



**SOLID FUEL
RANGE COOKER
WITH HOT WATER HEATER**

TYPE 9114-HEU

**OPERATION & MAINTENANCE
MANUAL
INSTALLATION MANUAL**

This product is not suitable as a main heat source for heating.

Declaration

KVS EKODIVIZE, a. s. declares that the hygienic character of the baking accessories intended for contact with foodstuff under all normal conditions, or by the stated use of the manufacturer, comply with the requirements of Law No. 258/2000 Coll., the Ministry of Health Decree No. 38/2001 Coll., and Regulation No. 207/2006 Coll. of the Czech Republic.

OPERATION & MAINTENANCE MANUAL

KVS EKODIVIZE, a. s.
Chairman of the Board of Directors

Dear customer,

Thank you for purchasing of the appliance KVS MORAVIA - solid fuel range cooker. 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 9114 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

- No flammable liquids should be used when lighting the fire, nor should they be used to increase the nominal output of the appliance.
- The appliance should not be used for waste incineration; only recommended fuels may be used.
- During operation, the ash tray door should be closed, and the fire door should only be opened for lighting the fire or raking the grate in order to prevent flue gas bleeding.
- **The cooker cannot be used unless it is connected to a functioning water system even during the summer months, otherwise the heat exchanger will be overheated and thus suffer permanent damage.**
- Ash should be put into non-flammable ash bins with covers! Be very careful during the removal of hot ash.
- Pay attention to fire safety!
- It is forbidden to use the appliance if it is damaged (unfit for its function)!
- Any contravention of the operating conditions may cause damage to some parts of the appliance. It is recommended not to overload the appliance in any way.
- **Possible noisy impacts (popping) of the metal plates or chipping of the fired clay lining inside the appliance are not subject to repair or a claim procedure. The cause of these impacts is the internal stress of the metal plates, which will fade after a certain time (it depends on the firing frequency). These occurrences endanger neither the safety, nor the function of the appliance.**
- Any repair of the appliance, except cleaning and fired claying must only be made by an authorised worker.
- Local regulations, including those regulations related to national and European standards, shall be observed during the installation of the appliance.
- It is recommended that you only use spare parts approved by the manufacturer.
- Unauthorised modifications of the appliance are forbidden.
- The appliance must only be operated by adults, and during operation, the appliance requires intermittent attendance and supervision.

Technical Specifications TYPE 9114-HEU

- The appliance should be installed by an authorised specialist. No claims are accepted in case of incorrect or amateur installation.

The TYPE 9114 appliance has been designed for solid fuel combustion in periodic feed rates and it is intended for cooking and in households and/or for heating the space in which it is situated, according to the ČSN EN 12815:2002 Standard as amended A1:2005 and Commission Regulation (EU) 2015/1185 – eco design of solid-fuel local space heaters.

The appliance can be connected to a chimney from the top by means of a hole in the Hob top (Drawing 1). The appliance is suitable for short operational periods, so it is not possible to set the permanent-heat process with a shortest interval of fuel supply of 10 hours.

Appliance Characteristics

	TYPE 9114-HEU
Energy efficiency class	A
Energy efficiency index	104
Nominal heat output – NHO	7.8 kW
Direct heat output	4.4 kW
Indirect heat output	3.4 kW
Efficiency at NHO	78.6%
(Seasonal efficiency)	68.6%)
Average temperature of flue-gas at NHO	277 °C
Mass flow rate of flue-gas at NHO	7.1 g/s
Emissions during heating of spaces at NHO (with O ₂ =13%):	
PM	28 mg/m ³
OGC	83 mg/m ³
CO	1474 mg/m ³
Nox	99 mg/m ³
Minimum chimney draught	15 Pa
Preferred fuel	wood briquettes (pressed wood with moisture content < 12%)
Consumption of preferred fuel	2.1 kg/h
Weight	130 kg

