

Installation and Operation Manual



Congratulations on your choice - the choice of high quality heaters.

Compliance with this Manual guarantees excellent quality and maximum service life of the Grill'D brand heaters.

Read the manual carefully before commencing installation and operating the heater. Keep it for future use.

EAC



Dubravo mini Short



Dubravo mini Long



Dubravo 180 Short



Dubravo 180 Long



Dubravo 180 Window



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Table 1. Technical data

Note: heater dimensions are specified in Appendix 1

Specifications	UOM	Dubravo mini		Dubravo 180		
		Short	Long	Short	Long	Window
Steam room volume	m ³	6-12		8-18		
Heater flue outlet connection diameter	mm	115		115		
Mass of stones in the stone heater	kg	80		120		
Stone size	mm	70-150		70-150		
Maximum firewood length	mm	320		390		
Firewood diameter	mm	80-150		80-150		
Mass	kg	42	47	60	62	77
Width	mm	510	510	570	570	650
Height	mm	795	795	940	940	940
Depth	mm	585	780	670	780÷885	790
Fuel	-	Wood		Wood		
Safe distances to combustible materials	From top (from the connection pipe)	mm	1000		1000	
	From the side		500		500	
	From the back		500		500	
	From the front				800	

1. GENERAL DATA

IMPORTANT! Carefully select the heater for the volume of the room. A heater with a small heating capacity will require a more intensive heating during a longer time, which will shorten its service life.

Kindly note that:

When selecting a heater, it is necessary to give consideration to the material of the walls and the ceiling of the room of installation. If they are not heat-insulated (concrete, brick, glass, etc.), a heater of greater power is required, and additional 1.2 m³ of volume should be added per each square meter of surfaces made of such materials. If the walls are made of massive logs, the design cubing shall be increased by a factor of 1.5.

Example 1:

A sauna room volume equals 10 m³. The sauna has a 3-m wide and 2-m high brick wall. Calculations: $10+2 \times 3 \times 1.2 = 17.2$. Consequently, this room is equivalent for a sauna room with a volume of approximately 17 m³.

Example 2:

A sauna room volume equals 10 m³. The sauna has a 0.8-m wide and 2-m high glass door. Calculations: $10+2 \times 0.8 \times 1.2 = 11.9$. Consequently, this room is equivalent for a sauna room with a volume of approximately 12 m³.

Example 3:

A sauna room volume equals 10 m³. The sauna walls are made of massive logs. Calculations: $10 \times 1.5 = 15$. Consequently, this room is equivalent for a sauna room with a volume of approximately 15 m³.

2. OPERATION MANUAL

Read this manual carefully before commencing installation and operating the heater. Keep it for future use.

2.1. Safety measures

IMPORTANT! Consult your doctor about your health-related limitations. Bear in mind that prolonged exposure to hot sauna environment can be harmful. Avoid being in a heated sauna and steam bathing under the influence of alcohol, drugs, medications, etc. Do not sleep in the heated sauna. Take care while moving around in the sauna as benches and floor can be wet and slippery.

IMPORTANT! Consult your pediatrician whether visiting sauna and steam bathing is allowed to your children. Do not let your children approach the heater. Do not leave children as well as handicapped people and people with fragile health unattended in the sauna.

IMPORTANT! Be careful with hot parts of the heater and stones, and also avoid putting steam on if you or someone else is near the stone heater, as it can cause burns.

IMPORTANT! Do not use the steam room or the heater surface to dry clothes or other objects to prevent fire.

Note: metal surfaces of the heater can corrode in coastal and humid climate.

2.2. Heater design and operation

Note: overall view and location of the heater main elements are shown in Appendix 2. Internal design and operation of the heater is shown in Appendix 3.

Firebox as well as other critical elements of the heater, is made of rolled steel of the required thickness that can withstand any estimated loads. High-alloyed corrosion-resistant steel is used for the above heater elements in Pro models.

The effective design for heating up the stones and the steam room is due to numerous bends, heat-conducting structural elements, which increase the heat dissipation area. Also, air convection between the heater firebox, radiators, and protective shield plays a significant role. Heater models of Long version are equipped with extended heating flue that allows the heater to be fired from the adjacent room. Some of the Grill'D heater models of Long version are equipped with a telescopic heating flue, which allows adjusting the length of the flue depending on the wall thickness.

Note: dimensions of heaters with a telescopic heating flue are shown in Table 1 and Appendix 1 as a range of values.

All heater models can be optionally equipped with special reinforcing devices (refer to Appendix 4) made of heat resistant high-alloyed corrosion-resistant steel, that enhance combustion and additionally protect the heater firebox from destruction due to exposure to high temperature. The devices have ducts for supplying additional combustion air, and when it enters the firebox, the air passes partially above the fire into its upper part, where post-combustion of flue gases occurs. Additional heat is generated during this process, thus enhancing the heater's efficiency. There is a grate at the bottom of the heater (refer to Appendix 4). Ash falls through the sheets of the grate into the ash drawer, which allows convenient cleaning of the heater without interruption of burning. The grate is one of the most thermally loaded parts of the heater, it is fabricated of high duty rolled steel with a thickness of 5 mm

The heater firebox door is fabricated of steel and thermal glass (except the mini models). The door opening angle is sufficient for convenient loading of fuel and allows visual monitoring of the burning process due to the availability of the glass. The outer surface of the heater is covered with anti-corrosion heat-resistant enamel.

IMPORTANT! Unauthorized modification of the heater is prohibited. The manufacturer reserves the right to make modifications to the design of the heater that do not impair its consumer properties.

2.3. Heater commissioning

It is recommended to preheat the heater prior to operation. Compound for metal protection and volatile components of the heat-resistant enamel evaporate as a result of heating up of the heater.

Note: remove all packing elements and paper stickers before the first heating up of the heater.

Install a portion of chimney stacks vertically (about 2 meters), load 3-4 logs into the heater firebox and start up a fire. Slightly open the ash drawer to ensure sufficient draft (adjust the gap to be within 50 mm). Once the firewood begins to burn and stable draft develops, partly close the ash drawer (adjust the gap to be within 10 mm).

Add firewood into the firebox as it is consumed. Continue heating up until smoke and odor disappear.

IMPORTANT! During the first heating up avoid the chance of mechanical impact on the paint coating of the heater (do not put the stones into the stone heater, do not rub the surface, do not pour water).

IMPORTANT! Do not heat up the heater at constant excessive draft which can lead to heating of the firebox red hot, as this will reduce its service life. Control the draft by adjusting the ash drawer gap.

IMPORTANT! Install the heater on the place of permanent operation only after complete cooldown.

IMPORTANT! In case a water tank is installed, it shall be cleaned thoroughly before use. The water tank shall be filled before heating.

2.4. Combustion material

Approved fuel types: dry wood, fuel briquettes without artificial binder resins.

Recommended fuel types: hardwood with a moisture content not more than 25%.

The moisture contained in the firewood has a significant impact on the combustion process and the heater efficiency, hence to reduce the rate of soot formation on the walls of the chimney and the flues of the firebox, it is necessary to use **the recommended fuel types**.

