

# mizudo



Installation and maintenance instructions

gas heating boiler

THE PASSPORT

Gas heating boiler models:

**M15T; M17T; M20T; M24T; M26T**

**M15TB; M17TB; M20TB; M24TB; M26TB**

**This boiler manual has been translated from Russian to English to accommodate our needs, unfortunately the translation has caused the conversion, in some instances, to read in a form of pigeon English.**



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## Safety

### 1.1 Warning signs

Classification of action-related warnings

Action-related warnings are classified by degree

possible danger by means of warning signs and signal words in the following way:

#### Warning signs and signal words



**DANGER!**

Immediate danger to life or risk of serious injury



**DANGER!**

Danger to life from electric shock



**WARNING!**

Risk of minor injuries



**CAREFULLY!**

Risk of material damage or damage to the environment

### 1.2 Intended use

**B** In case of improper use or use for other purposes, it is possible danger to the health and life of the user or third parties, as well as danger damage to the product and other material values.

This product is intended to be used as a heat source for closed heating systems and domestic hot water preparation systems.

The products named in this manual are allowed to be installed and only operate in conjunction with system accessories

chimneys / air ducts specified in the jointly valid documentation.

Intended use includes:

- observance of the enclosed operating, installation and technical manuals maintenance of the product, as well as all other system components
- installation and assembly in accordance with the product and system approval for operation
- compliance with all the conditions for performing inspections given in the manuals and maintenance.

Intended use also includes installation in accordance with the IP class.

Use other than that described in this manual, or use,

use outside the scope of use described herein is considered non-use destination. Any direct commercial and industrial applications.

This product can be used by children aged 8 and over, as well as persons with limited physical, sensory or mental capabilities or not with relevant experience and knowledge, if supervised.

or have been instructed in the safe use of the product and understand the dangers that may arise if certain rules are not followed.

Children are prohibited from playing with the product. Children are not allowed to clean and user maintenance if they are not supervised.

Attention!

Any misuse is prohibited.

#### 1.3 Danger to life from escaping gas.

If there is a smell of gas in buildings:

- ☐ Avoid rooms with a smell of gas.
- ☐ Open doors and windows as wide as possible and create a draft.
- ☐ Do not use open flames (eg lighter, matches).
- ☐ Do not smoke.
- ☐ Do not use electrical switches, plugs, bells, telephones or other intercoms in the building.
- ☐ Close the gas meter shut-off device or the main shut-off device.
- ☐ If possible, close the gas shut-off valve on the product.
- ☐ Warn the occupants by shouting or knocking.
- ☐ Immediately leave the building and prevent entry into it outsiders.
- ☐ Call the duty service of the gas supply company by phone 04; 112, as soon as you are outside the building.

#### 1.4 Danger to life due to clogged or leaking exhaust ducts gases

Errors during installation lead to flue gas leakage and poisoning. damage, improper handling of the product, inappropriate installation location, etc.

If there is a smell of gas in buildings:

- ☐ Open all doors and windows to which you have access and form a draft.
- ☐ Switch off the product.
- ☐ Check the flue gas paths in the product and the flue gas outlets

#### 1.5 Danger to life from explosive or flammable substances

- ☐ Do not use or store explosive products in the installation room. or flammable substances (eg gasoline, paper, paints).

#### 1.6 Danger to life from electric shock

If you touch live components. there is a danger for life from electric shock.

Before using the product:

- ☐ De-energize the product by disconnecting it from the mains (electrical disconnecting device with a contact distance of at least 3 mm, e.g. fuse or power switch).
- ☐ Prevent restarting.
- ☐ Wait at least 3 minutes for the capacitors to discharge.
- ☐ Check the absence of voltage.

#### 1.7 Risk of poisoning and burns from escaping hot flue gases

- ☐ The product may only be operated with a fully installed system air ducts / chimneys.

- ☐ The product may only be operated with the front fitted and closed. facing (except in cases of short-term checks).

#### 1.8. Risk of burns or scalding from hot parts

- ☐ Only start working on these components after they have cooled down.

#### 1.9 Risk of injury during transport due to the heavy weight of the product

- ☐ Transport the product with at least two people.

#### 1.10 Risk of corrosion due to unsuitable combustion air and room air

Aerosols, solvents, chlorine-based cleaners, paints, adhesives, ammonia compounds, dust, etc. can corrode the product and the system chimneys / air ducts.

- ☐ Ensure that the combustion air supply is not contaminated at all times. fluorine, chlorine, sulfur, dust, etc.
- ☐ Chemicals must not be stored at the installation site.
- ☐ The combustion air must not be supplied through old liquid fuel fireplaces.
- ☐ If you plan to use the product in a hairdresser, paint shop or carpentry workshops or sinks, select a separate installation room, ensuring the technical cleanliness of the combustion air supply from chemical substances.

#### 1.11 Danger to life due to modifications to the product or parts next to him

Never remove, bypass, or block protective devices.

- ☐ Do not manipulate protective devices.
- ☐ Do not break the integrity or remove the seals from the components.
- ☐ Do not make changes to the following items:
  - on the product
  - on the supply lines of gas, supply air, water and electric current
  - chimney system
  - safety valve
  - drain pipelines
  - building structures that may affect the operational product safety

#### 1.12 Danger of scalding from hot tap water

At hot water draw-off points at hot water temperatures above 60 ° C there is a risk of scalding. Young children and the elderly may be exposed to danger even at lower temperatures.

- ☐ Select the temperature in such a way that no one is endangered.

#### 1.13 Risk of injury and risk of material damage due to incorrect performing or not performing maintenance and repairs.

- ☐ Never try to carry out repair work or product maintenance.
- ☐ Immediately call a professional to rectify any faults or damage.
- ☐ Observe the specified service intervals.

#### 1.14 Risk of material damage from lime deposits

For products with a DHW function, there is a risk of lime deposits occurs when water hardness exceeds 3.57 mol / m<sup>3</sup>.

- ☐ Set the hot water temperature to a maximum of 50 ° C.

#### 1.15 Risk of material damage due to frost

- ☐ Do not install the boiler in unheated rooms
- ☐ Make sure that the heating system is in operation during frosty seasons and in all rooms are provided with a sufficient air temperature.
- ☐ If you are unable to ensure operation, ask a specialist drain the heating system.

#### 1.16 Regulations (directives, laws, standards)

- ☐ Observe national regulations, standards, directives and laws.

#### 1.17 Rules for packing, transportation and storage

Products are supplied in the manufacturer's packaging.

Products are transported by road, water and rail

transport in accordance with the rules for the carriage of goods in force on a particular mode of transport. During transportation, it is necessary to provide for a reliable fastening products from horizontal and vertical movements.

Unidentified products are stored in the manufacturer's packaging. Keep the product is necessary in closed rooms with natural air circulation in standard conditions (non-aggressive and dust-free environment, temperature drop from -10 ° C up to +37 ° C, air humidity up to 80%, no shocks and vibrations).

#### 1.18 Service life

Subject to the regulations regarding transportation, storage, installation and operation, the expected service life of the product is 12 years

## 2 Documentation

Be sure to follow the instructions in the manuals for operation and installation supplied with the system components!

#### 2.1 Document storage

Pass on this manual and all associated documentation the party operating the system.

## 3 Product Description

#### 3.1 Unified mark of circulation on the market of the Member States of the Customs Union

Product marking with a single mark of circulation on the market of the Member States

Of the Customs Union confirms the compliance of the product with the requirements all technical regulations of the Customs Union, which apply to him.



#### 3.2 Nameplate

- ☐ Rating plate for gas fired water heaters..... **mizudo**  
fastened at the factory on the side of the device.

Gas heating water heater **Mizudo** meets the basic requirements the following directives and standards:

- ☐ GB25034 "Gas heating water heater"
- ☐ GB20665 "Limits and Ratins of Cost Effectiveness household gas instantaneous water heater (boiler) and gas heating water heater "
- ☐ GB6932 "Household gas instantaneous water heater" -



### ATTENTION!

Installation, first start-up, operational adjustments must be carried out in accordance with the instructions and only by personnel specialized service center.

#### Improper installation can result in injury to people

animals or objects for which the manufacturer is not responsible.

The electrical power distribution system of the equipment must be

effectively grounded, connectors must be insulated

- the boiler must be installed in places that do not obstruct access for service and repair;
- it is not allowed to install the boiler in the bedroom, living room, bathroom;
- the installation site of the boiler must be well ventilated and far away from electrical appliances with strong magnetic radiation, such as induction hob, microwave oven, etc.
- to ensure the safety of the equipment, use only original accessories;
- for the safe operation of the boiler, it is imperative to use original chimney and no arbitrary replacement with other chimneys;
- the use of single chimneys is strictly prohibited, instead of coaxial chimneys;
- the boiler is equipped with a heating medium pressure safety valve, which is triggered when the coolant pressure exceeds set value, so its outlet must be connected to the drain (sewer), while between the safety valves and drain do not install shut-off valves;
- When cleaning the equipment, do not use aggressive cleaning agents. facilities.

#### IT IS FORBIDDEN:

- **take care of the boiler while in a state of alcoholic or drug intoxication;**
- **make changes to the boiler design;**
- **touch during the operation of the boiler to the flue gas discharge pipe;**
- **use gas and water supply, as well as the heating system for grounding;**
- **touch the boiler if you are standing without shoes (or your shoes are wet) on a damp floor;**
- **take care of the boiler, if it is not disconnected from the power supply and gas supply;**
- **make changes to the operation of security and control systems without permission and instructions from the boiler manufacturer;**
- **damage and deform the boiler wiring elements, even if the power supply is disconnected;**
- **expose the boiler to atmospheric precipitation;**
- **remove any sealing elements;**



### 3.3. Purpose of the product

- Double-circuit gas heating boiler **Mizudo** created for local heating and hot water supply systems (hereinafter - DHW);
- The boiler operates on low pressure natural gas GOST 5542-87 with a working pressure 1274 (130) - 1960 (200) Pa (mm water column):

### 3.4 Product specifications

Tab. one

Specifications	Ед. изм.	M15T(B)	M17T(B)	M20T(B)	M24T(B)	M26T(B)
Max./min. thermal power in mode heating	kW	15/4.6	17/6.2	20/8	24/9.6	26/10.4
Max./min. thermal power in mode DHW	kW	15/4.6	17/6.2	20/8	24/9.6	26/10.4
Max./min. heating capacity heating mode □80 □ -60 □□	kW	13/3.6	15/5.3	18.1/6.8	21.2/7.3	23.5/8.8
Max./min. heating capacity DHW mode □80 □ -60 □□	kW	13/3.6	15.5.3	18.1/6.8	21.2/7.3	23.5/8.8
Efficiency at 100% thermal power mode heating (60/80 □)	%	90.5	90.5	90.5	90.5	90.5
Efficiency at minimum power (60/80 □)	%	85	85	85	85	85
Air pressure expansion tank	bar	1	1	1	1	1
Expansion tank volume	L	6	6	6	6	6
Maximum allowable pressure in heating circuit	bar	3	3	3	3	3
Temperature adjustment range in flow line	°C	30-80	30-80	30-80	30-80	30-80
Temperature adjustment range in radiator mode	°C	30-80	30-80	30-80	30-80	30-80
Temperature adjustment range in under floor heating	°C	30-60	30-60	30-60	30-60	30-60
Max./min. household temperature hot water	°C	35/60	35/60	35/60	35/60	35/60
Heating capacity hot water □at □ T = 25 □□	L/Min	7	8.8	10.4	12.3	13.5
Heating capacity hot water □at □ T = 30 □□	L/Min	6.1	7.4	8.6	10	11.2
Heating capacity hot water □at □ T = 35 □□	L/Min	4.9	6.3	7.4	8.8	9.6
Minimum starting water head	L/Min	2.5	2.5	2.5	2.5	2.5
Max./min. pressure in the DHW circuit	bar	8/0.2	8/0.2	8/0.2	8/0.2	8/0.2
Gas connection apparatus	inch	3/4	3/4	3/4	3/4	3/4
Supply and return lines of the heating device	inch	3/4	3/4	3/4	3/4	3/4
Cold and hot water connection on the device	inch	1/2	1/2	1/2	1/2	1/2
Rated voltage / frequency	V/Hz	220/50	220/50	220/50	220/50	220/50
Consumed email power	W	110	110	110	120	120
Electrical protection class	PI	I вид/IPX4	I вид/IPX4	I вид/IPX4	I вид/IPX4	I вид/IPX4
Net weight	kg	28	28	30	30	30
dimensions	Mm	720x403x247	720x403x247	720x403x247	720x403x247	720x403x247

