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HARDTANK

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BABY



INSTRUCTION MANUAL

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I. CHARACTERISTICS OF THE DEVICE

I.1. Application of the device

The Baby Hardtank filters and extracts coffee, tea, cascara and other dried products using cold water (cold brew). After adding the infusion recipe to the basket, you input its duration. Water is added according to your set program. When complete, the infusion is automatically transferred into the desired container. The device may be used by bars, cafes and restaurants with either pressurised or non-pressurised drink dispensing systems. Baby Hardtanks can also be used to produce drinks which are transferred into kegs/containers and stored and/or transported as required.

I.2. Technical characteristics of the device

Parameters		BHT
Power supply		
Power consumption	W	60
Power supply – 0.8m cable with a plug		110-250V 50-60Hz
Rated current	A	1.52
Required protection of the power installation	A	8
Over-current protection		8A min. class B
Water supply		
Supply water pressure	MPa	0.2 – 0.4
Treated water connection		Push-fit 3/8
Required water treatment		A set of filters or reverse osmosis systems with mineralisation or a bypass
Water drain		
Drainage type		Pump
Drain connection		Push-fit 1/2 "
Dimensions and weight		
Depth	mm	340
Width	mm	341
Height	mm	490
Weight	kg	18
Production parameters		
Amount of collected water	L	3.5 – 5.5
Amount of drink obtained in the range	L	3 – 5
Flushing water consumption	L	12
Flushing time	min	5
Sanitation water consumption + flushing	L	12
Sanitation and flushing time	min	30

Table 1

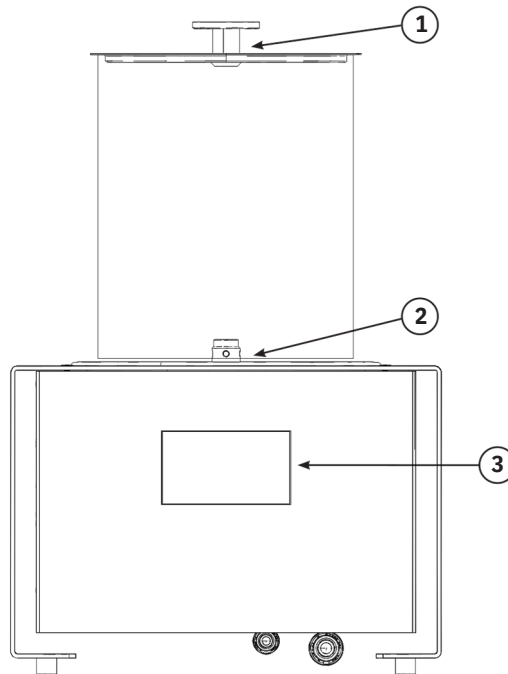
I.3. Unpacking of the device

Unpack the device before starting the installation process:

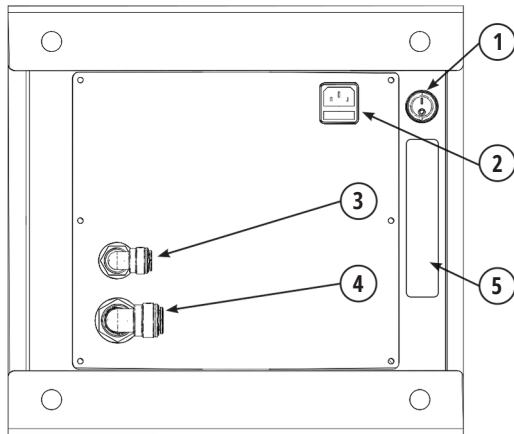
1. Using a torx T15 type wrench, loosen all screws of the wooden box and remove the walls
2. Remove the cardboard with accessories
3. Remove the connection cables and the drink production basket, unpack them
4. Remove the device and the film cover.