IMPORTANT! Different fuel types have different heat of combustion. When a large amount of firewood with a high heat of combustion is burned, as well as when the heater is operated at a constant excessive draft, the heater service life decreases.

IMPORTANT! The following is not recommended as fuel:

- **coniferous, resinous tree species (spruce, fir, pine, etc.);**
- **construction and other materials containing chemicals, glue, etc.;**
- **Vegetation residues (grass, leaves, etc.).**

IMPORTANT! The following is prohibited to be used as fuel:

- **combustible materials with a high heat of combustion (coal, wood chipboard, plastic, pellets and so on);**
- **painted or impregnated wood;**
- **waste (plastic, rubber, textiles, leather, etc.).**

2.5. Stones for stone heater

The permissible stone sizes are given in Table 1.

Only the stones intended for sauna shall be used as heater stones.

IMPORTANT! Put the stones into the heater only after its complete cooldown.

- Clean the stones from dirt and dust before putting into the heater, thoroughly rinse them with water.
- Put large stones down and small ones up.
- Choose the option which suits you the best when putting the stones, namely:
 - put your stones **loosely** in order to allow for free circulation and intense convection of air, thus ensuring maximum heating of the steam room;
 - **closely** laid stones prevent convection and provide maximum protection from infrared radiation.

IMPORTANT! It is prohibited to use halite to fill stone heaters.

2.6. Heater operation

IMPORTANT! Before each heating up of the heater, make sure that there are no foreign objects in the firebox, ash drawer or in the chimney, and that there is chimney draft.

1. Remove all unnecessary and foreign objects from the firebox and chimney, remove ash from the ash box.
2. **Put 3-4 logs on the grate** in such a way as to ensure free access of air to the combustion area, namely: lay the firewood loosely, adjust the ash drawer gap to be within 50 mm
3. **Ignite the firewood** loaded into the firebox. The preferred ignition method is using

birch bark, wood chips and other natural materials, or using paper or throwaway newspapers.

4. **Close the door.**
5. **Partly close the ash drawer** after heating up of the chimney and development of stable draft (usually after burning of the first load of firewood), leaving a gap within 10 mm. It is necessary to constantly ensure sufficient draft, while avoiding the development of excessive one, that leads to heating of the firebox red hot, which significantly reduces the heater service life. Control the draft by adjusting the ash drawer gap.
6. **When additional firewood is required**, open the door smoothly, without jerks. Load the firewood and close the door. Adjust the draft. A couple of logs are enough to maintain the optimum temperature for steam bathing. Bear in mind, that excessive heating (for example, several full loads in a row) leads to overheating and shortens the heater and chimney service life, and can also cause a fire.
7. **The heater operation may be terminated** after the entire load of firewood burns up.

IMPORTANT! The following is prohibited:

- *allowing firewood to burn inside the heating flue;*
- *using explosive, toxic, highly flammable substances, paints, solvents, gasoline, etc., to ignite the firewood;*
- *operating the heater at a constant excessive draft in the firebox.*

IMPORTANT!

- *Partial burning out of heat-resistant enamel is possible on the most thermally loaded elements of the heater during operation, which is not a manufacturing defect.*
- *The firebox metal may become slightly deformed during operation, which is not a manufacturing defect provided the integrity of weld joints is preserved.*
- *In case there is a hot water tank, water shall be drained from the tank every time after termination of the heater operation, if the room temperature drops below + 5 °C during interruptions of the heater operation.*

2.7. Water in the sauna

The water poured onto the stones shall be clean tap water. Ensure the water quality. Water with a high content of iron, salt, humus, or lime can lead to early corrosion of the heater elements. For example, seawater will lead to rapid corrosion of the stone heater. The tap water quality shall meet the following requirements:

- humus content <12 mg/liter;
- iron content <0.2 mg/liter;
- calcium content <100 mg/liter;
- manganese content <0.05 mg/liter.

IMPORTANT! Water shall only be poured onto the stones. If water is poured on heated steel surfaces, they can be deformed due to high differential temperature.

IMPORTANT! It is prohibited to use solution of salt to generate steam during operation: pouring it into the closed stone heater (if available), pouring it onto outer stone heater and the heater metal.

2.8. Maintenance

Routine maintenance of the chimney, heater and its parts is the key to their efficient and safe operation, your safety and safety of your close ones!

IMPORTANT! Carry out maintenance works on the heater and chimney only after their complete cooldown.

IMPORTANT! Take measures recommended for safety. Use personal protective equipment required for such works.

The heater and chimney shall be cleaned of soot before the commencement of the heating season, as well as during the entire heating season at least once every three months.

Cleaning to be performed mechanically. Use special devices, tools and machines (brush, cleaner, scraper, sinker, vacuum cleaner, etc.). The selection of the necessary tools is made based on the needs of the cleaning works. Cleaning the flue channels of the heater is carried out through the cleanout hole after removing the cap (refer to Appendix 2): unscrew both nuts, remove the cap. After cleaning the flue channels, install the cap, makeup and tighten the nuts.

Soot in the chimney accumulated due to poor cleaning, as well as incomplete combustion of fuel, can break into flames.

Procedure in case of fire in the chimney:

1. Close the door, the ash drawer, and the flue damper (if available).
2. Call the local fire department.
3. Do not attempt to extinguish the fire with water.
4. After an ignition of soot, a specialist shall check the heater and the chimney for the possibility of further operation.

IMPORTANT! The use of cleaning log (briquettes), homemade compounds creating high temperature in the heater firebox and chimney, is prohibited for the purposes of burning the soot deposited in them.

The stones deteriorate with time as the heater is operated, this is why it is necessary to turn them over and reposition in the stone heater at least once a year, when the heater is frequently operated. Remove the destroyed stones and their parts from the stone heater, replace them with new ones. Before laying the stones, clean the heater with a wet cloth. The ash drawer shall be cleaned at all times before heating, so that the combustion air passing through the ash drawer to cool the grate, thereby increasing its service life. If there is a **thermal glass door**, use soft cleaning waste with special agents for cleaning heat-resistant glass of fireplaces and heaters in accordance with the application instructions.

Please, obey fire safety rules!

2.9. Typical faults and troubleshooting methods

1) Fault: Odors appear during the heater operation.

Possible cause:

- There is leftover industrial oil on the heater surface, or/and the odor comes from heat-resistant enamel.
- When heating up, the heater can enhance the odors present in the air, even if their source is not the sauna itself or the sauna heater. Such sources, for example, can be surfaces treated with paint, oil, glue and other materials.

Troubleshooting methods:

- Stoke the heater in accordance with paragraph 2.3.
- Select appropriate materials for treatment of the surfaces in the sauna; use them in accordance with the application instructions.

2) Fault: The sauna room is not heating up.

Possible cause:

- The sauna room is too large for the heating capacity of the heater.
- Thermal insulation of the room is not in compliance with the requirements.
- Insufficient chimney draft.
- Low quality or wet combustion material.
- Blockage in the chimney or flue channels of the heater.

Troubleshooting methods:

- Check that the heater capacity matches the size of the sauna (section 1).
- Check the thermal insulation of the room (section 1).
- Check combustion material for compliance (paragraph 2.4).
- Perform maintenance (paragraph 2.8).

