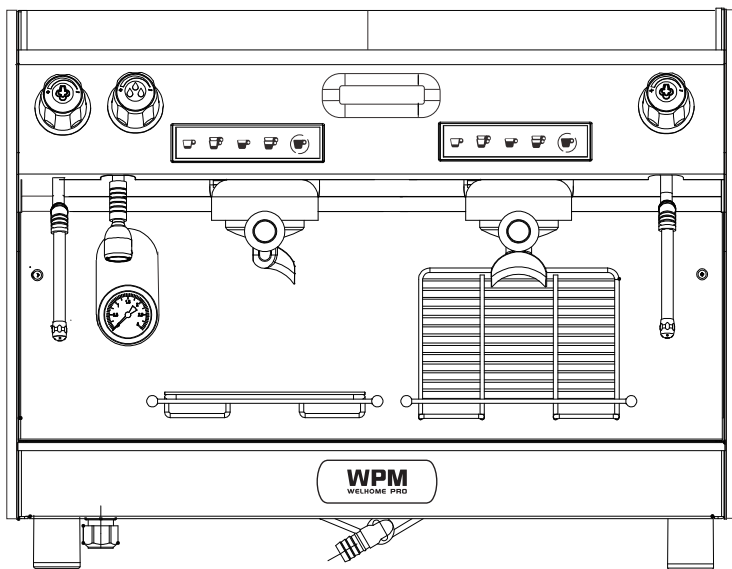


WPM

KD-500N

Coffee Machine
Instructions Manual



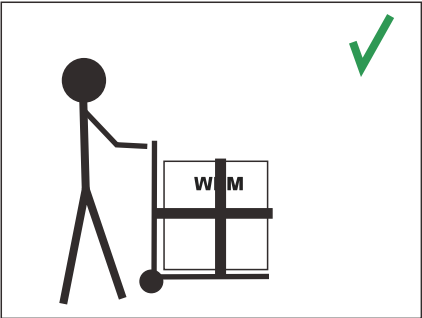
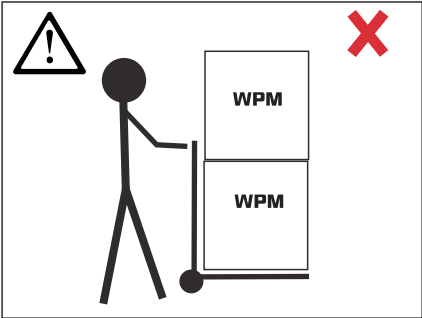
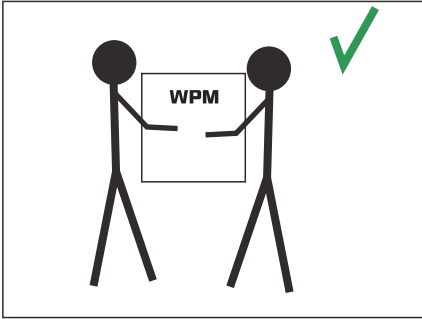
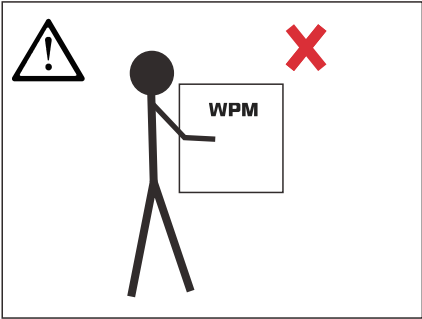
Content

Symbol description	4
Handling	4
Safety precaution	5
Installation notes	7
Use and maintenance notes	10
HACCP schedule	11
Main features	12
Description of the machine	13
Starting up	16
Dispensing	17
Dose programming	19
Parameter programming	20
Cleaning	22
Special calibration and operation	24
Boiler drain	25
Troubleshooting	26
Alarms	27
Suggested ordinary maintenance	29
Disposal	29
Product Specifications	30

Simbol description



Handling



Safety precautions

Thoroughly read the instructions contained in this booklet because it gives important information regarding safety for installation, use and maintenance.

Keep this booklet in a safe and accessible place for further consultation.

This machine must be used only for the purpose it was designed: dispensing coffee, cappuccino, pouring hot water.

Any other use is to be considered inappropriate and therefore dangerous.

The manufacturer declines all responsibility for damage caused by any improper, incorrect and unreasonable use of the machine.



The use of any electric appliance implies the observance of some fundamental rules.

More specifically:

-The appliance should be installed from a professional skilled technician with knowledge about electrical connections and Hydraulic connections.

In case of any doubt please contact the authorized distributor

During installation, fit a device that guarantees disconnection from the mains, duly sized according to the power of the equipment (see rating plate), as well as protection against leakage current with a value equal to 30mA. This cut-off device must be assembled on the power supply line in compliance with installation rules.

-Do not touch the appliance with your hands or feet wet or damp

-Do not use the appliance with bare feet

-Do not pull the power cord to disconnect the plug from the power socket

-Do not leave the appliance exposed to the weather (rain, sun, frost)

-Do not let children or untrained persons use the appliance.



Before carrying out any cleaning and maintenance, disconnect the appliance from the power supply, pulling the plug from the power socket and turning off the main switch.



In case of failure or malfunction turn the machine off and do not attempt to carry out any repairs or direct operations on the machine.

All repairs must be carried out in an authorized service centre, using original spare parts only.

Failure to comply with the above recommendations will compromise the safety of the machine and the warranty conditions.

If this machine is no longer used we recommend that it is made inoperative by disconnecting the cable from the power supply, and all potentially dangerous parts are made harmless, especially to protect children who might use the machine for their games.