I.4. General description of the device

- 1 – Tank cover
- 2 – Bayonet cylinder
- 3 – Touch display

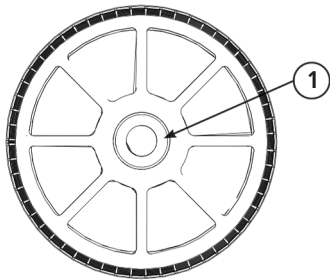


Pic.1

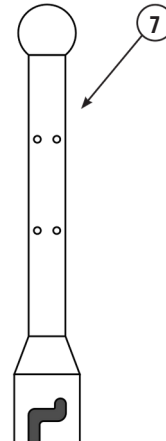
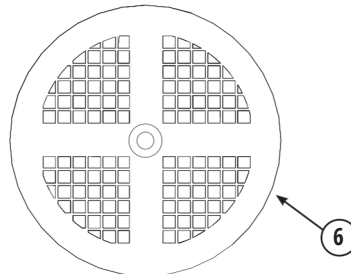
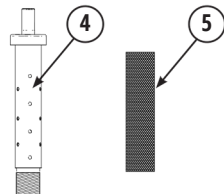
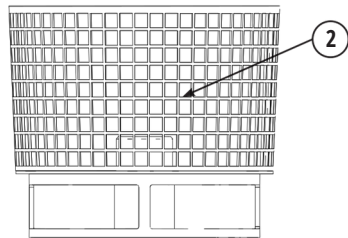


- 1 - ON/OFF switch
- 2 - Power socket
- 3 - Push-fit 3/8 type treated water connection
- 4 - Push-fit 1/2 type drainage connection
- 5 - Nameplate

Pic.2

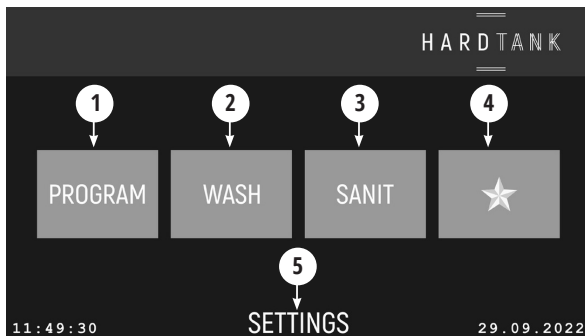


- 1 - Bayonet handle cylinder with threaded sleeve in a basket
- 2 - Production basket
- 3 - Basket closing nut
- 4 - Head with nozzles
- 5 - Mesh sleeve
- 6 - Basket cover
- 7 - Cleaning nozzle



Pic.3

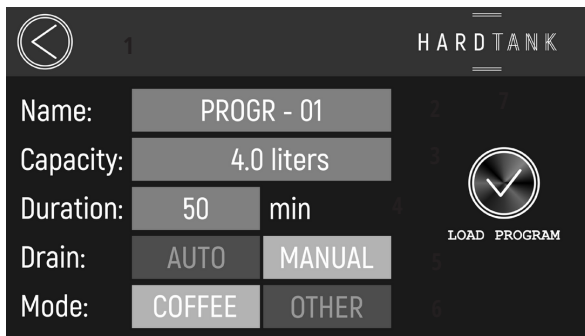
1.5. Touch display



Pic.5

Main menu:

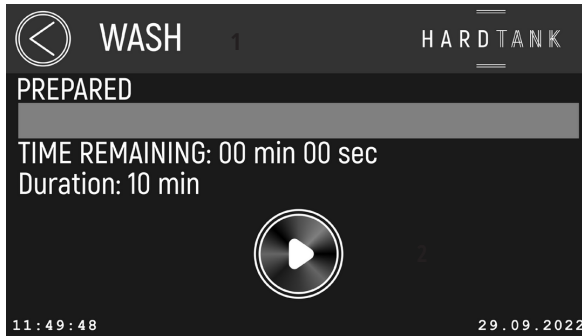
- 1 – [PROGRAM] – production cycle configuration menu.
- 2 – [WASH] Flushing program.
- 3 – [SANIT] Sanitation program.
- 4 – [FAVORITE] Quick access to favourite recipe.



