

6.2 Selecting Vent Pipe Materials

Venting requirements differ in the US and Canada. Consult the following chart or the most recent edition of ANSI Z223.1/NFPA 54 or CAN/CGA B149.1, as well as all applicable local codes and regulations when selecting vent pipe materials. Do not use cellular core based pipe materials for the exhaust vent.

Locale	Recommended Vent Materials
USA	<ul style="list-style-type: none"> PVC Schedule 40 (Solid Core) CPVC Schedule 40 or 80 (Solid Core) Approved Polypropylene
Canada*	<ul style="list-style-type: none"> Type BH Special Gas Vent Class IIA (PVC) Type BH Special Gas Vent Class IIB (CPVC) Type BH Special Gas Vent Class IIC (Polypropylene)

* For installation in Canada, field-supplied plastic vent piping must comply with CAN/CGA B149.1 (latest edition) and be certified to the Standard For Type BH Gas Venting Systems, ULC-S636. Components of this listed system must not be interchanged with other vent systems or unlisted pipes or fittings. All plastic components and specified primers and glues of the certified vent system must be from a single system manufacturer and must not be intermixed with another system manufacturer's parts. The supplied vent connector and vent termination are certified as part of the boiler.

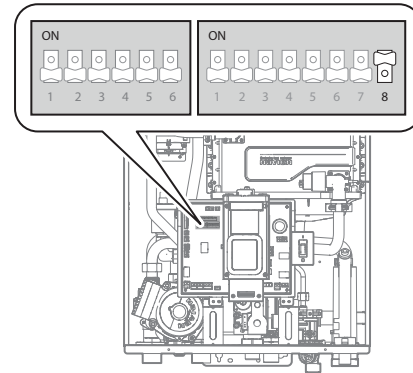
CAUTION

- This boiler has a built-in control to limit the exhaust temperature to 149°F (65°C). As a result, the boiler can be vented with Schedule 40 PVC.
- In high temperature applications, the exhaust temperature can exceed 149°F (65°C). In that case, you must use Schedule 40 or 80 CPVC or Approved Polypropylene in the USA or Type BH Special Gas Vent Class IIB (CPCV) or Class IC (Polypropylene) that conforms to ULC-S636 in Canada.
- In system with 2 in. vents, if the exhaust temperature exceeds 149°F (65°C), CPVC pipe (field supplied) must be used for the first 3 feet of equivalent pipe length. For systems with 3 in. vents, if the exhaust temperature exceeds 149°F (65°C), CPVC pipe (field supplied) must be used for the first 5 in. of equivalent pipe length.

If you require that return water hotter than 140°F (60°C) to circulate back to boiler, the DIP switch must be configured (**Dip Switch 2, switch #8 to ON position**). Otherwise, the boiler will control and maintain the flue and DHW temperature below 150°F (65°C) and 140°F (60°C) respectively.

Note

- When PCB DIP switch 2 #8 is set to Off (factory default), the boiler does not operate without an exhaust thermostat installed.
- When you set PCB DIP switch 2 #8 to On, ensure that CPVC piping is used for exhaust venting.



6.3 Measuring Vent Length

The maximum vent length when using 2 in exhaust ducts is 60 ft (18 m). The maximum vent length when using 3 in vent ducts is 150 ft (45 m). The intake duct length may be identical to the exhaust duct length. Maximum vent lengths reduces according to the number of elbows used, as shown in the following table:

Vent Size	Maximum Length	Maximum # of Elbows	Equivalent Lengths
2 in	60 ft (18 m)	6	Reduce the maximum vent length accordingly for each elbow used: <ul style="list-style-type: none"> Each 90° elbow equates to 8 linear feet of vent Each 45° elbow equates to 4 linear feet of vent
3 in	150 ft (45 m)	8	Reduce the maximum vent length accordingly for each elbow used: <ul style="list-style-type: none"> Each 90° elbow equates to 5 linear feet of vent Each 45° elbow equates to 3 linear feet of vent

Note

- The Maximum Length does not include any elbows.
- If using a concentric termination as shown on page 45, count this as 5 linear feet (1.5 m) of vent.