

Home Comfort Group



BOSCH

Installer Guide to the GreenTronic 7000 T Hybrid Electric Water Heater

A perfect replacement for electric
storage units



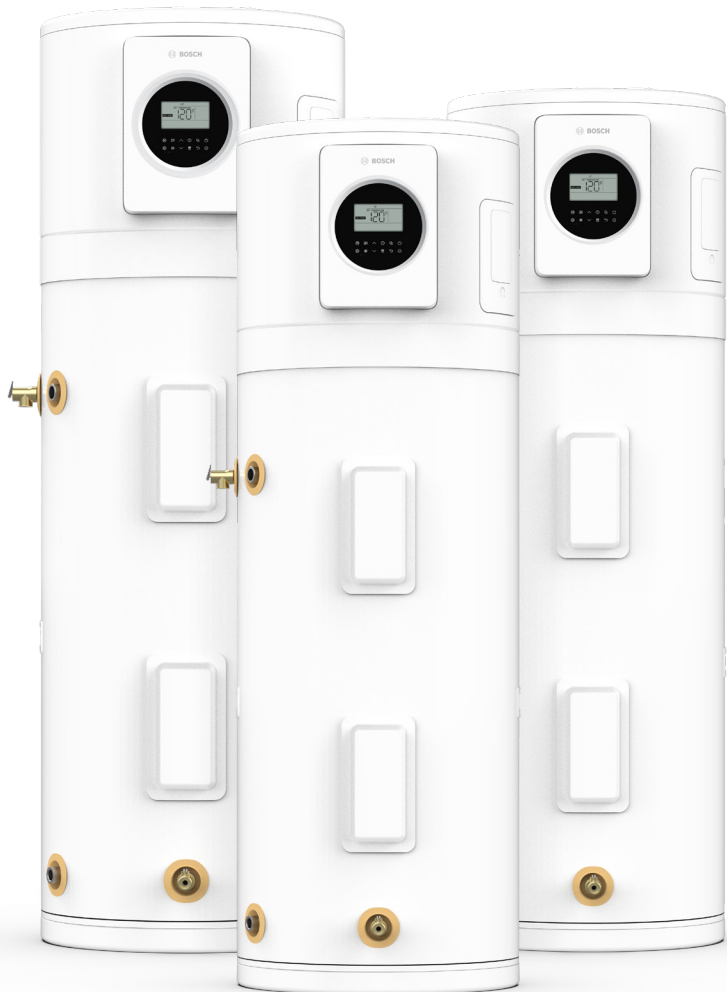
www.bosch-homecomfort.us



Easy, Energy Efficient Hot Water for Your Home

Contents

- Modes Overview
- Display Explanation
- Button Functions
- Technical Specifications
- Clearance
- Drain Pan Requirements
- Ducting Sizing
- Electrical
- Resistance Specs
- Operating Parameters
- Advanced Settings
- Error Codes
- Maintenance
- Accessory & Parts



Information

Please follow the QR to find information on tax credits and rebates near you and to the GreenTronic 7000T FAQ page.



