TRANE®

Operations Guide

Tracer AdaptiView™ Display

for Water-Cooled CenTraVac™ Chillers

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Introduction

The Tracer AdaptiView™ display provides a means for viewing data and for making operational changes on the following types of chillers:

- CenTraVac™ chiller models CVHE, CVHF, CVHG
- CenTraVac Duplex chiller models CDHF, CDHG

The purpose of this guide is to assist you in using the Tracer AdaptiView display. The guide describes how to access the screens and the types of information that appear on the screens.

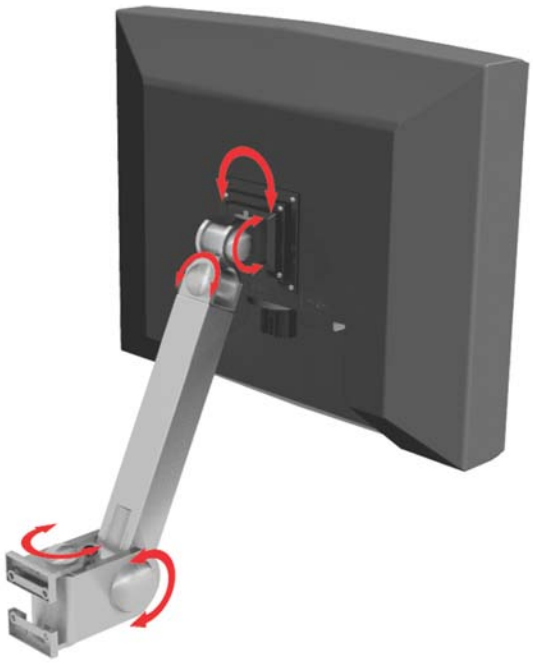
Equipment Description

The basic equipment features of the Tracer AdaptiView display are described here.

Hardware

The Tracer AdaptiView display is mounted on or near the chiller control panel. It can be attached to the chiller by an arm that can extend 11 inches. Five pivot points enable full articulation as described in the following specifications and in the illustration:

- Two horizontal pivots points 90° right or left (180° total)
- Two vertical pivots points: 90° degrees up or down (180° total)
- Rotation: 135° clockwise and 135° counterclockwise (270° total)



Screen characteristics

The 12.1-inch VGA touch-sensitive color screen displays data in either inches and pounds (IP) or standard international (SI) units, and in one of twenty-four available languages. Animated color graphics indicate the status of the chiller and its components.

AC power

The Tracer AdaptiView display receives AC power through its power cable, which is connected to the Tracer UC800 controller. The Tracer UC800 controller must be powered On.

Communication

A separate cable provides communication between the Tracer AdaptiView display and the Tracer UC800 controller. Alarms are communicated immediately upon detection.

Touchscreen Guidelines

The touch screen registers the downward pressure of a touch. Light, quick, yet deliberate presses are most effective. Touching with more pressure has no effect.

Recommended tools to use: finger, thumb, pencil eraser. Do not use a pen or pencil point, or any other sharp or pointed object that might scratch the screen surface.

If you apply and hold pressure at more than one point, the touch screen registers only the first touch. For example, if you press a finger on an area of the screen that is not touch sensitive, pressing a sensitive area with another finger will not register.

Holding on to the screen with your hand can cause unintended navigation, such as from thumb or palm pressure.

Reference Sources

Additional information on CenTraVac chillers with AdaptiView control can be found in these documents:

- *CVHE, CVHF, CVHG Water-Cooled CenTraVac™ Chillers with Tracer AdaptiView™ Control Installation, Operation, and Maintenance Guide* (CVHE-SVX02A-EN)
- *CDHF, CDHG Water-Cooled CenTraVac™ Chillers with Tracer AdaptiView™ Control* Installation, Operation, and Maintenance Guide (CDHF-SVX01A-EN)
- *EarthWise™ Purge System with Tracer AdaptiView™ Control Operation and Maintenance Guide* (PRGD-SVX01A-EN)
- *Diagnostics Descriptions, Troubleshooting Tables, and Control Component Overview for Water-Cooled CenTraVac™ Chillers with Tracer AdaptiView™ Control* (CTV-SVD03A-EN)
- *Tracer™ TU Service Tool Programming Guide for Water-Cooled CenTraVac™ Chillers with Tracer AdaptiView™ Control* (CTV-SVP02A-EN)
- *Tracer™ TU Service Tool Getting Started Guide* (TTU-SVN01A-EN)

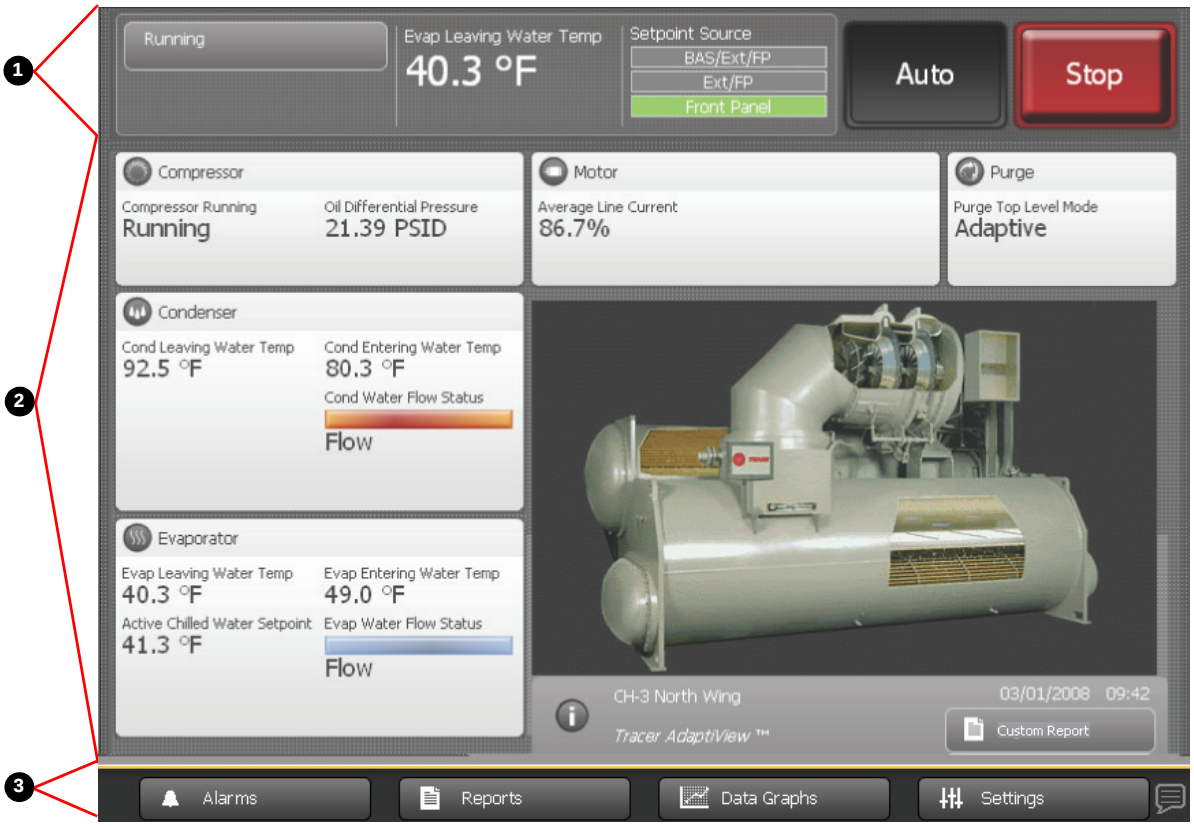
Screen Overview

The touch-sensitive areas of the Tracer AdaptiView display screen are described in detail in this section.

In Figure 1, three areas are identified, which correspond to the following subsections:

1. "Chiller Status Area," p. 8
2. "Main Display Area/Home Screen," p. 9. This area is different between the CVHE, CVHF, CVHG chiller models and the Duplex CDHF and CDHG chiller models. Table 2, p. 9 describes the differences.
3. "Main Menu Area," p. 15

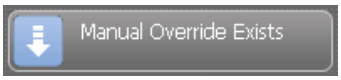
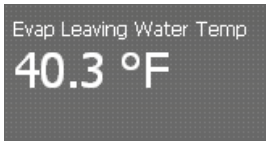
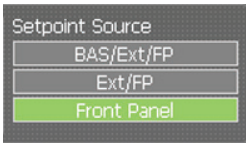
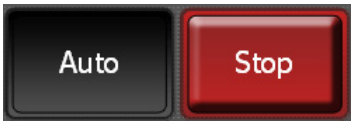
Figure 1. Tracer AdaptiView display (Home screen for CVHE, CVHF, and CVHG chillers is shown)



Chiller Status Area

The chiller status area (shown as location ❶ in Figure 1, p. 7) remains visible from every screen on the Tracer AdaptiView display. Basic information about chiller status and control appears on the face of the buttons and touch targets. When touched, the buttons and touch targets open other screens that provide more information and control access. Table 1 provides the details.

Table 1. Chiller status area

Button / Touch target	Description
Chiller status button 	The top-level operating mode of the chiller appears on the chiller status button. Touch this button to view the Chiller Operating Mode screen. **Note:** For more information, see "Reports," p. 21.
Alarm indicator button 	If an active alarm exists, the alarm indicator button appears with the alarm severity indicated on it. If there is more than one alarm, the most severe appears. You can touch this button as an alternate way to view the Alarms screen. **Note:** For more information, see "Alarms," p. 18.
Manual override button 	If a manual override exists but no active alarm exists, a manual override button appears in the same location as the alarm indicator button. If neither an alarm nor a manual override exist, no button appears. If a manual override exists, you can touch this button as an alternate way to view the Manual Control Settings screen. **Note:** For more information, see "Manual Control Settings," p. 49.
Water temperature touch target 	The water temperature touch target shows one of the following, depending on whether the chiller is in heating or cooling mode (also referred to as the Active Control Type): • If the Active Control Type is chilled water, the Evaporator Leaving Water Temperature appears and the touch target links to the evaporator component screen. • If the Active Control type is hot water, the Condenser Leaving Water Temperature, and the touch target links to the condenser component screen. **Note:** For more information on the evaporator and condenser component screens, see "Component Screens," p. 13.
Setpoint source touch target 	The current setpoint source is highlighted in green on the setpoint source touch target. Touch this target to view the Setpoint Source screen, where you can change the setpoint source. **Note:** For more information, see "Changing the Setpoint Source," p. 45.
Auto/Stop buttons 	**Auto** and **Stop** are toggle buttons: One appears raised when the other is appears depressed. • Touch **Auto** to activate the chiller startup process. • Touch **Stop** to active the chiller shutdown process. **Note:** For more information, see "Stopping/Restarting Chiller Operation," p. 16.

Main Display Area/Home Screen

All screens appear within the main display area (shown as location ❷ in Figure 1, p. 7).

Home screen: Chiller status information

The home screen (Figure 1, p. 7) provides the most frequently needed chiller status information on "touch targets" (the entire white rectangular areas) for each chiller component. Touching any touch target displays a screen containing more chiller status information related to each component (see "Component Screens," p. 13).

Each touch targets that appears on the home screen is described in Table 2, including those for CVHE, CVHF, CVHG chillers, and those for Duplex CDHF and CDHG chillers.

In the lower right corner of the home screen, you can view the date and time as well as additional chiller information. For details, see the last three rows of Table 2.

Table 2. Home screen touch targets and buttons

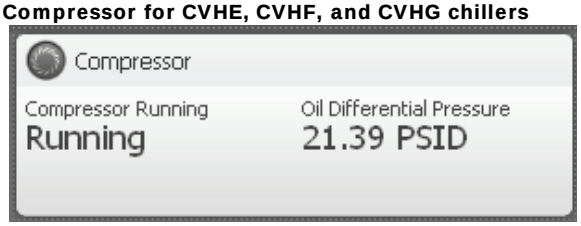
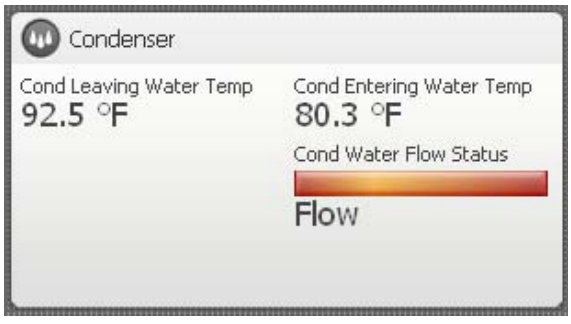
Touch target	Description
Compressor for CVHE, CVHF, and CVHG chillers 	This compressor touch target chiller provides information on: • Compressor Running Status • Differential Oil Pressure Touch anywhere on the touch target to view the Compressor component screen.
Compressor for Duplex CDHF and CDHG chillers 	This compressor touch target provides information on: • Compressor Running Status Ckt1 • Compressor Running Status Ckt2 Touch anywhere on the Ckt1 side of the touch target to view the Circuit 1 Compressor component screen. Touch anywhere on the Ckt2 side of the tough target to view the Circuit 2 Compressor component screen.
Condenser for all chiller models 	This condenser touch target provides information on: • Condenser leaving water temperature • Condenser entering water temperature • Active hot water setpoint (if hot water control is available) • Condenser water flow (animation in graphic indicates if condenser is running) Touch anywhere on the touch target to view the Condenser component screen.

Table 2. Home screen touch targets and buttons (continued)

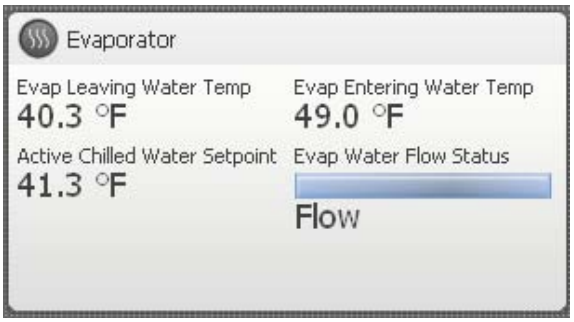
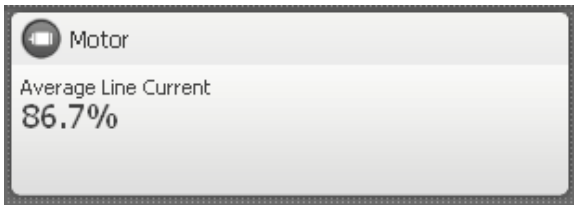
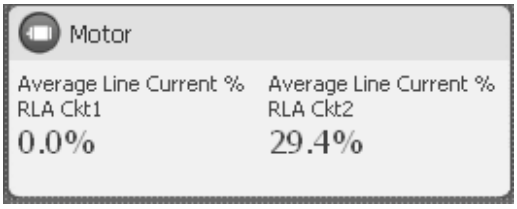
Touch target	Description
Evaporator for all chiller models 	The evaporator touch target provides information on: • Evaporator leaving water temperature • Evaporator entering water temperature • Active chilled water setpoint (if chilled water control is available) • Evaporator water flow (animation in graphic indicates if evaporator is running) Touch anywhere on the touch target to view the Evaporator component screen.
Motor for CVHE, CVHF, and CVHG chillers 	The motor touch target provides information on: • Average line current • Frequency (if adjustable-frequency drive is configured) Touch anywhere on the touch target to view the Motor component screen.
Motor for Duplex CDHF and CDHG chillers 	The motor touch target provides information on: • Average line current Ckt1 • Average line current Ckt2 Touch anywhere on the Ckt1 side of the touch target to view the Circuit 1 Motor component screen. Touch anywhere on the Ckt2 side of the tough target to view the Circuit 2 Motor component screen.
Purge for CVHE, CVHF, and CVHG chillers 	The purge touch target provides information on: • Purge top level mode Touch anywhere on the touch target to view the Purge component screen.
Purge for Duplex CDHF and CDHG chillers 	The purge touch target provides information on: • Purge top level mode Ckt1 • Purge top level mode Ckt2 Touch anywhere on the Ckt1 side of the touch target to view the Circuit 1 Purge component screen. Touch anywhere on the Ckt2 side of the tough target to view the Circuit 2 Purge component screen.

Table 2. Home screen touch targets and buttons (continued)

Touch target	Description
Information button and chiller and display names 	Touch the "i" or the chiller or display name to view the **About this Chiller** screen. **Note:** For more information, see "Viewing Unit Information (About This Chiller)," p. 24.
Custom Report 	Touch the **Custom Report** button to view the Custom Report screen. **Note:** For more information, see "Creating and Viewing a Custom Report," p. 22.

Home screen: Animated graphic

A graphic of a chiller appears on the home page. The graphic uses animation to indicate the operational status of the chiller. If the chiller is running, animation appears within the cutaway areas of the compressor, the evaporator, and the condenser, as shown in Figure 1, p. 7. If the chiller is not running, the components are enclosed and are not animated.

The chiller graphic that appears on the screen also indicates the *type* of chiller that the Tracer AdaptiView display is monitoring. One of the following graphics will appear in the display for CVHE, CVHF, and CVHG chillers:

- 2-stage compressor, cooling only (as shown in Figure 1)
- 2-stage compressor with auxiliary condenser
- 2-stage compressor with heat recovery
- 3-stage compressor, cooling only
- 3-stage compressor with auxiliary condenser
- 3-stage compressor with heat recovery

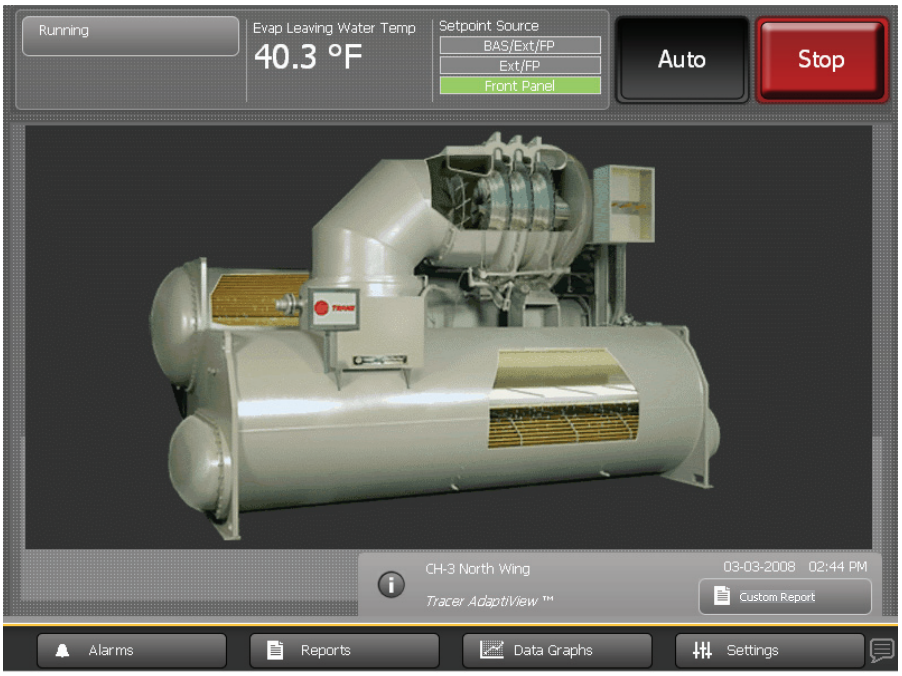
One of the following graphics will appear on the display for CDHF and CDHG Duplex chillers:

- 2-stage compressor
- 3-stage compressor

Main Display Area/Screen Saver

After 30 minutes of inactivity, the screen dims and a screen saver (Figure 2) appears in the main display area. The screen saver also appears if you touch the animated graphic on the home screen. Alternately, if you touch the screen saver, the home screen appears.

Figure 2. Screen saver



Component Screens

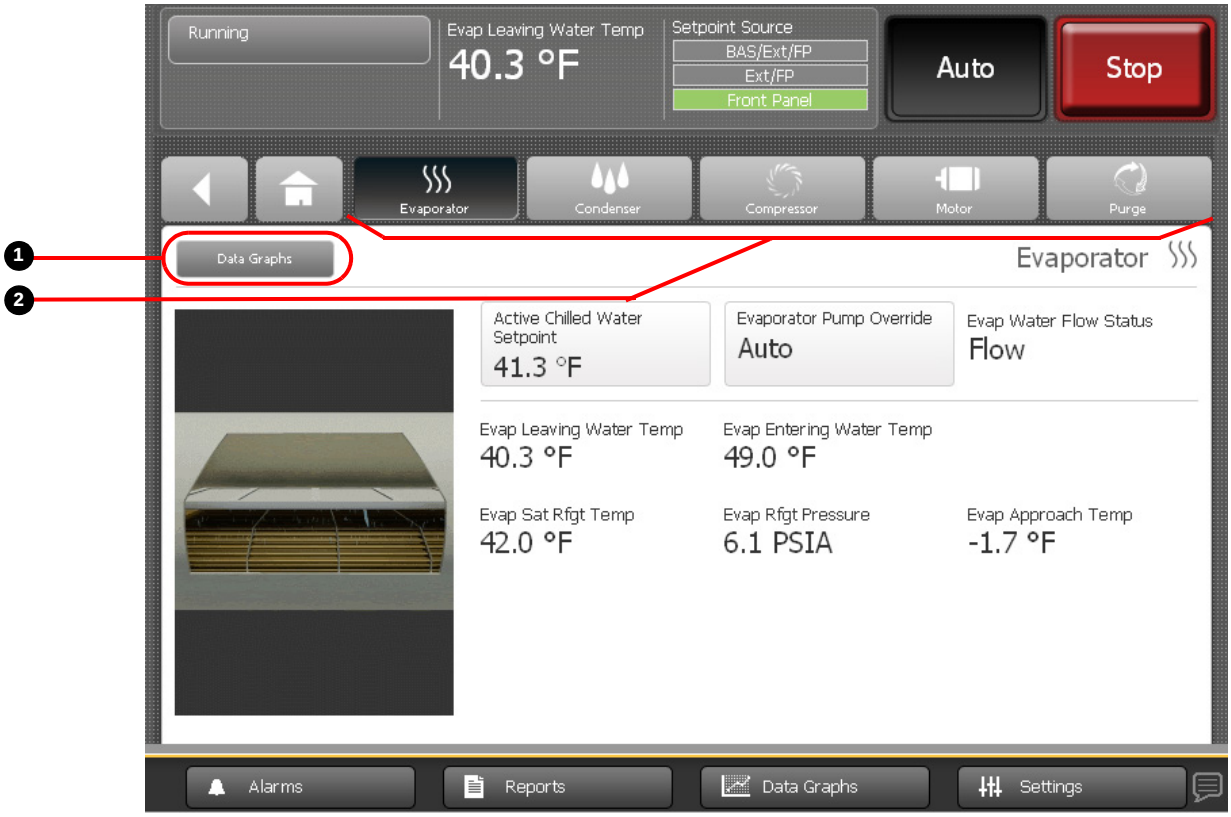
Each chiller component has a touch target, accessible from the home screen, that is illustrated in Figure 1, p. 7 (main display area/home screen) and described in Table 2, p. 9.

CVHE, CVHF, and CVHG chillers

If you touch anywhere on a component touch target, a screen appears containing data that is related to that component (see the example in Figure 3). You can use the shortcut buttons at the top of each of the component screens (location ❷ in Figure 3) to view the other components screens.

"Appendix A: Data for CenTraVac CVHE, CVHF, CVHG chillers," p. 64 lists the settings and status points that are accessible from each of the component screens. The chiller configuration determines which of the settings and status points appear.

Figure 3. Component screen example for CVHE, CVHF, and CVHG chillers



1. Data Graph shortcut button
2. Component screen shortcut buttons

CDHF and CDHG Duplex chillers

Each component has a separate screen for circuit 1 and circuit 2.

