**GENERAL:**

The Model M and MO Gas Vents (B-Vent) have been designed for use with gas burning Category I appliances. A Category I appliance operates with a non-vented positive draft and with a vent temperature that avoids excessive condensate production in the vent.

B-Vent is of double wall construction with a high purity Fluor-Alloy (allowing for rapid warm-up and better draft) and the outer casing is galvanized steel or galvanized steel clad on the outside. Model M-B-Vent is supplied with listed metal-ribbing relining systems, single wall connectors and other listed gas vents. Model M-B-Vent may be used to replace metal-ribbed relining systems in new installations or where these instructions are available from Metal-Fab.

Metal-Fab M-OV Design is designed for installation within 2” x 4” or 2” x 6” wall studs and for venting of wall mounted furnaces. Transition from oval to round for lowest cost installation is easily obtained.

**SAFETY: CAUTION:** Ul listing is based on using B-Vent components supplied by Metal-Fab, Inc. Performance may be affected and a safety hazard created if parts shown in these instructions are not used.

1. Metal-Fab B-Vent pipe and fittings were designed and are listed to form a continuous passageway from the gas burning appliance to the vent termination above the roof, including the vent cap.

2. These B-Vent components are to be installed with minimum one inch clearance to combustibles. Install in place, especially on lateral or horizontal runs, to maintain proper clearances to combustibles. Do not pack insulation or other materials around the B-Vent.

3. When installing B-Vent always align “U” arrow away from appliance.

4. Locate vent as close as possible to appliance to obtain maximum draft and minimize connector pipe length.

5. For horizontal runs, maintain a pitch or rise from the appliance.

6. A B-Vent Cap should be used on all installations to prevent back draft, and should terminate for single wall discharge opening no closer to the roof than the minimum height shown in the table below. These components are recommended to assure a safe installation. It is acceptable to use screws at the joints if code requires, or at the installer’s option, provided that the screws do not penetrate the flue.

7. B-Vent Cap should be used on all installations. The B-Vent Cap is centered in this opening. When installed, check to make sure the Cap and the first B-Vent section is bonded to the MDC.

8. If a UL Listed gas vent other than Metal-Fab is to be connected to the inlet end of the Metal-Fab B-Vent, use the M6A, M12A, or M18A gas vent adapter. Insert the male end of the other gas vent into the gas vent adapter and secure by tightening the clamp on the adapter. Use a B-Vent wye or tee is used. It is recommended that B-Vent be used to connect to the outlet end of a UL Listed gas vent other than Metal-Fab, secure by using three (3) 1/4 inch (6.4 mm) long sheet metal screws. (See Figure 26)

9. When the connector from the appliance is single wall, it must terminate at least two feet above roof surface to maintain proper clearance to combustibles. When the connector is double wall it must terminate at least 2’ higher than any portion of a building within 10’ horizontally. (See Figure 7). These components provide 360 degrees of rotation to position the tap in the proper orientation (See Figure 4). Note: Consult the Metal-Fab catalog for the many variations of taps and outlets.

10. It is a common practice to utilize the 90 degree adjustable elbow (M90) in the appliance area to minimize vent run. Use of the M90 or M45/60 elbow is acceptable and not limited to the appliance area.

**INSTALLATION AND MAINTENANCE INSTRUCTIONS FOR MODELS M & MO GAS VENTS (B-VENT)**

**INSTALLATION:**

**Round B-Vent**

The Type I gas vent systems and components 3”-4” diameter use the Metal-Fab positive lock twist for interconnections. Align the ends of the vent, push together then twist with a lock to lock section in place. Use SureLock™ tabs in all installations. The SureLock™ tab is used to secure pipe sections.

**Oval B-Vent**

Round Sizes 3” (76 mm) through 14” (355 mm)

<table>
<thead>
<tr>
<th>Oval Size</th>
<th>Minimum Height</th>
</tr>
</thead>
<tbody>
<tr>
<td>3” (76 mm)</td>
<td>1.5 feet</td>
</tr>
<tr>
<td>4” (102 mm)</td>
<td>2.0 feet</td>
</tr>
<tr>
<td>5” (127 mm)</td>
<td>2.5 feet</td>
</tr>
<tr>
<td>6” (152 mm)</td>
<td>4.0 feet</td>
</tr>
<tr>
<td>8” (203 mm)</td>
<td>6.0 feet</td>
</tr>
</tbody>
</table>

For installations not covered by the above, including sizes larger than 12”, the lowest discharge opening of the vent cap should be at least 18” above the highest point where it passes through the roof, and at least 2’ higher than any portion of a building within 10’ horiz. Extending the vent above the roof more than 5’ must be securely guyed or braced.

7. Vent sizing is defined by tables in NFPA41 (ANSI Z223.1, 1999), or consult Metal-Fab for the recommended minimum vent carryaway for these installations and some local code requirements.

8. B-Vent is to be used for any listed appliance intended to burn only gas. Type B-Vent is NOT to be used with the following:

A. Used Gas Appliances
B. Recessed Heaters
C. Conversion Burners
D. Gas/Oil Burners
E. Any appliance which may be readily converted to a solid or liquid fuel.

9. Roof Pitch Minimum Height

| Over 24/12 (3056 mm) | 18.0 feet |
| Over 18/12 to 20/12 (2286 mm) | 7.5 feet |
| Over 14/12 to 16/12 (1829 mm) | 6.0 feet |
| Over 12/12 to 14/12 (1524 mm) | 5.0 feet |
| Over 11/12 to 12/12 (1218 mm) | 4.0 feet |
| Over 8/12 to 9/12 (610 mm) | 2.0 feet |

**Twist to engage lock.**

| Use the SureLock™ tab to secure pipe sections. |

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1. Cut a hole in the outside wall 1/4" larger than the diameter of the sleeve on wall thimble (MWT).
2. Install the wall thimble by inserting the larger of the two parts on the appliance side and the other half through the outside wall.
3. Install chimney sections vertically, starting at the tee. Attach a WALL BRACKET EVERY SIX FEET TO SECURE THE VENT TO THE WALL.

NOTE: A minimum clearance of 1" to combustibles is required.

4. Make remainder of vent installation per B-Vent installation instructions.

INSTALLATION INTERCONNECTIONS
DETAIL 2 – STYLE M OVAL

ALIGN
PUSH TOGETHER
UNTIL IT SNAPS

FIGURE 1

FIGURE 2A

FIGURE 2B

FIGURE 3

FIGURE 4

FIGURE 5

FIGURE 6

FIGURE 7