For Information
Regarding Tax
Credits and
Rebates



GreenTronic 7000T
Product FAQs



GreenTronic 7000T
Home Page

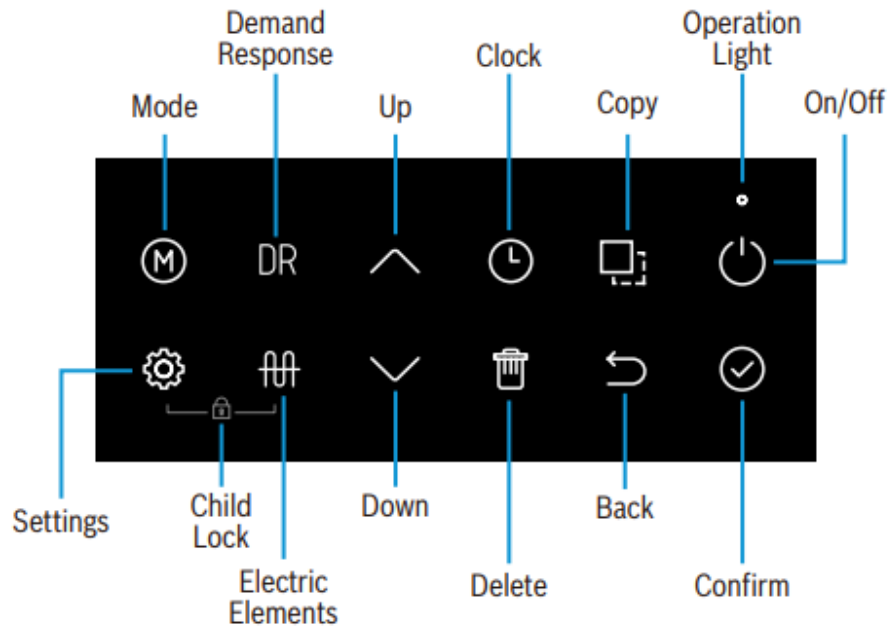


DOE website to find
out more about water
heater sizing

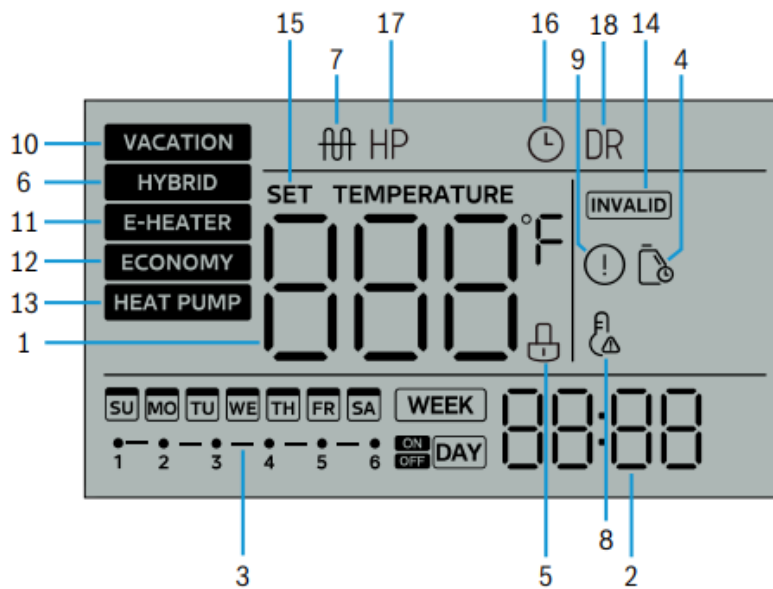
GreenTronic 7000T Modes overview

| Operation Mode | Efficiency | Recovery | Description |
|----------------|------------|-----------|---|
| VACATION | N/A | N/A | Vacation mode will put the water heater to target set temperature of 59 F to protect the water heater while not use for the length of the selected days (1 – 360 days). Further details in chapter 6.2.5. |
| HYBRID | Low | High | Hybrid mode utilizes the heat pump and the electric heating elements to heat up the water. Efficiency is lower and the water heats up faster compared to economy mode. Only active for 72 hours. |
| E-HEATER | Very Low | Very High | E-Heater only utilizes the electric heating elements to heat up the water. It is the least economic mode but is the fastest way to heat up the water in the water heater tank. Only active for 72 hours. |
| ECONOMY | High | Low | Economy mode utilizes the heat pump and the electric heating elements to heat up the water. It's the default mode. Efficiency is high while it takes longer to heat up the water. |
| HEAT PUMP | Very High | Very Low | Heat pump mode only utilizes the heat pump to heat up the water. It is the most efficient way to heat up the water but also takes the longest. |

