

# TOSHIBA

Leading Innovation >>>



## AIR TO WATER HEAT PUMP Owner's Manual



### Hydro Unit

Model name:

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**HWS-804XWHM3-E**

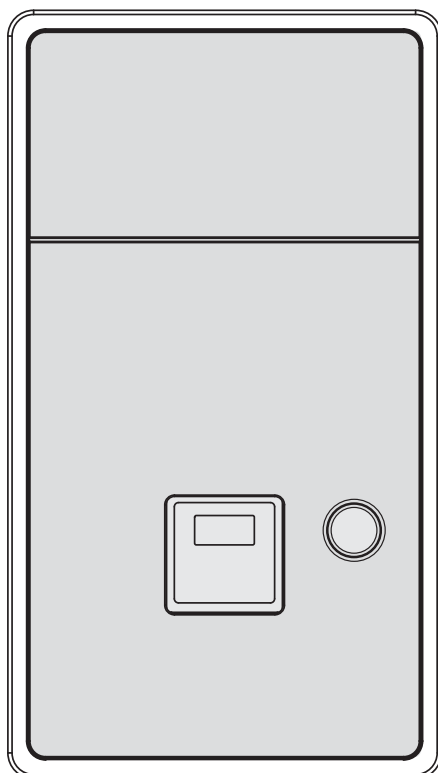
**HWS-804XWHT6-E**

**HWS-804XWHT9-E**

**HWS-1404XWHM3-E**

**HWS-1404XWHT6-E**

**HWS-1404XWHT9-E**



Thank you very much for purchasing TOSHIBA Air to Water Heat Pump.

Please read this owner's manual carefully before using the system.

- Be sure to obtain the "Owner's manual" and "Installation manual" from constructor (or dealer).

Request to constructor or dealer

- Please clearly explain the contents of the Owner's manual before handing it over to the Customer.

### ADOPTION OF NEW REFRIGERANT

This Air to Water Heat Pump is a new type which adopts a new refrigerant HFC (R410A) instead of the conventional refrigerant R22 in order to prevent destruction of the ozone layer.

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# 1 Safety precautions

## DANGER

- Do not attempt to install this unit yourself.
- This unit requires a qualified installer.
- Do not attempt to repair the unit yourself.
- This unit has no components which you can repair.
- Opening or removing the cover will expose you to dangerous voltages.
- Turning off the power supply will prevent potential electric shock.

## WARNING

### Installation warnings

- Be sure to ask a dealer or a store specialized in electrical work to install the Air to Water Heat Pump.
- The Air to Water Heat Pump should be installed by a suitably qualified installer, if not; this may lead to problems such as water leaks, electric shock, fire, etc.
- Ensure the correct grounding procedures are applied when installing the Air to Water Heat Pump.
- Do not connect the earth wire to gas pipes, water pipes, lightning rods or telephone earth wires.
- Should the Air to Water Heat Pump be improperly grounded, this could lead to an electric shock.
- Serious damage can occur if there is water leak. Therefore, the Hydro Unit is recommended to be installed in a room with waterproof flooring and drainage systems.
- Products and parts to be used in combination with this product must be specified products and parts that meet prescribed specifications. If unspecified products or parts are used, a failure, smoke, fire, or electric shock may be caused.

### Operation warnings

- Avoid injury or damage to the outdoor unit by never inserting fingers or sticks into the air discharge or air intake of the outdoor unit, during operation the fans run at a high speed.
- Should you notice something unusual with the Air to Water Heat Pump (such as a burning smell or low heating power), immediately turn off the main switch and circuit breaker from the main power supply to stop the Air to Water Heat Pump, and contact the dealer.
- If there is a suspected problem with the operation of the Air to Water Heat Pump, continuous operation is not recommended, operational failures may lead to machine breakdown, electric shock, a fire, etc.
- Do not spill water or other liquid onto the Hydro Unit.
- If the unit is wet, it could cause an electric shock.

### Warnings at movement and repair

- Do not attempt to move or repair the unit yourself.
- Due to the presence of high voltage, removal of any covers may result in an electric shock.
- Should there be any requirements for the Air to Water Heat Pump to be moved, always consult the dealer or qualified installer.
- Should the Air to Water Heat Pump be improperly installed, it may lead to electric shock or fire.
- Whenever the Air to Water Heat Pump requires repair, request assistance from the dealer.
- Should the Air to Water Heat Pump be improperly repaired, the result may lead to electric shock or fire.

## CAUTION

This appliance is not intended for use by person (including children) with reduced physical sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.

### To disconnect the appliance from the main power supply

This appliance must be connected to the main power supply using a circuit breaker or switch with a contact separation of at least 3 mm.

### Installation cautions

- Be sure to connect the Air to Water Heat Pump to a dedicated power supply using the rated voltage. Failure to do so may cause the unit to break down or cause a fire.
- Do not install the unit in a place where there is a risk that flammable gas may leak.
- An accumulation of flammable gases around the unit may result in a fire.

