



CONFIDENTIAL

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

AIR-TO-WATER HEAT PUMP
HA031M E1
HA061M E1

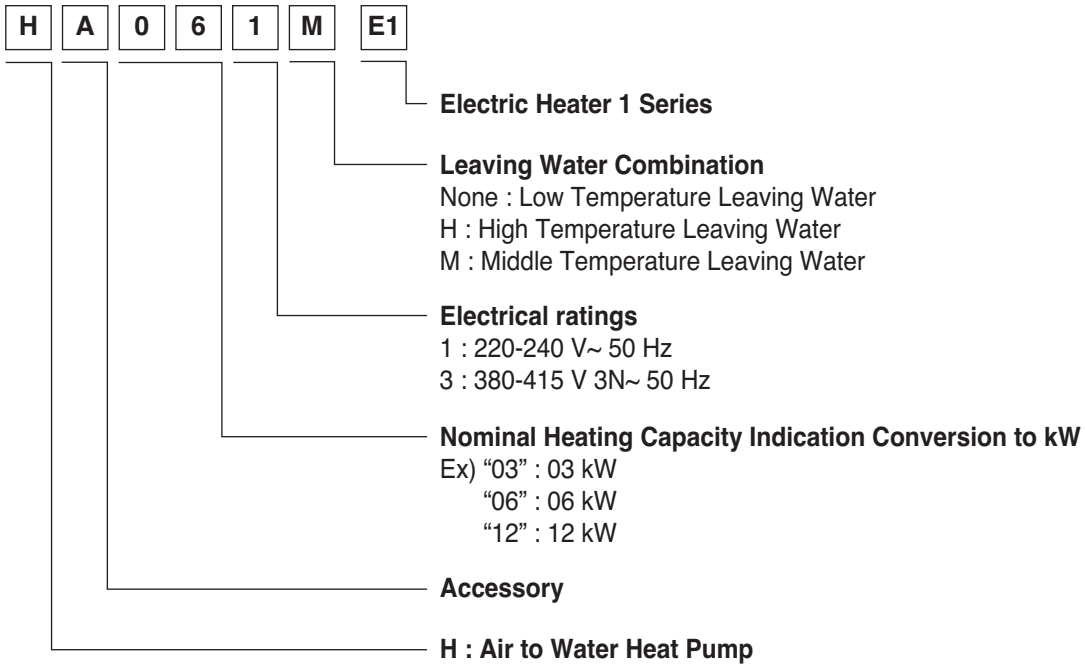
CAUTION

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	220-240 V ~ 50 Hz
3	220-240 V ~ 50 Hz

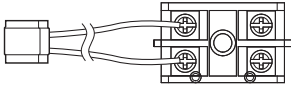
2. Specification

Backup Heater			Model	
			AHEH066A(HA061M E1)	AHEH036A(HA031M E1)
Power Supply		Ø / V / Hz	1 / 220-240 / 50	1 / 220-240 / 50
Capacity		kW	6	3
operational current	Max.	A	24	12
Dimensions	Unit(W × H × D)	mm	210 × 607 × 220	210 × 607 × 220
	Packed Unit(W × H × D)	mm	294 × 728 × 278	309 × 738 × 293
Weight	Unit	kg	13.8	13
	Packed Unit	kg	15.2	14.4
Safety Device	Anti-overheating	-	Thermostat	Thermostat
Water Pipe	Entering Side Diameter	mm	Ø28	Ø28
	Leaving Side Diameter	mm	Ø28	Ø28
Wiring Cable	Power Supply Type (H07RN-F)	mm ² ×cores	4 x 3C	1.5 x 3C
	Communication Cable	mm ² ×cores	0.75 x 4C	0.75 x 2C
	Sensor Cable		0.75 x 2C	0.75 x 2C
Temperature Sensor	Thermistor Assembly,NTC		5 kΩ ± 5 %	5 kΩ ± 5 %
Circuit breaker		A	40	20