HMI Guide












| HMI Overview Buttons | |
|-------------------------|--|
| Button Name | Description |
| Mode | Pressing cycles through modes, tank mode is set once mode appears on screen |
| Settings | Pressing once opens operating parameters menu. Holding for 3-5 seconds while at the home screen opens advanced settings menu |
| Demand Response | Turns the demand response control on and off. |
| Electric Element | When pressed, automatically turns on one of the electric element until the set point temperature is reached. |
| Clock | Used to set the date, time, and select schedule (weekly or daily) |
| Delete | Used to clear settings in the schedule |
| Copy | Used to copy and paste settings in the schedule |
| Back | Returns to previous screen |
| On/Off | Turns the tank on or off, display stays on |
| Confirm | Sets any changes made in the advanced settings or schedule |
| Child Lock | Pressing the setting and electric element buttons at the same time turns on child lock, changes can not be made on the display |
| Up/Down | Used to navigate different menus and set the temperature when at the home display screen |



HMI Overview Display

| No. | Icon | Description |
|-----|------|--|
| 1 | | <p>Main Display: This icon will be illuminated if the screen is unlocked. It shows the following values:</p> <ul style="list-style-type: none"> ▶ The measured water temperature in the tank ▶ The setpoint temperature ▶ Remaining days of vacation in vacation mode ▶ Error code if fault is detected, see troubleshooting section for more details |
| 2 | | <p>Time and Clock Setting: This icon shows the current time. This value must be set upon installation. It also shows the time when using the scheduling function.</p> |
| 3 | | <p>Scheduling: This icon is used to show the scheduling programmed by the user. If no scheduling is used, the icon will not be present. For the scheduling function:</p> <ul style="list-style-type: none"> ▶ The day that has been scheduled will be displayed ▶ The dots and dashes represent different scheduled on/off cycles on a given day ▶ The day and time that is being scheduled will flash on and off when being set |
| 4 | | <p>Maintenance Reminder: This icon will flash to remind the user to conduct maintenance on the product. The time interval is default to 365 days and can be set in the engineering settings.</p> |
| 5 | | <p>Child Lock: This icon will be displayed when the child lock is activated. This will prevent all operational buttons from being pressed.</p> |
| 6 | | <p>Hybrid Mode: This icon will be displayed when hybrid mode is selected. This mode will minimize recovery time while still utilizing the heat pump and allows the heating element and heat pump to run simultaneously under certain operating conditions.</p> |
| 7 | | <p>Electric Resistance Heating Element: This icon is displayed when the heating element is being used to heat the water. The electric resistance element button can also be used to manually activate the heating elements if the operation mode and conditions allow.</p> |

HMI Overview Display (Continued)

| No. | Icon | Description |
|-----|---|--|
| 8 |  | Scald Risk Alert: This icon is displayed when the temperature is higher than 122°F (50°C) to notify the user of high water temperatures. |
| 9 |  | Error Alert: This icon is displayed when there is an error and/or lockout. Contact a qualified technician if activated. |
| 10 |  | Vacation Mode: This icon is displayed when vacation mode is selected. In this mode, the tank will maintain the temperature at 59°F (15°C) to save energy. |
| 11 |  | E-Heater Mode: This icon is displayed when E-Heater mode is selected. This mode will only utilize the electric resistance heating elements to heat up the water. |
| 12 |  | Economy Mode: This icon is displayed when economy mode is selected. This is the default mode and will heat the water as high as possible before using electric resistance heating elements. |
| 13 |  | Heat Pump Mode: This icon is displayed when heat pump mode is selected. This mode will allow only the heat pump to function unless the unit is under certain extreme operating conditions. |
| 14 |  | Invalid: If a function or button is invalid, the icon will temporarily flash. |
| 15 |  | Set Temperature: This icon is displayed when the user is setting the water heater temperature. |
| 16 |  | Clock: This icon is displayed when the clock is being set. |
| 17 |  | Heat Pump: This icon is displayed when the heat pump is operating. |
| 18 |  | Demand Response (DR): This icon is displayed when the user presses the "DR" button to turn on demand response functionality. If a UCM is connected to the unit and the water heater receives a power limit request, basic or advanced load request, or emergency curtailment request, it will flash slowly. If there is an emergency shutdown request, the icon will flash quickly. |