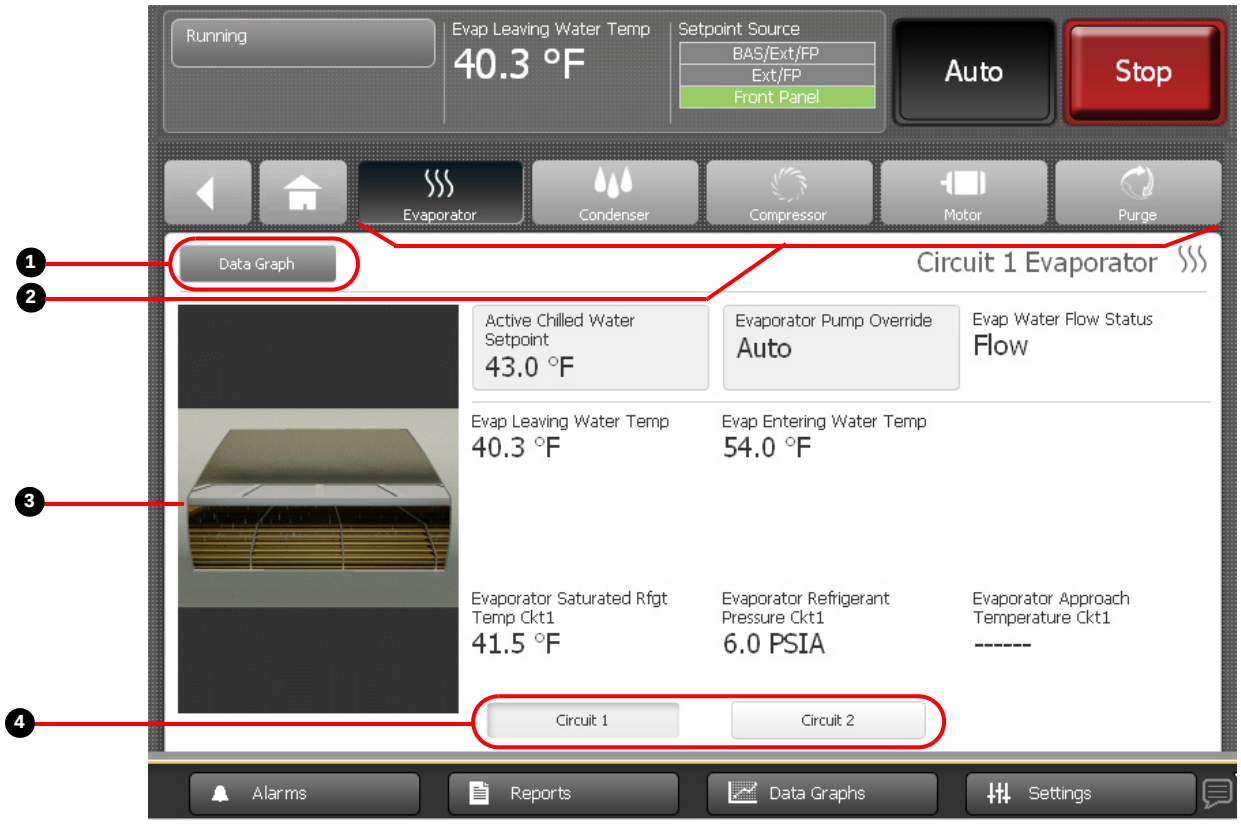
- If you touch anywhere on an evaporator or condenser component touch target, a screen appears containing data related to circuit 1 of that component (see Figure 4).
- If you touch in the circuit 1 data area of a compressor, motor, or purge component touch target, a screen appears containing data related to circuit 1 of that component. If you touch in the circuit 2 data area of a compressor, motor, or purge component touch target, a screen appears containing data related to circuit 2 of that component.

Circuit 1 and Circuit 2 buttons at the bottom of each component screen (location ❹ in Figure 4) allow you to toggle between circuit 1 and circuit 2 component screens.

You can use the shortcut buttons at the top of each of the component screens (location ❷ in Figure 3) to view the other components screens. If you are viewing a circuit 1 component screen and touch a shortcut button, the circuit 1 screen for the component represented by that button appears; and likewise for circuit 2.

"Appendix B: Data for CenTraVac Duplex CDHF and CDHG Chillers," p. 79 lists the settings and status points that are accessible from each of the component screens. The chiller configuration determines which of the settings and status points appear.

Figure 4. Component screen example for Duplex CDHF and CDHG chillers



1. Data Graph shortcut button
2. Component screen shortcut buttons
3. Animated graphic
4. Circuit 1 and Circuit 2 components screen toggle buttons

Component screen settings

Some settings appear on the component screens as buttons. These buttons take you to another screen, where you can change the setting. (See, for example, the buttons on the evaporator component screen in Figure 3, which show the Active Chilled Water Setpoint and the Evaporator Water Pump Override).

Note: *For more information about changing settings, see "Equipment Settings," p. 39.*

Data Graph shortcut button

To view a data graph that is related to the component screen you are viewing, touch the Data Graph button at the top left of the component screen (location ❶ in Figure 3, p. 13 and Figure 4, p. 14).

Component screen graphics

On the left side of each component screen is a graphic of the component. If the chiller is running, each graphic, except for the purge graphic, is animated.

Main Menu Area

The main menu area (shown in Figure 1, p. 7) always remains visible at the bottom of the display. When touched, each of the buttons displays the main menu screen for the topic listed on the button. Table 3 provides a description of each button.

Table 3. Main menu area

Button	Description
	Touch the **Alarms** button to view the Alarms screen. If there is an active alarm, the button flashes a color. The flashing color is determined by the highest severity of active alarms: • If an Immediate Shutdown alarm exists, the flashing color is red. • If a Normal Shutdown alarm exists, the flashing color is yellow. • If a Warning alarm exists, the flashing color is blue. **Note:** For more information, see "Alarms," p. 18.
	Touch the **Reports** button to view the Reports screen. **Note:** For more information, see "Reports," p. 21.
	Touch the **Data Graphs** button to view the Data Graphs screen. **Note:** For more information, see "Data Graphs," p. 32.
	Touch the **Settings** button to view the Settings screen, which is separated into the following three categories: • "Equipment Settings," p. 39 • "Display Settings," p. 52 • "Security Settings," p. 59 **Note:** Refer to the page numbers for detailed information about each category.
	Touch the Language icon to view the Language screen. (This button is a shortcut. You can also view the Lanuage screen by using the Settings button.) **Note:** For more information, see "Viewing and Changing the Language Preference," p. 55.

Stopping/Restarting Chiller Operation

You can start or stop the chiller from the AdaptiView display by using the **Auto** and **Stop** buttons. The buttons are located in upper right (Figure 1, p. 7).

Stopping the Chiller

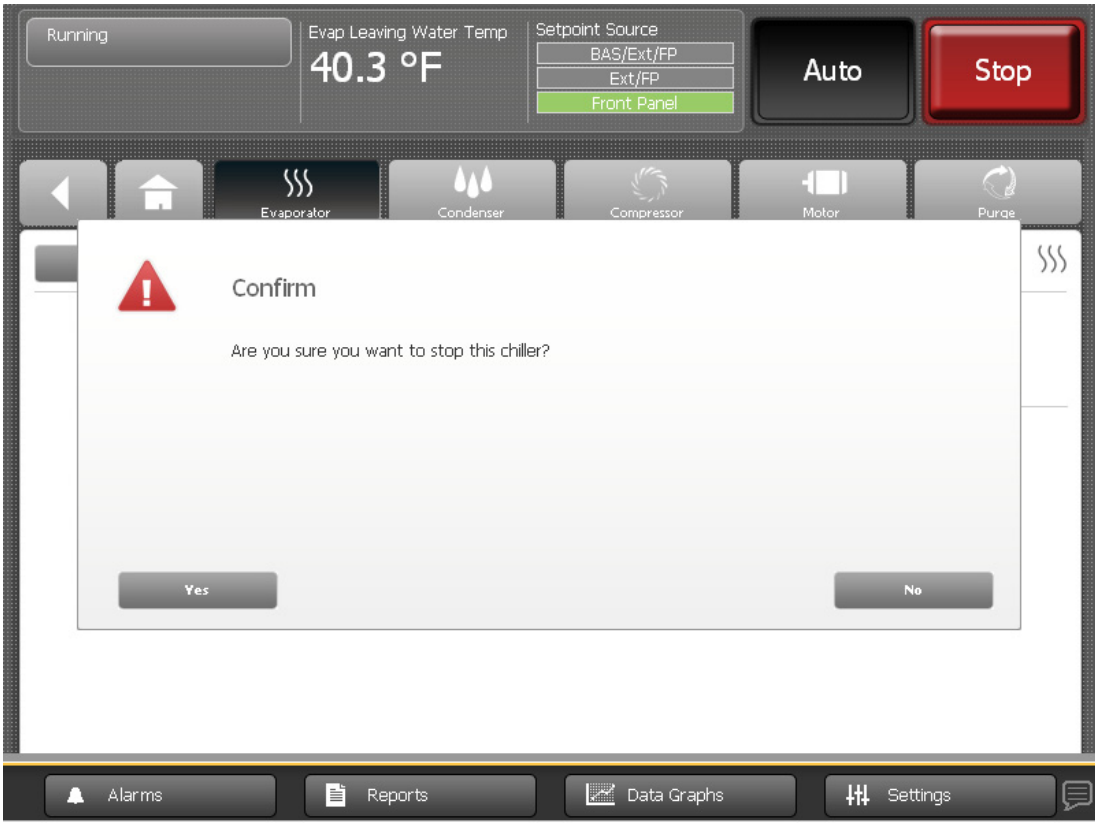
You can stop the chiller in two ways:

- Normally, which involves stopping the various components sequentially in order to protect them from damage
- Immediately, which shuts down all the components at once, and should be used only in an emergency

To stop the chiller in either of these ways:

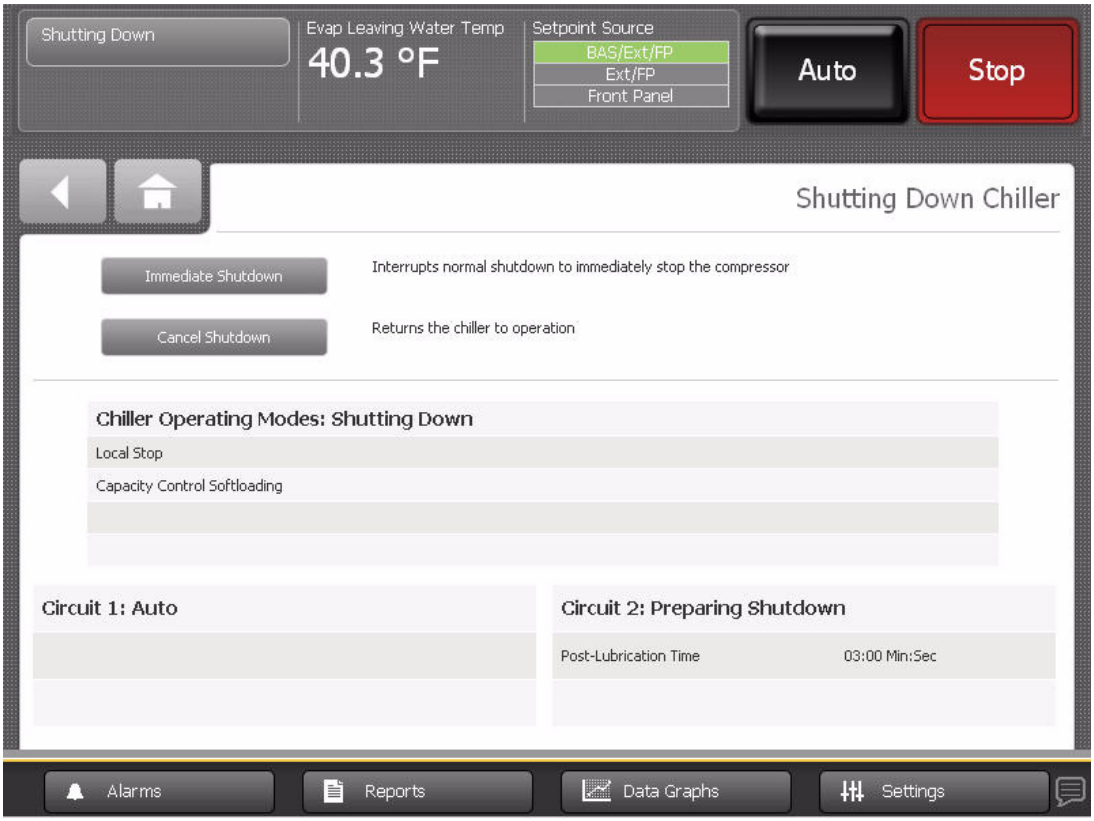
1. Touch the Stop button to initiate the chiller shutdown process. A confirmation screen appears (Figure 5).

Figure 5. Stop the Chiller confirmation screen



2. Touch the **Yes** button. The Shutting Down Chiller screen appears (Figure 6).
   - To stop the chiller normally, no further action is required. You can observe the submodes change and the timers count down.
   - To stop the chiller immediately, touch the **Immediate Shutdown** button.
   - To cancel shutdown, touch the **Cancel Shutdown** button.

Figure 6. Shutting Down Chiller screen



Note: If the chiller is a Duplex (CDHF or CDHG), the screen shows top-level modes and submodes for both the chiller and the two circuits.

Restarting the Chiller

Touch the Auto button to initiate the chiller restart process. You can observe the mode change to Auto. The chiller will wait until cooling is needed before starting the compressor.

When the chiller is running normally, it automatically starts and stops as needed to reach its setpoints.

Alarms

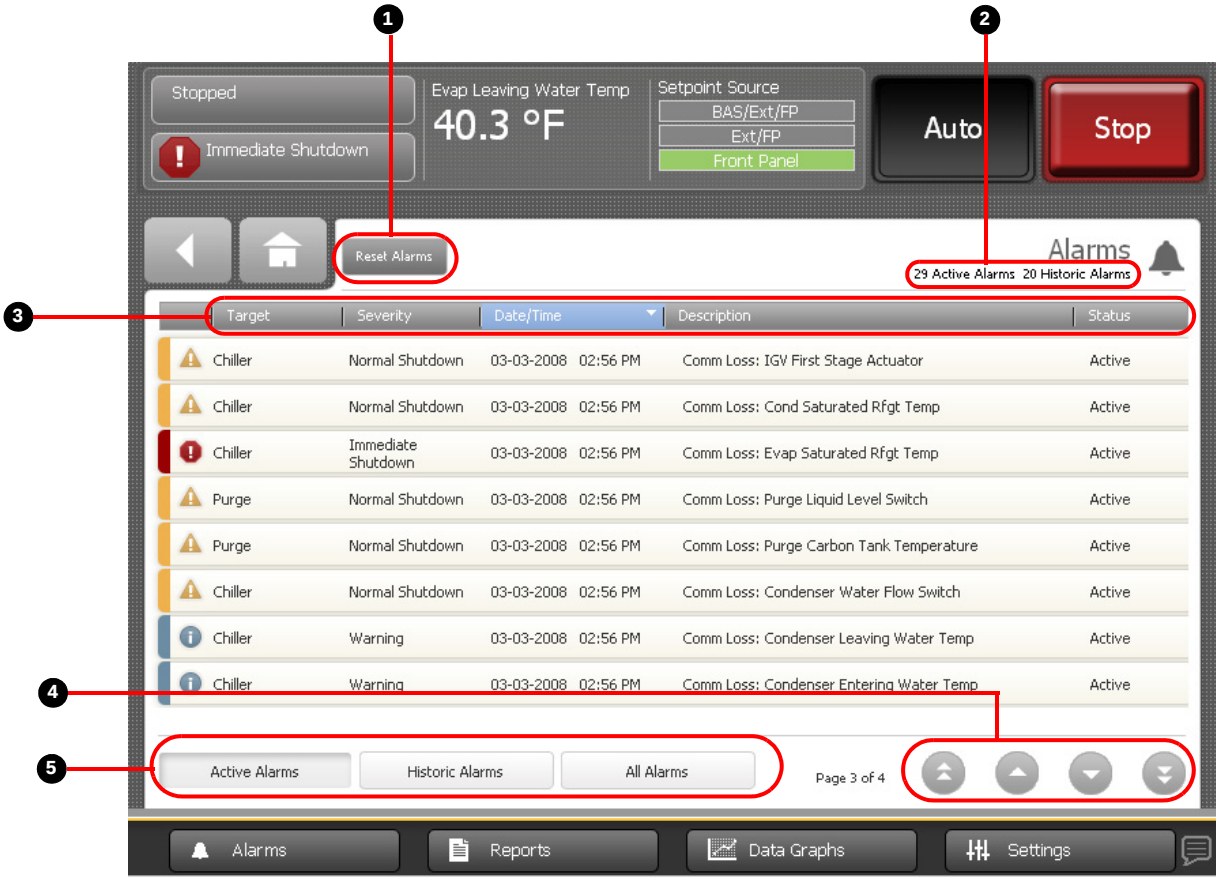
You can use the Tracer AdaptiView display to view alarms and to reset them. Alarms are communicated to the display immediately upon detection.

Viewing the Alarms Screen

Touch the **Alarms** button in the main menu area (Figure 1, p. 7) to view the Alarms screen. A table of active alarms appears that is organized chronologically with the most recent at the top of the list, as shown in Figure 7. This example shows the default view, which appears each time you return to the screen.

Note: *A page number appears in the lower right corner of the screen. If a screen contains more than one page, up/down arrows also appear for viewing the other pages.*

Figure 7. Alarms screen (default view)



1. Reset Alarms button
2. Number of alarms
3. Sortable columns—The example is sorted by date/time.
4. Page numbering
5. Alarms categories—The example shows active alarms.

Understanding Alarm Icons

Alarm icons, which appear in the left-most column of the alarms screen and on the alarms indicator button if there is an existing alarm, are distinguished by their shape and color. Their meaning is explained in Table 4.

Table 4. Alarm icons

Active alarm icons	Historic alarm icons	Level of severity
 Red octagon	 Gray octagon	Immediate shutdown
 Yellow triangle	 Gray triangle	Normal shutdown
 Blue circle	 Gray circle	Warning

Viewing Active and Historic Alarms

You can view alarms by three different categories:

- **Active alarms:** These are alarms that require attention. All alarms that are currently active appear when you view this category.
- **Historic alarms:** After an alarm condition has been resolved, the alarm is reclassified as historic. The 20 most recent historic alarms appear when you view this category.
- **All alarms:** All active alarms and the 20 most recent historic alarms appear when you view this category. The alarms are listed in chronological order.

The Alarms screen defaults to active alarms, as in Figure 7, p. 18. Note that the **Active Alarms** button in location 5 appears shaded in this figure, which indicates that you are viewing active alarms. To view a different category, touch **Historic Alarms** or **All Alarms**. The button you select becomes shaded and the list appears.

Sorting Alarms

To sort alarms by a category other than date and time, touch one of the other column headings in the table. The column heading responds by changing to blue, and the alarms table re-sorts according to the blue column heading. If you touch the blue column heading again, the column changes the order from ascending to descending.

You can sort the alarms table by:

- Date/Time (the default sort): Most recent alarms are at the top.
- Severity: Active alarms are at the top (if you are viewing both active and historic alarms), followed by the most severe, followed by the most recent.
- Description: Alarms are sorted alphanumerically by name, followed by the most recent.
- Status: Alarms are sorted according to active/historic status (if you are viewing both active and historic alarms), followed by the most recent.

Resetting Alarms

Some alarms require reset to move from the active to the historic state, even if the issue causing the alarm has been resolved. These manual reset alarms are sometimes referred to as latching alarms. Non-latching alarms change from the active to the historic state automatically, after the problem has been resolved.

The Alarms screen does not directly state whether the alarms are latching or non-latching. However, their behavior indicates their type:

- Reset latching alarms by touching the **Reset Alarms** button at the top of the Alarms screen (Figure 7, p. 18). Latching alarms respond by disappearing from the active alarms list and becoming a part of the historic alarms list. However, if the condition that caused the alarm persists, the alarm will re-appear in the active alarms list.
- You do not have to reset non-latching alarms. Non-latching alarms automatically disappear from the active alarms list and re-appear in the historic alarms list when the conditions that caused them are resolved.

Other Alarm Indicators

In addition to the Alarms screen, there are two buttons that indicate alarm conditions. These buttons are viewable from any screen on the display. You can touch either one to access the Alarms screen.

- The **Alarms** button in the main menu area of the screen (Figure 1, p. 7) flashes a color that represents the alarm level of the most severe active alarm. The three color possibilities correspond to those of the active alarm icons shown in Table 4, p. 19.
- If an active alarm is present, the alarm indicator button (Table 1, p. 8) appears in the upper left of the screen, as in Figure 7, p. 18. The icon on this button indicates the level of the most severe active alarm.

Reports

You can use the Tracer AdaptiView display to view a variety of reports and to create and edit a custom report. All reports contain live data that refreshes every 2–5 seconds.

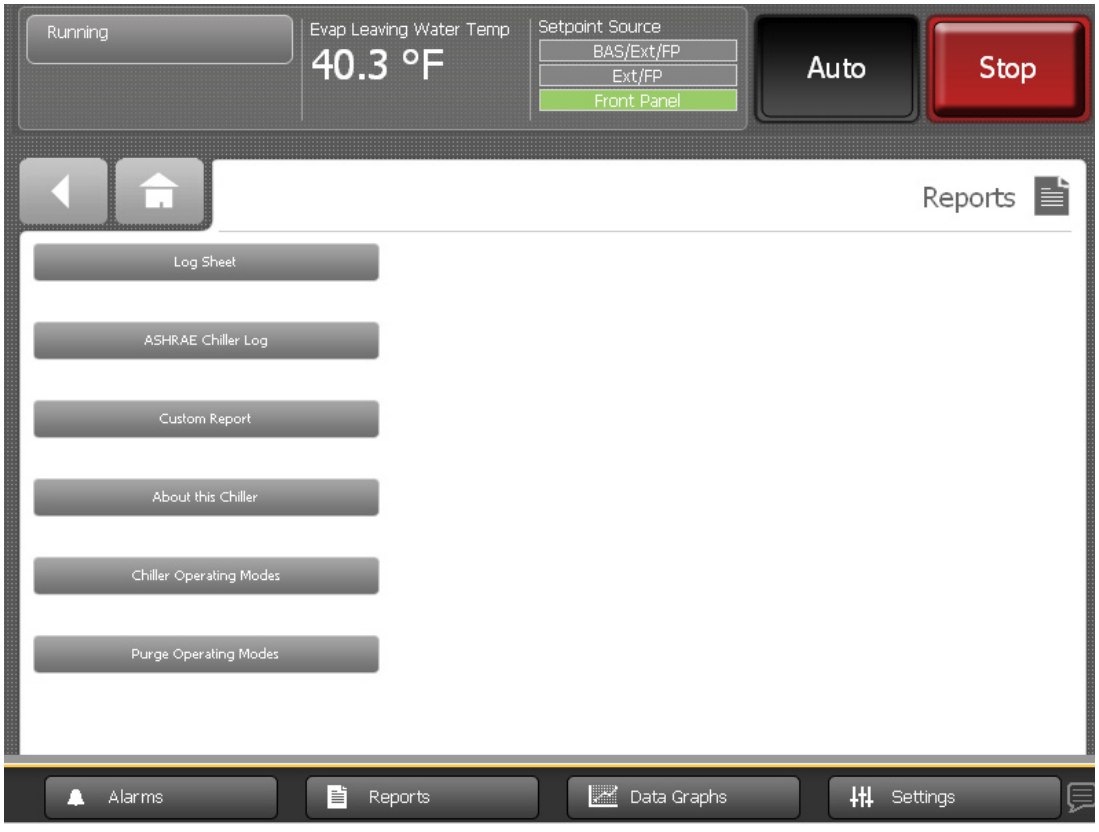
Viewing the Reports Screen

Touch the **Reports** button in the main menu area (Figure 1, p. 7) to view the Reports screen. The Reports screen contains the following buttons:

- Log Sheet
- ASHRAE Chiller Log
- Custom Report
- About This Chiller
- Chiller Operating Modes
- Purge Operating Modes

Each button links to the report named on the button.

