



Pre-installation guide and unpack instructions SPIRITELLO

FOREWORD

Thank you for choosing the Spiritello.

At Kees van der Westen, we quietly craft exceptional espresso machines for those who appreciate the art and essence of brewing great espresso. We spare no details when it comes to designing and engineering our machines. We hope you share the same excitement for preparing the arrival of your machine!

For inspiration or information about our espresso machines go to www.keesvanderwesten.com

About this document

This document is the pre-installation and unpacking manual for the Spiritello espresso machine (in this document referred to as 'espresso machine'). This document gives instructions on the correct preparation of your countertop, hydraulic connections, electrical connections, and prepares you for the unpacking of the espresso machine.

This document is intended for the contractor in charge of preparing the countertop and/or the installer of the espresso machine.

Symbol Meaning		
	Safety instruction that, if ignored, could result in death or serious injury.	
	Safety instruction that, if ignored, could result in moderate or minor injury.	
NOTICE	Safety instruction that, if ignored, could result in damage to the product.	
NOTE	Instruction that could be important to certain readers.	

Symbols used in this manual

TABLE OF CONTENTS

1	SAFETY	4
1.1.	(Safety) symbols and labels on the product and packaging	
1.2.	Safety warnings and regulations	
2	TRANSPORT AND STORAGE	6
3	INSTALLATION REQUIREMENTS	6
3.1.	Required tools	
3.2.	Water requirements	
3.3.	Space requirements	
3.4.	Countertop requirements	
4	ELECTRICITY INSTALLATION REQUIREMENTS	12
4.1.	Single-phase connection (~230 V - 50/60 Hz)	
5	UNPACKING INSTRUCTIONS	14
5.1.	Removing the box	
5.2.	Removing the machine from the pallet	
6	DISPOSAL	16
-		_



1 SAFETY

1.1. (SAFETY) SYMBOLS AND LABELS ON THE PRODUCT AND PACKAGING

Symbol	Meaning	Description
	This side up	Always transport and store the crate with the arrows pointing upwards.
Y	Fragile components insides	Always transport and store the package carefully. Do not bump or drop crate.
	Keep dry	Always make sure the crate is kept dry.
X	Do not stack the crate	Never stack the crate on top of another crate and never stack anything heavy on top of the crate.
FI- 54542 NT	International Plant Protection Convention marking	The marking indicates that the wooden packaging is IPPC certified.
20 PAP	Corrugated cardboard	The marking indicates that it is manufactured using corrugated cardboard.
NoFrost	No frost	Keep above freezing point of water (0 degrees Celsius; 32 degrees Fahrenheit

1.2. SAFETY WARNINGS AND REGULATIONS

Risk of physical injury

 Always read and understand the (safety) instructions in this manual before performing pre-installation and before unpacking the espresso machine.

Risk of electrocution

- Always have the espresso machine installed by a qualified electrician or have a qualified technicial inform you on the correct installation of the espresso machine.
- Always make sure the mains power breaker is switched off before testing or performing any electrical work.
- Always follow local and national law, and regulations when performing electrical work on the mains power and only have authorised electricians perform the electrical work.
- Always check the power cable of the espresso machine for damage. Never connect the espresso machine to the mains power when the power cable is damaged. Always have the damaged power cable replaced by an authorised electrician or service engineer.

Risk of physical injury

• Always lift the espresso machine with at least two persons. The espresso machine is heavy and can lead to back injury when lifted alone. Never lift the espresso machine by yourself.

NOTICE

Risk product damage

- Always lift the espresso machine by the legs of the espresso machine. Lifting the espresso machine by any other parts can result in the parts being damaged. Never lift the espresso machine from any other parts.
- Always use the included new hose set when preparing for installing the espresso machine. Old hose sets can be damaged, and lead to leakage, or product damage.

2 DIMENSIONS AND WEIGHT

The delivery box of the espresso machine has the following specifications:

Espresso machine	Dimensions (D × W × H)	Gross weight
Spiritello	73 × 73 × 79 cm (29 × 29 × 32")	60 kg (133 lb)

3 INSTALLATION REQUIREMENTS

▲ WARNING

Risk of physical injury

• Always read and understand the safety instructions in chapter **1 Safety** before performing any pre-installation work.