3) Fault: The stones in the stone heater do not heat up.

Possible cause:

- The sauna room is too small for the heating capacity of the heater. The room is heating up faster than the stones.
- Insufficient chimney draft.
- Low quality or wet combustion material.
- Blockage in the chimney or flue channels of the heater.
- The stones are laid incorrectly.

Troubleshooting methods:

- Check that the compliance of the heater capacity against the sauna size (section 1).
- Check combustion material for compliance with the requirements (paragraph 2.4).
- Perform maintenance (paragraph 2.8).
- Inspect the stone heater for compliance with the requirements (paragraph 2.5). Remove stone chips and replace them with intact stones. Replace the stones with diameters less than the ones specified in Table 1 with larger ones.

4) Fault: The operating mode of the heater cannot be controlled during wind /heater firing/ low chimney draft during operation. Smoke partly escapes through the firebox door. Smoke enters the sauna.

Possible cause:

- Blockage in the chimney or flue channels of the heater.
- The chimney height is not sufficient or the chimney is located next to a high obstacle.
- There is cold air in the chimney; the chimney has not heated up.
- Low quality or wet combustion material.
- The chimney is installed incorrectly.

Troubleshooting methods:

- Perform maintenance (paragraph 2.8).
- Extend the chimney stack height.
- Insulate the chimney stack with a non-combustible heat-insulation material.
- Select a heat-insulated chimney stack.
- Remove ash from the ash drawer.
- Check combustion material for compliance with the requirements (paragraph 2.4).
- Ensure supply of a sufficient volume of combustion air.
- Check the correctness of chimney installation and/or compliance with the manufacturer's requirements; trust the installation and disassembly of the chimney only to qualified specialists.

3. INSTALLATION MANUAL

3.1. Before commencing installation of the heater

IMPORTANT! Make sure that all safety distances around the heater are observed. There shall be no electrical appliances, cables, meltable and flammable materials within the safety distances. Consider the safety distances from the chimney during installation!

- The heater shall be installed in compliance with all local rules, including those referring to European and national standards.
- The chimney stack for the heater shall be individual, not joint combined for several appliances.
- For more information about fire safety requirements, please, address the local fire department.
- Check the availability of all the heater component parts. Make sure that all the heater bolted connections are tightened.

3.1.1. Configuration of sauna ventilation

1) Self-ventilation (Figure 1):

Air inlet (**A**) shall be located close to the floor next to the heater. Air inlet is necessary for fresh air supply to the sauna.

Exhaust outlet (**B**) shall be located under the ceiling as far as possible from the heater.

The primary purpose of exhaust outlet is to remove moisture from the sauna after steam bathing.

2) Mechanical exhaust ventilation (Figure 2):

Air inlet (**A**) shall be located at the height of about 500 mm over the stone heater.

Exhaust outlet (**B**) shall be located as close as possible to the floor, for example, under a bench.

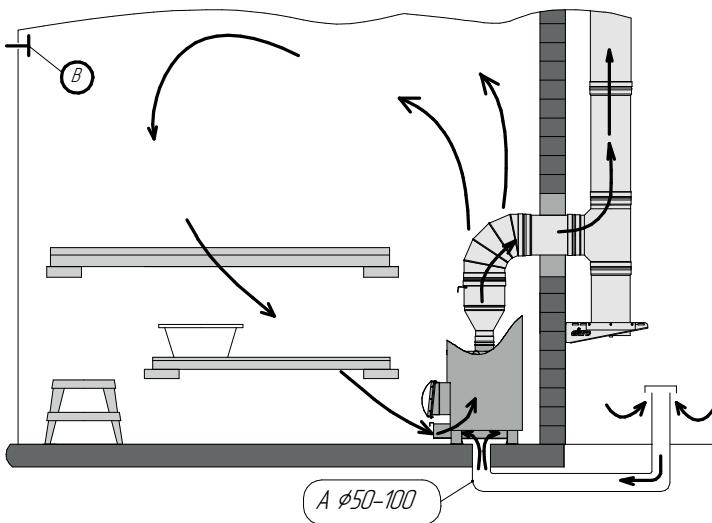
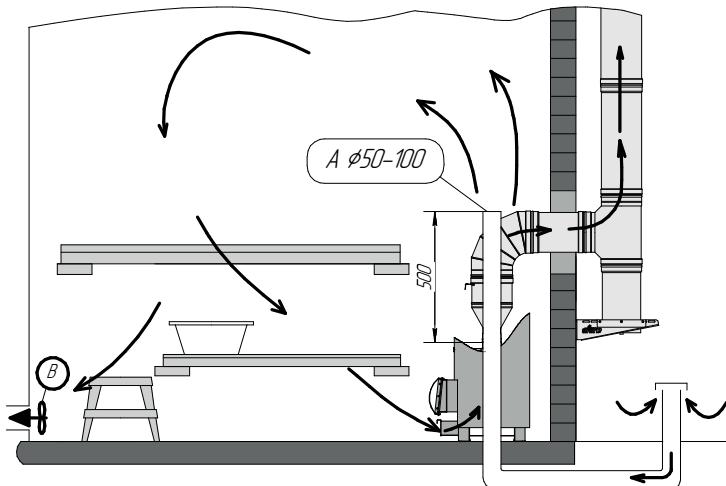


Figure 1.
Self-ventilation

Figure 2.
Mechanical
exhaust
ventilation



3.1.2. Sauna floor protection

Figure 3.

A) Concrete floor without finish

The heater can be installed on the floor without any special precautions, if the concrete thickness is not less than 60 mm. There shall be no electrical cables, water supply and sewage pipes in the concrete under the heater.

B) Floor with tile finish

The materials laid under the tiles, such as: glue, waterproofing and so on, are not resistant to heat radiation of the heater. You can use special racks to protect the floor under the heater.

C) Floor made of combustible materials.

You can use special racks to protect the floor under the heater or arrange an understructure rack consisting of layers of heat-insulating, non-combustible, heat-reflecting materials of sufficient thickness. In case the floor in front of the heater door is made of combustible material, it is necessary to install floor protection made of non-combustible material.

IMPORTANT! Make sure that the floor is capable of withstanding the heater load. Take measures, if necessary.

3.1.3. Safety distances

Figure 4, Table 2.

(A) - Distance from the heater connection to the ceiling.

(B) - Minimum safety distance to flammable materials on both sides of the heater, (C) - behind and (D) - in front of it.

(E) - Distance to the walls made of non-combustible materials.

(F) - Distance to the walls made of non-combustible materials in the alcove.

The gap between the heater and the walls made of non-combustible materials (E, F) is necessary for air circulation.

