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Production and trading with household appliances

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HOUSEHOLD STORAGE ELECTRICAL WATER HEATERS 5, 10 and 15 l

TECHNICAL DESCRIPTION MANUAL FOR INSTALLATION, OPERATION AND MAINTENANCE IMPORTANT RULES

WARNING! Before installation and operation with the appliance
read carefully the present manual!

**TECHNICAL DESCRIPTION, INSTALLATION AND OPERATION MANUAL
FOR HOUSEHOLD STORAGE ELECTRICAL WATER HEATERS 5, 10 and
15 l (BDS EN 60335-2-21)
intended for wall installation (hanging)**

Before proceeding with installation and starting up operation with the water heater, it is obligatory to read carefully the present manual. The requirements and recommendations included in it should be strictly observed by you in order to make the operation with the appliance easier, as well as by the qualified persons who will install and eventually repair the appliance in case of a failure. Observance of the rules is a part of the measures for safe operation of the appliance and is also one of the warranty conditions.

ATTENTION! Installation of the water heater and connection to the water main system should be performed only by qualified persons. Installation of safety and other components, provided by the manufacturer, is **OBLIGATORY!**

ATTENTION! Connection of the water heater to electrical installation should be performed only by qualified persons. The appliance should be properly connected to the current-carrying cores, as well as to the protective contour! Do not connect the appliance to the electrical installation before filling its water tank up with water!

WARNING! During operation with the appliance, a risk of burning with hot water exists, if water in the water tank has been heated up to temperatures near the maximum settings of the thermostat.


WARNING! This appliance is not meant for usage by persons (including children) with limited physical, sensory or mental abilities or with insufficient experience and knowledge, except in cases when they are observed or instructed regarding the operation with the appliance by a person, responsible for their safety. Children should be watched over for not playing with the appliance.

ENVIRONMENTAL PROTECTION

This appliance is marked according to the European directive 2002/96/EC on Waste Electrical and Electronic Equipment (WEEE).

By taking care of the proper disposal of this appliance, after its working capacity is depleted, you will help prevent possible negative consequences for the environment and people's health. Such negative consequences may be provoked by improper disposal.



The symbol  on the appliance and enclosed documents, is showing that this appliance should not be treated as household waste. Instead, it should be handed over to a specialized station for recycling of electrical and electronic equipment. Upon its disposal, please kindly observe the local regulations for disposal of waste. For more detailed information regarding treatment, recovery and recycling of this appliance, please apply to your local municipality, your service for disposal of household waste or the store from where the appliance has been purchased.

TECHNICAL INFORMATION

Water heaters from this product range are appliances intended only for domestic purposes, in households, for water heating up from the common water main system. Water heaters can be divided into two main groups – operating with the consisting water under pressure (closed) and with free flow (open-outlet). The appliances working under pressure are equipped with a combined safety-reverse valve, which does not allow during operation pressure of water to go higher than the admissible level. The open-outlet water heaters provide hot water only to one consumer (sink) and are equipped with a specific mixing tap and can be installed only above the sink.

The water heaters are manufactured with two types of corrosion protection:

- with water containers made of steel with high resistant enameled coverage and additional cathode protection with anodes made of special alloy
- with water containers made of high alloy chrome-nickel (stainless) steel (marked with letter "H" in the modification number).

Modifications equipped with an indicator of the anode status – anode tester, are also produced (marked with the letter "A").

The heat insulation of the water tank is made of polyurethane foam.

The open-outlet water heaters are shown on Fig. 1, the water heaters under pressure for installation above sink – on Fig. 2, the water heaters under pressure for installation under sink – on Fig. 3.

The parameters of the base water heaters – with enameled water are provided in the table below.

