



Quick Installer Guide  
***THERMA V***™





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- Hydro unit
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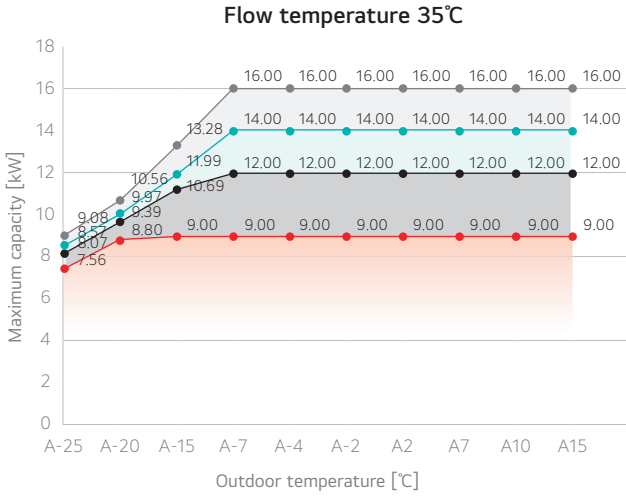
# Select the ideal THERMA V to fit your needs

## Heating & cooling capacity chart

### Heating

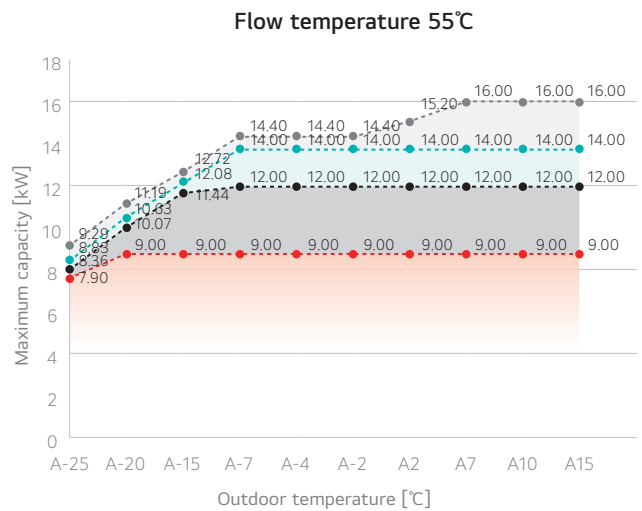
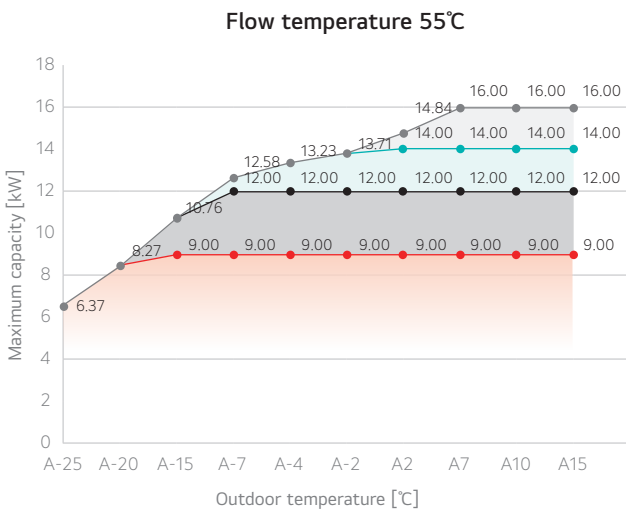
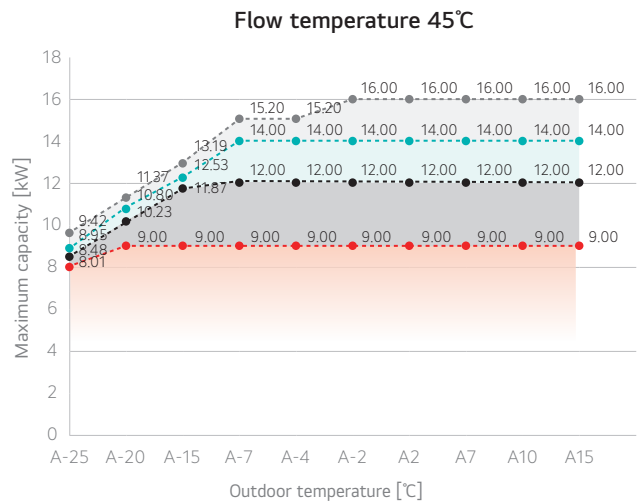
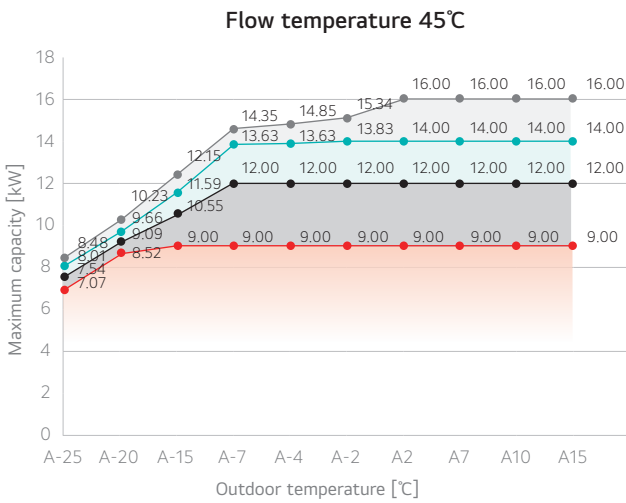
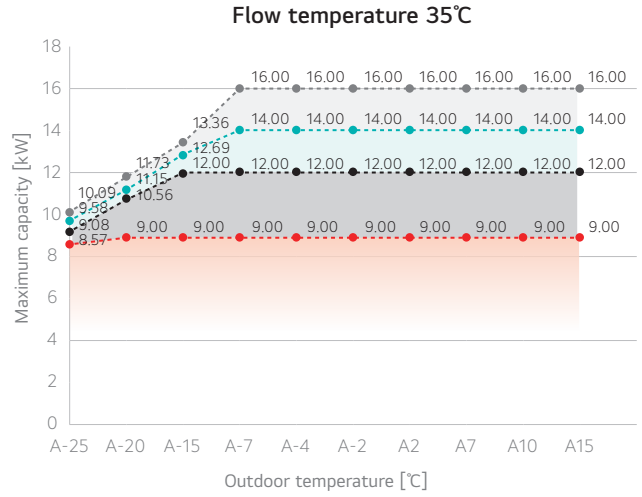
#### Max. heating capacity

● 9 kW ● 12 kW ● 14 kW ● 16 kW



#### Max. heating capacity with peak control step 3&4<sup>1)</sup>

● peak control 3&4 9 kW ● peak control 3&4 12 kW ● peak control 3&4 14 kW ● peak control 3&4 16 kW



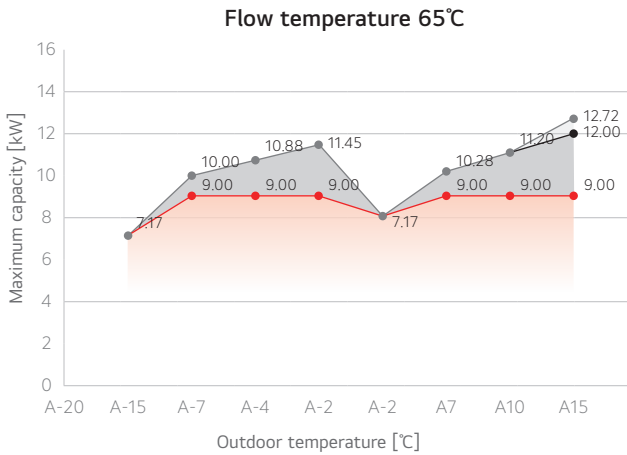
# Select the ideal THERMA V to fit your needs

## Heating & cooling capacity chart

### Heating

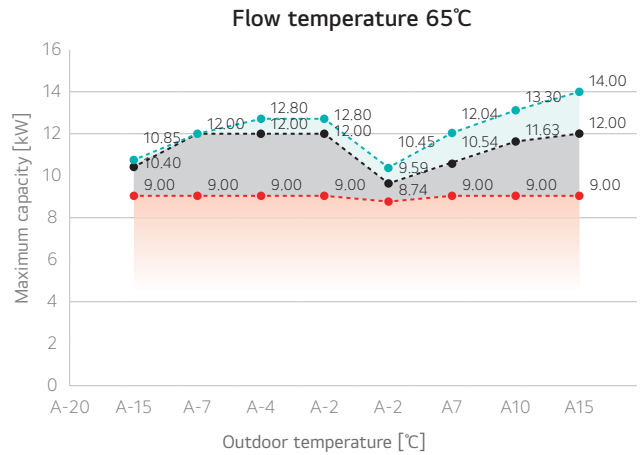
Max. heating capacity

● 9 kW ● 12 kW ● 14 kW ● 16 kW



Max. heating capacity with peak control step 3&4<sup>1)</sup>

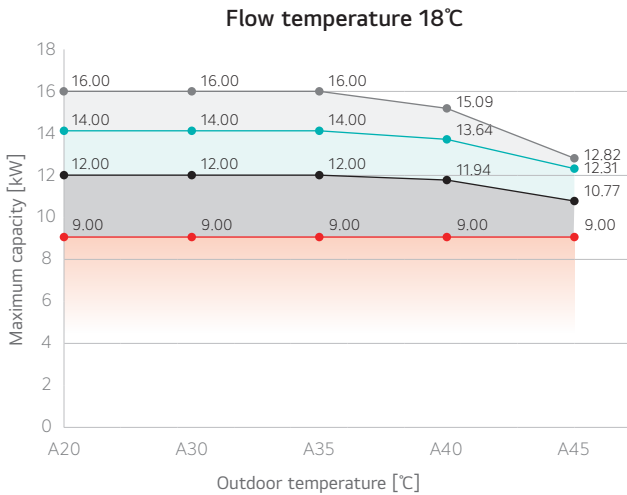
● peak control 3&4 9 kW ● peak control 3&4 12 kW ● peak control 3&4 14 kW ● peak control 3&4 16 kW



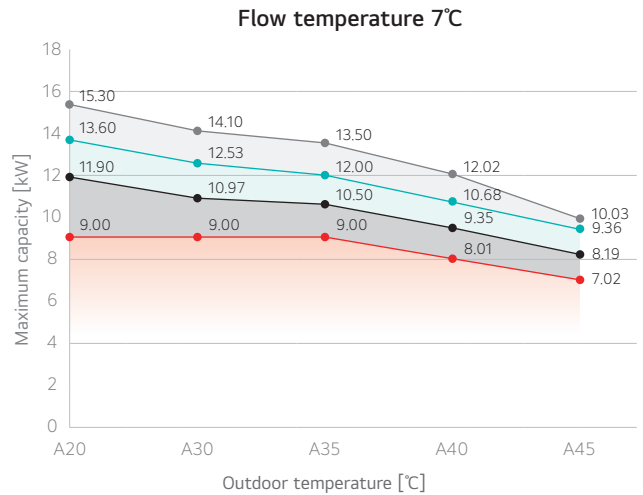
### Cooling

Max. cooling capacity

● 9 kW ● 12 kW ● 14 kW ● 16 kW

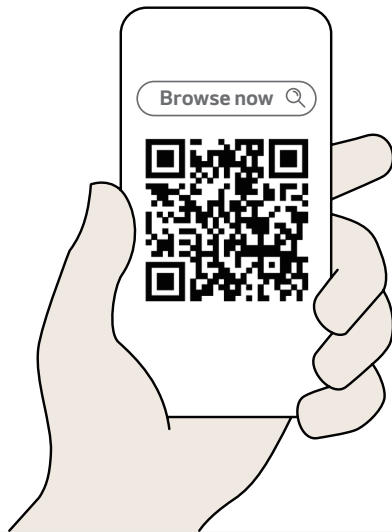


● 9 kW ● 12 kW ● 14 kW ● 16 kW



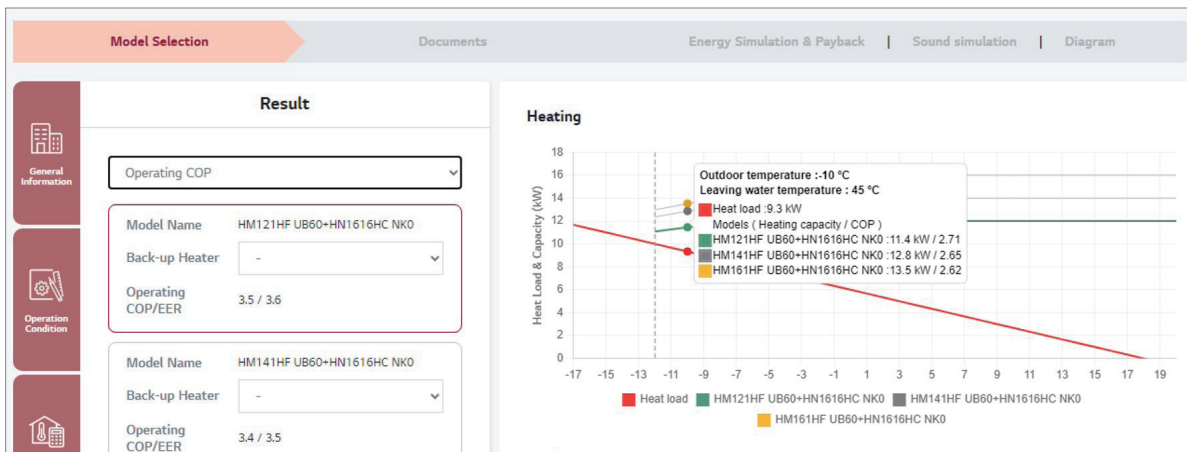
# Select the ideal THERMA V to fit your needs

## LATS THERMA V web



# THERMA V™

- Model selection**
- Payback calculation
- Cost comparison with other boiler system
- Hydronic / electric diagram
- Technical & marketing data



**Model Selection** | Documents | Energy Simulation & Payback | Sound simulation | Diagram

Please select items to save or view.

	Outdoor unit	Indoor unit
1	HM121HF UB60	PHCS0

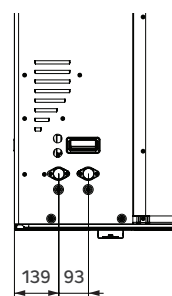
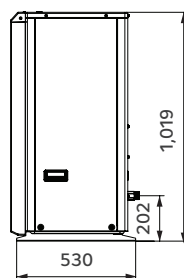
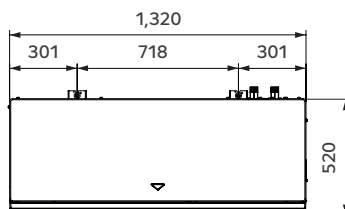
Report	Equipment List	GERP	Submittal
Diagram	Energy Label	Cad Block	Revit Family
Product Data Book	Manual	Installation Guide	

## Select the ideal THERMA V to fit your needs

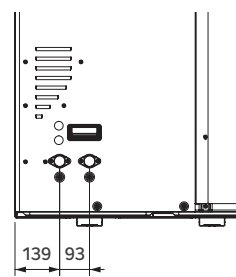
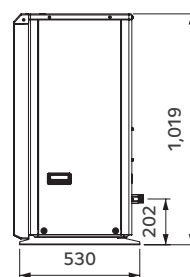
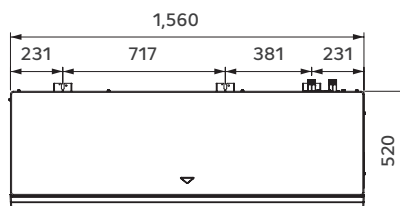
[Unit: mm]

### Dimension

7, 9 kW



12, 14, 16 kW

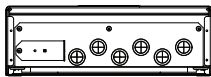
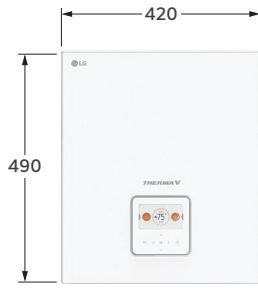


# Select the ideal THERMA V to fit your needs

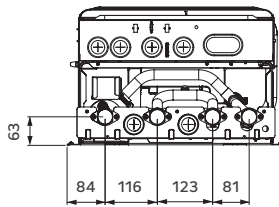
## Dimension

[Unit: mm]

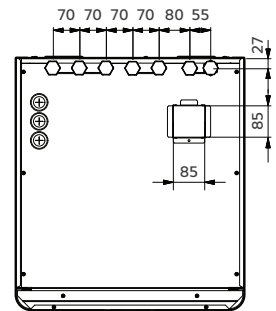
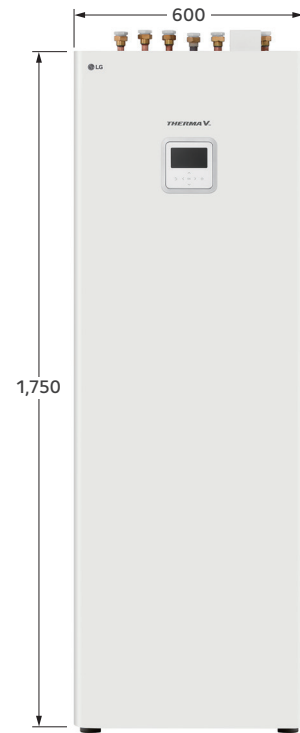
### Control unit



