



User Manual

Version 1.0

8/20/2014

This User Manual provides instructions on how to use CxDocs to complete forms and develop commissioning documents.

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1. Introduction

CxDocs™ is a web application designed to assist you in the development and management of your building commissioning documentation. The application guides you step-by-step through the commissioning documentation development process, providing form fields where you enter information and then generating your building commissioning documentation.

Project information entered in one form field will replicate to all documents where the information is required. For example, once you enter the project name, it appears in all the commissioning documents. This is also true for technical information when entered once, will appear in all applicable commissioning documents.

After you complete the form fields, CxDocs™ generates the following reports and tests:

- Owner's Project Requirements (OPR)
- Basis of Design (BOD)
- Commissioning Specification (Cx Spec)
- Commissioning Plan (Cx Plan)
- Functional Performance Tests (FPT)
- Issues Log
- Systems Manual
- Training Report
- Commissioning Report (Cx Report)

CxDocs™ generates functional performance tests based upon information you enter. These functional performance tests are generic in nature; however, you can customize the test procedures and expected results. Equipment checklists are also provided for your use; however, the checklists are not customized from the various form fields.

Assumptions

To be successful in using the application we make the following assumptions about your ability and knowledge:

- You are comfortable using a computer, mouse, and keyboard
- You have a good understanding of how to access the internet, use e-mail, and use web browsers to access web pages
- You have a basic understanding of building commissioning and the commissioning documents required for your project

Supported Web Browsers

We support the following desktop browsers:

Microsoft Internet Explorer, Mozilla Firefox, Apple Safari, and Google Chrome. We typically support the latest version and the previous version of each browser release. We highly recommend you update to the newest version of your chosen browser. If you elect not to upgrade your web browser, your experience may not be optimal, or you may not be able to view forms and develop documents.

Features and Conventions of this Manual

Throughout this manual, the following conventions are utilized to guide you through information presented:

- **Bold** is used to indicate an action you are to conduct, such as Click **Save**, **Select**, etc. It may also be used for emphasis.
- *Italics* is used to highlight an action or step.
- **Boxed Paragraph or Text**, pay particular attention to these instructions, as they are very important to the success of developing various documents.

Advantages and Limitations


The advantages of CxDocs™ include:

- Simplifies the process of developing commissioning documentation
- Provides a consistent methodology for developing commissioning documentation
- Offers a step-by-step process for developing commissioning documents
- Reduces the entry of repetitive information
- All commissioning documents developed are based on Owner's Project Requirements, and Basis of Design

The limitations of CxDocs™ include:

- Suitable for typical buildings under 100,000 square feet
- Applicable for equipment and systems with simple control applications
- Only typical equipment and system configurations are available
- Customization of documents is limited

Getting Help

Additional help can be located on the CxDocs™ main page under the  button. This page provides instructional videos, FAQ's, and updated documentation.

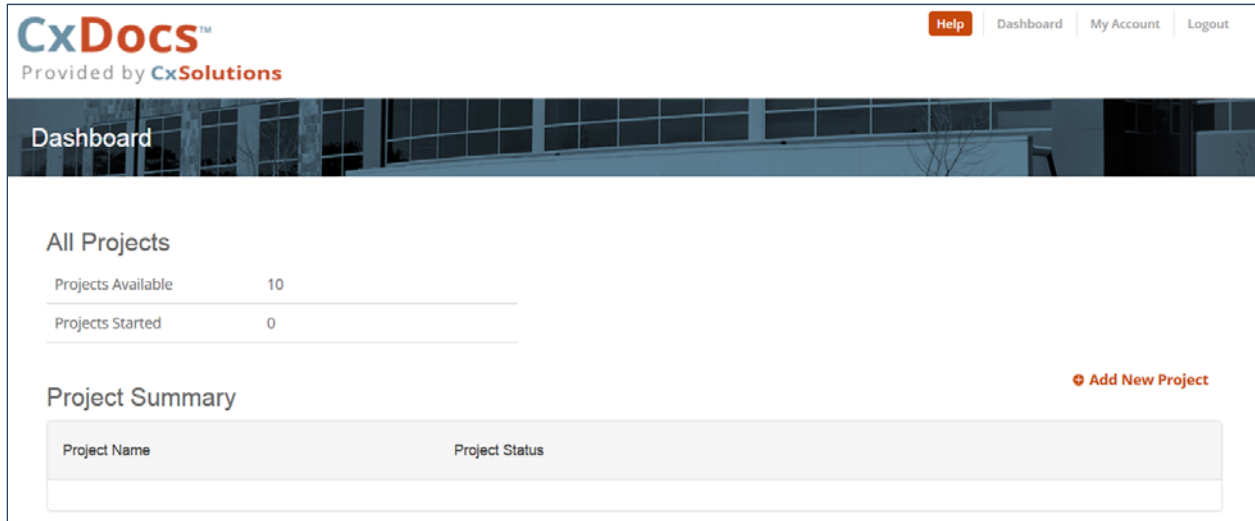
In the event you are having difficulty working with CxDocs™ and require assistance from our technical support group, please e-mail us at support@cx-solutions.com. Our technical support group typically responds to your request within 24 hours.

Feedback

Your feedback about CxDocs™ is greatly appreciated (positive, negative, or constructive). We understand that not one size fits all, so we strive to refine and improve on our web application to meet industry needs and requirements. Please send your feedback to feedback@cx-solutions.com.

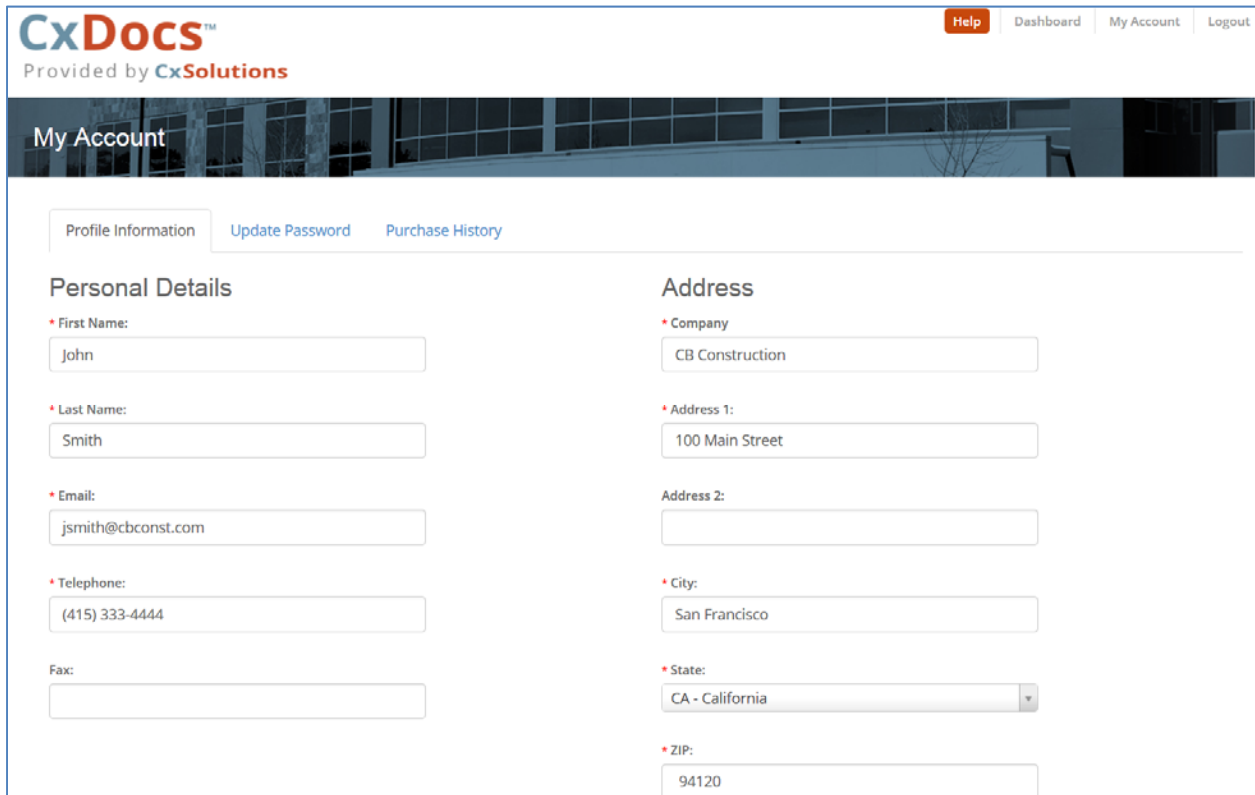
2. Dashboard

After the purchase process is complete, the Dashboard will appear. Your screen should look similar to the following illustration. This is the main page that shows all your projects including projects available, projects purchased and not yet started, and projects that you have started.



The screenshot shows the CxDocs Dashboard. At the top, there is a header with the CxDocs logo (Provided by CxSolutions) and navigation links: Help, Dashboard, My Account, and Logout. Below the header is a banner image. The main content area is titled "Dashboard" and contains a section for "All Projects". This section displays two statistics: "Projects Available" with a value of 10, and "Projects Started" with a value of 0. Below these statistics is a "Project Summary" table with columns for "Project Name" and "Project Status". To the right of the table is a link to "Add New Project".

My Account – Profile Information and Logo Upload



The screenshot shows the CxDocs My Account page. At the top, there is a header with the CxDocs logo (Provided by CxSolutions) and navigation links: Help, Dashboard, My Account, and Logout. Below the header is a banner image. The main content area is titled "My Account" and contains three tabs: "Profile Information", "Update Password", and "Purchase History". The "Profile Information" tab is active and displays two sections: "Personal Details" and "Address".

Personal Details:

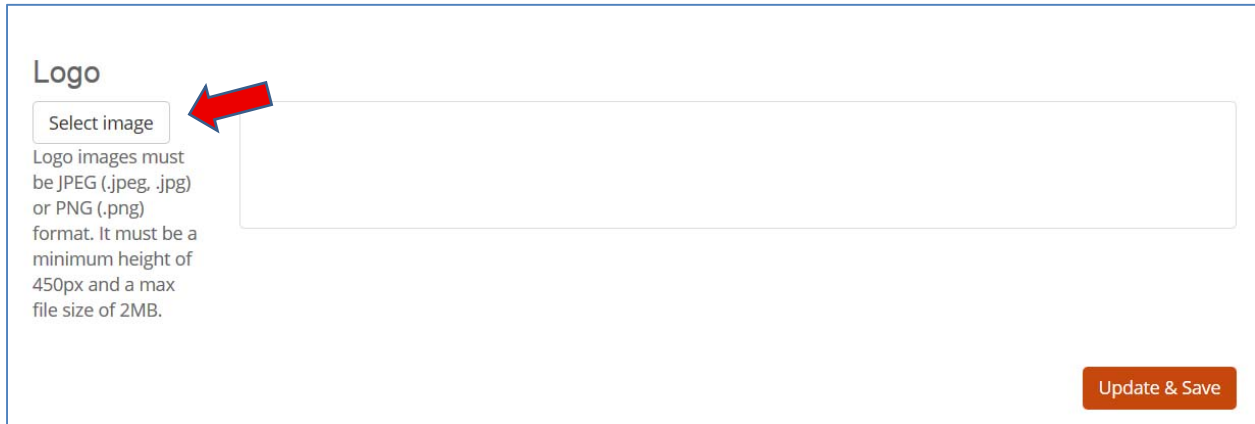
- * First Name: John
- * Last Name: Smith
- * Email: jsmith@cbconst.com
- * Telephone: (415) 333-4444
- Fax:

Address:

- * Company: CB Construction
- * Address 1: 100 Main Street
- Address 2:
- * City: San Francisco
- * State: CA - California
- * ZIP: 94120

Personal Details: Information related to your personal details can be revised in this page. Simply click in a box to revise the information.

Inserting a company logo is optional and may be updated or removed. Click “**select image**” which takes you to your computer directory. Highlight the image from your directory, click “**open**” and your selected image will appear in the image box. Click **Update & Save** to upload the image.

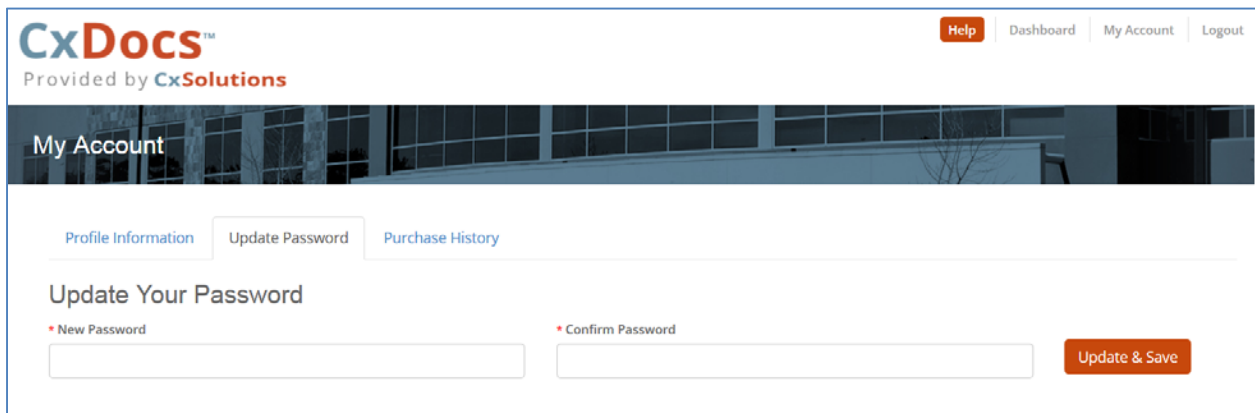


The screenshot shows a form titled "Logo". On the left, there is a button labeled "Select image" with a red arrow pointing to it. Below the button, the text reads: "Logo images must be JPEG (.jpeg, .jpg) or PNG (.png) format. It must be a minimum height of 450px and a max file size of 2MB." To the right of the text is a large, empty rectangular box for the logo image. At the bottom right of the form is an orange button labeled "Update & Save".

You must adhere to the logo file requirements: Logo images must be JPEG (.jpeg, .jpg) or PNG (.png) format. Image must be a minimum height of 450 pixels and a maximum file size of 2MB. The logo may appear quite large; however, the logo image will be resized when it is inserted into the documents.

My Account – Update Password

This page allows the user to change their password. Enter the **New Password** in the textbox, Enter the Password again in the Confirm Password textbox. Click **Update & Save** to update the password.



The screenshot shows the "My Account" page. At the top, there is a navigation bar with the "CxDocs" logo, "Provided by CxSolutions", and links for "Help", "Dashboard", "My Account", and "Logout". Below the navigation bar is a header for "My Account" with a background image of a building. Underneath, there are three tabs: "Profile Information", "Update Password", and "Purchase History". The "Update Password" tab is active. The section is titled "Update Your Password" and contains two textboxes: "New Password" and "Confirm Password". An orange "Update & Save" button is located at the bottom right of the form.

My Account – Purchase History

This page provides details about purchased items including date, items, quantity and dollar amount.

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Provided by **CxSolutions**

Help Dashboard My Account Logout

My Account

Profile Information Update Password Purchase History

Purchase History

Date	Item Title	Quantity	Amount
June 05, 2014 at 04:27 pm	CxDocs New Construction	10	\$13500

Starting Your Project

Once you have purchased one, or up to ten projects, you can see the number of “Projects Available”. To start your first project, click **Add New Project**.

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Help Dashboard My Account Logout

Dashboard

All Projects

Projects Available	10
Projects Started	0

Project Summary

Project Name	Project Status

Add New Project

After you click **Add New Project**, a dialog box will appear where the **Project Name** must be entered. This is a short name or identifying name for the project, a longer more descriptive project name may be entered once the application is started.

When you click **Create & Begin**, a single project will be deducted from the number of Projects Available. You *cannot* delete or reverse this process.

The screenshot shows the CxDocs interface. A modal dialog titled "Add New Project" is open, featuring a text input field for "Project Name" and two buttons: "Cancel" and "Create & Begin". The background dashboard includes a header with "CxDocs™ Provided by CxSolutions", navigation links (Help, Dashboard, My Account, Logout), and a "Dashboard" section. Under "All Projects", it shows "Projects Available: 10" and "Projects Started: 0". A "Project Summary" table is partially visible with columns for "Project Name" and "Project Status". An "Add New Project" link is also present in the bottom right of the dashboard area.

Once the Project Name is entered click **Create & Begin** to start your project and the Owner's Project Requirements (OPR) page will open.

Login and Continuing Projects

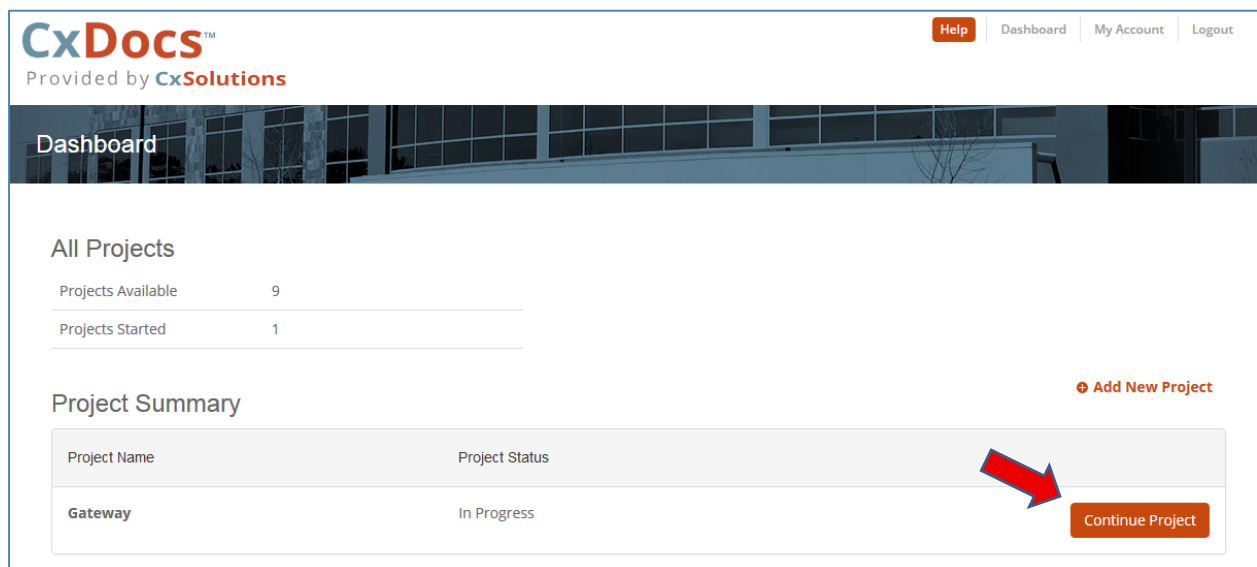
To continue working on projects already started, you can login from the Cx Solutions website or go directly to <http://www.cxdocs.com/login>.

Once the Customer Login dialog box appears, enter your Email Address and Password and Click **Submit** to enter CxDocs. If you have forgotten your password, Click **Forgot Password** and a dialog box will appear where you can enter the Email Address listed in your account and a password reset page will be displayed.



The image shows a login form for CxDocs. At the top is the CxDocs logo with the tagline 'Provided by CxSolutions'. Below this is the heading 'Customer Login'. There are two input fields: 'Email Address' and 'Password'. A blue 'Submit' button is located below the password field. To the right of the submit button is a link that says 'Forgot Password'.

After you have successfully logged into CxDocs, the Dashboard page will appear. Each time you log into CxDocs, the Dashboard will appear and projects may be continued or new projects may be started if projects are available.



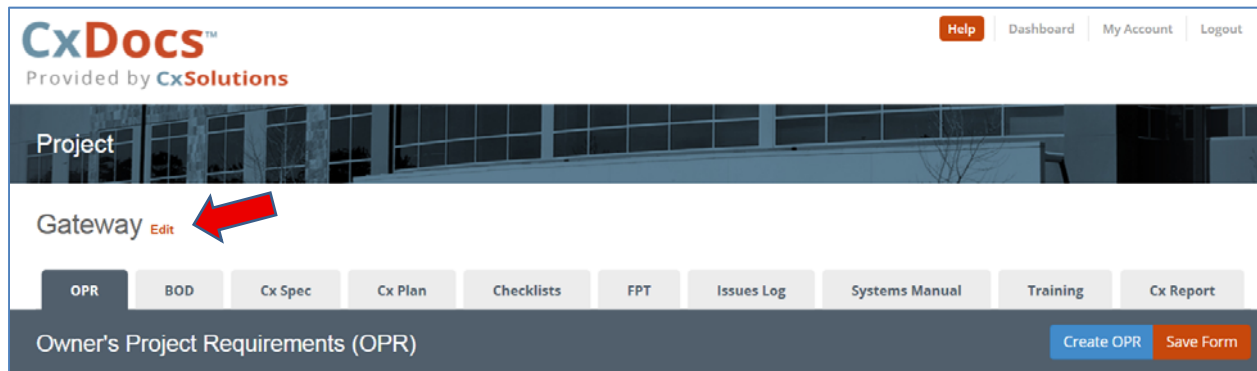
The screenshot shows the CxDocs dashboard. At the top is a navigation bar with the CxDocs logo, 'Provided by CxSolutions', and links for 'Help', 'Dashboard', 'My Account', and 'Logout'. Below the navigation bar is a banner image of a modern building. The main content area is titled 'Dashboard'. Under this title, there is a section 'All Projects' with a table showing 'Projects Available' (9) and 'Projects Started' (1). Below this is a 'Project Summary' section. It contains a table with two rows: 'Project Name' and 'Project Status'. The first row shows 'Gateway' and 'In Progress'. To the right of the table is a red button labeled 'Continue Project', which is pointed to by a red arrow. Above the 'Continue Project' button is a link that says 'Add New Project'.

