Webselect VAV Selection/Pricing Quick Start User Guide
for JCI and Manufacturer Rep Users

To Select, Price, Quote, Generate submittals and order VAV products, following the following process:

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Note: The Web Select tool allows you to select all available Single Duct “TSS” and “TSL” products and other VAV product families of Fan Powered “Series”(TCS) and “Parallel” (TVS), and Dual Duct (TDS).
Step 1 - Start a New Project

1. Log in to Web-Select from the website, (link) webselect.johnsoncontrols.com and go to the Web-Select link to sign into the program. If you are having trouble logging in, then contact your Sales Manager.

![Login Screen](image)

Important News for Web-Select Users • Updated 10/11/18

**Web-Select Maintenance:** The site will be unavailable on Monday, October 22 between 7:00 AM and 8:00 AM EDT and Monday, November 5 between 7:00 AM and 8:00 AM EDT.

**Engineer Accounts:** Click here to request a Web-Select account for a Consulting Engineer.

2. After logging in, you will see the Project list. Add a new project by typing in your Project Name, and click **Add**

![Project List](image)

3. On the Project list, click **View Schedule**

4. Select **Product Type** to VAV Terminals. (If you see Fan Coil Units as shown below, change it to VAV Terminals). If you do not see VAV Terminals in the Product Type list, then your user account is not set up for that product line and you should contact your Sales Manager.
5. Select the **Model Type** – Single Duct Terminals will be defaulted are currently the only option, but fan powered and dual duct terminals will be added in the future.

6. Now add a line item by selecting the “Add New Line(s)” menu bar. We strongly recommend you leave Qty = 1 for the first line item of a project. See Note below.

![Add New Line(s)](image)

**Note:** The most efficient way to use the tool is to select the sound attenuation method and all the known options on the first line item completely. Why? Because whatever you select on the first line item will be copied to all subsequent line items of the same model you add the job.

You can always go back and change most options using the Global Option feature, but taking time to fill out everything you know on the first line item will save you significant time.

7. On the first selection, you will be directed to the Unit selection screen (see below).
Step 2 - Selecting the First VAV Box in a Project

Note: The program selects, configures and prices VAV boxes all at once so when you price a box, the engineering rules are checked at the same time.

1. On the **Unit screen**, visually scan each input field and enter those fields that are blank and you can also edit/change any of the default field values that appear. Remember, values you enter on the first selection will carry over to all subsequent line items (with the exception of Box Tag and Min and Max airflow (CFM’s)).
   a. Pick your **Shipping Cycle** (this will affect the options that are available)
   b. For **Size**, you can pick a specific box inlet size, or you enter “Select All Sizes” and let the program show you a choice of sizes for the airflow and pressures you entered.
   c. Next enter both **Max and Min Primary airflows (CFM’s)**. These are required to perform selections, calculate pressure drops, and perform sound calculations.
   d. Enter the **Inlet and Downstream ESP pressures**. VAV systems are typically designed by engineers with the same inlet pressure drop for all VAV boxes. Typical values are 1.0 or 0.75. Sometimes, the engineer schedules a maximum pressure drop of 0.50 rather than an inlet and downstream pressure, you can enter an Inlet Pressure of 0.75 and a downstream of 0.25 (0.75 – 0.25 = 0.50) to achieve the same result.
   e. Select **Control Type** (it affects the available options and control sequences required for pricing).
   f. Select **Heat Type** if you have an electric or hot water heater. Additional fields related to the heat type selected will appear. The input fields are self explanatory.
      i. **Electric Heat Tips for Reps**: Typically, the engineer will specify the desired kW (kilowatts) and LAT (leaving air temperature). Choose the Method = kW. The program will choose the entered or the next higher available kW and calculate the related LAT temperatures.
      ii. **Hot Water Tips for Reps**: Typically the engineer would like you to match their water flow and capacity. In this case, choose Method = GPM and enter the desired GPM. Pick Rows and Circuits = “Pgm Selects” (program selects) and the program will show the various combinations of resulting capacities available to choose from for the specific box and coil combinations.
   g. **Unit Arrangement** is required for pricing, and can be changed later prior to ordering by using the “Global Options” feature (see below).
h. **Liner Options** is required for pricing, and can be changed later prior to ordering using the “Global Options” feature (see below).