3.1. REQUIRED TOOLS

The pre-installation and unpacking of the espresso machine requires the following tools:

Pre-installation:

only when permanent connection to electric mains, water mains and/or sewer is wanted.

- Electric drill
- Hole saw (intended for countertop material) dependent on preferred feed-through holes:
 - **-** Ø20 mm
 - **-** Ø25 mm
 - **-** Ø30 mm
 - **-** Ø40 mm
 - **-** Ø50 mm

Unpacking:

- Knife
- Allen key (3 mm)
- Allen key (8 mm)
- Spanner (17 mm)

3.2. WATER REQUIREMENTS

For optimal operation, durability and taste, the espresso machine requires specific water input specifications. The following paragraphs describe the water requirements.

3.2.1 Water quality

Always have the local water quality tested before installation. Contact the water supplier for information on potential water quality changes throughout the year.

The optimal water quality input for the espresso machine is highlighted with green in the graph below, labeled 'SCA core zone', and have a pH between 7.0 - 7.5 (at 25 °C):



Besides the alkalinity and total hardness requirement, the water quality should meet the following requirements:

Parameter	Target	Acceptable range	Unit
Hardness	72	50 - 175**	ppm
Total Alkalinity	40* **	40 - 75**	ppm
рН	7.0*	6.5 - 7.5*, 6.5 - 8.0**	
Electrical conductivity		< 3 times Alkalinity (in ppm)**	µS/cm***
Total dissolved solids	150*	75 - 250*	Ppm***
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* **			
Chlorine**, Hypochlorite#, Chloramines		Not present	
Iron**, Lead**, Manganese		-	

* SCAA Technical Standards Committee, 2009: water properties for optimum taste.

** Values from "The SCAE water Chart" (2015).

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

3.2.2 Water quantity

Keep water level in the tank above minimum, but not over maximum, level, or: when directly fed by water mains, the water supply must:

- deliver at least 2 L per minute (0.5 gal(US) per minute);
- have pressure of 0.25 1 MPa (2.5 10 bar; 35 145 psi).
- for optimum performance of the espresso machine in case that water mains pressure is above 0.5 MPa we advise to install a suitable pressure reducer (to 0.5 Mpa; 5 bar; 72 psi).

NOTE

A water treatment system can reduce the water pressure, therefore: check the water pressure where the water leaves the water treatment system.

The espresso machine has an internal rotary vane pump and comes with one high pressure hose set (one hose with length 2 m; 6.5 ft; BSPP 3/8" female connector), but without a water treatment system.

3.2.3 Water treatment system

When you connect to water mains and use a water treatment system it must:

- deliver a minimum amount of 2 L per minute;
- have a carbon block that traps drug-remnants, Chlorine, organic compounds and prevents rigid particles >30 µm entering the pump;

ΝΟΤΕ

If the resulting water does not fall into the SCA "core-zone" (see image 1) have additional treatment installed.

The distance between the water treatment system and the espresso machine should not be more than 2 m. Otherwise, a longer high pressure hose set is needed.

ΝΟΤΕ

The delivery does not include a hose set that may be needed for the connection between water treatment system and tap-water outlet.

3.2.4 Water drainage

The espresso machine can be fitted with a drain hose, on the drip tray. The drain hose must:

- always slope downward;
- end above water level in a ≥ 16 mm drainage pipe with a P-trap (preventing sewer odours)
- before fitting the drain hose the factory standard plug in the drip-tray must be removed (3 mm Allen key is needed).

3.3. SPACE REQUIREMENTS

3.3.1 Machine dimensions



3.3.2 Machine feet placement

The following image shows the location of the feet (± 5 mm):





3.4. COUNTERTOP REQUIREMENTS

Make sure the countertop:

- Can easily hold the weight of a fully filled espresso machine (> 45 kg), and with all accessories and machines required for an operational espresso bar (one or two coffee grinders, tableware, etc.);
- Is flat, stable and level;
- Has the correct feed-through holes for the water feed hose, drain hose and the electric cable:

Connector	Required hole size (in mm)
Water feed hose	Ø25
Drain hose	Ø20
Water feed + drain combined	Ø40
Electric cables	Ø30
All combined	Ø50

NOTE

Not all connector types will fit through the required hole sizes. Always measure twice to make sure the connectors fit the feed-through holes.