Installation notes

Installation must be carried out according to the manufacturer's instructions.



An incorrect installation can cause damage to persons, animals or things; the manufacturer declines all responsibility for such situation.

Place the machine on a table having minimum height of 0,95mt. Furthermore the surface has to be flat, having a maximum inclination of 5°, in order to secure a perfect stability. Check also that the table can bear the weight of the machine.

This is a commercial machine and is not designed for home use and must be operated by duly qualified persons.

The machine must not be used by children or people with reduced mobility, sensory, mental or lack of experience or education, unless there is a supervisor.

After unpacking check that the machine is not damaged.

If in doubt, do not use the machine and contact an WPM Authorized Service Centre.

All packing materials (plastic wrapping, polystyrene, nails, etc.) are potentially dangerous and must be kept out of children's reach and disposed of in a safe manner for the environment.

Before connecting the machine to the power supply make sure that the rating information of the machine correspond to that of the power supply, and that the power supply is adequate to additional power absorption of the machine.

The machine is supplied with power cord, connect the machine to the main switch with knife switch and protection fuses. In case of maintenance, open the knife switch.



The machine with single phase voltage, having a rated current more than 16 A , must be connected to power supply with a dedicated impedance.



The electrical safety of this machine can be guaranteed only if correctly connected to an efficient earth circuit as indicated by current electrical safety regulations.

It is necessary to check this fundamental safety prerequisite, and in case of doubt, ask a professionally qualified technician to check the circuit.

The manufacturer declines all responsibility for any damage caused by failure to earth the equipment.

In order to avoid any dangerous overheating, we recommend that the power cord be fully unwound.

In case of damage to the cord, contact exclusively an authorized service centre to have it replaced.

The power cord of this machine must not be replaced by the customer.

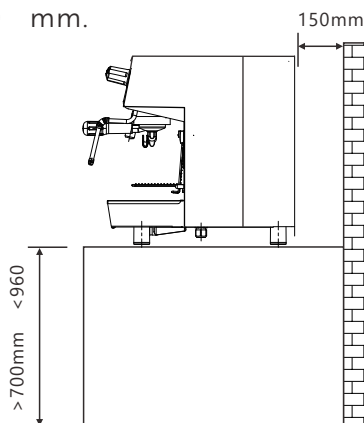
Do not leave the machine connected unnecessarily.

Turn off the main switch of the machine when not in use.

Positioning the machine:

Do not cover the ventilation openings of the machine.

- Indoor with temperature above 5 °C.
- At a minimum distance of 150 mm from walls or other objects, to facilitate ventilation.
- Horizontally, on a flat, stable surface, at a height between 700 mm and 960 mm.



Power main connection:

Before connecting the machine to the power supply, make sure that the power switch is in "0" position and that data on the plate correspond to those of the electrical distribution network.

The connection to power mains must be done by a skilled technician in compliance with applicable regulations;

In the case of a machine with direct connection to the electrical panel, where there is no plug, make sure that the connection point incorporates an omnipolar disconnection device suitably sized according to the electrical power of the machine (see plate), with an opening distance of the contacts allowing complete disconnection over voltage category III.



Do not carry out this operation with wet or damp hands

It is important:

Use the certified WPM power cord.

For Electric safety of the machine, it is necessary to provide a grounding system complete with a residual current circuit breaker (max IDN=30mA).

Do not connect the terminal to power distribution system as the power cord protection conductor is not considered an equipotential bonding conductor.



The Manufacturer declines any liability for failure to comply with the above or for damages caused by the failure to properly ground.

Water mains connection:

Never use the machine without water

The machine must be connected to a system with a water pressure which is not greater than 0.6 Mpa.

Do not use pipes and coupling gaskets already used for previous installations.

If the pressure is greater, a pressure reducer must be installed.

The machine must be connected to a softener.

ENVIRONMENTAL CONDITIONS TO USE THE MACHINE

Environmental temperature:

5 – 30 °C

(empty the hydraulic system in case of freezing)

Maximum humidity:

80% relative humidity

Water hardness:

5° eh, 7° dH, 13° Fh

Essential operational requirements

1.1 The machine shall be supplied with water for human consumption, in compliance with the laws in force where the installation is performed. The installer shall check with the owner or manager of the machine if the water complies with the requirements above.

- 1.2 The components and materials to be used during the installation are those supplied with the machine. In case other components are needed, the installer shall check if they are suitable to be used in contact with water for human consumption.
- 1.3 The installer shall set up hydraulic connections in compliance with the rules about hygiene, water safety and environment in force where the installation is performed.
- 1.4 At the end of the installation the machine is activated, brought to nominal operating conditions and left in the "ready for operation" mode.
- Then it is turned off and the whole water circuit is drained from the initial water to eliminate any impurities. .
- Then the machine is once again loaded and brought to nominal operating conditions.
- When the machine is in the "ready for operation" mode, the following deliveries must be performed:
- 2 liters from the hot water outlet (in case there are more outlets, the 2 liters shall be equally divided)
 - 1 liter of water from each coffee outlet
 - each steam outlet is kept open for 1 minute
- At the end of the installation, it is recommended to write a report of the operations that were performed.

Use and maintenance notes

- For a correct functioning of the machine it is fundamental to comply with the manufacturer's instructions, having qualified personnel to carry out special maintenance and to check all safety devices.
- where the temperature is below 0°C or 32°F without having first drained the boiler and the hydraulic circuit.
- Do not use the machine without water.
- Avoid to expose hands or other parts of the body to the coffee dispensing spouts or to the steam or hot water nozzles.
- The water and steam from the nozzles is very hot and can cause severe burns.
- Do not leave the machine in rooms
- The water and steam nozzles and the filter holders are very hot and therefore must be handled with care, holding them in the appropriate points.



