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Attack®

HEAT TECHNOLOGY MANUFACTURER

EN

FD SOLID FIRE
Instructions for use

www.attack.sk

CONTENTS

INTRODUCTION

Dear customer,

Thank you for your trust and purchase of universal boiler ATTACK FD SOLID FIRE .

Boiler ATTACK FD SOLID FIRE is certified for burning wood and black coal.

For right operation of your new product read at first instruction for use. Please follow the information below to ensure long-term trouble-free boiler operation to your and also our satisfaction.

IMPORTANT WARNINGS

- You learn important information about construction, use and safe operation of the boiler by proper study of the instruction of use.
- After the boiler's unpacking check if the delivery is complete
- Check if the boiler is the required type
- Installation must be performed by the technician with valid authorization to do so
- Start-up and putting the boiler in operation as well as mandatory service inspections can be performed only by a serviceman with a valid manufacturer's contract
- Putting the boiler in operation must comply with the valid regulations, standards, operating instructions or amendment to the instructions
- The manufacturer is not responsible for damages caused by incorrect putting the boiler in operation
- In case of damage contact your serviceman, unprofessional intervention may damage the boiler
- For correct operation, safety and log-term operation ensure the regular inspection and maintenance at least once a year by the service organization of the company you bought the boiler from
- Only originals spare parts can be used for repair work.
- If the boiler has not been working for a long time (switched-off, out of service) it is neccessary to take extra care during the next putting in operation

WARNING: The manufacturer reserves the right to make design changes to the boiler and changes in this document.

The boiler ATTACK FD SOLID FIRE is cast-iron, low-pressure boiler with elements intended for burning solid fuel – coal and wood. Burning other types of materials e.g. plastic material is forbidden!

1 USE AND PREFERENCES OF THE BOILER

Four-element size of ATTACK FD is suitable for reconstructions of heat sources in dwellings, for smaller flats and recreation facilities. Bigger size of the boiler suits to requirements for heating in family houses, shops, schools and similar. The boiler is produced as a hot-water boiler with natural as well as forced heating water passage and working overpressure up to 4 bar. Before delivery it is tested for tightness by a testing overpressure of 8 bar.

Boiler preferences:

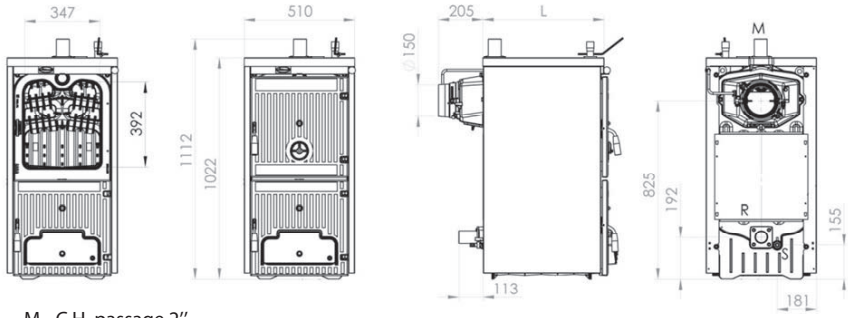
- Modern design
- High lifetime of cast iron heat exchanger, with extra low-temperature corrosion resistance
- High efficiency up to 85%
- Wide output range depending on number of elements
- High reliability of regulating and safety components
- Simple attendance and maintenance
- Simple assembly of casing during the boiler assembly in the boiler room
- Low demand on chimney draught
- Good position of the output regulator
- Enlarged combustion chamber for big wood pieces loading
- Sophisticated production technology with a stable and verified quality of production process(ISO 9001)

2 TECHNICAL PARAMETERS OF ATTACK FD SOLID FIRE

Boiler type	**Unit**	**FD20**	**FD26**	**FD32**	**FD36**	**FD42**
Number of elements	pcs	3	4	5	6	7
Nominal output – black coal*	**kW**	**23**	**34**	**45**	**56**	**67**
Nominal output – wood**	**kW**	**12**	**19**	**26**	**32**	**38**
Fuel consumption at nominal output – black coal*	**kg/h**	**3,94**	**5,71**	**7,62**	**9,25**	**11,12**
Volume of combustion chamber – black coal*	dm^3	43	66	90	114	138
Volume of combustion chamber with using of kit for the fuel wood – 3 class according to STN EN 303-5:2012	dm3	37,5	58,3	79,2	100	121
Boiler water volume	l	30	39	48	57	66
Max. working pressure	bar	4				
Weight	kg	226	288	350	412	474
Height	mm	1 023				
Width	mm	500				
Depth L	mm	425	575	725	875	1075
Lenght of combustion chamber	mm	260	410	560	710	860
Dimensions of door (width × height)	mm	347 × 392				
Width of combustion chamber	mm	347				
Heating water connection	Js	G 2“				
Connection of cooling loop	Js	G ½“ inner thread				

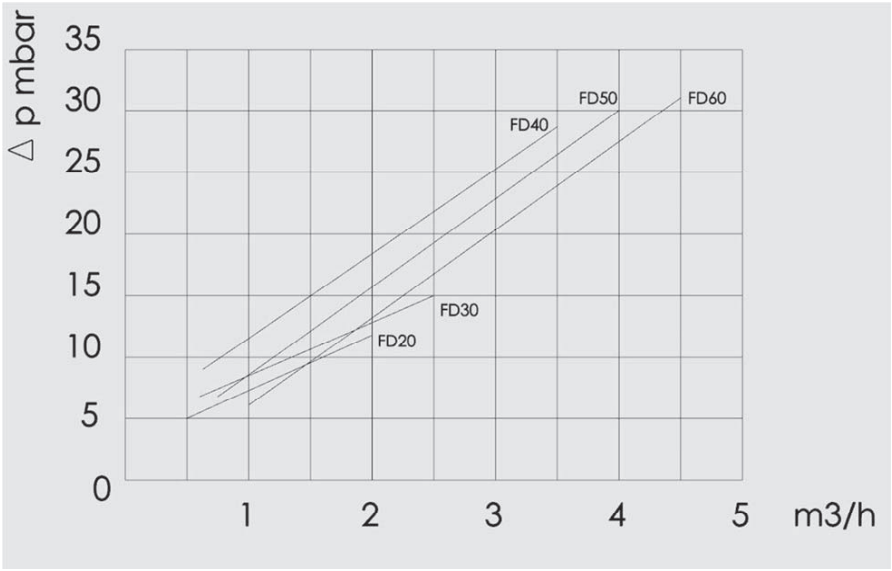
* Class 1 according to STN EN 303-5:2012. For black coal, the boiler is only for markets outside the EU.
**For wood fuel using the expansion kit (FSK001-FSK005), the boiler meets class 3 according to STN EN 303-5:2012 and in this version it is for markets in EU.

3 DIMENSIONS OF BOILERS ATTACK FD SOLID FIRE



M - C.H. passage 2''
R - C.H. return 2''
S - Boiler drain ½''

4 HEAD LOSSES



5 DESCRIPTION

Boiler construction
The main part of the boiler is a cast-iron - element boiler body produced of grey cast iron according to STN EN 1561
- middle elements – quality 150
- front and rear elements – quality 200

Pressure parts of the boiler suit to the requirements for tightness by standards:
STN EN 303-5:2000 Boilers for Central Heating, Part 5: Boiler for central heating for solid fuel with manual or automatic delivery with nominal output up to 300 kW terminology, requirements, testing and marking.
The boiler body is composed of elements with the help of pressed nipples of 56 mm diameter, ensured by anchor bolts. The elements create combustion and ash collection space, water space and convection part. Inlet and outlet of heating water is situated in the rear part of the boiler. The whole boiler body is insulated by a mineral insulation not harmful for health that eliminates losses caused by heat emission into surroundings. Steel casing is painted by a paint of a good quality.

