57098

The Leader in Condensing Technology

# User's Information Manual

## NWP500 Electric Heat Pump Water Heaters

**Model** | NWP500-50
NWP500-65
NWP500-80

- Conforms to UL STD 60335-1, 60335-2-40 and 174
- Certified to CSA STD C22.2 # 60335-1, 60335-2-40 and 110

Intertek 5023321

Certified to NSF/ANSI 372

Contains :
FCC ID : P53-EMC3290
IC ID : 23507-EMC3290

ENERGY STAR

AHRI CERTIFIED

ECOPORT

ALWAYS read and follow this manual completely before using the water heater. Save for future reference.

Tested and Certified to NSF/ANSI 372 for lead free* compliance.

* The wetted surface of this product contacted by consumable water contains less than one quarter of one percent (0.25%) of lead by weight.

## ⚠ WARNING

- Improper installation, operation, or service can damage the water heater, your home, and other property and can create hazards such as fire, burns, electric shock, and explosion, which can result in serious injury or death.
- Read this manual and the water heater's label before installing, operating, or servicing. If you have difficulty following the instructions or are not sure that you can safely and properly perform this work yourself, contact a qualified installer or service organization for installation and servicing.
- Do not destroy this manual; read it carefully and keep it in a safe place for future reference.

# FCC and IC STATEMENT

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient, or relocate, the receiving antenna.
- Increase the distance between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

## FCC Part 15 Related Statement - Keep for Liability Purposes

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference.

(2) This device must accept any interference received, including interference that may cause undesired operation.

Any changes or modifications in construction of this device which are not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

**⚠ WARNING**

The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications to this equipment. Such modifications could void the user's authority to operate the equipment.

## FCC RF Radiation Exposure Statement

This equipment complies with FCC RF Radiation exposure limits set forth for an uncontrolled environment. This device and its antenna must not be co-located or operating in conjunction with any other antenna or transmitter.

"To comply with FCC FR exposure compliance requirements, this grant is applicable to only Mobile Configurations. The antennas used for this transmitter must be installed to provide a separation distance of at least 8 inches (20 cm) from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter."

FCC IDENTIFIER: P53-EMC3290

## Canadian Compliance Statement

This device complies with industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions:

(1) This device may not cause interference.

(2) This device must accept any interference, including interference that may cause undesired operation of the device.

To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropic radiated power (e.i.r.p) is not more than that permitted for successful communications.

## Industry Canada Statement

Complies with the Canadian ICES-003 Class B specifications.

This device complies with RSS 210 of Industry Canada. This Class B device meets all the requirements of the Canadian interference-causing equipment regulations.

This radio transmitter (IC: 23507-EMC3290) has been approved by Industry Canada to operate with the antenna types listed below with the maximum permissible gain and required antenna impedance for each antenna type indicated. Antenna types not included in this list, having a gain greater than the maximum gain indicated for that type, are strictly prohibited for use with this device.

# Contents



| Product Installation Information | |
|---|---|
| Model Number | |
| Date Purchased | |
| Serial Number | |

# 1. Important Safety Information

The following Safety Alert Symbols are used in this manual. They are used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible serious injury or death. This Safety Alert Symbol precedes any safety message about risk of personal injury. It may also be accompanied by one of the following signal words.

If the information in these instructions is not followed exactly, a fire or explosion may result, causing property damage, personal injury or death.

**⚠ DANGER**

Indicates a hazardous situation that if not avoided will result in death or serious injury.

**⚠ WARNING**

Indicates a hazardous situation that if not avoided could result in death or serious injury.

**⚠ CAUTION**

Indicates a potentially hazardous situation that if not avoided could result in minor or moderate injury.

***NOTICE***

Indicates information considered important but not hazard-related (such as property damage).

**⚠ DANGER**

**Electric Shock Hazards**

- Contact with electrical parts in the junction box, behind access doors, and inside the top shroud can result in severe injury or death due to electric shock.
- Disconnect power by opening the circuit breaker or removing the fuses before installation or servicing.
- Use a non-contact circuit tester to confirm that the power is off before working on or near any electrical parts.
- Replace the junction box cover and access doors after servicing.
- When making electrical connections for your water heater, follow the Wiring Diagram carefully to ensure safety and proper operation. Use 10-gauge solid copper wire for all connections to handle the electrical load effectively. It is also important to use a UL-listed or CSA-approved strain relief to secure the wires and prevent them from being pulled or damaged. Finally, connect the ground wire securely to the green ground screw to ensure proper grounding and reduce the risk of electrical shock.

## ⚠ DANGER

**Scald Hazards**


Water temperatures over 125°F (52°C) can cause severe burns instantly or death from scalds. Children, disabled and elderly are at highest risk of being scalded. Feel water with your elbow before bathing or showering. Temperature limiting valves are available, contact a licensed plumber for more information.

**To prevent burns:**

- Set the operating temperature to the lowest level that still meets your needs.
- If your household has children or elderly or disabled residents, consider using a lower temperature setting.
- Check local codes for maximum water temperature setting allowed when used in nursing homes, schools, day care centers and other public applications.
- Do not leave children, the elderly, or disabled persons unsupervised.
- Do not allow small children to play unsupervised in the bathroom.
- Do not allow anyone to change the water temperature while hot water is running.
- Read all the instructions in this manual carefully before changing the temperature setting.
- Feel the water before using it on children, the elderly, or the disabled.
- If it is necessary to set the water temperature above 125°F (52°C), consider installing a thermostatically-controlled mixing valve or temperature-limiting valve. Contact a licensed plumber or your local plumbing authority for more information.

## ⚠ DANGER

This water heater's water temperature is set to 120°F (49°C) at the factory for your safety and comfort. Increasing the temperature increases the risk of accidental scalding. Water temperatures at or above 125°F (52°C) can cause instant scalding, severe burns, or death. Before you decide to change the temperature setting, read the following table carefully.

| Temperature | Time to Produce Serious Burn |
|---|---|
| 120°F (49°C) | More than 5 minutes |
| 125°F (52°C) | 1.5 to 2 minutes |
| 130°F (54°C) | Approx. 30 seconds |
| 135°F (57°C) | Approx. 10 seconds |
| 140°F (60°C) | Less than 5 seconds |
| 145°F (62°C) | Less than 3 seconds |
| 150°F (65°C) | Approx. 1.5 seconds |
| 154°F (68°C) | Approx. 1 second |

- Regardless of the water heater's set temperature, higher temperatures may occur in certain circumstances:
  - In some cases, repeated small draws of water can cause the hot and cold water in the tank to "stack" in layers. If this happens, the water temperature can be as much as 30°F (15°C) hotter than the set temperature. This temperature variation is the result of your usage pattern and is not a malfunction.
  - Water temperature will be hotter if someone adjusted the thermostat(s) to a higher setting. Problems with the thermostat(s), or other malfunctions may result in higher than expected water temperatures.
  - If the water heater is in a hot environment, the water in the tank can become as hot as the surrounding air, regardless of the set temperature.
  - If the water supplied to the water heater is pre-heated, the temperature in the tank may be higher than the water heater's set temperature. Connecting an additional heat source, such as a solar water heating system, to the water heater inlet is not recommended, as it may reduce efficiency or cause malfunctions.
- According to the national standard American Society of Sanitary Engineering (ASSE 1070) and most local plumbing codes, the water heater's thermostat should not be used as the sole means to regulate water temperature to avoid scalds.

## ⚠ WARNING

To prevent death, serious injury, or property damage:

- **Do not use or store flammable products, such as gasoline, solvents, or adhesives in the same room or area as the water heater.** Keep all flammable products far away from the water heater and store them in approved containers. Keep the containers closed tightly and out of the reach of children and pets.
- Ensure the junction box cover and the heating element access door covers are in place. These covers keep debris from entering and potentially being ignited, and help keep any internal fires from spreading.
- **Prevent the water heater from getting wet.** If the wiring, thermostat, or surrounding insulation becomes exposed to water, immediately turn off the water heater and have it inspected by a qualified professional. Water exposure can cause serious damage, and if the water heater is submerged in water due to flooding, or if the thermostat has been submerged, the entire unit must be replaced. Regularly inspect your water heater to ensure it remains dry, and take immediate action if it comes into contact with water.
- **High temperatures and pressures in the water heater may lead to an explosion.** Ensure the included temperature and pressure (T&P) relief valve, which meets ANSI Z21.22 standards, is properly maintained and not blocked, capped, or plugged, as it discharges hot water to prevent such risks.

## ⚠ CAUTION

- **The water heater is heavy.** Always lift the unit with assistance. Be careful not to drop the water heater while lifting or handling it to avoid bodily injury or damage to the unit.

- California law requires that all new and replacement water heaters and all existing residential water heaters be braced, anchored, or strapped to prevent falling or horizontal displacement due to earthquakes. At a minimum, all water heaters must be protected in accordance with the California Plumbing Code, or Section 17958.5, as amended by the city, county, or city and county. The California General Guidelines, entitled "Guidelines for Seismically-Reinforced Residential Water Heaters," are available through relevant government resources for homeowners and installers to ensure compliance with these safety standards.

California law requires the following Prop 65 warning to be provided:

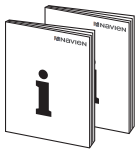
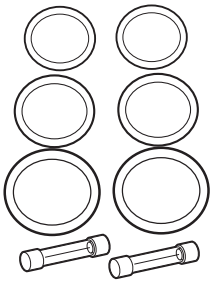
## ⚠ WARNING

Cancer and Reproductive Harm - www.P65Warnings.ca.gov

# 2. About the Water Heater

## 2.1 Included Items

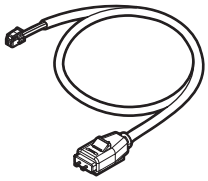
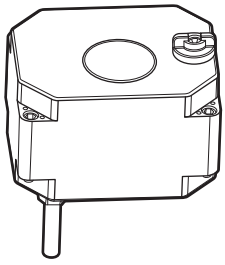
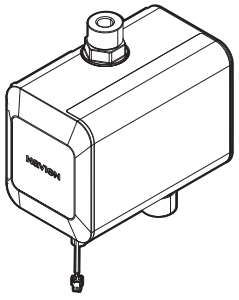
When you open the box, you will find the following items with the water heater. Check the box for each of the following items before installing the water heater.

| | |
|---|---|
|  |  |
| Installation Manual, User's Information Manual | Emergency Part Kit |

**Note** To locate the emergency part kit on the water heater, refer to "4.8 Installing Emergency Part Kit for Repairs" on page 30.