Cups and coffee cups must be placed on the cup-warmer tray (if fitted) only after having been fully drained. Only the crockery related to the machine should be placed on the cup-warmer tray.

Placing any other object on the tray is to be considered incorrect.

The machine is not waterproof and therefore should not be cleaned with water jet.

1. Use of the machine

1.1 At the beginning of operations, and in any case at least once a day, all the water inside the machine shall be changed, following the instructions.

1.2 Before the steam wand is used, it shall always be purged from the condensation water for at least 2 seconds or according to the instructions by the manufacturer.

2. Maintenance and repair

2.1 The components used during the maintenance or repair shall be guaranteed to meet the same hygiene and safety requirements as the machine. Genuine spare parts offer this guarantee.

2.2 After components related to parts that come into contact with water or food are repaired or changed, a washing procedure shall be carried out as indicated in the paragraph about the rules for the installation.

HACCP Schedule

We hereby declare that our HORECA machines have been designed and constructed to comply the European Community Sanitary law and that their sales are authorized by the Health Authorities.

A HACCP schedule (Hazard Analysis Critical Control Points) for risk identification and assessment is required. You should carry out a risk analysis on your premises.

With correct installation, care, maintenance and cleaning with approved detergent, WPM meet the requirement above mentioned.

Carry out cleaning instruction, provided with machine, every day or at 8 hours shift intervals, to ensure that your system contains a minimum bacteria.

Main features

SPECIFICATION

MAXIMUM QUANTITY OF COFFEE DISPENSED PER HOUR	480
WIDTH (MM.)	585
HEIGHT (MM.)	500
DEPTH (MM.)	475
NET WEIGHT (KG.)	47
BOILER CAPACITY (LT.)	11
HOT WATER NOZZLE	1
STEAM NOZZLE	2
DISPLAY	YES
BOILER RESISTOR (W)	2800
VOLTAGE	230V MONO.

Materials used:

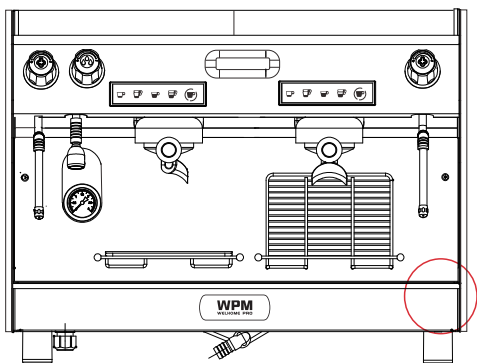
- Copper for boiler and piping
- reinforced silicone for the articulated feed tube
- reinforced silicone for the articulated pump tube
- brass chromed for the brewing group
- brass for taps and connections
- Working area in stainless steel.

Peripheral applications:

serial connection RS232C for I/O
interface 18/26 relay

Included equipment:

- 1 Filter holder 1 outlet (with 7g - 0,2469 oz filter)
- 1 Filter holder 2 outlet (with 14g - 0,4938 oz filter)
- 1 Rubber blind filter
- 1 Hose clamp (Ø 16 / 27)
- 1 Drain armoured hose (Internal Ø 16 - 1,5 m / 4,92 feet)
- 1 Inlet armoured pipe (Ø 3/8 G - 1,5 m / 4,92 feet)
- 1 Brush + Spoon

