Fireplace Stove

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Fireplace Stove With Hot-Water Exchanger

General instructions for operation, assembly and maintenence

Contents

1. GENERAL

Fireplace stove, fireplace stove with hot-water exchanger company ABX is intended for additional heating and heating of residential and social rooms. The ABX fireplace stove is intended for heating with occasional supervision. Children are not allowed to heat in the stove. The room in which the fireplace stove is installed must be provided with sufficient fresh air supply, e.g. by leaks of windows and doors. If this is not the case, a sufficient supply of fresh air must be provided in the room with a min. diameter of 2 dm^2. This all applies when the CAS (central air supply) is not connected. The following instructions must be observed at operating and installing the stove. The total efficiency of the fireplace stove with hot-water exchanger is divided into the thermal flow into the room and thermal flow into the water, see Technical Sheet (TS) of the relevant stove type.

2. TECHNICAL SPECIFICATION

The stove is designed for combustion of wood, ecological briquettes and, in some types, also of brown coal briquettes by burn through system that ensures very good combustion conditions. The heating of the air in the room is achieved particularly by convectional heat, partially also by radiant heat. The system is able to heat up very quickly even very cold rooms not heated for a long time.

If the stove is made in a double-shell design (the outer shell can be fitted with, for example, a ceramic or a stone), the air is heated by the convection principle in the space between the shells. The room air enters through the lower part into the space between the shells, where it is heated and moves upwards and flows out through the vents in the top of the outer shell. Radiant heat is acquired from the surfaces of the stove (steel weldment, stove coating). The biggest source of radiant heat is the glass door surface.

Fireplace stove with hot-water heat exchanger, their connection to the chimney and hot-water system are governed by the Act 201/2012 Coll. The stoves must undergo a revision pursuant to the Act 201/2012 Coll., every three years.

Fireplace stove has not character of mast heater and is intended for periodic intermittent operation, mostly because of ashtray emptying, which must be done when ash is cool.

3. DESIGN MODEL

Fireplace stove is made of steel plate, cast iron or, in some cases, a combined liner. The stove furnace is covered with vermiculite or chamotte plates. The stoking door of the stove includes special “glass ceramics” resistant against high temperatures and thermal shocks. The glass ceramics is almost clear; it lets heat radiation from the furnace through and allows people to see the flames when burning. There is firm cast iron grate or keramic grate on the furnace bottom and an ash pit below. The paint used to sprayed the stove is resistant to high temperatures. The construction of the stove is single-shell or double-shell. According to the stove design, primary air (always regulable), secondary air (non-regulable in some cases) and in some stoves tertiary air (uncontrollable in some cases) is supplied to the combustion space. Primary air is used for lighting up and it is fed under the grate; secondary air is fed on the glass and above the grate and provides for self-cleaning effect of the glass. Tertiary air is then fed to the upper part of the furnace and provides for sufficient combustion of unburnt gases (burnout). Some stoves have the option of feeding air for combustion through central air feed (CAF) from an external room and do not consume the air from the room where they are installed. All such options are specified in the Product Technical Sheet (TS). Some fireplace stoves can be fitted with a hot water heat exchanger, which ensures heating of water used in the hot water system or also for heating of domestic hot water. Fireplace stoves with hot-water heat exchanger of over 7.5kW capacity are equipped with automatic regulation of the primary air supply. In some cases, this is replaced by regulation of the central air inlet into the stove and, the regulation is controlled by the temperature of the outlet water from the exchanger.

4 . OPERATION SAFETY

4.1 General provisions

- The principles of fire protection included in ČSN 06 1008 must be observed when operating and installing the fireplace stove.

- The device may be used in normal environment according to ČSN 33 2000-4-41 ed.2. In case of any change of such environment, when even temporary danger of fire or explosion could emerge (e.g. when gluing linoleum, PVC, when working with paints etc.), the stove must be put out of operation in time before the origination of the danger. The stove may be used further only after thorough ventilation of the room, at best by drafts.
- The fireplace stove may be connected to a chimney with the draught of at least 12 Pa. The recommended maximum chimney draft is 20 Pa. The relevant chimney sweeper centre must give consent to the connection. The stove may be connected only to an independent vent hole.
- The chimney on which the stove can be connected must meet the requirements of the country.

4.2 Safe distance of the stove in the room from flammable substances

When installing the stove in a room with flammable substances of flammability classes B, C1 and C2 (see Table 1), safe distances from the front side (as well as from lateral glass surfaces) of **800 mm** and in other directions **200 mm** must be observed, unless the TS specifies otherwise.
In case the stove is installed in a room with flammable substances of class C3, the above stated distances must be **doubled.** Please consult **Annex No. 13.1** for clarity. The decisive spacing for installation of specific stove is shown on the product nameplate, affixed to the outer back of the product.

4.3 Safe distance of the smoke flue from flammable substances

The safe distance from wooden door cases and similarly situated building structures made of flammable substances as well as from piping installations including their insulations is **min. 200 mm**. From other parts of structures made of flammable substances **min. 400 mm** (ČSN 06 1008). That concerns building materials of flammability classes B, C1 and C2 according to ČSN EN 13501-1+A1 (see Table No. 1). Consult **Annex No. 13.1** for clarity.

Table No. 1 - Information on flammability degree of some building materials

Status of flammability of building materials and products	Building materials classified in the relevant flammability degree
A non-flammable	granite, sandstone, heavy porous concretes, bricks, ceramic tiles, special plasters
B flammable with difficulty	acumine, wood-cement board, lihnos, itavere
C1 hardly flammable	broad-leaved wood, plywood, sirkoklit, laminated paper, formica
C2 medium flammable	chipboards, solodure, cork boards, rubber, flooring materials
C3 easily flammable	wood-fibre boards, polystyrene, polyurethane

4.4 Instructions for safe operation

No flammable liquids may be used for lighting and heating! It is further forbidden to burn any plastics, wooden materials with different chemical binders (chipboards etc.) as well as unsorted household wastes with rests of plastics or chemically treated wood etc.
The stove must be operated by adults only! It is inadmissible to let children near the stove without supervision of adults. The stove surface is overheated, particularly the glassed areas; you can suffer serious burns by touching them.
The stove operation requires occasional attendance and supervision. A protective mitten included in each stove supply serves for safe operation of the regulators and for handling the door valves. It is forbidden to postpone any objects of combustible material, that could cause fire, on the stove and within a distance less than the safe distance from the stove. Please do not put any vessels with cold liquids into the warmed oven with ceramic cladding; the cladding could break.

Please be extremely cautious when handling the ash pit and when removing hot ashes because there is danger of burning. It is forbidden to manipulate hot ash anyway. Hot ashes must not come into contact with flammable items - e.g. when being emptied into dustbins.

The stove may be operated only according to these Instructions. It is inadmissible to perform any unauthorized modifications on the stove.