## 2.2 Accessories

The following optional accessories are available for the water heater.

| | | |
|---|---|---|
|  |  |  |
| Navien Leak Detection System | Shut-off Valve | Navien Recirculation Pump |

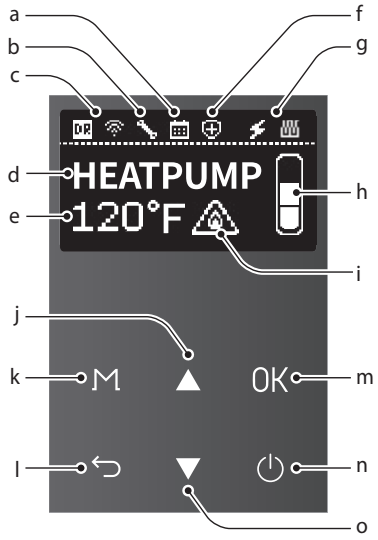
## 2.3 Specifications

The following table lists the specifications for the water heater. Additional specifications about water, electric, and air supplies appear in the Installation section.

| Items | | | Model Series | NWP500-50 | NWP500-65 | NWP500-80 |
|---|---|---|---|---|---|---|
| | | | Model No. | NWP500S050AUMB | NWP500S065AUMB | NWP500S080AUMB |
| **Capacity & Efficiency** | | | | | | |
| Nominal Capacity (gallons) | | | | 50 | 65 | 80 |
| Rated Storage Volume (gallons) | | | | 45.2 | 63.2 | 76.1 |
| UEF (Uniform Energy Factor) | | | | 3.85 | 4.03 | 4.05 |
| First Hour Rating (gallons) | | | | 65 | 80 | 85 |
| **Product General Data** | | | | | | |
| Installation Location | | | | Indoor | | |
| Water Pressure | | | | 15–150 psi | | |
| Connections Size | | | Cold Water Inlet | ¾ in. NPT | | |
| | | | Hot Water Outlet | | | |
| | | | Drain | | | |
| | | | T&P Relief Valve | | | |
| | | | Condensate Drain | ¾" NPT Plastic connection | | |
| | | | Heating Element | 1″ NPSM (Thread per Inch 11 ½) | | |
| Materials | | | Casing | Cold Rolled Carbon Steel | | |
| | | | Storage Tank | Stainless Steel | | |
| | | | Condenser | Aluminum Coil | | |
| Air In/Out Size | | | Air Intake | Ø8″ | | |
| | | | Air Exhaust | Ø8″ | | |
| Safety Devices | | | | Condensate Level Sensor, ECO (Energy Cut Off), Temperature & Pressure (TP) Relief Valve. | | |
| Dimensions | | | | Ø21.7″ × 63″ (Ø 552 mm × 1,600 mm) | Ø25″ × 63″ (Ø 636 mm × 1,600 mm) | Ø25″ × 71.6″ (Ø 636 mm × 1,819 mm) |
| Shipping Weight (lbs) | | | | 229 | 265 | 282 |
| **Electrical Data** | | | | | | |
| Power Supply | | | | 208-240 V AC, 60 Hz, 1 Phase | | |
| MCA | | | | 208 V (25.9A) / 240 V (28.8A) | | |
| CKT BKR Amps | | | | 30A | | |
| Wire Size | | | | Up to 10 AWG (Suitable for 167°F (75°C)) | | |
| **Component Data** | | | | | | |
| Compressor [LRA] | | | | 11.6A | | |
| Fan Motor [FLA] | | | | 0.22A | | |
| 208 V | Compressor [RLA] | | | 2.0A | | |
| | Heating Element | Upper | | 3,755W | | |
| | | Lower | | 3,755W | | |
| 240 V | Compressor [RLA] | | | 1.75A | | |
| | Heating Element | Upper | | 5,000W | | |
| | | Lower | | 5,000W | | |
| Max. Pressure | | | Discharge | 2.654 MPa / 385 PSIG | | |
| | | | Suction | 1.724 MPa / 250 PSIG | | |
| Refrigerant | | | | R-134a | | |
| Refrigerant Charge | | | | 28.2 Oz / 800 g | | |

## 2.4 The Front Panel

The front panel allows you to adjust the water temperature and view the operating status or error codes. Remove the protective sheet from the front panel before using it.




| | | | | | |
|---|---|---|---|---|---|
| **a** | | **Schedule**<br>Displays the schedule settings. | **b** | | **Error status**<br>Displays error status. |
| **c** | DR | **Demand Response / Wi-Fi**<br>Displays the when the DR module and Wi-Fi is connected | **d** | E-SAVER<br>HI-DEM<br>IDLE<br>ELECTRIC<br>VAC-90<br>HEATPUMP | **Operation Mode**<br>Displays the current operation mode. |
| **e** | 120 °F | **Set Hot Water Temperature**<br>Displays the set hot water temperature. | **f** | | **Anti-Legionella function**<br>Displays when anti-legionella function is in progress. This icon appears even if the unit is currently in recirculation mode.<br>**Recirculation status**<br>Displays the current recirculation mode.<br>• Always On<br>• Weekly<br>• HotButton |

g 

**Heating Element status**

-  Displays when the electric heater is operating.
-  Displays when the heat pump is operating.
-  Displays when the heat pump's operation stops.

h 

**Hot water charge rate**
Displays the current hot water charge rate.

i 

**Scald warning / Freeze Protection**

-  Displays a warning to alert you to the danger of scalding from hot water temperatures.
-  Displays when the freeze protection function is operating.

j 

**Up button**
Increases the temperature setting, parameter or moves down.

k 

**Menu button**
Change the operation mode and access to the menu screen.

l 

**Back button**
Access to the previous screen.

m 

**OK button**
Access to the selected item.

n 

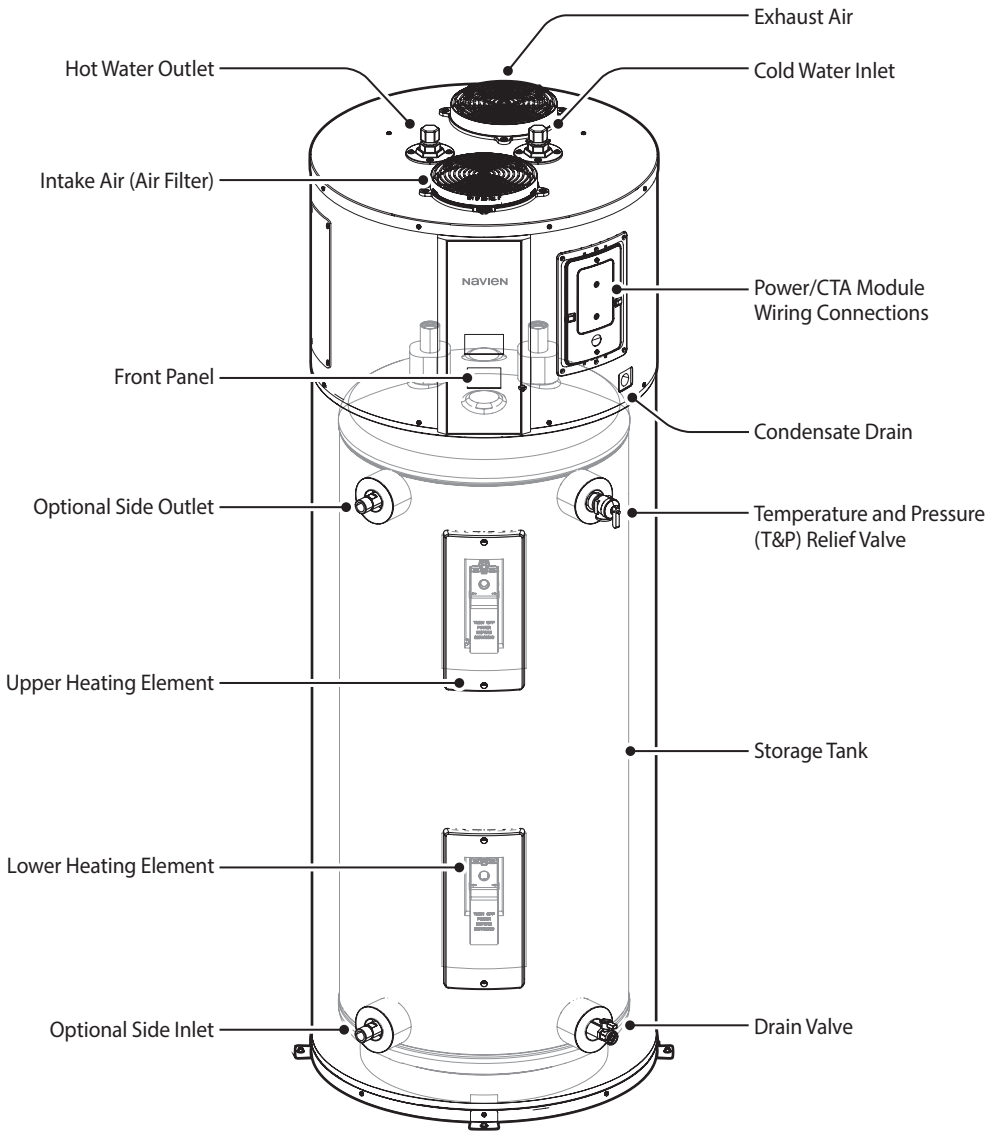
**Power button**
Turns the water heater on or off.

o 

**Down button**
Decreases the temperature setting, parameter or moves down.

## 2.5 Components

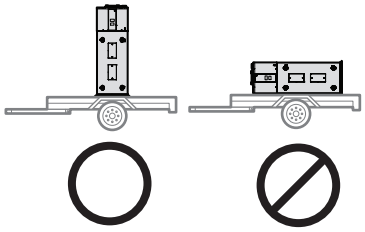
The following diagram shows the key components of the water heater. Component assembly diagrams and particular parts lists are included in the Appendixes.



# 3. Operating the Water Heater

**⚠ WARNING**

If the water heater was transported horizontally, do not power it on immediately. Allow the unit to stand upright for at least 24 hours before operation. Failure to do so may cause compressor damage and reduced system efficiency due to improper oil distribution.

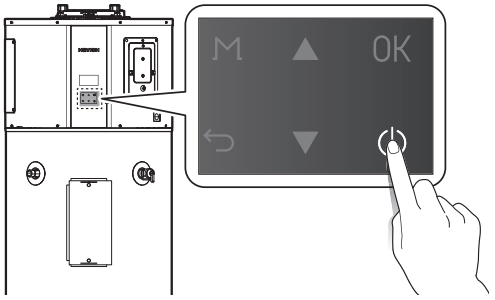


***NOTICE***

Do not turn on the water heater without ensuring that all air has been purged from the tank and that the tank is completely filled with water. This water heater is equipped with a "Dry Fire" protection function that detects if the tank is not fully filled with water at the initial power connection. However, if the heating element operates when the tank is empty, there is a risk of fire or electric shock. Therefore, before turning on the water heater, ensure the tank is filled with water and all air is removed. The "Dry Fire" protection function operates only at the initial power connection.

## 3.1 Turning the Water Heater On or Off

To turn the water heater on or off, press the Power button (⏻).




When the power is turned on, the product performs the Self Diagnostic operation. (This operation is performed each time the power is turned on after being in an unpowered state.)

The Self Diagnostic process takes approximately 10 minutes, during which the front panel will display [Self Diagnostic in Progress].

If an issue is detected during the Self Diagnostic process, an error code will be displayed. If the error is one that prevents the product from operating, the product will remain in a stopped state until the issue is resolved.

**⚠ WARNING**

Do not disconnect the power from the product during the Self Diagnostic operation. Disconnecting the power during the Self Diagnostic process may damage the product. Additionally, if the power is disconnected and then turned on, the Self Diagnostic process will start again from the beginning.

## 3.2 Start-Up Wizard

The setup wizard should run the first time the unit is powered on. The wizard must be completed before the water heater can be used.

When the setup wizard is displayed after turning on the water heater first time, press the Up ( ▲ ) or Down button ( ▼ ) to scroll through the items in the Start-Up Wizard, and then, press the OK button (OK) to confirm and continue. To return to the setup wizard menu, press the Back button ( ⮌ ).

1. Set the time.
   - YYYY.MM.DD HH:MM:SS
2. Set the units to display.
   - °F
   - °C
3. Accessories Check
   - Leak Detection System: Installed / Not installed
4. Water Fill Tank
   - A description of the water fill tank is displayed.
5. Operation Mode
   - Select the operation mode.
6. Tank Setting Temperature
   - Setting Range: 95°F (35°C)–150°F (65.5°C)
   - Default: 120°F (49°C)
7. Wi-Fi Setting
   - Follow the instructions to configure the Wi-Fi settings.
8. Eco Port Setting
   - Follow the instructions to configure the Eco Port settings.
9. Setup Summary
   - Once the Setup Wizard is finished, a summary of the settings will be displayed. Press the OK button (OK) at each summary screen until the main screen is displayed.