### 3.5 Dimensions and connection dimensions of the device (Fig. 1, Table 2)

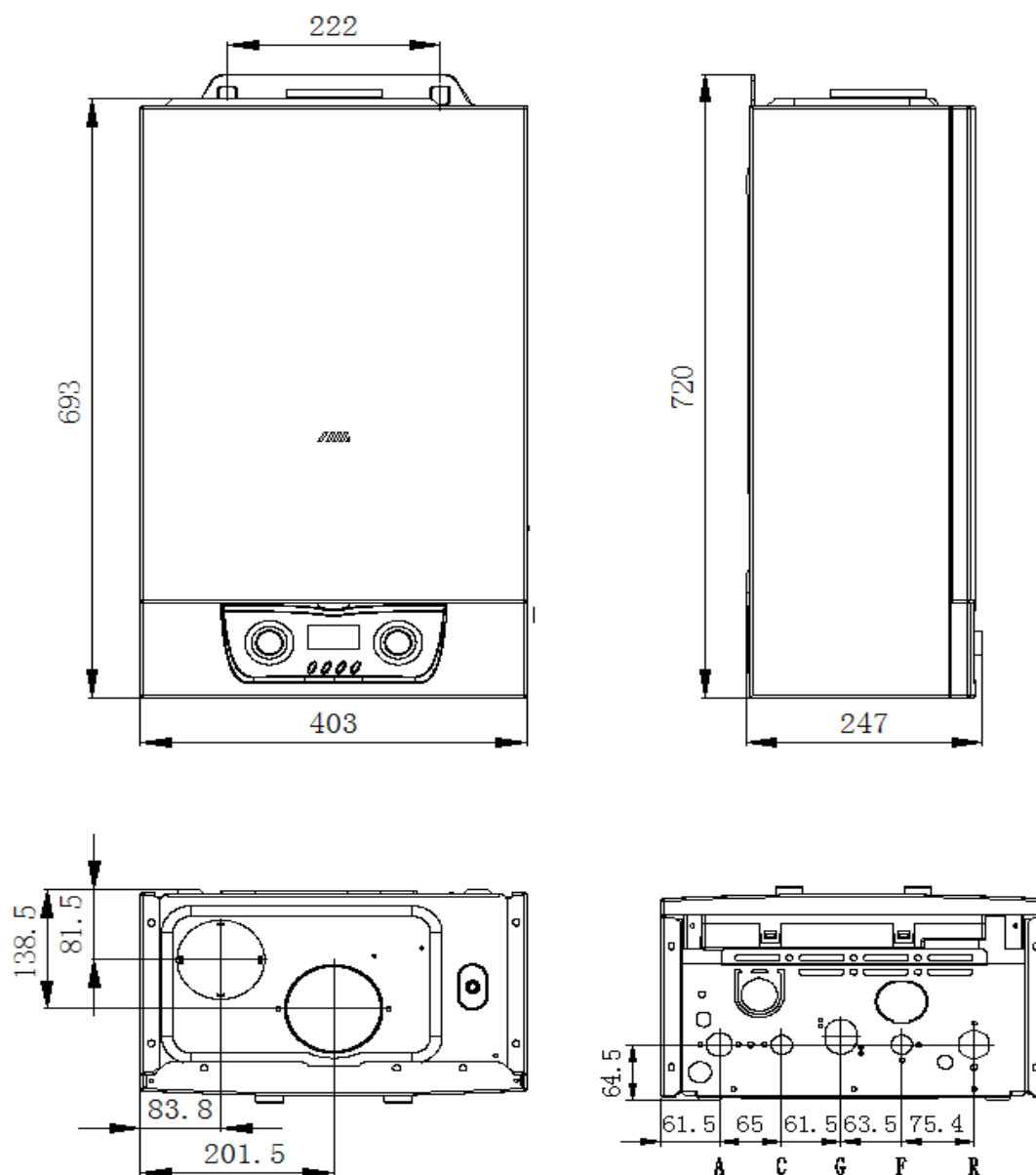


Рис. 1

table 2

Designation	Functions	Join. dimensions
R	Heat carrier from the system heating ("return")	G3/4
F	Water inlet to the DHW circuit	G1/2
G	Gas supply	G3/4
C	Water outlet from the DHW circuit	G1/2
A	Hot coolant supply to heating system (supply)	G3/4

### 3.6 Internal structure of the product

#### 3.6.1 Model with DHW plate heat exchanger (fig. 2)

1- fan

2-main heat exchanger

3-thermostat

4-burner

5-electric three-way valve

6-way plate valve heat exchanger;

7-water pressure gauge

8-plate heat exchanger

9-gas valve

10-way plate valve heat exchanger

11-drain hole

12-circulation water pump

13-safety valve

14-ignition needle assembly

15-expansion tank

16-pressure switch

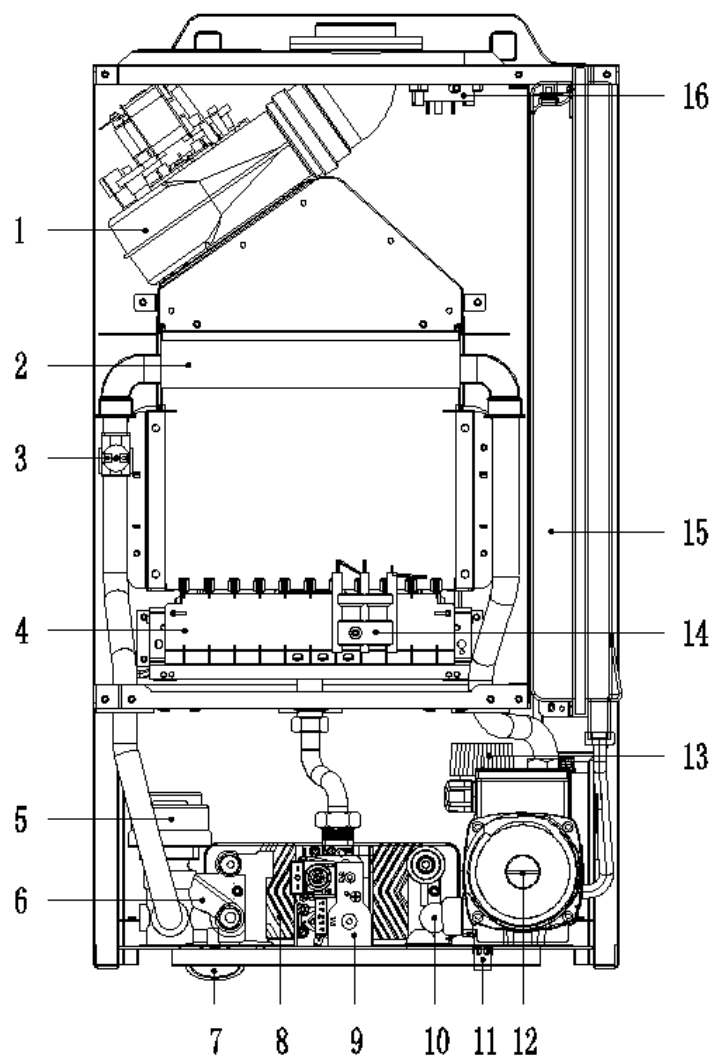


Рис. 2

### 3.6.2 Model with bithermal heat exchanger (fig. 3)

- 1-fan
- 2-heat exchanger
- 3-burner
- 4-way valve heating
- 5-water pressure gauge
- 6-gas valve
- 7-inlet water valve
- 8-drain hole
- 9-circulation pump
- 10-safety valve
- 11-ignition needle assembly
- 12-expansion tank
- 13-thermostat
- 14-pressure switch

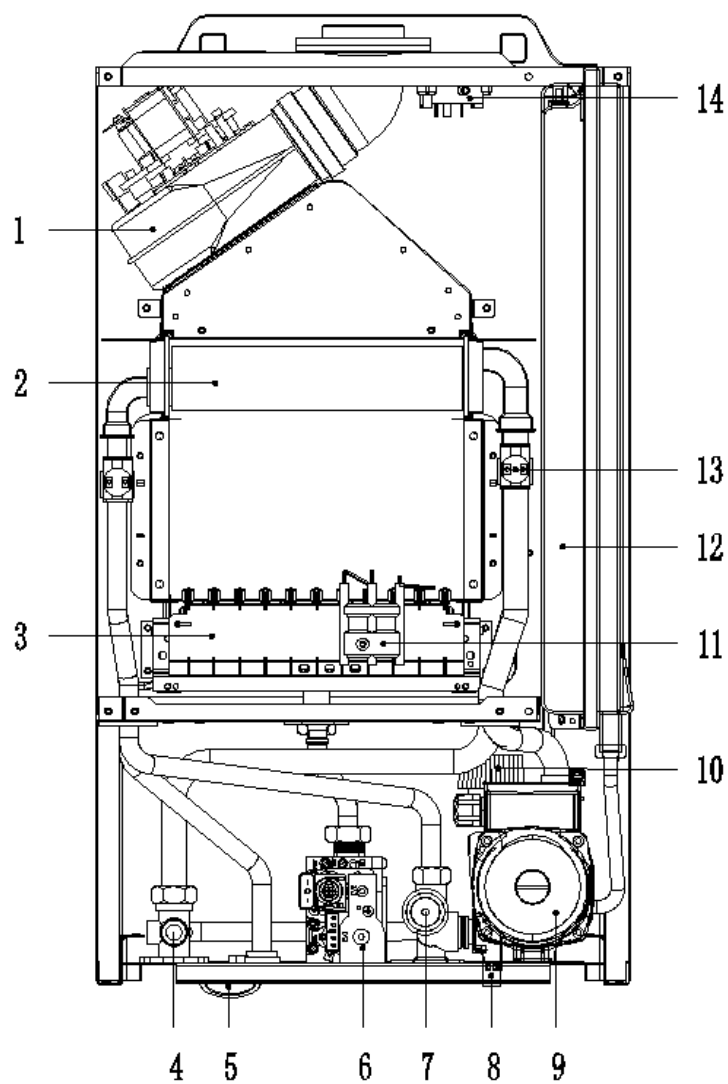


Рис. 3

### 3.7 Product diagram

#### 3.7.1 Schematic diagram of the circulation of the coolant for the model with DHW plate heat exchanger (Fig. 4)

- 1-fan
- 2-smoke manifold
- 3-main heat exchanger
- 4-chamber combustion
- 5-ignition needles
- 6-burner
- 7-thermostat
- 8-gas valve
- 9-NTC heating
- 10-electric three-way valve
- 11-valve for release water, complete
- 12-перепускной клапан
- 13-GVS NTC
- 14-plate heat exchanger
- 15-flow sensor
- 16-valve filling (make-up)
- 17- drain hole
- 18-water pressure switch
- 19 - decompression valve
- 20-water pressure gauge
- 21-circulation water pump
- 22-automatic exhaust valve
- 23-expansion tank
- 24-pressostat