Dimensions

Height of the worktop (distance from floor to hob top panel)	850 mm
Width of the appliance	515 mm
Depth of the appliance	575 mm
Diameter of the exhaust flue	120 mm
Area of the cooking range	0.2 m ²

Connection to the hot water system	1"
Heat exchange unit water capacity	15 l
Heated space	125 – 150 m ³
Operational pressure of the heat exchanger	2 bar

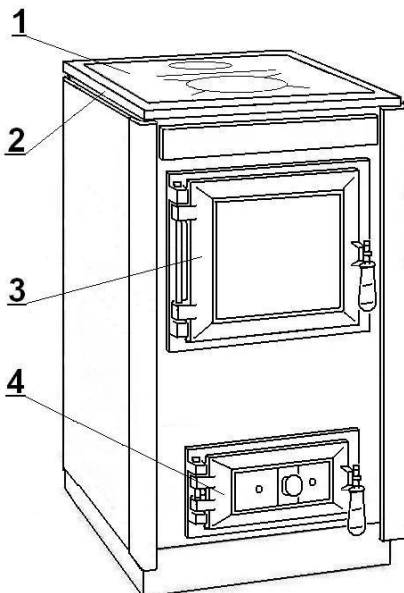
Dimensions of the Fire Box

Width x Height x Depth	380 x 250 x 400 mm
Fire grate, Width x Depth	160 x 290 mm
Stokehole, Width x Height	300 x 245 mm

Accessories

Description TYPE 9114-HEU

Poker	1 pc.
Glove	1 pc.



- 1. Hob top
- 2. Hob top frame
- 3. Fire box door
- 4. Ash chamber door

Service Instructions

Drawing 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 combustion chamber (fire box) is located in the upper section of the appliance (under the hob top panel) so the discharge of combustion products travels to the chimney extension. The appliance can be connected to a chimney from the top panel by means of a hole in the hob top (Fig.1 and 2).

Fuel

The appliance is designed for combustion of solid fuel:

- recommended fuel is wood (the logs) max. diameter 200 mm and max. length 350 mm.
- the appliance also enables burning of other kinds of solid fuel (wood briquettes, waste wood, brown coal briquettes, brown coal blocks of 40 mm). 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, Grating

This appliance has one grate. The purpose of the grate is allowing the burned fuel to fall to the ashtray, which increases the supply of combustion (primary) air to the combustion chamber. It is done by means of the poker with the combustion chamber door open.

After the end of each operation (and cooling down) it is possible to grip the grate lever to move the grate back and forth. To remove the pieces which are too big to fall through, rotate the grate a few times by means of this lever.

Air Supply Control

Controlling the supply of primary combustion air is enabled by means of the air rose, which is a part of the ashtray door. Turning the rose by means of the rose handle enables precise control of air to the combustion chamber and thus alters the speed of fuel combustion (energy output of the appliance).

The secondary combustion air supply can be controlled by means of a lever on the front part of the appliance under the combustion chamber (fire box). The air supply is opened (flap is opened) by movement of the lever towards the front side of appliance and it is closed (the flap is closed) by movement from the front side. Movements lock on the lever by the neck.

Tertiary air is continuously and independently supplied into the heating chamber through the ventilators in the bottom part of the Combustion chamber door.

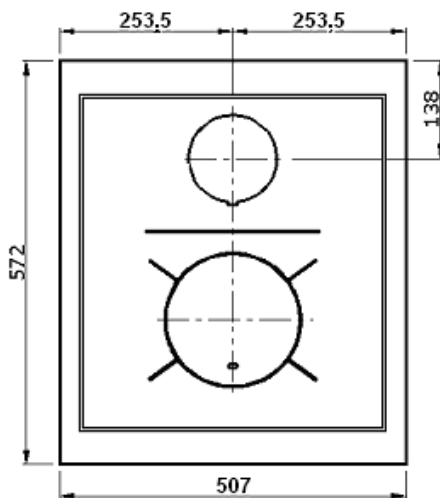
During the operation of the appliance the supply of the combustion air must be maintained; the air supply inlet must not become blocked. Mechanical ventilation/air extraction must not be used in the room where the appliance is placed, unless there is sufficient air supply provided for ventilation. Ventilation levels are provided in your local building regulations. It is advised to check ventilation issues with your local building control office to ensure trouble free operation.

