Haier
More Creation, More Possibilities

Haier
HVAC Solutions

A2W
Split Hydro Installation Manual

2025/26

CONTENTS

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1.0. OUTDOOR UNIT AND INDOOR UNIT CONNECTION

Outdoor Installation

Indoor Installation

ATW-A03

1.1. ELECTRICAL WIRING/CONNECTIONS

1.1.1. Single phase installation - 1ph-ODU

ODU HYDRO SPLIT:
AW042HUGHA AW062HUGHA
AW082HUGHA AW102HUGHA
AW122HVGHA AW142HVGHA
AW162HVGHA

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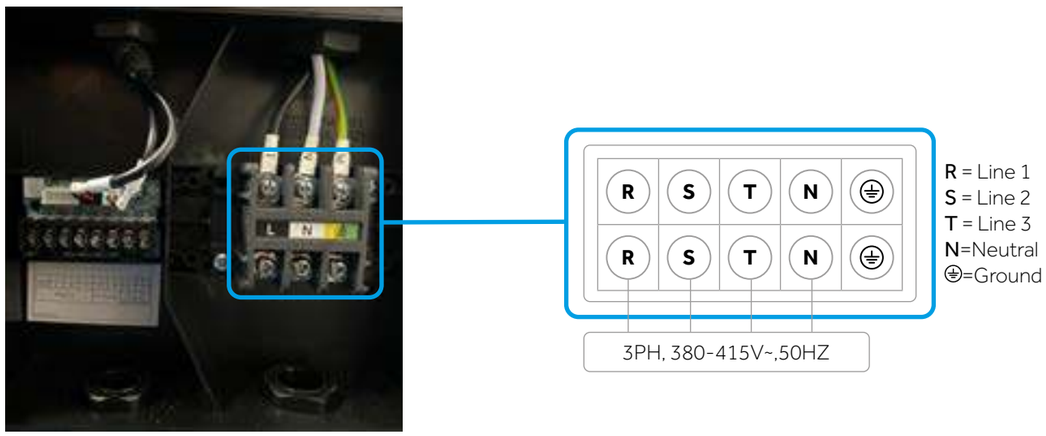
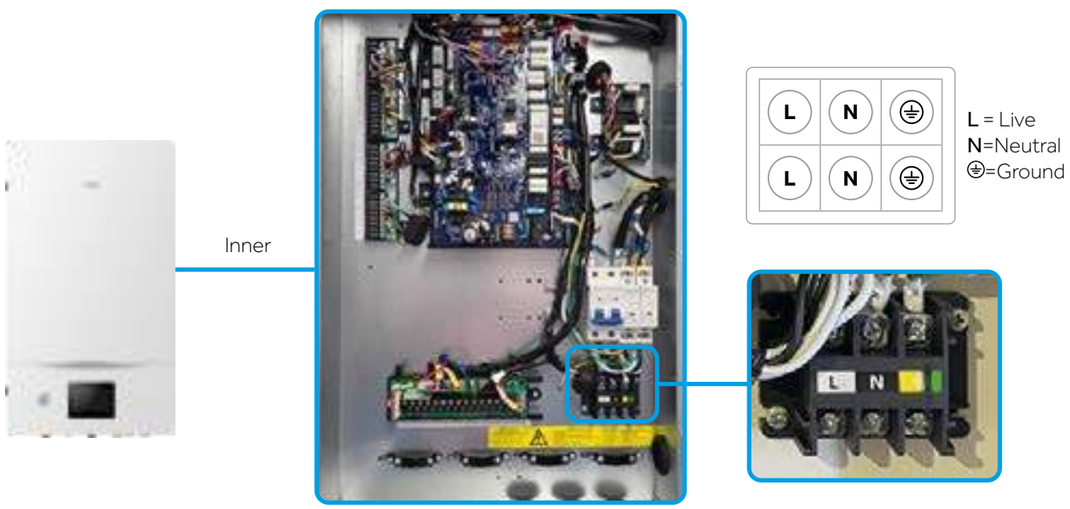
1.1. ELECTRICAL WIRING/CONNECTIONS

1.1.2 Three-phase installation - 3ph-ODU



ODU HYDRO SPLIT:
AW12NHVGHA AW14NHVGHA
AW16NHVGHA

1.1.3 electrical connection for all in one and split always 240V single phase



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1.2. CONNECTION BETWEEN OUTDOOR UNIT AND INDOOR UNIT

Outdoor Unit

Connection Board 1 - Outdoor Unit

1	2	3	4	5	6	7	8
GND	L	M	H	A	B	X	Y
Reserved				PC Monitoring		PQ	

Connection Board 4 - Indoor unit ATW-A03

25	26	27	28	29	30	31	32
GND	L	M	H	A	B	X	Y
SG Signal		EVU Signal		Controller A/B		PQ	

Indoor unit ATW-A03

Connection Board 4

Connect a 2 core communication cable from 7(X) and 8(Y) of Board 1 of the outdoor unit to 31 (X) and 32 (Y) Board 4 of the Indoor unit ATW-A03

The interconnection bus between Outdoor unit and ATW-A03N, must be done with a shielded cable of 2x0,75mm.

Note in the middle of the blue PCB a green and red light flashes if the communication is ok. If the LED's stop flashing outdoor unit is switched off.

2.0. ZONE 01

This chapter is designed to show you how to install a single-zone Haier heat pump. Please note that you will need to decide how you wish to control the system; see Chapter 9 for control options. Read this chapter alongside Chapter 4 if you also want to heat the domestic hot water.

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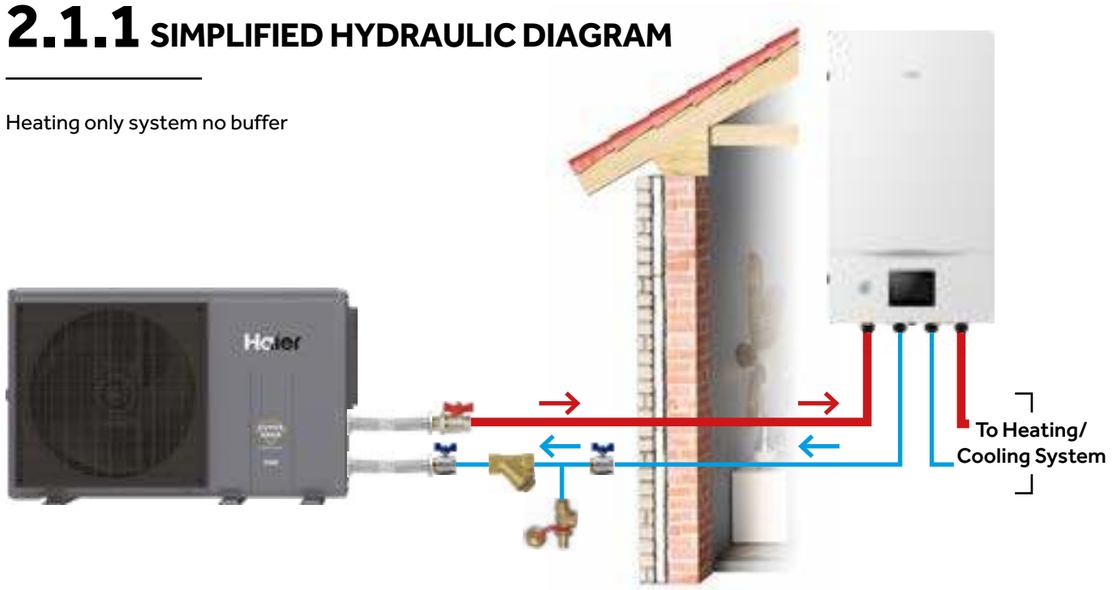
2.1. ZONE 1 WITHOUT BUFFER TANK

This chapter explains how to install the Haier heat pump without a buffer tank. This chapter demonstrates how to install the system with a single heating zone. Please note that you will need to decide on the control method; see Chapter 9 for more information. Combine this chapter with Chapter 4 if you also want to heat domestic hot water.

2.1.1 SIMPLIFIED HYDRAULIC DIAGRAM

Heating only system no buffer



	Flexible hose pipe		Delivery water flow
	Ball Valve		Return water flow
	Ball Valve		
	Water filter		
	Drain Valve		

ALL THE DIAGRAMS AND THE ACCESSORIES ARE ONLY AN EXAMPLE OF THE INSTALLATION AND HAVE TO BE CARRIED OUT IN ACCORDANCE WITH LOCAL REGULATIONS.

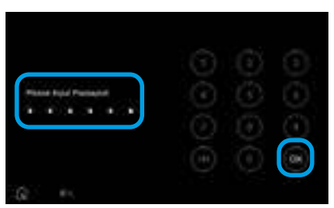
FOR ELECTRICAL CONNECTIONS REFER TO POINT 1.0.

2.1.2. Controller Setting
Equipment Installation main settings

1

2

3



4 * Password “841226” OK

5

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← ON
← OFF
← OFF
← OFF

*** SELECT ON TO ACTIVATE ZONE 1**

Function	Parameter Range	Settings
Zone 1	ON/OFF	ON

2.1.2. CONTROLLER SETTING

System Installation main settings

1

2

3

4 *** Password “841226” OK**

5

Equipment Installation main settings

← **Main Controller** *** SELECT THE CONTROL MODE FOR ZONE 1**

Function	Parameter Range	Settings
Control Mode of Zone1	Main controller, Third party controller	Main controller

← 27°C

← **6°C** ***ENTER DELTA T° FOR HEATING ON**

Function	Parameter Range	Settings
ΔT for Heating On	0 -15 °C	6°C

← **5°C** ***ENTER DELTA T° FOR COOLING ON**

Press “house” to return to main menu

Function	Parameter Range	Settings
ΔT for Cooling On	0 -15 °C	5°C

***PARAMETERS TO BE CHANGED ARE MARKED IN BOLD BLUE.**

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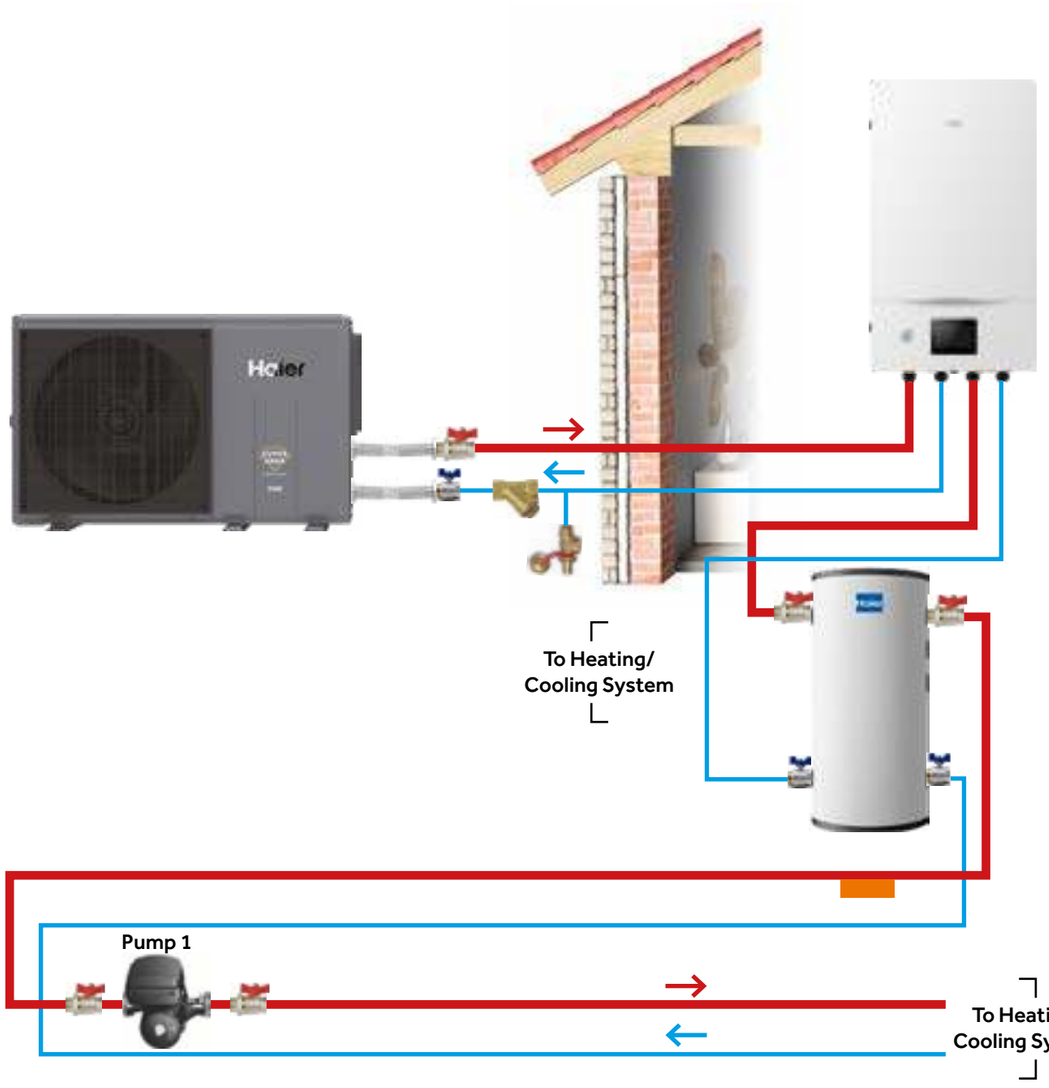
2.2. ZONE 1 WITH BUFFER TANK

This chapter is designed to show you how to install a Haier heat pump with a buffer tank. In this configuration, we show only one zone of heating, which is controlled by the Haier system after the buffer. Please note that you will need to decide how you wish to control the system; see Chapter 9 for more information. Combine this chapter with Chapter 4 if you also want to heat the domestic hot water.

2.2.1. SIMPLIFIED HYDRAULIC DIAGRAM

2.2.1. Heating only with a buffer tank / hydraulic seperation



	Flexible hose pipe		Buffer Tank
	Ball Valve		Water pump
	Ball Valve		Delivery water flow
	Water filter		Return water flow
	Drain Valve		

Note: The unit must operate with the minimum system volume, see annexe at end of manual.

ALL THE DIAGRAMS AND THE ACCESSORIES ARE ONLY AN EXAMPLE OF THE INSTALLATION AND HAVE TO BE CARRIED OUT IN ACCORDANCE WITH LOCAL REGULATIONS.

FOR ELECTRICAL CONNECTIONS REFER TO POINT 1.0.

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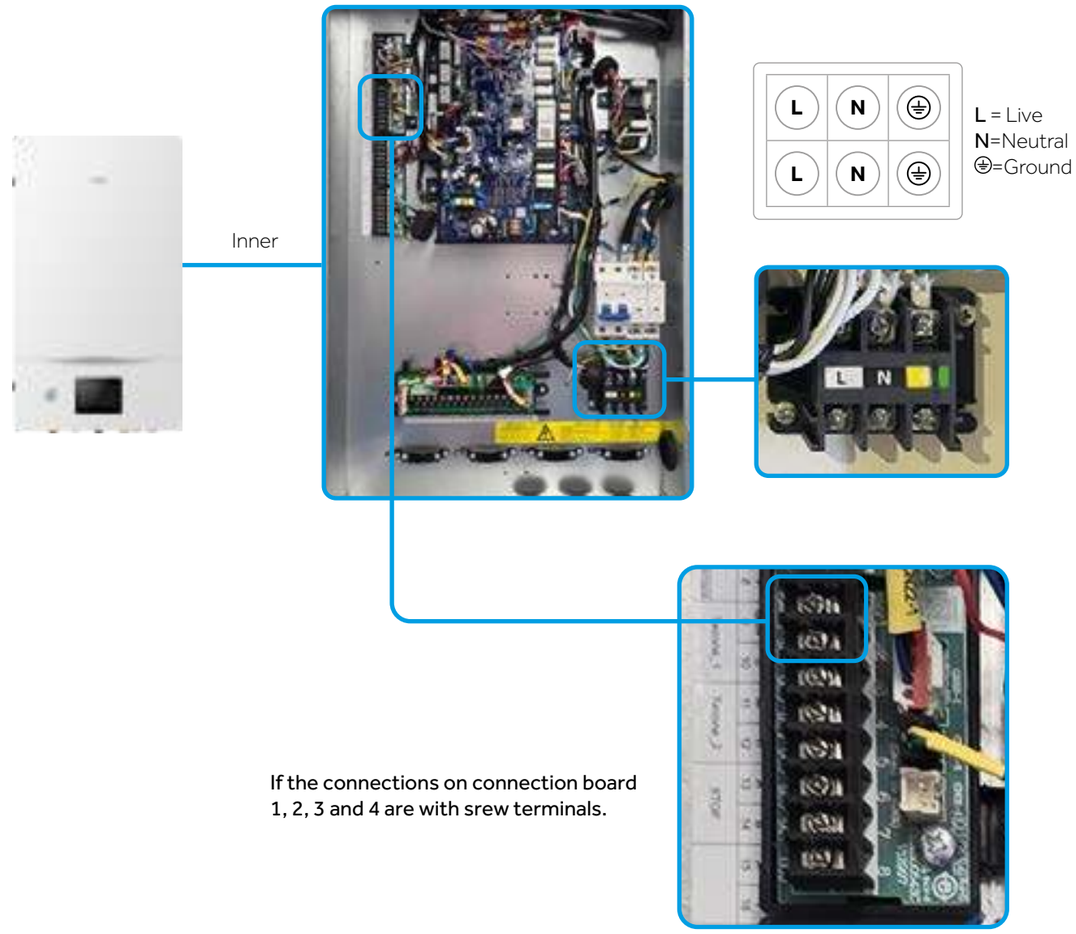
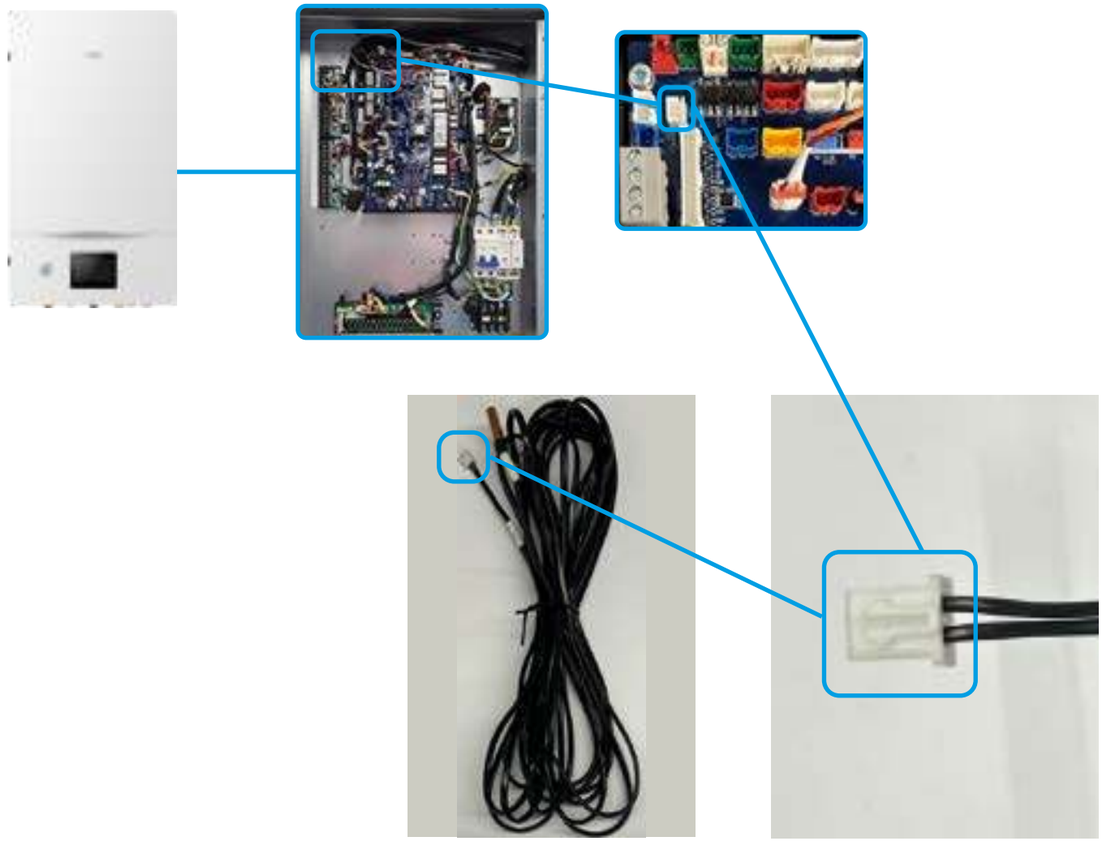
2.2.2. CONNECTIONS

Electrical connection for split always 240V single phase



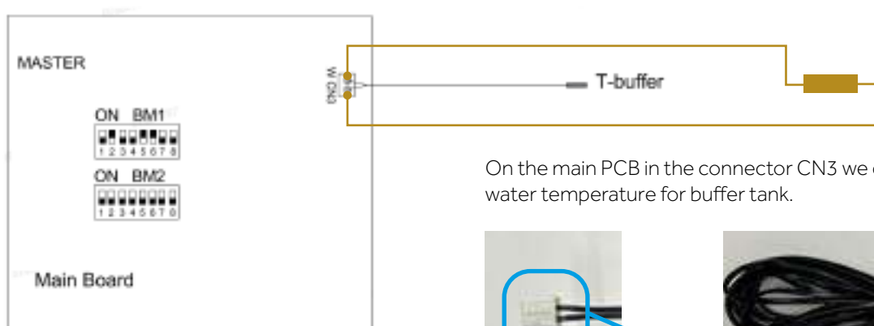
If the connections on connection board 1, 2, 3 and 4 are with srew terminals.

2.2.2. SIMPLIFIED HYDRAULIC DIAGRAM



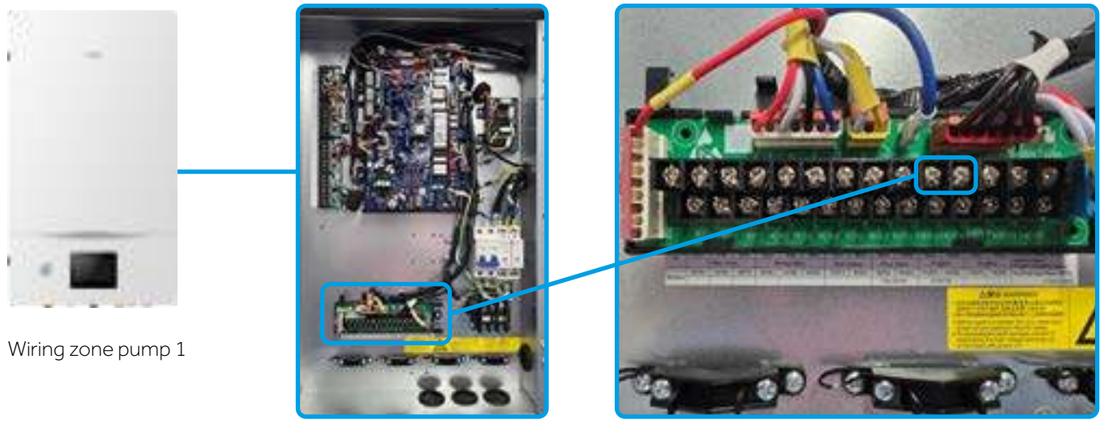
* You must use the sensor with the white plug.

*** T-BUFFER IS NOT MANDATORY**



On the main PCB in the connector CN3 we can connect the water temperature for buffer tank.

IT'S POSSIBLE TO SET THE UNIT TO OPERATE TO CONTROL THE BUFFER TEMPERATURE ONLY. IF YOU WANT TO DO THIS YOU CAN INSTALL A BUFFER CONTROL SENSOR.