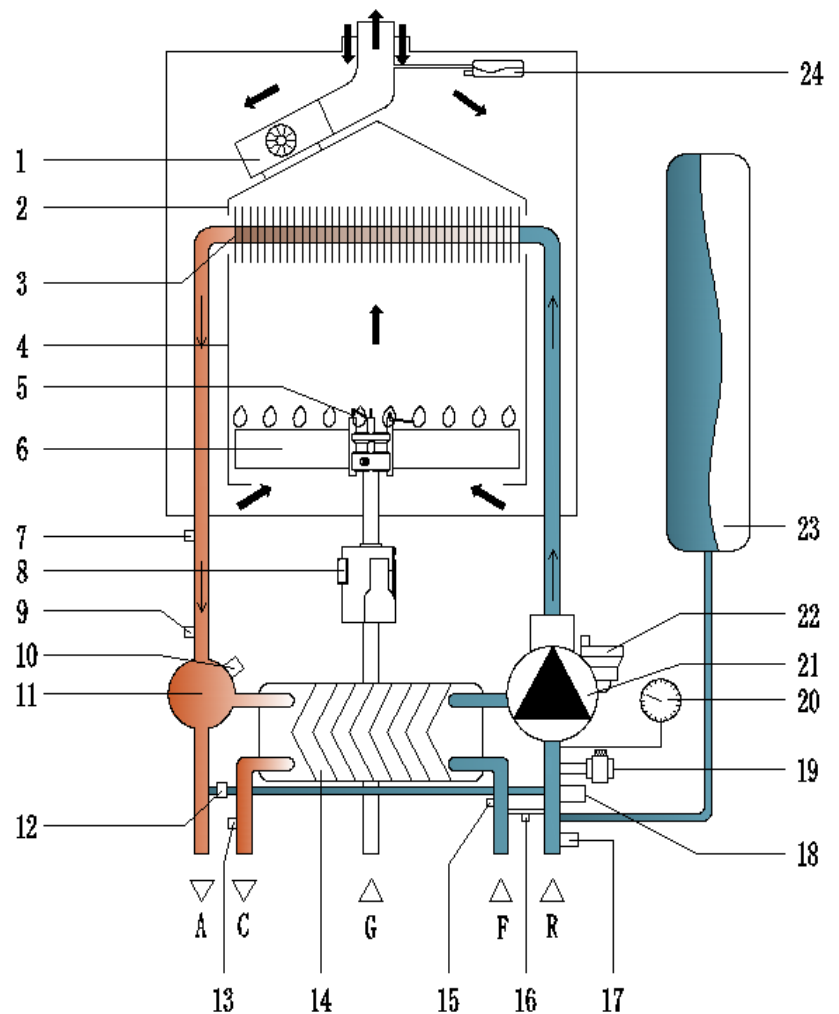


Рис. 4

### 3.7.2 Schematic diagram of the circulation of the coolant for the model with heat exchanger of bithermal type (fig. 5)

- 1-fan
- 2-smoke manifold
- 3-heat exchanger
- 4-chamber combustion
- 5-ignition needle assembly
- 6-burner
- 7-NTC heating
- 8-gas valve
- 9-bypass valve
- 10-GVS NTC
- 11-flow sensor
- 12-valve filling (make-up)
- 13-drain valve
- 14-pressure switch
- 15-decompression valve
- 16-water pressure gauge
- 17-circulating water pump
- 18-automatic exhaust valve
- 19-expansion tank
- 20-thermostat
- 21-pressostat

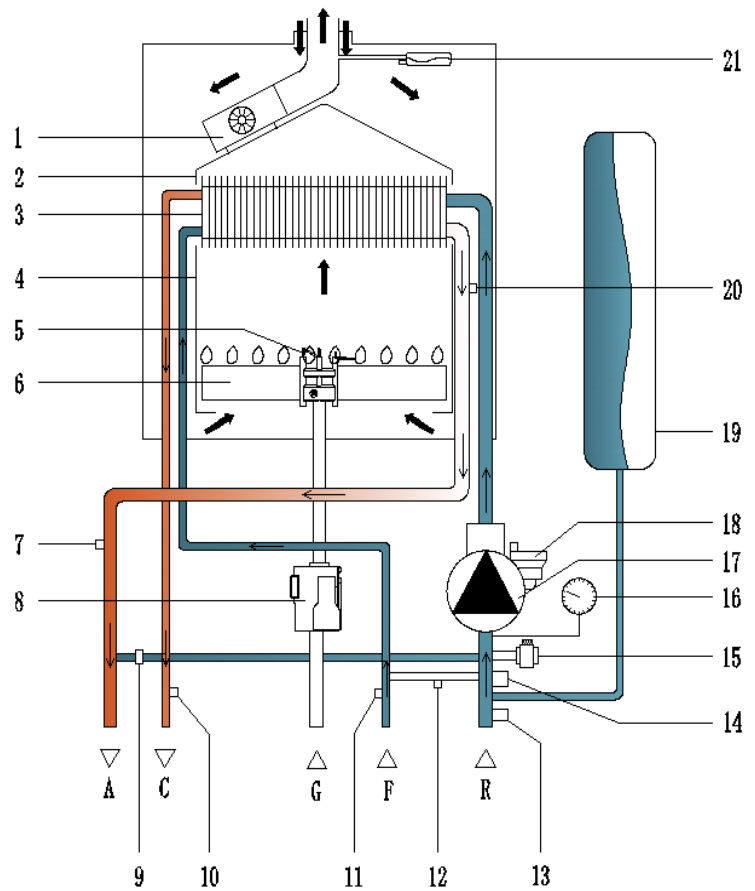


Рис. 5

### 3.8 Diagram of characteristics of the circulation pump (fig. 6)

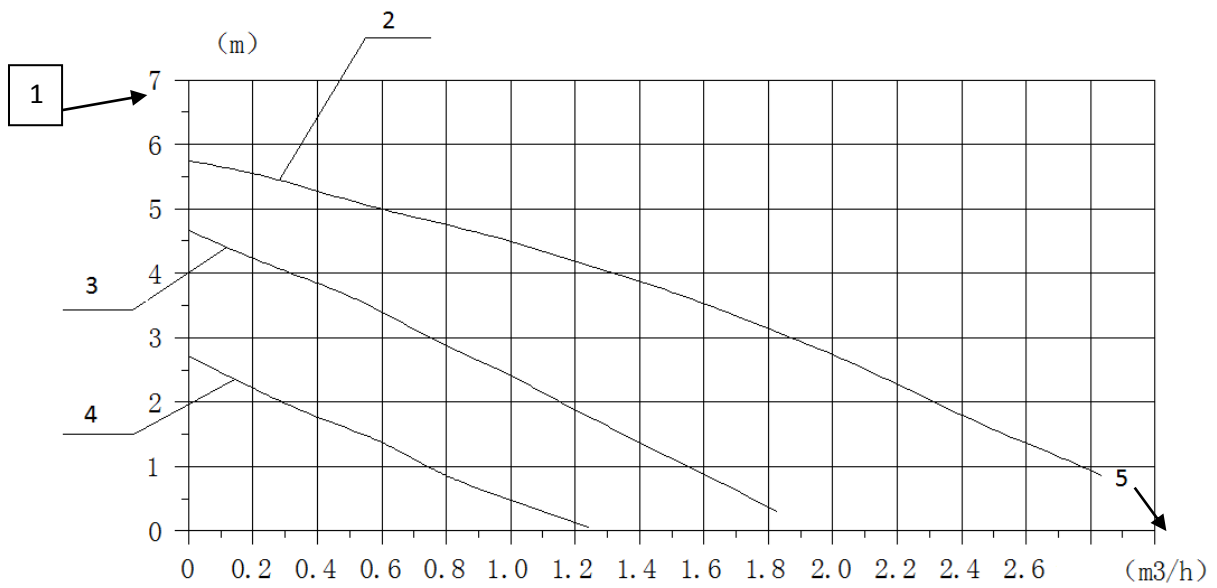


Рис. 6

1-height of water rise (m); 2-upper level; 3-middle level; 4-low level;  
5-flow rate (m³ / h)

### 3.9 Features of the control unit

Functional features:

- temperature adjustment range:
  - heating □30-80 □□
  - underfloor heating (30-60 □)
  - GVS (35-60)
- DHW priority function
- Automatic diagnostic function
- Anti-interference function of the circulation pump
- Multiple safety features

### 3.10 Control panel view

#### 3.10.1 View of the control panel of the model with a digital display (Fig. 7, Table 3)

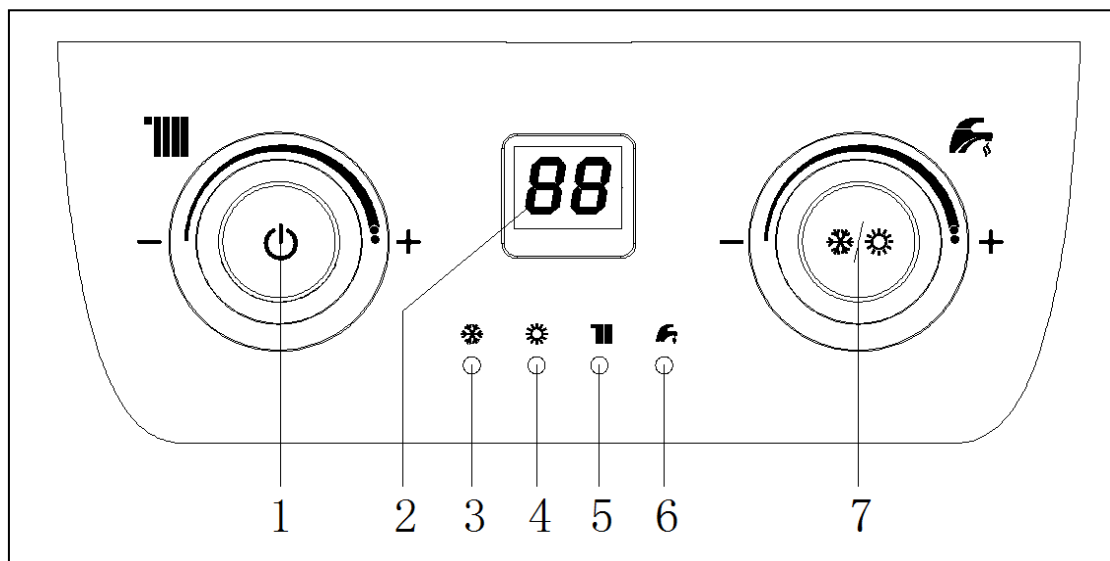


Рис. 7

Table 3

№ pp	Name	Description of functions
1	Rotary handle heating; on / off button	On off. products, regulation of the temperature of the heating circuit, regulation of system parameters
2	Digital monitor	Readings for temperature, system parameters and etc.
3	Winter mode indicator	Constant glow in winter mode
4	Summer mode indicator	Constant light in summer mode
5	Heating indicator	Constant light in heating mode
6	DHW indicator	Constant light in DHW mode
7	Winter / summer button, DHW rotary knob	Summer / winter mode changeover, setting DHW temperature and system parameters.