### Hydro unit



### Combi unit

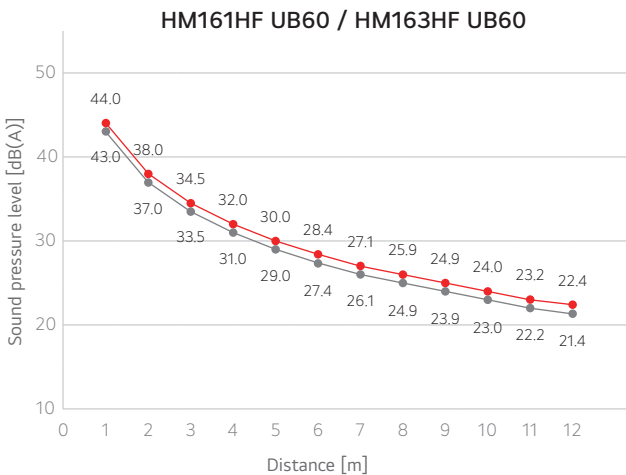
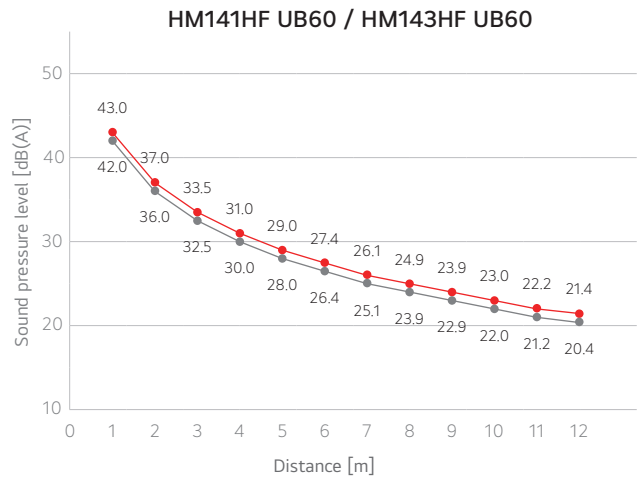
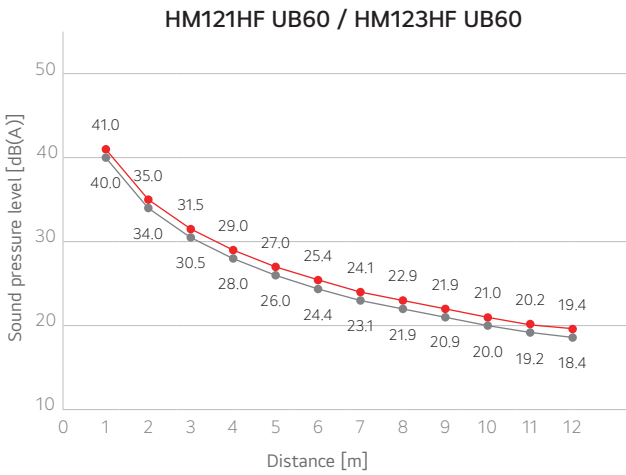
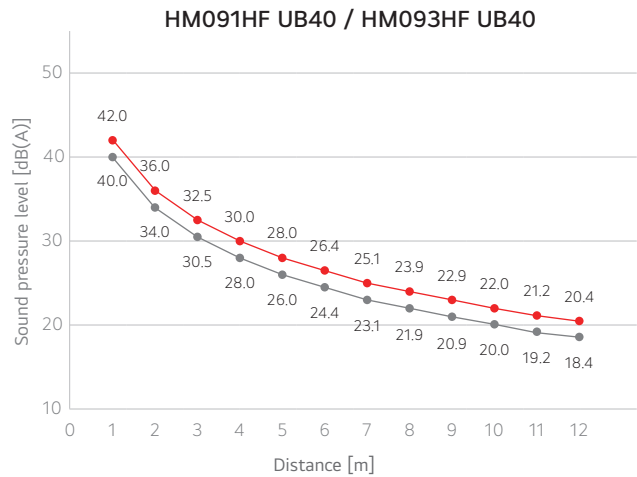
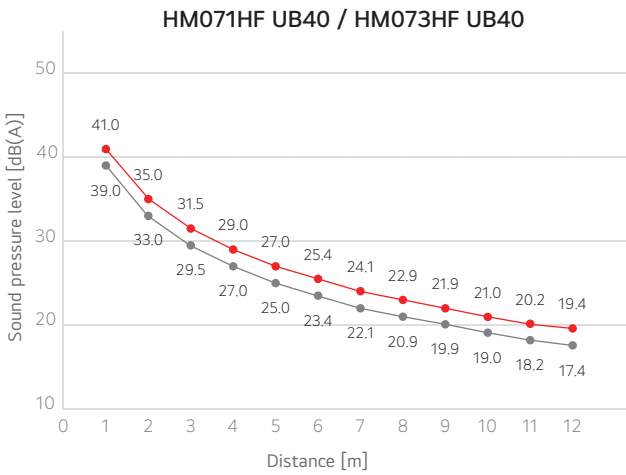


# Select the ideal THERMA V to fit your needs

## Sound power and pressure level

R290 Monobloc	7 kW	9 kW	12 kW	14 kW	16 kW
Sound power level (rated)	49	50	49	51	52
Sound power level (low noise mode)	47	48	48	50	51

● Rated ● Low noise mode

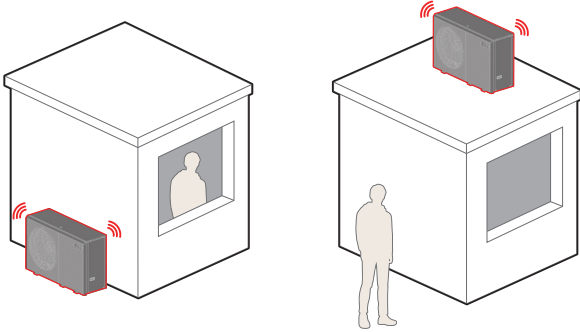


QUIET MARK certified for all line-ups

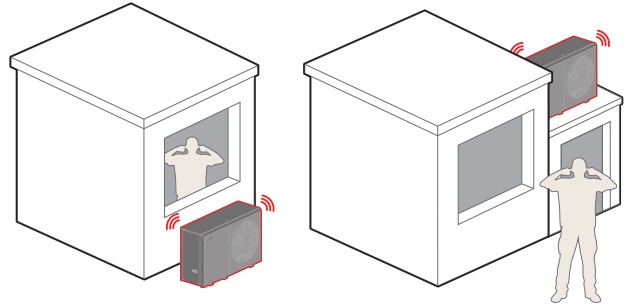
## Find the ideal space for installation

### For noise reduction

 **Do**

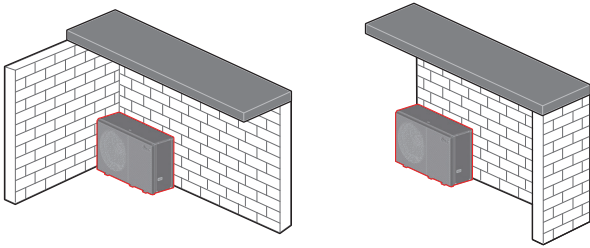


 **Don't**

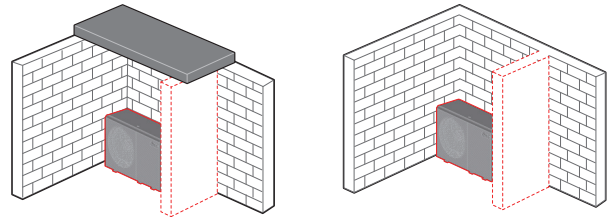


### For good ventilation

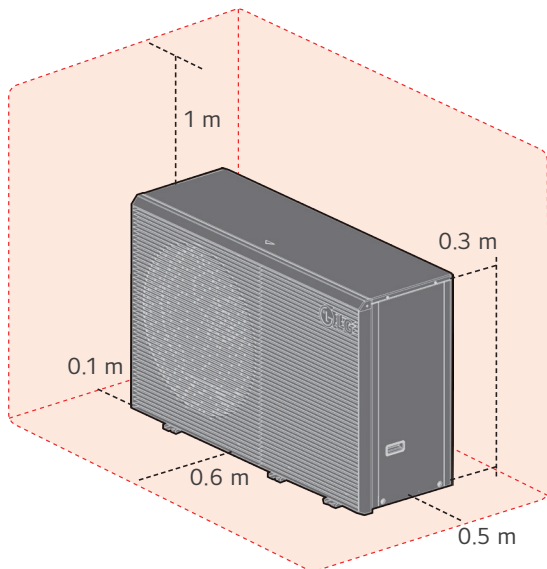
 **Do**



 **Don't**

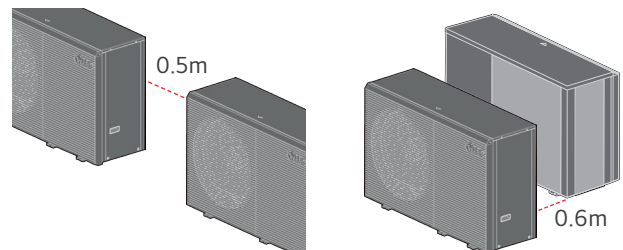


### Installation space around each unit

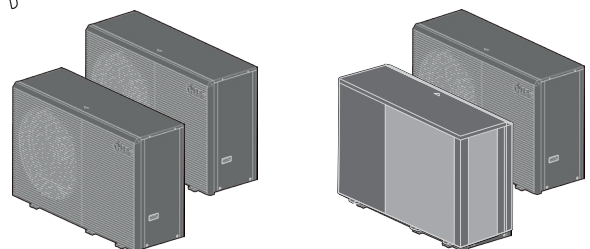


### Multiple installation

 **Do**

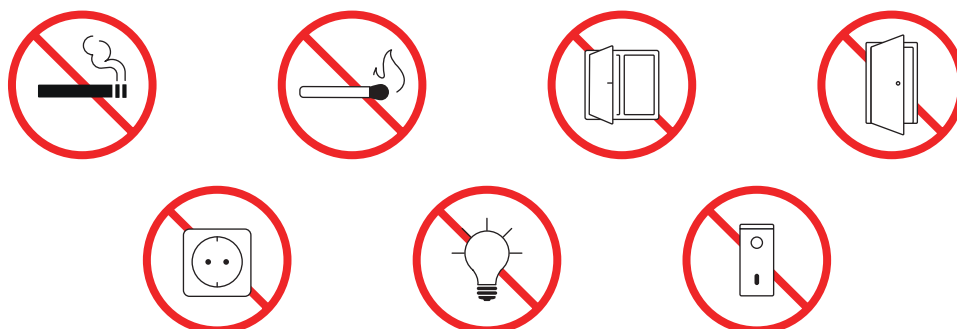


 **Don't**



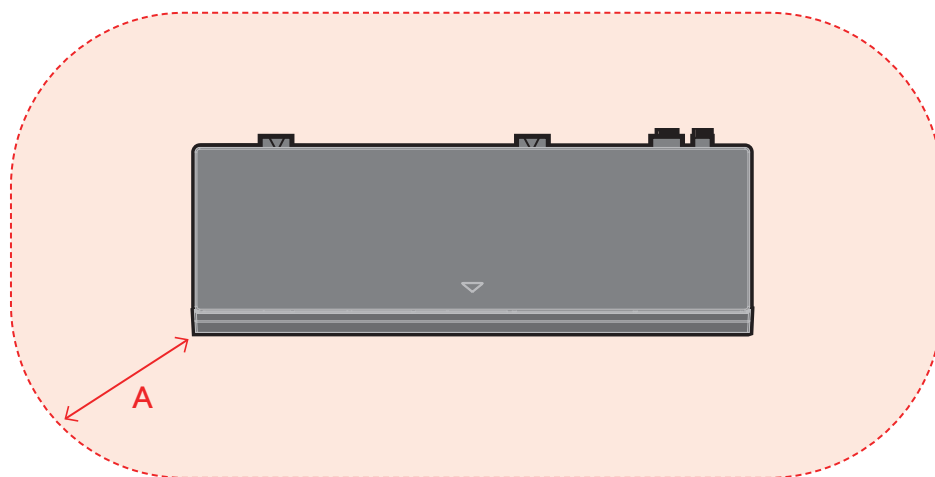
# Find the ideal space for installation

## Safety zone



### 1. Ground installation no obstacle

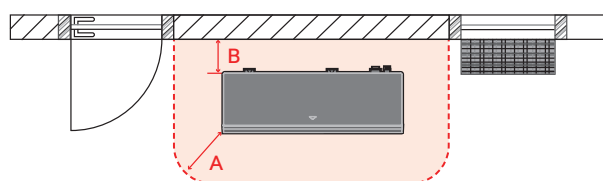
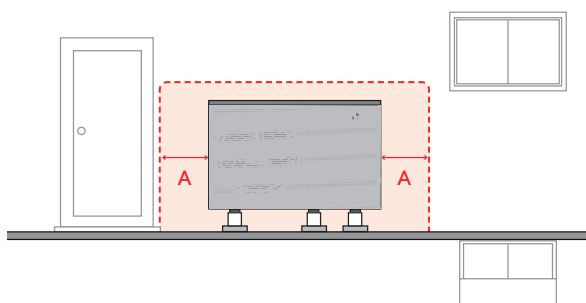
A : 1,000 mm



### 2. Ground installation in front of the wall

A : 1,000 mm

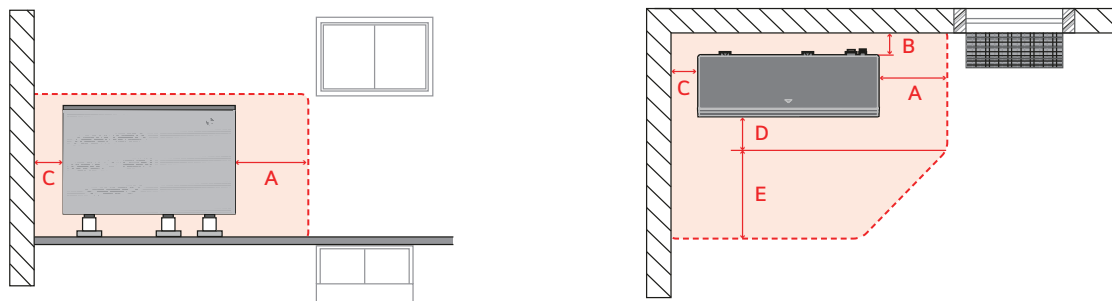
A : 1,000 mm  
B : 300 mm



## Find the ideal space for installation

### 3. Ground installation in a corner with wall at the left side

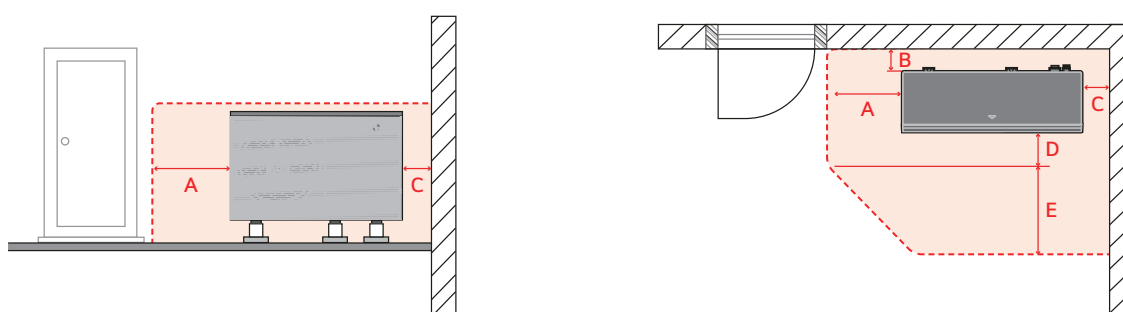
[Unit: mm]



A	1,000
B	300
C	100
D	600
E	1,800

### 4. Ground installation in a corner with wall at the right side

[Unit: mm]



A	1,000
B	300
C	500
D	600
E	1,800

## Select the perfect domestic hot water and buffer storage

DHW tank sizing

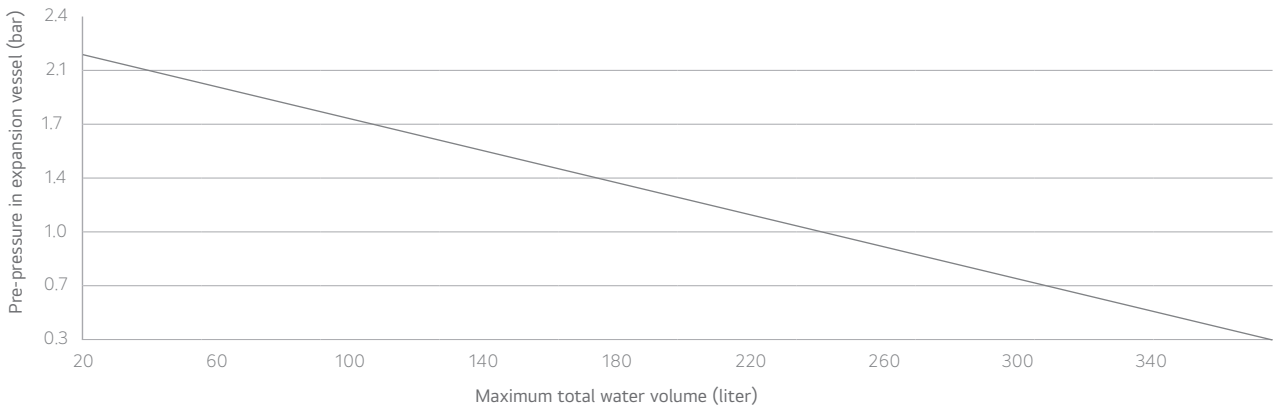
# 내용 수신 예정

# Select the perfect domestic hot water and buffer storage

## Minimum water volume and Expansion vessel pressure

Capacity (kW)		9 kW	12 kW	14 kW	16 kW
Minimum water volume	with backup heater	20 ℓ			
	without backup heater	80 ℓ			
Recommended water volume		90 ℓ	120 ℓ	140 ℓ	160 ℓ

- The internal water volume of the outdoor unit is NOT included.  
 - Recommended Total Water Amount is 10 ℓ / kW.