2. Click Next to go to the **Sound Screen** (see Figure 1 below).
   a. Select **Method**.
      i. The “**Default**” sound method follows AHRI-885E which is the industry standard for VAV box attenuation. Normally, you would use these defaults unless the consulting engineer specifies different attenuation factors for the job (typically specified at the bottom of their schedule or in their specifications).
      ii. The “**Calculate**” method allows you to fill in exact attenuation factors to calculate the attenuation (this feature is mainly designed for consulting engineers that have special attenuation requirements for reading rooms, classrooms, or sound booths).
      iii. “**None**” sets the attenuation values to zero (which would be used for placing the box in a room with no ceiling and no discharge ductwork and will result in higher room NC).
      iv. “**Manual**” allow you to edit each attenuation number on this screen. Use this method if the engineer specifies fixed attenuation numbers in their specification or schedule.

![Sound Screen Example](image-url)
3. Click Next to go to the Controls Screen
   a. Select a Controls Type on the Unit or Control Screen.
   b. For “Mount & Wire in factory”, “Pneumatic” or “Analog Electric”
      control types, you must select a control sequence to properly configure a
      unit and obtain a price. Select the options on the left and click Get
      Sequences to help you select the desired control sequence. Note that
      even if you do not yet know the Controller brand or sequence, you could
      select a temporary and non-specific sequence by selecting the
      “GENERIC” sequence. You can change the sequence later in the Global
      Options feature prior to ordering. NOTE: The “GENERIC” sequence is
      just that...i.e. a Generic non-specific and non-valid sequence, but it will
      allow you to receive a ballpark list price for factory mount and wire of a
      general (generic) type of DDC controller. A Generic sequence is not
      allowed for Ordering and as such and prior to final pricing to your
      customer the user should “confirm” the brand and type of DDC controller
      that will be requested for mounting and wiring to the VAV Terminal Unit.
      To achieve this, the user is required to select the specific type, brand and
      functionality of the controller. These selections can be made on the
      Controls Screen.
   c. For “Field DDC” or “Pneumatic field mounted controls”, you do not
      need to select a sequence and no price will be added for providing a
      sequence.

4. Click Next to go to the Options Screen (see Figure 2.0 below)
   a. Select one or more options you desire for the selection. Many times, these
      options are specified in the engineering specifications and in the
      engineer’s schedule.
   b. Click Validate Options button to check if the options selected are valid.
      Read the diagnostic message results and make changes if necessary. A set
      of options is valid when “Options Valid” is shown in the results. Again,
      the options you select here will be copied to other boxes of the same
      model automatically so pick the options on this first selection.
   c. Once you get valid options, click Select
5. Once **Select** is clicked, the program will perform the engineering calculations, configuration, and pricing calculations.
   a. If a Unit size is selected, you will see the results if valid
   b. If Unit Size = “Program Selects” is selected, then each VAV box size will be attempted to meet the entered parameters. Those box sizes that pass the selection rules (airflow and pressure drop calculations), will be displayed as possible selections.
   c. Hover your mouse over the information icon “” to see the color code of the results. A “Green” circle indicates “performance and options are valid”. See color legend below for other color circles and their indications (see below).
6. If resulting box selections and output parameters meet your specification, then user would check the box to left of specific selection and next click “Save and New” to add the VAV box to the users project schedule and begin entries for the next VAV box(es) on your schedule.

Note: Save and New, will save your current selection to the Schedule/Grid and will then open up to the Unit Screen for the next box selection(s).

Save – will save your selection

Save and Return to Schedule – will save your current schedule and next take you to the summary schedule screen (see below).