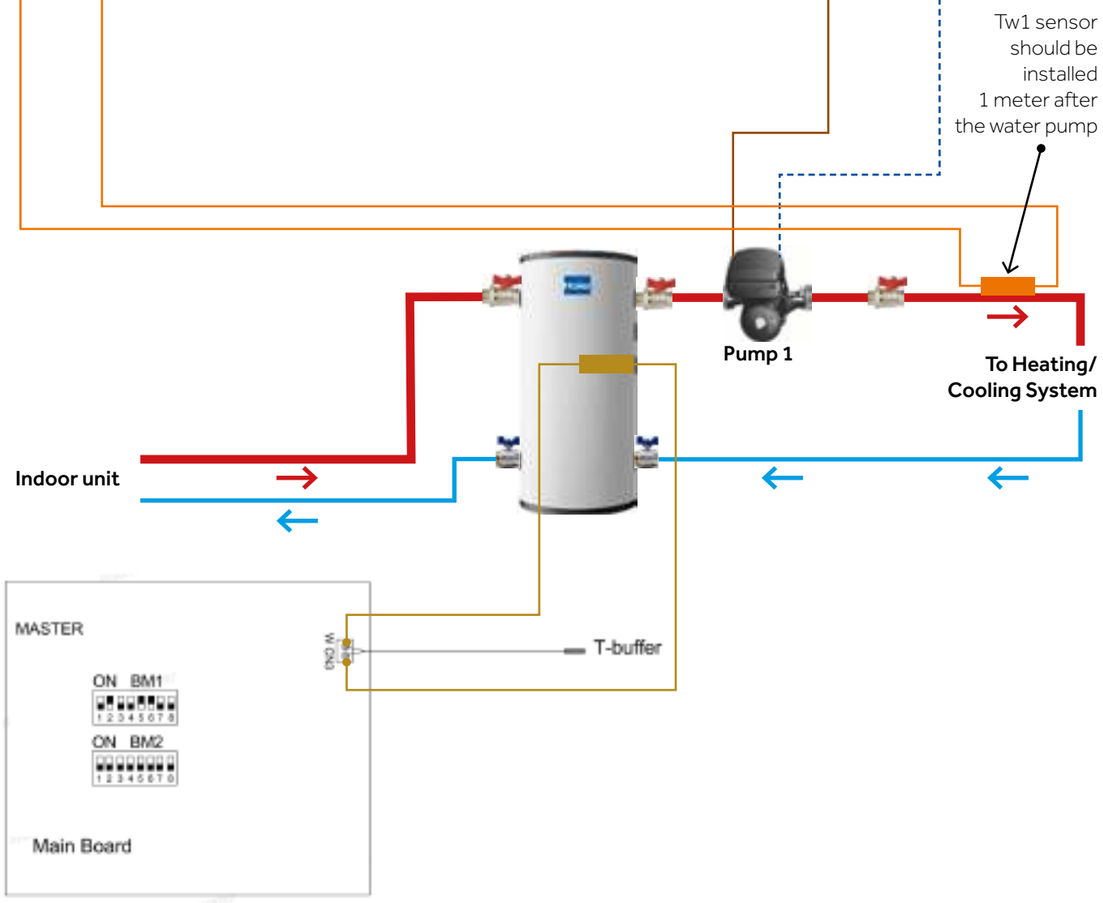


Wiring zone pump 1

2.2.3. SIMPLIFIED HYDRAULIC DIAGRAM

9	10	11	12	13	14	15	16
GND	L	M	H	A	B	X	Y
Tw zone_1		Tw zone_2		STOP		T_out2	

1	2	3	4	5	6	7	8	9	10	11	12	13	14
L	N	K	L	N	K	L	N	L	N	L	N	L	N
3-Way Valve			Mixing valve					Floor Valve		Pump 1		Pump 2	
1(15)	2(16)	3(17)	4(18)	5(19)	6(20)	7(21)	8(22)	9(23)	10(24)	11(25)	12(26)	13(27)	14(28)
				L	N	L	N						
				Heater 1		Heater 2		Boiler		Error			



	Buffer Tank		T Buffer water temp sensor
	Ball Valve		Tw zone 1 water temp sensor
	Ball Valve		Delivery water flow
	Water pump		Return water flow
	Neutral		Live

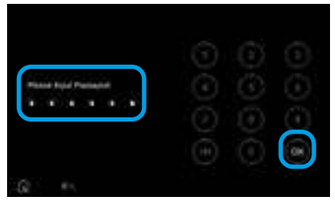
2.2.4. CONTROLLER SETTINGS

Equipment Installation main settings

1

2

3



4 *** Password “841226” OK**

5

ON
OFF
OFF
ON

*** SELECT ON TO ACTIVATE ZONE 1**

*** SELECT ON TO ACTIVATE BUFFER TANK**

Press “house” to return to main menu

Function	Parameter Range	Settings
Zone 1	ON/OFF	ON
Buffer Tank	ON/OFF	ON

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2.2.4. CONTROLLER SETTINGS

System Installation main settings

1

2

3

4 *** Password "841226" OK**

5

← **Main Controller** *** SELECT THE CONTROL MODE FOR ZONE 1**
← Main Controller
← Main Controller
← Main Controller

Function	Parameter Range	Settings
Control Mode of Zone 1	Main controller Third party controller	Main controller

← 45°C
← 27°C
← **6°C** ***ENTER DELTA T° FOR HEATING ON**
← 0°C

Press "house" to return to main menu

Function	Parameter Range	Settings
ΔT for Heating On	0 - 15℃	6℃

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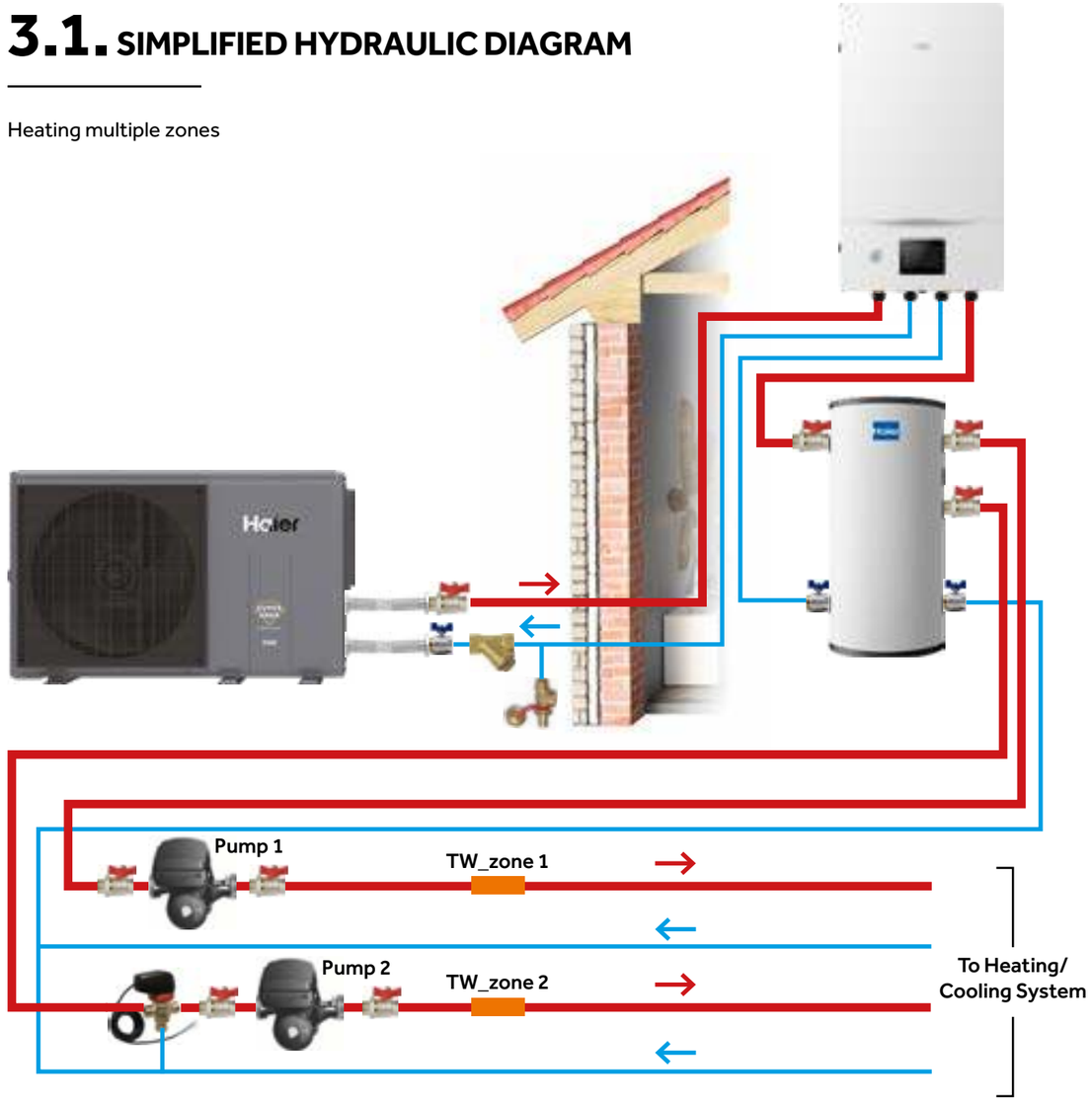
3.0. ZONE 2 - MULTIPLE ZONES

This chapter is designed to show you how to install a Haier heat pump with a buffer tank. In this configuration, it is possible to add two zones of heating after the buffer; these are controlled by the Haier system. Please note that you will need to decide how you wish to control the system; see Chapter 9 for more information. Combine this chapter with Chapter 4 if you also want to heat the domestic hot water.

3.1. SIMPLIFIED HYDRAULIC DIAGRAM

Heating multiple zones



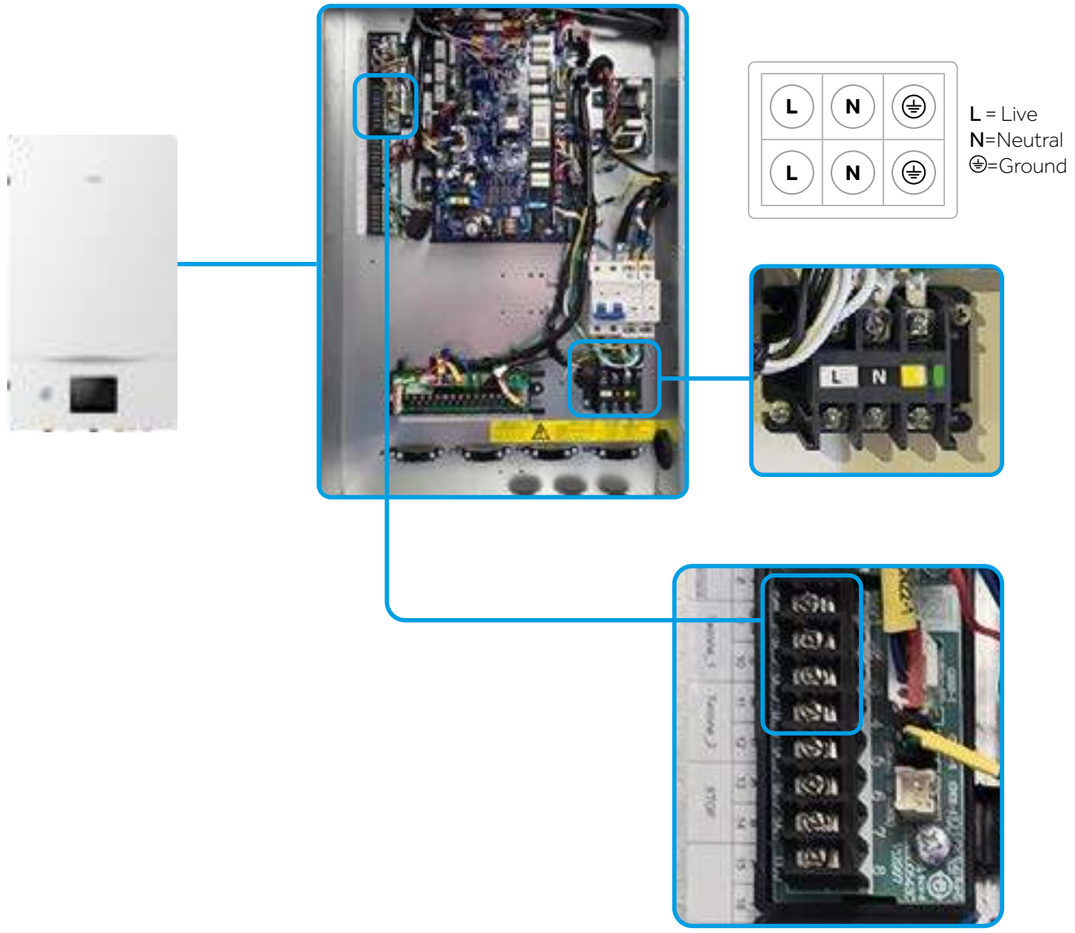
	Flexible hose pipe		Buffer Tank
	Ball Valve		Water pump
	Ball Valve		Mixing Value
	Water filter		Delivery water flow
	Drain Valve		Return water flow

ALL THE DIAGRAMS AND THE ACCESSORIES ARE ONLY AN EXAMPLE OF THE INSTALLATION AND HAVE TO BE CARRIED OUT IN ACCORDANCE WITH LOCAL REGULATIONS.

FOR ELECTRICAL CONNECTIONS REFER TO POINT 1.0.

PUMPS 1, 2 ETC ARE CONTROLLED BY EXTERNAL RUN SIGNALS. THE HEAT PUMP HEATS THE BUFFER. THE CONTROL OF VALVES AND PUMPS AFTER THE BUFFER IS BY EXTERNAL THERMOSTATS - RUN SIGNALS.

3.2. WATER TEMPERATURE SENSOR FOR ZONE 2

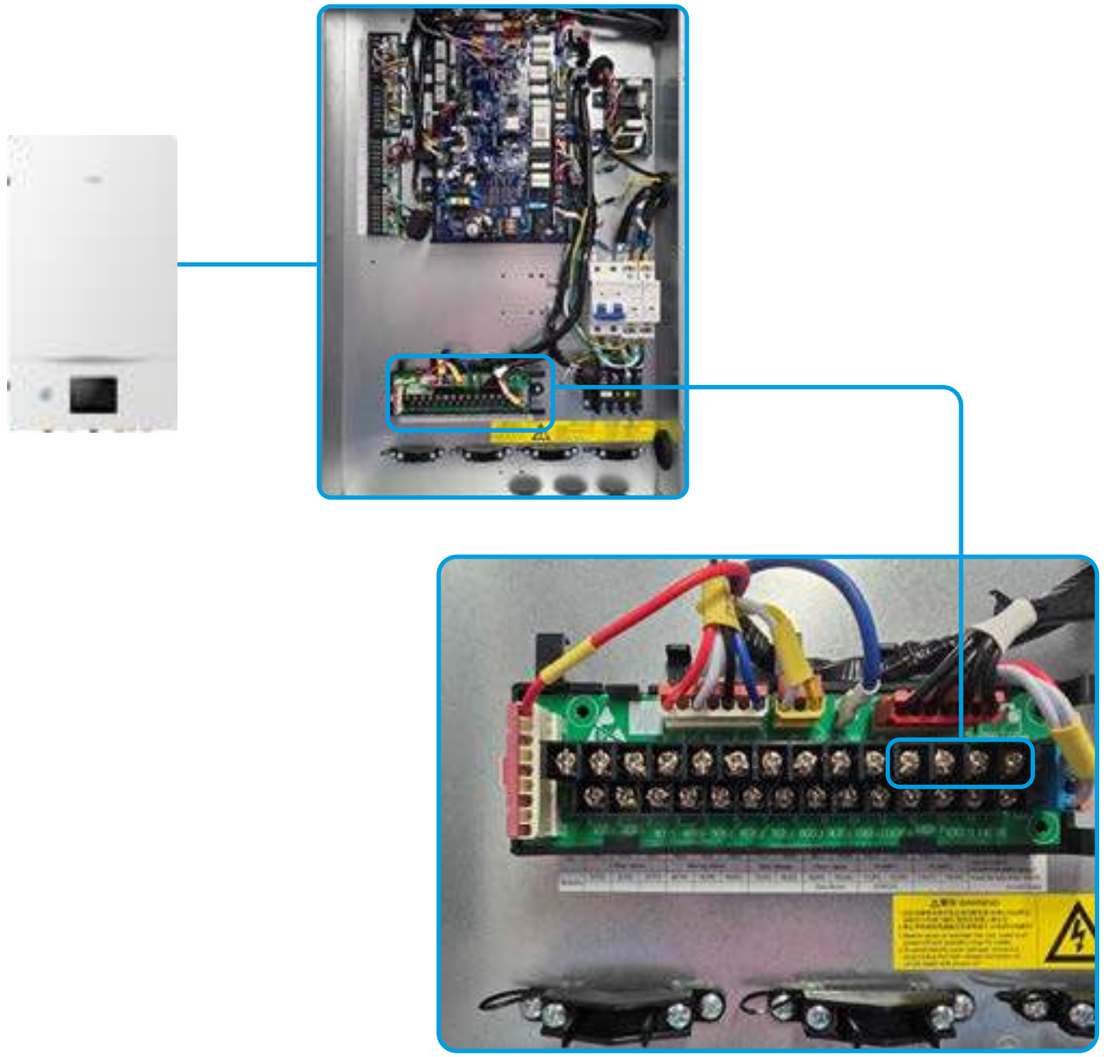


Connection Board

9	10	11	12	13	14	15	16
GND	L	M	H	A	B	X	Y
TW_zone_1		TW_zone_2		STOP		T_out2	

On the connection board number 2 between terminals 11 (M) and 12 (H) we can connect the water temperature sensor for zone 2.

Water pumps for Zones 1 and 2



Connection Board 5

* All the connections on connection board 5 are with screw terminals.

1	2	3	4	5	6	7	8	9	10	11	12	13	14
L	N	K	L	N	K	L	N	L	N	L	N	**L**	**N**
3-Way Valve			Mixing valve					Floor Valve		**Pump 1**		**Pump 2**	
1(15)	2(16)	3(17)	4(18)	5(19)	6(20)	7(21)	8(22)	9(23)	10(24)	11(25)	12(26)	13(27)	14(28)
				L	N	L	N						
				Heater 1		Heater 2		Boiler		Error			

On connection board number 5 between terminals 13 (live) and 14 (neutral) we can connect the water pump for zone 1. On this connection we have an output voltage of 230VAC, The maximum electrical power that this contact can support is 200W.

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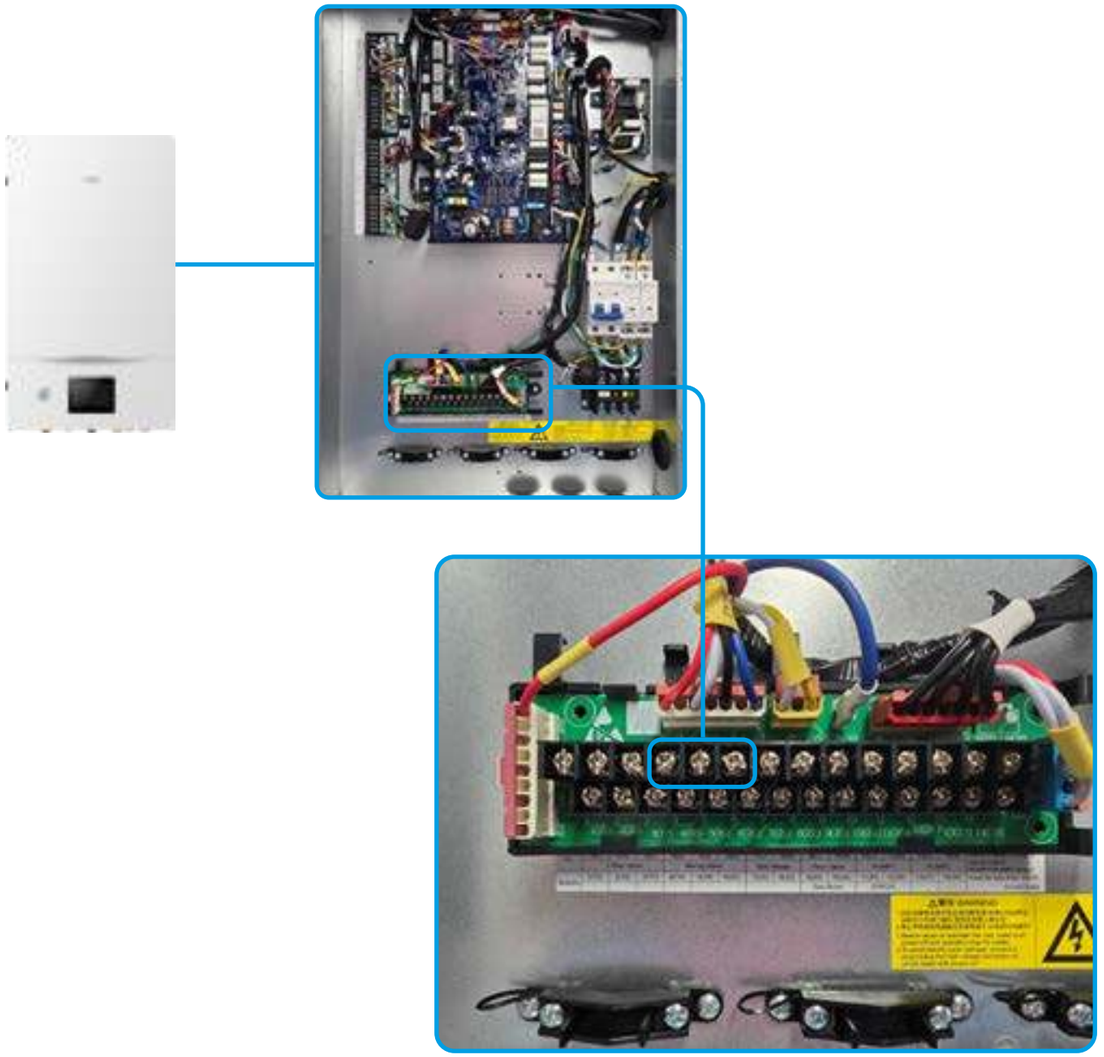


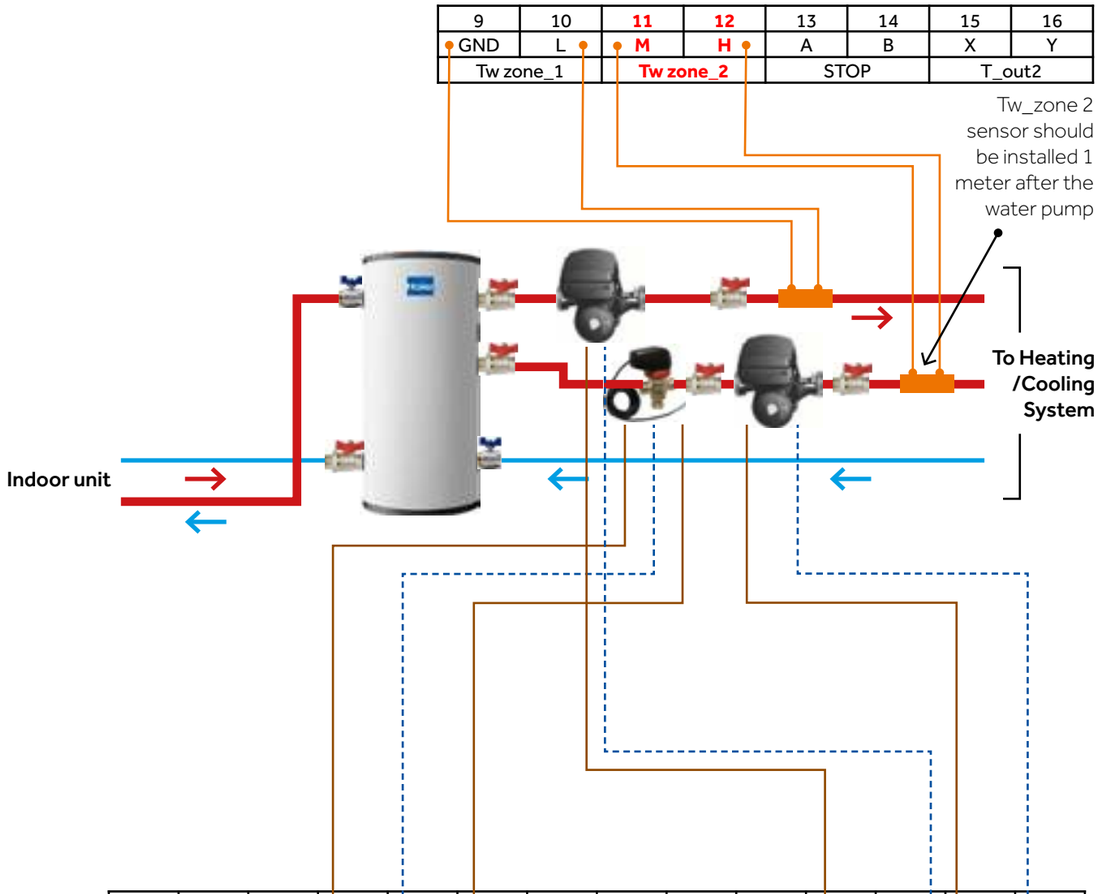
Connection Board 5

* All the connections on connection board 5 are with screw terminals.