### Adjusting pre-pressure of expansion vessel is as following:

- Step 1** Refer "Volume-Height" table.  
 If installation scene is belong to Case A, go to Step 2.  
 Otherwise, if it is Case B, do nothing. (pre-pressure adjustment is not required.)  
 Otherwise, if it is Case C, go to Step 3.
- Step 2** Adjust pre-pressure by following equation.  

$$\text{Pre-pressure [bar]} = (0.1 \times H + 0.3) \text{ [bar]}$$
 where H : difference between unit and the highest water pipe  
 0,3 : minimum water pressure to secure product operation
- Step 3** Volume of expansion vessel is less than installation scene.  
 Please install additional expansion vessel at the external water circuit.

### Volume-Height Table

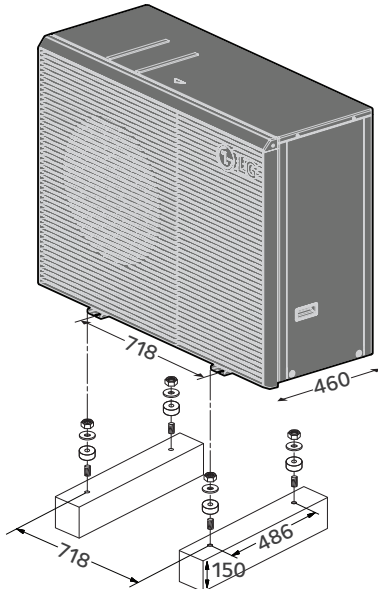
	V < 230 liter	V ≥ 230 liter
H < 7 m	Case B	Case A
H ≥ 7 m	Case A	Case C

- H: Difference between unit and the highest water pipe  
 - V: total water volume of installation scene

# Mount the product and treat the condensate drainage

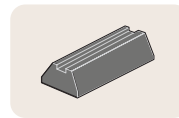
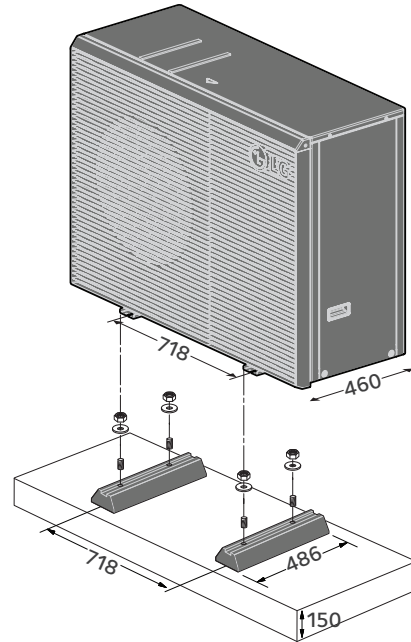
## On the concrete foundation

7, 9 kW



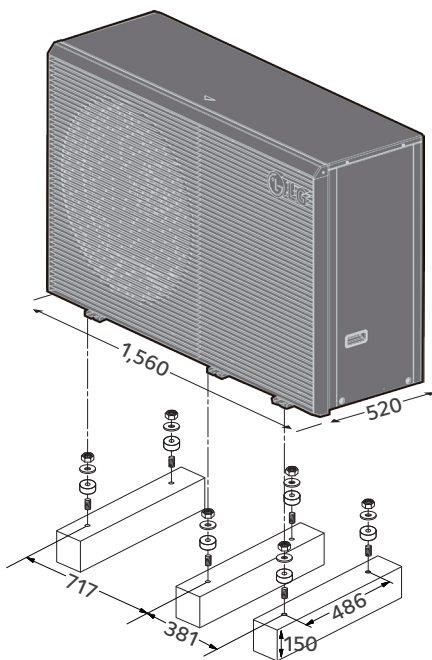
Damper\*  
\* supplied with ODU, 4 EA

## With damper socket

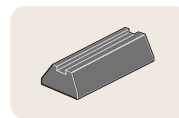
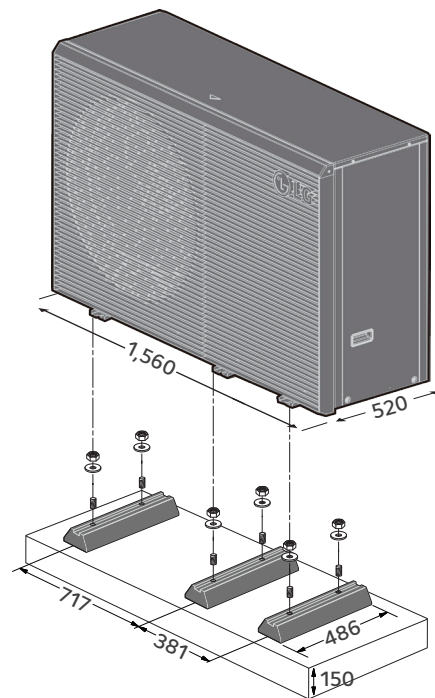


Damper socket\*  
\* on-site procurement

12, 14, 16 kW



Damper\*  
\* supplied with ODU, 6 EA

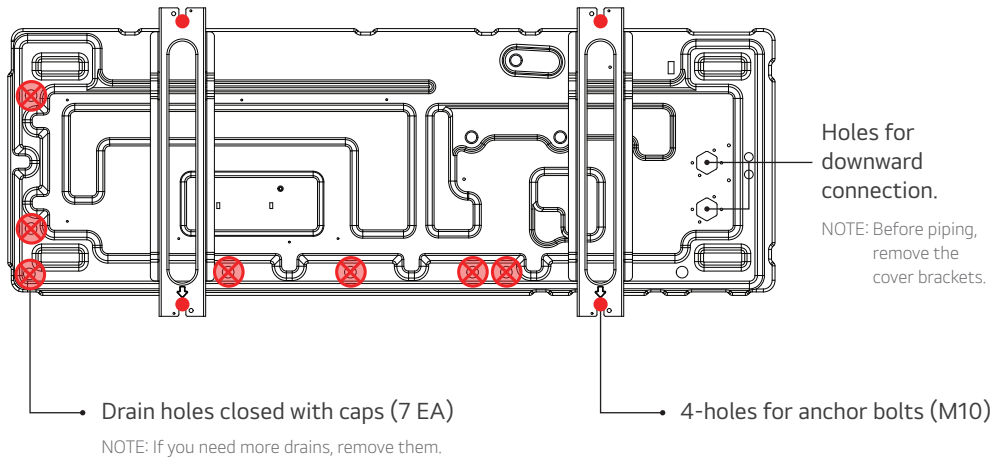


Damper socket\*  
\* on-site procurement

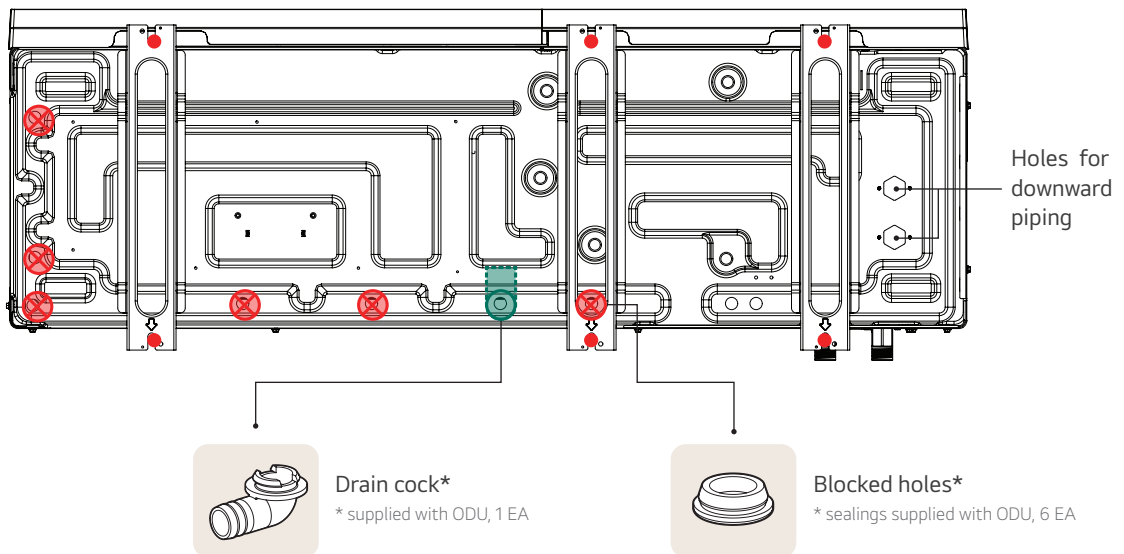
# Mount the product and treat the condensate drainage

## Decide the installation location for drain cock and drain caps

7, 9 kW



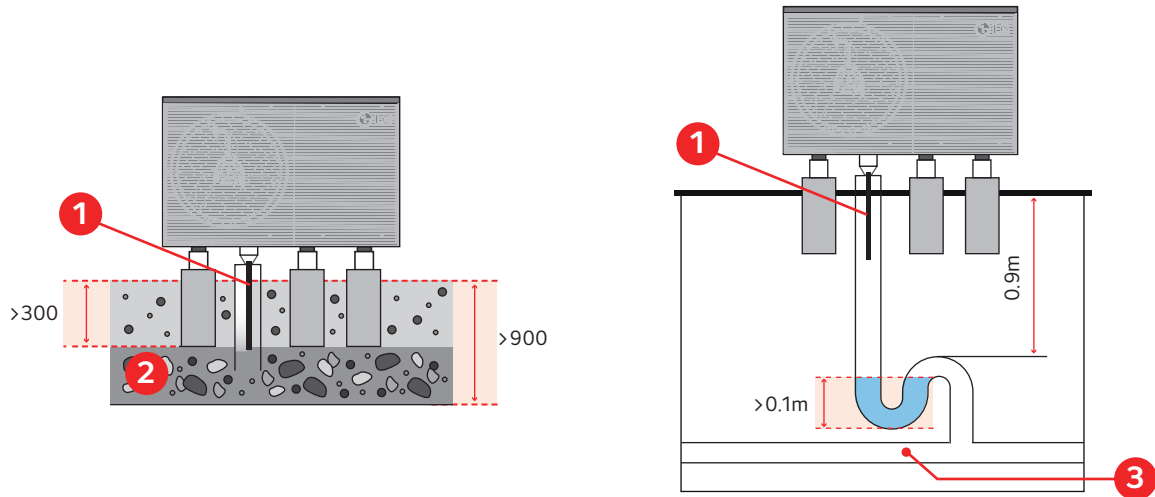
12, 14, 16 kW



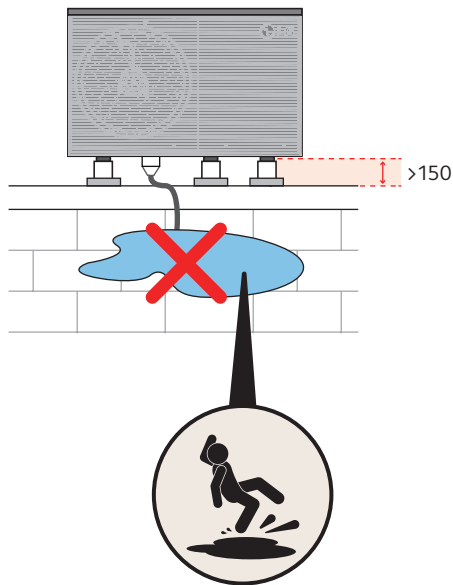
# Mount the product and treat the condensate drainage

## Properly handle condensate drain

 Do



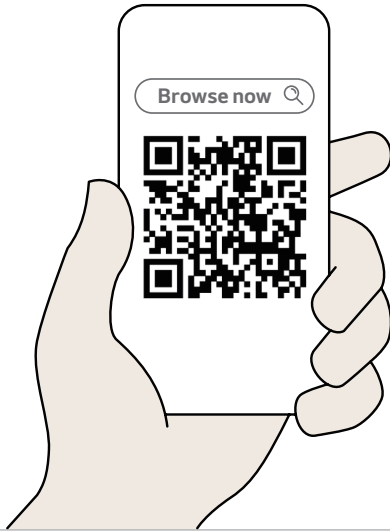
 Don't



- ❶ Section of condensate drain pipe exposed to open air must be insulated.
- ❷ If condensate is drained into a gravel-bed, the pipe must be directed into frost-free area. The gravel must be able to absorb up to 100 ℓ of condensate per day.
- ❸ If condensate water is drained into a rainwater sewer or other drainage pipe, note the slope of the pipe and make sure the pipe is frost-free.

# Make your system diagram

## LATS THERMA V web



# THERMA V™

- Model selection
- Payback calculation
- Cost comparison with other boiler system
- Hydronic / electric diagram**
- Technical & marketing data

Model Selection
Documents
Energy Simulation & Payback
Sound simulation
Diagram

### Model Selection

Operation mode

Heating

Cooling

DHW

Outdoor unit type: Monobloc ▾

Refrigerant: R290 ▾

Phase: 1/220-240/50 ▾

Indoor unit type: Hydrobox ▾

Model Name: HM121HF UB60+HN1616HC NKI ▾

Backup Heater: -- Please Select -- ▾

Water Heating Type: Air to water heat pump ▾

Download

### Circuit & Emittor

Simultaneous operation of heating & cooling

Amount of circuit: 2 ▾

#### Circuit1(Cooling)

**Terminal Device**

Radiator ⊖ 0 ⊕

Under floor heating ⊖ 1 ⊕

Fan coil unit ⊖ 0 ⊕

**Control**

Remote controller

Room temperature sensor

Thermostat

#### Circuit2(Heating)

**Terminal Device**

Radiator ⊖ 1 ⊕

Under floor heating ⊖ 0 ⊕

Fan coil unit ⊖ 0 ⊕

**Control**

Remote controller

Room temperature sensor

Thermostat

### Domestic hot water

Domestic hot water tank (Single Coil, 200L)

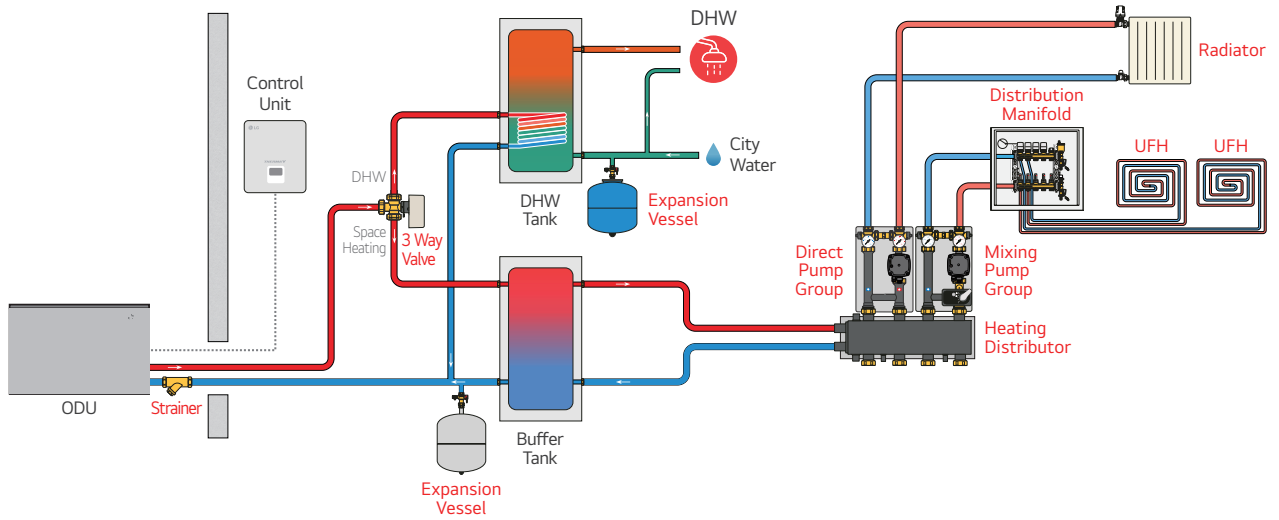
Domestic hot water tank (Single Coil, 300L)

Domestic hot water tank (Double Coil, 300L)

