

2026 | LG | **THERMA V™**
R290 PREMIUM MONOBLOC



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RELIABLE |

FUTURE-PROOF |

ECO-RESPONSIBLE

THE SUSTAINABLE CHOICE

Today's informed consumers evaluate multiple factors when selecting a heating solution such as an Air-to-Water Heat Pump (AWHP), including user-friendliness, reliability, and compliance with the latest regulations. As European heating regulations continue to evolve year after year, they are becoming an increasingly important consideration for homeowners.

With refrigerant regulations tightening worldwide, the shift toward more sustainable, eco-conscious solutions is accelerating.

THERMA V™

THERMA V™

| SLEEK AND MODERN EUROPEAN DESIGN



SIMPLER INSTALLATION |

BETTER DESIGN

MORE COMFORTABLE LIVING |

FORM MEETS FUNCTION: THERMA V IN DARK MONOTONE

The outdoor units incorporate a refined monotone chassis design engineered for improved structural rigidity and corrosion resistance. The uniform exterior finish minimizes visual noise and ensures consistent integration with a broad range of architectural materials and façade systems, including metal cladding, composite panels, and modern masonry.

The updated enclosure design supports optimized airflow management and service accessibility, contributing to enhanced installation efficiency in various mounting configurations.

Developed with European environmental and urban-planning considerations in mind, the design reduces reflective surface impact, aligns with noise-sensitive installation standards, and supports seamless deployment across diverse residential and commercial building environments.



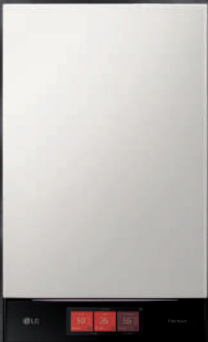
OUTDOOR UNIT



CONTROL UNIT



HYDRO UNIT



COMBI UNIT



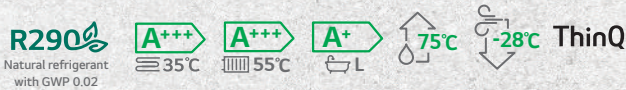
OUTDOOR UNIT

What is R290 Premium Monobloc

The LG THERMA V R290 Premium Monobloc is a next-generation air-to-water heat pump designed to deliver outstanding heating performance while meeting future environmental regulations. Utilizing R290 refrigerant with an ultra-low GWP of 0.02, it provides a sustainable and future-ready heating solution with reduced environmental impact. The outdoor unit is engineered for super-quiet operation, high energy efficiency, and reliable performance, making it suitable for a wide range of residential applications. Combined with LG’s brand-new indoor unit lineup, the system offers a modern design, enhanced smart control functions, and improved system integration. The new indoor units incorporate more pre-installed hydraulic components, reducing on-site piping work, minimizing installation complexity, and helping installers save both time and space.

Key Features

- Capacity range from 7 to 16 kW for new build and renovation
- Natural refrigerant R290 with low GWP (0.02)
- Refined gray design that adapts to various surroundings
- ErP Energy Labeling A+++ / A+++ for space heating (Average Climate 35°C / 55°C LWT)
- One of the quietest models on the market (49 dB(A) for 7 kW, 12 kW models)
- Maximum flow temperature up to 75°C
- Operation range down to -28°C
- Customized options through different three indoor units combinations
- Provides 75°C leaving water even at -15°C outdoor temperatures (7 / 9 kW only)
- 2024 IDEA Design Awards Bronze Winner (Outdoor Unit)
- 2026 IF Design and RED DOT Design (Indoor Unit)



Product Range

Phase	Capacity (kW)	Indoor Unit				Outdoor Unit
		Control Unit	Hydro Unit	Combi Unit (1-Zone)	Combi Unit (2-Zone)	
1 Ø	7	PHCS1 EEWXLEU	HN16XAHK NK1	HN20XAHY NK1	HN20XAHB NK1	HM071HF UB40
	9					HM091HF UB40
	12					HM121HF UB60
	14					HM141HF UB60
	16					HM161HF UB60
3 Ø	7	PHCS1 EEWXLEU	HN16XAHK NK1	HN20XAHY NK1	HN20XAHB NK1	HM073HF UB40
	9					HM093HF UB40
	12					HM123HF UB60
	14					HM143HF UB60
	16					HM163HF UB60

HIGHLIGHT OF R290 PREMIUM MONOBLOC

European Design

Dark Monotone



High Reliability



Anti-icing and Deicing technologies for R290 Monobloc.

- 1 Defrost operation by dual EEVs & Cycle
- 2 Corrugated fin
- 3 Base pan heating (heater)
- 4 Elimination of side panel and rear grille
- 5 Frost-free for bottom pass of heat exchanger
- 6 Increased quantity for drain hole

Improved Operational Stability

Freezing Outside, but Toasty Inside

The R290 Monobloc can function in external temperatures as low as -28°C. Plus, customers can retain their existing radiators as the system can generate an outlet water of up to 75°C, offering a cost-saving advantage. Even at -15°C, it is possible to provide an outlet water temperature of 75°C. (7 / 9 kW only)



Extremely Quiet Operation

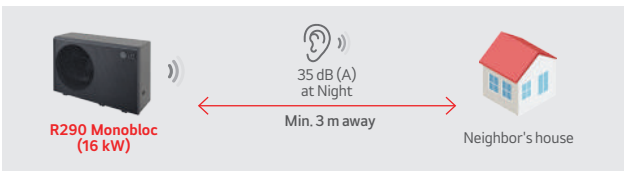
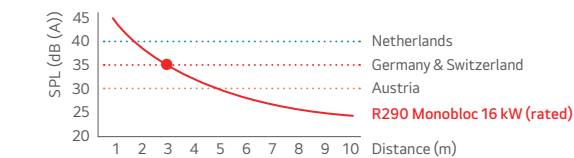
Heats Home in Hushed Tones



R290 Monobloc	7 kW	9 kW	12 kW	14 kW	16 kW
Sound power level ¹⁾ (heating / rated)	49	50	49	51	52
Sound power level ¹⁾ (heating / low noise mode)	47	48	48	50	51

1) Sound power level is measured in accordance with EN 12102-1 and ISO 9614.

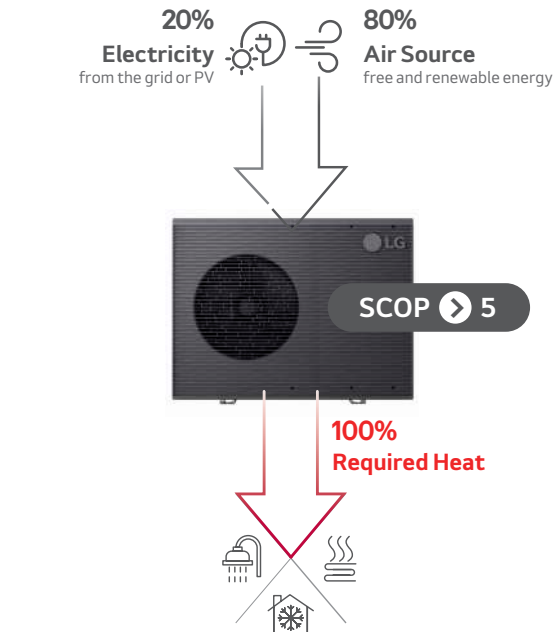
Ensuring regulatory compliance across all EU markets



Customers can have peace of mind with no risk of complaints and no additional costs for acoustic enclosures.

High Efficiency Operation

Exceptional Efficiency



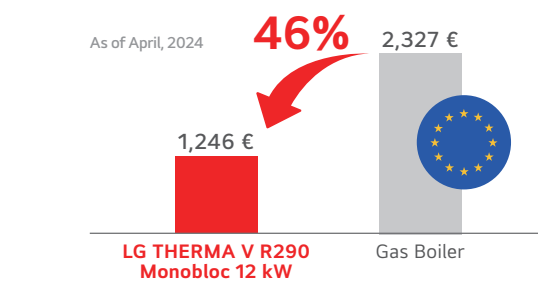
Achieving the highest ErP energy grade A+++ / A+++ for space heating

LG THERMA V R290 Monobloc (7 / 9 / 12 / 14 / 16 kW)



Reduced annual energy costs

Estimated Average Annual Energy Costs* in the EU (EU 27)



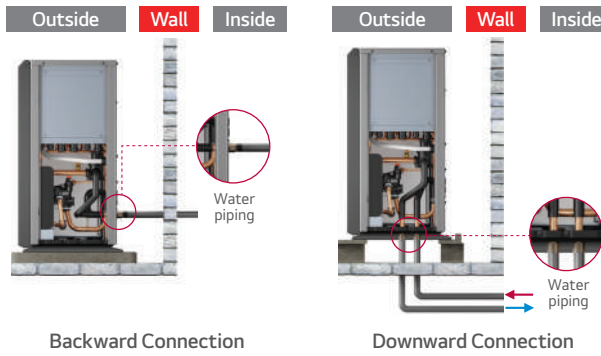
* This is simulation result based on conditions under average climate & Medium temperature (55°C) and it may differ from actual value since there are many assumptions used.