1	2	3	4	5	6	7	8	9	10	11	12	13	14
L	N	K	**L**	**N**	**K**	L	N	L	N	L	N	L	N
3-Way Valve			**Mixing valve**					Floor Valve		Pump 1		Pump 2	
1(15)	2(16)	3(17)	4(18)	5(19)	6(20)	7(21)	8(22)	9(23)	10(24)	11(25)	12(26)	13(27)	14(28)
				L	N	L	N	Voltage-free contact		Voltage-free contact			
				Heater 1		Heater 2		Boiler		Error			

On connection board number 5 between terminals 4 (L), 5 (N) and 6 (K) we can connect the mixing valve for zone 2. On this connection we have an output voltage of 230VAC between 4 (L – live) and 5 (N – neutral) for closing the valve; 230VAC between 6 (K – live) and 5 (N – neutral) for opening the valve

3.3. SIMPLIFIED CONNECTION DIAGRAM



1	2	3	4	5	6	7	8	9	10	11	12	13	14
L	N	K	L	N	K	L	N	L	N	L	N	L	N
3-Way Valve			Mixing valve			DHW Heater		Floor Valve		Pump 1		Pump 2	
1(15)	2(16)	3(17)	4(18)	5(19)	6(20)	7(21)	8(22)	9(23)	10(24)	11(25)	12(26)	13(27)	14(28)
				L	N	L	N	Voltage-free contact		Voltage-free contact			
				Heater 1		Heater 2		Boiler		Error			

	Buffer Tank		Tw zone 2 water temp senor
	Ball Valve		Delivery water flow
	Ball Valve		Return water flow
	Water pump		Live
	Mixing Value		Neutral

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3.4. CONTROLLER SETTINGS

Equipment Installation main settings

1

2

3

4 *** Password “841226”**

5

ON *** SELECT THE CONTROL MODE FOR ZONE 1**

ON *** SELECT THE CONTROL MODE FOR ZONE 2**

OFF

OFF

Function	Parameter Range	Settings
Zone 1	ON/OFF	ON
Zone 2	ON/OFF	ON

ON *** SELECT ON TO CONSIDER BUFFER TANK**

OFF

ON *** SELECT ON TO ALLOW COOL MODE**

OFF *** SELECT ON TO ALLOW COOL MODE OF ZONE2**

Function	Parameter Range	Settings
Buffer Tank	ON/OFF	ON
Allow Cool Mode	ON/OFF	ON
Allow Cool Mode Zone 2	ON/OFF	OFF

*** THE PARAMETERS THAT NEED TO BE MODIFIED ARE MARKED IN BLUE.**

System Installation main settings

1

2

3

4 *** Password "841226" OK**

5

← **Main Controller**
← **Main Controller**
← Main Controller
← Main Controller

*** SELECT THE CONTROL MODE FOR ZONE 1**
*** SELECT THE CONTROL MODE FOR ZONE 2**

Function	Parameter Range	Settings
Control Mode of Zone 1	Main controller Third party controller, IDU ambient Temp. sensor	Main controller
Control Mode of Zone 2	Main controller Third party controller	Main controller

← 45°C
← 27°C
← **6°C**
← 0°C

***ENTER DELTA T° OF HEATING ON**

Press "house" to return to main menu

Function	Parameter Range	Settings
ΔT for Heating On	0 - 15℃	6℃

SCROLL DOWN TWO PAGES FOR THESE SETTINGS

← **5°C**
← 45°C
← 24°C
← 60s

***ENTER DWH TEMPERATURE**

← 60s

Function	Parameter Range	Settings
Travel Time of Mixing Value	30 - 240s	60s

*** THE PARAMETERS THAT NEED TO BE MODIFIED ARE MARKED IN BLUE.**

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4.0. DOMESTIC HOT WATER

The Haier heat pump can be used as a hot water-only system. However, if you also want to use it for heating, please add this section to the schematics in Chapters 1 and 2.

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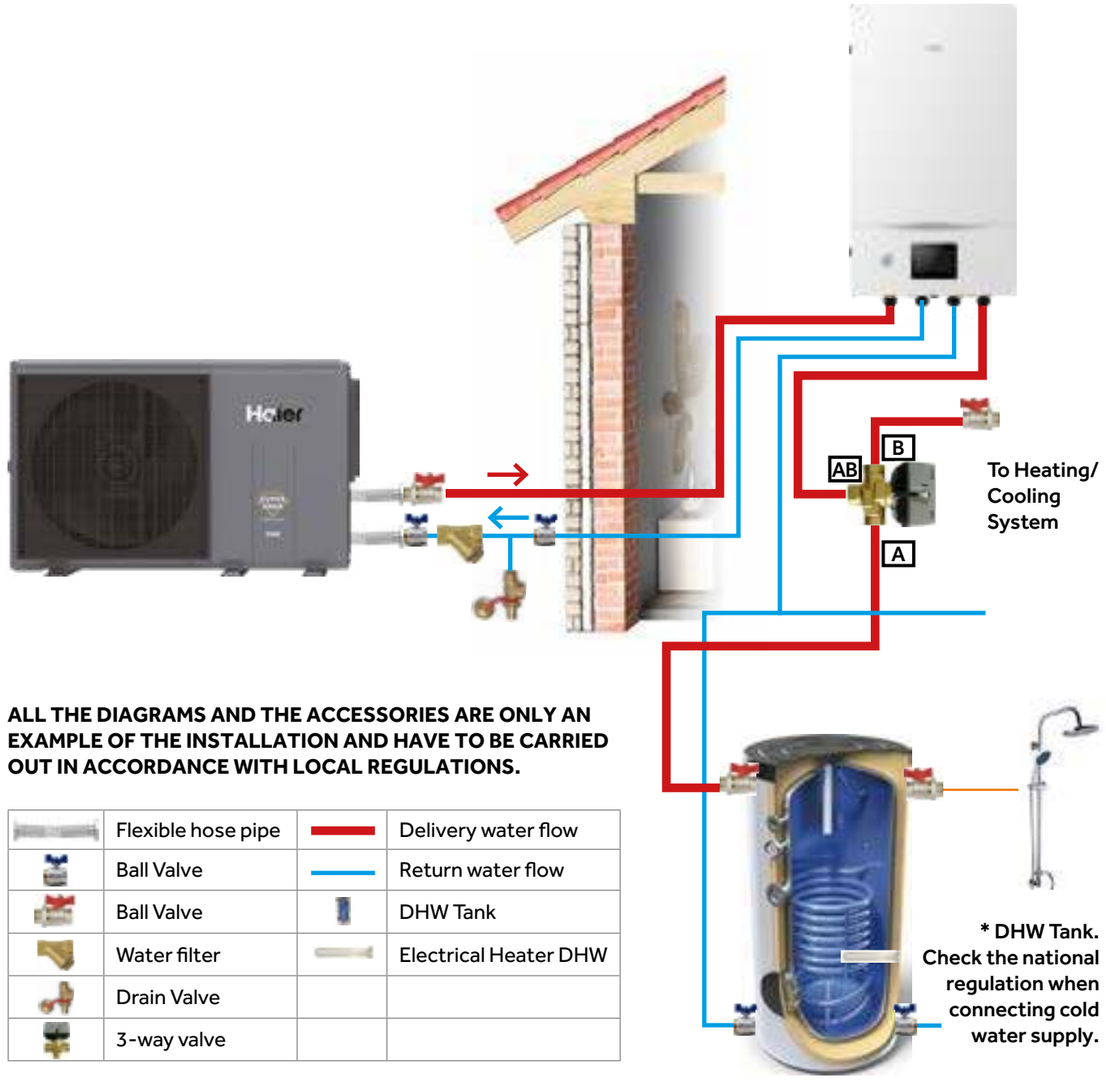
4.1. DHW INSTALLATION

The Haier heat pump can be used as a hot water-only system. However, if you also want to use it for heating, please add this section to the schematics in Chapters 1 and 2.



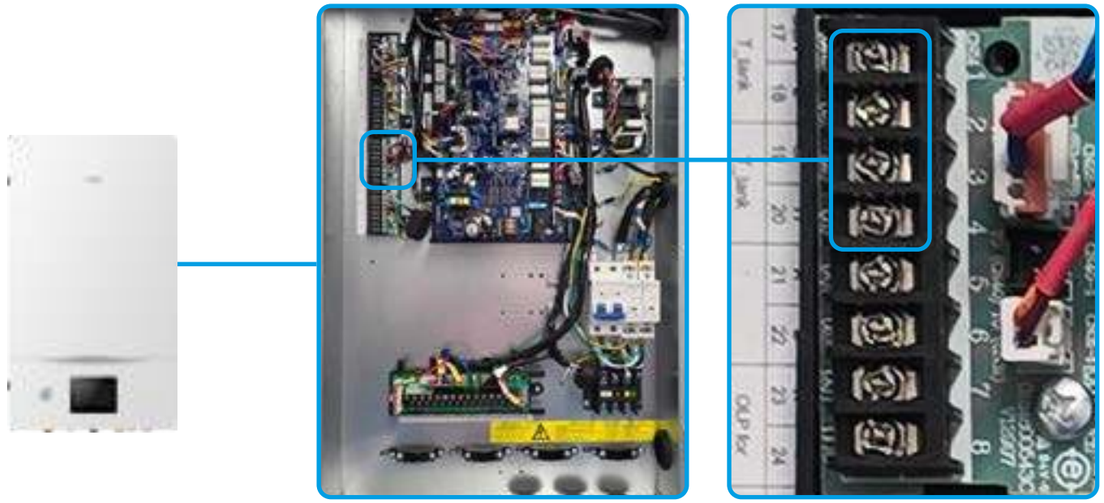
ALL THE DIAGRAMS AND THE ACCESSORIES ARE ONLY AN EXAMPLE OF THE INSTALLATION AND HAVE TO BE CARRIED OUT IN ACCORDANCE WITH LOCAL REGULATIONS.

	Flexible hose pipe		Delivery water flow
	Ball Valve		Return water flow
	Ball Valve		DHW Tank
	Water filter		Electrical Heater DHW
	Drain Valve		
	3-way valve		

*** DHW Tank. Check the national regulation when connecting cold water supply.**

4.1.2. CONNECTIONS

Water temperature sensors connection



Connection Board

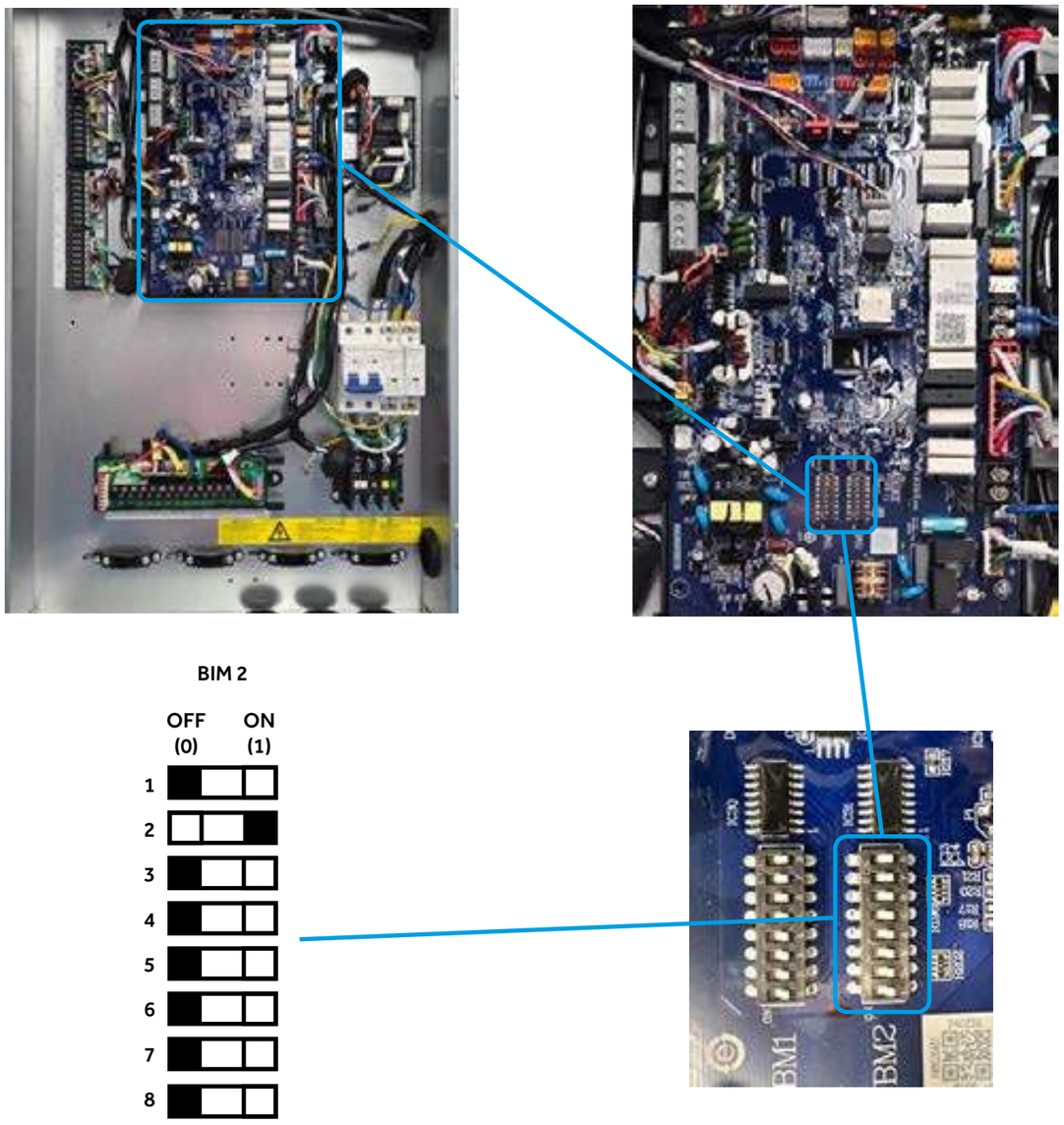
17	18	19	20	21	22	23	24
GND	L	M	H	A		X	Y
T_tank up		T_tank down		OLP Auxiliary Heater		OLP For Tank Heater	

On connection board number 3 between terminals 17 (GND) and 18 (L) we must connect the T_tank up water temperature sensor for the DHW tank, that should be installed in the top of the tank.

On the connection board number 3 between terminals 19 (M) and 20 (H) we must connect the T_tank down water temperature sensor for the DHW tank, that should be installed in the bottom of the tank.

* If the DHW has only one pocket for water temperature control only use T-tank up, it's necessary to modify switch BM2 on ATW-A03 N for avoid a error E10, missing temperature sensor.

Switch Setting - 1 sensor for DHW



BM2	Water tank Sensor selection	(2)	Water tank sensor selection
		ON (1)	Only 1 sensor, T_tank up
		OFF (0)	2 sensor, T_tank up and T_tank down (default)

If your installation is using one DHW sensor, change Switch 2 on BM2 to on.

Note: You must power off the unit for 60 seconds, then move dip switches, they are not read if the power is on.

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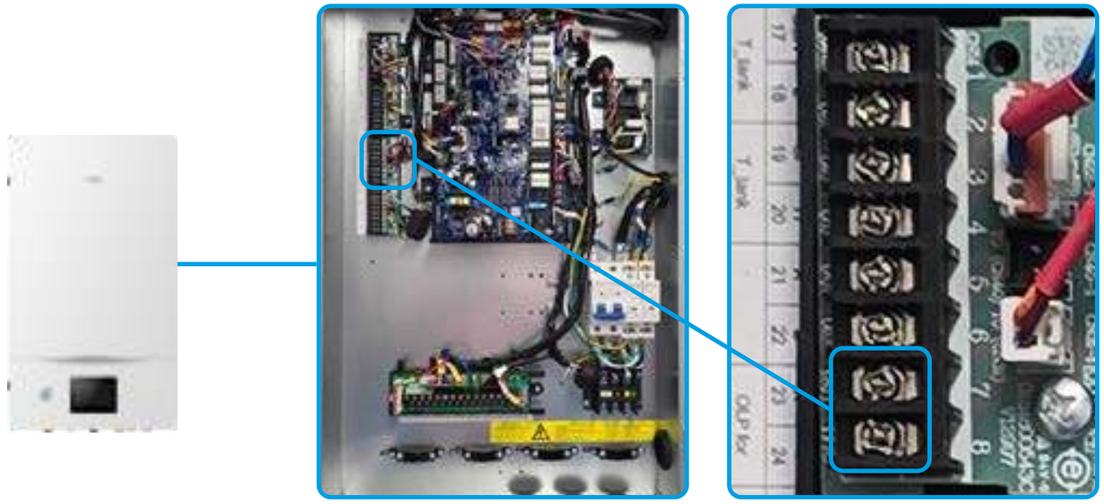
Protection signal feedback port of electrical heater for Tank heater (OLP)



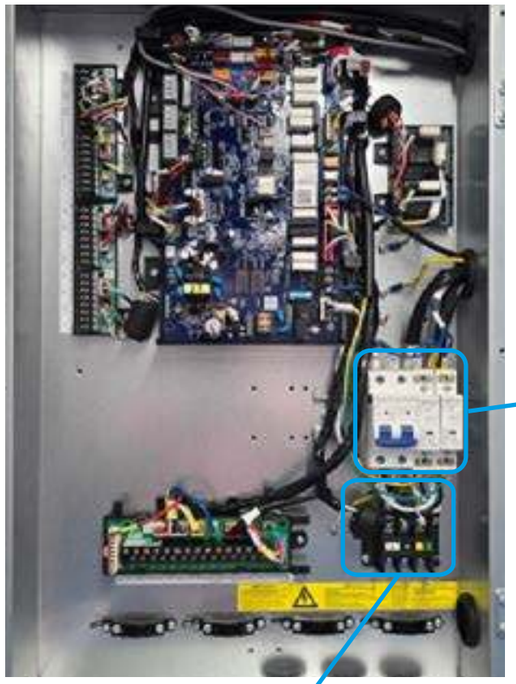
Connection Board

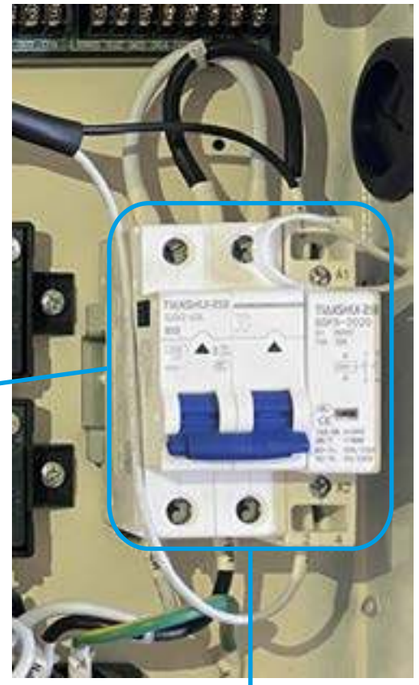
17	18	19	20	21	22	23	24
GND	L	M	H	A		X	Y
T_tank up		T_tank down		OLP Auxiliary Heater		OLP For Tank Heater	

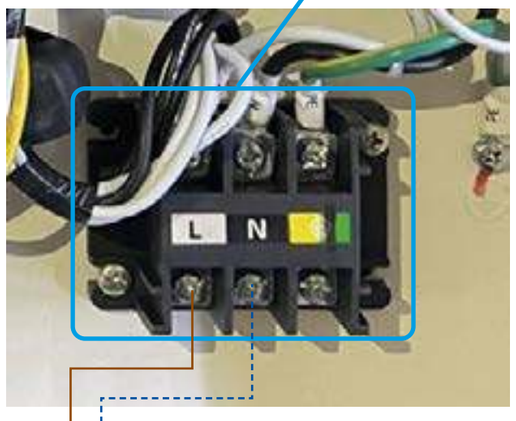
On the connection board number 3 between terminals 23 (X) and 24 (Y) connect the OLP for tank Heater

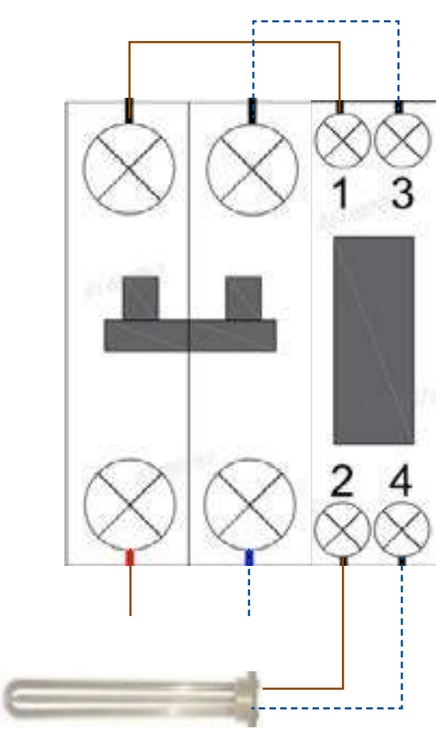
On connection board number 3 between terminals 23 (X) and 24 (Y) we must connect the electrical heater protection for the DHW tank. This is a normally closed volt-free contact, which means that when the contact is closed, no error; when the contact is open, we have an error.

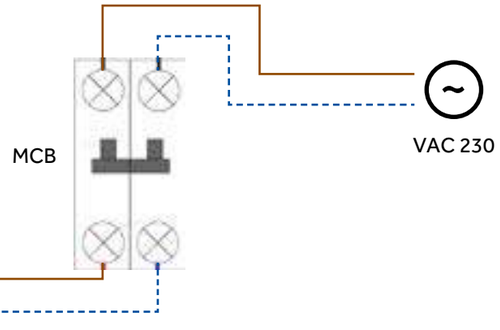
Electrical Heater











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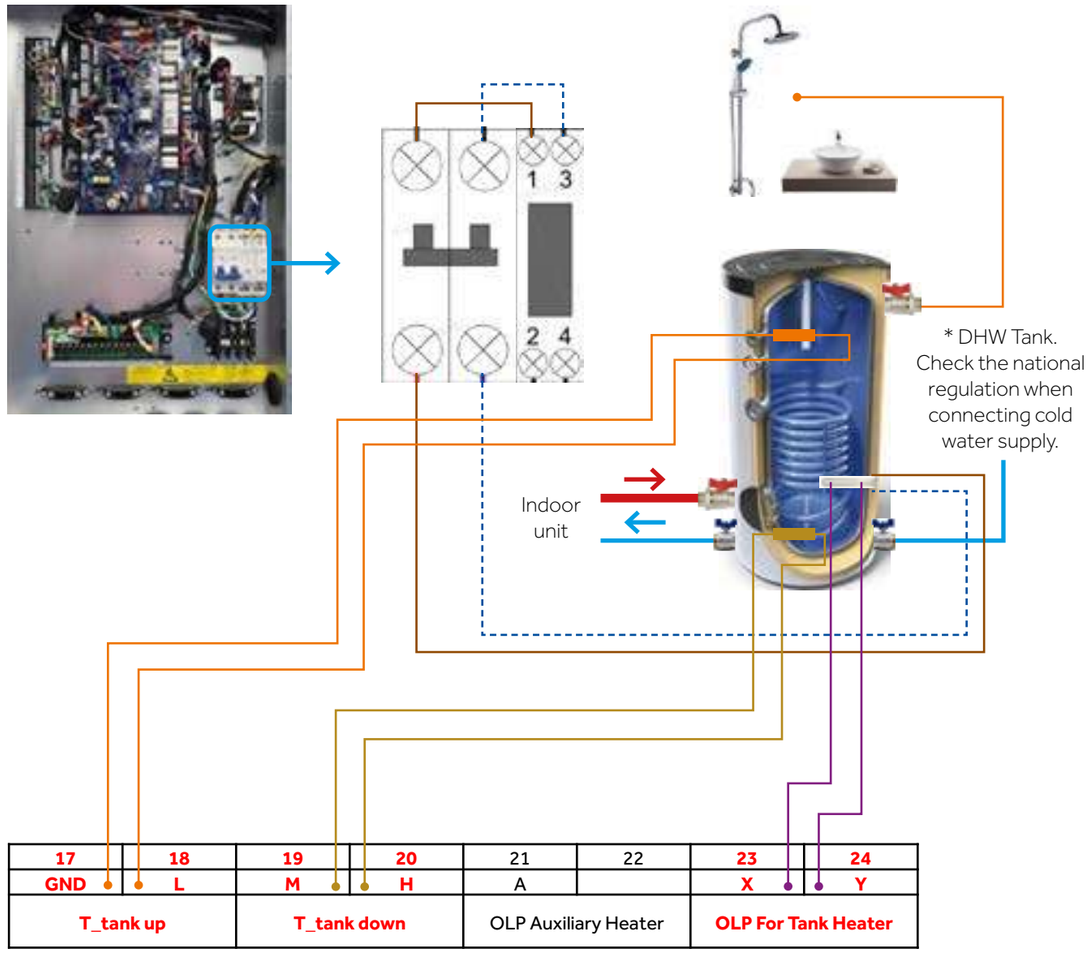
4.1.3. SIMPLIFIED CONNECTION DIAGRAM

Equipment Installation main settings



17	18	19	20	21	22	23	24
GND	L	M	H	A		X	Y
T_tank up		T_tank down		OLP Auxiliary Heater		OLP For Tank Heater	

	DHW Tank		T_tank up water temperature sensor
	Ball Valve		T_tank down water temperature sensor
	Ball Valve		OLP For Tank Heater
	Delivery water flow		Line
	Return water flow		Neutral
	Electrial Heater DHW		

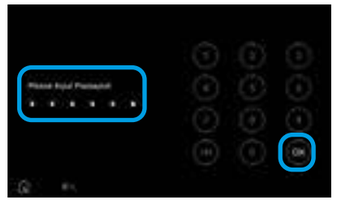
4.1.4. CONTROLLER SETTINGS

System Installation main settings

1

2

3



4 *** Password “841226” OK**

5

← OFF
← **ON**
← OFF

*** SELECT ON FOR DHW**

Function	Parameter Range	Settings
DHW	ON/OFF	ON

← 0°C
← 10min
← **ON**
← **3.0 kW**

*** SELECT ON TO ALLOW TANK HEATER**

*** ENTER THE TANK HEATER POWER**

Press “house” to return to main menu

Function	Parameter Range	Settings
Allow Tank Heater	ON/OFF	ON
Tank heater power	0.0 - 9.0 kW	3.0kW

*** THE PARAMETERS THAT NEED TO BE MODIFIED ARE MARKED IN BLUE.**

1

2

3

4 *** Password “841226” OK**

5

← Main Controller
← Main Controller
← **Main Controller**
← Main Controller

*** SELECT THE CONTROL MODE OF DHW**

Function	Parameter Range	Settings
Control Mode of DHW	Main controller, Third party controller	Main controller

← **45°C**
← 27°C
← 6°C
← 0°C

*** SELECT DHW ON TEMP**

THIS SETTING TELLS THE UNIT THE TEMPERATURE THE WATER MUST FALL TOO BEFORE IT STARTS HEATING THE DHW TANK.