Technical Specifications

| Nominal Capacity | 50 Gallons | | 65 Gallons | | 80 Gallons | |
|---|--|---------------|---------------|---------------|---------------|---------------|
| Model Name (US: United States, CA: Canada) | TR7000T-50US | TR7000T-50CA | TR7000T-65US | TR7000T-65CA | TR7000T-80US | TR7000T-80CA |
| Part Number | 7-738-007-434 | 7-738-007-436 | 7-738-007-484 | 7-738-007-485 | 7-738-007-435 | 7-738-007-437 |
| AHRI Reference Number | 214669906 | 214669918 | 216018259 | 216018258 | 214669907 | 214669919 |
| UEF | 3.75 | | 3.90 | | 4.00 | |
| DOE Rated Storage Volume | 46 Gallons | | 61 Gallon | | 74 Gallons | |
| First Hour Rating | 72 Gallons | | 80 Gallon | | 92 Gallons | |
| Recovery Rate (90°F rise) | 27.5 GPH | | | | | |
| Water Connections | ¾" NPT (DN20) | | | | | |
| Max. Water Pressure | 150 PSI | | | | | |
| Temperature Setpoint Range | 109 – 149°F 43 – 65°C | | | | | |
| Power Supply Electric Heating Elements | 208-240VAC / 30 A (1Ph 60Hz) 2 x 4,500 W | | | | | |
| Refrigerant | R134a | | | | | |
| Compressor Rated Input Heating Capacity | 408 W 1,593 W | | | | | |
| Ambient Operation Temp. | 5 – 115°F -15 – 46°C | | | | | |
| Ambient Operation Temp. for Heat Pump | 37 – 109°F 1 – 43°C | | | | | |
| Ingress Protection Rating | IP21 | | | | | |
| Dimensions (H x W) | 66½ x 21¾ | | 65 ¾ x 25 ¾ | | 74½ x 25¾ | |
| Available Accessories | Duct adapter for intake and exhaust, leak protection kit | | | | | |
| Warranty⁽¹⁾ | 10 years parts + 1 year labor | | | | | |

Clearance

| | Required Clearance for Operation | Required Clearance for Service |
|--------------------|----------------------------------|--------------------------------|
| Air Exhaust | 6" (15.3 cm) | 6" (15.3 cm) |
| Top | 20" (51 cm) | 50 Gallon: 25.5" (65 cm) |
| | | 80 Gallon: 32" (81.3 cm) |

Drain Pan Requirements

| Water Heater Size | Minimum Required Drain Pan Diameter |
|-------------------|-------------------------------------|
| 50 Gallon | 26" (66 cm) |
| 65 Gallon | 30" (77 cm) |
| 80 Gallon | 30" (77 cm) |

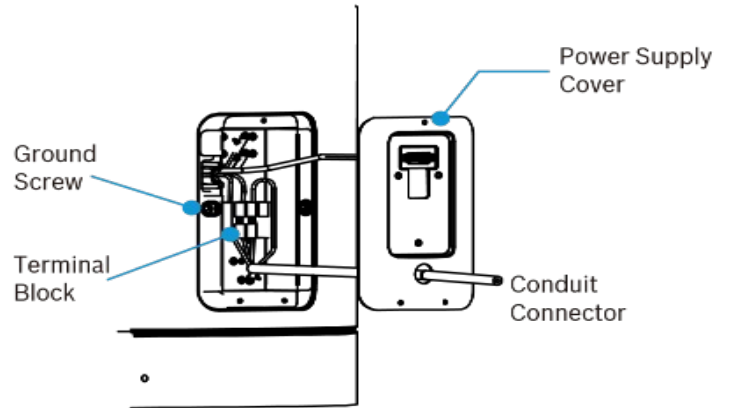
Ducting Sizing

| Duct Type / Diameter | 8" | 7" | 6" | 5" |
|----------------------|----------------|---------------|---------------|---------------|
| Rigid | 357 ft (109 m) | 168 ft (51 m) | 68 ft (21 m) | 18 ft (5.5 m) |
| Flexible | 131 ft (40 m) | 68 ft (21 m) | 26 ft (7.9 m) | -- |