3.10.2 View of the control panel of the model with a liquid crystal display (Fig. 8, Table 4)

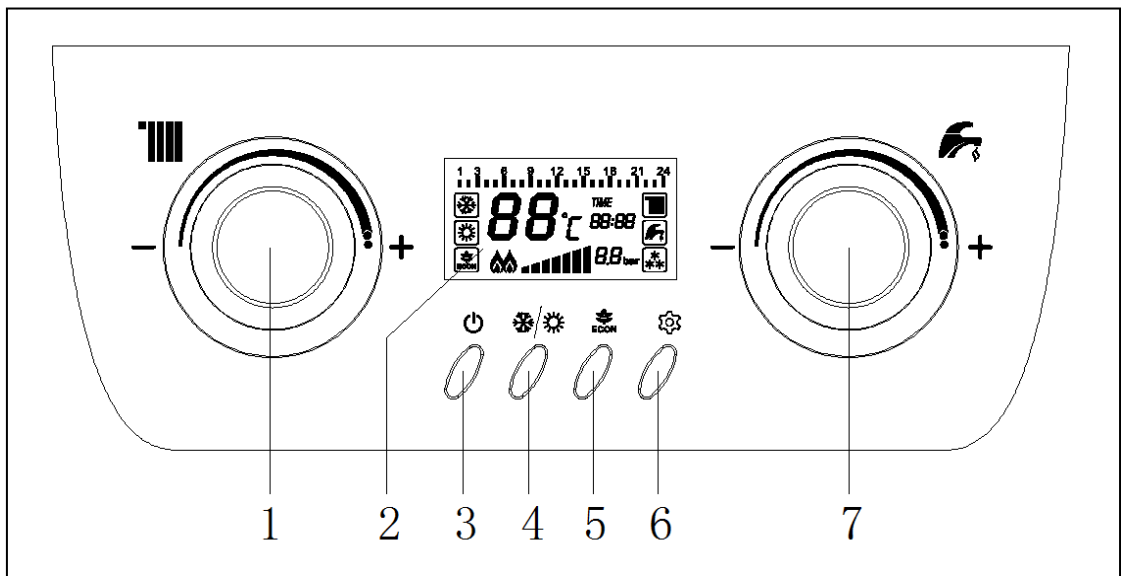


Рис. 8

Table 4

№ pp	Name	Description of functions
1	Rotary heating knob	Heating circuit temperature control, system parameter adjustment
2	Liquid crystal display	Display of temperature and system parameters
3	On / off button products	On off. products
4	Winter / Summer button	Summer and winter mode switching
5	ECON button	On off. energy saving mode "ECON"
6	Setting button	Setting the time, heating timer.
7	DHW rotary knob	DHW temperature control, system parameters setting

3.10.3 LCD interface (Fig. 9, Table 5)

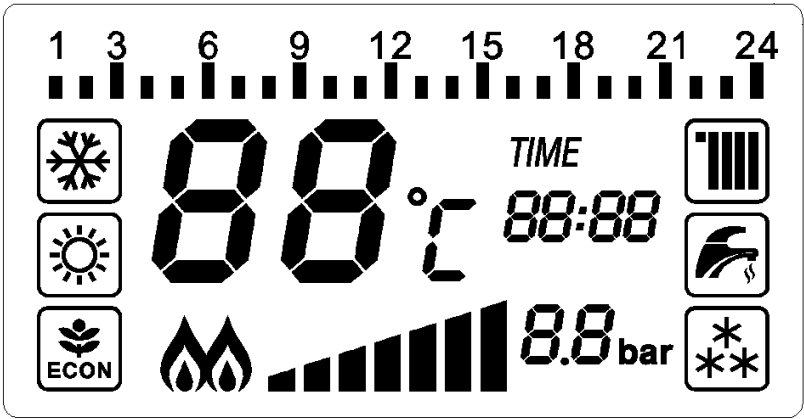






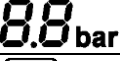






Рис. 9

Table 5

Badge	Name	Description of functions
	Winter mode	Operating mode combining heating and DHW
	Summer mode	DHW only mode
	ECON mode	Energy saving mode "ECON"
	Temperature and fault code display	Instantaneous temperature display, fixed temperature setting, fault code
	Time display system	Display system setup time
	Ignition mode	Flame indication / flame size indication
	Pressure indication	Water pressure value indication
	Heating mode	The current operating mode of the product for heating
	DHW mode	Current mode of operation of the product on hot water supply
	Anti-freeze mode	The frost protection function is activated
	Assigned state	Displaying the set time

#### 4 Installation



##### **DANGER!**

Installation and initial start-up of the boiler may only be carried out by a qualified technician in accordance with applicable norms, rules and other requirements of permits documentation.

After installing the boiler, the person who carried out the installation is obliged to make sure that the owner has received a warranty card and operating manual, and also all the necessary information on handling the boiler and safety and security devices and make a note in the manual

##### 4.1 Installation recommendations

The boiler should be connected to the heating and hot water circuits (DHW), which must correspond to the technical characteristics of the boiler.

It is strictly forbidden to use the boiler for purposes other than those specified in this instructions. The manufacturer is not liable for damage resulting from or due to improper operation of the boiler or non-compliance with the requirements of this manual.

Installation, maintenance and all other activities must be made in full compliance with applicable rules and regulations, and See also the manufacturer's instructions.

Improper installation can result in injury to people and pets, damage to property; the manufacturer for the wrong installation does not bear responsibility for losses.

#### 4.2 Unpacking the product

The boiler is delivered in a cardboard box. When unpacking, the product must be checked for damage, packaging accessories must match the packaging sheet. For any discrepancy please contact the supplier directly.



#### **DANGER!**

Packaging materials (plastic bags, polystyrene, cardboard, etc.) are potentially dangerous, do not leave them in places where they can reach out for the child.

#### 4.3 Packing list

	Name	Quantity
1	Gas heating water heater.	1
2	Installation and technical instructions maintenance	1
3	Care and maintenance instructions	1
4	Mounting screws, accessory kit	1
5	Gaskets	5
6	Mounting template	1
7	Limit ring	1
8	Coaxial chimney (customized package)	1

#### 4.4 Choosing a place for installation

When choosing a place for installing a gas heating water heater, Please observe the following safety instructions:

- The boiler must be installed in kitchens, corridors or other non-residential heated premises in accordance with the gasification project,  
codes of rules SP 62.13330.2011, SP 41-108-2004, SNiP 41-01-2003, SP 7.13130.2009 and the Fire Safety Regulations in the Russian federation approved by the decree of the Government of the Russian Federation of 25.04.2012 No. 390;
- In accordance with SP 41-108-2004 (clause 4.2), the installation of the boiler should be provide for:
  - on walls made of non-combustible (NG) or slightly combustible (G1) materials;
  - on walls covered with non-flammable (NG) or slightly flammable (G1) materials (for example, roofing steel on a sheet of heat-insulating layer made of non-combustible materials with a thickness of at least 5 mm). Specified wall covering should protrude beyond the boiler drum dimensions by at least 10 cm;
- Installation of equipment outside heated premises is prohibited;
- Placing the boiler over a gas stove or kitchen sink is not allowed;

- It is prohibited to store flammable, easily vaporized and other volatile materials near gas equipment;
- Installation of shut-off valves at the inlet and outlet of the heating system, drain valve at the lowest point of the heating system, gas shut-off crane, simplify equipment maintenance.

#### 4.5 Minimum distances

For easy access to the boiler during maintenance, ensure corresponding minimum clearances (free space) from boiler drum to nearby objects and surfaces see (fig. 10).

The boiler must be installed in accordance with applicable rules and regulations, and also in line with the manufacturer's requirements.

Install the boiler strictly horizontally in the longitudinal and transverse directions.

(check the correctness of the installation with a level).

- Side spacing: 60mm
- Top spacing: 450mm
- Bottom spacing: 300mm

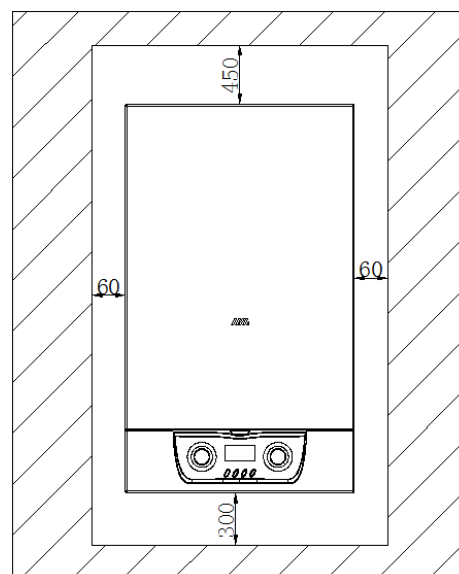


Рис. 10

#### 4.6 Suspension panel installation

After choosing a place for installing the boiler, holes are drilled on the wall and installed hanging panel (fig. 11):

- a) using a level, mark a horizontal line on the wall
- b) align the hanging panel horizontally with the line, setting the template adjust over the hanging panel. Draw a hole with a diameter of 110 mm for chimney and 3 holes with a diameter of 8 mm for the bolts of the suspension panel
- c) using a drill, drill holes in the marked places, reversing make sure that the hole runs perpendicular to the wall
- e) then hang the boiler on the suspended panel (fig. 12)

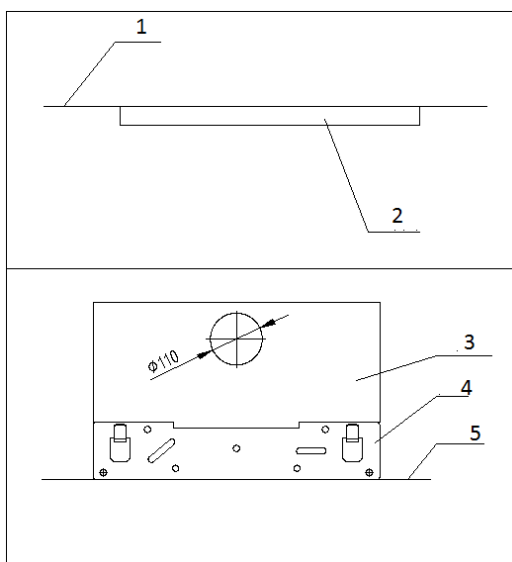


Рис. 11

1-horizontal line; 2nd level;  
spacer bolts and matching screws,  
3-installation template; 4-hanging panel;  
5-horizontal line

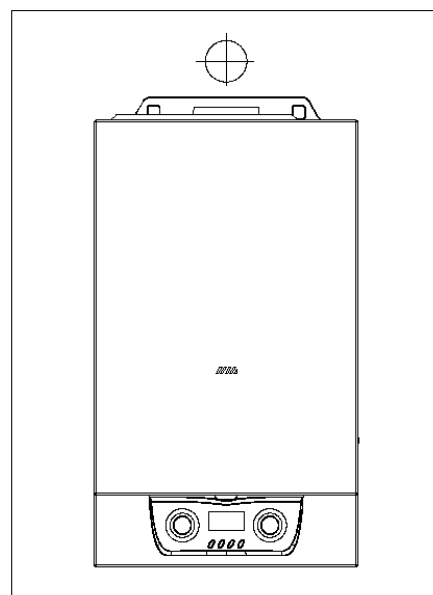


Рис. 12



### Attention!

If the installation is unstable, the boiler may fall off the wall and cause damage!

## 4.7 Connection to pipelines

### 4.7.1 Gas connection

Check the packaging and the nameplate on the boiler drum that it is suitable for operation in the respective country and operation with gas available in the country exploitation.

Check that the type of gas in the piping corresponds to the type for which the boiler is designed. Install and test gas pipelines in accordance with applicable rules and regulations, taking into account the maximum heating capacity boiler.

Before installation, be sure to thoroughly clean the gas lines for removal of impurities that could interfere with the operation of the boiler. The gas connection must be done through the spacer.

Ensure proper gas pressure (natural (methane) or LPG), because if the pressure is too low, the efficiency of the boiler decreases, and it does not provides the proper level of comfort.

### 4.7.2 Hydraulic connections

Figure 13 shows a diagram of the connection of water and gas pipelines to the boiler. Make sure that the maximum pressure in the water supply is not higher than 0.6 MPa (6 bar); if above, it is imperative to install a pressure reducer.

For calculating the dimensions of pipelines and heating devices of the heating circuit the residual pressure should be calculated as a function of the required water flow rate, taking into account the characteristics of the circulation pump (fig. 6).

