

Stoves — Operation Manual

1. Technical specifications of the stoves

The company offers 6 stove sizes of various power ratings, from 7 to 50 kW. All stoves share the same operating principle, purpose, fuel type and controls. The main differences are: power, dimensions, weight, number of convection tubes, and the diameter and height of the chimney used.

Additional equipment*

1. The bottom collector is installed at the lower part of the stove and comes with a duct fan.
2. The top collector is installed at the upper part of the stove and comes with the bottom collector and a duct fan.

**Additional equipment is not included in the price of the stove and is purchased separately.*

Stove sizes

Parameter	00	01	02	03	04	05
Maximum power, kW	7	11	18	26	35	50
Heated room volume, m ³ *1	100	250	400	600	1200	2000
Firewood length, mm	400	500	650	750	800	900
Chimney diameter, mm	127	127	159	159	159	200
Firebox door diameter, mm	260	310	310	310	400	400+280
Stove height, mm	650	720	900	900	1070	1600
Stove width, mm	460	550	650	650	650	700
Stove length, mm	700	800	930	1100	1100	1100
Number of convection tubes, pcs	7	9	11	14	14	14
Recommended chimney height, m	5	6	6	7	7	7

**1 The heated room volume is approximate; heating efficiency depends on many factors such as heat losses, the presence of a ventilation system, ceiling height, and the moisture and quality of the firewood.*

2. Construction of the stove

The stove has an all-welded metal body encircled by convection tubes. On the front wall are the firebox door with a locking mechanism and the ash-pit with an air-supply regulator. On the rear wall are the chimney connector and the exhaust-gas outlet regulator. Inside the stove is a combustion chamber consisting of two sections — primary and secondary; the upper part of the secondary section has injectors for supplying additional air. The body of the stove is finished with a special heat-resistant paint.



Fig. Stove — main components

- Convection tubes
- Loading door
- Ash-pit (air inlet)
- Exhaust-gas outlet regulator
- Locking mechanism
- Air-supply regulator

3. Operating principle of the stove

The operating principle is based on the smouldering of firewood (burning without an open flame) and gasification. The process takes place in two stages: in the primary chamber, smouldering produces wood gas, which then burns off in the secondary chamber, receiving additional oxygen from injectors located in the upper part of the secondary chamber. As a result, heat energy is generated efficiently and over a long period; it is transferred to the large surface area of the convection tubes, which in turn provide heat exchange in the room. Cold air masses are drawn into the convection tubes, pass through them and are heated, reaching a temperature of 60–80 °C at the outlet.

Optional feature:

1. The bottom collector, together with a duct fan, is intended for rapid heating of a room — useful for rooms that are used irregularly. The fan, paired with the collector, forces air into the convection tubes, where it is heated and, at the outlet, mixes with cold air, providing fast and even heating of the whole room.
2. The top collector, together with the bottom collector and a duct fan, is used to deliver heated air through ducts to other rooms. The system is used in buildings with separate rooms. The top collector can have two or more outlets — the number depends on the power of the stove and the number of rooms to be heated.

4. Installation of the stove

Before starting work, obtain the approval of a certified chimney sweep.

For safe and efficient operation of the stove, make sure that the room in which it is to be installed has a supply of fresh air sufficient for burning wood. To provide enough air for a stove of up to 35 kW, it is sufficient for the room to have an entrance door or an opening window. If the stove's power exceeds 35 kW, air-supply ducts with a cross-section of at least 150 cm² must be present. The space for installing the stove should be about 4

m² per 1 kW of thermal power. It is advisable to position the stove so that the heated air is distributed as efficiently as possible throughout the room.

The stove must be securely placed on a stand of non-combustible material (metal, brick, concrete) about 0.2 m high. On floors of combustible or poorly combustible materials, place a metal sheet of 500×700 mm in front of the firebox, with its long side towards the firebox. The distance between the firebox and the nearest wall must be at least 1.25 m. The distance from the stove to walls and other objects on all sides must be at least 1 m.

