SOLID FUEL
RANGE COOKER
WITH HOT WATER HEATING

TYPE 9106

OPERATION & MAINTENANCE MANUAL

INSTALLATION MANUAL

OPERATION & MAINTENANCE MANUAL

Dear Customer,
Thank you for purchasing of the appliance KVS MORAVIA. We trust that our product serves you well. Some important principles should be observed during its operation. Therefore, in your interest, carefully study this manual and operate the product according to the given instructions. The 9106 appliance has a manufacturer issued declaration of conformity according to Section 12, Article 3, of Law No. 22/1997 of the Czech Republic.

Important Information, Binding Instructions and Recommendations

- When starting a fire, do not use any flammable liquids, do not use any such substances to extend the nominal heat rating of the appliance.
- The appliance must not be used for the incineration of waste material, only recommended fuel types may be used.
- When the appliance is in operation, the ash receiver gate must be closed. To prevent the leakage of fumes, the combustion chamber gate may only be open when adding fuel or operating the grate.
- The appliance may only be operated by adults.
- Ash may only be put in a container made of fire-resistant material. Exercise maximum caution when handling hot ash.
- Observe fire safety.
- A damaged appliance (i.e., an appliance unfit for operation) must not be used.
- If these operating conditions are not adhered to, the appliance may become damaged. It is strictly forbidden to overload the appliance in any way.
- **There may be sudden sharp knocks (throbbing) of the metal plates inside the appliance. These events to not qualify for guarantee repair or a customer claim procedure. The above noises are caused by the inner tension in the metal plates, these noises will die away over time, depending on the frequency of the heating occasions. These defects do not put the appliance´s safety or functionality at risk.**
- Any and all repairs of the appliance must be performed by certified repair staff.
- Any and all local regulations, including those regulations that refer to national and European standards, need to be adhered to during the installation of the appliance.
- Use only spare parts which have been approved by the manufacturer.
- Any unauthorised modifications of the appliance are forbidden.
- **The appliance should be installed by an outhorised specialist. No claims are accepted in case of incorrect or amateur installation.**

Technical Specifications – TYPE 9106

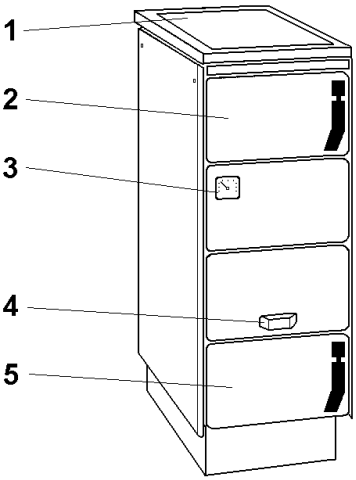
Appliance TYPE 9106 is designed for solid fuel combustion at periodic cycles. The appliance is to be used for typical central heating hot water systems of individual flats, small family houses, weekend houses or cottages, and for cooking or warming food in conformance to the CSN EN 12815:2002 standard, as amended by A1:2005. The water inlet and outlet ports of the appliance are fitted with 1“ pipes with a G-type thread. The appliance is capable of long-term operation.

Appliance	**TYPE 9106**
Nominal Heat Input	9,94 kW
Nominal Heat Output (NHO)	7,23 kW
Heat flow in the heating section	7 kW
Heat flow into the surrounding environment	0,23 kW
Efficiency at NHO	72,7 %
Average fume temperature (NHO)	200 °C
Mass of fume flow (NHO)	10 g/s
Average CO content at NHO (při O_2 = 13%)	0,4 %
Minimum chimney effect	12 Pa
Work surface height (distance from floor to hob top panel)	850 mm
Appliance width	325 mm
Appliance depth	640 mm
Fume outlet diameter	130 mm
Height to the centre of the fume outlet	700 ±0,5 mm
Hotplate area	0,12 m^2
Tested fuel	wood: size 200 mm
Average consumption (wood)	3-4 kg/hr
Water maximum operation overpressure	2 bar
Water content of the heating element	16 L
Combustion chamber volume	12 L (dm3)
Water system tie-in diameter	1“
Weight	110 kg

Accessories

Fire hook	1
Connection piece (1“ – 1/2“)	1
Drain/ fill cock	1
Regulator cover	1

Description – TYPE 9106



1. Hotplate

2. Combustion chamber gate

3. Thermometer

4. Grate handle

5. Ash receiver gate

Figure 1

The upper working surface comprises a hob top. The appliance casing is made of enamelled steel plates. The thermally stressed parts of the appliance are made of cast iron and fired clay.
The appliance can be connected to a chimney from the back side only.
The hotplate lid* is packaged separately for ease of transportation. After the appliance has been unpacked, insert the hinge pins into the openings at the rear section of the hotplate frame. The springs in the hinges assist in keeping the lid in a vertical position.