Function	Parameter Range	Settings
DHW On Temp	30 - 75°C	45°C

← 60min
← -3°C
← -1°C
← **-3°C**

***ENTER TANK RE-HEAT TEMP**

Press "house" to return to main menu

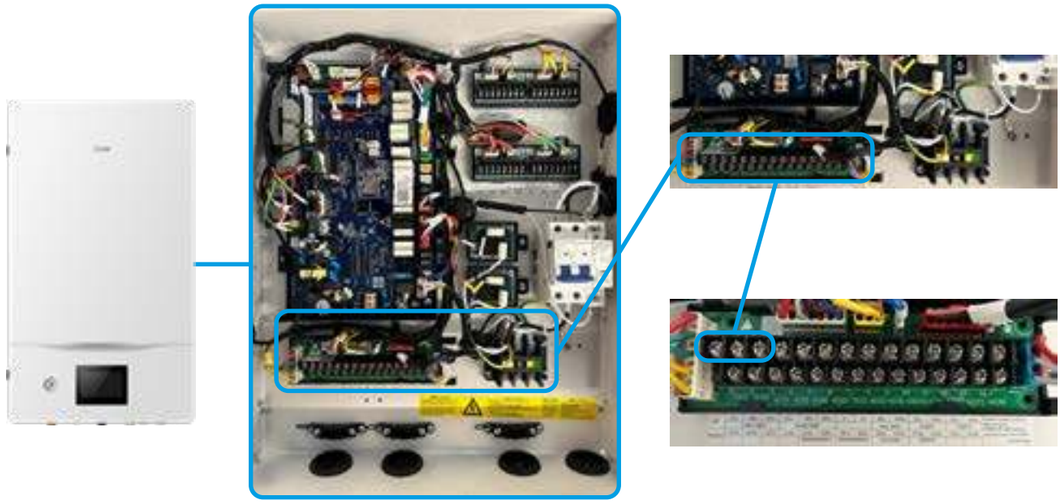
Function	Parameter Range	Settings
Tank Re-heat Temp	-12 - 2℃	-3℃

*** THE PARAMETERS THAT NEED TO BE MODIFIED ARE MARKED IN BLUE.**

4.2. DHW + 3-WAY VALVE FOR HEATING & COOLING INSTALLATION

FOR ELECTRICAL CONNECTIONS REFER TO POINT 1.0.

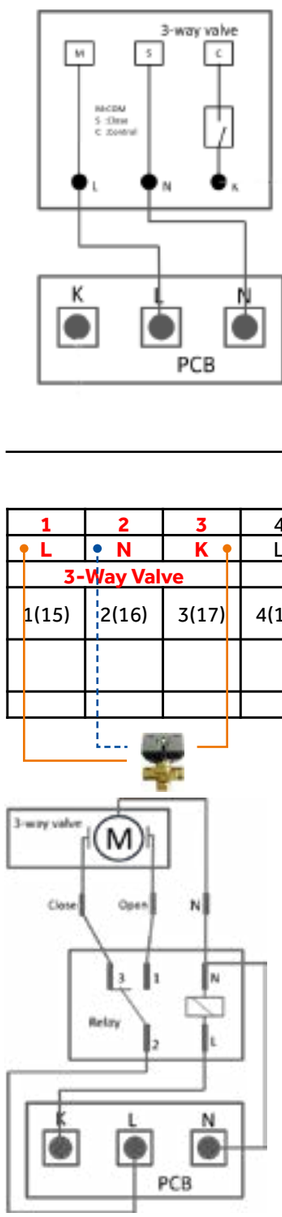
Three-way valve



Haier

Connection Board

1	2	3	4	5	6	7	8	9	10	11	12	13	14
L	N	K	L	N	K	L	N	L	N	L	N	L	N
3-Way Valve			Mixing valve					Floor Valve		Pump 1		Pump 2	
1(15)	2(16)	3(17)	4(18)	5(19)	6(20)	7(21)	8(22)	9(23)	10(24)	11(25)	12(26)	13(27)	14(28)
				L	N	L	N	L	N				
				Heater 1		Heater 2		Boiler		Error			

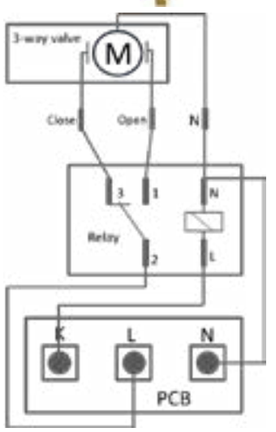


SPST

If you are using a 3-way valve with a spring return.

The valve needs a 230 Volt signal from K (live) to N (Neutral) to move the valve to DHW mode. When there is no DHW demand, there will be no power to the valve so it will return to heating using the return spring.

1	2	3	4	5	6	7	8	9	10	11	12	13	14
L	N	K	L	N	K	L	N	L	N	L	N	L	N
3-Way Valve			Mixing valve					Floor Valve		Pump 1		Pump 2	
1(15)	2(16)	3(17)	4(18)	5(19)	6(20)	7(21)	8(22)	9(23)	10(24)	11(25)	12(26)	13(27)	14(28)
				L	N	L	N	L	N				
				Heater 1		Heater 2		Boiler		Error			



SPDT

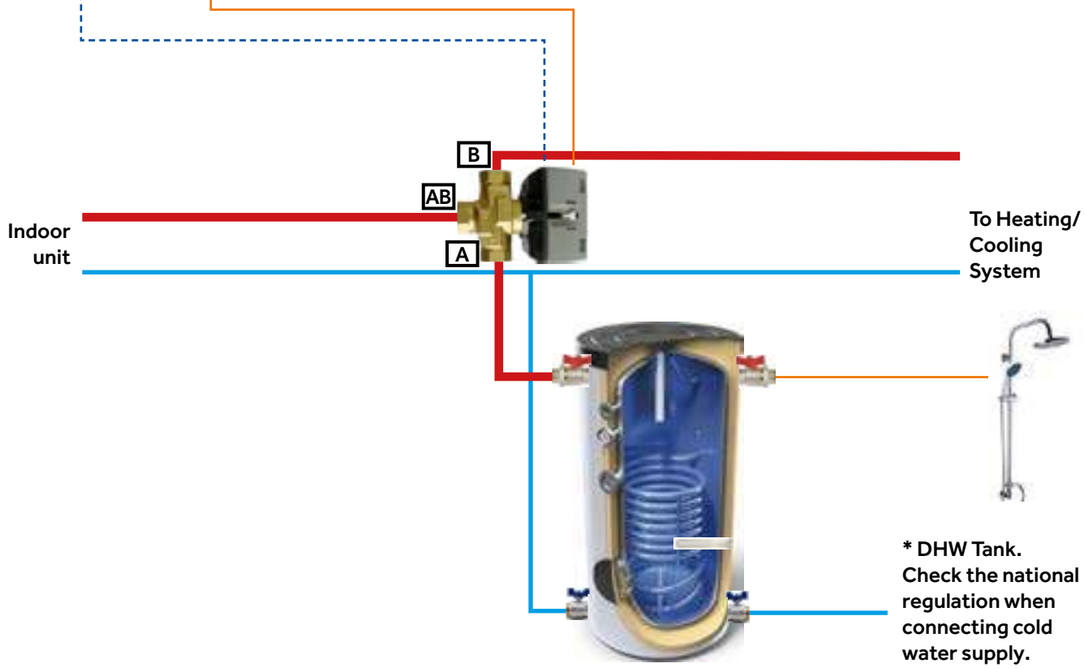
If you are using a 3-port valve with no spring return, you will need to add a field supplied relay. The pcb only has one output so it cannot open and close the valve.

Use the L and N from the pcb to operate the relay coil and wire the valve to the relay, as per the diagram.

4.2.2. SIMPLIFIED CONNECTION DIAGRAM

Connection Board

1	2	3	4	5	6	7	8	9	10	11	12	13	14
L	N	K	L	N	K	L	N	L	N	L	N	L	N
3-Way Valve			Mixing valve					Floor Valve		Pump 1		Pump 2	
1(15)	2(16)	3(17)	4(18)	5(19)	6(20)	7(21)	8(22)	9(23)	10(24)	11(25)	12(26)	13(27)	14(28)
				L	N	L	N	L	N	Voltage-free contact			
				Heater 1		Heater 2		Boiler		Error			



*** DHW Tank. Check the national regulation when connecting cold water supply.**

*** CONNECTIONS FOR ZONE1&2, CHECK THE CHAPTER 2.0 AND 3.0**

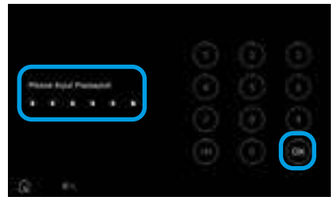
4.2.3. CONTROLLER SETTINGS

System Installation main settings

1

2

3



4 * Password “841226” OK

5

← **ON**
← OFF
← OFF
← **ON**

*** SELECT ON TO ACTIVATE ZONE 1**

*** SELECT ON TO CONSIDER BUFFER TANK**

Function	Parameter Range	Settings
Zone 1	ON/OFF	ON
DHW	ON/OFF	ON

← OFF
← OFF
← **ON/OFF**
← OFF

*** SELECT ON TO ALLOW TANK HEATER**

Function	Parameter Range	Settings
Allow Cool Mode	ON/OFF	ON

*** THE PARAMETERS THAT NEED TO BE MODIFIED ARE MARKED IN BLUE.**

← 0°C
← 10min
← **ON**
← **3.0 kW**

*** ENTER THE TANK HEATER POWER**

Press "house" to return to main menu

Function	Parameter Range	Settings
Allow Tank Heater	ON/OFF	ON
Tank Heater Power	0.0 - 9.0 kW	3.0 kW

1

2

3

4 *** Password "841226"**

5

← **Main Controller**
← Main Controller
← **Main Controller**
← Main Controller

*** SELECT THE CONTROL MODE FOR ZONE 1**

*** SELECT THE CONTROL MODE OF DHW**

Function	Parameter Range	Settings
Control Mode of Zone 1	Main controller Third party controller, IDU ambient Temp. sensor	Main controller
Control Mode of DHW	Main controller Third party controller, IDU ambient Temp. sensor	Main controller

← **45°C**
← 27°C
← **6°C**
← 0°C

*** SELECT DHW ON TEMP**

*** SELECT DELTA T° FOR HEATING ON**

THIS SETTING TELLS THE UNIT THE TEMPERATURE THE WATER MUST FALL TOO BEFORE IT STARTS HEATING THE DHW TANK.

Function	Parameter Range	Settings
DHW On Temp	30 - 75°C	45°C
ΔT for Heating On	0 - 15°C	6°C

← 60min
← -3°C
← -1°C
← **-3°C**

*** SET TANK RE-HEAT TEMP**

Function	Parameter Range	Settings
Tank Re-heat Temp	-12 - 2°C	-3°C

← **5°C**
← 45°C
← 24°C
← 60s

Press "house" to return to main menu

Function	Parameter Range	Settings
DT for Cooling On	0 - 15°C	5°C

*** THE PARAMETERS THAT NEED TO BE MODIFIED ARE MARKED IN BLUE.**

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5.0. AUXILIARY HEAT SOURCE CONNECTION

This chapter focuses on systems that require additional heaters and boilers to support the heat pumps in severe weather conditions.

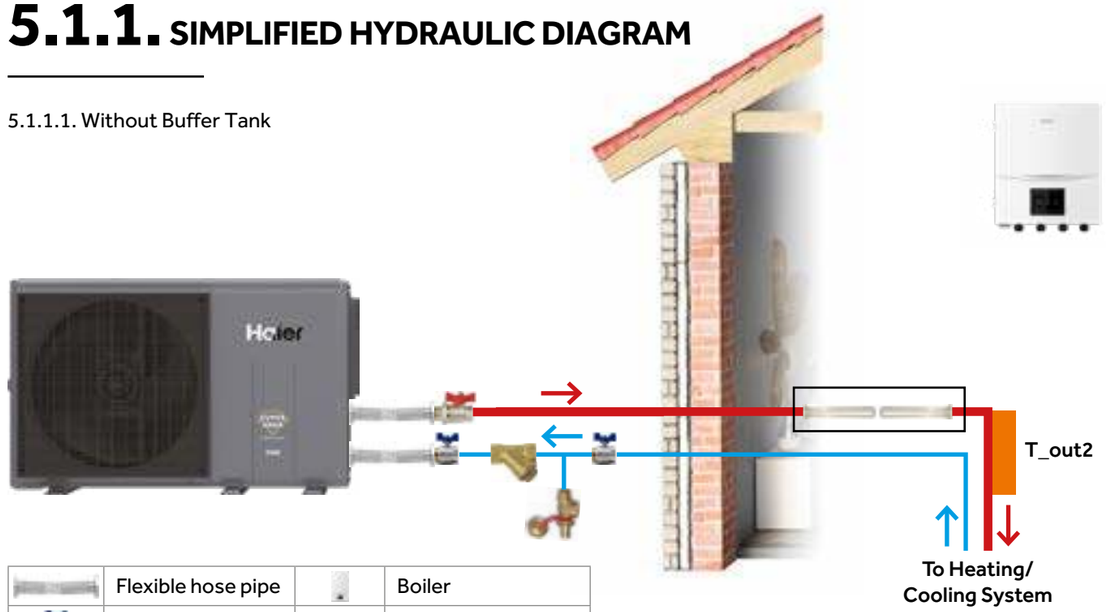
Haier

5.1. ELECTRICAL HEATER

This chapter focuses on systems that require additional heaters and boilers to support the heat pumps in severe weather conditions.

5.1.1. SIMPLIFIED HYDRAULIC DIAGRAM

5.1.1.1. Without Buffer Tank

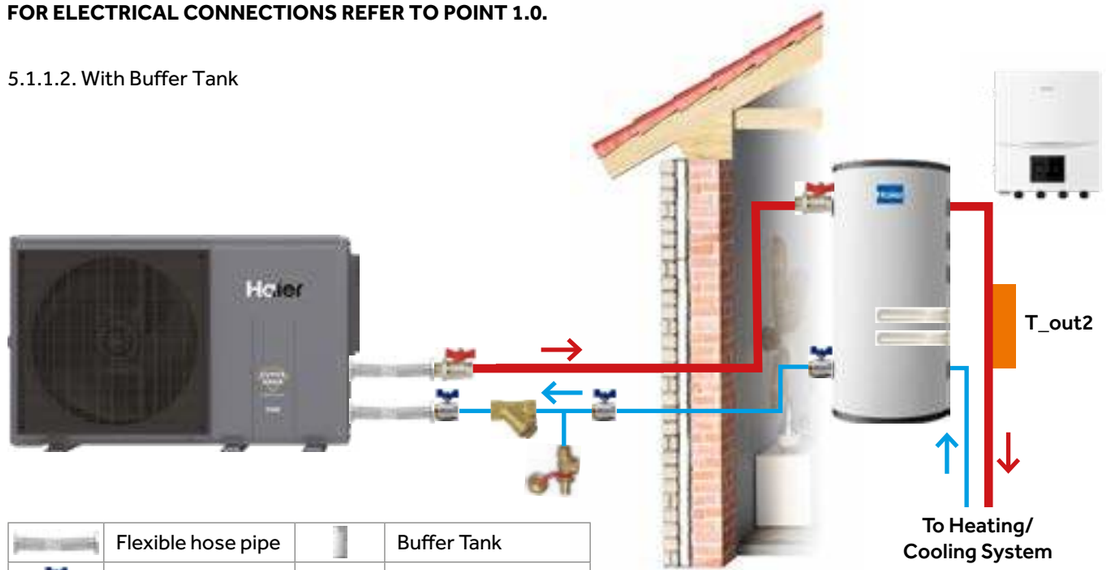


	Flexible hose pipe		Boiler
	Ball Valve		Delivery water flow
	Ball Valve		Return water flow
	Water filter		Electrical Heater
	Drain Valve		

ALL THE DIAGRAMS AND THE ACCESSORIES ARE ONLY AN EXAMPLE OF THE INSTALLATION AND HAVE TO BE CARRIED OUT IN ACCORDANCE WITH LOCAL REGULATIONS.

FOR ELECTRICAL CONNECTIONS REFER TO POINT 1.0.

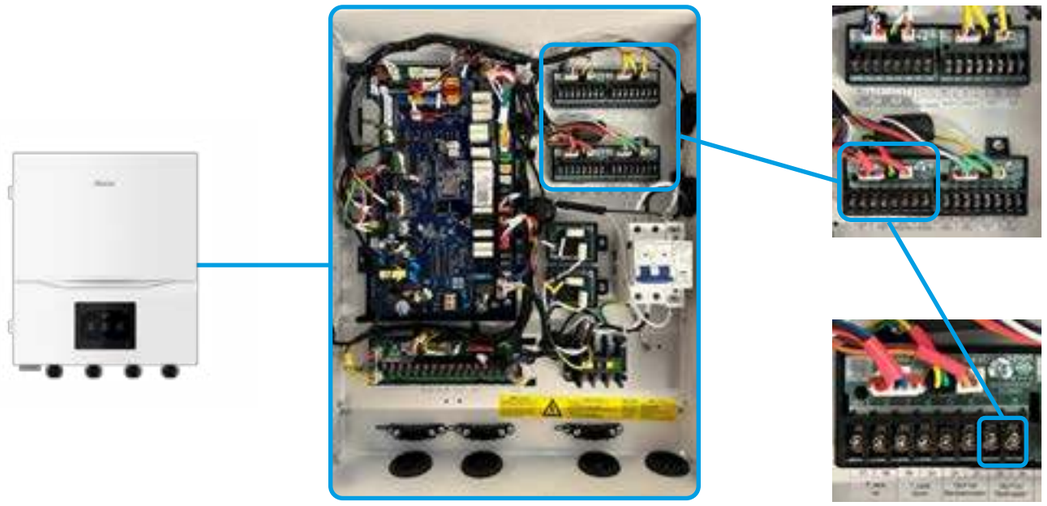
5.1.1.2. With Buffer Tank



	Flexible hose pipe		Buffer Tank
	Ball Valve		Delivery water flow
	Ball Valve		Return water flow
	Water filter		Electrical Heater
	Drain Valve		

5.1.2. CONNECTIONS

Temperature sensor for Auxiliary Heat Source



Connection Board 2

Connection Board

9	10	11	12	13	14	15	16
GND	L	M	H	A		X	Y
Tw zone_1		Tw zone_2		STOP		T_out2	

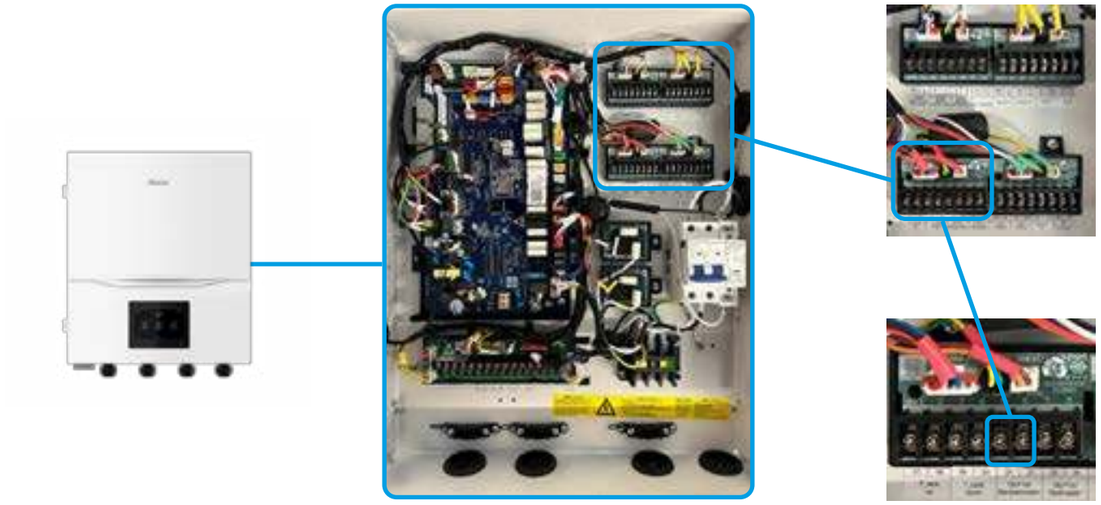
On connection board number 2 between terminals 15 (X) and 16 (Y) we can connect the water temperature sensor for T_out2.

*If we activate the backup heater, it's mandatory to connect the T_out2 sensor after auxiliary heat source.

An E02 error occurs if T_out 2 is not connected.

5.1.2. CONNECTIONS

Protection of electrical heater for Auxiliary Heat Source



Connection Board 3

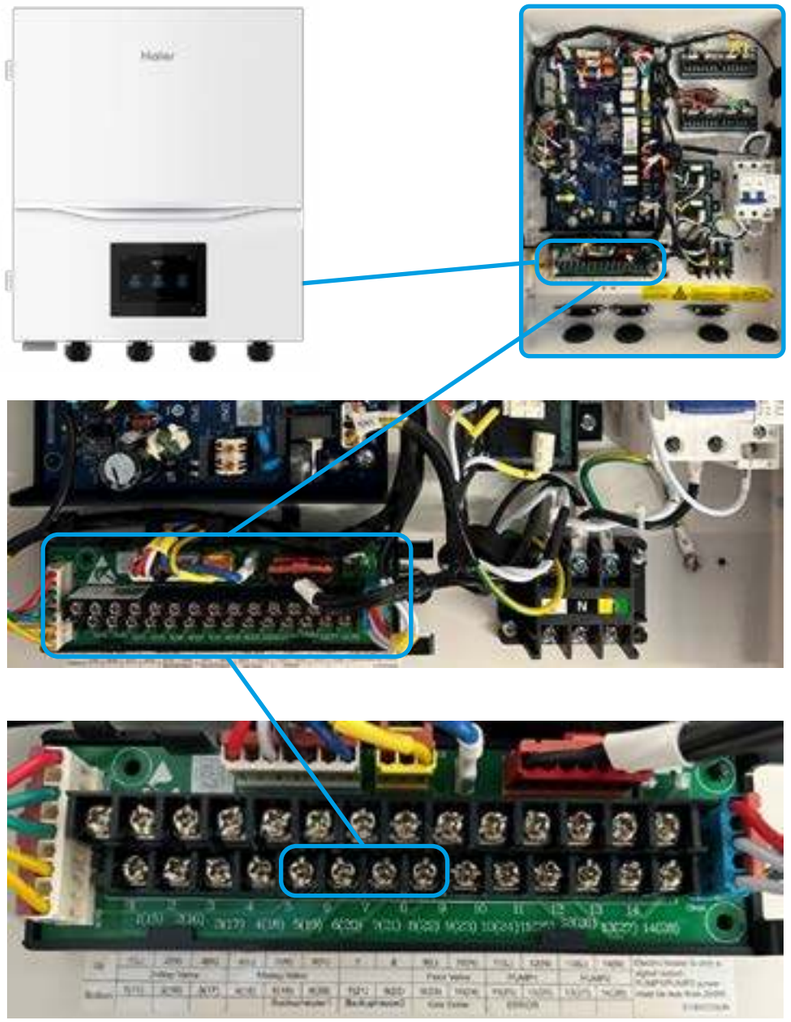
Connection Board

17	18	19	20	21	22	23	24
GND	L	M	H	A	B	X	Y
T_tank up		T_tank down		OLP Auxiliary Heater		OLP For Tank Heater	

On connection board number 3, between terminals 21 (A) and 22 (B), connect the electric heater protection for the auxiliary heat source. This is a digital input signal, normally closed, volt free contact, i.e. if the contact is closed, there is no fault; if the contact is open, there is a fault.