Note

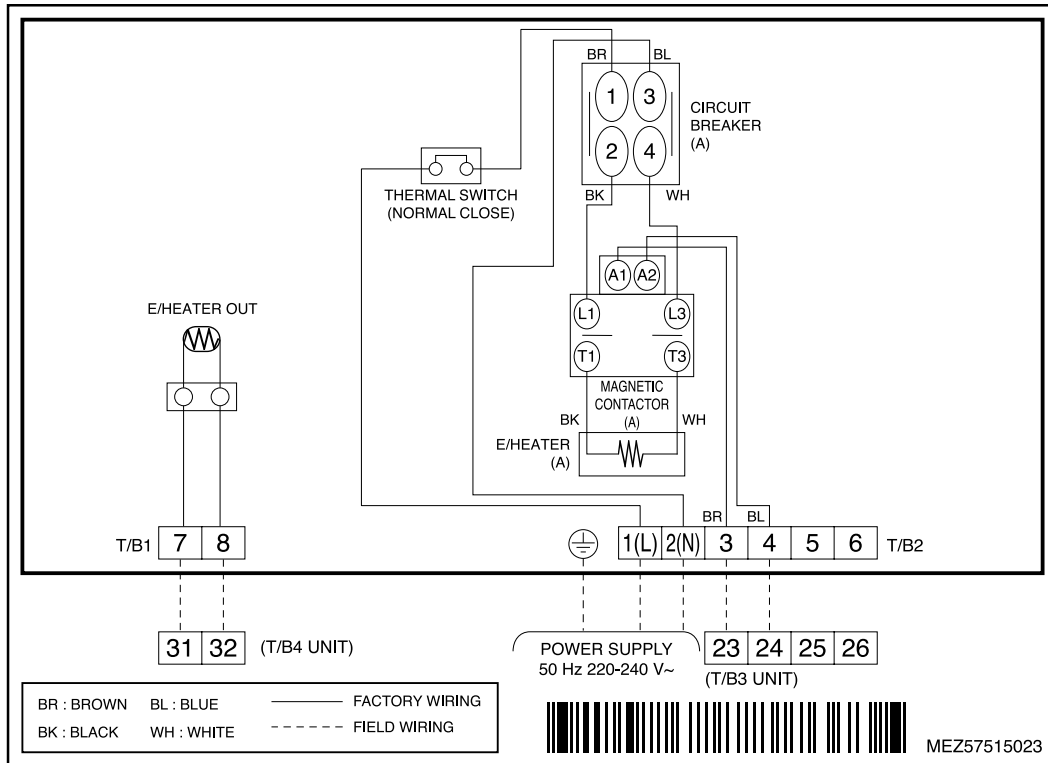
1. The specification may be subject to change without prior notice for purpose of improvement.

3. External Appearance

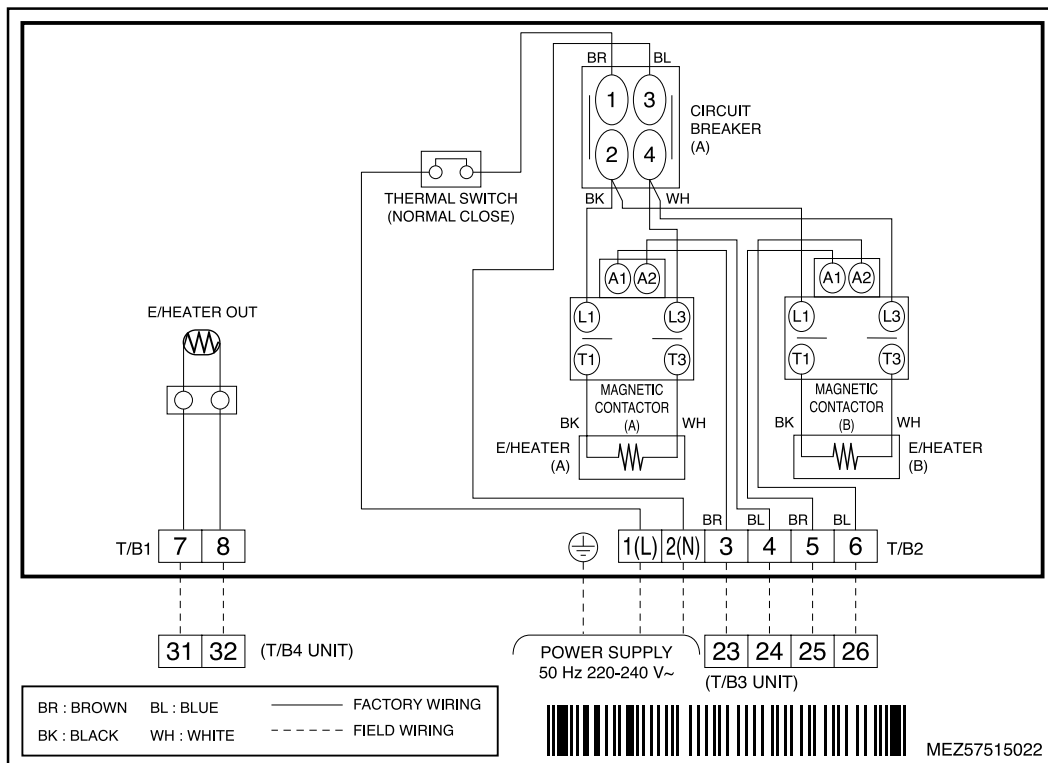
Backup Heater Box		
Item	Item	Quantity
Backup Heater		1
Installation Manual		1
Installation Sheet		1
Terminal Block KIT		1
Screw		1

