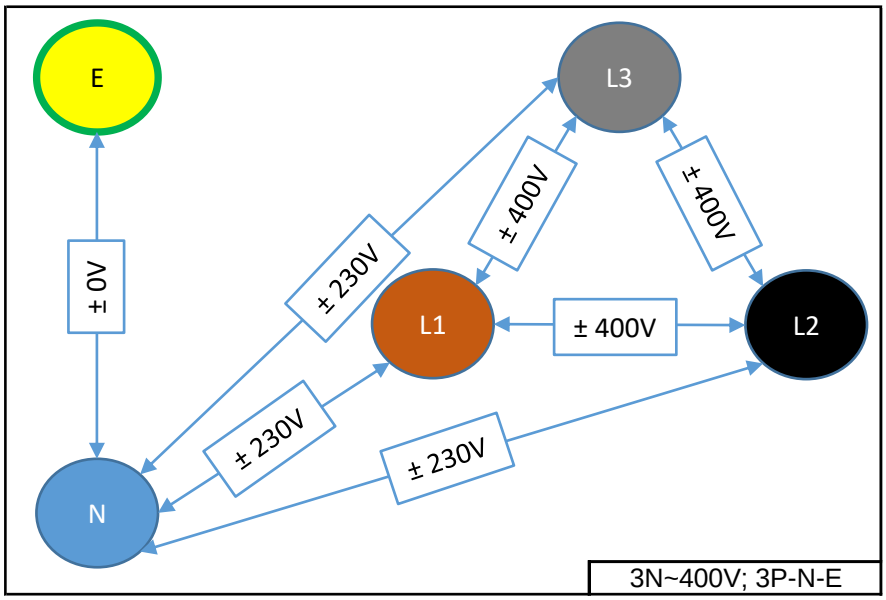


Figure 9. 3P-N-E electric mains. Peak current of the Slim Jim is 9.7 – 13.4A per phase.

single-phase machine

What we call a single-phase machine must be connected to P-N-E (single Phase + Neutral + Earth) or 2P-E (split Phase + Earth) power mains, see Figure 10. Note that the 2P-E configuration does NOT make use of the neutral wire of the electric mains. For peak power, see Table 4. The tension between the phase and neutral (P-N-E power) or the tension between the two phases (2P-E power) should be 220-240Vac.

Note that with single-phase peak current in the mains cable and the locations' wiring is a lot higher than with 3-phase power.

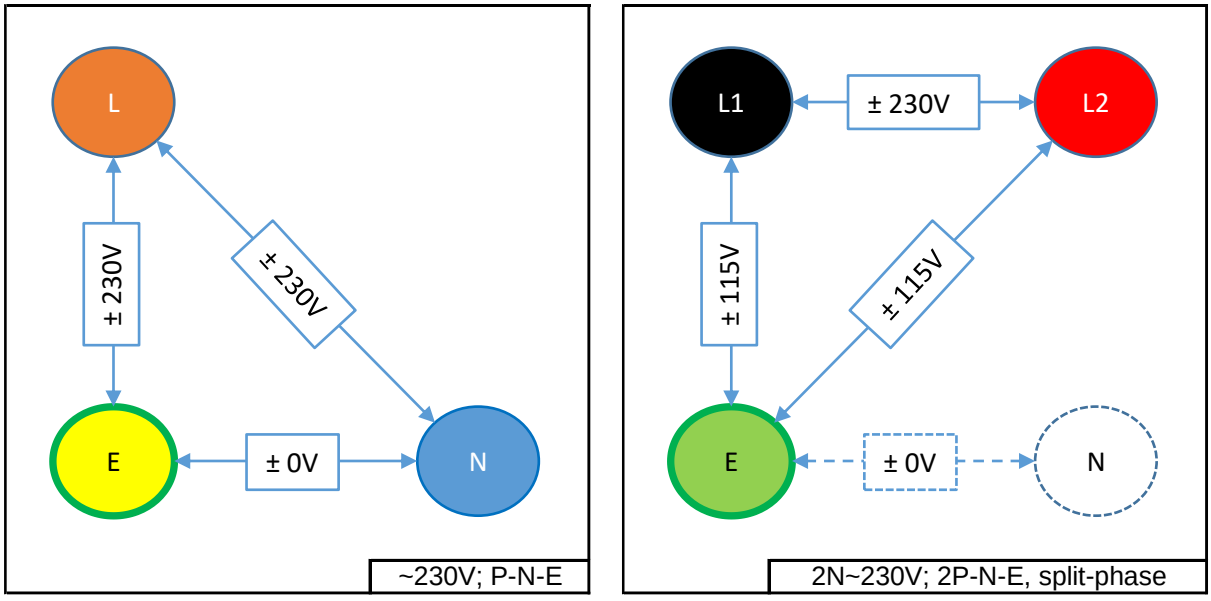


Figure 10. At left P-N-E, at right 2P-N-E. The machine can make use of L1 and L2 plus E (without N) of the right electric mains configuration. Peak current is 28.2-35.3A.

3-phase / single phase conversion

The machine will be prepared in the factory for connection to either 3P-N-E or P-N-E/2P-E power and will show respectively 3N~400V or ~230V on the identification tag.

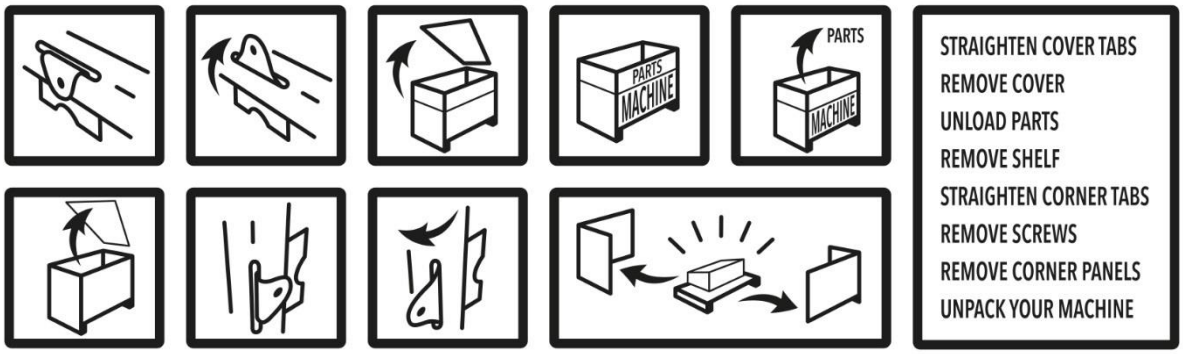
Conversion is possible but requires replacement parts. Replacement parts and instruction for the conversion can be obtained at: support@keesvanderwesten.com.

Check electric power (tension; Volts) of all the contacts where the supply cable of the machine will be connected to. The electric power should match with the set-up of the machine ordered. Mismatching electric power connections may lead to costly repairs.

Note!
National rules/regulations may apply when the appliance is connected to the electric mains.

Unpack

1. Straighten the tabs that fixate the lid to the wooden crate, then remove the lid.
2. Unpack only the loose materials inside the crate.
3. remove the shelf from the crate.
4. Straighten the tabs on the two diagonally ribs of the crate.
5. Undo the screws that hold the sides of the crate to the bottom.
6. Remove the sides of the crate from the bottom.



7. Check if all accessories are present.
8. Remove packing material from machine.
9. Check the machine for transport damage.
10. Get adequate help to lift the machine from the bottom of the crate onto the countertop.
11. First screw the lever-release pin in the group, then mount the lever with plastic handle over the unlock-pin (see Figure 11).