***The hotplate lid is supplied upon the customer´s request.**

NOTE:
The manufacturer reserves the right to carry out small changes resulting from innovative or technical changes of the product that will have no detrimental affect on the function of the appliance.

Service Instructions

Fuel
This appliance is designed for combustion of solid fuel:
- recommended fuel is wood (tested fuel).
- the appliance also enables burning of other kinds of solid fuel (wood briquettes, waste wood, brown coal briquettes, and brown coal blocks). However the operating conditions and parameters of the appliance may differ from those with the recommended fuel. Please note that the technical characteristics given above were based on a test wood fuel sample and using other fuel types will alter these characteristics, energy output, fuel consumption, flue draught etc.
Make sure that the fuel is dry. It is not recommended to burn high-calorific fuels, which reduce the service life of the appliance.

Grate
The appliance is fitted with a sliding grate which is operated with a handle. Operate the grate in order to allow the unburned fuel remnants into the ash receiver; this, in turn, allows higher intake of incineration (i.e., primary) air into the combustion chamber. To operate the grate, hold the lever and pull it back and forth repeatedly. Pieces whose size prevents them from falling through the grate openings may be removed after the fire has extinguished. During heating, operate the grate using the fire hook.

Air Inlet Port Regulation
The volume of incoming air is adjusted with the regulator **(that is not included in the appliance)**. The regulator unit facilitates the operation of the appliance, maintains the selected heating output, and prevents the appliance from overheating. The operation of the regulator is based on the water temperature inside the system. As the temperature of the heating water rises, the device limits the inlet of the primary air, and vice versa. When the appliance is in operation, an inlet of primary air must be provided; the inlet must not become blocked. The room where the appliance is located must not be fitted with air extraction systems unless an appropriate source of ventilation air is provided.
Regulator Installation and Adjustment should be installed only by an outhorised heating specialist !

Appliance Hotplate
The hotplate is designed for warming food, or keeping it warm. Use pots with a flat bottom, the whole area of which rests on the hotplate. When you intend to use the hotplate for warming or cooking, leave only one radiator unit active; the function of the other heating elements should be suspended.

Ignition Flap
The controls of the ignition flap are located near the fume outlet port in the back wall of the appliance. The flap introduces these operation modes (Fig 2.):

- Igniation mode – the control lever is retracted (flap open)
- Heating (operation) mode – the control lever is extended (flap closed)

