

INSTRUCTION MANUAL
for installation and operation of room heaters
and inset appliances fired by solid fuel



PAB752
= Ref 100651 L101



PAB800
= Ref 100600 Q100 LUX SM



PAB830
= Ref 100005 Z100 MAX



PAB830-P
= Ref 100006 Z100 MAX G



PAB1300
= Ref 100605 Q100 MAX



PAB1400
= Ref 100010 GL100



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1. Introduction.

We congratulate you on the excellent choice! We wish you many pleasant moments with your new fireplace. If your choice is a fireplace it is made and tested in accordance with the requirements of the European standard EN 13240, if your choice is an insert it is made and tested in accordance with the requirements of European standard EN 13229. They both respond to the approved technical documentation.

You may expect that you will have the opportunity to use your fireplace for the purpose with which it was made, for a long period of time, and with the least possible servicing. That is why we have a request for you, which is only for your benefit:



Do not leave the instructions unread. The assembly and the exploitation of a fireplace or an insert are connected with different legal obligations, which are explained in this instruction. According to the laws and regulations for safety, when using an appliance of such class, the buyer and the user are obliged, with the help of this instruction, to inform themselves for the assembling and the right operation of the appliance.

The correct installation, careful exploitation and care for the appliance are of great necessity for its perfect functioning and longevity. The convenience of maintenance, the high level of usability of the fuels and the excellent performance in continuous burning allow the usage of the appliance as a room heater of full value adding a comfortable atmosphere around the live fire.

Respecting all the directions in this instruction guarantees that your appliance will provide you with a lot of joy. By keeping the instruction in a good condition, you will always be able to inform yourself about the right maintenance of the appliance before the beginning of the heating season.

2. Appliance assembling.

2.1. Fireplace.

The technical parameters of the fireplace are given in Appendix №1.

Installation diagrams for a fireplace with integral boiler are given in Appendix №2.

It is necessary the following conditions to be kept in order to ensure a safe and correct work of the fireplace:

- The fireplace should be installed in rooms with sufficient air flow which is required for the combustion.
- Not every fireplace could be connected to any chimney. Before assembling the fireplace check if the static pressure and the chimney dimensions conforms to the needed parameters for the fireplace. If the fireplace does not conform to the chimney, it will lead to a lower burning rate and polluting the glass with soot.
- The chimney should be high enough (at least 5 meters). Only one more fireplace can be connected to the same chimney. The flue draught should be higher than 10 Pa, and for fireplaces with a boiler up to 15 Pa. If the chimney is too high (the draught exceeding 35 Pa) then it is necessary to mount a supplementary valve to reduce the draught.
- The chimney should be very well insulated, with inside diameter at least \varnothing 150 mm or with a section area at least 200 cm².
- The fireplace should not be connected to a chimney when there is a solid fuel boiler connected to it.
- The floor, where the fireplace is placed, should be flat and horizontal, made of non-combustible materials (mosaic, marble, terracotta, etc.). If the floor is not heat resistant (carpets, linoleums or others of the same kind) a stable, non-combustible platform should be used, made of steel, glass or stone plates.
- If there are any combustible materials or constructions, the fireplace should be away from them to the specified distance, or to dispose of an additional incombustible screen.
- After the installation of the fireplace it is attached to the chimney through chimney pipes. The connections between the separate chimney pipes and the socket should be tight. The chimney pipe should not enter into the chimney.

2.2. Insert.

Technical parameters of the insert are given in Appendix №1. Installation diagrams for an insert with integral boiler are given in Appendix №2.

Please, observe all the requirements shown in point 2.1. In addition, it is necessary to observe the following conditions:

- It is recommended, the assembling of the insert to be done by competent installation company.
- At the installation of the insert, connection to the chimney and building of the surround thermo resistant and **inflammable** materials should be used only.
- The insert can be installed into special recess or it can be revet by a special surround with walls and ceiling. The floor, where the insert will be placed, should be smooth and leveled, made of non-combustible materials (mosaic, marble, terracotta, etc.) and possessing enough loading capacity. If the floor is not stable a suitable reinforced concrete plate has to be done. **The insert has to be fixed to the base.**

It is necessary to ensure enough distance between the insert and surround, as well as enabling the natural air convection.