| Description | 8" | 7" | 6" | 5" |
|--|----------|----------|----------|----------|
| Elbow / Flexible Bends (Each) [Maximum Allowed] | 5 ft [8] | 5 ft [6] | 5 ft [4] | 5 ft [2] |
| 8 in. UL Certified Termination for ducting outside (Each) | 5 ft | 5 ft | 5 ft | 5 ft |
| Reduced diameter UL Certified Termination for ducting outside (Each) | N/A | 10 ft | 15 ft | 20 ft |
| 8 in. Register for ducting inside (Each) | 5 ft | 5 ft | 5 ft | 5 ft |
| Reduced diameter Register for ducting inside (Each) | N/A | 10 ft | 15 ft | 20 ft |
| Rodent Screen (must be greater than 83% open area) (Each) | 1 ft | 1 ft | 1 ft | 1 ft |
| Approved 8" diameter Duct Damper | 25 ft | 20 ft | 10 ft | 5 ft |

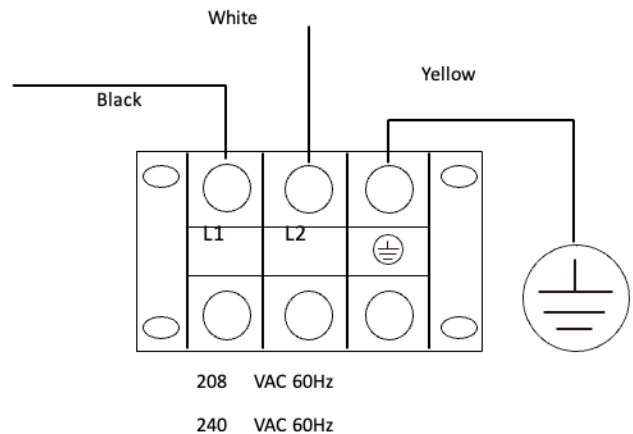
Electrical Requirements

| | |
|-----------------------|--|
| Required breaker size | 208V/240V (60Hz) 30A double pole breaker |
| Required wiring gauge | 10 AWG |



Resistance Specs Specifications

| Part | Resistance ($\pm 5\%$) |
|--------------------------|--------------------------|
| Electric Heating Element | 12.8 Ohm |
| T3 | 10 kOhm (at 25°C) |
| T4 | 10 kOhm (at 25°C) |
| TP | 5 kOhm (at 90°C) |
| TH | 10 kOhm (at 10°C) |
| T5L | 17.6 kOhm (at 50°C) |
| T5U | 17.6 kOhm (at 50°C) |



Operating Parameters

| Item | Description | Unit | Value expected |
|------|--|------------------------------------|--------------------|
| F5U | Tank temperature at upper heating element | °F or °C (depends on F01 settings) | Variable |
| F5L | Tank temperature at lower heating element | °F or °C (depends on F01 settings) | Variable |
| F5I | N/A – not available | N/A | --- |
| F5 | Heat pump stop temperature | °C | (equals 149 °F) |
| F3 | Refrigerant temperature into evaporator | °F or °C (depends on F01 settings) | Variable |
| F4 | Air intake temperature | °F or °C (depends on F01 settings) | Variable |
| F2 | Refrigerant temperature after compressor | °F or °C (depends on F01 settings) | Variable |
| F4 | Refrigerant temperature into compressor (suction line) | °F or °C (depends on F01 settings) | Variable |
| On | N/A – not available | N/A | --- |
| FFr | N/A – not available | N/A | --- |
| FF | Legionella protection set point temperature | °C | (equals 149 °F) |
| CO | Current amperage draw | A | Variable (0 – 25) |
| FO | Fan speed | RPM x 10 | Variable (0 – 140) |
| EO | EPROM | N/A | Variable |
| ---r | Expansion valve opening | 000 format | Variable |
| EEC | Compressor status | (Status indication) | (off) or 1 (on) |
| PUP | N/A – not available | N/A | --- |
| PS | N/A – not available | N/A | --- |