4.5 Fire in the chimney

If fire emerges in the chimney, the fire in the stove must be put out immediately by removing the burning remainders of fuel with the help of a small shovel to a suitable non-flammable container and firefighters (line 150) or the line of integrated rescue system (112) must be called immediately. In any case, do not extinguish with water, because it would cause excessive volume of vapor and subsequent chimney burst.

5. ASSEMBLING

Warning: When assembling the fireplace stove, all local regulations including the regulations related to national and European standards for this type of devices must be observed, particularly: ČSN 06 1008, ČSN 06 0830, ČSN 06 0310, EN 13240.

5.1 Instructions for stove assembly

- Place the regulation grates of combustion and ventilation air, if applied, in such a way that they cannot be clogged.
- When installing the device, adequate access for cleaning of the fireplace stove, uptake and chimney must be provided.
- The fireplace stove must be installed on a floor with adequate bearing capacity.
- In seasonal use and in bad blast or weather conditions, care must be taken when commissioning, especially when the heating medium is frozen in the heating system.
- After every longer interruption of the fireplace stove operation, before repeated ignition, it is necessary to check that there is no clogging of the flue gas ways.
- The outer surfaces of the fireplace stove is hot during operation; adequate attention must be paid to that.
- The uptake pipes to the chimney must be as short as possible and they must be slightly inclined upwards. The endings in the chimney must be made by steel insert of the pipe. The pipe attached to the stove must be protected against removal by a peg, pin or rivet (they must be drilled together during assembly). The total length of the uptake pipes must not exceed 1,5 m so that good draught is provided.
- Non-flammable floor must exceed the ground plan dimensions of the stove by at least 10 cm on each side, at least 10 cm in the back and at least 30 cm in the front. The above stated data determine also the minimum size of the metal foundation sheet to be put under the stove in case of installing the stove on a flammable floor. The foundation sheet must have a minimum thickness of 2 mm. In case of installing a glass foundation board, adhesive cork discs are placed on the lower side in order to eliminate unevenness (the oversizes are identical as those of the foundation sheet). For practical reasons, it is advised to glue the glass by transparent silicon to the floor on circumference, so that no impurities can penetrate under it.
- The uptake can be connected to most stoves from above or from the back (see TS). The choice of the connection depends on the user. When substituting one type of uptake by another, connected in the other way, instructions according to **Annex No. 13.2** must be observed. The cover to plug the hole in the shell can be found in the ash pit. When assembling and disassembling the metal plug and the cast-iron uptake, tightness must be ensured (it is achieved by tightening cord situated in the plug and in the uptake). In stoves having metal sheet cover fitted with break-off lid of the upper uptake, the lid must be broken off (with the help of a screwdriver) from the metal sheet cover before installing the other type of uptake. For the case of use of the rear outlet, the supply of stone claddings includes a lid made of the corresponding stone type to plug the hole in the upper board.
- Permit to install the stove to the chimney must be approved by a responsible person (chimney sweeper).

5.2 Instructions for assembly of hot-water exchanger

Warning: The projection and installation of a hot water supply or DHW cylinder must always be carried out and executed by a company with appropriate authority!

When installing hot-water distribution, the requirements on thermal systems in buildings must always be respected:

ČSN 06 0830	– Protective equipment
ČSN 06 0310	– Design and assembly
ČSN 06 0320	– Preparation of hot water – planning and design
ČSN EN 12 828	– Planning of hot-water thermal systems
ČSN EN 13 240:2005 +A2	– Solid fuel devices for heating of residential rooms
Act 201/2012 Coll.	– Air Protection Act

The exchanger of the fireplace stove must be connected with the hot-water distribution with the help of threaded joint. The exchanger of the stove is fitted with threaded outlets for that purpose. It is advised to discuss the connection of the stove exchanger with the specialized heating engineering company that will install the heating distribution; the exchanger must have the possibility of disconnection or substitution, so it should be connected with the help of flexible armoured pressure hoses. Such arrangement will allow easier assembling (disassembling) of the exchanger and easy pushing of the stove away from the chimney, removal of the uptakes for their cleaning and easy access to the upper part of the combustion space.

In the event of a power failure or other system malfunction, we recommend to protect the forced system against overheating, by using, for example, an open expansion vessel, cooling circuit or cooling loop (for some types see TL).

Warning:

- The cooling circuit is designed in the way to protect the heat exchanger against overheating within its whole operating interval. Ordinary function and connection of this circuit require a cold water supply line with stabile water pressure of at least 2 bar and with temperature up to 15°C. This cold water supply must be independent of electric supply (to be supplied from a drinking water system best). Cooling water from the cooling loop is drained into the waste (waste sump).
- The cooling circuit includes a thermo-valve as protection against overheating.
  Attention! Following the ČSN EN 12828 and ČSN EN 303-5 standards the system operator is obliged to inspect the thermo-valve at least once per year by an expert company in order to assure its proper function.
- In order to increase the life of the heat exchanger and to improve the heating and burning phases, we recommend to install a thermoregulating valve in combination with a pump switching thermostat.
- A bleed valve must be installed in the lowest part of the heating system.
- It is not allowed to use the fireplace stove fitted with an exchanger without connecting the hot-water distribution and without filling with heat carrier, i.e. water or frost-proof liquid recommended for that purpose.

5.3 Central Air Feed (CAF)

When assembling the stove, sufficient fresh air feed must be ensured, by a hole of 2 dm² at the minimum. The hole for fresh air feed can be substituted by big leaks of windows and doors. Some fireplace stoves are manufactured with a central air supply (CAS, see TL), which allows air from the exteriors, technical rooms, hall, etc. to be fed into the combustion chamber of the stove for combustion. In this case, the manufacturer recommends to provide a separate supply of combustion air in this way. The length of the supply must not exceed 5 m; the length is reduced by 1 m. You can find information, whether central air supply inlet is part of delivery inside product technical sheet. Inlet can be ordered additionally at the manufacturer.

Warning: In case of installing the stove in a room where there is fresh air feed of corresponding diameter and extraction (e.g. kitchen extractor hood) is built in, the diameter of the feed must be enlarged accordingly!

In the case of CAS connection, this supply must not be reduced or closed, and an external grid must be installed which must not restrict the supply of air to the stove by its holes (ie. holes in the grid or its connection to the CAS must not limit its cross section and thus reduce the air supply to the stove !).

6. FUEL

The fireplace stove is designed for heating with firewood, wood or in some cases brown coal briquettes (see TS). The humidity of the wood to be burns should be under 18%. Wood stored at least 2 years in a well aired shed achieves such humidity. When heating with briquettes, the briquettes must be stored in dry environment; otherwise they will be impaired by moisture and fall apart. In case of heating with "wet" wood, the stove loses at least 20% of efficiency. The fuel consumption rises and the danger of stove "tarring" emerges. The tar sediments particularly on the walls of the hot-water exchanger, impairing significantly the conditions of heat transfer to water. The tar stains the contaminates glass heavily too.