## 3.3 Selecting the Operation Mode & Adjusting Water Temperature

After the 10-minute Self Diagnostic mode is completed, the product will enter Idle mode.

You can select the desired operation mode according to your preferences or usage environment. For a description of each mode, refer to "3.4 About Operating Modes" on page 14.

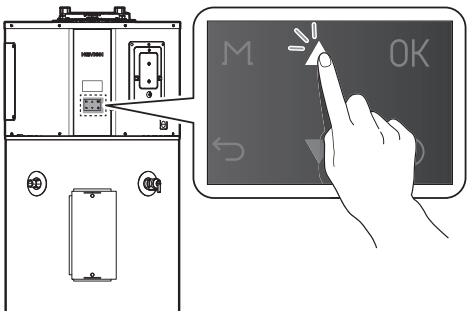
The same tank temperature can be set for all provided operation modes. The setting range is from the set minimum operation temperature to 150°F (65.5°C). If it is set to 120°F (49°C) or higher, [Scald Risk] will be displayed on the front panel.

**⚠ WARNING**

Before adjusting the water temperature, read "To prevent burns:" on page 5 carefully. Water above 120 °F can cause instant scalding, severe burns, or death.

The water heater is set to 120°F (49°C) by default. To adjust the water temperature:

1. Make sure that all hot water faucets are closed.
2. Press the Up ( ▲ ) or Down button ( ▼ ) until the desired temperature appears on the display. You can adjust the temperature while the display is flashing. Once the display stops flashing, the temperature setting is stored.




**Note** The water heater will retain your settings during a power outage.

You can adjust the temperature by 1 degree increments as shown below, depending on the temperature range:

| Temperature Range | Temperature Increment |
|---|---|
| [Min. operation Temp.]–150°F (65.5°C) | 1°F or 0.5°C increments |

**Note** The minimum operation temperature can be set from 95°F (35°C) to 113°F (45°C), with a default setting of 95°F (35°C). To adjust this setting, refer to "Setting the Protection Function" in the Installation Manual.

## 3.4 About Operating Modes

### 3.4.1 Energy Saver (Hybrid: Efficiency) – Default

This mode combines the heat pump and electric heater (heating element) as the heat source to heat the tank. The heat pump is primarily used to enhance energy efficiency, while the electric heater is used to reduce the recovery time. This mode is the default operating mode applied during initial shipment and factory reset.

### 3.4.2 High Demand (Hybrid: Boost)

This mode controls the tank's heating by combining the heat pump and electric heater (heating element). The electric heater is used more frequently than when it is in the Energy Saver mode to further shorten the recovery time. This mode is set when a higher supply of hot water is desired.

### 3.4.3 Heat Pump

This mode controls the heating of the tank using only the heat pump as the heat source. It is the most energy-efficient mode among the available operating modes, but it also has the longest recovery time. When operating solely with the heat pump, the energy efficiency and recovery time may vary depending on the ambient temperature and relative humidity (the higher the ambient temperature and relative humidity, the greater the energy efficiency and the shorter the recovery time).

### 3.4.4 Electric

This mode controls the heating of the tank using only the electric heater (upper and lower). It is the least energy-efficient mode, but it offers the shortest recovery time. When this mode is set, it can be used continuously for up to 72 hours (3 days), after which it will automatically return to the previous operating mode. (The upper and lower heaters do not operate simultaneously.)

### 3.4.5 Vacation - Default: OFF

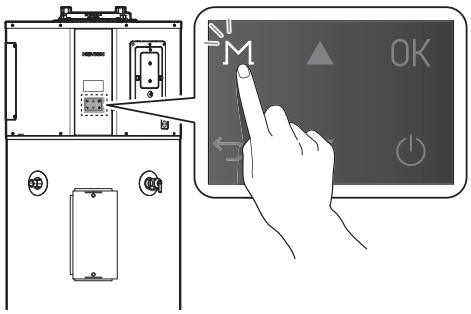
This mode is provided to prevent unnecessary tank heating operations during vacations or long absences. The number of days for the Vacation mode can be set from **0 days (OFF) to 1 to 99 days**. When this mode is set, the tank heating operation is suspended for the set number of days, and only minimal operations (such as freeze protection and anti-seize) are performed to protect the product. However, 9 hours before the set number of days is reached, the mode automatically reverts to the previous operating mode and performs tank heating operations until the set temperature is reached.

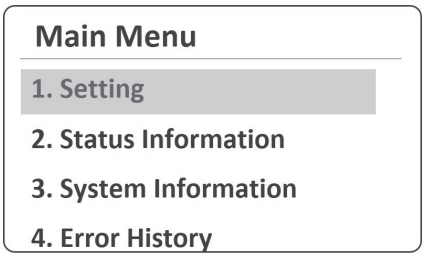
| Mode | Efficiency | Recovery |
|---|---|---|
| Electric | Very Low | Fast |
| Heat Pump | High | Very Slow |
| High Demand | Low | Very Fast |
| Energy Saver | Very High | Fast |
| Vacation | Very High | None |

## 3.5 Setting Operation Schedules and Configuring Communication Settings

You can set the water heater's operation for vacation and configure the weekly operation schedule and communication settings to customize the water heater's operation based on your needs.

1. Press and hold the Menu button (M) for more than 5 seconds, and then select **Setting**.




2. Press the Up (▲) or Down button (▼) to scroll through the items. Press the OK Button (OK) to select an item.

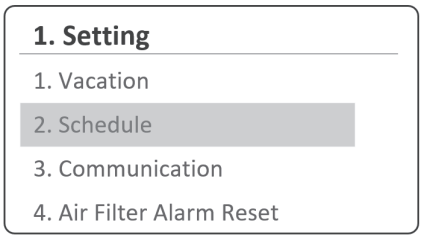
| Item | Description |
|---|---|
| 1. Vacation | Set the vacation period.<br>• Setting range: 0 Day (Off), 1–99 Days<br>• Default: 0 Day |
| 2. Schedule | Set the weekly operation schedule. |
| 3. Communication | Enable or disable the Wi-Fi and DR communication.<br>1. Wi-Fi<br>• Setting range: On, Off<br>• Default: Off<br>2. DR<br>• Setting range: On, Off<br>• Default: Off<br>3. Eco Port<br>• Setting range: On, Off<br>• Default: Off |
| 4. Air Filter Alarm Reset | Set the air filter replacement alarm reset.<br>• Setting range : Yes, No<br>• Default : No |

3. Press the Back button (↩) to return to the previous screen or menu.

### 3.5.1 Setting the Weekly Operation Schedule

You can schedule the weekly operation and view the weekly operation schedule list.

1. From the Setting Menu, select **Schedule**.




2. Press the Up (▲) or Down button (▼) to scroll through the items, and set the weekly operation schedule details.

| Item | Description |
|---|---|
| 1. Weekly Enable | Enable or disable the weekly operation schedule.<br>• Setting range: On, Off<br>• Default: Off |
| 2. Weekly Set | Set the weekly operation schedule. |
| 3. Weekly List | View the list of weekly operation schedules. |
| 4. Weekly Delete | Delete the weekly operation schedule. |

3. Press the Back button (↩) to return to the previous screen or menu.

## Setting Weekly Operation Schedule Details

1. From the Schedule menu, select **Weekly Set**.
2. Press the Up ( ▲ ) or Down button ( ▼ ) to scroll through information items. Press the OK button (OK) to select a sub menu of parameters and then set the schedule details.

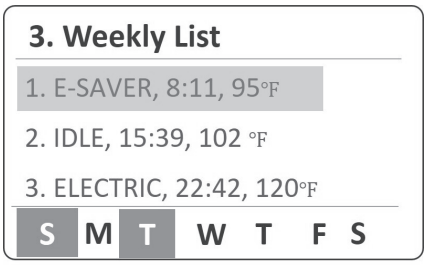
| Item | Description |
|---|---|
| Day | Set the days for the water heater to operate. You can select multiple days for operation.<br>1. Press the OK button (OK) to select the day of the week.<br>• Setting range: Sun, Mon, Tue, Wed, Thurs, Fri, Sat<br>2. Press and hold the OK button (OK) to move to the next setting. |
| Time | Set the operating time.<br>1. Press the OK button (OK) to select the time.<br>2. Press and hold the OK button (OK) to move to the next setting. |
| Operating Mode | Select the operating mode for selected days and time. |
| Temperature | Set the operating temperature. |

3. Press the Back button ( ⮌ ) to return to the previous screen or menu.

## Viewing the Weekly Schedule List

Once the weekly operation schedule is created, you can view the weekly schedule list.

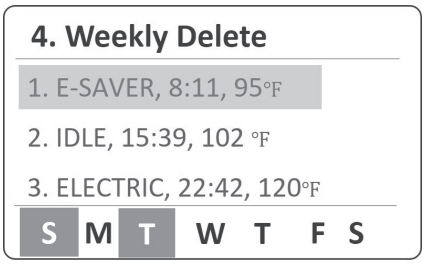
1. From the Schedule menu, select **Weekly List**.
2. Press the Up ( ▲ ) or Down button ( ▼ ) to scroll through schedule items, and select an item to view its schedule information.



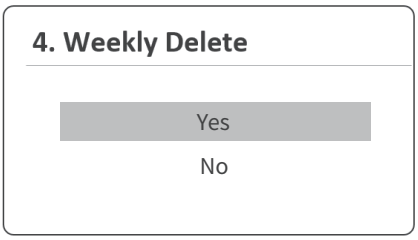

The set operation mode, time, and temperature will be displayed, while the selected days on the weekly schedule will be indicated at the bottom of the screen.

## Deleting Weekly Operation Schedules

1. From the Schedule menu, select **Weekly List**.
2. From the set weekly operation schedules on the list, press the Up ( ▲ ) or Down button ( ▼ ) to select a schedule item to delete, and then, press the OK (OK) button.



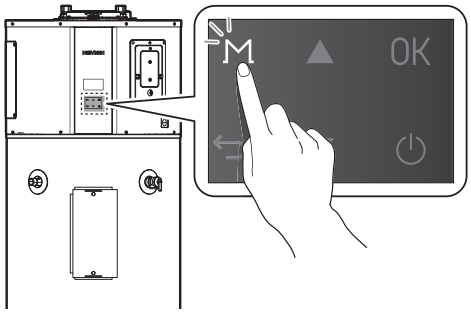

3. From the Weekly Delete screen, press the Up ( ▲ ) or Down button ( ▼ ) to select **Yes**, and then press the OK (OK) button to delete the selected schedule item. If you do not want to delete it, select **No**.

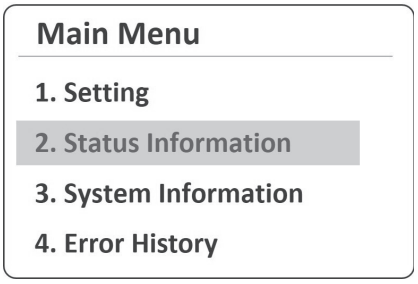


## 3.6 Viewing Status Information

You can view operating status information, including, hot water, heat pump, and heating element.