Convenience

Easy Installation

The two-way piping connection method not only grants greater installation flexibility but also offers distinct advantages when it comes to concealing underground piping for both aesthetic and frost protection purposes.

* The downward piping kit should be purchased and installed separately.
- PHDW36B0 for 7, 9 kW models
- PHDW60B0 for 12, 14, 16 kW models



Freedom of Integration

Customized Combinations to Meet Diverse Needs

Since THERMA V R290 Monobloc has hydro components integrated into the outdoor unit, it can be combined with various indoor units to implement applications tailored to customer needs.

Outdoor Unit	Indoor Unit Type	
		Control Unit • Stand-alone concept • Easy integration with 3 rd party equipment
		Hydro Unit • Back-up heater, expansion tank and 3 way valve integrated inside
		Combi Unit • DHW tank, back-up heater, expansion tank and 3 way valve integrated inside • Buffer tank and mixing pump / mixing valve integrated inside (2 zone model only) • 200 l stainless steel tank

HIGHLIGHT OF R290 PREMIUM MONOBLOC

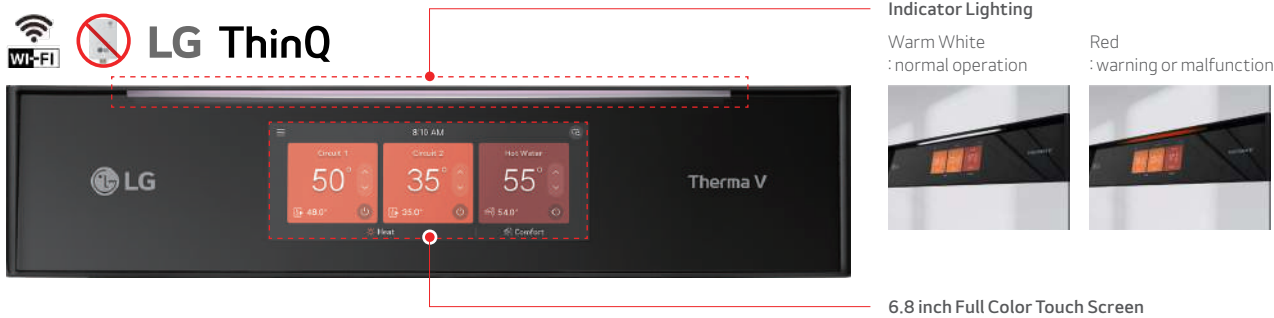
New Modern and Family Look for Indoor Unit

- Same design and family look
- HMI controller (6.8 inch touch screen)
- Built-in Wi-Fi function
- Common IDU models regardless of the power specifications
- Commissioning wizard for easy start-up



New Interface

The interface has been significantly improved with the application of a 6.8-inch full-color touch screen, and the built-in Wi-Fi function makes LG ThinQ connection much easier.



9° for Optimal Ergonomics

The Interface is angled at 9° for optimal ergonomics, ensuring comfortable viewing and operation. This angled design improves visibility, reduces light reflection, and makes touch interaction more comfortable.



Reduced Installation Time and Costs with Built-in Features

By embedding features previously provided as accessories as a default, there is no need to purchase and install separate accessories. As a result, customers can save installation time and costs.

New Control Unit	New Hydro Unit		New Combi Unit (Two-Zone)		
 No Wi-Fi Modem (PWFMD202)	 No Wi-Fi Modem (PWFMD202)	 No 3-way valve (OSHA-3V)	 No Wi-Fi Modem (PWFMD202)	 No Thermistor (PRSTAT5K10)	 No Buffer Tank (SB006SAAN0)
	 No Drain Pan (PHDPC)	 No DHW Tank Kit ¹⁾ (PHLTA or PHLTB)	 No Direct Pump (3 rd party)	 No Mixing Pump Group (3 rd party)	
1) When using the backup heater installed in the product as a DHW Booster Heater					

Modernized Design for Enhanced Space Integration

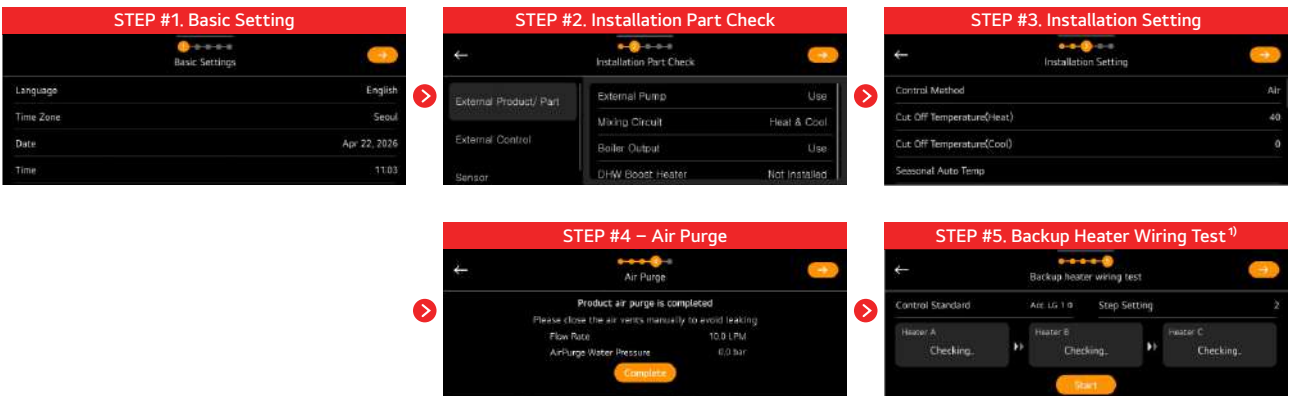
The newly designed indoor unit brings a modern aesthetic that naturally complements every installation space.

- Slim and contemporary appearance
- Greater harmony with residential interiors
- Flexible installation across diverse layouts
- Premium look and feel



Easy Start-up

The 5-step commissioning wizard systematizes and simplifies the start-up process, saving time on commissioning while ensuring that no necessary steps are omitted.



1) Backup Heater Wiring Test is only supported when using the built-in Backup heater inside the Hydro Unit and Combi Unit.

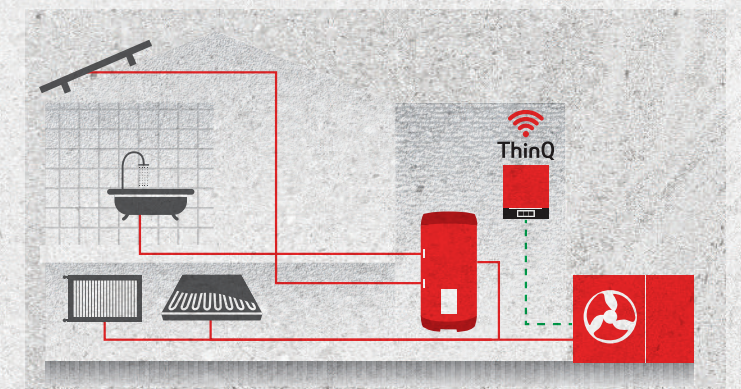


THERMA V™ R290 Premium Monobloc | **CONTROL UNIT**



Key Features

- Brand new stylish design with family look
- 6.8 inch full-touch interface
- Wi-Fi embedded
- Stand-alone concept
- Light weight and compact size fits in small spaces
- Simple installation by minimizing piping and wiring work
- Easy integration with 3rd party equipment because of less cabling
- No pipe connections for the indoor unit allow for a neat installation



Easy to Install, Minimal Space Required

Since the water pipe is not connected to the indoor unit and requires less installation space, it offers an easy installation process similar to the full Monobloc concept.

This setup is especially recommended for cases where the customer does not wish to install a backup heater, prefers to add it as a third-party accessory, or opts to install a larger expansion tank.