Warning:

- Only the above stated fuels may be used for heating in the stove. Liquid fuels and coal must not be used for heating in it; undefined wastes of plastics etc. must not be burnt in it.
- Air feed regulators must be set to the position of brown coal briquettes when heating with brown coal briquettes in some stoves (see TS).

7. OPERATION

Warning: The fireplace stove may be operated only in compliance with these Instructions. The fireplace stove must not be operated by children. Only the defined fuels may be used for heating. The stove requires occasional supervision. The manufacturer supplies a protective mitten together with the stove for safe operation.

7.1 Combustion process

The combustion of wood, ecological briquettes and in some types also of brown coal briquettes in the fireplace stove is made by burning through system, which means that the combustion takes place in the whole fuel charge at the same time. To ensure optimum conditions of easy kindling and subsequent flaming up, sufficient quantity of air must be fed under the burning fuel, through the grate – that air is called primary air and is always regulable. As the temperature of the flue gases increases, the gaseous components of the fuel begin to be released, which would not perform any work without additional heat input. This means, it is necessary to bring additional air to the level of the flame height, where the process of combustion of these gaseous components may continue. This eliminates the need for primary air supply. On the other hand, there is a demand for secondary air supply, or there may also be a supply of tertiary air. The feed of secondary air, which is usually regulable, improves the combustion and helps to automatic cleaning of the door glass. The tertiary air is intended to improve the general combustion process and is fixed (cannot be regulated). With the correct amount and ratio of the air supplied to the correct combustion chamber locations, the combustion efficiency increases. This reduces the emission of harmful gases into the air and helps to protect environment. The arrangement of the air feed regulators is represented on the diagram in the Technical Sheet included in each fireplace stove supply.
In practice, the stove is usually regulated with the help of air regulators, particularly of the secondary air feed. The exact setting of the combustion process with the help of regulators cannot be defined unambiguously. It is influenced by a number of factors – the fuel humidity, the fuel type, the chimney draught, the outside pressure conditions etc. Therefore the user must tune the burning process (flame intensity and quality) according to the existing conditions.

7.2 First kindling

The first kindling in the fireplace stove must be made with soft wood, so that the temperature rises relatively slowly. It has been verified that in such manner, the paint applied is hardened significantly better and more durably and the insert "settles down" better. That is why the manufacturer supplies the fireplace stove with a package made of spruce coniferous timber; the timber is well dried and it must be cut and used for the first kindling. It is important that after lighting up, the full efficiency is gradually achieved and maintained at least for an

hour. During that time, the paint applied is burnt out, stabilized and gets the adequate solidity, hardness and abrasion resistance. During that time, the room must be intensively ventilated. Remove pets and cages with birds from the room. Do not touch the stove surface during the burning, the paint may be damaged.
In the case of fireplace stove with a hot-water heat exchanger, it is absolutely necessary to connect the exchanger to the system before the first firing and to ensure that the hot-water system works already during the first firing. It is not allowed to perform heating or first firing in the fireplace stove, unless the hot water system is connected and functional. The leakage of the hot water system must be checked before the first firing.
In course of the initial heating water may condense on the surface of the heat exchanger. The condensed water may flow into the fire box and thus some tar may occur. This effect shall not be treated as defect and it does not justify any complaint. The higher the capacity of the heat exchanger, the higher the probability that the condense water will occur on the heat exchanger. In order to minimise this effect we recommend installing of 3-way- or 4-way-mixing valve into the hot water heating system, see scheme in **enclosure No. 13.4**. In course of the heating the cold heating media (water or frost-resistant filling recommended) will be let by the mixing valve into the heat exchanger step by step. Thus the rapid cooling of the heat exchanger and the water condensing are prevented.

7.3 Kindling

Variant with grate: The grate must be clean before kindling. Put crumpled paper, wood shavings or spills and several small logs on it.
Variant without grate: When firing, make sure that the paper and splinters are placed in the furnace in way that air can access them in between and below.
Adjust the air input regulators (stranglers) to "open" (see Technical Data Sheet) and the switch of fuel type to the position (2). Open the firing flap (if present) on the right side of the stove (as described on the label).
If the type of stove is with one air regulation, it is necessary to set the air regulationto the open position (to maximum) when firing, and regulate it when needed. Set fire to the paper and close the door. You can use solid firelighters of “PEPO” type for kindling. Never use liquid flammable substances of “petrol” type for kindling. The manufacturer warns that water circulation in the hot-water exchanger must be provided at the time of the first kindling of the stove already.

7.4 Heating

The appliance is designed for short-term operation.The versions and the positions of regulators are indicated on scheme in the technical data sheet. The optimal setup stall be tested and adjusted to the particular chimney draught. After the stove burns, it is necessary to close the firing flap (if it is a part of the stove).
Variant with grate: It is advised to stoke up only after the fuel has burnt down to live coals.
Variant without grate: Fuel is recommended to be applied on still hot coals starting with smaller pieces of logs. If there is not enough hot coals for the next application, it is good to use splinters and set the air regulation to maximum until the wood start to burn.

When the material is burned up to embers, open the oven door for about 10 to 15 mm and wait for about 15 to 20 seconds until you open the feeding door fully and put the fuel into the fire box. This procedure may significantly decrease the volume of smoke entering the living room. As for further eliminating of the smoke it is possible to open the starting flap (if installed) just prior to the feeding operation. Amount of used fuel should respond to Consumption of acceptable fuel at nominal capacity for given type of fireplace stove (see Product technical sheet).

Warning: Heating and cooling of fireplace stove is usually accompanied by acoustic exposure. This is not a malfunction.

7.5 Glass cleanness

Additionally to the use of adequate fuel, sufficient feed of combustion air (particularly secondary air) and adequate chimney draught, also the method of operation of the fireplace stove influences the preservation of the cleanness of the door glass. In this connection, we advise to stoke up only one layer of fuel, distributing the fuel as uniformly as possible in the furnace and as far as possible from the glass. The same applies to briquettes (the distance between them should be 5 to 10 mm). If the glass is soiled during heating, we advise it to increase the burning

intensity by opening the secondary air regulator (excluding brown coal briquettes); that will usually clean the glass automatically. Brown coal briquettes require more frequent cleaning of glass.

7.6 Evacuation of ash

Depending on the length and intensity of heating, the ash must be shaken through the grate to the ash pit with the help of the fire poker. **Please care that the ash pit is not overfilled; that could obstruct the air feed under the grate and lead to subsequent problems with lighting or burning of the fuel.**
The ash pit must be emptied when the ash is cold, ideally when preparing next kindling. The ash from burnt wood can be used for compost or as fertilizer.
Removal of the ashtray can be done in two ways, depending on the particular design of the stove. The first method is to pull it from the front part of the stove behind the door. The second one is to remove the grate through the combustion chamber (using a grate removal tool, that is part of the stove supply). The ashtray is placed under the grate. Remove the ashtray. After emptying the ashtray, put it back by reverse procedure.