1. Press and hold the Menu button (M) for more than 5 seconds and then select **Status Information**.



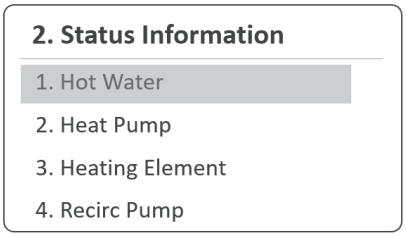

2. Press the Up (▲) or Down button (▼) to scroll through information items. Press the OK button (OK) to select an item to view the information.

| Item | Description |
|---|---|
| 1. Hot Water | Temperature of the pump, hot water temperature, and water flow rate |
| 2. Heat Pump | Heat pump module's operating information |
| 3. Heating Element | Heating element's operating information |
| 4. Recirc Pump | Recirculation pump kit's operating Information |

3. Press the Back button (↩) to return to the previous screen or menu.

### 3.6.1 Viewing the Hot Water Information

1. From the Status Information Menu, Select **Hot Water**.



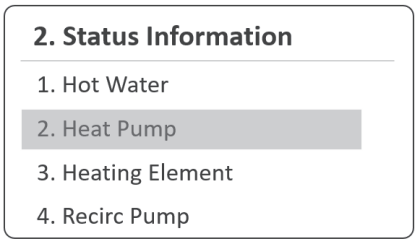

2. Press the Up (▲) or Down button (▼) to scroll through information items. Press the OK button (OK) to select an item to view the information.

| Item | Description |
|---|---|
| 1. Tank Upper Temp | Current upper temperature of the tank (°F/°C) |
| 2. Tank Lower Temp | Current lower temperature of the tank (°F/°C) |

3. Press the Back button (↩) to return to the previous screen or menu.

### 3.6.2 Viewing the Heat Pump Information

1. From the Status Information Menu, Select **Heat Pump**.



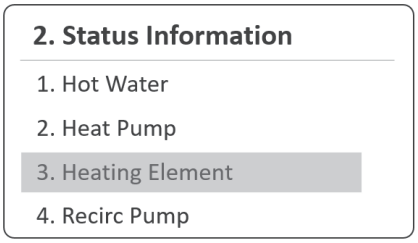

2. Press the Up ( ▲ ) or Down button ( ▼ ) to scroll through information items. Press the OK button (OK) to select an item to view the information.

| Item | Description |
|---|---|
| 1. Compressor On/Off | Current operating status of the compressor (On or Off) |
| 2. Discharge Temp | Current discharge temperature (°F/°C) |
| 3. Suction Temp | Current suction temperature (°F/°C) |
| 4. Evaporate Temp | Current evaporate temperature (°F/°C) |
| 5. Ambient Temp | Current ambient temperature (°F/°C) |
| 6. Evaporate Fan Speed | Current evaporator fan speed (RPM) |
| 7. Current Super Heat | Current super heat temperature (△°F/△°C) |
| 8. EEV Step | Valve opening rate (%) of the electronic expansion valve (EEV) |

3. Press the Back button ( ⮌ ) to return to the previous screen or menu.

### 3.6.3 Viewing the Heating Element Information

1. From the Status Information Menu, select **Heating Element**.



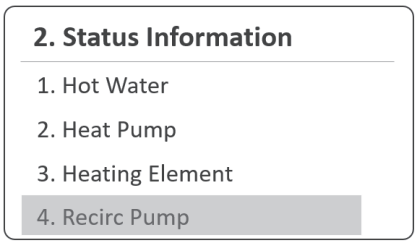

2. Press the Up ( ▲ ) or Down button ( ▼ ) to scroll through information items. Press the OK button (OK) to select an item to view the information.

| Item | Description |
|---|---|
| 1. UHE Output | Current operating status of the upper heating element (On or Off) |
| 2. LHE Output | Current operating status of the lower heating element (On or Off) |

3. Press the Back button ( ⮌ ) to return to the previous screen or menu.

### 3.6.4 Viewing the Recirculation Pump Kit Information

1. From the Status Information Menu, select **Recirc Pump**.




2. Press the Up ( ▲ ) or Down button ( ▼ ) to scroll through information items. Press the OK button (OK) to select an item to view the information.

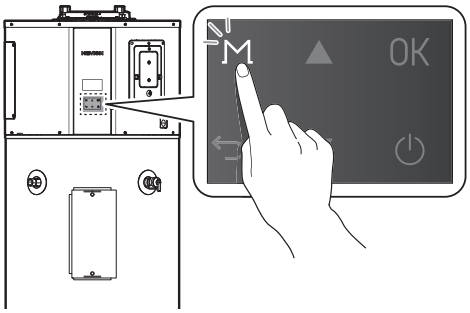
| Item | Description |
|---|---|
| 1. Recirc Temperature | Current recirculation pump return water temp (°F/°C) |
| 2. Recirc Flow Rate | Current recirculation pump water flow rate (GPM/LPM) |

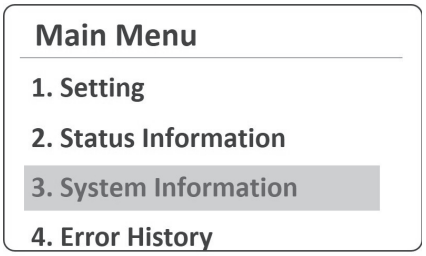
3. Press the Back button ( ⮌ ) to return to the previous screen or menu.

## 3.7 Viewing System Information

You can view the system information, including tank capacity, product category, and Wi-Fi connection status.

1. Press and hold the Menu button (M) for more than 5 seconds and then select **System Information**.




2. Press the Up ( ▲ ) or Down button ( ▼ ) to scroll through information items. Press the OK button (OK) to select an item to view the information.

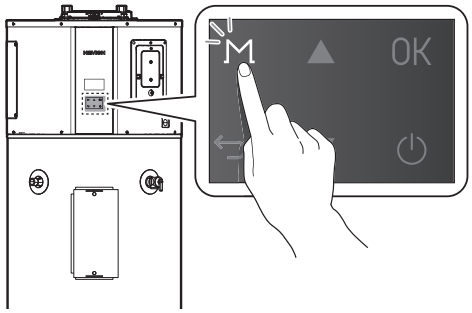
| Item | Description |
|---|---|
| 1. Tank Capacity | Set tank capacity (50 Gallon, 65 Gallon or 80 Gallon) |
| 2. Product Category | Set product's category (Standard, Premium or Plug-in) |
| 3. Wi-Fi Connection | Wi-Fi Connection status (Connect or Disconnect) |
| 4. Date/Time | Current date and time |
| 5. RTC Battery | Current voltage of the RTC battery |
| 6. F/W Version | Firmware version of the controller |

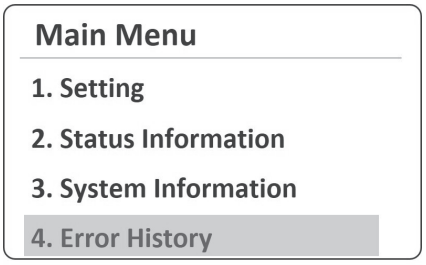
3. Press the Back button ( ⮌ ) to return to the previous screen or menu.

## 3.8 Viewing Error History

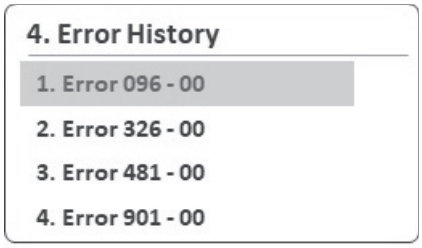
You can view a list of recent errors and check for details. For more information about the error codes, refer to "Understanding Error Codes" in the Installation Manual.

1. Press and hold the Menu button (M) for more than 5 seconds and then select **Error History**.

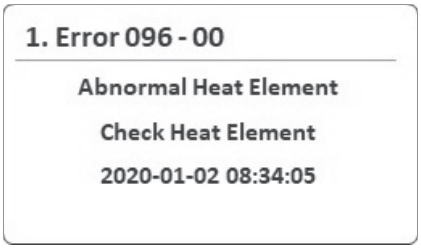



A list of 10 recent errors are displayed on the screen, with the most recent error displayed at the top of the list.




2. Press the Up (▲) or Down button (▼) to scroll through the list of errors. Press the OK button (OK) to select an error to view the detailed information.




3. Press the Back button (↩) to return to the previous screen or menu.

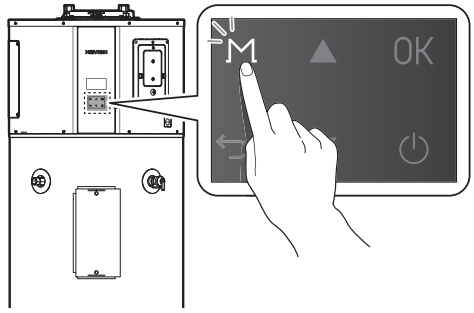
**Note**

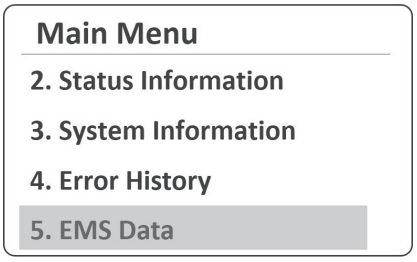
- The front panel display flashes in red and the error icon is displayed (flashing) when a level 1 error is detected. You can press the OK button (OK) to enter error display mode. The operation is maintained during a level 1 error.
- Level 1 errors are automatically cleared when the problem is resolved.
- You can press the Back button (↩) to clear a level 1 error. The error is then cleared if the problem has been resolved.
- You can press and hold the Back button (↩) for 5 seconds to clear a level 1 error. The error is then cleared if the problem has been solved.

## 3.9 Viewing Other System Operation Information

You can view system operation information, including heat pump operation time, heating element operation time, and power consumption."

1. Press and hold the Menu button (M) for more than 5 seconds and then select **EMS Data**.




2. Press the Up (▲) or Down button (▼) to scroll through information items. Press the OK button (OK) to select an item to view the information.

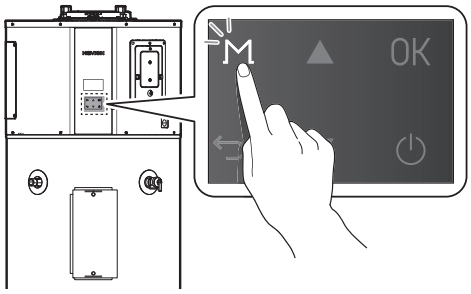
| Item | Description |
|---|---|
| 1. HP Operation Time | Monthly heat pump operating time |
| 2. HE Operation Time | Monthly heating element operating time |
| 3. Power Consumption | Monthly power consumption |

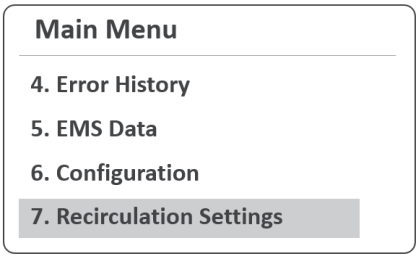
3. Press the Back button (↩) to return to the previous screen or menu.

## 3.10 Setting the Recirculation Mode

You can customize the water heater's operation by enabling the preheating function through the recirculation mode to match your lifestyle.

1. Press and hold the Menu button (M) for more than 5 seconds, and then select **Recirculation Settings**.




2. Press the Up (▲) or Down button (▼) to scroll through the items. Press the OK button (OK) to select an item.

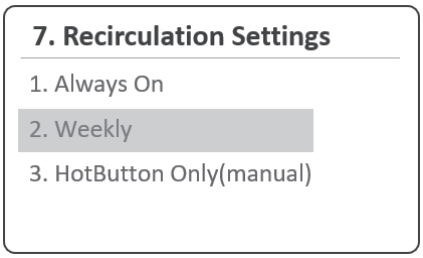
| Item | Description |
|---|---|
| 1. Always On | Set for continuous repeat DHW recirculation. |
| 2. Weekly | Schedule the weekly recirculation operation. |
| 3. HotButton Only(Manual) | Set to manually activate a one-time DHW recirculation cycle using an external HotButton or the mobile app. |

3. Press the Back button (↩) to return to the previous screen or menu.

### 3.10.1 Setting the Recirculation Weekly Operation Schedule

You can schedule the weekly recirculation operation and view the weekly operation schedule list.