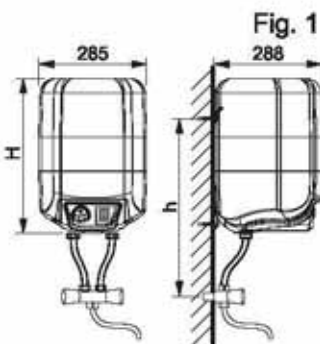


Fig. 1

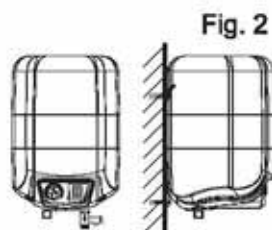


Fig. 2

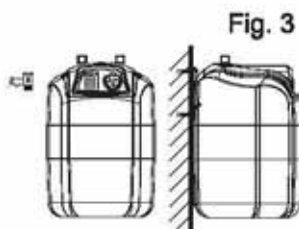


Fig. 3

| Installation | | For installation above sink | | | | | For installation under sink | | |
|---|------------|------------------------------|----------|-------------------------|----------|----------|-----------------------------|----------|----------|
| Operation principle | | Open-outlet (with free flow) | | Under pressure (closed) | | | Under pressure (closed) | | |
| Model number | | 72324NMB | 72325NMB | 72324NMP | 72325NMP | 72326NMP | 72324PMP | 72325PMP | 72326PMP |
| Rated capacity [l] | | 5 | 10 | 5 | 10 | 15 | 5 | 10 | 15 |
| Rated voltage [V] | | 230 V~ | | | | | | | |
| Rated power [kW] | | 1.5 | | 1.5 | 2 | | 1.5 | 2 | |
| Rated pressure [MPa] | | 0 | | 0.8 | | | 0.8 | | |
| Overall dimensions [mm] | Width | 285 | 285 | 285 | 285 | 285 | 285 | 285 | 285 |
| | Depth | 288 | 288 | 288 | 288 | 288 | 288 | 288 | 288 |
| | Height (H) | 340 | 430 | 340 | 430 | 520 | 340 | 430 | 520 |
| Weight of an appliance with enameled container [kg] | | 7.3 | 8.1 | 6.8 | 7.6 | 9 | 6.6 | 8 | 9.4 |

The parameters amount in the table above are approximate.

INSTALLATION OF THE WATER HEATER ON THE WALL OF THE PREMISES

The water heater can be installed only in normal fire safeguarded premises and where temperature can not fall under 0 °C. For water heaters under pressure, the availability of a siphon on the installation for waste waters or another system with the same purpose is necessary on the floor of the premises. This has to be done as during normal usage of the water heater, water may happen to drop from the opening of the safety valve. The siphon will facilitate the operations of maintenance, prevention and servicing of the water heater in cases when water needs to be drained out of the water tank.

Dimensions of the appliance, its protection against dripping water (IPX1), the way of fixing and connection to the water main and electrical installations should be taken into account when choosing the proper place for installation.

WARNING! The water heater is equipped with a supply cord with a plug and can not be installed in a bathroom!

A hanging plate, and screws and wall plugs for concrete (3 pieces of each) are included in the packing of the water heater. Using 2 of the screws and 2 of the wall plugs the hanging plate should be steadily fixed on the wall of the premises. The plate should be located in a way



ensuring sufficient space for the appliance and its components, as well as for the relevant water and electrical connection of the appliance. For water heaters with free flow for installation above sink, the approximate distance between the tube for cold water from the wall, where the mixing tap should be winded, and the openings in the wall for the wall plugs is 390±5 mm for the 5 l capacity water heater, and 495±5 mm for the 10 l capacity water heater. **Attention!** The given distances are approximate – the exact distances should be defined upon installation of the particular appliance! The wall should be of strong and solid material (for example concrete). It is inadmissible to hang the appliance on decorative walls, and walls made of incompact material. Once the installation of the hanging plate is complete, hang the water heater on it. For that purpose there are openings on the back side of the appliance. After hanging of the appliance, using the third wall plug and screw, the appliance should be immovably fixed to the wall through the opening of the ear on its body, placed by the side with cover with the control devices – please refer to Figures 1-3.

WARNING! *If the requirements are not observed, failure of the appliance may be caused, or damages on other appliances and the premises, where it has been installed. In such cases eventual damages are not covered by the warranty obligations of the manufacturer and seller.*

CONNECTION OF THE WATER HEATER TO THE WATER SUPPLY SYSTEM

Connection of a water heater with free flow

Connection of the water heater with free flow above sink is performed in accordance with Fig. 1. THE USAGE OF THE INCLUDED INTO THE PACK mixing tap and flexible hoses is OBLIGATORY.