Application



Certifications



Energy Label



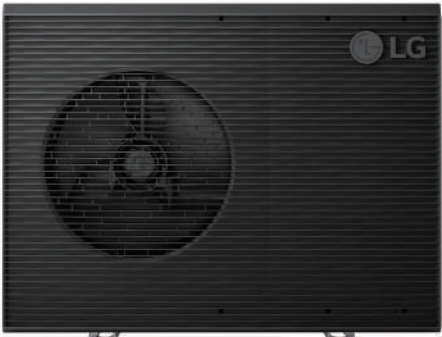
THERMA V R290 PREMIUM MONOBLOC CONTROL UNIT (7 / 9 kW)

Outdoor unit

HM071HF UB40 / HM073HF UB40
HM091HF UB40 / HM093HF UB40

Indoor unit

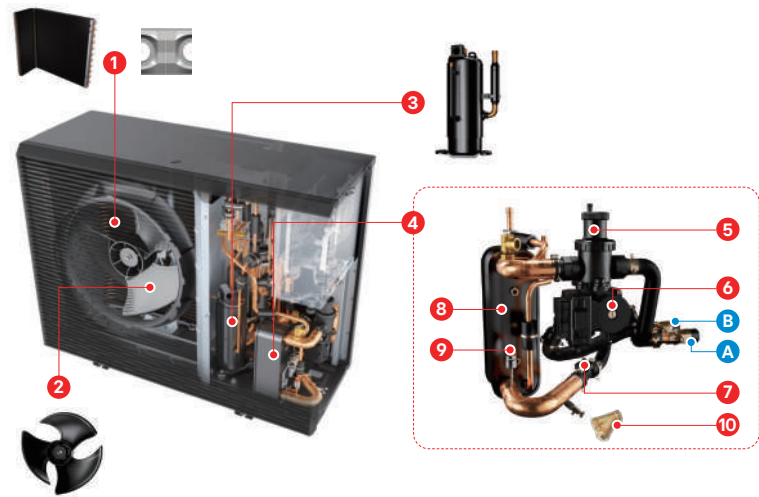
PHCS1 EEWXLEU



ThinQ

Key Components

Outdoor Unit



Components

- 1 Black Fin heat exchanger (air / ref.)
- 2 Biomimetic fan
- 3 R1 compressor
- 4 Hydronic components assembly
- 5 Deaerator
- 6 Water pump
- 7 Flow sensor
- 8 Plate heat exchanger
- 9 Pressure sensor
- 10 Strainer (loose supplied)

Connections

- A Leaving water pipe (male PT 1")
- B Entering water pipe (male PT 1")

Indoor Unit (Control Unit)



Components

- 1 6.8 inch HMI Controller¹⁾ (Wi-Fi modem integrated)

1) Temperature control class (ERP class) : V

Product Specification

Efficiency Data		Unit	7 kW (1 Ø) 7 kW (3 Ø)	9 kW (1 Ø) 9 kW (3 Ø)
Seasonal space heating eff. class (35°C / 55°C)		-	A+++ / A+++	A+++ / A+++
Seasonal space heating efficiency (η _s) (35°C / 55°C)		%	207 / 151	205 / 151
SCOP (35°C / 55°C)		-	5.24 / 3.86	5.20 / 3.86
Sound power level (outdoor unit)	Rated / low noise mode	dB(A)	49 / 48	50 / 48
Sound pressure level at 5 m (outdoor unit)	Rated / low noise mode	dB(A)	27 / 26	28 / 26
Nominal Capacity and COP / EER				
Air +7°C / water +35°C	Heating capacity / COP	kW / -	7.00 / 5.00	9.00 / 4.70
Air +2°C / water +35°C	Heating capacity / COP	kW / -	7.00 / 3.80	8.00 / 3.70
Air -7°C / water +35°C	Heating capacity / COP	kW / -	7.00 / 2.80	9.00 / 2.70
Air +7°C / water +55°C	Heating capacity / COP	kW / -	4.50 / 3.35	5.50 / 3.30
Air -7°C / water +55°C	Heating capacity / COP	kW / -	7.00 / 2.40	8.00 / 2.20
Air +35°C / water +18°C	Cooling capacity / EER	kW / -	5.00 / 4.40	5.50 / 4.20
Air +35°C / water +7°C	Cooling capacity / EER	kW / -	5.00 / 2.80	5.50 / 2.60
Outdoor Units		Unit	HM071HF UB40 HM073HF UB40	HM091HF UB40 HM093HF UB40
Operation range (outdoor air temperature)	Heating & DHW (Min. ~ Max.)	°C	-28 ~ 35	
	Cooling (Min. ~ Max.)	°C	5 ~ 48	
Refrigerant	Type	-	R290	
	GWP	-	0.02	
	Precharged amount	g	900	
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 1,320 x 520	
Weight	Net	kg	130.0	
Exterior	Color of chassis / RAL code	-	Black STS silver solid / RAL 8019	
	Color of front grille / RAL code	-	Light graphite / RAL 8022	
Power supply	Voltage, phase, frequency	V, Ø, Hz	220 ~ 240, 1, 50 / 380 ~ 415, 3, 50	
	Standby power consumption	W	10	
	Recommended circuit breaker	A	1 Ø: 20 / 3 Ø: 16	
Indoor Units		Unit	PHCS1 EEWXLEU	
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	Net	kg	8.2	
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	

Note

- Due to our policy of innovation, some specifications may be changed without notification.
- Wiring cable size must comply with the applicable local and national codes. Especially the power cable and circuit breaker should be selected in accordance with that.
- Sound power level is measured on the rated condition in accordance with EN12102-1 and ISO 9614 standard. Sound pressure level is converted from sound power level based on a tonality penalty of 0 dB and installation in free-field. The directivity index (Q) is assumed as 2. Therefore, these values can be increased owing to ambient conditions during operation. Rated sound power level is in accordance with EN12102-1 under condition of EN14825.
- Performances are in accordance with EN14511 and reflect ErP testing conditions. Above gives the declared values at rated conditions according to ErP regulation.
- All installation sites must be equipped with an earth leakage circuit breaker (ELCB).
- DHW 65 ~ 80°C Operating is available only when the booster heater is operating.
- The RAL Code may not accurately represent the actual color.

THERMA V R290 PREMIUM MONOBLOC CONTROL UNIT (7 / 9 kW)

Performance Table for Heating Operation

Maximum heating capacity (Include defrost effect)

HM071HF UB40 + PHCS1 EEWXLEU / HM073HF UB40 + PHCS1 EEWXLEU

[illegible]

HM091HF UB40 + PHCS1 EEWXLEU

[illegible]

HM093HF UB40 + PHCS1 EEWXLEU

[illegible]

Note

1. DB : Dry Bulb Temperature (°C), LWT : Leaving Water Temperature (°C), LPM : Liters Per Minute (ℓ/min), TC : Total Capacity (kW)
2. Direct interpolation is permissible. Do not extrapolate.
3. Measuring procedure follows EN-14511.
 - Rated values are based on standard conditions and it can be found on specifications.
 - Above table values may not be matched according to installation condition. Except for rated value, the performance is not guaranteed.
 - In accordance with the test standard (or nations), the rating will vary slightly.
4. The shaded areas are not guaranteed continuous operation.



Performance Table for Cooling Operation

Maximum cooling capacity

HM071HF UB40 + PHCS1 EEWXLEU / HM073HF UB40 + PHCS1 EEWXLEU

Outdoor Temp. [°C DB]	LWT 7°C	LWT 10°C	LWT 13°C	LWT 15°C	LWT 18°C	LWT 20°C	LWT 22°C
	Capacity (kW)						
20	5.30	6.00	6.70	7.00	7.00	7.00	7.00
30	5.10	5.40	5.80	6.20	7.00	7.00	7.00
35	5.00	5.40	5.80	6.20	6.80	6.80	7.00
40	4.60	4.90	5.30	5.60	6.20	6.70	7.00
45	4.20	4.70	5.30	5.60	6.20	6.50	7.00

HM091HF UB40 + PHCS1 EEWXLEU / HM093HF UB40 + PHCS1 EEWXLEU

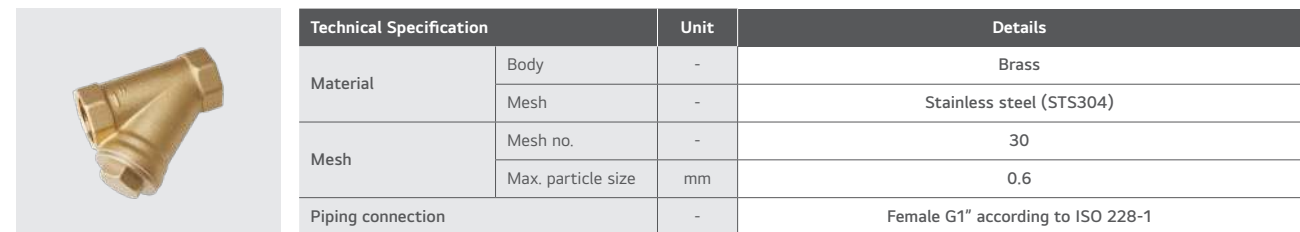
Outdoor Temp. [°C DB]	LWT 7°C	LWT 10°C	LWT 13°C	LWT 15°C	LWT 18°C	LWT 20°C	LWT 22°C
	Capacity (kW)						
20	5.80	6.70	7.50	9.00	9.00	9.00	9.00
30	5.60	6.40	7.20	7.70	9.00	9.00	9.00
35	5.50	6.30	7.20	7.80	9.00	9.00	9.00
40	5.00	5.70	6.40	6.80	7.40	7.70	9.00
45	4.40	5.10	5.70	6.10	6.80	7.20	7.60

Note

1. DB : Dry Bulb Temperature (°C), LWT : Leaving Water Temperature (°C),
LPM : Liters Per Minute (ℓ/min), TC : Total Capacity (kW)
2. Direct interpolation is permissible. Do not extrapolate.
3. Measuring procedure follows EN-14511.
 - Rated values are based on standard conditions and it can be found on specifications.
 - Above table values may not be matched according to installation condition. Except for rated value, the performance is not guaranteed.
 - In accordance with the test standard (or nations), the rating will vary slightly.
4. The shaded areas are not guaranteed continuous operation.