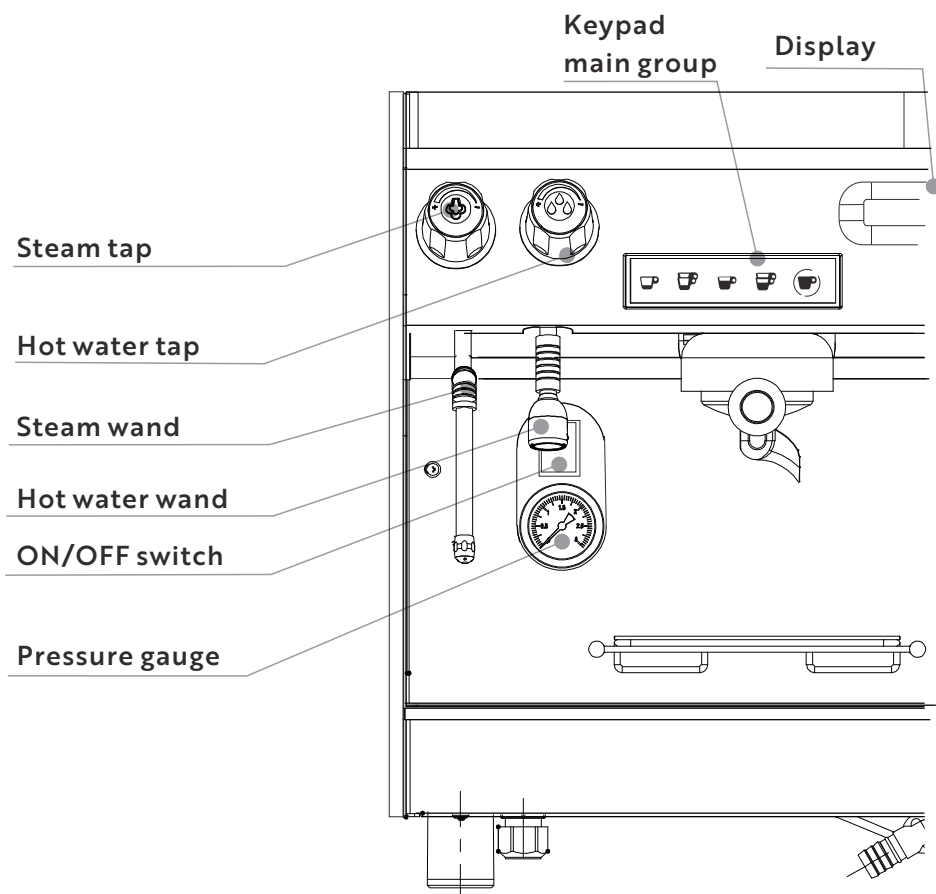


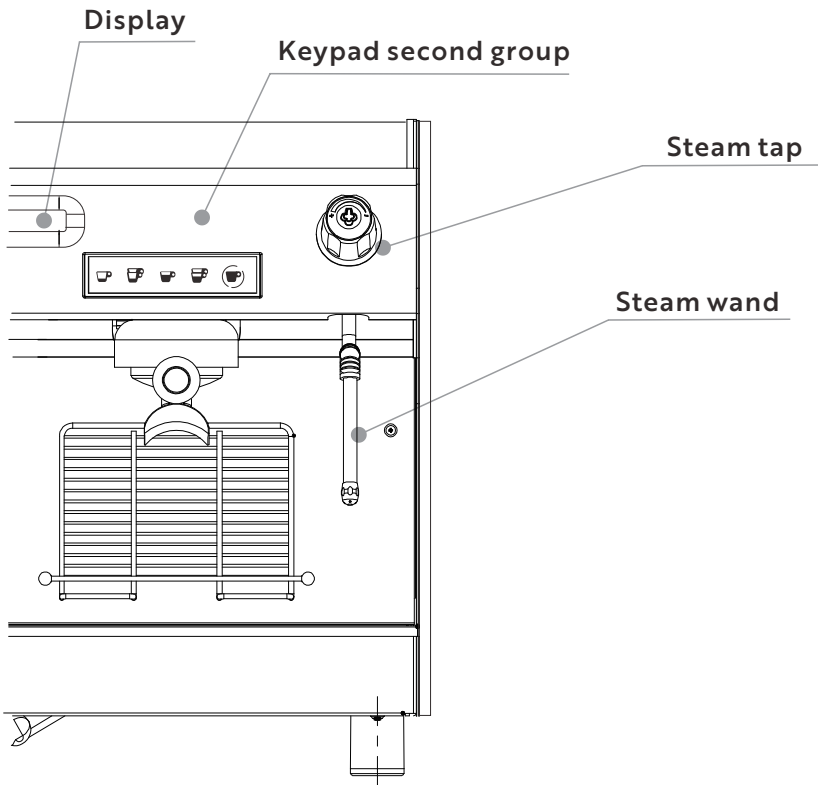
NOTE: The registration and technical data plate of the machine is on the side of the machine behind the drip tray.

It include:

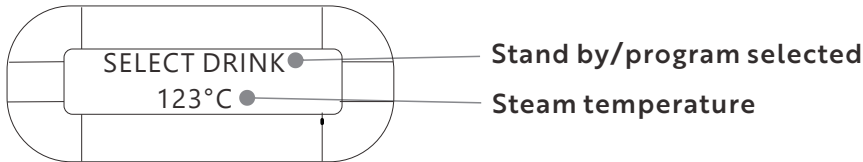
Electrical rating
production date
Serial number

Description of the machine

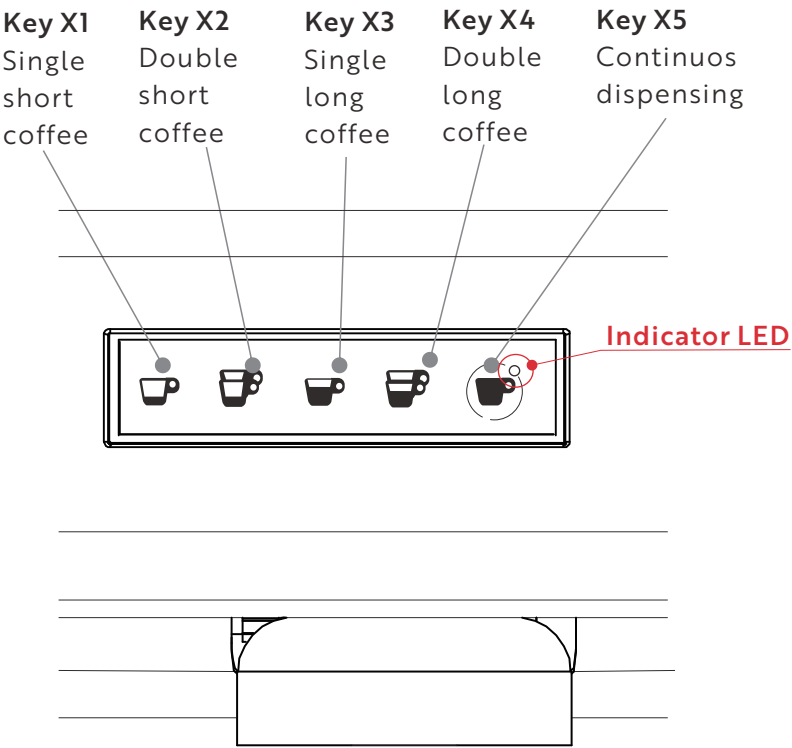




DISPLAY



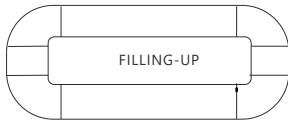
KEYPAD



X= group number
(Example: Single dose short coffee from left group will be key 11
Single short coffee from right group will be 21)

Starting-up

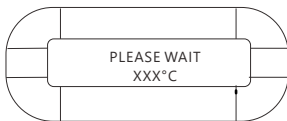
Re-filling the boiler:



This operation will automatically stop when the level of the probe is reached.

