USER MANUAL

BABY HARDTANK

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1. HYGIENE AND SAFETY

1. This device is intended solely for the extraction of cold beverages and not for dispensing hot beverages using boiling water. Only water not exceeding 60°C should be poured into the device.

2. Except for sanitary-hygienic procedures: do not pour any fluids other than food-grade materials into the device. Do not operate the device when dry!

3. Access to the service area is restricted and only for individuals with knowledge of safety procedures and practical experience in coffee brewing. This device must be installed in locations where it can be supervised by trained personnel.

4. For proper functioning, this device must be located in rooms where the temperature is between 10°-35°C. In case of exposure to freezing temperatures, empty and remove all fluids from the device and pipes.

5. Individuals (including children) with limited physical, sensory, or mental capabilities, or lack of experience and knowledge, should not operate the device unless they are supervised or instructed.

6. This device must be installed and serviced only by qualified personnel.

7. Instalation must comply with all local electrical and plumbing regulations. Installation by unqualified personnel will void the device warranty and may result in electric shock or burns, as well as damage to the device and/or its surroundings.

8. If the factory-supplied power cord is damaged, it must be replaced by the manufacturer, its service representative, or equally qualified personnel to avoid hazards. This maintenance must be carried out using the specified cord from the manufacturer to avoid hazards. Power cords are listed in the parts diagram.

9. The device must be disconnected from the power source during service and part replacement. During servicing, the service technician must be able to verify from any position whether the plug has been disconnected. If this is not possible, electrical disconnection must be provided from the main fuse box in the room.

10. Check the dimensions of the device and ensure it will fit properly in the intended space. Ensure that the countertop or table can withstand the total weight of the HARDTANK device and dispensers when fully filled (see: Technical Data). HARDTANK devices require a stable, supported surface to operate. Place the coffee device horizontally. Do not tilt the device more than 10° for safe use. Do not move the device when filled.

11. The sound level generated during operation is below 70 dB.

12. The unit is intended for indoor use only. Do not clean with steam or excessive water.

13. This unit is not water-resistant. Do not use a pressure washer or water stream to clean this unit, and do not install the device where a water stream can be used.

14. The unit is not waterproof - do not submerge or saturate with water. Equipment exposed to flooding and contamination cannot be used due to electrical and food safety hazards. Do not use the device if it has been flooded or saturated with water. Do not use frost-sensitive equipment if it has frozen. See page 12 in the seasonal preparation instructions.

2. DEVICE SPECIFICATION TABLE

DEVICE APPLICATION

The Baby Hardtank device is designed for producing extracts from coffee, tea, cascara, or other dry goods using cold water (cold brew). After developing the maceration recipe, the duration of the process can be programmed, after which the finished brew is automatically transferred to the transport container. The device is suitable for gastronomic points equipped with systems for dispensing beverages from kegs or other pressurized containers. Baby Hardtank can be used to produce extract for transport containers, for further distribution to multiple distribution points.

2.1 PARAMETERS BHT

ELECTRICAL SUPPLY		
Power Supply Voltage		100-240VAC 50-60Hz
Power Connection		EU/US/TYP-G/TYP-I plug cord
Maximum Power Consumption	W	60
Rated Current	A	1,52
Recommended Overcurrent Protection		8A min. Class B or better
Water Supply and Drain Connections		
Water Pressure Range	MPa	0,2 - 0,4
Inlet Water Connection		Push-Fit Socket 3/8
Drain Connection		Push-Fit Socket 1/2
Minimum Requirements for Purified Water		Set of filters or reverse osmosis system with mineralization or bypass
Production Parameters		
Amount of Water Intake +/- 10%	L	1,5 - 5,5
Beverage Yield Range	L	1,2 - 5
Water Consumption in WASH Program	L	~12
Water Consumption in SANIT Program	L	~12
Duration of WASH Program	min	~5
Duration of SANIT Program	min	~30
Water Inlet Connection Efficiency	L/min	0,5-4

3. SETTING UP THE DEVICE AND INSTALLATION

3.1 Unpacking the Device

Before proceeding with the installation of the device, it should be unpacked:

1. Cut the cardboard packaging tapes.
2. Open the top cover of the packaging and remove the cardboard inserts, as well as the cardboard for accessories.
3. Grasping the upper part of the packaging, lift the walls until the packaging is completely removed.
4. Remove the basket from inside the device.
5. Lift by grasping the body of the device. **DO NOT LIFT BY THE GLASS CYLINDER!**

3.2 Connection to Electrical and Water Installation

This instruction is addressed to qualified personnel authorized to conduct installation checks and technical repairs. The manufacturer bears no responsibility for actions taken by unqualified personnel or the use of spare parts other than those supplied by the manufacturer.

During installation of the device, the following applicable regulations must be observed:

- Building regulations, fire regulations, and directives.
- Occupational health and safety regulations.
- Standards, regulations, and directives regarding electrical installations and equipment.

Connection to the electrical installation of the Baby Hardtank is adapted for single-phase power supply ~110 - 230V, 50 - 60Hz. The device is equipped with a flexible connection cable with a length of 0.8 m with a plug according to the ordered type. The power cable should be connected to the appropriate socket installed in the room. The electrical installation to which the device will be connected should be equipped with individual phase protections of 8 A at the direct connection to the device.

The Baby Hardtank device has one inlet connection for purified water and one drain connection. The inlet connection for purified water is a Push-fit 3/8 for beverage production and system flushing. The drain connection is a Push-fit 1/2.

3.3 Connecting the device step by step

1. Tilt the device to disconnect the water connector elbows.
2. Remove the securing clips from the push-fit connectors using the included push-fit connector keys.
3. Press the locking collar to remove the water connector elbow.
4. Remove the plugs from the elbows and insert the included 3/8 and 1/2 water lines in their place.
5. Connect the power cable to the IEC socket at the bottom of the device. Connect the device to the mains power.
6. Turn on the device using the main power switch located in the lower corner of the device, next to the touchscreen.

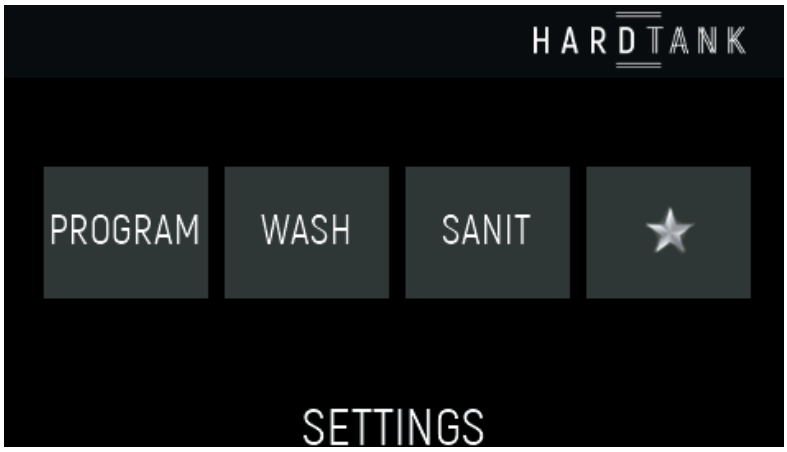
!!! A reverse osmosis system is recommended. The total water mineralization should be approximately +-100 ppm.

!!! To maintain effective flushing, the pressure in the municipal water supply and the purified water supply should be at least 0.2 MPa and not exceed 0.4 MPa.

4. BASIC PROGRAMS OF BABY HARDTANK DEVICE

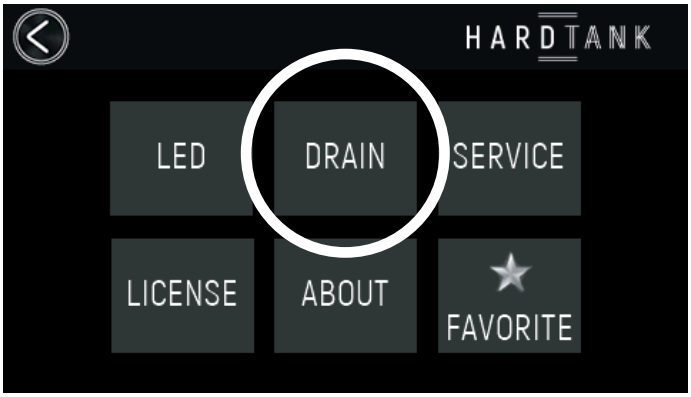
Programs available in the BABY HARDTANK device:

- Beverage production process program (PROGRAM).
- Tank and internal installation flushing program (WASH).
- Tank and internal installation sanitization program (SANIT).
- Tank draining program on demand (DRAIN).



The DRAIN program is not visible in the main menu.