The mixing tap is of a special type and is meant to provide hot and cold water from the appliance, as well as to secure free and permanent connection of the outlet pipe of the appliance (the pipe for hot water) with the atmosphere. The tap is winded in an

outlet from the wall of the water-main for cold water. Connection of the hoses to the tap and the water heater is in accordance with Fig. 1.

The nipple on the upper side of the mixing tap, by the side of the spin with red marking, is connected to the pipe of the water heater, marked with blue rim and an arrow towards the pipe. The nipple on the upper side of the mixing tap, by the side of the spin with blue marking, is connected to the pipe of the water heater, marked with red rim and an arrow from the pipe. **The flexible hoses should not be crossed!** Such a connection is a precondition for normal and safe operation of the water heater.

The water tank of the appliance is filled up with water by opening the spin with red marking and waiting until water starts flowing out of the outlet of the mixing tap. The flow of fresh (cold) water in the water tank is controlled by this spin. The hot water flows out freely from the water tank through its outlet tube, the flexible hose and the outlet of the mixing tap. Once the spin with red marking is completely closed, water contained in the outlet tube and the hose for hot water will continue flowing out - this is not a defect and in order to prevent the mixing tap from a failure, the spin with red marking should not be overtightened.

Connection of water heaters under pressure

The inlet pipe (for cold water) is marked with an arrow towards the pipe and a blue rim, and the outlet pipe (for hot water) is marked with an arrow from the pipe and a red rim.

WARNING! It is **OBLIGATORY** in the main cold water pipe to the appliance to be installed the provided with it combined safety-reverse valve, observing the arrow on the body of the valve, indicating the direction of the running through it cold flow.

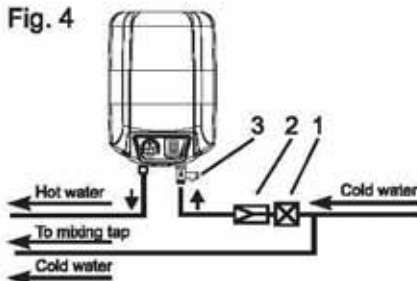
It is FORBIDDEN to install any kind of shut-off fittings between the combined valve and the water heater! It is absolutely forbidden to obstruct the lateral opening of the combined valve!

Connection of water heaters under pressure for installation above sink is performed in accordance with Fig. 4.

Connection of water heaters under pressure for installation under sink is performed in accordance with Fig. 5.

Filling up the water tank of an appliance under pressure is performed in the following order: open the turn-cock in the main cold water pipe; open the turn-cock for hot water of the mixing tap; wait until a thick and powerful stream of water runs out; close

Fig. 4

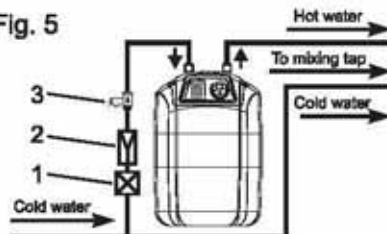


1 - Shut-off valve

2 - Reducing valve. If necessary - if the pressure in the water main is over 0.6 MPa

3 - Combined safety-reverse valve

Fig. 5



the turn-cock for hot water; lift the lever of the combined valve and wait for about 30-60 seconds until a thick and powerful stream of water runs out from the lateral opening of the valve; take off the lever of the combined valve.

If necessary, a system for leading away water, eventually dropped from the lateral opening of the combined valve may be constructed. The water leading pipe should have a permanent downward slope, it should be placed in premises, protected against freezing and its outlets should be permanently connected to the atmosphere.

WARNING! If no water is coming out of the opening of the combined valve, or the stream is weak (in case of normal water-main pressure), this should be considered as a malfunction. This is showing that impurities from the water main or caused by water-main connections have obstructed the safety valve of the combined valve.

IT IS FORBIDDEN to proceed with further connection of the appliance before eliminating the reason for malfunction!