Figure 8. Reports screen



Viewing the Log Sheet

On the Reports screen, touch **Log Sheet** to view the information that is itemized in "Log Sheet," p. 67 for the CVHE, CVHF, and CVHG chillers, and in "Log Sheet," p. 83 for the Duplex CDHF and CDHG chillers. The items included in the Log Sheet are those recommended by Trane. See current Trane service literature for more information.

Viewing the ASHRAE Chiller Log

On the Reports screen, touch **ASHRAE Chiller Log** to view the information that is itemized in "ASHRAE Chiller Log," p. 69 for the CVHE, CVHF, and CVHG chillers, and in "ASHRAE Chiller Log," p. 85 for the Duplex CDHF and CDHG chillers.

Creating and Viewing a Custom Report

You can create a custom report in which you specify the type and order of data that it contains. Items available to select for a custom report are grouped according to subsystem. (For CVHE, CVHF, and CVHG chillers, see "Items available to include in custom reports," p. 71; for CDHF and CDHG chillers, see "Items available to include in custom reports," p. 87.)

To create and view a custom report:

1. On the Reports screen, touch **Custom Report**. The Custom Report screen appears.
2. On the Custom Report screen, touch **Edit**. The Edit Custom Report screen appears (Figure 9, p. 22).

Figure 9. Edit Custom Report screen

3. Touch the up/down arrows at the top of the left box on this screen to scroll through the items that are available to add to a custom report.
4. To set up a custom report by adding:
   - One item at a time, touch the item. It responds by changing to blue. Touch **Add** to move the selected item to the right box on the screen.
   - All of the items at once to the right box on the screen, touch **Add All**.

   Note: *You can organize your selections in any order by using the down arrows that appears in the right box, and by adding them one at a time in the order in which you want them to appear in your report.*
5. To save and view your custom report, touch **Save**. The Custom Reports screen appears, containing the custom report you have just created (Figure 10, p. 23).

   Note: *A page number appears in the lower right corner of the screen. If a screen contains more than one page, up/down arrows also appear for viewing the other pages, as in Figure 10.*

Figure 10. Custom Report screen

Editing a Custom Report

You can edit the custom report by adding, removing, or re-order data as follows:

1. On the Custom Report screen, touch **Edit**. The **Edit Custom Report** screen appears.
2. Add, remove, or re-order as follows:
   - To add an item to the custom report, touch it. It responds by changing to blue. You an use the arrows to scroll through the rest of the items that can be added to the custom report. Then touch **Add** to move the selected item to the box on the right side of the screen. To add all of the remaining items in the left box to the custom report, touch **Add All**.
   - To remove an item from the custom report, touch it. It responds by changing to blue. You can use the arrows to scroll through the rest of the items that can be removed from the custom report. Then touch **Remove** to move the selected item to the box on the left side of the screen.
   - To re-order items in the custom report, touch it. It responds by changing to blue. Use the arrows to change the order of a highlighted item.
3. To save and view your edited custom report, touch **Save**. The Custom Reports screen appears, containing the custom report you have just edited.

Viewing Unit Information (About This Chiller)

On the Reports screen, touch **About This Chiller** to view the following unit information:

- Unit Name
- Unit Model Number
- Product Name
- Display Software Build
- Unit Sales Order Number
- Application Part Number
- Display Boot Code
- Unit Serial Number
- Boot Part Number
- Hardware Serial Number
- Build Part Number

Viewing Chiller Operating Modes

On the Reports screen, touch **Chiller Operating Modes** to view the current operating status of the chiller in terms of the top-level operating mode and submodes.

Note: *You can also access the Chiller Operating Modes screen from the chiller status button in the upper left corner of the screen.*

CVHE, CVHF, and CVHG Chillers

Figure 11 shows an example of a Chiller Operating Modes screen for a CVHE, CVHF, or CVHG chiller.

Figure 11. Chiller Operating Modes screen for CVHE, CVHF, and CVHG chillers

CVHE, CVHF, and CVHG chillers operate in one of the top-level operating modes shown in Table 5. The table gives a description of the top-level modes and lists the submodes that correspond to each top-level mode.

Submodes are dependent on the top-level mode. Their appearance on the Chiller Operating Modes screen has the following characteristics:

- The newest submode appears at the top of the submode list.
- Submodes disappear when they no longer apply.
- The screen displays up to 6 submodes.
- If less than 6 submodes are active, the submode rows that do not apply are blank.

Table 5. Chiller top-level operating modes for CVHE, CVHF, and CVHG chillers

Top-level mode	Description	Corresponding submodes
Stopped	Chiller is inhibited from running and requires user action to go to Auto.	Local Stop
		Panic Stop
		Diagnostic Shutdown—Manual Reset
Run Inhibit	Unit is inhibited from running by building automation system (BAS), external control source (Ext), or Auto Reset diagnostic	Ice Building Is Complete
		Tracer Inhibit
		External Source Inhibit
		Diagnostic Shutdown—Auto Reset
Auto	Unit is determining if there is a need to run.	Waiting for Evaporator Water Flow
		Waiting for a Need to Cool
		Waiting for a Need to Heat
		Ppower Up Delay Inhibit (MIN:SEC)[a]
Waiting to Start	Unit is waiting for tasks required prior to compressor start to be completed.	Waiting For Condenser Water Flow
		Establishing Oil Pressure
		Pre-Lubrication Time (MIN:SEC)[a]
		Motor Temperature Inhibit: Motor Temperature/ Inhibit Temperature
		Restart Time Inhibit (MIN:SEC)[a]
		High Vacuum Inhibit: Oil Sump Press/Inhibit Press
		Low Oil Temperature Inhibit: Oil Temperature/ Inhibit Temperature
		Waiting for Starter To Start (MIN:SEC)[a]
Starting Compressor	Unit is starting compressor.	No submode is shown
Running	Compressor is running with no limits in effect.	No submode is shown
		Hot Water Control
		Surge
		Base Loaded
		Hot Gas Bypass
		Ice Building
		Ice To Normal Transition
		Current Control Soft Loading

Table 5. Chiller top-level operating modes for CVHE, CVHF, and CVHG chillers (continued)

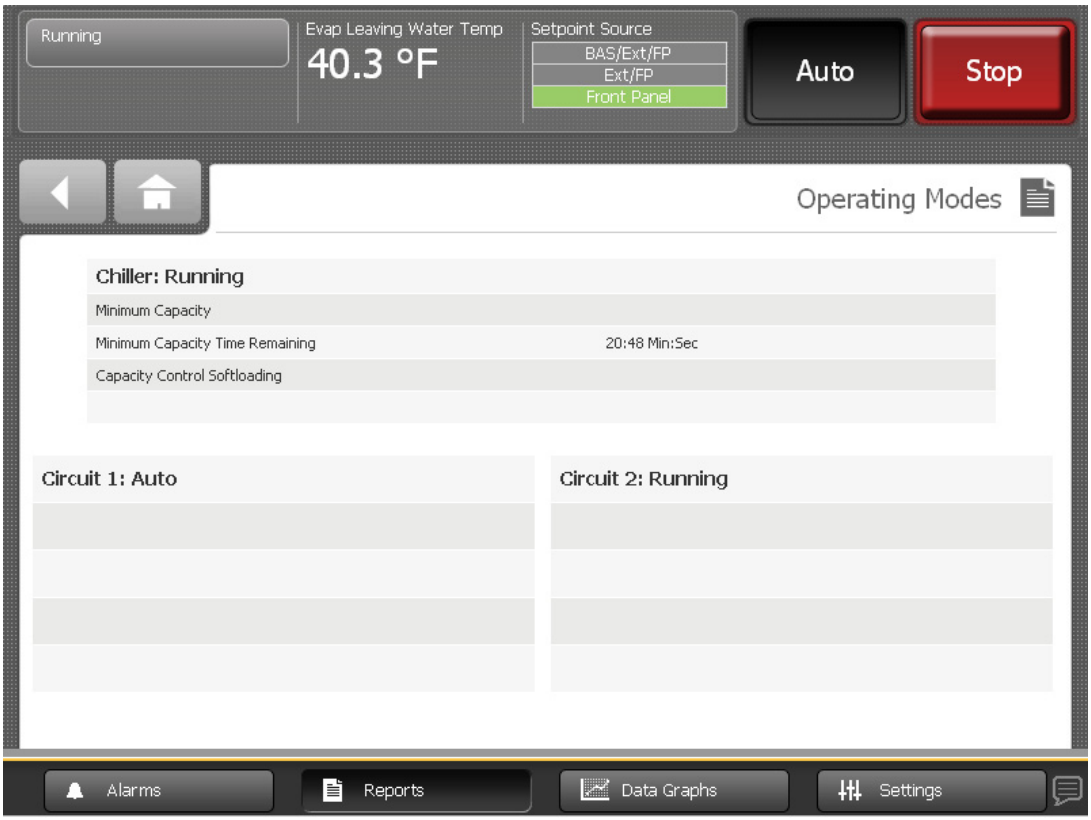
Top-level mode	Description	Corresponding submodes
Running—Limit	Compressor is running with limits in effect.	Current Limit
		Phase Unbalance Limit
		Condenser Pressure Limit
		Evaporator Temperature Limit
		Minimum Capacity Limit
		Maximum Capacity Limit
Free Cooling	Unit is in Free Cooling mode and will not run the compressor.	Opening Free Cooling Valves
		Closing Free Cooling Limit
Preparing to Shutdown	Unit is closing inlet guide vanes prior to compressor shutdown.	Closing IGV (IGV Position %)(b)
Shutting Down	Compressor has been stopped and unit is performing shutdown tasks.	Post-Lubrication Time (MIN:SEC)(a)
		Evaporator Pump Off Delay (MIN:SEC(a)
		Condenser Pump Off Delay (MIN:SEC)(a)
		Satisfied Need to Minimum Capacity Timer (will appear for only 10 seconds)

(a) "MIN:SEC" refers to a count-down timer that appears on the screen to indicate how long the submode will remain active.
(b) "IGV Position %" refers to a value that indicates the position of the inlet guide vane (IGV).

Duplex CDHF and CDHG Chillers

Figure 12 shows an example of a Chiller Operating Modes screen for a Duplex CDHF or CDHG chiller.

Figure 12. Chiller Operating Modes screen for Duplex CDHF and CDHG chillers



For Duplex CDHF or CDHG chillers, the Chiller Operating Modes screen shows top-level modes and submodes for the chiller (Table 6, p. 29) and for the circuits (Table 7, p. 30). Each table shows top-level modes in the left column, a description in the middle column, and the corresponding submodes in the right column.

Submodes are dependent on the top-level mode. They appear on the Chiller Operating Modes screen with the following characteristics:

- The newest submode appears at the top of the submode list.
- Submodes disappear when they no longer apply.
- The screen displays up to 4 submodes.
- If less than 4 submodes are active, the submode rows that do not apply are blank.

Table 6. Chiller top-level operating modes and corresponding submodes for CDHF and CDHG chillers

Top-level mode	Description	Corresponding submodes
Stopped	The chiller is not running either circuit and cannot run without intervention.	Local Stop
		Panic Stop
		Diagnostic Shutdown—Manual Reset
Run Inhibit	The chiller is currently being inhibited from starting (and running), but may be allowed to start if the inhibiting or diagnostic condition is cleared.	Ice Building Is Complete
		Start Inhibited By BAS
		Waiting for BAS Communication
		Exernal Source Inhibit
		Diagnostic Shutdown—Auto Reset
		No Circuits Available
Auto	The chiller is not currently running but can be expected to start at any moment given that the proper conditions and interlocks are satisfied.	Waiting for Evaporator Water Flow
		Waiting for a Need to Cool
		Waiting for a Need to Heat
		Power Up Display Inhibit (MIN:SEC)[a]
Waiting to Start	The chiller is going through the necessary steps to allow the lead circuit to start.	The chiller will wait up to 4 minutes and 15 seconds in this mode for condenser water flow to be established by means of the flow switch hardwired input.
Running	At least one circuit on the chiller is currently running.	Hot Water Control
		Base Loaded
		Ice Building
		Ice To Normal Transition (MIN:SEC)[a]
		Current Control Softloading
		Capacity Control Softloading
		Minimum Capacity Limit
Running—Limit	At least one circuit on the chiller is currently running, but the operation of the chiller as a whole is being actively limited by the controls. The submodes that apply the Running top modes may be displayed along with the following limit-specific modes.	All of the chiller-level Running submodes apply. There are no specific submodes associated with Running—Limit.
Shutting Down	The chiller is still running, but shutdown is imminent. The chiller is going through a compressor run-unload.	Evaporator Pump Off Delay (MIN:SEC)[a]
		Condenser Pump Off Delay (MIN:SEC)[a]
		Satisfied Need to Cool
		Satisifed Need to Heat
		Satisifed Need to Minumum Capacity Timer (will display for only 10 seconds)

Table 6. Chiller top-level operating modes and corresponding submodes for CDHF and CDHG chillers (continued)

Top-level mode	Description	Corresponding submodes
Miscellaneous	These submodes may appear with most of the top-level chiller modes.	Evaporator Pump Off Override
		Condenser Pump Override
		Manual Capacity Override
		IGV Manual Override[b]
		Software Service Lock

(a) "MIN:SEC" refers to a count-down timer that appears on the screen to indicate how long the submode will remain active.
(b) "IGV Position %" refers to a value that indicates the position of the inlet guide vane (IGV).

Table 7. Circuit-level operating modes and corresponding submodes for CDHF and CDHG chillers

Top-level mode	Description	Corresponding submodes
Stopped	The circuit is not running, and cannot run without intervention.	Diagnostic Shutdown—Manual Reset
		Front Panel Circuit Lockout
Run Inhibit	The circuit is currently being inhibited from starting (and running), but may be allowed to start if the inhibiting or diagnostic condition is cleared.	Diagnostic Shutdown—Auto Reset
		External Circuit Lockout
Auto	The circuit is currently not running but is expected to start at any moment if the proper conditions are satisfied.	No Circuit Submodes
Waiting To Start	The chiller is going through the necessary steps to allow the lead circuit to start.	Waiting for Low Oil Differential Pressure
		Establishing Oil Pressure
		Pre-Lubrication Time (MIN:SEC)[a]
		Motor Temperature Inhibit: Motor Temperature/ Inhibit Temperature
		Restart Time Inhibit (MIN:SEC)[a]
		High Vacuum Inhibit: Oil Sump Press/Inhibit Press
		Low Oil Temperature Inhibit: Oil Temperature/ Inhibit Temperature
		Waiting for Starter To Start (MIN:SEC)[a]
		Waiting for IGV Positioning to Complete[b]
		Waiting for Starter Interlock
Starting Compressor	The circuit is going through the necessary steps to allow the compressor on that circuit to start.	No submodes
Running	The compressor on the circuit is currently running.	Surge
		Hot Gas Bypass
		Current Limit
		Phase Unbalance Limit
		Evaporator Temperature Limit
		High Compressor Discharge Temp Limit

Table 7. Circuit-level operating modes and corresponding submodes for CDHF and CDHG chillers (continued)

Top-level mode	Description	Corresponding submodes
Running—Limit	Compressor is running with limits in effect.	Current Limit
		Phase Unbalance Limit
		Condenser Pressure Limit
		Evaporator Temperature Limit
		High Compressor Discharge Temp Limit
Preparing to Shutdown	The circuit is preparing to de-energize the compressor.	Closing IGV(b)
Shutting Down	The chiller is going through the necessary steps after de-energizing the compressor.	Post-Lubrication Time (MIN:SEC)(a)
Miscellaneous	These submodes may appear with most of the top-level chiller modes.	Overdriving IGV Closed(b)
		Oil Pump Override

(a) "MIN:SEC" refers to a count-down timer that appears on the screen to indicate how long the submode will remain active.
(b) "IGV Position %" refers to a value that indicates the position of the inlet guide vane (IGV).

Viewing Purge Operating Modes

On the Reports screen, touch **Purge Operating Modes** to view the current operating status of the purge system in terms of the top-level operating mode and submodes.

Note: *For Duplex CDHF or CDHG chillers, the operating status of purge system is shown in terms of the two circuits.*

The purge system operates in one of four top-level operating modes:

- Stop
- On
- Auto
- Adaptive

Submodes are dependent on the top-level mode. Their appearance on the Purge Operating Modes screen has the following characteristics:

- The newest submode appears at the top of the submode list.
- Submodes disappear when they no longer apply.
- The screen displays up to 6 submodes.
- If less than 6 submodes are active, the submode rows that do not apply are blank.

For detailed information about purge operating modes and submodes, see the *EarthWise™ Purge System with Tracer AdaptiView™ Control Operation and Maintenance Guide* (PRGD-SVX01A-EN).

Data Graphs

You can use the Tracer AdaptiView display to view a variety of default data graphs and to create up to six custom data graphs with up to eight data points per graph. The data sample rate is 30 seconds, and the data storage duration is 48 hours. These rates cannot be adjusted.

Viewing the Data Graphs Screen

Touch the **Data Graphs** button in the main menu area (Figure 1, p. 7) to view the Data Graphs screen (Figure 13). Each button on the screen links to a data graph.

The buttons under the Default Graphs heading for CVHE, CVHF, and CVHG chillers are:

- Chiller Overview 1
- Chiller Overview 2
- Approach Temperature
- Evaporator
- Motor
- Condenser
- Motor Temperature
- Compressor
- Purge
- Oil System

When you create custom graphs, they appear under the Custom Graphs heading with names such as “Custom 1” and “Custom 2,” as shown in Figure 13.

Figure 13. Data Graphs screen

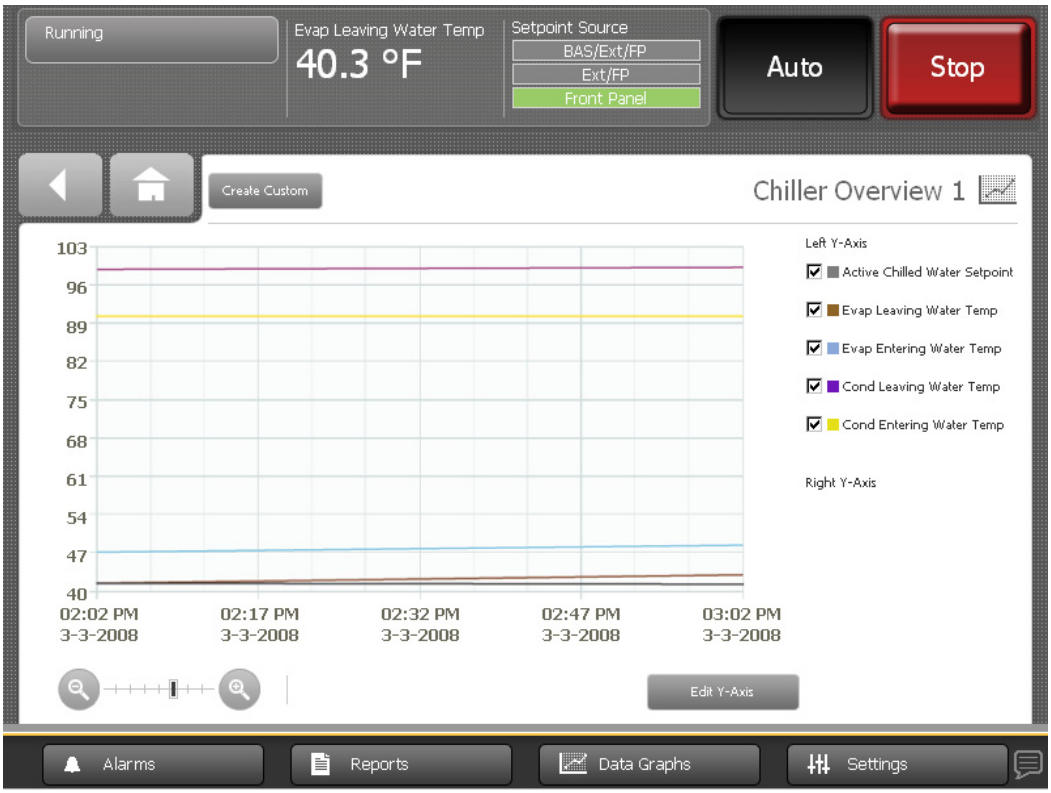
The buttons under the Default Graphs heading for Duplex CDHF and CDHG chillers are:

Chiller	Circuit 1	Circuit 2
• Chiller Overview 1 • Chiller Overview 2 • Evaporator • Condenser	• Oil System • Approach Temperature • Compressor • Motor • Motor Temperature • Purge	• Oil System • Approach Temperature • Compressor • Motor • Motor Temperature • Purge

Viewing Data Graphs

On the Data Graphs screen, touch any of the buttons to view a live graph (Figure 14 shows Chiller Overview 1 as an example). For every graph, the X-axis shows time. The Y-axes presents data points specific to each graph. The data points are listed in "Data Graphs," p. 32.

Figure 14. Example of Data Graph (Chiller Overview 1 shown)



Changing the Scales on Data Graphs

You can change the scales of the X-axis and the Y-axes on data graphs.

Changing the scale of the X-axis

The X-axis scale defaults to the most recent one hour with 15 minutes in between the time labels that appear across the bottom of the graph. You can change the scale from the last 12 minutes to the last 48 hours and increments in between, as follows:

- 12-minute graph with 3 minutes between time labels
- 40-minute graph with 10 minutes between time labels
- 60-minute graph with 15 minutes between time labels
- 4-hour graph with 1 hour between time labels
- 8-hour graph with 2 hours between time labels
- 1-day graph with 6 hours between time labels
- 2-day graph with 12 hours between time labels

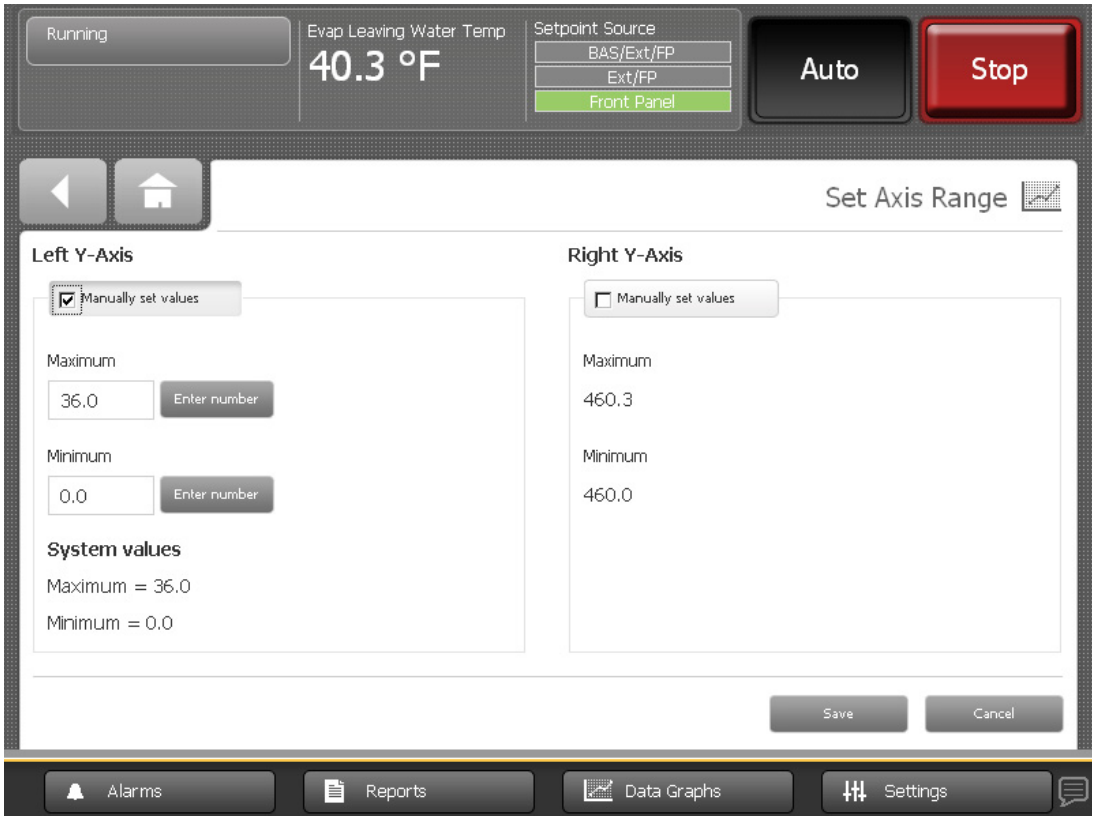
To change the scale, touch the plus or minus button in the magnifying glass in the lower left corner of a data graph that you want to edit (see Figure 14, p. 33 as an example). The slider scale moves to the right or left as you touch either the plus or minus button. The time scale for the X-axis changes in response.