To find it, you need to go to **(SETTINGS)**.

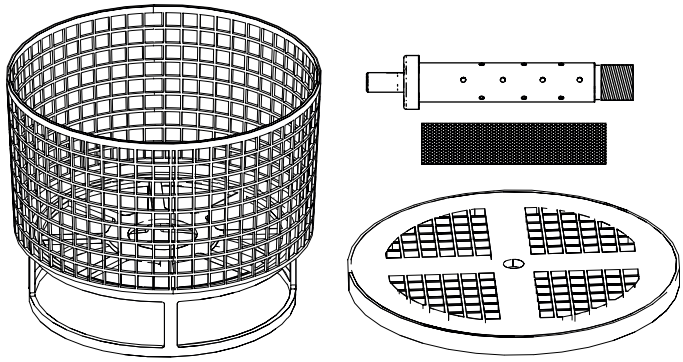


5. INITIATING THE MACERATION PROGRAM AND COLD BREW PRODUCTION

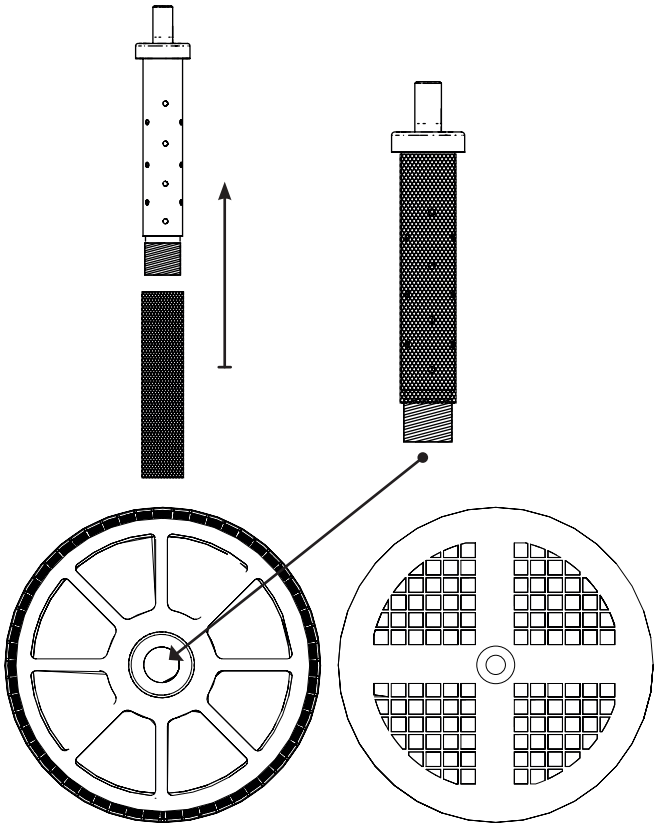
Before initiating the first production steps, the device must undergo the [SANIT] program!

5.1 Cold brew production

Step 1. Open the water supply valve supplying the device.
Step 2. Wash and sanitize the installation, tank, and basket if it has not been done previously.
Step 3. Prepare a clean keg or other container for the finished beverage (minimum capacity of 5 liters).
Step 4. Direct the 1/2 drain hose to the container prepared for the finished beverage or connect a keg with a special lid to the device. Open the valve on the keg lid.

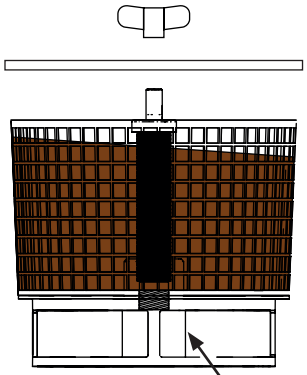


Step 5. Prepare the unfolded production basket.



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

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



Step 8. Prepare ground coffee/tea/cascara/other dry goods.
!!! The ground coffee particles should be approximately 600 µm in size. Coarser than for Aeropress and finer than for V60.

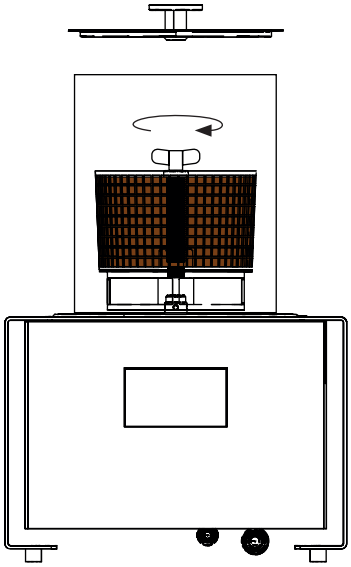
Step 9. Fill the prepared basket with ground coffee/tea/cascara/other dry goods. Lightly shake the basket or level the contents with a spoon to ensure they do not protrude beyond the edges of the basket.

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

Step 10. Close the basket with the cover and tighten the butterfly nut.

Step 11. Remove the tank cover.

The bayonet connector shaft for securing the basket with the dry goods.



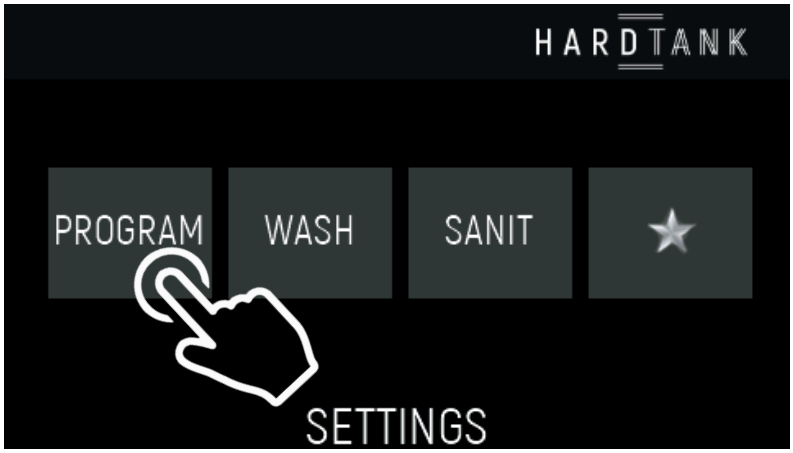
Step 12. Place the basket with coffee/tea/cascara/other dry goods on the tank's shaft. The basket will drop lower. Gently lift the basket upwards. If it cannot be removed, it means it is properly seated and secured from falling out of the bayonet handle. If you can freely lift the basket, repeat the process of seating the basket from the beginning.

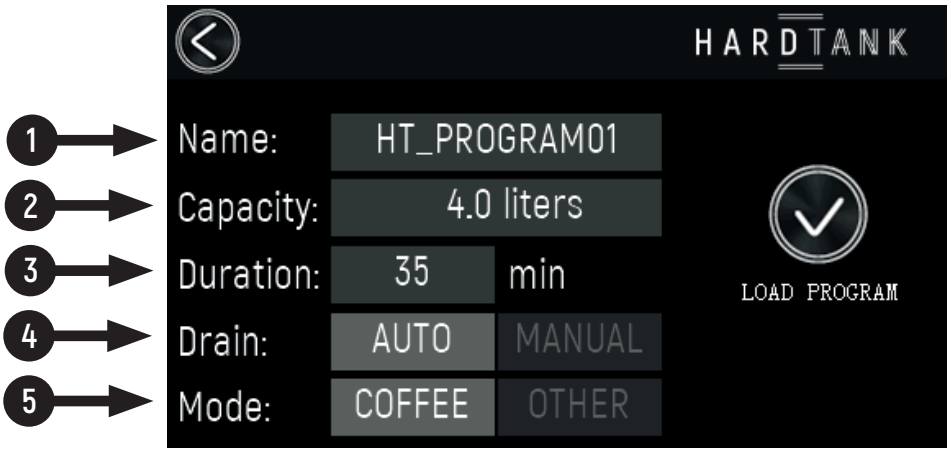
Step 13. Turn on the device if it has not been done previously.

Step 14. If the animation is displayed on the screen, press anywhere on the screen to interrupt it.

In the main menu of the device, three basic work programs are visible.

