



FLEXIBLE VENT KIT INSTALLATION INSTRUCTIONS (Part #8400P-001)

NOTE: Read this entire instruction manual and refer to the Venting section of the appliance Installation and Maintenance manual before starting vent installation. Follow all instructions exactly as written.

SPECIAL ATTENTION BOXES

The following defined terms are used throughout this manual to bring attention to the presence of hazards of various risk levels, or to important product information.

DANGER

DANGER indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.

WARNING

WARNING indicates a potentially hazardous situation which, if not avoided, could result in serious injury or death.

CAUTION

CAUTION indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.

CAUTION

CAUTION used without the safety alert symbol indicates a potentially hazardous situation which, if not avoided, may result in property damage.

INTRODUCTION

DANGER

This instruction manual is for use only with appliances that have been certified to use this ventilation system. These appliances are HTP's Pioneer, Phoenix, Versa-Hydro, MC-Series, and Elite appliances. Installing any other appliance with this system will result in property damage, severe personal injury, or death.

SAFETY CONSIDERATIONS

- Prior to installation, examine all components for possible shipping damage.
- Proper joint assembly is essential for safe installation. Check the integrity of joints upon completing assembly.
- This venting system must be free to expand and contract under normal operation.
- This venting system must be supported in accordance with these instructions.
- Assure unrestricted vent movement where required through walls, ceilings, and roof penetrations.

- Do not mix pipe, fittings, or joining methods from different manufacturers with this flexible vent kit.
- Do not use adhesives of any kind with this venting system. Use only approved fittings.

Installing and servicing heating equipment can be hazardous due to gas and electrical components. Only trained service personnel should install or service heating equipment.

DANGER

This installation shall be done by a qualified service agency in accordance with these instructions, all applicable codes, and requirements of the authority having jurisdiction. If the information in these instructions is not followed exactly, property damage, personal injury, or death may result.

When working on heating equipment, observe all precautions in the literature, on tags, and on labels attached to the appliance. **Follow all safety codes. Wear safety glasses and work gloves. Have a fire extinguisher available.**

WARNING

Before beginning any installation or modification, be sure the main electrical disconnect switch is in the "OFF" position. Electrical shock can cause serious personal injury or death.

DANGER

This vent kit may be used in residential or commercial installations to terminate Category II or IV gas-burning appliances **ONLY**. Failure to follow this warning will result in fire, serious personal injury, or death.

A. APPLICATION

The maximum positive pressure of the flexible vent kit is 8" w.c. The maximum flue gas temperature of the appliance must be not more than 230°F (110°C) (ULC-S636-Class IIC). This vent kit must only be used in vertical system designs. An existing chimney or chase must be used to route the flexible venting system. To prevent condensate from pooling in the vent, flex pipe is not to bend more than 45°.

CAUTION

Terminating the vent pipe or air inlet with an elbow or tee is expressly prohibited when using the flexible vent kit.

B. PRESSURE DROPS

Refer to the appliance manufacturer's installation instructions for information about maximum venting length, pressure drops, and equivalent length of the fittings. Use the guidelines below to adjust the recommended vent lengths for the polypropylene venting system.

- The 3" (80 mm) Polypro Flex Kit (8400P-001) has a total equivalent length (TEL) of 14' (4.26 m) for the entire kit.
- It is important to measure the amount of flexible pipe used, as the resistance is 25% greater than standard pipe. For example: Standard PVC/CPVC 3" (80mm) pipe resistance is equal to 1'. 3" (80 mm) Flexible Polypro Venting (8400-002/8400-003) pipe resistance is equal to 1.25' (380 mm).

C. MINIMUM CLEARANCE TO COMBUSTIBLES

The following table indicates the minimum clearance to combustible materials. It is prohibited to place any type of insulation around the venting system within these clearances.

SYSTEM	CLEARANCE TO COMBUSTIBLES, HORIZONTAL OR VERTICAL INCH (mm)
Flexible Vent System	1.2 (30)

Table 1

D. INSTRUCTIONS

Before installation, consult the authority having jurisdiction (such as the gas utility, municipal building department, fire prevention bureau, etc.) to determine the need to obtain a permit or for applicable local or national codes. A venting system that extends through any area above the one where the vented appliance is located shall be provided with an enclosure which has a fire resistance rating equal to or greater than the fire resistance rating of the floor or roof assemblies through which it passes.