1. From the Recirculation Settings Menu, select **Weekly**.




2. Press the Up ( ▲ ) or Down button ( ▼ ) to scroll through the items, and set the weekly operation schedule details.

| Item | Description |
|---|---|
| 1. Weekly Enable | Enable or disable the weekly recirculation operation schedule. |
| 2. Weekly Set | Set the weekly recirculation operation schedule. |
| 3. Weekly List | View the list of weekly recirculation operation schedules. |
| 4. Weekly Delete | Delete the weekly recirculation operation schedule. |

3. Press the Back button ( ⮌ ) to return to the previous screen or menu.

## Setting Weekly Recirculation Operation Schedule Details

1. From the Weekly Menu, select **Weekly Set**.

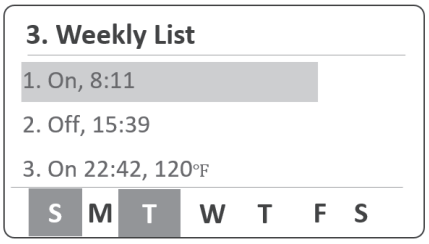
2. Press the Up ( ▲ ) or Down button ( ▼ ) to scroll through information items. Press the OK button (OK) to select a sub menu of parameters and then set the schedule details.

| Item | Description |
|---|---|
| Day | Set the days for the recirculation to operate. You can select multiple days for operation.<br>1. Press the OK button (OK) to select the day of the week.<br>• Setting range: Sun, Mon, Tue, Wed, Thurs, Fri, Sat<br>2. Press and hold the OK button (OK) to move to the next setting. |
| Time | Set the operating time.<br>1. Press the OK button (OK) to select the time.<br>2. Press and hold the OK button (OK) to move to the next setting. |
| Operation | Select the recirculation On or Off for selected days and time. |

## Viewing the weekly schedule list

1. From the Weekly Menu, select **Weekly List**.

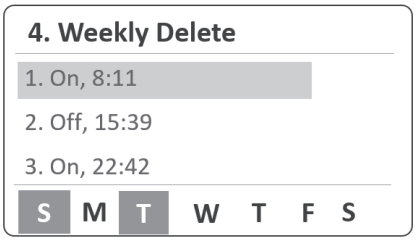
2. Press the Up ( ▲ ) or Down button ( ▼ ) to scroll through schedule items, and select an item to view its schedule information.



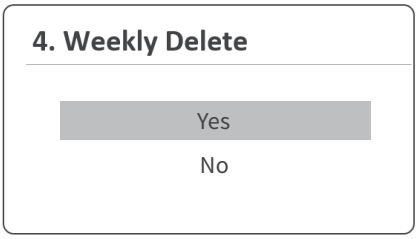

The set On and Off time will be displayed, while the selected days on the weekly schedule will be indicated at the bottom of the screen.

## Deleting Weekly Recirculation Operation Schedules

1. From the Weekly Menu, select **Weekly Delete**.
2. From the set weekly operation schedules on the list, press the Up (▲) or Down button (▼) to select a schedule item to delete, and then, press the OK (OK) button.



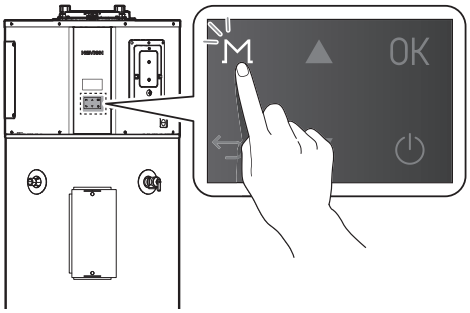

3. From the Weekly Delete screen, press the Up (▲) or Down button (▼) to select **Yes**, and then press the OK (OK) button to delete the selected schedule item. If you do not want to delete it, select **No**.

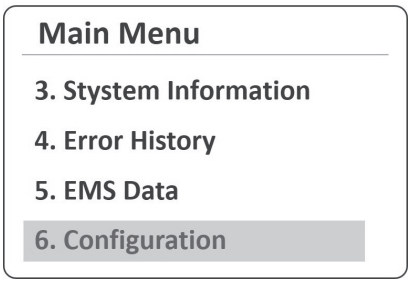



## 3.11 Setting the Display Options

You can configure display options, such as display unit, time, and error alarm, on the front panel.

1. Press and hold the Menu button (M) for more than 5 seconds and then select **6. Configuration**.




2. Press the Up (▲) or Down button (▼) to scroll through the items. Press the OK button (OK) to set its configuration.

| Item | Description |
|---|---|
| 1. Display Units Setting | Set the display units.<br>1. °F, GPM, Feet<br>2. °C, L/M, Meter<br>• Default: °F, GPM, Feet |
| 2. Time Setting | Set the time format.<br>• Display: YYYY.MM.DD/ HH:MM:SS |
| 3. Error Alarm | Set the error alarm mode.<br>• Setting range: On, Off<br>• Default: Off |
| 4. Backlight Time Setting | Set the backlight time.<br>• Setting range: 0–60 min<br>• Default: 1 min |

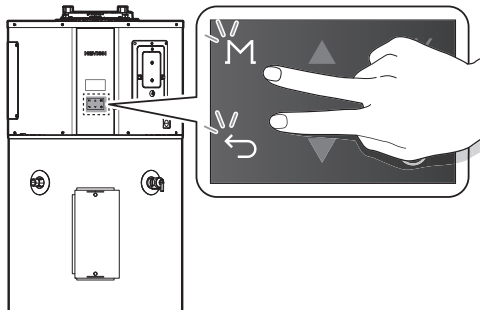
| Item | Description |
|---|---|
| 5. Sound Setting | Set the beep sound.<br>• Setting range: On, Off<br>• Default: On |

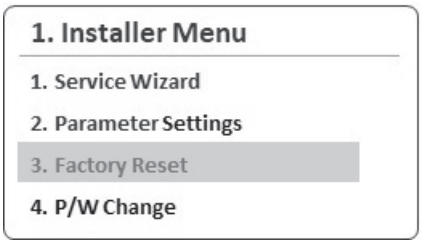
3. Press the Back button ( ) to return to the previous screen or menu.

## 3.12 Initializing All Parameter Settings (Factory Reset)

You can initialize all parameter settings and data of the water heater system to factory default.

1. Press and hold the Menu button ( ) and the Back button ( ) simultaneously for more than 5 seconds, and then select **Factory Reset**.






2. Press the Up ( ▲ ) or Down button ( ▼ ) to select **Yes** and then press the OK button ( OK ) to initialize all parameter settings (panel and main controller) to the factory default. The factory reset process status will be displayed on the front panel. After the factory reset, the Start Wizard will run.

**Note** If you select **No** or press the Back button ( ), it will return to the previous screen or menu.

## 3.13 Connecting the NaviLink App with the Water Heater

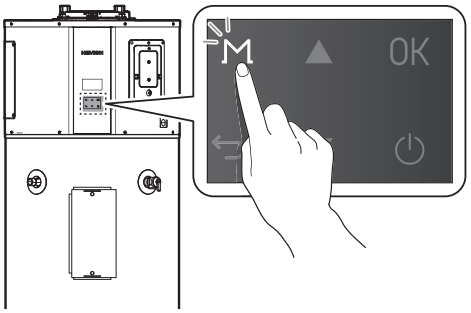
By using the water heater's Wi-Fi communication to connect the NaviLink app with the water heater, you can monitor temperature settings and EMS data, turn the water heater on or off, schedule settings, and set the water temperature through the app. Follow the procedure below to connect the app and water heater.

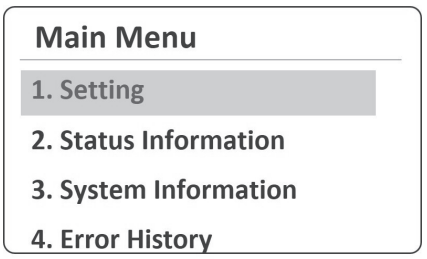
1. Search for "NaviLink" in the App Store (iOS) or Google Play Store (Android) and download the app to your smartphone. After installation is complete, launch the NaviLink app.


**[Google Play Store]**


**[Apple App Store]**

2. Press and hold the Menu button ( ) for more than 5 seconds, and then select **Setting**.

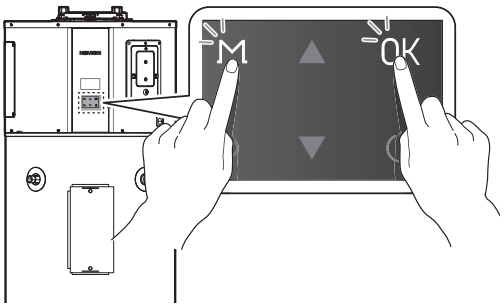



3. From the Setting Menu, select **Communication** and set the Wi-Fi communication to On to enable it.

4. Press and hold the Power button (⏻) to turn off the water heater.

5. When the water heater is turned off, press and hold the Menu button (M) and the OK button (OK) simultaneously for 3 seconds. The water heater will be in Wi-Fi Connection mode.




6. When the guidance screen appears, press the OK button (OK).

Install the NaviLink app
on your phone to setup WIFI.

The Wi-Fi connection ready mode screen will be displayed.

READY
HPWH xxxx

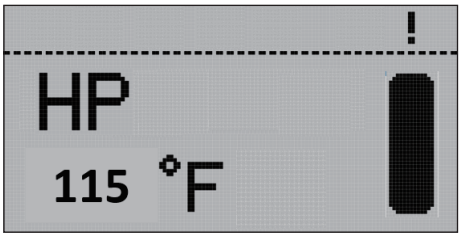
7. While the water heater is in Wi-Fi Connection mode, register the product (water heater) via the NaviLink app. If registration is successful, "WIFI CONN-SUCCESS" will be displayed on the front panel, and the water heater will complete Wi-Fi Connection mode and turn off automatically.

**Note** To exit Wi-Fi Connection mode and turn off the water heater, press and hold the Back button (↩).

## 3.14 Water Heater Protection Features

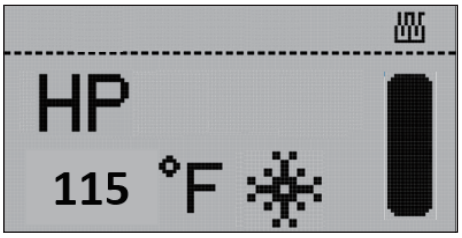
### 3.14.1 Heat Pump Operation Prevention

The heat pump will only operate when the ambient temperature around the product is between 41°F (5°C) and 113°F (45°C), and the water temperature inside the tank is between 50°F (10°C) and 149°F (65°C). Outside of these temperature ranges, the heat pump does not operate, and the front panel displays "Operation Prevention in Progress."




### 3.14.2 Freeze Protection

This protection feature prevents the freezing of water inside the tank. When the water temperature inside the tank falls below the set threshold (default: 43°F (6°C)), the electric heater is activated to raise the water temperature inside the tank. Once the water temperature inside the tank rises to a certain level, this operation stops. While the freeze protection feature is active, the front panel displays "Freeze Protection in Progress."



### 3.14.3 Anti-Seize

The shut-off valve and electronic expansion valve (EEV) will operate for a set period at regular intervals to prevent seizing.

### 3.14.4 Alternating from Heat Pump to Electric Operation

If there is a problem with the heat source used in the selected operating mode and that heat source cannot be operated, tank heating will continue with the remaining alternative heat source that is confirmed to be in normal condition until the problematic heat source returns to normal.

- If the heat pump cannot operate, the electric heater will be used to heat the tank.
- If the electric heater cannot operate, the heat pump will be used to heat the tank.
- If the upper electric heater cannot operate, the lower electric heater will be used to heat the tank.

## 3.15 Additional Features

### 3.15.1 Hot Water Charge Display

This feature calculates the thermal energy (energy storage) status inside the tank based on the current water temperature and displays it on the front panel.

