SKAMET

**WOOD-BURNING SAUNA STOVES**

## 16–25 m³

# INSTALLATION AND OPERATING MANUAL

P, PT, S, SY, ST and STY models



**SKAMET OÜ • PÄRNU, ESTONIA**

CE

EN 15821:2010

**Thank you for choosing a Skamet sauna stove.**

This manual will help ensure the safe installation, operation and long service life of your sauna stove.

We wish you enjoyable and relaxing sauna experiences with plenty of good steam.

**Intended use**

- The sauna stove is designed to heat the sauna room.
- Any other use is considered improper use.
- Regular maintenance is also part of proper use.
- Choose the heating capacity of the sauna stove carefully. If the heating capacity is too low, the stove will need to be heated for longer periods and more intensively, which will shorten its service life.
- Only a sauna stove with a suitable heating capacity may be installed in the room.
- The room must have adequate natural ventilation.
- The manufacturer is not responsible for unauthorized modifications or damage caused by improper use.

**Safety requirements**

- The sauna stove is intended solely for heating the sauna room.
- The sauna stove reaches very high temperatures during operation – risk of burns.
- Unauthorized modifications to the sauna stove's construction are prohibited.
- Avoid overheating the stove.
- Before each use, ensure that there are no unnecessary objects near the stove.
- Children and persons lacking the knowledge or experience required for safe operation must not use the sauna stove unless supervised by a responsible person.
- Children must be supervised to ensure that they do not play near the sauna stove.
- In case of fire, call the emergency number 112.

**⚠ Improper installation or use of the sauna stove may cause a fire or serious burns.**

**Metal-cased sauna stoves**

P and PT models are enclosed in a metal casing. An ash drawer is located beneath the firebox, and a compartment for sauna stones is located above it. A cast-iron grate is positioned between the firebox and the ash drawer, allowing the air required for combustion to enter the firebox.

A trapezoidal flue channel runs through the center of the stove, with a secondary combustion chamber at its end. The flue pipe connection has a diameter of 115 mm and is located at the top of the stove. Metal-cased sauna stoves heated from the sauna room can also be connected to the chimney through the rear wall. The flue channel has two cleaning hatches.

There is a 5 cm air gap between the sauna stove and the metal casing, covered at the top by a perforated metal plate. The openings in the plate create air vortices, directing some of the hot air through openings on the sides and ends of the stove into the spaces between the sauna stones, providing additional heating.

**Mesh-cased sauna stoves**

S, SY, ST and STY models are surrounded by a mesh casing, allowing sauna stones to be placed around the entire stove. Depending on the casing, there is a gap of approximately 8–11 cm between the sauna stove and the surrounding mesh casing, which is filled with sauna stones.

As the sauna stove heats up, the stones absorb heat and release it gradually.

NB! All Skamet wood-burning sauna stoves are equipped with built-in flue channels that direct hot flue gases through the stove, maximizing the use of heat generated during combustion.

Adjustable feet (M12 bolts) can be fitted underneath the sauna stove, for example, if the floor is uneven.

1. Ash drawer
2. Ash grate
3. Firebox
4. Air gap
5. Flue channel inlet
6. Flue channel
7. Cleaning hatch
8. Flue passage
9. Flue pipe connection

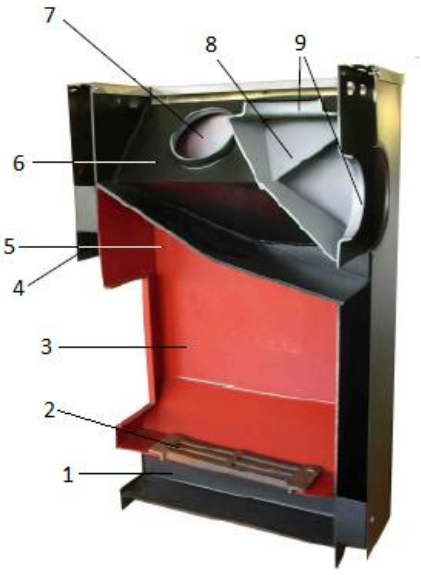



Figure 1. Cross-section of the sauna stove

**Sauna stoves with a water jacket (boiler connection)**

Skamet sauna stoves can be ordered with a water jacket with a capacity of V = 3 litres. The water jacket can be installed on the right, left or rear inner wall of the stove. Water inlet and outlet connections are made through two ¾-inch externally threaded fittings. The water jacket can be used to heat water in both open and closed systems. The operating pressure in a closed system must not exceed 4 kg/cm².

