

HWRS Standard HMI Operations Manual



Caption: HWRS Tank Skid (left) & Sanitation Skid (right)

This document outlines basic operations for a standard HMI controlled Homogenizer Water Recycling System (HWRS). Most HWRS units have an HMI, if you do not have an HMI, your access and control of the system may vary from the details of this document.

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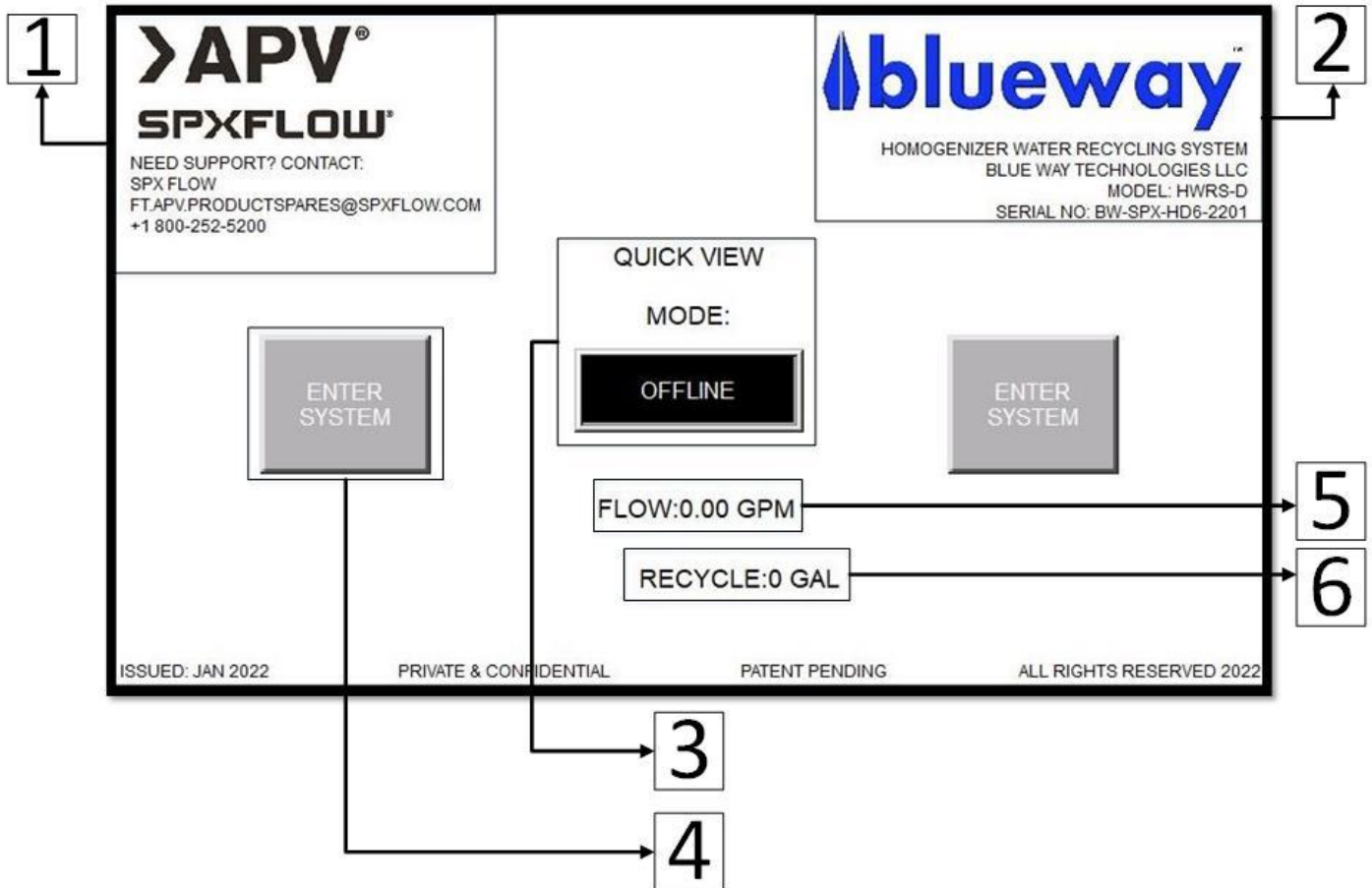
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Landing Screen



The landing screen is the first screen displayed upon powering on the HMI.

Screen Summary:

1. The SPX support contact information.
2. Model specifications for the specific system.

3. Quick View System Mode/Status: There are 7 system modes, offline, recycle, prefill, bypass, dump, backwash, and alarm. See “System Mode Summary” below for additional information.
4. “ENTER SYSTEM” buttons: Each button will take you to the Home Screen when pressed.
5. Instantaneous recycle flow (only present when recycling).
6. Total gallons of water recycled (resettable in the Engineering Screen Advanced Settings).

System Mode Summary:

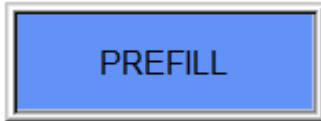
Offline: Connected homogenizer(s) are not running and/or the HWRS is not running.