Changing the scale of the Y-axes

The Y-axes scales have a default range that varies for each data graph. You can change the range for each graph.

1. Touch the **Edit Y-Axis** button at the bottom of a data graph that you want to edit (see Figure 14 as an example). The Set Axis Range screen appears (Figure 15). The screen shows the minimum and maximum values for that particular graph.

Figure 15. Set Axis Range screen



2. Touch the **Manually set values** button under either the Left Y-Axis or Right Y-Axis heading. **Enter number** buttons appear to the right of the minimum and maximum values.
3. Touch the **Enter number** button for the value you want to change. A keypad appears on the screen.
4. Touch the appropriate numbers to change the current value. The new value appears above the keypad.
5. Touch the **Enter** button. The graph you were previously viewing appears with changed maximum and/or minimum values.
6. Touch **Save**. The data graph appears with changed Y-axes scales.

Creating Custom Data Graphs

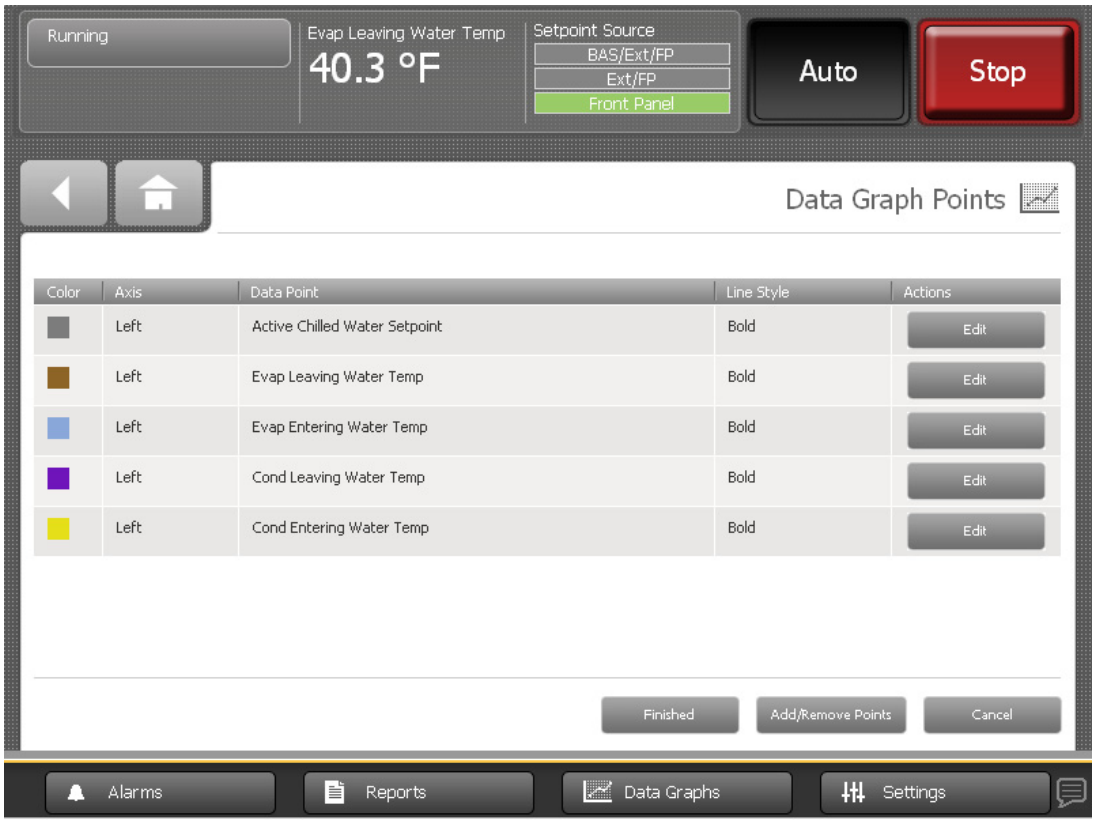
You can create a custom data graph in two ways:

- By starting with a default data graph
- By starting from a blank screen, with no previously defined data graph points

Creating a custom data graph from a default data graph

1. Touch the **Create Custom** button at the top left of any default data graph screen (see Figure 14, p. 33, for example). The Data Graph Points screen appears (Figure 16).

Figure 16. Data Graph Points screen



2. Touch the **Add/Remove Data Points** button at the bottom of the screen. The Add/Remove screen appears (Figure 17, p. 36), pre-populated with data points from the default data graph you chose.

   Note: *When you save the graph, a new custom graph is created; the default data graph is not overwritten.*

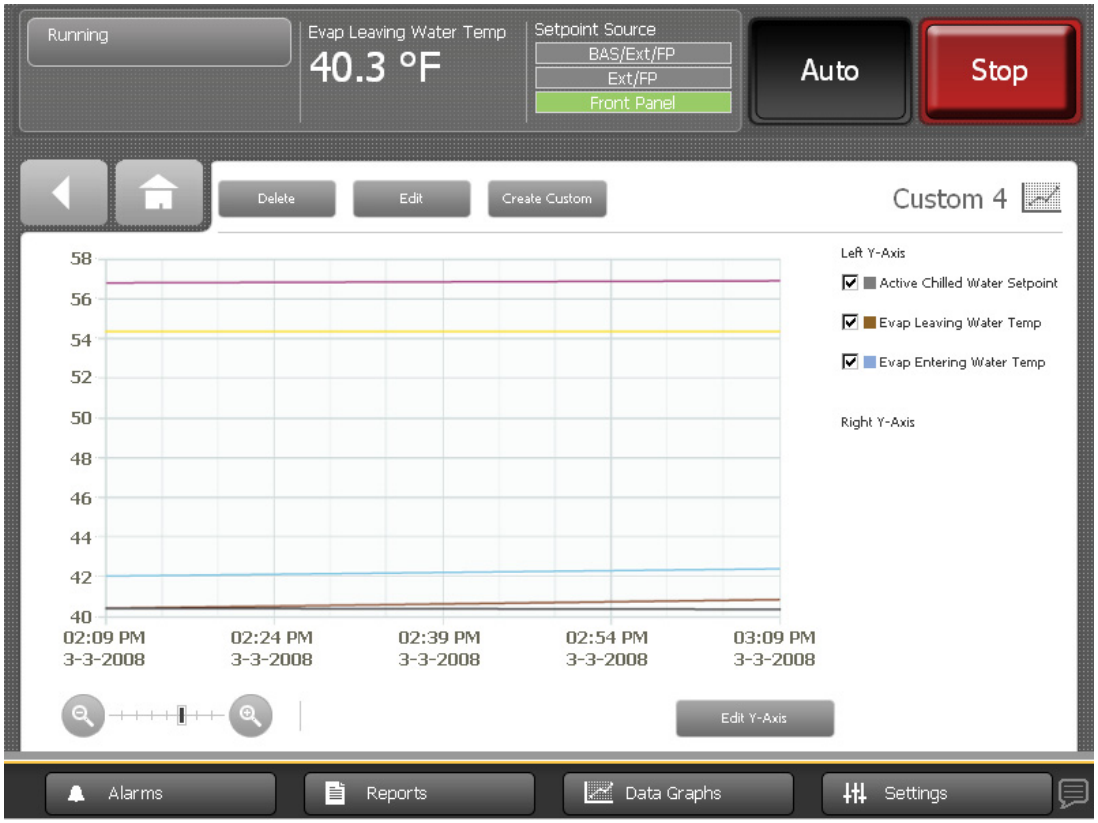
3. Touch the up/down arrows at the top of the left box on the Add/Remove screen to scroll through a list of chiller components. The list of items in the box just below the up/down arrows changes to correspond to the component choice. (For reference, these items are listed in "Appendix A: Data for CenTraVac CVHE, CVHF, CVHG chillers," p. 64 and "Appendix B: Data for CenTraVac Duplex CDHF and CDHG Chillers," p. 79).

Figure 17. Add/Remove screen example

4. To choose points to include in the custom data graph, you can do any of the following:
   - To add one item at a time, touch the item in the left box. It responds by changing to blue. Touch **Add** to move the selected item to the right box.
   - To add all of the items in the left box to the right box, touch **Add All**.
   - To remove one item at a time, touch the item in the right box. It responds by changing to blue. Touch **Remove** to move the selected item to the left box.
   - To remove all of the items in the right box to the left box, touch **Remove All**. A confirmation screen appears, asking you to verify your request.
5. When you are finished choosing data points, touch **Save**. The Data Graph Points screen appears. Touch the **Finished** button to view the custom data graph you have just created (Figure 18, p. 37).

   Note: *To edit the appearance of data points in the graph, see "Editing Custom Data Graphs," p. 38.*

Figure 18. Custom data graph example



Creating a custom data graph with no previously defined data graph points

1. Touch the **Create Custom** button at the top left of the Data Graphs screen (Figure 13, p. 32). The Add/Remove screen appears (see Figure 17, p. 36), but with no data on the screen.
2. Continue by following steps 3 through 5 of "Creating a custom data graph from a default data graph," p. 35.

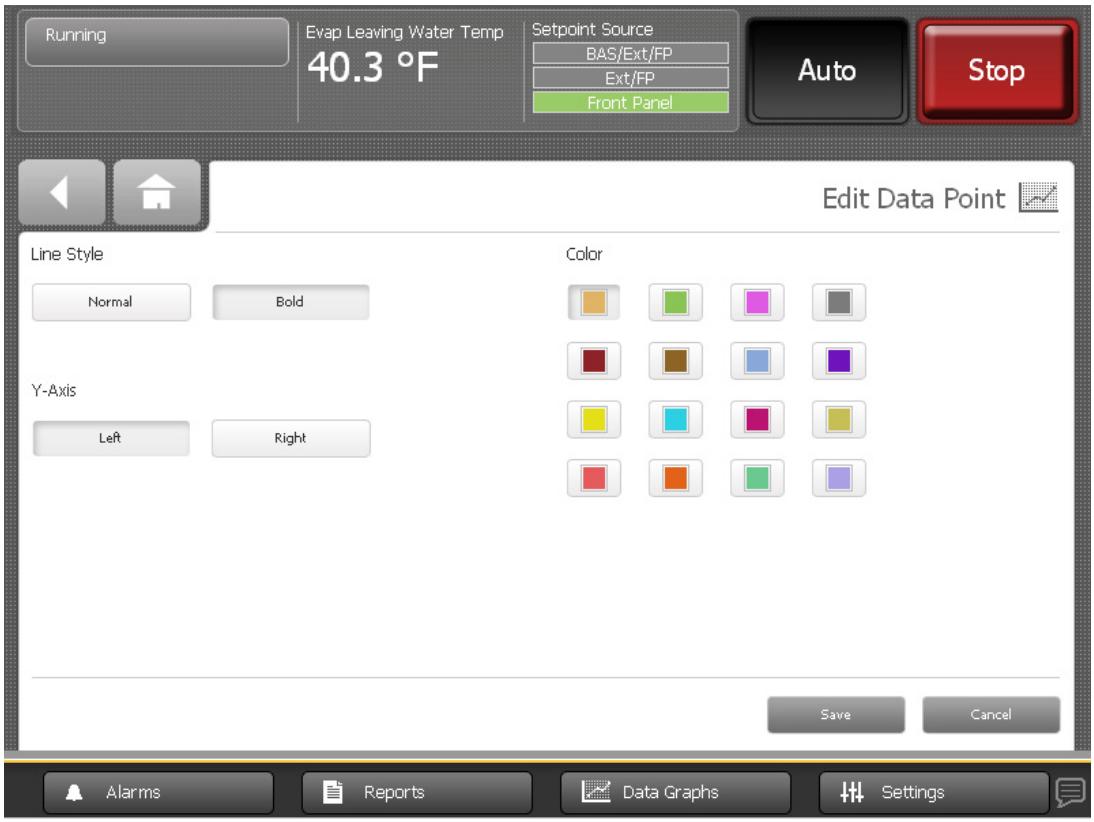
Editing Custom Data Graphs

You can edit custom data graphs by:

- Changing the scales of the X-axis and Y-axes (follow the procedures in "Changing the Scales on Data Graphs," p. 33).
- Changing the:
  - Line style between bold and normal
  - Y-axis location between left and right
  - Line color

1. To edit a data point, touch the **Edit** button in the row for the data point you want to edit. The Edit Data Point screen appears (Figure 19, p. 38).
2. Touch the button in each category—Line Style, Y-Axis, Color—that represents how you want the graph to appear. The buttons you select become shaded.
3. Touch **Save**. The screen you were previously viewing appears with your changes reflected in the table.

Figure 19. Edit Data Point screen



Deleting a Custom Data Graph

Touch the **Delete** button at the top of a custom graph screen to delete the custom graph.

Equipment Settings

You can use the Tracer AdaptiView display to monitor and change a variety of equipment settings.

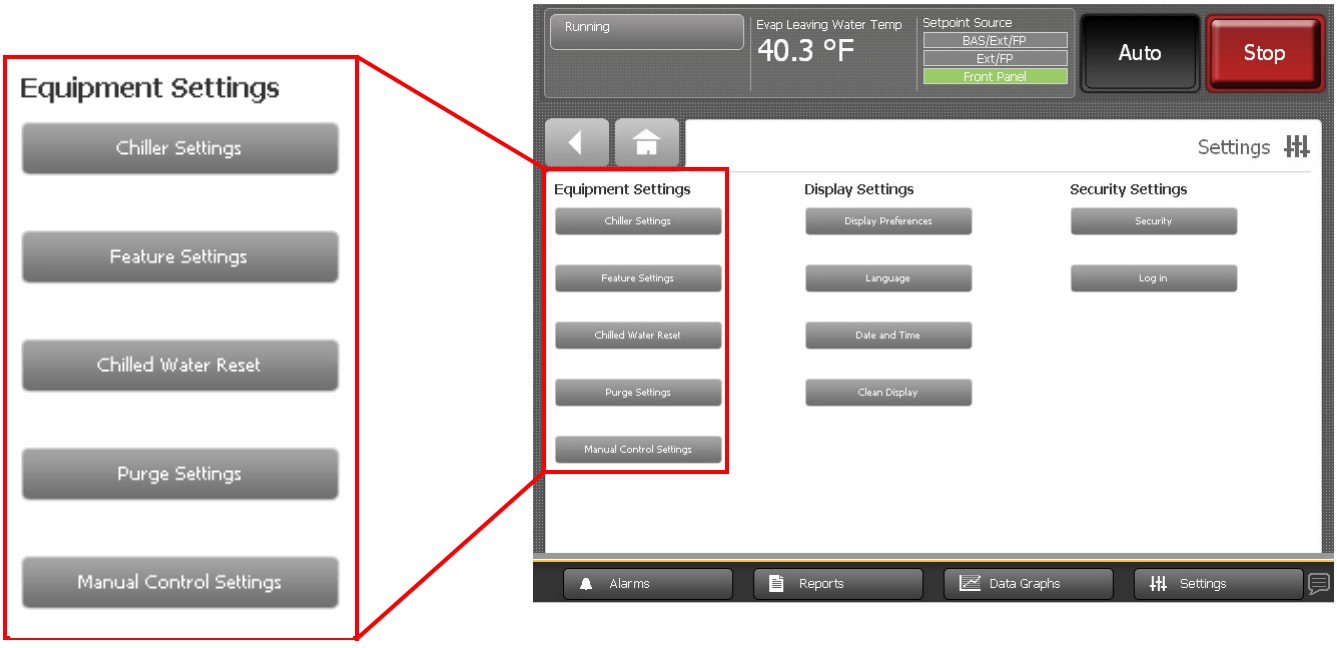
Viewing the Settings Screen

Touch the **Settings** button in the main menu area (see "Main Menu Area," p. 15) to view the Settings screen. *Equipment Settings* identifies a column of buttons located on the screen (see the outlined column in Figure 20). The buttons are:

- Chiller Settings
- Feature Settings
- Chiller Water Reset
- Purge Settings
- Manual Control Settings

Each of these buttons provide access to a screen that contains additional buttons related to each topic. This section provides detailed information about these screens.

Figure 20. Settings screen with the Equipment Settings column highlighted

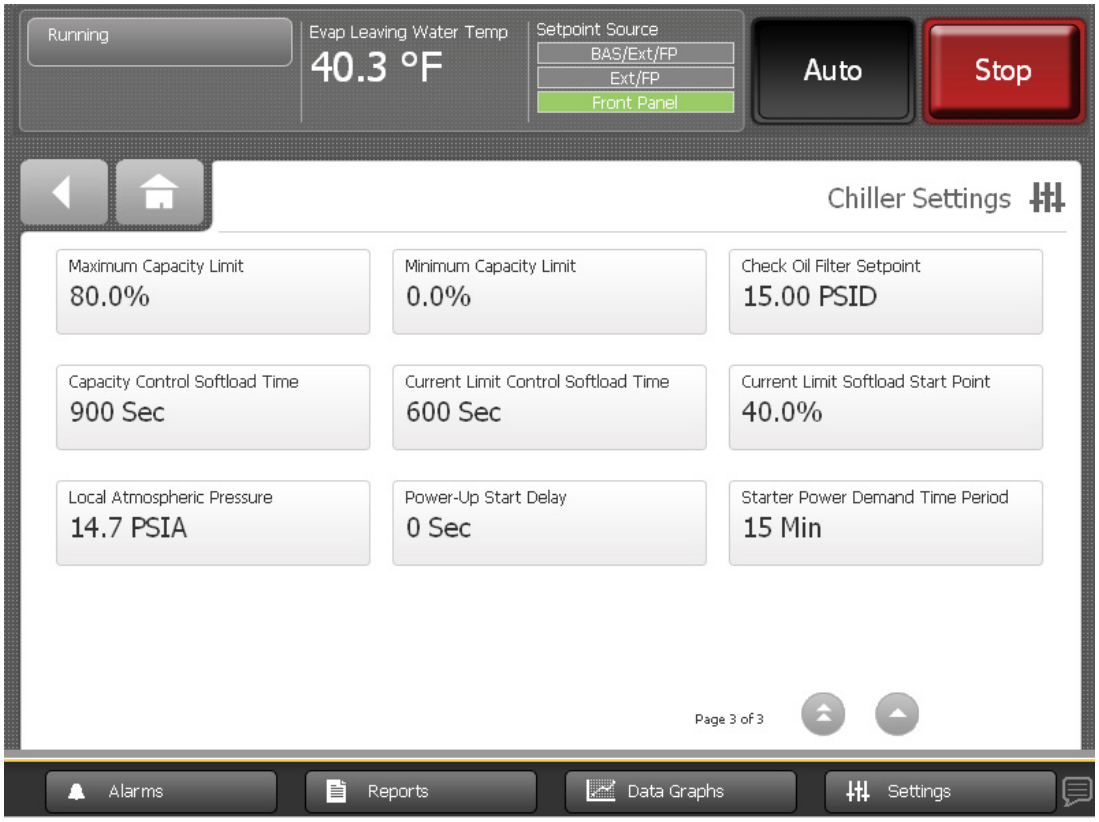


Viewing and Changing Equipment Settings

Each button in the Equipment Settings column on the Settings screen takes you to a menu screen that contains a group of buttons. Each button displays the name of a setting and its current value (Figure 21). Touch any button to view a screen where you can change the setting for the feature shown on the button.

Note: *A page number appears in the lower right corner of the screen. If a screen contains more than one page, up/down arrows also appear for viewing the other pages, as in* Figure 21*.*

Figure 21. Example equipment settings screen (Chiller Settings shown)



To change an equipment setting, follow this procedure:

1. Touch one of the button in the Equipment Settings column on the Settings screen, such as Chiller Settings. The corresponding screen appears (in this case, the Chiller Settings screen).
2. Touch the button that shows the equipment setting you want to change. A screen that allows you to change the equipment setting appears. There are two types of these screens:
   - For screens with button selections (Figure 22), touch the button that represents the setting you want. The button becomes shaded, and a **Save** button appears at the bottom of the screen.

Figure 22. Example equipment settings screen with buttons for changing setting

- For screens with numerical keypads (Figure 23), touch the appropriate numbers to change the current value. The new value appears above the keypad.

Figure 23. Example equipment settings screen with keypad for changing setting

Keypad features:
- When you enter a new number, the value in the **New value** field is deleted and replaced with the new entry.
- The backspace (arrow) key deletes the characters you previously entered.
- If the keypad is used to enter a setpoint that is out of range, an error dialog will appear when you touch the **Save** button.
- Keypads that allow negative numbers have positive and negative number (+/-) keys.

3. Touch **Save** to complete the change. The current value is updated in the upper left side of the screen, demonstrating that the change has been communicated to the Tracer UC800 controller. The screen you were previously viewing appears.

   Note: *Manual Control Settings screens have **Apply** buttons in addition to **Save** buttons. See an example in "Manual Control Settings," p. 49. Touching **Apply** is the same as touching **Save**, except that you remain at the current screen after the change is communicated to the Tracer UC800 controller (Figure 26, p. 50).*

Chiller Settings

Table 8 lists the settings that are available as buttons on the Chiller Settings menu screen, along with their corresponding setting options. The chiller configuration determines which of the settings appear.