Supplied Parts

Strainer



* This strainer should be installed at the inlet connection of the outdoor unit to protect the clogging of a plate heat exchanger.

THERMA V R290 PREMIUM MONOBLOC CONTROL UNIT (7 / 9 kW)

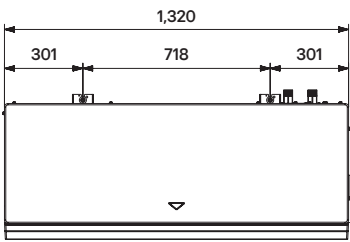
Drawings

[Unit: mm]

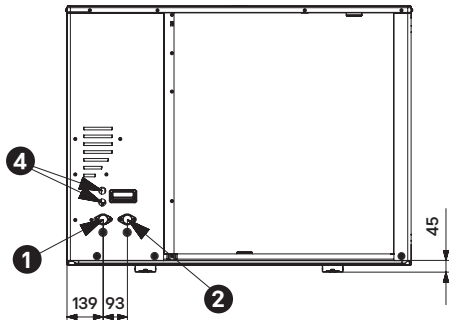
[Unit: mm]

HM071HF UB40 / HM073HF UB40
HM091HF UB40 / HM093HF UB40

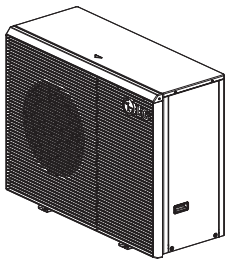
PHCS1EEWXLEU



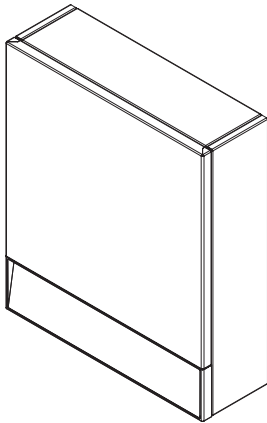
Top view



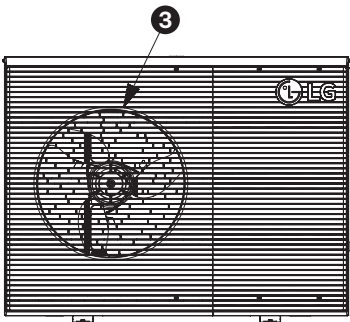
Back view



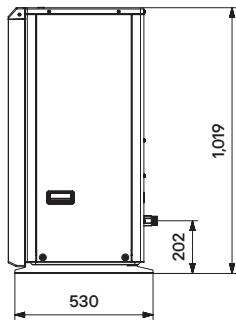
3D view



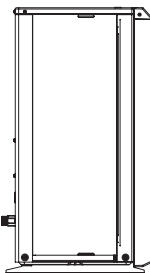
3D view



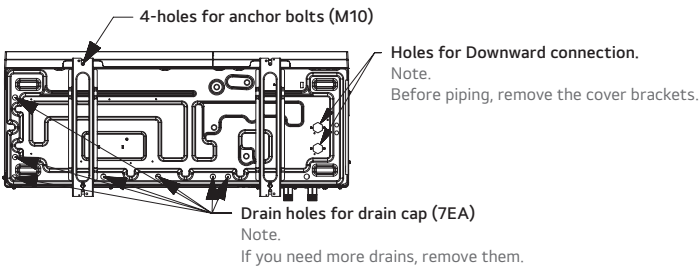
Front view



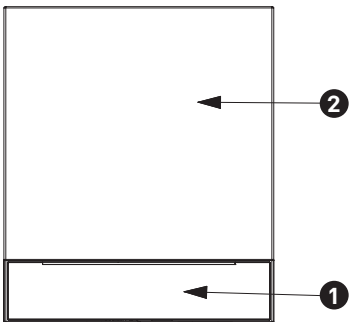
Side view



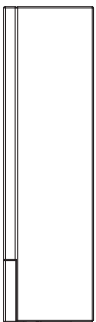
Side view



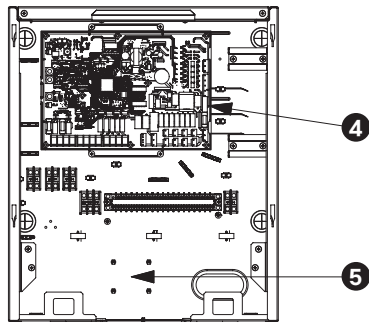
Bottom view



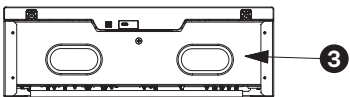
Front view



Side view



Internal view



Bottom view

No.	Part Name	Description
1	Leaving water pipe	Male PT 1 inch
2	Entering water pipe	Male PT 1 inch
3	Air discharge grille	-
4	Access to electrical terminals	Power, communication

No.	Part Name	Description
1	Control panel	Human machine interface
2	Panel assembly, front	SGCC T1.0 essence white
3	Base assembly, indoor	PCB and terminal blocks
4	Control box	PCB and base assembly, indoor
5	Reserved space for dry contact	Accessory (PDRYCB320)

THERMA V R290 PREMIUM MONOBLOC CONTROL UNIT (12 / 14 / 16 kW)

Outdoor unit

HM121HF UB60 / HM123HF UB60
HM141HF UB60 / HM143HF UB60
HM161HF UB60 / HM163HF UB60

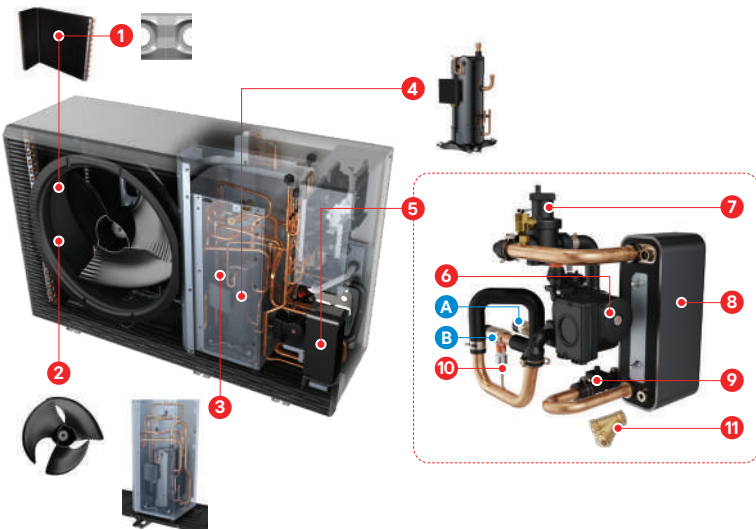
Indoor unit

PHCS1 EEWXLEU



Key Components

Outdoor Unit



Components

- 1 Black Fin heat exchanger (air / ref.)
- 2 Biomimetic fan
- 3 Dual sound shield
- 4 R1 compressor
- 5 Hydronic components assembly
- 6 Water pump
- 7 Deaerator
- 8 Plate heat exchanger (ref / water)
- 9 Flow sensor
- 10 Pressure sensor
- 11 Strainer (loose supplied)

Connections

- A Leaving water pipe (male PT 1")
- B Entering water pipe (male PT 1")

Indoor Unit (Control Unit)



Components

- 1 6.8 inch HMI Controller¹⁾ (Wi-Fi modem integrated)