Appliance Hob Top

The single-piece grounded steel finish hob top (fotplate).

The hob top is intended mainly for cooking and keeping food warm.

You should always use pots with flat bases.



Drawing 2 (all dimensions are in mm)

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 effect on the function of the appliance.

Appliance Operation

When you are firing the appliance for the first time, ensure sufficient ventilation of the room, until the protective coatings have completely burned off. Once you are satisfied that the coatings are no longer present the cooker is safe to use for the purpose of cooking food.

Before ignition open the fire box (combustion chamber) door and check if the grate is clean. Take twists of paper, lay out tiny chips of dry soft wood on it, then lay larger pieces of dry wood on the chips and light the paper. Special matches are available to carry out this operation at a distance from the flame.

Open all the air inlets to the maximum: the primary air under the grate through the air rosette in the ashtray door, the secondary air into the rear part of fire box by the lever under the fire box, (tertiary air is supplied continuously and independently). **The cooker cannot be used without a water pump connected to the domestic central heating system to prevent damage to the heat exchanger caused by overheating. The pump should be already in operation when starting the fire!!!**

After the fuel is ignited close the fire box door and when the fuel burns through, stoke it up. After a layer of burning embers is formed you can add more fuel in batches. Make sure not to extinguish the fire by adding excessive amounts of fuel too quickly. Gradually prolong the intervals of stoking, so that the final interval is once an hour. The average fuel consumption is about 3 kg of fuel per hour. Adding of fuel should be carefully done manually or by means of a suitable shovel.

When operating the appliance at the rated heat power, the primary air supply line must be **closed** and the secondary air supply line open.

CAUTION: after stoking, the primary air supply line must be opened to the maximum for about 2-3 minutes until the fuel burns reliably and then it must be closed.

The appliance output can be controlled by the supply of air to the fire box and by the amount and type of fuel. From time to time clean the grate by means of the poker. If the appliance is smoking when being stoked, close the air inlets and release the operating handle of the heating chamber door, just open a slot at first and open the door fully after several seconds. The entire fire box can be filled with fuel. Make sure that the fuel does not fall out of the fire box during stoking up.

Do not overheat the appliance by too intensive stoking up and grating!

In case of a bad draught or weather conditions the ashtray door can be opened for a short period of time and smaller wood logs can be used.

Full combustion can be visually easily checked: **no heavy smoke can be seen rising from the chimney** (except the time immediately after stoking up).

If you add half the amount of fuel every thirty minutes and perform grating at the same time, the combustion performance will improve.

With the described set operation, 2 litres of water in a pot with a flat bottom of a diameter of 180 cm with a lid should start boiling in 30 minutes. Use pots with a flat bottom for best results. If intensive cooking is necessary, supply more layers of fuel so that the fuel being burnt is closer to the hob top.

During cooking watch out for boiling over. If it happens, remove as much of the spillage immediately and when you have 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.

The Heat Exchange Unit

The range cooker with built-in heat exchange unit demands more user attention than a standard cooker or a typical boiler as it requires a more regular supply of solid fuel into the burner, as well as regular poking/stirring of firebox grates. It is not possible to fix a stable temperature level.

We recommend connection of this model to a maximum of two metal radiators, each up to 1200 mm in length and a heating water tank of 60 litres capacity. Before installation each radiator should be fitted with an isolation valve.

In view of the limited output of the appliance and in addition to the variable operating conditions such as fuel type, chimney draught, ambient temperatures etc, **we recommend the following:**

- only one heating device (one radiator or heating water tank) should be turned on during the kindling process. The remainder of the devices can be introduced later.
- during the summer setting at least one heating device should be switched on, for example, a heating water tank (**as there should be water in the heat-exchange unit**).