Pic.6

Menu [PROGRAM]:

- 1 – [←] Back to the main menu.
- 2 – [NAME] Saving new recipes and loading previously saved ones.
- 3 – [CAPACITY] Setting of the amount of water used to produce a drink. Changes may be introduced in the [OTHER] mode.
- 4 – [DURATION] Production time setting.
- 5 – [DRAIN] Selection of the finished drink pumping method. Automatic or manual.
- 6 – [MODE] Switch between modes [COFFEE] and [OTHER]. ([COFFEE] – no ability to change the amount of water or [OTHER] – with an ability to change the amount of water).
- 7 – [LOAD] Load a configured recipe.



Pic.7

Menu [WASH]:

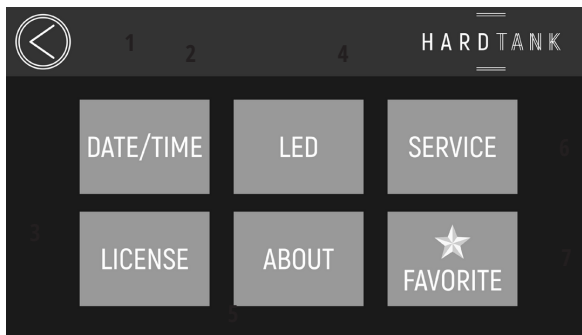
- 1 – [←] Back to the main menu
- 2 – [PLAY] Start the flushing program



Pic.8

Menu [SANIT]:

- 1 – [←] Back to the main menu
- 2 – [PLAY] Start the sanitation program



Pic.9

Menu [SETTINGS]:

- 1 – [←] Back to the main menu.
- 2 – [DATE/TIME] Set the date and time.
- 3 – [LICENSE] License.
- 4 – [LED] Set the intensity of the logo highlight
- 5 – [ABOUT] Information about the device
- 6 – [SERVICE] Service menu
- 7 – [FAVORITE] Settings of the favourite drink

II.1. Positioning of the device in a room

Baby Hardtank must be stored and installed in rooms of temperature above +10°C. The room must also feature the following:

- water supply preferably with a water filtration system
- drainage
- single-phase electrical installation 1N ~230V 50Hz
- a stable, level and vibration-free surface, e.g., a tabletop
- efficient fire safety installations.

Baby Hardtank should be positioned and connected to the required water supply and drainage by qualified installers in accordance with local regulations.

II.2. Connection to power and water installations

This manual is intended for qualified personnel, who are authorised to check installations and perform technical repairs. The producer takes no responsibility for actions taken by unqualified personnel or the use of spare parts other than those delivered by the producer.

When installing the device, observe the following regulations:

- Health and safety regulations.
- Standards, regulations, and directives related to installations and electrical devices.

Connect Baby Hardtank to electrical installation adapted to a single-phase power supply – ~110 - 230V, 50 - 60Hz. The device is equipped with a flexible connection cable with a plug. Connect the power cable to an appropriate socket installed in the room.

!!! The electrical installation, to which the device will be connected, must be equipped with means used to disconnect all poles in accordance with PN-EN 60335-1 (or equivalent local standard) and an electrical equipment for protection of individual phases.

!!! The device may be commissioned after confirmation of the efficiency of the fire protection.

Baby Hardtank has only one treated water connection and one drainage connection:

Treated water connection – Push-fit 3/8 for production of drinks and flushing of the installation.

Drainage connection – Push-fit 1/2.

!!! We recommend use of a reversed osmosis system. Total water mineralisation – +- 100ppm.

!!! To maintain the efficiency of flushing, the pressure in the tap and treated supply water installation should be at least 0.2MPa, and not higher than 0.4MPa.

III.1. Preparation of the device for operation

III.1.1. Overview of the device

After unpacking the device, double check the interior of the tank for any remaining packaging material.

!!! During the first activation of the [WASH] program, observe the device continually until the completion of the program.