Operating Parameters (Continued)

| Item | Description | Unit | Value expected |
|------|---|------------------------------------|--|
| - | Fan type | Binary | 1 |
| Hf | Heating type | Binary | 1 |
| HP | Compressor type | Binary | 1 |
| F51 | N/A – not available | N/A | --- |
| S10 | Tank capacity | Liters | 170 (TR7000T-50CA) 190 (TR7000T-50US) 227 (TR7000T-65CA) 246 (TR7000T-65US) 280 (TR7000T-80CA) 300 (TR7000T-80US) |
| P4P | N/A – not available | N/A | --- |
| U0 | Product type | Binary | (hybrid electric water heater) |
| U1 | Software version | 000 format | Variable |
| U2 | Display software version | 000 format | Variable |
| U3 | N/A – not available | N/A | 0 |
| U4 | N/A – not available | N/A | 1 |
| Uf | Region | Binary | 2 |
| 1Er | Error history: Most recent error code | 0000 format | Variable |
| 2Er | Error history: Second recent error code | 0000 format | Variable |
| 3Er | Error history: Third recent error code | 0000 format | Variable |
| HHH | Maintenance reminder | Days | Variable |
| FLF | Set point temperature | °F or °C (depends on F01 settings) | Variable |
| End | End of operating parameters menu | N/A | --- |

Advanced Settings

| Item | Description | Options |
|------------|---|---|
| F01 | Unit conversion for temperature display | 0 – Celsius 1 – Fahrenheit |
| F02 | Maintenance reminder | 0 – No maintenance reminder 1 – Maintenance reminder (default) |
| F03 | Time for maintenance reminder | Select 30 – 365 days (default: 365) |
| F04 | Reset maintenance time | Select 1 and confirm to reset day count of maintenance reminder |
| F07 | Legionella protection | 0 – off (default) 1 – on (SCALD RISK, refer to chapter 4.2.6) |
| F09 | Legionella protection cycle time (hour) | Select hour of day: 0 - 23 (default: 23) |
| F11 | Set vacation mode temperature | Select 10 - 20°C (equals 50 - 68°F) |
| F14 | Time until electric heating element activates when heat pump is not able to increase tank temperature | Select 1 - 150; Unit: 10 minutes (default: 84 equals 840 minutes/14 hours) |
| F17 | Legionella protection temperature | Select 60 - 70°C (equals 140 - 158°F) |
| F18 | Maximum temperature setpoint | Select 65 - 70°C (equals 149 - 158°F) |
| F26 | Legionella protection cycle time (minutes) | 0 Select minutes of the hour: 0 - 59 (default: 0) |
| F27 | Activation of electric heating element when heat pump is not able to increase tank temperature | 0 – off 1 – on (default) |
| F30 | Backlight behavior | 0 – Backlight always on 1 – Backlight turns off after 3 seconds |
| F34 | Mute sound | 0 – sound is on (default) 1 – sound is off |
| F35 | Automatic child lock | 0 – off (default) 1 – on |
| F38 | Auto shutoff valve leak protection | 0 – off (default) 1 – on |
| F39 | Manual activation of legionella protection | 0 – off (default) 1 – on |
| F40 | Duct settings | 0 – no duct 0 or 2 – select if duct is installed |