Step 15. We select by pressing. **(PROGRAM)**



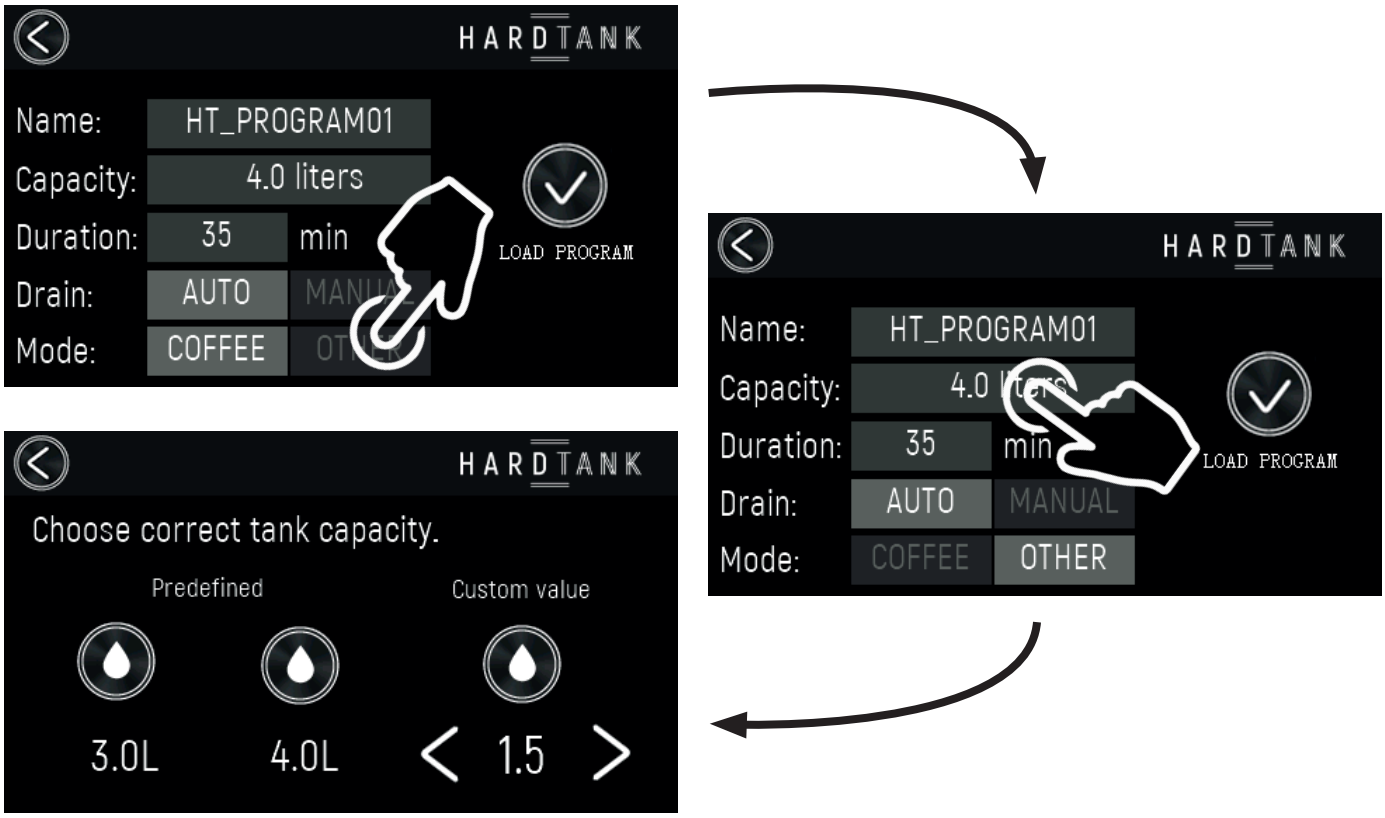


Parameters of the beverage production process

1. **[NAME]** Ability to save new recipes and load previously saved ones.
2. **[CAPACITY]** Ability to select the amount of water needed for beverage production. (Works only with the OTHER option)
3. **[DURATION]** Ability to select the extraction time.
4. **[DRAIN]** Ability to change the beverage pumping mode after extraction. (SEE PAGE 9)
5. **[MODE]** Selection of operating mode **(COFFEE)** – without the ability to change the amount of water or **(OTHER)** – with the ability to change the amount of water.

After selecting the **COFFEE** parameter, the water amount **(CAPACITY)** is automatically set to 4L without the possibility of changing it.

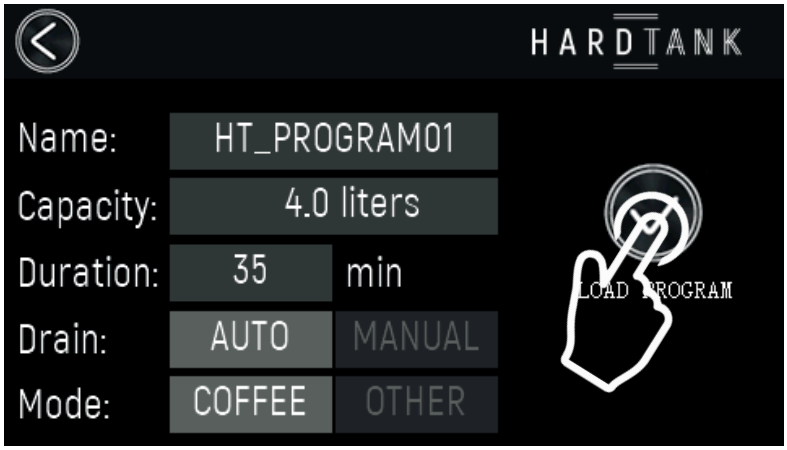
If you want to obtain a different amount of beverage, you should switch to the **OTHER** function.



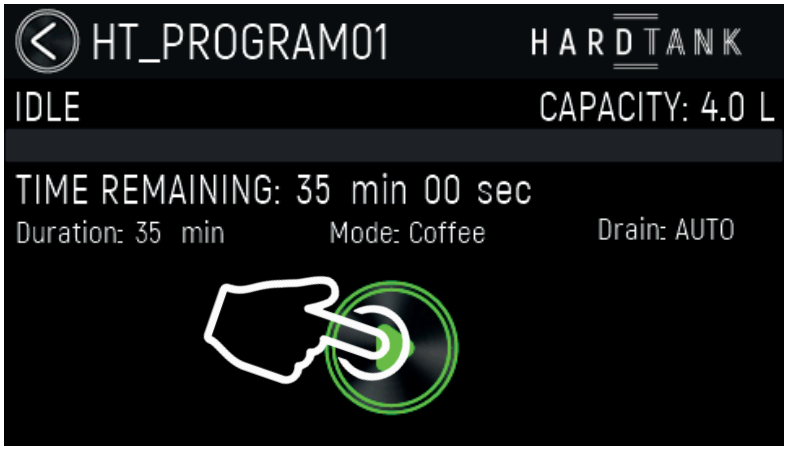
Step 16. In the **[DURATION]** field, select the beverage extraction time. On the first attempt, we recommend not changing the time parameter.
Step 17. In the **[DRAIN]** field, select the type of draining of the finished beverage. If you have a KEG with a special lid for connecting the BABY HARDTANK device, select **[DRAIN] AUTO**.

[AUTO] – The beverage will be automatically pumped out after the extraction is finished.
[MANUAL] – The beverage will not be pumped out without user confirmation.

Step 18. Press the **[LOAD PROGRAM]** button.



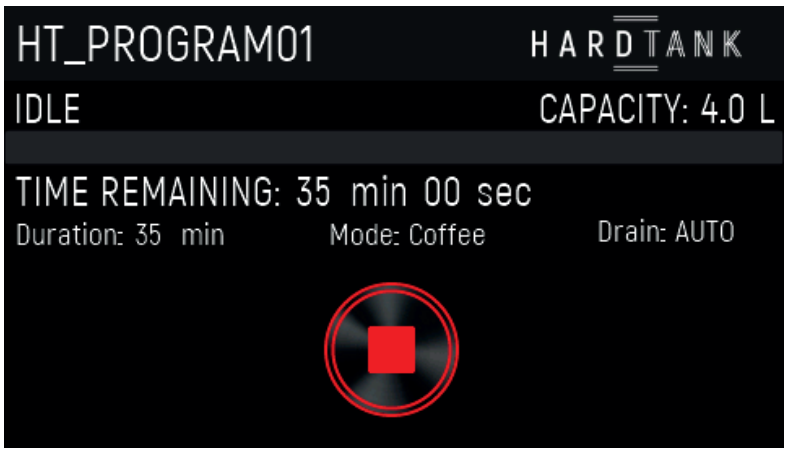
A summary of the selected mode will be displayed. At this stage, you can either accept the recipe by clicking the middle button **[PLAY]** or go back to the settings by pressing the arrow **[BACK]**, located in the upper left corner of the screen.