During this phase display will show filling up.

Heating the boiler:



During the heating up phase the display shows the boiler temperature, this phase will automatically stop when the set up temperature in the boiler is reached. During this stage, keep the steam tap open for a few seconds, this operation will release the air from the boiler inside.

NOTE:

During these 2 phases machines will disable all the keypads

Machine ready:



When the machines reach the correct temperature display will show "Select drink" and the the Keypads will be enable.

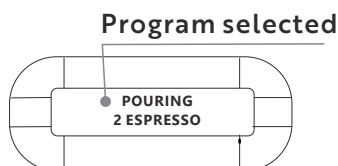
Dispensing



1) Coffee Dispensing.

Place a cup under the dispenser and press one of the coffee dose keys. The dose will automatically stop once the pre-programmed dose has been delivered. In case of continuous dispensing, press again the key to stop dispensing.

The system can be used for the simultaneous dispensing of coffee from all the groups on the machine.



Please note:

If you press any dose key of the same keypad during dispensing, the dose will be stop. The LED on the keypad will be "ON" and the display will show the type of program selected.



2) Hot water dispensing.

Place a container under the hot water nozzle, turn clockwise to open the hot water tap.

Reached the desired dose, rotate the knob anti-clockwise to interrupt the delivery.



3) Dispensing steam.

Before you heat any drink, carefully let a small amount of steam out of the steam arm, by rotating clockwise the steam tap, to eliminate any condensation inside the pipe, then close the steam nozzle by rotating it anti-clockwise.

Warm up drinks (milk, cognac, etc) as follows:

- Dip the steam nozzle in the drink and then slowly open the steam tap;
- Close the steam tap then remove the container with the heated drink, afterwards open again the steam tap for a moment to purge the nozzle from any liquid inside it.

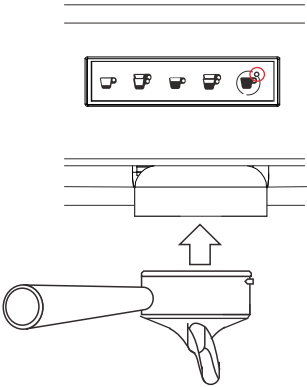
This operation is very important as it prevents milk or other liquids from being drawn into the boiler.

HOW TO MAKE A GOOD CUP OF COFFEE

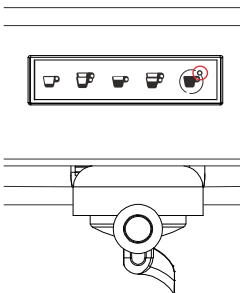
Proceed with preparation of the first cups of coffee: Fill the filter with the correct quantity of ground coffee and press it lightly the special presser/tamper.

Dosage and grinding must be set according to the machine and strength of coffee desired. If too much coffee is used, the filter holder cannot be inserted into the unit; if too little coffee is used, the coffee grounds get too wet.

Fit the filter holder into the unit with the knob facing to the left.



Then turn in to the right until it locks.



Now coffee can be dispensed.

When the coffee grounds have to be emptied out, knock the filters against a wooden surface and not a metal one as this could damage the edge of the filter and jeopardise its tightness.

Condition of the coffee and quality of delivery

Dose of ground coffee

Excessive	slowly
Insufficient	rapidly

Pressure on ground coffee

Excessive	slowly
Insufficient	rapidly

Atmospheric humidity

Too damp	slowly
Too dry	rapidly

Degree of grinder

Too fine	slowly
Too coarse	rapidly

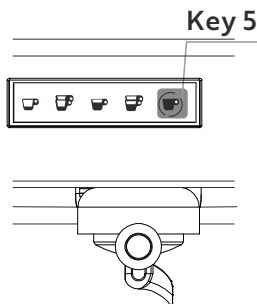
Filter condition

Partly clogged, dirty	slowly
Holes enlarged by wear	rapidly

Dose programming

Put the coffee in the filter and assembly it on the group.

Press key 5 on the left group.



Keep it pressed for 5 sec. until you see the LED on the keypad flashing and on the display "program select in 30s", (first you will see "dose counter", keep key 5 pressed).



The keypad's LED will be flashing. Choose which product need to be set, machine will start delivery, once the desire quantity is reached press again the same button, machine will save the value.



Once set the left group the same settings will be copied unless you set different values, follow the same process for the right group.

Default delivery settings

SINGLE SHORT COFFEE:

Volume: 40cc

Pre-infusion volume: 3cc

Pre-infusion pause: 2sec.

DOUBLE SHORT COFFEE:

Volume: 70cc

Pre-infusion volume: 3cc

Pre-infusion pause: 2sec.

SINGLE LONG COFFEE:

Volume: 80cc

Pre-infusion volume: 0cc

Pre-infusion pause: OFF

DOUBLE LONG COFFEE:

Volume: 130cc

Pre-infusion volume: 0cc

Pre-infusion pause: OFF

CONTINUOUS DISPENSING:

Volume: 500cc

Pre-infusion volume: N.A.

Pre-infusion pause: N.A.

HOT WATER:

Single dose hot water= 10sec.

Double dose hot water: 20sec.