Warning: Before emptying the ash pit, check whether it contains burning rests of fuel that could cause fire in the dustbin.
Warning: For stoves without grate and ashtray, remove the ash by sweeping it into a metal container. This should be done in a cold state, preferably in preparation for the next fire.

8. CLEANING AND MAINTENANCE

The fireplace stove must be cleaned at least once a year (after the heating season) or more frequently; it must be always cold before cleaning.

- During cleaning, any sediments in the uptakes, in the combustion space and on the orifice plates for draught routing must be removed.
- The grate must be kept unobstructed.
  Repair any parts of lining that have fallen out, ideally by substitution. The completeness of the lining must be monitored also during the heating season. The gaps between the individual boards serve for thermal dilatation preventing cracking; the gaps **must not** be filled in any way (e.g. with filling mass). During stoking avoid contact with upper lining parts (deflectors) inside fireplace. They can break and fall inside fireplace.
  Cracked vermeculite boards do not lose their functionality, if they have not fallen out completely; therefore cracking is no reason for complaint.
- The glass must be cleaned only in cold condition on principle. The glass can be cleaned with common agents for cleaning of stoves and ovens, dry soft cloth or even newspaper, as well as special agent for cleaning of fireplace stove glass. We recommend to use gel consistency agents, which does not flow down. Other agents may cause sealing to harden. Never use water to clean painted parts of the heater surface; soft foam sponge or soft flannel cloth will be suitable.
- By regular cleaning of the chimney air duct you will prevent solid fume particles sedimented on the chimney walls from ignition.
- We advise to use only dry, no more than slightly moistened cloth to clean the ceramic tiles. Clean the stove only in cold condition.
- The stuccoed surfaces should be cleaned only with the help of a broom.
- The exchanger passages need to be cleaned as needed, recommended at least once a month. The degree of pollution primarily depends on the properties of fuel (humidity, etc.) and operating mode (eg. in economy mode – air controllers closed). The supply of some stove types includes the cleaning scraper for the exchanger. The air channels of the exchanger can be accessed from the space of the combustion chamber or possibly after removing the uptake pipe. Contamination of the exchanger passages adversely affects its performance.
- Brown coal briquettes require more frequent cleaning of stoves, flue pipes and glass.

9. FAQ

Problem	Cause	Solution
Fireplace Stove does not burn properly (insufficient draught) or during stoking or operation emit smoke.	Chimney or uptake has insufficient sealing (false air).	Verify chimney (e.g. Chimney door sealing). Properly assemble chimney pipes or exchange damaged.
	Chimney has wrong draught.	With chimney sweep (stove fitter) find out the cause and accept measures, e. g. clean chimney, remove uptake reduction, make chimney higher, supply sufficient air in room.
	Chimney cleaning holes are open.	Close chimney cleaning holes.
	Device, uptakes are contaminated, blocked.	See chapter 8. Cleaning and Maintenance.
	Insufficient fresh air input.	See chapter 5.3 Central Air Feed.
	Wrong fuel was used for heating.	Use correct fuel, see chapter 6. Fuel.
Fireplace Stove cannot be heated quickly enough.	Wrongly loaded fuel. Too little fuel.	See chapter 7.3 Kindling a 7.4 Heating.
	Wrong position of air input.	Set regulators according to Product technical sheet.
Room is not enough heated.	Heat demand is too big, Fireplace Stove has small output.	Seek help of chimney sweep (stove fitter) . Lower heat loss of room (e.g. thermal insulation).
	Fireplace Stove or uptake are contaminated.	See chapter 8. Cleaning and Maintenance.
	Chimney draught is Insufficient.	See chapter 4.1 General provisions.
	Fireplace stove is not operated correctly.	Output range setting is not optimal, see chapter 7.4 Heating.
Fireplace Stove make too much heat power.	Fireplace stove is not operated correctly.	Output range setting is not optimal, see chapter 7.4 Heating.
	Ash pit doors are not sufficiently closed.	Close ash pit doors completely.
	Door or ash pit sealing is damaged.	Exchange the sealing.
	Chimney draught is too big.	See chapter 4.1 General provisions.
Fireplace Stove stink and emit smoke.	Chimney draught is Insufficient.	See chapter 4.1 General provisions.
	Applied paint is burnt out or Fireplace Stove is dirty.	See chapter 7.2 First kindling or clean off surface of Fireplace Stove (in cold state).
Door glass is dirty.	Cause cannot be 100% determined, often causes are: wrong fuel, setup of regulators is not optimal, worsened chimney draught, loosened door sealing.	Principle: Depending on the type of heating and used fuel is necessarily to clean glass sometimes, see chapter 7.5 Glass cleaness.
	Chimney draught is Insufficient.	See chapter 4.1 General provisions.
	Too much fuel is used.	For correct amount of fuel see chapter 7.4 Heating.
	Humid fuel was used.	Use only dry fuel, see chapter 6. Fuel.

10. MOST FREQUENT FAILURES

Cracked vermeculite or chamotte brick

The vermeculite or chamotte board can be ordered as spare part from the manufacturer of the fireplace stove.

Door sealing

The new cord can be also ordered as spare part from the manufacturer.

Damaged door, damaged glass

The substitution and setting of the door is quite a complicated repair. Also the substitution of the glass is considered quite complicated. For the above stated reason, only a service worker may perform such operations.

11. GUARANTEE AND SEVICE

By the Act 2167/b of the new Civil Code num.89/2012 Coll cannot be rights, which will occur on product in first two years since its take over, on defects created by wear caused by normal use, applied. That means mainly vermeculit lining, sealing, grate, glass or paint and that occording to frequenci of use and heating intensity.

For tile stoves, the traditional technology of tile production in with use of transparent glaze leads to the appearance of small microscopic cracks in the glaze called "HARIS", which is not considered a defect and therefore it is not a reason for reclamation. Tiles can have slight color variations, minor glaze deficiencies, dimensional deviations etc., all described and defined in standard ČSN 72 4710.

Stone used on panelling is purely natural. Every part is original, so there can be deviations, color and design inconsistency. Because of this fact cannot be on these deviations claimed warranty.

11.1 Guarantee and after-guarantee service

The guarantee and after-guarantee service in the Czech Republic is provided by the manufacturer, ABX s.r.o., with the help of its service department residing at:

ABX, společnost s r.o.
408 01 Rumburk, Plynární 1518/12
tel. 412 372 147
fax 412 375 113
e-mail: reklamace@abx.cz

Technical information related to installation and operation may be obtained at the same address; also spare parts may be ordered here.

11.2 Ordering of spare parts:

When ordering spare parts, please state the stove type, year of production and the product serial number. Send the order in written, by fax or by e-mail. The spare parts and accessories can be ordered from the vendor or directly from the manufacturer according.