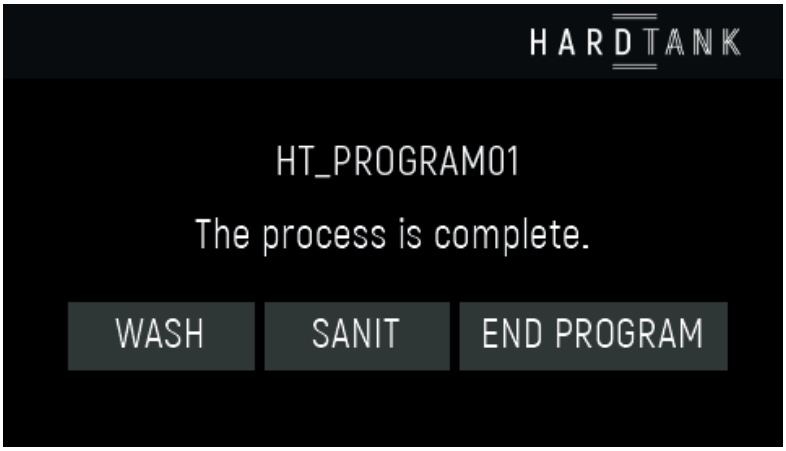
Step 19. After pressing **[PLAY]**, the tank will fill with water, and then the extraction process will begin.

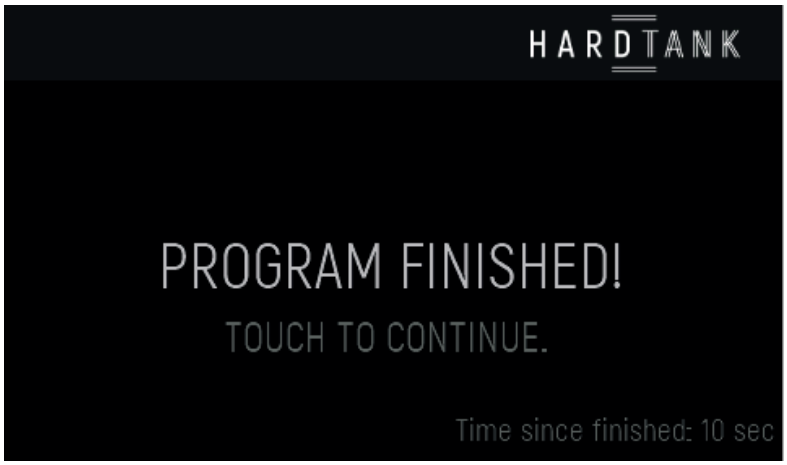
Step 20A. After the production time elapses, the beverage will be automatically pumped into the keg if the **[DRAIN] AUTO** option has been selected.

The maceration process time will only start counting down after the tank has filled to the chosen water level.



STEP 20B. After the maceration process is finished, the device will display the message ‚The process is complete."





STEP 20C. After 10 seconds, the screen will start blinking and display the message **‚PROGRAM FINISHED."**

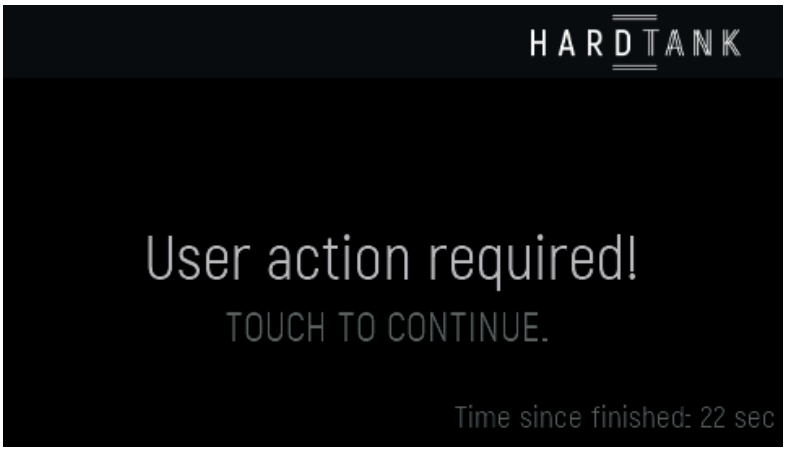
To stop the message, press anywhere on the screen.

Press **END PROGRAM.**

The function has been selected **[DRAIN] MANUAL**

Step 21A. After the extraction time has elapsed, the message **[USER ACTION REQUIRED!]** will be displayed.

During the program in the **(DRAIN) MANUAL** mode, the pump does not stop working.

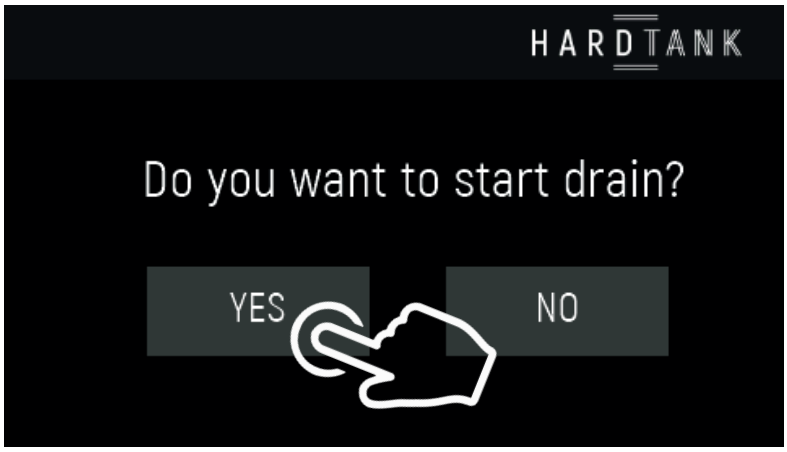


Lift the tank cover and take a sample of the beverage for evaluation.

Use the pipette included in the kit
(remember to sanitize the pipette before taking the sample).

If the beverage has all the desired flavor characteristics, press anywhere on the screen to interrupt the message **[USER ACTION REQUIRED!]**. Then proceed to STEP 21B. If not, proceed to STEP 22A.

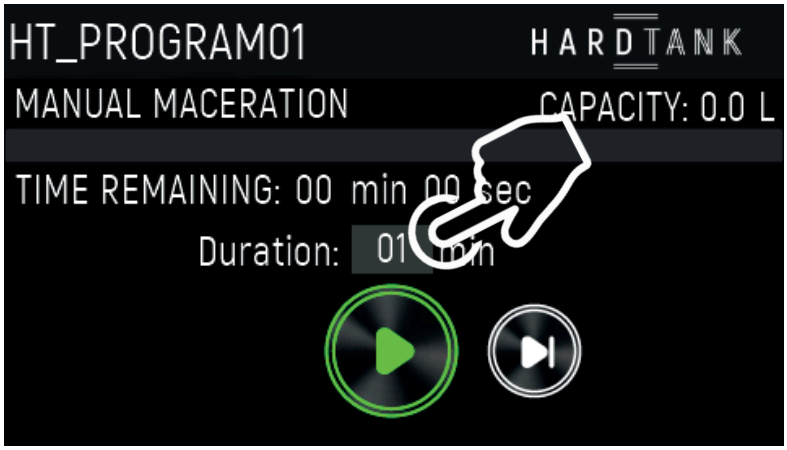
STEP 21B. Then press the **NEXT** button.



STEP 21C. Confirm the start of the pumping process.

STEP 21D. Wait until the device pumps out the beverage from the tank and finishes the **DRAIN** program.

Przedłużanie programu maceracji. W trybie DRAIN MANUAL.



STEP 22A. If after the taste test it is necessary to extend the production time, enter the required amount of time in the **[DURATION]** value by pressing the minute field.

STEP 22B. Enter the amount of time by which you want to extend the maceration program.

Confirm with the **OK** button.

STEP 22C. Press the **PLAY** button.

Wait for the desired time to elapse.

If the beverage has flavor characteristics, proceed to STEP 21B for pumping out the beverage.

5.2 After production

!!! The use of metal or wooden tools for cleaning the basket and cover is prohibited. This could damage the filtration mesh.

Step 1. Clean the production basket. Unscrew the butterfly nut and remove the basket cover.
Step 2. Turn the basket upside down over a waste container and shake it gently. Coffee/tea/cascara should fall out. Carefully remove any remaining residue without damaging the basket, for example, using a silicone spatula.
Step 3. Unscrew the head with nozzles from the basket and remove the mesh sleeve.
Step 4. Thoroughly rinse all parts of the basket from the coffee/tea/cascara residue. Pay special attention to the nozzle holes. They must be clean, unobstructed, and free from coffee/tea/cascara residue.
Step 5. Put the clean parts of the basket aside.
Step 6. Install the cleaning nozzle.
Step 7. Start the [WASH] program.
Step 8. At the end of the working day, start the [SANIT] program.
Step 9. After turning off the device, disconnect it from the power source and close the water supply valve.