Project Name	Project Status
Gateway	In Progress

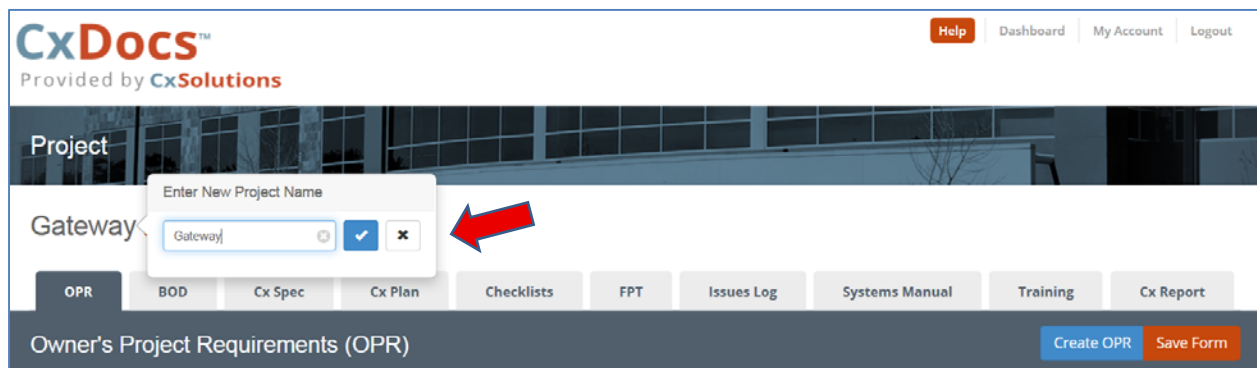
To start on your project, Click **Continue Project** and your selected Project page will open with the Owner's Project Requirements (OPR) menu.

3. Owner's Project Requirements (OPR)

Every time you enter the CxDocs application, the menu bar will be displayed with the OPR page open, as this is where you begin to develop the commissioning documents. CxDocs guides you through the progression of a project using a series of pages beginning with the OPR, moving next to the BOD, and continuing left-to-right across the menu bar to the Cx Report. Each page contains form fields where you enter information, save information, view and create documents.



Notice the Project Name is shown as it was entered when your new project was started. To edit the Project Name, Click **Edit** and a dialog box will open where a new Project Name can be entered. Click the **check mark** to save the New Project Name. Click the **X** to cancel.



The Owner's Project Requirements details the functional requirements of a project and expectations of how a building will be used and operated. These details include owner and user requirements, project goals, equipment, building systems, occupants, building operation and operation expectations, and supporting information. It is the responsibility of the property owner or owner's representative to assist in the development of this document and to review and confirm that the contents of this document represent the owner's project intent.

Information entered in the OPR page writes to several other pages and documents. The CxDocs application requires items to be completed on the OPR page before moving to the development of other pages within CxDocs application.

All other pages remain locked until you enter sufficient information in the OPR menu page. A blue bar will appear to notify you that OPR information must be saved before proceeding with the BOD. Completed OPR fields are required because information entered in the OPR is utilized throughout the application and critical to the development of various commissioning documents.

To complete the OPR page, enter project information starting at the top of the page under the grey bar and scrolling down to the bottom. Once you enter information into the OPR form fields, Click **Save** to save the information to the project database. Navigating to another area or logging out of the application without saving may result in the loss of the information entered in the form fields.

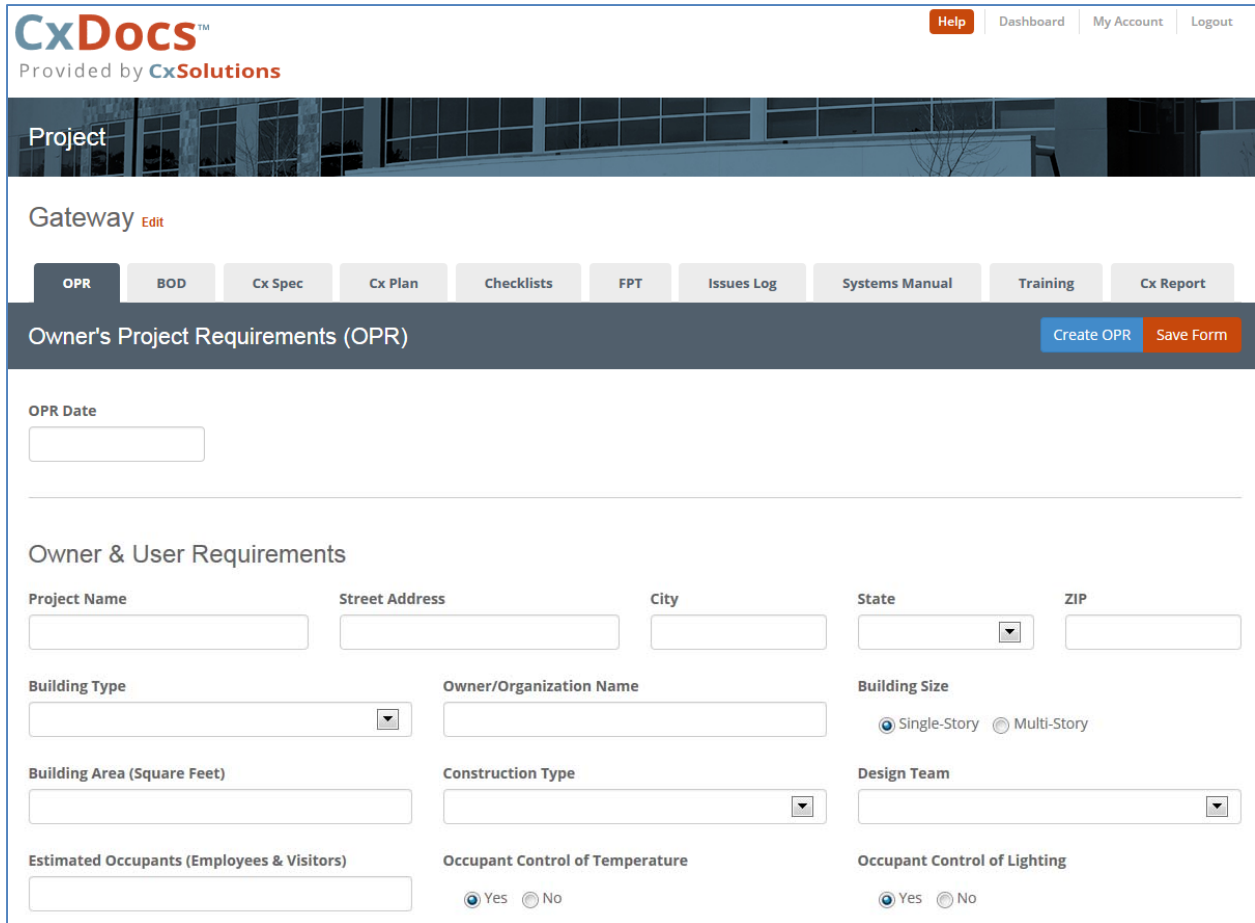
Always and frequently **Save** the information entered in the CxDocs application. You may always return later to change or revise the information entered.

Owner & User Requirements

OPR Date: Place your cursor in the field, Click and a **calendar** will open. Select an **OPR Date** from the calendar provided; today, an earlier, or a future date. The OPR date will appear on the cover page of the OPR and included into various commissioning documents.

Project Name: Enter your **Project Name**. This name can be the same as the Project Name previously entered or a longer more descriptive name.

Street Address, City, State, and ZIP: Enter the **Street Address** and **City** where the project is located. Select the **State** from the dropdown menu, and enter the five-digit **zip** code related to the project address.



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Help Dashboard My Account Logout

Project

Gateway [Edit](#)

OPR BOD Cx Spec Cx Plan Checklists FPT Issues Log Systems Manual Training Cx Report

Owner's Project Requirements (OPR) [Create OPR](#) [Save Form](#)

OPR Date

Owner & User Requirements

Project Name Street Address City State ZIP

Building Type Owner/Organization Name Building Size

Single-Story Multi-Story

Building Area (Square Feet) Construction Type Design Team

Estimated Occupants (Employees & Visitors) Occupant Control of Temperature Occupant Control of Lighting

Yes No Yes No

Building Type: Select the **building type** from dropdown menu. If your building type is not listed, Select Specialty Building or Specialty Complex.

Owner/Organization Name: Enter the building **Owner** or **Organization name**. The Owner/Organization Name will appear on the cover page of the OPR and included into various commissioning documents.

Building Size: Select **Single-Story** or **Multi-Story** building button.

Building Area: Enter the **building area** in square feet; enter numbers only in this field, no commas. Example: 10000.

Construction Type: Select the **building construction type** from dropdown menu. If your construction type is not listed, Select *Specialty Construction*.

Design Team: Select the **design team** from the dropdown menu.

Estimated Occupants (Employees & Visitors): Enter the **number of occupants** anticipated in the building. Enter numbers only in this field.

Occupant Control of Temperature: Select **Yes** if the building occupants may set and adjust temperature settings in the condition space, otherwise Select **No**.

Occupant Control of Lighting: Select **Yes**, if the building occupants may turn lighting in the space off or on, otherwise Select **No**.

Enter the **building's primary occupancy schedule**. Click the **time box** for start and stop times of the Primary Schedule Occupied Schedule. A dialog box will open to select the time. Select the hour and the minute with the slider button. If desired, a Now button will enter the current time in the field. Click **Done** when finished.

Additional Occupied Schedule: A Secondary Occupied Schedule is available by Selecting **Yes**. Another schedule will open, complete similar to the Primary Schedule Occupied Schedule.

Approximate Building Construction Cost (USD): Enter the **approximate building construction Cost** in U.S. Dollars. Enter numbers only in this field, no commas or decimal points.

Approximate Building Construction Completion Date: Click the date box and a calendar will open. Select the **approximate construction completion date** from the calendar provided.

Building Systems

Check the boxes next to the **building systems** that require commissioning. You will configure these building systems in the BOD page. You may return to this page to add or delete building systems at any time by checking or unchecking the boxes. Use *caution* when deleting building systems once you configure the systems in CxDocs. Information will be deleted throughout the documents related to the deleted building system.

Environmental & Sustainability

Sustainability Programs: Select the **sustainability program** from the dropdown menu. If your sustainability program is not listed, select *Suitable Sustainability Program*.

Sustainability Level: Once you select the sustainability program, select the Sustainability Level dropdown will appear for the selected sustainability program. Select the **sustainability level** from this dropdown menu.

Equipment & System Expectations

Site Utilities Available: The electricity default must be unchecked if electricity is not provided to the site.

Fuel Source: Select the **heating fuel source** (Natural Gas or Propane) provided to the site. Select **No Gas Service** if gas service is not provided to the site.

Building Controls: Select **Simple** if the building controls do not require in-depth training or experience. Examples: single zone packaged HVAC units, thermostats, occupancy sensors, and time clocks. Select **Complex** if the building controls require extensive training or experience. Examples: Direct digital controls, variable air volume systems, and hot and chilled water systems.

Emergency Power: Select **Yes** if the site is equipped with a backup emergency power generator.

Gateway Edit

OPR
BOD
Cx Spec
Cx Plan
Checklists
FPT
Issues Log
Systems Manual
Training
Cx Report

Owner's Project Requirements (OPR)
Create OPR
Save Form

Building Systems

☐ Heating, Ventilating, Air Conditioning (HVAC) Systems
☐ Renewable Energy Systems (photovoltaic)

☐ Exhaust Air Systems
☐ Irrigation Control Systems

☐ Indoor Lighting Systems and Controls
☐ Water Reuse System

☐ Domestic Hot Water Heating & Circulation

Environmental & Sustainability

Sustainability Programs
Sustainable Sustainability Practices

Sustainability Level
No Options Available

Equipment & System Expectations

Site Utilities Available
Building Controls
Emergency Power

☒ Electricity
☒ Simple
☐ Complex
☐ Yes
☒ No

Fuel Source
☒ No Gas Service
☐ Natural Gas
☐ Propane

Building Occupants & Maintenance Expectations

Operations & Maintenance Staff: Select the **method** that operations and maintenance will be provided from the dropdown menu.

Click **Save Form**, to save the information to the project database, you may always return later to change and revise the information entered.

Create OPR

Once sufficient information is saved to the database, you may now create the OPR. Remember to Click **Save Form** first and then Click **Create OPR** and a PDF will be created for viewing and saving.



You must have the Adobe PDF Reader installed on your computer to create documents. To obtain the Adobe PDF Reader, go to <http://get.adobe.com/reader>.

4. Basis of Design (BOD)

The purpose of this document is to provide clear and concise documentation of the design team's response to the Owner's Project Requirements (OPR), to satisfy applicable regulatory requirements, standards and guidelines and to record the designer's concepts, assumptions, engineering criteria, decisions, selections, and references.

This Basis of Design (BOD) is developed to focus on the building systems and contains preliminary information required to design the building systems. In addition to the BOD, various construction documents including construction drawings, specifications, submittals, systems manuals, record documents, and operation and maintenance manuals may be required to place the building into operation and to adequately verify and evaluate the performance of systems and equipment.

The information entered in the BOD page writes to several other pages and documents. The CxDocs application requires items to be completed on the BOD page before moving to the development of other pages within CxDocs application.

All other menus remain locked until you enter sufficient information in the BOD menu page. A blue bar will appear to notify you that BOD information must be saved before proceeding to other areas of the application. Completed BOD fields are required because information entered in the BOD is utilized in throughout the application and critical to the development of various commissioning documents.

The screenshot displays the CxDocs application interface. At the top, the CxDocs logo is visible, along with navigation links for Help, Dashboard, My Account, and Logout. Below the header, there is a project image and a blue notification bar that reads "BOD must first be saved before proceeding." The main content area features a "Gateway" section with a list of tabs: OPR, BOD (selected), Cx Spec, Cx Plan, Checklists, FPT, Issues Log, Systems Manual, Training, and Cx Report. At the bottom, there is a dark blue bar with the text "Basis of Design (BOD)" and two buttons: "Create BOD" and "Save Form".

To complete the BOD page, enter project information starting at the top of the page under the grey bar and scrolling down to the bottom. Once you enter information into the BOD form fields, Click **Save** to save the information to the project database. Navigating to another area or logging out of the application without saving may result in the loss of the information entered in the field.

Building Systems

BOD Date: Place your cursor in the field, Click and a **calendar** will open. Select a **BOD date** from the calendar provided; today, an earlier, or a future date. The BOD date will appear on the cover page of the BOD and included into various commissioning documents.

Load Calculation Method/Software: Select the cooling and heating **load calculation software** utilized to determine the building heating and cooling loads from the dropdown menu. If cooling and heating loads were determined using manual calculations, Select *Manual Calculation* or if the software utilized is not listed, Select *Custom Software*.

Summer and Winter Outdoor Design Conditions: Enter the **summer** and **winter outdoor** design temperatures.

Elevation: Enter the **elevation** of the project location.

Summer and Winter Indoor Design Conditions: Enter the **summer** and **winter indoor** design temperature and relative humidity.

The screenshot shows the 'Gateway' interface with a navigation bar containing tabs: OPR, BOD (selected), Cx Spec, Cx Plan, Checklists, FPT, Issues Log, Systems Manual, Training, and Cx Report. Below the navigation bar is a dark header for 'Basis of Design (BOD)' with 'Create BOD' and 'Save Form' buttons. The main content area is titled 'Building Systems' and contains several input fields:

- Load Calculation Method/Software:** A dropdown menu.
- Summer Outdoor Design Conditions:** Two input fields for °F DB and °F WB.
- Winter Outdoor Design Conditions:** One input field for °F DB.
- Elevation:** An input field with a unit selector set to 'ft above sea level'.
- Summer Indoor Design Conditions:** Two input fields for °F DB and %RH.
- Winter Indoor Design Conditions:** Two input fields for °F DB and %RH.

Building Envelope Components

Roof Frame Type: Select the **Roof Frame Type** from the dropdown menu. If the roof frame type is not shown, Select *Specialty*. For buildings without direct outdoor roof exposure, Select *None – No Roof Exposure*. Where multiple Roof Frame Types occur, choose the Roof Frame Type that represents the majority of roof area.

Roof Finish Type: Select the **Roof Finish Type** from the dropdown menu. If the Roof Finish Type is not shown, Select *Specialty*. For buildings without direct outdoor roof exposure, Select *None – No Roof Exposure*. Where multiple Roof Finish Types occur, choose the Roof Frame Type that represents the majority of roof area.

Always and frequently **Save** the information entered in the CxDocs application. You may always return later to change or revise the information entered.

Exterior Roof Insulation: Select the **Exterior Roof Insulation** from the dropdown menu. If the Exterior Roof Insulation is not shown, Select *Specialty*. For buildings without roof insulation, Select *None*. Where multiple Insulation types occur, choose the Exterior Roof Insulation that represents the majority of roof area.

Ceiling Type: Select the **Ceiling Type** from the dropdown menu. If the Ceiling Type is not shown, Select *Specialty*. For buildings without ceilings, Select *None*. Where multiple Ceiling Types occur, chose the Ceiling Type that represents the majority of ceiling area.

Roof/Ceiling Insulation: Select the **Roof/Ceiling Insulation R-Values** from the dropdown menu. For buildings without Roof/Ceiling Insulation, Select *None*. Where multiple Ceiling Roof/Ceiling Insulation R-Values occur, choose the Ceiling Roof/Ceiling Insulation R-Value that represents the majority of roof or ceiling area.

Floor Type: Select the **Floor Type** from the dropdown menu. If the Floor Type is not shown, Select *Specialty*. For buildings without direct outdoor floor exposure, Select *None – No Floor Exposure*. Where multiple Floor Types occur, choose the Floor Type that represents the majority of floor area.

Exterior Wall Frame Type: Select the **Exterior Wall Frame Type** from the dropdown menu. If the Exterior Wall Frame Type is not shown, Select *Specialty*. For buildings without direct outdoor wall exposure, Select *None*. Where multiple Exterior Wall Frame Types occur, choose the Exterior Wall Frame Type that represents the majority of wall area.

The screenshot shows the 'Gateway' application interface. At the top, there's a navigation bar with tabs: OPR, BOD (selected), Cx Spec, Cx Plan, Checklists, FPT, Issues Log, Systems Manual, Training, and Cx Report. Below this is a header for 'Basis of Design (BOD)' with 'Create BOD' and 'Save Form' buttons. The main section is titled 'Building Envelope Components' and contains several dropdown menus for selection:

- Roof Frame Type
- Roof Finish Type
- Exterior Roof Insulation
- Ceiling Type
- Roof/Ceiling Insulation
- Floor Type
- Exterior Wall Frame Type
- Wall Insulation
- Exterior Door Type 1
- Exterior Door Type 2
- Window Type 1
- Window Type 2
- Skylights

Wall Insulation: Select the **Wall Insulation R-Values** from the dropdown menu. For buildings without Wall Insulation, Select *None*. Where multiple Wall Insulation R-Values occur, chose the Wall Insulation R-Value that represents the majority of wall area.

Exterior Door Types (1 & 2): Select the **Exterior Door Type** from the dropdown menu. If the Exterior Door Type is not shown, Select *Specialty*. For buildings without Exterior Doors, Select *None*. In the event on one door type is specified, select *None* for Exterior Door Type 2.

Window Types (1 & 2): Select the **Window Types** from the dropdown menu. If the Window Type is not shown, Select *Specialty*. For buildings without Windows, Select *None*.

Skylights: Select the **Skylight type** from the dropdown menu. If the Skylight type is not shown, Select *Specialty*. For buildings without Skylights, Select *None*.

Internal Heat Gains

The Building Areas section allows the user to select general areas included in the building design. Select **Building Areas** from the dropdown list. If the Building Area you are seeking is not shown, Select *Specialty*. Once a Building Area is selected, the Occupant Density (ft²/person), Total Heat Gain (Btu/h/person), Outdoor Air Requirement (cfm/ft²), and Lighting Power Density (W/ft²) will be populated from the database. You may change and save these values to the project database; however, once saved, the default values are no longer available.

The screenshot shows the 'Gateway' application interface. At the top, there's a navigation bar with tabs: OPR, BOD (selected), Cx Spec, Cx Plan, Checklists, FPT, Issues Log, Systems Manual, Training, and Cx Report. Below this is a dark header for 'Basis of Design (BOD)' with 'Create BOD' and 'Save Form' buttons. The main section is titled 'Internal Heat Gains'. It contains a table with five columns: 'Building Areas', 'Occupants' (with sub-headers 'Density (ft²/person)', 'Total Heat Gain (Btu/h /person)', 'Outdoor Air (cfm/ft²)', and 'Lighting' (with sub-headers 'Power Density (W/ft²)'). Each column has a corresponding input field. A red '+' icon and the text 'Add New Building Area' are at the bottom left. A red 'X' icon is at the bottom right of the input fields.

Add New Building Area: Click the **Add New Building Area** link to add building areas. Delete Building Areas by Clicking the **X** to the right of the building area.

Always and frequently **Save** the information entered in the CxDocs application. You may always return later to change or revise the information entered.

Gateway [Edit](#)

[OPR](#)
[BOD](#)
[Cx Spec](#)
[Cx Plan](#)
[Checklists](#)
[FPT](#)
[Issues Log](#)
[Systems Manual](#)
[Training](#)
[Cx Report](#)

Basis of Design (BOD) [Create BOD](#) [Save Form](#)

Internal Heat Gains

Building Areas	Occupants	Total Heat Gain (Btu/h /person)	Outdoor Air (cfm/ft²)	Lighting	
	Density (ft²/person)			Power Density (W/ft²)	
Lobby (General) <input type="button" value="v"/>	<input type="text" value="15"/>	<input type="text" value="450"/>	<input type="text" value="0.15"/>	<input type="text" value="1.5"/>	<input type="button" value="X"/>
Office - Open <input type="button" value="v"/>	<input type="text" value="100"/>	<input type="text" value="475"/>	<input type="text" value="0.15"/>	<input type="text" value="1.1"/>	<input type="button" value="X"/>

[+ Add New Building Area](#)

[Delete](#)

Mechanical Systems

Heating, Ventilating, Air Conditioning (HVAC) Systems

The Heating, Ventilating, Air Conditioning (HVAC) System is shown when you select this system from the Building Systems in the OPR. Variable Air Volume, Chilled Water Systems, and Hot Water Systems are systems associated with HVAC Systems. The initial HVAC System can only be deleted by deselected Heating, Ventilating, Air Conditioning (HVAC) System in the OPR page. System configurations are descriptions are shown in the Appendix.