⚠ WARNING

It is recommended that the venting system be checked once a year by a qualified serviceman. Special attention should be paid to the presence of debris and signs of leakage. Failure to have this system inspected annually can result in property damage, personal injury, or death.

Normal operation of gas burning appliances does not result in deposits of combustible soot in venting systems. However, a poorly adjusted or malfunctioning appliance can deposit soot and other debris which can enter the venting system. Any such accumulation should be removed and the appliances adjusted to eliminate future accumulation. Use only a soft brush for cleaning the sections and fittings.

If any leakage is found at the joints, the connected appliances should be turned off and the leaks repaired.

⚠ WARNING

No other appliance may be vented into the same chimney or chase flue with the flexible venting system. Failure to heed this warning could result in property damage, personal injury, or death.

Plastic venting systems shall not pass through rated fire separations.

The distance between the point of termination of the system must be:

- 6' (2 m) or more from the combustion air inlet of any appliance
- More than 3' (1 m) from any other building opening, gas utility meter, service regulator, etc.
- Less distance if specified in the appliance instructions.

Contact the local building or fire officials about restrictions and installation inspection in your area.

⚠ DANGER

Proper installation of the venting system and appliance is dependent on the use of all parts specified by the manufacturer for use in particular installations. The performance of the system may be affected if the proper assembly of all required parts is not accomplished. Acceptance and use of the venting system requires full compliance with these installation instructions. Failure to properly install this venting system will result in property damage, severe personal injury, or death.

Ensure the following for each installation:

- Flex vent pipe, fittings, and termination must be used for the entire length of the vent. These products are supplied with specific instructions. These instructions must be followed.

⚠ CAUTION

To prevent condensate from collecting in the flexible vent corrugations, the maximum allowable deflection (bend) of the flexible vent is 45°. Since flexible vents cannot be used in a complete horizontal position, the connection between the appliance and the flexible vent must be done with a rigid vent system. Follow the specific instructions supplied with these products.

- Common venting of more than one appliance is not allowed.
- No other gas-burning appliance may be vented in the same chase/chimney with the flexible vent system.
- The maximum length, correct diameter, and number of fittings must be in conformance with the specifications of the appliance manufacturer's instructions.
- The venting systems must be installed with correct distance to combustibles.
- Check for proper joint construction.

Additional instructions for termination:

- The vent system must terminate at least 2' (0.6 m) above the roof line or any wall or vertical structure within 10' (3 m).
- Do not install an extra rain cap on the terminal. The terminals are specially designed for high efficiency boilers which produce large quantities of moisture due to condensation of combustion gases. This design allows rain to enter the terminals which also serves to dilute acidic condensate.
- Follow the specific mounting instructions at the end of this manual.

E. INSTALLATION

Special notes:

- The flexible liner must be treated carefully at low temperatures (<5°C) (<41°F).
- Check all parts for possible shipping damage.
- Rotate the components slightly to assist assembly.

Installation procedure for flexible flue liners:

1. Determine the required location of the opening in the shaft. Ensure the flue access cut-out meets the minimum specified size to allow manual assembly of connections within the flue. The slope of the connecting flue pipe must have a minimum of 3° (equivalent 1.9"/ft.) (5cm/m).

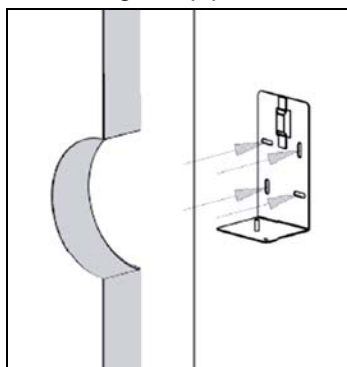


Figure 1 – Fixing the Support Bracket

2. Fix the elbow support bracket (Fig. 1) with 4 screws on the wall of the chimney or chase.

3. The length of the flexible liner can be determined in two ways: 1) Use a rope with a small weight on the end to measure shaft length. Add 16 inches (.4 m) extra length for each bend. The flexible liner can be shortened with a saw or scissors by cutting in a groove. 2) Correct liner length can also be determined after installing the liner in the shaft and cutting it as the top of the chimney or chase (see Fig. 10, Dimension B).