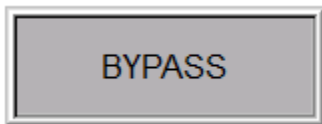
Recycle: The system is fully operational and currently recycling water.



Prefill: An HWRS Tank Skid is filling with water. When the water reaches 100%, the mode will switch to Recycle Mode.



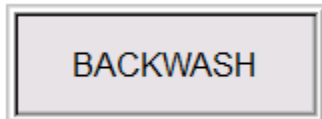
Bypass: The HWRS has been placed in bypass mode. City/municipal water will be sent to the homogenizer. Recycle mode is disabled.



Dump: The system is currently draining due to the program or due to the blue “DUMP” button being pressed on a Tank Skid.



Backwash: The system is automatically backwashing.



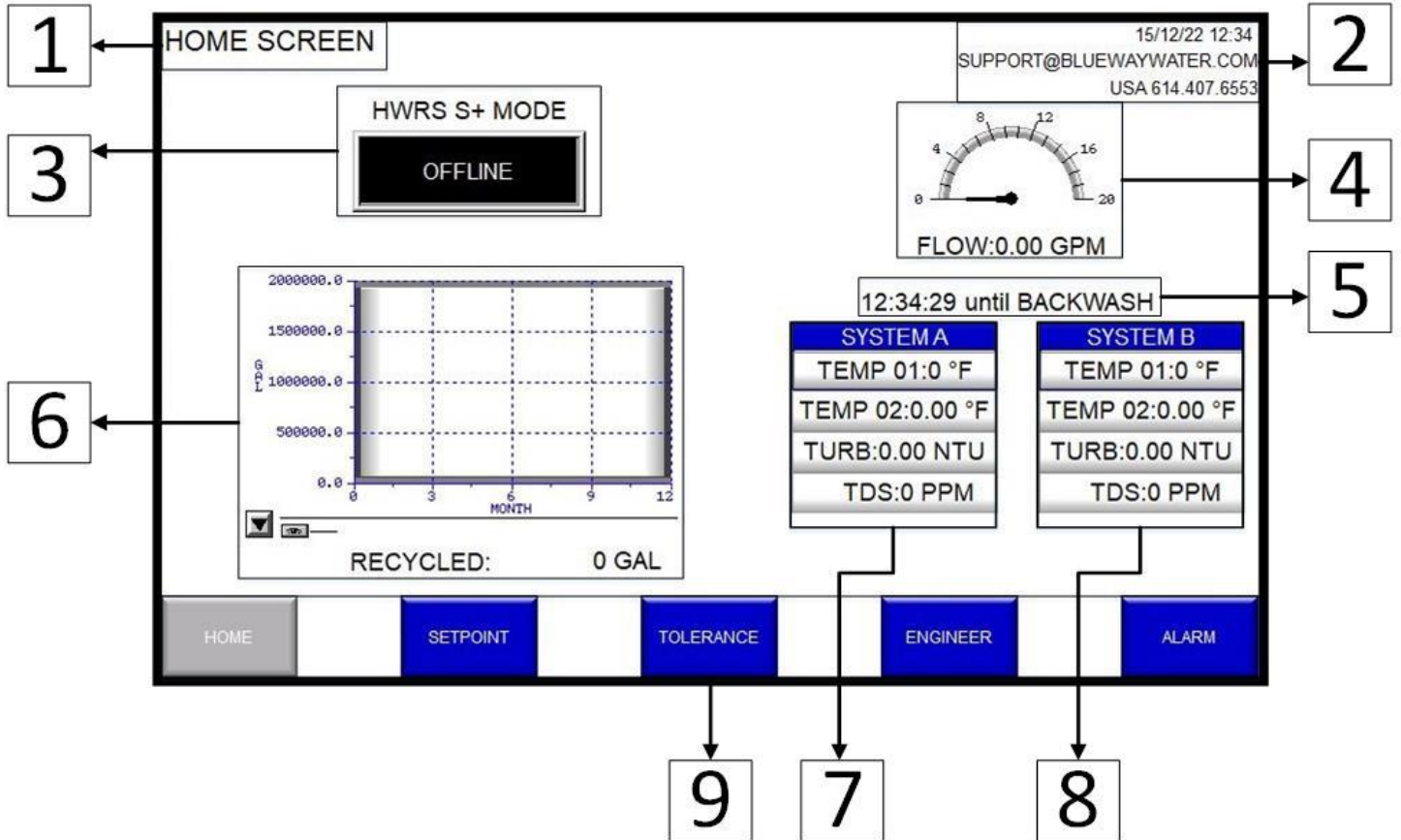
Alarm: The system alarm is triggered. Homogenizers are automatically supplied city/municipal water. No water is recycled.



Screen Directive(s):

Enter System HMI Screens: Press “ENTER SYSTEM” button.

Home Screen



When pressing the “Enter System” button from the Landing Screen or the “Home” button from another screen, the Home Screen is activated.