If the back up heater has its own OLP inside you can use a jumper here.

Control signal for Auxiliary Heat Source



Connection Board 5

1	2	3	4	5	6	7	8	9	10	11	12	13	14
L	N	K	L	N	K	L	N	L	N	L	N	L	N
3-Way Valve			Mixing valve					Floor Valve		Pump 1		Pump 2	
1(15)	2(16)	3(17)	4(18)	5(19)	6(20)	7(21)	8(22)	9(23)	10(24)	11(25)	12(26)	13(27)	14(28)
				L	N	L	N	Voltage-free contact		Voltage-free contact			
				Heater 1		Heater 2		Boiler		Error			

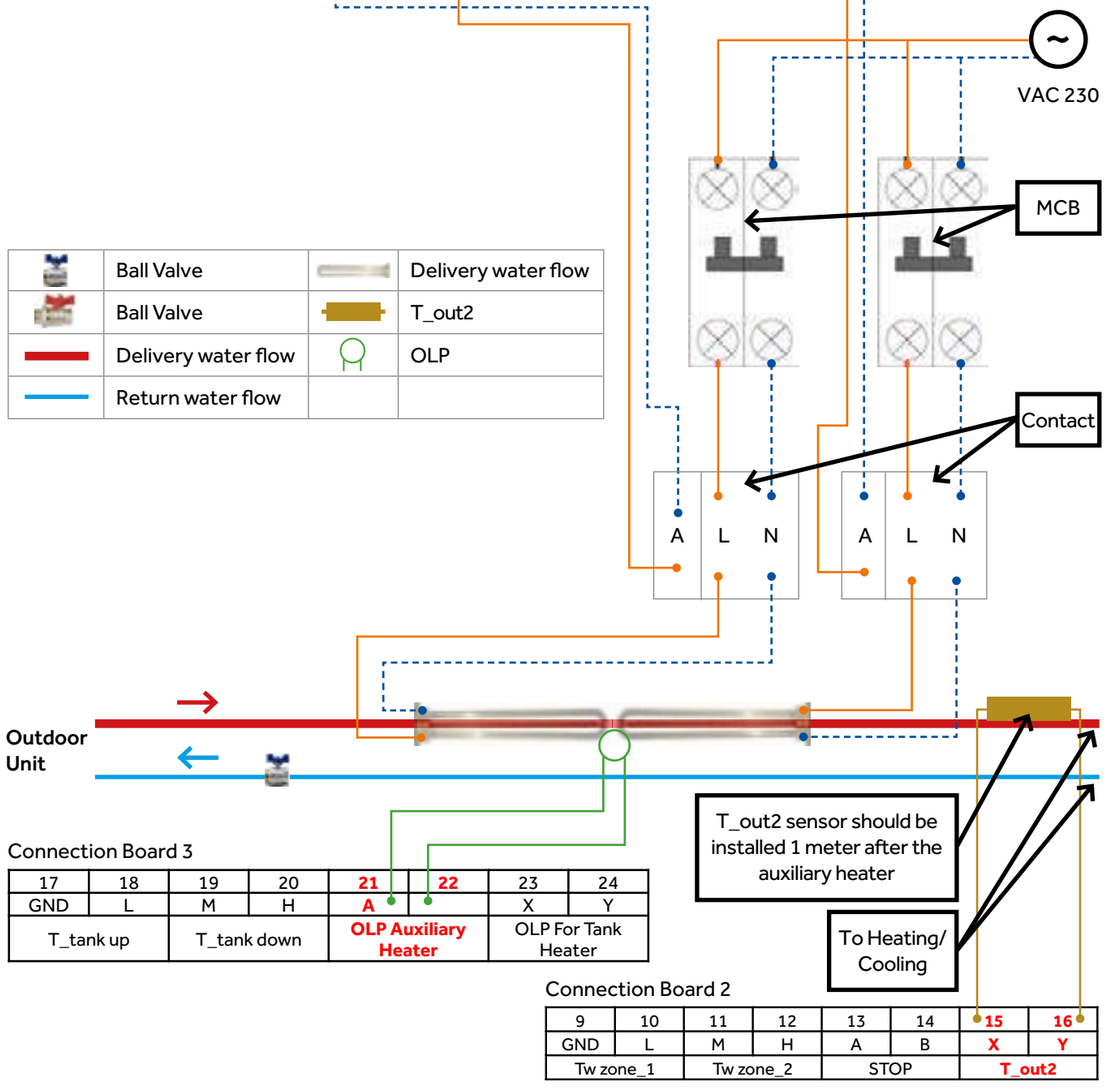
On connection board number 5, between terminals 5(19) and 6(20) we can connect the signal for the relay for heater 1 and between terminals 5(19) and 6(20) we can connect the signal for the relay for heater 2. Both of these connections have an output voltage of 230VAC to activate a relay.

*This connection must be done through a relay.

5.1.3. SIMPLIFIED CONNECTION DIAGRAM

5.1.3.1. Without Buffer Tank

1	2	3	4	5	6	7	8	9	10	11	12	13	14
L	N	K	L	N	K	L	N	L	N	L	N	L	N
3-Way Valve			Mixing valve			DHW Heater		Floor Valve		Pump 1		Pump 2	
1(15)	2(16)	3(17)	4(18)	5(19)	6(20)	7(21)	8(22)	9(23)	10(24)	11(25)	12(26)	13(27)	14(28)
				L	N	L	N	L	N	Voltage-free contact			
				Heater 1		Heater 2		Boiler		Error			



	Ball Valve		Delivery water flow
	Ball Valve		T_out2
	Delivery water flow		OLP
	Return water flow		

Connection Board 3

17	18	19	20	21	22	23	24
GND	L	M	H	A		X	Y
T_tank up		T_tank down		OLP Auxiliary Heater		OLP For Tank Heater	

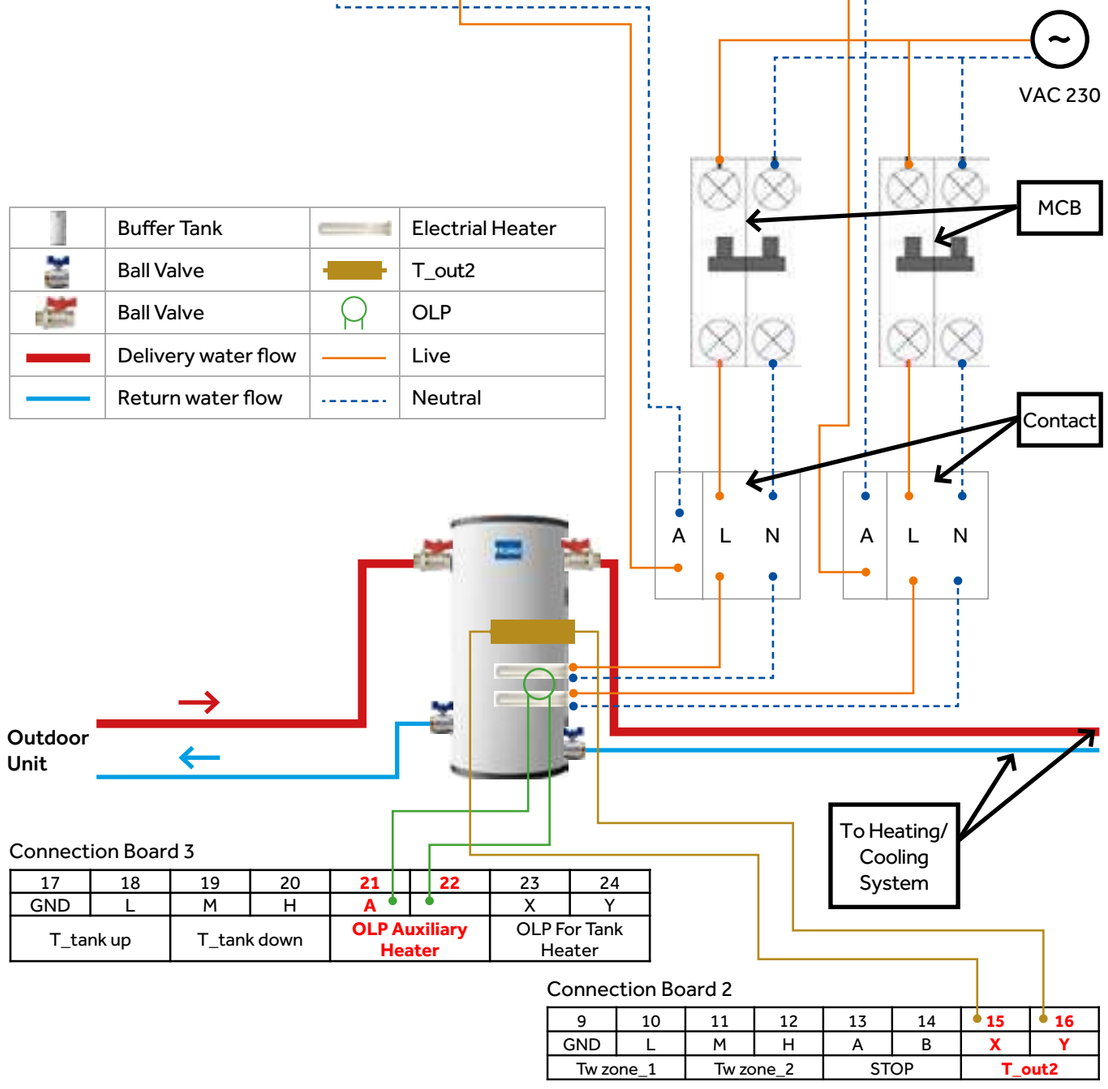
Connection Board 2

9	10	11	12	13	14	15	16
GND	L	M	H	A	B	X	Y
Tw zone_1		Tw zone_2		STOP		T_out2	

5.1.3. WITH BUFFER TANK

5.1.3.2. With Buffer Tank

1	2	3	4	5	6	7	8	9	10	11	12	13	14
L	N	K	L	N	K	L	N	L	N	L	N	L	N
3-Way Valve			Mixing valve			DHW Heater		Floor Valve		Pump 1		Pump 2	
1(15)	2(16)	3(17)	4(18)	5(19)	6(20)	7(21)	8(22)	9(23)	10(24)	11(25)	12(26)	13(27)	14(28)
				L	N	L	N	L	N	Voltage-free contact			
				Heater 1		Heater 2		Boiler		Error			



	Buffer Tank		Electrial Heater
	Ball Valve		T_out2
	Ball Valve		OLP
	Delivery water flow		Live
	Return water flow		Neutral

Connection Board 3

17	18	19	20	21	22	23	24
GND	L	M	H	A		X	Y
T_tank up		T_tank down		OLP Auxiliary Heater		OLP For Tank Heater	

Connection Board 2

9	10	11	12	13	14	15	16
GND	L	M	H	A	B	X	Y
Tw zone_1		Tw zone_2		STOP		T_out2	

5.1.4. CONTROLLER SETTINGS

Equipment Installation main settings

1

2

3

4 *** Password “841226” OK**

5

← **ON**
← OFF
← OFF
← OFF

*** SELECT ON TO ACTIVATE ZONE 1**

Press “house” to return to main menu

Function	Parameter Range	Settings
Zone 1	ON/OFF	ON

*** THE PARAMETERS THAT NEED TO BE MODIFIED ARE MARKED IN BLUE.**

System Installation main settings

1

2

3

4 *** Password “841226” OK**

5

← **Main Controller**
← Main Controller
← Main Controller
← Main Controller

*** SELECT THE CONTROL MODE FOR ZONE 1**

Function	Parameter Range	Settings
Control Mode of Zone 1	Main controller Third party controller	Main controller

← **Electric Heating & Boiler**
← 15°C
← 10°C

*** SELECT THE AUXILIARY HEAT SOURCE**

Function	Parameter Range	Settings
Auxiliary Heat Source	Electric Heating & Boiler, Electirc Heating, Boiler	Electirc Heating & Boiler

*** THE PARAMETERS THAT NEED TO BE MODIFIED ARE MARKED IN BLUE.**

System Installation main settings

← 45°C
← **27°C**
← **6°C**
← 0°C

***SET THE AMBIENT TEMP FOR HEATING OFF**

***SET THE DT° FOR HEATING ON**

Function	Parameter Range	Settings
Ambient Temp. of Heating Off	5 - 35°C	27°C
ΔT for Heating On	0 - 15°C	6°C

← **60min**
← **-3°C**
← **-1°C**
← -3°C

***SET HEATER DELAY TIME AFTER COMPRESSOR STARTS**

Press "house" to return to main menu

Function	Parameter Range	Settings
Heater On Delay Time	0 - 120min	60min
Heater On ΔT of Target Temp	-10 - -2°C	-3°C
Heater Off ΔT of Traget Temp	-8 - 0°C	-1°C

*** THE PARAMETERS THAT NEED TO BE MODIFIED ARE MARKED IN BLUE.**

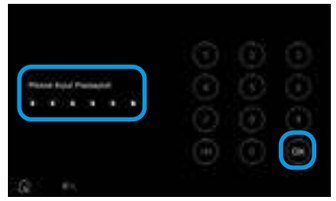
Haier

Indoor Unit Installation main settings

1

2

3



4 * Password "841226" OK

5

← **Heater 1 & 2**
← Normal
← OFF
← Auto

*** SELECT HEATING BY HEATER 1, 2 OR 1 AND 2**

Press "house" to return to main menu

Function	Parameter Range	Settings
Selection of IDU Electric Heater Type	None, Heater 1, Heater 2, Heater 1 & 2	Heater 1 & 2

*** THE PARAMETERS THAT NEED TO BE MODIFIED ARE MARKED IN BLUE.**

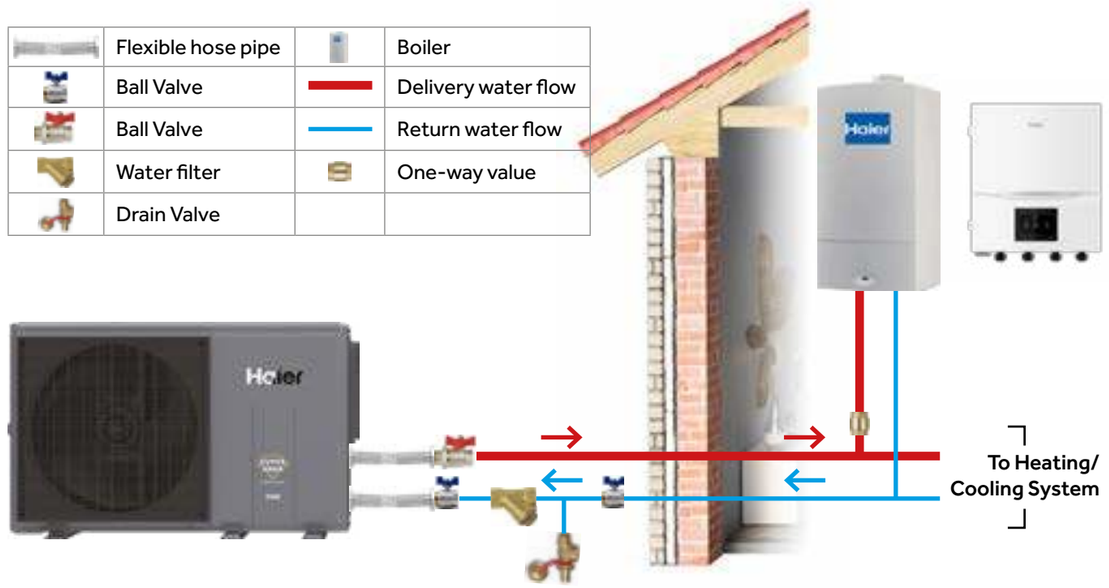
Haier

5.2. BOILER

5.2.1. SIMPLIFIED HYDRAULIC DIAGRAM

5.2.1.1. Without Buffer Tank

	Flexible hose pipe		Boiler
	Ball Valve		Delivery water flow
	Ball Valve		Return water flow
	Water filter		One-way value
	Drain Valve		

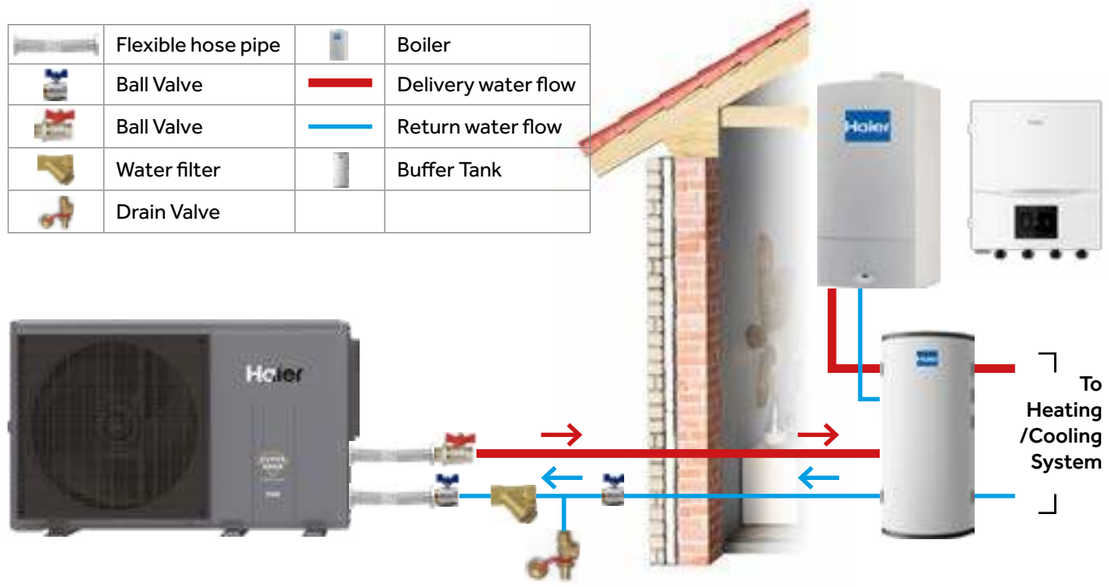


FOR ELECTRICAL CONNECTIONS REFER TO POINT 1.0.

ALL THE DIAGRAMS AND THE ACCESSORIES ARE ONLY AN EXAMPLE OF THE INSTALLATION AND HAVE TO BE CARRIED OUT IN ACCORDANCE WITH LOCAL REGULATIONS.

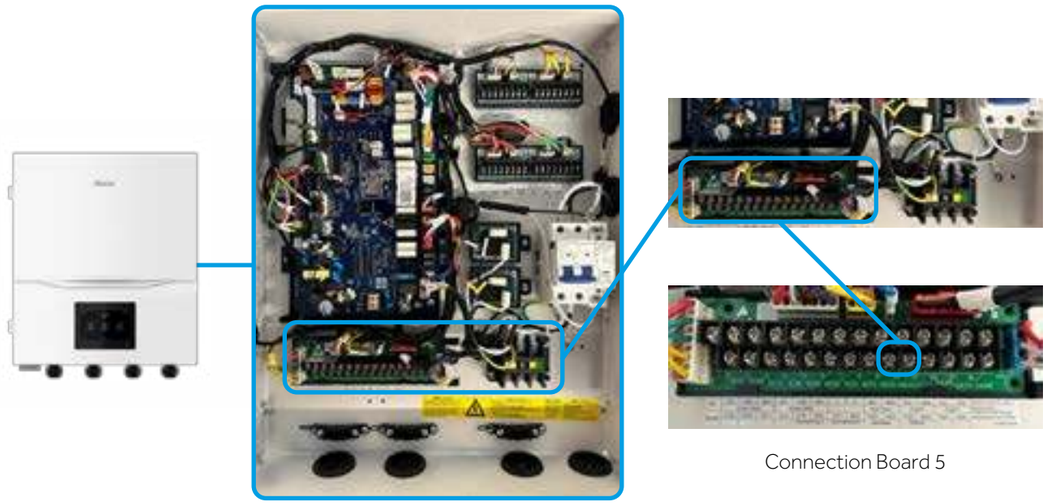
5.2.1.2. With Buffer Tank

	Flexible hose pipe		Boiler
	Ball Valve		Delivery water flow
	Ball Valve		Return water flow
	Water filter		Buffer Tank
	Drain Valve		



5.2.2. CONNECTIONS

Gas Boiler control signal output for Auxiliary Heat Source



Connection Board 5

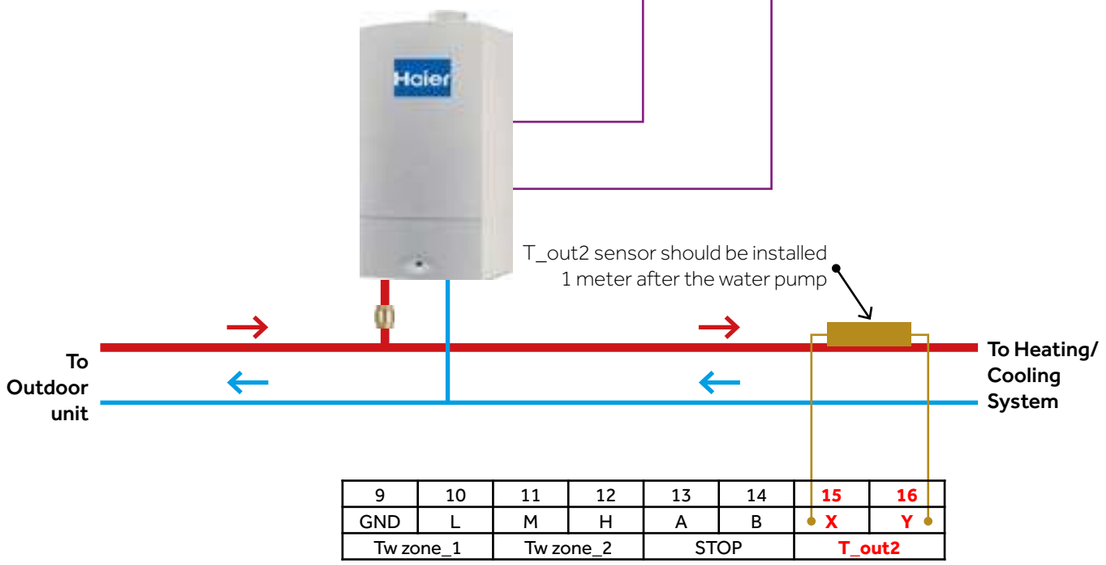
1	2	3	4	5	6	7	8	9	10	11	12	13	14
L	N	K	L	N	K	L	N	L	N	L	N	L	N
3-Way Valve			Mixing valve					Floor Valve		Pump 1		Pump 2	
1(15)	2(16)	3(17)	4(18)	5(19)	6(20)	7(21)	8(22)	**9(23)**	**10(24)**	11(25)	12(26)	13(27)	14(28)
				L	N	L	N	**Volt-free contact**		Voltage-free contact			
				Heater 1		Heater 2		**Boiler**		Error			

On connection board number 5 between terminals 9(23) and 10 (24) we must connect the signal to activate the boiler. This is a digital output signal, which means that when the contact is closed, the boiler is ON; when the contact is open, boiler is OFF.