### Operation cautions

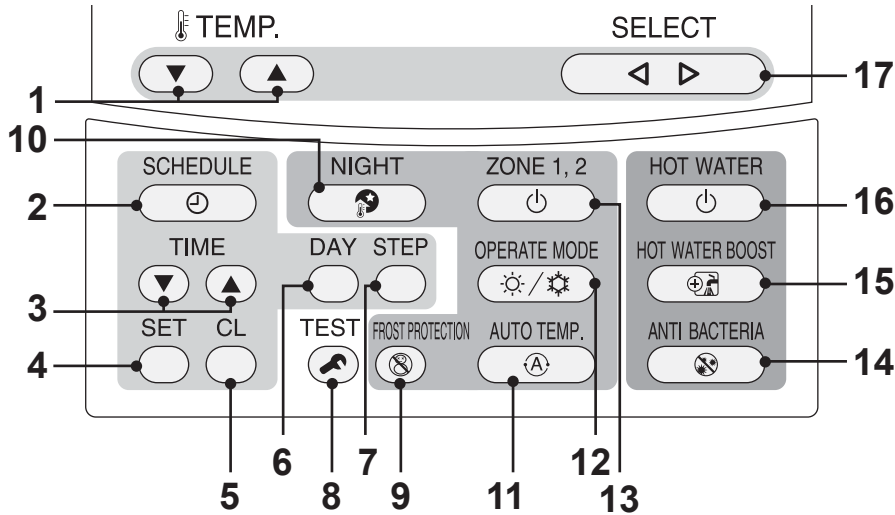
- To ensure satisfactory performance, please read this manual carefully before operating the Air to Water Heat Pump system.
- Do not install the Air to Water Heat Pump in special-purpose rooms such as a ship or any kind of vehicle. Doing so could harm machine performance.

- When the Air to Water Heat Pump is operated together with a combustion device in the same place, pay careful attention to ventilation and let fresh air into the room.  
Poor ventilation can cause an oxygen shortage.
  - When the Air to Water Heat Pump is used in a closed room, pay careful attention to the ventilation of the room.  
Poor ventilation can cause an oxygen shortage.
  - Do not put a container with water, such as a vase, on the unit, should water enter the unit the result may lead to an electric shock, this would be due to deterioration in the electric insulation.
  - Perform occasional checks to the concrete supports underneath the outdoor unit.  
If the base is left damaged or deteriorated, the unit may topple over which could result in possible injury.
  - Check from time to time that the unit mounts are not damaged.  
If the mounts are left damaged, the unit may drop or topple over, resulting in possible injury.
  - Do not wash the unit with water. This could cause an electric shock.
  - Do not use alcohol, benzene, thinner, glass cleaner, polishing powder, or other solvent for cleaning the unit because they can deteriorate and damage the Air to Water Heat Pump.
  - Before cleaning the unit, be sure to turn off the main switch or circuit breaker.
  - Do not place anything, or step, on the unit, this could cause the unit to fall or topple over which may result in possible injury.
  - To achieve maximum performance, the Air to Water Heat Pump must operate within the temperature range specified in the instructions.  
Failure to do so may cause malfunction, break down, or water to leak from the unit.
  - Clear away snow before it accumulates on the outdoor unit.  
Accumulated snow can lead to malfunction and damage.
  - Do not locate other electric appliances or furniture underneath the unit.  
Water may drip from the unit, which could lead to rust, unit failure and damage to property.
  - Do not allow the obstruction of air flow around the outdoor unit; Do not place any items within the specified installation service space requirements.  
Obstructed air flow can lower performance and cause damage.
  - Check for water leaks. In communal housing, leaking water may damage lower floors.  
Check for water leaks everyday.
  - Do not touch the water pipes, refrigerant pipes, or joints. These may become extremely hot.  
Do not drink water produced by the Air to Water Heat Pump.
  - After extended use, fresh water may become contaminated by the Hydro Unit, due to deterioration of pipe materials, etc.
  - If fresh water contains solid matter, is discolored, turbid or smells, DO NOT DRINK IT.
  - Call for equipment inspection immediately.
  - Use source water that satisfies water quality standard.
  - When the unit will not be used for a long period of time, ask your dealer or a qualified service shop to drain the water inside the Hydro Unit in order to prevent the water quality from changing.
  - When restarting use, ask your dealer or a qualified service shop to charge the unit with water and perform a test run.
  - Ask your dealer or a qualified service shop to periodically clean the strainer.
  - Ask your dealer or a qualified service shop to confirm that the relief valve is operating correctly.
  - Do not hit the manometer, because it is made of glass. It is breakable.
-

