Cascade Venting System for C 950 ES, C 1050 ES, C1210 ES, C 1210 ESC

Back to back
Extension Set for units 3 and 4 - 7 736 501 252

BOSCH
## Table of contents

1. **Key to symbols and safety instructions**.......................... 3
   1.1 Key to symbols ........................................... 3
   1.2 Safety instructions ....................................... 3

2. **Accessory assembling** ............................................. 5
   2.1 Maximum and minimum permitted vent lengths ....... 14
1 Key to symbols and safety instructions

1.1 Key to symbols

Warnings

The following keywords are defined and can be used in this document:

- **NOTICE** indicates a situation that could result in damage to property or equipment.
- **CAUTION** indicates a situation that could result in minor to medium injury.
- **WARNING** indicates a situation that could result in severe injury or death.
- **DANGER** indicates a situation that will result in severe injury or death.

Important information

This symbol indicates important information where there is no risk to people or property.

Additional symbols

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>▶</td>
<td>Step in an action sequence</td>
</tr>
<tr>
<td>➔</td>
<td>Cross-reference to another part of the document</td>
</tr>
<tr>
<td>•</td>
<td>List entry</td>
</tr>
<tr>
<td>–</td>
<td>List entry (second level)</td>
</tr>
</tbody>
</table>

Table 1

1.2 Safety instructions

Read all instructions before installing. Perform the steps in the indicated sequence. Have the water heater inspected by a trained service technician at least once every year. Failure to comply with these instructions can result in severe, possibly fatal, personal injury as well as damage to property and equipment.

Installation and servicing

- Ensure that only a licensed contractor installs or services the water heater.
- On hot components use only material with adequate temperature stability.

If you smell flue gas

- Switch off the appliance.
- Open windows and doors.
- Inform a trained and certified installer.

Insufficient ventilation may cause toxic flue gas to escape. Risk of poisoning.

- Never close off or reduce the size of the air intake and outlet openings.
- The appliance must not be operated until any obstructions have been removed.
- Inform the system operator in writing of the problem and the associated dangers.

Danger from escaping flue gases

- Ensure all vent pipes and chimneys are not damaged or blocked.
- Connect only one appliance to each vent system or chimney liner.
- The venting system piping must not feed into another air extraction duct.
- Do not route the flue system piping through or inside another air extraction duct.

Combustion air

- Keep the combustion air free of corrosive substances (halogenated hydrocarbons that contain chlorine or fluorine compounds).

Maintenance

Customers are advised to:

- Sign a maintenance and inspection contract with an authorized contractor. Inspect and maintain the water heater as necessary and on a yearly basis. Service as needed.
- Use only genuine spare parts.

For your safety

DANGER: Fatal accidents! Carbon monoxide poisoning.

- Carefully plan where you install the heater. Correct combustion air supply and flue pipe installation are very important. If a gas appliance is not installed correctly, fatal accidents can result such as carbon monoxide poisoning or fire.
Each appliance requires 9,950 cubic feet of available combustion air, or a minimum of 1,243 square feet of space with an 8 foot ceiling to operate. If this amount of air space is not available, provisions must be taken to provide sufficient combustion air from the outside. Always install the combustion air grill to prevent foreign objects from falling into the unit.

If other appliances that draw in air or exhaust air share the same space, their requirements must be taken into consideration when sizing the air supply. Always follow local codes and regulations if they are more stringent.

**Appliances located in unconfined spaces**

- **a)** An unconfined space is one whose volume is greater than 50 cubic feet (1.42 cubic meter) per 1,000 BTU/Hr (292.81 Watts) of the combined rating of all appliances installed in the space. That would be 9,950 cubic feet (281.8 cubic meters) for the water heater alone.

- **b)** In unconfined spaces in buildings of conventional frame, masonry, or metal construction, infiltration air is normally adequate to provide air for combustion.
2 Accessory assembling

Fig. 1

[1] 7 736 501 125 (Ø 6") (Ø 150mm) - Header pipe
[2] 7 736 501 255 (Ø 6") (Ø 150mm)
[3] 7 736 501 141 (Ø 4") (Ø 100mm) - Elbow
[4] 7 736 501 256 (Ø 4") (Ø 100mm)
[5] 7 736 501 123 (Ø 4"/6") (Ø 100/150mm) - Reducer
[6] 7 736 501 121 (Ø 4"/5 25/32") (Ø 100/150mm) - Check valve
[7] 7 736 501 090 (Ø 4") - 9,8" length (Ø 100mm) - 250mm length
[8] 7 736 501 143 (Ø 4") - 19,7" length (Ø 100mm) - 500mm length
[9] 7 736 501 257 (Ø 3 1/2") (Ø 80mm) - Clamp
[10] 7 736 501 111 (Ø 3 1/2"/6") (Ø 80/100mm) - Reducer
[11] 7 736 501 099 (3"/Ø 3 5/32") (76,2/Ø 80mm) - Extension
[12] 7 736 501 101 (3") (76,2mm) - Combustion air intake grill
Fig. 6  Apply lubricant evenly all around all gaskets

Fig. 8

Fig. 9
Fig. 14  Complete remainder of vent pipe installation identically to the first heaters
Fig. 15  Complete setup of the 4 unit cascade
Fig. 16  Vertical setup - for horizontal termination see Fig. 25

[1] 7 736 501 119 - Vertical termination
[2] 7 736 501 133 - 72" (1829mm) - Extension
  7 736 501 135 - 36" (914mm) - Extension
  7 736 501 137 - 24" (610mm) - Extension
[3] 7 736 501 133 - 72" (1829mm) - Extension
  7 736 501 135 - 36" (914mm) - Extension
It is recommended to consult a professional roofer to ensure a long lasting water tight seal is established.
Table 2  Choose the proper vent pipe height $A$ depending on the typical snow accumulation for the location

<table>
<thead>
<tr>
<th>$A$</th>
<th></th>
</tr>
</thead>
</table>
| < 15 3/4" (400 mm) | ![Diagram](image1)
| > 20" (500 mm) | ![Diagram](image2) |

It is recommended to consult a professional roofer to ensure a long lasting water tight seal is established.
### 2.1 Maximum and minimum permitted vent lengths

**NOTICE:** Minimum vent length
Not considering the appliance headers and the termination, a minimum 40" (1m) of horizontal run is required.

<table>
<thead>
<tr>
<th>Ø 6&quot; (150mm)</th>
<th>L&lt;sub&gt;eq&lt;/sub&gt;</th>
<th>TTNR</th>
</tr>
</thead>
<tbody>
<tr>
<td>45°</td>
<td>40&quot; (1m)</td>
<td>7 736 501 146</td>
</tr>
<tr>
<td>90°</td>
<td>80&quot; (2m)</td>
<td>7 736 501 132</td>
</tr>
</tbody>
</table>

**NOTICE:** Maximum vent length
Not considering the appliance headers and up to one 90° elbow, but including the termination, the total combined horizontal and vertical vent length must not exceed 100' (30m). See table 3 for equivalent vent length of 45° and 90° elbows.

---

**Fig. 25**

[1] 7 736 501 117 - Horizontal wall terminal and wall cover plates

---

*Pitch of horizontal runs: ½" per foot (50mm per 1 meter)*