Water levels in program mode **[OTHER]**

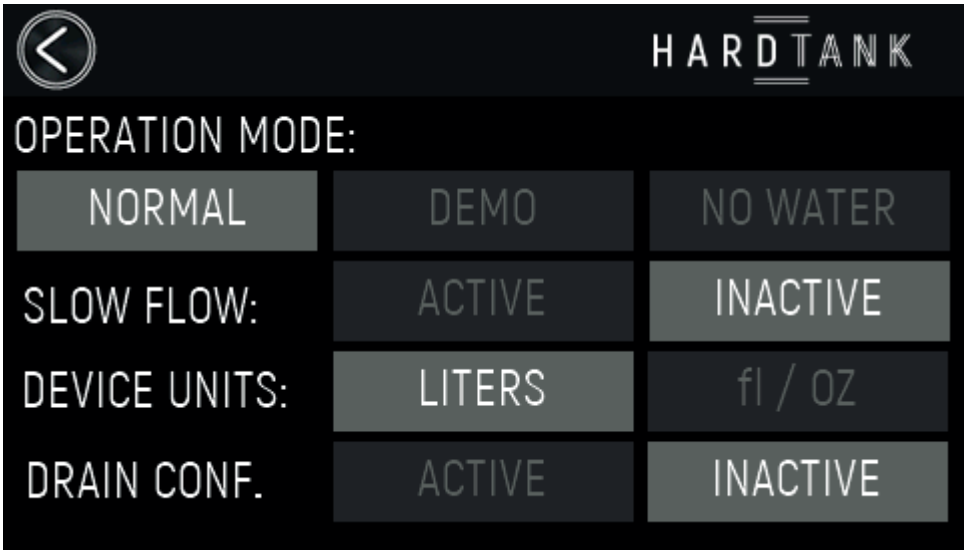
In the **[OTHER]** mode, there are three options for selecting the water level: **3L, 4L,** and manual with a range from **1.5L** to **5.0L** in increments of **0.1L.**

The settings for **3L** or **4L** include an offset function **(basket volume with coffee)**. This means that by selecting the 3L or 4L option, the device will draw more water than the chosen value to achieve approximately 3 liters or 4 liters of the final beverage after pumping out. An exception is tea or other herbs, which do not absorb as much water as ground coffee.

For options with the ability to select every 0.1L value from 3L to 5L, additional water is drawn corresponding to the basket volume with coffee (**OFFSET**).

Setting values from 1.5L to 2.9L indicate the specified amount of water without adding the basket volume with coffee. This range is intended for special drinks using limited raw materials for beverage preparation.

6. DEVICE OPERATION MODES



The menu of operation modes is accessible upon receiving a password from the distributor or seller.

It includes options designed to prevent operational issues or to use the Baby HARDTANK device in a special manner under conditions with difficult access to water or other specific circumstances outlined further below.

OPERATION MODE:

NORMAL - Normal Operation Mode: This mode operates the device under standard conditions where the water supply and its parameters meet all the requirements specified in the connection table. The device algorithms continuously monitor its operation, and in case of any errors in the program, they are signaled on the screen. Production programs as well as WASH and SANIT programs draw water from the connected water source.

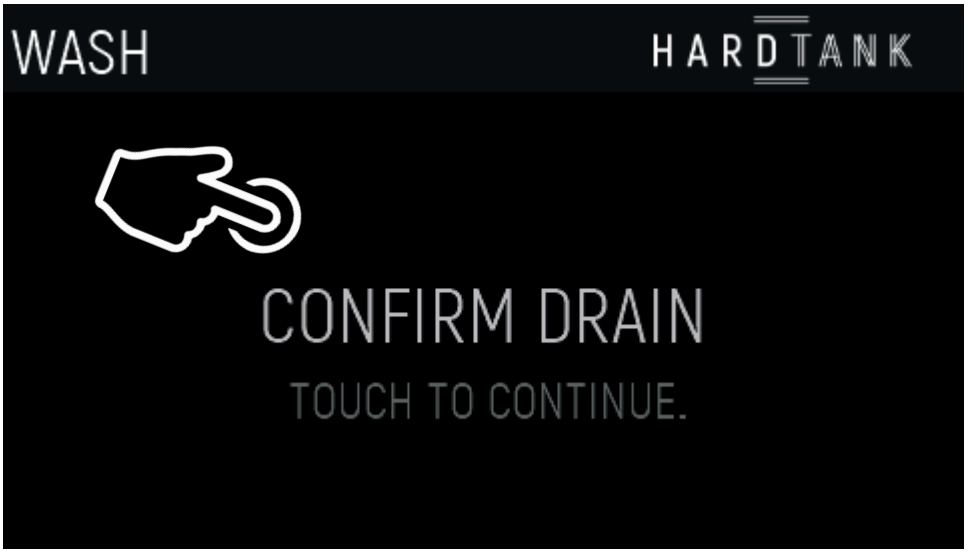
DEMO - Demonstration Mode: In this mode, the algorithm skips displaying errors in the operation of the device as well as their diagnostics. This mode is intended for demonstrating the device in locations where we use an alternative power source such as FlowJet or a similar water delivery system. Production programs as well as WASH and SANIT programs draw water from the connected water source.

NO WATER - For production in conditions without access to a permanent water supply connection. Intended for presenting the device by distributors or during the creation of recipes with alcohols (up to 60%) or limited ingredients (water other than RO).
Production programs as well as WASH and SANIT programs DO NOT draw water from the connected water source. Water must be poured into the tank from the top.

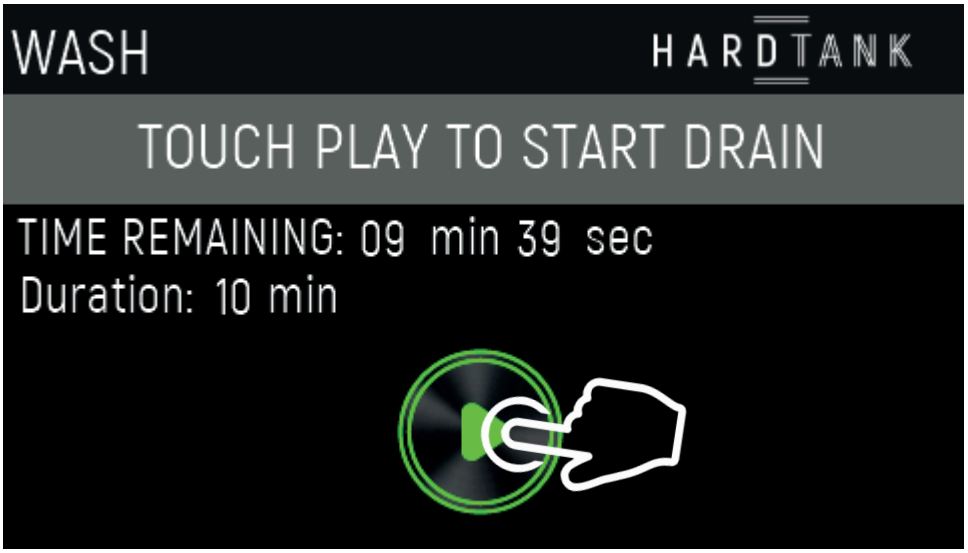
SLOW FLOW - Function to activate an alternative algorithm for checking the tank filling speed from the connected water source. It is used to delay the display of the ,TANK FILLING PROBLEM" error when filling below 2L/min or at the threshold of this value. Activate only when the device signals a filling error (TANK FILLING PROBLEM).

DRAIN CONF. - Function preventing automatic emptying of the tank in the washing (WASH) and sanitizing (SANIT) programs. When this function is active, the device stops the emptying process and waits for confirmation to proceed with the DRAIN procedure in the selected cleaning program.

Confirmation of readiness to empty the tank in the **WASH** or **SANIT** program.



After the notification ‚CONFIRM DRAIN" appears on the screen, press anywhere on the screen to hide the notification.



Next, ensure that the drainage hose is placed in the sewage system or in a container with a minimum capacity of 20 liters. Then press the green PLAY button.

6.1 Operating Notes

- When filling the basket with coffee, closing the basket lid, and inserting the basket into the tank, use latex gloves.
- Avoid grinding coffee directly into the basket. This can cause the basket to become electrified, negatively impacting cold brew production.

!!! Do not use alcohol with a concentration exceeding 60%, as this can damage sealing elements.

- During cold brew production using coffee, it expands and exerts significant force on the basket walls. The coffee basket must be securely closed, and the lid must be secured to prevent accidental opening. Failure to do so may result in basket leakage, and the production process will not proceed correctly.
- Pay close attention when fitting the basket sleeve onto the bayonet handle in the tank to prevent the basket from slipping out. If the basket slips out of the sleeve, water flow through the basket will be disrupted, and extraction will not proceed evenly or correctly.