Screen Summary:

1. The name of the screen that is currently active.
2. Time, date, and support information.

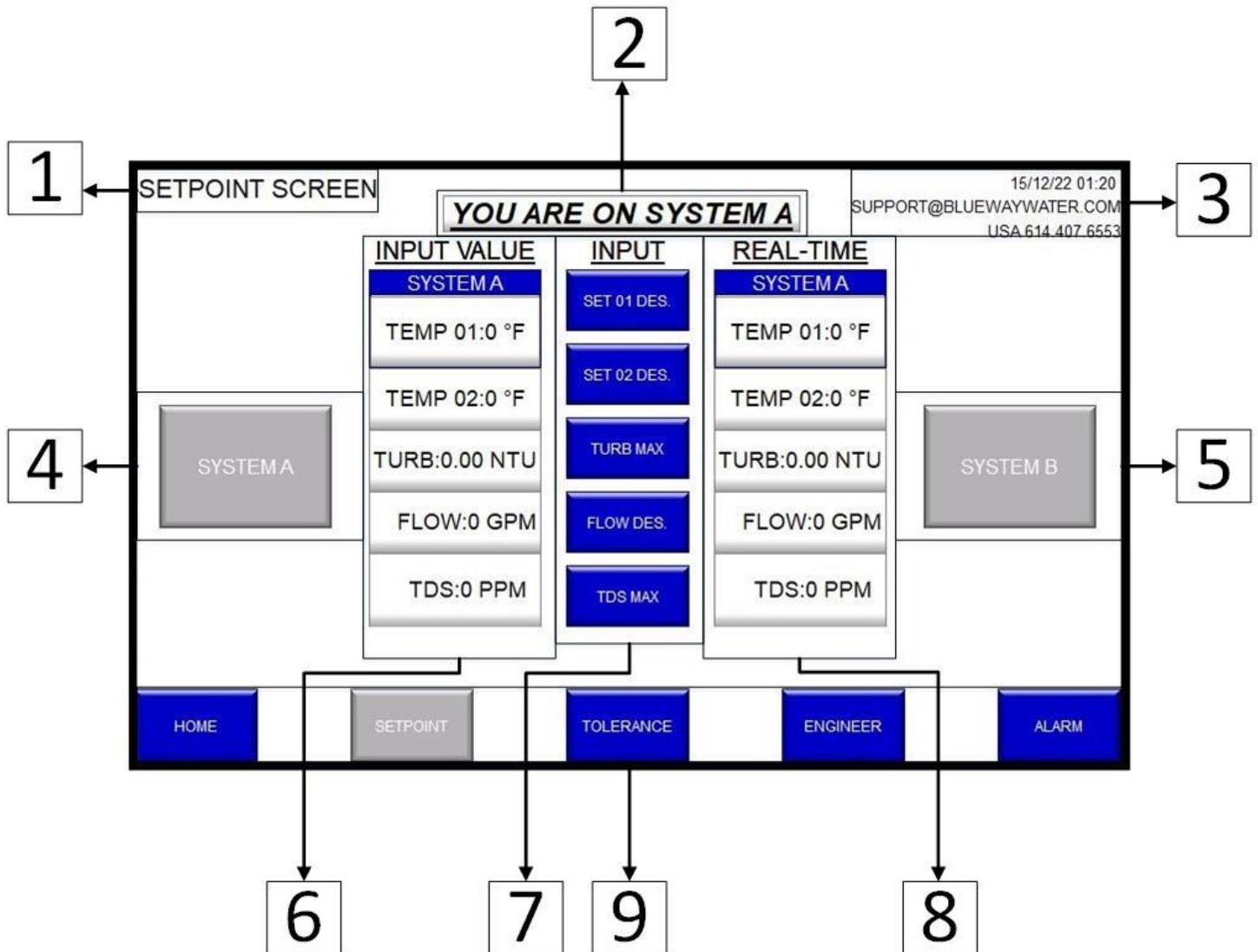
- 3.** Quick View System Mode/Status: There are 7 system modes, offline, recycle, prefill, bypass, dump, backwash, and alarm. (Refer to System Mode Summary on page 4).
- 4.** Instantaneous recycle flow (only present when recycling) and a meter that displays this instantaneous flow.
- 5.** Time until automatic backwash.
- 6.** Total gallons of water recycled (resettable in the Engineering Screen Advanced Settings) and a graph displaying recycled gallons over a designated time period.
- 7.** A quick overview of water quality metrics for System A: Temperature, Turbidity, and TDS
- 8.** A quick overview of water quality metrics for System B (HWRS-D Models Only): Temperature, Turbidity, and TDS.
- 9.** Screen navigation buttons to activate other screens. Gray represents the active screen.

Screen Directive(s):

Screen Navigation: To access other screens in the system, press the associated screen button at the bottom of the page. The active page will be gray.

Landing Screen: The system will return to the landing screen after an internal timer limit is reached.

Setpoint Screen



The Setpoint Screen is accessed by pressing the “Setpoint” button, located at the bottom of every screen.

