

USER MANUAL



WATER HEATER - HOTBOX BEKERFARB

BEKERFARB

USER MANUAL Version 1-25

BEKERFARB SP. Z O.O. SP.K. Jordanowo 11 66-200 Świebodzin (PL) - POLAND Tel. +48 507 085 416

This manual constitutes an integral part of the product and should always be available to all persons using it.

This manual constitutes an integral part of the product and should always be available to all persons using it.



User Manual
WATER HEATER - HOTBOX

Version: 001-25
Issue 1
Page 2 of 16

User Manual WATER HEATER - HOTBOX Version: 001-25 Issue 1 Page 2 of 16

TABLE OF CONTENTS

- 1. General Information 1.1 Warranty Conditions 1.2 Manufacturer's Address 1.3 Using the Warranty and Service Book 1.4 Symbols and Definitions 1.4.1 Symbols
- 2. Features and Technical Data
- 3. Personnel Characteristics
- 4. Application 4.1 Unpermitted Application 4.2 Reference Standards
- 5. General Warnings
- 6. Safety
- 7. Equipment and Components 7.1 Transport and Lifting 7.2 Assembly
- 8. Operation: General Information
- 9. Commissioning
- 10. Switching Off
- 11. Maintenance
- 12. Troubleshooting and Fault Rectification
- 13. Electrical Wiring Diagram
- 14. Recycling / Scrapping
- 15. EU Declaration of Conformity



1. General Information

Congratulations on the purchase of your new product. At the same time, we would like to remind you that this device has been designed with safety, usability, and efficiency in mind. In order to enjoy the features of the device for as long as possible, please read the user manual carefully, especially the texts marked with the **ATTENTION !** symbol. These contain information related to the safety and use of the pressure washer. Furthermore, we inform you that the manufacturer is not liable for damages that occurred due to the following reasons: - Failure to comply with the notes and recommendations contained in the user manual. - Using the device for purposes other than those mentioned in the PURPOSE (APPLICATION) chapter. - Use for purposes that do not comply with legal or health and safety standards. - Improper installation. - Lack of or improper service. - Changes or modifications not consulted with or unauthorized by the manufacturer. - Use of non-original spare parts or those unsuitable for this type of device. - Repairs not carried out by a qualified technician.

1.1. Warranty Conditions The warranty covers a period of 12 months. The warranty period begins with the date on the Bill or Invoice, provided that the documentation containing the buyer's data is sent to the manufacturer or their designated representative within 10 days from the purchase date. The buyer has the right to replace parts which, in the opinion of the manufacturer or their designated representative, have defects related to the production process or the material used. At the same time, the right to direct or indirect compensation is excluded. Labor, packaging, or transport costs are borne by the buyer. The device subject to warranty must reach the manufacturer with its original equipment and in unaltered condition. Failure to meet the above conditions will result in the loss of warranty. Any possible disturbances or damages that occurred during the warranty period do not authorize the interruption or delay of payment. The warranty does not provide for the replacement of the washer and expires at the time of interruption or suspension of the agreed form of payment. **The warranty does not cover:** - Damages indirectly or directly related to a fall, improper use, failure to comply with safety standards, incorrect installation, failure to comply with the intended use, and failure to carry out the scheduled maintenance inspections. - Damages caused by the standstill of the device being repaired. - All parts that are subject to wear during normal use. - All parts that get damaged due to improper use or inattention. - Damages caused by the use of non-original parts or unauthorized by the manufacturer and repairs carried out by an unqualified technician. - Damages caused by supply with incorrect voltage. Any changes to the washer, especially to safety devices, lead directly to the loss of warranty and release the Manufacturer from any liability. The manufacturer has the right to make changes leading to product improvement. The manufacturer is not obliged to implement these changes in products already manufactured, shipped, or waiting for transport.



User Manual
WATER HEATER - HOTBOX

Version: 001-25
Issue 1
Page 4 of 16

User Manual WATER HEATER - HOTBOX Version: 001-25 Issue 1 Page 4 of 16

1.2. Manufacturer's Address The manufacturer's address is assumed to be the address located at the end of this user manual in the Declaration.