<table>
<thead>
<tr>
<th>Select</th>
<th>Results</th>
<th>Sound</th>
<th>Radiated Sound Power</th>
<th>Discharge Sound Power</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Size</td>
<td>Price</td>
<td>Max CFM For Size</td>
<td>Max CFM</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Min CFM</td>
<td>Min In/Out</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Actual In/Out</td>
<td>Rad NC</td>
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<td></td>
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<td></td>
<td>Attenu.</td>
<td>DBS</td>
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<td>CS</td>
</tr>
</tbody>
</table>

*Note: Signifies an NC value isolated or discharge that is less than 10.*

Save and New | Save | Save and Return to Schedule
Step 3 – Select More VAV boxes

After the first selection is made, you can add more boxes to the job by continuing to enter them in the Unit input screens or on the Project Schedule view screen.

1. Enter the airflow, size (or Program Selects), and Heat Capacity (or GPM) for all subsequent boxes in the job on the Unit Screen. All the other choices will be the same as your previous selection.

Note: After the first selection is selected, the VAV tool is designed to only require a couple of inputs on the Unit screen (such as the Airflows, Size, and Heat capacity) and then click Select. Therefore, you typically do not need to click the Control, Sound, or Option screen on subsequent selections unless these options change by box (they typically do not).

It may take a couple of minutes to make all the choices on the first box, but it will take only a couple of seconds for adding more box selections.

You can also change the Arrangement later (just prior to ordering) using the Global Options feature.
Step 4 – Editing / Changing / Refining the Project Schedule

Displaying Data Using the VAV Project Schedule

There are different display options for the project schedule (see below).

1. **Product Type** displays the line items associated with Fan Coil Units, Belt Drive Blower Coils, or VAV Terminals.
2. **Model Group** displays the line items associated with Single Duct, Series Fan Powered, Parallel Fan Powered, or Dual Duct boxes.
3. Selecting a Heat Type will filter the line items based upon their heat types. The selection of “All” will display all heat types.
4. **View**
   a. Summary view is designed for the basic information and to see what quotes and orders line items are assigned to.
   b. Takeoff View is designed to view more engineering data as well as displaying some additional common options.
      i. Quick is for minimal input – note – the program is just picking defaults in the background.
      ii. Full is to display the full engineering schedule and allow the user with additional detailed editing.
   c. Controller View displays fields related to help you view/edit the Arrangement and location of the VAV box (typically specified just prior to ordering units)

Editing Inputs Using the VAV Project Schedule

Once you have built your schedule using the steps above, you can add/edit/update line items within the grid without having to go to the input screens. You may find it best to pick the View as “Takeoff View”, pick Level as “Full” and select a heat type.

1. For editing most engineering inputs and some common options, click the Edit icon. (Move your mouse over the icons to see a pop-up description of each icon)
After you make your changes to that line item, click the Save icon to save the changes, perform the selection, and check the rules (see below).

2. For editing most options for multiple line items at once, select the line items you wish to change (or do not select any for all), and click the **Global Options** button above the grid (see below).

### Copying, Deleting, Moving Line Items

Select the line items you wish to copy, delete or move by clicking the leftmost checkbox on the VAV Project Schedule. To select all, click the check box at the top of the line items (see below).

1. **Copy To →** – You may copy one or more line items to create new line items in this project. You may also copy line items to another active project (great for copying a template project to a new project)
2. **Move To →** You may move line items from one project to another project
3. **Delete will** permanently delete the selected line items from this project. You cannot delete line items that have been added to an order. You must remove them from the Order, and then delete them. Once the order is released, the line items cannot be deleted.
4. **Auto Tag** allows you to select one existing line item, and create duplicates of that line item. Sales reps will do this when an engineer specifies one (1) VAV-01 on their schedule, but there are, say 10 VAV-01’s on the job. The sales rep can create a small schedule for take-off and pricing purposes, then use Auto tag to copy the (1) VAV-01 ten (10) times while specify the location of many boxes for ordering purposes.
Step 5 - Creating Quotes and Orders

You may create a quote prior to creating an order, or just create an order directly without creating a quote (see below).