A sauna stove equipped with a water jacket may only be heated under the following conditions:

1. When connected to a closed water tank connected to the mains water supply.
2. When connected to an open water tank that is not connected to the mains water supply.

If the temperature in the sauna room drops below 0 °C, the water must be drained from the system through the water inlet connection to prevent freezing. The water jacket must be flushed regularly. Maintenance is recommended at least once a year, depending on water quality and frequency of use.

**Sauna stoves with a water tank**

The water tank is designed to heat water while the sauna stove is in operation. The protective film must be removed from the stainless steel water tank before using the sauna stove for the first time.

⚠ **A sauna stove with a water tank must not be heated when the water tank is empty**. Before lighting the fire, ensure that there is sufficient water in the tank.

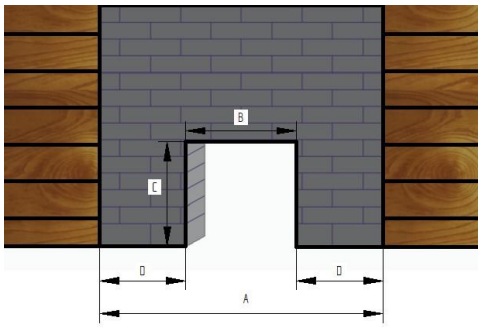
Keep the water tank clean and regularly remove any accumulated sediment and limescale. If the sauna will not be used for an extended period or there is a risk of freezing, empty the water tank.

**Sauna stoves heated from an adjacent room**

For models heated through a wall, a decorative trim is available as an optional accessory to cover the opening above and on both sides of the stove door.

For more information, see: Decorative trim for sauna stoves

**Safety distances for sauna stoves heated through a wall:**




| | A<br>min<br>(cm) | B<br>min<br>(cm) | C<br>min<br>(cm) | D<br>max<br>(cm) |
|---|---|---|---|---|
| P, S, SY | 147 | 35 | 46 | 56 |
| PT, ST, STY | 162 | 46 | 56 | 58 |

## Technical specifications

| Parameter | Values | |
|---|---|---|
| | **P-120<br>P-220, PT-220** | **S-120, SY-120<br>S-220, SY-220, ST-220, STY-220** |
| Efficiency (%) | 73 | 74.7 |
| CO emissions (%) | 0.427 | 0.511 |
| Heat output (kW) | 15.9 | 17.5 |
| Flue gas temperature (°C) | 339 | 303 |
| Chimney draught (Pa) | 12 | 12 |
| Flue gas mass flow (kg/h) | 4.7 | 5.4 |
| Durability and fire safety tests | Passed | Passed |

Table 1. Technical specifications

## Safety distances from combustible materials

| **Safety distances from combustible materials (cm)** | **P-120** | **S-120, SY-120** |
|---|---|---|
| | **P-220, PT-220** | **S-220, SY-220, ST-220, STY-220** |
| Distance to side wall | **50** | **40** |
| Distance to rear wall | **30** | **25** |
| Distance from sauna stones to ceiling | **125** | **120** |
| Distance from flue pipe to ceiling | **108** | **108** |
| Thickness of insulation layer beneath the stove | **6** | **6** |
| Distance from metal door to front wall | **50** | **50** |
| Distance from glass door to front wall | **65** | **65** |

Table 2. Safety distances from combustible materials

**NB! The technical specifications and safety distances for sauna stoves equipped with a water jacket or water tank are the same as those of the corresponding models without a water jacket or water tank.**

# Sauna stove models



**P-120 GL** **S-120 GL** **SY-120 GL**



**P-220 GL** **S-220 GL** **SY-220 GL**



**PT-220 GL** **ST-220 GL** **STY-220 GL**

| Sauna stove model | Sauna room volume $m^3$ | Heat output (kW) | Stove weight (kg) | Stone capacity (kg) | Firebox length (cm) | Height (cm) - A | Width (cm) - B | Depth (cm) - C | Tunnel length (cm) - D | Door height (cm) - E | Door depth (cm) - F |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **P-120**<br>**P-12040** | 16-25 | 15,9 | 55<br>65 | 50 | 40 | 81 | 43<br>61 | 51 | | | |
| **P-220**<br>**P-22040** | 16-25 | 15,9 | 65<br>75 | 50 | 60 | 81 | 43<br>61 | | 17 | 45 | 33 |
| **PT-220** | 16-25 | 15,9 | 70 | 50 | 60 | 81 | 43 | | 17 | 55 | 44 |
| **S-120**<br>**SY-120** | 16-25 | 17,5 | 65 | 160<br>110 | 50 | 84 | 49<br>Ø 56 | 61<br>Ø 56 | | | |
| **S-220**<br>**SY-220** | 16-25 | 17,5 | 75 | 160<br>110 | 70 | 84 | 49<br>Ø 56 | 61<br>Ø 56 | 20 | 45 | 33 |
| **ST-220**<br>**STY-220** | 16-25 | 17,5 | 80 | 190<br>160 | 70 | 84 | 49<br>Ø 56 | 61<br>Ø 56 | 20 | 55 | 44 |