1.3. Using the Warranty and Service Book The user manual you received with the purchased device is a part of it and should be carefully stored for future consultation. The user manual contains important tips regarding the safety of the user and third parties, as well as environmental protection. In case of loss or destruction of the received copy, a copy should be ordered at the nearest point of sale. When selling the pressure washer, please pass the user manual to the new owner. In preparing this user manual, we have made every effort to make it accurate and clear to understand. If, despite this, you find errors, please inform the manufacturer or their representative. The manufacturer reserves the right, without notification, to make any changes necessary for updating. Copying this user manual, even partially, without the written permission of the manufacturer or their representative, is prohibited.

1.4. Symbols and Definitions 1.4.1. Symbols

Symbol **ATTENTION !** Indicates sections of text that, if unattended, could lead to injury.

Symbol **WARNING !** Indicates sections of text that, if unattended, could lead to damage to the device.

2. Features and Technical Data

Model	Unit	BF.HB 250	BF.HB 400
Pressure	bar	50-250	50-400
Flow rate	l/min	21	21
Water temperature	°C	30-90	30-90
Fuel tank capacity	l	20	20
Power consumption	W	110	110
Power supply (50Hz) (60Hz on request)	V	230V I~ / 115V I~	230V I~ / 115V I~
Noise level	dB(A)	72	77
OPTIONAL Total Stop function (*) on washer	#	(*)	(*)
Fuel nozzle	Gl/h	2,00	2,00
Weight	kg	95	95
Dimensions	cm	80x1120x76	80x112x76



3. Personnel Characteristics

An important condition guaranteeing the safety of personnel and equipment is the customary manner of performing work and the specific experience of the operator. The operator must strictly follow the tips provided in the documentation or by the employer, who ultimately bears responsibility in the event of an accident involving authorized or external personnel. The device may only be operated and maintained by professional, experienced, and mature personnel. It must be ensured that such persons will be able to correctly interpret the provisions of this manual in order to ensure full safety during operation.

ATTENTION ! This document does not contain all the information necessary for performing all possible operations using the device, on the assumption that every operator has basic knowledge of how to perform their work, i.e. they have the appropriate skills and training. If the described operations are unclear or inappropriate, the operator may proceed differently in a situation when: - they have proper knowledge in the scope of the operation being performed, and the operation they intend to perform results from their specific and professional experience. - their actions do not pose a risk of self-injury. **Before opening the device in the event of a failure or sudden event, it should be switched off using the on/off switch and disconnected from the power grid.**

4. Application

The HOT BOX device is a fuel-oil fired heater which, after connection to a cold-water high-pressure washer, heats water to the temperature set on the thermostat, i.e., max. 120°C, according to the flow rate (l/min) generated by the cold-water high-pressure washer. In case of using cold-water high-pressure washers with a higher capacity (l/min), a max. temperature of 120°C can be achieved by connecting several HOT BOX heaters in parallel. Safe and fault-free operation of the oil burner is ensured by a protective control device (flow switch, thermostat) which switches the fuel-supplied burner on and off. The relief valve, which is installed at the heater's water inlet and has protection against unauthorized adjustment, guarantees pressure reduction and discharge of steam from the boiler in the event of overload operation.

4.1. Unpermitted Application It is forbidden to use the device or its elements to perform tasks that have not been described in this manual. During operation, the device cannot be immersed, even partially. **Do not aim the jet at people or animals and/or the device itself**, as well as other electrical devices. Do not use the device if there are people near the washing area. The devices must not be placed or operated in areas at risk of fire or explosion. When operating at gas stations, technical standards regarding the handling of flammable liquids must be taken into account. Improper or defective high-pressure hoses are a very common cause of accidents related to the operation of high-pressure washers. For this reason, before starting up the device, the hoses should be checked for any damage. **Do not use the device if any defects or damage may negatively affect the original safety level;** the installer, operator, or maintenance technician is obliged to inform the manufacturer of any such anomalies.



User Manual WATER HEATER - HOTBOX Version: 001-25 Issue 1 Page 6 of 16

4.2. Reference Standards This manual has been prepared in accordance with the directive **89/392/EEC** and regulations regarding machines, taking into account all tips and regulations contained in international standards. **89/336/EEC 73/23/EEC EN60335-2-79 EN55014-1/2** In addition, the standards described in DPR 547 and D.L. 626 as well as all other applicable regulations were applied to protect the integrity of the device as well as the safety of operators and maintenance personnel.

5. General Warnings

The tips given in this user manual do not replace safety instructions or technical data regarding assembly and operation provided directly on the product, as well as instructions dictated by common sense or applicable at the place of installation of the device.