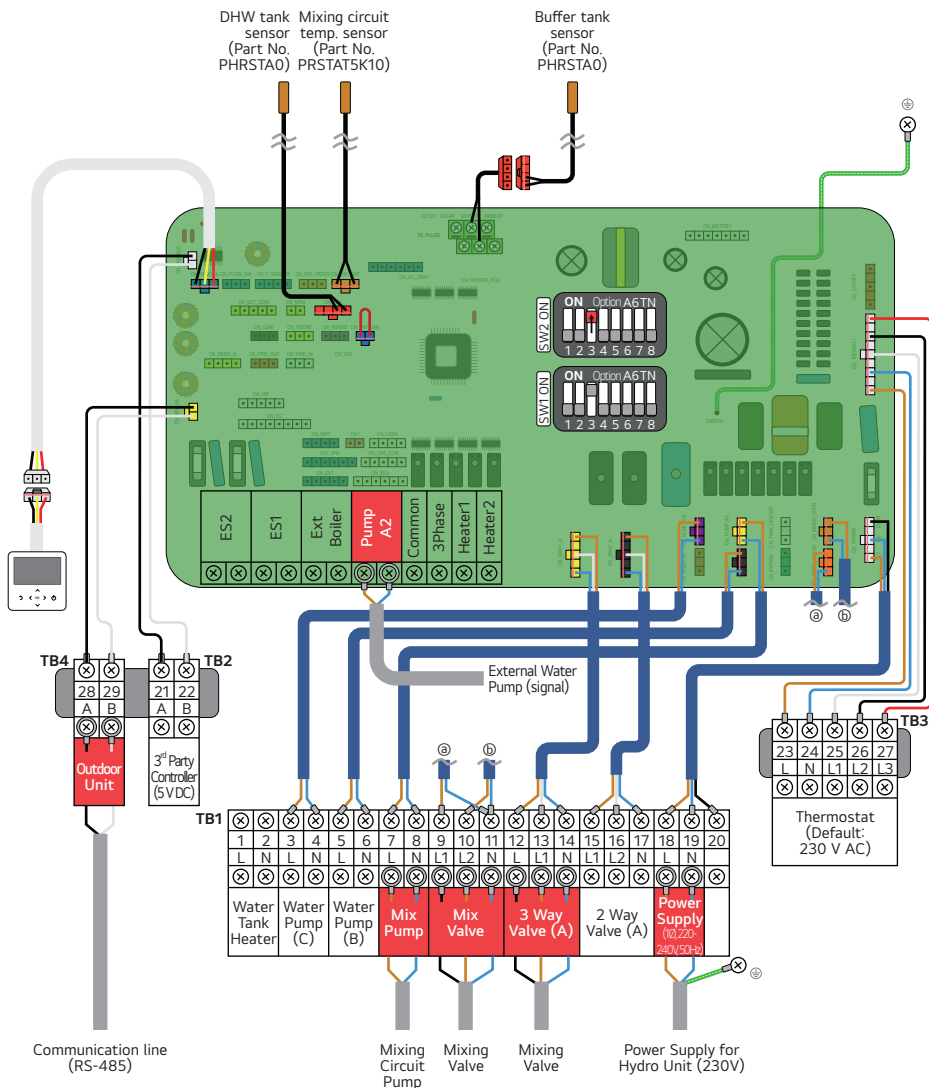
Domestic hot water tank (Single Coil, 500L)

# Typical schematic diagram

## Control unit - schematic diagram



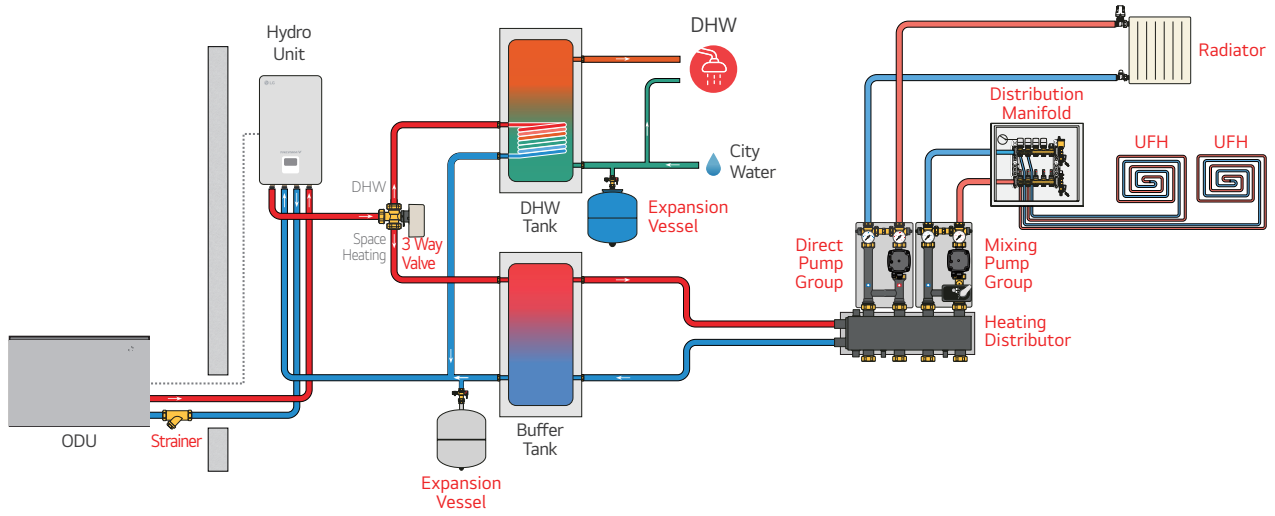
## Control unit - wiring diagram



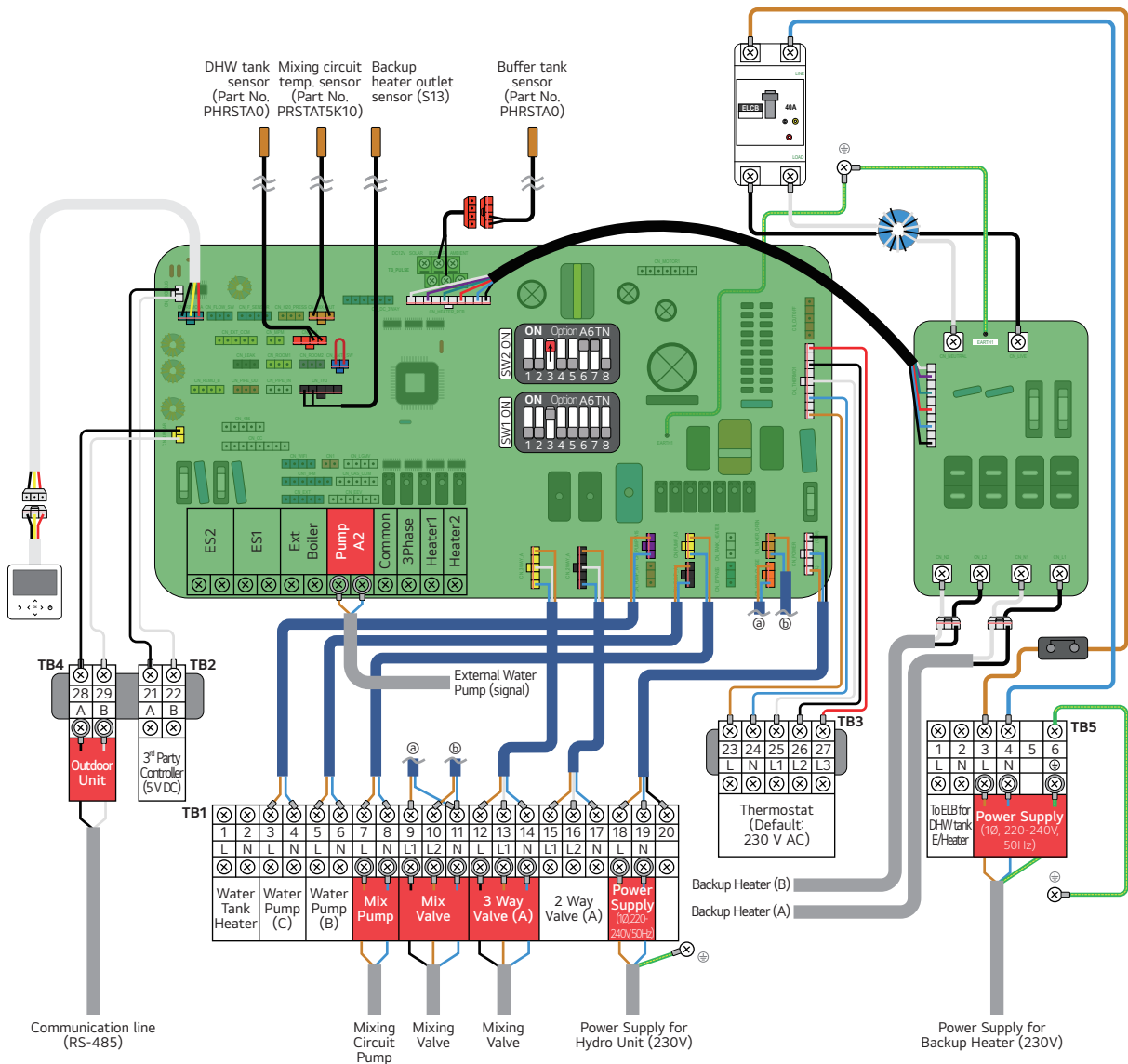
\* This is a simplified typical schematic. Please refer to more detailed and diverse installation scenes in LATS THERMA V.

# Typical schematic diagram

## Hydro unit - schematic diagram



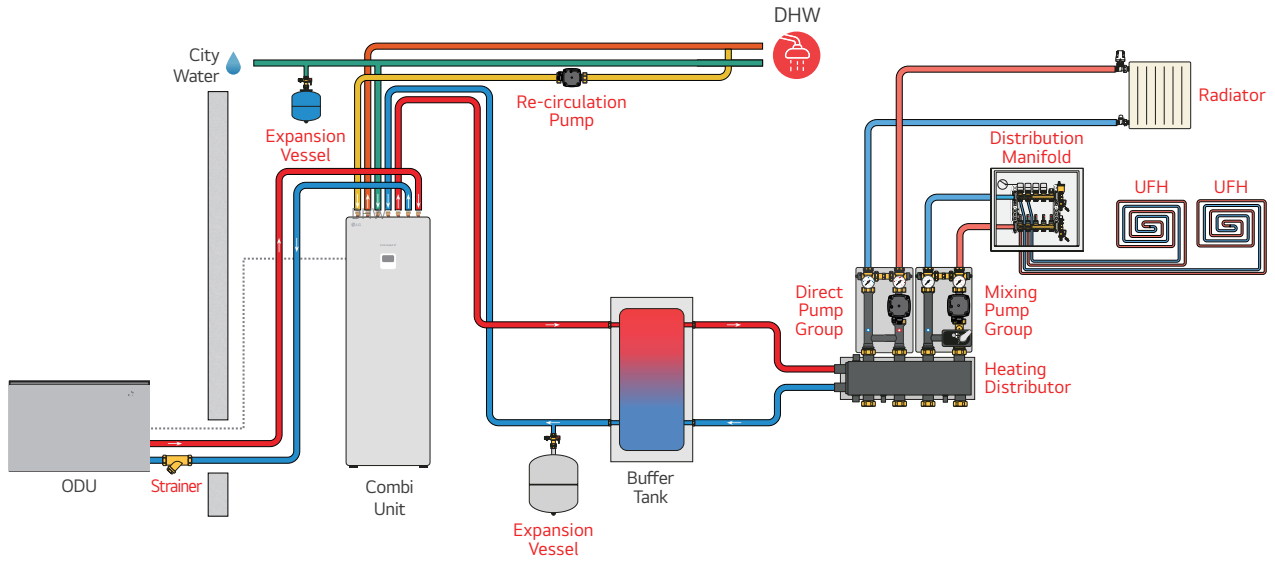
## Hydro unit - wiring diagram



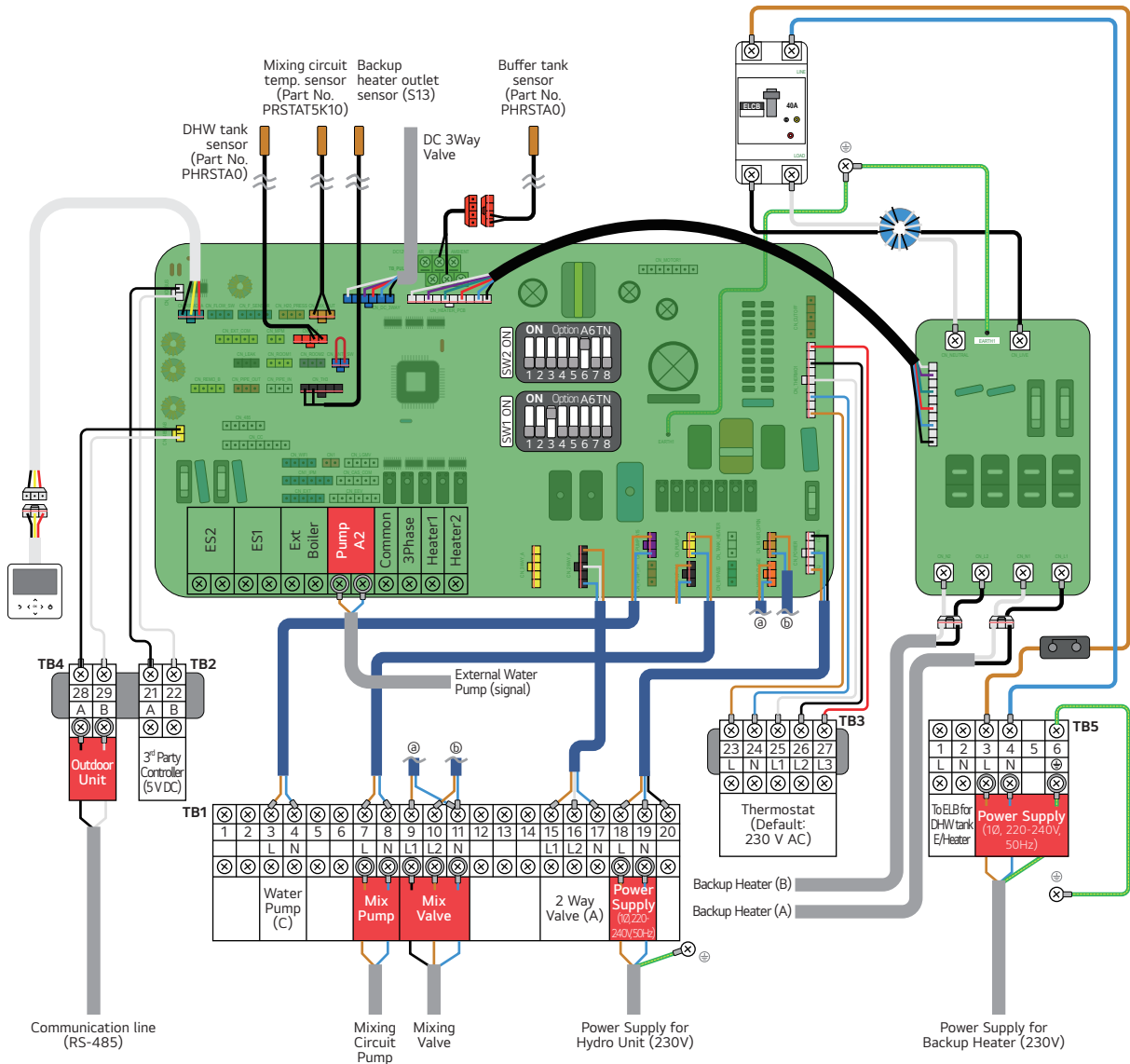
\* This is a simplified typical schematic. Please refer to more detailed and diverse installation scenes in LATS THERMA V.

# Typical schematic diagram

## Combi unit - schematic diagram



## Combi unit - wiring diagram



\* This is a simplified typical schematic. Please refer to more detailed and diverse installation scenes in LATS THERMA V.