4. Wiring Diagrams

3 kW



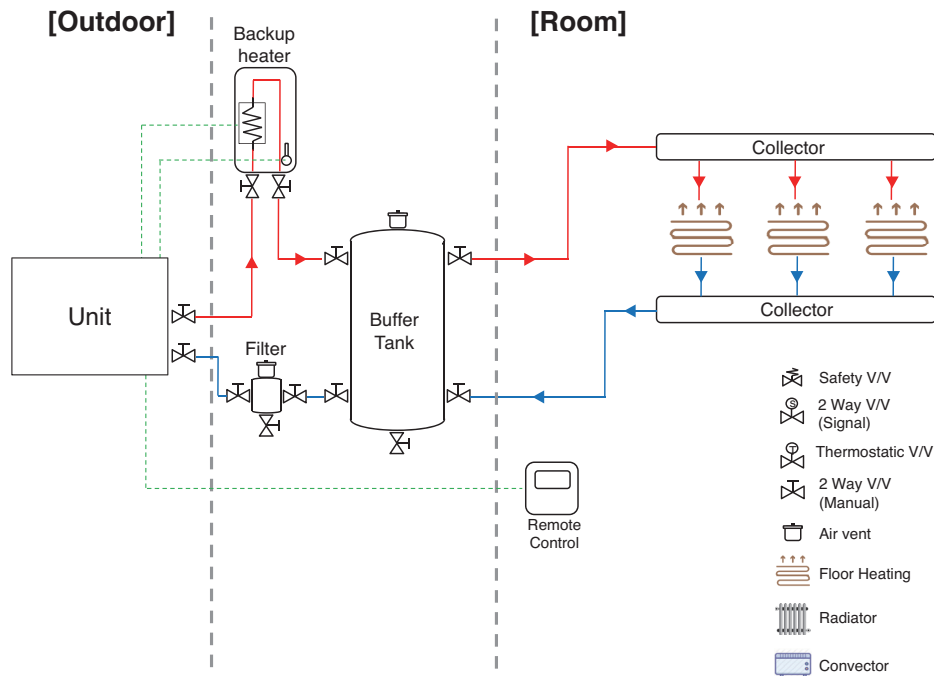
6 kW



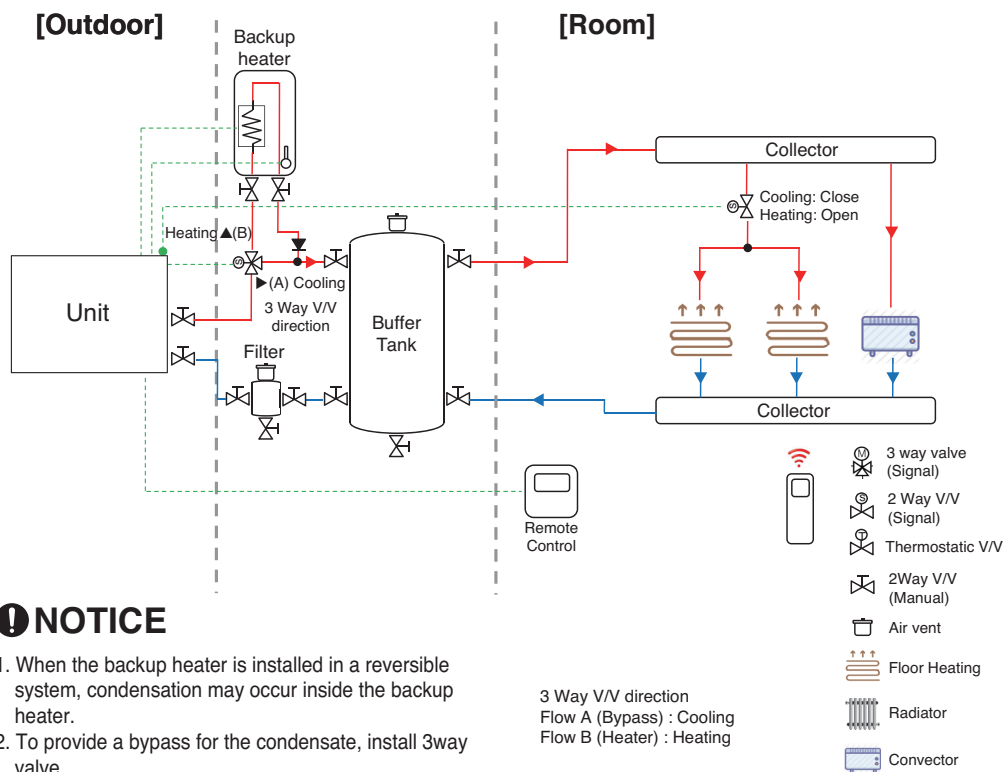
5. Typical Installation Example

■ Typical Installation Example

Floor + Backup heater (Only Heating)