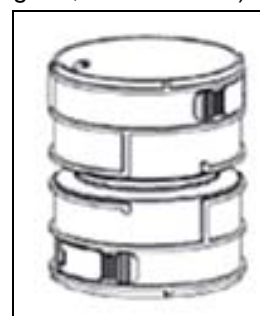


Figure 2 – Coupling

4. When required, a coupling (Fig. 2) can also be used to connect two lengths of flexible liner together. This piece can be ordered as an accessory (Part #8400P-005).



Figure 3 – Mounting the Seal

5. Mount the seal into the lowest whole groove (Fig. 3) and push the flexible liner into the adapter until it stops.

6. Fix the adapter on the liner with the latching tabs (Fig. 4).

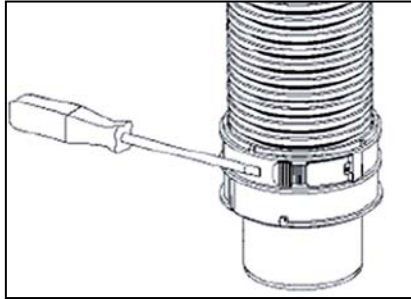


Figure 5 – Loosening the Latching Tabs

7. It is possible to loosen the latching tabs with a screw driver. See Fig. 5.

8. Mount the flexible spacer brackets with a maximum distance of 6 feet (2 m) between each.

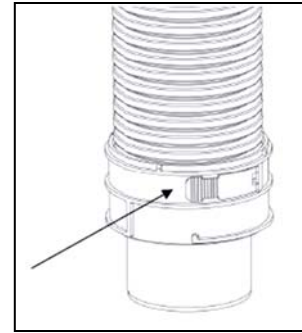


Figure 4 – Fixing the Adapter

9. The optional pull cone installation aid (Part #8400P-013) must be connected using a bayonet connection with a rotating movement of $\frac{1}{4}$ turn to the right (+). Install the liner from the top. See Fig. 6.

10. The flexible liner must be installed from the top of the shaft into the installation room. To prevent damage to the liner, a second person must guide the liner from the top in the middle of the shaft.

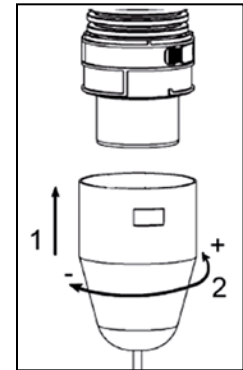


Figure 6 – Pull Cone

11. After installing the required length of liner, remove the mounting aid by rotating $\frac{1}{4}$ turn counterclockwise (-). Then attach the rigid-flex adapter into the support bend. See Fig. 7.

a. Position the support elbow on the support bracket (see 2 and 3, Fig. 7).

b. Secure the support elbow with the clamp (see 1, Fig. 8) around the flex-rigid adaptor (see 1, Fig. 7) and through the slot of the support console (see 4, Fig. 7).