- The walls of the surround have to be well insulated against overheating and thermal losses. The insulation material has to be foiled and to have a temperature resistance from 700°C up to 1200°C.
- It has to be providing air convection by special ventilation grilles.
- A suitable temperature resistant fan can be inserting into the ventilation system to improve the heating efficiency.
- If your insert is fit with an integral boiler, all additional components like pump, valves, etc., have to be placed in a visible and easy for access places. Servicing apertures have to be provided.
- The fireplace should be installed in rooms with sufficient air flow which is required for the combustion.

3. Appliance operation.

3.1. Fuels.

The most appropriate fuels are dry cleaved wood (wood logs) and briquettes. The wood logs, stored in the open under sheds, reach a humidity level of 10%-15% after 2 years, when they are most suitable for combustion. We recommend to burn wood dried as much as possible. The maximum heat output is reached after burning wood logs dried for at least 2 years period of time.

The newly cut wood has little calorific value, high humidity and burns poorly –they extract a lot of flue gases and additionally contaminate the environment. This leads to minimizing the longevity of the appliance and chimney as well. The increased condensate and tar content in the flue gases leads to blocking up the flue pipes and the chimney, and an appreciable impurity of the glass. When using them, the heat output of the appliance falls to 50%, and the fuel consumption grows twice. The type and the recommended quantity of fuel for the appliance are given in Appendix №1.

It is not recommended to use the following fuels in the appliance: wet or tarred wood, shavings, fine coal, paper and cardboard (except for the ignition), polymeric materials.



Do not use liquid fuels.

Do not use the appliance like a furnace for burning waste matters.

If the appliance is used for burning unalloyed fuels then the warranty is not valid.

3.2. Components.

Glass

The mounted glass is ceramic, and it stands up to 850°C so it cannot be damaged by the temperature which is achieved when the appliance is operating. But it could be damaged by a mechanical influence when installing or transporting the appliance, or by putting big wooden logs into the firebox.

The glass belongs to the spare parts which are quickly worn out, and that is why it is not included in the warranty conditions.

Polluting the glass with soot

The construction of the appliance helps during exploitation not to pollute the glass with soot. The soot is accumulated only when there is bad burning, which may be caused by some reasons: the static pressure and the dimension of the chimney do not conform to the required parameters of the appliance, the air flow necessary for combustion process is stopped too early, or the right fuel is not used. In order to keep the glass as clean as possible from soot, the wood logs must be placed in such a manner that the cut surface is not facing to the glass.

We cannot influence those factors and that's the reason why we cannot guarantee that the glass won't be polluted with soot.

Refractory plates (fireclay or vermiculite)

The firebox is supplied with refractory plates. These plates keep the heat and give it back into the firebox in order to increase the burning temperature. The higher is the burning temperature, the higher is the efficiency of the burning process. As a result of too high temperatures or mechanical influences the refractory plates might be damaged. Extremely high temperatures may be achieved when with high flue draught of the chimney, the primary and secondary air controls are open, and thus it makes a burning out of control. Under mechanical influence it is understood e.g. throwing a wood log into the firebox or using bigger wood logs.

The refractory plates might be easily exchanged. If there is only a crack then it is not necessary to change them. It is necessary only in case when the metal parts between them or under them can be visibly seen.

The refractory plates are quickly worn out, and that is why they are not included in the warranty conditions.

Sealing

The sealing of the appliance are made of special glass fiber and does not content asbestos. This material is worn out during usage and the sealing must be periodically exchanged. Your shopkeeper could order these sealing to us.

The sealing is quickly worn out part and that is why it is not included in the warranty conditions.

Bottom grate

The lower part of the firebox is supplied with a cast-iron grate. This grate could be blocked up by nails in the wooden material, small wooden parts, the residue etc. You are advised to clean regularly the grate in order to keep its functionality. The grate could burn when using inappropriate fuel or reaching high temperatures due to incorrect servicing.

The grate is quickly worn out, and that is why it is not included in the warranty conditions.

Paint

The appliance is painted with highly temperature-resistant paint. This paint is resistant to high temperatures, but it is not resistant to rust. Please do not put any objects on the paint. When dust eventually accumulates then clean by brush or dry towel, but not by wet towel or water.