12. STOVE PACKAGE AND WASTE DISPOSAL

12.1 Package

The fireplace stove is, unless stated otherwise (see TS), delivered in assembled condition on a wooden transport pallet in protective planking. The stove is packed in shrink wrap and fixed to the pallet with metal sheet fixtures. The following package disposal is possible from the perspective of wastes:

- Disassemble and burn the wooden base (see First kindling).
- Throw the bag to municipal waste or deliver it to a collection point.
- Deliver the cardboard to a collection point.

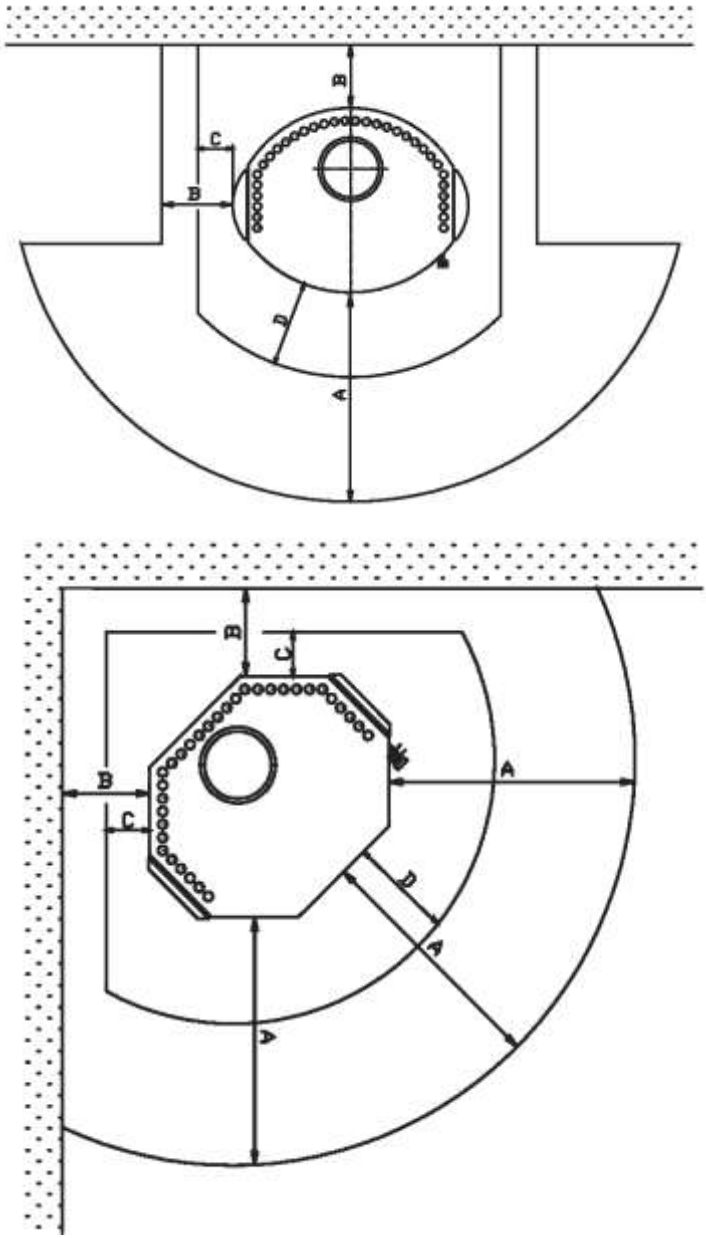
12.2 Stove disposal

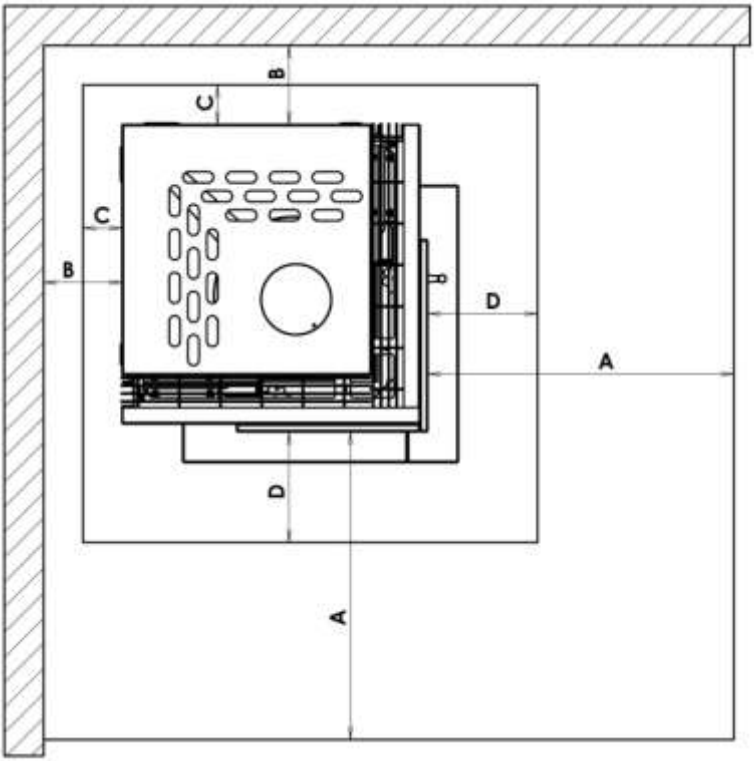
In case of stove disposal throw the lining, glass and seals to municipal waste. Also ceramic, stone and tile linings are to be put to municipal waste. The rest of the stove, i.e. the metal sheet body and the metal sheet shell together with cast iron parts can be delivered to metal scrap yard.

13. ANNEXES

13.1 Distances and size of protective foundation board
13.2 Replacement of flueways
13.3 Guidelines for cleaning deflectors.
13.4 Synoptic diagram of connection of hot-water exchanger
13.5 Hinges and closing mechanisms maintenance
Technical Sheet of the relevant stove type (special annex)