Floor+Convactor+Backup heater (Heating + Cooling)



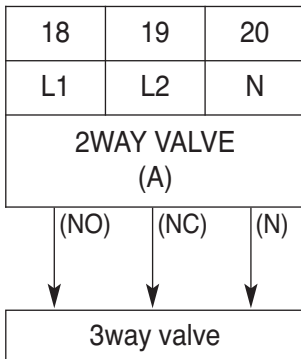
■ How to Wire 3Way Valve For Bypass

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

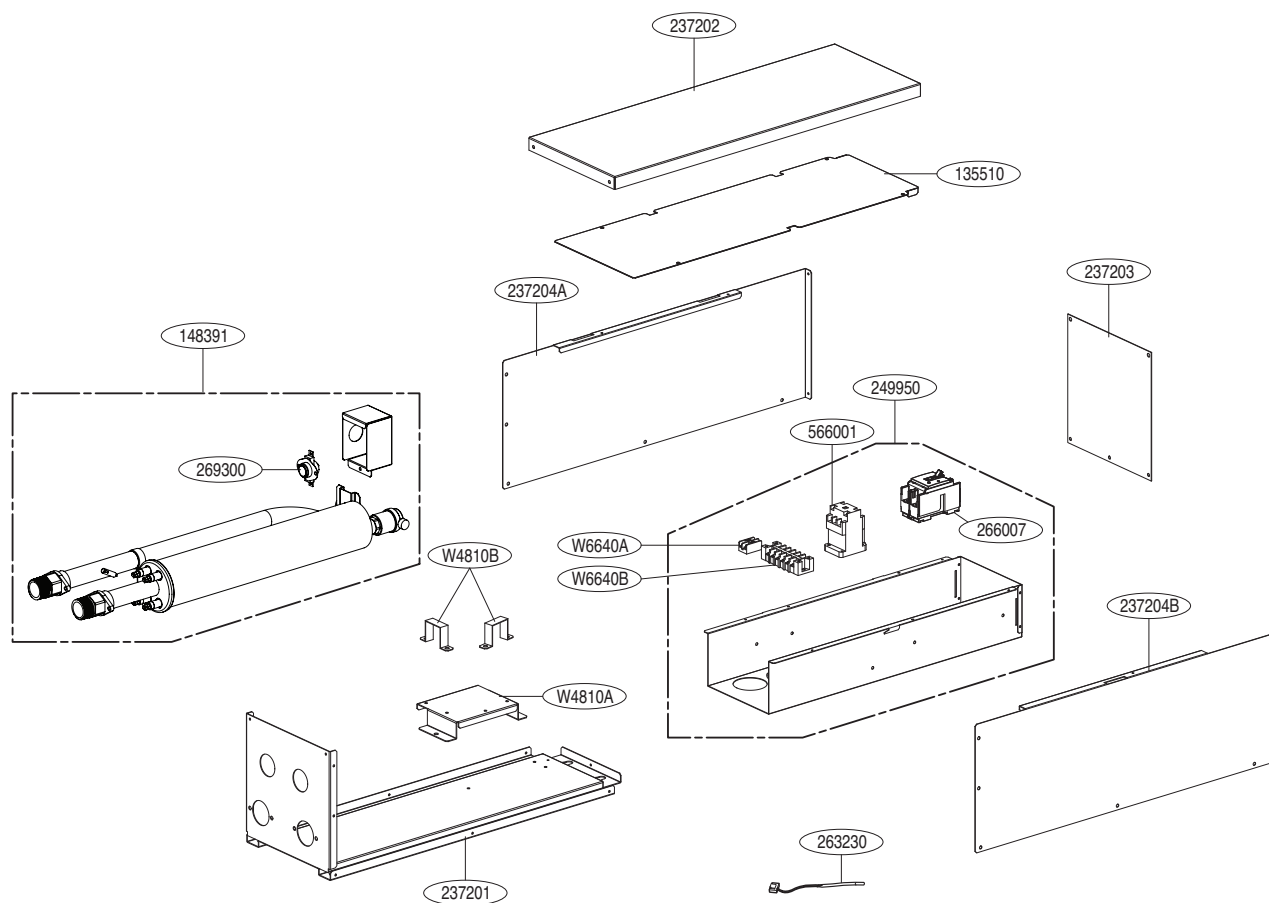
- 3Way valve should be connected together with 2Way valve in terminal block.
- Keep the distance between 3Way valve and backup heater more than 0.5m.
- To prevent reverse flow, It is important to use one way valve(check valve) to Backup heater water outlet.