Screen Summary:

1. The name of the active screen.

- 2.** Dialogue that displays which system setpoints are active.
- 3.** Time, date, and support information.
- 4.** System A button that activates setpoint changes and displays settings for System A.
- 5.** System B button (HWRS-D Models Only) activates setpoint changes and displays the settings for System B.
- 6.** Desired water quality values for System A or B (HWRS-D Models Only). See Number 7 for information on customizing these metrics.
- 7.** Customize “Input Value” metrics.
 - Set 01 Des: Desired water temperature output
 - Set 02 Des: Desired water temperature output (HWRS-S+ Models Only)
 - Turb Max: Maximum turbidity desired
 - Flow Des: Desired flow rate
 - TDS Max: Maximum TDS desired

8. The real-time water quality metrics for System A or B (HWRS-D Models Only).
9. Screen navigation buttons to activate other screens.
Gray represents the active screen.

Screen Directive(s):

Page Navigation: To access other screens in the system, press the associated screen button at the bottom of the page. The active page will be gray.

To Enter System A: To access System A press the “System A” button on the left (Number 4 on the Setpoint Screen diagram).

To Enter System B: To access System B press the “System B” button on the right (Number 5 on the Setpoint Screen diagram).
Note: System B is only available for Dual Systems (HWRS-D Models).

Setting Temperature 01: To set Temperature 01, press the “Set 01 Des.” button and input the desired number on the pop up window.

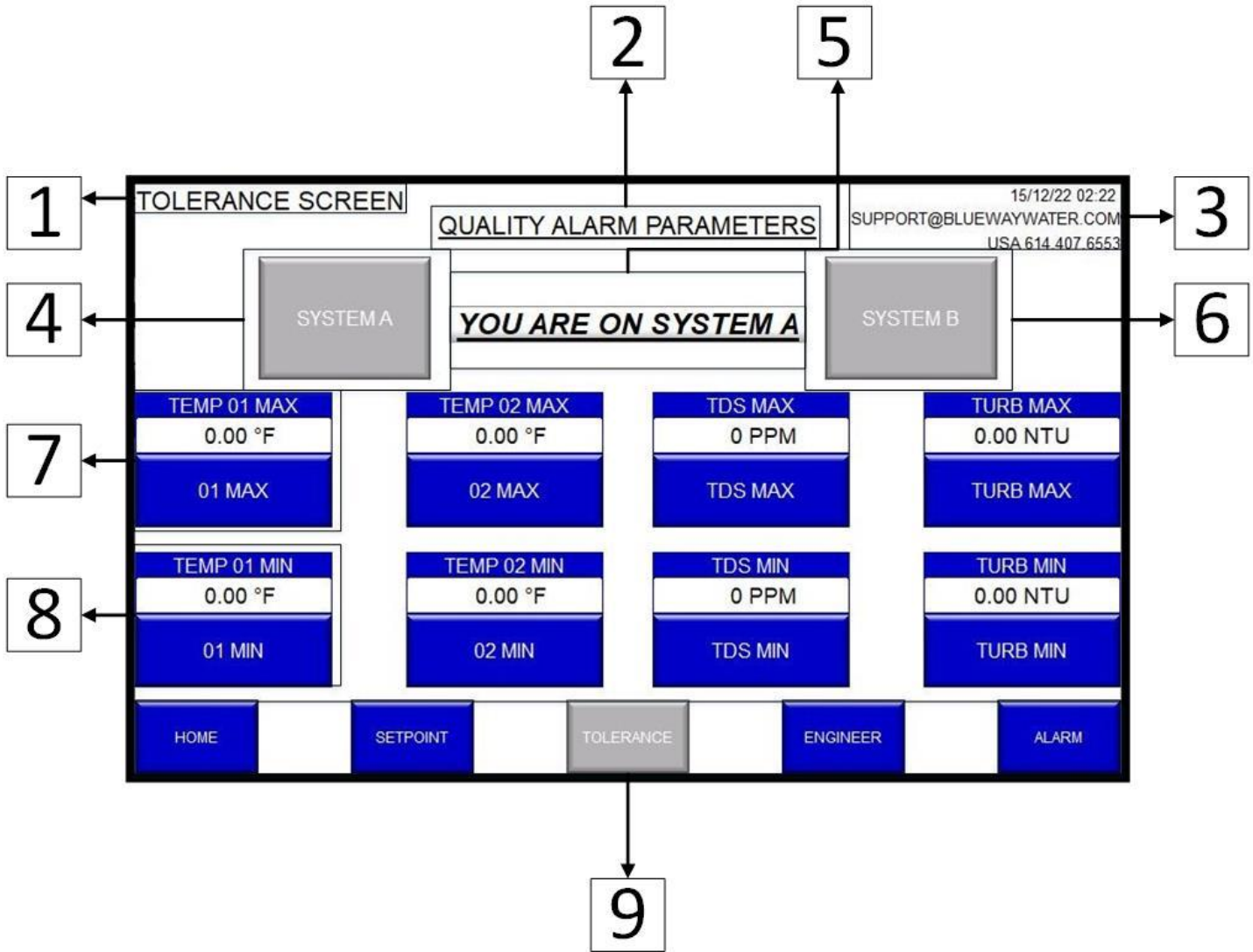
Setting Temperature 02: To set Temperature 02, press the “Set 02 Des.” button and input the desired number on the pop up window.
Note: “Set 02 Des” is only available in Single Plus Systems (HWRS-S+ Models).