Cleaning and Maintenance

Owing to limited space, the hot-water heater is of smaller size and thus of a smaller water capacity. Connect it only to a circuit with forced water circulation.

(The heat exchange unit incorporated into the range cooker is necessarily of a compact size and has limited water capacity. We strongly recommend that the unit is only connected to a pumped water feed.)

Note: for the purpose of taking surplus heat from the heat exchange unit, we recommend using an additional heating device.

Cleaning of the Furnace and Flue Paths

To maintain optimum, problem-free performance of the appliance it is necessary to clean it regularly. Cleaning of the fire box must always be done with the appliance out of operation.

If igniting the combustion chamber after a longer interruption of operation, it is necessary to check that flue paths, flue ducts and chimneys are not blocked and no obstructions are present. Regular maintenance should be carried out once a year by a service engineer.

Remove unburned remnants from the grate by means of the trowel and poker.

Cleaning of the inner walls of the appliance (draught system) and inner housing of the oven should be done as follows:

Remove the range hob to get access to the dirty surfaces inside, from which you can sweep the soot easily down to the bottom of the appliance. From there you can sweep them into the ashtray through the sweeping hole. Once clean put the range hob back ensuring that individual parts fit tightly and seal perfectly.

Disposal of Packaging

Outer surfaces cleaning

Clean the appliance after cooling.

- Enamelled surfaces should be cleaned with a damp cloth or sponge, and then polished until dry. With higher pollution you can use detergents.
- It is important to protect the hob from water to avoid corrosion. Clean it only when it is dry. If you use a damp cloth with detergent when cleaning the hob, the hob should be dried when finished. From time to time we recommend greasing the hob with a thin layer of vegetable fat.

Corrugated cardboard, wrap paper - can be used to light a fire

- recycle

Wooden parts

- can be used as fuel

- recycle

PVC bands, bags, plastic sheets

- recycle if available, or dispose of sensibly

Metal bands, nails

- recycle

Disposal of the Appliance after its Service Life

The appliance contains valuable materials that can be recycled. Your Local Authority or a licensed scrap firm can arrange this for you.

Trouble Shooting

The appliance cannot be lit:

-inspect the flue ways, flue gas duct and chimney

-check the ignition flap, circular air grid, fire place door and ash tray

Overheated appliance

-put out of service, do not stoke, close the air grid, let fire burn out

Fire in the chimney

-do not use water to extinguish the fire

-close all of the air intakes, cover the chimney if possible

-contact a qualified chimney sweep service–

-contact the manufacturer or your supplier

Claims

If a fault occurs during the warranty period, never repair it by yourself.

Lodge a complaint in the shop where the product was purchased. A claim may only be made if all the warranty conditions have been observed.

The manufacturer is liable for manufacturing defects only.

The warranty does not cover damage due to improper installation, the use of improper fuel and overloading of the appliance.

Pursuant to safety regulations of construction products, the purchaser and operator are obliged to familiarise themselves with correct operation as described in the operation manual.

Important Notice

1. Production standards

KVS MORAVIA solid fuel appliances are produced in accordance with the 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 with individual national regulations at the 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!

INSTALLATION MANUAL

Based on the design solution and the use to which the appliance will be put, this solid fuel appliance must be installed in an environment which was defined as an ordinary environment (for example by standard ČSN 33 2000-1:2009 – Environment standard of the Czech Republic).

Requirements for combustion air supply will be met if the appliance is installed in a room with a minimum volume of 20 m³. According to need, the appliance operation or in combination with the contemporary operation of other heat equipment in the room, additional ventilation may be necessary. In cases where dangerous situations may arise, such as the temporary formation of combustible gases and works which may cause a fire to start (potentially explosive), the appliance should be put out of service (by closing the combustion chamber door the fuel will be allowed to burn out on the grate). If combustion, venting and heating air control louvers are used, it is necessary to place them in such a way that clogging cannot occur.