Parameter programming

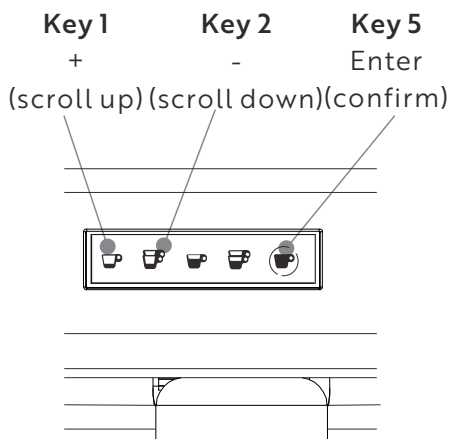
For the machines without display it is mandatory to connect an external display that WPM can provide.

After connecting the display please proceed as follows to access the machine parameters:

- power OFF the machine
- power ON the machine keeping keys N° 5 (continuous/program) pressed for three seconds until the display unit shows:



Use of the keypad in programming mode



The group on the left is the main one and used for programming.

Parameters description:

LANGUAGE: Menu' language , 5 possible choices.

BOILER TEMPERATURE: Steam temperature can be set, this will affect also the coffee water temperature.
MIN.116°C, MAX 126°C

TEMPERATURE DISPLAY: Show or hide the temperature on the display during stand-by

PRE-INFUSION VOLUME: quantity of water used for pre-infusion (ml).

PRE-INFUSION PAUSE: time waited before starting the delivery after the pre-infusion (sec.)

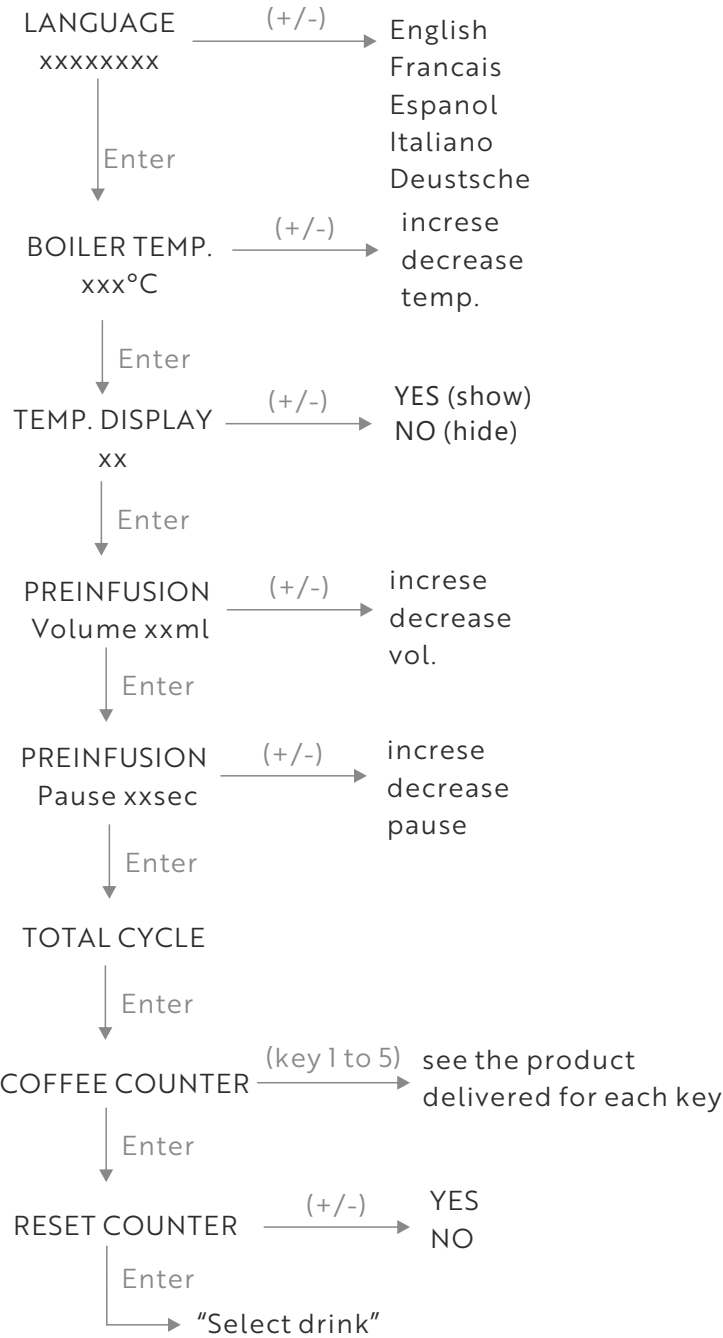
*pre-infusion work only on the first 2 keys

TOTAL CYCLE: It indicates the total machine delivery (not resettable parameter)

COFFEE COUNTERS: Show the dose delivery by key

COUNTER RESET: Reset the coffee counters

Parameter settings:



Cleaning

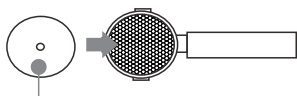


PLEASE NOTE: IT IS ADVISABLE TO CARRY OUT THESE TYPES OF CLEANING AT THE END OF EACH WORKING DAY

WASHING THE THIRD DUCT OF THE GROUP.

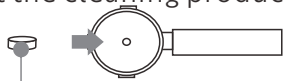
Carry out the following operations:

- Insert the blind filter membrane supplied in the filter holder;



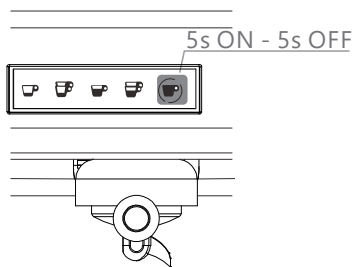
blind filter

- Insert the cleaning product



Cleaning tablet

- Fix the filter with the cleaning tablet on the group you want to clean;
- Press key 5 for the group you intended to clean with interval of 5 sec On and 5 sec Off for 10 times.