Unit ID: Enter the **Unit ID**. The Unit ID establishes the unique identifier for the HVAC system. Examples: AC-1, HP-1. This Unit ID cannot be duplicated, as it is unique to this system.

Supply Fan Type: Select the **Supply Fan Type** from the dropdown menu.

Return Fan Type: Select the **Return/Exhaust Fan Type** from the dropdown menu. If the unit is not equipped with a Return/Exhaust Fan, Select *None*. Selecting Variable Air Volume will display the Return Fan Control.

Return Fan Control: Select **Building Static Pressure** or **Volumetric Tracking** to control the Return/Exhaust Fan.

Cooling System Type: Select the **Cooling System Type** from the dropdown menu. Depending on the selection, various fields related to the HVAC System may become unavailable. For example, if you select Packaged Terminal Air Conditioning (PTAC) Unit, the Economizer Type is unavailable for selection. If the unit has no cooling system, Select *None*.

Cooling Capacity: Enter the estimated **Cooling Capacity** of the unit in BTU/hr.

SEER: Enter the estimated or required **SEER** (Seasonal Energy Efficiency Rating) value. The Packaged Terminal Air Conditioning (PTAC) Unit and Split System Air Conditioning Unit selections allow for either SEER or EER entries.

EER: Enter the estimated or required **EER** (Energy Efficiency Rating) value. The Packaged Terminal Air Conditioning (PTAC) Unit and Split System Air Conditioning Unit selections allow for either SEER or EER entries.

Heating System Type: Select the **Heating System Type** from the dropdown menu. Depending on the Cooling System Type selection, various fields may be unavailable. For example, if the Cooling System Type selected was the Packaged Terminal Air Conditioning (PTAC) Unit, the only selections available in the Heating System Type are the Heat Pump or Electric Heat Coil. If the unit has no cooling system, Select *None*.

Heating Capacity: Enter the estimated **Heating Capacity** of the unit in BTU/hr.

HSPF: Enter the estimated or required **HSPF** (Heating Seasonal Performance Factor) value. This field is only available when the Heat Pump is selected as the Heating System Type.

Supply Air Distribution: Select the **Supply Air Distribution** method from the dropdown menu.

Return Air Distribution: Select the **Return Air Distribution** method from the dropdown menu.

Ventilation Type: Select the **Ventilation Type** from the dropdown menu.

Economizer Type: Select the **Economizer Type** from the dropdown menu. If the unit has no Economizer, Select *None*.

Temperature Control Type: Select the **Temperature Control Type** from the dropdown menu.

Areas Served: Enter the **Areas Served** by the HVAC system. Example: Offices, Lobby.

Always and frequently **Save** the information entered in the CxDocs application. You may always return later to change or revise the information entered.

Gateway [Edit](#)

OPR **BOD** Cx Spec Cx Plan Checklists FPT Issues Log Systems Manual Training Cx Report

Basis of Design (BOD) [Create BOD](#) [Save Form](#)

Mechanical Systems

Heating, Ventilating, Air Conditioning (HVAC) Systems

Unit ID <input type="text"/>	Supply Fan Type <input type="text"/>		
Return Fan Type <input type="text"/>			
Cooling System Type <input type="text"/>	Cooling Capacity <input type="text"/> BTU/hr	SEER <input type="text"/>	EER <input type="text"/>
Heating System Type <input type="text"/>	Heating Capacity <input type="text"/> BTU/hr	HSPF <input type="text"/>	AFUE <input type="text"/> %
Supply Air Distribution <input type="text"/>	Return Air Method <input type="text"/>	Ventilation Type <input type="text"/>	
Economizer Type <input type="text"/>	Temperature Control Type <input type="text"/>		
Areas Served <input type="text"/>			

[+ Add HVAC System](#)

Adding HVAC Systems: Click the **Add HVAC System** link to add additional HVAC units. Delete HVAC units by Clicking the **Delete HVAC System** button.

Adding Mechanical Systems: Additional mechanical equipment and systems may be added. Click the equipment or system desired to open the dialog box for the selected system.

Gateway [Edit](#)

OPR **BOD** Cx Spec Cx Plan Checklists FPT Issues Log Systems Manual Training Cx Report

Basis of Design (BOD) [Create BOD](#) [Save Form](#)

[+ Add HVAC System](#)

Variable Air Volume (VAV) Terminal Units

[+ Add New VAV Unit](#)

Chilled Water System (Chiller & Pump)

[+ Add Chilled Water System](#)

Heating Hot Water System (Boiler & Pump)

[+ Add Heating Hot Water System](#)

Variable Air Volume Unit

Unit ID: Enter the **Unit ID**. Enter the Unit ID. The Unit ID establishes the unique identifier for the VA Unit. Example: VAV-1.

VAV Unit Type: Select the **VAV Unit Type** from the dropdown menu.

Areas Served: Enter **Areas Served** by the VAV Unit. Example: Lobby, Offices, or Room 101.

The screenshot shows the 'Gateway' application interface. At the top, there's a navigation bar with tabs: OPR, BOD (selected), Cx Spec, Cx Plan, Checklists, FPT, Issues Log, Systems Manual, Training, and Cx Report. Below this is a header for 'Basis of Design (BOD)' with 'Create BOD' and 'Save Form' buttons. The main content area is titled 'Variable Air Volume (VAV) Terminal Units'. It contains a form with three fields: 'Unit ID' (text input), 'VAV Unit Type' (dropdown menu showing 'Single Duct Cooling'), and 'Areas Served' (text input). A red button labeled 'Delete VAV Terminal Unit?' is positioned to the right of the 'Areas Served' field. At the bottom left of the form area, there is a link that says 'Add New VAV Unit'.

Adding VAV Terminal Units: Click the **Add New VAV Unit** link to add additional VAV Terminal units. Delete VAV Terminal Units by Clicking the **Delete VAV Terminal Unit** button.

Delete VAV Terminal Unit?

Chilled Water System

Unit ID: Enter the **Chiller Unit ID**. The Unit ID establishes the unique identifier for the Chiller. Example: CH-1.

Chilled Water Design Delta T: Enter the estimated **Chilled Water Design Temperature Difference** (ΔT), typically 10 to 20 degrees.

Condenser Type: Select **Air Cooled** as the Condenser Type. Additional Condenser Types will be added in future versions of CxDocs.

Chiller Efficiency: Enter the estimated or required **Chiller Efficiency** in kW/Ton. This value may be the Full-Load (FL) rating or the Integrated Part Load Value (IPLV) rating. Typical Chiller Efficiency can range from 1.00 to 0.40 kW/Ton.

Chilled Water System Flow: Select the **Chilled Water System Flow**, *Primary Variable Flow* or *Primary/Secondary Variable Flow*.

Primary Pump Unit ID: Enter the **Primary Pump Unit ID**. Example: CHWP-1.

Secondary Pump Unit ID: Enter the **Secondary Pump Unit ID** if the *Primary/Secondary Variable Flow* was selected in the Chilled Water System Flow. Example: CHWP-2.

Cooling Unit Served: Enter the **Cooling Unit Served** by the Chilled Water System. Example: AHU-1.

The screenshot shows the 'Gateway' interface with a navigation bar containing tabs: OPR, BOD (selected), Cx Spec, Cx Plan, Checklists, FPT, Issues Log, Systems Manual, Training, and Cx Report. Below the navigation bar is a header for 'Basis of Design (BOD)' with 'Create BOD' and 'Save Form' buttons. The main form is titled 'Chilled Water System (Chiller & Pump)' and contains the following fields and controls:

- Unit ID:** A text input field.
- Chilled Water Design Delta T:** A text input field with a temperature unit dropdown set to '°F'.
- Condenser Type:** A dropdown menu.
- Chiller Efficiency:** A text input field with a unit dropdown set to 'kW/Ton'.
- Chilled Water System Flow:** Two radio button options: 'Primary Variable Flow' and 'Primary/Secondary Variable Flow'.
- Primary Pump Unit ID:** A text input field.
- Cooling Unit Served:** A large text input field.
- Delete Chilled Water System?:** A red button located at the bottom right of the form.
- Add Chilled Water System:** A red button with a plus icon located at the bottom left of the form.

Adding Chilled Water Systems: Click the **Add Chilled Water System** link to add additional Chilled Water Systems. Delete Chilled Water Systems by Clicking the **Delete Chilled Water Systems** button.

Heating Hot Water System

Unit ID: Enter the Boiler Unit ID. The Unit ID establishes the unique identifier for the Boiler. Example: B-1.

Boiler Energy Source: Select the **Boiler Energy Source** from the dropdown menu. If the energy source desired is unavailable for selection, review the selections listed in the OPR: Site Utilities Available, Fuel Source.

Boiler Draft System: Select the **Boiler Draft System** from the dropdown menu.

Boiler Energy Efficiency: Enter the **Boiler Energy Efficiency** as a percent of the annual fuel utilization efficiency (AFUE). Typical Boiler Energy Efficiency ranges from 70% to 99%.

Hot Water Pump Unit ID: Enter the **Hot Water Pump Unit ID**. Example: HWP-1.

Heating Unit Served: Enter the **Heating Unit Served** by the Heating Hot Water System. Examples: RHC-1, FCU-1, & BH-2.

The screenshot shows the 'Gateway' interface with a navigation bar containing tabs: OPR, BOD (selected), Cx Spec, Cx Plan, Checklists, FPT, Issues Log, Systems Manual, Training, and Cx Report. Below the navigation bar is a header for 'Basis of Design (BOD)' with 'Create BOD' and 'Save Form' buttons. The main content area is titled 'Heating Hot Water System (Boiler & Pump)' and contains a form with the following fields:

- Unit ID:** A text input field.
- Boiler Energy Source:** A dropdown menu.
- Boiler Draft System:** A dropdown menu.
- Boiler Energy Efficiency:** A text input field followed by a '%' symbol.
- Hot Water Pump Unit ID:** A text input field.
- Heating Unit Served:** A text input field.

At the bottom right of the form is a red button labeled 'Delete Heating Hot Water System?'. At the bottom left is a red button with a plus icon labeled 'Add Heating Hot Water System'.

Domestic Hot Water System (Water Heater)

Unit ID: Enter the **Water Heater Unit ID**. This Unit ID establishes the unique identifier for the Water Heater. Example: WH-1.

Energy Source: Select the **Energy Source** from the dropdown menu. If the energy source desired is unavailable for selection, review the selections listed in the OPR: Site Utilities Available, Fuel Source.

Water Heater Type: Select the **Water Heater Type** from the dropdown menu. Specific water heaters may be unavailable due Energy Source selected. For example, Tankless On-Demand water heaters are available only when Natural Gas or Propane are the selected Energy Source.

Temperature 1 and 2: Enter the required **hot water temperature** for the building use. Temperature 2 is typically used for a domestic hot water return system with mixing valves where two hot water temperatures are required.

Efficiency: Enter the **Water Heater Efficiency** as a percent of the annual fuel utilization efficiency (AFUE). Typical Water Heater Energy Efficiency ranges from 70% to 99%.

Circulation Pump Control: Select the **Circulation Pump Control** from the dropdown menu. Select *None* if the circulation pump runs continuously.

Areas Served: Enter the **Building Areas Served** by the Water Heater. Example: Restrooms, Kitchen.

Gateway [Edit](#)

OPR **BOD** Cx Spec Cx Plan Checklists FPT Issues Log Systems Manual Training Cx Report

Basis of Design (BOD) [Create BOD](#) [Save Form](#)

Domestic Hot Water System (Water Heater)

Unit ID

Energy Source

Water Heater Type

Supply Hot Water

Temperature 1 °F

Temperature 2 °F

Efficiency %

Circulation Pump Control

Areas Served

[+ Add Domestic Hot Water System](#)

Exhaust Air Systems

Unit ID: Enter the **Exhaust Fan Unit ID**. This Unit ID establishes the unique identifier for the Water Heater. Example: EF-1.

Exhaust Fan Type: Select the **Exhaust Fan Type** from the dropdown menu. If the Exhaust Fan Type is not listed, Select *Specialty*.

Exhaust Fan Control: Select the **Exhaust Fan Control** from the dropdown menu.

Areas Served: Enter the **Building Areas Served** by the exhaust fan. Example: Conference, Restrooms, Kitchen.

The screenshot shows the 'Gateway' application interface. At the top, there is a navigation bar with tabs: OPR, BOD (selected), Cx Spec, Cx Plan, Checklists, FPT, Issues Log, Systems Manual, Training, and Cx Report. Below the navigation bar is a header for 'Basis of Design (BOD)' with two buttons: 'Create BOD' and 'Save Form'. The main content area is titled 'Exhaust Air Systems' and contains a form with the following fields:

- Unit ID:** A text input field.
- Exhaust Fan Type:** A dropdown menu.
- Exhaust Fan Control:** A dropdown menu.
- Areas Served:** A text input field.

At the bottom of the form, there is a link: '+ Add Exhaust Air System'.

Electrical Systems

Indoor Lighting Systems

The building areas shown are derived from the Internal Heat Gains section of the BOD. The building areas fields are locked and may be changed only in the Internal Heat Gains section.

Lamp Type: Select the **Lamp Type** from the dropdown menu.

Lighting Illumination: Lighting Illumination is populated with default values from the database. This value may be changed and saved to the project database; however, once saved, the default value initially inserted is no longer available.

Control Type: Select the **Control Type** from the dropdown menu.

Always and frequently **Save** the information entered in the CxDocs application. You may always return later to change or revise the information entered.

Gateway [Edit](#)

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[Cx Report](#)

Basis of Design (BOD) [Create BOD](#) [Save Form](#)

Electrical Systems

Indoor Lighting Systems

Building Areas	Lighting	Lighting Illumination (fc)	Control Type
Lobby (General)	Fluorescent	15	Manual On/Off S
Office - Open	Fluorescent	20	Manual On/Off S
Office - Private	Fluorescent	20	Manual On/Off S
Conference	Fluorescent	50	Manual On/Off S

Renewable Energy Systems (Photovoltaic)

System ID: Enter the **System ID**. The Unit ID establishes the unique identifier for the Renewable Energy System.

Expected AC Energy Performance: Enter the **Expected AC Energy Performance** value in kW/h. For assistance determining the Expected AC Energy Performance for your specific conditions, Click (?) to visit the [NREL](#) website. Follow the instructions on the PVWatts site to calculate the Expected AC Energy Performance.

DC Rating: Enter the **DC Rating** in kW. The default value of 4.0 is provided.

DC-to-AC Derate Factor: Enter the **DC-to-AC Derate Factor**. The default value of 0.77 is provided.

Array Location: Select the **Solar Array Location** from the dropdown menu.

Array Type: Select the **Array Type** from the dropdown menu.

Array Tilt Angle: Select the **Array Tilt Angle** from the dropdown menu.

Array Azimuth Angle: Select the **Array Azimuth Angle** from the dropdown menu.

For assistance determining the Expected AC Performance, Array Tilt Angle, Array Azimuth Angle and Required Solar Radiation, visit the [NREL](#) website and follow the instructions on the PVWatts site.

Gateway Edit

OPR BOD Cx Spec Cx Plan Checklists FPT Issues Log Systems Manual Training Cx Report

Basis of Design (BOD) Create BOD Save Form

Renewable Energy Systems (Photovoltaic)

System ID Solar System	Expected AC Energy Performance kW/h	DC Rating 4.0 kW
DC-to-AC Derate Factor 0.77	Array Location Roof	Array Type Fixed Tilt
Array Tilt Angle - Select project location latitude	Array Azimuth Angle 180 - S	Required Solar Radiation kW/h/m²/day
Number of Inverters		

Required Solar Radiation: Enter the Required Solar Radiation value in kWh/m²/day. For assistance determining the Required Solar Radiation for your specific conditions, Click (?) to visit the [NREL](http://www.nrel.gov/pvwatts/) website. Follow the instructions on the PVWatts site to calculate the Required Solar Radiation.

Number of Inverters: Enter the Number of Inverters connected to the solar photovoltaic system.

Water Reuse Systems

Water Reuse System Type: Select the **Water Reuse System Type** from the dropdown menu.

Click **Save Form**, to save the information to the project database, you may always return later to change and revise the information entered.

Create BOD

Once sufficient information is saved to the database, you may now create the BOD. Remember to Click **Save Form** first and then Click **Create BOD** and a PDF will be created for viewing and saving.

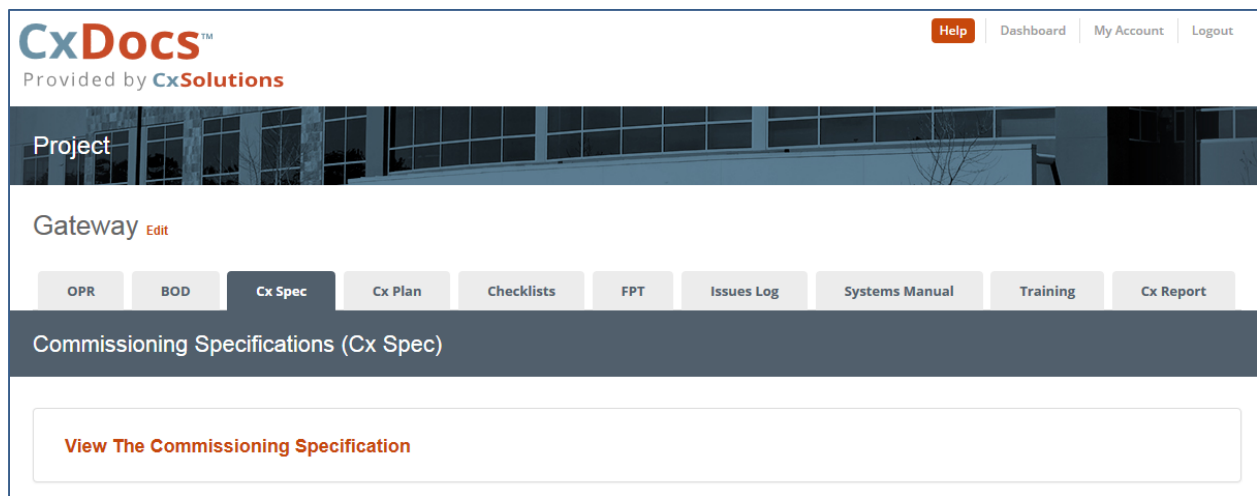


You must have the Adobe PDF Reader installed on your computer to create documents. To obtain the Adobe PDF Reader, go to <http://get.adobe.com/reader>.

5. Commissioning Specification (Cx Spec)

The commissioning specification addresses typical specification requirements of various sustainability guidelines, building codes and energy codes. This section contains no input screens, but is derived from information previously entered in CxDocs. Click *View the Commissioning Specification* to open and save the PDF.

A Microsoft Word Document version of the Commissioning Specification is available for your use in the Help Section under Other Resources. This document will not display information you entered into the database that is specific to your project.



Click **View the Commissioning Specification** to view and save the PDF.

6. Commissioning Plan (Cx Plan)

The Commissioning Plan describes the building commissioning implementation process according to the OPR and BOD. The Commissioning Plan is developed from information entered in the OPR, BOD and Commissioning Plan page.

The plan outlines and describes the commissioning process and the roles and responsibilities of each Commissioning Team member.

Cx Plan Date: Place cursor in the field, Click a calendar will open. Select a **Cx Plan Date** from the calendar provided; today, an earlier date, or a future date. The Cx Plan date will appear on the cover page of the Cx Plan and included into various commissioning documents.

Project Gateway [Edit](#)

OPR BOD Cx Spec **Cx Plan** Checklists FPT Issues Log Systems Manual Training Cx Report

Commissioning Plan (Cx Plan) [Create Cx Plan](#) [Save Form](#)

Cx Plan Date

Commissioning Team [Delete](#)

Team Member Role	Team Member Role
Owner's Representative	Architect
Contact Name	Contact Name
Company	Company
Address	Address
City State ZIP	City State ZIP
Office Phone Cell Phone	Office Phone Cell Phone
Email	Email

Commissioning Team

Team Member Role: Select the **Team Member's Role** from the drop-down menu. Default roles are provided for various team members.

Team Member Information: Enter/Select the **Contact Name, Company, Address, City, ZIP, Office Phone, Cell Phone,** and **Email Address** for each team member.

To Add New Team Members: Click the **Add New Team Member** link.
Delete Team Members by Clicking the **X** to the right of the Team Member Role.

Click **Save Form** to save the information to the project database. You may always return later to change and revise the information entered.

Create Cx Plan

Once sufficient information is saved to the database, you may now create the Cx Plan. Remember to Click **Save Form** first and then Click **Create Cx Plan** and a PDF will be created for viewing and saving.



You must have the Adobe PDF Reader installed on your computer to create documents. To obtain the Adobe PDF Reader, go to <http://get.adobe.com/reader>.

7. Checklists

Construction Checklists are forms used by the Commissioning Team to verify that equipment and systems are complete, installed properly, comply with the Owner's Project Requirements, and are ready for functional performance testing. The checklists are not project specific. After saving the BOD, access is allowed to the Checklists page.

Click **View** to open the individual Construction Checklists. Checklist PDF's may be saved to a local computer.