5.1 HOW TO CHOOSE THE RIGHT SIZE OF A BOILER

The right size of a boiler, i.e. of heat output, is a very important condition for economic operation and right work of the boiler. A boiler has to be chosen in order for its nominal output to respond to losses of a heated object.**When you choose a boiler with a too high nominal output, it can cause higher tarring and dew of the boiler**

6 LOCATION AND INSTALLATION OF THE BOILER ATTACK FD SOLID FIRE

Rules and standards

Boilers for solid fuels can be installed only by a company with a valid certificate for installation and maintenance. Installation must be procceded according to valid standards. Before the installation of the boiler to an older system of heating the whole system must be cleaned by the company. The heating system must be filled with watersuitable to the requirements by STN 07 7401:1991 a and its hardness must not exceed required parameters.

Recommended values		
Parameter	**Unit**	**Value**
Hardness	mmol/l	1
Ca^{2+}	mmol/l	0,3
Concentration of total Fe + Mn	mg/l	(0,3)*

*) recommended value

a) for heating system

STN EN 12828+A1	Heating systems in buildings. Design for water-based heating systems
STN 06 0830 : 1998	Safety devices for central heating and heating of service water
STN 07 7401 : 1992	Water and steam for hot water and steam boilers with nominal steam pressure of up to 8 Mpa
STN EN 303-5: 2012	Heating boilers. Part 5: Heating boilers for solid fuels, manually and automatically stoked, nominal heat output of up to 500 kW. Terminology, requirements, testing and marking

b) for chimney

STN 73 4201: 2012	Design of chimneys and flue gas ducting

c) according to fire regulations

STN 73 0823: 1984	Fire resistance properties of materials. Flammability degree of building materials
Notice 95/2004	laying down technical conditions, fire safety requirements for the installation and operation of fuel appliances, electrothermal appliances and central heating equipment and for the construction and use of chimneys and flue gas ducts

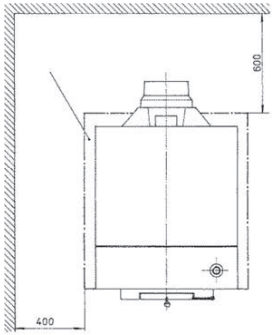
Possibilities of location

The boiler ATTACK FS is certified for installation in non-residential spaces (cellar, halls, etc.) according to Notice 84/1997m) appendix, no. 2, 3, 4, 5, 6, 7, 8, 9, 10 – these appendixes are the part of this document.

6.1 BOILER LOCATION ACCORDING TO FIRE SAFETY REGULATIONS

1. Location on a floor of an incombustible material

- Put the boiler on an incombustible pad exceeding dimensions of the lateral sides of the boiler in 20 mm and only for the lenght of combustion chamber
- If the boiler is located in a cellar, we recommend to set it up on an elevated step of the minimum height of 50 mm
- The boiler is located into the middle of the stand



2. Safe distance from combustibles

During the installation as well as during the operation of the boiler it is necessary to keep the safe distance from combustibles. For easy combustible substances of combustibility level C that burn quickly and go on burning even after removing the source (e.g. paper, cardboard, asphalt cardboard, tar paper, wood and wood-fibre boards, palstics, floor coverings), the safe distance is doubled. It is also necessary to double the safe distance in the case when the combustibility level is not known.

Location of the boiler to keep necessary manipulation space:

- Basic space AA5/AB5 podľa STN 33 2000-1:2009-04
- In front of the boiler there must be manipulation space of min. 800 mm
- minimum distance between the rear part of the boiler and the wall must be 800 mm
- at least form one lateral side keep space for approach to the rear part of the boiler - min. 800 mm

Location of fuel:

- to put fuels behind the boiler or keep them near the boiler in the distance shorter than 800 mm is not allowed
- to put fuels between two boilers in a boiler room is not allowed
- it is recommended by the manufacturer to keep the distance of min. 800 mm between the boiler and fuels or to locate fuels in a room other than where the boiler is installed

Requirements for the boiler room

Before installation it is needed to check that the room has the requirements in accordance to the rules. Furthermore, the room should be aired in order to have a regular combustion. Therefore it is necessary to do some openings in the wallls of the room which must meet the following requirements:

They should have a free section of at least 6 cm^2 for each 1,163 kW (1000 kcal/h).

- The minimum opening section shouldn´t be smaller than 100 cm^2.

The section can also be calculated using the following formula:

$$S = \frac{Q}{100}$$

- where "S" is expressed in cm^2
- "Q" is expressed in kcal/h

The opening should be situated in the lower part of an outer wall, preferably opposite the combustion gas discharge.

Flue connection

A flue should correspond to the following parameters:

- it should be from waterproof materials resistant to the temperature of smokes and condensations,
- it should have sufficient mechanical resistance and a weak thermal conductivity,
- it should be hermetic in order to avoid cooling of the flue,
- it should be vertical and the terminal part should have a static aspirator which ensures an efficient and constant discharge of the combustion product
- In order to avoid the air streams and a high pressure around the chimney pot to prevent the upward force of the combustion gas, it is necessary the discharge opening needs to hang above at least 0.4 m of any adjacent structure. (including the roof ridge) and the height of the chimney itself was at least 8 meters
- The flue shouldn´t have a diameter inferior to the boiler connection.For flues with square or rectangular sections, the internal section should be higher than 10% compared to the boiler connection section.

The net section of the flue can be obtained from the following:

$$S = K \frac{P}{\sqrt{H}}$$

S – section in cm^2
K – reduction coefficient (0,045 for wood, 0,030 for coal)
P – boiler's output in kcal/h
H – height of the chimney in meters measured from the flame axis at the exhaust of the chimney in the atmosphere. For the dimensioning of the flue you should consider the effective height of the chimney in meters measured from the flame axis to the top, diminished in:

- 0,5 m for each direction changing of the connection tube between boiler and flue,
- 1 m for each horizontal meter of the connection itself.

7 SUPPLY AND PACKAGING

Supply of the boiler consists of:

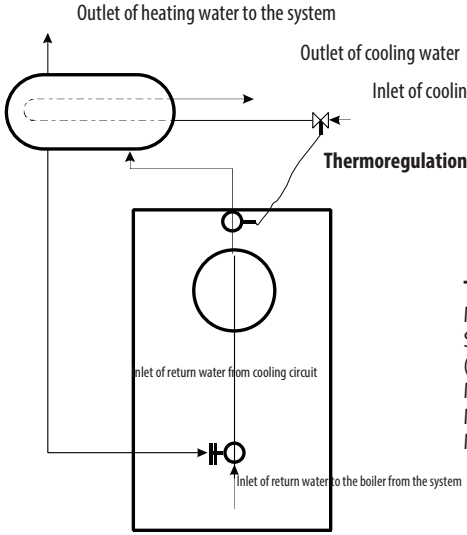
- cast iron body
- on the cast iron body there is a set of fire sticks and a bag with the documentation (instruction of use, the list of service companies, production label)
- inside the cast iron body there is an ash collector and 2 bags:
    - The 1st bag includes: a screw with a bakelite end for manually adjusting the air control door, a contact spring and an M6 lever that will be attached to the draft control door.
    - The 2.bag contains:a thermomanometer, thermostatic draught regulator, 2 flanges for the boiler, 2 flange packings, 8 screws with hexagonal head, 8 fan-shaped washers, return valve
- Boiler casing (sidewall right and left, top cover, front panel with the logo of the manufacturer, rear cover, protective bar and 3 selftapping screws) in a cardboard box.

8 APPLIANCE FOR EXCESSIVE HEAT REMOVAL – COOLING CIRCUIT

WARNING: For admitting claim there must be used a cooling circle and thermoregulation circle with ATTACK FD SOLID FIRE boiler used in closed ventilation system.

A cooling circuit serves to excessive heat removal so that the highest water temperature 110°C in the boiler was not overreached. The cooling circuit is connected to the boiler flanges. In case the pump stops working, discharge water is cooled by the cooling circuit, as overheating could cause opening the thermoregulating valve by 95°C. Return water is carried with the help of an interconnection between cooling circuit and the flange of return water.