To create a quote, select the line items to add to the quotes (or select all), and click the Quote button below the grid. A default quote name will be assigned. If you do not select any line items, the program assumes you wanted all line items that are not already assigned to a quote (see below).

You may have more than one quote per job, but a line item can only belong to one quote.

Enter your multiplier and other quoting information on the Quote Worksheet. You may combine FCU and blower coil units on a single quote.

Click “Save / Calculate” to save the quote for later editing. You may re-select and re-price line items in a quote. The quote amount will adjust the next time you save the quote (see below).

Click View Summary / Create Order to review the quote line items and Create the Order. You cannot combine FCUs and VAV Terminals in a single order (see below).

To print a quote or order, click the Submittal/Other Documents button (see below).

Additional help is found by clicking the question mark icons on the quoting and ordering forms.
Step 6 - Printing Schedules and Submittals

Click Print Schedule to print engineering project schedules and export to Excel. The line items will be grouped by Model type and heat type, resulting in multiple schedule files (see below).

These Excel spreadsheets can be then imported into AutoCAD drawings by consulting engineers and contractors.

Click Submittal/Other Documents to create job submittals, quote summary, and ordering reports can be created.

Note: Submittals, Quoting and Ordering forms can take several minutes to generate because they are re-checking the configuration and pricing on the line items for you. Please be patient. You may minimize your browser window while this work is being done by the server.

You are not required to print your orders. Orders will be processed electronically by the Order Entry department when you complete Step 7.

Also, Pick One. Do not select Submittals, Quoting, and Ordering at the same time and click Preview. This will take significant amount of processing time (up to 30 minutes) to generate all these reports and may slow the tool for other users.
Step 7 – Releasing Orders to Factory

To Release an Order to the factory, create an Order as described in Step 5, fill in the Order form, click **Save/Hold for Release** button.

Now select the line items to be release to the factor and click **Release Selected Line Items** button (see below) to preview the release.

![Image of Release screen]

The final step to submitting your order for production is to click **Submit Release to ETI** button at the bottom of the release screen.

![Image of Special Instructions]

Clicking this will send an email to the order entry department and a confirming email to your Webselect email account on file. The Order Entry department will process your order. Note that you can create more than one release for a given order form.

If you would like a PDF or paper copy of your order for your files, you can click the **Preview Consolidated Order** button or see Step 6 instructions for printing order forms. There is no need to email or fax this order form to the factory.
Step 8 – Selecting Factory provided and mounted, Johnson Controls’ ...“Verasys”” and other VAV DDC Configurable Controllers and Thermostats and Discharge Air Temp. sensor, from within Web Select.

ZEC500/510 or “Verasys” DDC VAV Controller

Variety (5) models and offerings of T’stats (Above photo not representative of all available models in Web Select)

Follow through normal steps of “adding a line” of vav terminal unit.

Next, from the “UNIT” tab, enter in all your normal VAV unit parameters for cooling and heating CFM, and also select the Controls Type of “Factory DDC”, option. This option indicates the selected solution will include a DDC VAV “Verasys”, or a ZEC 500 or ZEC510 controller from the factory and this option to be factory mounted, wired, and configured to Users entered VAV parameter settings (i.e. to entered min/max CFM values, etc). Also, next enter in all your vav units Min/Max CFM and Heating CFM values and parameters, etc.
Next, referencing below graphic, move to the “CONTROLS” tab, to make your specific controller and controller sequence selection(s).

![Diagram of WebSelect VAV Selection/Pricing Quick Start User Guide](image)

Next, referencing following graphic, select your type of Controller…the “Verasys” 410-1, -2, or -3’, or the ZEC510 (standalone and/or BACnet communication and networking capability) or ZEC500(for non-communicating and non-networking projects).

![Diagram of WebSelect VAV Selection/Pricing Quick Start User Guide](image)
Next, referencing below graphic, select your Heating type for the appropriate controller sequence.

After selecting your Controller type, and Heat method, next select “Get Sequence”. This will filter down to match up with available sequence(s) to your entered control parameters.
and click on upper right area for “GET SEQUENCE”, and then click on the filtered sequence to lock it in, by it being **bolded** in the Selected Sequence: section.