!!! Inadequate operation of the device, failure to adhere to the recommendations listed below, and non-compliance with occupational health and safety regulations may pose a risk of electric shock, burns, cuts, or other injuries.

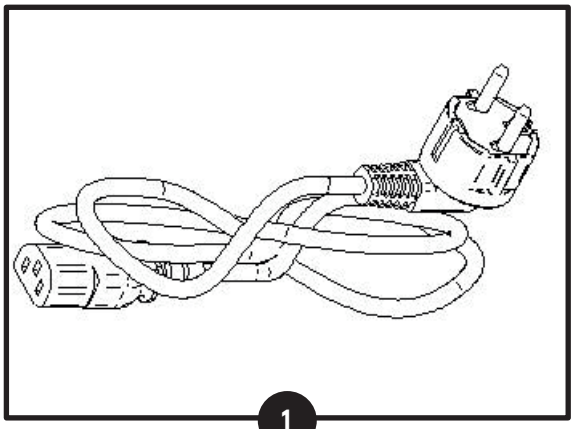
7. ACCESSORIES

Standard equipment

The device comes equipped with:

1. Power cord
2. 1/2 drainage hose
3. 3/8 water inlet hose
4. Beverage sampling pipette
5. Production basket
6. Cleaning nozzle
7. Tank cover
8. Set of plastic keys for Push-fit connectors
9. Angle guide for 3/8 hose
10. Angle guide for 1/2 hose
11. 1/2 and 3/8 plugs (included in the device)
12. 1/2 and 3/8 securing clips (included in the device)
13. Three-way valve assembly with 1/2 valves

The manufacturer reserves the right to change the machine's equipment along with additional products.



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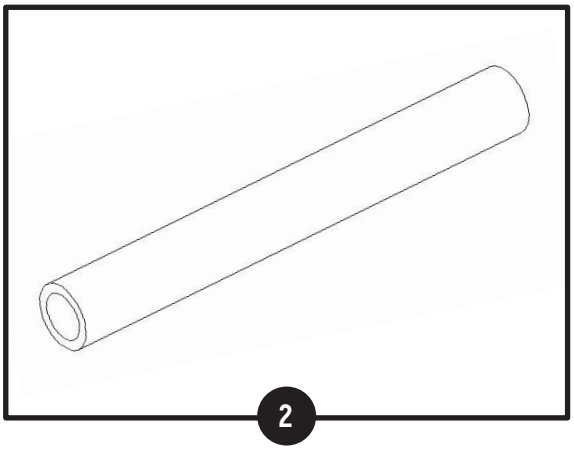

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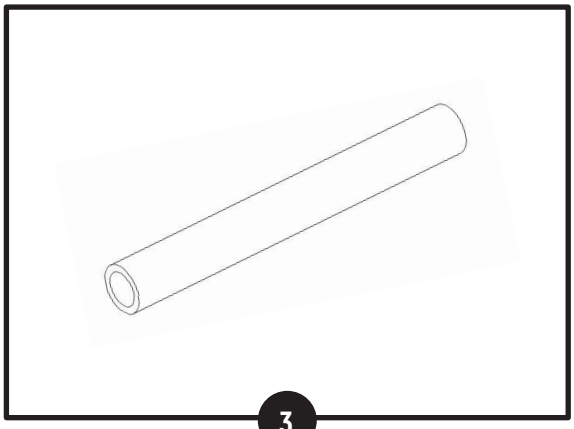

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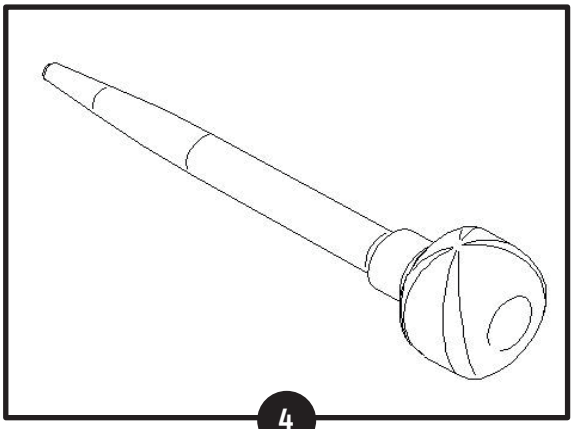

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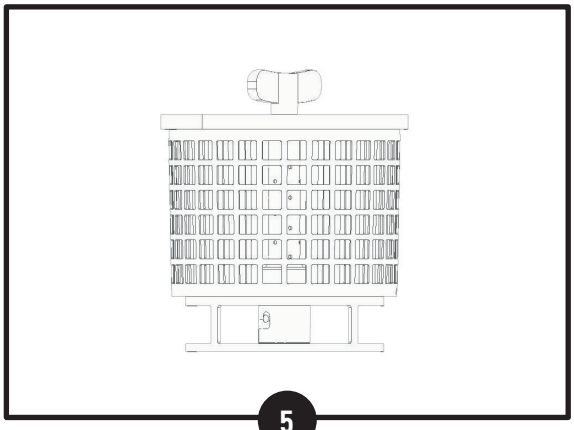

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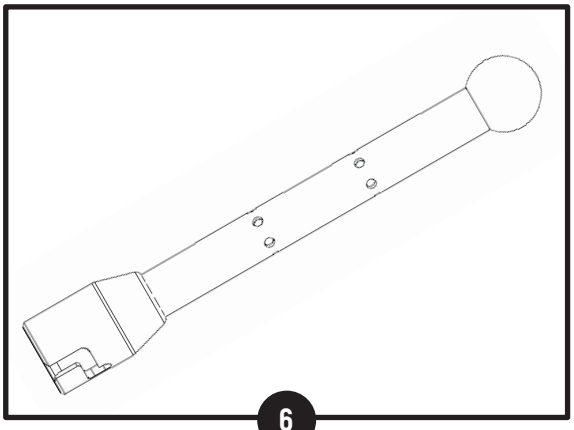

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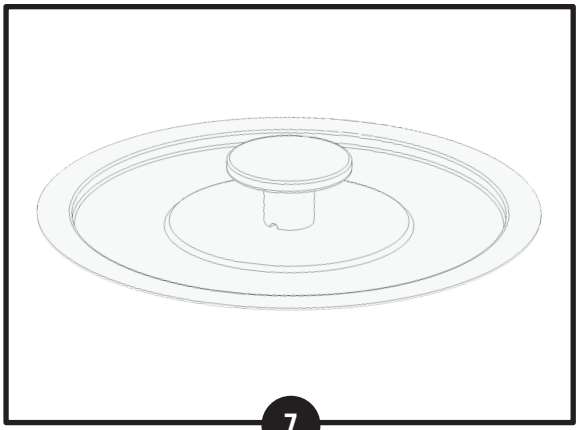

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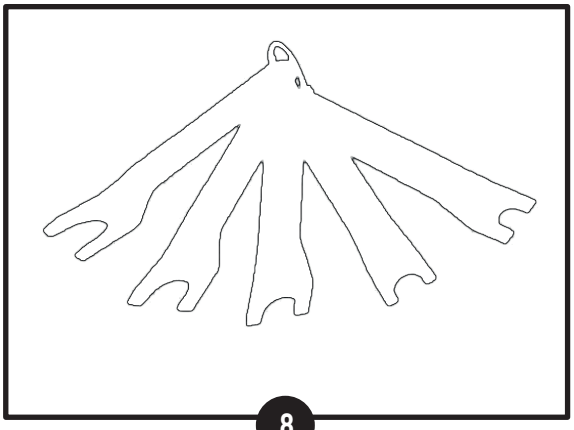

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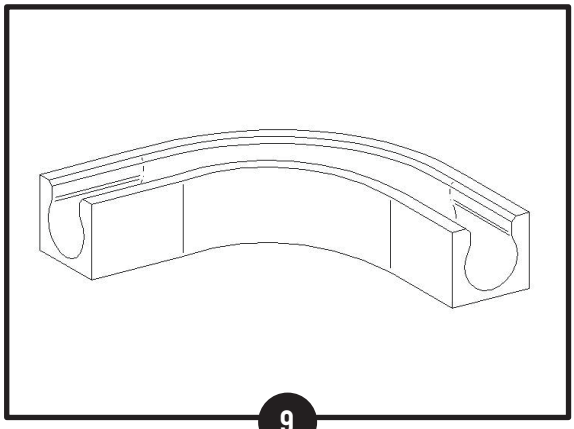