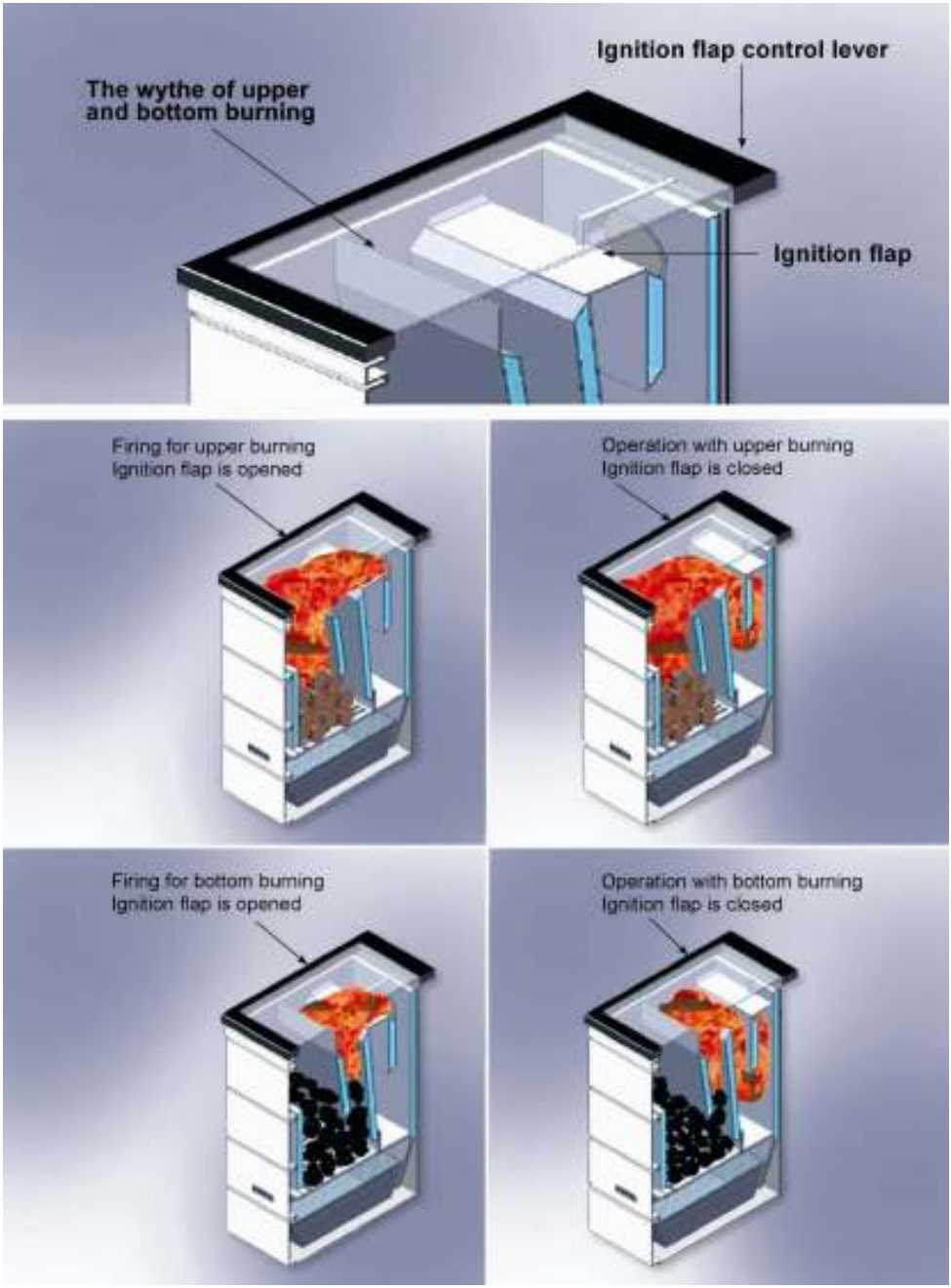

Ignition flap control lever
The wythe of upper and bottom burning
Ignition flap
Firing for upper burning Ignition flap is opened
Operation with upper burning Ignition flap is closed
Firing for bottom burning Ignition flap is opened
Operation with bottom burning Ignition flap is closed

Figure 2

Operation

Firing
During the start of the first fire, provide sufficient ventilation in the room because the protective paint coating and remains of fats are being burned.
Prior to starting a fire, open the combustion chamber gate and verify that the grate is clean.To start a fire, use slim splinters of soft wood placed on sheets of paper. Put larger pieces of wood on the splinters. Open the ignition flap and chimney flaps (Fig. 2).
Start a fire in the fuel and close the combustion chamber gate. Add more wood after the supply has burned. After a bed of hot material has been created, other fuel may be added. Bear in mind that adding too much fuel too early may have a detrimental effect on the incineration process. Supply additional fuel manually or with a suitable shovel.
Full combustion can be visually easily checked: no heavy smoke can be seen rising from the chimney (except the time immediately after stoking up).
The output of the appliance is adjusted by the regulator; it also depends on the frequency of the grating. Clean the grate with the fire hook occasionally. If the appliance releases smoke during the addition of fuel, close the air inlet port. The entire combustion chamber may be used for incineration. Make sure the fuel does not fall outside the chamber during addition. In adverse chimney effect conditions or in bad weather conditions, use small, dry logs of wood.

Long-term Operation
The appliance may be in unattended operation for an extended period of time as follows: after the base layer of hot material, fill the fuel chamber and turn the primary air regulator by unhinging the regulator chain from the split pin of the latch. The appliance may be left to operate for more than 12 hours.

Cooking on the Appliance's Hotplate
During cooking watch out for boiling over. If it happens, remove as much of the spillage immediately and when finished cooking clean the remainder using a damp towel, detergent and finally using a dry towel. If the dirt bakes in, it is more difficult to remove later. From time to time (depending on the frequency of operation) wipe the range down with vegetable oil.
Use pots with a flat bottom for best results.