Table 8. Chiller Settings menu screen: Buttons and available setting options

Buttons	Available setting options
Setpoint Source	• BAS/Ext/FP • Ext/FP • Front Panel
Front Panel Control Type	• Chilled Water • Hot Water
Front Panel Chilled Water Setpoint[a]	Valid numerical range appears on screen.
Front PanelHot Water Setpoint [a]	Valid numerical range appears on screen.
Front Panel Ice Building Command	• Auto • On
Front Panel Ice Termination Setpoint [a]	Valid numerical range appears on screen.
Ice to Normal Cooling Timer Setpoint	Valid numerical range appears on screen.
Front Panel Current Limit Setpoint[a]	Valid numerical range appears on screen.
Front Panel Free Cooling Command **Note:** CVHE, CVHF, and CVHG chillers only	• Auto • On
Front Panel Base Loading Setpoint [a]	Valid numerical range appears on screen.
Front Panel Base Load Command	• Auto • On
Differential to Start	Valid numerical range appears on screen.
Differential to Stop	Valid numerical range appears on screen.
Evaporator Leaving Water Temperature Cutout	Valid numerical range appears on screen.
Low Refrigerant Temperature Cutout	Valid numerical range appears on screen.
Condenser Water Pump Off Delay	Valid numerical range appears on screen.
Evaporator Water Pump Off Delay	Valid numerical range appears on screen.
Evaporator Low Water Flow Warning Setpoint	Valid numerical range appears on screen.
Maximum Capacity Limit	Valid numerical range appears on screen.
Minimum Capacity Limit	Valid numerical range appears on screen.
Check Oil Filter Setpoint **Notes:** Ckt1 and Ckt2 for Duplex CDHF and CDHG chillers	Valid numerical range appears on screen.
Capacity Control Softload Time	Valid numerical range appears on screen.
Current Limit Control Softload Time	Valid numerical range appears on screen.
Current Limit Control Softload Start Point	Valid numerical range appears on screen.
Local Atmospheric Pressure	Valid numerical range appears on screen.
Power-Up Start Delay Time	Valid numerical range appears on screen.
Starter Power Demand Time Period	Valid numerical range appears on screen.

Table 8. Chiller Settings menu screen: Buttons and available setting options (continued)

Buttons	Available setting options
Staging On Boundary **Notes:** Duplex CDHF and CDHG chillers only	Valid numerical range appears on screen.
Staging Off Boundary **Notes:** Duplex CDHF and CDHG chillers only	Valid numerical range appears on screen.

(a) This is an arbitrated setpoint. For an complete explanation of arbitrated setpoints, see "Setpoint Sources," p. 44.

Setpoint Sources

Some setpoints can be controlled from more than one source. These are referred to as *arbitrated setpoints* and are identified by footnote (a) in Table 8. Arbitrated setpoints can be:

- Communicated from a building automation system (BAS)—Refers to a Trane or other BAS that can communicate with chiller controls over a network.
- Set by an external control source (Ext)—Refers to inputs that are hard-wired directly to local chiller controls, carrying low-voltage binary (On/Off) or analog (0–10 Vdc, 4–20 mA) signals.
- Set at the front panel (FP)—Refers to inputs that are entered by an operator using the Tracer AdaptiView display or by a technician using the Tracer TU service tool.

Setpoint Source Arbitration

The Tracer UC800 uses a process referred to as *setpoint source arbitration* to prioritize the selection of the setpoint source. See Table 9 for an explanation of how this process works.

Table 9. Setpoint source choices and corresponding arbitration

Priority	BAS / Ext / FP	Ext / FP	Front Panel
First	Setpoint from the BAS is used.	Setpoint from a external control source is used.	Setpoint from the front panel is used. **Note:** Any setpoint from a BAS or external control source is ignored.
Second	If no BAS setpoint is available (for example, BAS communication has never been established), a setpoint from an external control source is used.	If no externally controlled setpoint is available, a setpoint from the front panel is used. **Note:** Any setpoint from a BAS is ignored.	None
Third	If no BAS nor external setpoint is available (for example, BAS communication has never been established), a setpoint from the front panel is used.	None	None

1. For service or troubleshooting, it may be helpful to set the setpoint source to front panel to isolate the chiller from other control sources.
2. If BAS communication was established and then lost, in most instances the BAS values remain and can be used by the chiller controller.

Changing the Setpoint Source

There are three ways to access the Setpoint Source screen. To change the setpoint source, follow one of these procedures:

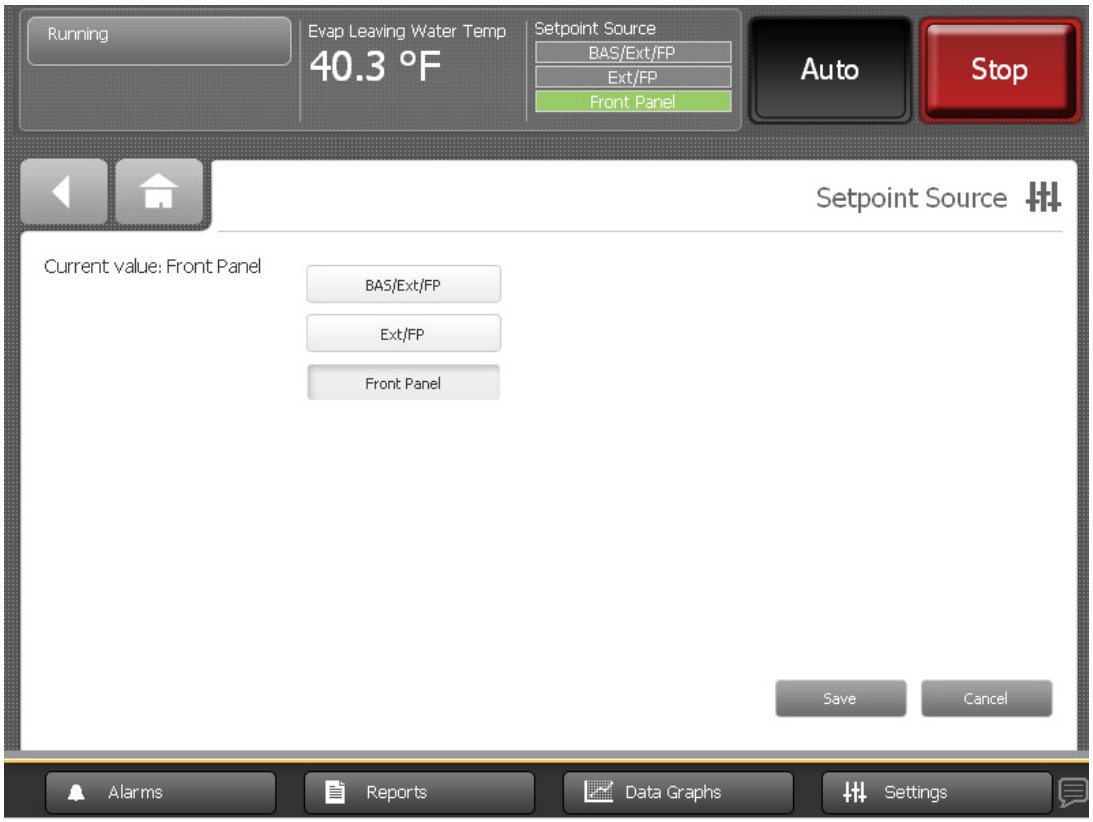
Changing the setpoint source using the Setpoint Source button in the chiller status area

1. Touch the **Setpoint Source** button in the chiller status area (Figure 1, p. 7).

   The Setpoint Source screen appears (Figure 24).
2. Touch the appropriate source button on the Setpoint Source screen.
3. Touch **Save** to complete the change.

   Note: *The change applies to all arbitrated setpoints.*

Figure 24. Setpoint Source screen



Changing the setpoint source from the Setpoint Source button on the Chiller Settings screen

1. Touch the **Settings** button in the main menu area (Figure 1, p. 7). The Settings screen appears.
2. From the Settings screen, touch the **Chiller Settings** button. The Chiller Settings screen appears.
3. From the Chiller Settings screen, touch the button that is labeled “Setpoint Source” and displays the current source. The Setpoint Source screen appears (Figure 24).

4. Touch the button the appropriate source button on the Setpoint Source screen .
5. Touch **Save** to complete the change.

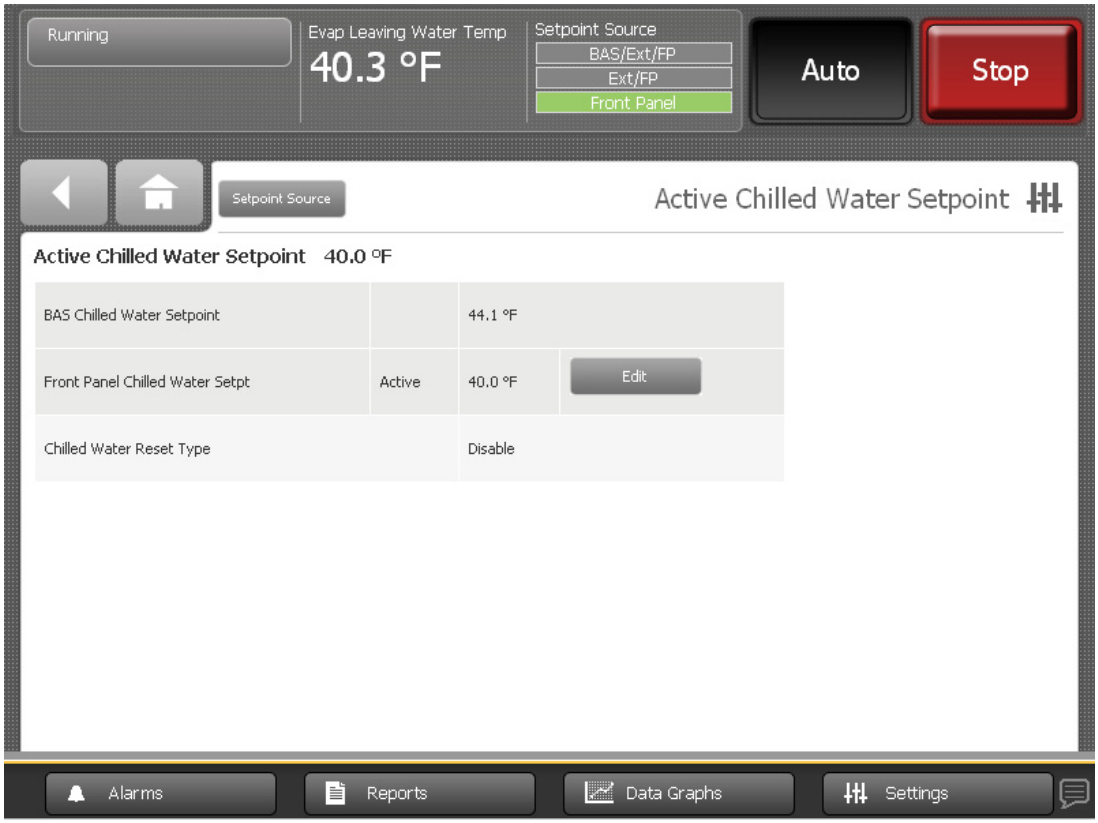
   Note: *The change applies to all arbitrated setpoints.*

Changing the setpoint source from an arbitrated setpoint screen

1. Touch the **Settings** button in the main menu area (Figure 1, p. 7). The Settings screen appears.
2. From the Settings screen, touch the **Chiller Settings** button. The Chiller Settings screen appears.
3. From the Chiller Settings screen, touch an arbitrated setpoint. The setpoint screen for that specific arbitrated setpoint appears (see Figure 25 for an example).
4. On the arbitrated setpoint screen, touch the Setpoint Source button. The Setpoint Source Screen appears (Figure 24).
5. Touch the button the appropriate source button on the Setpoint Source screen.
6. Touch **Save** to complete the change.

   Note: *The change applies to all arbitrated setpoints.*

Figure 25. Changing the setpoint source from an arbitrated setpoint screen



Feature Settings

Table 10 lists the settings that are available as buttons on the Feature Settings menu screen, along with their corresponding setting options. The chiller configuration determines which of the settings appear.

Table 10. Feature Settings menu screen: Buttons and available setting options

Feature	Available setting options
External Chilled Water Setpoint	• Enable • Disable
External Current Limit Setpoint	• Enable • Disable
Ice Building	• Enable • Disable
Staging Sequence **Notes:** Duplex CDHF and CDHG chillers only	• Balanced • Circuit 1 Lead • Circuit 2 Lead • Combined
Hot Gas Bypass **Note:** CVHE, CVHF, and CVHG chillers only	• Enable • Disable
Hot Gas Bypass Maximum Timer **Note:** CVHE, CVHF, and CVHG chillers only	• Enable • Disable
Minimum Capacity Timer	• Enable • Disable
Security	• Enable • Disable
LCI-C Diagnostic Encodoing	• Text • Code
Ext Base Loading Setpoint **Note:** CVHE, CVHF, and CVHG chillers only	• Enable • Disable
Check Oil Filter Diagnostic	• Enable • Disable

Chilled Water Reset

Table 11 lists the settings that are available as buttons on the Chilled Water Reset menu screen, along with their corresponding setting options. The chiller configuration determines which of the settings appear.

Table 11. Chilled Water Reset menu screen: Buttons and available setting options

Buttons	Available setting options
Chilled Water Reset Type	• Disable • Return • Outdoor Air • Constant
Return Reset Ratio	Valid numerical range appears on screen.
Return Start Reset	Valid numerical range appears on screen.

Table 11. Chilled Water Reset menu screen: Buttons and available setting options (continued)

Buttons	Available setting options
Return Maximum Reset	Valid numerical range appears on screen.
Outdoor Reset Ratio	Valid numerical range appears on screen.
Outdoor Start Reset	Valid numerical range appears on screen.
Outdoor Maximum Reset	Valid numerical range appears on screen.

Purge Settings

Table 12 lists the settings that are available as buttons on the Purge Settings menu screen, along with their corresponding setting options. The chiller configuration determines which of the settings appear.

Table 12. Purge Settings menu screen: Buttons and available setting options

Buttons	Available setting options
Purge Operating Mode **Notes:** Ckt1 and Ckt2 for Duplex CDHF and CDHG chillers	• Stop • Auto • Adaptive • On
Daily Pumpout Limit **Notes:** Ckt1 and Ckt2 for Duplex CDHF and CDHG chillers	Valid numerical range appears on screen.
Disable Daily Pumpout Limit **Notes:** Ckt1 and Ckt2 for Duplex CDHF and CDHG chillers	Valid numerical range appears on screen.
Purge Liquid Temperature Inhibit **Notes:** Ckt1 and Ckt2 for Duplex CDHF and CDHG chillers	• Enable • Disable
Purge Liquid Temperature Limit **Notes:** Ckt1 and Ckt2 for Duplex CDHF and CDHG chillers	Valid numerical range appears on screen.

Manual Control Settings

Table 13, p. 49, lists the settings that are available as buttons on the Manual Control Settings menu screen, along with their corresponding setting options. The chiller configuration determines which of the settings appear.

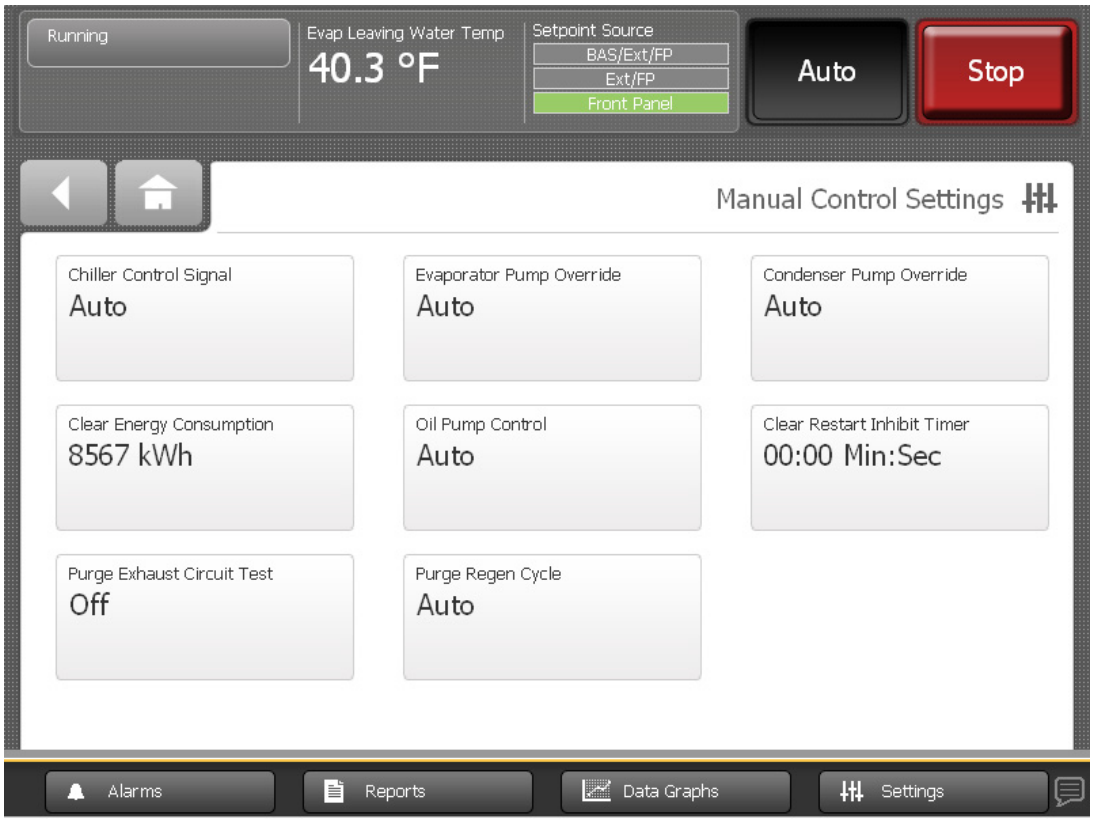
Table 13. Manual Control settings menu screen: Buttons, available setting options, and status points

Feature	Current value	Available setting options	Status points
Chiller Control Signal	Auto/Manual	Manual mode: Up/down arrows for changing the setpoint	• IGV1 Position (CVHE, CVHF, and CVHG chillers only) • IGV2 Position (CVHE, CVHF, and CVHG chillers only) • Average Line Current (Ckt1 and Ckt2 for Duplex CDHF and CDHG chillers • AFD Frequency (Ckt1 and Ckt2 for Duplex CDHF and CDHG chillers • Active Chilled Water Setpoint (Active Hot Water Setpoint if in Heating mode) • Evap Leaving Water Temp (Cond Leaving Water Temp if in Heating mode)
Evaporator Pump Override	On/Off	• Auto • On	• Evaporator Pump Manual Override Time Remaining • Evap Water Flow Switch Status • Active Chilled Water Setpoint • Evap Leaving Water Temp
Condenser Pump Override	On/Off	• Auto • On	• Condenser Pump Manual Override Time Remaining • Cond Water flow Switch Status • Active Hot Water Setpoint • Cond Leaving Water Temp
Clear Energy Consumption	XXXX kWh	• CVHE, CVHF, and CVHG chillers only: Clear • Duplex CDHF and CDHG chillers only: Energy Consumption Resettable Ckt1, Ckt2	
Oil Pump Control **Notes:** Ckt1 and Ckt2 for Duplex CDHF and CDHG chillers	On/Off	• Auto • On	• Oil Pump Manual Override Time Remaining • Oil Differential Pressure • Oil Pump Discharge Pressure • Oil Tank Pressure
Clear Restart Inhibit **Notes:** Ckt1 and Ckt2 for Duplex CDHF and CDHG chillers	XX:XX min:sec	• Clear	
Purge Exhaust Circuit Test **Notes:** Ckt1 and Ckt2 for Duplex CDHF and CDHG chillers	Auto/On	• Enable • Disable	• Purge Rfgt Cprsr Suction Temp • Purge Liquid Temp
Purge Regen Cycle **Notes:** Ckt1 and Ckt2 for Duplex CDHF and CDHG chillers	On/Off	• Auto • On	Carbon Tank Temp
Front Panel Lockout **Notes:** Duplex CDHF and CDHG chillers only; for Ckt1 and Ckt2.		• Locked Out • Not Locked Out	

To change a manual control setting, follow this procedure:

1. In the Equipment Settings column on the Settings screen, touch **Manual Control Settings**. The Manual Control Settings screen appears (Figure 26).

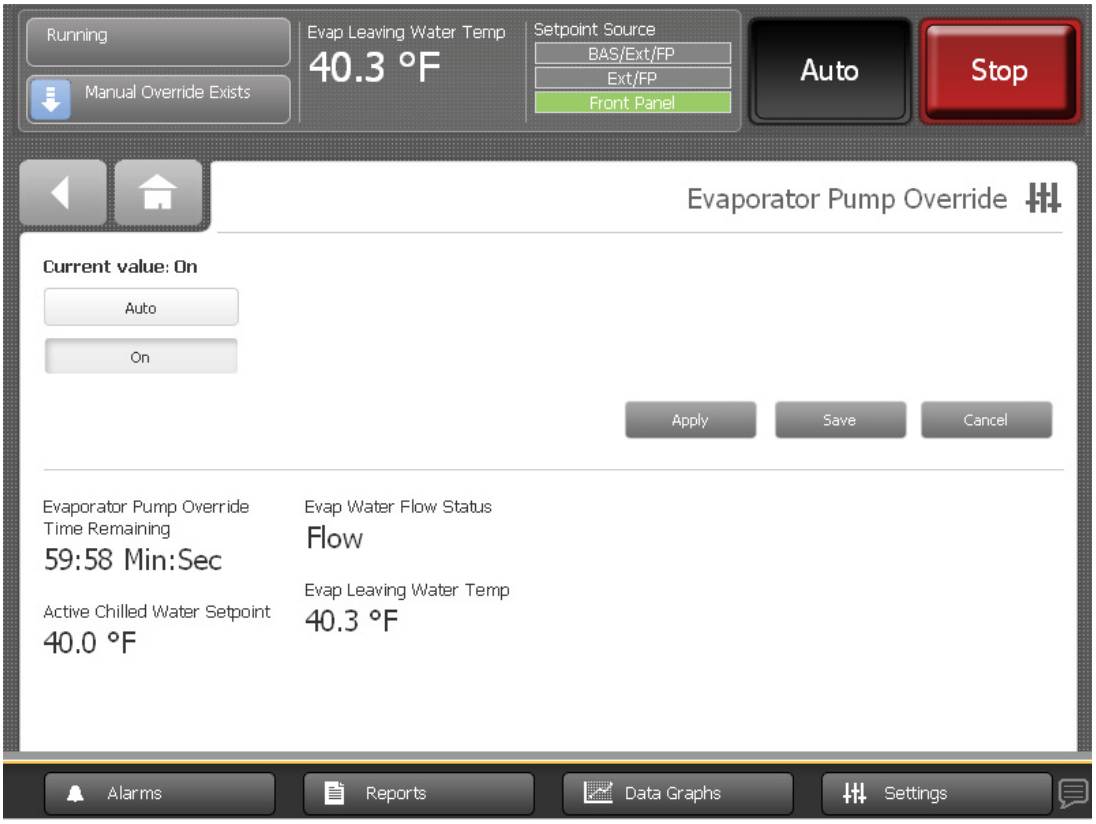
Figure 26. Manual Control Settings screen



2. Touch the button that shows the manual control setting you want to change. A screen for changing the manual control setting appears (Figure 27, p. 51).
3. Touch the button that represents the setting you want. The button becomes shaded and **Apply** and **Save** buttons appear at the bottom of the screen.

   Note: *The Compressor Control Signal screen provides up/down arrow keys and numerical fields for selecting a value.*
4. To save your change, do one of the following:
   - Touch **Apply**. The change is communicated to the Tracer UC800 controller. You can observe the status points in the lower half of the screen change in response to the setting change you just made. Also, a Manual Override button appears in the upper left corner of the screen (see Figure 27, p. 51).
   - Touch **Save**. The change is communicated to the Tracer UC800 controller. The screen you were previously viewing appears.

Figure 27. Manual Control Settings screen (Evaporator Pump Override shown)



Display Settings

You can use the Tracer AdaptiView display to change the format of the information that appears on the display, and to clean the touch screen.