When the appliance is set to work for the first time it is necessary to leave the paint to be heated for a few hours to be baked and to reach its ultimate stability. During that period do not put anything on the appliance or do not touch the outer surface, so that it can remain unaffected. The smell which is produced is caused by the baking of the paint and disappears after a few hours. That is why the room should be well aired.

If as a result of overheating or incorrect servicing the color changes into white-grey, or a stain of rust appears or a part of the surface is damaged, then it is not a problem. You may order a spray in the appropriate color to your shopkeeper.

Handles and knobs

The handles and knobs of the appliance are made of brass or steel. This is an advantage because they cannot be worn out. They are heated to such a degree as the front part of the appliance is, that is why they must be serviced by using a heat-resistant glove.

Tea shelf and Bottom niche

They are decorative parts and it is not allowed storage of easy combustible materials in them.

Integral boiler

Purchased by your side appliance with an integral boiler gives you the great possibility of heating the nearby premises with radiators. Before assembling and the first ignition of the appliance you should be acquainted with the information given into Appendix N02.

An appliance with an integral boiler should be assembled by authorized organization only!

Oven

You can use your appliance for heating the room and at the same time for warming dishes and baking different pastry products. It is necessary to put the grate on the bottom of the oven, which is inseparable part from the product. The inner part of the oven is painted with heat resistant paint, which can be damaged by boiled over food and grease. It is advisable to use deeper dishes with lids. In order to obtain even baking the baking dish should be rotated few times, and this is achieved after using the oven for some times and obtaining the needed experience.

3.3. Control devices.

Before the first ignition of the appliance pay attention to the function of all control devices.

The primary air passes through the ash pan, the bottom grate and goes into the firebox. When the fuel is wood, primary air is not necessary. Primary air is necessary for faster ignition and better combustion of the coal. The control over the quantity of the primary air is done by slightly pulling the ash pan or through the valve mounted on the ash pan door. If the chimney has a strong flue draught it is recommended to entirely close the ash pan or the valve. The ash pan should not be fully filled for the primary air to be let in the firebox undisturbed. It is necessary to clean the ash pan regularly.

Secondary air provides the fire with the required quantity of oxygen for combustion and assists for the better combustion of the fuel. The quantity of the secondary air is adjusted through the regulator mounted above of the fire door. The appliance design enables the preliminary heating of secondary air which results in an increase of the combustion temperature, the efficiency of the appliance and prevents fumigation of the glass. While the appliance is working, the secondary air regulator ensures control over the combustion process both qualitatively and quantitatively. The secondary air regulator should not be closed when the appliance is working. In many cases the secondary air regulator has been closed shortly after the ignition, despite our directions, in order to reduce the fuel consumption. This leads to limitation of the flow of oxygen, which bothers the combustion and the glass is covered with soot. Also there are harmful emissions which may cause burning in the chimney.

As the heat output of your fireplace depends on the height of the chimney, the precise control of the necessary air for the combustion is done by trial and error.

3.4. Initial ignition of the appliance.

At the first ignition of the appliance pay attention to the following:

- Take all the supplementary tools out of the ash pan;
- The regulators for the primary and secondary air control must be opened.
- At first ignition it is necessary to leave the fire door slightly open, in order to prevent sticking of the sealing of the fire door onto the paint.
- The first ignition must be slow and still, with little quantity of sticks and paper. After burning them you may put two or three wood logs.

3.5. Ignition during exploitation.

Your appliance is constructed and designed for intermittent condition of burning. At each ignition you must do the following:

- The primary air control is opened;
- The secondary air control is opened;
- Put the basic combustion materials, ignite them and close the door. After they burn well, the wished heat output is achieved by regulating the combustion air.
- If a continuous heating is necessary, fuel is added additionally into the appliance, but only after the volatile materials have burned and the basic fire bed is reached.
- **The ash-tray is taken out for cleaning only after it cools down.**

3.6. Ventilation requirements.

An important factor for the right combustion of the appliance is the supply of additional quantity of air in the room, which must be minimum 4 m³/h per kW from the total heat output. If there are other working appliances in the same room, then it is necessary for them additional minimum of 1.6 m³/h air at each hour and at each kW from the total heat output.