Hydraulical chart of cooling circuit's connection



Thermoregulation valve STS20

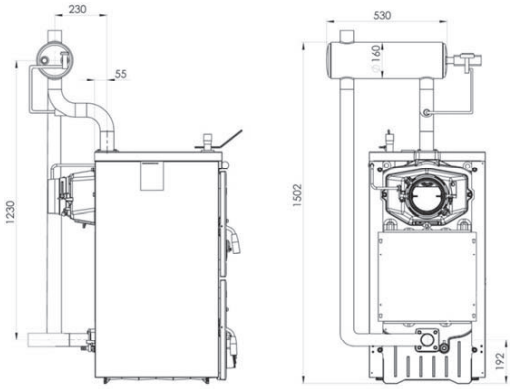
Min. temperature	–10 °C
Set-up temperature (initial opening)	97 °C
Max. flow temperature	110 °C
Max. operation pressure	10 bar
Max. flow	6,5 m^3/h

9 BOILER ATTACK FD SOLID FIRE USED IN SYSTEM OF OPEN AIR EXHAUSTION AND NATURAL WATER FLOW

In the system of open air exhaustion and natural water flow it is not necessary to use a cooling circuit with a thermoregulation valve.

WARNING: Follow the rules against water pollution!

9.1 DIMENSIONS OF COOLING CIRCUIT



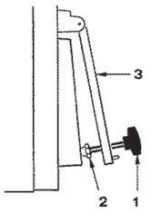
10 BOILER ASSEMBLY

Set the boiler body on the place, connect heating and return water with the help of flanges with the G2" internal thread. To the outlet of heating water in the upper part of the boiler body, adjust a pipe on the G2 thread and a cooling loop on the pipe, then connect to the heating system. Into the tube in the body of the cooling loop insert a sensor of the thermostatic valve which connect to the cooling water feed. The outlet of cooling water connect to the drainage. Connect return water from the heaters and cooling loop to the bottom part of the body.
Attach a discharge cock into the G1/2" opening in the rear bottom part of the boiler.
Attach the boiler to the chimney with the help of the flue pipe with 150 mm diameter.

11 ACCESORRIES ASSEMBLY

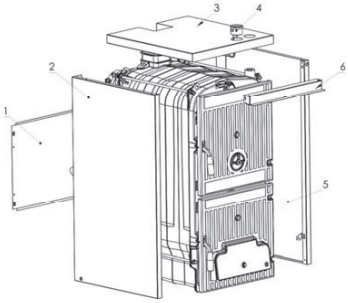
Assembly of screw with end piece proceed as following (fig. 5):

- Remove the screw M8×60, fixing the air blast damper to the ash box port and fix on the screw with the bakelite knob (1), which is supplied in the packaging. Place the blind nut with cap (2) at the end of M10 screw. Fix M6 lever to the air blast damper (3) placing it in a horizontal direction on the right. The lever has an opening at the end where the chainlet of the thermostatic regulator will be connected.



LEGEND:
1 – Screw with M10 × 70 knob
2 – Blind nut with cap
3 – Air blast damper

11.1 CASING ASSEMBLY



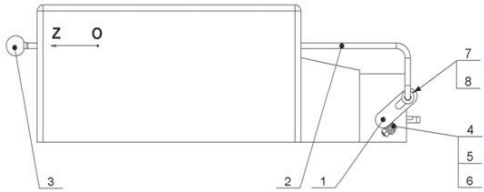
Two superior tie rods are screwed on three nuts at the front side of the boiler: the second and the third nut serve to place correctly the lateral sides of the casing. Two nuts, one for fixing the clamp holders for the lateral sides are screwed on the inferior tie rods, both form the front side and from the rear side. The assembly of the casing components has to be carried out in the following way:

- unscrew with some rotations the second or third nut of each tie rod,
- hook the left side of the (2) on the lower tie rod and superior of the boiler and adjust the position of the nut and locknut of the upper tie rod,
- fix the lateral side in blocking the locknut,
- in order to assembly the right side (5) proceed in the same way,
- carry out the same operation to fix the back lower board (1)
- the protection cover (6) is fixed to sides with pins and pressure stakes
- insert a thermometer (4) into the upper cover (3) then unwind the capilary of the thermometer and introduce it in the left sheath of the posterior head, introducing the contact spring. To the right sheath fix a return valve and screw a manometer into the return valve. Fix the cover at the lateral sides of the boiler with pins and pressure stakes.

WARNING: Keep the test certification together with the boiler documents.

11.2 ASSEMBLY OF THE CONTROL ROD OF CHIMNEY FLAP

Assembly of the control rod of chimney flap:



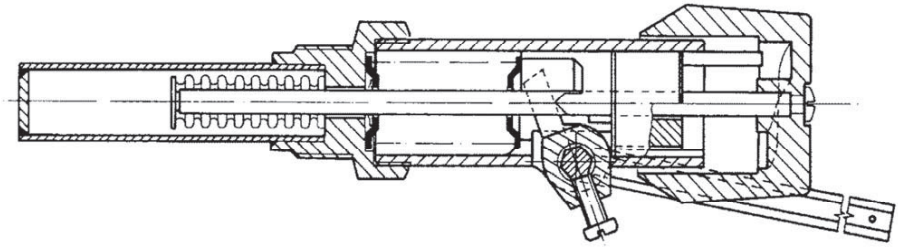
- punch holes in the skeleton (in the right lateral side)
- insert the rod pos. 2 through holes
- at the end of the rod fix a ball pos. 3
- mount the lever pos.1 on the axis of the chimney flap
- the rod pos. 2 insert into the lever pos. 1. Slip a washer pos.7 on the rod from both sides. After slipping lock with a pin pos. 8. On the rod put a screw, washer, and a nut pos. 4, 5 a 6. Tighten the screw slightly. Test the function of the flap. If needed, adjust the angle of slipping and tighten the screw firmly.

12 DRAUGHT REGULATOR

Draught regulator – the thermostatic regulator is equipped with a thermostatic head adjustable between 30 and 100 ° C.
Screw the regulator into the ¾" opening of the front head and put it with red index on the upper part. The lever with the chainlet should be introduced in the regulator holder after removing the plastic lock. If the joint which fixes the lever with the chainlet is taken out, take care in assembling it again in the same position.
After adjusting the knob to 60°C, block the lever with the chainlet in a slightly inclined position downwards so that the chainlet will be in axis with the air gate damper. For the adjustment of the regulator that basicly depends on the determination of the chainlet length, proceed in the following way:

- adjust the knob at 60°C,
- burn the boiler with open air gate damper,
- when the temperature of heating water reaches 60°C, fix the chainlet in such a position that the air gate damper will be open with the opening of cca.1mm.

After this setting the regulator is calibrated and it is possible to choose the desired operating temperature by a rotating head.



13 PUTTING THE BOILER INTO OPERATION – INSTRUCTIONS FOR A SERVICE ORGANIZATION

WARNING: Putting the boiler into operation can be performed only by a service organisation certified for this activity.

Checking activities before start
Before putting the boiler into operation it is necessary to check:
a) filling the heating system with water (check by a manometer) and tightness of the set
b) connection to the chimney - this connection can only be carried out with the approval of a chimney-sweeping company, to measure the draught of the chimney by a chart of fuels

Filling the heating system with water:

- Water hardness must correspond to standards and in case of unsuitable hardness it is necessary to treat water
- Heating systems with an open expansion tank enable a direct contact of heating water with the atmosphere. In the period of heating expanding water in the tank absorbs oxygen that increases corrosive effects and in the same time water is evaporated significantly. To refill, only water treated to values by STN 07 7401: 1992 can be used.
- The heating system must be thoroughly rinsed, to wash out all the dirt.

- During the heating period it is necessary to keep constant volume of water in the heating system. When refilling the heating set with water it is necessary to avoid sucking the air in the system. Water from the boiler and heating system must never by drained or taken for use except for unavoidable situations such as repairs and so on. Draining water and feeding with new one increases the danger of corrosion and incrustation.

⚠ **WARNING:** If refilling is necessary, it can be done only to a cooled boiler to prevent breaking the elements.

- After filling the boiler and heating system check the tightness of all joints
- Finishing the assembly and testing of heating must be recorded to the Letter of warranty

Connection to the chimney:
Connection of the boiler to the chimney must be performed by the standard and with the approval of a chimney-sweeping company. Boilers in the central heating system must be connected to a separated chimney vent. The chimney with the right draught is a basic condition for a good operation. It influences the performance of the boiler as well as its effectivity.