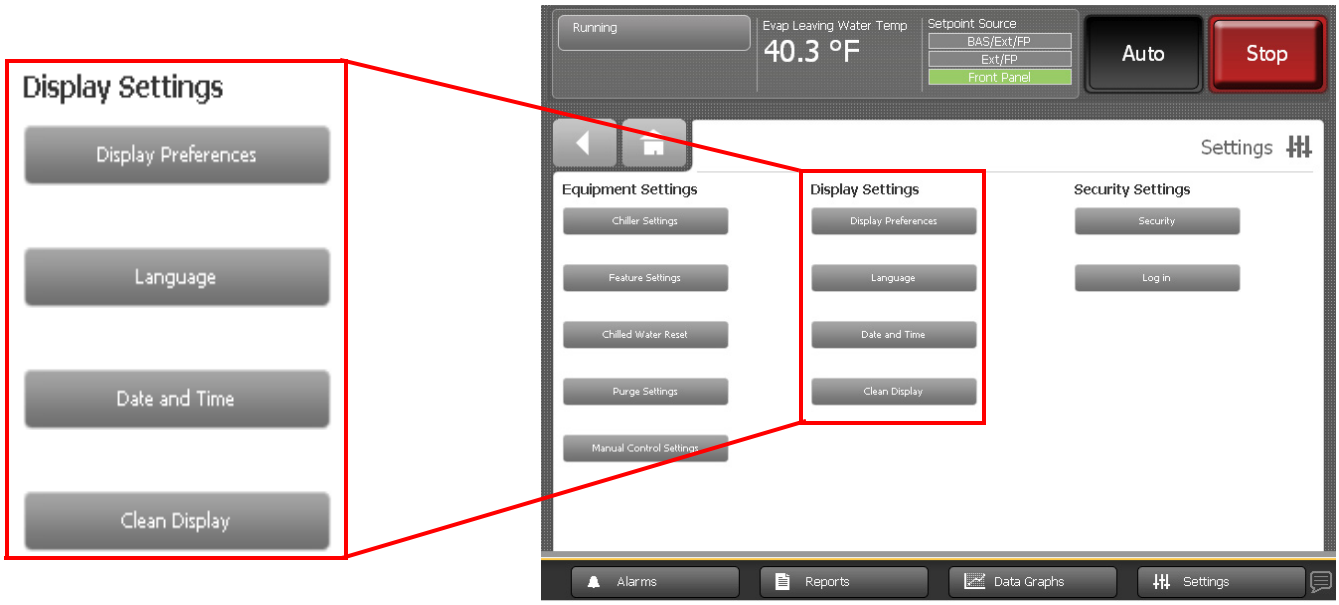
Viewing the Settings Screen

Touch the **Settings** button in the main menu area (see "Main Menu Area," p. 15) to view the Settings screen. *Display Settings* identifies a column of buttons located on the screen (see Figure 28). The buttons are:

- Display Preferences
- Language
- Date and Time
- Clean Display

Each button provide access to a screen that is related to the button name.

Figure 28. Settings screen with the Display Settings column highlighted

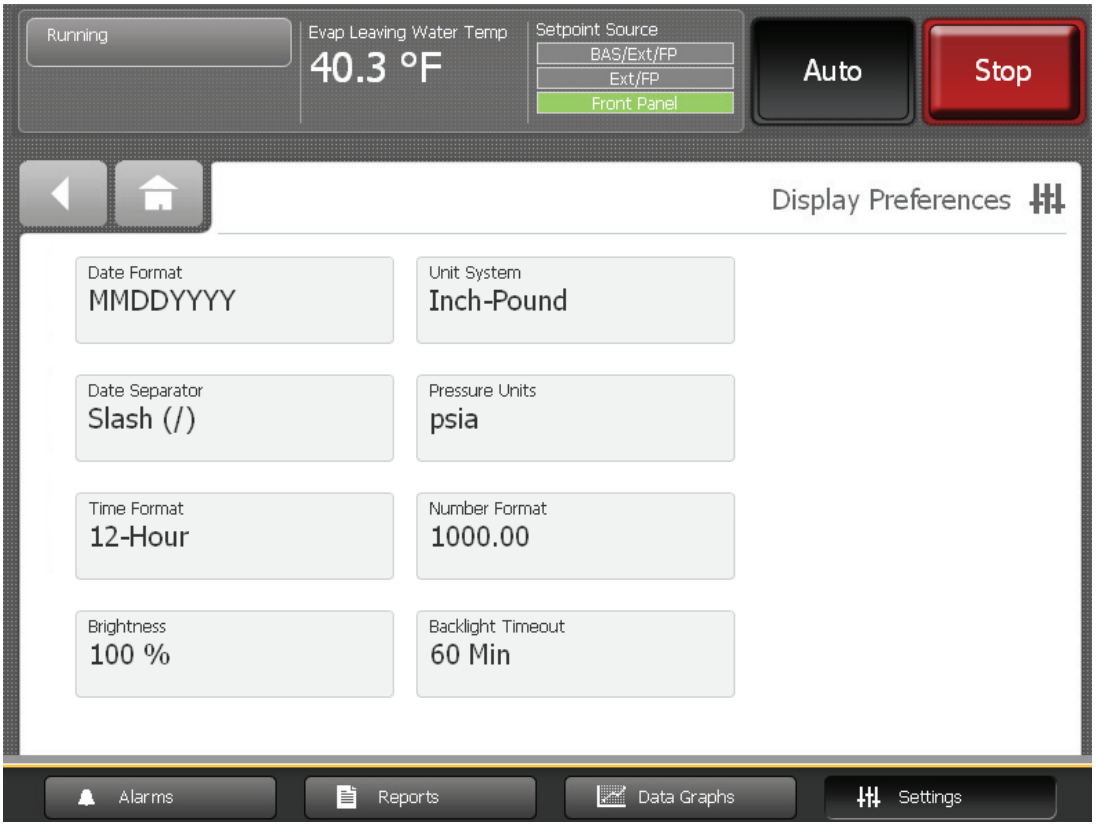


Viewing and Changing Display Preferences

On the Settings screen, touch **Display Preferences** to view a screen containing these buttons (see Figure 29):

- Date Format
- Date Separator
- Time Format
- Brightness
- Unit System
- Pressure Units
- Backlight Timeout

Figure 29. Display Preferences screen



Each of the buttons in Figure 29 shows the name of a display preference and its format (current value). Touch any of these buttons to view a screen where you can change the format (see Figure 30, p. 54 for an example). The button representing the format currently used is shaded (see the "MMDDYYYY" button in Figure 30).

Figure 30. Example of a display preference screen

To change the format:

1. Touch the button that shows that format you prefer.
2. Touch **Save** to confirm your selection and to return to the Display Preferences screen.

Date Format

Use the Date Format screen to choose from the following date formats:

- MMDDYYYY (default)
- YYYYMMDD
- DDMMYYYY

Date Separator

Use the Date Separator screen to choose from the following date formats:

- None
- Slash (default)
- Hyphen

Time Format

Use the Time Format screen to choose from the following time formats:

- 12 hour (default)
- 24 hour

Brightness

Use the numerical keypad on the Brightness screen to change the brightness of the screen. (The default is 100%.)

Display Units

Use the Display Units screen to choose from the following display units:

- SI
- Inch-Pounds (default)

Pressure Units

Use the Pressure Units screen to choose from the following pressure units:

- kPaA (default if “SI” is chosen for display units)
- kPaG
- PSIA (default if “Inch-Pound” is chosen for display units)
- PSIG

Backlight Timeout

Use the numerical keypad on the Backlight Timeout screen to change the number of minutes of inactivity that pass until the screen dims. (The default is 60 minutes.)

Viewing and Changing the Language Preference

On the Settings screen, touch **Languages** to view a screen containing the following buttons (see Figure 31, p. 56):

- Arabic (Gulf Regions)
- Chinese—China
- Chinese—Taiwan
- Czech
- Dutch
- English
- French
- German
- Greek
- Hebrew
- Hungarian
- Italian
- Japanese
- Korean
- Norwegian
- Portuguese (Portugal)
- Portuguese (Brazil)
- Russian
- Romanian
- Spanish (Europe)
- Spanish (Latin America)
- Swedish
- Thai

Figure 31. Language screen

The language that is currently in use on the display is expressed as the current value on the Language screen. The button that displays the current value is shaded (see the “English” button in Figure 31 as an example).

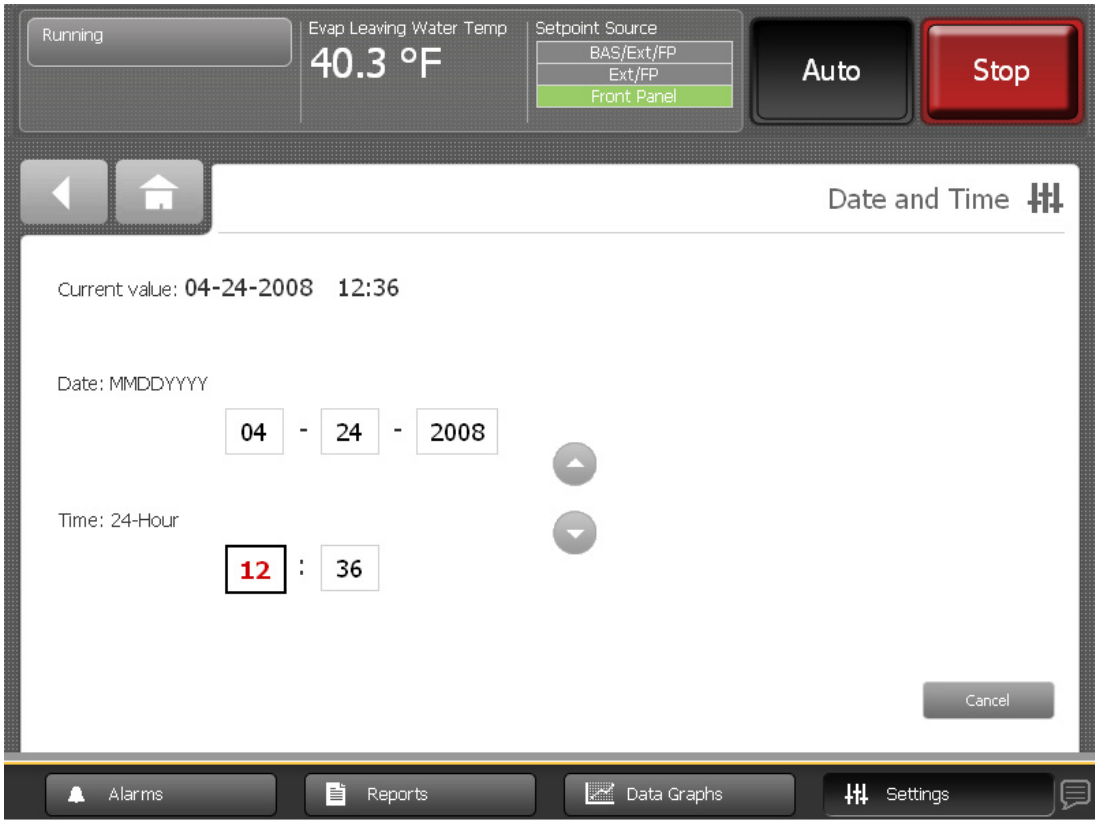
To change the language:

1. Touch the button that identifies the language you prefer.
2. Touch **Save** to confirm your selection and to return to the Settings screen.

Viewing and Changing Date and Time Preferences

On the Settings screen, touch **Date and Time** to view the Date and Time screen, shown in Figure 32.

Figure 32. Date and Time screen



The current date and time for the display is expressed as the current value. The current value appears below the center line on the screen.

Above the center line, the following date and time attributes appear:

- Month
- Day
- Year
- Hour
- Minute
- AM/PM

To change the date or time:

1. Touch the square presenting the attribute you want to change. The square becomes highlighted.
2. Touch the up or down arrow key on the screen until the your desired selection appears. Repeat the process for any other attributes you want to change.
3. Touch **Save** to confirm your selection and return to the Settings screen.

Cleaning the Display

On the Settings screen, touch **Clean Display** to disable the Tracer AdaptiView display screen for 15 seconds so that you can clean the screen without it responding to touch. During this time, the screen is black with a number in the center that counts down the seconds. After 15 seconds, the Settings screen re-appears (Figure 33).

Figure 33. Countdown screen

Security Settings

If security if enabled, the Tracer AdaptiView display requires that you log in with a four-digit security PIN to make settting changes that are protected by security. This feature prevents unauthorized personnel from doing so. There are two levels of security, each allowing specific changes to be made.

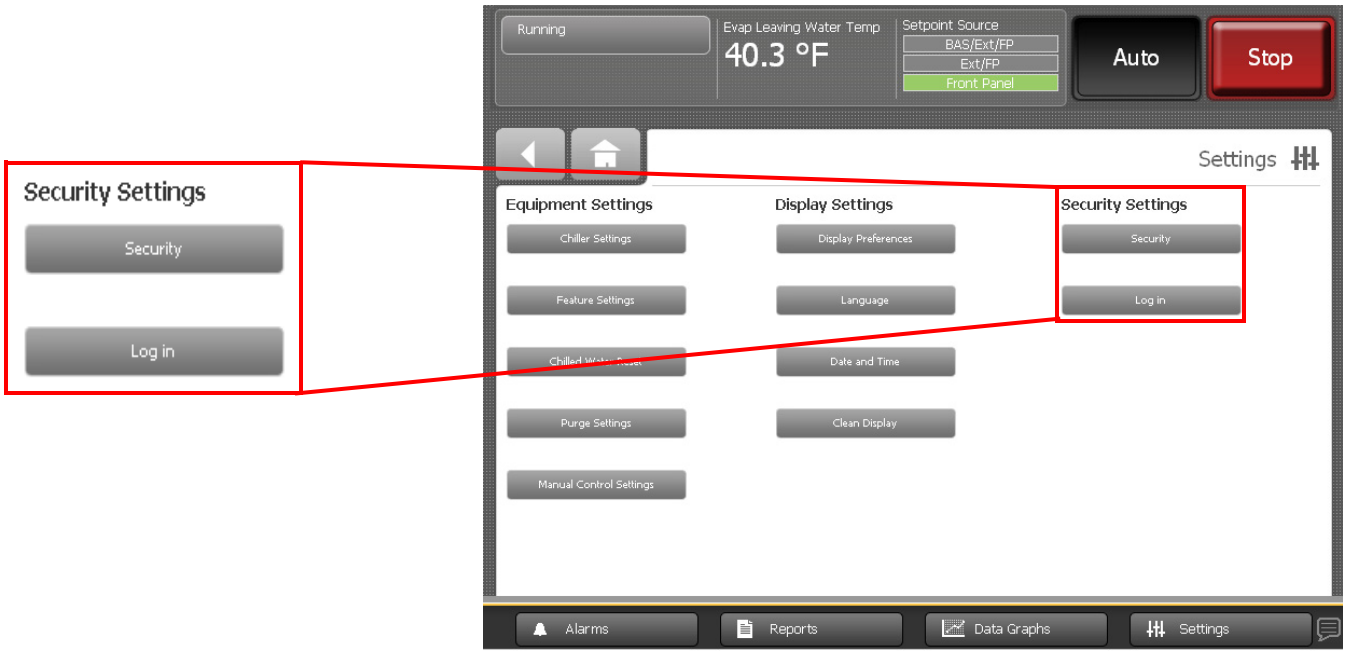
You can view all data without logging in. The log-in screen appears only when you try to change a setting that is protected by security, or when you touch the **Log in** button from the Settings screen.

Viewing the Settings Screen

Touch the **Settings** button in the main menu area (see "Main Menu Area," p. 15) to view the Settings screen. *Security Settings* identifies a column on the right side of the screen that contains two buttons (see the outlined column in Figure 34):

- Security
- Log in (Log out)

Figure 34. Equipment Settings screen with the Display Settings column highlighted



Note: If security is disabled, the Log in/Log out button is not visible. See "Disabling/Enabling Security," p. 60.

Disabling/Enabling Security

The Tracer AdaptiView display gives you the ability to disable or enable the security feature that allows a user to log in and log out.

To disable security, you must be logged in:

1. From the Settings screen, touch the **Security** button. The Security screen appears (Figure 35).

   Note: *If you are logged out, the Log in screen appears.*

2. Touch the **Disable** button. The button becomes shaded.
3. Touch **Save**. The Settings screen appears with only the **Security** button visible. The **Log in/Log out** button is gone.

Figure 35. Security screen

To enable security:

1. From the Settings screen, touch the **Security** button. The Security screen appears (Figure 35).
2. Touch the **Enable** button. The button becomes shaded.
3. Touch **Save**. The Settings screen appears with a **Log** out button, in addition to the **Security** button.

Logging In

There are two levels of security:

- Security Level 1 allows users to change a limited group of secure settings. The default security PIN is 1111.
- Security Level 2 allows users to change all secure settings. The default security PIN is 7123.

A technician must use the Tracer TU service tool to define a different PIN, or to recall a PIN that has been forgotten. When defining a PIN in Tracer TU, the technician enters a 4-digit PIN that corresponds with the desired level of security.

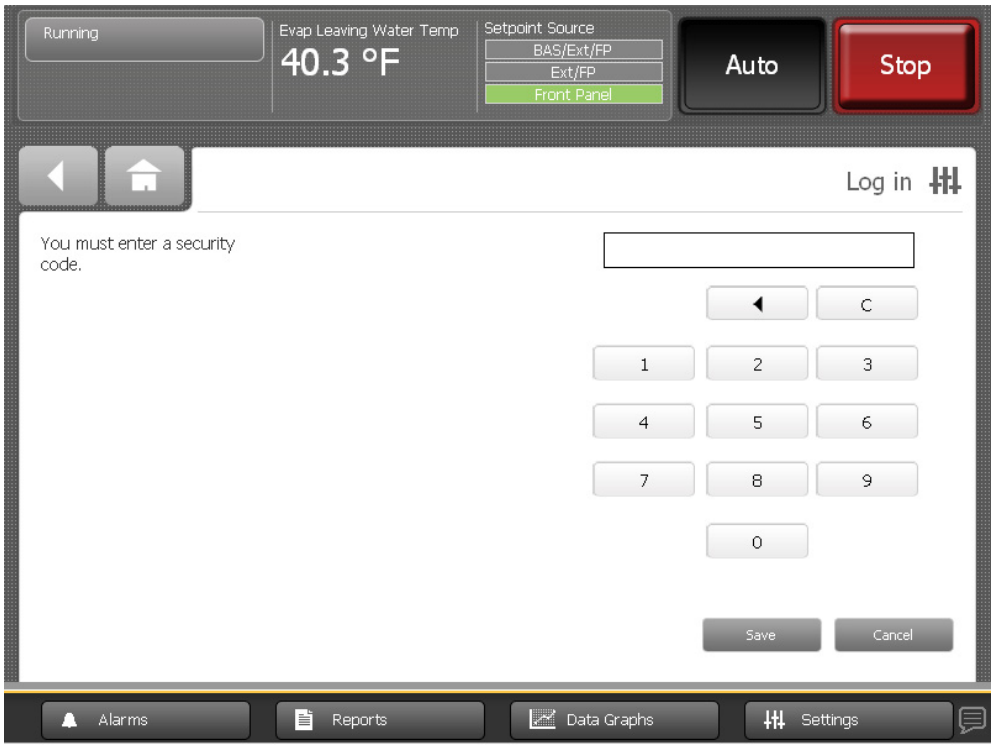
To log in:

1. Touch the **Log in** button. The Log in screen appears (Figure 36).
2. Use the keypad to enter your PIN.
   - The PIN is a four-digit number, which was configured for your system with the Tracer TU service tool.
   - As you enter the number, the PIN remains hidden by asterisks.

   Note: *If you enter an invalid PIN, an error message appears on the Log in screen.*
3. Touch **Save**.
   - If you viewed the Log in screen from touching **Log in** on the Settings screen, the Settings screen appears with a **Log out** button on it.
   - If the Log in screen appeared when you tried to change a setting, you return to that setting screen.

   Note: *The PIN is valid until 30 minutes of inactivity passes, or until you log out.*

Figure 36. Log In Screen

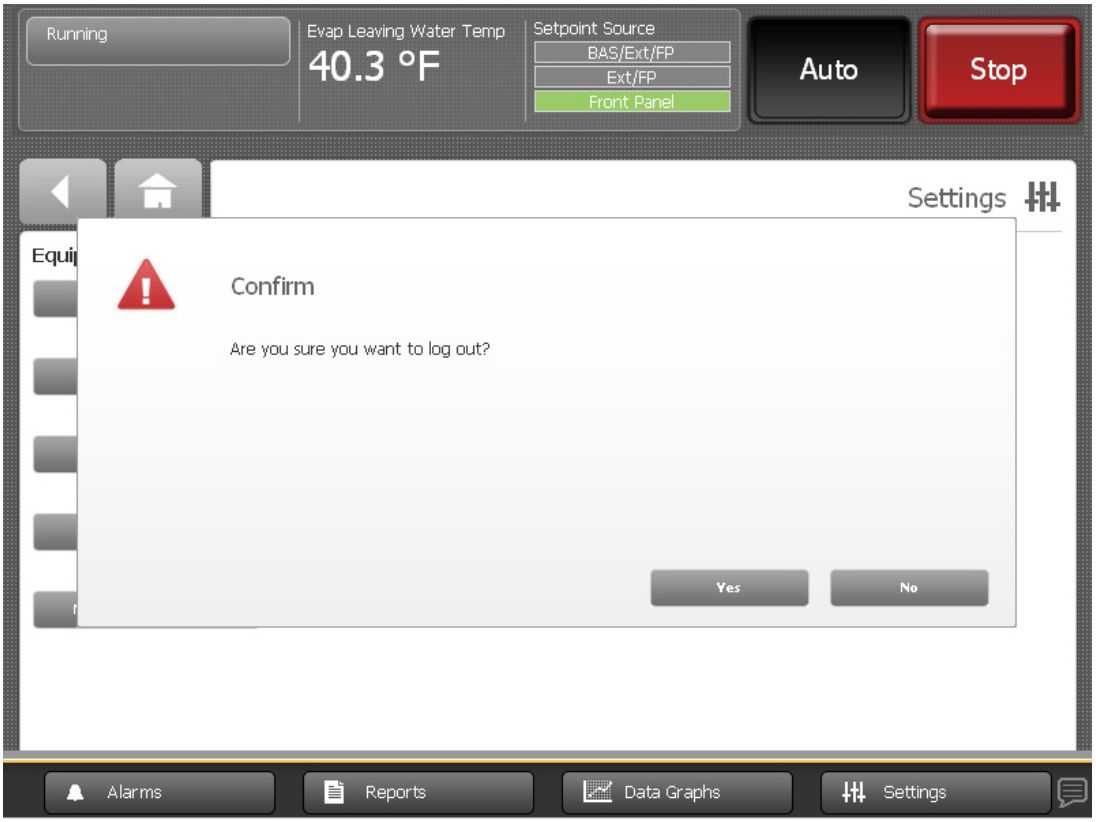


Logging Out

To log out:

1. Touch the **Log out** button. A confirmation screen appears (Figure 37).
2. Touch **Yes** to confirm that you want to log out. The Settings screen appears with a **Log in** button on it.

Figure 37. Log out confirmation screen



Troubleshooting

Table 14 contains information to help troubleshoot the Tracer AdaptiView displays.