Appliance connection to the chimney

- Before connecting the appliance check the chimney for sufficient chimney draught; the flame of ignited paper should be drawn into the chimney hole.
- Try to ensure that the connection of the appliance to the chimney is as short as possible.
- Correct and incorrect connections of the appliance to the chimney are shown in Fig. 3.

A flue (exhaust) branch is installed to an outlet on the appliance top – through the hob top.

With the use of the top outlet (through the hob top) it is necessary to remove the blanking cap from hob top and to attach the flue branch. The cooker can't be connected to a shared chimney (Drawing 3).

A chimney with a sufficient draught is absolutely essential for correct appliance operation.

We recommend a chimney with height of 5 metres and diameter of 160 mm. Try to connect the appliance using the shortest route. Flue gas ducting made of sheet-metal tubes consists of several sections and longer than 2,000 mm shall be firmly anchored. The entire set shall be mutually, firmly and tightly connected in the draught direction (individual overlaps must be a minimum of 80 mm). An existing chimney flue shall be provided with an approved liner flue that corresponds to the exhaust flue diameter.

Connection of the appliance to the chimney should comply with the individual national regulations at the place of installation and use (for example ČSN 73 4201:2010 Standard of the Czech Republic). The chimney shall be issued with a certificate (revision report) given by a respective authority (chimney sweeping agency). The appliance should be installed in such a way that adequate access can be provided for cleaning of the flue ducting and 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).

Chimneys and flue ducting to which solid fuel are connected should be swept 2 times or 3 times a year – seasonal or yearlong operation (for example according to the Czech government Decree No. 91/2010 Coll.). Routine operation, especially due to damp fuel, soot and tar creates deposits in the chimney. If regular inspection and chimney cleaning are neglected, the probability of a fire in the chimney increases.

Safety instructions

The minimum safe distance from flammable matters with a combustibility grade of B, C₁, C₂ is 750 mm in front of the appliance and 200 mm to the sides. For flammable matters with C₃ combustibility grade and/or with an unproven combustibility grade, the distance should be doubled. No flammable objects should be laid on the appliance and should be kept at a safe distance from it. When the appliance is situated on a floor made of a flammable material, it should be set on a fireproof, thermo-insulating plate overlapping its section plan:

- not less than 600 mm at the front (before the stoke hole)
- not less than 400 mm from the lateral side of the stoke hole.

A protective baffle plate is used in cases where, due to space reasons, the prescribed safe distance cannot be kept. The protective baffle plate shall have a constant position between the appliance and the protected material in a distance of 30 ±5 mm from the protected material. The protective baffle plate should overlap the protected material up to the nearest wall (ceiling) made of a fireproof material, however not less than 300 mm at the upper side and 150 mm at the lateral sides. **We recommend that your installer check this reduced dimension with your local building control department.**

Description of materials type for flammable classification in cooker manuals (in accordance with Czech and EU standard No. 13501-1+A1:2010):

Flammable level	Rating	Materials
A.	Non-flammable	asbestos, brick, ceramic wall tile, chamotte, plaster mixture (without organic enclosure).
B.	Uneasily-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

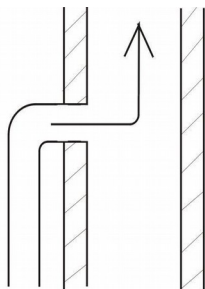
Connection to the Central Heating System

- **The appliance should be installed by an authorised specialist. No claims are accepted in case of incorrect or amateur installation.**
- Place (balance) the cooker on the plate surface!
- Connect the water intake and discharge from the heat exchanger to the central heating system following the scheme instruction.
- Mount the water pump to the intake water pipe.
- If the connection with the expansion tank – is used, it is necessary to mount a safety-valve of 1.8 bar $\frac{3}{4}$ " and supply a reserve driving source for the pump in case of a failure in electricity supply.
- **The cooker cannot be used without a water pump!!! The pump should already be in operation when starting the fire!!!**
- The cooker cannot be used unless it is connected to a functioning water system even during the summer months, otherwise the heat exchanger will be overheated and thus permanently damaged.