# 2 Names and functions of parts

## Buttons

▼ Fig. 2-01



|  |  |
|--|--|
| <b>1. TEMP. button:</b><br>            | Changes the set temperature for each operation mode (ZONE1/2 hot water) by 1°C step.                                       |
| <b>2. SCHEDULE button:</b><br>         | Sets the current time and scheduled weekly operation.  |
| <b>3. TIME button:</b><br>             | Changes time for current time setting and scheduled weekly operation setting with ▼ and ▲ buttons.                         |
| <b>4. SET button:</b><br>              | Determines the entered current time setting and scheduled weekly operation setting.  |
| <b>5. CL button:</b><br>               | Clears settings for the current time and scheduled weekly operation. Cancels audible alarm in the event of a system fault. |
| <b>6. DAY button:</b><br>              | Sets days of the week for current time setting and scheduled weekly operation setting.                                     |
| <b>7. STEP button:</b><br>             | Specifies switching STEP number in a day for weekly schedule.  |
| <b>8. TEST button:</b><br>             | Used for test run or service.  |
| <b>9. FROST PROTECTION button:</b><br> | Controls minimum operation for unused period (going out, absence, etc.) for anti freezing.                                 |
| <b>10. NIGHT button:</b><br>           | Controls the night set back operation.   |

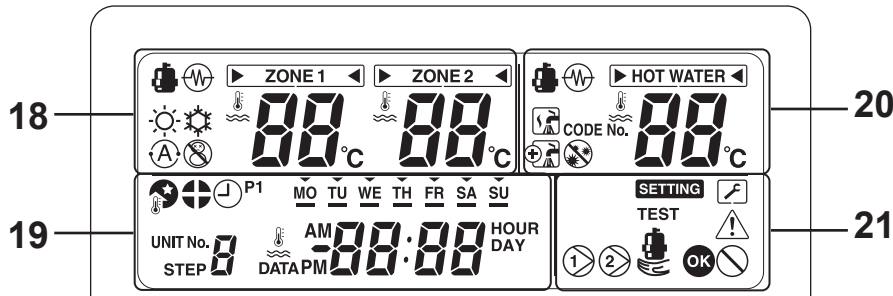
|  |   |
|--|---|
| <b>11. AUTO TEMP. button:</b><br>      | Switches setting temperature automatically according to outside temperature. (Pressing this button long changes the mode to data setting mode.) |
| <b>12. OPERATE MODE button:</b><br>    | Selects ZONE1/2 operation mode (heating or cooling).  |
| <b>13. ZONE1, 2 button:</b><br>        | Turns on/off the zone (floor heating/radiator/Fan Coil Unit) operation.   |
| <b>14. ANTI BACTERIA button:</b><br>   | Regularly increases the hot water temperature in the tank for sterilization. (Pressing this button long changes the mode to data setting mode.) |
| <b>15. HOT WATER BOOST button:</b><br> | Boosts boiling when high tapping temperature is required temporarily.   |
| <b>16. HOT WATER button:</b><br>       | Turns on/off hot water operation.   |
| <b>17. SELECT button:</b><br>          | Selects an operation mode when changing the set temperature of each operation mode.   |

**NOTE**

Some functions are not provided depending on the system specifications in use. For details, contact the installation company.












## ■ Meaning of Indication

▼ Fig. 2-02



|   | Heating side [ZONE1, 2]  |                | Hot water side   |
|---|--|----------------|--|
| 18. Indication  | Description  | 20. Indication | Description  |
|   | Lights when floor heater or radiator is connected (when the system has floor heater or radiator).  |                | Lights when hot water supply system is connected (when the system has hot water supply).       |
|   | Lights when controlling the second temperature. (It may not light depending on the system)   |                |  |
| The [▶◀] mark lights for operation mode for which temperature is to be changed. |  |                |  |
|   | Lights during heating or cooling operation using the heat pump.  |                | Lights when hot water supply operation is performed by heat pump.                              |
|   | Lights when the electric heater, inside the hydro unit, is energised during a heating operation.   |                | Lights when the electric cylinder heater is energised during hot water operation.              |
|   | Lights when heating is selected.   |                | Lights during hot water supply operation.  |
|   | Lights when cooling is selected.   |                | Lights while hot water boost is activated.   |
|   | Lights when the FROST PROTECTION button is pressed and goes out when the button is pressed again.  |                | Lights when the ANTI BACTERIA button is pressed and goes out when the button is pressed again. |
|   | Lights when Auto operation is selected.  |                |  |
|   | Displays heating/cooling set temperature. (Heating: 20 to 55°C, factory default: Auto, cooling: 7 to 25°C) Goes out when Auto operation is selected. When room temperature control is selected with optional second remote controller, it displays set room temperature. * |                | Displays hot water set temperature. (40 to 75°C, factory default: 65°C)                        |
|   | Lights when the set temperature or sensor's water temperature is displayed with the 7-segment indicator.   |                |  |

\* Ask your installer about room temperature control setting.