Tabel 3. Tehnilised andmed

**Installation**

**Choosing the installation location**

- At least 1 m² of free space must be provided in front of the sauna stove to ensure safe operation and maintenance.
- The sauna stove must be installed on a stable, fire-resistant base.
- Electrical equipment and wiring must not be located within the safety clearance area of the sauna stove.

**Installation location**

When choosing the installation location for the sauna stove, consideration must be given not only to the dimensions of the stove but also to the required safety distances and the free space needed for maintenance.

**Wall protection**

If wooden walls are closer to the sauna stove than the required safety distance, the wall surfaces must be protected using suitable protective materials (e.g. a heat shield).

A single-layer heat shield may be made from non-combustible fibre-reinforced cement board at least 7 mm thick or a metal sheet at least 1 mm thick.

A sufficient number of fixing points must be used to ensure the structural stability of the heat shield.

A masonry wall at least 5.5 cm thick is considered equivalent to a single-layer heat shield. The masonry wall must have open edges and be positioned at least 3 cm away from the surface being protected.

The masonry wall must extend at least 60 cm above the top of the sauna stove and at least 50 cm beyond its sides.

**Floor protection**

When installing the sauna stove on a floor made of combustible material (wood, plastic or other materials), a concrete base at least 6 cm thick must be provided to protect the floor from heat.

For example, Silca 250 KM may be used as a suitable material.

The base must extend approximately 20 cm beyond the sides of the sauna stove and at least 30 cm in front of it.

The base slab should be raised slightly above floor level to allow the wooden floor to remain dry.

**Connecting the sauna stove to a masonry chimney flue**

**⚠ The cross-sectional area of the chimney flue must not be smaller than the cross-sectional area of the sauna stove's flue outlet.**

The sauna stove has a flue outlet at the top.

The opening required for the flue connection must be marked on the chimney and made slightly larger than the flue connecting pipe.

The gap between the flue connecting pipe and the opening in the chimney must then be sealed, for example, with fire-resistant mineral wool. A suitable sealing gap around the pipe is approximately 1 cm.

The inner corners of the flue opening should be rounded to allow flue gases to flow freely.

The flue connecting pipe must not extend too far into the chimney flue. If necessary, the connecting pipe must be shortened.

**⚠ For detailed fire safety requirements, consult your local fire safety authority, which is also responsible for approving the sauna stove installation.**

**Ventilation**

Proper ventilation is essential for a safe and comfortable sauna environment. Adequate ventilation ensures a sufficient supply of combustion air to the sauna stove and removes moisture and flue gases from the sauna room.

**Air circulation in the sauna**

- The fresh air inlet must be located near the sauna stove at floor level (Figure 2, letter “A”).
- The air outlet must be located as far away from the sauna stove as possible, preferably near the ceiling (Figure 2, letter “B”).
- Air must flow from the sauna stove through the sauna room towards the exhaust vent.

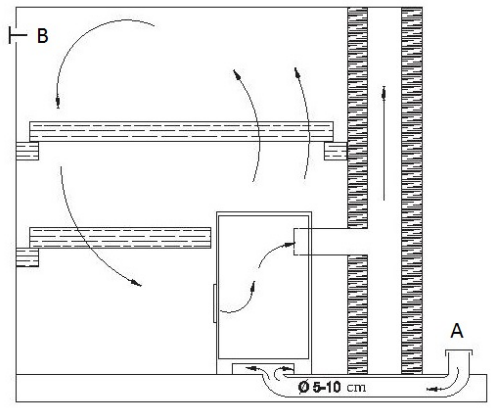



Figure 2. Natural ventilation

**Incorrect ventilation may cause:**

- Discomfort or feeling unwell
- Smoke entering the sauna room
- Insufficient heating performance

**Heating the sauna stove**

**First heating**

The outer casing of the sauna stove is coated with heat-resistant paint, which reaches its final hardness during the first heating. The paint initially softens when heated for the first time, so contact with painted surfaces must be avoided.

Substances released from the painted surfaces may produce an unpleasant odour. Therefore, it is recommended to carry out the first heating **outdoors or in a well-ventilated sauna room**, at the stove's installation location.