A ventilator for suction the air from the room (desiccators, tumble driers, etc.) working at the same time with the appliance leads to change in the flue draught and consequently to bad burning conditions of the appliance. In this case for the right burning to be achieved it is necessary to let additional air into the room.



If the natural flue draught is insufficient it should be increase by an exhaust ventilator or an additional device.

3.7. Heating during the transitional period.

For the good functioning of the appliance, it is necessary to have enough flue draught of the chimney. This depends both on its height and the ambient temperature. At a temperature of the environment exceeding 14°C, disturbances in the combustion caused by insufficient draught might occur. In this case it is necessary to load the appliance with less fuel and the regulators to be left open so that the fuel to be burned faster (with flame) and thus reaching a stable flue draught in the chimney. In this case it is necessary to clean the ash pan more often.

4. Important directions for fire-precaution and safety regulations.

- The appliance is not designed to be used by children and persons with limited physical, sensuous and mental abilities, or by people with not enough experience and knowledge, except in cases when they are watched and instructed how to work with this type of heater, by someone who is responsible for their own safety.
- The door of the firebox should always be firmly closed even when the appliance is not working.
- The appliance should be installed only on a non-combustible floor.
- The appliance and the flue pipes should be at least 80 cm away from combustible objects or constructions.
- Using easily inflammable liquids is not allowed at ignition.
- Vertical connection of flue pipes with the chimney through floor structures is not allowed.
- The presence of easily inflammable and explosive substances in the heated room is not allowed.
- The ash disposal and the cleaning of the appliance should be done only at safe places and when the appliance has cooled down.
- The fireplace is intended to local heating of chambers with normal fire hazard.
- It is prohibited to put combustible materials and objects on the appliance or in immediate proximity of it.
- The design, connection and servicing of the water heating installation should be obligatory made by an authorized organization.

Please pay attention during the operation of the appliance children to be kept away from it, because its surface is too hot.

Incineration danger!

We recommend the following instructions in case of a chimney fire:

- Close the combustion air regulator!
- Call the fire brigade in your region!
- Do not try to extinguish the fire with water by yourself!
- Take away all easily inflammable materials from the chimney!
- When the appliance is set to work again it is necessary the chimney to be checked by a competent person for eventual damages.



When the appliance has been overworked over the limited heat output or for a longer period and also when using fuels other than the recommended by the manufacturer, then we cannot guarantee reliable work of the appliance.

Please do regularly with the help of a specialist a full check of the appliance regarding its functionality. If necessary, replace the defected parts only with the spare parts manufactured and supplied by the manufacturer.



The design and the connection of the water heating installation should be obligatory made by an authorized organization! The installation should conform to all European and national legal documents in reference with the operation and safety!

At “open” water heating system the installation should be connected to the atmosphere with an opened expansion container, mounted above the highest heating device. Between the appliance and the expansion container not any blocking components should be connected.

At “closed” water heating system safety components should be integrated into the installation, which does not allow exceeding of the working pressure in the appliance over 2 bar.

Do not make any non-authorized changes into construction of the fireplace!

5. Cleaning.

The correct maintenance and cleaning of the appliance guarantee its reliable work and keeping its good appearance.

The flue pipes and the interior of the appliance should be cleaned at least once per year.

The painted surfaces should be cleaned with a dry and soft brush, or with dry and soft towel.

The side and top plates of the integral boiler should be cleaned once a month.

The glass should be cleaned after cooling down by washing with a soap solution and should be dried afterwards.

While cleaning do not use sharp objects or abrasive materials!

6. Possible defects and their causes.

At ignition the appliance is smoking (not enough flue draught pressure):

- The chimney and the flue pipes are not sealed;
- The chimney is with wrong size;
- An open doors of another appliance connected to the same chimney;

The room cannot be heated:

- Bigger heat is needed;
- Bad fuel;
- There is a lot of ash on the bottom grate;
- The air supply is not enough.

The appliance releases too much heat:

- The air supply is too much;
- The flue draught is really high;
- The fuel is too much or the fuel is very calorific.

There are damages on the bottom grate:

- The appliance is overloaded many times;
- The used fuel is not from the recommended types;
- The primary air supply is too much;
- The chimney flue draught pressure is really high.

