Installation manual

Concentric Vent / Air Intake Kit
PVC

For Bosch ProTankless Models: GWH C 800 ES, GWH C 920 ES, GWH C 920 ESC, Integra 500 C 950 ES, C 1050 ES, C 1210 ES, C1210ESC

Part Number: 196016
# Table of Contents

1 Introduction 4
1.1 Items included with Concentric vent kit 4
1.2 Vent kit dimensions 4
1.3 Venting material compatibility 4
1.4 Condensate drain 5
1.5 Mechanically fastened rain cap 5

2 Installation 5
1 Introduction

CAUTION:
The following is not a substitute for the tankless water heater installation manual. The entire installation must conform with the specifications listed in the tankless water heater installation manual.

The following PVC concentric vent kit is designed to provide one penetration point through the exterior wall or roof for both combustion air and exhaust vent piping. The PVC concentric vent kit is compatible with the following Bosch tankless water heaters:

- GWH C 800 ES
- GWH C 920 ES
- GWH C 920 ESC
- Integra 500
- C 950 ES
- C 1050 ES
- C 1210 ES
- C 1210 ESC

1.1 Items included with Concentric Vent Kit:

See Figure 1

- Item 1 - Concentric vent
- Item 2 - Condensate drain tee
- Item 3 - Condensate drain hose barb fitting
- Item 4 - Stainless Steel screw & nut

This kit can be ordered from your local wholesaler (part# 196016).

1.2 Concentric Vent Kit dimensions

![Fig. 2 Kit dimensions](image)

1.3 Venting material compatibility

The PVC concentric vent kit is System 636 approved for Canadian installations. The exhaust vent and combustion air piping materials and fittings must comply with the following:

<table>
<thead>
<tr>
<th>Item</th>
<th>Material</th>
<th>United States</th>
<th>Canada</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vent or air pipe and fitting</td>
<td>PVC schedule 40</td>
<td>ANSI/ASTM D1785</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PVC-DWV schedule 40</td>
<td>ANSI/ASTM D2665</td>
<td></td>
</tr>
<tr>
<td></td>
<td>CPVC schedule 40</td>
<td>ANSI/ASTM F441</td>
<td>CSA or ULC certified only (ULC-S636)</td>
</tr>
<tr>
<td></td>
<td>ABS-DWV schedule 40</td>
<td>ANSI/ASTM D2661</td>
<td></td>
</tr>
<tr>
<td>Pipe cement/ primer</td>
<td>PVC</td>
<td>ANSI/ASTM D2564</td>
<td></td>
</tr>
<tr>
<td></td>
<td>CPVC</td>
<td>ANSI/ASTM F493</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ABS</td>
<td>ANSI/ASTM D2235</td>
<td></td>
</tr>
</tbody>
</table>

Table 1 Approved piping materials

All exhaust vent connections must be glued, with the following exceptions:

1. The exhaust accessory supplied with the water heater which is screwed into place on the top of the appliance.

2. For installations where removal of the rain cap may be required for service or cleaning the cap, it can be fastened mechanically (see Section 1.5)
1.4 Condensate drain

The supplied condensate drain tee and barb fitting (Fig. 1, Item 2 & 3) must be installed in the exhaust piping under the following conditions:

- All vertical terminating vent installations.
- Horizontal terminating vent installations where the total linear vent length is greater than 6 feet (1.8 m).
- Vent installations where any section of the exhaust vent pipe passes through an unconditioned space.

The condensate drain hose barb fitting and the condensate drain tee must be glued. The end of the barbed fitting must be cut off to allow proper drainage. See Fig. 3.

2. At this location, drill through the cap and the inner pipe wall. Ensure that the path of the hole is perpendicular to the inner pipe NOT the outside of the cap. Use a 3/16" drill bit to make the hole. (See Fig. 5).

3. Insert the screw and tighten the bolt, do not over tighten (See Fig. 6).

1.5 Mechanically fastened rain cap

For installations where removal of the rain cap may be required for service or cleaning, the cap can be fastened with the supplied Stainless Steel screw and lock nut instead of pipe cement. For a removable rain cap installation, follow the instructions and diagram below.

1. Locate the drill location dimple on the outside of the rain cap (See Fig. 4).

2. At this location, drill through the cap and the inner pipe wall. Ensure that the path of the hole is perpendicular to the inner pipe NOT the outside of the cap. Use a 3/16" drill bit to make the hole. (See Fig. 5).

3. Insert the screw and tighten the bolt, do not over tighten (See Fig. 6).

2 Installation

1. Ensure all items listed in Section 1.1 are complete.

2. Common installation practice is to determine the termination and exterior wall penetration point first. Next, design the venting/intake piping layout back to the heater. Keep in mind, centrally locating the water heater, whenever possible, is recommended to keep hot water distribution times even throughout the structure.

3. To determine the appropriate penetration point, refer to the allowable termination clearances listed in Figure 11.

4. Once penetration point is determined, cut a hole in the roof or wall large enough to accomodate the outer pipe of the concentric vent kit. The size of the hole can vary greatly depending on the roof pitch. All penetrations must be sealed according to local building codes.

5. Before installing, certain pieces of the concentric vent kit must be glued.
   A) Glue the inner pipe to the concentric Wye fitting (Fig. 7, Step 1).
B) Next, glue outer pipe to the concentric Wye fitting (Fig. 7, Step 2).

6. With rain cap (Fig. 8) removed, slide assembly through the roof or wall penetration. (Install flashing if needed or required by code)

7. Fit inner pipe and outer pipe to the concentric rain cap. To permanently affix the rain cap, it should be solvent cemented to the inner pipe. For installations where removal of the cap may be required for service or cleaning, it can be mechanically fastened following the instructions in Section 1.4. For either installation method, the outer pipe is only a friction fit with the rain cap.

8. Properly support the weight of the concentric vent kit with clamps/straps. Do not use the vent system it connects to for support purposes.

9. Connect combustion air piping to the combustion air connection on the kit. Connect exhaust vent piping to the exhaust connection on the kit (Fig. 8).

10. Finish exhaust vent and combustion air piping installation back to the water heater.

11. Complete tankless water heater installation per the water heater’s installation manual (Fig. 9 and Fig. 10).
* For clearances not specified in ANSI Z223.1 / NFPA 54 or CSA-B149.1, one of the following shall be indicated:

a) A minimum clearance value determined by testing in accordance with section 2.20, or;

b) A reference to the following footnote:

"Clearance in accordance with local installation codes and the requirements of the gas supplier."

---

**Fig. 11 Required direct vent terminal clearances (twin pipe / concentric penetration)**