Error Codes

| Error Code | History Reference Number | Description | Result | Corrective Action |
|------------|--------------------------|---|--|---|
| EC52 | 8 | Temperature sensor T3 not detected | Water heater will operate by using electric heating elements only. | <ol style="list-style-type: none"> 1. Check connector CN28 to main board 2. Check resistance, refer to chart "Electric Resistance Specifications" |
| EC53 | 7 | Temperature sensor T4 not detected | Water heater will operate by using electric heating elements only. | <ol style="list-style-type: none"> 1. Check connector CN28 to main board 2. Check resistance, refer to chart "Electric Resistance Specifications" |
| EC54 | 5 | Temperature sensor TP not detected | Water heater will operate by using electric heating elements only. | <ol style="list-style-type: none"> 1. Check connector CN28 to main board 2. Check resistance, refer to chart "Electric Resistance Specifications" |
| EH00 | 2 | Heat pump failure | Water heater cannot operate | Call technician |
| EH03 | 3 | Fan error | Water heater cannot operate | <ol style="list-style-type: none"> 1. Check if fan can move freely 2. Inspect wire for damage 3. Check connector CN12 to main board |
| EH0b | 1 | Display communication failure to board | Water heater cannot operate | <ol style="list-style-type: none"> 1. Verify display connector CN53 on main board 2. Re-energize unit |
| EH5d | 11 | Heating elements open circuit | Water heater will operate by utilizing heat | <ol style="list-style-type: none"> 1. Verify wire connections 2. Check for resistance for elements (12.8 Ohms at 240 V) 3. Replace heating element |
| EH5H | 6 | Temperature sensor TH not detected | pump | <ol style="list-style-type: none"> 1. Check connector CN29 to main board 2. Check resistance, refer to chart "Electric Resistance Specifications" |
| EH5L | 9 | Temperature sensor T5L not detected | Water heater will operate by using electric heating elements only. | <ol style="list-style-type: none"> 1. Check connector CN24 to main board 2. Check resistance, refer to chart "Electric Resistance Specifications" |
| EH5U | 10 | Temperature sensor T5U not detected | Water heater will operate by utilizing heat | <ol style="list-style-type: none"> 1. Check connector CN24 to main board 2. Check resistance, refer to chart "Electric Resistance Specifications" |
| EHHP | 12 | Heat pump system fault (Activates when PH20, PH21, PC30, PC06 appears 3 times in a row or at least one error code lasts longer than 1 hour) | pump | Call technician |

Error Codes (Continued)

| Error Code | History Reference Number | Description | Result | Corrective Action |
|-------------------|---------------------------------|--|--|--|
| FC06 | 23 | Auto shut-off valve not detected | Water heater will operate by utilizing heat | <ol style="list-style-type: none"> 1. Check if auto shut-off valve is installed 2. If not installed, make sure F38 is 0 3. Replace faulty auto shut-off valve |
| PC06 | 19 | High temperature at TP (TP > 230°F /110°C) | pump | Clears when TP < 194°F/90°C: if error repeats, call technician |
| PC30 | 18 | High refrigerant pressure detected | Water heater will operate by using electric heating elements only. | Call technician |
| PH15 | 4 | > 435 PSI when compressor on | Water heater can operate normally | <ol style="list-style-type: none"> 1. Disconnect from power immediately 2. Call service technician |
| PH20 | 14 | > 350 PSI when compressor off | Water heater will operate by using electric heating elements only. | <ol style="list-style-type: none"> 1. Check if sensor are properly mounted 2. Check temperature delta on the refrigerant line 3. Call technician |
| PH21 | 15 | Electric leakage detected | Water heater will operate by using electric heating elements only. | <ol style="list-style-type: none"> 1. Power off unit and wait 1 hour before re-energizing 2. If error persists, call technician |
| PH22 | 16 | Compressor is not able to heat up refrigerant | Water heater cannot operate | Check for leaks and fix leaking part |
| PH24 | 17 | Compressor working current too large | Water heater will operate by using electric heating elements only. | Frost protection deactivates automatically. If inlet air is ducted, consider taking indoor air |
| PH91 | 22 | Leak sensor activated | Water heater will operate by using electric heating elements only. | <ol style="list-style-type: none"> 1. Check temperature sensor T3 (connections and resistance) |
| PH9b | 20 | T5L < 39°F/4°C and T4 < 45°F /9°C: Frost Protection active | Water heater can operate normally | <ol style="list-style-type: none"> 1. Check resistance of temperature sensor T5U 2. Replace if out of specification |
| PHdH | 13 | Evaporator temperature too low | Water heater will operate by using electric heating elements only. | Make sure water is in the tank by opening hot water faucet |
| PHL1 | 21 | Water temperature exceeds set point by 9°F (5°C) | Water heater will operate by using electric heating elements only. | Check if condensate drain is blocked |