## Watch our installation video



LG THERMA V R290 Installation Guide



## LG THERMA V R290 Installation Guide



**LG** LG Air Solution Europe



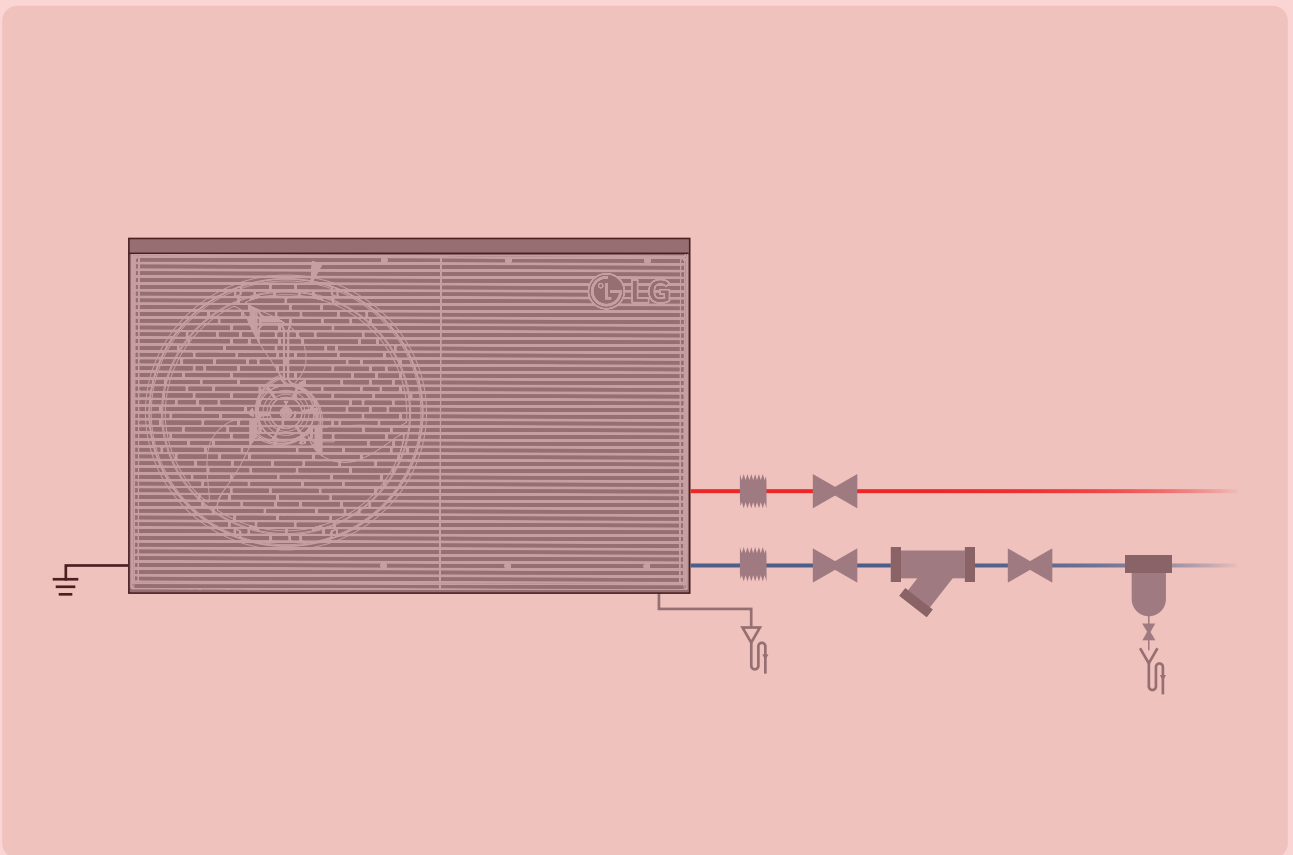
Welcome to LG THERMA V R290 step-by-step installation guide. Follow these to secure safety into every aspect of the installation of this air-to-water heat pump system.



[Browse now](#)

Start with water piping connection

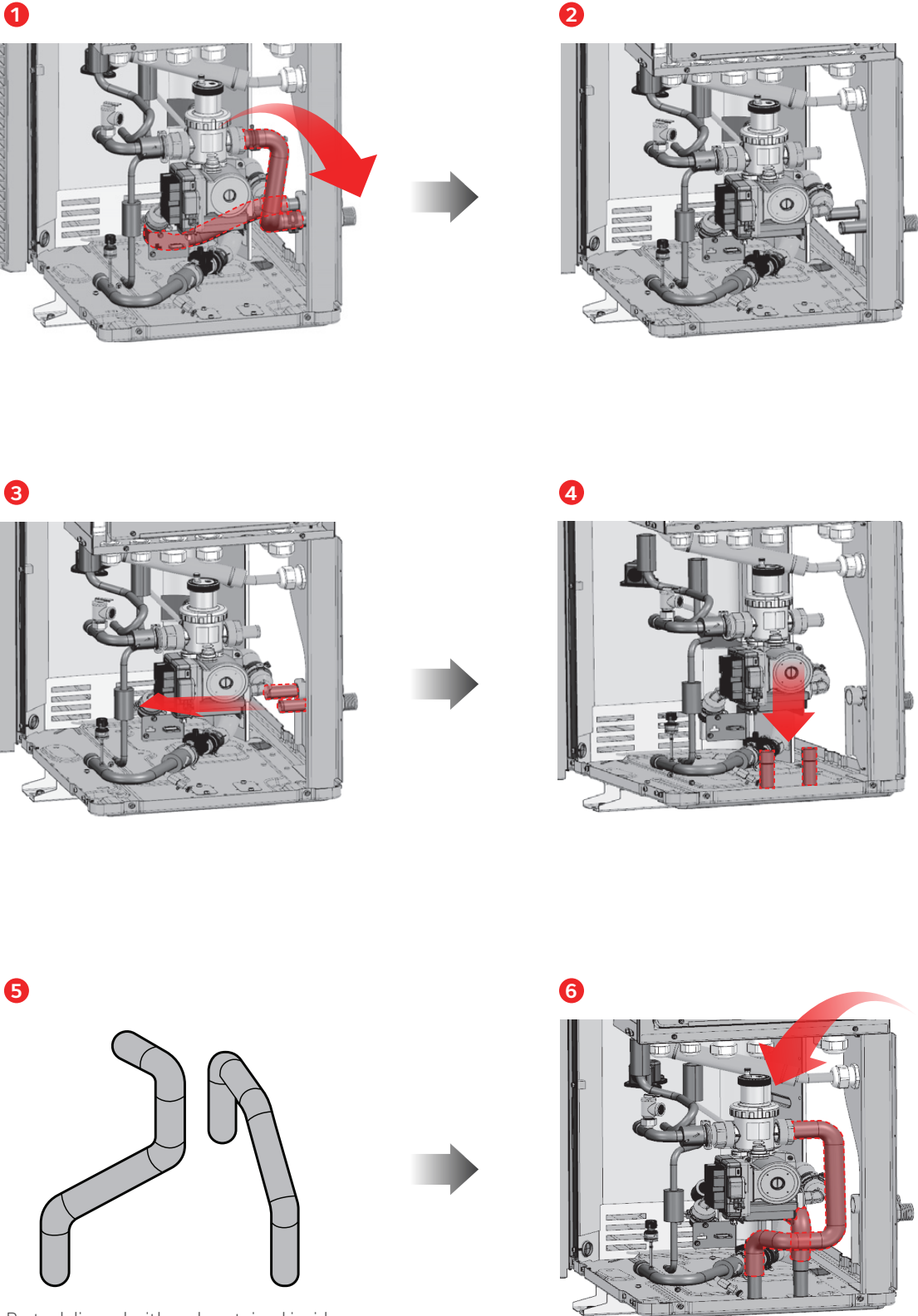
# 내용 문의



## Start with water piping connection

When changing to downward piping..

7, 9 kW



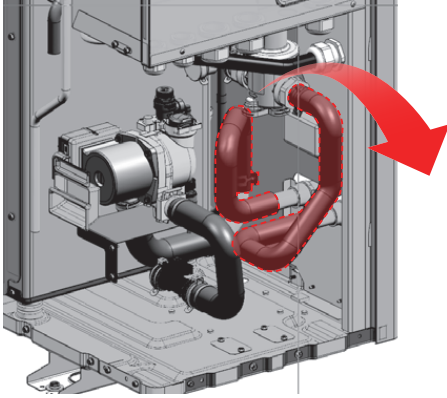
Parts delivered with and contained inside the outdoor unit

# Start with water piping connection

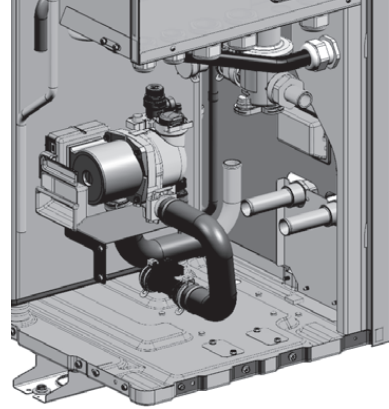
When changing to downward piping..

12, 14, 16 kW

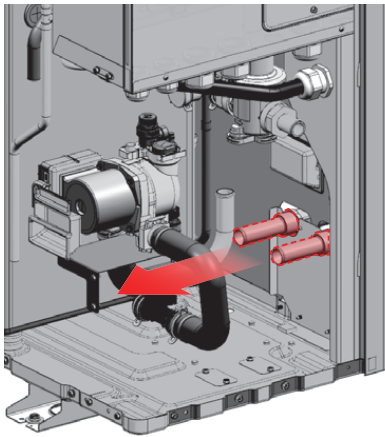
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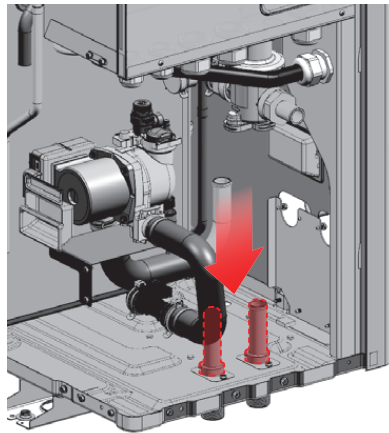
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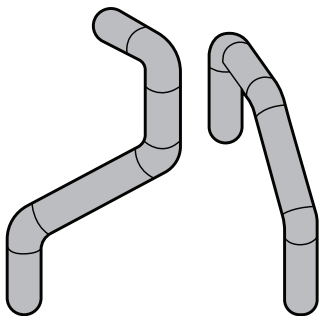
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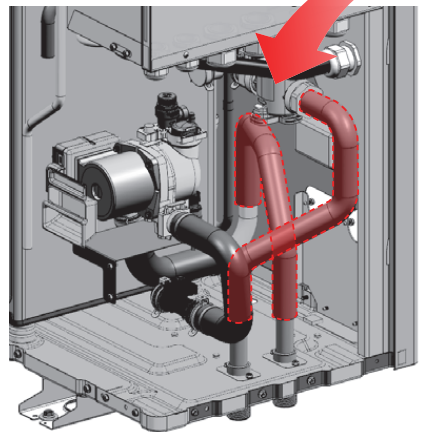
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5



6

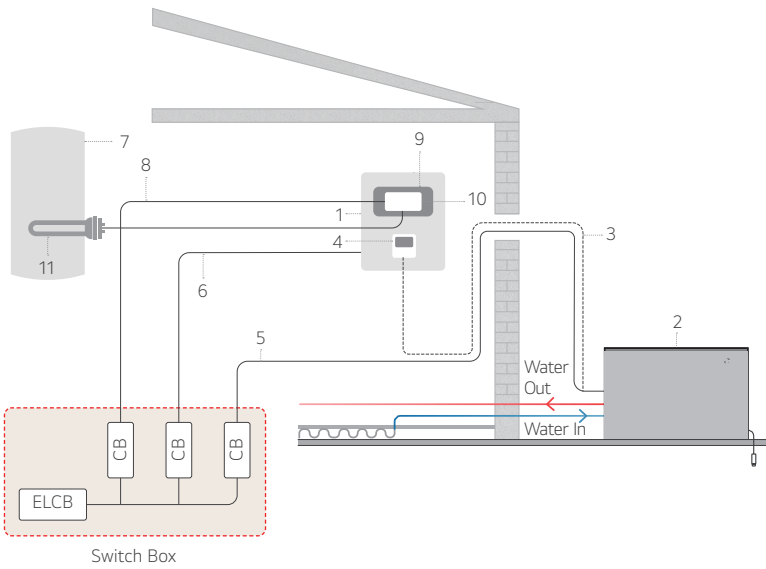


Parts delivered with and contained inside the outdoor unit

# Proceed with connecting the power cable and communication line

## Field wiring diagram

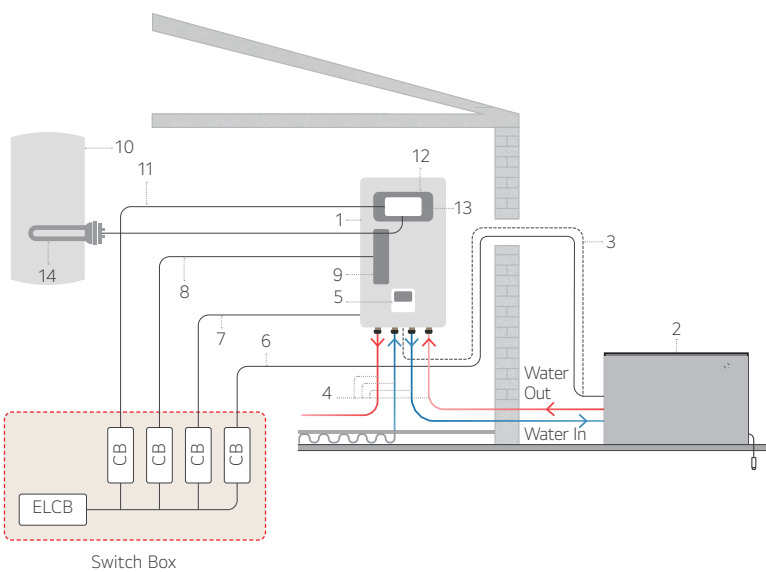
- For Control Unit Type



No.	Name
1	Control unit
2	Outdoor unit
3	Communication cable
4	Remote controller
5	Power supply for outdoor unit
6	Power supply for indoor unit
7	DHW tank*
8	Power supply DHW boost heater*
9	DHW tank kit* (PHLTA / PHLTC)
10	Circuit breaker for DHW boost heater*
11	DHW boost heater*

\* Optional  
 ELCB: Earth-leakage circuit breaker  
 CB: Circuit breaker

- For Hydro Unit Type



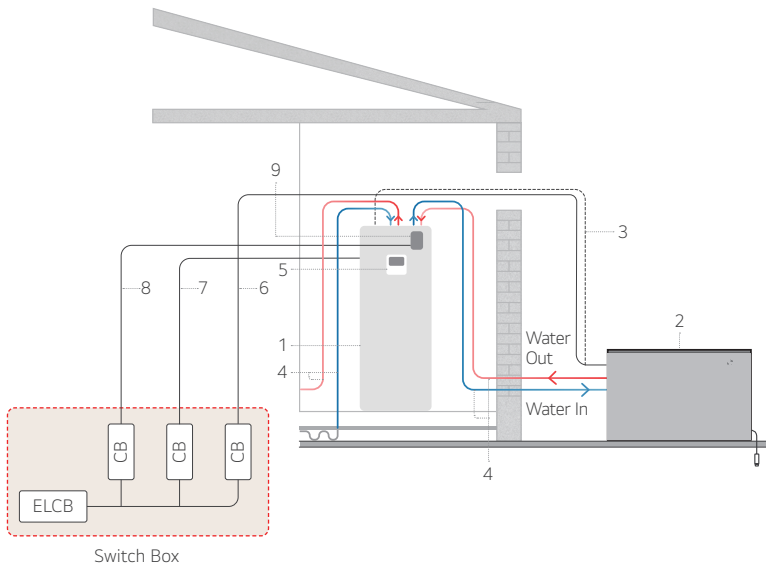
No.	Name
1	Hydro unit
2	Outdoor unit
3	Communication cable
4	Heating water pipes
5	Remote controller
6	Power supply for outdoor unit
7	Power supply for indoor unit
8	Power supply backup heater*
9	Backup heater*
10	DHW tank*
11	Power supply DHW boost heater*
12	DHW tank kit*
13	Circuit breaker for DHW boost heater*
14	DHW boost heater*

\* Optional  
 ELCB: Earth-leakage circuit breaker  
 CB: Circuit breaker

# Proceed with connecting the power cable and communication line

## Field wiring diagram

- For Combi Unit Type



No.	Name
1	Combi unit
2	Outdoor unit
3	Communication cable
4	Heating water pipes
5	Remote controller
6	Power supply outdoor unit
7	Power supply indoor unit
8	Power supply backup heater
9	Backup heater

\* Optional  
 ELCB: Earth-leakage circuit breaker  
 CB: Circuit breaker

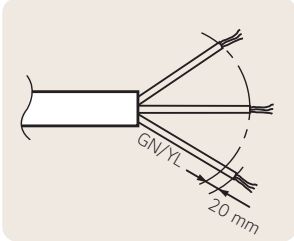
# Proceed with connecting the power cable and communication line

## Preparation

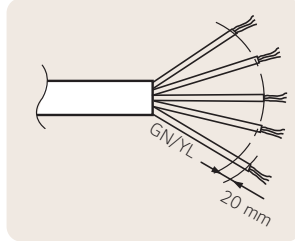
### Power supply outdoor unit

• 1 Phase (Ø)

• 3 Phase (Ø)

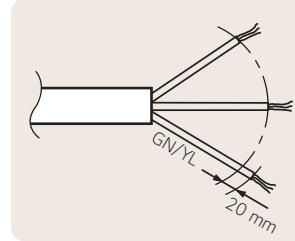


Normal cross-sectional area:  
2.5 mm<sup>2</sup>



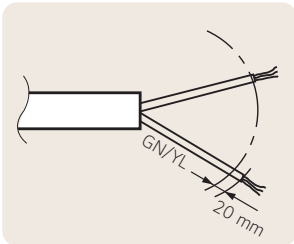
Normal cross-sectional area:  
2.5 mm<sup>2</sup>

### Power supply indoor unit



Normal cross-sectional area: 0.75 mm<sup>2</sup>

### Communication cable

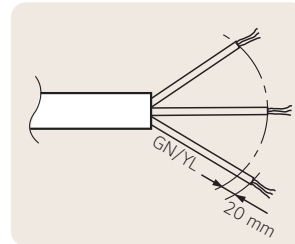


Normal cross-sectional area: 0.75 mm<sup>2</sup>

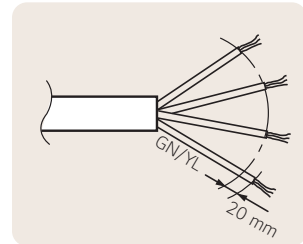
### Power supply backup heater and boost heater (optional)