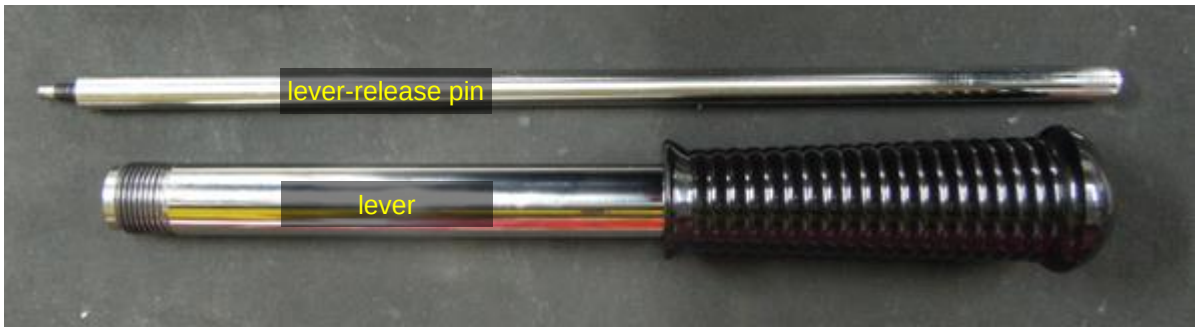


Figure 11. Showing the lever release pin (top) and lever (bottom).

Connect to water supply

Rated pressure: 0.1-0.9 MPa (1-9 bar)
Rated flow: minimum 4 litre/minute

The machine is equipped with a non-return valve that prevents water flowing back to the pump. A separate non-return (one-way/check) valve and 3/8” socket is supplied with the machine.

Notes!
When installing a new machine, always use new water supply hoses.
Do not re-use the hoses from a replaced machine.

- Connect water tap to the inlet of the water treatment system with a suitable hose (not included).
- Make sure the water treatment system has been flushed according to the manufacturers specifications.
- Close water mains.
- Mount the separate one-way valve with 3/8” socket to the inlet of the pressure reducer or the inlet of the pump, use a few windings of PTFE tape to seal.

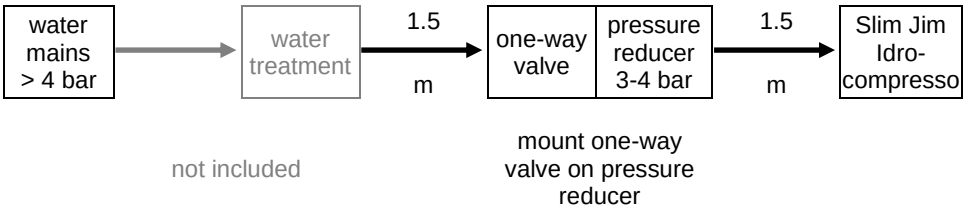


Figure 12a. Schematic set-up without the optional pump when water mains pressure is high enough.

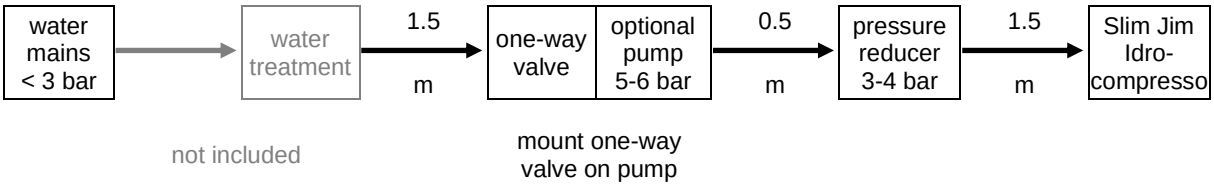


Figure 12b. Schematic set-up with the optional pump when water pressure is not high enough.

- When needed, use the short high-pressure hose to connect the pump to the pressure reducer.
- Mount the high-pressure hose that is connected to the machine onto the outlet of the pressure reducer.
- Open water mains.
  As there now is water mains pressure onto the machine, the coffee boilers will start to fill while compressing the air inside the coffee system.

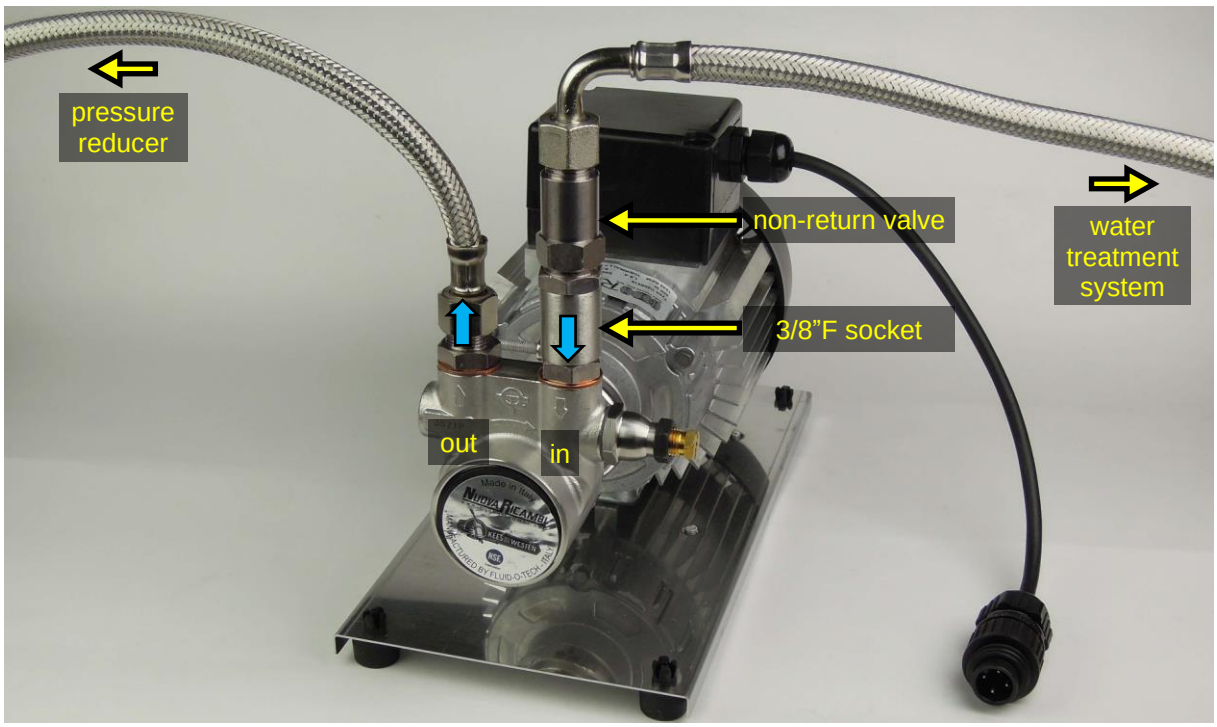


Figure 13. Showing the water connections on the (optional) pump. Water mains will be attached to water treatment system (not shown in the photo) and from there via the non-return valve to the pump onto the espresso machine. Note that the water treatment system and supply hose are NOT included in the shipment.

Figure 14. The AIGNEP (left, with one-way valve and socket) and Vesta (right) pressure reducer.

Note!
National rules/regulations may apply when the appliance is connected to the water mains.

Connect to drain/waste

- Normally, the drain hose of the machine will already be mounted onto the machine. The drain hose of the drip-tray is not yet mounted.
  - Slide a hose clamp over the separate drain hose.
  - Push the end of that drain hose onto the pipe of the drip-tray and tighten the hose clamp.
- Lead the two drain hoses to the waste of the location (with water lock!). To prevent clogging and/or pinching, make sure the hoses slope down all the way between the machine and the waste and make sure the hoses do not make a sharp bend or are led over a sharp angle.
- The drain runs off best when the end of the hose is above water-level in the water lock.