Putting the boiler into operation
- Heating the boiler up
- Bring the boiler to the required operating temperature, recommended outlet water temperature 80 ° C
- Adjust the lenght of the chainlet of the draught regulator (according to the instructions for the draught regulator).
- Keep the boiler in the operation state by the proper standards.
- Check again the boiler's tightness.
- Inform the customer with the boiler's attendance
- Make a record into the Letter of Warranty

14 ATTENDANCE OF THE BOILER BY A USER

WOOD – To reach the nominal output it is necessary to keep the max. 20% moisture content of wood. Fuel must be stored in dry place. Cleaning of the grid is made not to let burning fuel drop down to the ash collection basin.
BLACK COAL - The most proper fuel is black coal of 24-60mm grain-size

How to start fire
1. Check the pressure of water in the heating system.
2. Open boiler fittings between the boiler and heating system.
3. Clean the grid, ash collection basin, flues and walls of the boiler (after cleaning the boiler check the tightness of the cowl).
4. Spread wood through the ash port and chamber port along all the lenght on the cleaned grid.
5. Flue flap in the cowl adjust into the position of open and close the load port.
6. Ignite wood through open ash port and chamber port.
7. Close the chamber port and ash port and open the fuel cut-off slide fully.
8. On burning wood load a thin layer of basic fuel.

9. After inflaming it, load other dose of fuel up to the bottom edge of a load port and arrange the fuel into an even layer.
10. As soon as fuel gets deep red glare, open a little the air disk of secondary air inlet on the load port by means of a tool.
11. After the flame turns yellow, close the air disk of secondary air.

Operation:

1. After reaching the temperature of heating water adjust the inlet of combustion air. The boiler output is regulated by the change of draught with the help the flue flap in the cowl. A slight output regulation is carried out with a fuel cut-off slide that regulates the air inlet under the grid either manually or with a draught regulator. Adjust the draught regulator so that the cut-off slide in the ash port was almost closed in the moment when the required temperature is reached.
2. Reloading the boiler during operation depends on the need for heat and burning intensity. When reloading, the layer of fuel must be equally thick.
3. When using coke, black coal, wood, it is necessary to open partially the inlet of secondary air inlet in the loading port during all the time of inflamation of reloaded fuel. **(The air inlet must be controlled by a tool due to the surface temperature.)**
4. When starting the night operation, clean the grid, let the reloaded fuel burn thoroughly and then decrease the boiler output by cutting off the draught by the cut-off slide and turning down the air inlet of the secondary air inlet. The level of opening of the cut-off slide and air inlet must be tested and it is necessary to prevent escape of flue gases into the boiler room. The draught regulator should be turned off (close the cut-off slide).
5. To restart operation of the boiler in the morning, open the cut-off slide and air inlet and rake the grid after opening the ash port.
6. The ash port must be permanently closed during the operation of the boiler.
7. If necessary, empty the ashtray out (use protective gloves).

Dew creation and tarring of the boiler

After first burnings in a cold boiler water condenses on the walls and flows down into the ash collection space which can make the impression that the boiler is leaking. This dew disappears after setting ashes down on the inner walls of the boiler. When the boiler runs with low temperature of water under 65°C and with wet wood, water condensates in flue gases, condensate flows down cold walls of the boiler. Heating with low temperatures is also not suitable for the lifetime of the chimney body.

Tarring of the boiler occurs under similar conditions (low output, low temperature) furthermore during insufficient burning (lack of combustion air) Tar from the boiler can be removed best under the minimum temperature of 90°C in the boiler. This temperature can be reached fast by turning off the radiator. To prevent dew creation and tarring of the boiler, it is recommended to run the boiler with the temperature over 65°C and choose the boiler according to the needed output of the heating system. Overlarge boiler then is deteriorated at low temperatures.

Interrupting the operation of the boiler

The operation is interrupted when the fuel in the boiler is let to burn up. **We do not recommend** to haste the interruption of the operation in any way.

Shorttime interruption of the operation

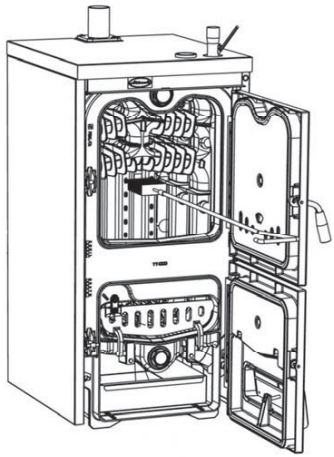
For shorttime interruption of the operation clean from burnt fuel, empty the ashtray, clean surfaces of load port, clean the ash collection space and close the load and ash port.

Longtime interruption of the operation
For longtime interruption of the operation (e.g. end of heating season) clean the boiler properly, so as moisture causing excessive corrosion is not kept in soot and ash.

IMPORTANT WARNING:

1. Attendance of the boiler can be only carried out by **adults** familier with this instruction. To leave children without a supervision of adults near the boiler **is not allowed**. Any interventions endangering the health of people attending others **are not allowed**.
2. If there is a danger of creating or coming of combustible vapours into the boiler room or during works when there is a temporary danger of fire or explosion (glueing of floor coverings, painting by inflammable paints), the boiler **must be put out of the operation** before starting the works.
3. Forignition of the boilerit **is FORBIDDEN** to use inflammable liquids
4. During theoperation it **is FORBIDDEN** to overheat the boiler.
5. **No combustible** objects can be put on the boiler or in its very near distance.
6. When taking ashes out of the boiler there can be **no combustible** materials within the minimum distance of 1500 mm from the boiler.
7. When the boiler runs with the temperature lower than 65 °C, dew creation can occur on the boiler body as well as corrosion that shortens the lifetime of the boiler body. Therefore we recommend to run the boiler with the temperature over 65 °C and higher.
8. After the end of the heating season, it is necessary to clean the boiler, flues and a cowl thoroughly. Grease swivel pins, the chimney flap and other movable parts of the boiler with graphite grease. Keep the boiler room clean and dry.

15 MAINTENANCE



Remove ashes from the ashtray during the operation even more times a day according to the kind of the used fuel because a full ashtry in interferes with right distribution of combustion air under fuel and causes unequal burning of fuel on the grid. All the residuals, especially cinder, are removed before each new ignition and during restarting the boiler in the morning. Ashes need to be put into incombustible containers with covers. **During the work it is necessary to use protective aids and regard personal safety.**
For heating with black coal and wood clean the walls of the boiler in the grate, draughts and the cowl regularlywith brushes. If after the use of some fuels with more gas released tar creates on the walls of the combustion space, remove it with a scraper or by burning dry hard wood (or coke) with the boiler set on maximum operation temperature. Measure the draught (by a service organization) according to the chart.

16 INSTRUCTIONS FOR PRODUCT LIQUIDATION AFTER ITS SERVICE LIFE

As this product is made of common metal materials , we recommend to liquidate single parts in this way:

- heat exchanger (grey cast iron) – by a company dealing with collection and liquidation of waste
- piping, casing – by a company dealing with collection and liquidation of waste
- other metal parts – by a company dealing with collection and liquidation of waste
- insulating material – to common waste

By disposal of the package please follow these rules:

- plastic foil, cardboard package and wooden pallet – to common waste
- metal tape – by a company dealing with collection and liquidation of waste

17 WARRANTY AND RESPONSIBILITY FOR DEFECTS

- User is obliged to order boiler's putting into operation by specialized company,
- Maintenance of the boiler must be performed regularly by the user.
- Each damage must be always announced immediately after the detection in written form and its repair agreed later by phone.
- if these rules are not followed the warranty will not be accepted by the manufacturer.
- The manufacturer reserves the right for changes made as the innovation of the product that are not involved in this instruction for use.

The producer is not responsible for:

- damages caused by a wrong assembly and attendance of the product
- product's damage caused during transport or other mechanical damages
- damages caused by inappropriate storage
- damages caused by low-quality water in heating system

More information about conditions of warranty are stated in Letter of Warranty.