List ID	List Name	
CK-1	Packaged Terminal Air Conditioning Unit	View
CK-2	Packaged Terminal Air Conditioning Unit - Heat Pump	View
CK-3	Packaged Terminal Air Conditioning Unit - Electric Heat Coil	View
CK-4	Split System Air Conditioning Unit	View
CK-5	Split System Air Conditioning Unit - Heat Pump	View
CK-6	Split System Air Conditioning Unit - Electric Heat Coil	View
CK-7	Split System Air Conditioning Unit - Gas Fired Forced Air Furnace	View
CK-8	Packaged DX HVAC Unit	View

8. Functional Performance Tests (FPT)

Functional Performance Tests are a written protocol that defines methods and expectations for tests conducted on components, equipment, assemblies, and systems and interfaces among systems to verify compliance with the Owner's Project Requirements. The FPTs are specifically developed for your project from information entered in the OPR and BOD pages. After saving the BOD, access is allowed to the FPT page where tests can be viewed, revised, created and saved.

Unit ID/Building Area	System/Fuel/Condenser Type	
AC-1	HVAC - Packaged DX HVAC Unit – Air Cooled, Gas Fired Heat	View
AC-2	HVAC - Packaged DX HVAC Unit – Air Cooled, Gas Fired Heat	View
AC-3	HVAC - Packaged Terminal Air Conditioning Unit (PTAC)	View
VAV 1-1	VAV - Single Duct Cooling w/Hot Water Reheat	View
VAV 1-2	VAV - Single Duct Cooling	View
VAV 1-3	VAV - Single Duct Cooling	View

Click **View** to open each individual Functional Performance Test form. Once opened, the test may be reviewed, edited, and saved to the project database. Test items may be used as is or revised to suit your specific system components and control sequences.

Warning: Once Functional Performance Tests are saved, *they can no longer be updated from the OPR and BOD*. To recreate the initial test provided, the unit must be deleted and recreated. Items may be removed and still available as described below.

The Unit ID/Building Area will appear in the upper left hand corner of each FPT. Test item numbers, test procedures and anticipated/expected results are shown for each test. To revise a

test item, place the cursor in the desired field and make changes. Once revisions are made, Click **Save Form** to save the tests to the project database.

Gateway [Edit](#)

OPR BOD Cx Spec Cx Plan Checklists **FPT** Issues Log Systems Manual Training Cx Report

Functional Performance Tests (FPT) [Create FPT](#) [Save Form](#)

Unit ID/Building Area: AC-1

Item	Test Procedure	Accepted/Expected Results	
1	Supply Fan Operation - Disable supply air fan to OFF.	Supply air fan is OFF and operating per schedule, or manual setting.	Remove
2	Supply Fan Operation - Enable supply air fan to ON.	Supply air fan is ON and operating per schedule, or manual setting.	Remove
3	Supply Fan Operation - Override VAV terminal units to full cooling.	VAV terminal units modulate to full cooling position. Supply fan increases speed to meet and maintain duct static pressure.	Remove
4	Supply Fan Operation - Override VAV terminal units to minimum position.	VAV terminal units modulate to minimum position. Supply fan decreases speed to meet and maintain duct static pressure.	Remove
5	Return Fan Operation: Building Static Pressure - Override building static pressure setpoint below actual building static pressure.	Return fan reduces speed to allow for building pressure to decrease to setpoint.	Remove
6	Return Fan Operation: Building Static Pressure - Override building static pressure setpoint above actual building static pressure.	Return fan increases speed to allow for building pressure to increase to setpoint.	Remove

If you require an additional test procedure, Click **Add FPT** and additional fields will appear at the bottom of the form where you may enter a new test procedure and accepted/expected results.

15	Demand Ventilation Operation - Lower the zone CO2 setpoint below the zone CO2 sensor value to enable the demand ventilation cycle.	Outdoor and exhaust dampers modulate open and return air dampers modulate closed.	Remove
16	Demand Ventilation Operation - Raise the zone CO2 setpoint above the zone CO2 sensor value to disable the demand ventilation cycle.	Outside air and exhaust damper modulate closed or minimum position. Return air dampers modulate open.	Remove
17	Check unit for noise and vibration.	No objectionable noise or vibration noted.	Remove
			Remove

[+ Add FPT](#)

Add New Test Procedure Add Accepted/Expected Results

Individual FPT items may be removed from the final test PDF *without deleting the items from this form*. Click the **Remove** button next to the item you wish to delete from the test form and the test item will be greyed out. The grey area indicates that the test will not appear when you

create the FPT PDF. You will notice that the **Remove** button has changed to a **Replace** button. If you desire to replace the test item back into the final test form, Click on the **Replace** button.

Gateway [Edit](#)

OPR BOD Cx Spec Cx Plan Checklists **FPT** Issues Log Systems Manual Training Cx Report

Functional Performance Tests (FPT) [Create FPT](#) [Save Form](#)

Unit ID/Building Area: AC-1

Item	Test Procedure	Accepted/Expected Results	
1	Supply Fan Operation - Disable supply air fan to OFF.	Supply air fan is OFF and operating per schedule, or manual setting.	Remove
2	Supply Fan Operation - Enable supply air fan to ON.	Supply air fan is ON and operating per schedule, or manual setting.	Remove
3	Supply Fan Operation - Override VAV terminal units to full cooling.	VAV terminal units modulate to full cooling position. Supply fan increases speed to meet and maintain duct static pressure.	Replace
4	Supply Fan Operation - Override VAV terminal units to minimum position.	VAV terminal units modulate to minimum position. Supply fan decreases speed to meet and maintain duct static pressure.	Replace
5	Return Fan Operation: Building Static Pressure - Override building static pressure setpoint below actual building static pressure.	Return fan reduces speed to allow for building pressure to decrease to setpoint.	Remove

Deleted From PDF

Click **Save Form** to save the information to the project database, you may always return later to change and revise the information entered.

Create FPT

Once you review, revise and **Save** the FPT, you may now create the FPT. Remember to Click **Save Form** first and then Click **Create Cx Plan** and a PDF will be created for viewing and saving.



You must have the Adobe PDF Reader installed on your computer to create documents. To obtain the Adobe PDF Reader, go to <http://get.adobe.com/reader>.

Warning: Once Functional Performance Tests are saved, *they can no longer be updated from the OPR and BOD*. To recreate the initial test provided, the unit must be deleted and recreated. Items may be removed and still available as described above.

9. Issues Log

The Issues Log is an ongoing record of problems or concerns with resolutions compiled by Commissioning Team members during the course of the Commissioning Process. A summary of the issues and associated resolutions are listed in the commissioning report. All projects encounter issues, requiring attention, some are major and others are minor. The commissioning process documents the issues and resolutions implemented.

Issue No. 1: You must complete one issue entry within CxDocs.

Unit ID/Building Area: Select the **Unit ID** or **Building Area (Lighting)** associated with the issue from the dropdown list.

Issue Description: Enter a brief **description** of the issue in the textbox.

Issue Date: Select the **date** that the Issue was discovered from the calendar provided.

The screenshot shows the 'Gateway Edit' interface for the 'Issues Log'. The navigation bar includes tabs for OPR, BOD, Cx Spec, Cx Plan, Checklists, FPT, **Issues Log**, Systems Manual, Training, and Cx Report. The 'Issues Log' tab is active, displaying a header with 'Issues Log' and buttons for 'Create Issues Log' and 'Save Form'. The form fields are as follows:

- Issue #:** 1
- Unit ID:** A dropdown menu with a blue highlight. The list includes: Domestic Systems (WH-1), Exhaust Systems (EF-1, EF-2), Heating Systems (B-1), HVAC Systems (AC-1, AC-2, AC-3), and VAV Systems (VAV 1-1, VAV 1-2, VAV 1-3, VAV 1-4, VAV 1-5, VAV 1-6, VAV 1-7). There is an 'Add New Issue' button next to the dropdown.
- Issue Description:** A large text input field.
- Issue Date:** A date selection field.
- Resolved?:** Radio buttons for 'Yes' and 'No' (selected).
- Resolution Description:** A large text input field.
- Resolution Date:** A date selection field.

Resolved: Click **Yes** if the issue has been resolved, **No** if the issue has not been resolved.

Resolution Description: Enter a brief **description** of resolution of the issue in the textbox.

Resolution Date: Select the **date** that the Issue was resolved from the calendar provided.

To Add New Issues: Click the **Add New Issue** link and additional fields will open and sequentially assign an issue number. Delete issues by Clicking the **X** to the far right of the issue. You must complete and save Issue #1.

Click **Save Form** to save the information to the project database, you may always return later to change and revise the information entered.

Create Issues Log

Once you review, revise and **Save** the Issues Log, you may now create the FPT. Remember to Click **Save Form** first and then Click **Create Issues Log** and a PDF will be created for viewing and saving.



You must have the Adobe PDF Reader installed on your computer to create documents. To obtain the Adobe PDF Reader, go to <http://get.adobe.com/reader>.

10. Systems Manual

The Systems Manual provides the building owner or owner representative required documentation to properly operate and maintain the building systems. Contents include descriptions of the building/project, major buildings systems, facility operation and maintenance, operator training documents, and related record documents.

The Systems Manual captures project information and serves as a repository for design, construction, start-up, systems testing, and operation and maintenance documents. Design documents and objectives, construction details, and operational information are contained in a single document.

Unlike typical operation and maintenance manuals provided by equipment vendors, the Systems Manual is a customized document for your specific building and the various systems installed. Equipment and system interfaces, and sequences of operation are detailed and explained. Initial operational parameters, setpoints, calibrations, and schedules are recorded and documented.

Warning: When you Click the **SAVE FORM** button in the Systems Manual, information you add, delete or change in the OPR and BOD forms will no longer be updated in the Systems Manual.

It is **highly** recommended that inputs into the System Manual not occur until the project is

Mechanical Systems

Heating, Ventilating, Air Conditioning (HVAC) Systems

Systems Manual Date: Select the **date** the Systems Manual is completed from the calendar. This date will appear on the cover page of the Systems Manual.

Date Building Occupied: Enter the **date** the building was occupied.

Example: Constant Volume Supply Fan

Unit ID: The Unit ID will appear in the Unit ID textbox. This field was identified in the BOD section.

Do Not Alter the Unit ID Field

Unit Manufacturer: Enter the HVAC system *manufacturer name*

Unit Model Number: Enter the HVAC *model number*

Unit Serial Number: Enter the HVAC *serial number*

Supply Fan Horsepower: Enter the *supply fan horsepower*

Supply Fan CFM: Enter the *supply fan CFM*

Supply Fan Voltage: Select the *supply fan voltage* from the dropdown menu

Supply Fan Phase: Select the *supply fan phase* from the dropdown menu

Occupied Cooling Temperature Setpoint: Enter the *occupied cooling temperature setpoint*

Occupied Heating Temperature Setpoint: Enter the *occupied heating temperature setpoint*

Unoccupied Cooling Temperature Setpoint: Enter the *unoccupied cooling temperature setpoint*

Unoccupied Heating Temperature Setpoint: Enter the *unoccupied heating temperature setpoint*

Sequence of Operation: The sequence of operation for this HVAC system is sourced from the database based upon input you entered into the OPR and BOD. This generic sequence can be edited and saved; however, once this information is saved, it cannot be updated from the OPR or BOD. Therefore, it is **highly** recommended that the Systems Manual information be entered when the project is nearing completion.

OPR BOD Cx Spec Cx Plan Checklists FPT Issues Log **Systems Manual** Training Cx Report

Systems Manual Create Systems Manual Save Form

Unit ID: AC-3 Unit Manufacturer: Unit Model Number: Unit Serial Number:

Supply Fan Horsepower: Supply Fan CFM: Supply Fan Voltage: 120 Supply Fan Phase: Single

Occupied Cooling Temperature Setpoint: °F DB Occupied Heating Temperature Setpoint: °F DB

Unoccupied Cooling Temperature Setpoint: °F DB Unoccupied Heating Temperature Setpoint: °F DB

Sequence of Operation

The fan runs continuously during the occupied mode per programmed schedule or manual setting. The cooling system cycles to maintain the zone cooling temperature setpoint.

Example: Variable Air Volume

Unit Manufacturer: Enter the HVAC system *manufacturer name*

Unit Model Number: Enter the HVAC *model number*

Unit Serial Number: Enter the HVAC *serial number*

Supply Fan Horsepower: Enter the *supply fan horsepower*

Supply Fan CFM: Enter the *supply fan CFM*

Supply Fan Voltage: Select the *supply fan voltage* from the dropdown menu

Supply Fan Phase: Select the *supply fan phase* from the dropdown menu

Return Fan Horsepower: Enter the *return fan horsepower*

Return Fan CFM: Enter the *return fan CFM*

Return Fan Voltage: Select the *return fan voltage*

Return Fan Phase: Select the *return fan phase*

Duct Static Pressure Setpoint: Enter the actual *duct static pressure setpoint*

Building Static Pressure Differential: Enter the *actual building static pressure differential*

(This field will not be shown with units utilizing volumetric tracking.)

Sequence of Operation: The sequence of operation for this HVAC system is sourced from the database based upon input you entered into the OPR and BOD. This is a generic sequence and may be edited and saved; however, once this information is saved, it cannot be updated from the OPR or BOD. Therefore, it is **highly** recommended that the System Manual information be entered when the project is nearing completion.

OPR

BOD

Cx Spec

Cx Plan

Checklists

FPT

Issues Log

Systems Manual

Training

Cx Report

Systems Manual

Create Systems Manual

Save Form

Systems Manual Date

Date Building Occupied

Mechanical Systems

Heating, Ventilating, Air Conditioning (HVAC) Systems

Unit ID

Unit Manufacturer

Unit Model Number

Unit Serial Number

AC-1

Supply Fan Horsepower

Supply Fan CFM

Supply Fan Voltage

Supply Fan Phase

120

Single

Return Fan Horsepower

Return Fan CFM

Return Fan Voltage

Return Fan Phase

120

Single

Duct Static Pressure Setpoint

in WC

Building Static Pressure Differential

in WC

Sequence of Operation

The supply and return/exhaust fans run continuously during the occupied mode per programmed schedule. The supply fan speed modulates to maintain the duct static pressure setpoint. The return/exhaust fan speed modulates to maintain a set differential between interior-space and outside-air pressure. The heating system cycles to maintain the zone heating temperature setpoint. The economizer cycle will be enabled when outdoor air is suitable for free cooling and the economizer dampers modulate to maintain the zone cooling temperature setpoint. Subsequent to the economizer cycle, the cooling system cycles to maintain the zone cooling temperature setpoint. As the carbon dioxide concentration in the space rises, the outside air damper modulates open to maintain the desired ventilation rate.

Variable Air Volume (VAV) Terminal Units

Example: Single Duct Cooling

Unit ID: The Unit ID will appear in the Unit ID textbox. This field was identified in the BOD section.

Do Not Alter the Unit ID Field

Unit Manufacturer: Enter the VAV Terminal Unit *manufacturer name*

Unit Model Number: Enter the VAV Terminal Unit *model number*

Unit Size: Select the *unit size* from the dropdown menu

Maximum CFM: Enter the *maximum air flow rate* in CFM

Minimum CFM: Enter the *minimum air flow rate* in CFM

Occupied Cooling Temperature Setpoint: Enter the *occupied cooling temperature setpoint*

Occupied Heating Temperature Setpoint: Enter the *occupied heating temperature setpoint*

Unoccupied Cooling Temperature Setpoint: Enter the *unoccupied cooling temperature setpoint*

Unoccupied Heating Temperature Setpoint: Enter the *unoccupied heating temperature setpoint*

Sequence of Operation: The sequence of operation for this VAV Terminal Unit is sourced from the database based upon input you entered into the OPR and BOD. This is a generic sequence and may be edited and saved; however, once this information is saved, it can longer updated from the OPR or BOD. Therefore, it is **highly** recommended that the System Manual information be entered when the project is nearing completion.

The screenshot shows the 'Systems Manual' software interface. At the top, there is a navigation bar with tabs: OPR, BOD, Cx Spec, Cx Plan, Checklists, FPT, Issues Log, Systems Manual (selected), Training, and Cx Report. Below the navigation bar, there is a header area with 'Systems Manual' on the left and 'Create Systems Manual' and 'Save Form' buttons on the right. The main content area is titled 'Variable Air Volume (VAV) Terminal Unit'. It contains a form with the following fields:

- Unit ID: Textbox containing 'VAV 1-1'
- Unit Manufacturer: Empty textbox
- Unit Model Number: Empty textbox
- Unit Size: Dropdown menu showing '4'
- Maximum CFM: Empty textbox
- Minimum CFM: Empty textbox
- Occupied Cooling Temperature Setpoint: Textbox with a degree Fahrenheit symbol
- Occupied Heating Temperature Setpoint: Textbox with a degree Fahrenheit symbol
- Unoccupied Cooling Temperature Setpoint: Textbox with a degree Fahrenheit symbol
- Unoccupied Heating Temperature Setpoint: Textbox with a degree Fahrenheit symbol
- Sequence of Operation: A text area containing the following text: 'The terminal unit damper modulates to maintain the zone cooling temperature setpoint during the occupied mode. The terminal unit damper modulates to minimum position as the zone cooling load decreases. The heating coil stages the electric heating elements to maintain zone heating temperature setpoint. The terminal unit damper is closed during the unoccupied mode.'

Example: Single Duct Cooling w/Hot Water Reheat

Unit Manufacturer: Enter the VAV Terminal Unit *manufacturer name*

Unit Model Number: Enter VAV Terminal Unit *model number*

Unit Size: Select the *unit size* from the dropdown menu

Maximum CFM: Enter the *maximum air flow rate* in CFM

Minimum CFM: Enter the *minimum air flow rate* in CFM

Reheat Coil Capacity: Enter the *reheat coil capacity* in MBH

Reheat Coil GPM: Enter the *coil flow rate* in GPM

Water Pressure Drop: Enter the *coil water pressure drop* in Feet WC

Entering Water Temperature: Enter the *coil entering water temperature* in °F

Leaving Water Temperature: Enter the *coil leaving water temperature* in °F

Occupied Cooling Temperature Setpoint: Enter the *occupied cooling temperature setpoint*

Occupied Heating Temperature Setpoint: Enter the *occupied heating temperature setpoint*

Unoccupied Cooling Temperature Setpoint: Enter the *unoccupied cooling temperature setpoint*

Unoccupied Heating Temperature Setpoint: Enter the *unoccupied heating temperature setpoint*

Sequence of Operation: The sequence of operation for this VAV Terminal Unit is sourced from the database based upon input you entered into the OPR and BOD. This is a generic sequence and may be edited and saved; however, once this information is saved it cannot be updated from the OPR or BOD. Therefore, it is **highly** recommended that the System Manual information be entered when the project is nearing completion.

The screenshot shows a software interface with a top navigation bar containing tabs: OPR, BOD, Cx Spec, Cx Plan, Checklists, FPT, Issues Log, **Systems Manual**, Training, and Cx Report. Below the navigation bar is a header for the 'Systems Manual' section, with buttons for 'Create Systems Manual' and 'Save Form'.

The main form area contains the following fields and sections:

- Unit ID:** Text input field with 'VAV 2-11' entered.
- Unit Manufacturer:** Empty text input field.
- Unit Model Number:** Empty text input field.
- Unit Size:** Dropdown menu showing '4'.
- Maximum CFM:** Empty text input field.
- Minimum CFM:** Empty text input field.
- Reheat Coil Capacity:** Text input field with a unit selector set to 'MBH'.
- Reheat Coil GPM:** Empty text input field.
- Water Pressure Drop:** Text input field with a unit selector set to 'Feet WC'.
- Entering Water Temperature:** Text input field with a unit selector set to '°F'.
- Leaving Water Temperature:** Text input field with a unit selector set to '°F'.
- Occupied Cooling Temperature Setpoint:** Text input field with a unit selector set to '°F'.
- Occupied Heating Temperature Setpoint:** Text input field with a unit selector set to '°F'.
- Unoccupied Cooling Temperature Setpoint:** Text input field with a unit selector set to '°F'.
- Unoccupied Heating Temperature Setpoint:** Text input field with a unit selector set to '°F'.
- Sequence of Operation:** A text area containing the following text:

The terminal unit damper modulates to maintain the zone cooling temperature setpoint during the occupied mode. The terminal unit damper modulates to minimum position as the zone cooling load decreases. The heating coil valve modulates to maintain zone heating temperature setpoint. The terminal unit damper is closed during the unoccupied mode.

Example: Single Duct Cooling w/Electric Reheat

Unit Manufacturer: Enter the VAV Terminal Unit *manufacturer name*

Unit Model Number: Enter the VAV Terminal Unit *model number*

Unit Size: Select the *unit size* from the dropdown menu

Maximum CFM: Enter the *maximum air flow rate* in CFM

Minimum CFM: Enter the *minimum air flow rate* in CFM

Electric Heat Capacity: Enter the *electric heat capacity* in kW.

Voltage: Select the *voltage* from the dropdown menu

Phase: Select the *phase* from the dropdown menu

Occupied Cooling Temperature Setpoint: Enter the *occupied cooling temperature setpoint*

Occupied Heating Temperature Setpoint: Enter the *occupied heating temperature setpoint*

Unoccupied Cooling Temperature Setpoint: Enter the *unoccupied cooling temperature setpoint*

Unoccupied Heating Temperature Setpoint: Enter the *unoccupied heating temperature setpoint*

Sequence of Operation: The sequence of operation for this VAV Terminal Unit is sourced from the database based on the input you entered into the OPR and BOD. This is a generic sequence and may be edited and saved; however, once this information is saved it cannot be updated from the OPR or BOD. Therefore, it is **highly** recommended that the Systems Manual information be entered when the project is nearing completion.