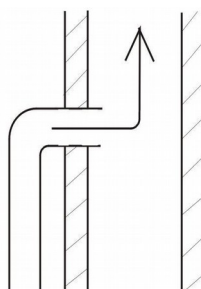
Flue gas ducting connection to the chimney

(valid for the Czech Republic)

correct

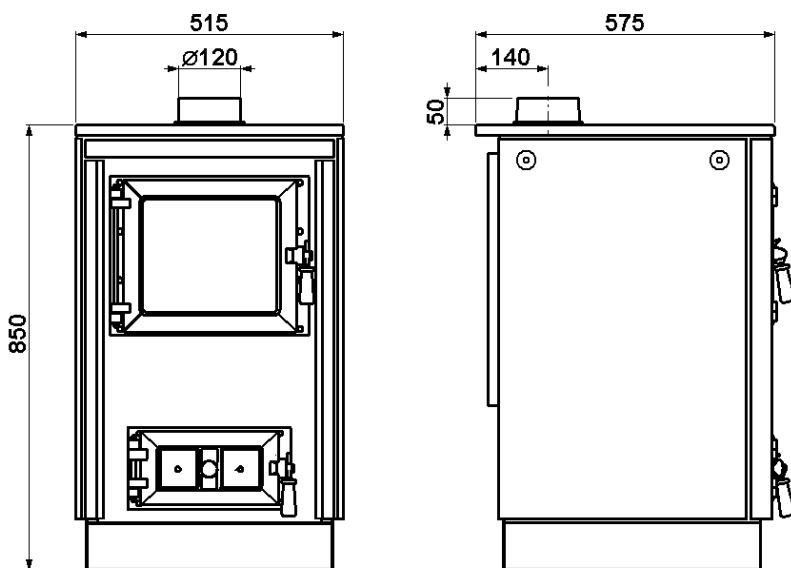


wrong

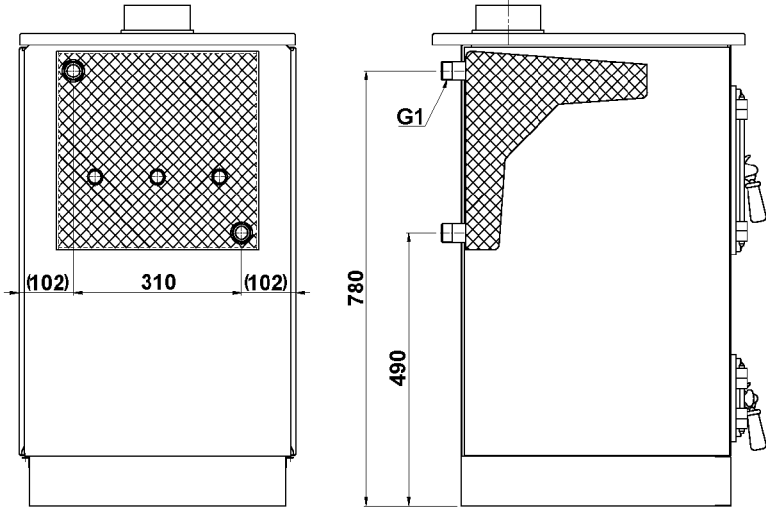


Drawing 3

Dimensional Sketch of the appliance
TYPE 9114-HEU



Appliance Section
TYPE 9114-HEU

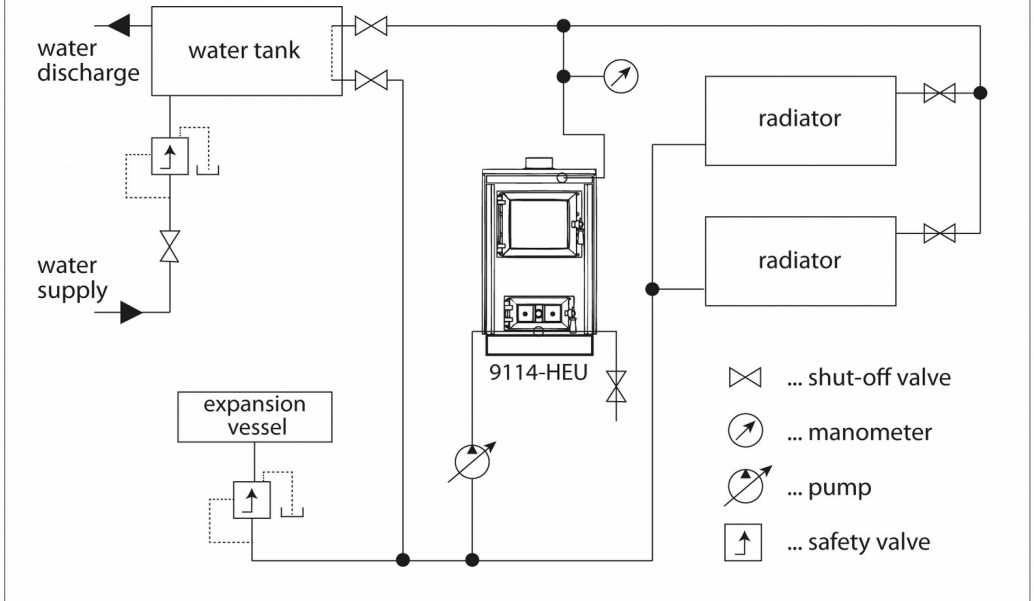