Setting Turbidity: To set Turbidity, press the “Turb Max” button and input the desired number on the pop up window.

Setting Flow: To set Flow, press the “Flow Des.” button and input the desired number on the pop up window.

Setting TDS: To set TDS press the “TDS Max” button and input the desired number on the pop up window.

Tolerance Screen



The Tolerance Screen is accessed by pressing the “Tolerance” button, located at the bottom of every screen.

Screen Summary:

- 1.** The name of the currently active screen.

- 2.** Purpose of screen. This screen sets water quality parameters for the active system, outside of which an alarm will be triggered.
- 3.** Time, date, and support information.
- 4.** System A button which activates System A Tolerances.
- 5.** The active System.
- 6.** System B button which activates System B Tolerances (HWRS-D Models Only).
- 7.** The maximum parameter settings for the active system.
Use the buttons to customize the water quality parameters.
An alarm will be triggered if water quality metrics exceed the set parameters.
 - Temp 01 Max: Maximum temperature parameter
 - Temp 02 Max: Maximum temperature parameter (HWRS-S+ Only)
 - TDS Max: Maximum total dissolved solids
 - Turb Max: Maximum turbidity parameter

- 8.** The minimum parameter settings for the active system.
Use the buttons to customize the water quality parameters.
An alarm will be triggered if water quality metrics fall below the set parameters.
- Temp 01 Min: Minimum temperature parameter
 - Temp 02 Min: Minimum temperature parameter (HWRS-S+ Only)
 - TDS Min: Minimum total dissolved solids
 - Turb Min: Minimum turbidity parameter
- 9.** Screen navigation buttons to activate other screens. Gray represents the active screen.

Screen Directive(s):

Page Navigation: To access other screens in the system, press the associated screen button at the bottom of the page. The active page will be gray.

To Enter System A: To access System A tolerances, press the “System A” button on the left.

To Enter System B: To access System B tolerances, press the “System B” button on the right. Note: System B tolerances are only available in a Dual System (HWRS-D Models).

Setting Temperature 01 Maximum: To set Temperature 01 Maximum, press the “01 Max” button and input the desired number on the pop up window.

Setting Temperature 01 Minimum: To set Temperature 01 Minimum, press the “01 Min” button and input the desired number on the pop up window.

Setting Temperature 02 Maximum: To set Temperature 02 Maximum, press the “02 Max” button and input the desired number on the pop up window. Note: Temperature 02 settings are only available in HWRS-S+ Models.

Setting Temperature 02 Minimum: To set Temperature 02 Minimum, press the “02 Min” button and input the desired number on the pop up window. Note: Temperature 02 settings are only available in HWRS-S+ Models.

