

VII. Venting A. Vent System Design (continued)

- DuraVent PolyPro - ULC S636 listed Polypropylene special gas vent system.
- Selkirk Polyflue - ULC S636 listed Polypropylene special gas vent system.
- Centrotherm InnoFlue SW - ULC S636 listed Polypropylene special gas vent system.
- DuraVent FasNSeal Flex - UL 1738 listed Stainless Steel special gas vent system.

Use PVC and/or CPVC for the air intake system. PVC may be used for all air intake piping between the intake terminal and the boiler.

When CPVC and/or PVC pipe is used, it must be joined using primer and cement that is listed for use with the pipe material being joined (PVC, CPVC, or CPVC to PVC).

2. Vent Kits Available for use with this Boiler - The following vent kits are available for CPVC/PVC vent systems installed with this boiler in the USA:

- 107039-01 - 2" CPVC/PVC Vent Kit
- 107039-02 - 3" CPVC/PVC Vent Kit

These kit include the following:

- (1) 30" CPVC Straight Pipe
- (1) 90 degree short bend CPVC Elbow
- (1) Straight PVC Coupling (for exhaust terminal)
- (1) 90 degree PVC Elbow (for intake termination)
- (2) Rodent screens

The CPVC Pipe and elbow supplied with these kits are not listed to ULC S636 and may not be used in Canada.

3. Maximum Vent and Air Intake Lengths - The maximum length of the vent air intake piping depends upon the vent option selected and the boiler size. See Tables 7.5, 7.13 or 7.21 for the maximum vent lengths. These maximum lengths apply to both the vent and intake piping (e.g. Option 1 may have up to 60ft of intake and 60ft of vent piping). For all vent systems, the lengths shown in Tables 7.5, 7.13 and 7.21 are in addition to the first 90° elbow. If more elbows are desired, the maximum allowable vent length must be reduced by the amount shown in Table 7.1B for each additional elbow used. Termination fittings are never counted.

It is recommended that all field supplied PVC or CPVC elbows be "1/4 Bend" (Sanitary 90° Elbow) or "Long Sweep 1/4 Bend" type elbows (Figure 7.2). In this manual "sanitary" and "long sweep" elbows are treated as having the same equivalent length.

Example:

A 3" twin pipe horizontal CPVC/PVC vent system is planned for a horizontally vented 120MBH model which has the following components in the vent system:

- 1 ft CPVC Straight Pipe
- 90 CPVC Elbow (short bend)
- 1-1/2 ft CPVC Straight Pipe
- Coupling
- 10 ft PVC Straight Pipe
- 90 PVC Elbow (Sanitary Elbow Design)
- 15 ft PVC Straight Pipe
- PVC Coupling Terminal

The Vent Option #2 column in Table 7.5 describes a horizontal direct vent system using 3" CPVC and PVC pipe. From this column, we see that the boiler may have a vent length of up to 135ft. The first CPVC 90 degree elbow is not considered. From Table 7.1B, we see that the equivalent length of the 90 PVC elbow is 4ft and that the equivalent length of the coupling is 0ft. The total equivalent length of the planned venting system is therefore:

1ft (Straight CPVC) + 0ft (first short bend CPVC 90 Elbow) + 1.5ft (Straight CPVC) + 0ft (Coupling) + 10ft (Straight PVC) + 4ft (PVC 90 Sanitary Elbow) + 15ft (Straight PVC) + 0ft (Coupling Terminal) = 31.5ft.

Since Table 7.1B shows a maximum allowable vent length of 135ft, the planned vent system length is acceptable

The flex venting used on some of the Vertical Twin Pipe and Split Vent Options also reduces the maximum allowable vent length. See Sections VII-C or VII-D for details.