ATTENTION ! It should be noted that this document cannot replace a lack of technical knowledge on the part of the operating and maintenance personnel, i.e., knowledge they must possess due to their profession. **The user should comply with all health and safety regulations applicable at the place of installation, as well as all rules dictated by common sense. The device has been designed for specific applications.** It cannot be modified and/or used otherwise than described in the APPLICATION chapter. The lance must be held firmly with both hands, as it can generate a recoil with a force of 200-300 N.

6. Safety

Connect the HOT BOX heater to the correct electrical power supply, compliant with local regulations applicable at the place of intended use of the device and the IEC 364 standard. It is highly recommended to connect the device to the electrical grid via an automatic residual current circuit breaker (device protecting against leakage current) with a nominal value of **30mA**. **IEC 364** All electrical connections of the device ensure maximum safety and efficiency, however, in the event of any wear or damage being found, the user must mark them accordingly to restore the original safety state.

ATTENTION ! It is strictly forbidden to use extension cords and multiple sockets. The working environment is normally exposed to the action of water and moisture, which does not ensure normal insulation in the installation. **Make sure that the insulation of the cable and equipment are in perfect technical condition. Never grasp the plug with a wet hand or foot.** Before connecting or disconnecting the plug to/from the socket, make sure whether the on/off switch is in the off position. Avoid accidental start-ups. Do not pull the device by the cable and do not disconnect the cable from the socket by pulling on the cable.

WARNING !



User Manual
WATER HEATER - HOTBOX

Version: 001-25
Issue 1
Page 7 of 16

User Manual WATER HEATER - HOTBOX Version: 001-25 Issue 1 Page 7 of 16

The device requires the exclusive use of the supplied detergent or detergent recommended by the manufacturer. The use of other products may result in lowering the safety level of the device.

WARNING ! Do not use the device when there are other people in the working area, unless they are wearing appropriate protective clothing. Do not use the device if the electrical cable or other key components, i.e., safety devices, high-pressure hose, gun, are damaged. Verify data on nozzles that can be used on the washer. Verify all safety devices, i.e., safety valves, pressure switches, flow switches. On the supply line, at the connection point of the device, install a single-pole switch with 3mm contacts. **Switch the on/off switch (1) of the HOT BOX heater to position (2). Leave the heater operating with cold water for about 2 minutes to cool the boiler installation and avoid overheating. The device together with the accessories should be stored in a dry place, protected from frost. In the event of long-term removal from service, the device must be completely emptied of water.**

ATTENTION ! According to safety regulations, the oil-fired high-pressure washer / HOT BOX water heater must be inspected within 4 weeks from the time of delivery. Exhaust gas measurement must be performed and repeated every year. The manufacturer is not responsible for the disposal of consumables, i.e., lubricants, rubber hoses, detergents, etc. For this reason, the Customer should comply with applicable regulations regarding the disposal of substances posing a potential threat to the natural environment; caution should be exercised when using chemical detergents (degree of biodegradability above 90%) so as not to cause deterioration of the technical condition of the device components or pollute the natural environment.

The manufacturer bears no responsibility for any damages resulting from incorrect or careless operations performed by professional or non-professional personnel which are not described in this manual. The manufacturer also bears no responsibility for damages to persons or property in the event of incorrect assembly. The operator must not wear clothing with long sleeves, shoelaces, and belts; protective gloves and footwear must always be worn. (*Illustration: Gloves and protective boots*) The manufacturer is not liable for possible damages resulting from negligence or improper maintenance. Before commissioning the device, remove all foreign objects that are not part of the device, e.g., keys, screwdrivers, screws, and nuts. **This HOT BOX heater has been tested to ensure ecological combustion parameters.** Initial factory settings of air, humidity, and combustion parameters may change. Therefore, it is recommended to check these parameters every six months. For optimal operation of the washer, it is necessary to provide a sufficient amount of air for the combustion process; **therefore, housing openings must not be covered.**



User Manual WATER HEATER - HOTBOX Version: 001-25 Issue 1 Page 8 of 16

Do not cover or plug the burner outlet (14); do not put a lance or tools on it, as exhaust gases have a high temperature. Although there is a warning label next to the burner outlet, it is recommended to inform employees that it **remains hot for up to one hour after turning off the device**. The HOT BOX water heater emits harmful exhaust gases, in particular **combustion gases (CO and CO₂), which pose a risk of death if inhaled in high concentration. The heater must be used outdoors**; in places with adequate ventilation, and the burner outlet must in any case be discharged into the external atmosphere. **All local fire safety regulations applicable at the destination of installation of the washer must be followed**. The use of heating oil other than oil with the following characteristics is not permitted: **Heating oil p.c.i. 10210 kcal/h 1.5oE (6cSt) up to 20oC**. To fill the fuel tank with heating oil, unscrew the filler cap (13), after first turning off the on/off switch and removing the plug from the mains socket. **Smoking cigarettes is prohibited in the vicinity of the washer turned on or off**.

