



CONFIDENTIAL

THERMA VTM **BACKUP HEATER** **SERVICE MANUAL** **(Exploded View)**

AIR-TO-WATER HEAT PUMP
HA061B E1
HA063B E1

CAUTION

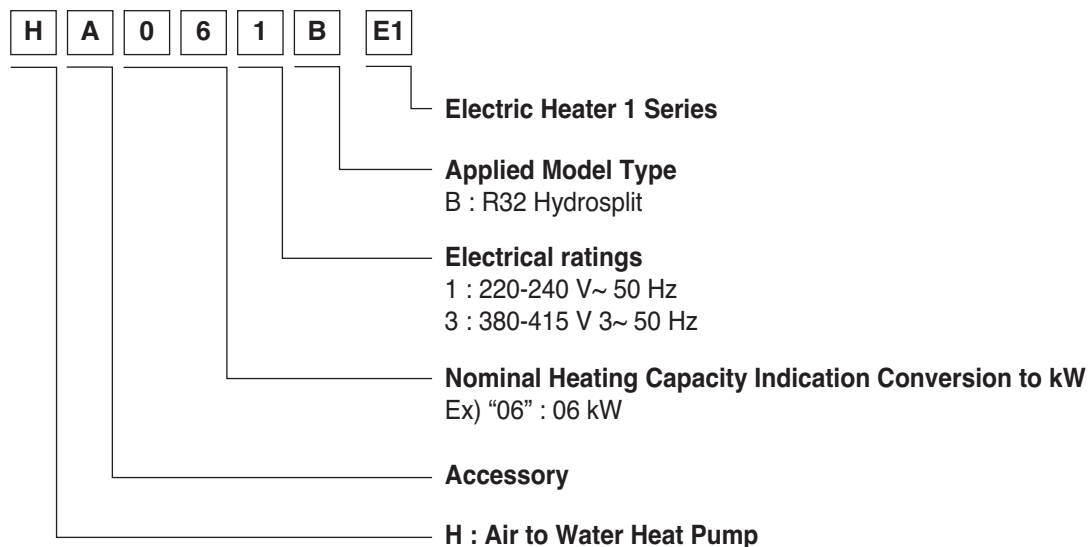
Before Servicing the unit, read the safety precautions in General SVC manual.

Only for authorized service personnel.

The appliance shall be disconnected from its power source during service and when replacing parts.

1. Model Information

Model number nomenclature



Model name and related information

| Capacity (kW) | Power Source |
|---------------|---------------------|
| 6 | 380-415 V 3N~ 50 Hz |
| 6 | 220-240 V ~ 50 Hz |




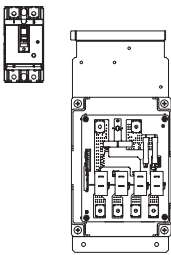
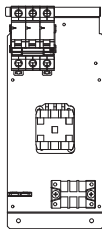


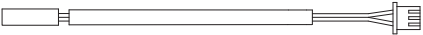
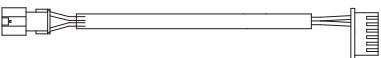
2. Specification

| Backup Heater | | Model | |
|--------------------------------|-------------------------|----------------------|----------------------|
| | | AHEH066B [HA061B E1] | AHEH068B [HA063B E1] |
| Type | - | Sheath | Sheath |
| Power Supply | V, Ø, Hz | 220 – 240, 1, 50 | 380 – 415, 3, 50 |
| Power Connection Wiring | - | L1, N, Earth | R, S, T, N, Earth |
| Number of Heating coil | EA | 2 | 3 |
| Capacity Combination | kW | 3 + 3 | 2 + 2 + 2 |
| Operation | - | Automatic | Automatic |
| Heating Steps | Step | 1 | 1 |
| Net Dimensions(W x H x D) | mm | - | - |
| Shipping Dimensions(W x H x D) | mm | 738 x 293 x 309 | 738 x 293 x 309 |
| Net Weight | kg | 3.4 | 4.1 |
| Shipping Weight | kg | 5.4 | 5.9 |
| Current(Rated) | A | 24 | 8.7 |
| Power Supply Cable (H07RN-F) | mm ² x cores | 6.0 x 3 | 2.5 x 5 |
| (Included Earth) | | | |
| Communication Cable(H07RN-F) | mm ² x cores | - | - |
| Circuit Breaker(ELCB) | A | 40 | 20 |