5.2.3. SIMPLIFIED CONNECTION DIAGRAM

5.2.3.1. Without Buffer Tank

1	2	3	4	5	6	7	8	9	10	11	12	13	14
L	N	K	L	N	K	L	N	L	N	L	N	L	N
3-Way Valve			Mixing valve			DHW Heater		Floor Valve		Pump 1		Pump 2	
1(15)	2(16)	3(17)	4(18)	5(19)	6(20)	7(21)	8(22)	**9(23)**	**10(24)**	11(25)	12(26)	13(27)	14(28)
				L	N	L	N	**Voltage-free contact**		Voltage-free contact			
				Heater 1		Heater 2		**Boiler**		Error			

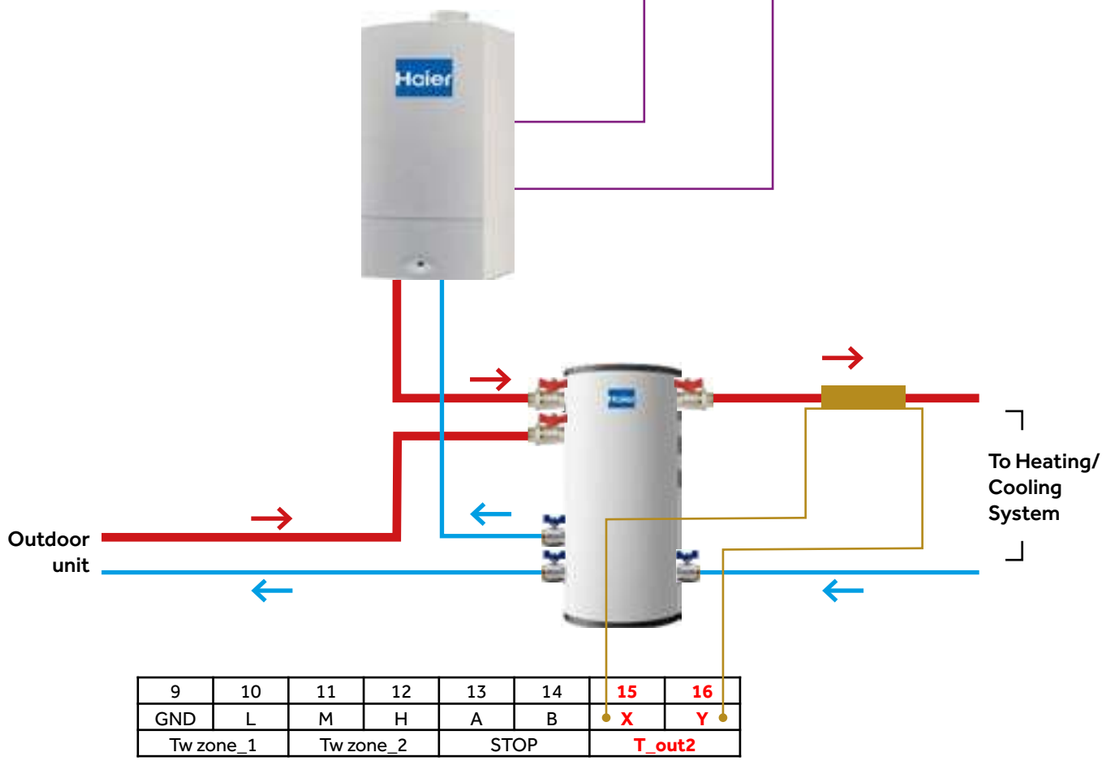


9	10	11	12	13	14	15	16
GND	L	M	H	A	B	**X**	**Y**
Tw zone_1		Tw zone_2		STOP		**T_out2**	

	Boiler		One-way value
	Ball Valve		T_out2
	Ball Valve		
	Delivery water flow		
	Return water flow		

5.2.3.2. With Buffer Tank

1	2	3	4	5	6	7	8	9	10	11	12	13	14
L	N	K	L	N	K	L	N	L	N	L	N	L	N
3-Way Valve			Mixing valve			DHW Heater		Floor Valve		Pump 1		Pump 2	
1(15)	2(16)	3(17)	4(18)	5(19)	6(20)	7(21)	8(22)	**9(23)**	**10(24)**	11(25)	12(26)	13(27)	14(28)
				L	N	L	N	**Voltage-free contact**		Voltage-free contact			
				Heater 1		Heater 2		**Boiler**		Error			



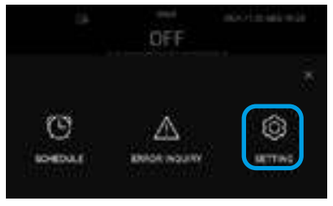
9	10	11	12	13	14	15	16
GND	L	M	H	A	B	**X**	**Y**
Tw zone_1		Tw zone_2		STOP		**T_out2**	

	Boiler		Buffer Tank
	Ball Valve		T_out2
	Ball Valve		
	Delivery water flow		
	Return water flow		

5.2.4. CONTROLLER SETTINGS

Equipment Installation main settings

1



2

3

4 *** Password “841226” OK**

5

← **On**
← Off
← Off
← Off

***SELECT ON TO ACTIVATE ZONE 1**

Press “house” to return to main menu

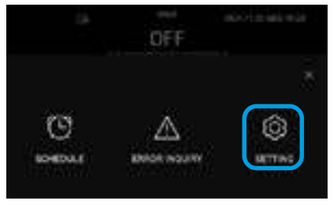
Function	Parameter Range	Settings
Zone 1	ON/OFF	ON

*** THE PARAMETERS THAT NEED TO BE MODIFIED ARE MARKED IN BLUE.**

Haier

System Installation main settings

1



2

3

4 *** Password “841226” OK**

5

← **Main Controller**
← Main Controller
← Main Controller
← Main Controller

*** SELECT THE CONTROL MODE FOR ZONE 1**

Function	Parameter Range	Settings
Control Mode of Zone 1	Main controller Third party controller	Main controller

← **Electric Heating & Boiler**
← 15°C
← 10°C

Function	Parameter Range	Settings
Auxiliary Heat Source	Electric Heating & Boiler, Electirc Heating Boiler	Electirc Heating & Boiler

*** THE PARAMETERS THAT NEED TO BE MODIFIED ARE MARKED IN BLUE.**

System Installation main settings

← 45°C
← **27°C**
← 6°C
← **0°C**

*** SELECT AMBIENT TEMP OF HEATING OFF**

*** SELECT DT° TEMP FOR HEATING ON**

Function	Parameter Range	Settings
Ambient Temp. of Heating Off	5 - 35°C	27°C
ΔT for Heating On	0 - 15°C	6°C

← **60min** ***SET HEATER DELAY TIME AFTER COMPRESSOR STARTS**
← **-3°C**
← **-1°C**
← -3°C

Press "house" to return to main menu

Function	Parameter Range	Settings
Heater On Delay Time	0 - 120min	60min
Heater On ΔT of Target Temp	-10 - -2°C	-3°C
Heater Off ΔT of Traget Temp -8 - 0°C -1°C	-8 - 0°C	-1°C

*** THE PARAMETERS THAT NEED TO BE MODIFIED ARE MARKED IN BLUE.**

Haier

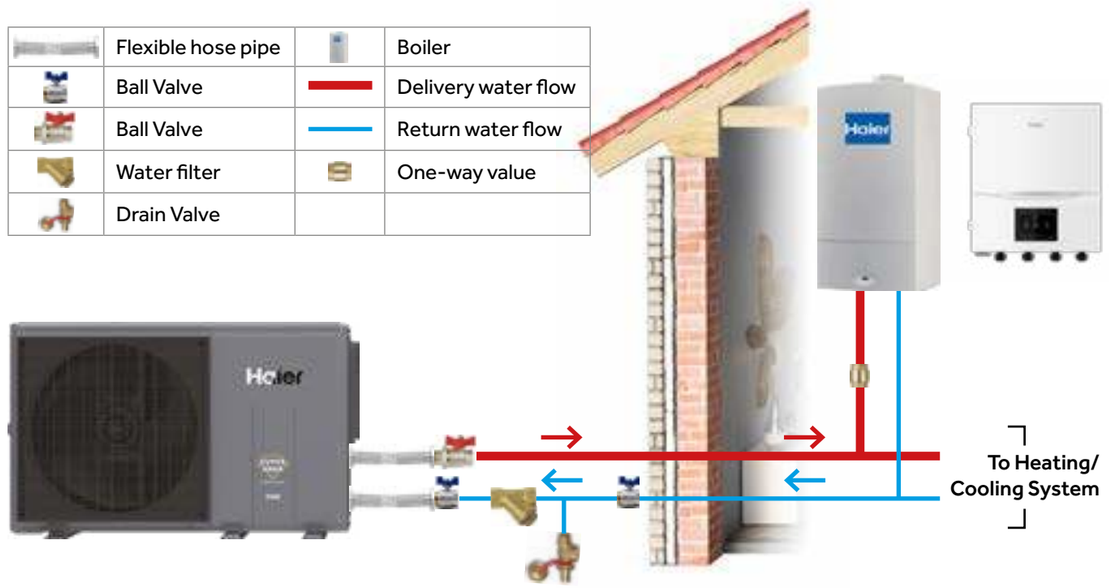
5.3. BIVALENT

Haier

5.3.1. SIMPLIFIED HYDRAULIC DIAGRAM

5.3.1.1. Without Buffer Tank

	Flexible hose pipe		Boiler
	Ball Valve		Delivery water flow
	Ball Valve		Return water flow
	Water filter		One-way value
	Drain Valve		

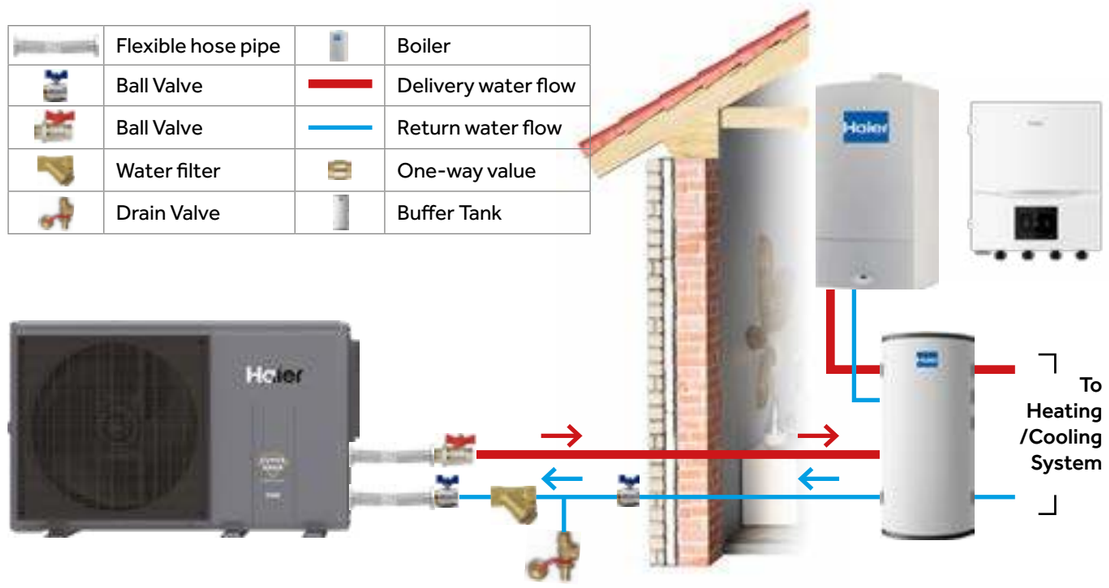


FOR ELECTRICAL CONNECTIONS REFER TO POINT 1.0.

ALL THE DIAGRAMS AND THE ACCESSORIES ARE ONLY AN EXAMPLE OF THE INSTALLATION AND HAVE TO BE CARRIED OUT IN ACCORDANCE WITH LOCAL REGULATIONS.

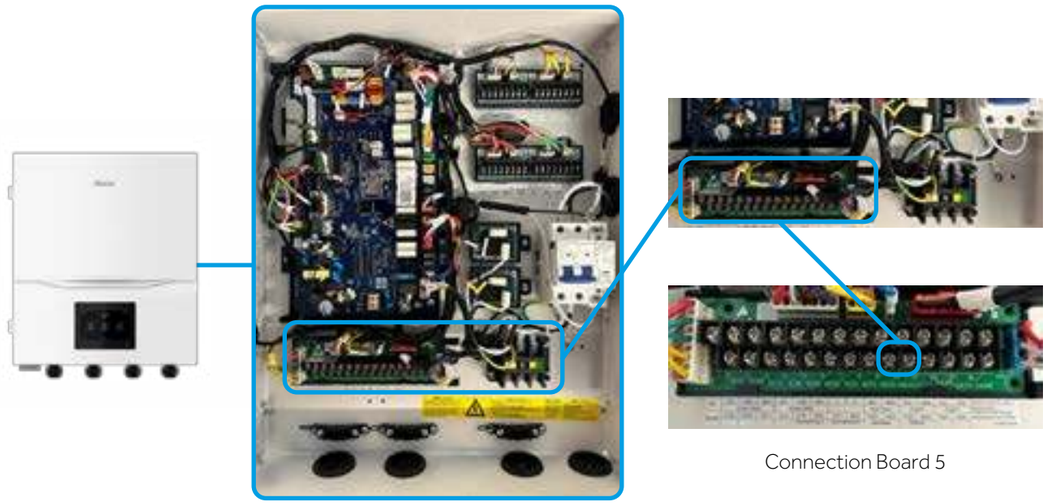
5.3.1.2. With Buffer Tank

	Flexible hose pipe		Boiler
	Ball Valve		Delivery water flow
	Ball Valve		Return water flow
	Water filter		One-way value
	Drain Valve		Buffer Tank



5.3.2. CONNECTIONS

Gas Boiler control signal output for Auxiliary Heat Source



Connection Board 5

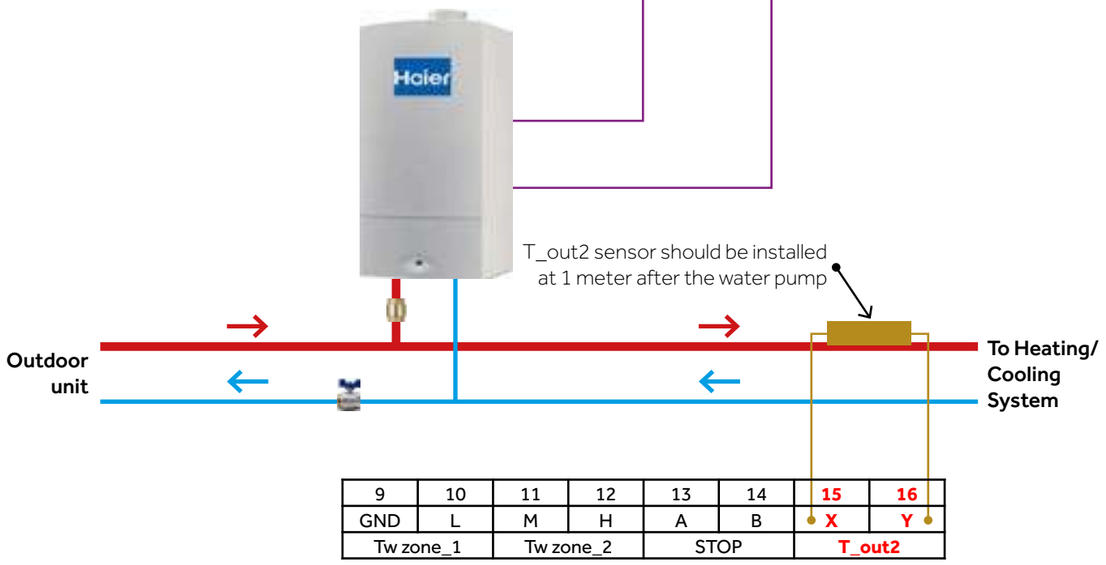
1	2	3	4	5	6	7	8	9	10	11	12	13	14
L	N	K	L	N	K	L	N	L	N	L	N	L	N
3-Way Valve			Mixing valve					Floor Valve		Pump 1		Pump 2	
1(15)	2(16)	3(17)	4(18)	5(19)	6(20)	7(21)	8(22)	9(23)	10(24)	11(25)	12(26)	13(27)	14(28)
				L	N	L	N	L	N	Voltage-free contact			
				Heater 1		Heater 2		Boiler		Error			

On connection board number 5 between terminals 9(23) and 10 (24) we must connect the signal to activate the boiler. This is a digital output signal, which means that when the contact is closed, the boiler is ON; when the contact is open, boiler is OFF.

5.3.3. SIMPLIFIED CONNECTION DIAGRAM

5.3.3.1. Without Buffer Tank

1	2	3	4	5	6	7	8	9	10	11	12	13	14
L	N	K	L	N	K	L	N	L	N	L	N	L	N
3-Way Valve			Mixing valve			DHW Heater		Floor Valve		Pump 1		Pump 2	
1(15)	2(16)	3(17)	4(18)	5(19)	6(20)	7(21)	8(22)	9(23)	10(24)	11(25)	12(26)	13(27)	14(28)
				L	N	L	N	Voltage-free contact		Voltage-free contact			
				Heater 1		Heater 2		Boiler		Error			

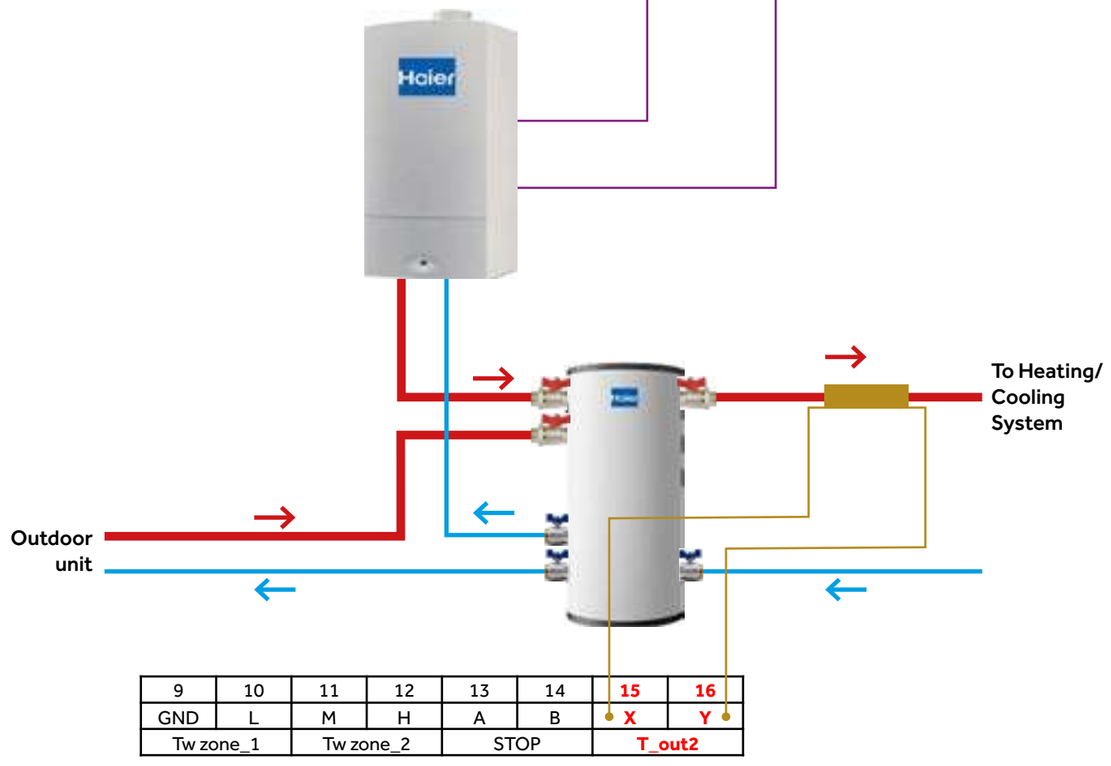


9	10	11	12	13	14	15	16
GND	L	M	H	A	B	X	Y
Tw zone_1		Tw zone_2		STOP		T_out2	

	Boiler		One-way value
	Ball Valve		T_out2
	Ball Valve		
	Delivery water flow		
	Return water flow		

5.3.3.2. With Buffer Tank

1	2	3	4	5	6	7	8	9	10	11	12	13	14
L	N	K	L	N	K	L	N	L	N	L	N	L	N
3-Way Valve			Mixing valve			DHW Heater		Floor Valve		Pump 1		Pump 2	
1(15)	2(16)	3(17)	4(18)	5(19)	6(20)	7(21)	8(22)	9(23)	10(24)	11(25)	12(26)	13(27)	14(28)
				L	N	L	N	Voltage-free contact		Voltage-free contact			
				Heater 1		Heater 2		Boiler		Error			



9	10	11	12	13	14	15	16
GND	L	M	H	A	B	X	Y
Tw zone_1		Tw zone_2		STOP		T_out2	

	Boiler		Buffer Tank
	Ball Valve		One-way value
	Ball Valve		T_out2
	Delivery water flow		
	Return water flow		

Haier

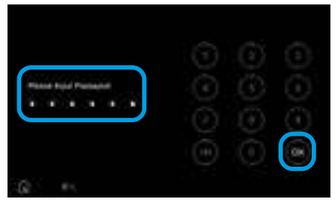
5.3.4. CONTROLLER SETTINGS

Equipment Installation main settings

1

2

3



4 *** Password "841226" OK**

5

← **On**
← Off
← Off
← Off

*** SELECT ON TO ACTIVATE ZONE 1**

Function	Parameter Range	Settings
Zone 1	ON/OFF	ON

← 26°C
← 20°C
← **On**
← **0°C**

*** SELECT ON TO ACTIVATE BIVALENT CONNECTION**

*** SET THE BIVALENT TEMPERATURE**

Press "house" to return to main menu

Function	Parameter Range	Settings
Bivalent Connection	ON/OFF	ON
Bivalent Temp.	-20°C - 20°C	0°C

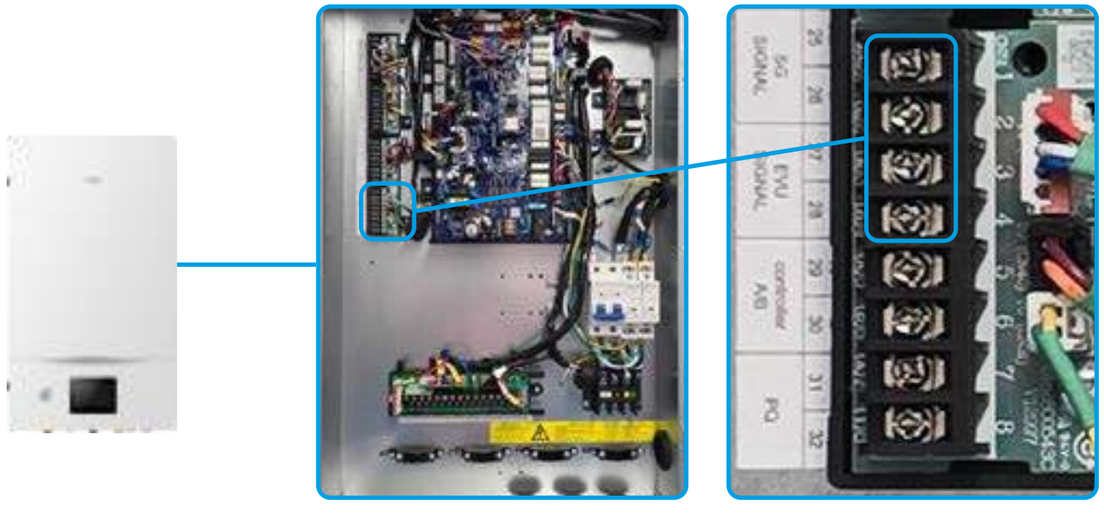
*** THE PARAMETERS THAT NEED TO BE MODIFIED ARE MARKED IN BLUE.**

Haier

6.0. SG READY – SMART GRID SG READY

In many markets, a smart grid connection can be used to limit the maximum power drawn by the heat pump. This functionality is built into the Haier unit.

6.1. CONNECTIONS



Connection Board

25	26	27	28	29	30	31	32
GND	L	M	H	A		X	Y
SG Signal		EVU Signal		Controller A/B		PQ	

SG1 SG2

On connection board number 4 between terminals 25 (GND) and 26 (L) we have a volt-free signal for the Smart Grid signal. Also on connection board number 4 between terminals 27 (M) and 28 (H) we have a volt-free signal for the EVU signal.

Note there is a 10 second delay when SG signal is recieved before it shows on screen.