III.1.2. Flushing wash

- a) Remove the tank cover.
- b) Remove the basket and install the cleaning nozzle.
- c) Close the tank cover.
- d) Insert the drainage pipe to a keg or another container (min. capacity 20L).
- e) Press the [ON] switch (page 4 pic.2) on the bottom and start the device. Wait for activation of the device.
- f) Open the device water supply valve if it is closed.
- g) On the display, select the [WASH] function. Water will start flowing to the tank. The circulating pump will start flushing the tank and the internal system. At the end of the program, the waste pump will start pumping dirty water to the designated container.
- h) After completion of the program, the display will show [FINISH].
- i) Open the cover and check the tank. Remove any remaining contamination using a paper towel.

!!! Do not pour water directly to the tank of the device. This cleaning method is not sufficient enough and may cause failure. [WASH] and [SANIT] programs will be efficient only when the device is connected to the filtration system and water is drawn automatically.

III.1.3. Sanitation of the device

The sanitation must be carried out:

- before the first production,
- at the end of the working day of the device,
- before a planned production standstill,
- after a production standstill.

!!! Before starting sanitation, prepare a sanitation solution.

III.1.4. Cleaning and disinfecting agents and their preparation

Chemical agents used to clean the device.
Before using a chemical, read the following:

1. The product data sheet

Tradename	Physical state of the chemical	Required concentration of the solution	Water temperature	The amount of agent required to clean the tank
Dm Sid Ultra	Liquid	In accordance with recommendations on the label	30 – 40C	In accordance with recommendations on the label
Puly Caff Cold Brew Liquid Cleaner				
DOREX ULTRA				

Table 2

III.1.5 Preparation of a solution for sanitation

In order to clean the device:

- a) Remove the tank cover.
- b) Remove the basket and install the cleaning nozzle.
- c) Open the device's water supply valve if it is closed.
- d) Insert the drainage pipe to a keg or other container (min. capacity 20L).
- e) Press the [ON] switch on the bottom and start the device. Wait for the device to turn on.
- f) Pour the previously prepared chemical agent solution to the tank.
- g) Activate the [SANIT] mode.
- h) Close the tank cover.
- i) After completion of the program, the display will show [FINISH]. Dilute the used solution in the container (keg) with water and pour it into the drain, flush the container.
- j) Open the cover and check the tank. Remove the cleaning nozzle and flush it. Remove any remaining contamination using a paper towel.

In accordance with the ratio stated on the label, measure the amount of the cleaning agent per 6 litres of water. Then, in a separate vessel mix a litre of water with previously prepared agent. Set aside.

!!! Do not pour concentrated agent directly to the device. Prepare the cleaning solution in a separate vessel.

III.1.6. Sanitation of the coffee basket

Before starting sanitation, dismantle the basket and flush the remains of the drink, dregs or tea leaves.

The basket may be sanitised using two methods:

- 1 - Submerge in water (temperature 90C) for minimum 10 minutes, and then rinse. The dimensions allow the basket to be put in a dishwasher or a steamer, or in a pot with hot water.
- 2 - Soak in a solution of the chemical used to sanitise the device for 30 minutes, and then flush it. Insert the components into a container of at least 10l volume, soak it with a chemical solution ensuring that the entire basket is immersed in water. After 30 minutes, remove the parts and rinse them under running water. Dilute the solution in the tank with water, pour it into the drain, rinse the container.

III.2. Activation of utility programs

III.2.1. Before starting production

Baby Hardtank has:

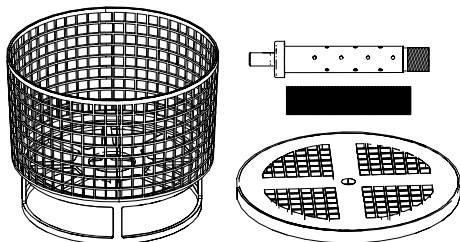
- One drink production process program [PROGRAM].
- One tank and internal installation flushing program [WASH].
- !!! Use after each production process.
- One tank and internal installation sanitation program [SANIT].
- !!! Use at the end of each day.