When the appliance does not work well:

- Open the regulator for the primary air. The regulator for the secondary air needs to be completely open too;
- Put less fuel;
- Clean the ashtray regularly;
- The coals have to be well fired when you reduce the primary air supply;
- Check the chimney for blockage;
- Check if the flue pipe has entered the chimney;
- Check if the flue socket of the appliance was not cleaned and if air comes above it;
- If the appliance is connected together with a second appliance in the chimney check the proper operation of the second product;
- Check if the needed pressure of the flue gas flow in your chimney requires the appliance characteristics;
- Check if the passage to the chimney is not closed with top cover.

The manufacturer is keeping the right to make changes in the construction without violating the technical and exploiting quality of the fireplace.



The manufacturer is not responsible for changes made on the appliance by the user.

Appliances	Space heating output	Water heating output	Efficiency	Triple value g/s-°C-Pa	Fuel mass (kg/h)	Dimensions (mm)			Net weight
	Wood (kW)	Wood (kW)	Wood (%)	Wood	Wood	W	D	H	kg
1	2	3	4	5	6	7	8	9	10
Z100 Max G = PAB830-P	8,30		75,11	9.41-237-12.8	2,59	806	482	900	150
Z100 Max = PAB830	8,30		75,11	9.41-237-12.8	2,59	806	482	900	150
Q100 Lux SM = PAB800	8,00		83,08	5.16-223-12	2,34	454	393	658	59
Q100 Max = PAB1300	13,00		76,87	12.02-267-11.7	3,98	668	440	800	92
L101 = PAB752	7,16		83,08	5.16-223-12	2,02	510	418	900	70
GL100 = PAB1400	14,00		76,87	12.02-267-11.7	4,29	492	480	1030	86

The fireplace type H200 Max b25 are designed to operate in open system for connection and can be built-in in a niche.

INSTRUCTION

for installation and operation of solid fuel fireplaces and inserts with integral boilers



Your appliance with an integral boiler is designed to work in a water heating system under the maximal operation pressure:

- **for “open” system under 1 bar;**
- **for “close” system under 2 bar;**

In the combustion chamber of the appliance there is an integral boiler with heat output according to Appendix №1. The maximum allowed temperature value of the water in the boiler should be 85°C.

When connecting the heating system the following rules and recommendations should be observed:

- **An appliance with an integral boiler should be assembled by authorized organization only!**
- Before connecting the installation, it is advisable to calculate the heat loss in the particular case. **In case of connecting loads with greater heat output, than the declared one in the referent appendix, a cooling down of the heating surfaces of the integral boiler occurs, which leads to condensation and pitching;**
- **At “open” water heating system** the installation should be connected to the atmosphere with an opened expansion container, mounted above the highest heating device. Between the appliance and the expansion container not any blocking components should be connected.
- **At “closed” water heating system** safety components should be integrated into the installation, which does not allow exceeding of the working pressure in the appliance over 2 bar.
- Deaeration in each branch and component of the installation should be ensured, in each moment of its operation, and the appliance as well;
- In the installation, immediately near the integral boiler, in the lowest point, drains tap not less than ½” should be mounted;
- All components of the installation should be ensured against freezing, especially if the expansion container or other parts of it are situated in non heated rooms;
- At installations with forced circulation, the pump should be ensured with long term power supply device –automatic mode (UPS). We recommend the circulation pump to be switched on and switched off by means of thermostat, doubled with manual electric switch;
- When an old installation is used, then it should be repeatedly washed from the accumulated filths, which could be precipitated on the walls of the integral boiler;
- The circulation water should not be drowned off the installation during the non-heating season.

For appliances with integral boiler it is better to clean the surfaces of the boiler from soot and resinous matters at least once a month. By inserting appropriate isolation materials between the wall and the radiators you will achieve radiation heating with approved advantages.