7. Equipment and Components

1. Water inlet connector
2. High-pressure hose for lance connection
3. High-pressure hose connector
4. Thermostat
5. On/off switch
6. Fuel tank filler cap
7. Exhaust
8. Stand base

(Components on the image) - 04. Thermostat - 05. On/off switch - 03. High-pressure hose connector - 01. Water inlet connector - 08. Stand base - 07. Exhaust - 06. Fuel tank filler cap



User Manual
WATER HEATER - HOTBOX

Version: 001-25
Issue 1
Page 9 of 16

User Manual WATER HEATER - HOTBOX Version: 001-25 Issue 1 Page 9 of 16

7.1. Transport and Lifting Transport of the HOT BOX heater, in particular by road, should be carried out using elements aimed at securing all components against damage, moisture, vibrations, etc. **Carrying the washer or other weights above 30 kg must be carried out in accordance with applicable regulations;** carrying such weights without appropriate lifting devices is prohibited. It should be noted that all packaging elements (wood, nails, paper, adhesive tape, and metal tapes) can cause cuts or injuries if handled carelessly. These elements should be removed with appropriate tools and kept out of reach of unauthorized persons (e.g. children). The same applies to all other tools used for unpacking (scissors, hammers, pliers, forks, etc.).

7.2. Assembly Assembly of the washer in the vicinity of areas with flammable products is not permitted (special attention should be paid to rooms with the presence of plastic dust, resins, acids, acidic inks, etc.). Do not use the washer in gas escaping areas. To unpack the HOT BOX heater, place it on an even surface close to a drain and a water connection. Check the completeness of all components.

WARNING ! Point out any faults and damage that may affect lowering the safety level. Avoid any risky repairs to the washer. Repairs can only be carried out using original spare parts.

WARNING ! The HOT BOX heater is equipped with wheels and must be set on a flat surface with the parking brake engaged (if available) (15); **when moving to another location, the device can be tilted by a maximum of 20° (with a full tank).** Turn on the high-pressure washer in accordance with the user manual. Switch the on/off switch to the '1' on position - until the red indicator light comes on. Adjust the HOT BOX heater thermostat to the required operating temperature. If the burner goes out and does not restart automatically, the temperature limiter may be activated. To reset it, cool the HOT BOX heater down, remove the cap from the RESET button, and then press the RESET button. After completing the work, switch the on/off switch to the '0' off position - the red indicator light will go out. Leave the heater running with cold water for about 2 minutes to cool the boiler installation and avoid overheating. Turn off the spray gun. Stop the high-pressure washer in accordance with the user manual. Disconnect the device from the electrical/water supply network. Verify whether the nominal parameters of the electrical grid correspond to the voltage and current parameters provided on the washer's rating plate or on the motherboard drawing.



User Manual
WATER HEATER - HOTBOX

Version: 001-25
Issue 1
Page 10 of 16

User Manual WATER HEATER - HOTBOX Version: 001-25 Issue 1 Page 10 of 16

The customer must ensure that the HOT BOX heater is connected to the electrical network using an automatic residual current circuit breaker with a nominal current of **30mA**. **The device must be grounded. To make the electrical connection, it is enough to connect the plug to the mains socket.** Connect the water supply hose to the stub; use a clean hose. Check if the minimum pressure is 1.5 bar and the maximum 6 bar, and the minimum flow rate of the supplied water is 15 l/min. The washer is equipped with a water drain which should be replaced in the event of blockage to avoid noisy operation and damage to mechanical components of the pump. It may be useful to place the next water drain on the water supply line with a large overflow area. Connect one end of the high-pressure hose to the gun and the other to the stub. Connect the gun to the lance or other accessories. Check if the on/off switch is in the off position and if the device is set on a flat surface. Check if all the above instructions are observed. Temporarily disconnect the high-pressure hose from the stub. Turn on the on/off switch to start the motor/pump; leave the pump running for 25 seconds until it is completely primed and a clean jet appears at the nozzle. Reconnect the high-pressure hose to the stub. **WARNING !** **WARNING: For NEW washers, a short break-in time should be provided for the pump-motor assembly.** Turn on the washer for a maximum of one hour, then wait one hour for cooling. Repeat this procedure at least 2 or 3 times. **During operation, the HOT BOX heater must be covered. Do not run the pump dry, as this can cause serious damage to O-rings and seals. Water must also be drained from the pump if it is not going to be used for a longer period.**