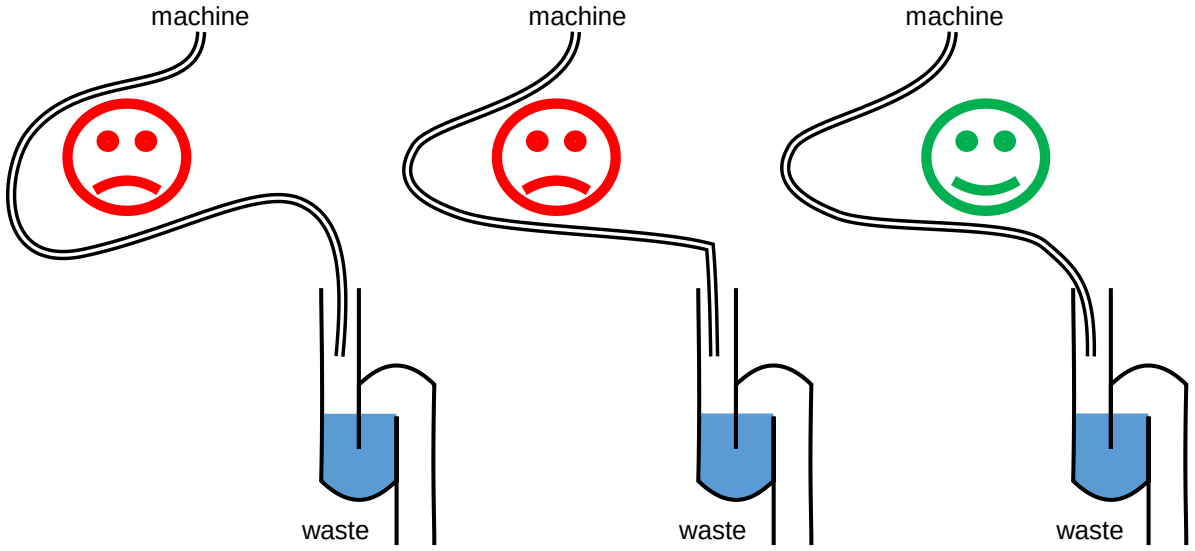


Figure 15. The drain hoses should not slope up (left) or make a sharp bend (centre).

Optional: connect pump cable

☠ Danger

If the pump connection cord is damaged it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard.

- Connect the female plug on the pump-cable to the male plug at the pump.
- Tighten the plugs with the latching ring (turn clockwise).

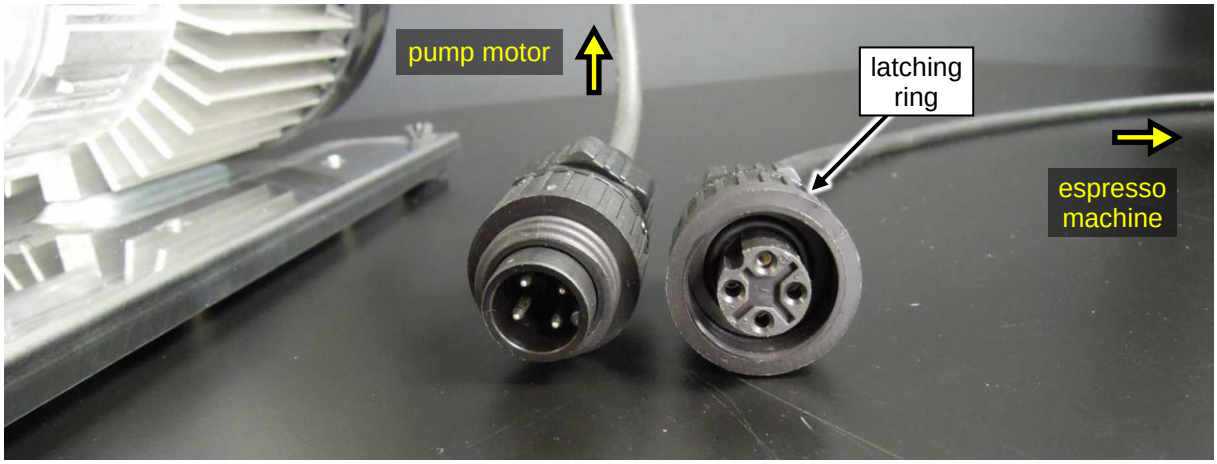


Figure 16. Plug the pump-cable onto the pump-motor and secure latching ring.

Connect electric mains

Rated voltage: ~230V / 3N~400V, 50 / 60Hz
Rated power: max. 35.3 (230V) / 13.9 (400V) Amp per phase, see Table 4 for details.

The appliance is to be supplied through a residual current device (RCD) having a rated residual operating current not exceeding 30mA.

Normally the mains cable will not have a plug attached to it. This is to allow for a smaller hole in the countertop to feed the cable through.

The machine can be equipped with 3 different mains cables, see Figure 17.

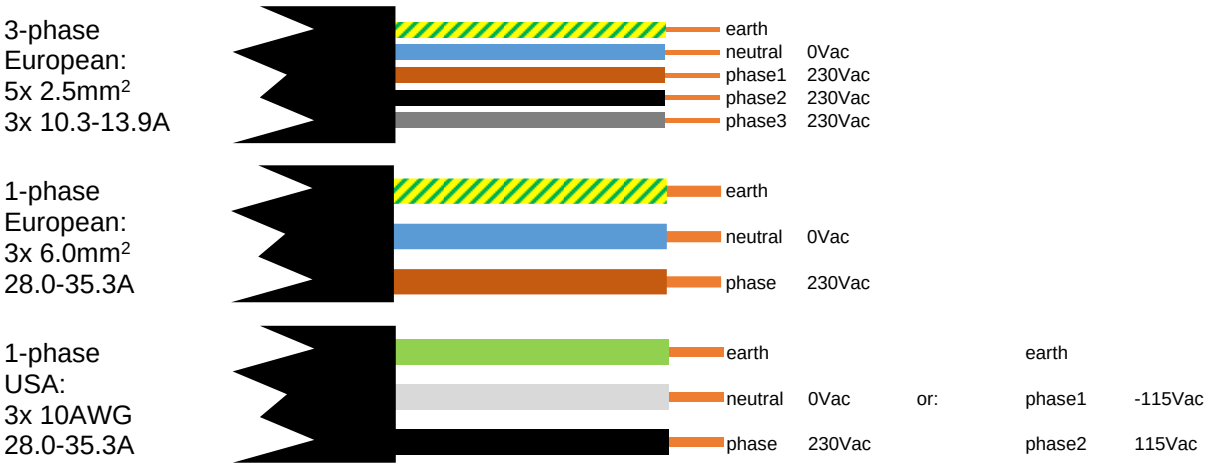


Figure 17. The 3 different main cables the machine can be equipped with. Note that in the "alternative" USA connection phase1 is described with -115Vac meaning "in counterphase to phase2".

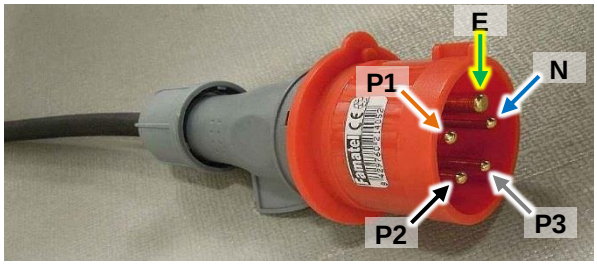
Check electric power (tension; Volts) of all the contacts where the supply cable of the machine will be connected to. The electric power should match with the set-up of the machine ordered. Mismatching electric power connections may lead to costly repairs.

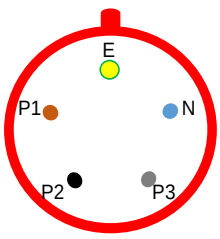
☠ Danger

If the supply cord is damaged it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard.

- Disconnect electric power in the fuse box of the building if the machine is hooked straight into a wall box.
- Check if all switches on the machine are in the OFF position (toggle-lever pointing down).
- Mount the cable directly into the wall connection box or mount the correct plug on the mains cable and plug into existing wall socket.
- Re-connect electric power in the fuse box.

If a 16A CEE 3P-N-E plug is already mounted on a new three-phase machine it will be connected as in Figure 18.