Note:
KVS Ekodivize strongly recommend that their appliance should be covered by the uninsulated lid only after the appliance ceased its operation.
It can be lowered to cover the hob only when the appliance is not in operation or finishing its operation (no fuel has been added, the appliance is cooling down and the fire in the burner is burning down).

Cleaning and Maintenance

Cleaning the combustion chamber and fume duct
In order to maintain the good operating parameters of the appliance, clean the unit regularly. Always clean the combustion chamber when the appliance is not in use.
Before repeated heating after a longer hiatus of operation, it is necessary to check the flow of the fume duct, smoke pipe and the chimney. Regular maintenance is to be performed by a service technician once a year.
Remove the hotplate and clean the unburned remnants from the grate using a spade and a fire hook. Use the hook to remove the hood located behind the third plate on the grate bed. Use the opening underneath to push the soot into the ash receiver. Empty the ash receiver. After the cleaning procedure has been completed, put the appliance into its initial condition; be careful of the correct position of the sealing rope and hotplate in the frame.

Cleaning the Outer Surfaces
Always clean the appliance after it has cooled.

- Clean the enamel surface with a wet cloth, or a sponge, and wipe it dry. Never apply scouring products, as they might erode the enamel surface. To remove heavier dirt, use detergent cleaning products.
- Do not expose the hotplate to water, if possible, as corrosion might develop. Clean the plate dry. If a wet cloth with detergent is used for cleaning, remember to dry the hotplate afterwards. It is recommended to apply a thin layer of vegetable oil occasionally.

Trouble-Shooting

Fire may not be started	- check the cleanliness of the fume duct, smoke pipe and chimney - check the settings of the ignition flap, regulator, combustion chamber and ash receiver gates
Appliance overheats	- stop operation – do not add fuel, disable the regulator, leave the fire to burn out
Fire in the chimney	- never put out with water - close all combustion air intake ports, and, if possible, cover the chimney opening on the roof - contact your local Chimney Authority to assess the condition of the chimney after the fire - contact the manufacturer of the appliance or your supplier

Claims

Should you discover a defect during the warranty period, never repair it yourself. Raise a warranty claim at the retail outlet where you purchased the appliance or a warranty service center. Provide your warranty certificate, fully completed. A warranty claim may only be raised if all the warranty conditions have been met. After-warranty repairs are performed by the manufacturer or at authorized service centers.

Disposal of Packaging

Corrugated cardboard, packing paper	- can be used to ligt fire - recycle
Wooden parts	- can be used as fuel - recycle
PVC bands, bags, wrapping	- disposal in recycling containers (plastic)
Metal bands, nails	- recycle

Disposal of the Appliance after its Service Life

This appliance contains valuable material which should be used repeatedly. Please dispose of the appliance at your local recycling center or at the official dump approved by your community center.

Important notice

1. Production standards
KVS MORAVIA solid fuel appliances are produced in accordance ČSN EN12815:2002 Standard with amended A1:2005, which is valid for the Czech Republic and European Union.

2. Installation and operation standards
All the above installation and operation instructions for the appliances primarily comply with the Czech regulations, and may not comply fully to individual national regulations at place of installation and use!

The buyer should consult their installer or specialised officials on all of the local installation and operation regulations for this appliance or similar appliances!

Based on the design solution and the use to which the appliance will be put, this solid fuel appliance must be installed into an environment which was defined as ordinary environment (for example by standard ČSN 33 2000-3:1995 – Environment standard of the Czech Republic).
The requirements on the input of primary air shall be seen as conformed to if the appliance is installed into a room of a minimum volume of 20 cubic meters. If necessary, and depending on the use of the appliance, or when other heat appliances are operated in the room simultaneously, ventilate the room. In the case of the risk, even temporary, of inflammable gas formation or in the case of work with a possible risk of fire (explosion), the appliance shall be put out of operation at sufficient notice. That is, let the fuel on the grate burn out with the combustion chamber gate closed.
If regulation grilles for primary, ventilation or heating air regulation are used, they shall be positioned so that the danger of clogging in these units is eliminated.