Figure 3.
Sauna floor protection

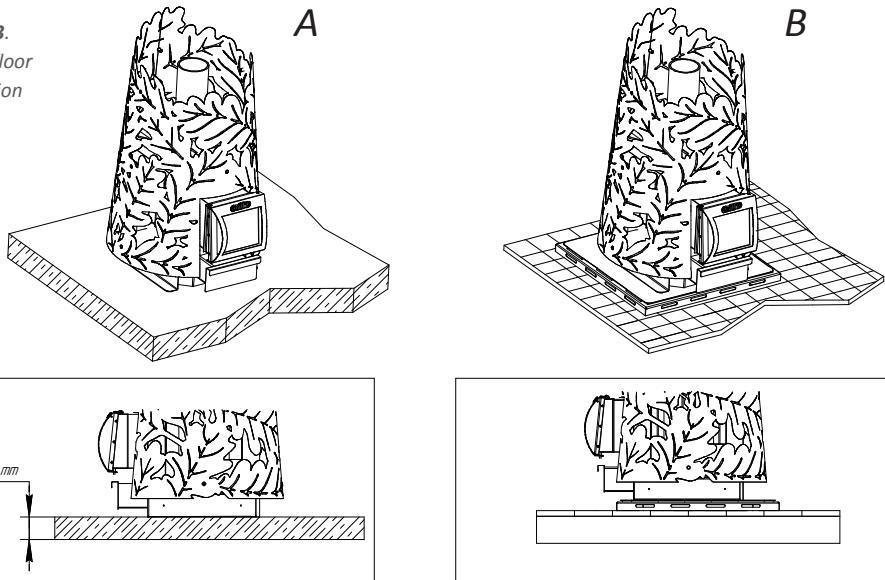


Table 2. Safety distances

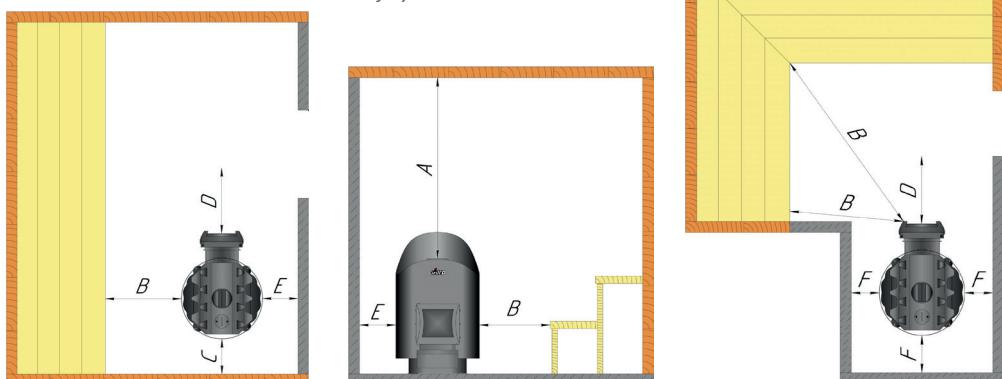
A min.	B min.	C min.	D min.	E	F
1000	500	500	800	50	100

Note: dimensions are in millimeters.

3.2. Heater installation

IMPORTANT! Ensure proper floor levelling for the heater installation; possible slants of the heater and the chimney are precluded.

Figure 4.
Safety distances



3.2.1. Stone chimney connection

The diameter of hole for connection to the chimney stack shall be about 20 mm larger than the diameter of the heating flue outlet pipe, so the optimum clearance around the pipe is about 10 mm.

If the designed pipe inlet to the stone chimney is at 90°, it is recommended to make the inner edges of the chimney stack bore round (Figure 5) in order to reduce the resistance for flue gas passage.

If you plan to use a heater rack, for example, then take into account the height of the heater together with the rack when preparing the hole.

Procedure:

1. Install the heater on the place of permanent operation.
2. Install a water tank, if any. Keep in mind the requirements of its operations manual.
3. A valve can be installed on the connecting pipe, if additional adjustment of draft is necessary. Install, if any.
4. Insert the connecting pipe into the stone chimney. Do not push the connecting pipe too deep into the stone chimney, as you can block it.
5. Connect the heater with the pipe inserted into the stone chimney.
6. Ensure that all the pipe connections and the heater connection are reliable..
7. Seal the gap between the pipe and the wall using non-combustible mineral wool, for example.
8. Make sure that the air-tight seal is good. Add mineral wool, if necessary.

IMPORTANT! Familiarize yourself with the manufacturer's detailed instructions on the safe distances and installation of steel chimney elements, as well as the water tank.

Some installation options are depicted in Figure 5.

3.2.2. Heater connection to a steel chimney

Steel chimneys can be used for flue gas withdrawal. As a rule, it consists of separate modules that can be coupled with each other, and that form a single duct for flue gas withdrawal.

Chimneys can be installed directly from the heater through the ceiling and roof, or at an angle through the wall.

If you plan to use a heater rack, for example, then take into account the height of the heater together with the rack when preparing the hole for passage of the pipe through the wall.

The procedure for installing the pipe at an angle:

1. Install the heater on the place of permanent operation.
2. Install a water tank, if any. Keep in mind the requirements of its operations manual.
3. A valve can be installed on the connecting pipe, if additional adjustment of draft is necessary. Install, if any.
4. Install all the necessary components of the outside chimney.
5. Insert the connecting pipe into the outside chimney.
6. Connect the heater with the pipe inserted into the outside chimney.
7. Ensure that all the pipe connections and the heater connection are reliable.

Note: when installing the chimney from the heater directly through the ceiling and roofing system, all the elements are installed consecutively.

Note: when applying additional vertical load on the heater structure, such as: installing an additional volume of stones, installing a chimney, installing a water tank, etc., the maximum permissible load shall be considered. It shall be equivalent to the sum of a filled water tank with a volume of 70 l max, and two heat-insulated chimney modules with a length of one meter.

Use special unloading support platforms to reduce load, when installing a steel chimney. The mass of the vertical part of the chimney supported by the heater, shall not be greater than the maximum permissible one. Further, you need to install an unloading support platform and using it, continue the chimney installation.

IMPORTANT! Familiarize yourself with the manufacturer's detailed instructions on the safe distances and installation of steel chimney elements, as well as the water tank.

IMPORTANT! If there is a protective shield around the stone heater, the chimney insulation shall start at the level of the top edge of the shield or lower.

Some installation options are depicted in Figure 6.

4. WARRANTY

The warranty period for the Product is 5 years, it applies to the integrity of weld joints. The warranty period for the entire Product is 1 year. The warranty is valid from the date of purchase of the Product by the Consumer.

The service life of products while meeting the requirements of the operation manual and the installed combustion chamber reinforcement is at least 2000 hours, while without combustion chamber reinforcement it is 1500 hours.

Note: In case of periodic non-commercial use of the product, the time of operation is as a rule 4 hours per week or roughly 200 hours per year.

If the Consumer detects a non-compliance of the Product with the specified properties, the Consumer has the right to address a claim to the Company that sold the Product. However, the Company has the right to contact the Manufacturer to resolve issues regarding the Claim. The Manufacturer undertakes to improve

the entire Product or its part (as decided by the Manufacturer) free of charge, replace the entire Product, its components, parts, compensate for the damage in any other way (as agreed with the Consumer), if the defect occurred during the warranty period or due to the Manufacturer's fault.

Should the Consumer make alterations to the entire Product, its component(s), part, then warranty obligations do not apply to the Product. Thereafter, the warranty does not apply to elements that are subject to periodic replacement during operation.