WARNING! Non-observance of the requirements for connection to the water-main system may cause partial filling up with water of the water tank and malfunction of the heating element. When the combined valve is not installed at all or it has been improperly installed this may even cause destruction of the water tank. The sequences are not within the scope of the warranty obligations of the manufacturer and the seller, and should be considered for the account of the one, who has not observed the requirements of the present manual.

Connection of the water heater to the water-main system should be performed only by qualified persons.

CONNECTION OF THE WATER HEATER TO THE ELECTRIC SUPPLY SYSTEM

WARNING! Do not proceed with connection of the water heater to electric supply system before you make sure the water tank is filled up with water! **CHECK!**

The water heater is with a level of protection against damages from electric current – Class I.

Connection of the water heater to the electric supply system 230 V~ is performed in the following way: in a status of a maximum counter-clockwise winded up spin for temperature regulation and the button of the lighting switch turned off (its end marked with "0" is pushed) connect the plug of the supply cord with a properly connected socket in a good working order with protective plates type F ("Schuko"). The conductors from the current circuit of the socket should be with section 2,5 mm² each, and the fuse in the phase contour should be 10 A. The socket should be positioned in a way allowing free access after installation of the water heater on the wall and its connection to the water main system.

After connection of the water heater to electric supply system, it is necessary to check its functionality.

WARNING: Non-observance of the requirements for connection to the electrical installation may happen to reduce the safety of the appliance. And an appliance with a reduced safety is not allowed to be used. The consequences are not within the warranty obligations of the manufacturer and the seller, and will be taken on the account of the user who has failed to observe the requirements of the present manual.

Connection of the water heater to the electric supply system and the check up for its functionality are performed only by qualified persons.

USAGE OF THE WATER HEATER

Water heater is turned on in a working regime by switching the lighting key – by pushing the side marked with "I", and the wheel for temperature regulation is winded up clockwise. Turning off the water heater is performed by pushing the side of the lighting switch marked with "0". Complete turning off the water heater is performed by taking out the plug from the wall plug.

When the signal lamp in the key of the switch is on (upon a turned on a working regime water heater) this is an indication that the heating element is operating and water is being heated up. When it turns off, this is an indication that the set temperature has been reached and the thermostat has switched off the heating element.

By using the hand wheel the temperature for heating the water can be regulated. We recommend the temperature of the water to be maintained higher than 60 °C in order to prevent from bacteria appearance in the water.

A special valve has been built in the combined valve of closed water heaters, preventing the expanded during heating process water from dropping through the lateral opening of the valve, and instead to make it enter in the water-main for cold water. The quantity of water is minimum and is with low temperature. Upon normal usage of the water heater and upon availability of an additional reverse valve, water may drop out of the lateral opening of the valve. This should not be considered a defect and the opening of the valve should not be obstructed in any way, as this will cause destruction of the water tank. In case of water stop, the built in reverse valve prevents the water in the water tank from going back to the water-main for cold water.

During heating of the water in open-outlet water heaters, the expanded from the temperature water drops out from the outlet of the mixing tap. This is not a defect! Do not try to stop dropping of the water by tightening the wheels of the mixing tap – you may damage them!

WARNING! Do not turn on the appliance if there is a chance water in the water tank to be frozen! This will cause failure of the heating element and the water tank.

ATTENTION! This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety. Children should be supervised to ensure that they do not play with the appliance.

ANTICORROSIVE PROTECTION, PREVENTIVE MAINTENANCE AND SUPPORT

Water heaters with enameled water tank

Each water heater with enameled water tank has a built in additional anticorrosive protection. It consists of an anode protector (anode), made of special alloy and working only when water tank is filled with water. Its medium life-time is 5 years. After this term expires, a specialist from manufacturer's service centers should perform a check up of the anode status. If necessary, the anode should be replaced with a new one. Observance of the term and replacement of the anode in due time is an important condition for continuation of the effective protection of the water tank against corrosion.