OPR BOD Cx Spec Cx Plan Checklists FPT Issues Log **Systems Manual** Training Cx Report

Systems Manual Create Systems Manual Save Form

Unit ID: VAV 2-11 Unit Manufacturer: Unit Model Number: Unit Size: 4 Maximum CFM: Minimum CFM:

Electric Heat Capacity: kW Voltage: 120 Phase: Single

Occupied Cooling Temperature Setpoint: °F Occupied Heating Temperature Setpoint: °F

Unoccupied Cooling Temperature Setpoint: °F Unoccupied Heating Temperature Setpoint: °F

Sequence of Operation

The terminal unit damper modulates to maintain the zone cooling temperature setpoint during the occupied mode. The terminal unit damper modulates to minimum position as the zone cooling load decreases. The heating coil stages the electric heating elements to maintain zone heating temperature setpoint. The terminal unit damper is closed during the unoccupied mode.

Exhaust Air Systems

Unit ID: The Unit ID will appear in the Unit ID textbox. This field was identified in the BOD section.

Do Not Alter the Unit ID Field

Unit Manufacturer: Enter the Exhaust Fan *manufacturer name*

Unit Model Number: Enter the Exhaust Fan *model number*

Unit Serial Number: Enter the *serial number* of the Exhaust Fan

Fan CFM: Enter the *air flow rate* in CFM

Fan HP: Enter the *fan horsepower*

Voltage: Select the *exhaust fan voltage* from the dropdown menu

Phase: Select the *exhaust fan phase* from the dropdown menu

Sequence of Operation: The sequence of operation for this Exhaust Fan is sourced from the database based upon the input you entered into the OPR and BOD. This is a generic sequence and may be edited and saved; however, once this information is saved it cannot be updated from the OPR or BOD. Therefore, it is **highly** recommended that the Systems Manual information be entered when the project is nearing completion.

OPR
BOD
Cx Spec
Cx Plan
Checklists
FPT
Issues Log
Systems Manual
Training
Cx Report

Systems Manual
Create Systems Manual
Save Form

Exhaust Air Systems

Unit ID

Unit Manufacturer

Unit Model Number

Unit Serial Number

Fan CFM

Fan Horsepower

Voltage

120▼

Phase

Single▼

Sequence of Operation

The exhaust fan starts/stops per activation/deactivation of another device or control.

Heating Hot Water Systems (Boiler & Pump)

Boiler

Unit ID: The Unit ID will appear in the Unit ID textbox. This field was identified in the BOD section.

Do Not Alter the Unit ID Field

Unit Manufacturer: Enter the Boiler *manufacturer name*

Unit Model Number: Enter the boiler *model number*

Unit Serial Number: Enter the boiler *serial number*

Gas Boiler Input: Enter the *boiler input* in MBH

Boiler GPM: Enter the *boiler flow rate* in GPM

Entering Water Temperature: Enter the *coil entering water temperature* in °F

Leaving Water Temperature: Enter the *coil leaving water temperature* in °F

Voltage: Select the *boiler voltage* from the dropdown menu

Phase: Select the *boiler phase* from the dropdown menu

OPR

BOD

Cx Spec

Cx Plan

Checklists

FPT

Issues Log

Systems Manual

Training

Cx Report

Systems Manual

Create Systems Manual

Save Form

Heating Hot Water Systems (Boiler & Pump)

Boiler

Unit ID

Unit Manufacturer

Unit Model Number

Unit Serial Number

B-1

Gas Boiler Input

Boiler GPM

MBH

Entering Water Temperature

Leaving Water Temperature

Voltage

Phase

120

Single

Heat Water Pump

Unit ID

Unit Manufacturer

Unit Model Number

Unit Serial Number

Pump GPM

Pump Head

HWP-1

Pump Horsepower

Voltage

Phase

120

Single

Sequence of Operation

The hot water pump will automatically start when the outside air temperature falls below the heating hot water system outside air temperature setpoint. The boiler control sequence is enabled by the operation of the hot water pump. The boiler cycles to maintain the hot water return temperature setpoint. The boiler hot water return temperature setpoint will be reset inversely to outside air temperature. The hot water pump speed modulates to maintain the hot water static pressure setpoint. The hot water pump will automatically stop when the outside air temperature rises above the heating hot water system outside air temperature setpoint.

Hot Water Pump

Unit ID: The Unit ID will appear in the Unit ID textbox. This field was identified in the BOD section.

Do Not Alter the Unit ID Field

Unit Manufacturer: Enter the Hot Water Pump *manufacturer name*

Unit Model Number: Enter the Hot Water Pump *model number*

Unit Serial Number: Enter the Hot Water Pump *serial number*

Pump GPM: Enter the *flow rate* of the Hot Water Pump in GPM.

Pump Head: Enter the *pump head* of the Hot Water Pump in feet of head.

Pump Horsepower: Enter the *pump horsepower* of the Hot Water Pump.

Voltage: Select the Hot Water *pump voltage* from the dropdown menu

Phase: Select the Hot Water *pump phase* from the dropdown menu

Sequence of Operation: The sequence of operation for this Heating Hot Water System is sourced from the database based upon the input you entered into the OPR and BOD. This is a generic sequence and may be edited and saved; however, once this information is saved it cannot be updated from the OPR or BOD. Therefore, it is **highly** recommended that the System Manual information be entered when the project is nearing completion.

Chilled Water Systems (Chiller & Pump)

Chiller

Unit ID: The Unit ID will appear in the Unit ID textbox. This field was identified in the BOD section.

Do Not Alter the Unit ID Field

Unit Manufacturer: Enter the Chiller *manufacturer name*

Unit Model Number: Enter the Chiller *model number*

Unit Serial Number: Enter the Chiller *serial number*

Capacity: Enter the Chiller *cooling capacity* in Tons

Entering Water Temperature: Enter the *coil entering water temperature* in °F

Leaving Water Temperature: Enter the *coil leaving water temperature* in °F

Chiller GPM: Enter the *flow rate* of the Chiller in GPM

Voltage: Select the *voltage* of the Chiller from the dropdown menu

Phase: Select the *phase* of the Chiller from the dropdown menu

Primary Chilled Water Pump

Unit ID: The Unit ID will appear in the Unit ID textbox. This field was identified in the BOD section.

Do Not Alter the Unit ID Field

Unit Manufacturer: Enter the Chilled Water Pump *manufacturer name*

Unit Model Number: Enter the Chilled Water Pump *model number*

Unit Serial Number: Enter the Chilled Water Pump *serial number*

Pump GPM: Enter the Chilled Water Pump *flow rate* in GPM

Pump Head: Enter the Chilled Water Pump *head* in feet of head

Pump Horsepower: Enter the Chilled Water Pump *horsepower*

Voltage: Select the Chilled Water Pump *voltage* from the dropdown menu

Phase: Select the Chilled Water Pump *phase* from the dropdown menu

Sequence of Operation: The sequence of operation for this Chilled Water System is sourced from the database based upon input you entered into the OPR and BOD. This is a generic sequence and may be edited and saved; however, once this information is saved it cannot be updated from the OPR or BOD. Therefore, it is **highly** recommended that the System Manual information be entered when the project is nearing completion.

Secondary Chilled Water Pump

A Secondary Chilled Water Pump will appear with similar fields when Primary/Secondary Variable Flow is chosen under Chilled Water System Flow in the BOD.

OPR	BOD	Cx Spec	Cx Plan	Checklists	FPT	Issues Log	Systems Manual	Training	Cx Report
Systems Manual							Create Systems Manual	Save Form	
Chilled Water Systems (Chiller & Pump)									
<div> <div>Chiller</div> <div> Unit ID Unit Manufacturer Unit Model Number Unit Serial Number Capacity Tons </div> <div> Entering Water Temperature °F Leaving Water Temperature °F Chiller GPM </div> <div> Voltage 120 Phase Single </div> </div> <div> <div>Chilled Water Pump</div> <div>Primary Chilled Water Pump</div> <div> Unit ID Unit Manufacturer Unit Model Number Unit Serial Number Pump GPM Pump Head ft </div> <div> Pump Horsepower Voltage 120 Phase Single </div> </div> <div> <div>Sequence of Operation</div> <div> 184 - The primary chilled water pump automatically starts when the outside air temperature is above the chilled water system outside air temperature setpoint. The air cooled chiller control sequence is enabled by the operation of the primary chilled water pump. The air cooled chiller cycles to maintain the chilled water return temperature setpoint. The primary water pump speed modulates to maintain the chilled water static pressure setpoint. The primary chilled water pump automatically stops when the outside air temperature drops below the chilled water system outside air temperature setpoint. </div> </div>									

Domestic Hot Water Systems (Water Heater)

Conventional Storage Tank – Gas

Unit ID: The Unit ID will appear in the Unit ID textbox. This field was identified in the BOD Section.

Do Not Alter the Unit ID Field

Unit Manufacturer: Enter the Storage Tank Water Heater *manufacturer name*

Unit Model Number: Enter the Gas Storage Tank Water Heater *model number*

Unit Serial Number: Enter the Gas Storage Tank Water Heater *serial number*

Gas Heater Input: Enter the Gas Storage Tank Water Heater *Input* in MBH

Tank Capacity: Enter the Gas Storage Tank Water Heater capacity in gallons

Temperature Rise: Enter the Gas Storage Tank Water Heater *temperature rise*

Voltage: Select the Gas Storage Tank Water Heater *voltage* (if applicable) from the dropdown menu

Phase: Select the Gas Storage Tank Water Heater *phase* (if applicable) from the dropdown menu

The screenshot shows a web application interface with a top navigation bar containing tabs: OPR, BOD, Cx Spec, Cx Plan, Checklists, FPT, Issues Log, Systems Manual (active), Training, and Cx Report. Below the navigation bar is a header section with 'Systems Manual' and two buttons: 'Create Systems Manual' and 'Save Form'. The main content area is titled 'Domestic Hot Water Systems (Water Heater)' and contains a form with the following fields:

- Unit ID:** Textbox with 'WH-1' entered.
- Unit Manufacturer:** Empty textbox.
- Unit Model Number:** Empty textbox.
- Unit Serial Number:** Empty textbox.
- Gas Heater Input:** Textbox with 'MBH' as a unit label.
- Tank Capacity:** Textbox with 'Gal.' as a unit label.
- Temperature Rise:** Textbox with '°F' as a unit label.
- Voltage:** Dropdown menu with '120' selected.
- Phase:** Dropdown menu with 'Single' selected.

Tankless On-Demand – Gas

Unit Manufacturer: Enter the On-Demand Water Heater *manufacturer name*

Unit Model Number: Enter the On-Demand Water Heater *model number*

Unit Serial Number: Enter the On-Demand Water Heater *serial number*

Gas Heater Input: Enter the On-Demand Water Heater *Input* in MBH

Heater Capacity: Enter the On-Demand Water Heater *capacity* in GPM

Temperature Rise: Enter the On-Demand Water Heater *temperature rise*

Voltage: Select the On-Demand Water Heater *voltage* from the dropdown menu

Phase: Select the On-Demand Water Heater *phase* from the dropdown menu

Systems Manual

Create Systems Manual Save Form

Unit ID: WH-2

Unit Manufacturer:

Unit Model Number:

Unit Serial Number:

Gas Heater Input: MBH

Heater Capacity: GPM

Temperature Rise: °F

Voltage: 120

Phase: Single

Point-of-Use – Electric

Unit Manufacturer: Enter the Point of-Use Water Heater *manufacturer name*

Unit Model Number: Enter the Point of-Use Water Heater *model number*

Unit Serial Number: Enter the Point of-Use Water Heater *serial number*

Electric Heater Input: Enter the Point of-Use Water Heater *input* in kW

Temperature Rise: Enter the Point of-Use Water Heater *temperature rise*

Voltage: Select the Point of-Use Water Heater *voltage* from the dropdown menu

Phase: Select the Point of-Use Water Heater *phase* from the dropdown menu

Systems Manual

Create Systems Manual Save Form

Unit ID: WH-3

Unit Manufacturer:

Unit Model Number:

Unit Serial Number:

Electric Heater Input: kW

Temperature Rise: °F

Voltage: 120

Phase: Single

Conventional Storage Tank - Electric

Unit Manufacturer: Enter the Electric Storage Tank Hot Water Heater *manufacturer name*

Unit Model Number: Enter the Electric Storage Tank Hot Water Heater *model number*

Unit Serial Number: Enter the Electric Storage Tank Hot Water Heater *serial number*

Electric Heater Input: Enter the Electric Storage Tank Water Heater *input* in kW

Tank Capacity: Enter the Electric Storage Tank Water Heater *capacity* in gallons

Temperature Rise: Enter the Electric Storage Tank Hot Water Heater *temperature rise*

Voltage: Select the Electric Storage Tank Hot Water Heater *voltage* from the dropdown menu

Phase: Select the Electric Storage Tank Hot Water Heater *phase* from the dropdown menu

The screenshot shows the 'Systems Manual' form within a software application. The top navigation bar includes tabs for OPR, BOD, Cx Spec, Cx Plan, Checklists, FPT, Issues Log, Systems Manual (active), Training, and Cx Report. Below the navigation bar, the 'Systems Manual' section is highlighted. The form contains several input fields: Unit ID (WH-4), Unit Manufacturer, Unit Model Number, Unit Serial Number, Electric Heater Input (kW), Tank Capacity (Gal.), Temperature Rise (°F), Voltage (120), and Phase (Single). Buttons for 'Create Systems Manual' and 'Save Form' are visible on the right.

Indoor Lighting Systems

Building Area: The building area associated with the lighting system will be shown.

Lighting System Control Type: The Lighting System Control Type will be shown.

Do Not Alter the Lighting System Control Type

Unit Manufacturer: Enter the Lighting System Control *manufacturer name*

Unit Model Number: Enter the Lighting System Control *model number*

The screenshot shows the 'Indoor Lighting Systems' form within the software application. The top navigation bar is the same as the previous screenshot. The 'Indoor Lighting Systems' section is highlighted. The form contains two rows of input fields. The first row is for 'Lobby (General)' and the second row is for 'Office - Open'. Each row includes fields for Building Area, Lighting System Control Type (Occupancy Sensor), Unit Manufacturer, and Unit Model Number. Buttons for 'Create Systems Manual' and 'Save Form' are visible on the right.

Renewable Energy Systems (Photovoltaic)

System ID: The System ID will appear in the System ID textbox. This is identified in the BOD section.

Do Not Alter the Unit ID Field

Solar Panel Manufacturer: Enter the Photovoltaic Panel *manufacturer name*

Solar Panel Model Number: Enter the Photovoltaic Panel *model number*

Inverter Manufacturer: Enter the Inverter *manufacturer name*

Inverter Model Number: Enter the Inverter *model number*

OPR	BOD	Cx Spec	Cx Plan	Checklists	FPT	Issues Log	Systems Manual	Training	Cx Report
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Systems Manual

Create Systems Manual Save Form

Renewable Energy Systems (Photovoltaic)

System ID	Solar Panel Manufacturer	Solar Panel Model Number	Inverter Manufacturer	Inverter Model Number
SS-1				

Related Documents & Resources

Record Drawings & Documents

Document Location: Enter the *Record Drawings & Documents location*

Contact Name: Enter the *Record Drawings & Documents Contact Name*

Phone: Enter the *Contact's Phone Number*

Email: Enter the *Contact's Email address*

Continue to enter information related to the *Approved Submittals & Shop Drawings, Operation & Maintenance Manuals, Warranties and Commissioning Documentation*

OPR	BOD	Cx Spec	Cx Plan	Checklists	FPT	Issues Log	Systems Manual	Training	Cx Report
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Systems Manual

Create Systems Manual Save Form

Record Drawings & Documents Document Location <input type="text"/> Contact Name <input type="text"/> Phone <input type="text"/> Email <input type="text"/>	Approved Submittals & Shop Drawings Document Location <input type="text"/> Contact Name <input type="text"/> Phone <input type="text"/> Email <input type="text"/>
Operation & Maintenance Manuals Document Location <input type="text"/> Contact Name <input type="text"/> Phone <input type="text"/> Email <input type="text"/>	Warranties Document Location <input type="text"/> Contact Name <input type="text"/> Phone <input type="text"/> Email <input type="text"/>
Commissioning Documentation Document Location <input type="text"/> Contact Name <input type="text"/> Phone <input type="text"/> Email <input type="text"/>	

Building Resources Contact Information

Property Owner/Management

Company: Enter the Property Owner or Property Management Company name

Contact Name: Enter the Property Owner/Management Contact Name

Phone: Enter the Contact's Phone Number

Email: Enter the Contact's Email address

Continue to enter information related to the Operation & Maintenance Staff and Occupants/Users

Click **Save Form** to save the information to the project database, you may always return later to change and revise the information entered.

OPR	BOD	Cx Spec	Cx Plan	Checklists	FPT	Issues Log	Systems Manual	Training	Cx Report
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Systems Manual

Create Systems Manual Save Form

Building Resources Contact Information

Property Owner/Management
Company

Contact Name

Phone

Email

Operation & Maintenance Staff
Company

Contact Name

Phone

Email

Occupants/Users
Company

Contact Name

Phone

Email

[Add new Building Resource Contact](#)

Create Systems Manual

Once the Systems Manual information is entered and saved to the database, you may now create the Systems Manual. Click **Create Systems Manual** and a PDF will be created for viewing and saving.



You must have the Adobe PDF Reader installed on your computer to create documents. To obtain the Adobe PDF Reader, go to <http://get.adobe.com/reader>.

11. Operation & Maintenance Staff Training (Training)

Training Sessions

System: Select the training *System session* from the dropdown menu

Date: Select the training *session Date* from the calendar

Instructor Name: Enter the *Instructor Name*

Company Name: Enter the *Instructor's Company Name*

Training Location: Select the *training Location* from the dropdown menu

Duration (Hours): Select the *training session Duration* from the dropdown menu

Operations and Maintenance Staff

Name: Enter the Operation and Maintenance *Staff Name*

Title: Enter the Operation and Maintenance *Staff Title*

Add Staff Member: Click *Add Staff Member* to add additional staff

Add Training Session: Click *Add Training Session* to add additional training sessions.

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Project

Gateway [Edit](#)

OPR | BOD | Cx Spec | Cx Plan | Checklists | FPT | Issues Log | Systems Manual | **Training** | Cx Report

Operation & Maintenance Staff Training [Create Training Report](#) [Save Form](#)

Training Sessions

System
Heating, Ventilating, Air Conditioning (HVAC) Systems

Date

Instructor Name

Company Name

Training Location
Onsite - Classroom

Duration (hours)

Operations & Maintenance Staff

Name

Title

[+ Add Staff Member](#)

[+ Add Training Session](#)

Click **Save Form** to save information to the project database, you may always return later to change and revise the information entered.

Create Training Report

Once the Training Report information is entered and saved to the database, you may now create the Training Report. Click **Create Training Report** and a PDF will be created for viewing and saving.



You must have the Adobe PDF Reader installed on your computer to create documents. To obtain the Adobe PDF Reader, go to <http://get.adobe.com/reader>.

12. Commissioning Report (Cx Report)

Report Date: Place your cursor in the field, Click and a calendar will open. Select a Cx Report development date from the calendar provided; today, an earlier, or a future date. This date will appear on the cover page of the Cx Report.

Select Image: Select a photograph of the project to be used on the Cx Report cover. You must adhere to the image file requirements: Images must be JPEG (.jpeg) or PNG (.png) format with a minimum height of 288pixels and maximum file size of 2 MB.

Recommendations: List any recommendations or outstanding items.

The screenshot shows the CxDocs web application interface. At the top, the CxDocs logo is displayed with the tagline "Provided by CxSolutions". Navigation links include "Help", "Dashboard", "My Account", and "Logout". Below the header, a "Project" section features a background image of a building. The main content area is titled "Gateway" with an "Edit" link. A horizontal menu contains tabs for "OPR", "BOD", "Cx Spec", "Cx Plan", "Checklists", "FPT", "Issues Log", "Systems Manual", "Training", and "Cx Report". The "Cx Report" tab is selected, and a "Create Cx Report" button is visible. The form fields include:

- Report Date:** A text input field with a red asterisk indicating it is required.
- Building:** A section containing a "Select image" button and a large image placeholder. Below the placeholder, text specifies: "Images must be JPEG (.jpeg) or PNG (.png) format with a min. height of 288px & max. file size of 2MB."
- Recommendations and Outstanding Items:** A large text area for input.


Gateway Edit

OPR BOD Cx Spec Cx Plan Checklists FPT Issues Log Systems Manual Training **Cx Report**

Cx Report Create Cx Report Save Form

• Report Date
05/20/2016

Building
Select image
Images must be JPEG (.jpg) or PNG (.png) format with a min. height of 288px & max. file size of 2MB.



Recommendations and Outstanding Items

1. AC-1 & AC-2: Configure and review trend log for building pressure to analyze operation of return/exhaust fans control loops.
2. AC-1, & AC-2: Install differential pressure switches across air filters, wire to building automation system, and configure alarms when filters are loaded.
3. Solar System: Connect network connection of inverter to building automation system to track energy harvested by solar system.

Click **Save** to save the information to the project database, you may always return later to change and revise the information entered.

Create Commissioning Report

Once the Cx Report information is entered and saved to the database, you may now create the Cx Report. Click **Create Cx Report** and a PDF will be created for viewing and saving.



You must have the Adobe PDF Reader installed on your computer to create documents. To obtain the Adobe PDF Reader, go to <http://get.adobe.com/reader>.