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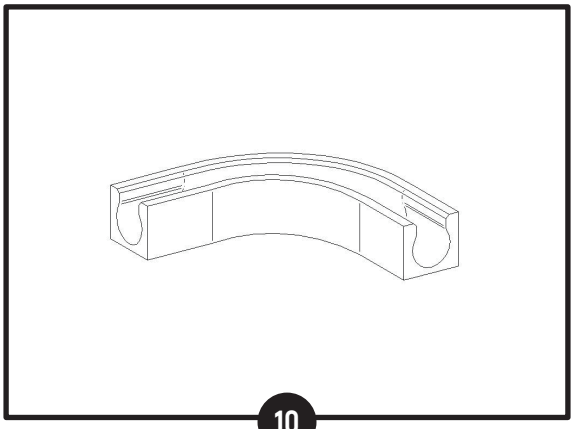

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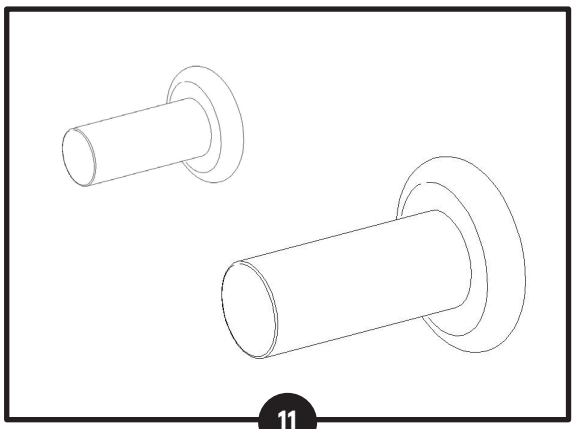

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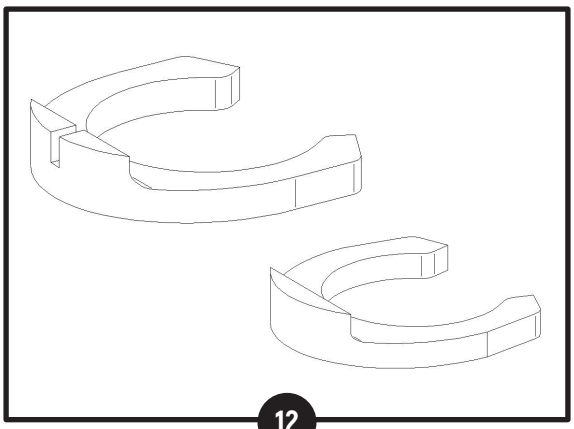

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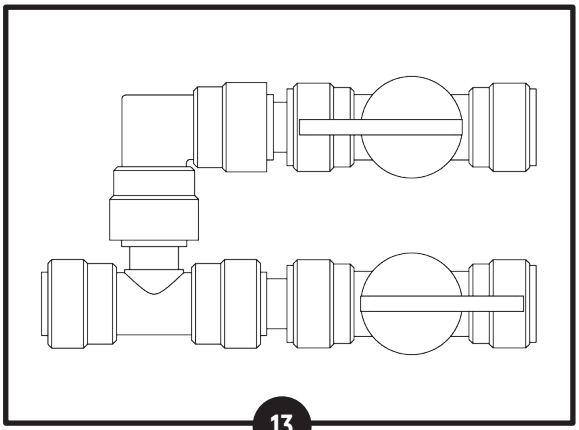

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8. ERROR TABLE AND SOLUTIONS

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 patency 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].
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 package 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.

8.1 Periodic Maintenance

In case of planned device downtime lasting longer than 4 weeks, it is necessary to remove water from the device and dry its components. For extended periods of inactivity, sanitation should be performed every 4 days and before restarting the device.

8.2 Repairs and Overhauls

In case of any problems or doubts, please contact support@hardbeans.com.
The device manufacturer provides repair services either on-site (if possible) or at the manufacturer's headquarters as part of the service. All regulatory and repair activities should be carried out by an authorized specialist.

!!! The manufacturer is not responsible for improper or non-compliant use of the device according to the recommendations provided in this documentation.

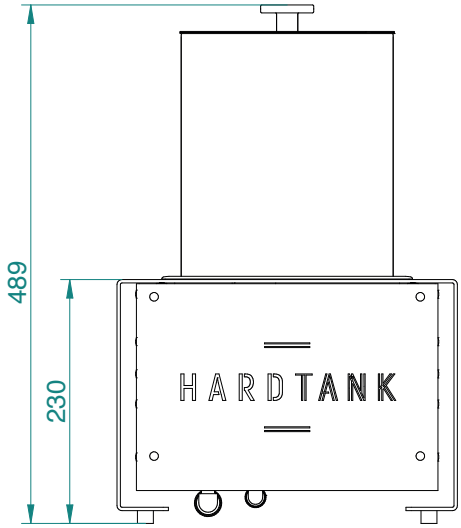
8.3 Additional Equipment

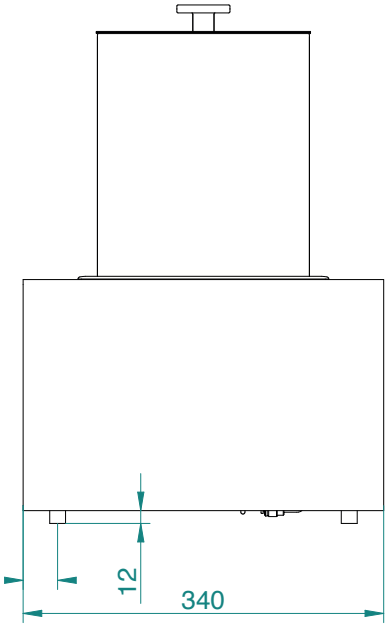
L.P.	Name	TYPE	Drawing/Photo Number
1.	Cornelius Keg 9L with special lid		
2.	Cornelius Keg 18L with special lid		
3.	Special lid for Cornelius keg		

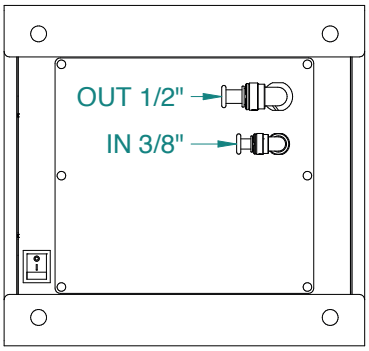
8.4. Error codes table

CODE	MESSAGE	REASONS	SOLUTION
CODE: 0x01	TANK FILLING PROBLEM	1. Closed valve for treated or plain water. 2. Loss of water source during tank filling.	- After waiting for 30 seconds for the message to appear on the screen, select MAIN MENU and start the selected program again. - Turn the device off and on again.
CODE: 0x02	TANK DRAINING PROBLEM	1. If the drainage hose from the device is blocked or clogged 2. If the valve on the special KEG lid is not opened 3. If the drainage hose gets blocked or clogged during the tank emptying process	- Unblock or unclog the drainage hose. - Turn the valve on the special KEG lid to the open position. - After waiting for 30 seconds for the message to appear on the screen, select MAIN MENU, and activate the DRAIN function.
CODE: 0x03	TANK LEVEL TOO LOW TO MACERATE	In the NO WATER mode, the tank was not filled to the appropriate water level.	Prepare more water or another liquid ingredient for the program, restart the program, and add liquid until the program starts automatically.
	Do you want to start drain?	1. There is some liquid residue in the tank from the previous process or it was not completely drained. 2. There is liquid in the tank due to interrupting the WASH/SANIT program using the STOP function.	- Select YES to drain the remaining liquid from the tank. - Select NO to resume the program after interruption upon request.