The Product warranty is not provided in case of violation by the Consumer of the requirements specified in the Operation Manual, technical requirements for installation and operation of the Product. The above violations by the Consumer release the Manufacturer from responsibility.

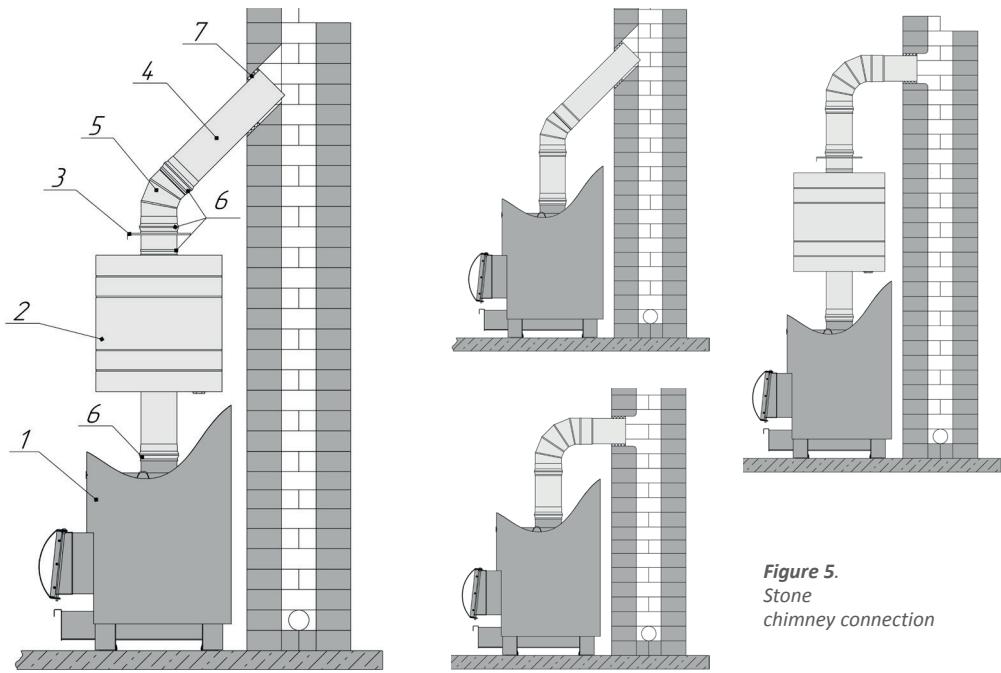


Figure 5.
Stone
chimney connection

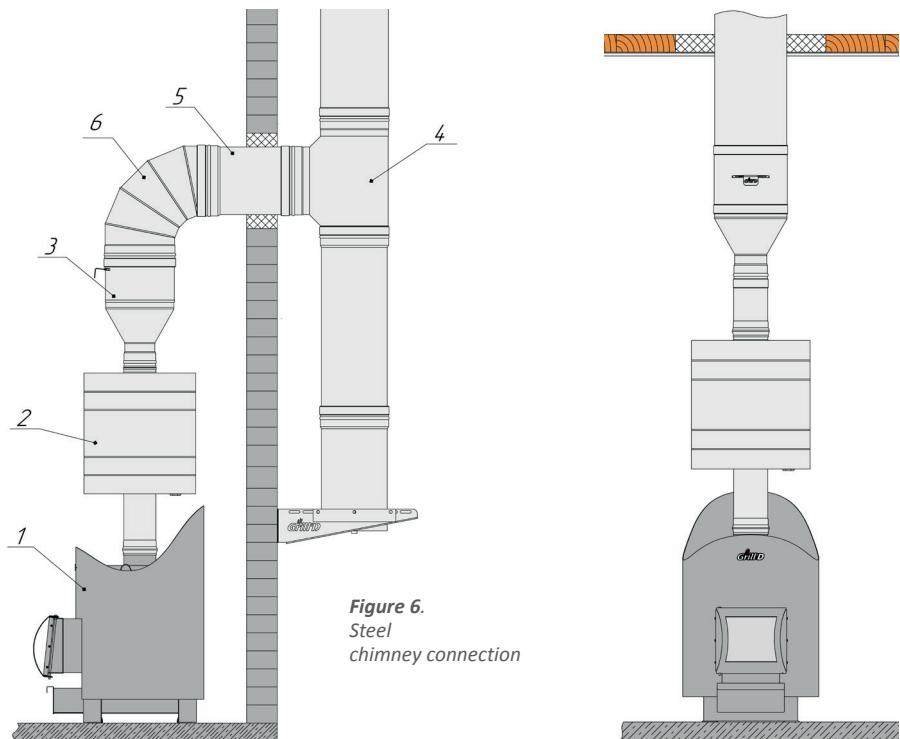
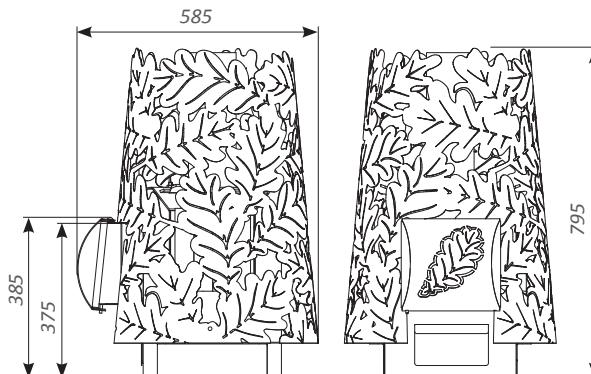


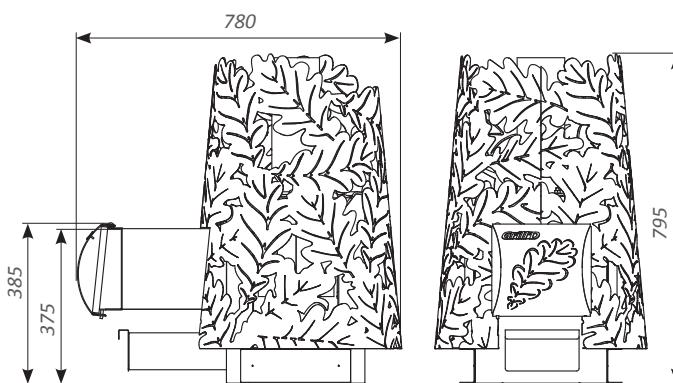
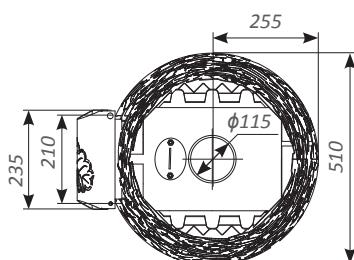
Figure 6.
Steel
chimney connection

APPENDIX 1. Heater dimensions

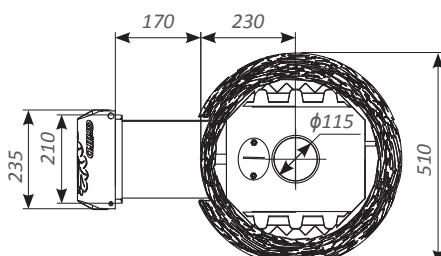
Note: dimensions are in millimeters.