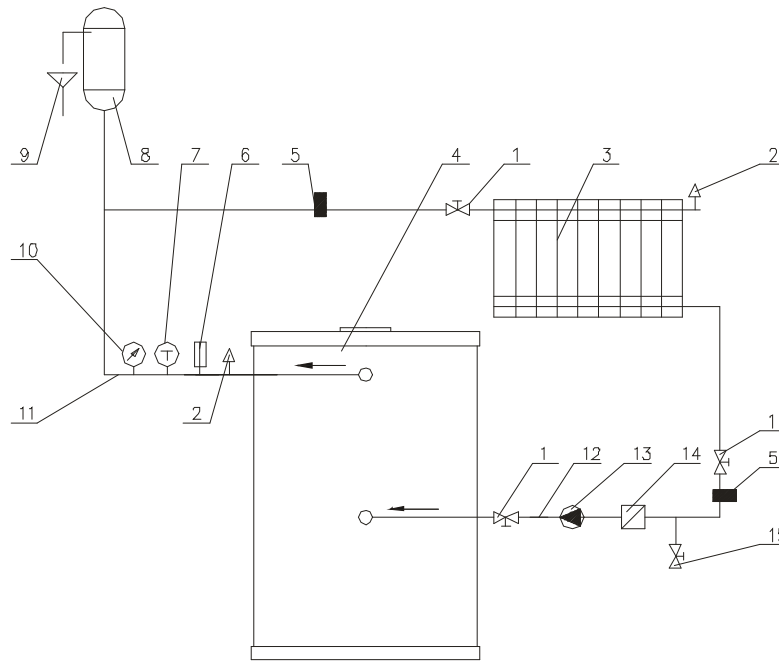
This water heater provides another opportunity -installing a coil into the boiler, for warm sanitary water.



The manufacturer cannot guarantee the work of the heating installation, except for the appliance. In case of incorrect connecting caused by increased pressure an inflation of the integral boiler and welding rupture occur. The manufacturer does not take any responsibility for such defects.

INSTALLATION DIAGRAM

for connecting of solid fuel fireplaces and inserts with integral boilers type "B" (open heating system)



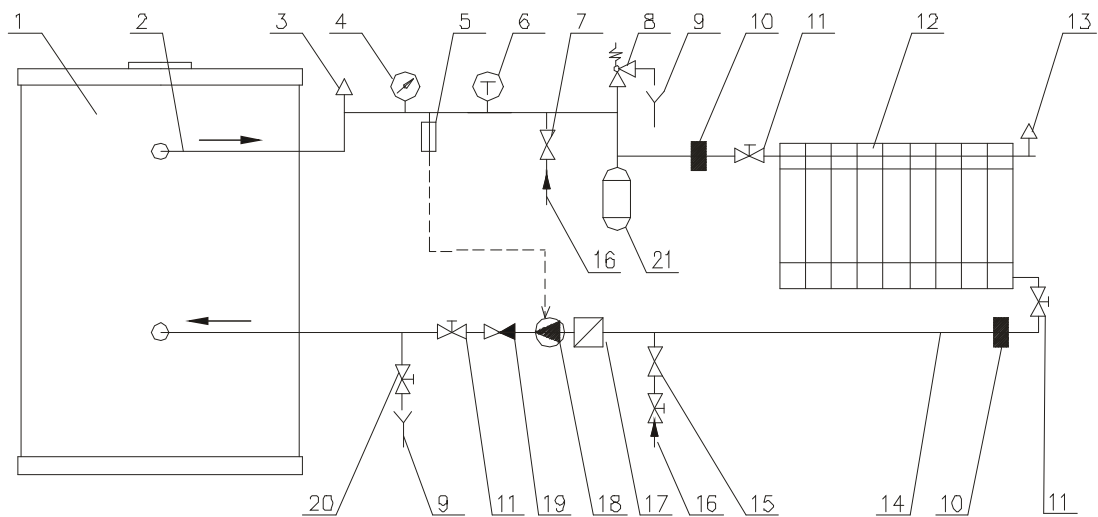
- 1. Blocking valve
- 2. Deaerator
- 3. Radiator
- 4. Appliance
- 5. Collector
- 6. Pump thermo regulator

- 7. Thermometer
- 8. Opened Expander tank
- 9. Overflow drain
- 10. Manometer
- 11. Hot water pipes
- 12. Cold water pipes

- 13. Pump
- 14. Filter
- 15. Turn cock for filling and draining the system

INSTALLATION DIAGRAM

for connecting of solid fuel fireplaces and inserts with integral boilers type "B*" (close heating system)