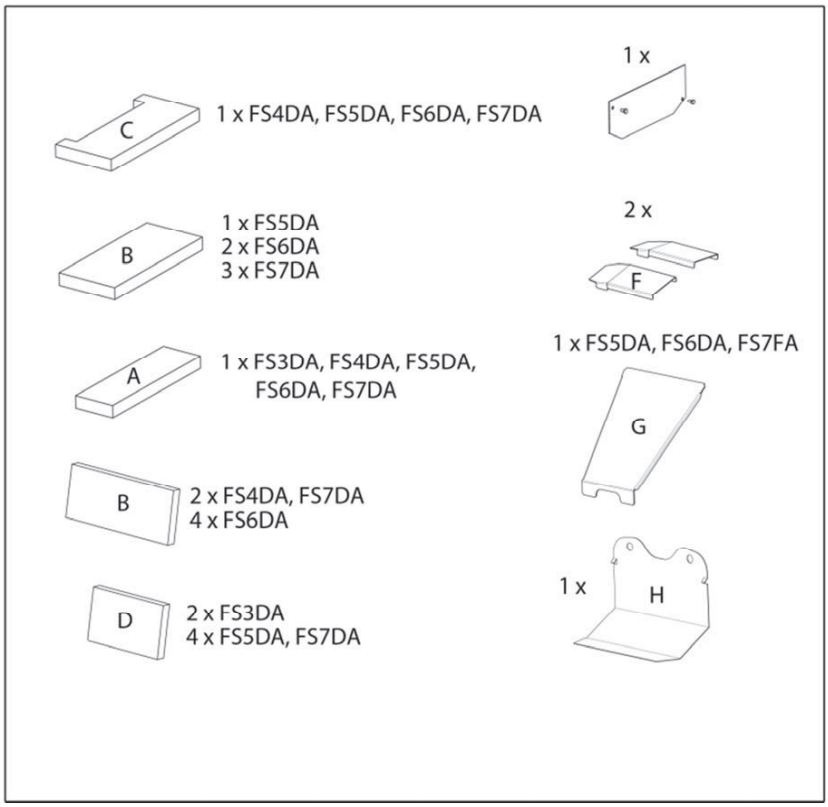
18 REPAIRS

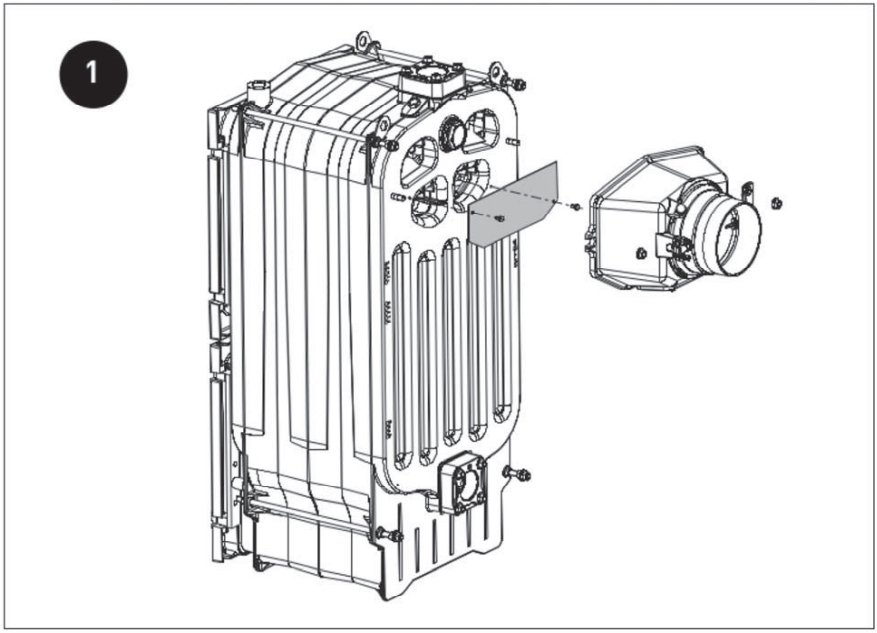
A person performing the attendance of the boiler can carry out only the repairs consisting of simple exchange of parts like packing cord. Other necessary defects can be only removed by a service company from the list that is delivered as a supplement of the instructions for use. For the repairs, use only original spare parts.

Defect	Cause	Removal
Insufficient output of the boiler	Low fuel efficiency Low pressure Heat exchanger and flue branch with flap covered by soot	Use fuel with higher efficiency for lower outside temperatures Adjust chimney Clean the elements of exchanger as well as the flue branch
Boiler cannot be regulated	Doors to ashtray is not tight Strong draught	Check and adjustment of packing cords Adjust chimney
High temperature in boiler, low one in radiators	High hydraulical resistance mainly in systems with gravity circulation, Strong draught, high fuel efficiency	Decrease hydraulical resistance. by a circuit pumpDecrease the draught with a flap

19 KIT FOR 3 CLASS ASSEMBLY

KIT FOR 3 CLASS
FS3DA (FSK 001)
FS4DA (FSK 002)
FS5DA (FSK 003)
FS6DA (FSK 004)
FS7DA (FSK 005)

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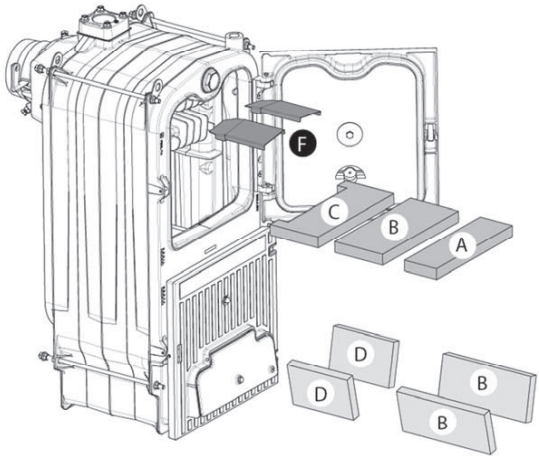

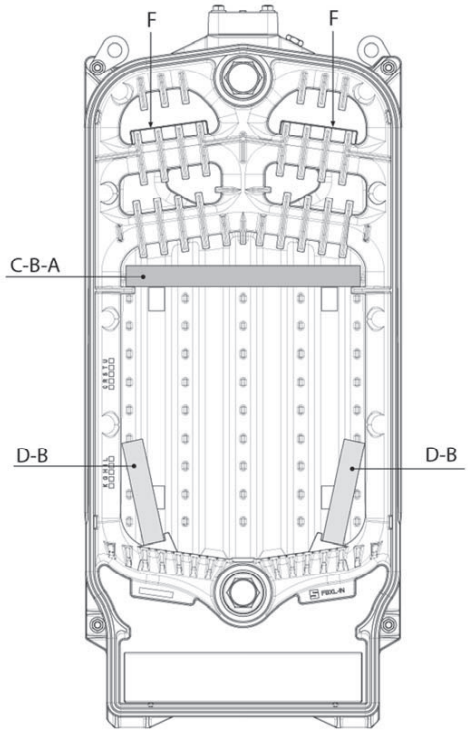

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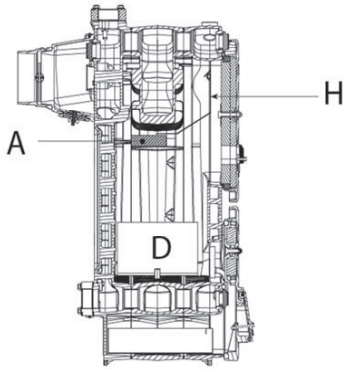

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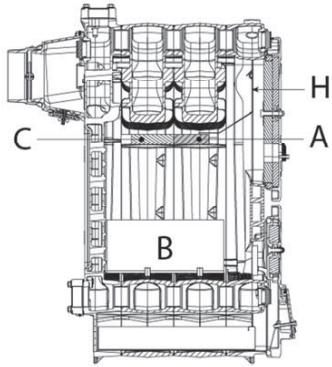
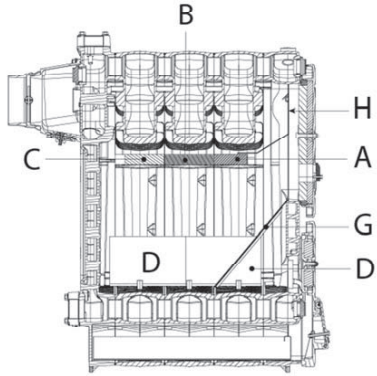
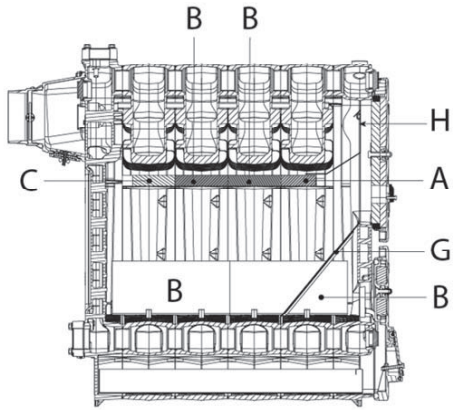


