

TECH TALK

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Information Required to Size B-Vent

by Dave Fetters

We are often asked to size B-Vent installations to address performance issues with an existing vent system and/or to satisfy the requirements of the Fuel Gas Code. In order to perform a thorough evaluation of the vent system, which includes compliance with the Fuel Gas Code, we require some installation specifics.

For a single-appliance vent system, we need:

- The type of appliance—water heater with draft hood, mid-efficiency (80% or fan-assisted combustion) furnace, or boiler
- BTU input

- Special appliance configurations, if any (motorized damper, 2-stage firing, etc.)
- Vent height measured from the appliance collar to the cap
- A description of any offsets (angle and length between elbows)
- Whether the connector is single-wall or B-Vent
- Collar size is optional, but helpful

For a multiple-appliance (two or more) vent system on the same level, we need:

- The types of appliances (see above)
- BTU input of each appliance

- Special appliance configurations (see above)
- Common vent height measured from the tallest appliance collar to the cap
- Common vent offset angle and distance between elbows
- The spacing between appliances and their locations relative to the vertical portion of the vent
- Whether the desire for connectors and manifold is for single-wall or B-Vent
- Rise and number of elbows for each appliance connector
- Collar sizes are optional, but helpful

A system sketch is very helpful and provides a forum for notes and a signature from a Hart & Cooley engineer. Not having all the information forces us to call for the missing data, adding to the turnaround time. Incomplete information may limit our choices of venting options.

A multi-story sizing request should always include a sketch. Besides the appliance types and inputs, the appliance location dimensions must include the horizontal distances of all appliances on each floor from the common vertical vent and the relative locations of the interconnection tees on each floor.

There are definitions and sizing examples of single-appliance, multiple-appliance, and multi-story venting in our *Gas vent, chimney sizing & application guide*. These examples will help you understand the information we require to size a system properly. The sizing guide is available from our web site at **www.hartandcooley.com**.

You may contact us with B-Vent sizing needs by telephone, mail, fax, or by e-mail (through our web site). Please include your name, phone number and fax number on your sketch.



Hart & Cooley, Inc. 800.433.6341 *toll-free*
 500 East Eighth Street 616.392.7855 *phone*
 Holland, MI 49423 800.223.8461 *toll-free, fax*
 info@hartcool.com 616.392.7971 *fax*
 www.hartandcooley.com