### 3.15.2 Anti-Legionella - Default: Disable

**⚠ CAUTION**

A mixing valve must be installed to prevent the risk of burns from high-temperature water when the anti-legionella feature is activated.

When the anti-legionella function is enabled, the water temperature in the tank will be heated to 140°F (60°C) at a set interval (default: 7 days, adjustable from 1 to 30 days) to prevent Legionella bacteria.

### 3.15.3 Demand Response (CTA 2045-B) - Default: Disable

***NOTICE***

In demand response applications, a thermostatic mixing valve certified to ASSE 1017 is required to be installed on the hot water outlet pipe. Refer to the installation instructions provided by the valve manufacturer.

If the CTA-2045 Module (or EcoPort Module) is connected to the product and the DR (Demand Response) function is enabled in the front panel settings menu, power usage control will be performed according to DR commands sent by the Electric Utility. Various commands, such as Shed or Load Up, can be received. Upon receiving a command from the Grid, normal operation will immediately stop, and the corresponding action will be performed. While performing actions in response to a DR command, the front panel will display the DR label. If necessary, you can disable the DR function to operate in normal mode, which will remain in effect for up to 72 hours (3 days).

### 3.15.4 Weekly Schedule - Default: Disable

When the weekly schedule feature is enabled, the tank's thermal storage operation is performed according to the schedule type and settings.

The schedule time, operating mode, and tank temperature settings can be configured. While operating using the schedule settings, if you change any settings (such as operating mode or tank temperature), the product will immediately operate according to the new settings. When the next scheduled operation time is reached, it will continue operating according to the previously reserved settings.

# 4. Maintaining the Water Heater

**Note** If you need assistance with component replacement, contact a licensed professional or Navien Technical Support at 1-800-519-8794.

To operate the water heater safely, perform proper routine maintenance. Follow the instructions in this chapter to ensure optimal performance, prevent potential issues, and extend the lifespan of the unit.

- At least once a year, open the T&P valve handle on the side of the water heater and release 1–2 gallons of water.
- Clean the air filter on top of the water heater at least once a year or whenever the air filter cleaning alarm is displayed on the front panel.
- The internal condensate system requires no maintenance unless a fault code or overflow condition occurs. (For more information, refer to "4.3 Inspecting the Condensate Drain" on page 28.)

**⚠ WARNING**

- Follow the service and maintenance procedures given throughout this manual and in component literature shipped with the water heater.
- Failure to perform the service and maintenance could result in damage to the water heater or system.
- Failure to follow the directions in this manual and component literature could result in severe personal injury, death, or substantial property damage.
- The boiler must be inspected annually, preferably at the start of the heating season, by a qualified service technician. In addition, the maintenance and care of the boiler must be performed to assure maximum boiler efficiency and reliability. Failure to service and maintain the boiler and system could result in equipment failure.
- **Electrical shock hazard** – Turn off power to the boiler before any service operation on the boiler except as noted otherwise in this instruction manual. Failure to turn off electrical power could result in electrical shock, causing severe personal injury or death.
- After each act of maintenance or servicing, proper operation of the boiler must be verified by a qualified service technician.

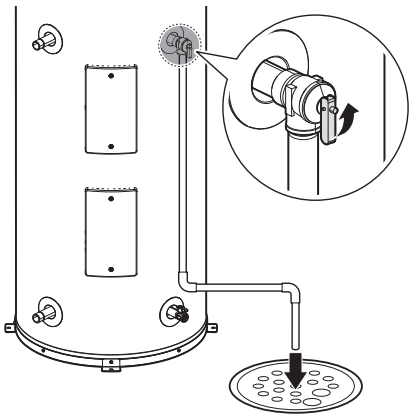
## 4.1 Maintaining the T&P Relief Valve

**⚠ WARNING**

The water heater must be equipped with a T&P valve. Operating the water heater without the T&P valve may lead to the risk of explosion.

- When discharging water, ensure no one is nearby, as the temperature is extremely high.
- Do not block the T&P valve discharge outlet.

At least once a year, open the T&P valve's handle on the side of the water heater to drain 1–2 gallons of water, preventing the valve from sticking.



**Note**

- If no water is drained when the T&P valve's handle is opened, turn off the water heater and contact a licensed professional or Navien Technical Support at 1-800-519-8794.
- If there is a leak from the T&P valve, follow these guidelines:
  - Install a PRV (Pressure Reducing Valve) on the cold water inlet side. (Recommended pressure: 50–60 psi)
  - Install an expansion tank with the appropriate pressure.
  - Adjust the temperature setting as needed.

**⚠ WARNING**

The water heater must be equipped with a T&P valve. Operating the water heater without the T&P valve may lead to the risk of explosion.

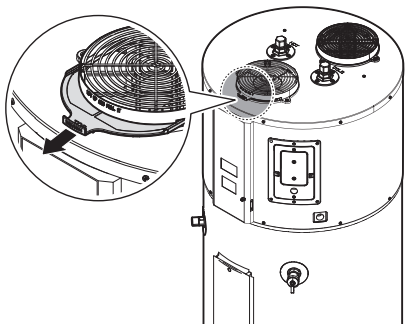
- When discharging water, ensure no one is nearby, as the temperature is extremely high.
- Do not block the T&P valve discharge outlet.

## 4.2 Cleaning the Air Filter

When an air filter alarm notification appears on the front panel, clean or replace (if required) the air filter on the intake air duct at the top of the water heater.

**Note** Although the filter is not clogged, clean the air filter at least once a year to help improve the water heater's efficiency.

1. Ensure the electrical power to the water heater is turned off.
2. Hold the air filter by its handle, then lift it up and pull it out from the intake air duct at the top of the water heater.



3. Remove dust or debris from the filter using water or a vacuum cleaner.

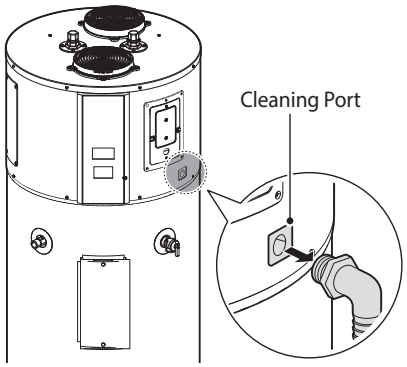
   **Note** If you use water to clean the filter, make sure to dry it completely or wipe it down with a cloth.

4. Push the air filter all the way in to fully insert it into the intake air duct.

## 4.3 Inspecting the Condensate Drain

The internal condensate system requires no maintenance unless a fault code or overflow condition occurs.

- When such conditions occur, check whether the condensate drain pan or hose is clogged due to sediment or algae buildup.
- Compressor operation will automatically stop when condensate leakage or overflow is detected to protect the product and user safety.
- In case the condensate drain line is clogged, follow the instruction below to clean the line. Recommended cleaning tools include a cleaning brush, wet/dry vacuum cleaner, bleach, and other appropriate household items.




1. Ensure the electrical power to the water heater is turned off.
2. Remove the condensate drain and open the cleaning port.
3. Remove internal debris using a brush or pipe cleaner from the cleaning port.
4. Use a vacuum cleaner or bleach (if necessary) to remove remaining debris and foreign substances.
5. Restore the cleaning port and supply power to the water heater.

## 4.4 Draining and Flushing the Water Heater

At least once a year, drain and flush the water heater to remove mineral deposits and reduce unpleasant odors in the water.

1. Ensure the electrical power to the water heater is turned off.
2. Open all faucets and connect a hose to the drain valve.
3. Close the cold water supply valve and open the drain valve (Opening the T&P valve will speed up the draining process.).
4. Once draining is complete, close the drain valve and reopen the cold water supply valve.
5. Keep the faucets open while the storage tank fills with water.
6. When the storage tank is full, close the faucets and supply power to the water heater to turn it on.

**⚠ WARNING**

- Ensure the power to the water heater is turned off before performing this procedure.
- After completing draining and flushing, make sure the storage tank is fully filled with water before supplying power to the water heater to turn on the water heater.

## 4.5 Maintenance for Extended Periods of Inactivity

If the water heater will be unused for an extended period, follow the instructions below.

- Disconnect the power supply to the water heater.
- Use the Vacation mode to save energy. To set the Vacation mode, refer to "3.5 Setting Operation Schedules and Configuring Communication Settings" on page 15.
- Be sure to drain the pipes to prevent the risk of freezing due to outdoor temperatures.

**⚠ CAUTION**

Before turning the water heater back on after it has been unused for an extended period, make sure the storage tank is full of water. If the water heater is turned on without enough water in the tank, it may overheat, causing damage to the heating element. This may lead to malfunction, increased energy consumption, or even a complete failure of the system. Ensuring the tank is full of water helps prevent these risks and ensures safe operation.

## 4.6 Replacing the Battery on the Front Panel

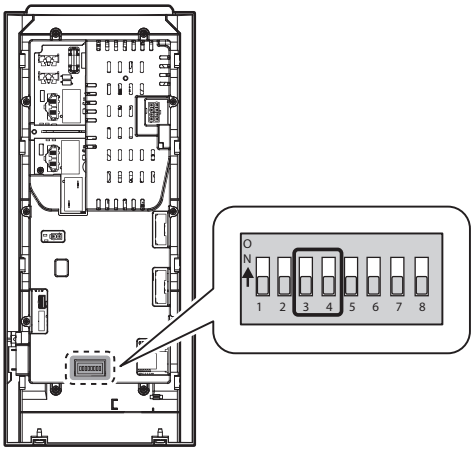
**⚠ CAUTION**

- Impacting the battery may cause an explosion.
- Do not attempt to recharge the battery.
- After replacing the battery, you may need to set the time on the front panel.

The water heater is shipped from the factory with a protective film on the battery. After completing the installation and before connecting the water heater to power, remove the battery protective film from the side of the front panel. It is recommended to replace the battery every five years.

## 4.7 Setting the DIP Switches

The water heater has 8 dip switches on the back of the front panel. Dip switches 3 and 4 can be used to set the capacity of the heat pump water heater. The capacity setting is set at the factory and cannot be changed except when the front panel is replaced.



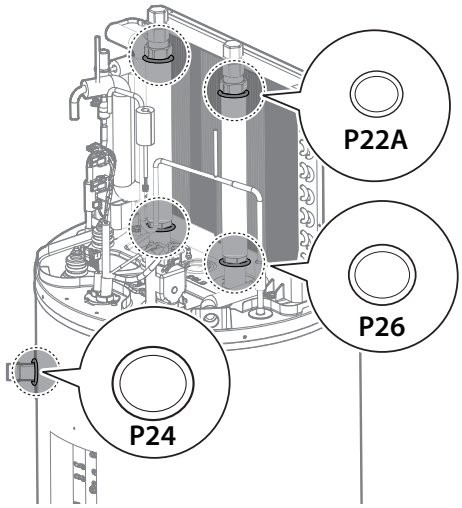

| Capacity | DIP SW 3 | DIP SW 4 |
|---|---|---|
| 50 Gallon | OFF | OFF |
| 65 Gallon | ON | OFF |
| 80 Gallon | OFF | ON |
| Setting Error | ON | ON |

## 4.8 Installing Emergency Part Kit for Repairs

The emergency parts kit for repairs includes three types of O-rings and fuses. Use these components to replace damaged parts, if necessary.

### O-Ring Replacement Locations

If the O-rings on the upper, lower, or side pipes need replacement, use the corresponding O-rings provided in the Emergency Parts Kit.