Connection of the Appliance to the Chimney
A flue (exhaust) branch is installed to an outlet on the side of the appliance. A prerequisite for correct operation of the appliance is a chimney with a sufficient draw. **We recommend the chimney with height of 5 meters and diameter of 160 mm.** Try to have the connection between the appliance and the chimney as short as possible. Any smoke ducts made of tin pipes consists of several sections and longer than 2,000 mm must be firmly fastened. The entire system must be connected correctly and tightly, in the direction of the smoke travel. Individual pipes must overlap at a minimum of 80 mm. The chimney connection shall be fitted with a metal socket, the inner diameter of which shall be equal to the outer diameter of the pipes. Position the appliance in order to allow appropriate access for cleaning the smoke duct and chimney.
Connection of the appliance to the chimney should comply with the individual national regulations at place of installation and use (for example ČSN 73 4201:2008 Standard of the Czech Republic).
A revision report by the local Chimney Authority must be issued for the chimney.
In assembly, it is necessary to observe the principles of fire safety (for example according to the ČSN 06 1008:1998 Standard of the Czech Republic).
The appliance may be connected to a shared chimney (Fig. 3).

Chimneys and flue ducting to which solid fuel are connected shall be swept 6 times a year (for example according to the Department of the Interior Czech Decree No. 111/82 Coll.). Regular operation, especially when using wet fuel, leads to the accumulation of soot and tar in the chimney stack. Any negligence of regular chimney inspection and/or sweeping increases the risk of fire inside the chimney.

Safety Instructions

The minimum safe distance from Class B, C_1 or C_2 inflammable material is 750 mm in the direction perpendicular to the opening gate, and 200 mm in all other directions. In terms of Class C_3 inflammable material, or in material of which the inflammability has not yet been established, the distances shall be doubled. No objects from inflammable materials may be positioned on the appliance or at a distance shorter than the minimum safe distance from the appliance. When the appliance is installed on a floor made from inflammable material, it shall be positioned on a flameproof, thermally insulated pad which extends the ground plan of the appliance as follows:

- Not less than 600 mm in front of the fuel addition gate
- Not less than 300 mm from the sides of the fuel addition gate

A protective screen is to be used when the prescribed safe distance parameters may not be adhered to for space limitations. The protective screen shall constantly be positioned between the appliance and the protected material, at a distance of 30±5 mm from the protected material. The protective screen shall exceed the protected material to the nearest wall (ceiling) of flameproof material, at a minimum of 300 mm on the upper side and 150 mm on the sides.

We recommend that your installer check this reduced dimension with your local building control department.

Description of materials type for flammable classification in cookers manuals (in accordance with Czech and EU standard No.73 0823):

Flammable level	Rating	Materials
A.	Non-flammable	asbestos, brick, ceramic wall tile, chamotte, plaster mixture (without organic enclosure).
B.	Uneasy-flammable	building wall panels (for example a gypsum wallboard), VELOX, IGNOS, touchstone felt panels, fibreglass panels).
C_1.	Flammable with difficulty	beech wood, HORBEX board, wood multi-layer board, WERZALIT, Formica, felt boards.
C_2.	Moderately flammable	pine tree wood, larch wood, spruce wood, wood chip boards.
C_3.	Easily flammable	sarking felt, cellulose boards, tar panels, wood-pulp fibre, phellem, polyurethane, polystyrene, polypropylene, polyethylene.

Warning for places where burns can occur:

- hob-top
- hob frame
- combustion chamber door

Flue gas ducting connection to the Chimney

(valid for Czech Republic)