| 19. Indication  | Description   |
|---|---|
|    | Clock: Displays the current time (AM or PM).  |
|    | Displays days of the week (Sunday to Saturday).   |
|    | Lights when the NIGHT button is pressed and goes out when the button is pressed again.            |
|    | Lights when nighttime quiet operation is set.   |
| <b>P1</b>   | Indicates scheduled operation 1 status (including setting time).                                  |
|    | Displays the scheduled operation step when the scheduled operation STEP1-5 program is set.        |
|    | Lights during time setting and scheduled operation setting.                                       |
| 21. Indication  | Description   |
|    | Lights while internal pump (pump 1) or expansion pump (pump 2) is driven.                         |
|  | Lights when the auxiliary boiler or external booster heater supports the heat pump operation.     |
| <b>SETTING</b>  | Lights when the unit enters the data set mode and goes out when the unit exits the data set mode. |
|  | Lights when the unit enters the service mode and goes out when the unit exits the service mode.   |
|  | Lights when an error occurs and goes out when the error is cleared.                               |
| <b>OK</b>   | Lights for two seconds when settings are completed.   |
|  | Lights for two seconds when settings failed.  |

# 3 How to use functions

## ■ Timer setting












Function not available on follower remote controller

**First, set the current time on the remote controller.**  
Procedure to set the current time and day of the week (If day/time is not set, the indication of time and day of the week blinks.)

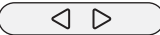





- (1) Press the TIME  or  button for 4 seconds or more to enable the time setting mode.
  - The SETTING  segment blinks.
- (2) Set the current day of the week with the DAY  button.
  - Each time the button is pressed, the  segment shifts cyclically pointing MO → TU → ... → SU → MO.
- (3) Set the current time with the TIME  and  buttons.
  - If you press the buttons long, the current time can be set in units of 10 minutes.
- (4) Press the SET  button to determine the setting.

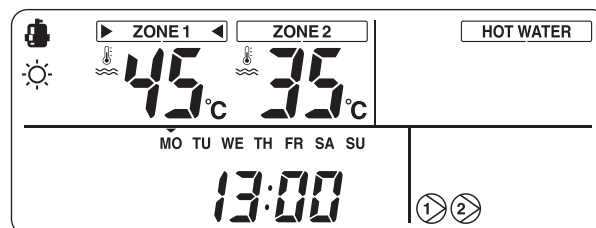
## ■ Heating or cooling operation

### Performing heating or cooling operation

- Press the ZONE1, 2  button to start heating or cooling operation.  
The set temperature appears under  on the remote controller. (When ZONE2 is provided, the set temperature appears simultaneously under .)
- During the heat pump operation or while the internal heater or backup heater is energized,   is displayed.
- Use the OPERATE MODE  button to select cooling operation or heating operation.  
Each time this button is pressed, heating  and cooling  are switched alternately.
- To stop heating or cooling, press the ZONE1, 2  button. The set temperature and   go out and the heating or cooling operation stops.

### Setting temperature

- Press the SELECT  button to move  and select  OR .
- Change the set temperature with the TEMP.   button.
- The ZONE2 setting temperature must be equal to or lower than the ZONE1 setting temperature.

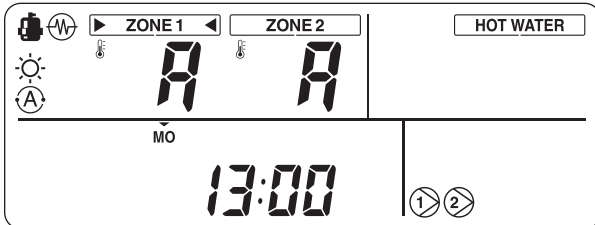


When room temperature control is selected with second remote controller, the set temperature will be set room temperature.



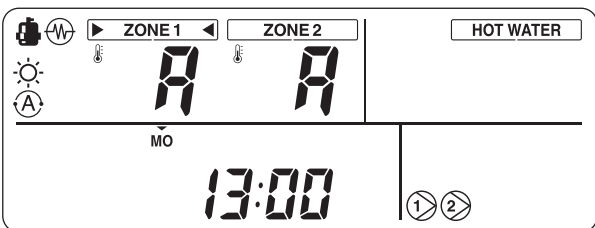
### Performing Auto mode operation

- The setting temperature can be set automatically according to the outside temperature.
- Press the AUTO TEMP. (A) button.
- The temperature indication changes to "A" and the water temperature is automatically set according to the outside temperature.



### To correct the set value for the Auto mode

- Press the AUTO TEMP. (A) button for 4 seconds or more to enter the auto curve adjusting mode.
- The function code setting screen appears. Press the TIME (V) (A) button to display a temperature between -5 to +5°C.  
In this case, temperature is displayed as -5, -4, -3, -2, -1, 0, 1, 2, 3, 4, or 5.  
Only ZONE1 temperature is displayed.
- When the SET (O) button is pressed after the temperature is changed, the set temperature is registered.
- When the TEST (M) button is pressed, the registered data is determined. The unit exits the function code setting mode and "A" appears on the display.