13. Appendix

Basis of Design (BOD) System Configurations

Heating, Ventilating, Air Conditioning Systems

Constant Volume Supply Fan, Packaged Terminal Air Conditioning Unit

Constant Volume Supply Fan, Packaged Terminal Air Conditioning Unit, Heat Pump

Constant Volume Supply Fan, Packaged Terminal Air Conditioning Unit, Electric Heat

Constant Volume Supply Fan, Split System Air Conditioning Unit

Constant Volume Supply Fan, Split System Air Conditioning Unit, OADB Economizer

Constant Volume Supply Fan, Split System Air Conditioning Unit, OA Enthalpy Reference Economizer

Constant Volume Supply Fan, Split System Air Conditioning Unit, OADB & RADB Temp Comparison Economizer

Constant Volume Supply Fan, Split System Air Conditioning Unit, OA & RA Enthalpy Comparison Economizer

Constant Volume Supply Fan, Split System Air Conditioning Unit, Heat Pump

Constant Volume Supply Fan, Split System Air Conditioning Unit, OADB Economizer, Heat Pump

Constant Volume Supply Fan, Split System Air Conditioning Unit, OA Enthalpy Reference Economizer, Heat Pump

Constant Volume Supply Fan, Split System Air Conditioning Unit, OADB & RADB Temp Comparison Economizer, Heat Pump

Constant Volume Supply Fan, Split System Air Conditioning Unit, OA & RA Enthalpy Comparison Economizer, Heat Pump

Constant Volume Supply Fan, Split System Air Conditioning Unit, Gas Fired Forced Air Furnace

Constant Volume Supply Fan, Split System Air Conditioning Unit, OADB Economizer, Gas Fired Forced Air Furnace

Constant Volume Supply Fan, Split System Air Conditioning Unit, OA Enthalpy Reference Economizer, Gas Fired Forced Air Furnace

Constant Volume Supply Fan, Split System Air Conditioning Unit, OADB & RADB Temp Comparison Economizer, Gas Fired Forced Air Furnace

Constant Volume Supply Fan, Split System Air Conditioning Unit, OA & RA Enthalpy Comparison Economizer, Gas Fired Forced Air Furnace

Constant Volume Supply Fan, Split System Air Conditioning Unit, Electric Heat Coil

Constant Volume Supply Fan, Split System Air Conditioning Unit, OADB Economizer, Electric Heat Coil

Constant Volume Supply Fan, Split System Air Conditioning Unit, OA Enthalpy Reference Economizer, Electric Heat Coil

Constant Volume Supply Fan, Split System Air Conditioning Unit, OADB & RADB Temp Comparison Economizer, Electric Heat Coil

Constant Volume Supply Fan, Split System Air Conditioning Unit, OA & RA Enthalpy Comparison Economizer, Electric Heat Coil

Constant Volume Supply Fan, Packaged DX HVAC Unit

Constant Volume Supply Fan, Packaged DX HVAC Unit, Demand Controlled Ventilation

Constant Volume Supply Fan, Packaged DX HVAC Unit. OADB Economizer

Constant Volume Supply Fan, Packaged DX HVAC Unit, OA Enthalpy Reference Economizer

Constant Volume Supply Fan, Packaged DX HVAC Unit, OADB & RADB Temp Comparison Economizer,

Constant Volume Supply Fan, Packaged DX HVAC Unit, OA & RA Enthalpy Comparison Economizer

Constant Volume Supply Fan, Packaged DX HVAC Unit. OADB Economizer, Demand Controlled Ventilation

Constant Volume Supply Fan, Packaged DX HVAC Unit, OA Enthalpy Reference Economizer, Demand Controlled Ventilation

Constant Volume Supply Fan, Packaged DX HVAC Unit, OADB & RADB Temp Comparison Economizer, Demand Controlled Ventilation

Constant Volume Supply Fan, Packaged DX HVAC Unit, OA & RA Enthalpy Comparison Economizer, Demand Controlled Ventilation

Constant Volume Supply Fan, Packaged DX HVAC Unit. OADB Economizer, Heat Pump

Constant Volume Supply Fan, Packaged DX HVAC Unit, OA Enthalpy Reference Economizer, Heat Pump

Constant Volume Supply Fan, Packaged DX HVAC Unit, OADB & RADB Temp Comparison Economizer, Heat Pump

Constant Volume Supply Fan, Packaged DX HVAC Unit, OA & RA Enthalpy Comparison Economizer, Heat Pump

Constant Volume Supply Fan, Packaged DX HVAC Unit. OADB Economizer, Demand Controlled Ventilation, Heat Pump

Constant Volume Supply Fan, Packaged DX HVAC Unit, OA Enthalpy Reference Economizer, Demand Controlled Ventilation, Heat Pump

Constant Volume Supply Fan, Packaged DX HVAC Unit, OADB & RADB Temp Comparison Economizer, Demand Controlled Ventilation, Heat Pump

Constant Volume Supply Fan, Packaged DX HVAC Unit, OA & RA Enthalpy Comparison Economizer, Demand Controlled Ventilation, Heat Pump

Constant Volume Supply Fan, Packaged DX HVAC Unit, Gas Fired Heat

Constant Volume Supply Fan, Packaged DX HVAC Unit, Demand Controlled Ventilation, Gas Fired Heat

Constant Volume Supply Fan, Packaged DX HVAC Unit. OADB Economizer, Gas Fired Heat

Constant Volume Supply Fan, Packaged DX HVAC Unit, OA Enthalpy Reference Economizer, Gas Fired Heat

Constant Volume Supply Fan, Packaged DX HVAC Unit, OADB & RADB Temp Comparison Economizer, Gas Fired Heat

Constant Volume Supply Fan, Packaged DX HVAC Unit, OA & RA Enthalpy Comparison Economizer, Gas Fired Heat

Constant Volume Supply Fan, Packaged DX HVAC Unit. OADB Economizer, Demand Controlled Ventilation, Gas Fired Heat

Constant Volume Supply Fan, Packaged DX HVAC Unit, OA Enthalpy Reference Economizer, Demand Controlled Ventilation, Gas Fired Heat

Constant Volume Supply Fan, Packaged DX HVAC Unit, OADB & RADB Temp Comparison Economizer, Demand Controlled Ventilation, Gas Fired Heat

Constant Volume Supply Fan, Packaged DX HVAC Unit, OA & RA Enthalpy Comparison Economizer, Demand Controlled Ventilation, Gas Fired Heat

Constant Volume Supply Fan, Packaged DX HVAC Unit, Electric Heat

Constant Volume Supply Fan, Packaged DX HVAC Unit, Demand Controlled Ventilation, Electric Heat

Constant Volume Supply Fan, Packaged DX HVAC Unit. OADB Economizer, Demand Controlled Ventilation, Electric Heat

Constant Volume Supply Fan, Packaged DX HVAC Unit, OA Enthalpy Reference Economizer, Demand Controlled Ventilation, Electric Heat

Constant Volume Supply Fan, Packaged DX HVAC Unit, OADB & RADB Temp Comparison Economizer, Demand Controlled Ventilation, Electric Heat

Constant Volume Supply Fan, Packaged DX HVAC Unit, OA & RA Enthalpy Comparison Economizer, Demand Controlled Ventilation, Electric Heat

Constant Volume Supply Fan, Packaged DX HVAC Unit. OADB Economizer, Electric Heat

Constant Volume Supply Fan, Packaged DX HVAC Unit, OA Enthalpy Reference Economizer, Electric Heat

Constant Volume Supply Fan, Packaged DX HVAC Unit, OADB & RADB Temp Comparison Economizer, Electric Heat

Constant Volume Supply Fan, Packaged DX HVAC Unit, OA & RA Enthalpy Comparison Economizer, Electric Heat

Constant Volume Supply Fan, Packaged DX HVAC Unit, Hot Water Coil

Constant Volume Supply Fan, Packaged DX HVAC Unit, Demand Controlled Ventilation, Hot Water Coil

Constant Volume Supply Fan, Packaged DX HVAC Unit, OADB Economizer, Demand Controlled Ventilation, Hot Water Coil

Constant Volume Supply Fan, Packaged DX HVAC Unit, OA Enthalpy Reference Economizer, Demand Controlled Ventilation, Hot Water Coil

Constant Volume Supply Fan, Packaged DX HVAC Unit, OADB & RADB Temp Comparison Economizer, Demand Controlled Ventilation, Hot Water Coil

Constant Volume Supply Fan, Packaged DX HVAC Unit, OA & RA Enthalpy Comparison Economizer, Demand Controlled Ventilation, Hot Water Coil

Constant Volume Supply Fan, Packaged DX HVAC Unit, OADB Economizer, Hot Water Coil

Constant Volume Supply Fan, Packaged DX HVAC Unit, OA Enthalpy Reference Economizer, Hot Water Coil

Constant Volume Supply Fan, Packaged DX HVAC Unit, OADB & RADB Temp Comparison Economizer, Hot Water Coil

Constant Volume Supply Fan, Packaged DX HVAC Unit, OA & RA Enthalpy Comparison Economizer, Hot Water Coil

Constant Volume Supply Fan, Chilled Water Coil

Constant Volume Supply Fan, Chilled Water Coil, Demand Controlled Ventilation

Constant Volume Supply Fan, Chilled Water Coil, OADB Economizer

Constant Volume Supply Fan, Chilled Water Coil, OA Enthalpy Reference Economizer

Constant Volume Supply Fan, Chilled Water Coil, OADB & RADB Temp Comparison Economizer,

Constant Volume Supply Fan, Chilled Water Coil, OA & RA Enthalpy Comparison Economizer

Constant Volume Supply Fan, Chilled Water Coil, OADB Economizer, Demand Controlled Ventilation

Constant Volume Supply Fan, Chilled Water Coil, OA Enthalpy Reference Economizer, Demand Controlled Ventilation

Constant Volume Supply Fan, Chilled Water Coil, OADB & RADB Temp Comparison Economizer, Demand Controlled Ventilation

Constant Volume Supply Fan, Chilled Water Coil, OA & RA Enthalpy Comparison Economizer, Demand Controlled Ventilation

Constant Volume Supply Fan, Chilled Water Coil, Hot Water Coil

Constant Volume Supply Fan, Chilled Water Coil, Demand Controlled Ventilation, Hot Water Coil

Constant Volume Supply Fan, Chilled Water Coil, OADB Economizer, Hot Water Coil

Constant Volume Supply Fan, Chilled Water Coil, OA Enthalpy Reference Economizer, Hot Water Coil

Constant Volume Supply Fan, Chilled Water Coil, OADB & RADB Temp Comparison Economizer, Hot Water Coil

Constant Volume Supply Fan, Chilled Water Coil, OA & RA Enthalpy Comparison Economizer, Hot Water Coil

Constant Volume Supply Fan, Chilled Water Coil, OADB Economizer, Demand Controlled Ventilation, Hot Water Coil

Constant Volume Supply Fan, Chilled Water Coil, OA Enthalpy Reference Economizer, Demand Controlled Ventilation, Hot Water Coil

Constant Volume Supply Fan, Chilled Water Coil, OADB & RADB Temp Comparison Economizer, Demand Controlled Ventilation, Hot Water Coil

Constant Volume Supply Fan, Chilled Water Coil, OA & RA Enthalpy Comparison Economizer, Demand Controlled Ventilation, Hot Water Coil

Variable Air Volume Supply Fan, Packaged Terminal Air Conditioning Unit

Variable Air Volume Supply Fan, Packaged DX HVAC Unit

Variable Air Volume Supply Fan, Packaged DX HVAC Unit, Demand Controlled Ventilation

Variable Air Volume Supply Fan, Packaged DX HVAC Unit. OADB Economizer

Variable Air Volume Supply Fan, Packaged DX HVAC Unit, OA Enthalpy Reference Economizer

Variable Air Volume Supply Fan, Packaged DX HVAC Unit, OADB & RADB Temp Comparison Economizer,

Variable Air Volume Supply Fan, Packaged DX HVAC Unit, OA & RA Enthalpy Comparison Economizer

Variable Air Volume Supply Fan, Packaged DX HVAC Unit. OADB Economizer, Demand Controlled Ventilation

Variable Air Volume Supply Fan, Packaged DX HVAC Unit, OA Enthalpy Reference Economizer, Demand Controlled Ventilation

Variable Air Volume Supply Fan, Packaged DX HVAC Unit, OADB & RADB Temp Comparison Economizer, Demand Controlled Ventilation

Variable Air Volume Supply Fan, Packaged DX HVAC Unit, OA & RA Enthalpy Comparison Economizer, Demand Controlled Ventilation

Variable Air Volume Supply Fan, Packaged DX HVAC Unit, Gas Fired Heat

Variable Air Volume Supply Fan, Packaged DX HVAC Unit, Demand Controlled Ventilation, Gas Fired Heat

Variable Air Volume Supply Fan, Packaged DX HVAC Unit. OADB Economizer, Gas Fired Heat

Variable Air Volume Supply Fan, Packaged DX HVAC Unit, OA Enthalpy Reference Economizer, Gas Fired Heat

Variable Air Volume Supply Fan, Packaged DX HVAC Unit, OADB & RADB Temp Comparison Economizer, Gas Fired Heat

Variable Air Volume Supply Fan, Packaged DX HVAC Unit, OA & RA Enthalpy Comparison Economizer, Gas Fired Heat

Variable Air Volume Supply Fan, Packaged DX HVAC Unit. OADB Economizer, Demand Controlled Ventilation, Gas Fired Heat

Variable Air Volume Supply Fan, Packaged DX HVAC Unit, OA Enthalpy Reference Economizer, Demand Controlled Ventilation, Gas Fired Heat

Variable Air Volume Supply Fan, Packaged DX HVAC Unit, OADB & RADB Temp Comparison Economizer, Demand Controlled Ventilation, Gas Fired Heat

Variable Air Volume Supply Fan, Packaged DX HVAC Unit, OA & RA Enthalpy Comparison Economizer, Demand Controlled Ventilation, Gas Fired Heat

Variable Air Volume Supply Fan, Packaged DX HVAC Unit, Electric Heat

Variable Air Volume Supply Fan, Packaged DX HVAC Unit, Demand Controlled Ventilation, Electric Heat

Variable Air Volume Supply Fan, Packaged DX HVAC Unit. OADB Economizer, Demand Controlled Ventilation, Electric Heat

Variable Air Volume Supply Fan, Packaged DX HVAC Unit, OA Enthalpy Reference Economizer, Demand Controlled Ventilation, Electric Heat

Variable Air Volume Supply Fan, Packaged DX HVAC Unit, OADB & RADB Temp Comparison Economizer, Demand Controlled Ventilation, Electric Heat

Variable Air Volume Supply Fan, Packaged DX HVAC Unit, OA & RA Enthalpy Comparison Economizer, Demand Controlled Ventilation, Electric Heat

Variable Air Volume Supply Fan, Packaged DX HVAC Unit. OADB Economizer, Electric Heat

Variable Air Volume Supply Fan, Packaged DX HVAC Unit, OA Enthalpy Reference Economizer, Electric Heat

Variable Air Volume Supply Fan, Packaged DX HVAC Unit, OADB & RADB Temp Comparison Economizer, Electric Heat

Variable Air Volume Supply Fan, Packaged DX HVAC Unit, OA & RA Enthalpy Comparison Economizer, Electric Heat

Variable Air Volume Supply Fan, Packaged DX HVAC Unit, Hot Water Coil

Variable Air Volume Supply Fan, Packaged DX HVAC Unit, Demand Controlled Ventilation, Hot Water Coil

Variable Air Volume Supply Fan, Packaged DX HVAC Unit. OADB Economizer, Demand Controlled Ventilation, Hot Water Coil

Variable Air Volume Supply Fan, Packaged DX HVAC Unit, OA Enthalpy Reference Economizer, Demand Controlled Ventilation, Hot Water Coil

Variable Air Volume Supply Fan, Packaged DX HVAC Unit, OADB & RADB Temp Comparison Economizer, Demand Controlled Ventilation, Hot Water Coil

Variable Air Volume Supply Fan, Packaged DX HVAC Unit, OA & RA Enthalpy Comparison Economizer, Demand Controlled Ventilation, Hot Water Coil

Variable Air Volume Supply Fan, Packaged DX HVAC Unit, OADB Economizer, Hot Water Coil

Variable Air Volume Supply Fan, Packaged DX HVAC Unit, OA Enthalpy Reference Economizer, Hot Water Coil

Variable Air Volume Supply Fan, Packaged DX HVAC Unit, OADB & RADB Temp Comparison Economizer, Hot Water Coil

Variable Air Volume Supply Fan, Packaged DX HVAC Unit, OA & RA Enthalpy Comparison Economizer, Hot Water Coil

Variable Air Volume Supply Fan, Chilled Water Coil

Variable Air Volume Supply Fan, Chilled Water Coil, Demand Controlled Ventilation

Variable Air Volume Supply Fan, Chilled Water Coil, OADB Economizer

Variable Air Volume Supply Fan, Chilled Water Coil, OA Enthalpy Reference Economizer

Variable Air Volume Supply Fan, Chilled Water Coil, OADB & RADB Temp Comparison Economizer,

Variable Air Volume Supply Fan, Chilled Water Coil, OA & RA Enthalpy Comparison Economizer

Variable Air Volume Supply Fan, Chilled Water Coil, OADB Economizer, Demand Controlled Ventilation

Variable Air Volume Supply Fan, Chilled Water Coil, OA Enthalpy Reference Economizer, Demand Controlled Ventilation

Variable Air Volume Supply Fan, Chilled Water Coil, OADB & RADB Temp Comparison Economizer, Demand Controlled Ventilation

Variable Air Volume Supply Fan, Chilled Water Coil, OA & RA Enthalpy Comparison Economizer, Demand Controlled Ventilation

Variable Air Volume Supply Fan, Chilled Water Coil, Hot Water Coil

Variable Air Volume Supply Fan, Chilled Water Coil, Demand Controlled Ventilation, Hot Water Coil

Variable Air Volume Supply Fan, Chilled Water Coil, OADB Economizer, Hot Water Coil

Variable Air Volume Supply Fan, Chilled Water Coil, OA Enthalpy Reference Economizer, Hot Water Coil

Variable Air Volume Supply Fan, Chilled Water Coil, OADB & RADB Temp Comparison Economizer, Hot Water Coil

Variable Air Volume Supply Fan, Chilled Water Coil, OA & RA Enthalpy Comparison Economizer, Hot Water Coil

Variable Air Volume Supply Fan, Chilled Water Coil, OADB Economizer, Demand Controlled Ventilation, Hot Water Coil

Variable Air Volume Supply Fan, Chilled Water Coil, OA Enthalpy Reference Economizer, Demand Controlled Ventilation, Hot Water Coil

Variable Air Volume Supply Fan, Chilled Water Coil, OADB & RADB Temp Comparison Economizer, Demand Controlled Ventilation, Hot Water Coil

Variable Air Volume Supply Fan, Chilled Water Coil, OA & RA Enthalpy Comparison Economizer, Demand Controlled Ventilation, Hot Water Coil

Constant Volume Supply & Return Fan, Packaged DX HVAC Unit

Constant Volume Supply & Return Fan, Packaged DX HVAC Unit, Demand Controlled Ventilation

Constant Volume Supply & Return Fan, Packaged DX HVAC Unit. OADB Economizer

Constant Volume Supply & Return Fan, Packaged DX HVAC Unit, OA Enthalpy Reference Economizer

Constant Volume Supply & Return Fan, Packaged DX HVAC Unit, OADB & RADB Temp Comparison Economizer,

Constant Volume Supply & Return Fan, Packaged DX HVAC Unit, OA & RA Enthalpy Comparison Economizer

Constant Volume Supply & Return Fan, Packaged DX HVAC Unit. OADB Economizer, Demand Controlled Ventilation

Constant Volume Supply & Return Fan, Packaged DX HVAC Unit, OA Enthalpy Reference Economizer, Demand Controlled Ventilation

Constant Volume Supply & Return Fan, Packaged DX HVAC Unit, OADB & RADB Temp Comparison Economizer, Demand Controlled Ventilation

Constant Volume Supply & Return Fan, Packaged DX HVAC Unit, OA & RA Enthalpy Comparison Economizer, Demand Controlled Ventilation

Constant Volume Supply & Return Fan, Packaged DX HVAC Unit. OADB Economizer, Heat Pump

Constant Volume Supply & Return Fan, Packaged DX HVAC Unit, OA Enthalpy Reference Economizer, Heat Pump

Constant Volume Supply & Return Fan, Packaged DX HVAC Unit, OADB & RADB Temp Comparison Economizer, Heat Pump

Constant Volume Supply & Return Fan, Packaged DX HVAC Unit, OA & RA Enthalpy Comparison Economizer, Heat Pump

Constant Volume Supply & Return Fan, Packaged DX HVAC Unit. OADB Economizer, Demand Controlled Ventilation, Heat Pump

Constant Volume Supply & Return Fan, Packaged DX HVAC Unit, OA Enthalpy Reference Economizer, Demand Controlled Ventilation, Heat Pump

Constant Volume Supply & Return Fan, Packaged DX HVAC Unit, OADB & RADB Temp Comparison Economizer, Demand Controlled Ventilation, Heat Pump

Constant Volume Supply & Return Fan, Packaged DX HVAC Unit, OA & RA Enthalpy Comparison Economizer, Demand Controlled Ventilation, Heat Pump

Constant Volume Supply & Return Fan, Packaged DX HVAC Unit, Gas Fired Heat

Constant Volume Supply & Return Fan, Packaged DX HVAC Unit, Demand Controlled Ventilation, Gas Fired Heat

Constant Volume Supply & Return Fan, Packaged DX HVAC Unit. OADB Economizer, Gas Fired Heat

Constant Volume Supply & Return Fan, Packaged DX HVAC Unit, OA Enthalpy Reference Economizer, Gas Fired Heat

Constant Volume Supply & Return Fan, Packaged DX HVAC Unit, OADB & RADB Temp Comparison Economizer, Gas Fired Heat

Constant Volume Supply & Return Fan, Packaged DX HVAC Unit, OA & RA Enthalpy Comparison Economizer, Gas Fired Heat

Constant Volume Supply & Return Fan, Packaged DX HVAC Unit. OADB Economizer, Demand Controlled Ventilation, Gas Fired Heat

Constant Volume Supply & Return Fan, Packaged DX HVAC Unit, OA Enthalpy Reference Economizer, Demand Controlled Ventilation, Gas Fired Heat