Water heaters with enameled water tank and anode tester

The availability of this information device is important for the exploitation of the water heater. The tester consists of an arrow system with a scale and a switch (button). The



scale is with two sectors – a red and a green one. In normal working condition of the water heater, the arrow of the tester is positioned in the red sector – the tester is not turned on and the anode is normally working. The check up for efficiency of the anode is performed when water is completely heated up (thermostat is turned off – lighting switch is not illuminated) by pushing the button of the tester for a few seconds. The arrow will divert in the green sector direction of the scale. The extent of the deviation is strongly influenced by the parameters of water and its temperature, as the limit between two sectors conforms with the medium parameters of waters in Bulgaria. Criteria for the efficiency of the anode is the deviation of the arrow. If upon pushing the button of the tester, the arrow does not deviate or remains at the beginning of the red sector, you should contact the specialists from the closest service center, authorized by the manufacturer – please refer to the enclosed list. They will check up the anticorrosive protection and will perform a repair if necessary. The replacement of the anode protector in due time is a precondition for prolongation the life of the enameled water tank.

Water heater with a water tank made of high alloy chrome-nickel steel

Protection against corrosion and the guaranteed long life-time are secured by the correct chosen steel, the proper construction and technology for production of the water tank.

For the reliable operation of the water tank in regions with strong lime water, we recommend water tank to be cleaned from the deposited limestone once per year. The sediments over the enameled coverage should not be removed, but only wiped with a dry cotton cloth without using any solid devices. This service is not a subject to warranty maintenance and should be performed only by a qualified person.

During usage of the water heater it is necessary periodically to perform minimum, but very important preventive maintenance actions. These are described with details in point 6, 7 and 10 from the Section "Important rules".

IMPORTANT RULES

1. The water heater is meant for domestic purposes in the household. It is used for heating the water from the common water main system. Its composition and parameters should be within the scope of the defined by the relative regulations regarding the legislation for domestic water as the composition of chlorides is less than 250 mg/L, and the electrical conductivity is more than 100 $\mu\text{S}/\text{cm}$ but less than 2000 $\mu\text{S}/\text{cm}$ for water heaters with enameled water tanks; and less than 600 $\mu\text{S}/\text{cm}$ for water heaters with water tanks made of chrome-nickel steel.
2. Water heater is installed and used only in fire-safeguarded places and in conditions, corresponding to its level of protection against water penetration. Otherwise, a defect of the appliance will be caused due to non-observance of the present manual for installation and operation. This defect will not be within the scope of the warranty obligations of the manufacturer or the seller.
3. Upon connection of the water heater to the electric-supply system, the good working order of the electric supply system and the wall plug (the wall plug should

be protectively connected) is OBLIGATORY. Non-observance of this requirement will deteriorate the safety of the appliance, and an appliance with a reduced safety is not allowed to be used.

4. Connection of the water heater to water-main system and electric-supply system and functionality check up should be performed only by an authorized person.
5. Connection of water heater and functionality check up are not warranty obligations of the manufacturer or seller, and should not be considered as a subject to warranty service.
6. **WARNING!** In cases of possible drop of temperature under 0 °C in the premises where the water heater has been installed, draining of water from the water tank is obligatory – please refer to p. 8.
7. **WARNING!** In order to secure safe and faultless operation of the water heater, the combined valve periodically needs to be blown through. This is performed by lifting its lever until a thick and powerful stream of water starts flowing out of the lateral valve opening for about 30-60 seconds. This operation is obligatory performed only after water heater has been connected to the water-main system and water tank has been filled up with water. It should be repeated once in each 14 days of operation, as well as after each water supply stop. In case that water tank is full and there is no outflow of water or the stream is very weak, this is an indication that the combined valve is out of order or the valve is obstructed with impurities from the water main. It is strictly forbidden to operate with a water heater with a combined valve which is out of order. Please turn off immediately the water heater from the electric supply and contact the closest service center or, authorized by the manufacturer or seller. Otherwise, you may cause a defect in the water tank and probably other damages of the premises.
8. Draining of water in the water tank is performed as follows:

Water heater with free flow

Take out the plug of the water heater's supply cord from the socket. Open the spin for hot water of the mixing tap and wait until cold water starts flowing out. Close the spin for hot water. Secure a vessel which can contain the whole quantity of water from the water tank. Unwind, by the nipple of the tap, the end of the flexible hose, connecting the tap with the inlet of the water heater, and place it over the vessel prepared for water. Wait until water stops flowing out from the hose.