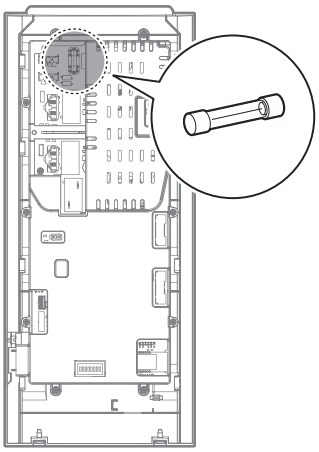

| O-ring Type | Location |
|---|---|
| P22A | Top Pipe Upper |
| P26 | Top Pipe Lower |
| P24 | Side Pipes |

**⚠ WARNING**

Using a damaged O-ring or installing an O-ring improperly may cause water leaks, which could result in severe personal injury or property damage.

## Fuse Replacement Location

If the fuse located on the back of the front panel is blown, replace it with the fuse provided in the Emergency Parts Kit.

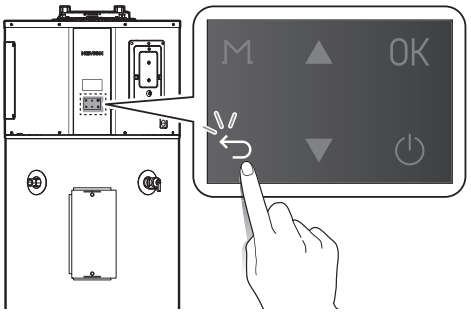


# 5. Troubleshooting

## 5.1 Solving Basic Problems

If you experience a problem with the water heater, refer to the following chart for possible remedies. Error codes that appear on the front panel display are explained in the following section.

For minor problems, resetting the water heater may resolve the issue. To reset the water heater, press the Back button ( ) on the front panel.




**⚠ WARNING**

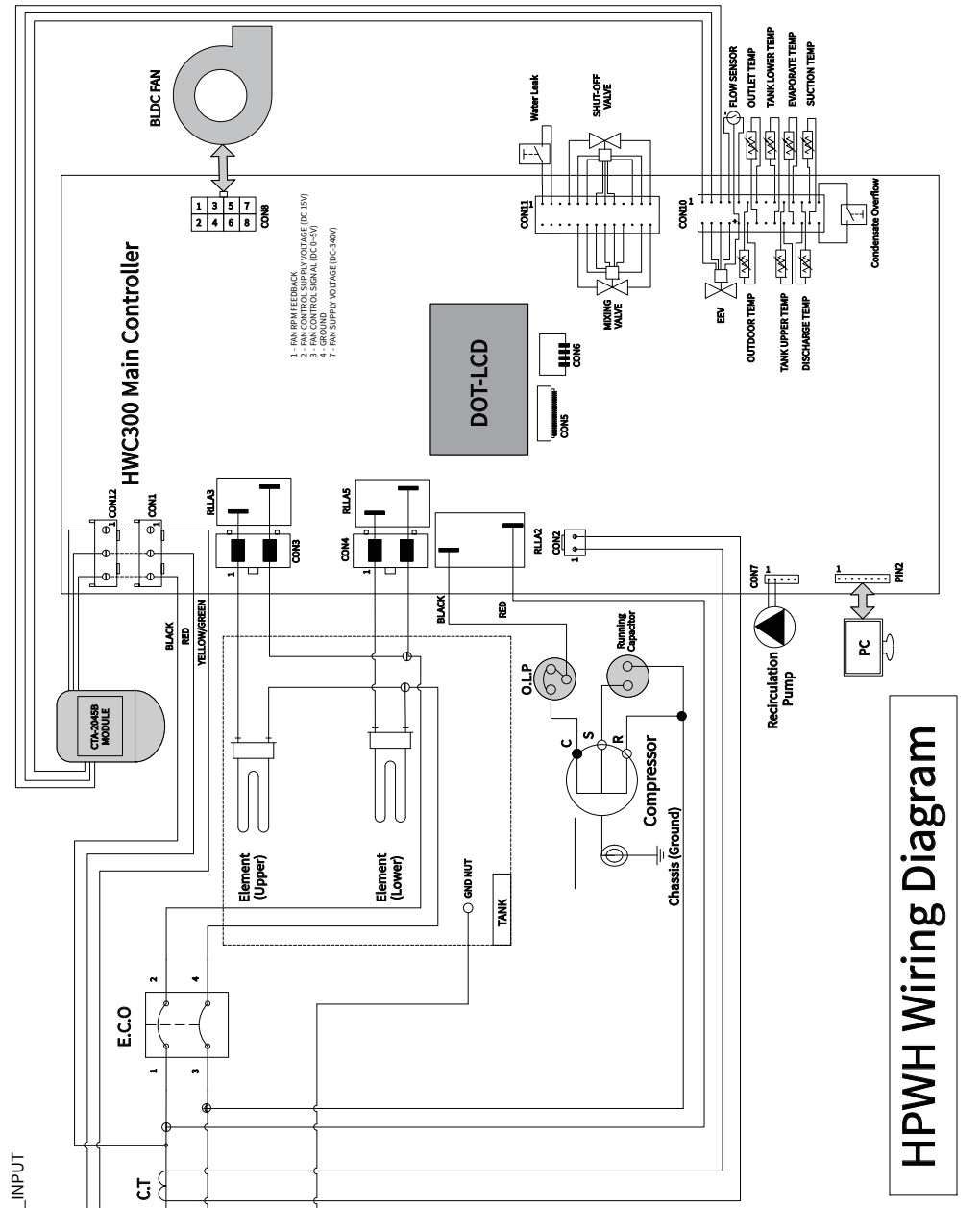
- If resetting the water heater and attempting the remedies suggested below do not resolve the problem, contact an authorized technician, a licensed professional, or Technical Support at 1-800-519-8794 for service instructions.
- Do NOT attempt to service or repair the water heater yourself.

| Problem | Possible Causes | What to Do |
|---|---|---|
| Rumbling noise | Water conditions in your home caused a buildup of scale or mineral deposits in the water heater. | Allow a few quarts of water to run from the drain valve to remove sediment settings. |
| Relief valve producing popping noise or draining | Pressure build up caused by thermal expansion in a closed system | This is an unacceptable condition and must be corrected. Contact a licensed professional or Navien Technical Support at 1-800-519-8794 for assistance. |

| Problem | Possible Causes | What to Do |
|---|---|---|
| Not enough or no hot water | Water usage may have exceeded the capacity of the water heater. | Wait for the water heater to recover after an abnormal demand. |
| | A fuse is blown or a circuit breaker tripped. | Replace fuse or reset circuit breaker. |
| | Electric supply may be turned off. | Confirm that electric supply to the water heater is properly connected. For more detailed instructions, refer to "Connecting the Power Supply" in the Installation Manual. |
| | The thermostat may be set too low. | Check the water heater's temperature setting. Refer to "3.3 Selecting the Operation Mode & Adjusting Water Temperature" on page 13. |
| | Leaking or open hot water faucets | Make sure all faucets are closed and check for plumbing leak. |
| | Electric service to your home may be interrupted | Contact the local electric utility. |
| | Improper wiring or sensor failure | Confirm that power supply wires are properly connected. For more detailed instructions, refer to "Connecting the Power Supply Wires" in the Installation Manual. |
| | Manual reset limit(ECO) | Check the temperature regulation of the water heater. For more information, refer to "Important Safety Information" on page 5 for more information. |
| | The water heater may be in Vacation Mode. | To disable Vacation Mode, refer to "3.5 Setting Operation Schedules and Configuring Communication Settings" on page 15. |
| | Cold water inlet temperature may be colder during the winter months | This is normal. The colder inlet water takes longer to heat. |
| | Not enough air exchange for Efficient Heat Pump Operation | If the air temperature drops more than 15°F (8°C) during Heat Pump Operation, more air circulation around heater is required. |
| Water is too hot | The thermostat is set too high | Check the water heater's temperature setting. Refer to "3.3 Selecting the Operation Mode & Adjusting Water Temperature" on page 13. |
| | The Anti-Legionella function may be used. | This water heater is factory set to heat up to 120°F (49°C) once a week to prevent Legionella bacteria. Disable this function or adjust the heating frequency in the settings. To disable the function, refer to "Setting the Protection Function" in the Installation Manual. |
| Water odor | Harmless bacteria present in tap water | A higher tank temperature setting of 140°F (60°C) kills the bacteria that cause 'smelly water' and can help reduce the levels of bacteria that cause waterborne diseases. A properly adjusted thermostatic mixing valve should be installed at each point of use. |
| Low water pressure | Partially closed supply valve | Open the water heater's supply valve fully. |

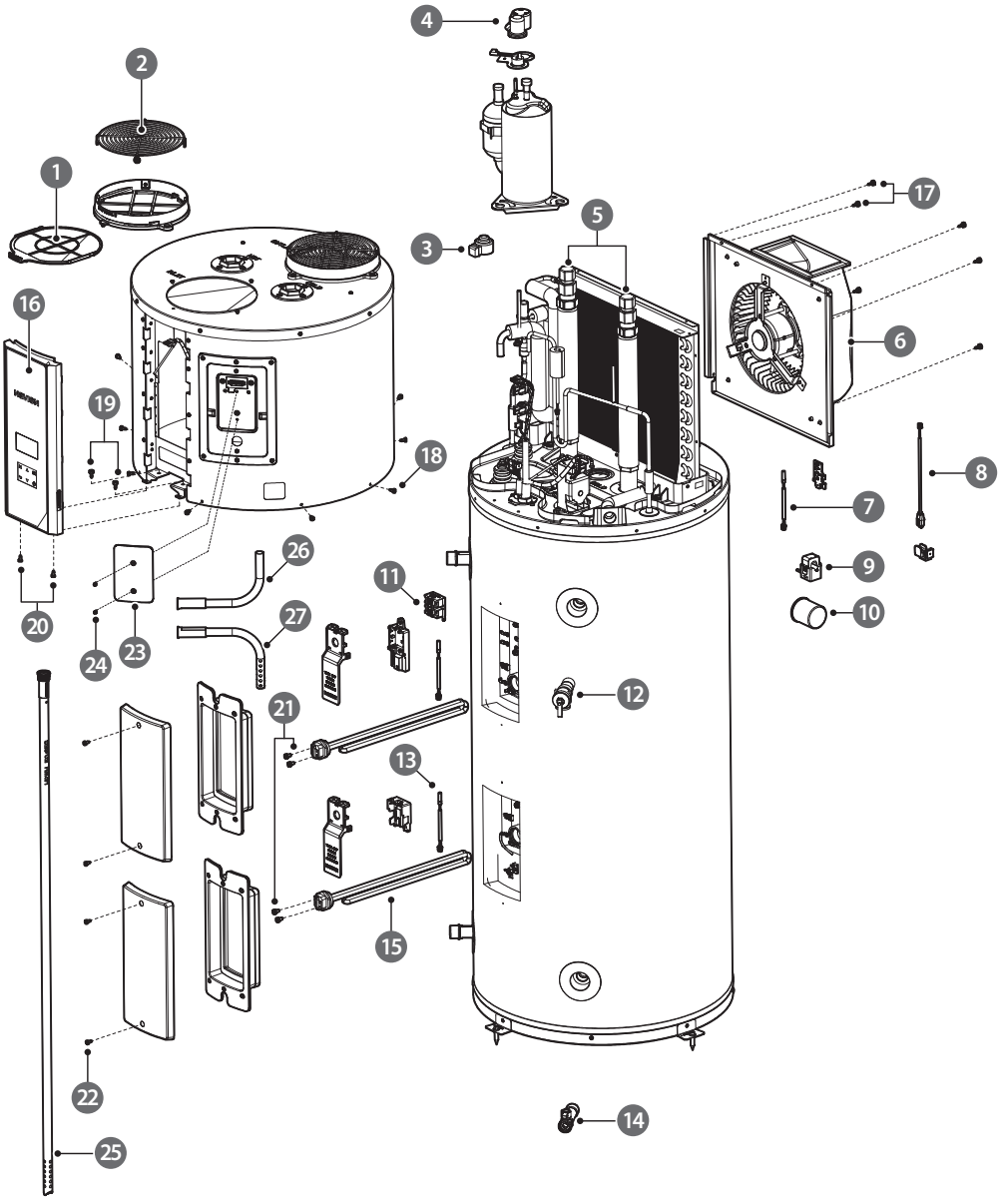
# 6. Appendixes

## 6.1 Wiring Diagram




| Wire Name | AWG | Temperature Spec. | UL No. |
|---|---|---|---|
| Main Power Input | 12 | 105 | 1015 |
| Controller | 18 | 105 | 1015 |
| E.C.O | 12 | 105 | 1015 |
| Compressor | 18 | 105 | 1015 |
| Heating Element (Upper/ Lower) | 12 | 105 | 1015 |
| Sensor | 22 | 105 | 1569, 21914 |
| Fan Motor | 22 | 105 | 1015 |
| CTA Module | 18, 22 | 105 | 1015, 1569 |