Constant Volume Supply & Return Fan, Packaged DX HVAC Unit, OADB & RADB Temp Comparison Economizer, Demand Controlled Ventilation, Gas Fired Heat

Constant Volume Supply & Return Fan, Packaged DX HVAC Unit, OA & RA Enthalpy Comparison Economizer, Demand Controlled Ventilation, Gas Fired Heat

Constant Volume Supply & Return Fan, Packaged DX HVAC Unit, Electric Heat

Constant Volume Supply & Return Fan, Packaged DX HVAC Unit, Demand Controlled Ventilation, Electric Heat

Constant Volume Supply & Return Fan, Packaged DX HVAC Unit. OADB Economizer, Demand Controlled Ventilation, Electric Heat

Constant Volume Supply & Return Fan, Packaged DX HVAC Unit, OA Enthalpy Reference Economizer, Demand Controlled Ventilation, Electric Heat

Constant Volume Supply & Return Fan, Packaged DX HVAC Unit, OADB & RADB Temp Comparison Economizer, Demand Controlled Ventilation, Electric Heat

Constant Volume Supply & Return Fan, Packaged DX HVAC Unit, OA & RA Enthalpy Comparison Economizer, Demand Controlled Ventilation, Electric Heat

Constant Volume Supply & Return Fan, Packaged DX HVAC Unit. OADB Economizer, Electric Heat

Constant Volume Supply & Return Fan, Packaged DX HVAC Unit, OA Enthalpy Reference Economizer, Electric Heat

Constant Volume Supply & Return Fan, Packaged DX HVAC Unit, OADB & RADB Temp Comparison Economizer, Electric Heat

Constant Volume Supply & Return Fan, Packaged DX HVAC Unit, OA & RA Enthalpy Comparison Economizer, Electric Heat

Constant Volume Supply & Return Fan, Packaged DX HVAC Unit, Hot Water Coil

Constant Volume Supply & Return Fan, Packaged DX HVAC Unit, Demand Controlled Ventilation, Hot Water Coil

Constant Volume Supply & Return Fan, Packaged DX HVAC Unit. OADB Economizer, Demand Controlled Ventilation, Hot Water Coil

Constant Volume Supply & Return Fan, Packaged DX HVAC Unit, OA Enthalpy Reference Economizer, Demand Controlled Ventilation, Hot Water Coil

Constant Volume Supply & Return Fan, Packaged DX HVAC Unit, OADB & RADB Temp Comparison Economizer, Demand Controlled Ventilation, Hot Water Coil

Constant Volume Supply & Return Fan, Packaged DX HVAC Unit, OA & RA Enthalpy Comparison Economizer, Demand Controlled Ventilation, Hot Water Coil

Constant Volume Supply & Return Fan, Packaged DX HVAC Unit. OADB Economizer, Hot Water Coil

Constant Volume Supply & Return Fan, Packaged DX HVAC Unit, OA Enthalpy Reference Economizer, Hot Water Coil

Constant Volume Supply & Return Fan, Packaged DX HVAC Unit, OADB & RADB Temp Comparison Economizer, Hot Water Coil

Constant Volume Supply & Return Fan, Packaged DX HVAC Unit, OA & RA Enthalpy Comparison Economizer, Hot Water Coil

Constant Volume Supply & Return Fan, Chilled Water Coil

Constant Volume Supply & Return Fan, Chilled Water Coil, Demand Controlled Ventilation

Constant Volume Supply & Return Fan, Chilled Water Coil, OADB Economizer

Constant Volume Supply & Return Fan, Chilled Water Coil, OA Enthalpy Reference Economizer

Constant Volume Supply & Return Fan, Chilled Water Coil, OADB & RADB Temp Comparison Economizer,

Constant Volume Supply & Return Fan, Chilled Water Coil, OA & RA Enthalpy Comparison Economizer

Constant Volume Supply & Return Fan, Chilled Water Coil, OADB Economizer, Demand Controlled Ventilation

Constant Volume Supply & Return Fan, Chilled Water Coil, OA Enthalpy Reference Economizer, Demand Controlled Ventilation

Constant Volume Supply & Return Fan, Chilled Water Coil, OADB & RADB Temp Comparison Economizer, Demand Controlled Ventilation

Constant Volume Supply & Return Fan, Chilled Water Coil, OA & RA Enthalpy Comparison Economizer, Demand Controlled Ventilation

Constant Volume Supply & Return Fan, Chilled Water Coil, Hot Water Coil

Constant Volume Supply & Return Fan, Chilled Water Coil, Demand Controlled Ventilation, Hot Water Coil

Constant Volume Supply & Return Fan, Chilled Water Coil, OADB Economizer, Hot Water Coil

Constant Volume Supply & Return Fan, Chilled Water Coil, OA Enthalpy Reference Economizer, Hot Water Coil

Constant Volume Supply & Return Fan, Chilled Water Coil, OADB & RADB Temp Comparison Economizer, Hot Water Coil

Constant Volume Supply & Return Fan, Chilled Water Coil, OA & RA Enthalpy Comparison Economizer , Hot Water Coil

Constant Volume Supply & Return Fan, Chilled Water Coil, OADB Economizer, Demand Controlled Ventilation, Hot Water Coil

Constant Volume Supply & Return Fan, Chilled Water Coil, OA Enthalpy Reference Economizer, Demand Controlled Ventilation, Hot Water Coil

Constant Volume Supply & Return Fan, Chilled Water Coil, OADB & RADB Temp Comparison Economizer, Demand Controlled Ventilation, Hot Water Coil

Constant Volume Supply & Return Fan, Chilled Water Coil, OA & RA Enthalpy Comparison Economizer, Demand Controlled Ventilation, Hot Water Coil

Variable Air Volume Supply Fan, Constant Volume Return Fan, Packaged DX HVAC Unit

Variable Air Volume Supply Fan, Constant Volume Return Fan, Packaged DX HVAC Unit, Demand Controlled Ventilation

Variable Air Volume Supply Fan, Constant Volume Return Fan, Packaged DX HVAC Unit. OADB Economizer

Variable Air Volume Supply Fan, Constant Volume Return Fan, Packaged DX HVAC Unit, OA Enthalpy Reference Economizer

Variable Air Volume Supply Fan, Constant Volume Return Fan, Packaged DX HVAC Unit, OADB & RADB Temp Comparison Economizer,

Variable Air Volume Supply Fan, Constant Volume Return Fan, Packaged DX HVAC Unit, OA & RA Enthalpy Comparison Economizer

Variable Air Volume Supply Fan, Constant Volume Return Fan, Packaged DX HVAC Unit. OADB Economizer, Demand Controlled Ventilation

Variable Air Volume Supply Fan, Constant Volume Return Fan, Packaged DX HVAC Unit, OA Enthalpy Reference Economizer, Demand Controlled Ventilation

Variable Air Volume Supply Fan, Constant Volume Return Fan, Packaged DX HVAC Unit, OADB & RADB Temp Comparison Economizer, Demand Controlled Ventilation

Variable Air Volume Supply Fan, Constant Volume Return Fan, Packaged DX HVAC Unit, OA & RA Enthalpy Comparison Economizer, Demand Controlled Ventilation

Variable Air Volume Supply Fan, Constant Volume Return Fan, Packaged DX HVAC Unit. OADB Economizer, Heat Pump

Variable Air Volume Supply Fan, Constant Volume Return Fan, Packaged DX HVAC Unit, OA Enthalpy
Reference Economizer, Heat Pump

Variable Air Volume Supply Fan, Constant Volume Return Fan, Packaged DX HVAC Unit, OADB & RADB Temp
Comparison Economizer, Heat Pump

Variable Air Volume Supply Fan, Constant Volume Return Fan, Packaged DX HVAC Unit, OA & RA Enthalpy
Comparison Economizer, Heat Pump

Variable Air Volume Supply Fan, Constant Volume Return Fan, Packaged DX HVAC Unit. OADB Economizer,
Demand Controlled Ventilation, Heat Pump

Variable Air Volume Supply Fan, Constant Volume Return Fan, Packaged DX HVAC Unit, OA Enthalpy
Reference Economizer, Demand Controlled Ventilation, Heat Pump

Variable Air Volume Supply Fan, Constant Volume Return Fan, Packaged DX HVAC Unit, OADB & RADB Temp
Comparison Economizer, Demand Controlled Ventilation, Heat Pump

Variable Air Volume Supply Fan, Constant Volume Return Fan, Packaged DX HVAC Unit, OA & RA Enthalpy
Comparison Economizer, Demand Controlled Ventilation, Heat Pump

Variable Air Volume Supply Fan, Constant Volume Return Fan, Packaged DX HVAC Unit, Gas Fired Heat

Variable Air Volume Supply Fan, Constant Volume Return Fan, Packaged DX HVAC Unit, Demand Controlled
Ventilation, Gas Fired Heat

Variable Air Volume Supply Fan, Constant Volume Return Fan, Packaged DX HVAC Unit. OADB Economizer,
Gas Fired Heat

Variable Air Volume Supply Fan, Constant Volume Return Fan, Packaged DX HVAC Unit, OA Enthalpy
Reference Economizer, Gas Fired Heat

Variable Air Volume Supply Fan, Constant Volume Return Fan, Packaged DX HVAC Unit, OADB & RADB Temp
Comparison Economizer, Gas Fired Heat

Variable Air Volume Supply Fan, Constant Volume Return Fan, Packaged DX HVAC Unit, OA & RA Enthalpy
Comparison Economizer, Gas Fired Heat

Variable Air Volume Supply Fan, Constant Volume Return Fan, Packaged DX HVAC Unit. OADB Economizer,
Demand Controlled Ventilation, Gas Fired Heat

Variable Air Volume Supply Fan, Constant Volume Return Fan, Packaged DX HVAC Unit, OA Enthalpy
Reference Economizer, Demand Controlled Ventilation, Gas Fired Heat

Variable Air Volume Supply Fan, Constant Volume Return Fan, Packaged DX HVAC Unit, OADB & RADB Temp
Comparison Economizer, Demand Controlled Ventilation, Gas Fired Heat

Variable Air Volume Supply Fan, Constant Volume Return Fan, Packaged DX HVAC Unit, OA & RA Enthalpy
Comparison Economizer, Demand Controlled Ventilation, Gas Fired Heat

Variable Air Volume Supply Fan, Constant Volume Return Fan, Packaged DX HVAC Unit, Electric Heat

Variable Air Volume Supply Fan, Constant Volume Return Fan, Packaged DX HVAC Unit, Demand Controlled Ventilation, Electric Heat

Variable Air Volume Supply Fan, Constant Volume Return Fan, Packaged DX HVAC Unit. OADB Economizer, Demand Controlled Ventilation, Electric Heat

Variable Air Volume Supply Fan, Constant Volume Return Fan, Packaged DX HVAC Unit, OA Enthalpy Reference Economizer, Demand Controlled Ventilation, Electric Heat

Variable Air Volume Supply Fan, Constant Volume Return Fan, Packaged DX HVAC Unit, OADB & RADB Temp Comparison Economizer, Demand Controlled Ventilation, Electric Heat

Variable Air Volume Supply Fan, Constant Volume Return Fan, Packaged DX HVAC Unit, OA & RA Enthalpy Comparison Economizer, Demand Controlled Ventilation, Electric Heat

Variable Air Volume Supply Fan, Constant Volume Return Fan, Packaged DX HVAC Unit. OADB Economizer, Electric Heat

Variable Air Volume Supply Fan, Constant Volume Return Fan, Packaged DX HVAC Unit, OA Enthalpy Reference Economizer, Electric Heat

Variable Air Volume Supply Fan, Constant Volume Return Fan, Packaged DX HVAC Unit, OADB & RADB Temp Comparison Economizer, Electric Heat

Variable Air Volume Supply Fan, Constant Volume Return Fan, Packaged DX HVAC Unit, OA & RA Enthalpy Comparison Economizer, Electric Heat

Variable Air Volume Supply Fan, Constant Volume Return Fan, Packaged DX HVAC Unit, Hot Water Coil

Variable Air Volume Supply Fan, Constant Volume Return Fan, Packaged DX HVAC Unit, Demand Controlled Ventilation, Hot Water Coil

Variable Air Volume Supply Fan, Constant Volume Return Fan, Packaged DX HVAC Unit. OADB Economizer, Demand Controlled Ventilation, Hot Water Coil

Variable Air Volume Supply Fan, Constant Volume Return Fan, Packaged DX HVAC Unit, OA Enthalpy Reference Economizer, Demand Controlled Ventilation, Hot Water Coil

Variable Air Volume Supply Fan, Constant Volume Return Fan, Packaged DX HVAC Unit, OADB & RADB Temp Comparison Economizer, Demand Controlled Ventilation, Hot Water Coil

Variable Air Volume Supply Fan, Constant Volume Return Fan, Packaged DX HVAC Unit, OA & RA Enthalpy Comparison Economizer, Demand Controlled Ventilation, Hot Water Coil

Variable Air Volume Supply Fan, Constant Volume Return Fan, Packaged DX HVAC Unit. OADB Economizer, Hot Water Coil

Variable Air Volume Supply Fan, Constant Volume Return Fan, Packaged DX HVAC Unit, OA Enthalpy Reference Economizer, Hot Water Coil

Variable Air Volume Supply Fan, Constant Volume Return Fan, Packaged DX HVAC Unit, OADB & RADB Temp Comparison Economizer, Hot Water Coil

Variable Air Volume Supply Fan, Constant Volume Return Fan, Packaged DX HVAC Unit, OA & RA Enthalpy Comparison Economizer, Hot Water Coil

Variable Air Volume Supply Fan, Constant Volume Return Fan, Chilled Water Coil

Variable Air Volume Supply Fan, Constant Volume Return Fan, Chilled Water Coil, Demand Controlled Ventilation

Variable Air Volume Supply Fan, Constant Volume Return Fan, Chilled Water Coil, OADB Economizer

Variable Air Volume Supply Fan, Constant Volume Return Fan, Chilled Water Coil, OA Enthalpy Reference Economizer

Variable Air Volume Supply Fan, Constant Volume Return Fan, Chilled Water Coil, OADB & RADB Temp Comparison Economizer,

Variable Air Volume Supply Fan, Constant Volume Return Fan, Chilled Water Coil, OA & RA Enthalpy Comparison Economizer

Variable Air Volume Supply Fan, Constant Volume Return Fan, Chilled Water Coil, OADB Economizer, Demand Controlled Ventilation

Variable Air Volume Supply Fan, Constant Volume Return Fan, Chilled Water Coil, OA Enthalpy Reference Economizer, Demand Controlled Ventilation

Variable Air Volume Supply Fan, Constant Volume Return Fan, Chilled Water Coil, OADB & RADB Temp Comparison Economizer, Demand Controlled Ventilation

Variable Air Volume Supply Fan, Constant Volume Return Fan, Chilled Water Coil, OA & RA Enthalpy Comparison Economizer, Demand Controlled Ventilation

Variable Air Volume Supply Fan, Constant Volume Return Fan, Chilled Water Coil, Hot Water Coil

Variable Air Volume Supply Fan, Constant Volume Return Fan, Chilled Water Coil, Demand Controlled Ventilation, Hot Water Coil

Variable Air Volume Supply Fan, Constant Volume Return Fan, Chilled Water Coil, OADB Economizer, Hot Water Coil

Variable Air Volume Supply Fan, Constant Volume Return Fan, Chilled Water Coil, OA Enthalpy Reference Economizer, Hot Water Coil

Variable Air Volume Supply Fan, Constant Volume Return Fan, Chilled Water Coil, OADB & RADB Temp Comparison Economizer, Hot Water Coil

Variable Air Volume Supply Fan, Constant Volume Return Fan, Chilled Water Coil, OA & RA Enthalpy Comparison Economizer , Hot Water Coil

Variable Air Volume Supply Fan, Constant Volume Return Fan, Chilled Water Coil, OADB Economizer, Demand Controlled Ventilation, Hot Water Coil

Variable Air Volume Supply Fan, Constant Volume Return Fan, Chilled Water Coil, OA Enthalpy Reference Economizer, Demand Controlled Ventilation, Hot Water Coil

Variable Air Volume Supply Fan, Constant Volume Return Fan, Chilled Water Coil, OADB & RADB Temp Comparison Economizer, Demand Controlled Ventilation, Hot Water Coil

Variable Air Volume Supply Fan, Constant Volume Return Fan, Chilled Water Coil, OA & RA Enthalpy Comparison Economizer, Demand Controlled Ventilation, Hot Water Coil

Variable Air Volume Supply & Return Fan, Packaged DX HVAC Unit, Building Static Pressure Return Fan Control

Variable Air Volume Supply & Return Fan, Packaged DX HVAC Unit, Demand Controlled Ventilation, Building Static Pressure Return Fan Control

Variable Air Volume Supply & Return Fan, Packaged DX HVAC Unit. OADB Economizer, Building Static Pressure Return Fan Control

Variable Air Volume Supply & Return Fan, Packaged DX HVAC Unit, OA Enthalpy Reference Economizer, Building Static Pressure Return Fan Control

Variable Air Volume Supply & Return Fan, Packaged DX HVAC Unit, OADB & RADB Temp Comparison Economizer, Building Static Pressure Return Fan Control

Variable Air Volume Supply & Return Fan, Packaged DX HVAC Unit, OA & RA Enthalpy Comparison Economizer, Building Static Pressure Return Fan Control

Variable Air Volume Supply & Return Fan, Packaged DX HVAC Unit. OADB Economizer, Demand Controlled Ventilation, Building Static Pressure Return Fan Control

Variable Air Volume Supply & Return Fan, Packaged DX HVAC Unit, OA Enthalpy Reference Economizer, Demand Controlled Ventilation, Building Static Pressure Return Fan Control

Variable Air Volume Supply & Return Fan, Packaged DX HVAC Unit, OADB & RADB Temp Comparison Economizer, Demand Controlled Ventilation, Building Static Pressure Return Fan Control

Variable Air Volume Supply & Return Fan, Packaged DX HVAC Unit, OA & RA Enthalpy Comparison Economizer, Demand Controlled Ventilation, Building Static Pressure Return Fan Control

Variable Air Volume Supply & Return Fan, Packaged DX HVAC Unit. OADB Economizer, Heat Pump, Building Static Pressure Return Fan Control

Variable Air Volume Supply & Return Fan, Packaged DX HVAC Unit, OA Enthalpy Reference Economizer, Heat Pump, Building Static Pressure Return Fan Control

Variable Air Volume Supply & Return Fan, Packaged DX HVAC Unit, OADB & RADB Temp Comparison Economizer, Heat Pump, Building Static Pressure Return Fan Control

Variable Air Volume Supply & Return Fan, Packaged DX HVAC Unit, OA & RA Enthalpy Comparison Economizer, Heat Pump, Building Static Pressure Return Fan Control

Variable Air Volume Supply & Return Fan, Packaged DX HVAC Unit. OADB Economizer, Demand Controlled Ventilation, Heat Pump, Building Static Pressure Return Fan Control

Variable Air Volume Supply & Return Fan, Packaged DX HVAC Unit, OA Enthalpy Reference Economizer, Demand Controlled Ventilation, Heat Pump, Building Static Pressure Return Fan Control

Variable Air Volume Supply Fan & Return Fan, Packaged DX HVAC Unit, OADB & RADB Temp Comparison Economizer, Demand Controlled Ventilation, Heat Pump, Building Static Pressure Return Fan Control

Variable Air Volume Supply & Return Fan, Packaged DX HVAC Unit, OA & RA Enthalpy Comparison Economizer, Demand Controlled Ventilation, Heat Pump, Building Static Pressure Return Fan Control

Variable Air Volume Supply & Return Fan, Packaged DX HVAC Unit, Gas Fired Heat, Building Static Pressure Return Fan Control

Variable Air Volume Supply & Return Fan, Packaged DX HVAC Unit, Demand Controlled Ventilation, Gas Fired Heat, Building Static Pressure Return Fan Control

Variable Air Volume Supply & Return Fan, Packaged DX HVAC Unit. OADB Economizer, Gas Fired Heat, Building Static Pressure Return Fan Control

Variable Air Volume Supply & Return Fan, Packaged DX HVAC Unit, OA Enthalpy Reference Economizer, Gas Fired Heat, Building Static Pressure Return Fan Control

Variable Air Volume Supply & Return Fan, Packaged DX HVAC Unit, OADB & RADB Temp Comparison Economizer, Gas Fired Heat, Building Static Pressure Return Fan Control

Variable Air Volume Supply & Return Fan, Packaged DX HVAC Unit, OA & RA Enthalpy Comparison Economizer, Gas Fired Heat, Building Static Pressure Return Fan Control

Variable Air Volume Supply & Return Fan, Packaged DX HVAC Unit. OADB Economizer, Demand Controlled Ventilation, Gas Fired Heat, Building Static Pressure Return Fan Control

Variable Air Volume Supply & Return Fan, Packaged DX HVAC Unit, OA Enthalpy Reference Economizer, Demand Controlled Ventilation, Gas Fired Heat, Building Static Pressure Return Fan Control

Variable Air Volume Supply & Return Fan, Packaged DX HVAC Unit, OADB & RADB Temp Comparison Economizer, Demand Controlled Ventilation, Gas Fired Heat, Building Static Pressure Return Fan Control

Variable Air Volume Supply & Return Fan, Packaged DX HVAC Unit, OA & RA Enthalpy Comparison Economizer, Demand Controlled Ventilation, Gas Fired Heat, Building Static Pressure Return Fan Control

Variable Air Volume Supply & Return Fan, Packaged DX HVAC Unit, Electric Heat, Building Static Pressure Return Fan Control

Variable Air Volume Supply & Return Fan, Packaged DX HVAC Unit, Demand Controlled Ventilation, Electric Heat, Building Static Pressure Return Fan Control