Screen shot shows results of filtered sequences, upon clicking on “Get Sequence”. Next click on the chosen controller sequence, and then the sequence gets selected and **bolded** text shows up in the area to right of “Selected Sequence:”.

Next, go to the OPTION tab, and select your “Thermostat”. Notice available information on available Thermostats by hovering your mouse over the “I” info bubble icon….see next few screen shots following.

The info bubble displays a matrix of available thermostats (from Web Select and Largo,FL), with information of options for each thermostat, and also a photo on the specific stat highlighted in yellow.

Note: Selecting your Thermostat results in the thermostat to be provided in its box and within the controls enclosure, loose, and to be field connected to your VAV DDC Controller. **Note: Largo offers a very limited variety of wall thermometer sensors, therefor you can also select these and a larger variety of JCI Thermostats direct from your JCI contacts and selection tools.**
After selecting your thermostat, next decide upon whether you require a Discharge Air Temperature sensor. This can be selected by selecting the checkbox to the right of “Discharge Air Sensor”. Note: additional product and option information is also available here by activating (mouse icon hover over the (i) symbol), the info bubble to right of this option.

Next, select your vav terminal unit, by clicking on the “Select” icon noted in below graphic screen shot.
Choose your specific VAV sized unit(s), and then Click upon either of the “Save and New”, or “Save”, or “Save and Return to Schedule”.

Here is summary selection in the Web Select print out format:
Note highlighted Controller additions of Controller sequence item # FPC-ZEC301, and noted “Factory DDC”, and selected option of “Thermostat”, wall sensor, item P7002.
Note: Largo offers a very limited variety of wall thermostat sensors, therefore you can also select these and a larger variety of JCI Thermostats direct from your JCI contacts and selection tools.
The MAP GATEWAY
One remaining item to select and order should be the MAP GATEWAY, USER SELECTION TOOL. Largo p/n PC-01-0206.

The Map Gateway is highly recommend to have on site, and is a required tool for field use in setup, adjusting and commissioning of the VAV DDC Controllers. Note: the VAV DDC (ZEC) Controllers should arrive from the factory configured with their individual VAV parameters and settings of Min/Max CFM and Heating CFM setting, and K-factor to name a few of the factory loaded parameters.

The MAP GATEWAY Tool can be ordered separately from the Web Select PARTS, selection tool, Or for JCI Branch and Agent sales channels, you should also be able to order the Map Gateway via your JCI controls account contacts and selection tools….i.e. AIM, STORE etc.

Product Information: The Mobile Access Portal (MAP) Gateway is a pocket-sized web server that provides a wireless mobile user interface to ZEC510 Factory / Field Controllers, ##7000 Series Thermostats, and Smart equipment Rooftop Units (RTUs). The mobile user interface can be displayed in the browser of a phone, tablet, or computer. The MAP Gateway ships from the factory with a base set of features that allow users to access, view, edit, and override key information from all devices connected on a common BACnet Master-Slave/Token Passing (MS/TP) field bus. The wireless connection on the MAP Gateway allows users to be up to 31m (100 ft. line of sight) away indoors and up to 91 m (300 ft. line of sight) away outdoors. The MAP Gateway can also be permanently mounted, powered with an optional separate power supply and connected to an Ethernet access point for use as remote connection to a MS/TP field bus of devices.
MAP GATEWAY
(Largo p/n PC-02-0206)
(JCI p/n TL-MAP1810-0P)

Below is a photo showing one way to hook up the Map Gateway to the VAV DDC controller. The Map Gateway can also be hooked up to a T’stat with an RJphone jack and with the appropriate wiring completed from T’stat to the ZEC410 controller and SA Bus (sensor actuator bus).

Also below and to the right is a screen shot from a smart device of laptop computer communicating with a Map Gateway, showing example viewing of the VAV controller’s parameters. These parameters can be viewed, adjusted, or overridden, via use of the Map Gateway with a smart device.