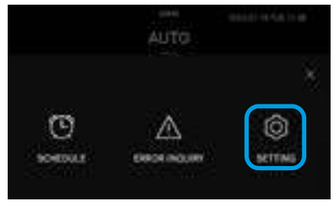
Logic Control

Status display on controller	Signal Input		Operation		
	SG Signal	EVU Signal	Heat	Cool	DHW
	Open	Open	Keep current operation	Keep current operation	Keep current operation
SG1	Close	Open	Heat pump not available	Cooling mode not available	Heat pump not available
SG2	Open	Close	+A°C on current setting Temp.	+D°C on current setting Temp.	+B°C on current setting Temp.
			Note A: 2 to 6°C, can be set on controller, default is 4°C	Note: D: -2 to 6°C, can be set on controller, default is 4°C	Note: B: 4 to 8°C, can be set on controller, default is 4°C
Sg3	Close	Close	Water temp. control, Water temp. change to Max. heating (except 3rd party control) Room temp. control, change setting temp. to 26°C	Water temp. control, Water temp. change to Min. cooling (except 3rd party control) Room temp. control, change setting temp. to 20°C	Change setting temp. to Max. DHW setting

6.2. CONTROLLER SETTINGS

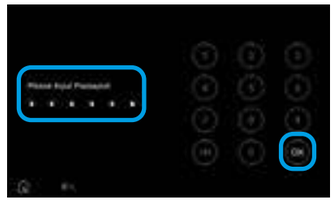
Equipment Installation main settings

1



2

3



4 * Password “841226” OK

5

← ON
← 4°C
← 6°C
← -4°C

***SELECT ON TO ACTIVATE SMART GRID**

SET THE TEMPERATURE YOU WANT THE UNIT TO RUN WHEN IN SMART GRID MODE HERE

Function	Parameter Range	Settings
SG Ready Control	ON/OFF	ON
SG2 compensation Temp. Of Heating	2 - 6°C	4°C
SG2 compensation Temp. Of DHW	4 - 8°C	6°C
SG2 compensation Temp. Of Cooling	-2 - -6°C	-4°C

← 26°C
← 20°C
← On
← 0°C

Press “house” to return to main menu

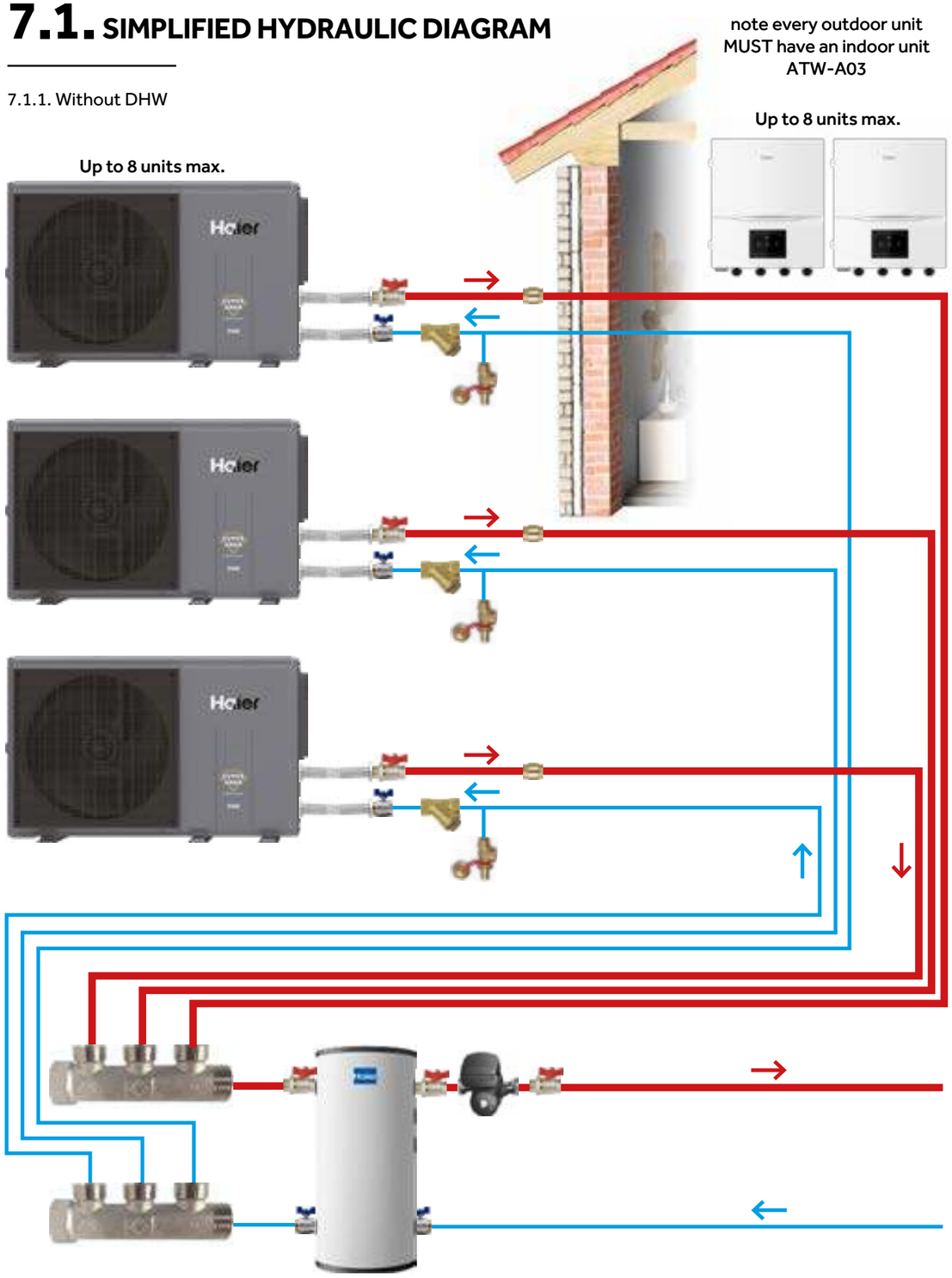
Function	Parameter Range	Settings
SG3 heating Temp.	16 - 30°C	26°C
SG3 cooling Temp.	16 - 30°C	20°C

Haier

7.0. CASCADE

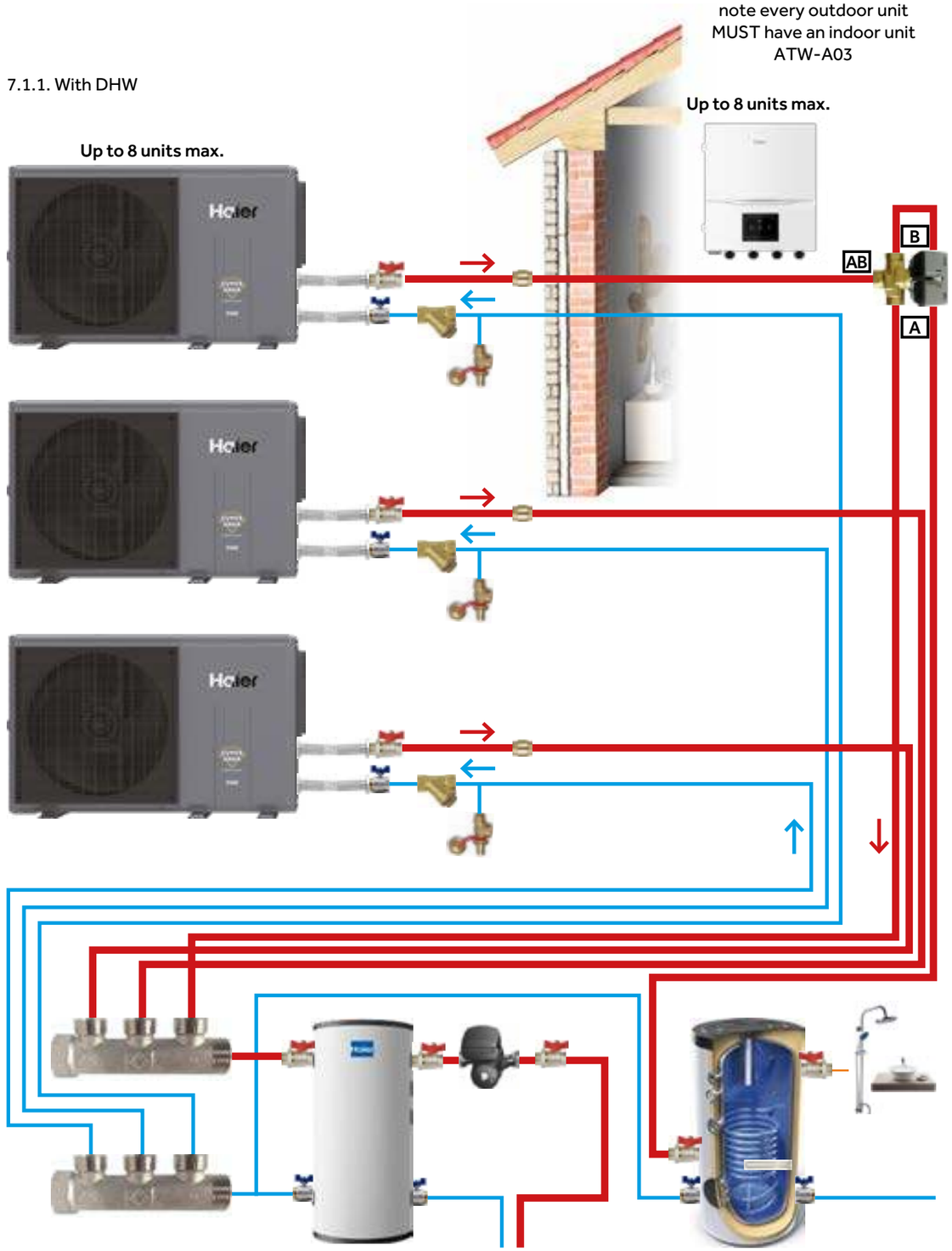
7.1. SIMPLIFIED HYDRAULIC DIAGRAM

7.1.1. Without DHW



ALL THE DIAGRAMS AND THE ACCESSORIES ARE ONLY AN EXAMPLE OF THE INSTALLATION AND HAVE TO BE CARRIED OUT IN ACCORDANCE WITH LOCAL REGULATIONS.

7.1.1. With DHW



Important all pipework and pumps feeding the heating system must be sized to suit the capacity of the heating system

*** DHW Tank. Check the national regulation when connecting cold water supply.**

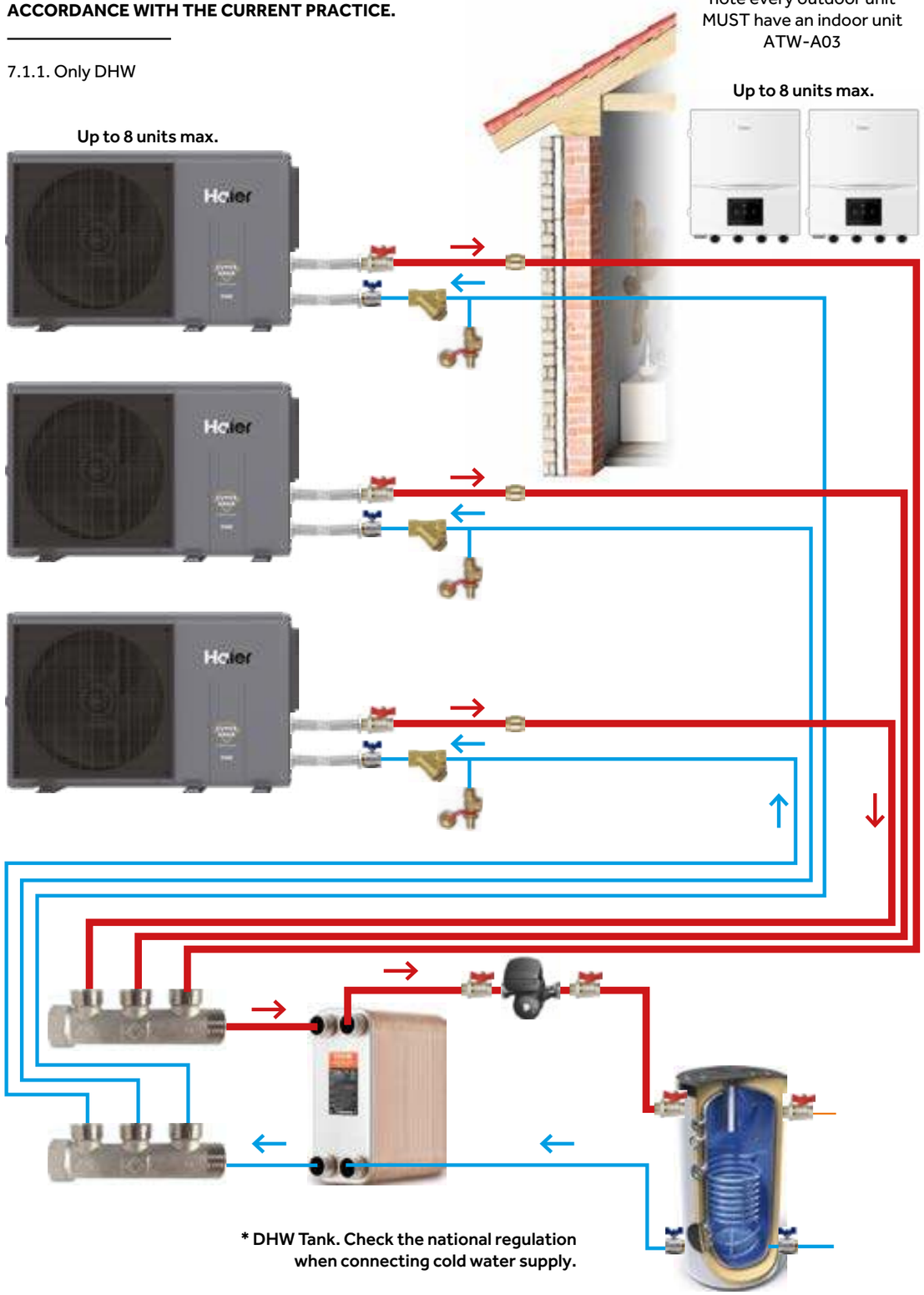
ALL THE DIAGRAMS AND THE ACCESSORIES ARE ONLY AN EXAMPLE OF THE INSTALLATION AND HAVE TO BE CARRIED OUT IN ACCORDANCE WITH THE CURRENT PRACTICE.

7.1.1. Only DHW

note every outdoor unit MUST have an indoor unit ATW-A03

Up to 8 units max.

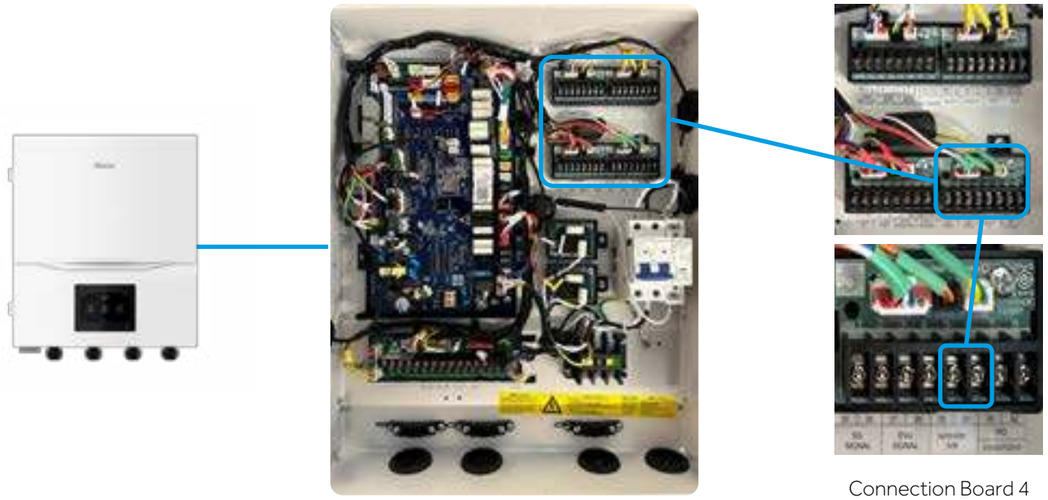
Up to 8 units max.



*** DHW Tank. Check the national regulation when connecting cold water supply.**

7.2. CONNECTION

Wiring connection Main & Sub



Connection Board 4

Connection Board 4 - Main

25	26	27	28	29	30	31	32
GND	L	M	H	A	B	X	Y
SG Signal		EVU Signal		Controller A/B		PQ	

Connection Board 4 – Sub 1

25	26	27	28	29	30	31	32
GND	L	M	H	A	B	X	Y
SG Signal		EVU Signal		Controller A/B		PQ	

Connection Board 4 – Sub 2

Up to 8 units max.

25	26	27	28	29	30	31	32
GND	L	M	H	A	B	X	Y
SG Signal		EVU Signal		Controller A/B		PQ	

On connection board 4 of the Main unit, between terminals 29(A) and 30 (B) we connect the bus communication with the Sub units.

On connection board 4 of the Sub 1 unit, between terminals 29(A) and 30 (B) we connect the bus communication with the Main and Sub units.

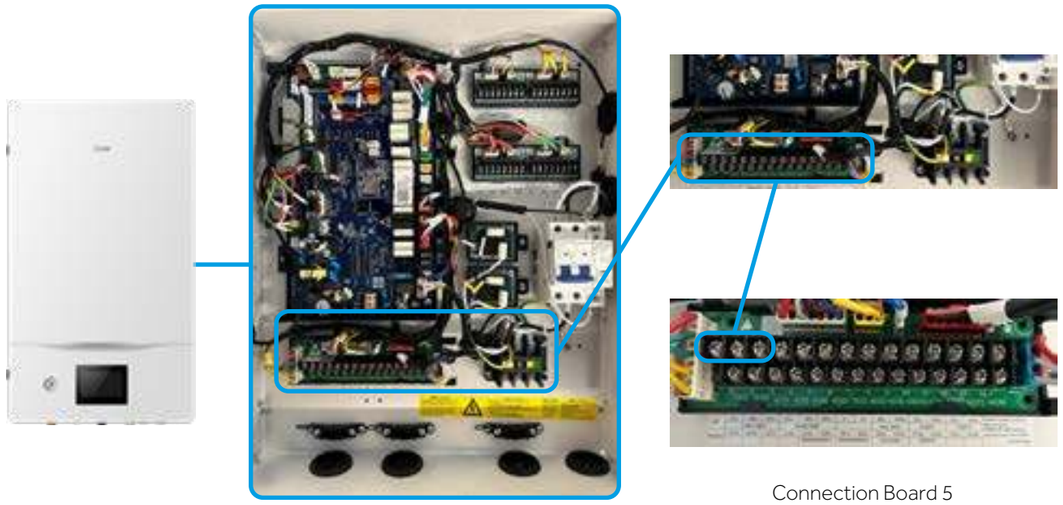
On connection board 4 of the Sub 2 unit, between terminals 29(A) and 30 (B) we connect the bus communication with the Main and Sub units.

* The interconnection bus between ATW-A03N and ATW-A03N, must be done with a shielded cable of 2x0,75mm.

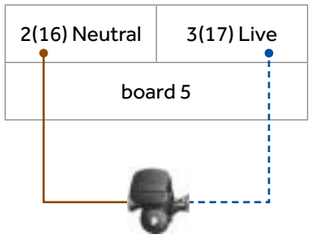
* The interconnection must be done as serial connection. Star connection is forbidden.

7.2. CONNECTION

Only DHW – Water pump for secondary circuit



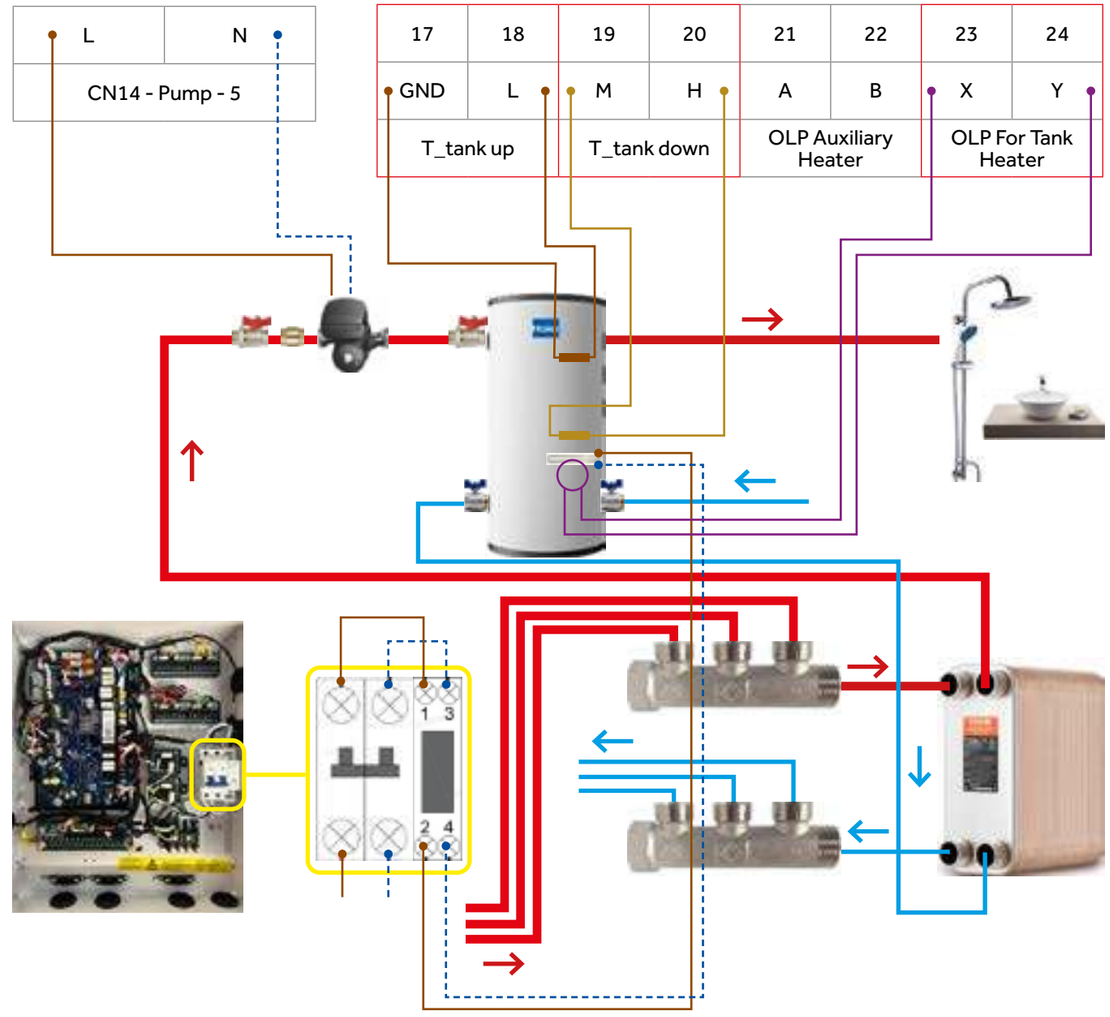
Connection Board 5



On connection board 5 , terminals 2(16) N and 3(17) L, we can connect the water pump for secondary circuit, after the heat exchanger. On this connection we have an output voltage of 230VAC, the maximum electrical power that this contact can support is 200W.

7.3. SIMPLIFIED CONNECTION DIAGRAM

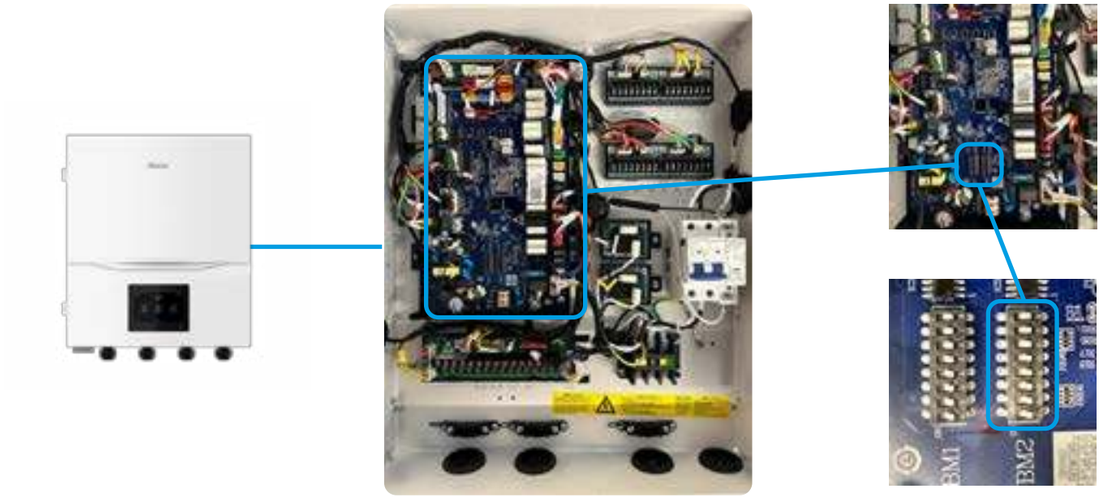
Only DHW – Water pump for secondary circuit



	Ball Valve		One-way value		Temp. sensor T_tank up
	Ball Valve		OLP		Line
	Delivery water flow		DHW Tank		Neutral
	Return water flow		Plate Heat Exchange		Electrical Heater
	Water Pump		Temp. sensor T_tank up		

7.4. CONNECTION

DIP Switch Setting



		[2]	[3]	[4]	Cascade address
BM1_2 BM1_3 BM1_4	Cascade address	0	0	0	Main unit(Default)
		0	0	1	Sub unit 1#
		0	1	0	Sub unit 2#
		0	1	1	Sub unit 3#
		1	0	0	Sub unit 4#
		1	0	1	Sub unit 5#
		1	1	0	Sub unit 6#
		1	1	1	Sub unit 7#

Change BM1, switch number 2 to 4 to address the unit as above.