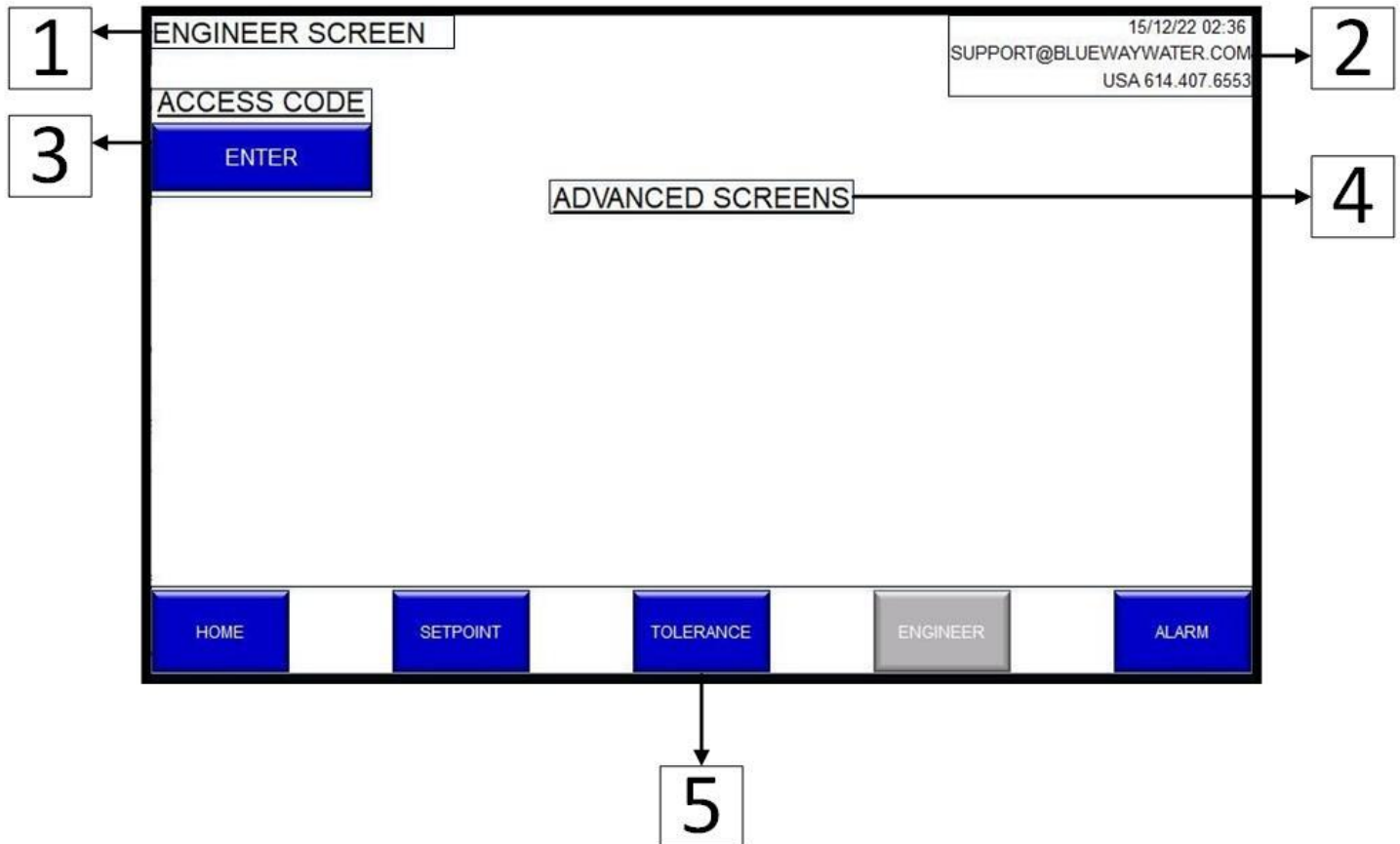
Setting TDS Maximum: To set TDS Maximum, press the “TDS Max” button and input the desired number on the pop up window.

Setting TDS Minimum: To set TDS Minimum, press the “TDS Min” button and input the desired number on the pop up window.

Setting Turbidity Maximum: To set Turbidity Maximum, press the “Turb Max” button and input the desired number on the pop up window.

Setting Turbidity Minimum: To set Turbidity Minimum, press the “Turb Min” button and input the desired number on the pop up window.

Engineer Screen



The Engineer Screen is accessed by pressing the “Engineer” button, located at the bottom of every screen.

Screen Summary:

1. The name of the currently active screen.
2. Time, date, and support information.

- 3.** Press “Enter” to access the advanced engineering screens. Advanced screens require an access code which can be obtained from Technical Support by individuals with the proper credentials.

- 4.** When the correct access code is input, the advanced screens will appear below this text box.

- 5.** Screen navigation buttons to activate other screens. Gray represents the active screen.