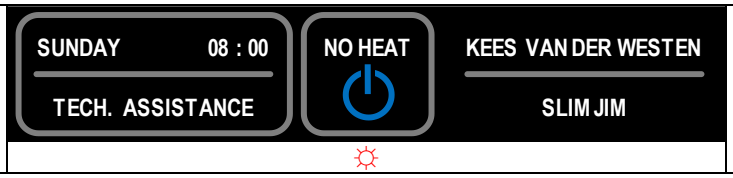


looking from right into the 16A CEE plug shown on left

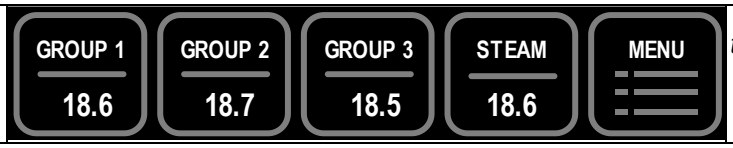
Figure 18. 16A CEE 3P-N-E plug mounted on mains cable.

First fill

1. (Verify that all 3 HEAT switches are in the OFF position: lever pointing down.)
   With the water-mains open and electric mains connected, turn the main switch ON (right hand side switch, toggle-lever up). The display will show a start-up window with software-version information and then turn to stand-by ("NO HEAT").

NO HEAT window		*stand-by mode: the boilers will not heat up* *touch "NO HEAT"*

2. Touch the centre button to turn the machine ON, the display will change to:

operational window (Triplette)		*temperature too low but no heating command*

On the Duette operational window, the GROUP 3 *"button" is not present. All separator bars are grey indicating that controller is not sending out any signal to heat.*

3. At this point the steam boiler will start to fill and, when present, the optional pump will be activated. As the coffee system up to now has been filled at water mains pressure, this will continue to fill due to the increased water pressure. Listen if you can hear water flowing into the steam boiler. If you do not hear water flowing, there may be a blockage in the fill-system that has to be resolved before continuing.
4. The controller has a safety shut-down when the fill valve is open for longer than 2 minutes. The steam boiler will not be completely filled yet after 2 minutes and the controller will thus shut down and the LED(s) on the Bastone units or touchpads will start flashing.
5. Switch the main switch OFF (toggle-lever down) and wait for the displays to go blank, then turn the main switch ON again, wait for the NO HEAT window, then touch the "NO HEAT" button: filling will continue after a few seconds.
6. During this second filling, safety-level in the steam boiler may be reached and the display will change (grey separator bars turn orange) to show that a heating command is given by the controller. Since the heat switches are still in the OFF position, the boilers will not heat up yet.

NO HEAT window		*stand-by mode: the boilers will not heat up* *touch "NO HEAT"*
operational window		*showing boiler temperatures and heating command*

On the Duette operational window, the GROUP 3 "button" is not present. Safety-level in steam boiler is reached. Orange separator bars indicate that the controller is sending out signals to heat to all boilers. Heating up will start only when the HEAT switches are in the ON position (see next section).

7. Flush all groups by shortly pressing Bastone handles down until water runs from the groups.
8. If the steam boiler is not yet filled after these 2 "runs", the LED(s) will start flashing again; repeat the turning OFF-ON procedure.
9. When the OFF-ON procedure has to be repeated more than 4 times, it is possible that the steam boiler does not fill (quickly enough) due to blockage in the system or very low (pump-) pressure setting. Check before continuing.
10. When the filling has stopped without the LED(s) flashing the steam boiler is filled up to operational level.
12. Re-check if water is flowing from all individual groups upon flushing of the groups.

13. Mount a portafilter with blind-filter in one of the groups and activate that group by pulling the lever into the locked position. After the cylinder is filled the pressure increases rapidly to the setting of the pressure reducer. Adjust the setting if not OK. You may also have to adjust the pump-pressure to appr. 2 bar higher than the pressure reducer setting (see Figure 19 and Figure 20).
14. Lowering the incoming-pressure will not have an effect on the pressure gauge as there is a check-valve in the coffee system. Unlock the lever and shortly press the Bastone handle to relief the group. Then re-start with #12 above. Remove the blind filter after this initial adjustment.
15. Press the mix-water button to see if water is flowing from the spout (this will be at very low flowrate as there is no steam pressure and thus no hot water yet).
16. Check the machine for leaks.

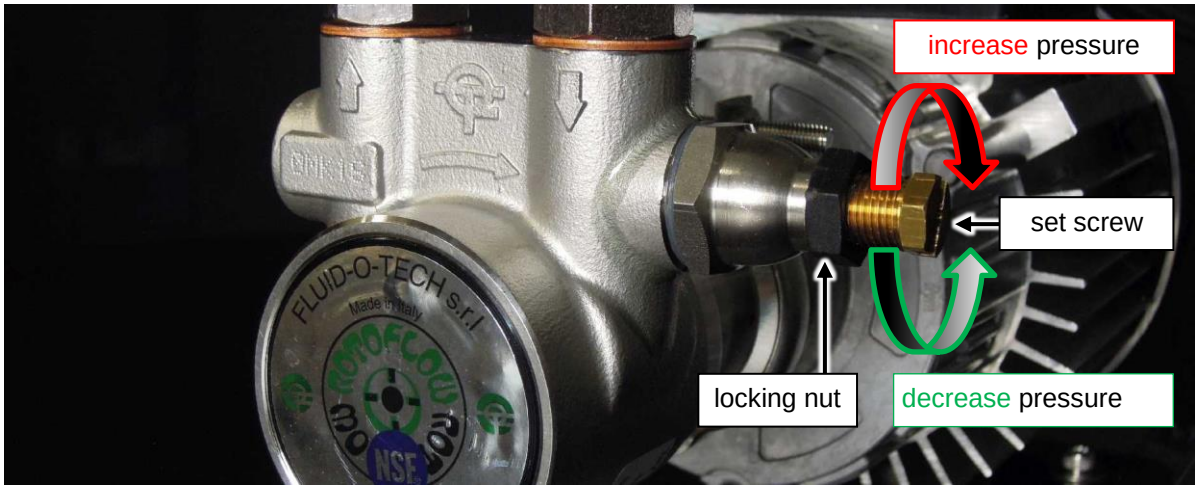


Figure 19. How to adjust the pump-pressure. Undo the locking nut, then twist set-screw to correct the pressure. Tighten the locking nut when done. Re-check brew-pressure after tightening the locking nut.

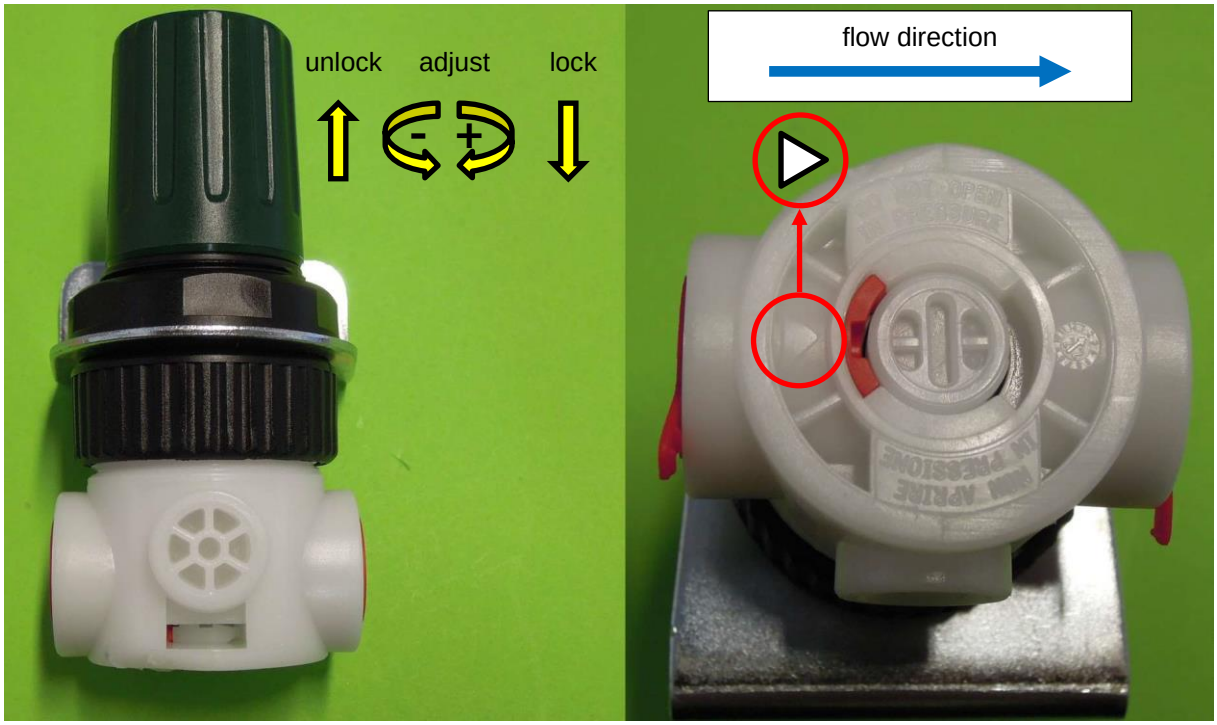


Figure 20. How to adjust the Vesta pressure reducer setting; procedure for the AIGNEP version is similar. Pull the knob out and then twist to the correct setting. When done, push the knob back in. Note that the machine will not lose pressure due to one-way valves in the system. Set the outgoing pressure during an actual brew (not with a blind filter).

