VentBOM Step-by-Step Manual

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Introduction:

- VentBOM is a good tool for budgetary pricing.
- Due to a current known rounding error, prices may be off by up to plus or minues 0.80 USD per part. We are working to get this issue resolved. While we work to resolve this issue, we apologize for any inconvenience this causes, and thank you for your understanding.
- It is a good idea to familiarize yourself with Van-Packer's part code structure. See Van-Packer's product brochures for more information.

Using this Manual:

First Time Using VentBOM

If this is your first time using the VentBOM application, congratulations on taking your first step toward an easier and faster quoting method! VentBOM may seem daunting at first, but it is an easy and efficient software to use after getting the hang of it.

We recommend opening a new VentBOM project file and walking through the steps in the "The Beginning Basics" section (found on the next page). The steps will walk you through how to draw up and quote a project in VentBOM from scratch.

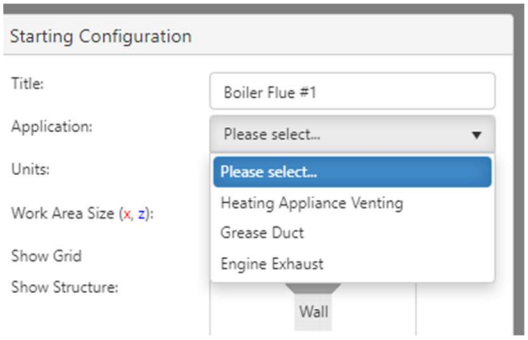
Returning VentBOM User

If you have used the VentBOM application before, you likely already know the basics of the program. Use the table of contents on the previous page to find the section that would be relevant to your inquiry.

The Beginning Basics:

How to Start the Setup for a New Layout:

1. **Select '3D Layout'** - From the beginning project file screen, always select the 3D Layout option when quoting. (The standard layout option is no longer supported, and may not have all the most recent features)
2. **Select Layout Application** - Layout Application options are as follows:
   a. *Heating Appliance Venting* uses Van-Packer's Model DW and Model CS vent, used mostly for boiler flues and water heater flues
   b. *Grease Duct* is an experimental option and is not accurate. Do not use.
   c. *Engine Exhaust* is used for engine and generator exhausts. Do not use without training.



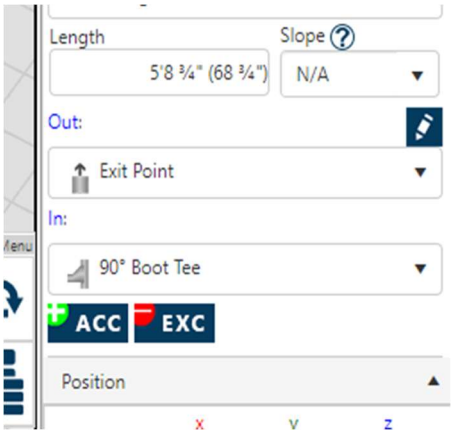
3. **Select Model and Material Type** - When you enter the layout, start by selecting a model and material type to use on the right-most ribbon. Our model types are as follows:
   a. Model DW – Double wall, for general use applications and listed per UL 103
   b. Model CS – Double Wall, for condensing applications and listed per UL 1738
   c. Model SW – Single wall for general use
   d. Model MW – Mono wall for condensing applications
   e. See Van-Packer's relevant brochure for additional information on each model type and all material types for each
4. **Select Inner Diameter** - After selecting a material type, select an inner diameter (I.D.) on the right-most ribbon.
5. **Place a Starting Point** - Start by creating a starting point using the *Point* button at the top-left.
   a. First select where you want to place the point on the x-y axis
   b. Then select where you want to place the point on the z axis (how high)
   c. More points can be placed now or in the future for additional starting points

How to Draw a Layout:

1. **Place a Starting Point** – If you haven't already, start by creating a starting point using the *Point* button at the top-left (see the previous section's step for more information).
2. **Draw Individual Sections** - To begin drawing the layout, click the *Draw Button* on the top left of the screen to enter Draw Mode. Then select a valid point (either a point that you have placed earlier, or one made at the end of a vent length) as a starting point.
    a. In VentBOM, you generally draw vent systems in individual sections, one at time.
    b. You can extend a section in any direction from the starting point you choose. If you type in a measurement (i.e. 5'-6") and hit the enter key, the section will enter as the specified length.
    c. Continue drawing sections until the desired layout is achieved.
    d. To draw a section at an angle from the current point, select one of the available angles on the right *Quick Menu*, or use the protractor tool also on the *Quick Menu* (shown on the right).
3. Cutting, copying, pasting, cloning, and deleting of highlighted sections can be achieved with buttons on the top of the screen.

How to Add Accessories or Additional Parts:

- **What Accessories Should I Add?** - Generally, VentBOM does a good job of adding required supports and a few required drains. However after drawing a layout, adapters, terminations, and accessories may need to be added to individual sections. Remember the TAD mnemonic for what to keep in mind:
    - **T** – stands for ***Terminations,*** to be used at the end of a vent system. Rain caps, velocity cones, and side discharges are Van-Packer's most used termination pieces (see the relevant Van-Packer brochure for more information)
    - **A** – stands for ***Appliance Adapters***, to be used at the beginning of a vent system to connect (or adapt) to appliance outlets. Flangeless outlet adapters, male o-ring adapters, boiler adapter flanges, and bolt flange adapters are Van-Packer's most commonly used adapters (see the relevant Van-Packer brochure for more information on individual adapters)
    - **D** – stands for ***Drains***, used to drains condensate or rainwater in a vent system. If VentBOM did not automatically put a tee with drain directly underneath the vent termination, a vertical drain section should be added to alleviate any rainwater that falls through the termination. Additionally in Model CS condensing applications, there should be a drain of some kind located approximately every 20'-0" to 30'-0".
        - Please note that regarding rainwater, even rain caps are ineffective at keeping rainwater out of a vent system. Drains are still recommended underneath rain caps.
        - There are three kinds of drains: vertical in-line, horizontal in-line, and end caps with drains.
- **Adding a Termination/Adapter** - To add a termination or adapter, click the *Edit Button* on the top left of the screen to enter Edit Mode. Then click the section that you want to add an appliance adapter or termination to. On the right-most ribbon, information for that section will appear, including a blue pencil icon.
    - The blue pencil icon should be above the drop-down box labelled '*Out*' if you are trying to add a termination, or above the drop-down box labelled '*In*' if you are trying to add an appliance adapter.
    - Click the blue pencil icon, and options for either an appliance adapter or termination can be selected within a drop-down box.



- **Adding an Accessory** - To add a drain, extra supports, or another miscellaneous accessory, click the *Edit Button* on the top left of the screen to enter Edit Mode. Then click the section that you want to add an extra accessory to. On the right-most ribbon, information for that section will appear, including a green plus-sign icon labeled *'ACC'*.

a. Click the green plus-sign, and a list of available accessories will be displayed. If a certain accessory is required, add the quantity of that particular accessory needed to the quantity box on the right.

How to Change and Edit a Layout:

1. **Be In *Edit Mode*** - All editing should be done in Edit Mode. Click the *Edit Button* on the top left of the screen to enter Edit Mode.
2. **Changing Length** - To edit the length of an existing section, click a section to highlight it. Information for that section should appear on the right-most ribbon, including the length of that section. Type in the desired length of that section and hit the enter key.
    a. Other lengths may change length to accommodate the change in another section.
3. **Changing Material/Model Type** - Selected/highlighted sections can be changed to a different inner diameter size or material type by using the drop-down boxes on the right-most ribbon.
    a. VentBOM does not automatically change the sizes and materials of adapters, terminations, and accessories along with the rest of the section. This means that after changing size/material type of any section, any adapters, termnations, and accessories must be removed and the appropriate size/material type parts should be added.
4. **Changing Fittings** - The fittings used to transition from one section to another can be changed. For instance, a boot tee with drain fitting could be changed to a 90 degree elbow.
    a. To do so, by click and highlight one of the adjacent sections, and change the selection to the desired fitting in the drop-down box labelled either '*In*' or '*Out*' on the right-most ribbon.
        i. The '*In*' drop-down box corresponds to the direction the flow/flue gasses enter the selected vent section (going in the opposite direction the double red arrow heads in the center of the section are pointing).
        ii. The '*Out*' drop-down box corresponds to the direction the flow/flue gasses exit the selected vent section (going in the direction the double red arrow heads in the center of the section are pointing).