Water heater under pressure for installation over sink

By closing the cock for cold water, stop the cold water flow towards the water heater – pos. 1 on Fig. 4. Take out the plug of the water heater's supply cord from the socket. Open the cock for hot water of the closest mixing tap in order to release the pressure of water inside the appliance. Disunite the pipe-connection of the premises' water system by the tube for hot water of the appliance. Lift up the lever of the combined valve. Wait until water stops flowing out from the lateral opening of the combined valve. Attention! The water flowing out may be hot – beware of burning!

Water heater under pressure for installation under sink

By closing the cock for cold water, stop the cold water flow towards the water heater – pos. 1 on Fig. 5. Take out the plug of the water heater's supply cord from the socket. Open the cock for hot water of the closest mixing tap in order to release the pressure of water inside the appliance. Disunite the pipe-connection of the premises' water system by the tubes for cold and hot water of the appliance.

Unhook the water heater by the fixing screw and hanging plate and place it lying on its backside over a sink or another vessel, which can contain the whole quantity of water from the water tank. Wait until water has been completely drained out. Attention! The water flowing out may be hot – beware of burning!

WARNING! During water draining out of the water tank, take all necessary measures against damages caused by drained away water.

WARNING! IT IS STRICTLY FORBIDDEN TO TURN ON THE ELECTRIC SUPPLY TO THE WATER HEATER WHILE THE WATER CONTAINED IN THE WATER TANK IS DRAINED OUT PARTIALLY OR COMPLETELY! Before turning on the appliance in working regime do not forget to fill up the water tank with water again – please refer to Section "Connection of the water heater to the water-main system".

9. In case of a failure in the supply cord or the plug please contact the service company, recommended by the manufacturer or the seller, as special parts or instruments are needed for the replacement.
10. The rules for preventive maintenance, replacement of anode protector and elimination of limestone, should be observed also after expiry of the warranty term of the appliance.

GUARANTEE CONDITIONS

The water heaters guarantee period is determined by the importer for every country (market).

The water heaters guarantee shall be acknowledged only when:

- The water heater has been installed in compliance with the requirements of the present manual.
- The water heater shall be used as intended only.

The guarantee includes a free of charge repair of all factory defects that may occur during the guarantee period. The repair shall be performed by the service offices authorized by the seller.

The warranty is not valid for defects resulting from:

- Improper transportation
- Improper storage
- Improper use
- Contents and parameters of the water exceeding the standard European norms of the quality of drinking water and particularly if the content of chlorides exceeds 250mg/l and electrical conductivity of the water is below 100 μ S/cm and over 2000 μ S/cm regarding the water heaters with an enameled water tank and electrical conductivity of the water is over 600 μ S/cm regarding the water heaters with a chrome-nickel steel water tank.
- Higher voltage used than the indicated in the Installation and Operation Manual
- Deformation of the water tank as a result of freezing of the water
- Natural elements, calamities and other force majeure circumstances
- Non-observance of the instructions in the Installation and Operation Manual
- In cases of unauthorized fixing of eventual defects

In the above mentioned cases the defects are eliminated against payment.

OBSERVANCE OF THE PRESENT MANUAL REQUIREMENTS IS A PRECONDITION FOR A SAFETY OPERATION OF THE PURCHASED BY YOU PRODUCT AND IS ONE OF THE WARRANTY CONDITIONS.

ANY ALTERATIONS OR READJUSTMENT IN THE CONSTRUCTION OF THE PRODUCT, MADE BY THE CONSUMER OR UNAUTHORIZED PERSONS, ARE FORBIDDEN. IF SUCH ACTIONS HAVE BEEN REPORTED THIS WILL AUTOMATICALLY CAUSE TERMINATION OF WARRANTY OBLIGATIONS BY THE MANUFACTURER OR SELLER.

IN CASE OF NECESSITY, PLEASE CONTACT THE AUTHORIZED BY THE MANUFACTURER SERVICE CENTERS, MENTIONED IN THE ENCLOSED LIST.

MANUFACTURER RESERVES ITS RIGHT TO PERFORM CONSTRUCTION CHANGES, WHICH DO NOT DETERIORATE THE PRODUCT SAFETY, WITHOUT NOTIFICATION.