Pre infusion characteristics

Incoming water pressure determines the pre-infusion characteristics of the machine: a higher setting will soak the coffee-bed quicker than a lower setting. With too low setting it is likely that a lot of air can accumulate above the water when pulling the lever into the locking position. With too high setting, extraction under higher pressure will start before the water in the cylinder is pressed trough the coffee bed by spring force. We suggest to start brewing with the pressure reducer set to 3 bar, if that seems to be too high or low, adjust the pressure up or down, according to your liking.

Heat up

1. Switch all three heat switches ON (lever up). This allows power to be fed onto the SSR's in the machine.
2. Check if all the green indicator lights underneath the electrics box are lighting up (see Figure 21).
    a. If a single indicator light does not light up, it is possible that the corresponding overheat safety switch has cut-out during transport:
    Turn the machine OFF (MAIN switch and all 3 HEAT switches), remove the appropriate body panel and press the central button of the overheat safety switch inward to re-set (see Technical manual).
    b. If corresponding indicator lights of a heat circuit (e.g. both most left lights of each set) do not light up it is possible that the corresponding auto-fuse has cut power to that circuit. Open the electrics-box (see Technical manual) to check the circuit breakers.

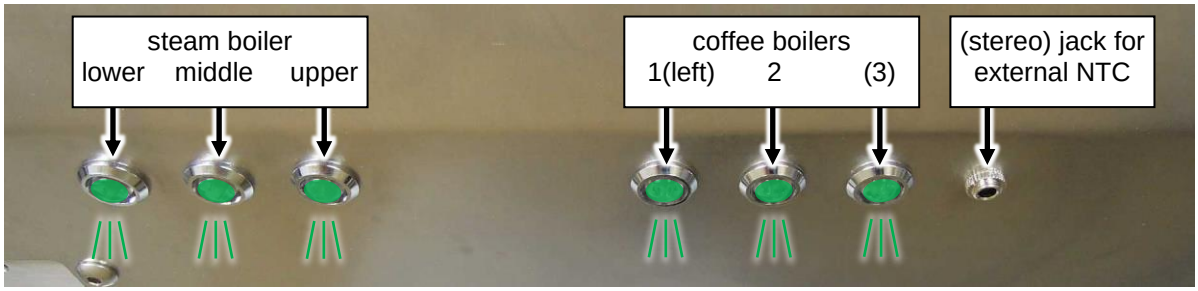
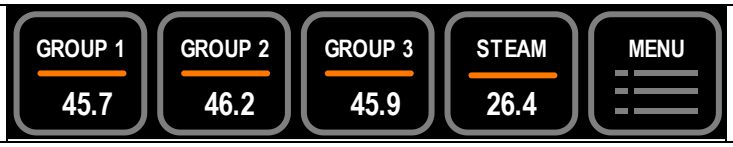
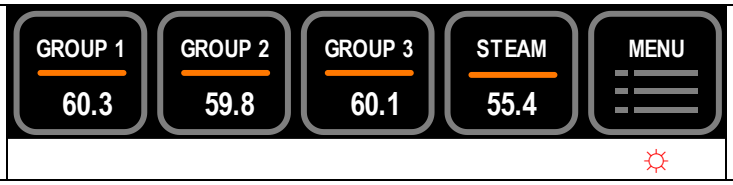


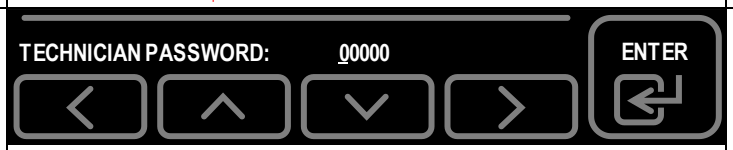
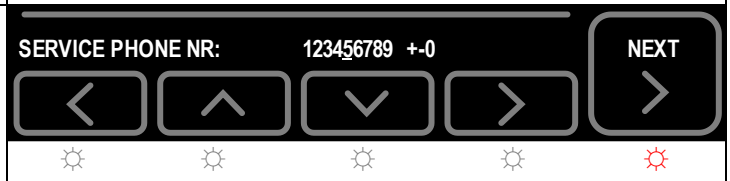
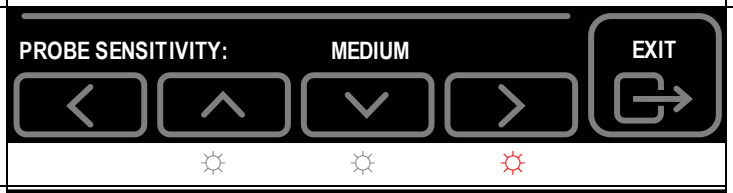
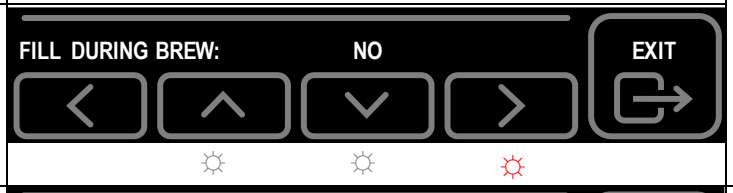
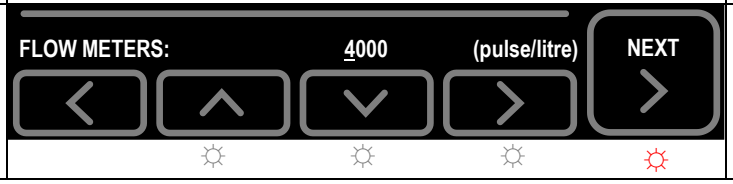
Figure 21. Indicator lights (and external sensor jack) underneath the electrics box. In a Duette the most right indicator (3) is not present. The above situation (all indicators are lit) indicates that all heating elements receive power.

3. Check heating up: When all indicator lights are lit (see Figure 21), the boilers will be heating up (unless the heating element is not functioning) and the temperature readings on the displays will increase. The steam boiler temperature will initially only rise very slowly as the sensor is located above the water level.

operational window		*at start coffee boilers heat up faster*

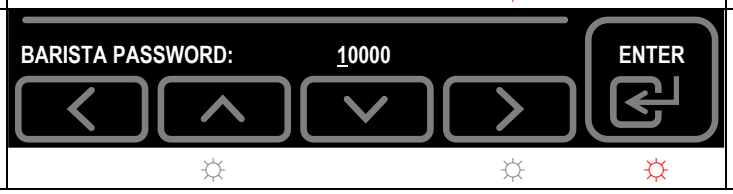
4. Heating up from 20°C to operational temperature will take about 15 minutes, during this heat-up:
Check expansion pressure: Make sure that all groups are filled with water (activate all groups and check if water flows from each group immediately). Mount blind filters in all groups, "flush" each group and then and pull all levers into locking position. Pressure will rise to pump pressure rather quickly and then slowly rise to a maximum pressure: the expansion pressure. The cold water heating up is expanding which leads to increasing pressure until the expansion valve starts to spill drops of water into the drain. The expansion pressure should be in the range 11-13 bar.
5. This would be a good moment to set/adjust a few parameters in the "technician level" of the controller:
On the touchpad: touch the "MENU" button, then the "SETTINGS" button, then the "TECHNIC LEVEL" button. In the next window construct the technician password using the arrows (the number 66666), then touch "ENTER". In the next windows a service telephone number can be stored, the level-probe sensitivity can be adjusted (low-medium-high, depending on water conditions), the choice made between filling possible during brew or not, and the flow-meter type adjusted (as this machine does not have flow meters, there is no point in adjusting that value).