1) Temperature control class (ERP class) : V

Product Specification

Efficiency Data		Unit	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+++
Seasonal space heating efficiency (η _s) (35°C / 55°C)		%	215 / 156	212 / 155	201 / 154
SCOP (35°C / 55°C)		-	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	51 / 50	52 / 51
Sound pressure level at 5 m (outdoor unit)	Rated / low noise mode	dB(A)	27 / 26	29 / 28	30 / 29
Nominal Capacity and COP / EER					
Air +7°C / water +35°C	Heating capacity / COP	kW / -	12.00 / 4.70	14.00 / 4.50	16.00 / 4.30
Air +2°C / water +35°C	Heating capacity / COP	kW / -	12.00 / 3.72	14.00 / 3.61	14.50 / 3.49
Air -7°C / water +35°C	Heating capacity / COP	kW / -	11.80 / 3.27	13.00 / 3.21	13.80 / 3.17
Air +7°C / water +55°C	Heating capacity / COP	kW / -	10.00 / 3.10	11.00 / 3.25	12.00 / 3.30
Air -7°C / water +55°C	Heating capacity / COP	kW / -	9.30 / 2.32	10.30 / 2.28	10.90 / 2.26
Air +35°C / water +18°C	Cooling capacity / EER	kW / -	11.50 / 3.78	12.00 / 3.70	12.50 / 3.70
Air +35°C / water +7°C	Cooling capacity / EER	kW / -	10.50 / 3.12	12.00 / 2.99	12.50 / 2.95
Outdoor Units		Unit	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	-	0.02		
	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	Net	kg	181.0		
Exterior	Color of chassis / RAL code	-	Black STS silver solid / RAL 8019		
	Color of front grille / RAL code	-	Light graphite / RAL 8022		
Power supply	Voltage, phase, frequency	V, Ø, Hz	220 ~ 240, 1, 50 / 380 ~ 415, 3, 50		
	Standby power consumption	W	10		
	Recommended circuit breaker	A	1 Ø: 25 / 3 Ø: 16		
Indoor Units		Unit	PHCS1 EEWXLEU		
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	Net	kg	8.2		
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		

Note

1. Due to our policy of innovation, some specifications may be changed without notification.

2. Wiring cable size must comply with the applicable local and national codes. Especially the power cable and circuit breaker should be selected in accordance with that.

3. Sound power level is measured on the rated condition in accordance with EN12102-1 and ISO 9614 standard. Sound pressure level is converted from sound power level based on a tonality penalty of 0 dB and installation in free-field. The directivity index (Q) is assumed as 2. Therefore, these values can be increased owing to ambient conditions during operation. Rated sound power level is in accordance with EN12102-1 under condition of EN14825.

4. Performances are in accordance with EN14511 and reflect ErP testing conditions. Above gives the declared values at rated conditions according to ErP regulation.

5. All installation sites must be equipped with an earth leakage circuit breaker (ELCB).

6. DHW 65 ~ 80°C Operating is available only when the booster heater is operating.

7. The RAL Code may not accurately represent the actual color.

THERMA V R290 PREMIUM MONOBLOC

CONTROL UNIT (12 / 14 / 16 kW)

Performance Table for Heating Operation

Maximum heating capacity (Include defrost effect)

HM121HF UB60 + PHCS1 EEWXLEU / HM123HF UB60 + PHCS1 EEWXLEU

Outdoor Temp. [°C DB]	LWT 30°C	LWT 35°C	LWT 40°C	LWT 45°C	LWT 50°C	LWT 55°C	LWT 60°C	LWT 65°C	LWT 70°C	LWT 75°C
	Capacity (kW)									
-25	8.36	8.07	7.79	7.54	7.32	6.37	-	-	-	-
-20	9.60	9.39	9.20	9.09	9.08	8.27	6.77	-	-	-
-15	10.84	10.69	10.55	10.55	10.84	10.76	8.71	7.17	-	-
-7	12.00	12.00	12.00	12.00	12.00	12.00	11.27	10.00	8.99	-
-4	12.00	12.00	12.00	12.00	12.00	12.00	12.00	10.88	9.65	8.91
-2	12.00	12.00	12.00	12.00	12.00	12.00	12.00	11.45	10.29	9.32
2	12.00	12.00	12.00	12.00	12.00	12.00	12.00	8.08	6.84	6.36
7	12.00	12.00	12.00	12.00	12.00	12.00	12.00	10.28	8.34	7.67
10	12.00	12.00	12.00	12.00	12.00	12.00	12.00	11.20	9.90	8.95
15	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	11.09
18	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	11.69
20	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
35	-	-	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00

HM141HF UB60 + PHCS1 EEWXLEU / HM143HF UB60 + PHCS1 EEWXLEU

Outdoor Temp. [°C DB]	LWT 30°C	LWT 35°C	LWT 40°C	LWT 45°C	LWT 50°C	LWT 55°C	LWT 60°C	LWT 65°C	LWT 70°C	LWT 75°C
	Capacity (kW)									
-25	8.88	8.57	8.28	8.01	7.78	6.37	-	-	-	-
-20	10.20	9.97	9.78	9.66	9.48	8.27	6.77	-	-	-
-15	12.06	11.99	11.79	11.59	11.29	10.76	8.71	7.17	-	-
-7	14.00	14.00	13.82	13.63	13.45	12.58	11.27	10.00	8.99	-
-4	14.00	14.00	13.90	13.83	13.83	13.23	12.06	10.88	9.65	8.91
-2	14.00	14.00	13.96	13.95	14.00	13.71	12.59	11.45	10.29	9.32
2	14.00	14.00	14.00	14.00	14.00	14.00	13.16	8.08	6.84	6.36
7	14.00	14.00	14.00	14.00	14.00	14.00	14.00	10.28	8.34	7.67
10	14.00	14.00	14.00	14.00	14.00	14.00	14.00	11.20	9.90	8.95
15	14.00	14.00	14.00	14.00	14.00	14.00	14.00	12.72	12.02	11.09
18	14.00	14.00	14.00	14.00	14.00	14.00	14.00	13.82	12.89	11.69
20	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00	13.47	12.09
35	-	-	14.00	14.00	14.00	14.00	14.00	14.00	14.00	12.80

HM161HF UB60 + PHCS1 EEWXLEU / HM163HF UB60 + PHCS1 EEWXLEU

Outdoor Temp. [°C DB]	LWT 30°C	LWT 35°C	LWT 40°C	LWT 45°C	LWT 50°C	LWT 55°C	LWT 60°C	LWT 65°C	LWT 70°C	LWT 75°C
	Capacity (kW)									
-25	9.41	9.08	8.76	8.48	7.81	6.37	-	-	-	-
-20	10.80	10.56	10.35	10.23	9.48	8.27	6.77	-	-	-
-15	13.36	13.28	12.74	12.15	11.29	10.76	8.71	7.17	-	-
-7	16.00	16.00	15.17	14.35	13.52	12.58	11.27	10.00	8.99	-
-4	16.00	16.00	15.43	14.85	14.29	13.23	12.06	10.88	9.65	8.91
-2	16.00	16.00	15.69	15.34	14.81	13.71	12.59	11.45	10.29	9.32
2	16.00	16.00	16.00	16.00	16.00	14.84	13.16	8.08	6.84	6.36
7	16.00	16.00	16.00	16.00	16.00	16.00	14.25	10.28	8.34	7.67
10	16.00	16.00	16.00	16.00	16.00	16.00	14.92	11.20	9.90	8.95
15	16.00	16.00	16.00	16.00	16.00	16.00	16.00	12.72	12.02	11.09
18	16.00	16.00	16.00	16.00	16.00	16.00	16.00	13.82	12.89	11.69
20	16.00	16.00	16.00	16.00	16.00	16.00	16.00	14.56	13.47	12.09
35	-	-	16.00	16.00	16.00	16.00	16.00	16.00	14.40	12.80

- Note
- DB : Dry Bulb Temperature (°C), LWT : Leaving Water Temperature (°C), LPM : Liters Per Minute (ℓ/min), TC : Total Capacity (kW)
 - Direct interpolation is permissible. Do not extrapolate.
 - Measuring procedure follows EN-14511.
 - Rated values are based on standard conditions and it can be found on specifications.
 - Above table values may not be matched according to installation condition. Except for rated value, the performance is not guaranteed.
 - In accordance with the test standard (or nations), the rating will vary slightly.
 - The shaded areas are not guaranteed continuous operation.