- Each time AUTO TEMP. (A) button is pressed, the mode changes as follows:



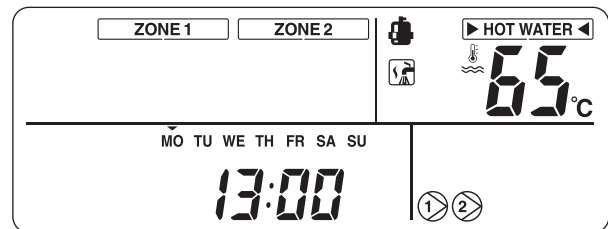
## Hot water

### Performing hot water supply operation

- Press the HOT WATER (P) button to start the hot water supply operation.
- The set temperature appears under (HOT WATER) on the remote controller, and (H) lights.
- During the heat pump operation or while the internal heater is energized, (M) or (W) is displayed.

### Setting temperature

- Press the SELECT (L) (R) button to move (L) (R) and select (HOT WATER (L) (R)).
- Change the set temperature with the TEMP. (V) (A) button.



## ■ Useful functions

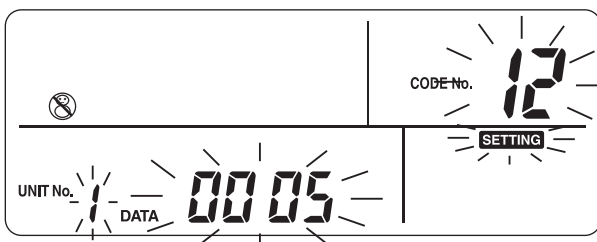
### Frost protection

This function performs operation with the minimum capacity to prevent pipes from freezing in case the unit is not used for a long period due to absence.

- When the FROST PROTECTION (⊗) button is pressed during heating (ZONE1 or ZONE2), (⊗) appears on the remote controller and the temperature indication changes to "F". The frost protection operation starts with the set minimum capacity (target water temperature: 15°C).
- The frost protection mode can be stopped by either setting the end day and time using function codes or by pressing the FROST PROTECTION (⊗) button again on the remote controller.
- This function takes precedence over the Night setback quiet operation that is set separately. Ask the installation company for the minimum capacity setting.
- Cancel schedule timer to start frost protection operation. When frost protection is operated with schedule timer on, it may stop during its operation.

### Setting the end days and time for the frost protection operation

Press the FROST PROTECTION (⊗) button for 4 seconds or more while the frost protection operation is enabled (⊗ is displayed on the remote controller), to enter the setting mode.



- The setting mode is indicated on the remote controller.
- Select the code number to be set with the TEMP. (▼) (▲) buttons, and set the start time and end time with the TIME (▼) (▲) buttons.  
Code No. 12: End days (default 00)  
13: End times (default 00)  
ex)  
Code No. 12: 05  
13: 13 = 5 days 13 hours
- Press the SET (○) button to determine the end days and times.
- Press the TEST (↶) button to exit the setting mode.

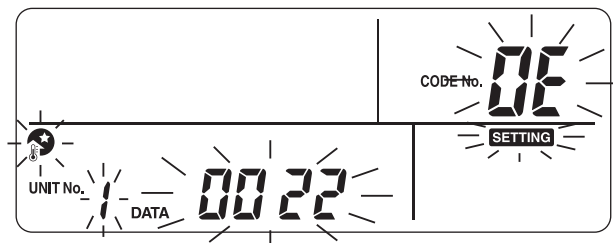
### Night setback

This function is used to save heating operation during specified time zone (sleeping hours, etc.) at night.

- When the NIGHT (☾) button is pressed during heating (ZONE1 or ZONE2), (☾) appears on the remote controller and the night setback operation is reserved. The set temperature is lowered by 5°C between the set start time and end time.
- To stop the night setback operation, press the NIGHT (☾) button again to delete the (☾) mark on the remote controller.

### Setting the start time and end time for the night setback operation

Press the NIGHT (☾) button for 4 seconds or more while the night setback operation is enabled (☾ is displayed on the remote controller), to enter the setting mode.



- The setting mode is indicated on the remote controller.
- Select the code number to be set with the TEMP. (▼) (▲) buttons, and set the start time and end time with the TIME (▼) (▲) buttons.  
Code No. 0E: Start time (default 22)  
0F: End time (default 06)
- Press the SET (○) button to determine the start time and end time.
- Press the TEST (↶) button to exit the setting mode.

### Hot water boost



This function is used when temporarily giving priority to the hot water supply operation.

The hot water supply operation is performed in preference to other operations with a target of the preset time (60 minutes) or the preset temperature (75°C). Use this function when hot water is not used for a long time or before using a large amount of hot water.