The drink production process program options are:

- [NAME] The ability to save new recipes and load previously saved ones.
- [CAPACITY] The ability to select the amount of water needed to produce drinks.
- [DURATION] The ability to select the extraction time.
- [DRAIN] The ability to change the drink pumping mode after extraction (automatic upon completion of the extraction or with an ability to continue infusing).
- [MODE] Switching between operating modes (COFFEE – without the ability to change the amount of water or OTHER – with the ability to change the amount of water).

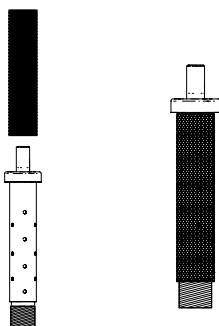
III.2.2. Cold brew production

- Step 1. Open the water installation valve that supplies the device.
- Step 2. Wash and carry out sanitation of the installation, the tank and the basket, if you have not done it yet.
- Step 3. Prepare a clean keg for a finished drink.
- Step 4. Connect the keg including the special cover to the device. Open the valve on the keg's cover.



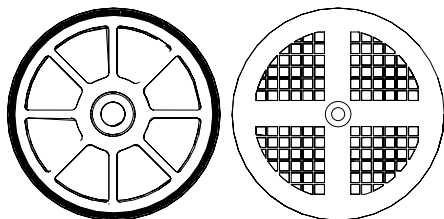
Pic.10

Step 5. Prepare the unassembled production basket.



Pic.11

Step 6. Insert the head with nozzles into the mesh sleeve.



Pic.12

Step 7. Screw the assembled element into the threaded sleeve of the basket's bayonet handle.

Step 8. Prepare ground coffee/tea/cascara/other dried product.

!!! The size of the particles of ground coffee should be approx. 600 µm. Thicker than Aeropress and smaller than for a V60.

Step 9. Pour the prepared ground coffee/tea/cascara/other dried product into the basket. Gently shake the basket or level the contents using a spoon so that it does not extend beyond the edges of the basket.

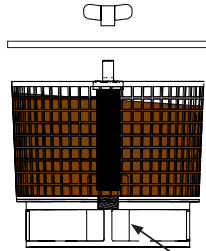
!!! The level of the product must not exceed the height of the ring located at the end of the vertical nozzle (the upper part).

Step 10. Close the basket with the cover and screw the wing nut.

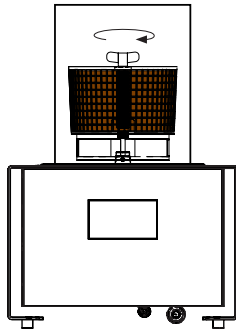
Step 11. Remove the tank cover.

Cylinder of the bayonet handle used to position production basket with coffee.

Step 12. Position the basket containing coffee/tea/cascara/other dried product on the tank's cylinder. The basket will drop and attach. Attempt to lift the basket. If it cannot be removed, it means that the basket is positioned properly and secured against falling off the bayonet handle. If you are able to remove the basket, repeat its positioning from the beginning.



Pic.13



Pic.14

Step 13. Activate the device if it has not been activated yet.

Step 14. Press the [PROGRAM] button. If your drink is based on coffee, go to Step 15A. In case of tea or another dried product – 15B.

Step 15A. In the [MODE] field, select [COFFEE].

Step 15B. In the [MODE] field, select [OTHER]. Then, in the [CAPACITY] field, select the required amount of water.

Step 16. In the [DURATION] field, select the drink extraction time.

Step 17. In the [DRAIN] field, select the mode of pumping of the finished drink.

[AUTO] – the drink will be pumped automatically upon completion of extraction.

[MANUAL] – the drink will not be poured without confirmation by the user.

Step 18. Press the [LOAD PROGRAM] button. The summary of the selected mode will be displayed.

At this stage, you can confirm the recipe by clicking the middle [PLAY] button or return to settings by pressing [X].

Step 19. After pressing the [PLAY] button, the tank will be filled with water, and then the extraction process will start.

Step 20. If you have chosen the [DRAIN – AUTO] mode, go to Step 21A. In case of the [DRAIN – MANUAL] mode – 21B.