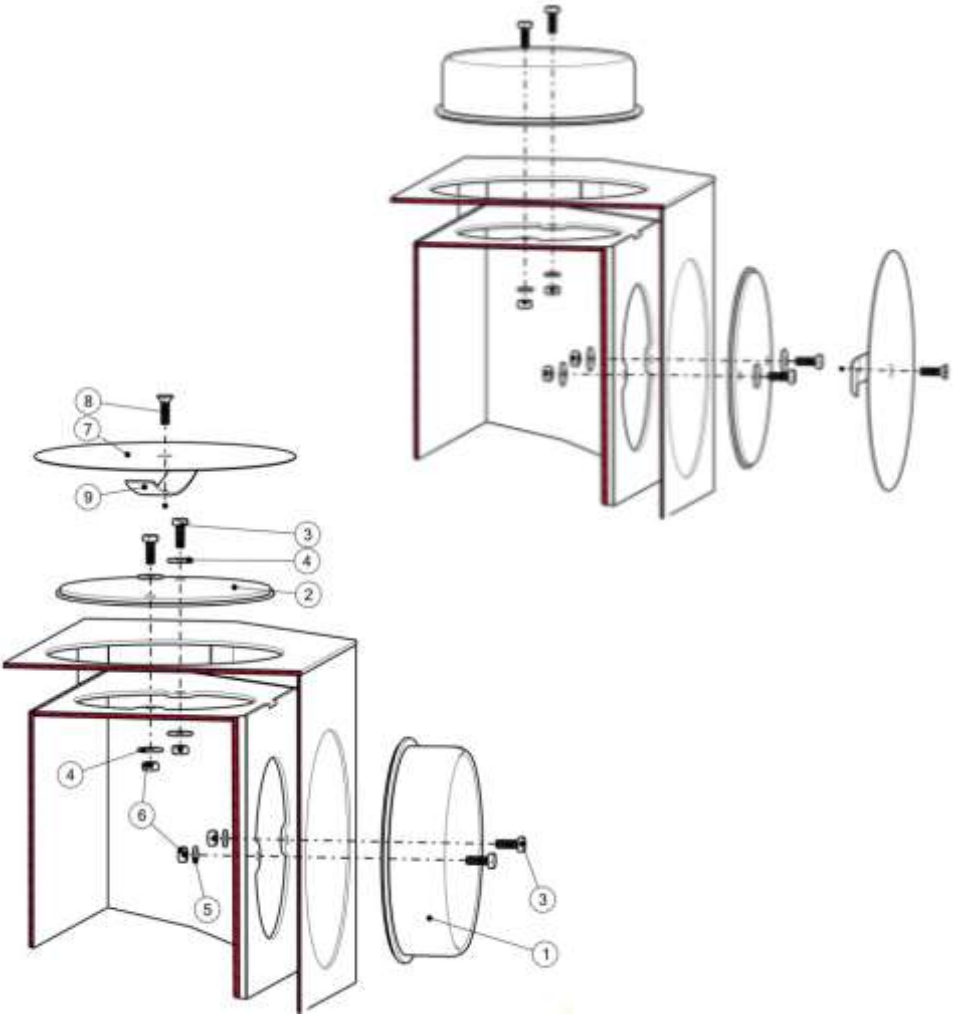
13.1 Distances and size of protective foundation board





Minimum distances from flammable materials	A ≥ 800 mm
	B ≥ 200 mm
Minimum size of protective foundation board	C ≥ 100 mm
	D ≥ 300 mm

13.2 Replacement of flueways

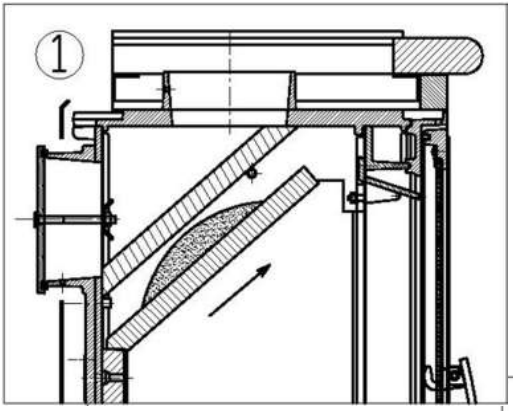


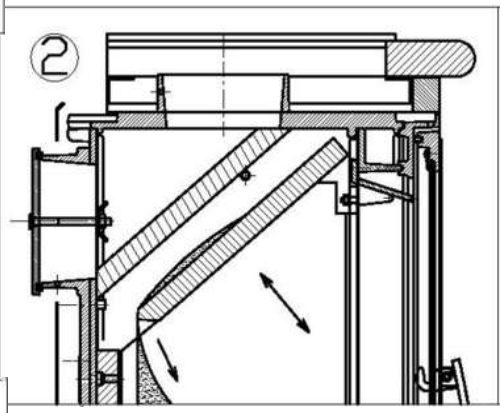
1. FLUEWAY SOCKET D150
2. FLUEWAY DUMMY PLUG
3. SCREW M6x16 – 4x
4. WASHER 6 FLAT CIRCULAR LARGE - 4x
5. WASHER A 6.4 (M6) – 2x
6. NUT M6 – 4x
7. FLUEWAY COVER PLATE
8. SCREW OF FLUEWAY COVER
9. HOLDER OF FLUEWAY COVER

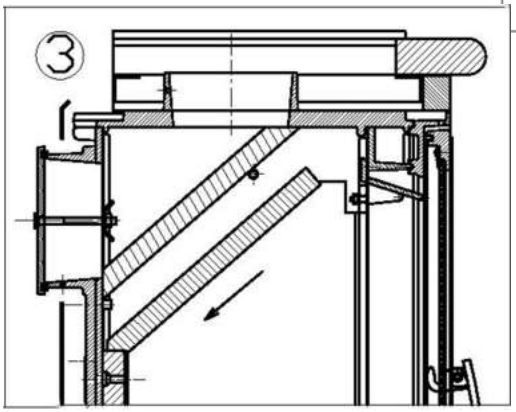
13.3 Guidelines for cleaning deflectors

When using the fireplace stove with the index “K”, “K I.” and “L” for a long time, clogging of the space between the grenamate deflectors above the burning chamber can occur. The stove then has a bad thurs and does not heat properly. Therefore, it is necessary to clean this area regularly, at least every 6 months. See the diagram for cleaning procedure.