FS4DA

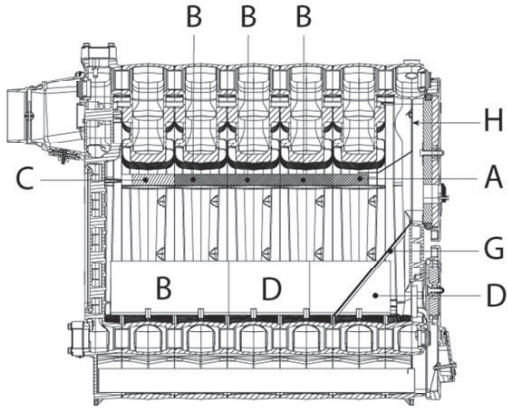


FS5DA

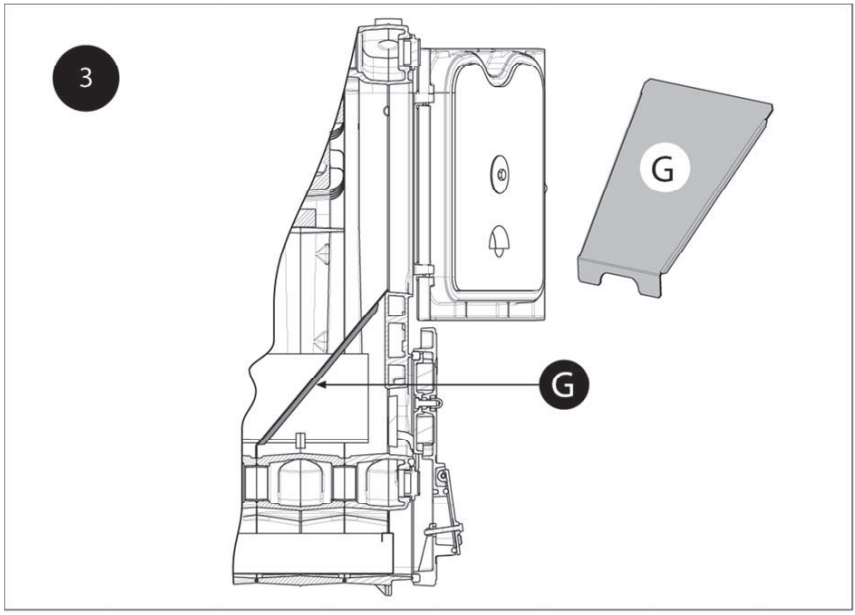
6



FS6DA



FS7DA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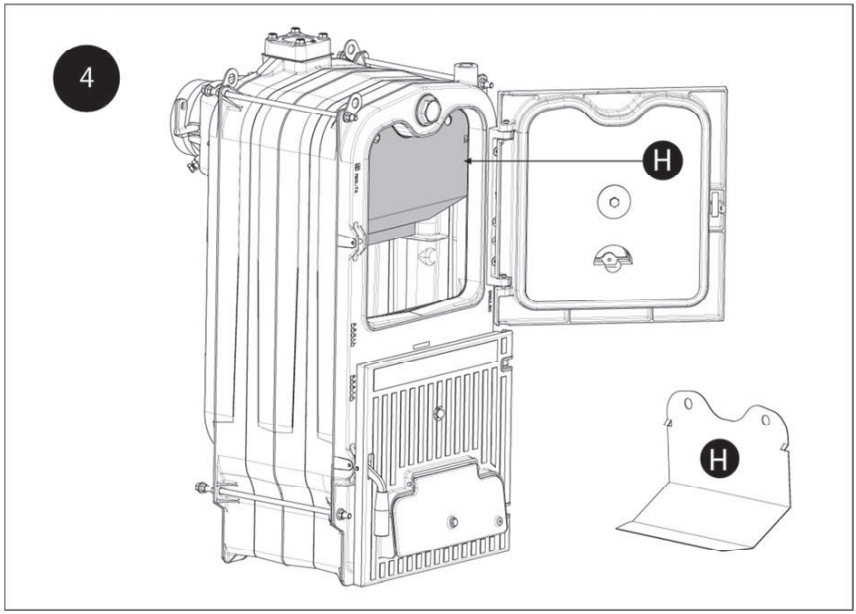

4
H
H

Unpack parts of convertible kit. Check if the composition agree with the size of the boiler. Check if the concrete parts are not damaged.

19.1 ASSEMBLY PROCEDURE

❶
Assembly the cover sheet with screws M6x10 – 2 pcs on rear side of boiler. Then assembly flue gas chimney. The flue gas chimney is universal.

❷ ❺ ❻
Insert concrete parts „A“, „B“, „C“, „D“ according to this description. The composition depend on the size of boiler. Insert 2 pieces of the part „F“ to the upper part.

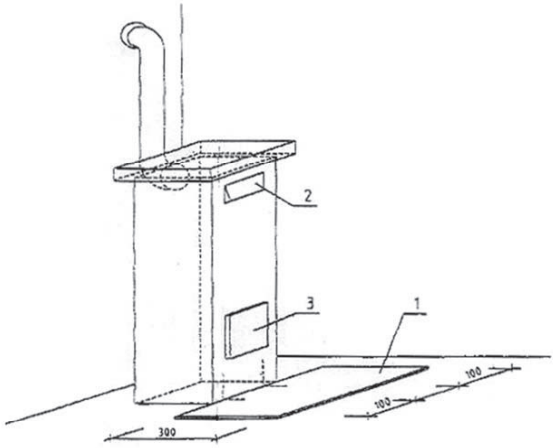
❸
Insert the part „G“ into the boilers FS5DA, FS6DA, FS7DA. This part is universal.

❹
Insert the part „H“ into the boiler. Hang it up on juts in upper part of cast iron.
This part is universal.

20 APPENDIXES

Appendixes are attached to the instructions of use.

20.1 APPENDIX NO. 2

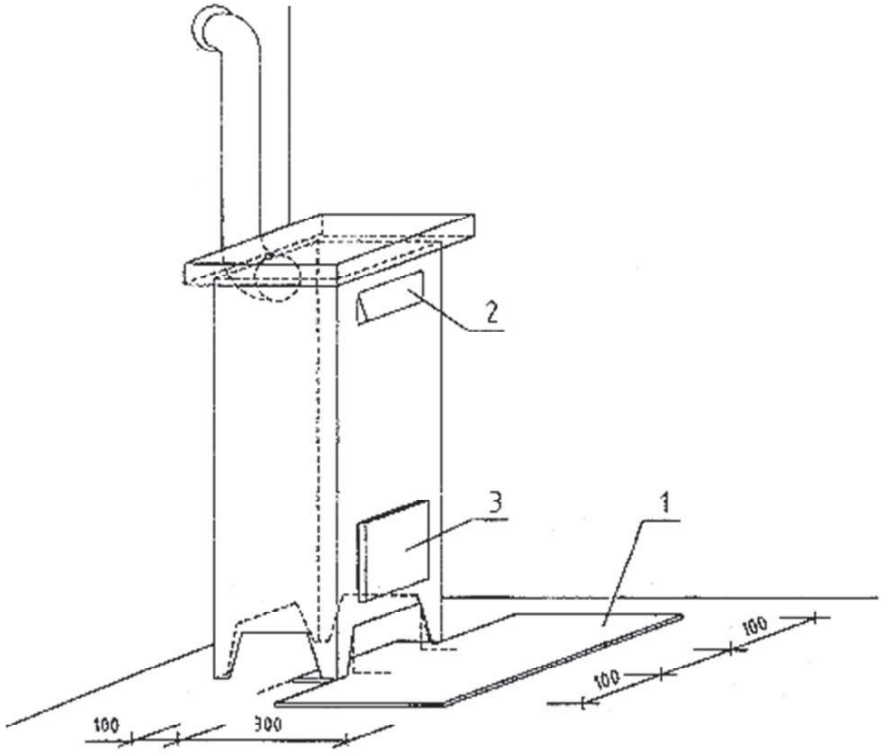


Example of protective plate of fuel appliance (dimensions in mm)