To create good draught inside the stove, the rear part of the body should be raised by 1–5° from the horizontal.

5. Operation of the stove

Attention! *The body of the stove is coated with a special heat-resistant paint, whose curing (polymerisation) occurs when heated to 230 °C over several hours and is accompanied by an unpleasant odour.*

Important! *Before regular use, carry out several burn-in firings of the stove in a well-ventilated room with doors and windows open, until the specific unpleasant odour disappears.*

Before use, make sure all parts of the stove and the chimneys are intact. Load the firebox with firewood whose dimensions do not exceed those given in the specifications of this stove. Before lighting, set the air-supply regulator and the exhaust-gas outlet regulator to the open position — intensive mode (fig. 1; 2).



Fig. 1 — Air-supply regulator: OPEN • intensive mode



Fig. 2 — Exhaust-gas outlet regulator: OPEN • intensive mode



Fig. 3 — Air-supply regulator: CLOSED • gasification mode



Fig. 4 — Exhaust-gas outlet regulator: CLOSED • gasification mode

Light the wood near the firebox, then close the firebox door with the locking mechanism. After 2–5 minutes, make sure the fire has caught, close the air-supply regulator, and only then close the exhaust-gas outlet regulator (fig. 3; 4) — this switches the stove from intensive mode to gasification mode. This mode is the most efficient and economical, delivering maximum efficiency and running time.

Attention! The intensive operating mode is not permanent and serves only to bring the stove up to its economical operating mode (the main mode — gasification). Failure to follow this recommendation will shorten the service life of the stove and damage the heat-resistant coating.

After that, adjust the desired burning intensity by the position of both regulators, by trial and error, since burning intensity is affected by many additional factors: the quality of the firewood, the design of the chimney, the number of bends and its height, as well as atmospheric pressure, wind strength, and so on.

To add firewood while the stove is running, open the exhaust-gas outlet regulator (on the rear wall), then after 2–3 minutes gently open the air-supply regulator — this ensures intensive burning in the firebox. Now the door can be opened to load firewood. After loading, return the regulators to their previous position.

To clean the firebox of ash residue, make sure the wood has burned out and the stove has cooled. Do not remove the ash completely — leave an even layer of about 50 mm above the bottom of the firebox. This is important so that the convection tubes do not burn out and a heat-insulating layer is maintained to support the convection process.

During operation of the stove, the following is not permitted:

- Leaving the working stove unattended or under the supervision of minors.
- Operating a faulty stove or a stove with a faulty chimney.
- Using non-recommended fuel types, or firewood larger than the size of the firebox.
- Placing firewood or other combustible items near the stove or on its surface.
- Firing the stove with the loading door open.
- Prolonged operation in intensive mode.

6. Fuel for the stove

The stove runs on solid fuels: wood, wood and peat briquettes, pellets, wood waste, and the like. The main fuel is split firewood, naturally seasoned, with a moisture content of no more than 20%. Large unsplit round logs may also be used.

Liquid and gaseous fuels, as well as hard coal, coke and the like, must not be used.

Burning various oils, plastics, rubber and similar materials in the stove is not permitted, as their combustion releases harmful substances that pollute the environment.

It is strictly forbidden to convert the stove to other fuel types not intended for use in this stove, or to make changes to the design, parts or assemblies of the stove.

7. Chimney requirements

Because gasification mode produces low temperatures in the chimney, forming condensate and aggressive acids, while intensive mode produces high temperatures, increased requirements apply to the chimney: resistance to an aggressive environment, reliable removal of smoke, and a heat-insulating layer to ensure

draught. It is important to install a chimney of at least the height specified in the instructions, with a heat-insulating layer wherever it comes into contact with cold air (outside heated areas — outdoors, in the attic, etc.).

Chimneys must be installed by certified specialists, since correct installation affects safe operation in the future.