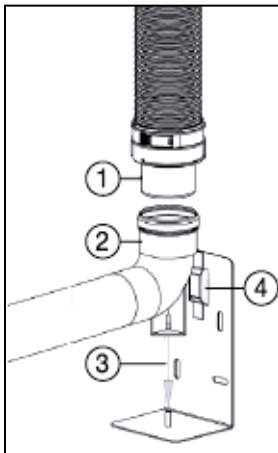


Figure 7 – Installation of Support Elbow

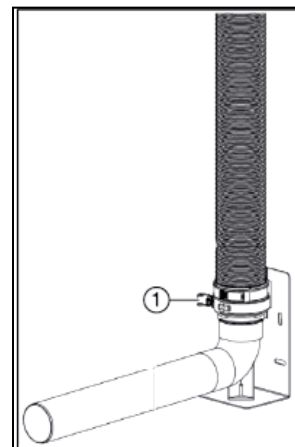


Figure 8 – Securing the Support Elbow

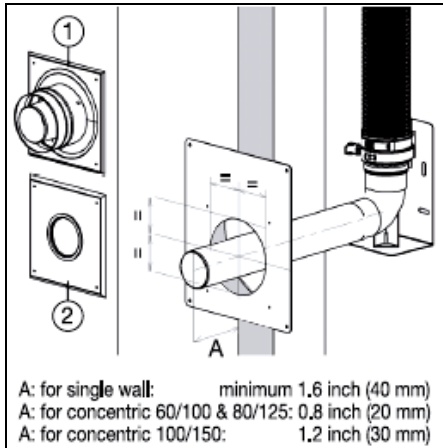


Figure 9 – Mounting the Wall Plate

15. When installing the Polypro to PVC adapter, first connect the adapter by pushing it onto the Polypro pipe. **Be certain that the arrow on the adapter is facing up.** Next, slide the PVC/CPVC pipe into the adapter. Use a flathead screwdriver to tighten the adapter to the pipe. Once the adapter is connected, be certain that it pitches $\frac{1}{4}$ " per foot to ensure proper condensate drainage (see Figure 10).

12. Mount the wall plate on the wall of the shaft (Fig. 9). Pay attention to the correct slope of 3° . The pipe of the support elbow must be in the center of the hole in the wallplate. See Fig. 9 for proper installation.

13. Depending on the type of system (single wall or concentric) the support elbow can be shortened. For single wall, the length of A (Fig. 9) must have a minimum length of 3" (40 mm). For concentric 60/100 end 80/125, the minimum length of A must be .8" (20 mm). For concentric 100/150, A must be 1.2" (30 mm).

14. Fix the correct version of the shaft connector to the wall plate (see Fig. 9, 1 or 2).

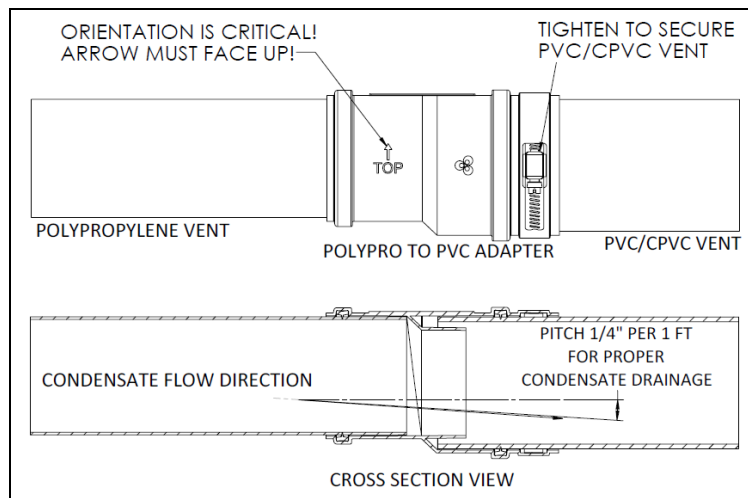


Figure 10 – Connecting the Polypro to PVC Adapter

⚠ DANGER

Orientation of the Polypro to PVC adapter is critical. Be certain that the arrow on the adapter faces up. Failure to ensure correct orientation of the adapter will lead to seal failure and an exhaust gas leak, resulting in property damage, severe personal injury, or death.

⚠ DANGER

Do not use PVC pipe cement to connect the Polypro to PVC adapter. Use of PVC pipe cement will lead to failure of the adapter, resulting in an exhaust gas leak which will cause property damage, severe personal injury, or death.

⚠ DANGER

Be certain to properly secure the Polypro to PVC adapter. Failure to do so will lead to an exhaust gas leak, resulting in property damage, severe personal injury, or death.

⚠ DANGER

Failure to properly pitch venting system could cause condensate to collect and pool, resulting in venting system failure, property damage, severe personal injury, or death.