LEGEND:
1 – protective plate of fuel appliance
2 – feed entrance
3 – opening of ashtray

20.2 APPENDIX NO. 3

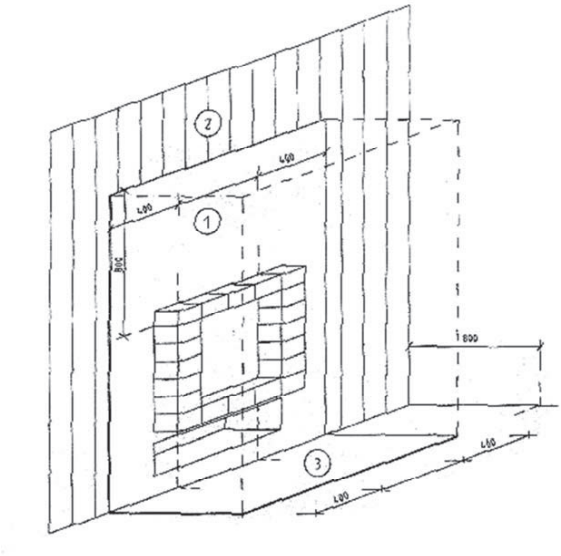
Example of protective plate of fuel appliance (dimensions in mm)



LEGEND:
1 – protective plate of fuel appliance
2 – feed entrance
3 – opening of ashtray

20.3 APPENDIX NO 3.

Example of non-flammable surface treatment of the wall around the fireplace and the protective plate in front of fireplace (dimensions in mm)

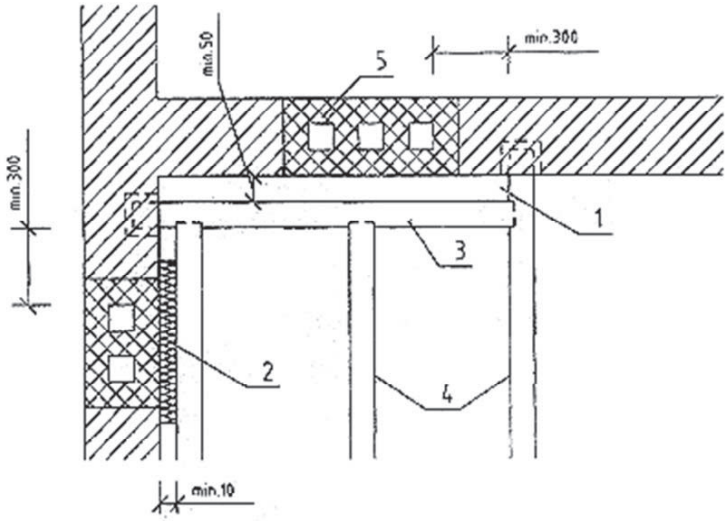


LEGENDA:
1 – non-flammable surface treatment of the wall around the fireplace
2 – flammable surface treatment of the wall
3 – protective plate of fireplace protecting flammable floor from its thermal effects and from accidentally dropped fuel parts

-.-.-.-.- – no flammable substances and articles can be stored in such a space

20.4 APPENDIX NO. 5.

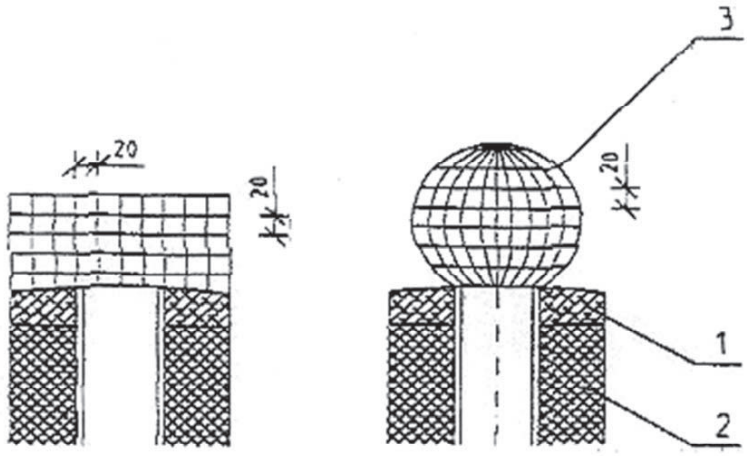
Example of positioning of wooden construction near by chimney's bodies (dimensions in mm)



LEGEND:
1 – min. free safe distance - 50 m
2 – safe distance reduced by 10 mm non-flammable thermal insulation
3 – change of beam
4 – supporting beam
5 – stack brickwork

20.5 APPENDIX NO. 6.

Example of production of spark catcher (dimensions in mm)



LEGEND:
1 – chimney head cover plate
2 – chimney ventilating hole with chimney insert
3 – spark catcher

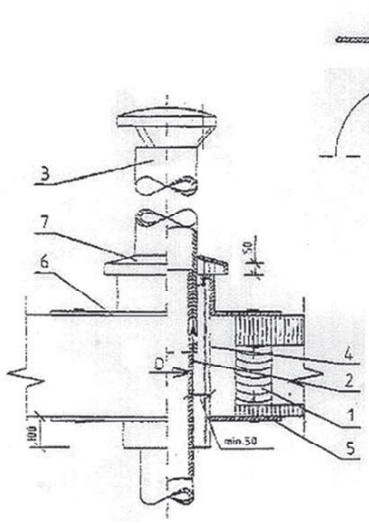
20.6 APPENDIX NO. 7.

Safe distances between appliances and flue pipes from flammable materials

Appliances by fuel type and electrothermal appliances	**Safe distance (mm)**
Solid in all directions	800
Liquid in all directions	400
Gaseous in all directions	200
Infra heater for gas fuel	
– from the upper edge	800
– at the direction of heat transmission	1500
– in other directions	400
Electrothermal in all directions	200
Electric infra heater	
– from the upper edge	400
– at the direction of heat transmission	800
– in other directions	200
Electric accumulation stove	
– at the direction of hot air	1000
– in other directions	200

20.7 APPENDIX NO. 8.

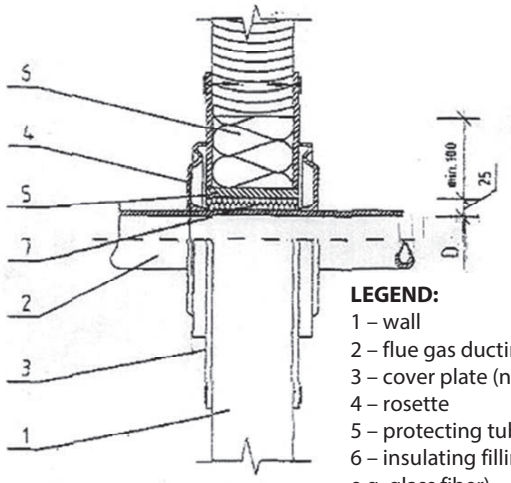
Flue gas transmission through a ceiling of flammable materials (dimensions in mm)



LEGEND:
1 – ceilling
2 – flue gas ducting
3 – flue gas ducting's extension
4 – protecting tube (non-flammable)
5 – chimney breast (non-flammable, non-metallic)
6 – ceiling sleeve (non-flammable)
7 – shelter (non-flammable)