Variable Air Volume Supply & Return Fan, Packaged DX HVAC Unit. OADB Economizer, Demand Controlled Ventilation, Electric Heat, Building Static Pressure Return Fan Control

Variable Air Volume Supply & Return Fan, Packaged DX HVAC Unit, OA Enthalpy Reference Economizer, Demand Controlled Ventilation, Electric Heat, Building Static Pressure Return Fan Control

Variable Air Volume Supply & Return Fan, Packaged DX HVAC Unit, OADB & RADB Temp Comparison Economizer, Demand Controlled Ventilation, Electric Heat, Building Static Pressure Return Fan Control

Variable Air Volume Supply & Return Fan, Packaged DX HVAC Unit, OA & RA Enthalpy Comparison Economizer, Demand Controlled Ventilation, Electric Heat, Building Static Pressure Return Fan Control

Variable Air Volume Supply & Return Fan, Packaged DX HVAC Unit, OADB Economizer, Electric Heat, Building Static Pressure Return Fan Control

Variable Air Volume Supply & Return Fan, Packaged DX HVAC Unit, OA Enthalpy Reference Economizer, Electric Heat, Building Static Pressure Return Fan Control

Variable Air Volume Supply & Return Fan, Packaged DX HVAC Unit, OADB & RADB Temp Comparison Economizer, Electric Heat, Building Static Pressure Return Fan Control

Variable Air Volume Supply & Return Fan, Packaged DX HVAC Unit, OA & RA Enthalpy Comparison Economizer, Electric Heat, Building Static Pressure Return Fan Control

Variable Air Volume Supply & Return Fan, Packaged DX HVAC Unit, Hot Water Coil, Building Static Pressure Return Fan Control

Variable Air Volume Supply & Return Fan, Packaged DX HVAC Unit, Demand Controlled Ventilation, Hot Water Coil, Building Static Pressure Return Fan Control

Variable Air Volume Supply & Return Fan, Packaged DX HVAC Unit, OADB Economizer, Demand Controlled Ventilation, Hot Water Coil, Building Static Pressure Return Fan Control

Variable Air Volume Supply & Return Fan, Packaged DX HVAC Unit, OA Enthalpy Reference Economizer, Demand Controlled Ventilation, Hot Water Coil, Building Static Pressure Return Fan Control

Variable Air Volume Supply & Return Fan, Packaged DX HVAC Unit, OADB & RADB Temp Comparison Economizer, Demand Controlled Ventilation, Hot Water Coil, Building Static Pressure Return Fan Control

Variable Air Volume Supply & Return Fan, Packaged DX HVAC Unit, OA & RA Enthalpy Comparison Economizer, Demand Controlled Ventilation, Hot Water Coil, Building Static Pressure Return Fan Control

Variable Air Volume Supply & Return Fan, Packaged DX HVAC Unit, OADB Economizer, Hot Water Coil, Building Static Pressure Return Fan Control

Variable Air Volume Supply & Return Fan, Packaged DX HVAC Unit, OA Enthalpy Reference Economizer, Hot Water Coil, Building Static Pressure Return Fan Control

Variable Air Volume Supply & Return Fan, Packaged DX HVAC Unit, OADB & RADB Temp Comparison Economizer, Hot Water Coil, Building Static Pressure Return Fan Control

Variable Air Volume Supply & Return Fan, Packaged DX HVAC Unit, OA & RA Enthalpy Comparison Economizer, Hot Water Coil, Building Static Pressure Return Fan Control

Variable Air Volume Supply & Return Fan, Chilled Water Coil, Building Static Pressure Return Fan Control

Variable Air Volume Supply & Return Fan, Chilled Water Coil, Demand Controlled Ventilation, Building Static Pressure Return Fan Control

Variable Air Volume Supply & Return Fan, Chilled Water Coil, OADB Economizer, Building Static Pressure Return Fan Control

Variable Air Volume Supply & Return Fan, Chilled Water Coil, OA Enthalpy Reference Economizer, Building Static Pressure Return Fan Control

Variable Air Volume Supply & Return Fan, Chilled Water Coil, OADB & RADB Temp Comparison Economizer, Building Static Pressure Return Fan Control

Variable Air Volume Supply & Return Fan, Chilled Water Coil, OA & RA Enthalpy Comparison Economizer , Building Static Pressure Return Fan Control

Variable Air Volume Supply & Return Fan, Chilled Water Coil, OADB Economizer, Demand Controlled Ventilation, Building Static Pressure Return Fan Control

Variable Air Volume Supply & Return Fan, Chilled Water Coil, OA Enthalpy Reference Economizer, Demand Controlled Ventilation, Building Static Pressure Return Fan Control

Variable Air Volume Supply & Return Fan, Chilled Water Coil, OADB & RADB Temp Comparison Economizer, Demand Controlled Ventilation, Building Static Pressure Return Fan Control

Variable Air Volume Supply & Return Fan, Chilled Water Coil, OA & RA Enthalpy Comparison Economizer, Demand Controlled Ventilation, Building Static Pressure Return Fan Control

Variable Air Volume Supply & Return Fan, Chilled Water Coil, Hot Water Coil, Building Static Pressure Return Fan Control

Variable Air Volume Supply & Return Fan, Chilled Water Coil, Demand Controlled Ventilation, Hot Water Coil, Building Static Pressure Return Fan Control

Variable Air Volume Supply & Return Fan, Chilled Water Coil, OADB Economizer, Hot Water Coil, Building Static Pressure Return Fan Control

Variable Air Volume Supply & Return Fan, Chilled Water Coil, OA Enthalpy Reference Economizer, Hot Water Coil, Building Static Pressure Return Fan Control

Variable Air Volume Supply & Return Fan, Chilled Water Coil, OADB & RADB Temp Comparison Economizer, Hot Water Coil, Building Static Pressure Return Fan Control

Variable Air Volume Supply & Return Fan, Chilled Water Coil, OA & RA Enthalpy Comparison Economizer, Hot Water Coil, Building Static Pressure Return Fan Control

Variable Air Volume Supply & Return Fan, Chilled Water Coil, OADB Economizer, Demand Controlled Ventilation, Hot Water Coil, Building Static Pressure Return Fan Control

Variable Air Volume Supply & Return Fan, Chilled Water Coil, OA Enthalpy Reference Economizer, Demand Controlled Ventilation, Hot Water Coil, Building Static Pressure Return Fan Control

Variable Air Volume Supply & Return Fan, Chilled Water Coil, OADB & RADB Temp Comparison Economizer, Demand Controlled Ventilation, Hot Water Coil, Building Static Pressure Return Fan Control

Variable Air Volume Supply & Return Fan, Chilled Water Coil, OA & RA Enthalpy Comparison Economizer, Demand Controlled Ventilation, Hot Water Coil, Building Static Pressure Return Fan Control

Variable Air Volume Supply & Return Fan, Packaged DX HVAC Unit, Volumetric Tracking Return Fan Control

Variable Air Volume Supply & Return Fan, Packaged DX HVAC Unit, Demand Controlled Ventilation, Volumetric Tracking Return Fan Control

Variable Air Volume Supply & Return Fan, Packaged DX HVAC Unit. OADB Economizer, Volumetric Tracking Return Fan Control

Variable Air Volume Supply & Return Fan, Packaged DX HVAC Unit, OA Enthalpy Reference Economizer, Volumetric Tracking Return Fan Control

Variable Air Volume Supply & Return Fan, Packaged DX HVAC Unit, OADB & RADB Temp Comparison Economizer, Volumetric Tracking Return Fan Control

Variable Air Volume Supply & Return Fan, Packaged DX HVAC Unit, OA & RA Enthalpy Comparison Economizer, Volumetric Tracking Return Fan Control

Variable Air Volume Supply & Return Fan, Packaged DX HVAC Unit. OADB Economizer, Demand Controlled Ventilation, Volumetric Tracking Return Fan Control

Variable Air Volume Supply & Return Fan, Packaged DX HVAC Unit, OA Enthalpy Reference Economizer, Demand Controlled Ventilation, Volumetric Tracking Return Fan Control

Variable Air Volume Supply & Return Fan, Packaged DX HVAC Unit, OADB & RADB Temp Comparison Economizer, Demand Controlled Ventilation, Volumetric Tracking Return Fan Control

Variable Air Volume Supply & Return Fan, Packaged DX HVAC Unit, OA & RA Enthalpy Comparison Economizer, Demand Controlled Ventilation, Volumetric Tracking Return Fan Control

Variable Air Volume Supply & Return Fan, Packaged DX HVAC Unit. OADB Economizer, Heat Pump, Volumetric Tracking Return Fan Control

Variable Air Volume Supply & Return Fan, Packaged DX HVAC Unit, OA Enthalpy Reference Economizer, Heat Pump, Volumetric Tracking Return Fan Control

Variable Air Volume Supply & Return Fan, Packaged DX HVAC Unit, OADB & RADB Temp Comparison Economizer, Heat Pump, Volumetric Tracking Return Fan Control

Variable Air Volume Supply & Return Fan, Packaged DX HVAC Unit, OA & RA Enthalpy Comparison Economizer, Heat Pump, Volumetric Tracking Return Fan Control

Variable Air Volume Supply & Return Fan, Packaged DX HVAC Unit. OADB Economizer, Demand Controlled Ventilation, Heat Pump, Volumetric Tracking Return Fan Control

Variable Air Volume Supply & Return Fan, Packaged DX HVAC Unit, OA Enthalpy Reference Economizer, Demand Controlled Ventilation, Heat Pump, Volumetric Tracking Return Fan Control

Variable Air Volume Supply Fan & Return Fan, Packaged DX HVAC Unit, OADB & RADB Temp Comparison Economizer, Demand Controlled Ventilation, Heat Pump, Volumetric Tracking Return Fan Control

Variable Air Volume Supply & Return Fan, Packaged DX HVAC Unit, OA & RA Enthalpy Comparison Economizer, Demand Controlled Ventilation, Heat Pump, Volumetric Tracking Return Fan Control

Variable Air Volume Supply & Return Fan, Packaged DX HVAC Unit, Gas Fired Heat, Volumetric Tracking Return Fan Control

Variable Air Volume Supply & Return Fan, Packaged DX HVAC Unit, Demand Controlled Ventilation, Gas Fired Heat, Volumetric Tracking Return Fan Control

Variable Air Volume Supply & Return Fan, Packaged DX HVAC Unit. OADB Economizer, Gas Fired Heat, Volumetric Tracking Return Fan Control

Variable Air Volume Supply & Return Fan, Packaged DX HVAC Unit, OA Enthalpy Reference Economizer, Gas Fired Heat, Volumetric Tracking Return Fan Control

Variable Air Volume Supply & Return Fan, Packaged DX HVAC Unit, OADB & RADB Temp Comparison Economizer, Gas Fired Heat, Volumetric Tracking Return Fan Control

Variable Air Volume Supply & Return Fan, Packaged DX HVAC Unit, OA & RA Enthalpy Comparison Economizer, Gas Fired Heat, Volumetric Tracking Return Fan Control

Variable Air Volume Supply & Return Fan, Packaged DX HVAC Unit. OADB Economizer, Demand Controlled Ventilation, Gas Fired Heat, Volumetric Tracking Return Fan Control

Variable Air Volume Supply & Return Fan, Packaged DX HVAC Unit, OA Enthalpy Reference Economizer, Demand Controlled Ventilation, Gas Fired Heat

Variable Air Volume Supply & Return Fan, Packaged DX HVAC Unit, OADB & RADB Temp Comparison Economizer, Demand Controlled Ventilation, Gas Fired Heat, Volumetric Tracking Return Fan Control

Variable Air Volume Supply & Return Fan, Packaged DX HVAC Unit, OA & RA Enthalpy Comparison Economizer, Demand Controlled Ventilation, Gas Fired Heat, Volumetric Tracking Return Fan Control

Variable Air Volume Supply & Return Fan, Packaged DX HVAC Unit, Electric Heat, Volumetric Tracking Return Fan Control

Variable Air Volume Supply & Return Fan, Packaged DX HVAC Unit, Demand Controlled Ventilation, Electric Heat, Volumetric Tracking Return Fan Control

Variable Air Volume Supply & Return Fan, Packaged DX HVAC Unit. OADB Economizer, Demand Controlled Ventilation, Electric Heat, Volumetric Tracking Return Fan Control

Variable Air Volume Supply & Return Fan, Packaged DX HVAC Unit, OA Enthalpy Reference Economizer, Demand Controlled Ventilation, Electric Heat, Volumetric Tracking Return Fan Control

Variable Air Volume Supply & Return Fan, Packaged DX HVAC Unit, OADB & RADB Temp Comparison Economizer, Demand Controlled Ventilation, Volumetric Tracking Return Fan Control Electric Heat

Variable Air Volume Supply & Return Fan, Packaged DX HVAC Unit, OA & RA Enthalpy Comparison Economizer, Demand Controlled Ventilation, Electric Heat, Volumetric Tracking Return Fan Control

Variable Air Volume Supply & Return Fan, Packaged DX HVAC Unit. OADB Economizer, Electric Heat, Volumetric Tracking Return Fan Control

Variable Air Volume Supply & Return Fan, Packaged DX HVAC Unit, OA Enthalpy Reference Economizer, Electric Heat, Volumetric Tracking Return Fan Control

Variable Air Volume Supply & Return Fan, Packaged DX HVAC Unit, OADB & RADB Temp Comparison Economizer, Electric Heat, Volumetric Tracking Return Fan Control

Variable Air Volume Supply & Return Fan, Packaged DX HVAC Unit, OA & RA Enthalpy Comparison Economizer, Electric Heat, Volumetric Tracking Return Fan Control

Variable Air Volume Supply & Return Fan, Packaged DX HVAC Unit, Hot Water Coil, Volumetric Tracking Return Fan Control

Variable Air Volume Supply & Return Fan, Packaged DX HVAC Unit, Demand Controlled Ventilation, Hot Water Coil , Volumetric Tracking Return Fan Control

Variable Air Volume Supply & Return Fan, Packaged DX HVAC Unit. OADB Economizer, Demand Controlled Ventilation, Hot Water Coil, Volumetric Tracking Return Fan Control

Variable Air Volume Supply & Return Fan, Packaged DX HVAC Unit, OA Enthalpy Reference Economizer, Demand Controlled Ventilation, Hot Water Coil, Volumetric Tracking Return Fan Control

Variable Air Volume Supply & Return Fan, Packaged DX HVAC Unit, OADB & RADB Temp Comparison Economizer, Demand Controlled Ventilation, Hot Water Coil, Volumetric Tracking Return Fan Control

Variable Air Volume Supply & Return Fan, Packaged DX HVAC Unit, OA & RA Enthalpy Comparison Economizer, Demand Controlled Ventilation, Hot Water Coil, Volumetric Tracking Return Fan Control

Variable Air Volume Supply & Return Fan, Packaged DX HVAC Unit. OADB Economizer, Hot Water Coil, Volumetric Tracking Return Fan Control

Variable Air Volume Supply & Return Fan, Packaged DX HVAC Unit, OA Enthalpy Reference Economizer, Hot Water Coil, Volumetric Tracking Return Fan Control

Variable Air Volume Supply & Return Fan, Packaged DX HVAC Unit, OADB & RADB Temp Comparison Economizer, Hot Water Coil, Volumetric Tracking Return Fan Control

Variable Air Volume Supply & Return Fan, Packaged DX HVAC Unit, OA & RA Enthalpy Comparison Economizer, Hot Water Coil, Volumetric Tracking Return Fan Control

Variable Air Volume Supply & Return Fan, Chilled Water Coil, Volumetric Tracking Return Fan Control

Variable Air Volume Supply & Return Fan, Chilled Water Coil, Demand Controlled Ventilation, Volumetric Tracking Return Fan Control

Variable Air Volume Supply & Return Fan, Chilled Water Coil, OADB Economizer, Volumetric Tracking Return Fan Control

Variable Air Volume Supply & Return Fan, Chilled Water Coil, OA Enthalpy Reference Economizer, Volumetric Tracking Return Fan Control

Variable Air Volume Supply & Return Fan, Chilled Water Coil, OADB & RADB Temp Comparison Economizer, Volumetric Tracking Return Fan Control

Variable Air Volume Supply & Return Fan, Chilled Water Coil, OA & RA Enthalpy Comparison Economizer, Volumetric Tracking Return Fan Control

Variable Air Volume Supply & Return Fan, Chilled Water Coil, OADB Economizer, Demand Controlled Ventilation, Volumetric Tracking Return Fan Control

Variable Air Volume Supply & Return Fan, Chilled Water Coil, OA Enthalpy Reference Economizer, Demand Controlled Ventilation, Volumetric Tracking Return Fan Control

Variable Air Volume Supply & Return Fan, Chilled Water Coil, OADB & RADB Temp Comparison Economizer, Demand Controlled Ventilation, Volumetric Tracking Return Fan Control

Variable Air Volume Supply & Return Fan, Chilled Water Coil, OA & RA Enthalpy Comparison Economizer, Demand Controlled Ventilation, Volumetric Tracking Return Fan Control

Variable Air Volume Supply & Return Fan, Chilled Water Coil, Hot Water Coil, Volumetric Tracking Return Fan Control

Variable Air Volume Supply & Return Fan, Chilled Water Coil, Demand Controlled Ventilation, Hot Water Coil, Volumetric Tracking Return Fan Control

Variable Air Volume Supply & Return Fan, Chilled Water Coil, OADB Economizer, Hot Water Coil, Volumetric Tracking Return Fan Control

Variable Air Volume Supply & Return Fan, Chilled Water Coil, OA Enthalpy Reference Economizer, Hot Water Coil, Volumetric Tracking Return Fan Control

Variable Air Volume Supply & Return Fan, Chilled Water Coil, OADB & RADB Temp Comparison Economizer, Hot Water Coil, Volumetric Tracking Return Fan Control

Variable Air Volume Supply & Return Fan, Chilled Water Coil, OA & RA Enthalpy Comparison Economizer , Hot Water Coil, Volumetric Tracking Return Fan Control

Variable Air Volume Supply & Return Fan, Chilled Water Coil, OADB Economizer, Demand Controlled Ventilation, Hot Water Coil, Volumetric Tracking Return Fan Control

Variable Air Volume Supply & Return Fan, Chilled Water Coil, OA Enthalpy Reference Economizer, Demand Controlled Ventilation, Hot Water Coil, Volumetric Tracking Return Fan Control

Variable Air Volume Supply & Return Fan, Chilled Water Coil, OADB & RADB Temp Comparison Economizer, Demand Controlled Ventilation, Hot Water Coil, Volumetric Tracking Return Fan Control

Variable Air Volume Supply & Return Fan, Chilled Water Coil, OA & RA Enthalpy Comparison Economizer, Demand Controlled Ventilation, Hot Water Coil, Volumetric Tracking Return Fan Control

Constant Volume Supply Fan, Fan Coil Unit – Chilled Water Coil

Constant Volume Supply Fan, Fan Coil Unit – Chilled Water Coil, Hot Water Coil

Constant Volume Supply Fan, Fan Coil Unit – Chilled Water Coil, Electric Heat Coil

Constant Volume Supply Fan, Evaporative Cooling

Constant Volume Supply Fan, Gas Fired Heat

Constant Volume Supply Fan, Gas Fired Furnace

Constant Volume Supply Fan, Electric Heat Coil

Constant Volume Gas Unit Heater

Constant Volume Electric Unit Heater

Hot Water Baseboard Heater

Electric Baseboard Heater

Variable Air Volume Terminal Unit – Cooling Only

Variable Air Volume Terminal Unit – Hot Water Reheat

Variable Air Volume Terminal Unit – Electric Reheat

General Exhaust Fan, Manual Switch Control

General Exhaust Fan, Interlocked

General Exhaust Fan, Scheduled

Toilet Exhaust Fan, Manual Switch Control

Toilet Exhaust Fan, Interlocked

Toilet Exhaust Fan, Scheduled

Kitchen Exhaust Fan, Manual Switch Control

Kitchen Exhaust Fan, Interlocked

Kitchen Exhaust Fan, Scheduled

Specialty Exhaust Fan, Manual Switch Control

Specialty Exhaust Fan, Interlocked

Specialty Exhaust Fan, Scheduled

Natural Gas Fired Hot Water Boiler

Propane Fired Hot Water Boiler

Electric Hot Water Boiler

Air Cooled Chilled Water System, Primary Variable Flow

Air Cooled Chilled Water System, Primary/Secondary Variable Flow

Domestic Hot Water System

Natural Gas Conventional Hot Water Heater

Natural Gas Conventional Hot Water Heater, Timer/Schedule

Natural Gas Conventional Hot Water Heater, Thermostat

Propane Conventional Hot Water Heater

Propane Conventional Hot Water Heater, Timer/Schedule

Propane Conventional Hot Water Heater, Thermostat

Electric Conventional Hot Water Heater

Electric Conventional Hot Water Heater, Timer/Schedule

Electric Conventional Hot Water Heater, Thermostat

Tankless Hot Water Heater

Point-of-Use Hot Water Heater

Indoor Lighting Systems

Fluorescent, Manual Control

Fluorescent, Occupancy Sensor

Fluorescent, Time Clock/Lighting Control Panel

Fluorescent, Daylight Dimming

Incandescent, Manual Control

Incandescent, Occupancy Sensor

Incandescent, Time Clock/Lighting Control Panel

Incandescent, Daylight Dimming

High Intensity Discharge, Manual Control

High Intensity Discharge, Occupancy Sensor

High Intensity Discharge, Time Clock/Lighting Control Panel

High Intensity Discharge, Daylight Dimming

LED, Manual Control

LED, Occupancy Sensor

LED, Time Clock/Lighting Control Panel

LED, Daylight Dimming

Specialty, Manual Control

Specialty, Occupancy Sensor

Specialty, Time Clock/Lighting Control Panel

Specialty, Daylight Dimming