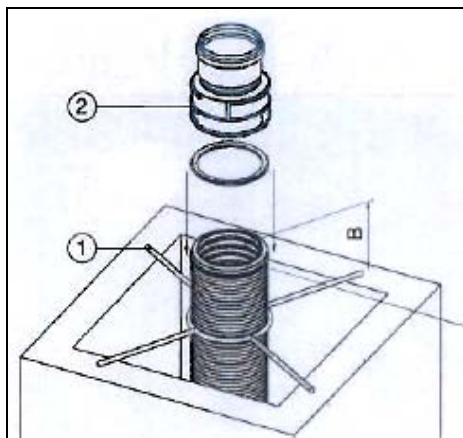


Figure 11 – Required Liner Length at Shaft Top

16. Fit the support cross (see Fig. 11, 1) over the liner and let it rest on the wall of the shaft. Mount the seal in the last whole groove of the liner. Push the flex-rigid adaptor on the liner and close the latching tabs. Allow the assembly to rest on the support cross.

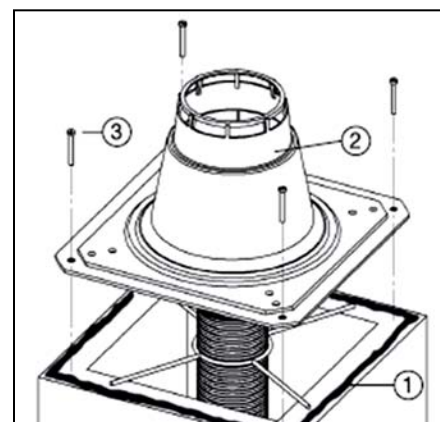


Figure 12 – Installing the Weather Collar

17. Seal the edge of the chimney or chase shaft with water-resistant sealant (see Fig. 12, 1) and push the weather collar (2) on the shaft. Fix the collar with four screws (3).

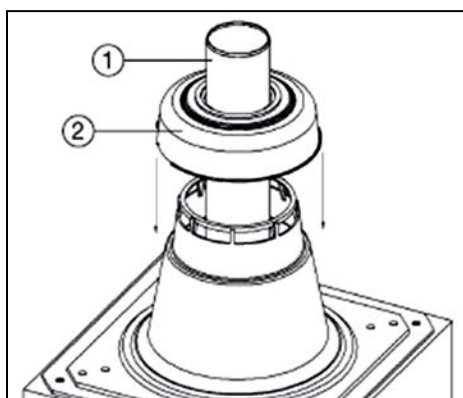


Figure 13 – Installing Termination Pieces

18. Install the metallic termination pipe (see Fig 13, 1). Assemble the shaft vent cap (2).

19. Connect the appliance exhaust to the transition PVC 3' to PP 80 mm fitting to the straight connection leg protruding out of the single wall shaft connector. To assure proper drainage of condensate, make sure that the arrow on the transition connector is facing up. Make sure that the pipe is fully inserted into the connector before tightening the clamps on either end of the connector to fully secure the pipe on both ends.

20. Once connected, operate appliance. Inspect for leaks and test for proper operation.

21. Instruct the owner in proper maintenance procedures.

ACCESSORY KIT FOR EA SY POLYPRO FLEX SYSTEM – 8400P-001			
NUMBER	DESCRIPTION	QUANTITY	HTP PART NUMBER
1	Polypro to PVC Adapter	1	8400P-012
2	Seal Polypro Pipe	N/A*	8400P-010
3	External Wall Plate	1	N/A
4	Wall Plate	1	N/A
5	Polypro Pipe Elbow	1	N/A
6	Support Bracket	1	N/A
7	Elbow Support Clamp	1	N/A
8	Rigid to Flex Adapter	2	8400P-008
9	Seal Flex Liner	N/A*	8400P-011
10	Spacer Cross	4	8400P-007
11	Support Cross	1	8400P-008
13	Chimney Cap with SS Pipe	4	8400P-009
14	Wall Plate Screws	1	N/A
15	Screws and Anchors	1	N/A
16	Screws and Anchors	2	N/A
17	Mounting Screws and Anchors	1	N/A
18	Instruction Manual	1	LP-362
FLEXIBLE POLYPRO VENTING			
NUMBER	DESCRIPTION	QUANTITY	HTP PART NUMBER
12	Flexible Polypro Venting – 33' (10 meter) box	1	8400P-002
	Flexible Polypro Venting – 49.5' (15 meter) box	1	8400P-003
OPTIONAL ACCESSORIES			
NUMBER	DESCRIPTION	QUANTITY	HTP PART NUMBER
19	Flex Coupling	1	8400P-005
20	Full Cone	1	8400P-013

*Listed for replacement part reference only. The proper number of seals will be supplied with each appropriate fitting.