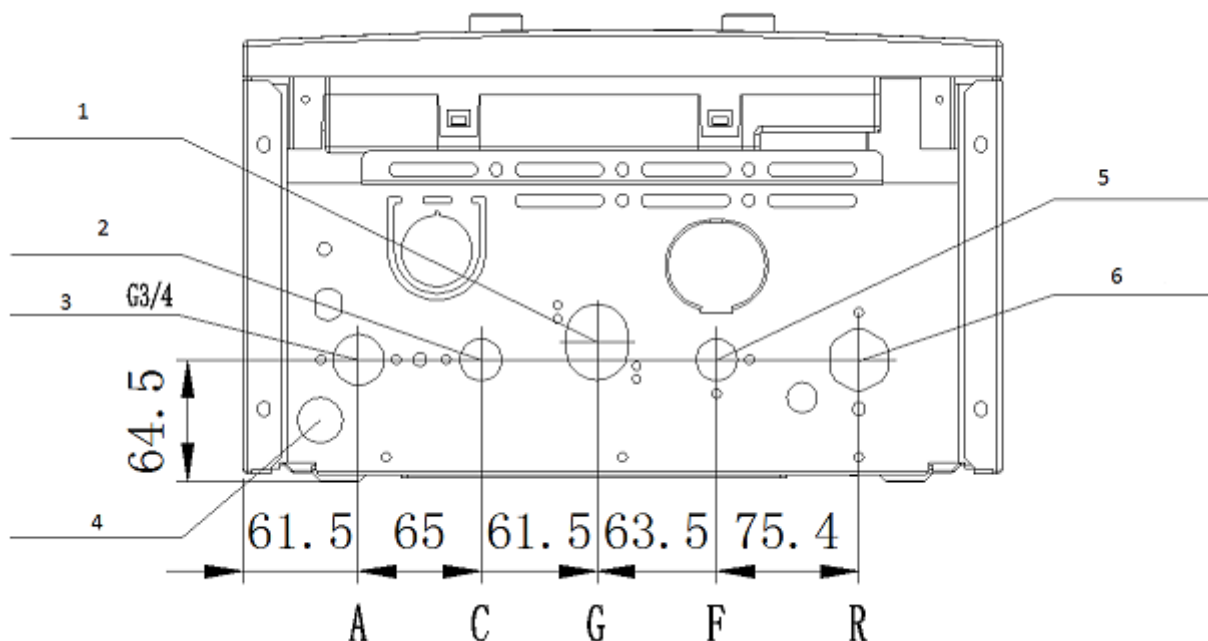


рис.13

1- gas supply G3 / 4; 2- supply pipe to the DHW circuit G1 / 2; 3- supply pipe to heating circuit G3 / 4; 4- safety valve drain pipe; 5- cold supply water; 6- return from the heating circuit

#### Attention !



- The outlet of the safety valve must be connected via connection to the sewer, but a shut-off should not be installed fittings at the exit point.
- If the system is overpressurized, water may leak from safety valve, make sure that the drain outlet is the safety valve is connected to the sewers

#### ATTENTION!



Boiler installation, boiler commissioning, maintenance and boiler repair should be carried out only by those gas services and organizations that have the appropriate gas licenses companies and professional qualified personnel in compliance with applicable standards

#### 4.7.3 Electrical connections.

For safety reasons, have the carefully check all electrical connections of the boiler. The manufacturer is not liable for damage caused by lack of proper grounding or inadequate power supply parameters. Make sure the system is rated for the maximum power consumed boiler.

Make sure to use conductors with a cross section of at least 0.5 mm<sup>2</sup>.  
The boiler has no lightning protection means. Replace fuses if necessary use 2 A fast acting fuses.  
For correct and safe operation, the boiler must ALWAYS be reliable grounded.

Power is supplied from a 220 V, 50 Hz network (L, N + PE) observing polarity and a grounding conductor. If you need to replace the power cable contact a qualified technician.

The ground wire (yellow or green) must be longer than phase wire or neutral.

**It is forbidden to use heating agent, water and gas pipelines for grounding, as well as radiators!**

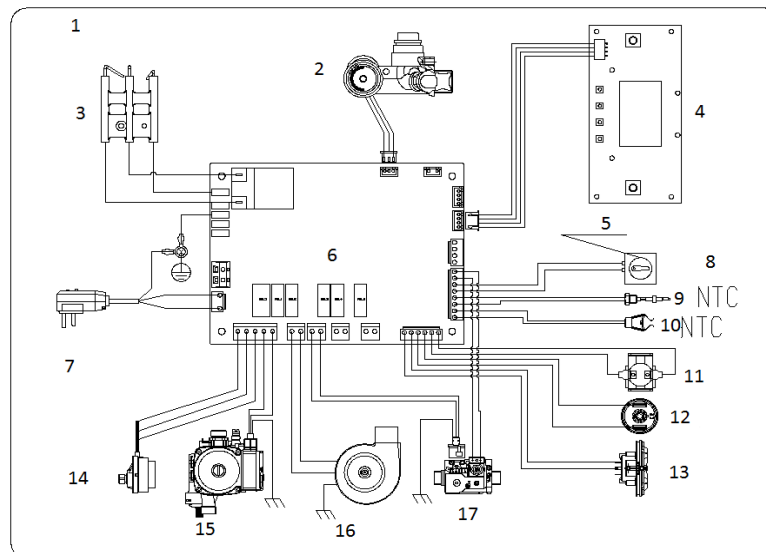


#### **ATTENTION!**

**It is recommended to connect the boiler to the power supply via voltage stabilizer to ensure stable and trouble-free operation, as well as to prevent boiler failure as a result of power surges in the network. Grounding is required!**

**The manufacturer is not responsible for any malfunctions caused by non-compliance with the above requirements. Any action not corresponding to the above in the installation manual, not only can disable the boiler, but also endanger life!**

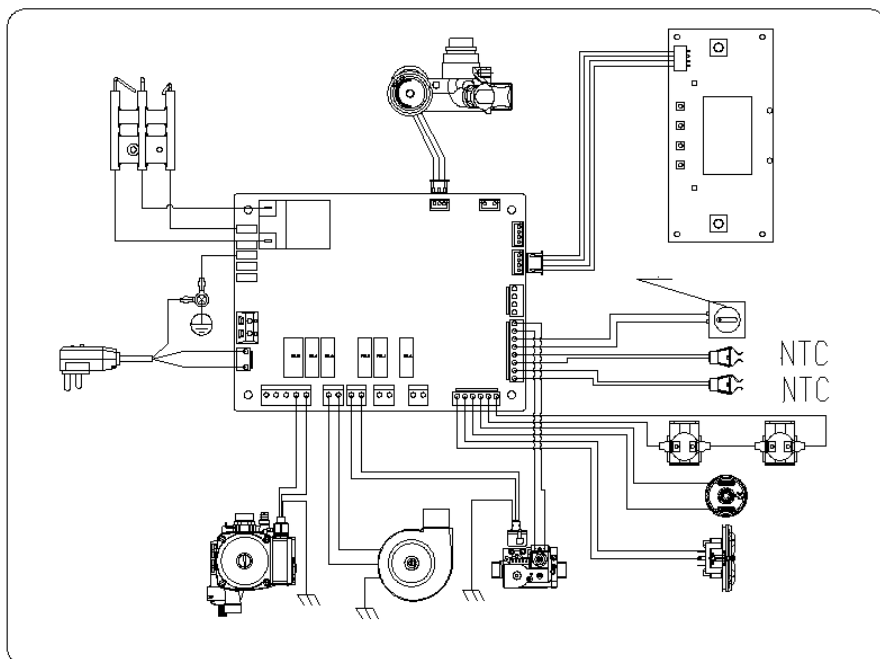
### **4.8. Schematic diagram of the boiler.**



#### **4.8.1 Wiring diagram for DHW plate heat exchanger**

1 is a schematic representation of the connections of a gas heating water heater; 2-sensor consumption; 3-ignition needle; 4-display; 5-room thermostat and accessories (if not available thermostat short-circuit); 6-regulator; 7-power cable; 8-internal thermostat;

9-DHW NTC; 10-Heating NTC; 11-thermostat; 12-water pressure switch; thirteen-pressure switch; 14-electronic three-way valve; 15-water pump; 16-fan; 17-gas proportional valve;



#### 4.8.2 Wiring diagram for model with heat exchanger bithermic type

1 is a schematic representation of the connections of a gas heating water heater; 2-sensor consumption; 3-ignition needle; 4-display; 5-room thermostat and accessories (if not available thermostat short-circuit); 6-regulator; 7-power cable; 8-inner thermostat; 9-DHW NTC; 10-Heating NTC; 11-thermostat; 12-water pressure switch; 13-pressure switch; 14-water pump; 15-fan; 16-gas proportional valve;

#### ATTENTION!



The boiler must be connected to the power supply through a permanent connection (no plug allowed) via two-pole switch with a minimum contact distance not less than 3 mm. It is strictly forbidden to use multi-pin plugs, extension cords and / or adapters.

#### 4.9 Flushing the heating circuit.

If the boiler is connected to an existing heating circuit, the water may contain various impurities that can have a harmful effect on the boiler, leading to shortening its service life.

Before dismantling the old boiler, be sure to ensure thorough flushing of the system from contaminants that can have a harmful effect to the boiler. Be sure to check that the capacity of the expansion tank matches the volume of water in the heating circuit.



#### 4.10 Installation of the flue.



##### ATTENTION!

It is strictly **FORBIDDEN** to start up the boiler without the installed chimney in order to avoid poisoning by combustion products.

Special instructions for the installation of the chimney;

- To ensure reliable and efficient operation, use original chimney pipe;
- the boiler must be connected to the chimney pipe, with its output outside premises. If there is no chimney pipe, the boiler is prohibited from use;
- the gap between the flue gas pipe and the hole in the wall, must not be filled cement fillers.
- maximum permissible length of the split flue pipe 4 m (each an additional 90 ° branch pipe is equivalent to an increase in the length of the pipe chimney for 0.8 m). When the chimney exits the hole, slope 2o towards the street.

##### 4.10.1 Installing the coaxial flue gas pipe

The supplied flue gas coaxial pipe kit is required for exhaust boiler exhaust gas and fresh combustion air intake. For this a correct connection from the flue gas pipe to the boiler is required. See fig. 14.

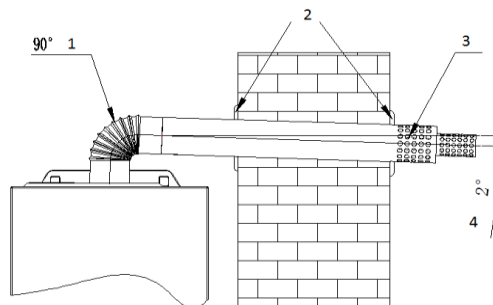


Рис. 14

1 - 90° branch pipe; 2-chimney flange; 3- chimney pipe; 4-slope 2°

##### Installation steps:

- the chimney pipe goes through a hole in the wall outside the room, care must be taken that the wall does not block the suction inlet chimney pipes
- put flanges on the flue pipe from the inside and outside, to seal the gap between the chimney pipe and the building wall;
- a seal must be ensured at the joints of the chimney pipe with one end of the 90 ° branch pipe, connecting the boiler socket to the other end this connection;
- at the junction of the 90 ° branch pipe and the chimney pipe, stick a sealing tape

#### **4.10.2 Installing the extended flue gas pipe.**

Depending on the actual installation site of the boiler, the customer may be faced with a situation where the length of the chimney pipe is not enough for installation, then the client can, based on the actual need, order an extended flue pipe and connections: see fig. 15.