Performance Table for Cooling Operation

Maximum cooling capacity

HM121HF UB60 + PHCS1 EEWXLEU / HM123HF UB60 + PHCS1 EEWXLEU

Outdoor Temp. [°C DB]	LWT 7°C	LWT 10°C	LWT 13°C	LWT 15°C	LWT 18°C	LWT 20°C	LWT 22°C
	Capacity (kW)						
20	11.50	11.50	11.50	11.50	11.50	11.50	11.50
30	10.97	11.50	11.50	11.50	11.50	11.50	11.50
35	10.50	11.28	11.50	11.50	11.50	11.50	11.50
40	9.35	10.08	10.80	11.27	11.50	11.50	11.50
45	8.19	8.90	9.61	10.07	10.77	11.23	11.50

HM141HF UB60 + PHCS1 EEWXLEU / HM143HF UB60 + PHCS1 EEWXLEU

Outdoor Temp. [°C DB]	LWT 7°C	LWT 10°C	LWT 13°C	LWT 15°C	LWT 18°C	LWT 20°C	LWT 22°C
	Capacity (kW)						
20	12.00	12.00	12.00	12.00	12.00	12.00	12.00
30	12.00	12.00	12.00	12.00	12.00	12.00	12.00
35	12.00	12.00	12.00	12.00	12.00	12.00	12.00
40	10.68	11.52	12.00	12.00	12.00	12.00	12.00
45	9.36	10.17	10.98	11.51	12.00	12.00	12.00

HM161HF UB60 + PHCS1 EEWXLEU / HM163HF UB60 + PHCS1 EEWXLEU

Outdoor Temp. [°C DB]	LWT 7°C	LWT 10°C	LWT 13°C	LWT 15°C	LWT 18°C	LWT 20°C	LWT 22°C
	Capacity (kW)						
20	12.50	12.50	12.50	12.50	12.50	12.50	12.50
30	12.50	12.50	12.50	12.50	12.50	12.50	12.50
35	12.50	12.50	12.50	12.50	12.50	12.50	12.50
40	12.02	12.50	12.50	12.50	12.50	12.50	12.50
45	10.03	10.78	11.54	12.05	12.50	12.50	12.50

- Note
- DB : Dry Bulb Temperature (°C), LWT : Leaving Water Temperature (°C), LPM : Liters Per Minute (ℓ/min), TC : Total Capacity (kW)
 - Direct interpolation is permissible. Do not extrapolate.
 - Measuring procedure follows EN-14511.
 - Rated values are based on standard conditions and it can be found on specifications.
 - Above table values may not be matched according to installation condition. Except for rated value, the performance is not guaranteed.
 - In accordance with the test standard (or nations), the rating will vary slightly.
 - The shaded areas are not guaranteed continuous operation.

Supplied Parts

Strainer



Technical Specification		Unit	Details
Material	Body	-	Brass
	Mesh	-	Stainless steel (STS304)
Mesh	Mesh no.	-	30
	Max. particle size	mm	0.6
Piping connection		-	Female G1" according to ISO 228-1

- * The strainer is supplied with the product, but it needs to be installed separately.
* This strainer should be installed at the inlet connection of the outdoor unit to protect the clogging of a plate heat exchanger.

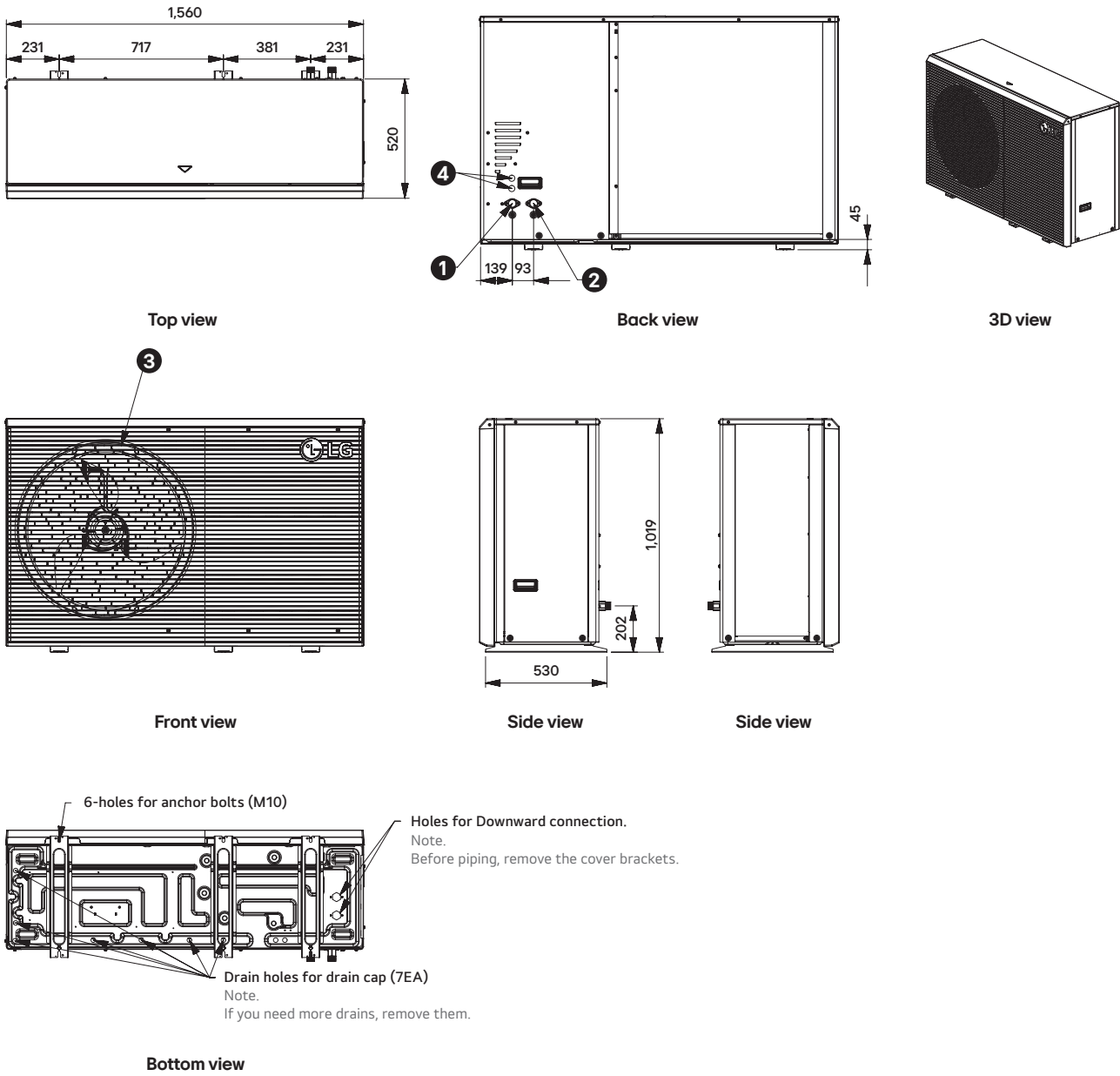
THERMA V R290 PREMIUM MONOBLOC CONTROL UNIT (12 / 14 / 16 kW)

Drawings

[Unit: mm]

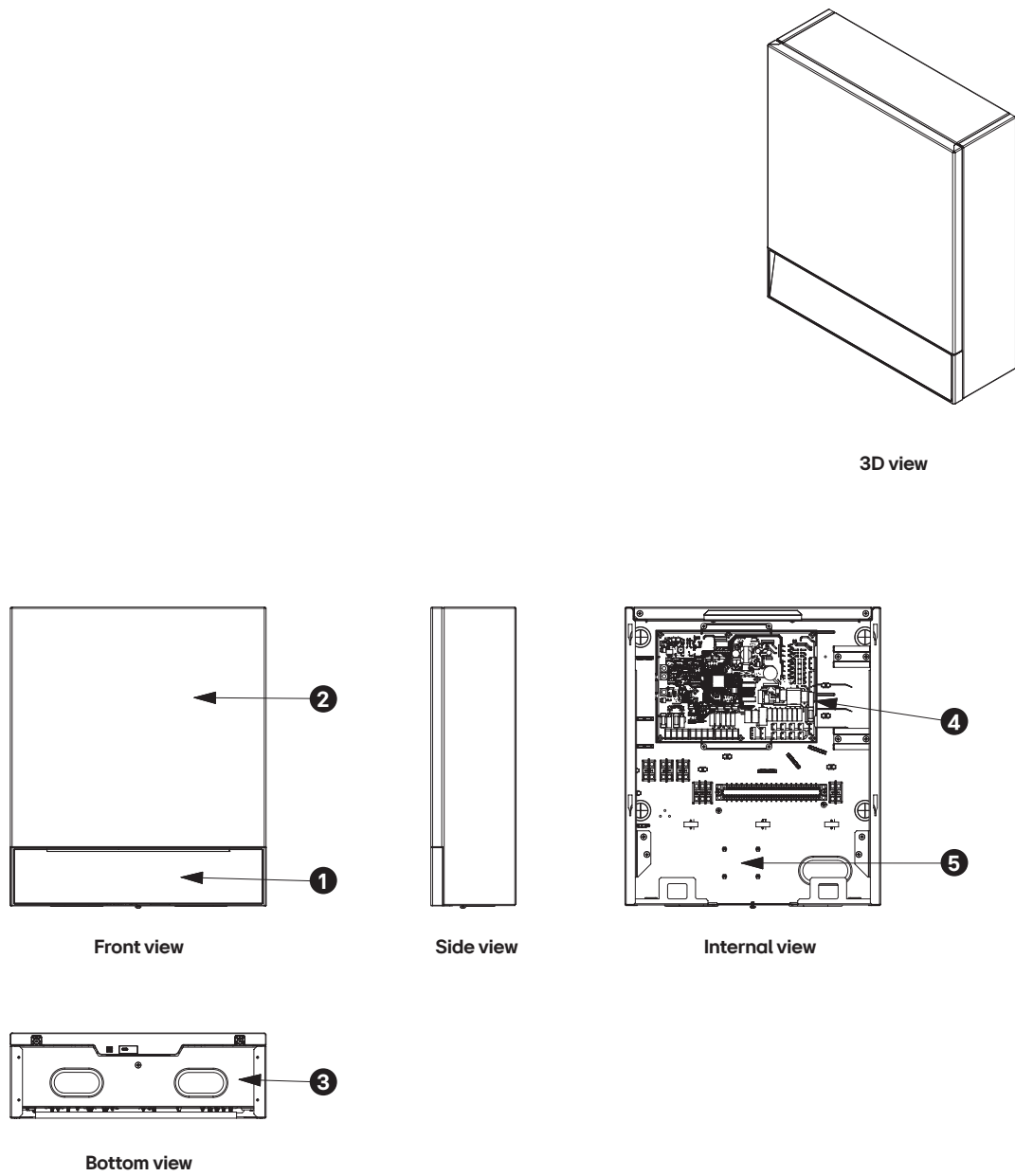
[Unit: mm]