Note

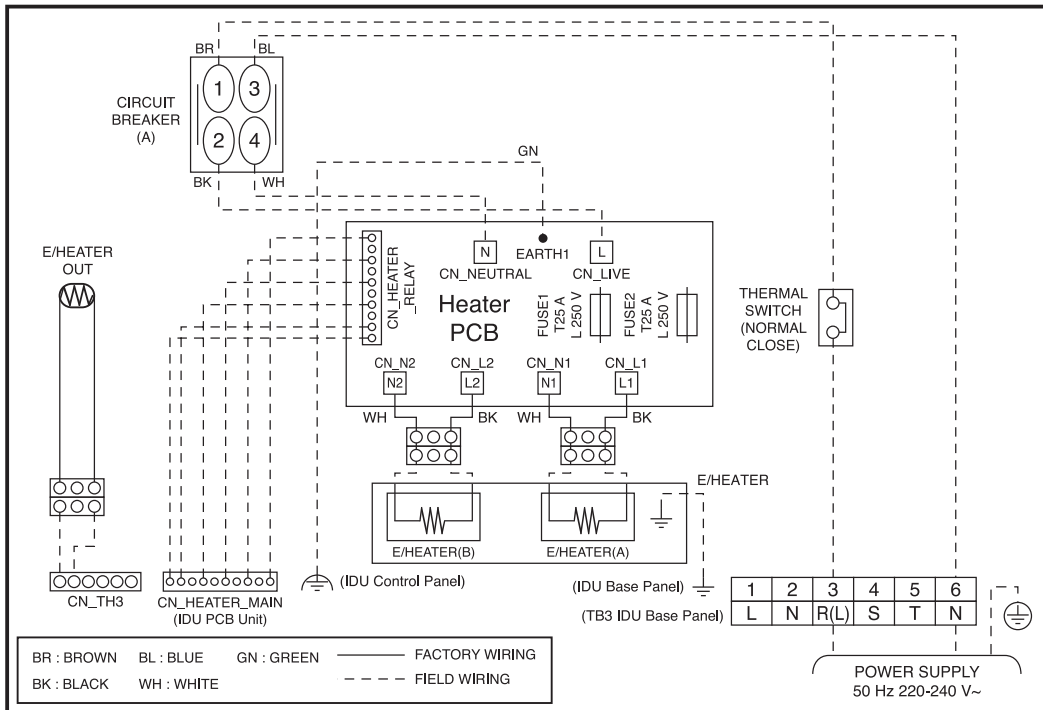
1. The specification may be subject to change without prior notice for purpose of improvement.

3. External Appearance

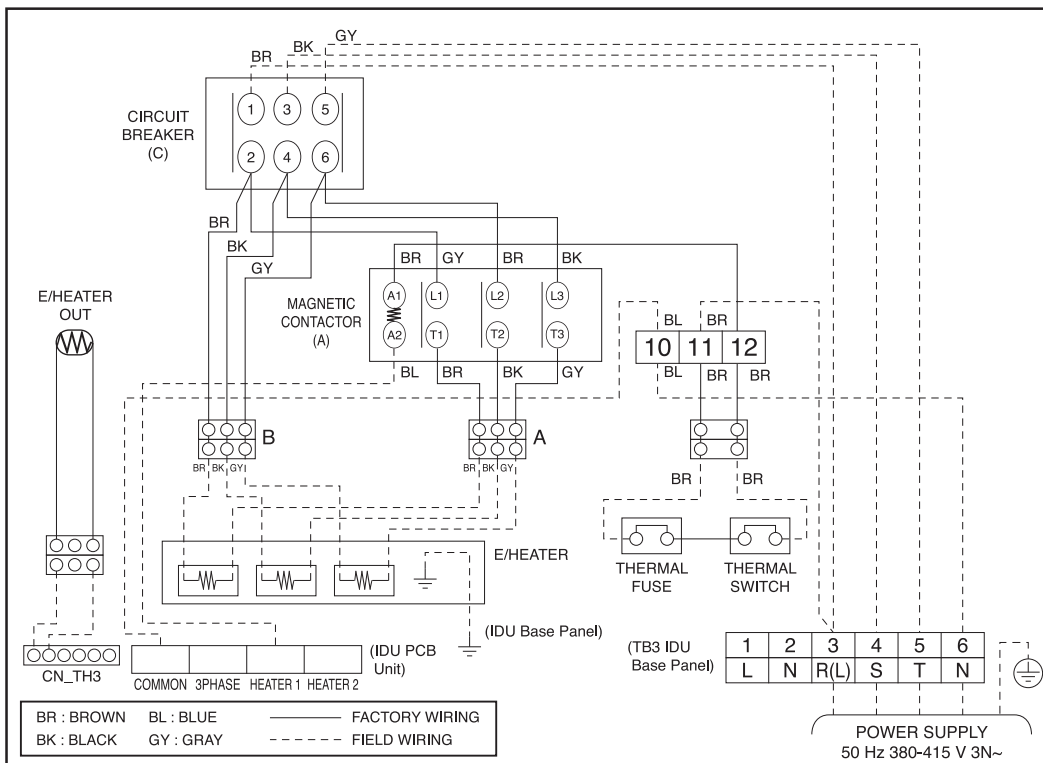
| Item | Image | | Quantity |
|-------------------------------|--|--|----------|
| Backup Heater |  | | 1 |
| Installation Manual |  | | 1 |
| Owner's / Installation Manual |  | | 1 |
| Control Panel | 1Ø | 3Ø | 1 |
| |  |  | |
| Earth Screw |  | | 1 |
| Screw |  | | 2 |
| Temperature Sensor |  | | 1 |
| Middle Link Harness |  | | 1 |