The sauna stove must always be heated for the first time **without sauna stones**. The stones may only be placed in the stove after it has cooled down completely. Water must not be poured onto the metal casing of the sauna stove during the first heating.

When carrying out the first heating outdoors, it is also recommended to install the connecting pipes so that any odours are released from them as well.

**Heating the sauna stove**

Use only dry firewood to heat the sauna stove. The use of coal, treated wood, plastic, waste materials and liquid fuels is prohibited.

The manufacturer recommends filling no more than 2/3 of the firebox with firewood. Excessive amounts of firewood may cause the stove to overheat and shorten its service life.

For sauna stoves heated from an adjacent room, firewood must not be burned in the firebox extension.

The ash drawer may only be kept open when lighting the fire to provide the additional air required for ignition. Once the fire is burning properly, the ash drawer must be closed. During heating, the ash drawer must be kept as closed as possible. Operating the sauna stove with the firebox door open is prohibited.

A sauna stove with suitable heating capacity will heat the sauna room to the desired temperature in approximately one hour.

Adequate chimney draught must be maintained during heating to ensure that the sauna stones heat up and that smoke does not enter the sauna room through the firebox door. Excessive draught may cause the sauna stove to overheat and shorten its service life.

Overheating (e.g. burning several full loads of firewood consecutively) causes the stove to become excessively hot and significantly reduces its service life.

**Sauna stones**

We recommend using only stones specifically intended for sauna stoves.

- **Sauna stones must not obstruct airflow between the stove's inner structure and its casing.**
- Remove dust from the stones before placing them in the stove.
- Place larger stones at the bottom of the stone compartment, with their smoother sides facing the sides of the compartment.
- Place smaller stones towards the top, as they heat up more quickly.
- For mesh-cased models, do not pack the stones too tightly between the mesh casing and the stove. Arrange the stones so that sufficient air gaps remain between them and the stones do not press against the stove walls.
- Some natural stones may contain unsuitable substances (e.g. sulphur compounds) and are therefore not suitable for use as sauna stones.
- Inspect the sauna stones at least once a year. Remove accumulated stone fragments and replace any damaged stones. If the sauna stove is used frequently, inspect the stones more often.

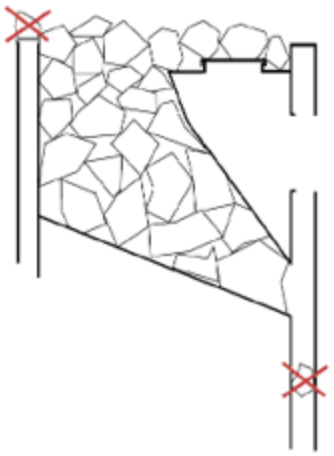


Figure 3. Arrangement of sauna stones

**Water for sauna steam**

Use only **clean domestic water** for producing sauna steam. Salty, hard or iron-rich water may damage the sauna stove and significantly shorten its service life. Seawater greatly accelerates corrosion.

Pour water onto the sauna stones only – do not allow water to come into contact with the metal parts of the firebox or chimney.

**Sauna stove maintenance**

Regular maintenance ensures the safe and efficient operation of the sauna stove. Maintenance and cleaning of the chimney and flue that require specialist knowledge must be carried out by a qualified professional.

- Empty the ash drawer before each heating. This ensures proper draught and allows combustion air to cool the fire grate, extending its service life. Ash may still contain glowing embers. Remove the ash into a metal container and do not store the ash container near combustible materials.
- Clean the flue gas channels and chimney regularly, removing accumulated soot and ash through the cleaning hatch and firebox.
- If the sauna stove has not been used for an extended period, check the condition of the flue gas channels and chimney, as well as the chimney draught, before heating.
- Carry out maintenance only when the sauna stove has cooled down completely.
- Temperature fluctuations cause sauna stones to deteriorate. Rearrange the stones at least once a year, remove stone fragments and replace cracked stones with new ones.

**Warranty**

- The warranty period is **24 months** from the date of purchase or delivery.
- The warranty is valid only if the sauna stove has been installed correctly and used for its intended purpose.
- The warranty does not cover damage caused by overheating, the use of unsuitable fuel, incorrect installation or improper maintenance.
- If the sauna stove door glass breaks during use, the manufacturer is not obliged to replace it.
- If a defect is discovered, submit a warranty claim describing the defect by email to **info@skamet.ee**. The claim must include photograph(s) clearly showing the defect and a copy of the proof of purchase.

**Manufacturer**

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