Step 21A. After the production time expires, the drink will be automatically pumped into the keg.

Step 21B. After the extraction time expires, the [PROGRAM FINISHED!] message will be displayed. Lift the cover of the tank and take a sample of the drink to assess it. If you are happy with the taste, press [X] and accept to pump the drink to the keg. If the production process must be extended, select the appropriate time on the touch display and press the [PLAY] button.

III.2.3. After production

!!! DO NOT USE metal or wooden tools to clean the basket and the cover. This may damage the filtration mesh.

Step 1. Clean the production basket. Loosen the wing nut and remove the cover of the basket.

Step 2. Turn the basket upside down over a waste bin and shake it.

Coffee/tea/cascara contained within should fall out. Carefully remove the remains, in a way to not damage the basket. Use, e.g., a plastic utensil.

Step 3. Remove the head with nozzles from the basket, and then remove the mesh sleeve.

Step 4. Thoroughly clean all parts of the basket to remove the remains of coffee/tea/cascara etc. Pay special attention to the openings in the head. They must be clean, unobstructed and free from remains of coffee/tea/cascara etc.

Step 5. Put clean basket parts to one side.

Step 6. Install the cleaning nozzle.

Step 7. Activate the [WASH] program.

Step 8. At the end of a working day, activate the [SANIT] program.

Step 9. After shutting down the device, disconnect it from the power and water supply.

III.2.4. Comments regarding use

- When filling the basket with coffee, closing the basket's cover and putting the basket into the tank, use latex gloves.

- Do not grind coffee directly into the basket. This will electrify the basket, thus negatively impacting production of cold brew.

- Do not use clean with fluid containing above 60% alcohol as this will damage the sealing elements.

- Pay special attention when mounting the basket sleeve on the bayonet handle in the tank to prevent the basket from sliding off. If the basket slides out of the sleeve, water will stop flowing through the basket, and the extraction will not proceed correctly and evenly.

IV

HEALTH AND SAFETY INDICATIONS.

!!! Improper operation of the device, failure to observe the following recommendations and H&S regulations may cause a risk of electric shock, burning, cuts or other injuries.

Before starting work, the user should become familiar with:

- the safe use of electrical devices,
- the correct operation and use of the device according to this manual,
- first aid in emergency situations.

Please pay special attention to the following:

- Before installing the device, remove the packaging and the protective film, and make sure that the device is intact.
- In case of any doubts, do not use it and consult an expert. The packaging material should be stored out of reach of children, since it presents a potential risk (plastic bags, boards, screws, etc).
- Install the device in accordance with the Instruction Manual.
- Before the first use of the device and at least once a year, ensure the device is PAT tested.
- During washing, cleaning, repair and maintenance, disconnect the device from the power supply.
- Do not put your hands in to the glass chamber when brewing or sanitising.
- Pay attention to the edges of the housing of the device. Do not lean on the device.
- The device may be used and operated only by persons trained in the scope of its operation, who have read the device's Instruction Manual.

- Do not allow unauthorised persons to carry out repairs and adjustments in the device. In case of finding damage, disconnect the device from the power supply and contact us immediately.
- Do not modify the device in a manner contrary with the documentation of the device. Pay attention to children when the device operates since they do not know the principles of its operation. Do not leave the device unattended during operation.
- In case of injuries or electrical shock, immediately give first aid.
- After shutting down the device, disconnect it from the power and water supply.

V

MAINTENANCE AND REPAIR INSTRUCTION

V.1. Ongoing maintenance

After longer use of the device and every day upon completion of work, carry out the following maintenance activities:

1. Dismantle and clean the basket components.
2. Wash the installation of the device according to the [SANIT] program.
3. Remove contamination from the external surfaces of the housing.

!!! Do not clean the external and internal surfaces using corrosive substances and substances containing chlorides. Do not use sharp metal brushes, scrubbers or similar tools that may scratch the surface of the device. Do not use water exceeding 40 degrees C to wash the surface of the tank.