4. Wiring Diagrams

1Ø 6 kW



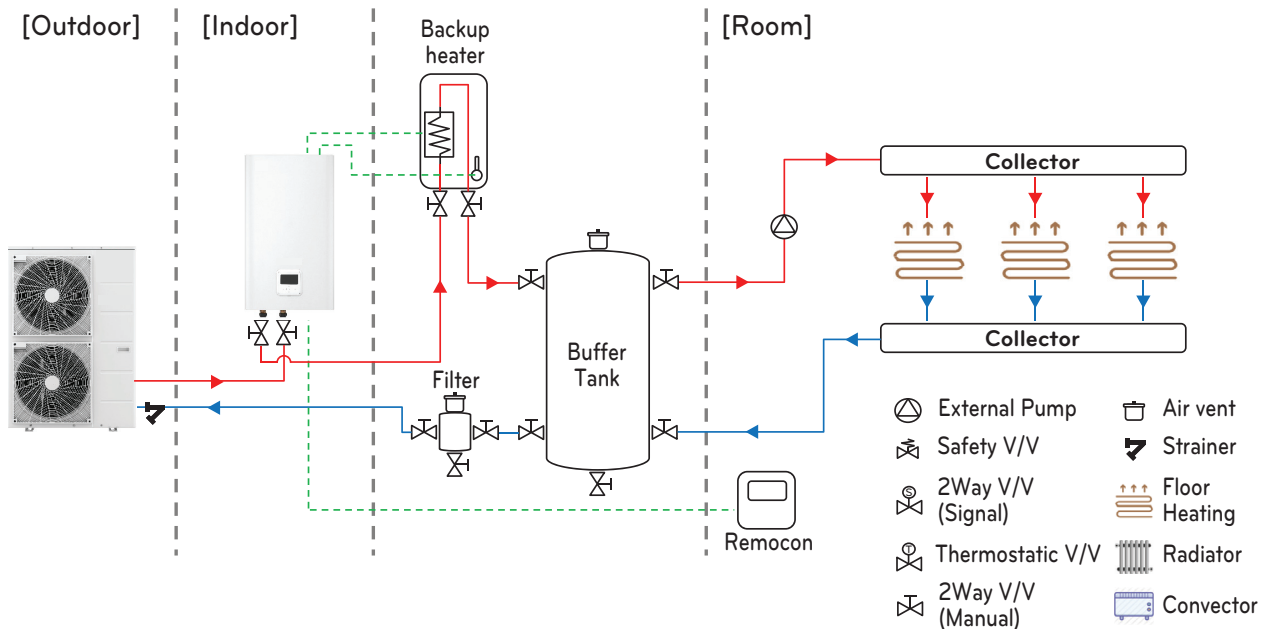
3Ø 6 kW



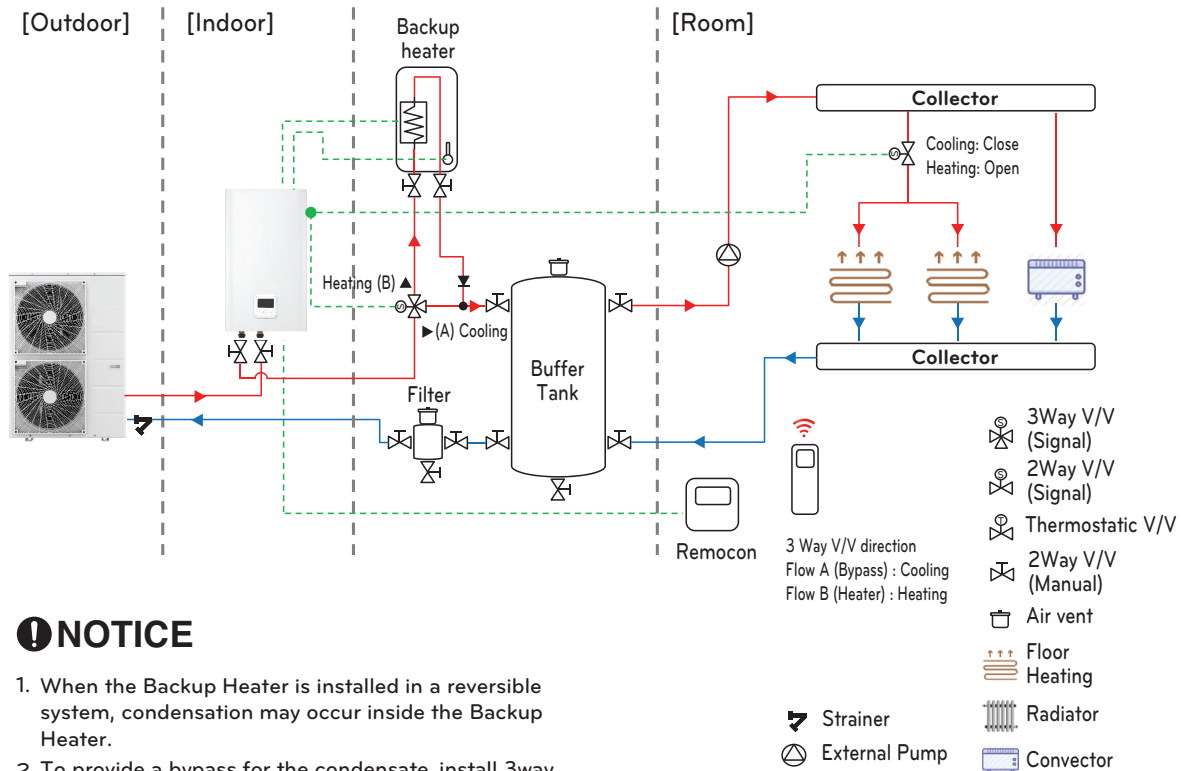
5. Typical Installation Example

■ Typical Installation Example

Floor + Backup Heater (Only Heating)



Floor + Convactor + Backup Heater (Heating + Cooling)



❗ NOTICE

1. When the Backup Heater is installed in a reversible system, condensation may occur inside the Backup Heater.
2. To provide a bypass for the condensate, install 3way valve.

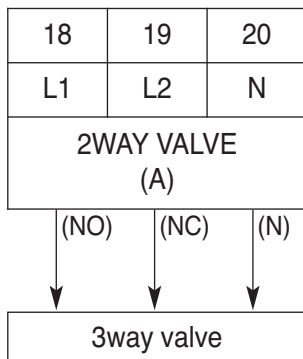
■ How to Wire 3Way Valve For Bypass

3WAY VALVE (For Backup heater Bypass)

Follow below procedures Step 1 ~ Step 2.

Step 1. Uncover front cover of the unit.

Step 2. Find terminal block and connect wire as below. (in the unit)



(1) : Flow A means 'water flow from the unit to Buffer tank . (Cooling)'

(2) : Flow B means 'water flow from the unit to Backup heater. (Heating)'

⚠ WARNING

- When type of 2way valve is NO type, 3way valve should select Flow A (bypass) when electric power is supplied to wire (NO) and wire (N).
- When type of 2way valve is NC type, 3way valve should select Flow A (bypass) when electric power is supplied to wire (NC) and wire (N).