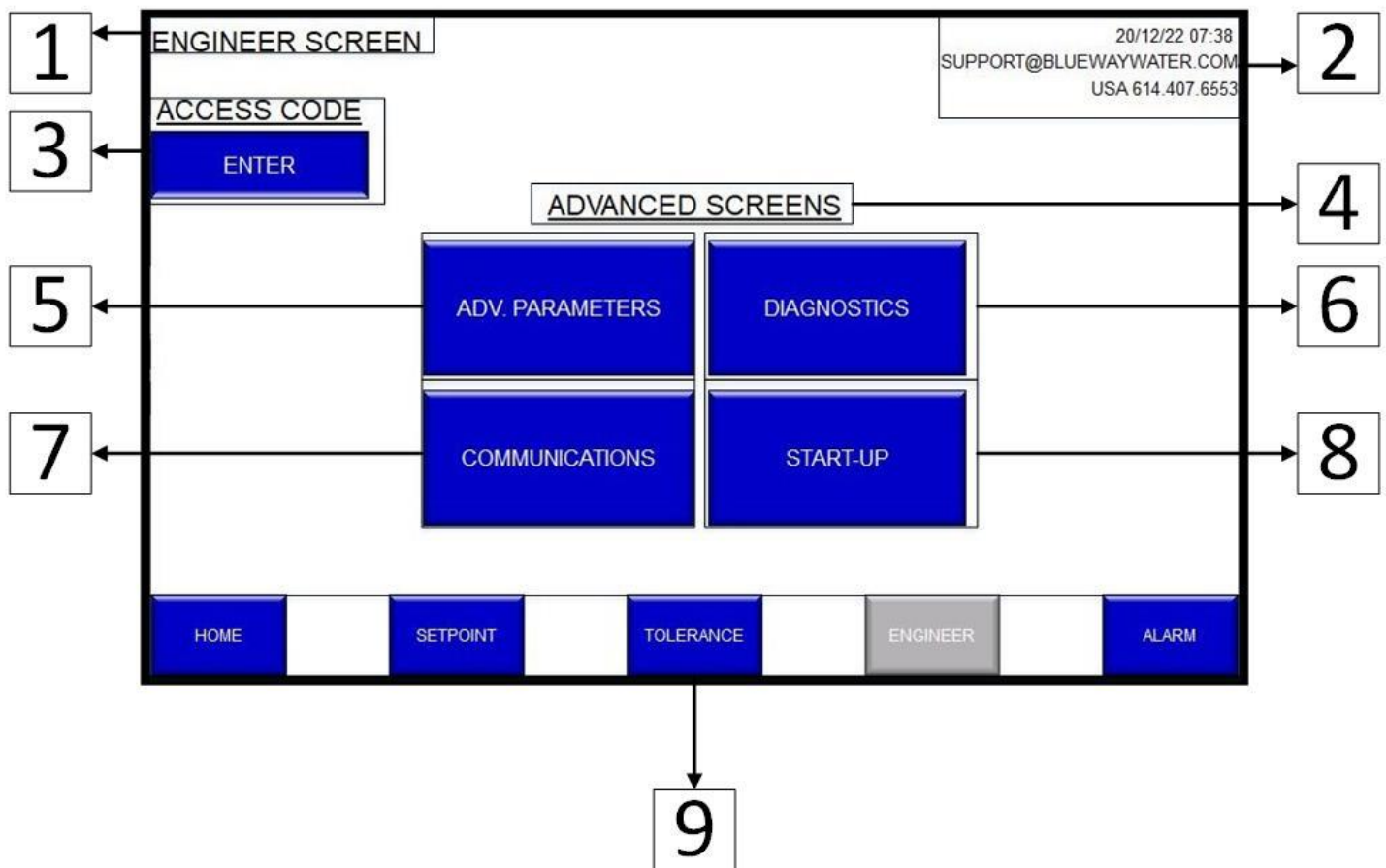
Screen Directive(s):

Page Navigation: To access other screens in the system, press the associated screen button at the bottom of the page. The active page will be gray.

Inputting Access Codes: To access the complete Engineer Screen, the access code must be obtained from Technical Support. Once obtained, press the “Enter” button and input the given code.

Engineer Screen: Advanced Screens

Access



The Advanced Screens can be accessed by pressing the “Enter” button and inputting the correct access code, at which point four previously hidden buttons will appear on screen.

Advanced Screens Summary:

- 1.** The name of the active screen.

- 2.** Time, date, and support information.
- 3.** Press “Enter” to access the advanced engineering screens.
Advanced screens require an access code which can be obtained from Technical Support by individuals with the proper credentials.
- 4.** When the correct access code is input, the advanced screens will appear below this text box.
- 5.** Navigation to advanced parameter settings for water quality.
- 6.** Navigation to Diagnostics screen, where back end system settings are configured.
- 7.** Navigation to the Communications screen, where communications between plant systems and the HWRS are configured.
- 8.** Navigation to the Start-up Screen, where back end timers are configured for system start-up.

9. Screen navigation buttons to activate other screens. Gray represents the active screen.

Screen Directives:

Page Navigation: To access other screens in the system, press the associated screen button at the bottom of the page. The active page will be gray.

Enter Adv. Parameters: To access the Adv. Parameters screen, press the “Adv. Parameters” button. (Note: will only appear with proper clearance.)