- When the HOT WATER BOOST (☼) button is pressed, the (☼) mark appears on the remote controller and the hot water boost operation starts. When the set time period has passed or the water temperature has reached the set temperature, the hot water boost operation ends automatically.
- The preferential time and temperature settings can be changed to values within a range of 30 to 180 minutes and 40 to 80°C. Ask the installation company to make the required changes to the settings.

**Anti bacteria**

This function performs anti-bacteria operation of the hot water tank.

- When the ANTI BACTERIA  button is pressed, the  mark appears on the remote controller and the anti-bacteria operation is reserved.
- The anti-bacteria operation is performed to maintain the preset temperature (75°C) for the set time period (30 minutes) when the preset start time (22:00) comes according to the preset interval (7 days).
- The settings of these interval, start time, and temperature maintaining time period can be changed, but ask the installation company to make the required changes to the settings.

**■ Schedule timer**

(Disable with second remote controller)

Operations can be scheduled in eight STEPs for each day of the week.

**(Example)**





- Monday

|       |             |                                  |
|-------|-------------|----------------------------------|
| STEP1 | 04:00 ZONE1 | Heating 45°C, hot water 50°C     |
| STEP2 | 07:00 ZONE1 | Heating 50°C, hot water 45°C     |
| STEP3 | 10:00 ZONE1 | Heating disabled, hot water 45°C |
| STEP4 | 16:00 ZONE1 | Heating 50°C, hot water 50°C     |
| STEP5 | 23:00 ZONE1 | Heating 40°C, hot water 45°C     |





- Tuesday to Saturday: Same as Monday
- Sunday

|       |             |                              |
|-------|-------------|------------------------------|
| STEP1 | 04:00 ZONE1 | Heating 45°C, hot water 50°C |
|-------|-------------|------------------------------|


**Setting the schedule function**

Press the SCHEDULE  button and press the SET  button within five seconds while the  mark is blinking. The  mark changes to lighting and the schedule function starts working.

**Cancelling the schedule function**

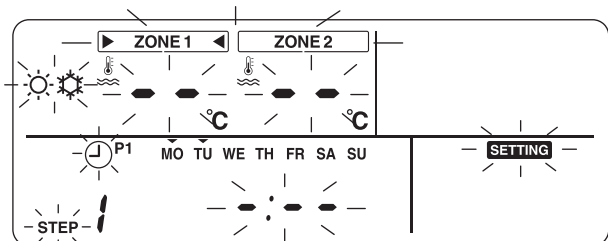
Press the SCHEDULE  button and press the CL  button within five seconds while the  mark is blinking. The  mark disappears and the schedule function is cancelled.

**Setting schedule**

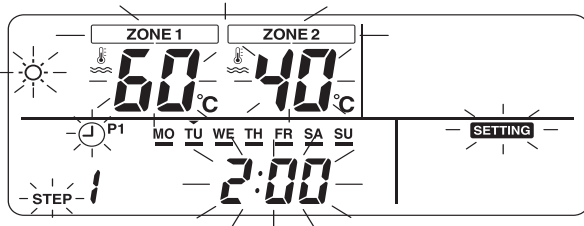
Press the SCHEDULE  button for 4 seconds or more to enter the schedule setting mode.

**Perform the following procedure to set the schedule**

- First schedule setting  
Procedure: **1** → **2** → **3** → **4** → **5** → **6**



- Existing schedule setting  
Procedure: 2 → 3 → 4 → 5 → 6



## 1 Set days of the week.

- Each time the DAY  button is pressed, the ▼ mark blinking on the current day of the week at intervals of 1 Hz shifts sequentially.
- When all days are set at a time, all days (MO to SU) blink.
- Press the SET  button to determine the set days of the week.
- When the setting is completed, the ▼ mark changes to lighting.

## 2 Set STEP.

- Select a STEP to be set with the STEP  button, and press the SET  button to determine the selected STEP.  
1 → 2 → 3 → 4 → 5 → 6 → 7 → 8 → C → L → 1 → ....
- 1 to 8: Operation program STEP number
- C (Copy):  
Set s the operation mode for a day (0:00 to 23:59) simultaneously.
- L (Deletion):  
Deletes all the current program operation settings (for entire week).

## 3 Set the start time.

- Set the start time with the TIME   buttons.
- When the preset start time is retained, the start time is displayed.
- If no start time is set, "--:--" is displayed.

## 4 Set temperature.

- Set the temperature for ZONE1 or ZONE2 with the SELECT   button and TEMP.   buttons.
- Press the SELECT   button so that the ►◀ mark lights for the zone to be changed.
- Enter setting temperature with the TEMP.   buttons.

## 5 Set operation mode.

- Set the operation mode (heating or cooling) with the OPERATE MODE   button.