V.2. Periodic maintenance

During a planned inactivity of the device of more than 4 weeks, remove water from the device and dry the elements. In case of a longer period of inactivity, carry out sanitation every 4 days and before the next use of the device.

V.3. Repairs and maintenance

In case of any problems or doubts, contact support@hardbeans.com

As a part of maintenance services, the manufacturer provides repairs on-site (if possible) and/or repairs in the manufacturer's facility. All adjustment and repair activities must be carried out by an authorised expert.

!!! The manufacturer takes no responsibility for improper use of the device or use of the device contrary to the recommendations provided in this instruction manual.

V.4. The list of possible defects and recommended means of repair

The most common installation and maintenance errors		
Type of defect	Possible cause	Solution
The device does not start after pressing the power button.	The plug is not connected to a socket.	Connect the plug to a socket.
	Faulty ON/OFF switch.	Contact us via support@hardbeans.com .
The device suddenly turned off during operation. The display has turned off.	No power supply.	Check other devices. Check for power supply interruption in the mains.
	The fuse in the external electric box has been triggered.	Check the fuse in the external electric box.
After activating the operating cycle, water does not flow into the tank.	The water supply valve is closed.	Open the valve.
There is fluid left in the tank after completion of work.	The discharge pipe is clogged.	Check the blockage of the pipe under running water. Connect the pipe to the device and start the operating cycle program. After a while, stop it and press [DRAIN].
	The safety valve in the keg cover is closed.	Open the safety valve. Connect the pipe to the device and start the operating cycle program. After a while, stop it and press [DRAIN].

Table 3

After completion of the operating time, the coffee extraction failed.	Coffee grains have been excessively ground.	Change the grinding thickness and restart the process.
	Coffee grains have been ground directly to the basket.	Activate the [WASH] program. Grind the coffee again. Note that coffee must be ground into a container and then poured into the basket. Start the production from the beginning.
	Leaking basket.	Activate the [WASH] program. In case of a large number of dregs in the tank, use the [SANIT] program. During next production, make sure that the basket is tightly closed.
During the [WASH] and [SANIT] programs, water splashes out of the tank.	The cleaning nozzle is not installed.	Turn the main power switch off and disconnect the device from the mains. Remove remains of water from the machine. Install the cleaning nozzle. Activate the device. Repeat the procedure.
The maximum water level has been exceeded (2.5cm from the upper edge of the tank).	Error of the water level sensor readout.	Turn the main power switch off and disconnect the device from the mains. Remove remains of water from the machine. Close the water discharge valve. Activate the device. Activate the operating cycle program. After a while, stop it and press [DRAIN]. Contact us via support@hardbeans.com .

Table 4

VI.1. Standard equipment

- As standard, the device is equipped with the following:
- Power cable
- Drainage pipe 1/2
- Water discharge pipe 3/8
- Drink intake pipette
- Production basket
- Cleaning nozzle
- Tank cover
- A set of plastic wrenches for push-fit connectors type
- Angle guides for 3/8 and 1/2 pipes
- 1/2 and 3/8 dummy plugs
- 1/2 and 3/8 securing clips

The manufacturer reserves the right to change the machine's equipment including its accessories.

VI.2. Accessories

Item	Name	Type	Drawing no./photono.
1	Keg Cornelius 9L with special connector		
2	Keg Cornelius 18L with special connector		
3	Lid for the Cornelius keg with special connector		

Table 5

LIST OF SPARE PARTS

Item	Part name	Drawing no./photo no.	Position

Table 6

WITHDRAWAL FROM SERVICE

IX

The WEEE Directive 2013 (the European Union regulation) has been set up to reduce the amount of waste electrical and electronic equipment (WEEE) incinerated or sent to landfill sites. This device is marked with a symbol of a crossed out waste container. Such a marking informs that this equipment, upon expiration of its operating period, may not be disposed of together with other household waste. The user is obliged to hand it over to a facility responsible for collection of worn out electric and electronic devices. Proper disposal of worn out electric and electronic equipment helps preventing harmful consequences for human health and the natural environment resulting from the presence of dangerous ingredients and improper storage and processing of such equipment.