⚠ CAUTION

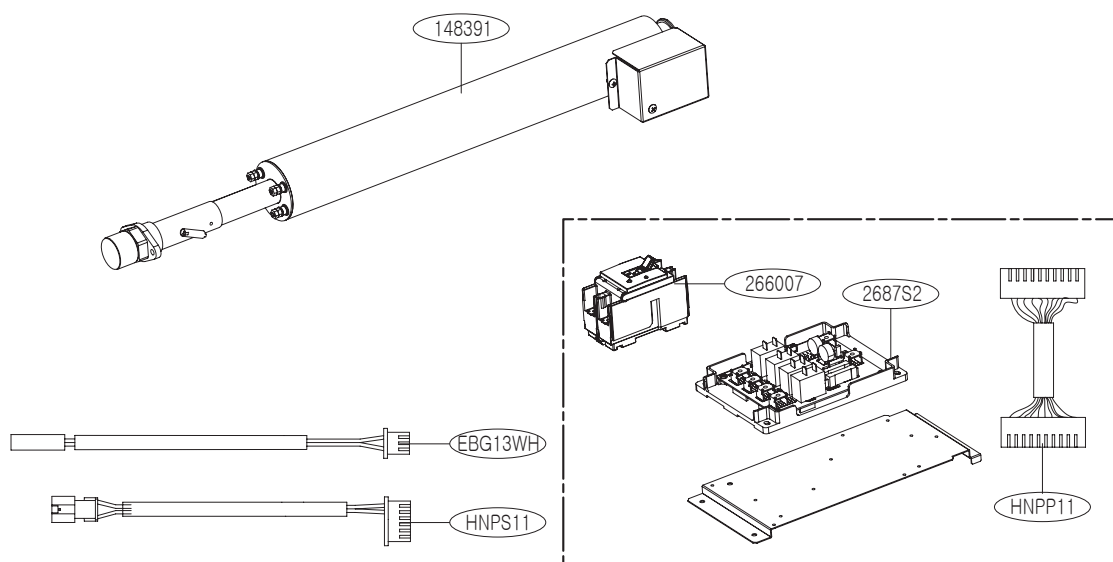
- 3Way valve should be connected together with 2Way valve in terminal block.
- Keep the distance between 3Way valve and backup heater more than 0.5m.
- To prevent reverse flow, It is important to use one way valve(check valve) to Backup heater water outlet.

Final check

- Flow direction
 - Water should not flow into Heater loop (B) in cooling mode.
 - If correctly wired, this temperatures should not be approached to 6°C in cooling mode.
- Noise or water pipe vibration while 3way valve operation
 - Due to surging effect or cavitation effect, noise or water pipe vibration can be occurred while 3way valve is operating.
 - In that case, check followings :
 - Is water circuit (both under floor water loop and sanitary water tank loop) fully charged? If not, additional water charging is required.
 - Fast valve operation yields noise and vibration. Appropriated valve operating time is 60~90 seconds.

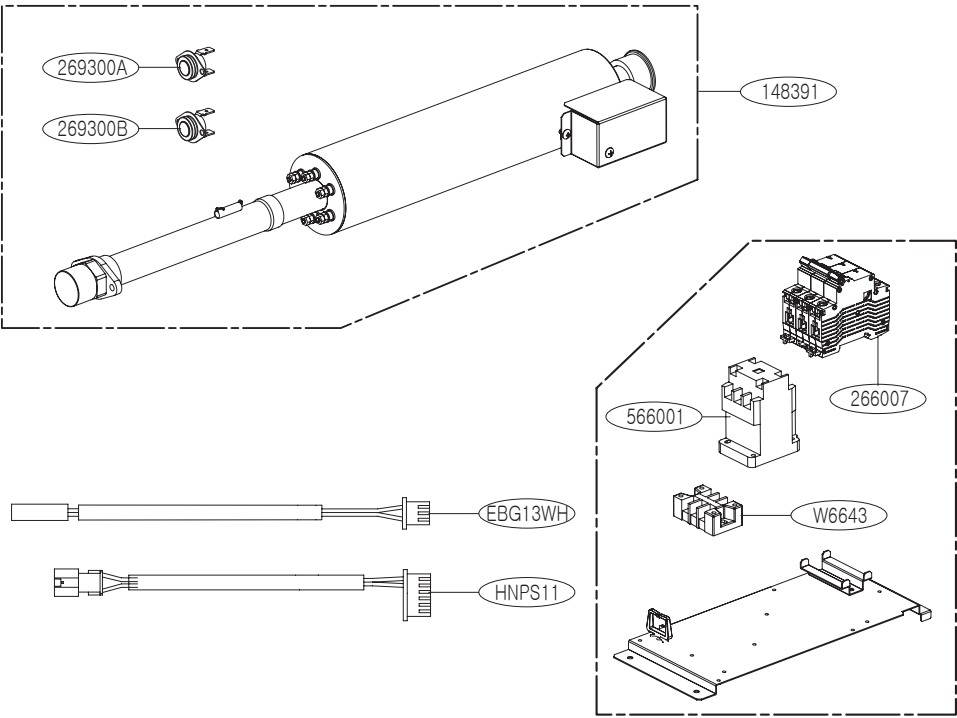
6. Exploded View

10 6 kW



| Location No. | Description | Information | Etc. |
|--------------|-------------------------|-------------------|--------|
| EBG13WH | Thermistor Assembly,NTC | Water Out (E/HTR) | CN_TH3 |
| HNPS11 | Harness,Single | | |

3Ø 6 kW



| Location No. | Description | Information | Etc. |
|--------------|-------------------------|-------------------|--------|
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P/NO : MFL68681918