Common Issues and Troubleshooting Solutions:

The Project Will Not Process:

- **Check Flow Arrows** - Check that the flow is correct. The flow represents the movement of flue gasses through a vent system. The flow is represented in VentBOM by two red arrowheads in the center of each section. Each section's flow should continue/point toward the next section in the direction of the termination.
    - To reverse the flow of a section, click a section to highlight it. Then click the button that depicts two arrows circling into each other on the right.
    - Ensure that no section's arrowhead is pointing directly at where another arrowhead is pointing. To do so makes a conflicting flow.
    - Making a conflicting flow causes an error message when trying to process the project.

Switch Flow

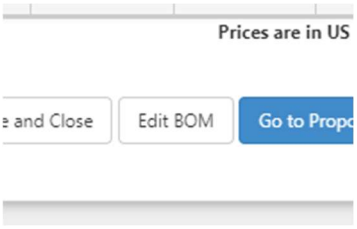
General Troubleshooting:

- **Don't Change 'Exact Length' Mode** – Do not change the '*Length Mode'* on the right-most ribbon off the *Exact Length* option. Generally, it may cause more issues than it can help.
- **Cannot Decrease** – VentBOM cannot produce decreases in vent size. Decreases in size are never recommended, since they drastically hinder the movement of the flue gases through the vent in an actual application.
    - If a decreaser part is absolutely required, its cost can be added manually.
- **Check Part Sizes** – Check that the termination and adapters are the correct diameter size, especially if the vent size was changed at any point.

Processing the Final Pricing and Proposal:

Getting the Final Pricing:

1. **Finish Drawing** – Check to make sure you are finished drawing your layout. You can always go back and make changes later.
2. **Click Process** – When finished, click the process button at the top of the screen.
    a. If there are any error messages, see the troubleshooting section above, or contact Van-Packer for assistance.
3. If VentBOM detects that any added accessories, adapters, or terminations use the wrong material type, it will do its best to recommend what it thinks are the best equivalents. Be sure to double check that VentBOM's recommendations are correct if it does this.
    a. This usually is only required if you manually changed the material or Model type at some point.
4. **Adding Extra Parts** – You can add individual parts to a project by clocking the *Edit BOM* button after processing. This lets you add parts that were not available to add during the regular drawing for the layout.



    a. This brings you to an itemized list of all of the current parts in the layout. From here you can manipulate the quantities of existing parts in the bill of materials, delete existing parts in the bill of materials, or add new parts altogether.
    b. To add a new part, you must use the top filters and search bar to find the part you need to add. You can also filter by material type and product family to find what you need more easily.
    c. After finding the correct part, click the *Add* button to the left of the part name/code.
5. **Go To Proposal** – Click the *Go To Proposal* button to enter the final Proposal page see the final pricing.
6. **Enter Multiplier** – By default, all pricing shown is List pricing. If you know your company multiplier, enter it.

Adding a Drawing to the Proposal:

Add a Drawing (if needed) – A drawing can be added to the proposal from the proposal page by clicking the Add 3D Drawing button at the top of the screen. This drawing can be manipulated in many ways to produce a submittal-type drawing, including centerline dimensions, a bill of materials, and ballooned/labelled parts.

Pro Tips and Tricks:

- **Angling/Rolling an Elbow** - To roll an elbow off a vertical section so it turns up at an angle (instead of in a direction parallel with the X or Y axis), use the directional compass.