Table 14. Tracer AdaptiView display troubleshooting guide

Issue	Possible causes / Solutions
The screen only partially displays; the Auto and Stop buttons appear, but there is no text.	The UC800 configuration is invalid. Download a valid configuration using the Tracer TU service tool.
The following error message appears: *UC800 Configuration is Invalid* • *UC800 configuration must be updated with the Tracer TU technician utility*	Follow the error message instructions.
The following error message appears: *Communication lost with UC800* *1. Check power and communication cables* *2. Update the UC800 software with the Tracer TU technician utility*	Communication has been established and then lost, or the UC800 configuration is invalid. Follow the error message instructions.
The following error message appears: *Display Failed to Establish Communication* • *Check power and communication cables* • *Re-attempting connection in X seconds*	Communication is not established. • The Ethernet cable and/or the power cable may be disconnected. Check the connections. • The UC800 may have an invalid configuration. Download a valid configuration using the Tracer TU service tool.
The following error message appears: *[*Missing file name]* • *UC800 software must be updated with the Tracer TU technician utility*	A file is missing. • The Tracer TU service tool is connected and the LLID binding screen is displayed. • UC800 has an invalid configuration. Download a valid configuration using the Tracer TU service tool. • Cycle power to the display and the UC800. Disconnect the USB cable and wait approximately 10 seconds before reconnecting the USB cable.
The following error message appears: *The display is about to restart* • *Click No to continue working* • *Click Yes to reset immediately*	This message appears if all of the following conditions occur: • It is 2:00AM, and • There has been no touchscreen activity for 30 minutes, and • A designated amount of continuous operation has occurred. Follow the error message instructions.

Appendix A: Data for CenTraVac CVHE, CVHF, CVHG chillers

The following lists contain all of the data available for viewing on a Tracer AdaptView display that is connected to a CenTraVac chiller CVHE, CVHG, or CVHG.

Component Screen Data

Chiller configuration determines which of the following settings and status points appear on the display. For more information, see "Component Screens," p. 13.

Component	Settings and status points
Evaporator	Active Chilled Water Setpoint (button links to the Active Chiller Water Setpoint screen)
	Evaporator Pump Override (button links to Evaporator Pump Override screen)
	Evap Water Flow Status
	Evap Leaving Water Temp
	Evap Entering Water Temp
	Calculated Chiller Capacity
	Evaporated Saturated Rfgt Temp
	Evaporator Rfgt Pressure
	Evap Approach Temp
	Approx Evap Water Flow
	Evap Differential Wtr Press
Condenser	Active Hot Water Setpoint (button links to the Active Hot Water Setpoint screen)
	Cond Condensor Pump Override (button links to the Condenser Pump Override screen)
	Cond Water Flow Status
	Cond Entering Water Temp
	Cond Leaving Water Temp
	Outdoor Air Temp
	Condenser Sat Rfgt Temp
	Condenser Refrigerant Pressure
	Condenser Approach Temperature
	Approx Cond Water Flow
	Cond Differential Wtr Press
	Second Condenser Lvg Wtr Temp
	Second Condenser Ent Wtr Temp

Component	Settings and status points
Compressor	Compressor Running Status
	Compressor Control Signal
	Oil Pump Control
	Average Line Current (%RLA)
	Oil Pump Status
	Oil Differential Pressure
	Compressor Starts
	Compressor Running Time
	Oil Pump Discharge Pressure
	Oil Tank Pressure
	Oil Tank Temperature
	Inboard Bearing Temperature
	Outboard Bearing Temperature
	IGV 1 Percent Open
	IGV 1 Position (Steps)
	IGV 2 Percent Open
	IGV 2 Position (Steps)
	Compressor Rfgt Discharge Temp
	HGBP Time
Motor	Active Current Limit Setpoint (button links to Active Current Limit Setpoint screen)
	Average Line Current (%RLA)
	ADF Frequency or Generator Frequency Command (based on configuration)
	Starter Current L1 (%RLA)
	Starter Current L2 (%RLA)
	Starter Current L3 (%RLA)
	Starter Current L1 (A)
	Starter Current L2 (A)
	Starter Current L3 (A)
	Starter Voltage Phase AB
	Starter Voltage Phase BC
	Starter Voltage Phase CA
	Motor Winding Temp 1
	Motor Winding Temp 2
	Motor Winding Temp 3

Appendix A: Data for CenTraVac CVHE, CVHF, CVHG chillers

Component	Settings and status points
Motor (continued)	AFD Speed
	AFD Transistor Temp
	Starter Energy Consumption Resettable
	Starter Energy Consumption Last Reset
	Starter Energy Consump Non Reset
	Starter Power Demand
	Starter Load Power Factor
Purge	Purge Top Level Mode (button links to Purge Operating Modes screen
	Purge Regen Cycle (button links to Purge Regen Cycle screen)
	Purge Fault Indicator (button links to Alarms screen)
	Daily Pumpout—24 Hours
	Average Daily Pumpout—7 Days
	Daily Pumpout Limit/Alarm
	Chiller On—7 Days
	Pumpout Chiller On—7 days
	Pumpout Chiller Off—7 days
	Time Until Next Purge Run
	Purge Rfgt Compressor Suction Temp
	Purge Liquid Temperature
	Pumpout—Life
	Purge Carbon Tank Temp

Reports

The following data can be viewed on the Reports screen. For more information, see "Reports," p. 21.

Log Sheet

Chiller component	Report item	Unit
Evaporator	Evaporator Entering Water Temperature	XXX.X °F/°C
	Evaporator Leaving Water Temp	XXX.X °F/°C
	Evaporator Sat Rfgt Temp	XXX.X °F/°C
	Evaporator Rfgt Pressure	XXX.X PSI/kPa
	Evaporator Approach Temp	XXX.X °F/°C
	Evaporator Water Flow Switch Status	Flow/No Flow
Condenser	Cond Entering Water Temp	XXX.X °F/°C
	Cond Leaving Water Temp	XXX.X °F/°C
	Cond Sat Rfgt Temp	XXX.X °F/°C
	Cond Rfgt Pressure	XXX.X PSI/kPa
	Cond Approach Temp	XXX.X °F/°C
	Cond Water Flow Switch Status	Flow/No Flow
Compressor	Starts	XXXX Starts
	Running Time	XX:XX Hr:Min
	Oil Tank Pressure	XXX.X PSI/kPa
	Oil Pump Discharge Pressure	XXX.X PSI/kPa
	Oil Differential Pressure	XXX.X PSI/kPa
	Oil Tank Temperature	XXX.X °F/°C
	IGV 1 Position	XXX.X %
	IGV 1 Position	Steps
	IGV 2 Position	XXX.X %
	IGV 2 Position	Steps

Appendix A: Data for CenTraVac CVHE, CVHF, CVHG chillers

Chiller component	Report item	Unit
Motor	Starter Current L1	XXX.X %
	Starter Current L2	XXX.X %
	Starter Current L3	XXX.X %
	Starter Current L1	XXXX A
	Starter Current L2	XXXX A
	Starter Current L3	XXXX A
	Starter Voltage AB	XXXXX.X V
	Starter Voltage BC	XXXXX.X V
	Starter Voltage CA	XXXXX.X V
	Starter Power Demand	XXXX kW
	Starter Load Power Factor	XX.X
	Motor Winding Temp 1	XXX.X °F/°C
	Motor Winding Temp 2	XXX.X °F/°C
	Motor Winding Temp 3	XXX.X °F/°C
	AFD Frequency	XX Hz
	AFD Speed	XXXX RPM
	AFD Transistor Temp	XXX.X °F/°C
Purge	Time Until Next Purge Run	XXX.X min
	Daily Pumpout—24 Hours	XXX.X min
	Average Daily Pumpout—7 Days	XXX.X min
	Daily Pumpout Limit	XXX.X min
	Chiller On—7 Days	XXX.X min
	Pumpout Chiller On—7 Days	XXX.X min
	Pumpout Chiller Off—7 Days	XXX.X min
	Pumpout—Life	XXX.X min
	Purge Rfgt Compressor Suction Temp	XXX.X °F/°C
	Purge Liquid Temp	XXX.X °F/°C
	Purge Carbon Tank Temp	XXX.X °F/°C

ASHRAE Chiller Log

Note: *The ASHRAE Chiller Log contains those items recommended by ASHRAE Std 147 Standard 147-2002, Reducing Release of Halogenated Refrigerants from Refrigeration and Air-Conditioning Equipment and Systems.*

Data name	Value
Current Date/Time	User-selected date/time format
Chiller Top Level Mode	Dependent on chiller type
Starter Current L1	XXXX A
Starter Current L2	XXXX A
Starter Current L3	XXXX A
Starter Phase Voltage AB	XXXX V
Starter Phase Voltage BC	XXXX V
Starter Phase Voltage CA	XXXX V
Active Chilled Water Setpoint	XXX.X F°/C°
Active Current Limit Setpoint	XXX.X %
Refrigerant Monitor	XXX.X ppm
Purge Daily Pumpout—24 Hrs	XXX.X Min:Sec
Purge Daily Pumpout Limit	XXX.X Min
Pumpout—Life	XXX.XXX Min:Sec
Purge Top Level Mode	On/Auto/Adaptive/ Stop
Purge Mode	On/Auto/Adaptive/ Stop
Compressor Starts	XXXX
Compressor Running Time	XX:XX Hr:Min
Compressor Refrigerant Discharge Temperature	XXX.X °F/C°
Oil Pump Discharge Pressure	XXX.X PSIA/kPa
Oil Tank Pressure	XXX.X PSIA/kPa
Oil Differential Pressure	XXX.X PSID/kPaD
Oil Tank Temperature	XXX.X °F/C°
Inboard Bearing Temp	XXX.X °F/C°
Outboard Bearing Temp	XXX.X F°/C°
Evaporator Entering Water Temp	XXX.X °F/C°
Evaporator Leaving Water Temp	XXX.X °F/C°
Evaporator Saturated Rfgt Temp	XXX.X °F/C°
Evaporator Refrigerant Pressure	XXX.X PSI/kPaA
Evap Approach Temp	XXX.X °F/C°
Evap Water Flow Status	Flow/No Flow
Evap Differential Wtr Press	XXX.X PSID/kPaD

Appendix A: Data for CenTraVac CVHE, CVHF, CVHG chillers

Data name	Value
Approx Evap Water Flow	XXX.X gpm/lpm
Calculated Chiller Capacity	XXXX tons/kW
Cond Entering Water Temp	XXX.X °F/C°
Cond Leaving Water Temp	XXX.X °F/C°
Condensor Saturated Rfgt Temp	XXX.X °F/C°
Condensor Refrigerant Pressure	XXX.X PSIA/kPaA
Condenser Approach Temperature	XXX.X °F/C°
Cond Water Flow Status:	Flow/No Flow
Cond Differential Wtr Press	XXX.X PSID/kPaD
Approx Cond Water Flow	XXXX gpm/lpm
Second Condenser Ent Wtr Temp	XXX.X °F/C°
Second Condenser Lvg Wtr Temp	XXX.X °F/C°

Items available to include in custom reports

Subsystem	Description
Chiller	Active Base Loading Setpoint
	Active Base Loading Setpoint Source
	Application Part Number
	Version
	Chiller Heating or Cooling Mode
	Chiller Top Level Operating Mode
Compressor	Chiller Control Signal
	Compressor Refrigerant Discharge Temperature
	Compressor Running
	Compressor Running Time
	Compressor Starts
	Inboard Bearing Temperature
	IGV 1 Percent Open
	IGV 1 Position Steps
	IGV 2 Percent Open
	IGV 2 Position Steps
	Oil Differential Pressure
	Oil Differential Pressure Switch
	Oil Heater Command
	Oil Pump Control
	Oil Pump Discharge Pressure
	Oil Pump Override Time Remaining
	Oil Tank Pressure
	Oil Tank Temperature
	Outboard Bearing Temperature
Condenser	Condenser Approach Temperature
	Condenser Entering Water Temperature
	Condenser Leaving Water Temperature
	Condenser Refrigerant Pressure
	Condenser Saturated Refrigerant Temperature
	Condenser Water Flow Switch Status
	Condenser Pump Override Time Remaining
	Condenser Pump Override

Appendix A: Data for CenTraVac CVHE, CVHF, CVHG chillers

Subsystem	Description
Evaporator	Active Chilled Water Setpoint
	Active Chilled Water Setpoint Source
	BAS Chilled Water Setpoint
	Evaporator Approach Temperature
	Evaporator Entering Water Temperature
	Evaporator Leaving Water Temperature
	Evaporator Pump Override
	Evaporator Pump Override Time Remaining
	Evaporator Refrigerant Pressure
	Evaporator Saturated Refrigerant Temperature
	Evaporator Water Flow Status
Motor	Active Current Limit Setpoint
	Active Current Limit Setpoint Source
	BAS Current Limit Setpoint
	Starter Power Consumption
	Starter Load Power Factor
	Average Line Current %RLA
	Motor Winding Temperature 1
	Motor Winding Temperature 2
	Motor Winding Temperature 3
	Restart Inhibit Time (MP)
	Starter Average Phase Voltage
	Starter Current L1 %RLA
	Starter Current L1
	Starter Current L2 %RLA
	Starter Current L2
	Starter Current L3 %RLA
	Starter Current L3
	Starter Energy Consumption Not Resettable
	Starter Energy Consumption Resettable
	Time of Last Reset
	Starter Load Power Factor
	Starter Power Consumption
	Starter Power Demand
	Starter Voltage Phase AB
	Starter Voltage Phase BC
	Starter Voltage Phase CA

Subsystem	Description
Purge	Purge Top Level Mode
	Average Daily Pumpout—7 Days
	Carbon Regen Cycle
	Chiller On—7 Days
	Daily Pumpout—24 Hours
	Pumpout Chiller Off—7 Days
	Pumpout Chiller On—7 Days
	Pumpout—Life
	Purge Carbon Tank Temp
	Purge Liquid Temperature
	Purge Refrigerant Compressor Suction Temp
	Time at Last Regeneration
	Time Until Next Purge Run

Data Graph Data Points

This appendix contains:

- Data points used in the default data graphs, organized by graph
- Data points available to include in custom data graphs, organized by component

Data Points Used in Default Data Graphs

Chiller Overview 1

Graph data point	Axis
Active Chilled Water Setpoint	Left Y-axis
Active Hot Water Setpoint	Left Y-axis
Evaporator Leaving Evaporator Temperature	Left Y-axis
Evaporator Entering Water Temperature	Left Y-axis
Condenser Leaving Water Temperature	Left Y-axis
Condenser Entering Water Temperature	Left Y-axis
Calculated Chiller Capacity	Right Y-axis

Chiller Overview 2

Graph data point	Axis
Average Line Current %RLA	Left Y-axis
Frequency Hz	Left Y-axis
Differential Oil Pressure	Left Y-axis

Approach Temperature

Graph data point	Axis
Evaporator Approach Temperature	Left Y-axis
Condenser Approach Temperature	Left Y-axis
Approximate Evaporator Water Flow	Right Y-axis
Approximate Condenser Water Flow	Right Y-axis
Average Line Current	Right Y-axis

Evaporator

Graph data point	Axis
Active Chilled Water Setpoint	Left Y-axis
Evaporator Leaving Water Temperature	Left Y-axis
Evaporator Entering Water Temperature	Left Y-axis
Evaporator Saturated Refrigerant Temperature	Left Y-axis
Approximate Evaporator Water Flow	Right Y-axis

Motor

Graph data point	Axis
Starter Current L1 %RLA	Left Y-axis
Starter Current L2 %RLA	Left Y-axis
Starter Current L3 %RLA	Left Y-axis
Starter Voltage Phase AB	Right Y-axis
Starter Voltage Phase BC	Right Y-axis
Starter Voltage Phase CA	Right Y-axis

Condenser

Graph data point	Axis
Active Hot Water Setpoint	Left Y-axis
Condenser Leaving Water Temperature	Left Y-axis
Condenser Entering Water Temperature	Left Y-axis
Condenser Saturated Refrigerant Temperature	Left Y-axis
Approximate Condenser Water Flow	Right Y-axis

Motor Temperature

Graph data point	Axis
Motor Winding Temperature 1	Left Y-axis
Motor Winding Temperature 2	Left Y-axis
Motor Winding Temperature 3	Left Y-axis
AFD Transistor Temperature	Left Y-axis

Compressor

Graph data point	Axis
Average Line Current	Left Y-axis
Active Current Limit Setpoint	Left Y-axis
AFD Frequency	Left Y-axis
IGV 1 Position	Left Y-axis
Chiller Control Signal	Left Y-axis
Compressor Refrigerant Discharge Temperature	Right Y-axis

Purge

Graph data point	Axis
Daily Pumpout—24 Hours	Left Y-axis
Pumpout Chiller On—7 Days	Left Y-axis
Pumpout Chiller Off—7 Days	Left Y-axis
Purge Average Daily Pumpout—7 Days	Right Y-axis
Purge Refrigerant Compressor Suction Temperature	Right Y-axis
Purge Liquid Temperature	Right Y-axis

Oil System

Graph data point	Axis
Oil Differential Pressure	Left Y-axis
Oil Tank Pressure	Left Y-axis
Oil Pump Discharge Pressure	Left Y-axis
Oil Tank Temperature	Right Y-axis
Outboard Bearing Temperature	Right Y-axis
Inboard Bearing Temperature	Right Y-axis

Data Points Available to Include in Custom Data Graphs

Component	Graph data point
Evaporator	Active Chilled Water Setpoint
	Evaporator Leaving Evaporator Temperature
	Evaporator Entering Water Temperature
	Evaporator Saturated Refrigerant Temperature
	Evaporator Refrigerant Pressure
	Approximate Evaporator Water Flow
	Calculated Chiller Capacity
	Evaporator Approach Temperature
	Active Ice Termination Setpoint
Condenser	Active Hot Water Setpoint
	Condenser Leaving Water Temperature
	Condenser Entering Water Temperature
	Condenser Saturated Refrigerant Temperature
	Outdoor Air Temperature
	Condenser Refrigerant Pressure
	Condenser Approach Temperature
	Approximate Condenser Water Flow
	Second Condenser Leaving Water Temperature
	Second Condenser Entering Water Temperature
Compressor	Chiller Control Signal
	Oil Tank Pressure
	Oil Pump Discharge Pressure
Compressor (continued)	Oil Differential Pressure
	Oil Tank Temperature
	Inboard Bearing Temperature
	Outboard Bearing Temperature
	IGV 1 Percent Open
	IGV 2 Percent Open
	Compressor Refrigerant Discharge Temperature

Appendix A: Data for CenTraVac CVHE, CVHF, CVHG chillers

Component	Graph data point
Motor	Active Current Limit Setpoint
	Average Line Current %RLA
	AFD Frequency
	Current L1 (%)
	Current L2 (%)
	Current L3 (%)
	Current L1 (%)
	Current L1 (A)
	Current L2 (A)
	Current L3 (A)
	Starter Voltage AB
	Starter Voltage BC
	Starter Voltage CA
	Motor Winding Temperature 1
	Motor Winding Temperature 2
	Motor Winding Temperature 3
	AFD Transistor Temperature
	Power Demand
	Load Power Factor
	Average Phase Voltage
Purge	Generator Frequency Command
	Daily Pumpout—24 Hours
	Pumpout Chiller On—7 Days
	Pumpout Chiller Off—7 Days
	Purge Average Daily Pumpout—7 Days
	Purge Refrigerant Compressor Suction Temperature
	Purge Liquid Temperature
	Purge Carbon Tank Temperature

Appendix B: Data for CenTraVac Duplex CDHF and CDHG Chillers

The following lists contain all of the data available for viewing on a Tracer AdaptView display that is connected to a CenTraVac Duplex chiller CDHF or CDHG.

Component Screen Data

Chiller configuration determines which of the following settings and status points appear on the display. For more information, see "Component Screens," p. 13.

Component	Settings and status points
Evaporator	Active Chilled Water Setpoint (button links to the Active Chiller Water Setpoint screen)
	Evaporator Pump Override (button links to Evaporator Pump Override screen)
	Evap Water Flow Status
	Evap Leaving Water Temp
	Evap Entering Water Temp
	Calculated Chiller Capacity
	Evaporator Saturated Rfgt Temp (Ckt1 and Ckt2)
	Evaporator Rfgt Pressure (Ckt1 and Ckt2)
	Evap Approach Temp (Ckt1 and Ckt2)
	Approx Evap Water Flow
	Evap Differential Wtr Press

Component	Settings and status points
Condenser	Active Hot Water Setpoint (button links to the Active Hot Water Setpoint screen)
	Condenser Pump Override (button links to the Condenser Pump Override screen)
	Cond Water Flow Status
	Cond Entering Water Temp
	Cond Leaving Water Temp
	Outdoor Air Temp
	Condenser Refrigerant Pressure (Ckt1 and Ckt2)
	Condenser Approach Temperature (Ckt1 and Ckt2)
	Approx Cond Water Flow
	Cond Differential Wtr Press
	Second Condenser Lvg Wtr Temp
	Second Condenser Ent Wtr Temp

Appendix B: Data for CenTraVac Duplex CDHF and CDHG Chillers

Component	Settings and status points
Compressor	Compressor Running (Ckt1 and Ckt2)
	Chiller Control Signal
	Oil Pump Control (Ckt1 and Ckt2)
	Average Line Current %RLA (Ckt1 and Ckt2)
	Compressor Starts (Ckt1 and Ckt2)
	Oil Pump Status (Ckt1 and Ckt2)
	Oil Differential Pressure (Ckt1 and Ckt2)
	Compressor Running Time (Ckt1 and Ckt2)
	Oil Pump Discharge Pressure (Ckt1 and Ckt2)
	Oil Tank Pressure (Ckt1 and Ckt2)
	Oil Tank Temperature (Ckt1 and Ckt2)
	Inboard Bearing Temperature (Ckt1 and Ckt2)
	Outboard Bearing Temperature (Ckt1 and Ckt2)
	IGV 1 Percent Open (Ckt1 and Ckt2)
	IGV 1 Position (Steps) (Ckt1 and Ckt2)
	IGV 2 Percent Open (Ckt1 and Ckt2)
	IGV 2 Position (Steps) (Ckt1 and Ckt2)
	Compressor Rfgt Discharge Temp (Ckt1 and Ckt2)

Component	Settings and status points
Motor	Active Current Limit Setpoint (button links to Active Current Limit Setpoint screen)
	Average Line Current (%RLA) (Ckt1 and Ckt2)
	ADF Frequency Ckt1 or Generator Frequency Command (based on configuration) (Ckt1 and Ckt2)
	Starter Current L1 %RLA (Ckt1 and Ckt2)
	Starter Current L2 %RLA (Ckt1 and Ckt2)
	Starter Current L3 %RLA (Ckt1 and Ckt2)
	Starter Current L1 (Ckt1 and Ckt2)
	Starter Current L2 (Ckt1 and Ckt2)
	Starter Current L3 (Ckt1 and Ckt2)
	Starter Voltage Phase AB (Ckt1 and Ckt2)
	Starter Voltage Phase BC(Ckt1 and Ckt2)
	Starter Voltage Phase CA (Ckt1 and Ckt2)
	Motor Winding Temp 1 (Ckt1 and Ckt2)
	Motor Winding Temp 2 (Ckt1 and Ckt2)
	Motor Winding Temp 3 (Ckt1 and Ckt2)
	AFD Speed (Ckt1 and Ckt2)
	AFD Transistor Temp (Ckt1 and Ckt2)
	Starter Energy Consumption Resettable (Ckt1 and Ckt2)
	Starter Energy Consumption Last Reset (Ckt1 and Ckt2)
	Starter Energy Consumption Non Reset (Ckt1 and Ckt2)
	Starter Power Demand (Ckt1 and Ckt2)
	Starter Load Power Factor (Ckt1 and Ckt2)

Appendix B: Data for CenTraVac Duplex CDHF and CDHG Chillers

Component	Settings and status points
Purge	Purge Top Level Mode (button links to Purge Operating Modes screen) (Ckt1 and Ckt2)
	Purge Regen Cycle (button links to PUrge Regen Cycle) (Ckt1 and Ckt2)
	Purge Fault Indicator (button links to Alarms screen) (Ckt1 and Ckt2)
	Daily Pumpout—24 Hours (Ckt1 and Ckt2)
	Average Daily Pumpout—7 Days (Ckt1 and Ckt2)
	Daily Pumpout Limit (Ckt1 and Ckt2)
	Chiller On—7 Days (Ckt1 and Ckt2)
	Pumpout Chiller On—7 days (Ckt1 and Ckt2)
	Pumpout Chiller Off—7 days (Ckt1 and Ckt2)
	Time Until Next Purge Run (Ckt1 and Ckt2)
	Purge Rfgt Compressor Suction Temp (Ckt1 and Ckt2)
	Purge Liquid Temperature (Ckt1 and Ckt2)
	Pumpout—Life (Ckt1 and Ckt2)
	Purge Carbon Tank Temp (Ckt1 and Ckt2)

Reports

The following data can be viewed on the Reports screen. For more information, see "Reports," p. 21.