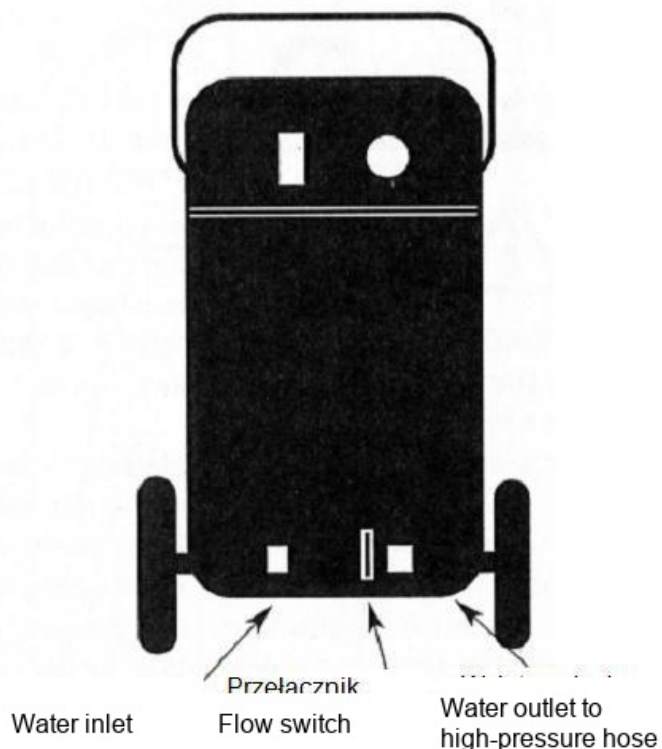
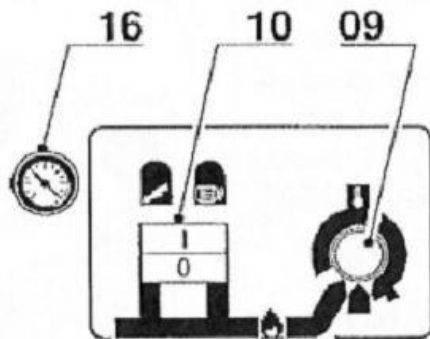
User Manual WATER HEATER - HOTBOX Version: 001-25 Issue 1 Page 11 of 16

9. Commissioning

To start the HOT BOX heater: - Open the water supply line; - Grasp the lance and squeeze the gun trigger (04). - Turn on the burner using the on/off switch (10); - If hot water is required, start the burner with the thermostat (09) - Check the level of detergent or disinfectant in the tank; - If a particularly hot jet is required, partially close the steam valve (08) (OPTIONAL) and increase the temperature with the thermostat (09).

10. Switching Off

To switch off the HOT BOX heater: - Release the gun trigger (04), then grasp the lance with both hands; - Turn off the pump/motor using the on/off switch (10). - Optionally turn off the burner with the thermostat. - Squeeze the gun trigger (04) until all pressure is released from the circuit (see pressure gauge) (16) - **Always disconnect the device from the mains socket.** If the washer will not be used, it is good to lock the trigger safety catch (04) (if present). If the device is to be stored for a longer period of time, or when the temperature is below 0°C, run the pump for about 3 minutes with antifreeze fluid, fed through the inlet stub.