##### **Installation steps:**

- pass the chimney pipe through the hole in the wall outside premises, make sure that the wall does not block the suction chimney openings
- put flanges on the flue pipe from the inside and outside, to seal the gap between the chimney pipe and the building wall;
- correctly connect the extended flue gas pipe and the branch pipe;
- connect one end of the 90 ° branch pipe to the chimney pipe, the other end connect to the socket of the device, making sure the connections are secure sealing
- stick on the joints of the chimney pipe and branch pipes sealing tape;

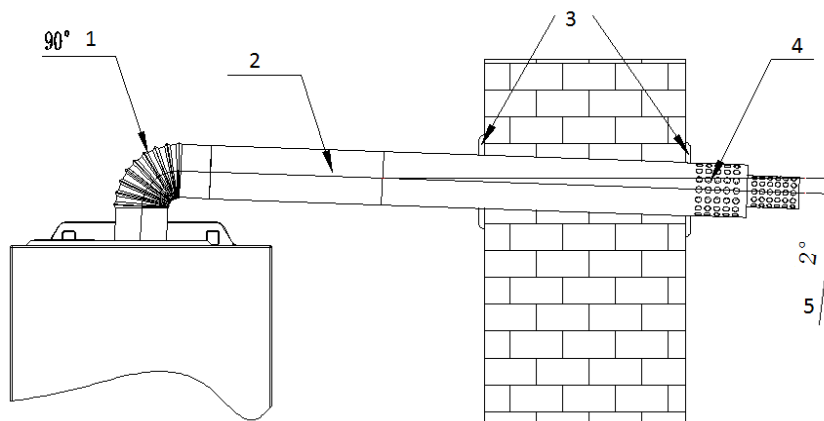


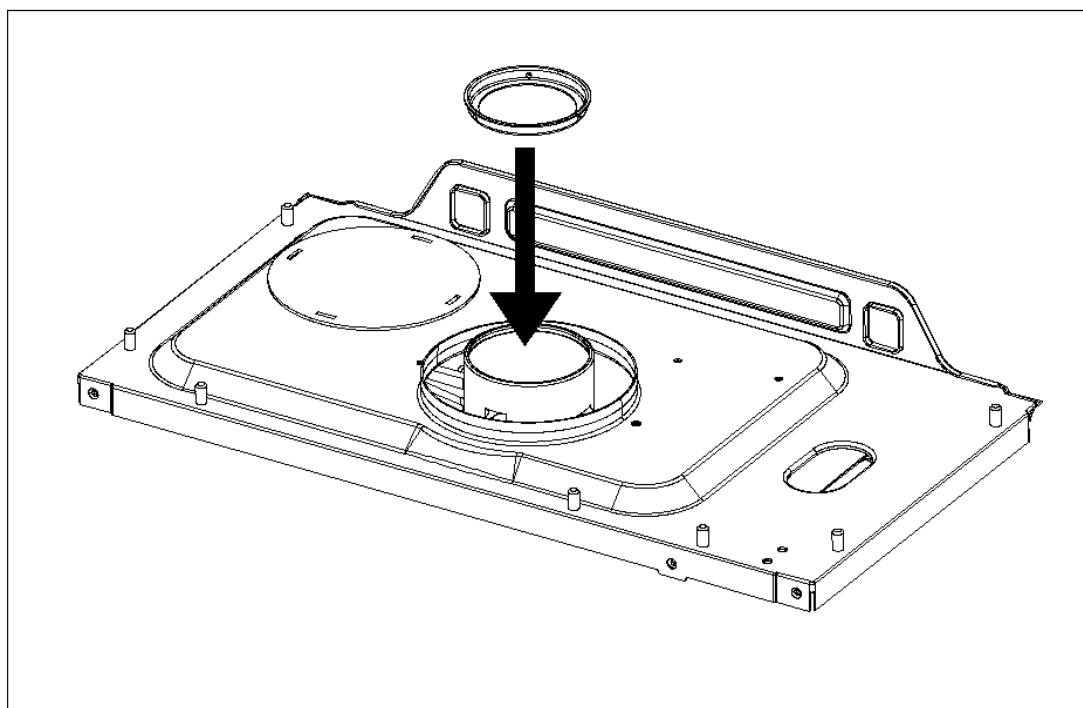
Рис. 15

1-90o branch pipe; 2-Extension of the chimney; 3-chimney flanges;  
4- chimney pipe; 5-Slope down 2o

### 4.10.3 Limit ring requirements.

The kit includes accessories with a stop ring, according to the actual the length of the flue pipe select the installation option:

Chimney length (m)	Is the stop ring installed?
$L \leq 1$	Install the stop ring
$1 < L \leq 4$	Do not put a restraining ring
Length L does not include the length between the first nozzle and the device	



Installation diagram of the stop ring Fig. 16

## 5. Test run of equipment.

### 5.1 General warnings

If the boiler was at a negative temperature during transportation and storage, then it is necessary to keep it at room temperature for at least 3 hours before the first start-up.

- the operations listed below should only be performed a specialized service organization;
- when leaving the factory, the products are already well debugged, and when they first start after installation, make sure that the gas parameters correspond to the marks in nameplate;
- after completion of filling the system with water and necessary adjustments, make sure there is no water leakage in the entire pipeline;
- before starting, ensure that the piping and heating system there was no air

Before a test run, make sure that the installation of the boiler and the operation is carried out in compliance with all safety standards.

## 5.2 Heating system.

### 5.2.1 Requirements for heating system and water quality.

- Pump circulating flow, lift heights and system installation piping must be compatible;
- The heating and water supply system must be clean, there must be no sediment, large debris and no leakage;
- As a coolant in the heating system, it is necessary to use water.
- The quality of the water used in the heating system must correspond to parameters specified in the table:

PH pH	6-8
Total hardness, mg-eq / l, no more	4
Iron content, mg / l, no more	0,3

- if the hardness of the source water exceeds 4 mg-eq / l, it is necessary to install a polyphosphate dispenser at the water inlet to the boiler, which processes the water entering the boiler, protecting the heat exchange boiler equipment from the deposition of hardness salts.
- polyphosphate dispenser is not included in the standard package boiler and purchased separately. If the hardness of the source water exceeds 9 mg-eq / l, more powerful installations should be used for softening water.



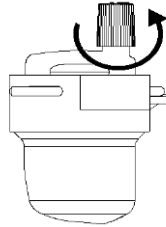
#### Attention!

The presence of rust, dirt and other deposits in the heating system leads to a malfunction of the boiler and deterioration of its characteristics (overheating, noise in the heat exchanger, heating capacity). In this regard, it is necessary before installing the boiler to flush the heating system. For this, you cannot use acidic and alkaline agents or agents that corrode metal, plastic and rubber parts of the boiler.

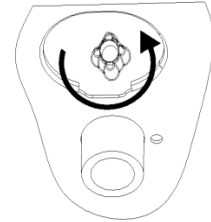
### 5.2.2 Filling the system.

Use softened water as the filling water for the heating system, hard water can lead to scale build-up in the system, which affects boiler operation, so that when water is first filled into the boiler and the heating system it is recommended to fill in softened water.

1. Before filling  
open with water  
auto  
Exhaust valve  
circulating  
pump and outlet  
valve in the pipeline



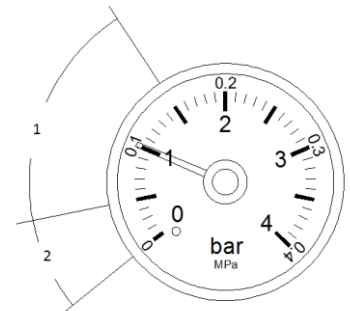
2. Rotation  
counter-clockwise  
crane arrows  
water make-up  
opens the valve  
water on  
filling



3. Pay attention to the pressure gauge or display when the pressure reaches 1Bar-1.5Bar, close filling valve

4. When the pressure of the heating medium in the system drops below 1Bar, open the valve water make-up to the system in order to continue to increase the water pressure in the system up to range 1Bar-1.5Bar

5. Repeat the above steps until  
until the pressure in the heating system becomes  
stable, between 1Bar-1.5Bar.  
Then turn the handle of the water valve to  
clockwise to close the fill valve.



1- area of normal  
water pressure;  
2- low pressure;

### 5.2.3 Draining the system

Draining the heating agent from the boiler heating circuit

When draining the coolant from the boiler heating circuit, do not forget to make following

- turn off the power supply to the boiler;
- wait for the coolant to cool;
- open the drain valve of the heating system;
- drain the heating medium from the heating system

### 5.3 Switching on the boiler.

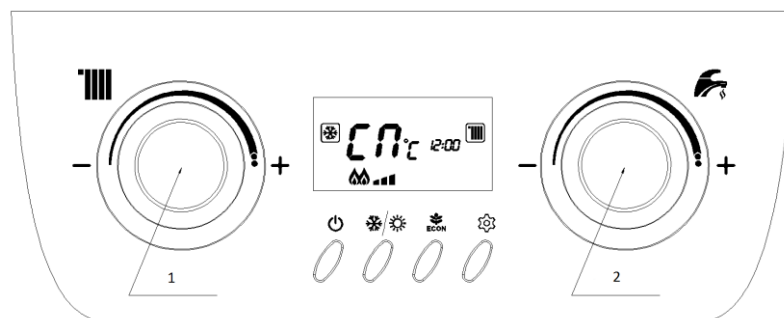
- make sure that the flue gas pipe is connected correctly and without any damage;
- connect the boiler to the power supply;
- open the gas supply valve to the boiler;
- press the power button on the control panel, on the display the current state is displayed;
- press the "Winter / summer" mode to select the mode;
- the boiler should start up automatically. If ignition fails, repeat switching on up to three times;
- check the water pressure in the system, if the pressure drops partially, you need to turn off the boiler, replenish the water supply, and then again turn on the boiler.

## 6. Setting boiler parameters

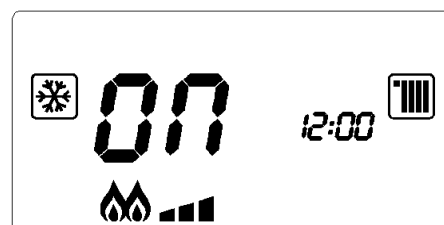
The default temperature difference between inlet and outlet is 15 ° C. At if necessary, this indicator of the system parameters can only be changed authorized employee of the service center

### 6.1 Setting system parameters.

- press and hold "rotary knob 2" for more than 5 seconds, this will transfer the boiler system to the parameter change mode, at the same time on the monitor the value "Cn" is displayed.
- press "rotary knob 2" to select the "Cn" parameter
- turn "Rotary Knob 2" to select the desired parameter, "On" - for hot water supply, OF- for underfloor heating.
- press "rotary knob 2" to exit the parameter change point.



By turning the "rotary knob 2" you can switch to the menu to change other parameters. Changing other parameters is done in a similar way. After to finish setting the parameters, press to save and exit the menu. "Rotary handle 2".