Maintenance

Maintenance Schedule

To ensure that the water heater continues to operate in an efficient, effective, and safe manner, it is important to conduct the required maintenance steps in a timely manner. Failure to do so could negatively impact the performance and the life span of the product, and lead to failures that would not be covered under warranty. A qualified service person should be contacted to perform a majority of the maintenance needed.

| Maintenance Schedule | |
|------------------------|--|
| Maintenance | Schedule |
| Draining | Annually (Once drained after the first 6 months) |
| Testing T&P Valve | Annually |
| Heating Elements | Annually |
| Anode Rod | Annually |
| Air Filter | 3 Months |
| Ducting (If installed) | Annually |

Specific Information

Please follow the QR code to Bosch's Electric Water Heater Maintenance Information website for specific information about when and who should be maintaining your GreenTronic 7000T.



Setting Maintenance Schedule

A reminder can be set in the advanced settings (holding setting button for 3-5 seconds) under F03, it is by default set to 365 days and can be set to a minimum of 30 days. After that set amount of time the maintenance reminder icon will appear on the display to the right of the temperature.

Accessory & Parts

Optional Accessory Kits

| Part Name | Part Number |
|--------------------|-------------|
| Ducting Kit | 7738007443 |
| Leak Detection Kit | 7738007445 |

Spare Parts

| Part Name | Part Number |
|-----------------------------|-------------|
| Air Filter | 7738007446 |
| Heating Element 4500W | 7738007474 |
| T&P Valve | 7738007475 |
| Magnesium Rod (50 & 65 Gal) | 7738007478 |
| Magnesium Rod (80 Gal) | 7738007479 |

Sensors

| Part Name | Part Number |
|-------------------------------------|-------------|
| Refrigerant Sensors T3, T4, TP (50) | 7738007467 |
| Refrigerant Sensors T3, T4, TP (80) | 7738007468 |
| Suction Line Temperature Sensor TH | 7738007469 |
| Water temperature sensor | 7738007476 |

Note: Parts included in the accessory kits cannot be bought separately and are only available in their respective kit

About Bosch

Bosch Home Comfort Group in North America

Bosch Home Comfort Group is a leading source of high quality water heating and comfort systems. The company offers gas tankless, electric whole house and point-of-use water heaters, Bosch and Buderus floor-standing and wall mounted boilers, Bosch and FHP geothermal, water-source and air-source systems as well as controls and accessories for all product lines. Bosch Home Comfort is committed to being Simply Smart by offering products that work together as integrated systems that enhance quality of life in an ultra-efficient and environmentally friendly manner. For more information, visit bosch-homecomfort.us.

Bosch Group

The Bosch Group is a leading global supplier of technology and services in the areas of Automotive, Industrial Technology, Consumer Goods and Building Technology. The company was founded in Stuttgart, Germany, in 1886 and presently has more than 440 subsidiaries and is represented in over 150 countries.

In the U.S., Canada and Mexico, the Bosch Group manufactures and markets automotive original equipment and aftermarket solutions, industrial drives and control technology, power tools, security and communication systems, packaging technology, home comfort solutions, household appliances and software solutions. The Bosch Group's products and services are designed to improving quality of life by providing innovative and beneficial solutions. In this way, the company offers technology worldwide that is Invented for life. Additional information is available online at www.bosch.com



Bosch Home Comfort Group

Watertown, MA | Londonderry, NH | Ft. Lauderdale, FL

General Inquiries: 1-866-642-3198

Copyright © 2025 Bosch Home Comfort Group
All rights reserved. Subject to change without notice.

76HTT1008A 1-25

www.bosch-homecomfort.us