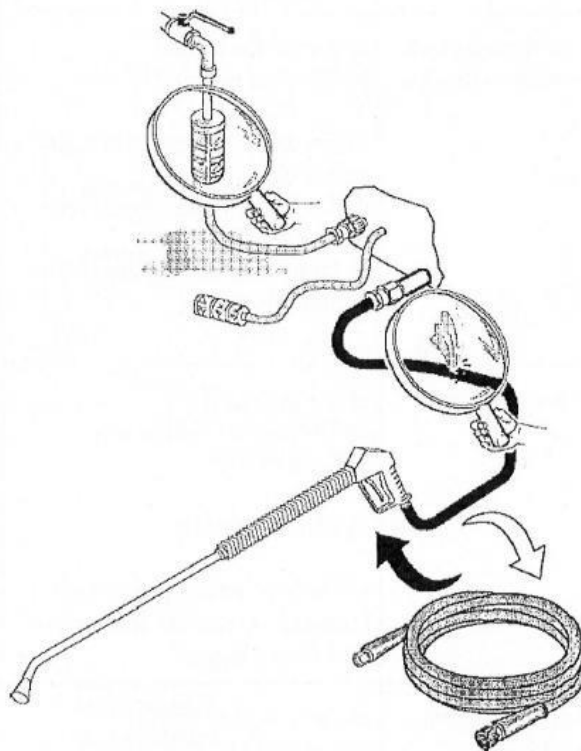




11. Maintenance

The user must not carry out any repairs to the HOT BOX heater that involve the need to dismantle the cover. If this is required, contact the manufacturer due to the necessity of verifying any changes. The user must not carry out any risky repairs to avoid lowering the safety level of the washer. In case of the necessity to replace the electrical cable, use its equivalent supplied by the manufacturer. Every six months, carry out a general inspection of the main components of the HOT BOX heater, checking for possible cracks and damage to components. Consult directly with the manufacturer. After using detergents, it is good to run the washer for 3 or 4 minutes with clean water in order to rinse the system. Check the water filter installed by the user monthly; it should be regularly dismantled and cleaned.

WARNING ! ALWAYS! Check the electrical cable and high-pressure hose monthly; replace with a new one if necessary; **damage to any of the above parts can cause a failure.** Annually or always in case of excessive exhaust emission, carry out a full inspection of the combustion process of the heating boiler as well as a full inspection of all main components: motor, pump, etc.





FAULT	POSSIBLE CAUSE	SOLUTION
Lance vibrations	a) Pump (12) sucks air or pressure drop on the pump b) Blocked nozzle (11) c) No water d) Blocked water filter e) Damaged valves	a) Check if hoses are not cracked, replace if necessary b) Turn off the device, then dismantle and clean the nozzle (11) c) Check if the main hose is not dirty or kinked d) Clean water filter e) Consult the manufacturer
Water or detergent does not reach the lance	a) Air in the circuit b) Blocked nozzle (11) c) No water or blocked circuit d) Detergent intake hose damaged e) Pump/motor turned off f) Seized pump	a) Bleed the circuit b) Turn off the device and then dismantle and clean the nozzle (11) c) Check if the main hose is not dirty or kinked d) Replace detergent hose or re-position it on the tank e) Turn on on/off switch (10) f) Motor overheating; contact the manufacturer
Water is not heated	a) Burner turned off b) Thermostat setting too low (09) c) No fuel d) Blocked nozzle e) Dirty or incorrectly set electrodes, tripped electrical switch, blocked fuel filter	a) Turn on thermostat (09) b) Increase temperature setting c) Fill fuel tank (13) d) Turn off the device, then dismantle and clean the nozzle e) Inform the manufacturer
Too much smoke on the burner	a) Dirty boiler b) Lack of air	a) Inform the manufacturer b) Place the HOT BOX heater in a well-ventilated place
Too little water supplied and/or no pressure	a) No water or blocked circuit b) Blocked or dirty nozzle	a) Check if the main hose is not dirty or kinked b) Turn off the device and then dismantle and clean the nozzle