HM121HF UB60 / HM123HF UB60
HM141HF UB60 / HM143HF UB60
HM161HF UB60 / HM163HF UB60



No.	Part Name	Description
1	Leaving water pipe	Male PT 1 inch
2	Entering water pipe	Male PT 1 inch
3	Air discharge grille	-
4	Access to electrical terminals	Power, communication

PHCS1EEWXLEU



No.	Part Name	Description
1	Control panel	Human machine interface
2	Panel assembly, front	SGCC T1.0 essence white
3	Base assembly, indoor	PCB and terminal blocks
4	Control box	PCB and base assembly, indoor
5	Reserved space for dry contact	Accessory (PDRYCB320)

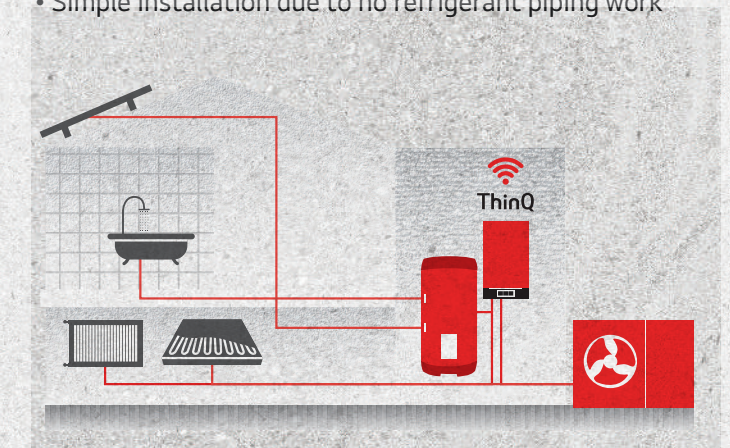


THERMA V™ R290 Premium Monobloc | **HYDRO UNIT**



Key Features

- Brand new stylish design with family look
- 6.8 inch full-touch interface
- Wi-Fi embedded
- Compatible with both single-phase and three-phase power supplies
- Integrated hydronic components - Backup heater, Expansion tank and 3 way valve
- Space-saving solution with compact and light indoor unit
- Simple installation due to no refrigerant piping work



Optimized Solution, Time and Space Saving Design

Hydronic components such as backup heater and expansion tank are included in the indoor unit, minimizing installation space and reducing installation time.

Application



Certifications



Energy Label



THERMA V R290 PREMIUM MONOBLOC

HYDRO UNIT (7 / 9 kW)

THERMA V™ R290 Premium Monobloc

Outdoor unit

HM071HF UB40 / HM073HF UB40
HM091HF UB40 / HM093HF UB40

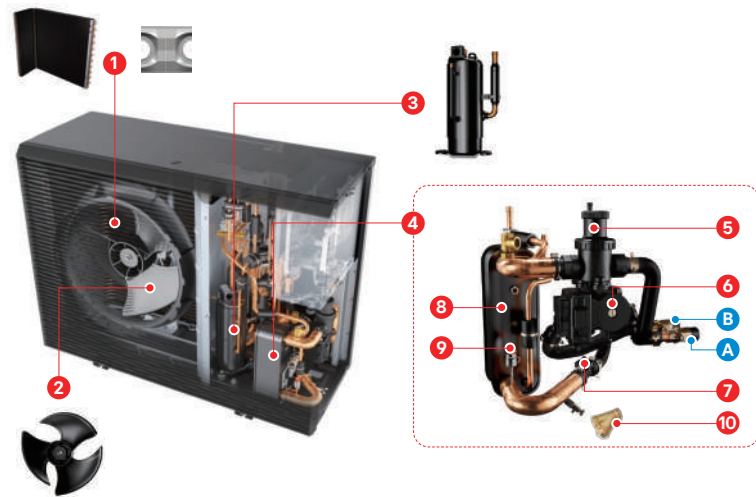
Indoor unit

HN16XAHC NK1



Key Components

Outdoor Unit



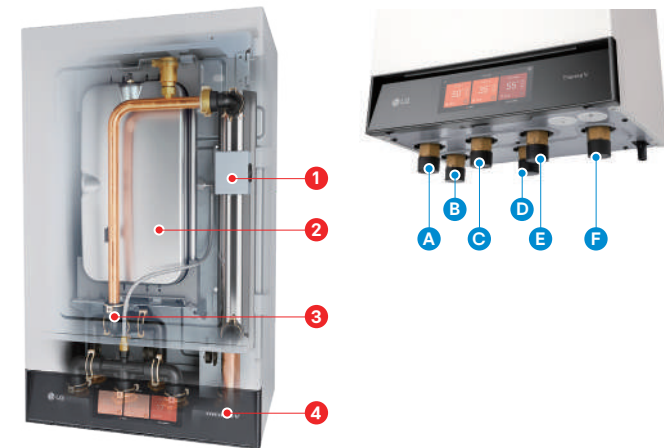
Components

- 1 Black Fin heat exchanger (air / ref.)
- 2 Biomimetic fan
- 3 R1 compressor
- 4 Hydronic components assembly
- 5 Deaerator
- 6 Water pump
- 7 Flow sensor
- 8 Plate heat exchanger
- 9 Pressure sensor
- 10 Strainer (loose supplied)

Connections

- A Leaving water pipe (male PT 1")
B Entering water pipe (male PT 1")

Indoor Unit (Hydro Unit)



Components

- 1 Electric heater (common)
1 Ø : 6 kW / 3 Ø : 9 kW (as per wiring method)
- 2 Expansion tank (12 L)
- 3 3 way valve (DC type)
- 4 6.8 inch HMI Controller¹⁾
(Wi-Fi modem integrated)

1) Temperature control class (ERP class) : V

Connections

- A Heating circuit inlet pipe (male PT 1")
B Heating circuit outlet pipe (male PT 1")
C DHW circuit inlet pipe (male PT 1")
D DHW circuit outlet pipe (male PT 1")
E Outlet pipe to outdoor unit (male PT 1")
F Inlet pipe to outdoor unit (male PT 1")