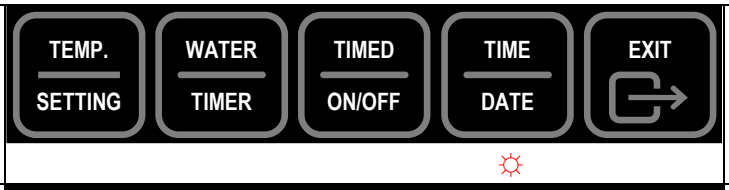
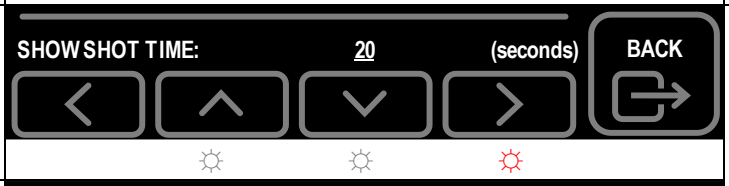
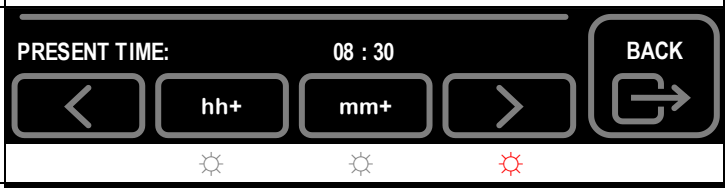
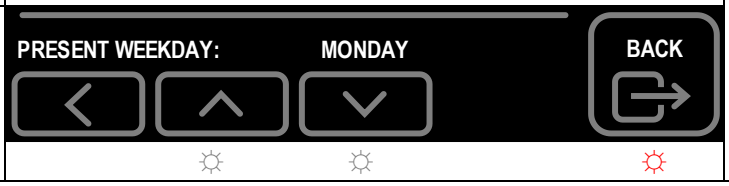
operational window		*touch MENU*

menu window		*touch SETTINGS*
settings window		*touch TECHNIC LEVEL*
enter technic level window		*the digit to change is underlined* *the password is: 66666* *use ^v to change values* *use <> to go to previous or next digit*
construct telephone number		
adjust level probe sensitivity		*use ^v to change values* *use <> to go to previous or next window* *use EXIT to return to operational window*
make fill during brew (im)possible		
*adjust controller to (new) flow meters**		*use NEXT to return to operational window*

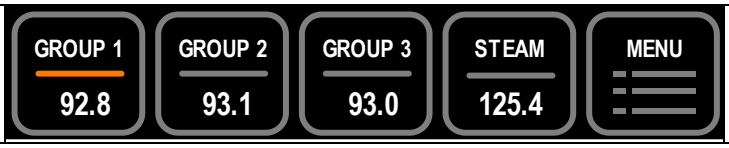
** there are no flow meters in the Idrocompresso version thus there is no need to change the parameter-value.*

6. Adjust present time and weekday in the “BARISTA LEVEL” (enter with password 10000), sub-menu “TIME DATE”.

settings window		*touch BARISTA LEVEL*
enter barista level window		*the password is: 10000*

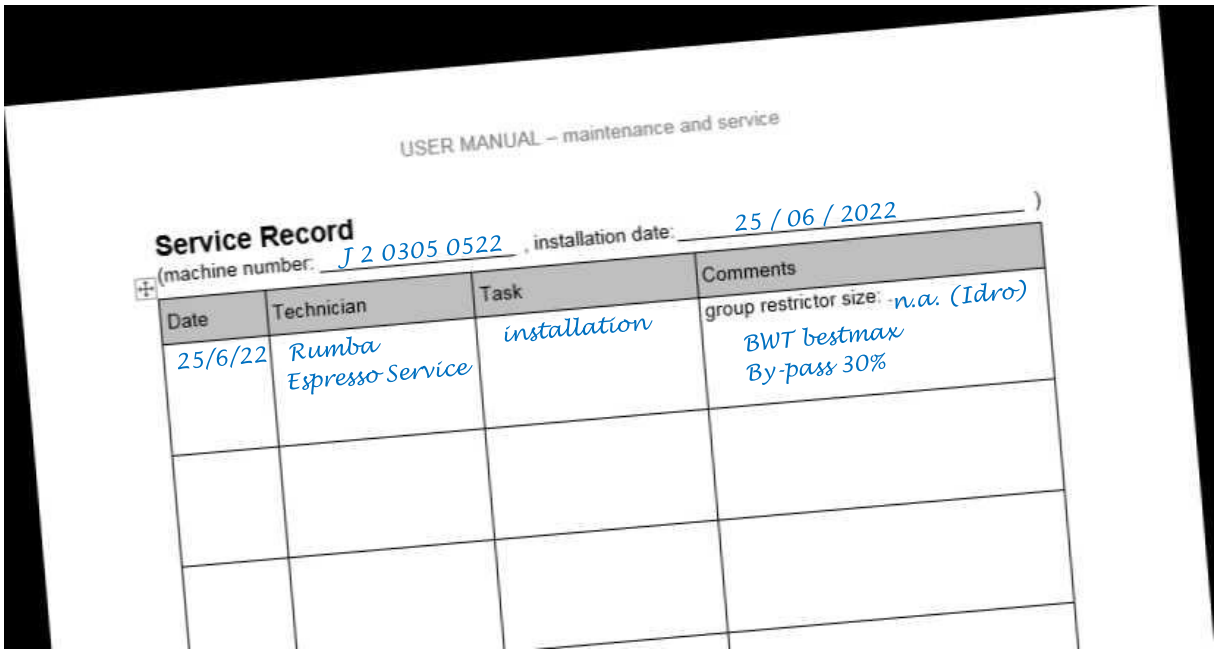
barista sub-menu window		*touch TIME DATE*
adjust duration of shot time display after brew		*use ^v or hh mm to change values*
adjust present time		*use <> to go to previous or next window*
adjust present weekday		*use BACK to return to barista sub-menu window*

7. If not set correct at the factory: adjust the temperature display from °C to °F or vice versa in the sub-menu “TEMP. SETTING”.
8. Ask if the cup-warming tray must be actively heated or not.
   For display in °C or °F: enter the temperature desired (max. 70°C or 158°F).
9. Check if the machine has warmed up to operational temperature on the “operational window” of the controller (the orange separators in the boiler buttons have turned grey at some time).

operational window		*set temperatures are reached, only group 1 is heating (shortly)*

10. Check the operational features of the machine:
    a. Open the steam taps for 30 seconds to release the remaining air above the water level.
    b. Operate the mix water dispensing button switch.
    c. Operate the hot water dispensing toggle switch.
    d. Flush the groups individually pressing the Bastone handles shortly.
    e. Brew a first coffee on each group to test functioning of set pressure. This first coffee will probably not be very tasty as the grinder may need adjustment.
    f. With correct grinder-setting and coffee-bed preparation check the pressure-reducer setting again, adjust when necessary (see Figure 19 and Figure 20).
    g. Measure the mix-water temperature (first make sure steam boiler is at operational temperature). Adjust temperature on inlet manifold when necessary (see page 26).
11. Check the machine for leaks.
12. Fill out he machine number and installation date on a service record and keep this with the machine.

TIP
Print the service record pages from the User manual (see Figure 22).