*** SET WITH DIP BM1 THE MAIN UNIT AND THE SLABE NUMBER**

7.5. CONTROLLER SETTINGS

System Installation main settings

1

2

3

4 * Password “841226” OK

5

← None
← 5℃
← 6℃
← On

*** SELECT ON TO ACTIVATE DHW**

Press “house” to return to main menu

Function	Parameter Range	Settings
DHW Function	ON/OFF	ON

*** THE PARAMETERS THAT NEED TO BE MODIFIED ARE MARKED IN BLUE.**

Haier

8.0. CONTROL SETTINGS

Haier

9.0. THIRD-PARTY CONTROLLER SWITCH SIGNAL

The Haier super aqua heat pump range can be controlled in a number of ways:

1. Using return water temperature in either a fixed or weather compensated setting when connected to a buffer.
2. Controlled to heat or cool up to 2 zones either at a fixed or weather compensated water temperature using third party room thermostats with a Volt free signal. Note this configuration is not compatible with the HON app
3. Controlled to heat or cool up to 2 zones either at a fixed or weather compensated water temperature using Haier room thermostats which are compatible with Haier's HON app.

9.1. THIRD-PARTY CONTROLLER SWITCH SIGNAL

The unit can be controlled in 2 ways, with a cool heat changeover switch or separate thermostats. It's possible to set it as a Type1 or Type 2.

Type 1

1	2	3	4	5	6	7	8
GND	L	M	H	A	B	X	Y
Heat requirement (ON/OFF) - ZONE1		Cool requirement (ON/OFF) - ZONE1		Heat requirement (ON/OFF) - ZONE2		Cool requirement (ON/OFF) - ZONE2	

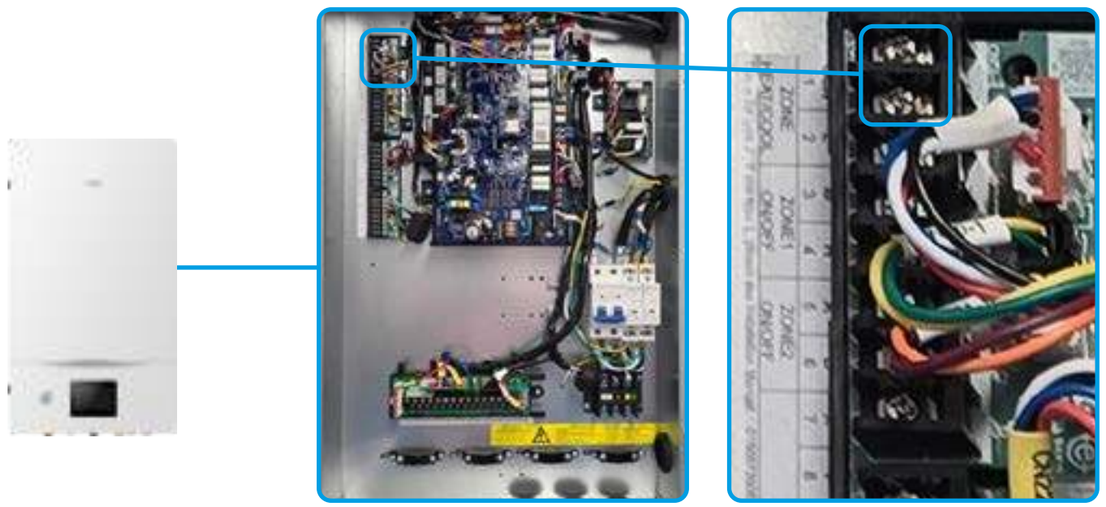
Type 1 uses a separate thermostat for cooling and heating.

Type 1

1	2	3	4	5	6	7	8
GND	L	M	H	A	B	X	Y
Heat / Cool		Zone 1 ON/OFF		Zone 2 ON/OFF			

Type 2 uses a cool heat changeover switch.

9.1.1. TYPE 1 - MOST COMMONLY USED SYSTEM



9.1.1. THIRD-PARTY CONTROLLER SWITCH SIGNAL – TYPE 1

1	2	3	4	5	6	7	8
GND	L	M	H	A	B	X	Y
Heat requirement (ON/OFF) - ZONE1		Cool requirement (ON/OFF) - ZONE1		Heat requirement (ON/OFF) - ZONE2		Cool requirement (ON/OFF) - ZONE2	

1) The contacts are all volt-free.

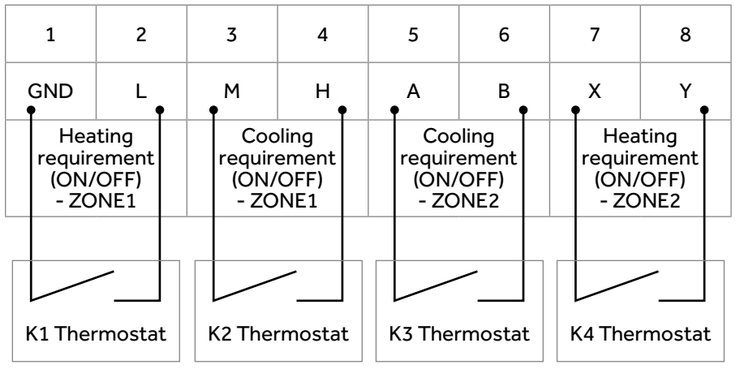
2) This set up is used when there are separate cooling and heating thermostats.

3) If you make a contact from 1-2 the unit will start in heating mode, if you male a contact from 3-4 the unit will start in cooling mode.

4) If you make a contact from 5-6 the unit will start in heating mode zone 2, If you make a contact from 7-8 the unit will start in cooling mode zone 2.

5) You must not send a cooling and heating run signal at the same time.

Simplified Connection Diagram



1) The contacts are all volt-free.

2) This set up is used when there are separate cooling and heating thermostats.

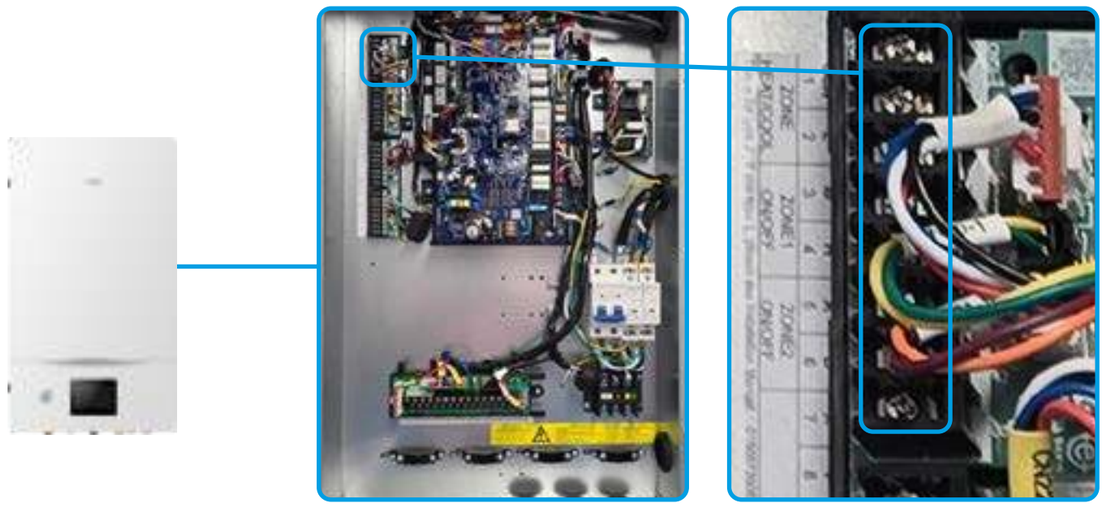
3) If you make a zone 1 contact from 1-2 the unit will start in heating mode zone 1, if you make a contact from 3-4 the unit will start in cooling mode.

4) If you make a contact from 5-6 the unit will start in cooling mode zone 2, If you make a contact from 7-8 the unit will start in heating mode zone 2.

5) You must not send a cooling and heating run signal at the same time.

9.1.2. THIRD-PARTY CONTROLLER SWITCH SIGNAL – TYPE 2

LESS COMMONLY USED



1	2	3	4	5	6	7	8
GND	L	M	H	A	B	X	Y
Heat / Cool		Zone 1 ON/OFF		Zone 2 ON/OFF			

1) The contacts are all Volt free.

2) This set up is used when you are using a combined cooling and heating thermostat.

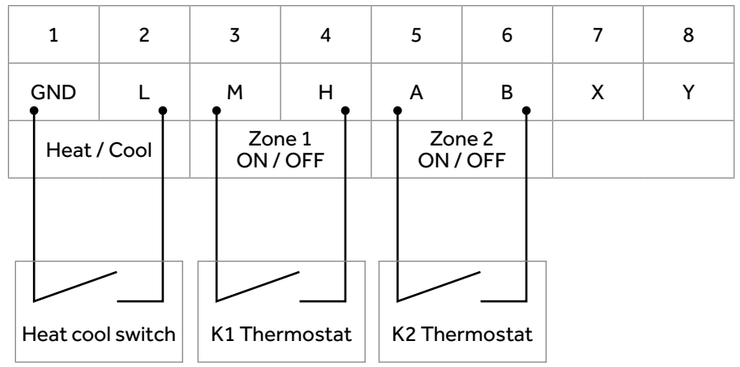
3) If you make a contact from 1-2 the unit is in cooling mode. If you break the contact from 1-2 the unit is in heating mode.

4) If you make a contact from 3-4 the unit will start in cooling or heating mode.

5) If you make a contact from 5-6 the unit will start in cooling or heating mode. Zone 2

6) If there's no run signal from request both Zone1 & Zone2, the unit will stop heating and cooling. DHW mode will continue.

Type 2
Simplified Connection Diagram



Heat cool switch: Switch-On for Cooling Mode, Switch-Off for Heating Mode

K1: Switch-On to start heating / cooling Zone 1. switch off the stop.

K3: Switch-On to start heating / cooling Zone 2. switch off the stop.

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9.1.3. CONTROLLER SETTINGS

System Installation main settings

1

2

3

4 *** Password “841226”**

5

← **Third party controller** *** SELECT THE CONTROL MODE FOR ZONE 1**

← **Third party controller** *** SELECT THE CONTROL MODE FOR ZONE 2**

← Main Controller

← Main Controller

Function	Parameter Range	Settings
Control Mode of Zone 1	Main controller Third party controller	Third party controller
Control Mode of Zone 2	Main controller Third party controller	Third party controller

SCROLL DOWN 2 PAGES TO GET TO THIS MENU

← 60s

← **Type 1**

*** ATTENTION! CHOOSE ACCORDING TO YOUR INSTALLATION: TYPE 1 OR TYPE 2**

*** SELECT THE TYPE OF THIRD PARTY CONTROLLER**

Function	Parameter Range	Settings
Third party Controller Type	Type 1 / Type 2	Type 1

*** THE PARAMETERS THAT NEED TO BE MODIFIED ARE MARKED IN BLUE.**

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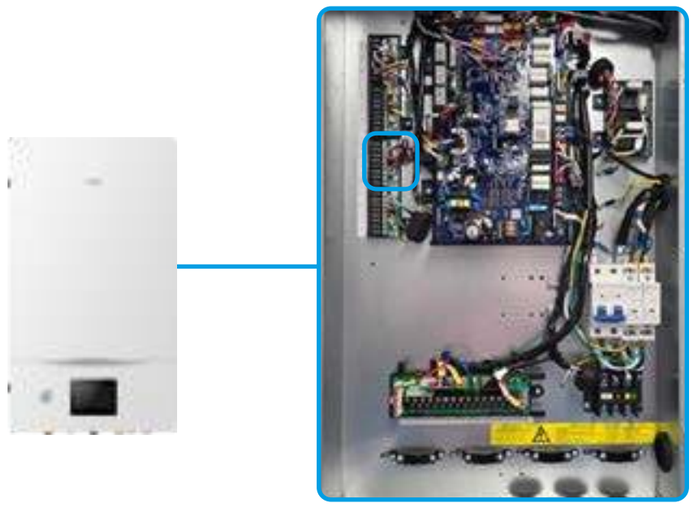
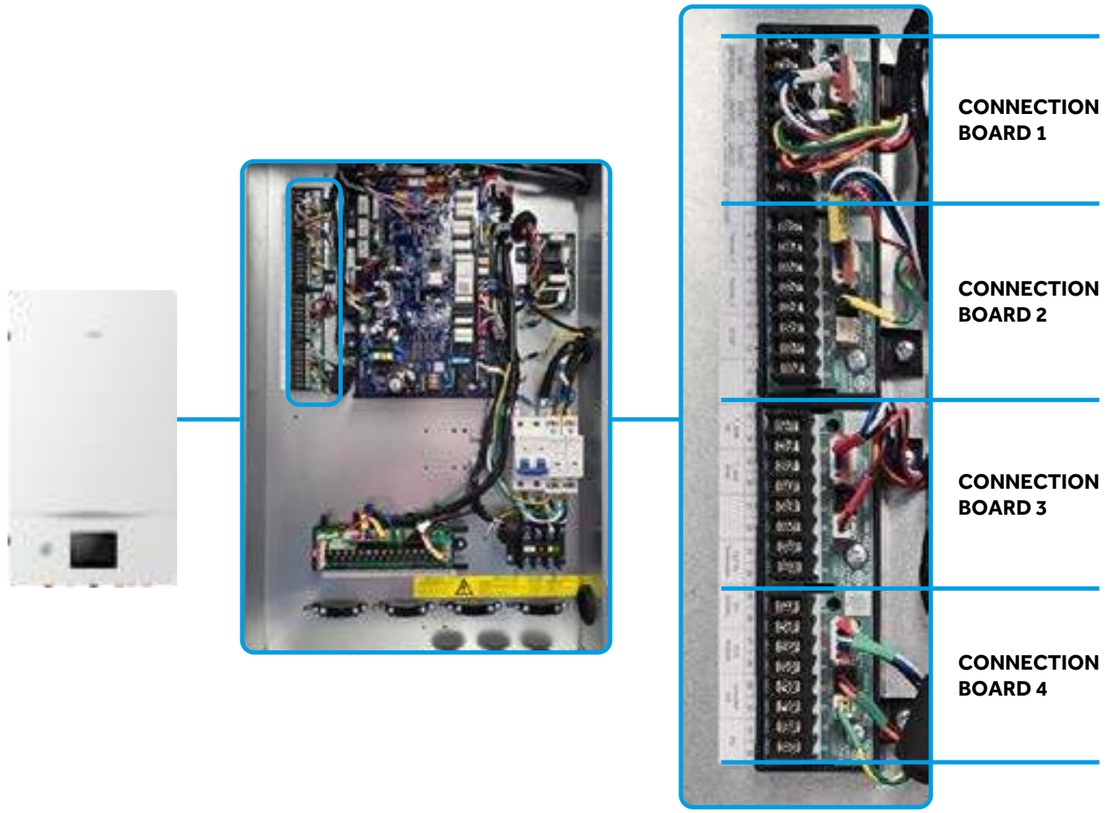
10.0. ANNEXES

10.0. ANNEXES

Preview ATW-A03N





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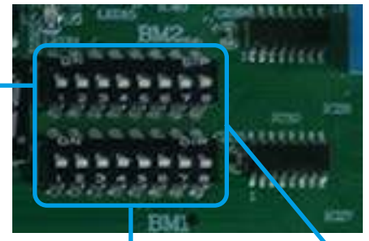
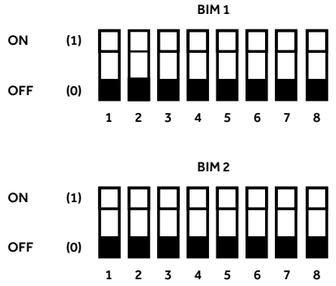
10.0. ANNEXES

DIP Switch Setting - Single phase installation - 1ph-ODU

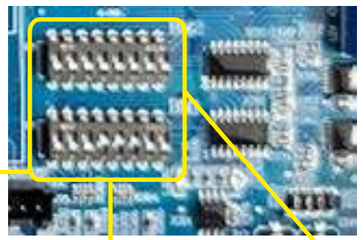


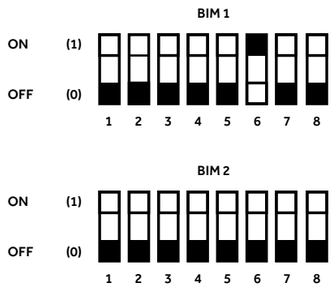


BM1_1	Capacity control	[1]	Capacity control method					
		0	Normal control(default)					
		1	0~10V control(ATW-A02)					
BM1_2 BM1_3 BM1_4 BM1_5	Outdoor unit model	[2]	[3]	[4]	[5]	Outdoor unit model		
		0	0	0	0	AW042MUGHA		
		0	0	0	1	AW062MUGHA		
		0	0	1	0	AW082MUGHA		
		0	0	1	1	AW102(N)MUGHA		
		1	0	0	0	AW122(N)MXGHA		
		1	0	0	1	AW142(N)MXGHA		
		1	0	1	0	AW162(N)MXGHA		
BM1_6	Power supply type	[6]	Power supply type					
		0	Single phase					
		1	Three phase					
BM1_7 BM1_8	Running mode	[7]	[8]	Outdoor unit running mode				
		0	0	Normal mode(default)				
		0	1	Turbo mode				
		1	0	Quiet mode				
		1	1	Test mode				

BM2_1 BM2_2 BM2_3	Outdoor type	[1]	[2]	[3]	Outdoor type selection			
		0	0	0	Monobloc(default)			
		0	0	1	Hydro split			
		0	1	0	Hydro all in one			
		0	1	1	Split			
		1	0	0	Split all in one			
		1	0	1	Reserved			
		1	1	0	Reserved			
		1	1	1	Reserved			
BM2_4	Refrigerant type	[4]	Refrigerant type selection					
		0	R290(default)					
		1	R32					
BM2_5 BM2_6 BM2_7 BM2_8	Reserved	[5]	[6]	[7]	[8]	Reserved		
		0	0	0	0	Reserved(default)		
		…	…	…	…	Reserved		

DIP Switch Setting - Three-phase installation - 3ph-ODU

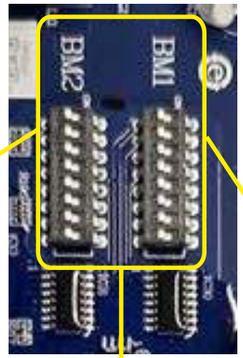


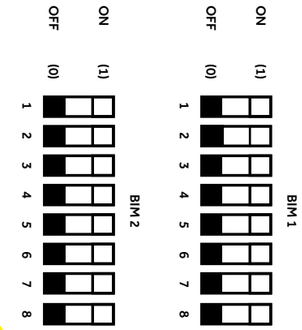


BM1_1	Capacity control	[1]	Capacity control method					
		0	Normal control(default)					
		1	0~10V control(ATW-A02)					
BM1_2 BM1_3 BM1_4 BM1_5	Outdoor unit model	[2]	[3]	[4]	[5]	Outdoor unit model		
		0	0	0	0	AW042MUGHA		
		0	0	0	1	AW062MUGHA		
		0	0	1	0	AW082MUGHA		
		0	0	1	1	AW102(N)MUGHA		
		1	0	0	0	AW122(N)MXGHA		
		1	0	0	1	AW142(N)MXGHA		
		1	0	1	0	AW162(N)MXGHA		
BM1_6	Power supply type	[6]	Power supply type					
		0	Single phase					
		1	Three phase					
BM1_7 BM1_8	Running mode	[7]	[8]	Outdoor unit running mode				
		0	0	Normal mode(default)				
		0	1	Turbo mode				
		1	0	Quiet mode				
		1	1	Test mode				

BM2_1 BM2_2 BM2_3	Outdoor type	[1]	[2]	[3]	Outdoor type selection			
		0	0	0	Monobloc(default)			
		0	0	1	Hydro split			
		0	1	0	Hydro all in one			
		0	1	1	Split			
		1	0	0	Split all in one			
		1	0	1	Reserved			
		1	1	0	Reserved			
		1	1	1	Reserved			
BM2_4	Refrigerant type	[4]	Refrigerant type selection					
		0	R290(default)					
		1	R32					
BM2_5 BM2_6 BM2_7 BM2_8	Reserved	[5]	[6]	[7]	[8]	Reserved		
		0	0	0	0	Reserved(default)		
		…	…	…	…	Reserved		

DIP Switch Setting - ATW-A03 N





BM1_1	Indoor Type	[1]	Indoor Type					
		0	ATW-A03(Default)					
		1	/					
BM1_2 BM1_3 BM1_4	Cascade address	[2]	[3]	[4]	Cascade address			
		0	0	0	Main unit(Default)			
		0	0	1	Sub unit 1#			
		0	1	0	Sub unit 2#			
		0	1	1	Sub unit 3#			
		1	0	0	Sub unit 4#			
		1	0	1	Sub unit 5#			
		1	1	0	Sub unit 6#			
		1	1	1	Sub unit 7#			
BM1_5 BM1_6 BM1_7 BM1_8	Capacity	[5]	[6]	[7]	[8]	ODU capacity selection		
		0	0	0	0	AW042MUGHA		
		0	0	0	1	AW062MUGHA		
		0	0	1	0	AW082MUGHA		
		0	0	1	1	AW102(N)MUGHA		
		1	0	0	0	AW122(N)MXGHA		
		1	0	0	1	AW142(N)MXGHA		
		1	0	1	0	AW162(N)MXGHA		

BM2_1	communication Address setting mode	[1]	Outdoor communication address setting mode						
		0	Automatic setting (default)						
		1	Dip switch set address						
BM2_2	Water tank sensor selection	[2]	Water tank sensor selection						
		0	2 sensors, T_tank up and T_tank down (default)						
		1	Only 1 sensor, T_tank up						
BM2_3 BM2_4 BM2_5 BM2_6 BM2_7 BM2_8	communication Address	[3]	[4]	[5]	[6]	[7]	[8]	Address	
		0	0	0	0	0	0	0#(default)	
		0	0	0	0	0	1	1#	
		0	0	0	0	1	0	2#	
		…	…	…	…	…	…	…	

11.0. APPENDIX

11.0. APPENDIX

Recommended flow rates for each system

Unit kW	delta T	flow rate l/ min	flow rate m^3 / hr	delta T	flow rate l/ min	flow rate m^3 / hr
4	5	11.5	0.7	7	8.2	0.5
6	6	14.4	0.9	7	12.3	0.7
8	5	23.0	1.4	7	16.4	1.0
10	5	28.7	1.7	7	20.5	1.2
12	5	34.4	2.1	7	24.6	1.5
14	5	40.2	2.4	7	28.7	1.7
16	5	45.9	2.8	7	32.8	2.0

Capacity of pipework

The maximum recommended capacity for each pipe is as follows to avoid noise

At 5C delta T:

diameter mm	velocity m/s	delta t	flow rate m^3 / hr	flow rate l/min	kWs
6	1.2	5	0.1	1.3	0.5
8	1.2	5	0.2	2.6	0.9
10	1.2	5	0.3	4.4	1.5
12	1.2	5	0.4	6.6	2.3
15	1.2	5	0.6	10.5	3.6
22	1.2	5	1.4	23.1	8.0
28	1.2	5	2.3	38.8	13.5
35	1.2	5	3.6	60.1	20.9

At 7C delta T

diameter mm	velocity m/s	delta t	flow rate m^3 / hr	flow rate l/min	kWs
6	1.2	7	0.1	1.3	0.6
8	1.2	7	0.2	2.6	1.3
10	1.2	7	0.3	4.4	2.1
12	1.2	7	0.4	6.6	3.2
15	1.2	7	0.6	10.5	5.1
22	1.2	7	1.4	23.1	11.2
28	1.2	7	2.3	38.8	18.9
35	1.2	7	3.6	60.1	29.3

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Minimum system volume Litres

Haier Heat pump	Model number	Minimum system volume Litres
4kW	AW042MUGHA	28.7
6kW	AW062MUGHA	43.1
8kW	AW082MUGHA	57.4
10kW	AW102MUGHA	71.8
12kW	AW122MX	86.1
14kW	AW142MX	100.5
16kW	AW162MX	114.8

Fuse sizes

Haier Heat pump Single Phase	Model Number	Fuse
4kW	AW042M/HUGHA	16 Amps
6kW	AW062M/HUGHA	16 Amps
8kW	AW082M/HUGHA	20 Amps
10kW	AW102M/HUGHA	20 Amps
12kW	AW122MXGHA	32 Amps
14kW	AW142MXGHA	32 Amps
16kW	AW162MXGHA	32 Amps
Haier Heat pump Three Phase		
10kW	AW10NMUGHA - AW102HUGHA	16 Amps
12kW	AW12NMXGHA -AW122H-VGHA	16 Amps
14kW	AW14NMXGHA - AW142H-VGHA	16 Amps
16kW	AW16NMXGHA- AW162H-VGHA	16 Amps
ATW-A03 N Indoor unit single phase		
All units	ATW-A03 N	13 Amps

Haier HVAC Solutions

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