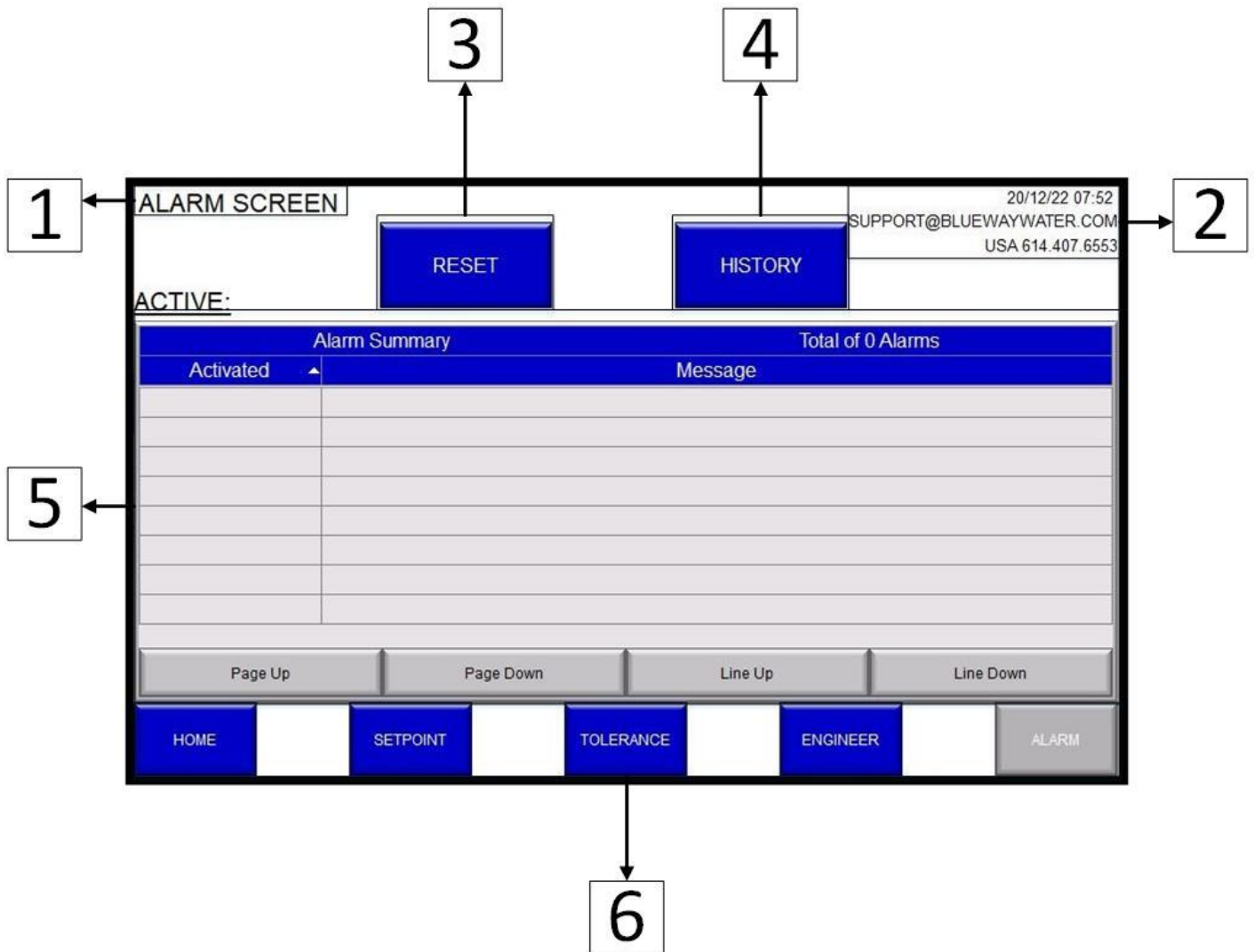
Enter Diagnostics: To access the Diagnostics screen, press the “Diagnostics” button. (Note: will only appear with proper clearance.)

Enter Communications: To access the Communications screen, press the “Communications” button. (Note: will only appear with proper clearance.)

Enter Start-Up: To access the Start- Up screen, press the “Start-Up button. (Note: will only appear with proper clearance.)

Note: All Advanced Screens should be navigated while in communication with Technical Support.

Alarm Screen



By pressing the “Alarm” button at the bottom of any screen, the Alarm Screen is activated.

Screen Summary:

1. The name of the active screen.

2. Time, date, and support information.
3. Reset an alarm. An alarm must be selected for the reset button to be active (blue). The Reset button will remain gray until an alarm is selected.
4. Navigation button to the History Screen. (Refer to “Alarm Screen: History” section on page 25 for more information.)
5. Table of active alarms. Navigate the table by using the directional buttons below the table.
6. Screen navigation buttons to activate other screens. Gray represents the active screen.

Screen Directive(s):

Page Navigation: To access other screens in the system, press the associated screen button at the bottom of the page. The active page will be gray.

Clear an Alarm: To clear an alarm, select an active alarm and press the “Reset” button. See Number 3 in the “Screen Summary” section above.

To View Alarm History: Press the “History” button. See Number 4 in the “Screen Summary” section above.

Table Navigation: To navigate the table, use the directional buttons associated with the table: “Page Up,” “Page Down,” “Line Up,” and “Line Down.”

Page Up: Pressing the “Page Up” button will move one whole page towards the most recent alarms.

Page Down: Pressing the “Page Down” button will move one whole page towards less recent alarms.

Line Up: Pressing the “Line Up” button will move one line towards the most recent alarm.

Line Down: Pressing the “Line Down” button will move one line towards the less recent alarm.

2. Time, date, and support information.
3. Reset an alarm. An alarm must be selected for the reset button to be active (blue). The “Reset” button will remain gray until an alarm is selected.
4. Navigation button to the Alarm Screen.
5. Table of all current and deactivated alarms. Alarms are color coded depending on severity.
 - Red: Urgent
 - Yellow: Needs Attention
 - White: DeactivatedUse the directional buttons below the table to navigate.

Screen Directive(s):

To Exit History Screen: Press the “ALARM” Button.

Table Navigation: To navigate the table, use the directional buttons associated with the table: “Page Up,” “Page Down,” “Line Up,” and “Line Down.”

Page Up: Pressing the “Page Up” button will move one whole page toward the most recent alarm.

Page Down: Pressing the “Page Down” button will move one whole page toward a less recent alarm.

Line Up: Pressing the “Line Up” button will move one line toward the most recent alarm.

Line Down: Pressing the “Line Down” button will move one line toward a less recent alarm.

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