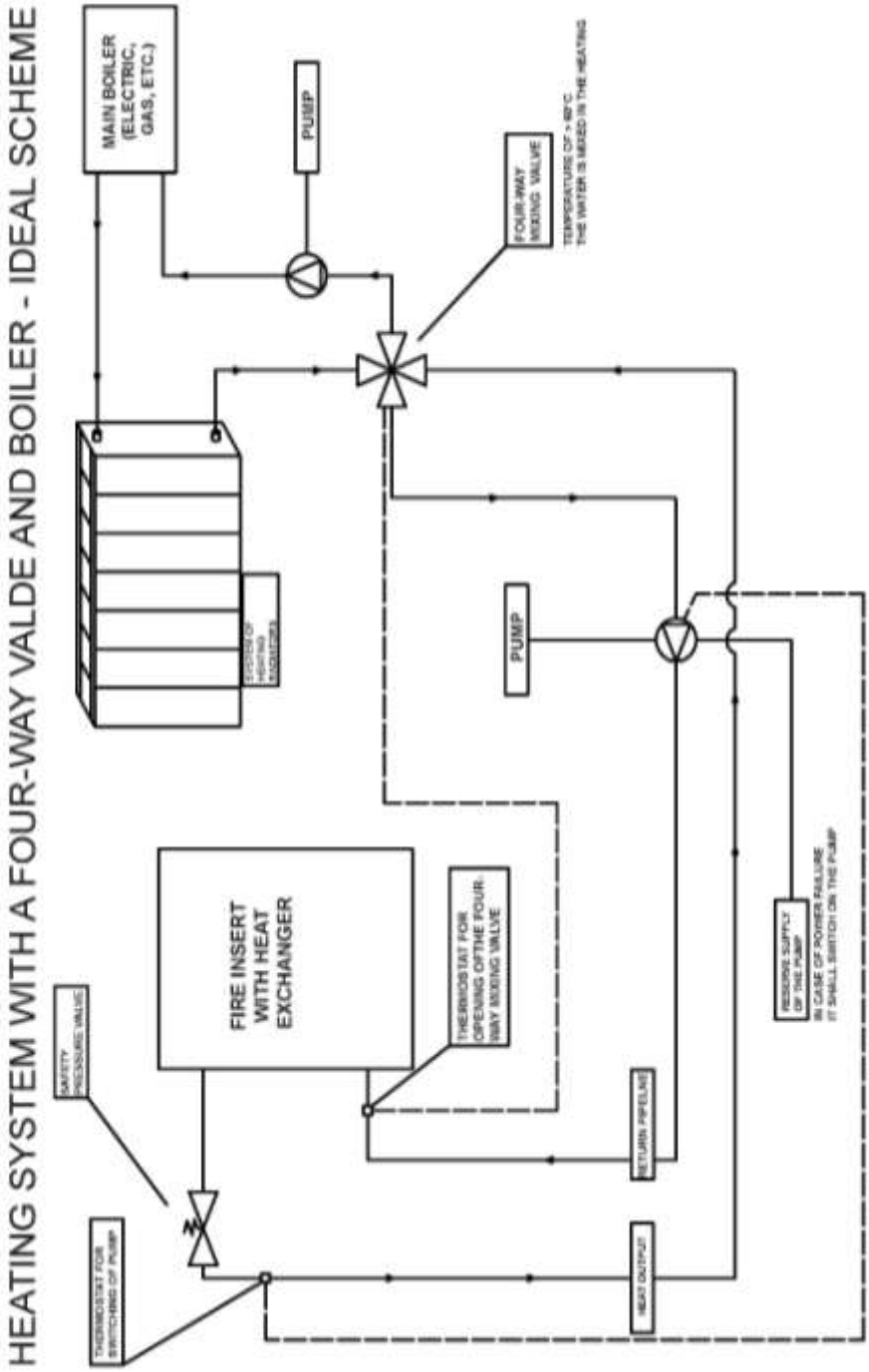
(1) Move the lower grenamate deflector
(2) Carefully knocking loosens the debris and falls into the burning chamber
(3) Move back the lower grenamate deflector