• 1 Phase (Ø)

• 3 Phase (Ø)



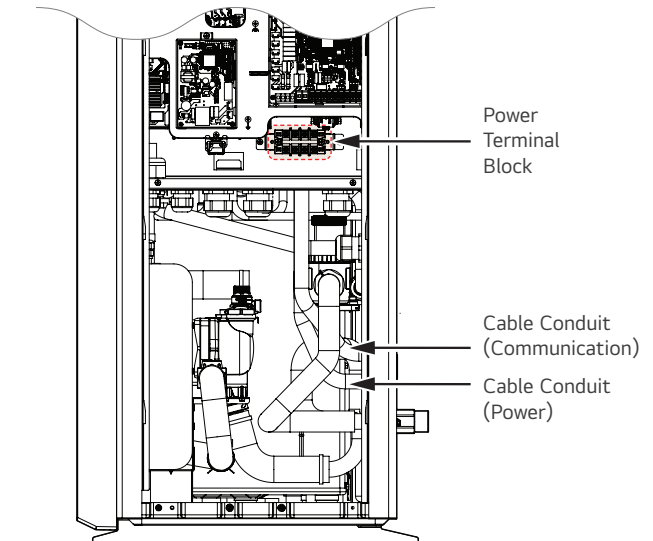
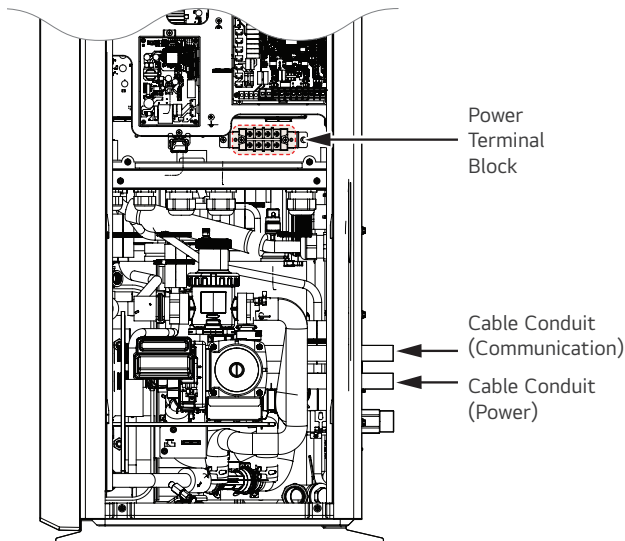
Normal cross-sectional area:  
4 mm<sup>2</sup> for backup heater  
6 mm<sup>2</sup> for boost heater



Normal cross-sectional area:  
2.5 mm<sup>2</sup> for backup heater

7, 9 kW

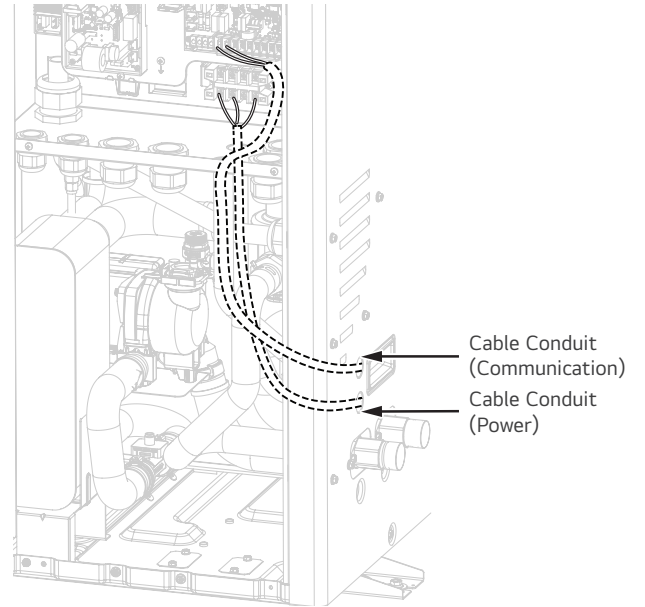
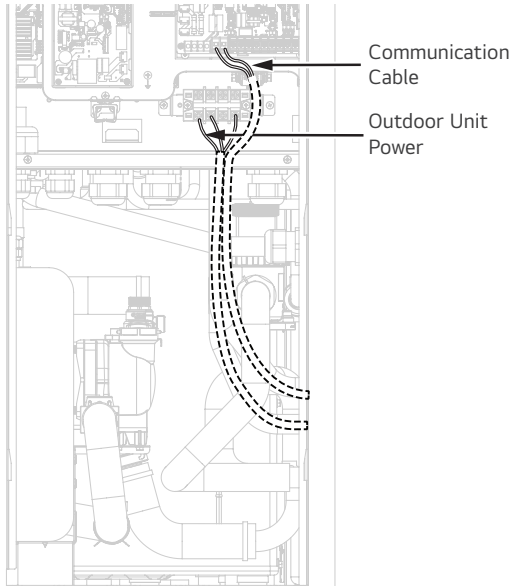
12, 14, 16 kW



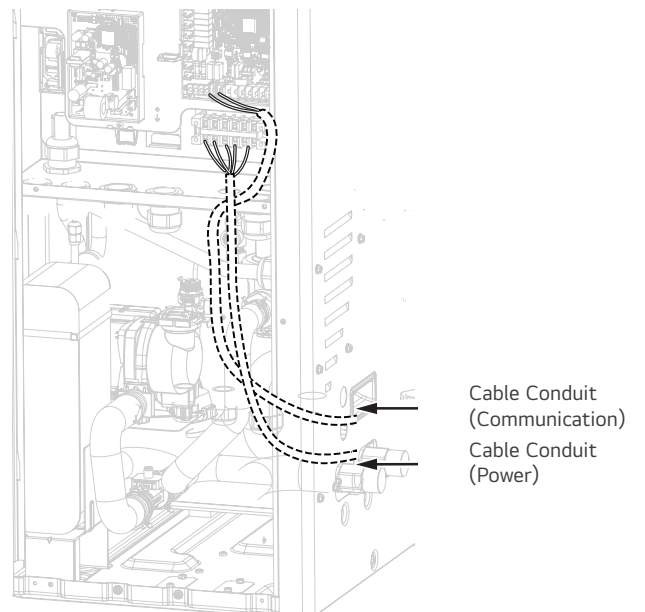
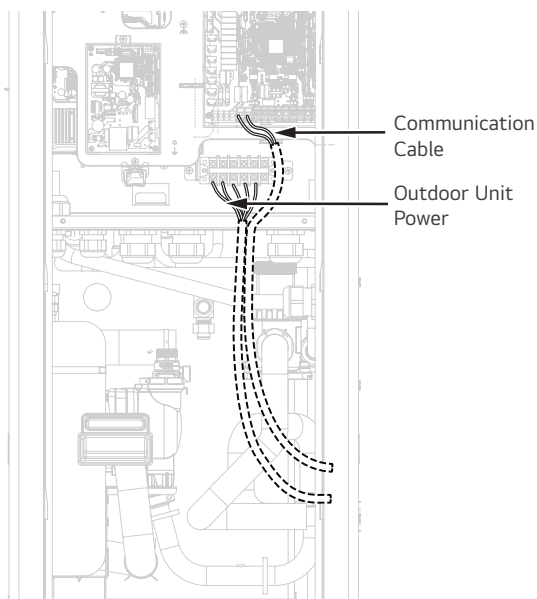
# Proceed with connecting the power cable and communication line

## Outdoor unit

- 1 Phase (Ø)



- 3 Phase (Ø)

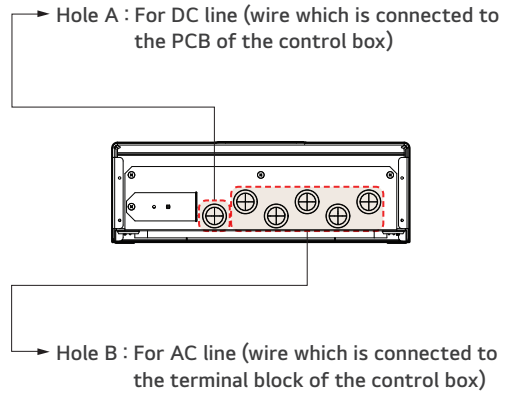
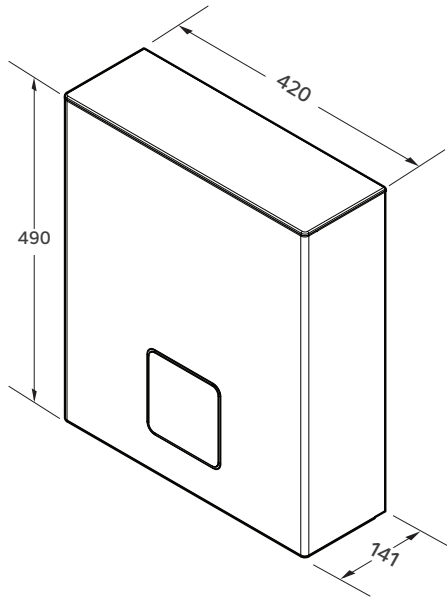


\* This figure represents the 12, 14 and 16 kW models.

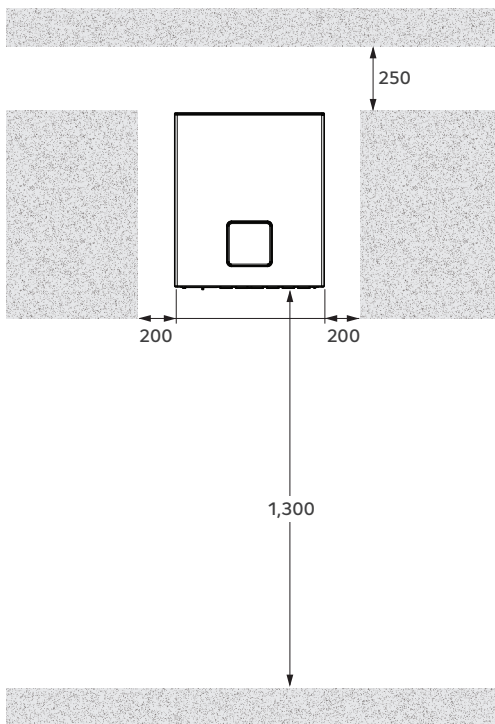
# Indoor unit selection

## Control unit

[Unit: mm]

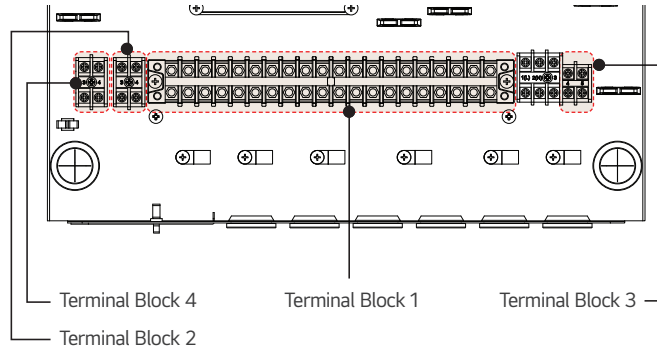


- Minimum service space



# Indoor unit selection

## Control unit



### Terminal Block 1

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L	N	L	N	L	N	L	N	L1	L2	N	L	L1	N	L1	L2	N	L	N	
WATER TANK HEATER		WATER PUMP (C)		WATER PUMP (B)		MIX PUMP		MIX VALVE			3 WAY VALVE (A)		2 WAY VALVE (A)		POWER SUPPLY (1Ø, 220-240 V, 50 Hz)				
Turn on or off booster heater		Energizing water pump for DHW-recirculation		Energizing water pump for solar thermal system				Power supply for 2 <sup>nd</sup> circuit heating kit			Water flow switching between space heating and DHW tank heating		Closing other circuits during cooling operation		Power supply for Indoor unit				

### Terminal Block 4

28	29
A	B
OUTDOOR UNIT	
Connection for communication	

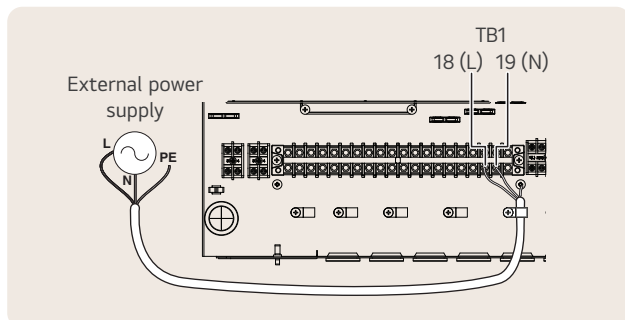
### Terminal Block 2

21	22
A	B
3 <sup>rd</sup> PARTY CONTROLLER (5 V DC)	
Connection for 3 <sup>rd</sup> party controller or Modbus RTU or Metering module (5 V DC)	

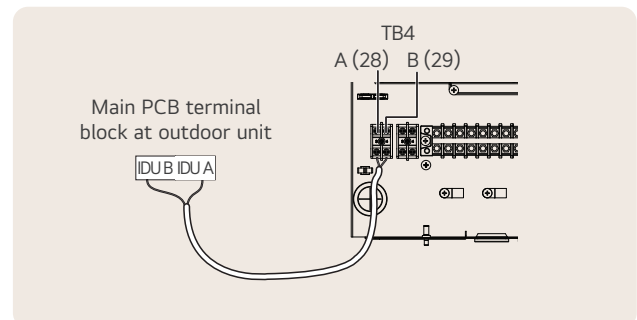
### Terminal Block 3

23	24	25	26	27
L	N	L1	L2	L3
THERMOSTAT (Default: 230 V AC)				

## Power supply outdoor unit



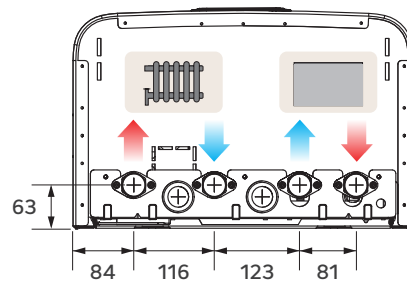
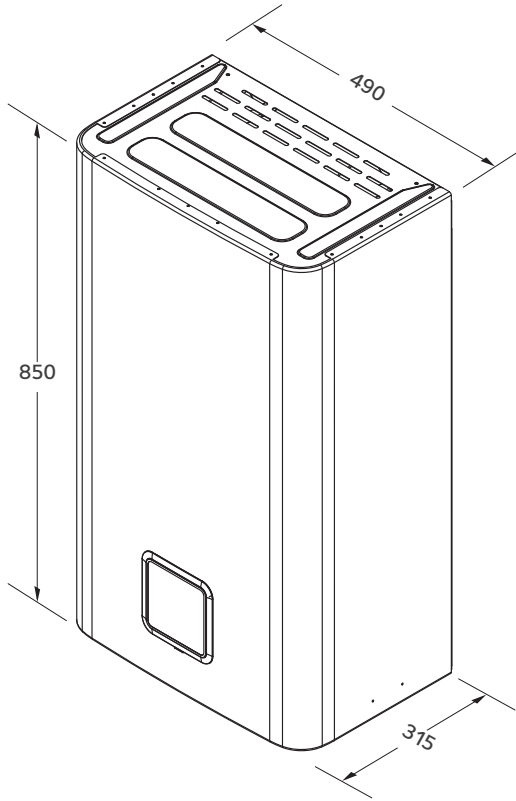
## Communication cable



# Indoor unit selection

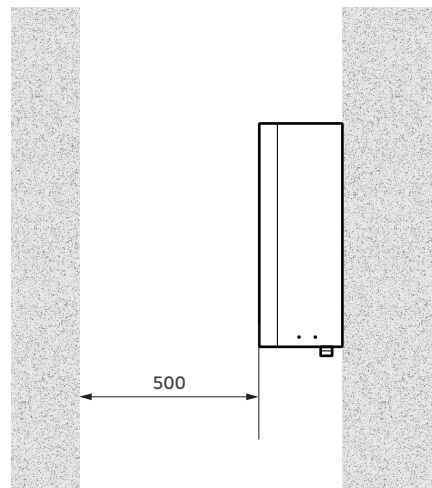
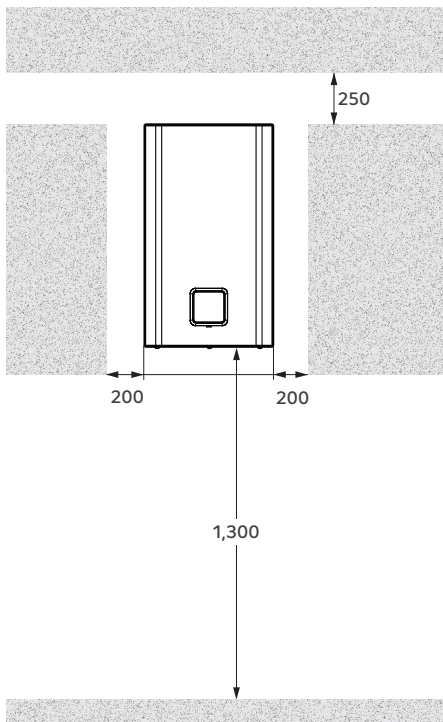
## Hydro unit

[Unit: mm]



Piping connection:  
Male PT 1"