properly

improperly

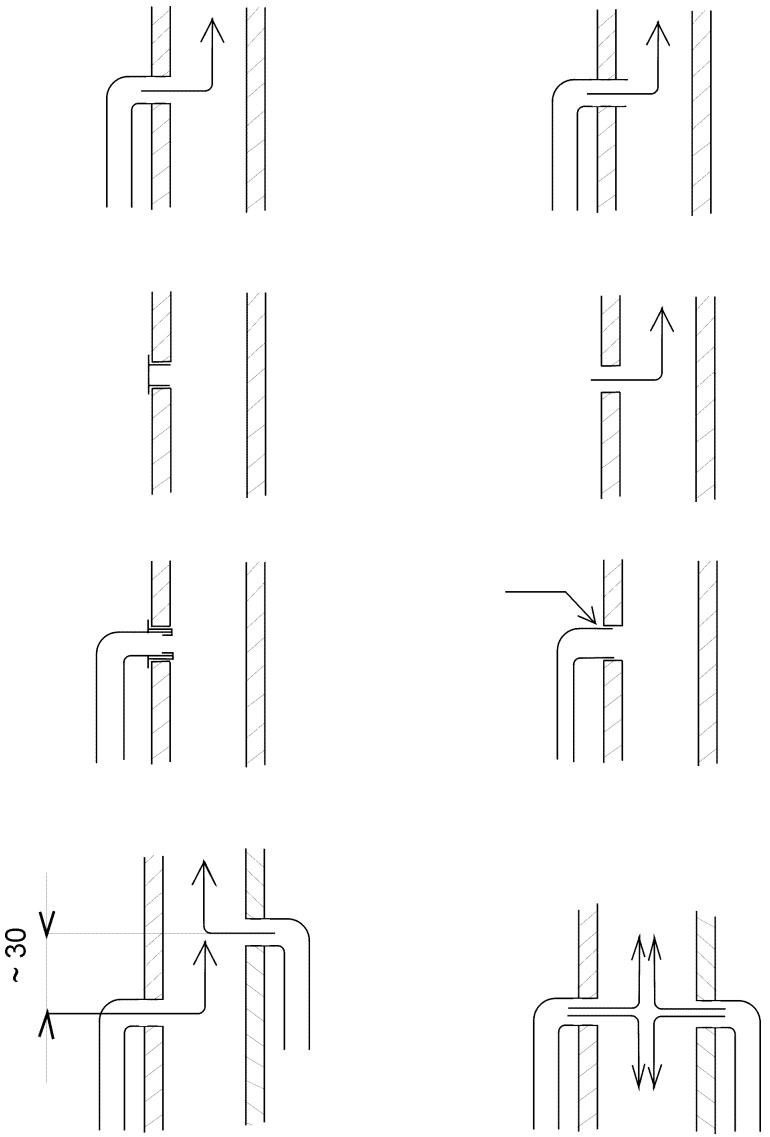


Figure 3

Connecting the Appliance and the Boiler

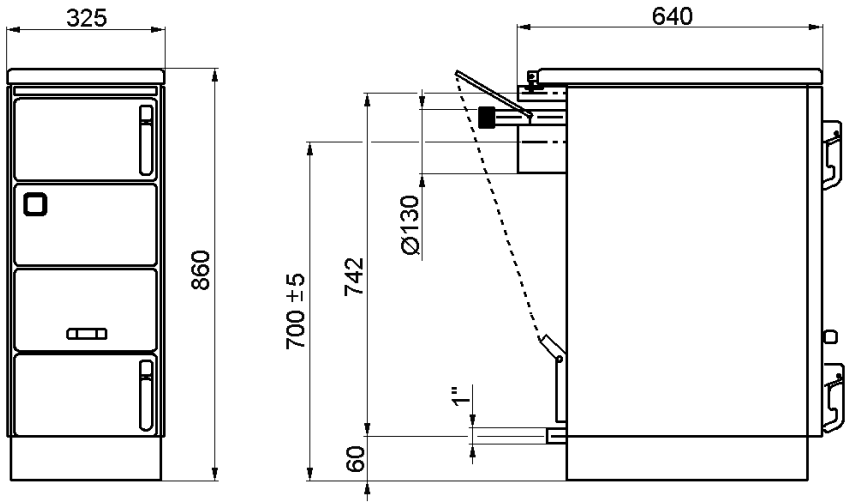
Prior to putting the appliance into operation as per the connection diagram (Fig. 4), fill the appltance and central heating hot water system with water. Check the water level in the hot water system. Any sort of shock during filling is a defect which indicates incorrect installation, air present in the system, or an insufficient amount of water in the system. If necessary, some antifreeze may be added to the hot water system. To attain better heat transfer, consider fitting the system with a pump. To extend the useful life of the appliance, it should be equipped with a device to ensure that the intake water temperature during consolidated operation does not drop below 65°C.

Note:

- The drain/fill cock is a part of the appliance; the pressure gauge is not included in the appliance. The installation of the cock (must be located in the lowest section of the system) and the pressure gauge (this should be located as close to the appliance as possible) comply with the individual national regulations at place of installation and use (for example ČSN 07 0240:1993 Standard of the Czech Republic).
- A primary intake air regulator is not included in the appliance.
- The valves, a pump and other safety accessories are not supplied with the appliance.
- The projected design of the heating system should be based on a maximum operation rating of 5,5 kW.
- To drain excess heat from the boiler, a radiator may be used.