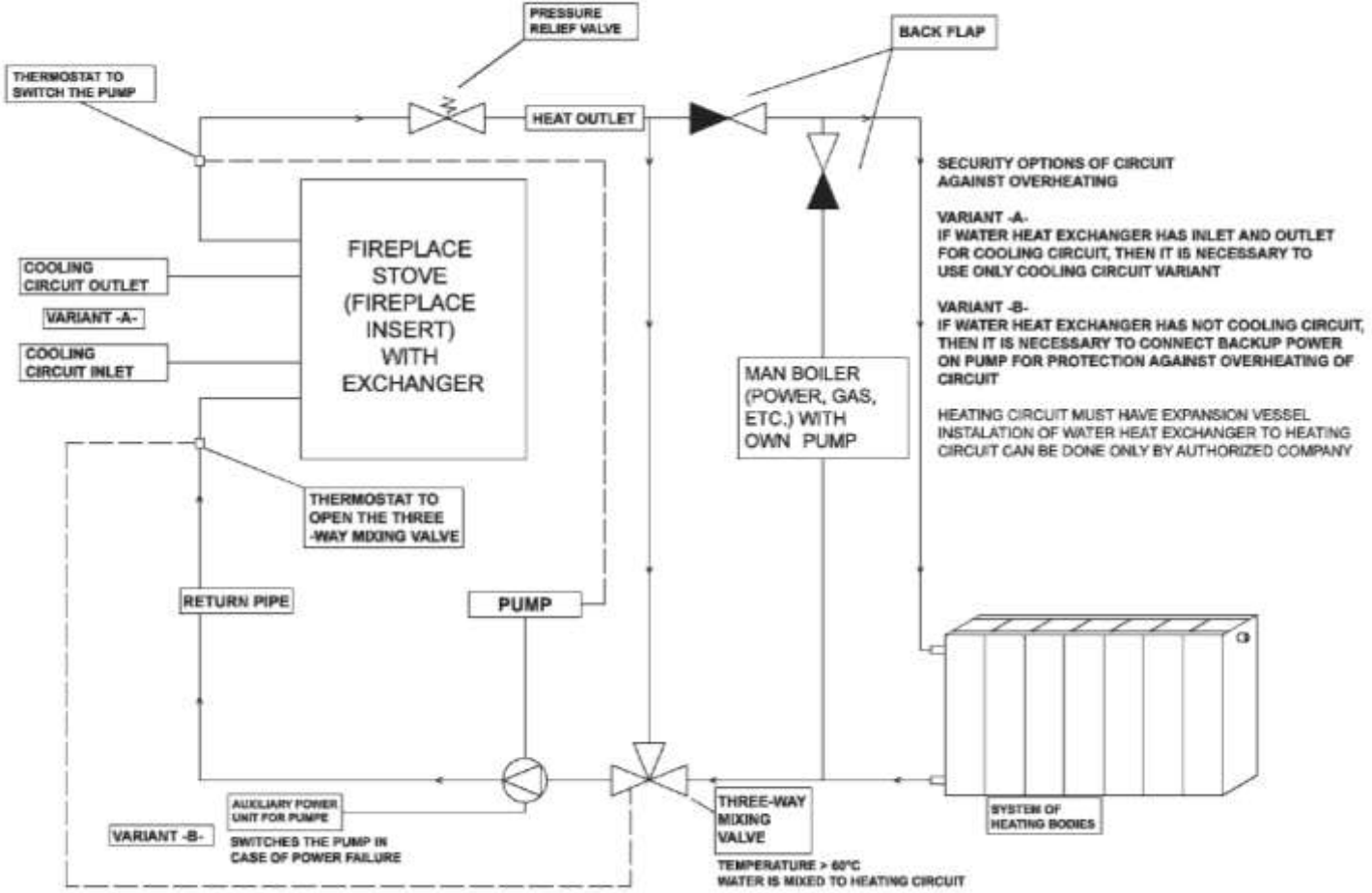




13.4 Synoptic diagram of connection of hot-water exchanger



HEATING CIRKUIT WITH THREE - WAY VALVE AND BOILER - SYNOPTIC DAIGRAM

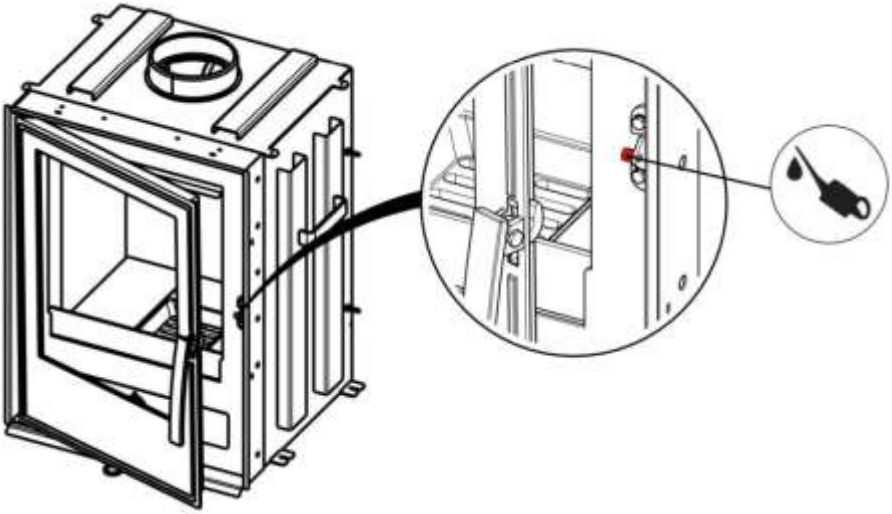


13.5 Hinges and closing mechanisms maintenance

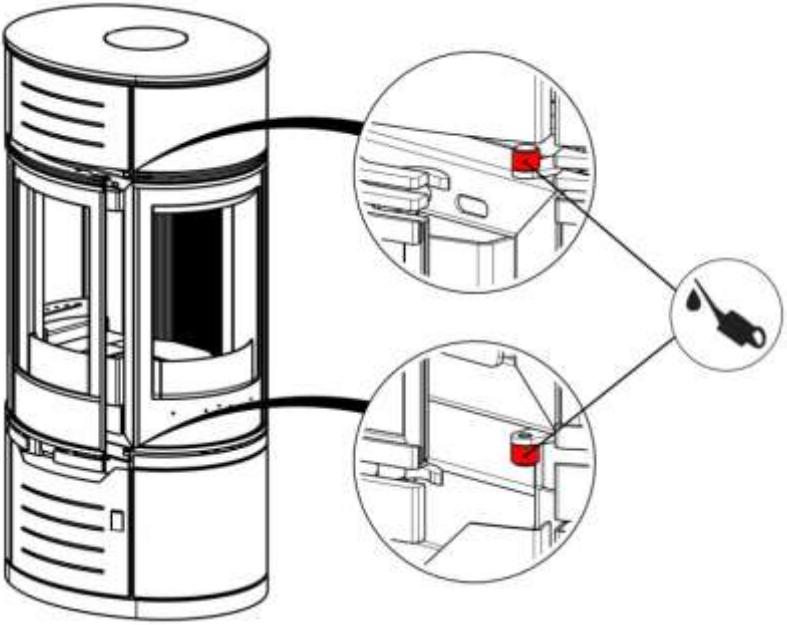
It is necessary to lubricate friction surfaces on stove once every two months or according to the needs (depending on heating frequency) (see illustration below). The grease must be resistant to high temperatures. The manufacturer recommends a copper lubricating paste or Förch S 425 spray.

Lubrication of closing mechanisms:

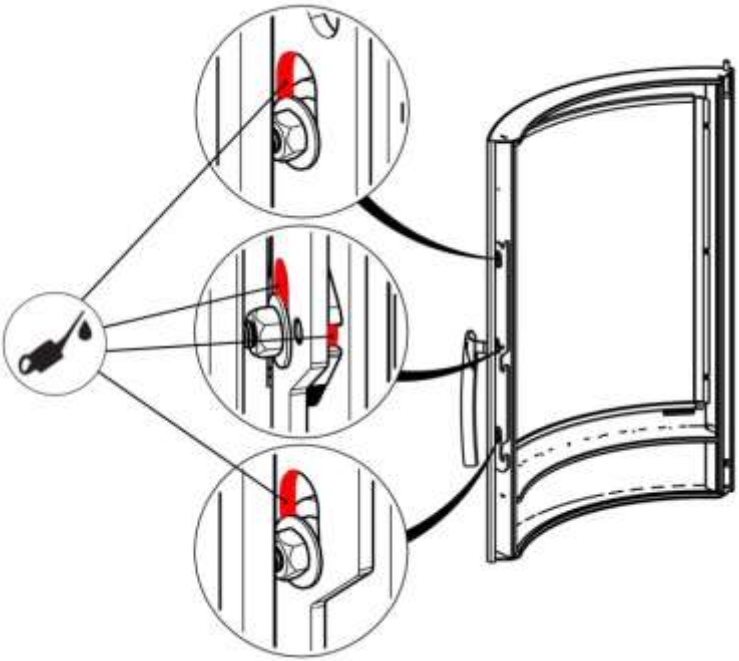
Variant A



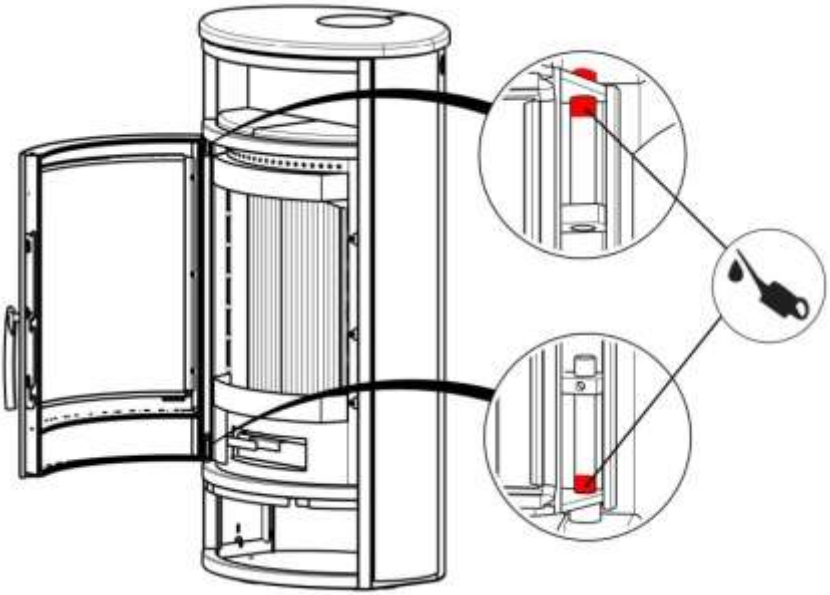
Variant B



Variant C



Lubricating of hinges: (pin must be lubricated at the place of the friction surfaces with the hinge)



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