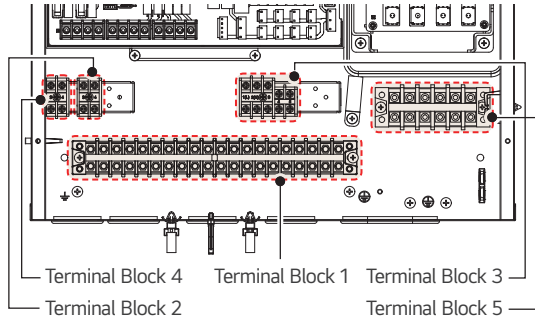
- Minimum service space



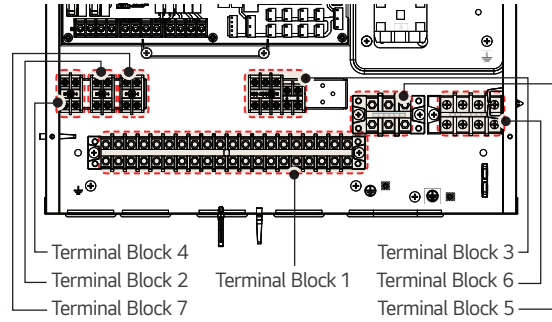
# Indoor unit selection

## Hydro unit

• 1 Phase (Ø)



• 3 Phase (Ø)



### Terminal Block 1

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L	N	L	N	L	N	L	N	L1	L2	N	L	L1	N	L1	L2	N	L	N	
WATER TANK HEATER		WATER PUMP (C)		WATER PUMP (B)		MIX PUMP		MIX VALVE			3 WAY VALVE (A)			2 WAY VALVE (A)			POWER SUPPLY (1Ø, 220-240 V, 50 Hz)		
Turn on or off booster heater		Energizing water pump for DHW-recirculation		Energizing water pump for solar thermal system				Power supply for 2 <sup>nd</sup> circuit heating kit			Water flow switching between space heating and DHW tank heating			Closing other circuits during cooling operation			Power supply for Indoor unit		

### Terminal Block 4

28	29
A	B
OUTDOOR UNIT	

Connection for communication

### Terminal Block 2

21	22
A	B
3 <sup>rd</sup> PARTY CONTROLLER (5 V DC)	

Connection for 3<sup>rd</sup> party controller or Modbus RTU or Metering module (5 V DC)

### Terminal Block 3

23	24	25	26	27
L	N	L1	L2	L3
THERMOSTAT (Default: 230 V AC)				

### Terminal Block 5

• 1 Phase (Ø)

1 (L)	2 (N)	3 (L)	4 (N)	⊕
TO ELB FOR DHW TANK E/HEATER		POWER SUPPLY (1 Ø, 220-240 V, 50 Hz)		

External electric power supply for booster heater External electric power supply for backup heater

• 3 Phase (Ø)

R	S	T
POWER SUPPLY (3 Ø, 380-415 V, 50 Hz)		

Connecting external electric power supply for backup heater

### Terminal Block 6

• 3 Phase (Ø)

⊕		L	N
POWER SUPPLY EARTH		TO ELB FOR DHW TANK E/HEATER	

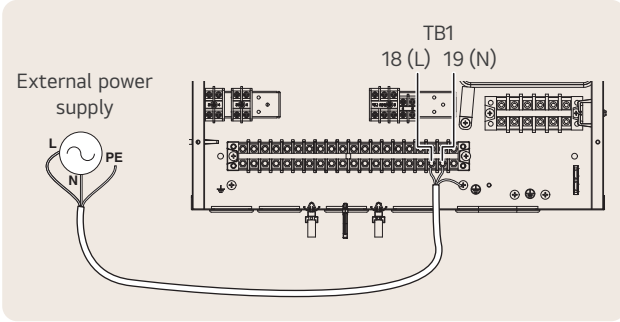
Connecting external electric power supply for backup heater External electric power supply for backup heater

# Indoor unit selection

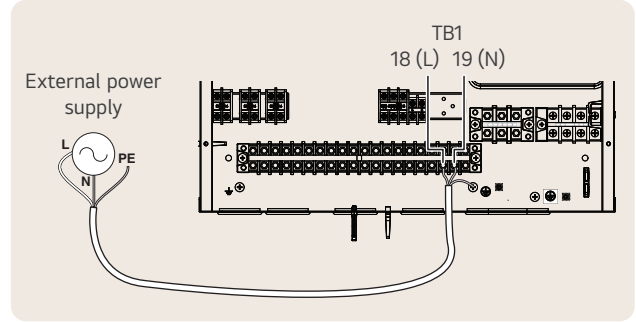
## Hydro unit

### Power supply indoor unit

• 1 Phase (Ø)

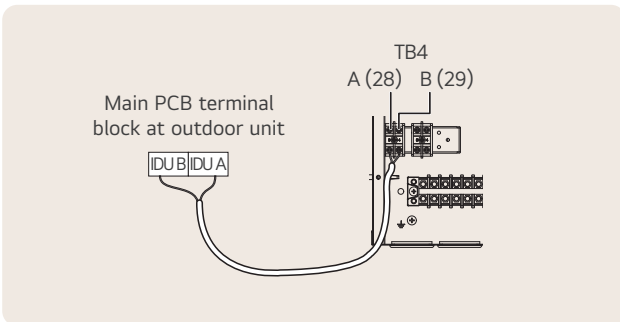


• 3 Phase (Ø)

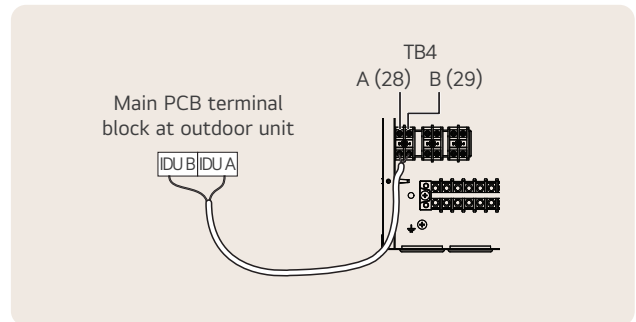


### Communication cable

• 1 Phase (Ø)

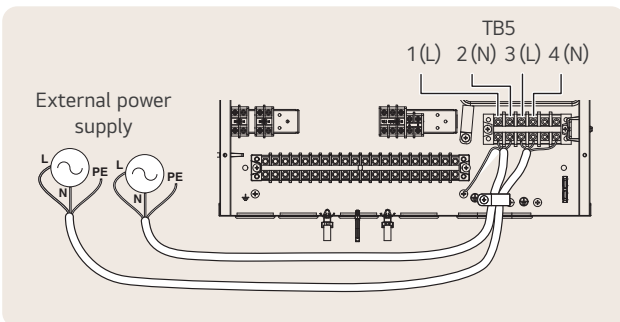


• 3 Phase (Ø)

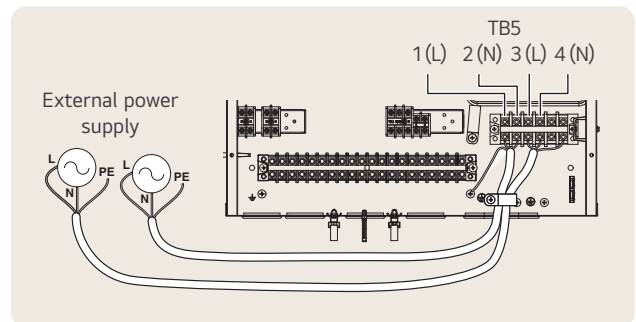


### Power supply backup heater and boost heater (optional)

• 1 Phase (Ø)



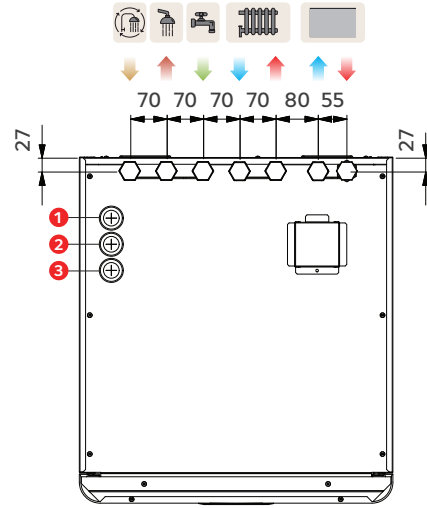
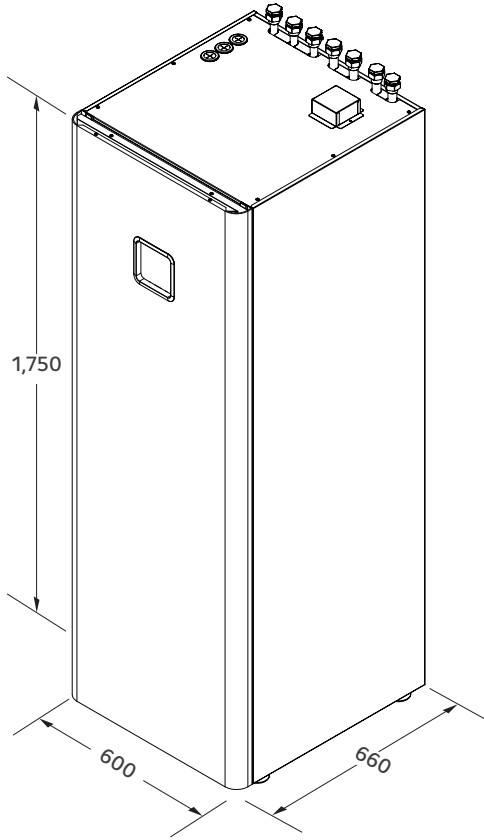
• 3 Phase (Ø)



# Indoor unit selection

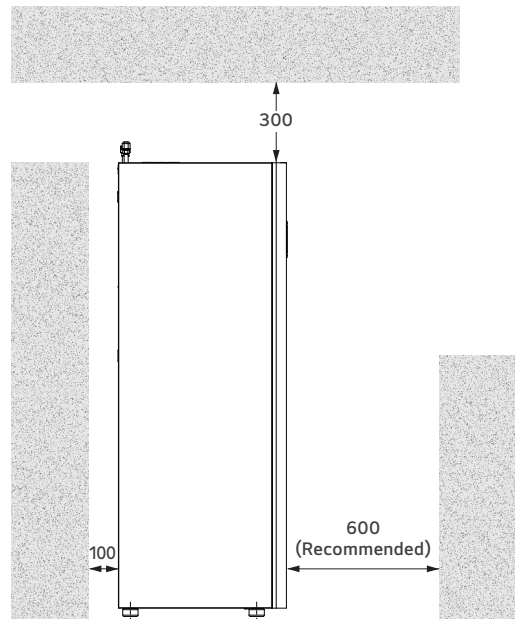
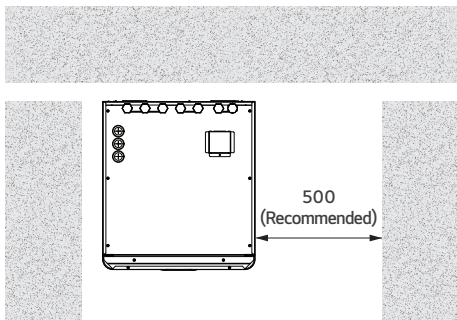
## Combi unit

[Unit: mm]



- ❶ Hole A: For High Voltage line (Wire which is connected to the terminal block of Heater Power)
- ❷ Hole B: For AC line (Wire which is connected to the terminal block of the control box)
- ❸ Hole C: For DC line (Wire which is connected to the PCB of the control box)

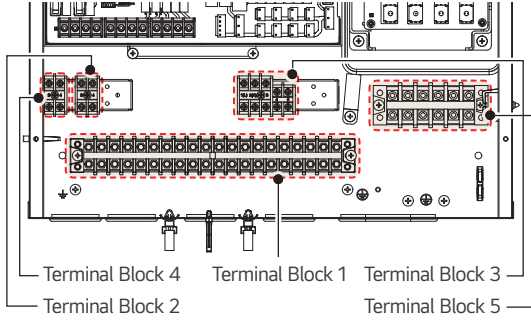
### • Minimum service space



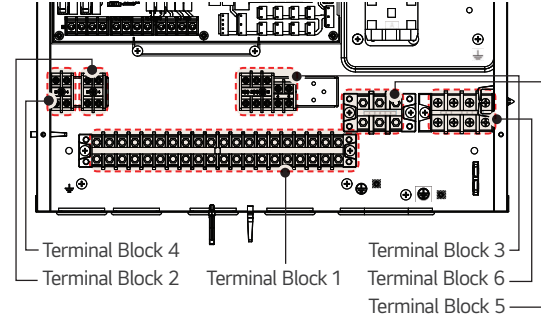
# Indoor unit selection

## Combi unit

• 1 Phase (Ø)



• 3 Phase (Ø)



### Terminal Block 1

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
		L	N			L	N	L1	L2	N				L1	L2	N	L	N	
		WATER PUMP (C)				MIX PUMP		MIX VALVE					2 WAY VALVE (A)		POWER SUPPLY (1Ø, 220 - 240 V, 50 Hz)				
Energizing water pump for DHW-recirculation				Power supply for 2 <sup>nd</sup> circuit heating kit						Closing other circuits during cooling operation				Power supply for Indoor unit					

### Terminal Block 4

28	29
A	B
OUTDOOR UNIT	
Connection for communication	

### Terminal Block 2

21	22
A	B
3 <sup>rd</sup> PARTY CONTROLLER (5 V DC)	
Connection for 3 <sup>rd</sup> party controller or Modbus RTU or Metering module (5 V DC)	

### Terminal Block 3

23	24	25	26	27
L	N	L1	L2	L3
THERMOSTAT (Default: 230 V AC)				

### Terminal Block 5

• 1 Phase (Ø)

		3 (L)	4 (N)	5	6 ⊕
POWER SUPPLY (1 Ø, 220-240 V, 50 Hz)					
External electric power supply for backup heater					

• 3 Phase (Ø)

R	S	T
POWER SUPPLY (3 Ø, 380-415 V, 50 Hz)		
Connecting external electric power supply for backup heater		

### Terminal Block 6

• 3 Phase (Ø)

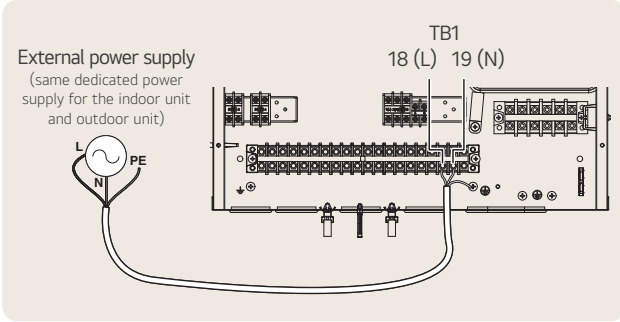
4 ⊕			
POWER SUPPLY EARTH			
Connecting external electric power supply for backup heater			

# Indoor unit selection

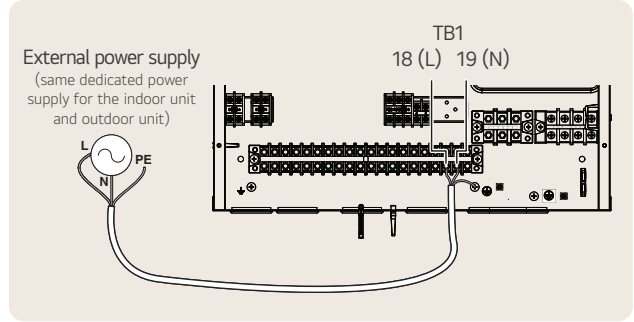
## Combi unit

### Power supply indoor unit

- 1 Phase (Ø)

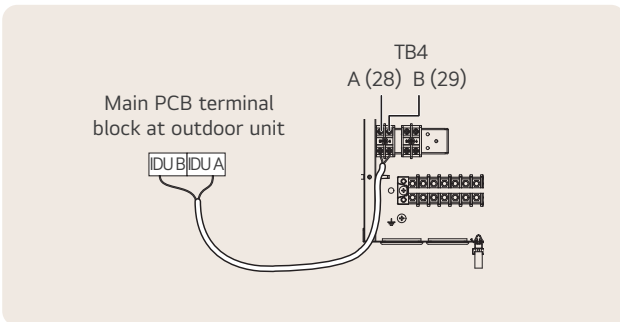


- 3 Phase (Ø)

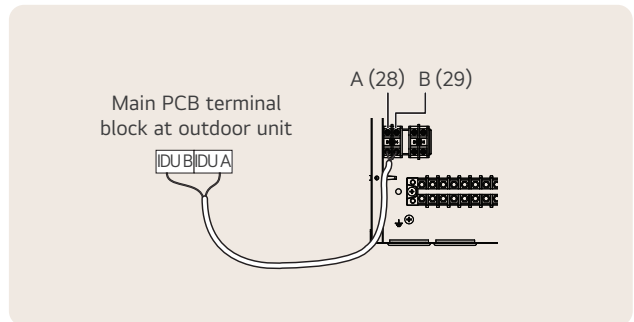


### Communication cable

- 1 Phase (Ø)