(All of dimensions are in mm)
Connection of the appliance with expansion vessel

type 9114-HEU

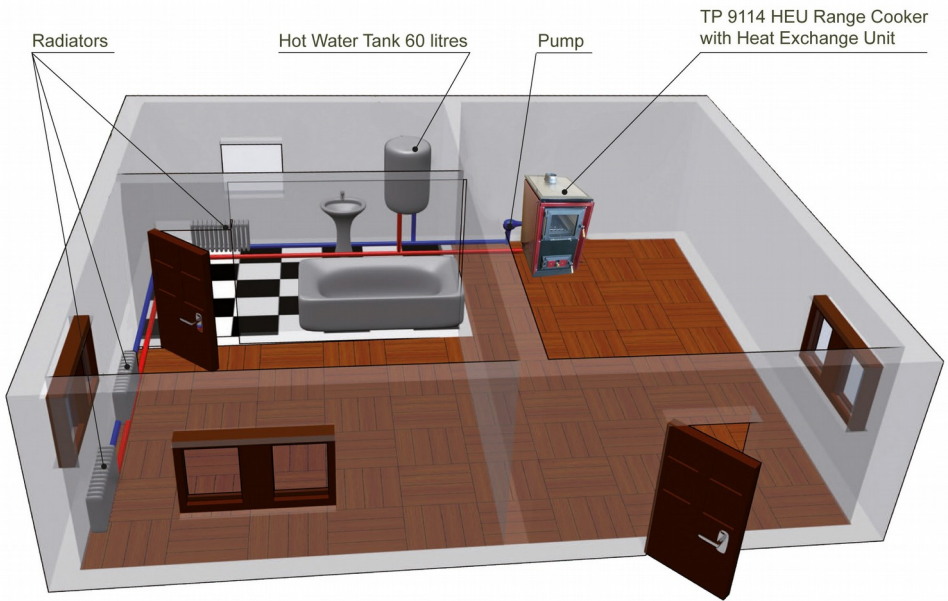


Scheme of the connection to the central heating system.



Installation schematic of the range cooker with a heat exchange unit within

the interior of a domestic dwelling



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