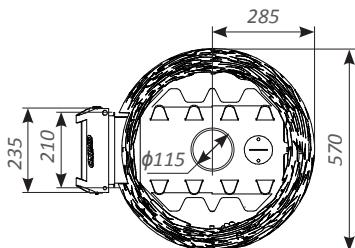
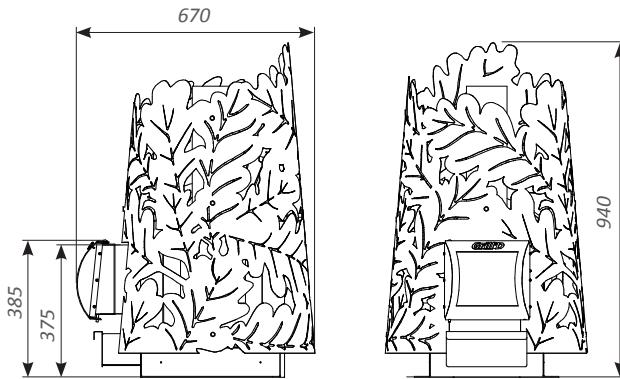


Dubravo mini Short

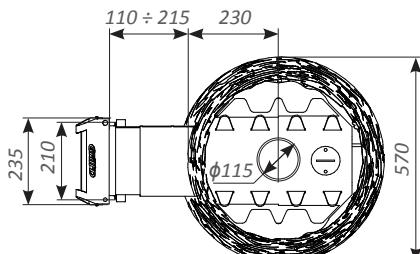
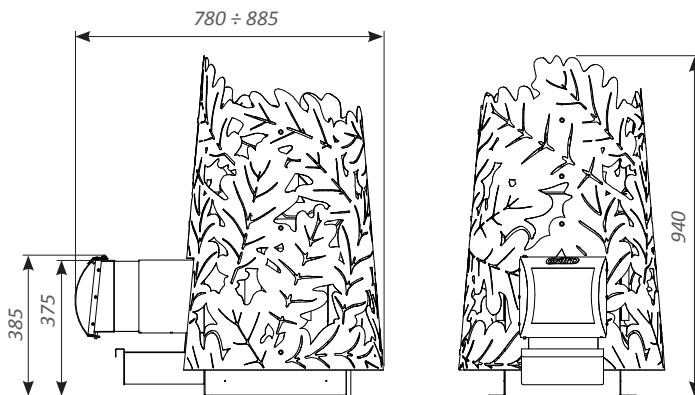


Dubravo mini Long

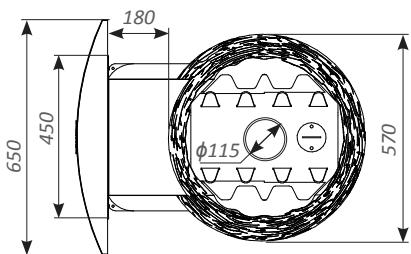
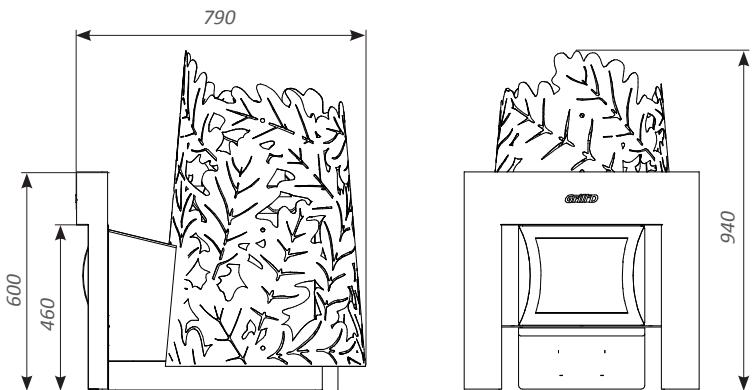




Dubravo 180 Short



Dubravo 180 Long



Dubravo 180 Window

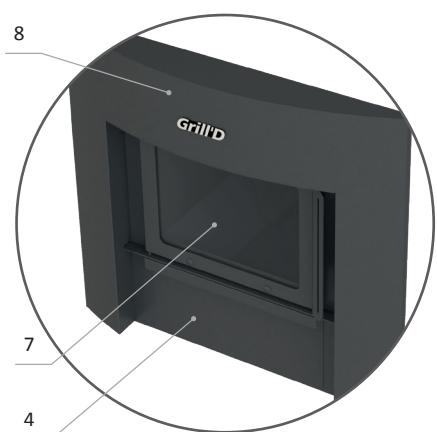
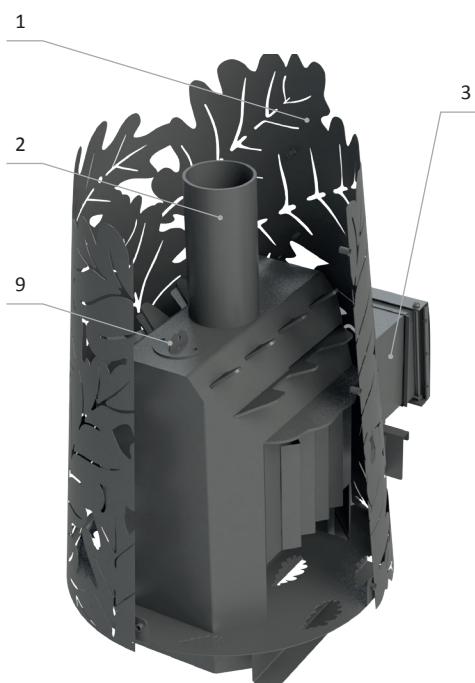
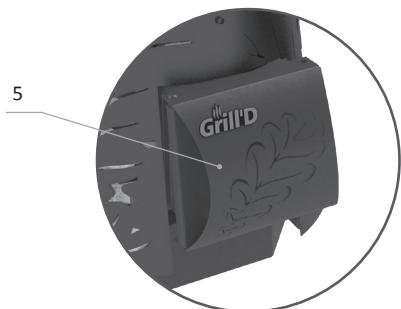
APPENDIX 2.

Heater structural elements

Dubravo

- 1 – Protective shield
- 2 – Heater flue outlet connection
- 3 – Heating flue
- 4 – Ash drawer
- 5 – Steel door mini

- 6 – Thermal glass door Short/Long
- 7 – Thermal glass door Window
- 8 – Decorative screen
- 9 – Cleanout hole with cap



APPENDIX 3.