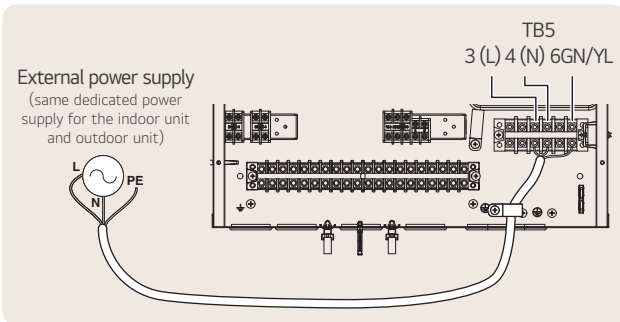


- 3 Phase (Ø)

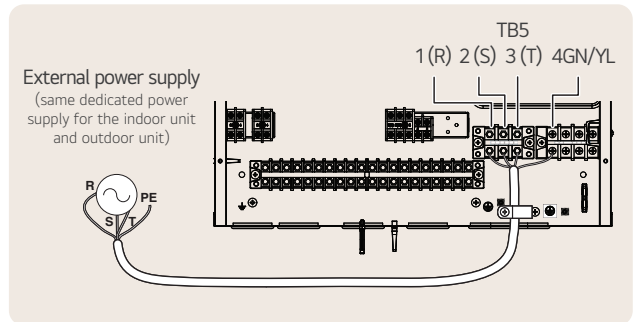


### Power supply backup heater and boost heater (optional)

- 1 Phase (Ø)



- 3 Phase (Ø)



## Product specification

### Outdoor unit

Efficiency Data		Unit	9 kW (3 Ø)	12 kW (1 Ø) 12 kW (3 Ø)	14 kW (1 Ø) 14 kW (3 Ø)	16 kW (1 Ø) 16 kW (3 Ø)
Seasonal space heating eff. class (35°C / 55°C)		-	A+++ / A++	A+++ / A+++	A+++ / A+++	A+++ / A+++
Seasonal space heating efficiency ( $\eta_{sp}$ ) (35°C / 55°C)		%	206 / 147	215 / 156	212 / 155	201 / 154
SCOP (35°C / 55°C)		-	5.23 / 3.75	5.45 / 3.97	5.38 / 3.96	5.11 / 3.92
Sound power level (outdoor unit)	Rated / low noise mode	dB(A)	49 / 48	49 / 48	51 / 50	52 / 51
Sound pressure level at 5m (outdoor unit)	Rated / low noise mode	dB(A)	27 / 26	27 / 26	29 / 28	30 / 29
Sound power level (indoor unit)	Rated	dB(A)	39			
Sound pressure level at 1m (indoor unit)	Rated	dB(A)	31			

Nominal Capacity and COP/EER						
Air +7°C / water +35°C	Heating capacity / COP	kW / -	9.00 / 4.90	12.00 / 4.70	14.00 / 4.50	16.00 / 4.30
Air +2°C / water +35°C	Heating capacity / COP	kW / -	9.00 / 3.88	12.00 / 3.72	14.00 / 3.61	14.50 / 3.49
Air -7°C / water +35°C	Heating capacity / COP	kW / -	8.90 / 3.44	11.80 / 3.27	13.00 / 3.21	13.80 / 3.17
Air +7°C / water +55°C	Heating capacity / COP	kW / -	9.00 / 3.20	10.00 / 3.10	11.00 / 3.25	12.00 / 3.30
Air -7°C / water +55°C	Heating capacity / COP	kW / -	7.00 / 2.43	9.30 / 2.32	10.30 / 2.28	10.90 / 2.26
Air +35°C / water +18°C	Cooling capacity / EER	kW / -	9.00 / 3.90	11.50 / 3.78	12.00 / 3.70	12.50 / 3.70
Air +35°C / water +7°C	Cooling capacity / EER	kW / -	9.00 / 3.24	10.50 / 3.12	12.00 / 2.99	12.50 / 2.95

Outdoor Units		Unit	HM093HFX UB60	HM121HF UB60 HM123HF UB60	HM141HF UB60 HM143HF UB60	HM161HF UB60 HM163HF UB60
Operation range (outdoor air temperature)	Heating & DHW (Min. ~ Max.)	°C	-28 ~ 35			
	Cooling (Min. ~ Max.)	°C	5 ~ 48			
Refrigerant	Type	-	R290			
	GWP	-	3			
	Precharged amount	g	1,200			
Piping connections (water)	Inlet / outlet diameter	inch	Male PT 1" according to ISO 7-1 (tapered pipe threads)			
Dimension	H x W x D	mm	1,019 x 1,560 x 520			
Weight	Empty	kg	181.0			
Exterior	Color of chassis / RAL code	-	Dawn gray / RAL 7037			
	Color of front grille / RAL code	-	Dark dawn gray / RAL 7012			
Power supply	Voltage, phase, frequency	V, Ø, Hz	380 - 415, 3, 50	220 - 240, 1, 50 / 380 - 415, 3, 50		
	Standby power consumption	W	10			
	Recommended circuit breaker	A	16	1 Ø: 25 / 3 Ø: 16		

## Product specification

### Indoor unit

Indoor Units		Unit	HN1616HC NKO HN1639HC NKO
Operation range (leaving water temperature)	Heating (Min. ~ Max.)	°C	15 ~ 75
	Cooling (Min. ~ Max.)	°C	5 ~ 27
	DHW (Min. ~ Max.)	°C	15 ~ 80
Expansion vessel (heating circuit)	Volume	ℓ	8
Backup heater	Capacity combination	kW	3.0 + 3.0 / 3.0 + 3.0 + 3.0
	Heating steps	Steps	2
	Power supply	V, Ø, Hz	220 - 240, 1, 50 / 380 - 415, 3, 50
	Rated running current	A	26 / 13
Piping connections (water)	Heating circuit outlet pipe	inch	Male PT 1" according to ISO 7-1 (tapered pipe threads)
	Heating circuit inlet pipe	inch	
	Outlet pipe to outdoor unit	inch	
	Inlet pipe from outdoor unit	inch	
Dimension	H x W x D	mm	850 x 490 x 315
Weight	Empty	kg	30.0 / 31.0
Exterior	Color / RAL code	-	Noble white / RAL 9016
Power supply	Voltage, phase, frequency	V, Ø, Hz	220 - 240, 1, 50
	Recommended circuit breaker	A	10

Indoor Units		Unit	PHCSO
Operation range (leaving water temperature)	Heating (Min. ~ Max.)	°C	15 ~ 75
	Cooling (Min. ~ Max.)	°C	5 ~ 27
	DHW (Min. ~ Max.)	°C	15 ~ 80
Dimension	H x W x D	mm	490 x 420 x 141
Weight	Empty	kg	6.7
Exterior	Color / RAL code	-	Essence white / RAL 9003
Power supply	Voltage, phase, frequency	V, Ø, Hz	220-240, 1, 50
	Recommended circuit breaker	A	10

# Control unit

## PHCS0

Indoor Units	Accessory Name	Model Name	Description	Compatibility
Remote Controller	Wired - RS3 (Standard III)	PREMTW101	White	0
Dry Contact	Simple	PDRYCB000	1 input port, AC 220 - 240 V	0
	Communication	PDRYCB320	8 input port, For 3 <sup>rd</sup> Party Thermostat (Analog Input)	0
Integration Device	Remote Temperature sensor	PQRSTA0	Room temperature sensor, NTC 10 kΩ, include casing	0
	Group Control wire	PZCWRCG3	Cable Assembly for group control (Y-type cable: 0.25 m, cable: 9.6 m)	X
ETC	Extension wire	PZCWRC1	Extension wire for IDU-wired remote controller (9.6 m)	0
	2-Remo Control wire	PZCWRC2	Y-type cable to connect additional Remote Controller as slave	0
	Wi-Fi Modem	PWFMD200	Device to use ThinQ app include connection cable	0
	Wi-Fi Extension cable	PWYREW000	USB Extension cable: 10 m	0
	Meter Interface	PENKTH000	Interface to connect 3 <sup>rd</sup> party heat and / or watt meter to indoor unit by 50 or Modbus	0
Special Kit	Solar-Thermal Interface kit with DHW Tank	PHLLA*	Limit Temperature: 96°C	0
	Indoor Drain Pan	PHDPB	For Hydro Unit	X
		PHDPC	For Hydro Unit	X
	DHW tanks (Single coil)	OSHW-200F	200 L	0
		OSHW-300F	300 L	0
		OSHW-500F	500 L	0
	DHW tanks (Double coil)	OSHW-300FD	300 L	0
	DHW tank kit	PHLTA	For Hydro Unit (except for HN1639 NK3)	0
		PHLTC	For Hydro Unit (HN1639 NK3)	0
	External Temp. Sensor	PHATS0	For measuring outside temperature	0
	Thermistor for Water Tank (Buffer Tank, DHW Tank)	PHRSTA0	Included in DHW Tank kit	0
		Thermostatic Mixing valve	OSHA-MV	3/4" DN20
	OSHA-MV1		1" DN25	0
	3 way valve	OSHA-3V	Diverting valve between space heating and DHW heating	0
	2 <sup>nd</sup> Circuit or E/Heater Thermistor	PRSTAT5K10	NTC 5kΩ sensor needed to control mixing circuit or if 3 <sup>rd</sup> party backup heater is used	0
	Backup Heater	HA031M E1	1 Ø, 3 kW (For Monobloc)	0
		HA061M E1	1 Ø, 6 kW (For Monobloc)	0
		HA063M E1	3 Ø, 6 kW (For Monobloc)	0
		HA061B E1	1 Ø, 6 kW (For Hydrosplit, HN1600MB NK0)	X
		HA061C E1	1 Ø, 6 kW (For Hydrosplit, HN1600MC NK1)	X
		HA063B E1	3 Ø, 6 kW (For Hydrosplit, HN1600MB NK0)	X
		HA063C E1	3 Ø, 6 kW (For Hydrosplit, HN1600MC NK1)	X
Cover plate	PDC-HK10	For IWT and Hydro Unit Type indoor units	0	
ESS	D008KE1N211	Home 8 (PCS)	0	
	D010KE1N211	Home 10 (PCS)	0	
	RA460K07A00, RA460 K11A00	Home 4.6 (Set)	0	
	RA600K07A00, RA600 K11A00	Home 6.0 (Set)	0	

## Hydro unit

### HN1616HC NK0, HN1639HC NK0

Indoor Units	Accessory Name	Model Name	Description	Compatibility
Remote Controller	Wired - RS3 (Standard III)	PREMTW101	White	0
Dry Contact	Simple	PDRYCB000	1 input port, AC 220 - 240 V	0
	Communication	PDRYCB320	8 input port, For 3 <sup>rd</sup> Party Thermostat (Analog Input)	0
Integration Device	Remote Temperature sensor	PQRSTA0	Room temperature sensor, NTC 10 kΩ, include casing	0
	Group Control wire	PZCWRCG3	Cable Assembly for group control (Y-type cable: 0.25 m, cable: 9.6 m)	X
ETC	Extension wire	PZCWRC1	Extension wire for IDU-wired remote controller (9.6 m)	0
	2-Remo Control wire	PZCWRC2	Y-type cable to connect additional Remote Controller as slave	0
	Wi-Fi Modem	PWFMD200	Device to use ThinQ app include connection cable	0
	Wi-Fi Extension cable	PWYREW000	USB Extension cable: 10 m	0
	Meter Interface	PENKTH000	Interface to connect 3 <sup>rd</sup> party heat and / or watt meter to indoor unit by 50 or Modbus	0
Special Kit	Solar-Thermal Interface kit with DHW Tank	PHLLA*	Limit Temperature: 96°C	0
	Indoor Drain Pan	PHDPB	For Hydro Unit	X
		PHDPC	For Hydro Unit	0
	DHW tanks (Single coil)	OSHW-200F	200 L	0
		OSHW-300F	300 L	0
		OSHW-500F	500 L	0
	DHW tanks (Double coil)	OSHW-300FD	300 L	0
	DHW tank kit	PHLTA	For Hydro Unit (except for HN1639 NK3)	0
		PHLTC	For Hydro Unit (HN1639 NK3)	X
	External Temp. Sensor	PHATS0	For measuring outside temperature	0
	Thermistor for Water Tank (Buffer Tank, DHW Tank)	PHRSTA0	Included in DHW Tank kit	0
		Thermostatic Mixing valve	OSHA-MV	3/4" DN20
	OSHA-MV1		1" DN25	0
	3 way valve	OSHA-3V	Diverting valve between space heating and DHW heating	0
	2 <sup>nd</sup> Circuit or E/Heater Thermistor	PRSTAT5K10	NTC 5kΩ sensor needed to control mixing circuit or if 3 <sup>rd</sup> party backup heater is used	0
	Backup Heater	HA031M E1	1 Ø, 3 kW (For Monobloc)	X
		HA061M E1	1 Ø, 6 kW (For Monobloc)	X
		HA063M E1	3 Ø, 6 kW (For Monobloc)	X
		HA061B E1	1 Ø, 6 kW (For Hydrosplit, HN1600MB NK0)	X
		HA061C E1	1 Ø, 6 kW (For Hydrosplit, HN1600MC NK1)	X
HA063B E1		3 Ø, 6 kW (For Hydrosplit, HN1600MB NK0)	X	
HA063C E1		3 Ø, 6 kW (For Hydrosplit, HN1600MC NK1)	X	
Cover plate	PDC-HK10	For IWT and Hydro Unit Type indoor units	0	
ESS	D008KE1N211	Home 8 (PCS)	0	
	D010KE1N211	Home 10 (PCS)	0	
	RA460K07A00, RA460 K11A00	Home 4.6 (Set)	0	
	RA600K07A00, RA600 K11A00	Home 6.0 (Set)	0	

## Combi unit

### HN1616HC NK0, HN1639HC NK0

Indoor Units	Accessory Name	Model Name	Description	Compatibility
Remote Controller	Wired - RS3 (Standard III)	PREMTW101	White	0
Dry Contact	Simple	PDRYCB000	1 input port, AC 220 - 240 V	0
	Communication	PDRYCB320	8 input port, For 3 <sup>rd</sup> Party Thermostat (Analog Input)	0
Integration Device	Remote Temperature sensor	PQRSTA0	Room temperature sensor, NTC 10 kΩ, include casing	0
	Group Control wire	PZCWRCG3	Cable Assembly for group control (Y-type cable: 0.25 m, cable: 9.6 m)	X
ETC	Extension wire	PZCWRC1	Extension wire for IDU-wired remote controller (9.6 m)	0
	2-Remo Control wire	PZCWRC2	Y-type cable to connect additional Remote Controller as slave	0
	Wi-Fi Modem	PWFMD200	Device to use ThinQ app include connection cable	0
	Wi-Fi Extension cable	PWYREW000	USB Extension cable: 10 m	0
	Meter Interface	PENKTH000	Interface to connect 3 <sup>rd</sup> party heat and / or watt meter to indoor unit by 50 or Modbus	0
Special Kit	Solar-Thermal Interface kit with DHW Tank	PHLLA*	Limit Temperature: 96°C	0
	Indoor Drain Pan	PHDPB	For Hydro Unit	X
		PHDPC	For Hydro Unit	0
	DHW tanks (Single coil)	OSHW-200F	200 L	0
		OSHW-300F	300 L	0
		OSHW-500F	500 L	0
	DHW tanks (Double coil)	OSHW-300FD	300 L	0
	DHW tank kit	PHLTA	For Hydro Unit (Prep for HN1639 NK3)	0
		PHLTC	For Hydro Unit (HN1639 NK3)	X
	External Temp. Sensor	PHATS0	For measuring outside temperature	0
	Thermistor for Water Tank (Buffer Tank, DHW Tank)	PHRSTA0	Included in DHW Tank kit	0
	Thermostatic Mixing valve	OSHA-MV	3/4" DN20	0
		OSHA-MV1	1" DN25	0
	3 way valve	OSHA-3V	Diverting valve between space heating and DHW heating	0
	2 <sup>nd</sup> Circuit or E/Heater Thermistor	PRSTAT5K10	NTC 5kΩ sensor needed to control mixing circuit or if 3 <sup>rd</sup> party backup heater is used	0
	Backup Heater	HA031M E1	1 Ø, 3 kW (For Monobloc)	X
		HA061M E1	1 Ø, 6 kW (For Monobloc)	X
		HA063M E1	3 Ø, 6 kW (For Monobloc)	X
		HA061B E1	1 Ø, 6 kW (For Hydrosplit, HN1600MB NK0)	X
		HA061C E1	1 Ø, 6 kW (For Hydrosplit, HN1600MC NK1)	X
HA063B E1		3 Ø, 6 kW (For Hydrosplit, HN1600MB NK0)	X	
HA063C E1		3 Ø, 6 kW (For Hydrosplit, HN1600MC NK1)	X	
Cover plate	PDC-HK10	For IWT and Hydro Unit Type indoor units	0	
ESS	D008KE1N211	Home 8 (PCS)	0	
	D010KE1N211	Home 10 (PCS)	0	
	RA460K07A00, RA460 K11A00	Home 4.6 (Set)	0	
	RA600K07A00, RA600 K11A00	Home 6.0 (Set)	0	

내용 문의

## Disclaimer

This quick guide is prepared to help the professional installer prepare, install and commission the installation of the unit. It cannot replace the product's installation, user, and service manual, which must be observed, and if there is conflict between the two documents, the manuals delivered with the unit shall take precedence.

The non-observance of the manuals delivered with the unit can lead to malfunctions of the unit and can result in death or serious injuries. Some characteristics of the unit shown in this quick guide may vary from those of the most current series version. LGE shall not be held liable for any damages or injuries arising directly or indirectly from the use of this quick guide.