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.

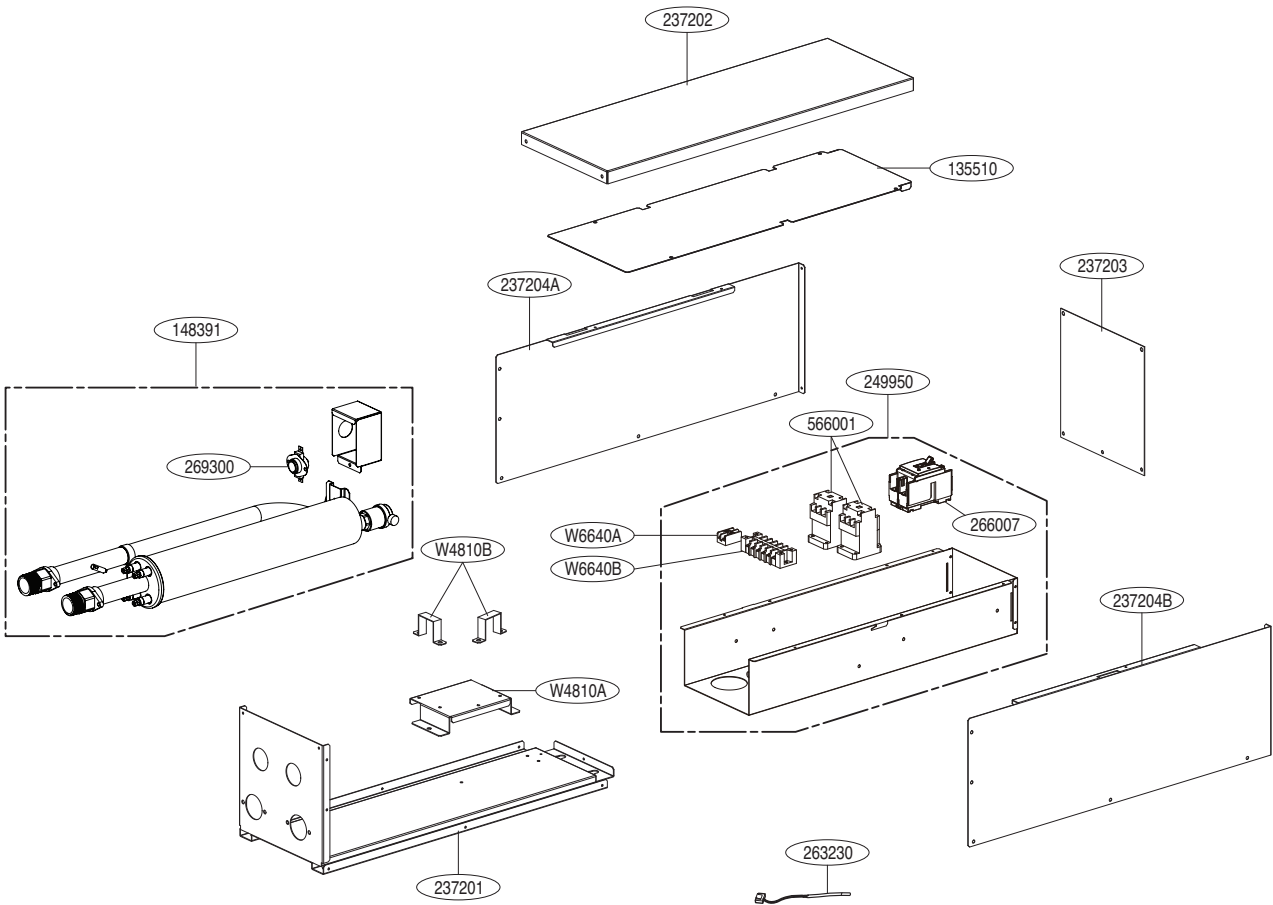
6. Exploded View

3 kW



Location No.	Description	Information	Etc.
263230	Thermistor Assembly,NTC	Water out (E/HTR)	CN_TH3

6 kW



Location No.	Description	Information	Etc.
263230	Thermistor Assembly,NTC	Water out (E/HTR)	CN_TH3



P/NO : MFL68681907