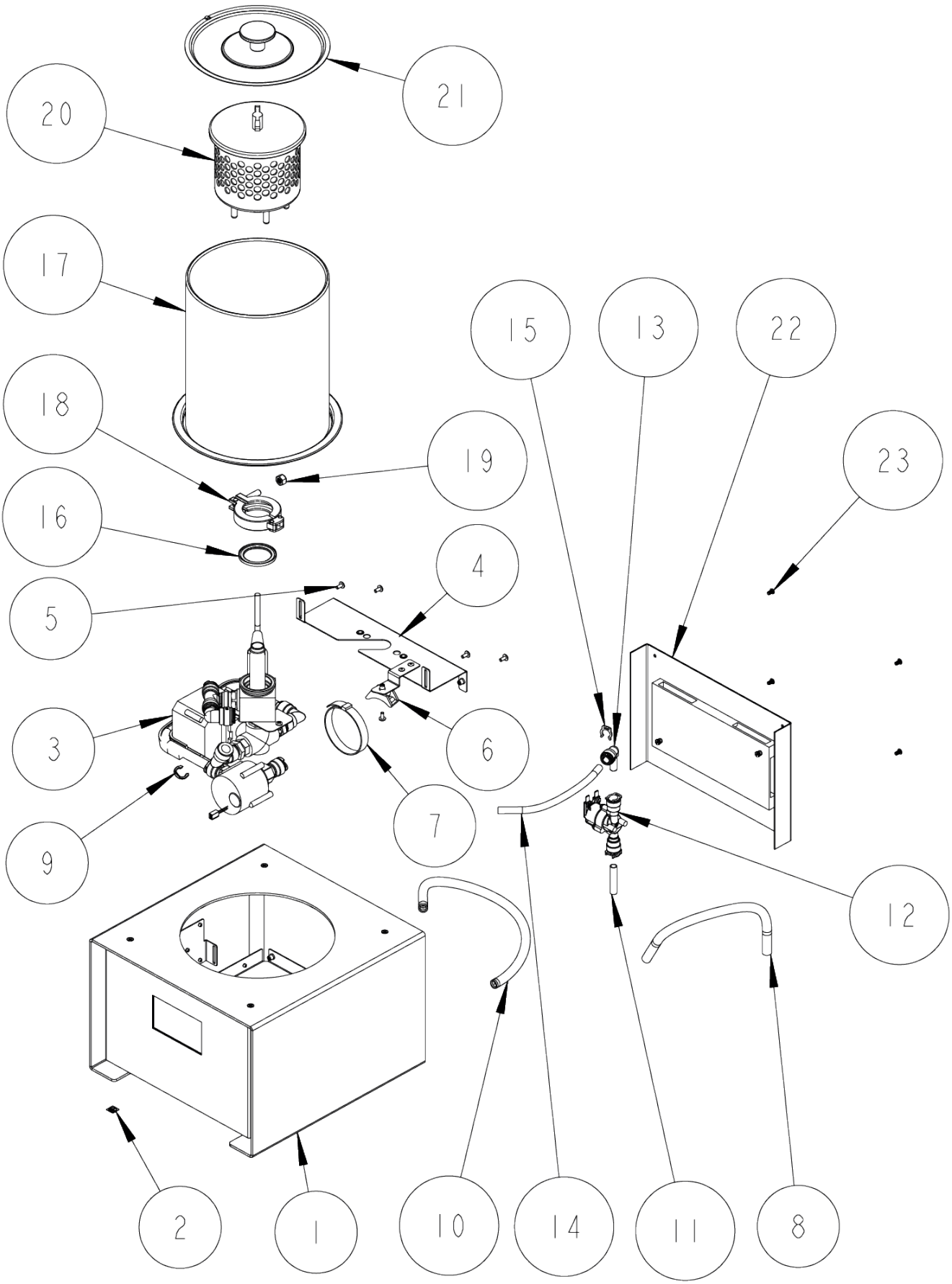
9. DEVICE DIMENSIONS







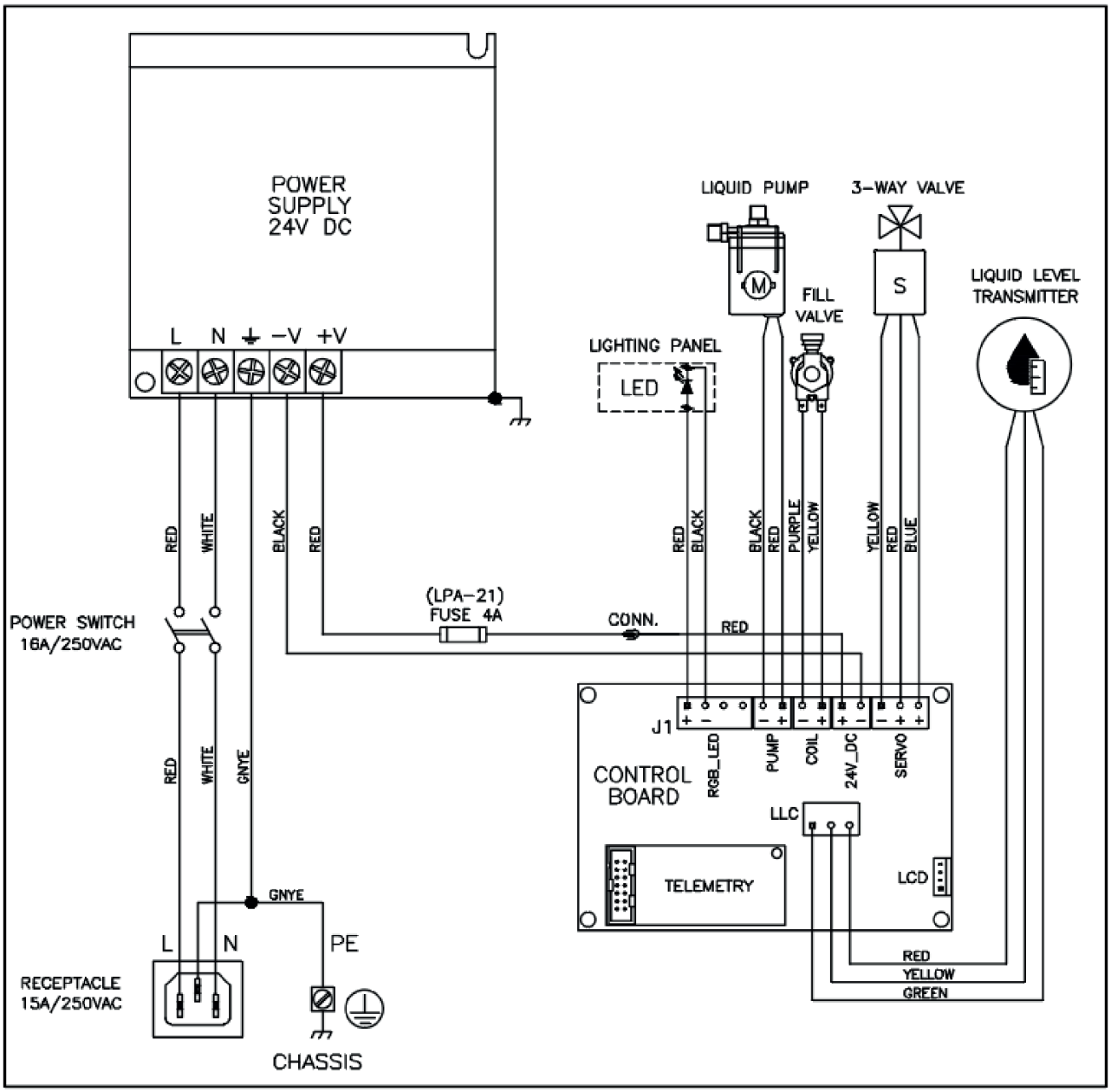
10. PART DIAGRAM



11. PART TABLE

REF	QTY	Part Number	Description
1	1	BHT-200-150-006	Body and housing subassembly
2	1	BHT-200-100-127	LABEL, CE
3	1	BHT-200-150-003	DISTRIBUTOR, MAIN ASSEMBLY
4	1	BHT-200-100-057	WELDMENT, DISTRIBUTOR FLANGE, HARD TANK
5	4	BHT-200-100-152	SCREW, #8-32 X 3/8 TRUSS HD PHIL., MACHINE
6	1	BHT-200-100-097	HOLDER, CABLE TIE, 0.50" WIDE X 0.13" THICK MAXIMUM
7	1	BHT-200-100-126	CABLE TIE, 0.50" W X 06" TH X 11"LG, 400 LB STRENGTH
8	1	BHT-200-100-124	PIPE L=320mm 1/2
9	4	BHT-200-100-094	LOCKING CLIP 1/2
10	1	BHT-200-100-123	PIPE L=380mm 1/2
11	1	BHT-200-100-121	TUBE, 3/8" OD X 1/4" ID X 1 3/4" LONG
12	1	BHT-200-100-018	VALVE, 24VDC, 2.15 L/MIN FLOW, 3/8" PUSH IN TYPE
13	1	BHT-200-100-023	ELBOW PUSH-FIT 3/8
14	1	BHT-200-100-101	PIPE L=180mm 3/8
15	5	BHT-200-100-093	CLIP, 3/8", LOCKING
16	1	BHT-200-100-017	GASKET, DN32
17	1	BHT-200-150-002	ASSEMBLY, GLASS CYLINDER
18	1	BHT-200-100-045	TRICLAMP
19	1	BHT-200-100-065	LOCKNUT, NYLON INSERT, 5/16-18
20	1	BHT-200-150-010	BASKET ASSEMBLY, GASKET AND WING NUT
21	1	BHT-200-150-001	ASSEMBLY, LID, HARD TANK
22	1	BHT-200-150-007	Assembly, back & led panels
23	4	BHT-200-100-038	SCREW, BUTTON, HEX DRIVE

12. SIMPLIFIED ELECTRICAL DIAGRAM OF BHT



13. NOTES