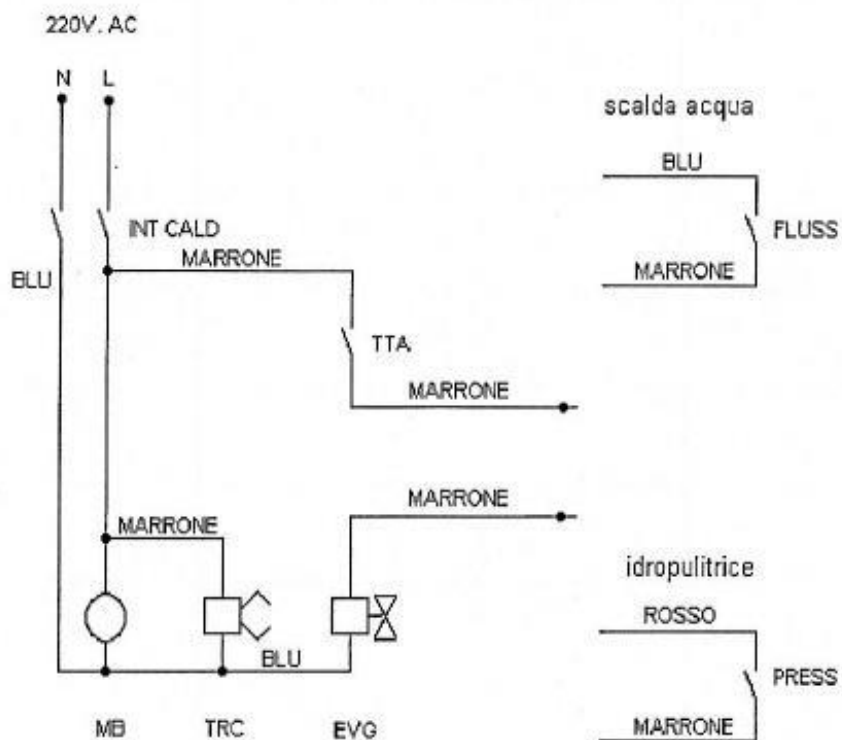


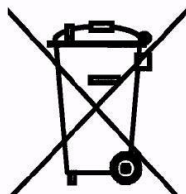
User Manual WATER HEATER - HOTBOX Version: 001-25 Issue 1 Page 14 of 16

FAULT	POSSIBLE CAUSE	SOLUTION
HOT BOX heater does not turn on	a) Device is disconnected from power supply b) Automatic residual current circuit breaker tripped c) On/off switch (10) turned off d) Gun trigger (04) not squeezed to start	a) Check electrical supply line b) Reset automatic residual current circuit breaker c) Turn on d) Squeeze gun trigger (04) to start

13. Electrical Wiring Diagram

INT.GEN. = Main switch INT.CALD. = Water heater switch TTA = Water temperature thermostat PR/FL = Pressure switch/flow switch MP = Pump motor MB = Burner motor TR.CAND. = Ignition transformer EVG = Fuel coil





14. Recycling (Scrapping)

Recycling (scrapping) of the device can be carried out exclusively by persons authorized to do so and in accordance with the regulations applicable in the given country. The "crossed-out wheeled bin" symbol indicates a ban on placing waste electrical and electronic equipment together with other waste; waste equipment should be collected separately. The user is obliged to hand over waste equipment to a collection point to ensure its recycling and recovery, as uncontrolled release of hazardous components contained in electrical and electronic equipment into the environment may pose a source of threat to human and animal health and may cause long-lasting negative changes in the natural environment.



User Manual
WATER HEATER - HOTBOX

Version: 001-25
Issue 1
Page 16 of 16

User Manual WATER HEATER - HOTBOX Version: 001-25 Issue 1 Page 16 of 16

Deklaracja zgodności WE/EU / EU Declaration of Conformity

in accordance with Attachment II point A of Directive 2006/42/EU DECLARATION OF CONFORMITY UE pursuant to attachment II, point A of Directive 2006/42/EU

Product (Produkt): High-pressure water heaters **Name of producer (Nazwa producenta):** BEKERFARB SP. Z O.O. SP. K. **Address (Adres):** Jordanowo 11, 66-200 Świebodzin (PL) **DEVICE TYPE (TYP URZĄDZENIA):** HB-xxx-xx **Model (MODEL URZĄDZENIA):** see section 2 of the user manual **Registration nr. (Numer fabryczny):** from nr. 000001 to nr. 999999

We hereby declare that the devices specified above comply with the requirements of the following European Directives: 2006/42/WE Machinery Directive 2014/30/EU EMC Directive 2000/14/WE The Outdoor Noise Directive Art. 13 High-pressure water jet machines Appendix 3, part B, chapter 27 2014/35/UE Low Voltage Directive (LVD)

For the check of conformity, reference to the following standards has been made: PN-EN ISO 12100:2012 Safety of machinery - General principles for design - Risk assessment and risk reduction PN-EN 1829-1:2021 High-pressure water jet machines -- Safety requirements -- Part 1: Machines

Applied conformity assessment procedure: 2000/14/WE: Annex V Noise pressure level, typical: 79 dB (A) Noise pressure level, guaranteed: 100 dB (A)

Place of issuance of the declaration: Jordanowo, Date of issuance of the declaration: 11-03-2025

The following signed persons are acting on behalf of and under the authority of the Board of Directors: *Signature:* Bartłomiej Beler