USER MANUAL – maintenance and service

Service Record

(machine number: J 2 0305 0522 , installation date: 25 / 06 / 2022)

Date	Technician	Task	Comments
25/6/22	Rumba Espresso Service	installation	group restrictor size: n.a. (Idro) BWT bestmax By-pass 30%

Figure 22. Print service record and fill out installation data. Keep this with the machine.

Adjust mix-water temperature

The temperature of the mix-water depends on:

1. the steam boiler temperature,
2. the temperature of the cold water,
3. the amount of mixed-in cold water, which depends on:
    a. incoming water pressure,
    b. cold-water orifice.
4. the temperature of the inlet-manifold.

Before adjusting the mix-water temperature make sure that the machine is (otherwise) fully operational and adjusted:

1. steam boiler at operational temperature,
2. pressure-reducer adjusted to correct infusion pressure.

The temperature of the manifold changes during use of the machine and this variation cannot be compensated for. For that reason we suggest to measure the mix-water temperature of a second dispense (appr. 100 ml) very shortly after a first dispense (100 ml) of mix-water.

The cold-water orifice can be adjusted on the inlet manifold inside the machine. The left side-panel of the machine has to be removed to access the inlet manifold.

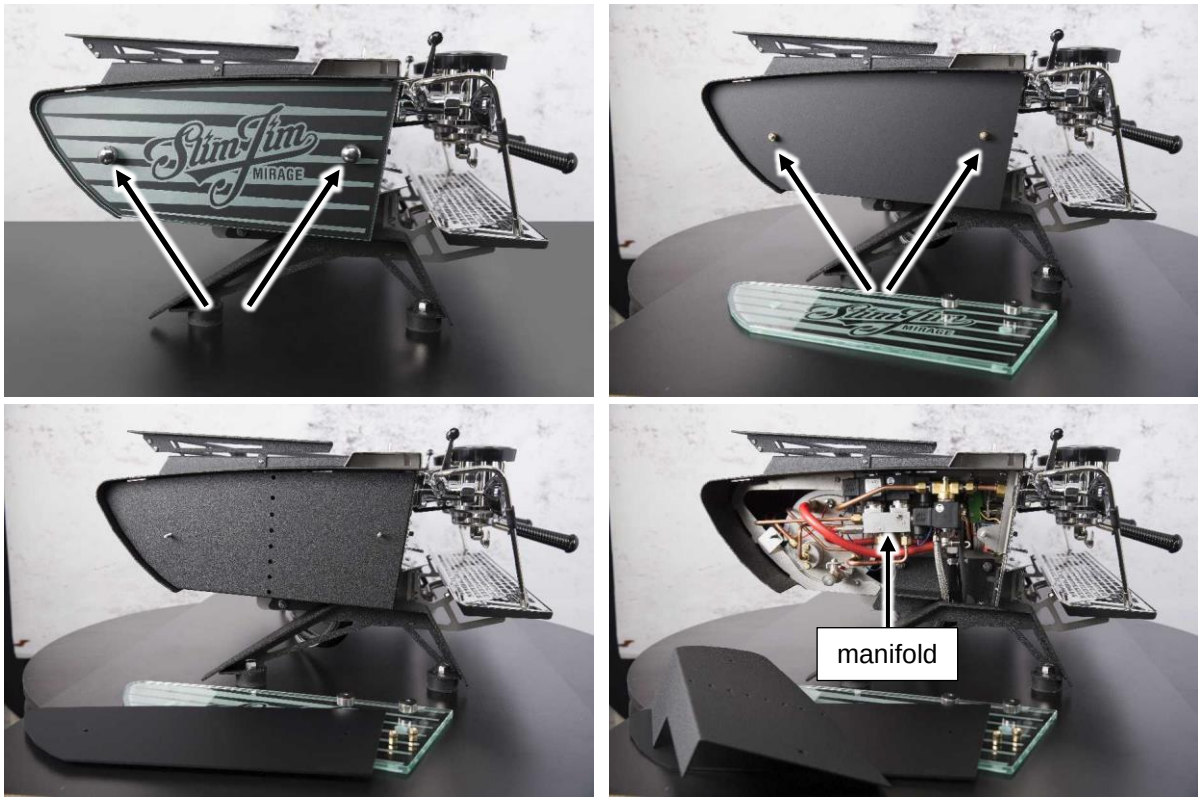


Figure 23. Undo the nuts and remove the left-hand side panel (when glass side panels are mounted you have to remove the underlying support nuts as well to be able to remove the inner panel).

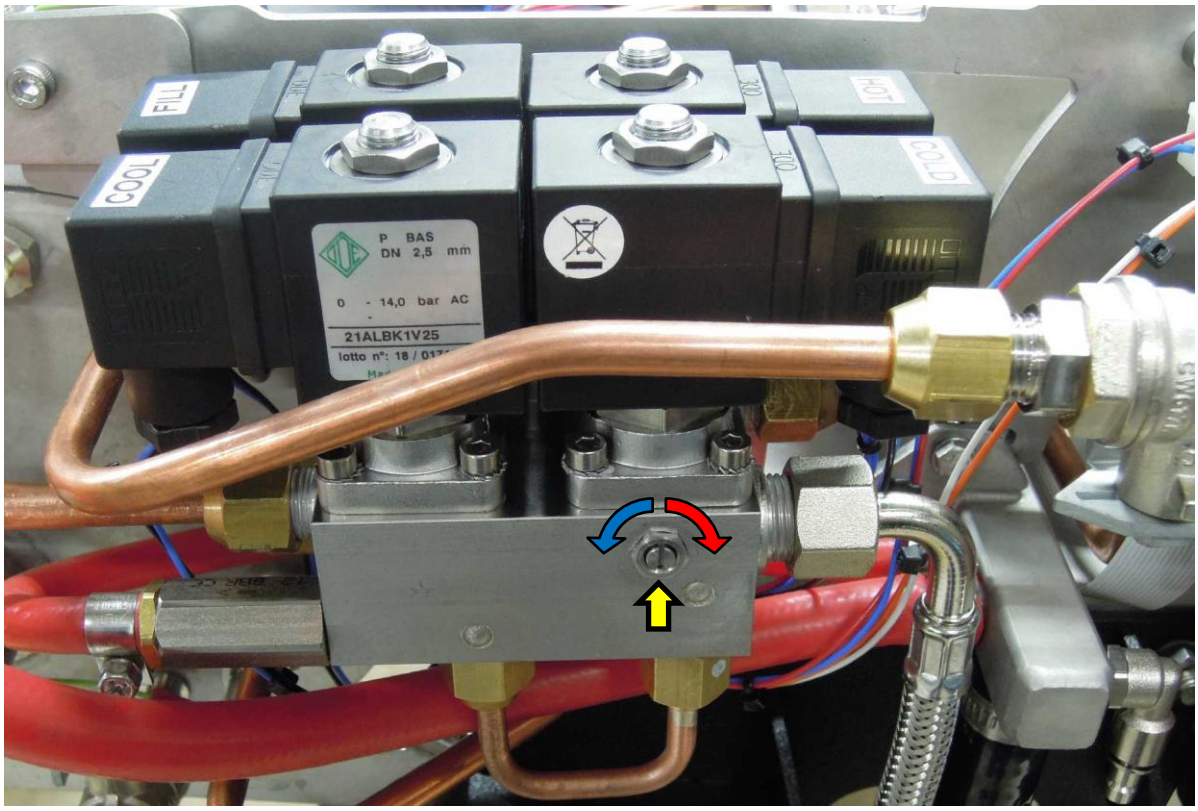


Figure 24. The location of the cold-water set-screw on the manifold. The locking nut prevents the set-screw from being dismounted and should not be loosened to adjust the set-screw.

Turn the cold-water set-screw clockwise to increase the mix-water temperature and anti-clockwise to reduce the mix-water temperature. Note that water temperature is not fully constant over a dispense and depends also on the amount of use of the mix-water. Re-mount the side panel when the correct temperature is obtained.