For the least visible result, we recommend making the feed-through hole near the rear feet:





4 ELECTRICITY INSTALLATION REQUIREMENTS

▲ WARNING

Risk of physical injury

• Always read and understand the safety instructions in chapter **1 Safety** before performing any electrical work on the espresso machine or the local mains power.

The espresso machine's electrical circuits is intended to operate on 230 Vac (safe operation between 220 – 240 Vac). There are different options to connect the mains power to the espresso machine.

1. P-N-E: single phase (P) with neutral (N) and Protective Earth (E).

2. 2P-E: two-phase/split phase/counter phase (2P) with Protective Earth (E); without neutral.

The circuit the espresso machine is connected to must have a residual-currentcircuit-breaker of max. 30 mA.

NOTICE

Risk of product damage

• Always check the individual leads of the locations wall connection box before installing the espresso machine.

4.1. ELECTRIC MAINS CONNECTION (~230 V - 50/60 HZ)

A single-phase espresso machine must be connected to:

- A **P-N-E power supply**, which includes one phase (P), a neutral (N), and an Earth (E) as shown in image 5.
- Or a **2P-E power supply**, which includes two phases (L1 and L2) and an Earth (E) as shown in image 6.

NOTE

The 2P-E configuration only uses the live wires and does not utilize the neutral wire of the electric mains.

The voltage between the phase and neutral (P-N-E power) or between the two phases (2P-E power) should be 220 – 240 V AC.

NOTE

With single-phase power, the peak current in the mains cable and the location's wiring is significantly higher than with three-phase power.



In the 2P-N-E (split-phase) setup, the espresso machine uses the L1, L2, and E (without N) connections at a peak current of 11A.

NOTE

In some locations split-phase power for the machine is supplied using two of the individual lives of 3-phase power, resulting in a tension below 220V AC. It is recommended to install an appropriate step-up transformer (5-10%, >11A) in order to increase the voltage.

Spiritello		
Tension (single phase)	220-240 V	
Frequency	50/60 Hz	
Peak power	@ 230V 50 Hz	2500W
Peak current	@ 230V 50Hz	10.9 A

5 UNPACKING INSTRUCTIONS

The espresso machine comes delivered inside a cardboard box, secured to a wooden pallet. The following paragraphs describe the correct disassembly of the box and the removal of the espresso machine from the pallet.



5.1. REMOVING THE MACHINE FROM THE BOX



- 1 Cut the straps and tape.
- 2 Remove the parts from the upper level.



Image 8 Removing the upper level and box.

- **3** Remove the upper level.
- 4 Lift the box from the pallet.

5.2. REMOVING THE MACHINE FROM THE PALLET



Image 9 Loosening the cap-nut, removing the bolt and washer

- 1 Remove the Allen bolts (8 mm Allen key) from the 4 brackets
- 2 Use a 17 mm spanner to loosen the cap-nuts on the legs. Do not remove the nuts.
- 3 Carefully lift the leg and remove the bracket.

▲ CAUTION

Risk of physical injury

- Always lift the espresso machine with at least two persons. The espresso machine is heavy and can lead to back injury when lifted alone. Never lift the espresso machine by yourself.
- 4 Retighten the cap-nut on the leg.
- 5 Repeat steps 2-4 for each leg.

6 **DISPOSAL**

Dispose of the packaging material through your local recycling facility. Always follow the local law and regulations when disposing of the packaging. By properly disposing of packaging material and packaging waste, you help prevent potential risks to the environment and public health.



Kees van der Westen Espressonistic Works B.V.

Van Elderenlaan 6 • 5581 WJ Waalre • The Netherlands www.keesvanderwesten.com

EN – Original instructions | V1.0 | 11/2024