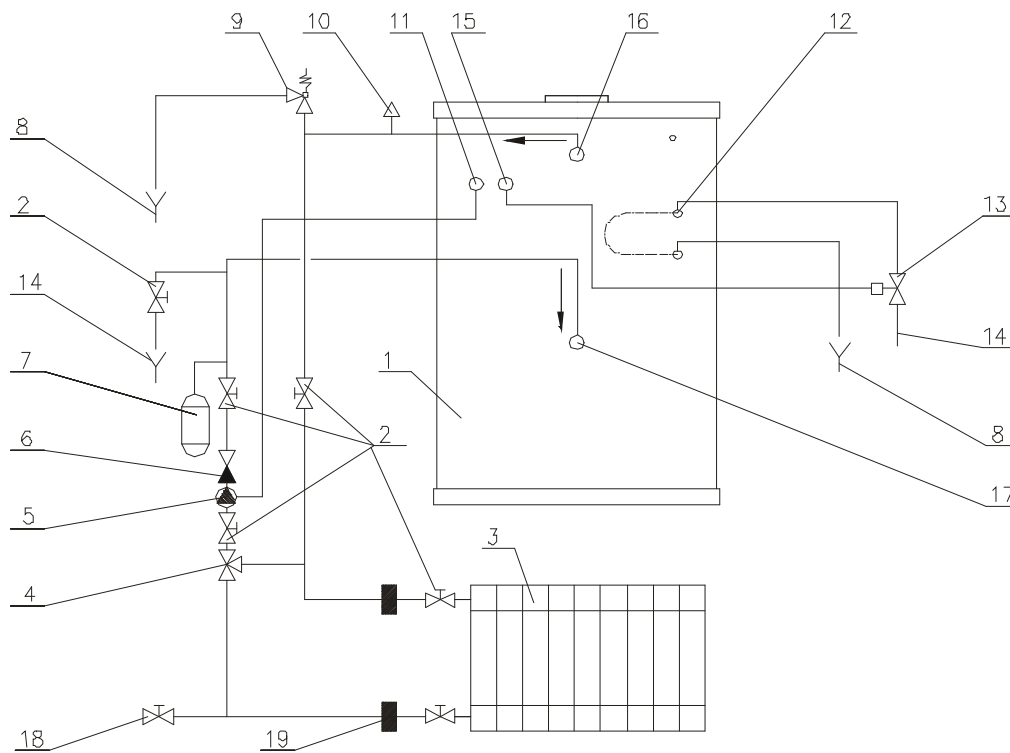
- 1. Appliance
- 2. Hot water exit
- 3. Automatic deaerator
- 4. Manometer
- 5. Electrical thermostat
- 6. Thermometer
- 7. Safety thermo-valve (up to 85°C)
- 8. Safety hydraulic valve (up to 2bar)

- 9. Overflow drain system
- 10. Collector
- 11. Blocking valve
- 12. Radiator
- 13. Deaerator
- 14. Cold water pipes
- 15. Automatic filling group (up to 1.5bar)

- 16. Entry (from water conduit)
- 17. Filter
- 18. Pump
- 19. Non-return valve
- 20. Turn cock for filling and draining the system
- 21. Expander tank

INSTALLATION DIAGRAM

for connecting of solid fuel fireplaces and inserts with integral boilers type "BO" (close heating system)



- 1. Appliance
- 2. Blocking valve
- 3. Radiator
- 4. Control thermo valve
- 5. Pump
- 6. Non-return valve
- 7. Expander tank

- 8. Overflow drain system
- 9. Safety hydraulic valve
- 10. Automatic deareator
- 11. Temperature regulator
- 12. Thermal discharger
- 13. Safety valve
- 14. Entry (from water conduit)

- 15. Thermo valve sensor
- 16. Hot water exit
- 17. Cold water entry
- 18. Turn cock for filling and draining the system
- 19. Collector



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- _ A damaged switch must be replaced
in our after-sales service workshops.
- _ If replacement of the power cable is necessary, this must be carried out by the
manufacturer or his agent to avoid a danger.

After Sales Service and Assistance

Our After-Sales Service answers your questions regarding the repair and maintenance of your product and spare parts. Exploded views and information about spare parts can also be found under:

www.eco-repa.com

ELEM technical advisers and assistants are available to answer your questions about our products and their accessories.: sav@eco-repa.com