WASHING THE GROUP GASKET.

To clean the group gasket during the cleaning process described in the previous paragraph slightly open and close the filter holder a few times, letting the water flow out.



Be careful not to let hands and other parts of the body come into contact with water, in order to avoid danger of burns.

If necessary repeat this operation several times, and remove the remaining coffee from the group gasket by using a cloth or the brush.

WASHING THE GROUP AND FILTER HOLDER. STEAM WAND CLEANING

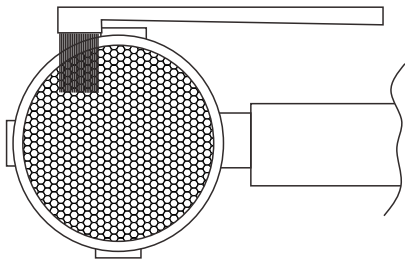
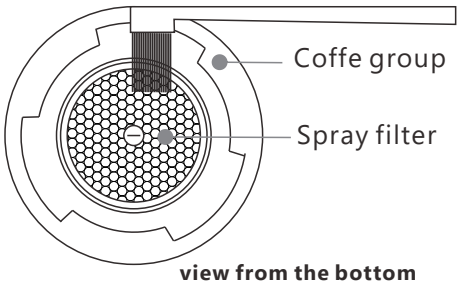
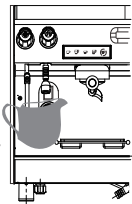
Carry out the following operations:
Remove the filters from the filter holders and wash both parts under running water.
Remove the remaining coffee using the provided brush supplied with the machine, to eliminate the coffee residues from the filters and showers.

If the filters get clogged up and you cannot manage to clean them by washing, it is advisable to replace it with a new part.

Leave the steam wand into hot water for 5 minutes.
Clean the steam wand by means of a cloth.



Do not leave the steam wand into any liquid at any time.
This cleaning must be performed after every working day.



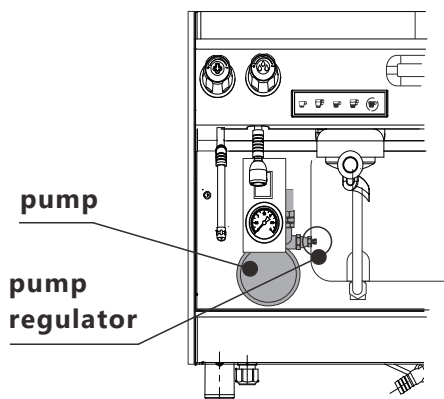
Special calibrations and operations



Only authorized technician are permitted to use the following functions

Calibrating the coffee dispensing pressure

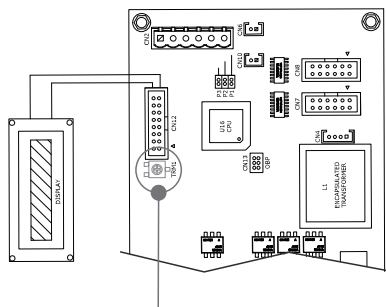
To calibrate the pump pressure remove the dip tray and the front panel of the machine.



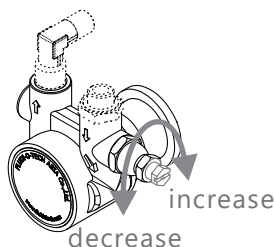
Display contrast adjustment.

To adjust the contrast you need to access to the main board by opening the left side panel of the machine.

Turn the trimmer assembled close to the display connector clockwise or anti-clockwise until you reach the desired setting.



Contrast regulation trimmer



calibrate the pump by turning the adjustment, clockwise to increase the pump pressure or anticlockwise to reduce pressure.

The pressure is pre-calibrated at the factory at 8/9 bars.

Boiler drain

In case the machine need to be moved, not used for long time we suggest to drain the boiler.



Do this operation when the machine is cold and there is no pressure in the boiler.

First disconnect the machine from the water main, then you need to remove the dip tray and the front panel then you have to remove the cap on the bottom of the boiler and wait until all the water came out.

To empty the heat exchanger you need to open the water loading circuit on the non-return valve close to the boiler load solenoid valve (check the exploded view to locate the part). In this case you need to put a tank to collect the water.

Troubleshooting

MACHINE DO NOT TURN ON:

- Check the electrical connection
- Check the correct working of the switch

MACHINE IS NOT HEATING

- Check the safety thermostat
- Check the triac
- Check the heating element
- Check the solid state relay on the main board

MACHINE IS ALWAYS HEATING

Steam pressure high and the display show the temperature correctly (>126°C):

- Check the relay controlling the heating on the main board
- Check if the Triac is earthed

Steam pressure high but the temperature on the display show a low value:

- Check the temperature probe

HOT WATER COMING OUT FROM THE INLET TUBE

The non-return valve do not close correctly, need to be replaced.

HOT WATER COMING OUT FROM THE STEAM WAND

Boiler is full of water, that means level probe is not working correctly. Check the connection or replace it.

NOISE WHEN THE MACHINE IS DISPENSING:

possible causes can be:

- Pump noise because not enough water pressure from the main.
- Pump problem
- Group solenoid valve problem

ONE GROUP IS NOT DELIVERY

- Need to perform a cleaning on the group
- Check the group solenoid valve if it dirty and if it is working correctly

Alarms

BOILER FILLING ALARM

Causes: the stage of boiler fillings has exceeded the maximum time of 120 seconds; the level of the probe (SLC) has not been reached.