Internal design and operation of heaters

Dubravo 180 and Dubravo mini series

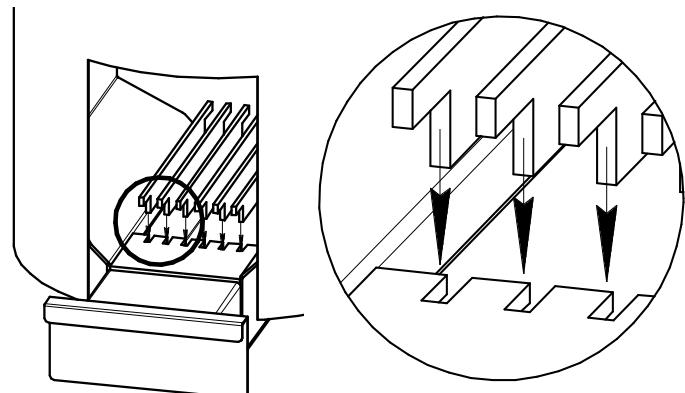


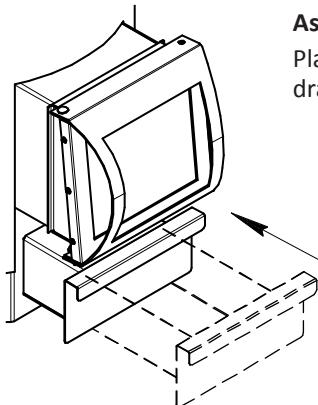
APPENDIX 4. Heater parts installation

IMPORTANT! The works shall be carried out in an extremely careful way, eliminating the possibility of damage to the paint coating.

Grate

The grate consists of 6 separate plates.
A separate seat is provided for each plate.





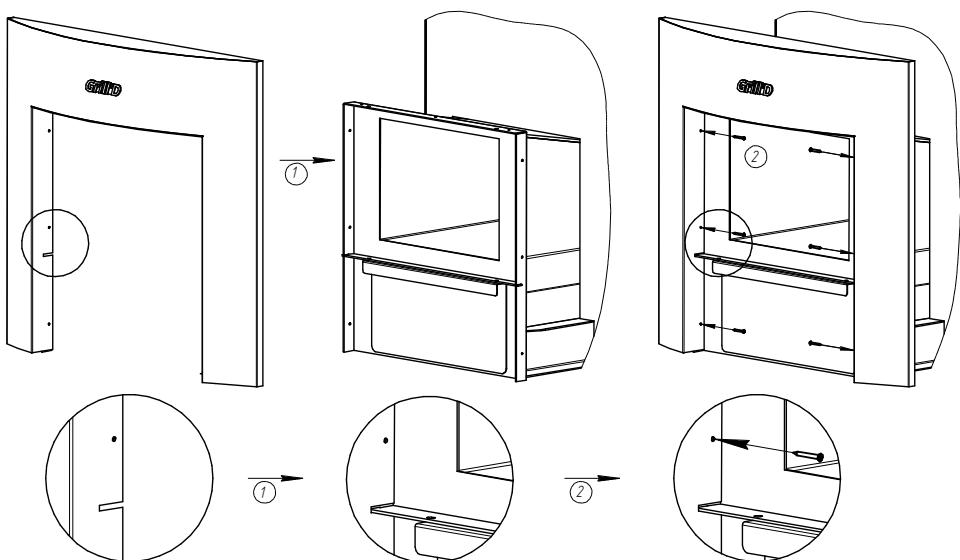
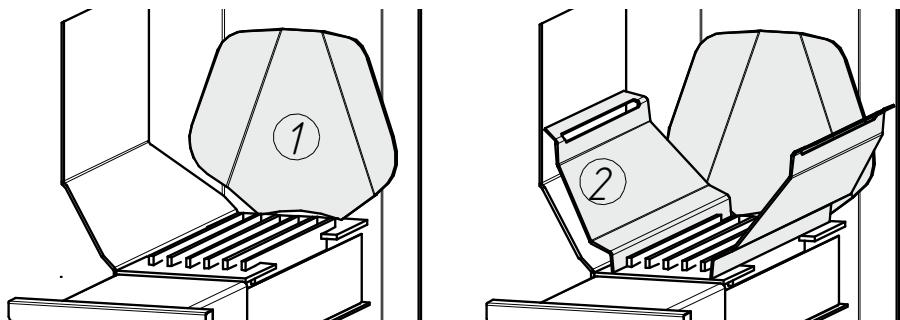
Ash drawer

Place of installation and installation method for the ash drawer are shown in the figure.

Combustion chamber reinforcement

Procedure (refer to the figure below):

- 1) Install the back plate with a convex part to the wall of the firebox. The upper part of the plate shall rest on the firebox wall, while the lower part shall be spaced 5-10 mm from it;
- 2) Install side plates one by one (the order of installation is of no importance).



Decorative screen / decorative screen Stone (assembly procedure)

Note: install the screen only after installation of the heater on the place of permanent operation.

Procedure:

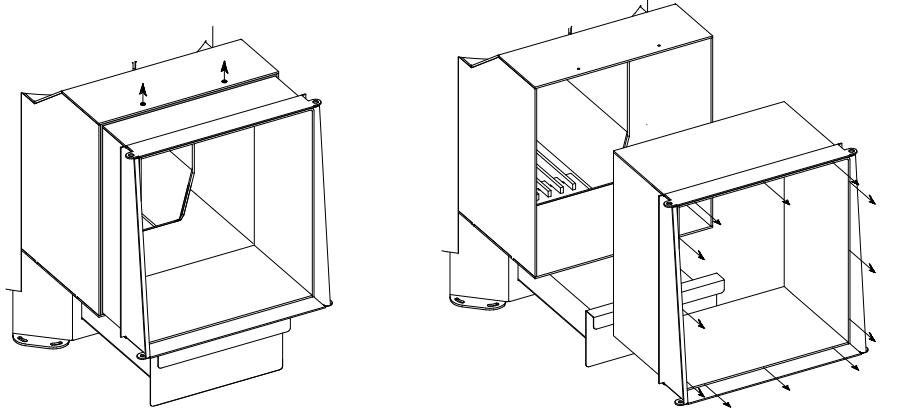
- 1) Match the mounting holes on the screen and on the heating flue frame;
- 2) Fix the screen with the self-tapping screws (included into the contents of delivery).

Telescopic heating flue

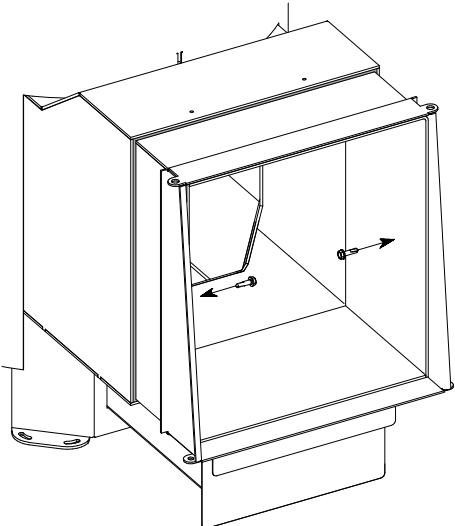
Note: correct installation of the telescopic part of the heating flue precludes air inflow through the gap between flue parts, which allows maintaining the process of burning within the prescribed limits

Procedure:

- 1) Unscrew the transport self-tapping screws in the upper part of the heating flue, take its telescopic part out.