Log Sheet

Chiller component	Report item	Unit
Evaporator	Evaporator Entering Water Temperature	XXX.X °F/°C
	Evaporator Leaving Water Temp	XXX.X °F/°C
	Evaporator Water Flow Status	Flow/No Flow
	Evaporator Sat Rfgt Temp (Ckt1 and Ckt2)	XXX.X °F/°C
	Evaporator Rfgt Pressure (Ckt1 and Ckt2)	XXX.X PSI/kPa
	Evaporator Approach Temp (Ckt1 and Ckt2)	XXX.X °F/°C
Condenser	Cond Entering Water Temp	XXX.X °F/°C
	Cond Leaving Water Temp	XXX.X °F/°C
	Cond Water Flow Status	Flow/No Flow
	Cond Sat Rfgt Temp (Ckt1 and Ckt2)	XXX.X °F/°C
	Cond Rfgt Pressure (Ckt1 and Ckt2)	XXX.X PSI/kPa
	Cond Approach Temp (Ckt1 and Ckt2)	XXX.X °F/°C
Compressor	Compressor Starts (Ckt1 and Ckt2)	XXXX Starts
	Compressor Running Time (Ckt1 and Ckt2)	XX:XX Hr:Min
	Oil Tank Pressure (Ckt1 and Ckt2)	XXX.X PSI/kPa
	Oil Pump Discharge Pressure (Ckt1 and Ckt2)	XXX.X PSI/kPa
	Oil Differential Pressure (Ckt1 and Ckt2)	XXX.X PSI/kPa
	Oil Tank Temperature (Ckt1 and Ckt2)	XXX.X °F/°C
	IGV 1 Percent Open (Ckt1 and Ckt2)	XXX.X %
	IGV 1 Position (Ckt1 and Ckt2)	Steps
	IGV 2 Percent Open (Ckt1 and Ckt2)	XXX.X %
	IGV 2 Position (Ckt1 and Ckt2)	Steps

Appendix B: Data for CenTraVac Duplex CDHF and CDHG Chillers

Chiller component	Report item	Unit
Motor	Starter Current L1 %RLA (Ckt1 and Ckt2)	XXX.X %
	Starter Current L2 %RLA (Ckt1 and Ckt2)	XXX.X %
	Starter Current L3 %RLA (Ckt1 and Ckt2)	XXX.X %
	Starter Current L1 (Ckt1 and Ckt2)	XXXX A
	Starter Current L2 (Ckt1 and Ckt2)	XXXX A
	Starter Current L3 (Ckt1 and Ckt2)	XXXX A
	Starter Voltage Phase AB (Ckt1 and Ckt2)	XXXXX.X V
	Starter Voltage Phase BC (Ckt1 and Ckt2)	XXXXX.X V
	Starter Voltage Phase CA (Ckt1 and Ckt2)	XXXXX.X V
	Starter Power Demand (Ckt1 and Ckt2)	XXXX kW
	Starter Load Power Factor (Ckt1 and Ckt2)	XX.X
	Motor Winding Temp 1 (Ckt1 and Ckt2)	XXX.X °F/°C
	Motor Winding Temp 2 (Ckt1 and Ckt2)	XXX.X °F/°C
	Motor Winding Temp 3 (Ckt1 and Ckt2)	XXX.X °F/°C
	AFD Frequency (Ckt1 and Ckt2)	XX Hz
	AFD Speed (Ckt1 and Ckt2)	XXXX RPM
	AFD Transistor Temp (Ckt1 and Ckt2)	XXX.X °F/°C
Purge	Time Until Next Purge Run (Ckt1 and Ckt2)	XXX.X min
	Daily Pumpout—24 Hours (Ckt1 and Ckt2)	XXX.X min
	Average Daily Pumpout—7 Days (Ckt1 and Ckt2)	XXX.X min
	Daily Pumpout Limit (Ckt1 and Ckt2)	XXX.X min
	Chiller On—7 Days (Ckt1 and Ckt2)	XXX.X min
	Pumpout Chiller On—7 Days (Ckt1 and Ckt2)	XXX.X min
	Pumpout Chiller Off—7 Days (Ckt1 and Ckt2)	XXX.X min
	Pumpout—Life (Ckt1 and Ckt2)	XXX.X min
	Purge Rfgt Compressor Suction Temp (Ckt1 and Ckt2)	XXX.X °F/°C
	Purge Liquid Temp (Ckt1 and Ckt2)	XXX.X °F/°C
	Purge Carbon Tank Temp (Ckt1 and Ckt2)	XXX.X °F/°C

ASHRAE Chiller Log

Note: *The ASHRAE Chiller Log contains those items recommended by ASHRAE Std 147 Standard 147-2002, Reducing Release of Halogenated Refrigerants from Refrigeration and Air-Conditioning Equipment and Systems.*

Data name	Value
Current Date/Time	User-selected date/time format
Chiller Top Level Mode	Dependent on chiller type
Evap Entering Water Temp	XXX.X °F/C°
Evap Leaving Water Temp	XXX.X °F/C°
Evap Water Flow Status	Flow/No Flow
Evap Differential Wtr Press	XXX.X PSI/kPa
Approx Evap Water Flow	XXX.X gpm/lpm
Calculated Chiller Capacity	XXXX tons/kW
Refrigerant Type	R123
Refrigerant Monitor	XXX.X ppm
Active Chilled Water Setpoint	XXX.X F°/C°
Active Current Limit Setpoint	XXX.X %
Cond Entering Water Temp	XXX.X °F/C°
Cond Leaving Water Temp	XXX.X °F/C°
Cond Water Flow Status	Flow/No Flow
Cond Differential Wtr Press	XXX.X PSI/kPa
Approx Cond Water Flow	XXXX gpm/lpm
Top Level Operating Mode (Ckt1 and Ckt2)	Dependent on chiller type
Evaporator Saturated Rfgt Temp (Ckt1 and Ckt2)	XXX.X °F/C°
Evaporator Refrigerant Pressure (Ckt1 and Ckt2)	XXX.X PSI/kPa
Evaporator Approach Temp (Ckt1 and Ckt2)	XXX.X °F/C°
Condensor Saturated Rfgt Temp (Ckt1 and Ckt2)	XXX.X °F/C°
Condensor Refrigerant Pressure (Ckt1 and Ckt2)	XXX.X PSI/kPa
Condenser Approach Temperature (Ckt1 and Ckt2)	XXX.X °F/C°
Compressor Starts (Ckt1 and Ckt2)	XXXX
Compressor Running Time (Ckt1 and Ckt2)	XX:XX Hr:Min
Compressor Refrigerant Discharge Temperature (Ckt1 and Ckt2)	XXX.X °F/C°
Oil Pump Discharge Pressure (Ckt1 and Ckt2)	XXX.X PSI/kPa
Oil Tank Pressure (Ckt1 and Ckt2)	XXX.X PSI/kPa
Oil Differential Pressure (Ckt1 and Ckt2)	XXX.X PSI/kPa
Oil Tank Temperature (Ckt1 and Ckt2)	XXX.X °F/C°
Inboard Bearing Temp (Ckt1 and Ckt2)	XXX.X °F/C°
Outboard Bearing Temp (Ckt1 and Ckt2)	XXX.X F°/C°

Appendix B: Data for CenTraVac Duplex CDHF and CDHG Chillers

Data name	Value
Daily Pumpout—24 Hrs (Ckt1 and Ckt2)	XXX.X Min
Daily Pumpout Limit (Ckt1 and Ckt2)	XXX.X Min
Pumpout—Life (Ckt1 and Ckt2)	XXXXXX.X Hours
Purge Top Level Mode (Ckt1 and Ckt2)	On/Auto/Adaptive/Stop
Purge Operating Mode (Ckt1 and Ckt2)	On/Auto/Adaptive/Stop
Starter Current L1 (Ckt1 and Ckt2)	XXXX A
Starter Current L2 (Ckt1 and Ckt2)	XXXX A
Starter Current L3 (Ckt1 and Ckt2)	XXXX A
Starter Voltage Phase AB (Ckt1 and Ckt2)	XXXX V
Starter Voltage Phase BC (Ckt1 and Ckt2)	XXXX V
Starter Voltage Phase CA (Ckt1 and Ckt2)	XXXX V

Items available to include in custom reports

Subsystem	Description
Chiller	Active Base Loading Setpoint
	Active Base Loading Setpoint Source
	Application Part Number
	Version
	Chiller Heating or Cooling Mode
	Chiller Top Level Mode
Evaporator	Active Chilled Water Setpoint
	Active Chilled Water Setpoint Source
	BAS Chilled Water Setpoint
	Evaporator Approach Temperature (Ckt1 and Ckt2)
	Evaporator Entering Water Temperature
	Evaporator Leaving Water Temperature
	Evaporator Pump Override
	Evaporator Pump Override Time Remaining
	Evaporator Refrigerant Pressure (Ckt1 and Ckt2)
	Evaporator Saturated Refrigerant Temperature (Ckt1 and Ckt2)
	Evaporator Water Flow Status
	Active Ice Termination Setpoint
	Active Ice Termination Setpoint Source
	Calculated Chiller Capacity
	Approx Evap Water Flow
	Evap Differential Wtr Pressure
	External Chilled Water Setpoint
	Front Panel Ice Building Command

Appendix B: Data for CenTraVac Duplex CDHF and CDHG Chillers

Subsystem	Description
Compressor	Chiller Control Signal
	Active Base Loading Setpoint
	Active Base Loading Setpoint Source
	Compressor Refrigerant Discharge Temperature (Ckt1 and Ckt2)
	Compressor Running Status (Ckt1 and Ckt2)
	Compressor Running Time (Ckt1 and Ckt2)
	Compressor Starts (Ckt1 and Ckt2)
	Inboard Bearing Temperature (Ckt1 and Ckt2)
	IGV1 Position (Ckt1 and Ckt2)
	IGV1 Percent Open (Ckt1 and Ckt2)
	IGV2 Position (Ckt1 and Ckt2)
	IGV2 Percent Open (Ckt1 and Ckt2)
	Oil Differential Pressure (Ckt1 and Ckt2)
	Oil Heater Command (Ckt1 and Ckt2)
	Oil Pump Control (Ckt1 and Ckt2)
	Oil Pump Command (Ckt1 and Ckt2)
	Oil Pump Discharge Pressure (Ckt1 and Ckt2)
	Oil Pump Override Time Remaining
	Oil Tank Pressure (Ckt1 and Ckt2)
	Oil Tank Temperature (Ckt1 and Ckt2)
	Oil Pump Override Time Remaining (Ckt1 and Ckt2)
	Outboard Bearing Temperature (Ckt1 and Ckt2)
	Inboard Bearing Temperature (Ckt1 and Ckt2)
Condenser	Condenser Approach Temperature (Ckt1 and Ckt2)
	Condenser Entering Water Temperature (Ckt1 and Ckt2)
	Condenser Leaving Water Temperature (Ckt1 and Ckt2)
	Condenser Refrigerant Pressure (Ckt1 and Ckt2)
	Condenser Saturated Refrigerant Temperature (Ckt1 and Ckt2)
	Condenser Water Flow Status
	Condenser Pump Override Time Remaining
	Condenser Pump Override
	Active Hot Water Setpoint
	Active Hot Water Setpoint Source
	Approx Cond Water Flow
	Cond Differential Wtr Press
	Outdoor Air Temperature

Subsystem	Description
Motor	Active Current Limit Setpoint
	Active Current Limit Setpoint Source
	BAS Current Limit Setpoint
	External Current Limit Setpoint
	AFD DC Bus Voltage (Ckt1 and Ckt2)
	AFD Output Power (Ckt1 and Ckt2)
	AFD Transistor Temperature (Ckt1 and Ckt2)
	Starter Power Consumption (Ckt1 and Ckt2)
	Starter Load Power Factor (Ckt1 and Ckt2)
	Speed (Ckt1 and Ckt2)
	Frequency (Ckt1 and Ckt2)
	Generator Frequency Command (Ckt1 and Ckt2)
	Generator Speed Signal (Ckt1 and Ckt2)
	Average Line Current %RLA (Ckt1 and Ckt2)
	Motor Winding Temperature 1 (Ckt1 and Ckt2)
	Motor Winding Temperature 2 (Ckt1 and Ckt2)
	Motor Winding Temperature 3 (Ckt1 and Ckt2)
	Phase Unbalance (Ckt1 and Ckt2)
	Restart Inhibit Time (MP) (Ckt1 and Ckt2)
	Starter Average Phase Voltage (Ckt1 and Ckt2)
	Starter Current L1 %RLA (Ckt1 and Ckt2)
	Starter Current L1 (Ckt1 and Ckt2)
	Starter Current L2 %RLA (Ckt1 and Ckt2)
	Starter Current L2 (Ckt1 and Ckt2)
	Starter Current L3 %RLA (Ckt1 and Ckt2)
	Starter Current L3 (Ckt1 and Ckt2)
	Starter Energy Consumption Not Resettable (Ckt1 and Ckt2)
	Starter Energy Consumption Resettable (Ckt1 and Ckt2)
	Starter Energy Consumption Last Reset (Ckt1 and Ckt2)
	Starter Power Demand (Ckt1 and Ckt2)
	Starter Voltage Phase AB (Ckt1 and Ckt2)
	Starter Voltage Phase BC (Ckt1 and Ckt2)
	Starter Voltage Phase CA (Ckt1 and Ckt2)

Subsystem	Description
Purge	Purge Top Level Mode (Ckt1 and Ckt2)
	Average Daily Pumpout—7 Days (Ckt1 and Ckt2)
	Carbon Regen Cycles (Ckt1 and Ckt2)
	Chiller On—7 Days (Ckt1 and Ckt2)
	Daily Pumpout—24 Hours (Ckt1 and Ckt2)
	Pumpout Chiller Off—7 Days (Ckt1 and Ckt2)
	Pumpout Chiller On—7 Days (Ckt1 and Ckt2)
	Pumpout—Life (Ckt1 and Ckt2)
	Purge Carbon Tank Temp (Ckt1 and Ckt2)
	Purge Liquid Temperature (Ckt1 and Ckt2)
	Purge Refrigerant Compressor Suction Temp (Ckt1 and Ckt2)
	Time at Last Regeneration (Ckt1 and Ckt2)
	Time Until Next Purge Run (Ckt1 and Ckt2)

Data Graph Data Points

This appendix contains:

- Data points used in the default data graphs, organized by graph
- Data points available to include in custom data graphs, organized by component

Data Points Used in Default Data Graphs

Chiller Overview 1

Graph data point	Axis
Active Chilled Water Setpoint	Left Y-axis
Active Hot Water Setpoint	Left Y-axis
Evaporator Leaving Evaporator Temperature	Left Y-axis
Evaporator Entering Water Temperature	Left Y-axis
Condenser Leaving Water Temperature	Left Y-axis
Condenser Entering Water Temperature	Left Y-axis
Calculated Chiller Capacity	Right Y-axis

Chiller Overview 2

Graph data point	Axis
Average Line Current % RLA (Ckt1 and Ckt2)	Left Y-axis
Frequency (Hz) (Ckt1 and Ckt2)	Left Y-axis
Differential Oil Pressure (Ckt1 and Ckt2)	Left Y-axis

Evaporator

Graph data point	Axis
Active Chilled Water Setpoint	Left Y-axis
Evaporator Leaving Water Temperature	Left Y-axis
Evaporator Entering Water Temperature	Left Y-axis
Evaporator Saturated Refrigerant Temperature (Ckt1 and Ckt2)	Left Y-axis
Approximate Evaporator Water Flow	Right Y-axis

Condenser

Graph data point	Axis
Active Hot Water Setpoint	Left Y-axis
Condenser Leaving Water Temperature	Left Y-axis
Condenser Entering Water Temperature	Left Y-axis
Condenser Saturated Refrigerant Temperature (Ckt1 and Ckt2)	Left Y-axis
Approximate Condenser Water Flow	Right Y-axis

Compressor

Graph data point	Axis
Average Line Current % RLA (Ckt1 and Ckt2)	Left Y-axis
Active Current Limit Setpoint	Left Y-axis
AFD Frequency (Ckt1 and Ckt2)	Left Y-axis
IGV 1 Percent Open (Ckt1 and Ckt2)	Left Y-axis
Chiller Control Signal (Ckt1 and Ckt2)	Left Y-axis
Compressor Refrigerant Discharge Temperature (Ckt1 and Ckt2)	Right Y-axis

Oil System

Graph data point	Axis
Oil Differential Pressure (Ckt1 and Ckt2)	Left Y-axis
Oil Tank Pressure (Ckt1 and Ckt2)	Left Y-axis
Oil Pump Discharge Pressure (Ckt1 and Ckt2)	Left Y-axis
Oil Tank Temperature (Ckt1 and Ckt2)	Right Y-axis
Outboard Bearing Temperature (Ckt1 and Ckt2)	Right Y-axis
Inboard Bearing Temperature (Ckt1 and Ckt2)	Right Y-axis

Motor

Graph data point	Axis
Starter Current L1 % RLA (Ckt1 and Ckt2)	Left Y-axis
Starter Current L2 % RLA (Ckt1 and Ckt2)	Left Y-axis
Starter Current L3 % RLA (Ckt1 and Ckt2)	Left Y-axis
Starter Voltage Phase AB (Ckt1 and Ckt2)	Right Y-axis
Starter Voltage Phase BC (Ckt1 and Ckt2)	Right Y-axis
Starter Voltage Phase CA (Ckt1 and Ckt2)	Right Y-axis

Motor Temperature

Graph data point	Axis
Motor Winding Temperature 1 (Ckt1 and Ckt2)	Left Y-axis
Motor Winding Temperature 2 (Ckt1 and Ckt2)	Left Y-axis
Motor Winding Temperature 3 (Ckt1 and Ckt2)	Left Y-axis
AFD Transistor Temperature (Ckt1 and Ckt2)	Left Y-axis

Purge

Graph data point	Axis
Daily Pumpout—24 Hours (Ckt1 and Ckt2)	Left Y-axis
Pumpout Chiller On—7 Days (Ckt1 and Ckt2)	Left Y-axis
Pumpout Chiller Off—7 Days (Ckt1 and Ckt2)	Left Y-axis
Average Daily Pumpout—7 Days (Ckt1 and Ckt2)	Right Y-axis
Purge Refrigerant Compressor Suction Temperature (Ckt1 and Ckt2)	Right Y-axis
Purge Liquid Temperature (Ckt1 and Ckt2)	Right Y-axis

Approach Temperature

Graph data point	Axis
Evaporator Approach Temperature (Ckt1 and Ckt2)	Left Y-axis
Condenser Approach Temperature (Ckt1 and Ckt2)	Left Y-axis
Approximate Evaporator Water Flow (Ckt1 and Ckt2)	Right Y-axis
Approximate Condenser Water Flow (Ckt1 and Ckt2)	Right Y-axis
Average Line Current %RLA (Ckt1 and Ckt2)	Right Y-axis

Data Points Available to Include in Custom Data Graphs

Component	Graph data point
Evaporator	Active Chilled Water Setpoint
	Evaporator Leaving Evaporator Temperature
	Evaporator Entering Water Temperature
	Evaporator Saturated Refrigerant Temperature (Ckt1 and Ckt2)
	Evaporator Refrigerant Pressure (Ckt1 and Ckt2)
	Approximate Evaporator Water Flow
	Evaporator Differential Water Pressure
	Calculated Chiller Capacity
	Evaporator Approach Temperature (Ckt1 and Ckt2)
	Active Ice Termination Setpoint
Condenser	Active Hot Water Setpoint
	Condenser Leaving Water Temperature
	Condenser Entering Water Temperature
	Condenser Saturated Refrigerant Temperature (Ckt1 and Ckt2)
	Outdoor Air Temperature
	Condenser Refrigerant Pressure (Ckt1 and Ckt2)
	Condenser Approach Temperature (Ckt1 and Ckt2)
	Approximate Condenser Water Flow (Ckt1 and Ckt2)
	Condenser Differential Water Pressure
Compressor	Chiller Control Signal
	Oil Tank Pressure (Ckt1 and Ckt2)
	Oil Pump Discharge Pressure (Ckt1 and Ckt2)
	Oil Differential Pressure (Ckt1 and Ckt2)
	Oil Tank Temperature (Ckt1 and Ckt2)
	Inboard Bearing Temperature (Ckt1 and Ckt2)
	Outboard Bearing Temperature (Ckt1 and Ckt2)
	IGV 1 Percent Open (Ckt1 and Ckt2)
	IGV 1 Position (Ckt1 and Ckt2)
	IGV 2 Percent Open (%) (Ckt1 and Ckt2)
	IGV 2 Position (Ckt1 and Ckt2)
	Compressor Refrigerant Discharge Temperature (Ckt1 and Ckt2)

Component	Graph data point
Motor	Active Current Limit Setpoint
	AFD Frequency (Ckt1 and Ckt2)
	Average Line Current (% RLA) (Ckt1 and Ckt2)
	Starter Current L1 % RLA (Ckt1 and Ckt2)
	Starter Current L2 % RLA (Ckt1 and Ckt2)
	Starter Current L3 % RLA (Ckt1 and Ckt2)
	Starter Current L1 (Ckt1 and Ckt2)
	Starter Current L2 (Ckt1 and Ckt2)
	Starter Current L3 (Ckt1 and Ckt2)
	Starter Voltage AB (Ckt1 and Ckt2)
	Starter Voltage BC (Ckt1 and Ckt2)
	Starter Voltage CA (Ckt1 and Ckt2)
	Motor Winding Temperature 1 (Ckt1 and Ckt2)
	Motor Winding Temperature 2 (Ckt1 and Ckt2)
	Motor Winding Temperature 3 (Ckt1 and Ckt2)
	AFD Transistor Temperature (Ckt1 and Ckt2)
	Starter Power Demand (Ckt1 and Ckt2)
	Starter Load Power Factor (Ckt1 and Ckt2)
	Starter Average Phase Voltage (Ckt1 and Ckt2)
	Generator Frequency Command (Ckt1 and Ckt2)
Purge	Daily Pumpout—24 Hours (Ckt1 and Ckt2)
	Pumpout Chiller On—7 Days (Ckt1 and Ckt2)
	Pumpout Chiller Off—7 Days (Ckt1 and Ckt2)
	Average Daily Pumpout—7 Days (Ckt1 and Ckt2)
	Purge Refrigerant Compressor Suction Temperature (Ckt1 and Ckt2)
	Purge Liquid Temperature (Ckt1 and Ckt2)
	Purge Carbon Tank Temperature (Ckt1 and Ckt2)

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For more information, contact your local Trane office or e-mail us at comfort@trane.com

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