20.8 APPENDIX NO.9.

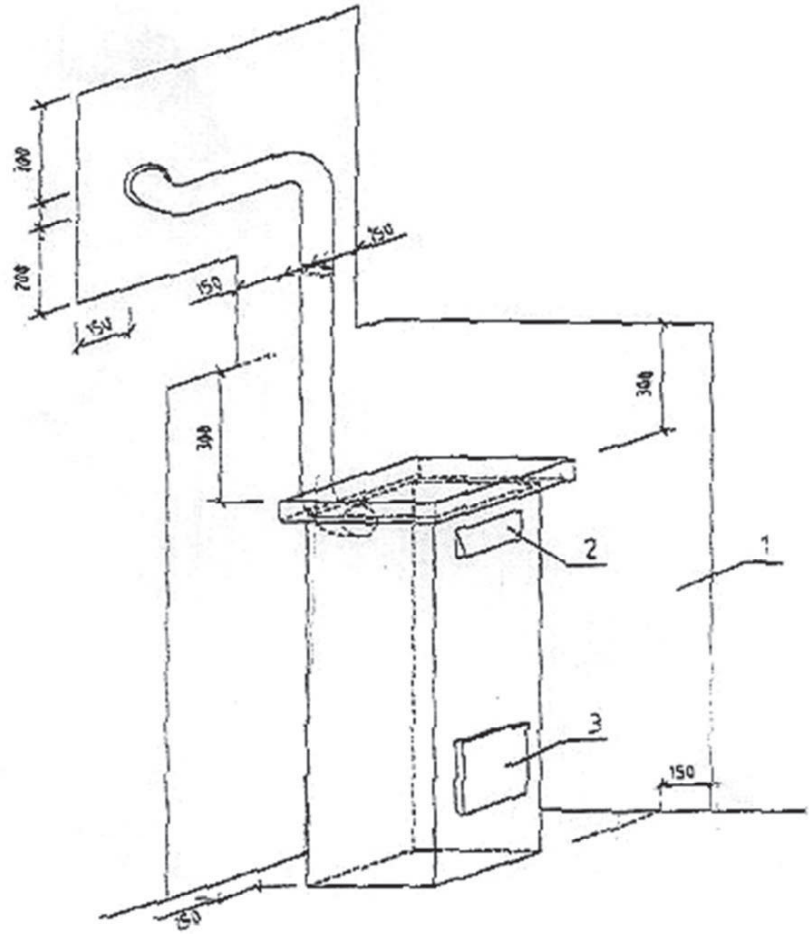
Flue gas transmission through a wall of flammable materials (dimensions in mm)



LEGEND:
1 – wall
2 – flue gas ducting
3 – cover plate (non-flammable, non-metallic)
4 – rosette
5 – protecting tube (non-flammable, non-metallic)
6 – insulating filling I (non-flammable, e.g. glass fiber)
7 – insulating filling II (non-flammable, e.g. eraser on the stove)

20.9 APPENDIX NO.10.

Example of positioning of protective screen of fuel appliance and flue gas ducting (dimensions in mm)



LEGEND:

1 – protective screen of fuel appliance and flue gas ducting protecting surrounding combustible building structures against their thermal effects

2 – feed entrance

3 – opening of ashtray

Information about processing of personal data

Dear Customer,
You provide us your personal information by completing and sending the Boiler start-up recordand our company becomes your personal data manager in relation to you.
We hereby would like to inform you why and how we process your personal information, how we collect your personal information, for what purpose we handle it and the legal basis of such processing, how we handle personal data and what your rights are in relation to processing your personal data.
Please read the following information carefully before providing us your personal details.
In case of any questions related to the processing of your personal data, please do not hesitate to contact us at tel. no. 00421 43 400 3131 or support@attack.sk.

Privacy Manager:
ATTACK, s. r. o., with its registered office at Dielenská Kružná 5020, 038 61 Vrútky, Slovak Republic
Tel .: +421 43 4003 101
Fax .: +421 43 3241 129
E-mail: export@attack.sk
Web: http://www.attack.sk

Processing of personal data
We will only process the personal information you provide to us in the Boiler start-up record, i.e.:
- Name
- Surname
- Address
- Phone
- Type and serial number of the product

Purpose and legal basis for the processing of your personal data
We will process your personal data for the following purposes and on the basis of the following legal bases.

1) For the purposes of direct marketing, which is a legitimate interest of our company. The legal basis here is Art. Article 6 1. Letter. (f) Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation).

   The proccesing based on our legitimate interest, i.e. direct marketing, is following:
   Your personal data will be stored in our electronic database which is managed directly and only by us. This electronic database is stored and secured on the property of our company. Your personal data will be used by our legitimate interest only in order to be able to send you an offer of our new products, especially in the event of the end of the expected life of product which you enter your personal data in the Boiler start-up record in if our company develops a newer and more technologically superior and better product that could replace the product in which you enter your personal data into the in the Boiler start-up record.
   Direct marketingis our legitimate interest and the one of two purposes of processing of

your personal data, i. e. direct offer of our products sent to you.

2) The legal basis for fulfilling the extended warranty agreement on the product in which you enter the Boiler Startup Record whereare your personal data is Art. Article 6 1. Letter. (f) Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation).

   This processing that is required to meet the extended warranty agreement for a product you are one of the parties will be following:
   Our company provides you with an extended contractual warranty (beyond the statutory warranty) in such situation that you comply with the warranty conditions (see the warranty conditions in the Instruction for use, in whichthere is the Boiler start-up record with your personal data). In order to provide you with this extended contractual warranty we need to know who is the other party and whether you are performing your obligations under this agreement especially the mandatory annual service inspections. Therefore we need you to send us a record of this inspection after each annual inspection (max. 5 inspections) and we will declare in our database that you fulfill the terms of the contractual guarantee.
   Since each contract has at least two contracting parties we need your personal data to identify you as a party and identify a specific product for the purposes of fulfilling the extended warranty agreement. We would not be able to fulfill our obligations under the extended warranty agreementproperly without these data.
   Our legitimate interest and one of the two purposes of processing your personal data is therefore the fulfillment of the contract, that is, the fulfillment of the contract for extension of the contractual guarantee.

Processing of personal data for both purposes is done manually and also in electronic information systems. However these systems are subject to rigorous and constant physical and technical control. All persons who, on the basis of our instructions and our credentials, come in contact with personal data in the framework of their work or contractual obligations are bound by confidentiality.

Category of recipients of personal data

We process your personal data primarily by ourselves. However it may happen that we will have to use the services of another entity to process personal data for any of the above mentioned purposes. In this case the relationship between us and the third party will be the relationship between the administrator andthe processor and we will make an agreement with this processor about the processing the personal data in order to guarantee the security and legality of processing your personal data.

Your personal data may therefore be sold to the recipient of the following categories:

a) A company that distributes our products in the territory of a member state of the European Union in which you have purchased a product which you enter your personal data in the Boiler start-up record in or in which such a product is put into service on your request
b) A company providing bulk mailing services

The length of time the personal data will be stored
We will process your personal data for at least the duration of the contractual warranty (i.e. for 5 years) for the purposes of fulfilling the warranty agreement and at most for thetime of assumed lifetime of the products for which the Boiler start-uprecord for the purposes of direct marketing.
Raising objections toprocessing of personal data
Whenever you have the right to object to our processing of your data for direct marketing purposes (see Purpose and legal basis for processing your personal data, item 1) above). If you have an objection to our processing of your direct marketing data, by the date of your objection will cease our processing your personal data for direct marketing purposes.
The objection to the processing of your personal data for direct marketing purposes can be sent to us by post to:
ATTACK, s. r. o., Dielenská Kružná 5020, 038 61 Vrútky, Slovak Republic. In the objection, it is sufficient to provide the name, address and the text "I hereby raise an objection to the processing of my personal data for the purposes of direct marketing" and your signature. We always inform you about the accepting your requestwithout delay.
Please note that the right to object can not be invoked against our processing of your personal data necessary for the purpose of fulfilling the extended warranty agreement.

Your other rights related to the processing of personal data
Please note that you also have the following rights in relation to our processing of your personal information:

- to ask for information about what personal data is processed by us,
- to request access to these data and let them update or fix,
- to require the deletion of these personal data, or the limitation of their processing,
- to raise objection to the processing of your personal data,
- the right to the portability of your personal data,
- in case of doubt regarding compliance with the obligations related to the processing of your personal data, contact the Administrator or the Office for Personal Data Protection.

You may enforce these rights to our company by the same procedure as the right to raise objections to the processing of personal data.