- 2) Install the heater on the place of permanent operation.
- 3) Insert the telescopic part to the necessary depth, while keeping the telescopic part at least 50 mm inside the fixed part.
- 4) Close the gap between the telescopic and the fixed parts of the heating flue. As a rule, a sealant for furnaces, fireplaces, and chimneys with a maximum operating temperature up to 1500 °C, but not less than 700 °C is used for these purposes. After sealant hardening, it is necessary to avoid mechanical impact on the heating flue parts and the seam, the sealant shall not crumble and crack. Surface treatment,

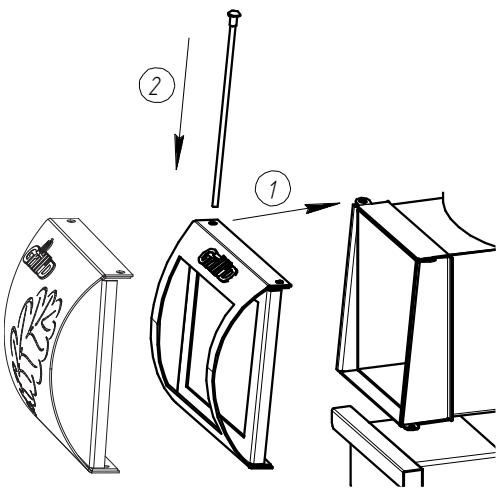
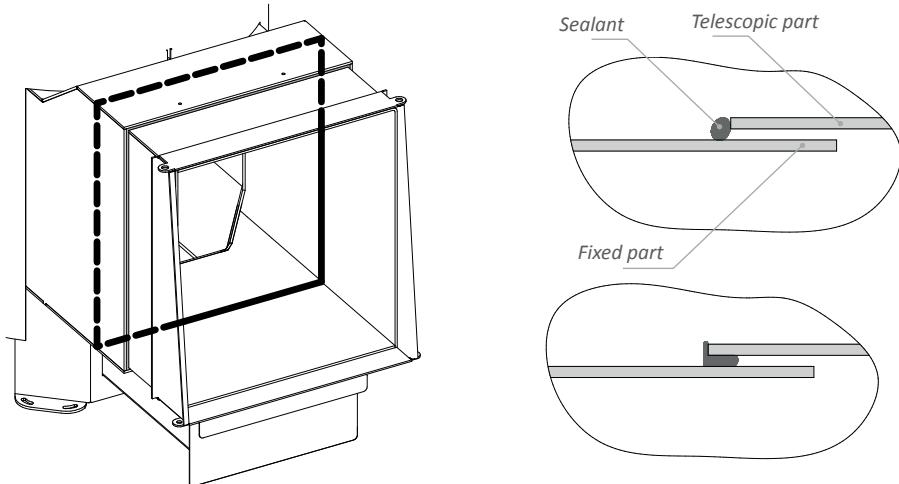


application, subsequent cleaning of surfaces should be carried out in accordance with the sealant application instruction. Procedure:

4.1) Apply the sealant from the rim side of the telescopic side along the whole length.

4.2) Fill the gap between the telescopic and fixed parts with the sealant while compacting the sealant with an elastic applicator (for example, a rubber one) of a necessary size.

Note: in case the surface of the flue was not properly cleaned of leftover sealant after application, then it can peel off after hardening and further heating of the furnace. Clean with a plastic brush and waste cloth. Clean after complete cooldown of the heater.



Door mini and Short/Long

The firebox door can be mounted in such ways that it will open either to the right, or to the left. To do so, you need to pull out the metal pin, which attaches the door, and carefully remove the metal spacer installed under the door.

Further:

- 1) Choose the door opening direction and mount the door onto the seat. The spacer shall be installed on the hole under the door.
- 2) Fix the door in this position via the metal pin.

Door Window

Note: carry out the installation after installing the decorative screen. The firebox door can be mounted in such ways that it will open either to the right, or to the left.

Procedure:

- 1) Select the door mounting side and, depending on this, insert the upper part of the metal pin into the upper mounting hole of the door.

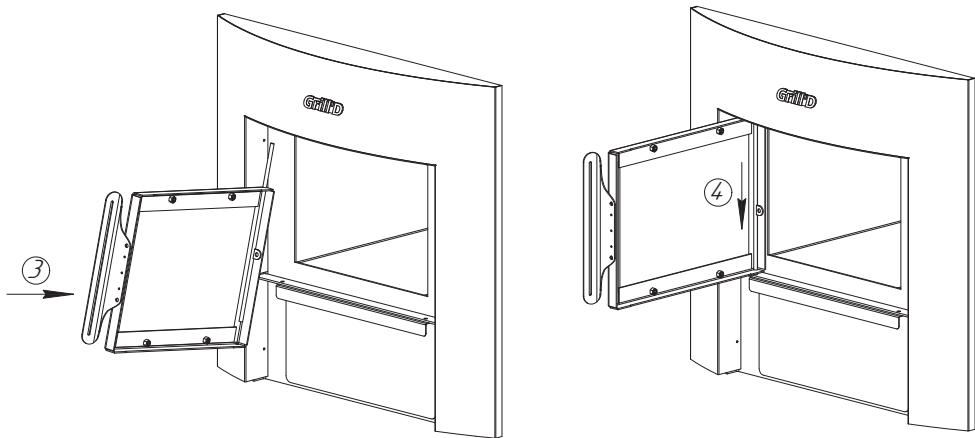
Note: insert the pin at an angle.

- 2) Slide the pin up to let install the bottom of pin into the lower mounting hole of the door.

- 3) Insert the top of pin into the upper mounting hole of the heating flue.

Note: mount the door with the pin to the seat at an angle.

- 4) Slide the door bottom to the place of installation, put the initially installed locking plates under the door (Figure 7), and insert the pin into the mounting holes of the door and the heating flue by sliding it home.

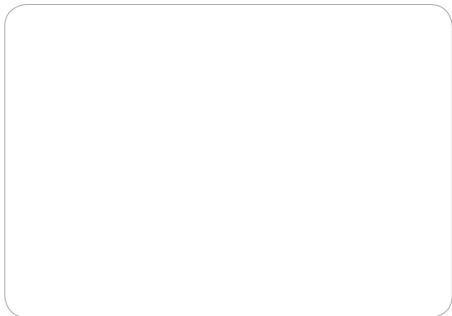


APPENDIX 5. Delivery packages

Delivery package	UOM	Dubravo mini		Dubravo 180		
		Short	Long	Short	Long	Window
Heater firebox with protective shield	pcs	1	1	1	1	1
Door mini	pcs	1	1			
Short/Long door	pcs	-	-	1	1	-
Door Window	pcs	-	-	-	-	1
Ash drawer	pcs	1	1	1	1	1
Grate plate	pcs	6	6	6	6	6
Decorative screen	pcs	-	-	-	-	1
Self-tapping screw for the screen	pcs	-	-	-	-	6
Installation and Operation Manual	pcs	1	1	1	1	1

Notes

Notes



QCD mark: _____
(Name, signature, stamp)

Date of sale: _____
(Date, Seller's signature, store stamp)

I have read and understood this manual: _____
(Buyer's signature)

IMPORTANT! The Manufacturer disclaims warranty liability in the absence of a store stamp.