Adjust resting spring length to match groups

Every spring that comes from the manufacturer has some tolerance in its force-displacement trajectory. To even out differences between springs and thus brew-pressure profiles between groups, the “resting” length of the spring can be adjusted by approximately 10mm. On a new machine, spring force will be matched. You may have to adjust the resting spring length after prolonged use or machine maintenance.

Notes!
Resting spring length should only be adjusted when the brew-lever in (upper) position as this results in less strain on the mechanism.

The adjustment allows for a limited difference between minimum and maximum setting. It is not meant to drastically change the pressure profile of the brew.

procedure

1. Check maximum resting spring force of groups (highest brew-pressure per group).
    a. Fill a portafilter, equipped with blind-filter, with water and lock in the group.
    b. Flush the group (upper handle).
    c. Pull the brew-lever into locking position, then unlock.
    d. Press the relief button until the brew-lever has returned to resting position.

a-d is done to reduce the amount of remaining air in the group.

    e. Pull the brew-lever into locking position again, wait until pressure is stable, then unlock.
    f. The brew-lever should remain in slightly elevated position and feel firm when pushed up, if not: repeat b-d.
    g. Make a note of the pressure displayed on the pressure gauge[2].

    h. Repeat steps a-g for the other group(s).
    i. Determine what group to adjust.
    Normally you will increase the lower pressure until it matches the highest pressure.

Figure 25. The spring-length adjuster disk. Insert a tool in one slot on each side of the group, use these to twist the disk.

[2] Check pressure quickly. When cold water enters the group it gets locked between the blind-filter and a check-valve. If that colder water heats up, it expands which will lead to extra pressure on top of the spring pressure and you will see a slow increase in pressure while watching the gauge. To eliminate for this, the procedure could be done with the heat turned off. However, friction in a cold group is higher than in a warm group which will lead to other uncertainties in the adjusting procedure.

2. Adjust initial spring length.
    a. Make sure that the brew-lever is in resting (upper) position.
    b. Insert one special tool on one side of the adjustment ring (see Figure 25), the other tool on the opposite side.
    c. To increase pressure turn the adjustment ring down (clockwise as seen from above) while exerting even momentum on both special tools.
    d. Check the maximum water pressure of the group again (see above).

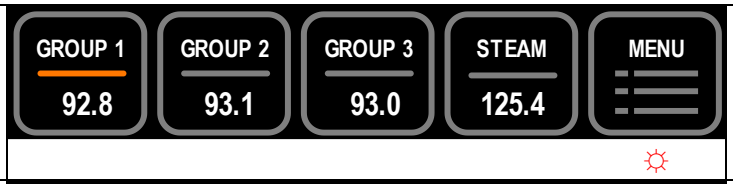
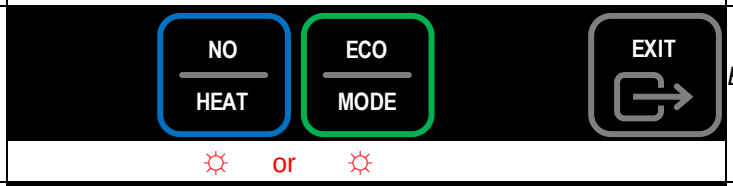
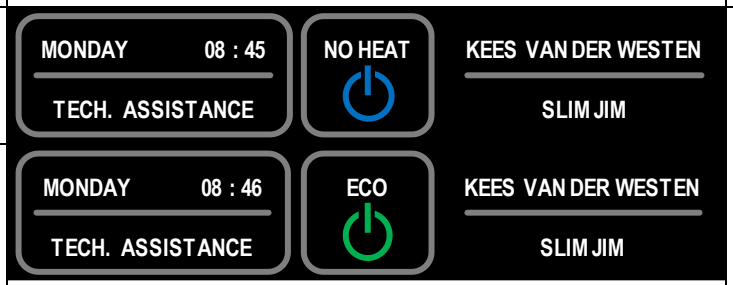
> **△ Caution!**
> Over-shortening of the spring will lead to serious damage to the lever mechanism.
> When the spring gets shortened too much, the individual coils will touch each other and it may be difficult, if not impossible, to get the brew-lever into locking position. When you encounter more than usual resistance before the brew-lever locks, turn the adjustment disk a little upwards until locking is easy again. Then adjust the other group(s) by decreasing its (their) initial spring force.

    e. Adjust initial length again if not yet satisfactory.

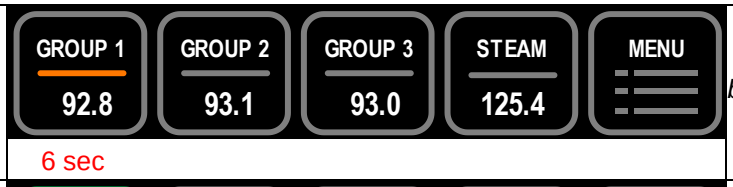
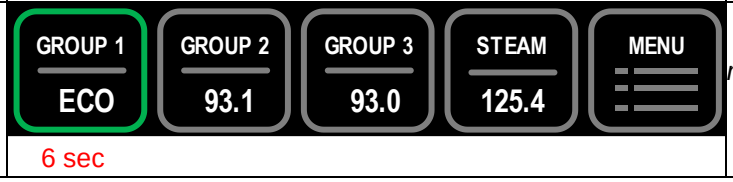
Hand over machine

Explain the new owner/user the most important functions of the machine. This should at least include:

1. Change machine from OPERATION to ECO and to NO-HEAT,
   show telephone number to call for technical assistance.

operational window		*touch MENU*
menu window		*touch STAND BY*
go to stand-by window		*use NO HEAT or ECO MODE to go to stand-by*
stand-by without heating		*touch centre button to return to operational window* *touch left side to show telephone number*
stand-by at lower temperature		
contact maintenance window		*use EXIT to return to stand-by*

2. Explain profits of ECO w.r.t. NO HEAT.
3. Change individual boiler to ECO and back (manipulation of the Bastone or touchpad will take the boiler out of ECO as well).

operational window		*touch-hold a group button for 6 seconds*
operational window, group 1 at ECO		*touch-hold again or manipulate Bastone/ touchpad to return*

4. Show how to enter the Barista menu (password: 10000) and:
    a. how to change temperature settings
    b. what is possible in TIMED ON/OFF
    c. how to adjust present time/weekday
5. Convince the new owner of the importance of water quality and regular checking of the water treatment system.
6. Explain the owner about maintenance, preventative service and emergency repairs.
7. Tell the owner/user what to do when there seems to be a malfunction:
    a. see user manual for checks that should be performed by the barista/owner before calling for help
    b. show telephone number on controller
8. Illustrate that filling out the maintenance history/service record helps to solve problems when a malfunction occurs.
9. Direct the owner/users to the User manual on our website.

    urge the owner/users to read the user manual.

Maintenance

⚠ Warning!

Maintenance on the machine should be done by a qualified technician. Parts of the machine can reach a temperature of close to 130 °C (266 °F). The steam/hot water boiler contains water and pressurised steam of 125 °C at 1.35 Bar overpressure (257 °F at 20 PSI), temperature and pressure in the coffee system may reach up to 96 °C at 12 Bar overpressure (205 °F at 175 PSI).

When servicing the machine it is sometimes necessary to keep the machine connected to the AC power outlet and the machine switched “on”. In both cases there is a possibility that you touch a live wire.

☠ Danger

We cannot be held responsible for damage and/or injuries resulting from actions performed on our machines by non-qualified personnel.

Any qualified technician working on the machine is urged to thoroughly read the latest edition of the “Technical manual” which can be obtained via:

support@keesvanderwesten.com

When seeking contact with the e-mail address above, please forward the model and serial number of the machine in question.

Contact information

Kees van der Westen Espressonistic Works B.V.
Van Elderenlaan 6
5581WJ WAALRE
The Netherlands

Telephone *+31 40 2223433*
Email *support@keesvanderwesten.com*
Website *www.keesvanderwesten.com*

Ordering replacement parts
Order spare parts via:
spareparts@keesvanderwesten.com

Please supply machine details (model and serial number) and full contact information when ordering.