## 6 Determine the settings.

- Press the SET  button to determine the settings.
- The "—" mark lights under the set day of the week and the "OK" mark appears on the display for 4 seconds.
- Press the SCHEDULE  button to end the settings.

### Copying data

When "C" is selected during the STEP setting, the setting of the specified day of the week can be copied.

- Press the SET  button to determine the copy mode.
- Specify the day of the week of copy destination with the DAY  button.
- Each time the DAY  button is pressed, the ▼ mark on the specified day of the week blinks sequentially. When all days of the week are blinked, the data can be copied to all days of the week.
- Press the SET  button. When the "OK" mark appears on the remote controller for 4 seconds, the setting is completed.

## 4 User maintenance

Periodic maintenance (once a year) is necessary for this product. Consult the installation company.  
If a problem occurs, contact the installation company or dealer.

## 5 Air to Water Heat Pump operations and performance

### 3 minutes protection function

3-minutes protection function prevents the air to water heat pump from starting for initial 3 minutes after the main power switch/circuit breaker is turned on for re-starting the air to water heat pump.

### Power failure

Power failure during operation will stop the unit completely.

- To restart the operation, we should mention Auto restart function.

### Heating characteristics

#### Defrosting operation

If the outdoor unit is frosted during the heating or hot water supply operation, defrosting starts automatically (for approximately 2 to 10 minutes) to maintain the heating capacity.

- During the defrosting operation, the defrosted water will be drained from the bottom plate of the outdoor unit.

#### Heating capacity

In the heating operation, the heat is absorbed from the outside and brought into the room. This way of heating is called heat pump system. When the outside temperature is too low, it is recommended to use another heating apparatus in combination with the air to water heat pump.

#### Attention to snowfall and freeze on the outdoor unit

- In snowy areas, the air intake and air discharge of the outdoor unit are often covered with snow or frozen up. If snow or freeze on the outdoor unit is left as it is, it may cause machine failure or poor warming.
- In cold areas, pay attention to the drain hose so that it perfectly drains water without water remaining inside for freeze prevention. If water freezes in the drain hose or inside the outdoor unit, it may cause machine failure or poor warming.

#### Air to water heat pump operating conditions

For proper performance, operate the air to water heat pump under the following temperature conditions:

|                   |                     |                                 |
|-------------------|---------------------|---------------------------------|
| Cooling operation | Outdoor temperature | : 10°C to 43°C                  |
|                   | Room temperature    | : 18°C to 32°C (Dry bulb temp.) |
| Hot water         | Outdoor temperature | : -20°C to 43°C                 |
|                   | Room temperature    | : 5°C to 32°C                   |
| Heating operation | Outdoor temperature | : -20°C to 25°C                 |
|                   | Room temperature    | : 5°C to 32°C                   |

If air to water heat pump is used outside of the above conditions, safety protection may work.

## ■ General Specifications

### Single Phase model

| Outdoor unit |               | HWS-804H-E        | HWS-1104H-E   | HWS-1404H-E |
|--------------|---------------|-------------------|---------------|-------------|
| Power supply |               | 220-230V ~ 50Hz   |               |             |
| Type         |               | INVERTER          |               |             |
| Function     |               | Heating & Cooling |               |             |
| Heating      | Capacity (kW) | 8.0               | 11.2          | 14.0        |
|              | Input (kW)    | 1.79              | 2.30          | 3.11        |
|              | COP           | 4.66              | 4.88          | 4.50        |
| Cooling      | Capacity (kW) | 6.0               | 10.0          | 11.0        |
|              | Input (kW)    | 1.94              | 3.26          | 3.81        |
|              | EER           | 3.10              | 3.07          | 2.89        |
| Refrigerant  |               | R410A             |               |             |
| Dimension    | HxWxD (mm)    | 890x900x320       | 1,340x900x320 |             |

### 3 Phase model

| Outdoor unit    |               | with Cord heater  |              |              |               |               |               |
|-----------------|---------------|-------------------|--------------|--------------|---------------|---------------|---------------|
|                 |               | HWS-1104H8-E      | HWS-1404H8-E | HWS-1604H8-E | HWS-1104H8R-E | HWS-1404H8R-E | HWS-1604H8R-E |
| Power supply    |               | 380-400V 3N~ 50Hz |              |              |               |               |               |
| Type            |               | INVERTER          |              |              |               |               |               |
| Function        |               | Heating & Cooling |              |              |               |               |               |
| Heating         | Capacity (kW) | 11.2              | 14.0         | 16.0         | 11.2          | 14.0          | 16.0          |
|                 | Input (kW)    | 2.34              | 3.16         | 3.72         | 2.34          | 3.16          | 3.72          |
|                 | COP           | 4.80              | 4.44         | 4.30         | 4.80          | 4.44          | 4.30          |
| Cooling         | Capacity (kW) | 10.0              | 11.0         | 13.0         | 10.0          | 11.0          | 13.0          |
|                 | Input (kW)    | 3.26              | 3.81         | 4.80         | 3.26          | 3.81          | 4.80          |
|                 | EER           | 3.07              | 2.89         | 2.71         | 3.07          | 2.89          | 2.71          |
| Refrigerant     |               | R410A             |              |              |               |               |               |
| Dimension       | HxWxD (mm)    | 1,340x900x320     |              |              |               |               |               |
| Cord heater (W) |               | -                 |              |              | 75            |               |               |