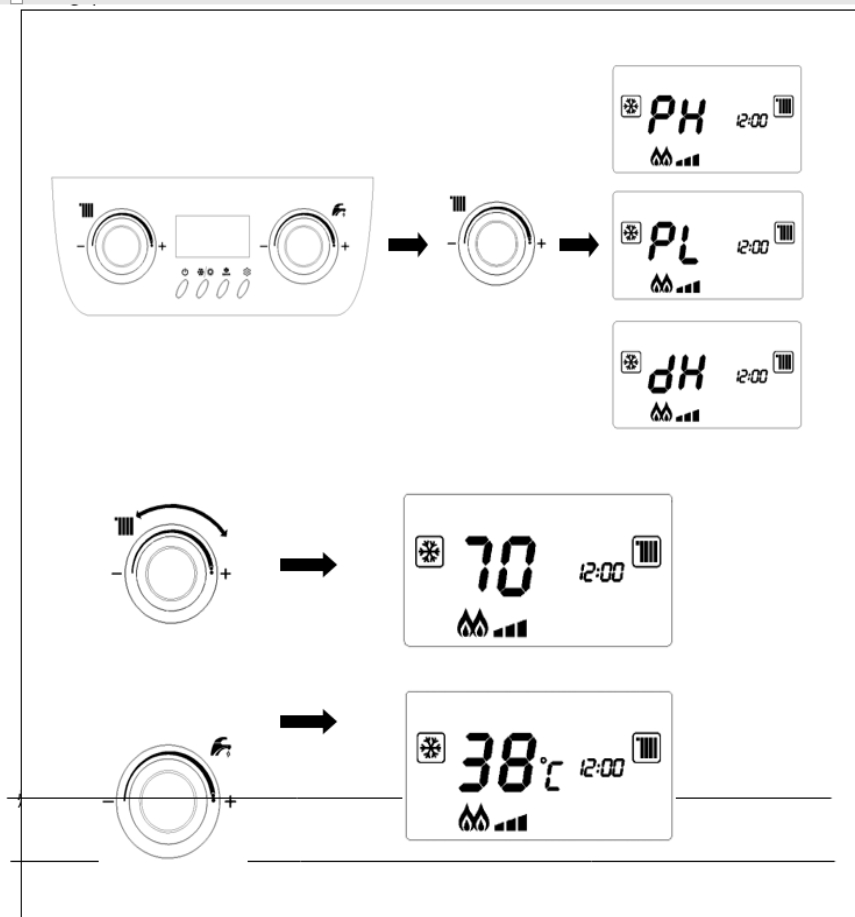


**The values of the installation parameters are shown in the Table below:**

No pp	Parameter	Parameter value	Options	
1	Cn	DHW mode / mode underfloor heating	On	DHW mode (FACTORY SET)
			OF	floor heating mode
2	bH	lamellar heat exchanger / bithermic heat exchanger	On	plate heat exchanger
			OF	bithermic heat exchanger
3	yL	pressure meter	On	incl.
			OF	off
4	Sb	pump operating mode	On	after off. burners: work 3 min. stop after 7 min.
			OF	constant rotation
5	HC	temperature difference "Feed" and "return"	Circuit DHW	15 ° 30 ° C □ default 15OS)
			Warm floor	5 ° 20 ° C □ default 15 ° C)
6	dn	heating / heating and GVS	On	heating and hot water
			OF	heating
7	Fd	segment valve (burner winter-summer)	On	incl.
			OF	off
8	bP	cyclic combustion / steady burning factory setting	On	cyclic combustion
			OF	steady burning
9	CC	Control temperature outside air	0 ° 25 ° C □ factory setting 20 ° C □	

## **6.2 Setting the ignition power.**

- in operating mode, press and hold the "heating knob" for more than 5 seconds to enter the power setting mode. At the same time, the display shows alternating parameters "PH" and their numerical values
- each press of the "heating rotary knob" toggles between the parameters "PH", "PL", "DH" (PH maximum power, PL minimum current, DH starting current)
- By turning the "heating rotary knob" you can set the value of the value any parameter
  - After finishing the installation, press the "DHW knob" to save the settings



## **7. Inspection and maintenance.**

Maintenance (MOT) is an important part of ensuring safety, efficient operation of the boiler and the guarantee of its long-term operation. Perform maintenance in compliance with applicable rules and regulations, as well as requirements manufacturer, at least once a year.

Maintenance must be carried out in accordance with the instructions and only by authorized service personnel.

### **7.1 Frequency of inspection and maintenance of the boiler.**

For long-term, stable and safe operation of the boiler, it is recommended invite service center specialists to carry out work on an annual



inspection and maintenance. Works related to technical service are not the manufacturer's warranty and produced at the expense of the consumer



### **ATTENTION!**

### **INCORRECT MAINTENANCE MAY BE HAZARDOUS TO LIFE!**

- boiler maintenance operations related to disassembling its gas or water communications, it is necessary to perform only after a complete shutdown of the boiler (the taps on heating agent, water and gas lines in front of the boiler, the boiler must be disconnected from the mains) and cooling down.

## **7.2 Inspection and maintenance procedure.**

Before starting inspection and maintenance, carry out the following procedures:

- turn off the boiler;
- turn off the power supply, close the gas shut-off valve;
- close the "supply" and "return" taps on the heating system, and cold water inlet tap;
- if necessary, open the drain cock to drain the coolant from boiler;
- open the boiler lid:

Whenever you have performed inspection and maintenance, carry out the following operations:

- open the "supply" and "return" valves on the heating system, and cold water inlet tap;
- fill the heating system to normal pressure □1-1.5bar□
- open the gas shut-off valve;
- turn on the power supply;
- make sure there are no gas and water leaks in the boiler;
- close the boiler lid.

### 7.3 Inspection and maintenance work - Overview.

List of necessary operations during annual inspections and technical service is given in the table:

No pp	List of operations	One once a year	One every two year
1.	Inspect the burner, remove with a brush if necessary dust from the outer surfaces of the burner and from the manifold	•	•
2.	Check the ignition needle, get rid of carbon formation of the head	•	•
3.	Check the heat exchanger, if necessary carry out cleaning up.	•	•
4.	Check and clean dust and dirt from the fan	•	•
5.	Check the installation of the flue gas exhaust pipe for tightness and clogging	X	•
6.	Check the pressure in the expansion vessel	X	•
7.	Check the rotation of the water pump	•	•
8.	Check the filter mesh of the water flow sensor and the turbine	•	•
9.	Check the connection of the contacts	•	•
10.	Clean the DHW plate heat exchanger	X	•
11.	Check the operating pressure of the safety valve	•	•
12.	Check the tightness of the hydraulic and gas pipelines	X	•
13.	Check electrical functions and electronic Components	X	•
14.	Check the condition of the ignition components and security	•	•

**Note: "•" check is carried out, "X" check can be omitted.**

## 7.4 Opening the boiler.

To maintain the boiler, open the control panel and remove the front cover.

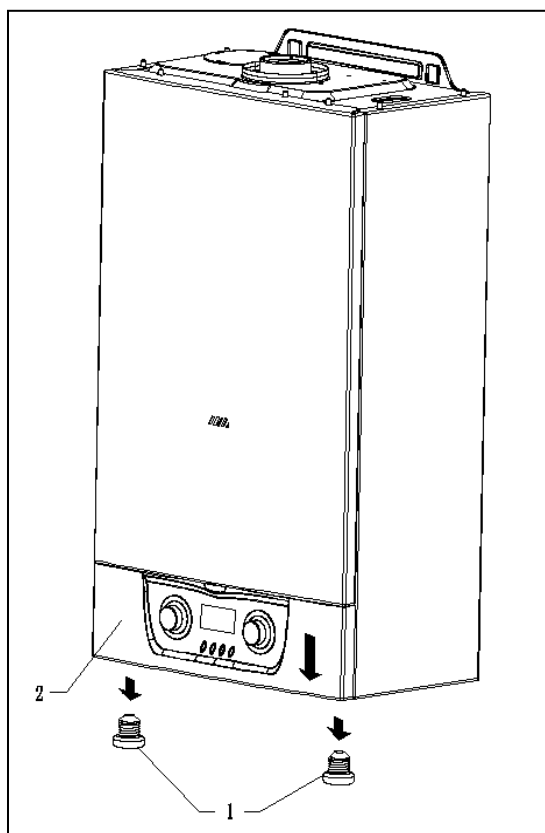


Рис. 17

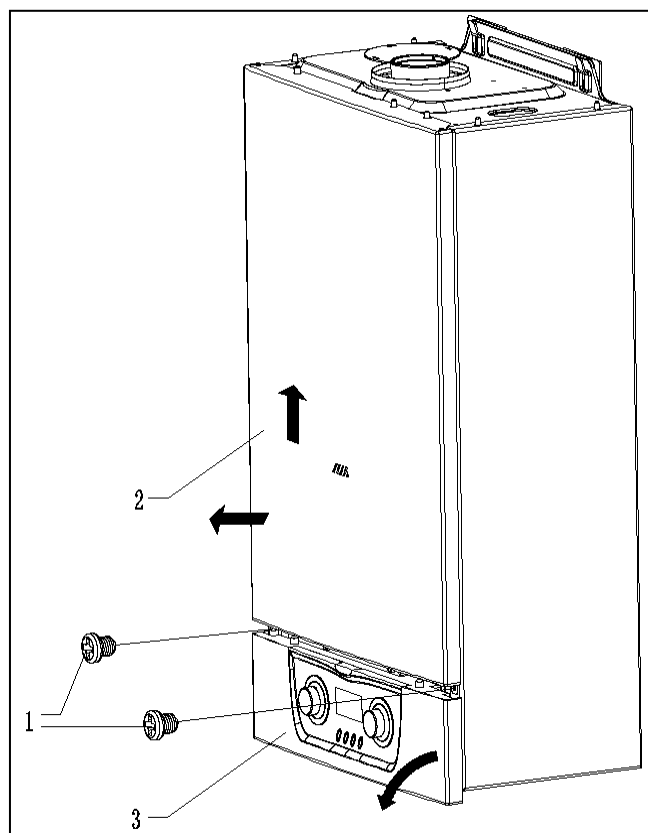


Рис. 18

- unscrew 2 bolts at the bottom of the control panel (pos. 1 fig. 17);
- pull the control panel down to expose the clamping screws fixing the surface of the shell (2 in Fig. 17);
- remove the screws that fix the front cover; (item 1 fig. 18);
- to remove the front cover, pull it up and out, (detail 2 fig. 18)
- fold out the control panel (detail 3 fig. 18)

fold out the control panel (detail 3 fig. 18).

- open the control panel
- release the latches on the four sides (fig. 19)
- remove the control panel cover

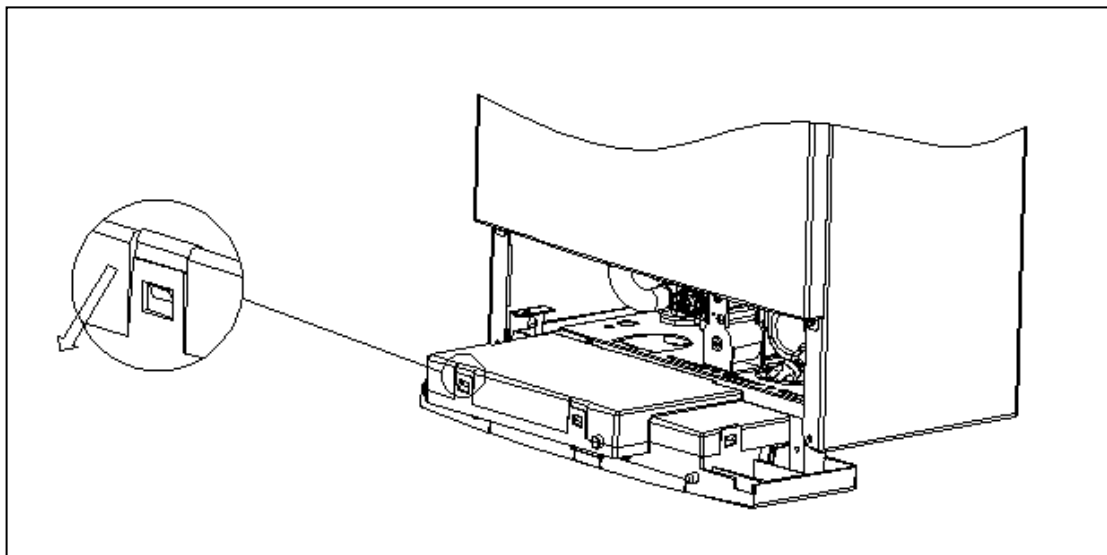


Рис.19

## **8. Troubleshooting.**

Boiler shutdown caused by failure or malfunction of any of the its systems, accompanied by the display on the display of the boiler control panel the corresponding error code, which makes it easier to find the malfunction. Fault codes and troubleshooting methods are shown in the table below.