## 6.2 Component Assembly Diagrams and Parts Lists



| # | Part Name | Service Code | Remark |
|---|---|---|---|
| 1 | Intake Filter | 20068915* | |
| 2 | Intake Filter Grille | 20072241* | |
| 3 | Electronic Expansion Valve (EEV) Coil | 30036215* | |
| 4 | Overload Protector | 30036800* | |
| 5 | Upper Inlet & Outlet Pipe | 30036106* | |
| 6 | Fan Assembly | 30035398* | |
| 7 | Outside Air Temp sensor | 30038926* | |
| 8 | Water Leak Detection Sensor | 30031685* | |
| 9 | CT Sensor | 20071987* | |
| 10 | Capacitor | 20071120* | |
| 11 | Energy Cut Off (ECO) Switch | 30035521* | |
| 12 | Temperature and Pressure (T&P) Relief Valve (150 psi) | 30036068* | |
| 13 | Heating Element Temperature Sensor | 30038926* | |
| 14 | Drain Valve | 30036062* | |
| 15 | Heating Element | 30036069* | |
| 16 | Control Assembly | 30036288* | |
| 17 | Fan Assembly Fixing Screw | 20072676* | |
| 18 | Top Kit Fixing Screw (Side) | 20072409* | |
| 19 | Top Kit Fixing Screw (Bottom) | 20072676* | |
| 20 | Main Controller Screw | 20072408* | |
| 21 | Heating Element Wire Screw | 20077432* | |
| 22 | Heating Element Case Fixing Screw | 20072407* | |
| 23 | CTA-2045 Cover | - | Not supplied |
| 24 | CTA-2045 Cover Screw | - | Not supplied |
| 25 | Upper Inlet Tube (Dip Tube) | - | Not supplied |
| 26 | Optional Side Outlet Tube | - | Not supplied |
| 27 | Optional Side Inlet Tube | - | Not supplied |

# LIMITED WARRANTY NAVIEN, INC.

This Limited Warranty is provided by Navien, Inc. ("Navien") to cover only labor, parts and the tank for the Navien NWP500 Heat Pump Water Heater ("Product") as originally installed by a properly licensed plumber or contractor and operated in strict compliance with the Installation & User's Information Manuals procedures and subject to the terms within this Warranty document. Improper installation or use will void this Warranty.

## How Long is the Coverage?

The warranty periods begin from the date of original installation ("Commencement Date"), and proof of such date must be provided to Navien. When the Product is installed in new construction, the Commencement Date shall be the date that the end-user takes title to the property. If proof of the installation date is unavailable, then the original installation date shall be deemed to be six months after the unit's manufacture date.

This Warranty runs from the Commencement Date and extends to the original purchaser and subsequent owners ("Purchaser"), but only while the Product remains at the site of the original installation. This Warranty includes a limited warranty as set forth herein.

## What is covered?

Subject to the terms and conditions set forth in this limited warranty, Navien will repair or furnish replacement parts, at no charge, for installation by a qualified service provider, if the part fails due to a manufacturing defect under normal use and maintenance. This limited warranty for the Applicable Warranty Periods specified herein ("Warranty") covers defects in materials or workmanship when the Product is installed by a properly licensed plumber or contractor and operated in strict compliance with the Installation & User's Information Manuals procedures, subject to the terms within this Warranty document. Navien will pay reasonable labor charges for the repair subject to Navien's prior written approval and in accordance with Navien's schedule of approved labor allowances for a period of one (1) Year from the Commencement Date. All repair parts must be genuine Navien parts unless otherwise authorized by Navien. All repairs and replacements must be performed by an individual or servicing company that is qualified to do the type of repair. During the applicable warranty period, replacement of the Product or part requires Navien's direct prior written approval, and no third party is authorized to provide such approval on behalf of Navien. The replacement part or Product will be warranted only for the unexpired portion of the applicable warranty period for the original part or Product.

## Applicable Warranty Periods

| NWP500 Series – Coverage Table for Labor, Parts, and Tank Only | | |
|---|---|---|
| | Residential* | Commercial |
| Labor | 1 Year | No coverage for Commercial Use |
| Parts | 10 Years | |
| Tank | 10 Years | |

*Residential use means a Single-Family Residence

## Eligibility Requirements

To be covered under this limited warranty, the Product or Parts must meet the following requirements: (i) The Product must be in the same location where it was originally installed; (ii) The Product must be properly installed, operated, and maintained by a licensed HVAC service provider in accordance with the specifications or installation, operation, and maintenance instructions provided by Navien, and you must upon request, present written maintenance records, (iii) The Product or Parts replaced under this limited warranty must be given to the servicing provider for return to Navien; and (iv) All claims under this limited warranty must be filed within 30 days of the failure date.

## How do I get service?

You must contact the original installer of your Product who must then contact Navien to report the issue. If you cannot find or do not wish to use the original installer, you may choose any service provider who is qualified to complete the necessary repair. Your service provider must contact and obtain approval from Navien's Technical Support team at 800-519-8794 or an authorized Navien distributor prior to commencing any warranty service. The installer and/or service provider must comply with Navien's warranty service and return procedures as available on Navien's website.

## What is not covered?

This warranty does not cover issues that are cosmetic and have no effect on the functionality of the Product, or for reasons of noise, taste, odor, discolored and/or rusty water. This warranty does not cover damage to the surrounding property. A properly sized metal drain pan must be installed in an area where leakage from the tank or its connections would result in damage to the area adjacent to the water heater. This warranty does not apply to water heaters used to heat pools, whirlpools or hot tubs or used for space heating. This warranty gives you specific legal rights, and you may have other rights which vary under the laws of each state. If any provision of this warranty is prohibited or invalid under applicable state law, that provision shall be ineffective to the extent of the prohibition or invalidity without invalidating the remainder of the affected provision or the other provisions of this warranty.

**Additional terms and conditions are continued on the reverse side.**

Customer Name :

Customer Address :

Telephone : Fax :

Email :

Installer Name : License No :

Installer Address :

Place of Purchase :

Model No :

Serial No :

Date of Purchase :

**SKIP THE STAMP!**

Use your camera to scan this QR code and register your unit online.

PLACE STAMP HERE

**Navien, Inc.**
20 Goodyear, Irvine, CA 92618
Tel : 1-800-519-8794
Fax : 949-420-0430
www.navieninc.com

For instant warranty registration, please register your product online at www.navieninc.com

Navien's Limited Warranty shall be void in the event of an occurrence of any of the following:

- Product purchased through the internet, other e-commerce channels, or any installer that obtained the Product from a supplier or distributor not authorized by Navien.
- Improper installation, failure to install in strict compliance with the Installation Manual procedures, installed by a non- licensed installer, and installation in violation of applicable rules, fire codes, plumbing codes, ordinances, regulations, good industry practices and proper safety practices.
- Failure to perform regular maintenance, misuse, operation at settings other than those recommended or specified, non- compliance with instructions or guidelines set forth in the User's Information Manual.
- Modification or alteration of the Product in any manner, including but not limited to, removal of any component or part, addition of any nonapproved components, relocating or moving the Product from its original installation site, or any accidental or intentional damage to the Product.
- Installation for non-recommended uses including Commercial use. Or installation outdoors.
- Any damage caused by local adverse conditions including but not limited to hard water deposits, lime or mineral build- up, operating in corrosive atmospheric elements; any operation of the water heater on desalinated (deionized) water.
- Any damage, malfunction or failure caused by abuse, negligence, alteration, accident, fire, flood, freezing, wind, lightning, power supply issues, electrical surges, acts of God, abnormal external temperature, and any other cause of damage not directly caused by a manufacturing defect.
- Installer's failure to fully comply with the Warranty Service and Return Policy procedures as available on Navien's website. Such policies include but are not limited to the Installer's failure to first contact Navien Tech Support while in front of the product for purposes of trouble shooting the identified problem or issue.
- Performance problems caused by improper sizing of the water heater, the venting connection, combustion air openings, electric service voltage, wiring, fusing or any other components, parts or specifications.
- Operating, using or storing the water heater in a corrosive or contaminated atmosphere or environment.
- Operating the water heater at water temperatures outside the factory calibrated temperature limits and/or exceeding the maximum setting of the high limit control.
- Operating the water heater when it is not supplied with potable water at all times, free of damaging water sediment or scale deposits.
- If a new temperature and pressure relief valve, certified by the Canadian Standards Association, is not properly installed and piped to the nearest drain.
- Any damage caused by attempts to repair tank leaks or parts
- Installation at any location outside the United States and Canada.
- Removal or alteration of the rating plate.
- Used at water pressures exceeding 80 psi static pressure.
- When water is not able to freely circulate at all times and with the tank; dry-firing.
- Installation anywhere other than its original installation location.
- Product is not sized in accordance with proper sizing techniques for residential water heaters.
- Product is not being used with a properly sized and installed thermal expansion tank.
- Product is not connected to the proper voltage or operated outside of the factory rated input.
- Any attempt to modify or alter the water heater's design in any way, including but not limited to, the attachment of non-company approved appliances or equipment, including any additional aftermarket equipment introduced into the sealed system.

## Warranty Limitations

EXCEPT AS EXPRESSLY PROVIDED HEREIN, THERE ARE NO OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO WARRANTIES OR MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, WHICH EXTEND BEYOND THE DESCRIPTION OF THE WARRANTY HEREIN AND FURTHER NAVIEN SHALL NOT BE LIABLE FOR INDIRECT, INCIDENTAL, SPECIAL, CONSEQUENTIAL, PUNITIVE OR OTHER SIMILAR DAMAGES THAT MAY ARISE, INCLUDING LOST PROFITS, DAMAGE TO A PERSON OR PROPERTY, LOSS OF USE, INCONVENIENCE, OR LIABILITY ARISING FROM IMPROPER INSTALLATION, SERVICE OR USE OF THE PRODUCT. ANY IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS ARISING UNDER STATE LAW ARE LIMITED IN DURATION TO THE PERIOD OF COVERAGE PROVIDED BY THIS WARRANTY, UNLESS THE PERIOD PROVIDED BY STATE LAW IS LESS.

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Rev. April, 2025

**Retain this document for future reference.**

For instant warranty registration, please register your product online at www.navieninc.com

# *Memo*

# User's Information Manual

## NWP500 Electric Heat Pump Water Heaters

### Getting Service

If your water heater requires service:

- All repairs require pre-authorization by Technical Support.
- Request for your installer or any licensed professional to contact Technical Support at 1-800-519-8794 Option 2 once at the installation site.
- A short list of independent service providers in your area can be found on the website: www.navieninc.com/installers.
- Contact a licensed professional for the affected system (for example, a plumber or electrician).

When you contact Technical Support, please have the following information at hand:

- Model number
- Serial number
- Date purchased
- Installation location and type
- Error code, if any appears on the front panel display

Version: 1.0 (November, 2025)

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