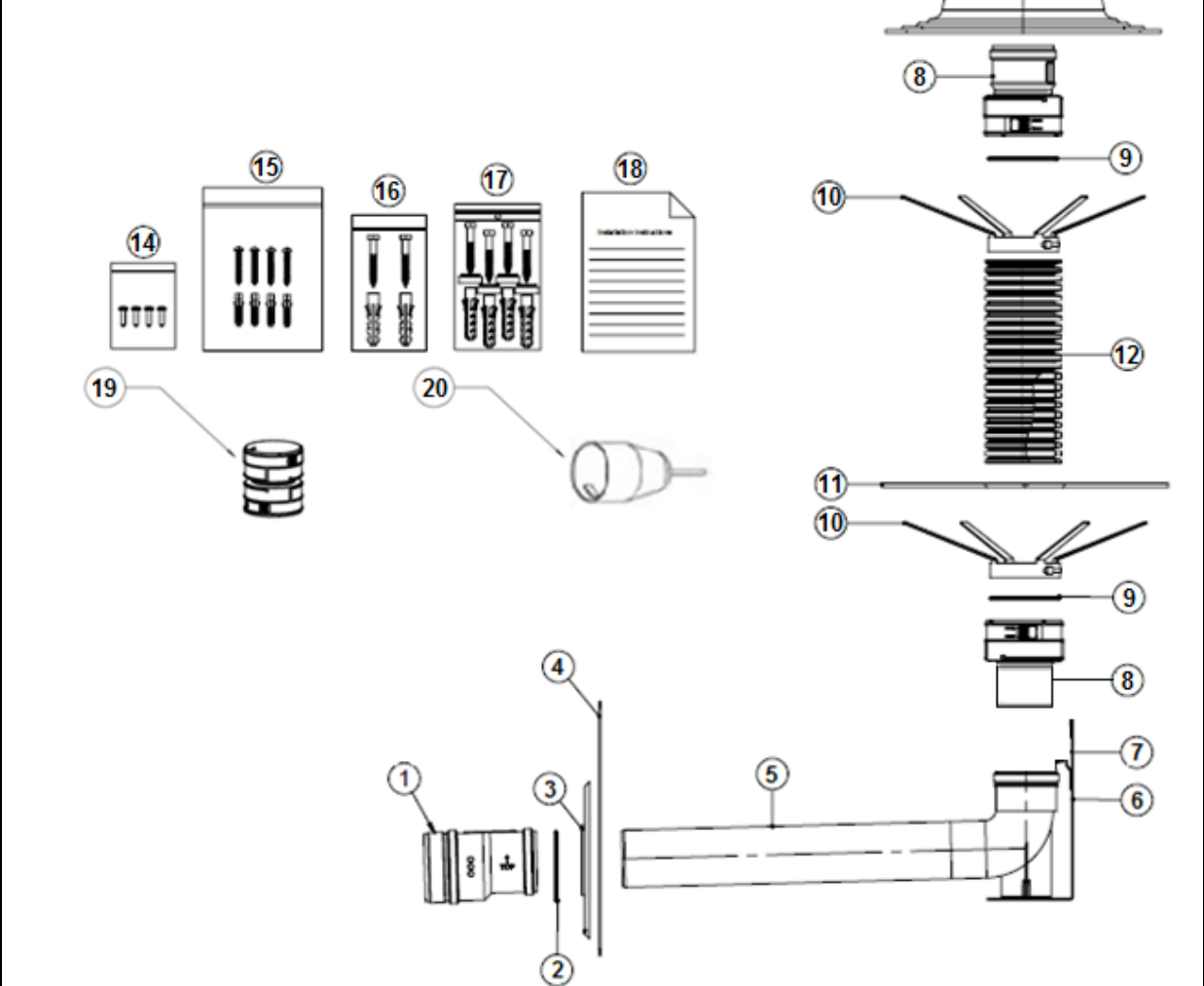


Figure 14 – Flex Vent Parts List