### 80 class

| Hydro Unit                |  | HWS-804XWHM3-E | HWS-804XWHT6-E    | HWS-804XWHT9-E    |
|---------------------------|--|----------------|-------------------|-------------------|
| Back up heater capacity   |  | 3.0            | 6.0               | 9.0               |
| Power supply              | for back up heater                     | 220-230V~ 50Hz | 380-400V 3N~ 50Hz | 380-400V 3N~ 50Hz |
|                           | for hot water cylinder heater (option) | 220-230V~ 50Hz |                   |                   |
| Leaving water temperature | Heating (°C)                           | 20-55          |                   |                   |
|                           | Cooling (°C)                           | 7-25           |                   |                   |

### 112,140,160 class

| Hydro Unit                |  | HWS-1404XWHM3-E | HWS-1404XWHT6-E   | HWS-1404XWHT9-E   |
|---------------------------|--|-----------------|-------------------|-------------------|
| Back up heater capacity   |  | 3.0             | 6.0               | 9.0               |
| Power supply              | for back up heater                     | 220-230V~ 50Hz  | 380-400V 3N~ 50Hz | 380-400V 3N~ 50Hz |
|                           | for hot water cylinder heater (option) | 220-230V~ 50Hz  |                   |                   |
| Leaving water temperature | Heating (°C)                           | 20-55           |                   |                   |
|                           | Cooling (°C)                           | 7-25            |                   |                   |

| Hot water cylinder (option) | HWS-1501CSHM3-E<br>HWS-1501CSHM3-UK | HWS-2101CSHM3-E<br>HWS-2101CSHM3-UK | HWS-3001CSHM3-E<br>HWS-3001CSHM3-UK |
|-----------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| Power supply                | 220-230V~ 50Hz                      |                                     |                                     |
| Water volume (liter)        | 150                                 | 210                                 | 300                                 |
| Max water temperature (°C)  | 75                                  |                                     |                                     |
| Electric heater (kW)        | 2.7                                 |                                     |                                     |
| Height (mm)                 | 1,090                               | 1,474                               | 2,040                               |
| Diameter (mm)               | 550                                 |                                     |                                     |
| Material                    | Stainless steel                     |                                     |                                     |

## 6 Troubleshooting

If a problem occurs, contact the installation company or dealer.

| Problem Check  | Action  |
|--|---|
| Nothing is displayed on the remote controller.       | <ul style="list-style-type: none"> <li>• Check whether power is supplied.</li> <li>• Is the circuit breaker switch turned on?</li> </ul>  |
| Time indication is blinking.                         | <ul style="list-style-type: none"> <li>• Date/time setting is not made.</li> <li>• Set date and time.</li> </ul>  |
| An error code is displayed on the remote controller. | <ul style="list-style-type: none"> <li>• Contact the installation company.</li> </ul>   |
| Room is not cooled or heated.                        | <ul style="list-style-type: none"> <li>• Is scheduled operation set?</li> <li>• Check whether scheduled operation is set.</li> </ul>  |
|  | <ul style="list-style-type: none"> <li>• Is night setback operation set?</li> <li>• Check the setting on the remote controller.</li> </ul>  |
|  | <ul style="list-style-type: none"> <li>• Is the air to water heat pump operating in Auto mode?</li> <li>• In Auto mode, the target value is set automatically according to the outdoor unit temperature.</li> <li>• The Auto mode can be adjusted. Contact the installation company.</li> </ul> |
| Hot water is not supplied.                           | <ul style="list-style-type: none"> <li>• Is the main water supply cock closed?</li> <li>• Check valves.</li> </ul>  |
|  | <ul style="list-style-type: none"> <li>• Are you using too much hot water?</li> <li>• If hot water exceeding the storage capacity is used, water at a temperature lower than the set hot water temperature is supplied.</li> </ul>  |

If you have any questions, contact the installation company.

| <b>Information according to EMC Directive 2004/108/EC</b> |  |
|---|--|
| (Name of the manufacturer)                                | <b>TOSHIBA CARRIER CORPORATION</b>   |
| (Address, city, country)                                  | 336 Tadehara, Fuji-shi, Shizuoka-ken,<br>416-8521 Japan                                |
| (Name of the Importer/Distributor in EU)                  | Toshiba Carrier UK Ltd.  |
| (Address, city, country)                                  | Porsham Close, Belliver Industrial Estate, PLYMOUTH,<br>Devon, PL6 7DB. United Kingdom |