Result: the machine is OFF, display will show the error "FILLING T.O." and the LED on the keypad flash:

Solution: carry out the following controls.

- Level probe (SLC) is dirty, so isolated from the water (the complete filling of the boiler is checked)
- no water from mains
- low water pressure
- faulty motor pump
- faulty filler solenoid valve
- incorrect electrical connections (level probe (SLC) cord stopped).

Turn the machine OFF and back ON to erase the alarm.

FLOWMETER ALARM

LED on keypad will be flashing fast.

1. Cause: the volume meter is not sending signals to the control unit within a time-out of 5 seconds.

Display will show "FLOWMETER GR.X"

Solution: check the connections or replace the flowmeter

2. Cause: delivery continues up to a time-out of 120 seconds or until the selected key is pressed, the LEDs on the key pressed flash and the display show:

"INFUSION T.O."

Solution: carry out the following controls.

- No water from mains (coffee is not dispensed)
- clogged group piston filters (coffee is not dispensed)
- faulty group solenoid valve (coffee is not dispensed)
- clogged entrance filters (coffee is not dispensed)
- blocked or faulty volume meter (coffee dispensed continuously)
- faulty electrical connection (coffee dispensed continuously).

If the coffee is dispensed continuously, use the machine as if it were manual: press the required key to start up the dose, then press the same key to stop the dose being dispensed, after checking the amount in the cup.

TEMPERATURE PROBE ALARM

The LED on the keypad is flashing 2 times fast repeatedly.

First case: the temperature inside the boiler has reached the maximum value of 131°C

Effect: boiler heating is interrupted and drink keys are disabled.

Solution: switch off the machine (OFF), check and if needed replace the " triac".

Second case: the temperature probe is defective and send a 0 Ohm (short circuit) signal to the pc board.

Effect: boiler heating is interrupted and drink keys are disabled. Solution: switch off the machine OFF, then replace the temperature probe and switch the machine ON.

Third case: the temperature probe is defective and send a 154 Ohm or more (open circuit) signal to the pc board.

Effect: boiler heating is interrupted and drink keys are disabled. Solution: switch off the machine OFF, then replace the temperature probe and switch the machine ON.

SAFETY THERMOSTAT

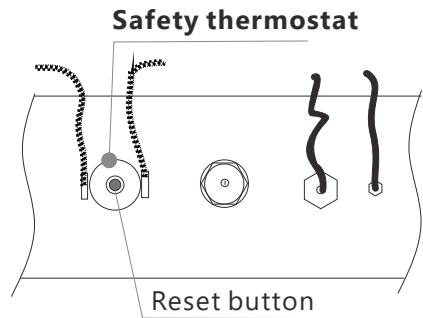
It is located on the top of the boiler.

In case the boiler temperature arrive to 145 °C the thermostat will open.

If this case occurs please check:

- 1- Triac operation: always heating
- 2- Temperature probe: incorrect temperature data
- 3- Level probe faulty: Boiler is not full and the temperature increase fast.
- 4- Safety thermostat faulty: Interrupt the heating even if the temperature is not arrived to 145°C.

Safety thermostat can be reset by pressing the small button



SAFETY VALVE

It is located on the top of the boiler, see the exploded view.

Cause: overpressure in steam boiler;
Result: the 1.7-1.9 bar safety valve opens and releases steam in the upper part of the machine.

Solution: carry out the following controls:

- Triac earthed
- Faulty temperature probe

SUGGEST ORDINARY MAINTENANCE

Routine maintenance must be carried out daily by authorized staff as specified in the specific chapters of instructions machine.

Cleaning of the coffee outlet by means of the provided special brush is part of the daily maintenance.

Special maintenance must be carried out periodically by the WPM authorized service center in the following way:

- Replace filter holder gasket every 3-6 months.
- Replace the steam-water valve gasket every 6 months.
- Replace the steam nozzle joint gasket every 6-12 months.

DISPOSAL



The WPM product you have purchased is subject to Directive 2002/96/EC of the European Parliament and the Council of the European Union on waste electrical and electronic equipment (WEEE) and, in jurisdictions adopting that Directive, is marked as being put on the market after August 13, 2005, and should not be disposed of as unsorted municipal waste. For further information please contact WPM.

The manufacturer reserves the right to change, without prior notice, the specifications of the equipment illustrated in this publication; the manufacturer declines all responsibility for any mistakes due to printing and/or typing errors contained in this publication.

All instructions, drawings, tables and information contained in this publication are reserved and may not be reproduced entirely or in part or be communicated to a third party without written authorisation from the manufacturer who holds exclusive right.

PRODUCT SPECIFICATIONS

Product name: Coffee Machine

Product model: KD-500N

Voltage and Power:

220-240V~ 50-60Hz 3000W

Attention: Product are subject to change without prior notice.

Attention: Users can refer online manual on WPM website
(www.wpm.hk)

Situations below are not accepted in the maintenance terms:

1. Formation of scale in thermoblock due to not using distilled water or inadequate and irregular cleaning.
2. Blocking in steam wand due to inadequate and irregular cleaning.

G.M.P. Industrial Co Ltd

Address: 7/F, Meyer Industrial Building, 2 Chong Yip Street,
Kwun Tong, Kowloon, Hong Kong

Tel. No.: +852 23438211

Fax: +852-23431647

E-mail: welhome@gewcorp.com

Website: www.wpm.hk

WPM