Dimensional sketech of the Appliance

Type 9106



(All of dimensions are in mm)

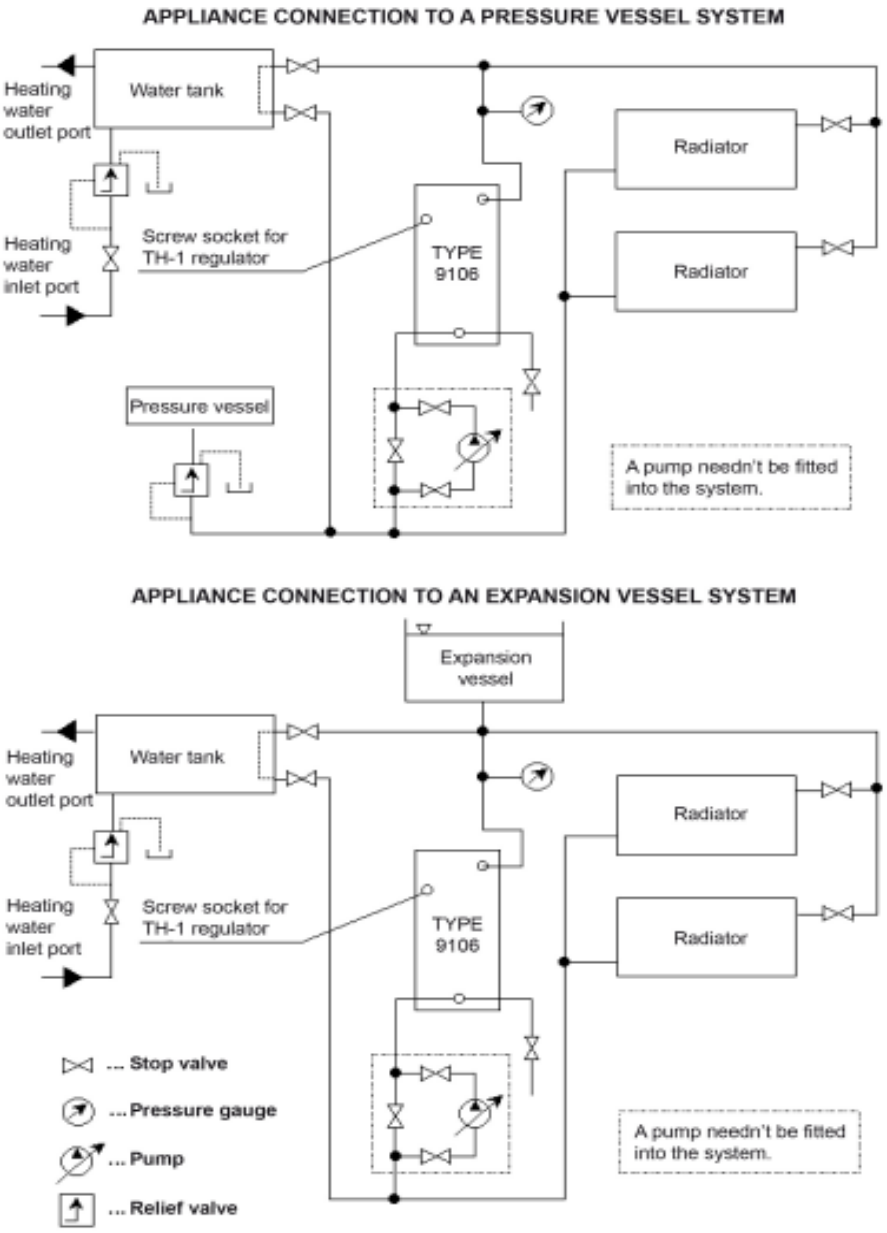

APPLIANCE CONNECTION TO A PRESSURE VESSEL SYSTEM
Heating water outlet port
Water tank
Radiator
Heating water inlet port
Screw socket for TH-1 regulator
TYPE 9106
Radiator
Pressure vessel
A pump needn't be fitted into the system.
APPLIANCE CONNECTION TO AN EXPANSION VESSEL SYSTEM
Expansion vessel
Heating water outlet port
Water tank
Radiator
Heating water inlet port
Screw socket for TH-1 regulator
TYPE 9106
Radiator
... Stop valve
... Pressure gauge
... Pump
... Relief valve
A pump needn't be fitted into the system.

Figure 4

Producer:

KVS EKODIVIZE, a. s.

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