Codes mistakes	Malfunctions	Possible reasons
E0	Overheat	Stopping the pump Temperature sensor malfunction Pressure sensor malfunction Obstruction of circulation in the heating system
E1	Problems related to unsuccessful ignition. The boiler does not work	No gas supply or gas valve not open Ignition needle defective Gas valve malfunction Reduced gas pressure Flame sensor malfunction Failure of the control board
E2	Overheating of the coolant ( 95 ° C)	Malfunction of the sensor protection against overheating Broken sensor connecting cable overheating Malfunction protection system against overheating
E3	Lack of traction	Fan failure Failure of the pressure switch Clogged smoke exhaust pipe

E4	Insufficient coolant pressure in the heating circuit.	Air lock in the heating system. The coolant pressure sensor is faulty in the heating circuit Broken pressure sensor cable
E5	Malfunction in voltage solenoid valve	Emergency voltage output to main control panel
E6	Damage to the temperature sensor DHW circuit	Damage to the temperature sensor (open circuit, short circuit) Broken connection cable temperature sensor
E7	Damage to the temperature sensor heating	Damage to the temperature sensor (open circuit, short circuit) Broken connection cable temperature sensor
E8	Overheating (90o)	Temperature sensor malfunction Overheating protection system malfunction
E9	Icing ( 1oC)	The heating system can be frozen
EF	Condensation in the control box	Condensation in the control box

## 9. Warranty obligations.

In case of self-installation of the boiler by the consumer or another person, not being an employee of a specialized service organization, the warranty period not installed.

The manufacturer (company) guarantees trouble-free operation of the boiler when availability of design documentation for its installation and subject to the Consumer's observance

the rules of operation, maintenance and storage established by the data Guide. The boiler has a warranty period of 24 (twenty four) months from the date of sale through a retail trade network. In the absence of warranty coupons of the stamp of the seller's organization with the date of sale of the boiler the warranty period is calculated from the date of its issue by the manufacturer.

The seller organization puts down the date of sale and a stamp in the warranty coupons. The cashier's receipt confirming the payment for the boiler must be kept during the entire warranty period. exploitation. After the boiler is installed, the service organization fills in to the consumer warranty coupons, which indicate the surname and initials of the specialist and the date installation. If deficiencies in the operation of the boiler are detected, the consumer has the right contact the seller with a written request for repair, replacement and return of the boiler. At the same time, the originals of the following documents must be attached to the application:

- financial documents for the purchase of a boiler;
- warranty card;
- manual;
- technical act confirming the existence of deficiencies with a detailed description of faults
- coordinated project of the heating system, made in accordance with the requirements of Federal and local regulations, regulating the installation of gas-using equipment (certified copy);
- chemical composition of heating water or certificate (certified copy) for antifreeze

The service life of the boiler is 12 (twelve) years. When buying a boiler, the buyer must check by external inspection for damage and completeness, obtain "Operation manual" with a mark and a stamp of the store about the sale in coupons for warranty repair. When repairing a boiler, a warranty card and a back to it are filled in by the repairing specialist, while the warranty card is withdrawn. The back of the warranty card remains in the user manual.

The manufacturer is not responsible for boiler malfunction and does not guarantee trouble-free operation of the boiler in the following cases:

- independent installation of the boiler by the Consumer or another person, not being an employee of a specialized service organization;
- non-compliance by the Consumer with the operating rules;
- failure by the Consumer to perform maintenance of the boiler in the period established by this "Operation Manual" (at least once a year);
- non-compliance by the Consumer, trade or transport organization rules for the transportation and storage of the boiler;
- if the boiler is mechanically damaged;
- use of the product for other purposes.

A prerequisite for the normal functioning of the boiler is use of an electric voltage stabilizer. When installing the boiler the specialist of the service organization without fail enters into the warranty card information about the manufacturer, brand and model of the voltage stabilizer, or information about the absence of an electric voltage stabilizer. Wherein possible failure of the electronic board is not a warranty case and does not can be considered as the presence of a defect in the operation of the boiler.

Flushing and replacing units

hydraulic and gas systems in case of clogging are not included in the list of warranty services and is performed at an additional cost to the subscriber. These nodes are not subject to a complete acceptance. accepted.

Котел изготовлен в КНР, Powtek International Holdings Limited Zhongshan Powtek Appliances Mfg., Ltd., по адресу 23 Health Road, National Health Technology Park, Torch Development Zone, Zhongshan, Guangdong, P.R. China.  
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в соответствии с международным сертификатом качества ISO 9001.  
Действующий стандарт изделия: GB25034 Европейский стандарт EN483

**Уполномоченный изготовителем представитель:**

**ООО «ТЗГО» 300028, РФ, г. Тула, ул. 9 Мая, д. 3, оф. 307-Б,  
тел.: (487) 519-62-52, (487) 519-67-11, (487) 225-99-40**

## 10. Отметки об установке котла и проведении технического обслуживания



### ВНИМАНИЕ!

Без заполнения полей данного раздела, гарантийный ремонт на установленное изделие не распространяется.

Котел установлен, проверен и запущен в работу специалистом сервисной организации.

Наличие стабилизатора напряжения в сети электропитания котла:

Да ☐ Модель стабилизатора \_\_\_\_\_

Нет ☐

Давление газа в подводящей магистрали \_\_\_\_\_ мм вод. ст.

Название организации \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_ Штамп

организации

Работник \_\_\_\_\_

(Ф.И.О.)

(подпись)

**Информация о котле мне предоставлена. С гарантийными обязательствами ознакомлен(а). Осмотр котла мною произведен. Внешних недостатков не обнаружено. Об основных правилах пользования котлом я проинструктирован(а).**

“ \_\_\_\_ ” \_\_\_\_\_ 20\_\_ г.

(подпись владельца котла)

За \_\_\_\_ год Работник \_\_\_\_\_ “ \_\_\_\_ ” \_\_\_\_\_ 20\_\_ г. Штамп

(Фамилия И.О.) (подпись)

(дата)

организации

За \_\_\_\_ год Работник \_\_\_\_\_ “ \_\_\_\_ ” \_\_\_\_\_ 20\_\_ г. Штамп

(Фамилия И.О.) (подпись)

(дата)

организации

За \_\_\_\_ год Работник \_\_\_\_\_ “ \_\_\_\_ ” \_\_\_\_\_ 20\_\_ г. Штамп

(Фамилия И.О.) (подпись)

(дата)

организации

За \_\_\_\_ год Работник \_\_\_\_\_ “ \_\_\_\_ ” \_\_\_\_\_ 20\_\_ г. Штамп

(Фамилия И.О.) (подпись)

(дата)

организации

За _____ год Работник _____	“ _____ ” _____ 20__ г.	Штамп
(Фамилия И.О.) (подпись)	(дата)	организации
За _____ год Работник _____	“ _____ ” _____ 20__ г.	Штамп
(Фамилия И.О.) (подпись)	(дата)	организации
За _____ год Работник _____	“ _____ ” _____ 20__ г.	Штамп
(Фамилия И.О.) (подпись)	(дата)	организации
За _____ год Работник _____	“ _____ ” _____ 20__ г.	Штамп
(Фамилия И.О.) (подпись)	(дата)	организации
За _____ год Работник _____	“ _____ ” _____ 20__ г.	Штамп
(Фамилия И.О.) (подпись)	(дата)	организации
За _____ год Работник _____	“ _____ ” _____ 20__ г.	Штамп
(Фамилия И.О.) (подпись)	(дата)	организации
За _____ год Работник _____	“ _____ ” _____ 20__ г.	Штамп
(Фамилия И.О.) (подпись)	(дата)	организации
За _____ год Работник _____	“ _____ ” _____ 20__ г.	Штамп
(Фамилия И.О.) (подпись)	(дата)	организации



## 11. Свидетельство о приемке

Газовый котел **mizudo**

Заводской номер \_\_\_\_\_

Дата приемки \_\_\_\_\_

Признан годным к эксплуатации

Штамп  
контролера ОТК

(Заполняется в магазине)

<b>Модель</b> (см. на боковой поверхности котла)	.....	<b>Заводской номер</b> (см. на боковой поверхности котла)	.....
<b>Котел настроен на</b> (природный 1274 Па или 1960Па; сжиженный 2960 Па)	.....Газ	<b>Дата выпуска</b> (см. на боковой поверхности котла)	.....Г.
<b>Дата продажи</b>	.....Г.		<b>Штамп магазина</b>

## 12. Техническое обслуживание

Техническое обслуживание изделия производится специализированными газовыми службами районов (горгазы, облгазы), а так же сервисными центрами, обслуживающими продукцию Powtek International Holdings Limited Zhongshan Powtek Appliances Mfg., Ltd.

<p>Корешок талона №1 на гарантийный ремонт изъят «_____» _____ г. Слесарь _____</p>	<p>подпись (фамилия разборчиво)</p>	<div style="text-align: center;"> <h2>ГАРАНТИЙНЫЙ ТАЛОН</h2> </div> <p><b>ТАЛОН №1</b>  На гарантийный ремонт настенного газового котла <b>mizudo</b>  Заводской № _____  Продан магазином № _____  _____  (наименование торгового предприятия)  «_____» _____ 20____ г.  Штамп магазина _____  (подпись)  Владелец, его адрес и телефон _____  _____  Подпись _____  Выполнены работы по устранению неисправностей _____  _____  _____  _____  Организация выполнившая ремонт _____  (наименование)  _____  (адрес и телефон)  Слесарь _____  (дата) (подпись, расшифровка подписи разборчиво)  Владелец _____  (подпись)  <b>УТВЕРЖДАЮ</b>  Руководитель _____  (наименование территориального газового хозяйства)  Штамп “_____” _____ 20____ г.  Подпись _____</p>

<p>Корешок талона №1 на гарантийный ремонт изъят «_____» _____ г. Слесарь _____</p>	<p>подпись (фамилия разборчиво)</p>	<div style="text-align: center;"> <h2>ГАРАНТИЙНЫЙ ТАЛОН</h2> </div> <p><b>ТАЛОН №2</b></p> <p>На гарантийный ремонт настенного газового котла <b>mizudo</b></p> <p>Заводской № _____</p> <p>Продан магазином № _____</p> <p>_____</p> <p style="text-align: center;">(наименование торгового предприятия)</p> <p>«_____» _____ 20____ г.</p> <p>Штамп магазина _____</p> <p style="text-align: center;">(подпись)</p> <p>Владелец, его адрес и телефон _____</p> <p>_____</p> <p style="text-align: right;">Подпись _____</p> <p>Выполнены работы по устранению неисправностей _____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>Организация выполнившая ремонт _____</p> <p style="text-align: right;">(наименование)</p> <p>_____</p> <p style="text-align: center;">(адрес и телефон)</p> <p>_____ Слесарь _____</p> <p style="text-align: center;">(дата) (подпись, расшифровка подписи разборчиво)</p> <p>Владелец _____</p> <p style="text-align: center;">(подпись)</p> <p><b>УТВЕРЖДАЮ</b></p> <p>Руководитель _____</p> <p style="text-align: center;">(наименование территориального газового хозяйства)</p> <p>Штамп “_____” _____ 20____ г.</p> <p>Подпись _____</p>

<p>Корешок талона №1 на гарантийный ремонт изъят « _____ » _____ г. Слесарь _____</p>	<p>подпись (фамилия разборчиво)</p>	<div style="text-align: center;"><b>ГАРАНТИЙНЫЙ ТАЛОН</b></div> <p><b>ТАЛОН №3</b>  На гарантийный ремонт настенного газового котла <b>mizudo</b>  Заводской № _____  Продан магазином № _____  _____  (наименование торгового предприятия)  « _____ » _____ 20____ г.  Штамп магазина _____  (подпись)  Владелец, его адрес и телефон _____  _____  Подпись _____  Выполнены работы по устранению неисправностей _____  _____  _____  _____  Организация выполнившая ремонт _____  (наименование)  _____  (адрес и телефон)  Слесарь _____  (дата) (подпись, расшифровка подписи разборчиво)  Владелец _____  (подпись)  <b>УТВЕРЖДАЮ</b>  Руководитель _____  (наименование территориального газового хозяйства)  Штамп “ _____ ” _____ 20____ г.  Подпись _____</p>

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