Product Specification

Efficiency Data		Unit	7 kW (1 Ø) 7 kW (3 Ø)	9 kW (1 Ø) 9 kW (3 Ø)
Seasonal space heating eff. class (35°C / 55°C)		-	A+++ / A+++	A+++ / A+++
Seasonal space heating efficiency (η _s) (35°C / 55°C)		%	207 / 151	205 / 151
SCOP (35°C / 55°C)		-	5.24 / 3.86	5.20 / 3.86
Sound power level (outdoor unit)	Rated / low noise mode	dB(A)	49 / 48	50 / 48
Sound pressure level at 5 m (outdoor unit)	Rated / low noise mode	dB(A)	27 / 26	28 / 26
Sound power level (indoor unit)	Rated	dB(A)	39	
Sound pressure level at 1 m (indoor unit)	Rated	dB(A)	31	
Nominal Capacity and COP / EER				
Air +7°C / water +35°C	Heating capacity / COP	kW / -	7.00 / 5.00	9.00 / 4.70
Air +2°C / water +35°C	Heating capacity / COP	kW / -	7.00 / 3.80	8.00 / 3.70
Air -7°C / water +35°C	Heating capacity / COP	kW / -	7.00 / 2.80	9.00 / 2.70
Air +7°C / water +55°C	Heating capacity / COP	kW / -	4.50 / 3.35	5.50 / 3.30
Air -7°C / water +55°C	Heating capacity / COP	kW / -	7.00 / 2.40	8.00 / 2.20
Air +35°C / water +18°C	Cooling capacity / EER	kW / -	5.00 / 4.40	5.50 / 4.20
Air +35°C / water +7°C	Cooling capacity / EER	kW / -	5.00 / 2.80	5.50 / 2.60
Outdoor Units		Unit	HM071HF UB40 HM073HF UB40	HM091HF UB40 HM093HF UB40
Operation range (outdoor air temperature)	Heating & DHW (Min. ~ Max.)	°C	-28 ~ 35	
	Cooling (Min. ~ Max.)	°C	5 ~ 48	
Refrigerant	Type	-	R290	
	GWP	-	0.02	
	Precharged amount	g	900	
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 1,320 x 520	
Weight	Net	kg	130.0	
Exterior	Color of chassis / RAL code	-	Black STS silver solid / RAL 8019	
	Color of front grille / RAL code	-	Light graphite / RAL 8022	
Power supply	Voltage, phase, frequency	V, Ø, Hz	220 ~ 240, 1, 50 / 380 ~ 415, 3, 50	
	Standby power consumption	W	10	
	Recommended circuit breaker	A	1 Ø: 20 / 3 Ø: 16	
Indoor Units		Unit	HN16XAHC NK1	
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	12	
Backup heater	Capacity combination	kW	3.0 / 3.0 + 3.0 / 3.0 + 3.0 + 3.0	
	Heating steps	Steps	1 / 2 / 3	
	Power supply	V, Ø, Hz	3, 6 kW : 220 - 240, 1, 50 / 9 kW : 380 - 415, 3, 50	
	Rated running current	A	3, 6 kW : 26 / 9 kW : 13	
Piping connections (water)	Heating circuit inlet / outlet pipe	inch	Male PT 1" according to ISO 7-1 (tapered pipe threads)	
	Inlet / outlet pipe to outdoor unit	inch		
	DHW inlet / outlet pipe	inch		
Dimension	H x W x D	mm	700 x 420 x 299	
Weight	Net	kg	33.6	
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	

Note

1. Due to our policy of innovation, some specifications may be changed without notification.
2. Wiring cable size must comply with the applicable local and national codes. Especially the power cable and circuit breaker should be selected in accordance with that.
3. Sound power level is measured on the rated condition in accordance with EN12102-1 and ISO 9614 standard. Sound pressure level is converted from sound power level based on a tonality penalty of 0 dB and installation in free-field. The directivity index (Q) is assumed as 2. Therefore, these values can be increased owing to ambient conditions during operation. Rated sound power level is in accordance with EN12102-1 under condition of EN14825.
4. Performances are in accordance with EN14511 and reflect ErP testing conditions. Above gives the declared values at rated conditions according to ErP regulation.
5. All installation sites must be equipped with an earth leakage circuit breaker (ELCB).
6. DHW 65 ~ 80°C Operating is available only when the booster heater is operating.
7. The RAL Code may not accurately represent the actual color.

THERMA V R290 PREMIUM MONOBLOC

HYDRO UNIT (7 / 9 kW)

Performance Table for Heating Operation

Maximum heating capacity (Include defrost effect)

HM071HF UB40 + HN16XAHC NK1 / HM073HF UB40 + HN16XAHC NK1

Outdoor Temp. [°C DB]	LWT 30°C	LWT 35°C	LWT 40°C	LWT 45°C	LWT 50°C	LWT 55°C	LWT 60°C	LWT 65°C	LWT 70°C	LWT 75°C
	Capacity (kW)									
-25	5.90	5.85	5.85	5.85	5.80	5.80		-	-	-
-20	6.50	6.50	6.50	6.50	6.20	6.10	6.10	6.00	-	-
-15	7.00	7.00	7.00	7.00	6.80	6.70	6.30	6.30	6.20	6.20
-7	7.00	7.00	7.00	7.00	7.00	7.00	7.00	6.70	6.60	6.40
-4	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	6.70	6.50
-2	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	6.80	6.50
2	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	6.70
7	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	6.80
10	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00
15	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00
18	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00
20	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00
35	-	-	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00

HM091HF UB40 + HN16XAHC NK1

Outdoor Temp. [°C DB]	LWT 30°C	LWT 35°C	LWT 40°C	LWT 45°C	LWT 50°C	LWT 55°C	LWT 60°C	LWT 65°C	LWT 70°C	LWT 75°C
	Capacity (kW)									
-25	7.40	7.20	7.10	6.90	6.80	6.70	6.60	-	-	-
-20	8.20	7.90	7.70	7.50	7.30	7.10	6.90	6.60	-	-
-15	9.00	9.00	8.20	7.90	7.70	7.60	7.30	7.00	6.80	6.50
-7	9.00	9.00	9.00	8.50	8.40	8.00	7.90	7.70	7.40	6.60
-4	9.00	9.00	9.00	9.00	9.00	8.40	8.20	7.90	7.70	6.70
-2	9.00	9.00	9.00	9.00	9.00	9.00	8.40	8.10	7.60	6.80
2	8.00	8.00	8.10	8.20	8.30	8.40	8.20	8.10	7.80	6.90
7	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	8.20	7.10
10	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	8.20	7.20
15	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	8.30	7.30
18	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	8.40	7.40
20	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	8.40	7.50
35	-	-	9.00	9.00	9.00	9.00	9.00	9.00	9.00	8.00

HM093HF UB40 + HN16XAHC NK1

Outdoor Temp. [°C DB]	LWT 30°C	LWT 35°C	LWT 40°C	LWT 45°C	LWT 50°C	LWT 55°C	LWT 60°C	LWT 65°C	LWT 70°C	LWT 75°C
	Capacity (kW)									
-25	7.90	7.77	7.92	8.08	8.20	8.40	8.40	-	-	-
-20	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	-	-
-15	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00
-7	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00
-4	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00
-2	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00
2	8.00	8.00	8.10	8.20	8.30	8.40	8.20	8.10	8.00	7.00
7	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00
10	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00
15	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00
18	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00
20	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00
35	-	-	9.00	9.00	9.00	9.00	9.00	9.00	9.00	8.00

Note

1. DB : Dry Bulb Temperature (°C), LWT : Leaving Water Temperature (°C), LPM : Liters Per Minute (ℓ/min), TC : Total Capacity (kW)

2. Direct interpolation is permissible. Do not extrapolate.

3. Measuring procedure follows EN-14511.

- Rated values are based on standard conditions and it can be found on specifications.
- Above table values may not be matched according to installation condition. Except for rated value, the performance is not guaranteed.
- In accordance with the test standard (or nations), the rating will vary slightly.

4. The shaded areas are not guaranteed continuous operation.

Performance Table for Cooling Operation

Maximum cooling capacity

HM071HF UB40 + HN16XAHC NK1 / HM073HF UB40 + HN16XAHC NK1

Outdoor Temp. [°C DB]	LWT 7°C	LWT 10°C	LWT 13°C	LWT 15°C	LWT 18°C	LWT 20°C	LWT 22°C
	Capacity (kW)						
20	5.30	6.00	6.70	7.00	7.00	7.00	7.00
30	5.10	5.40	5.80	6.20	7.00	7.00	7.00
35	5.00	5.40	5.80	6.20	6.80	6.80	7.00
40	4.60	4.90	5.30	5.60	6.20	6.70	7.00
45	4.20	4.70	5.30	5.60	6.20	6.50	7.00

HM091HF UB40 + HN16XAHC NK1 / HM093HF UB40 + HN16XAHC NK1

Outdoor Temp. [°C DB]	LWT 7°C	LWT 10°C	LWT 13°C	LWT 15°C	LWT 18°C	LWT 20°C	LWT 22°C
	Capacity (kW)						
20	5.80	6.70	7.50	9.00	9.00	9.00	9.00
30	5.60	6.40	7.20	7.70	9.00	9.00	9.00
35	5.50	6.30	7.20	7.80	9.00	9.00	9.00
40	5.00	5.70	6.40	6.80	7.40	7.70	9.00
45	4.40	5.10	5.70	6.10	6.80	7.20	7.60

Note

1. DB : Dry Bulb Temperature (°C), LWT : Leaving Water Temperature (°C), LPM : Liters Per Minute (ℓ/min), TC : Total Capacity (kW)

2. Direct interpolation is permissible. Do not extrapolate.

3. Measuring procedure follows EN-14511.

- Rated values are based on standard conditions and it can be found on specifications.
- Above table values may not be matched according to installation condition. Except for rated value, the performance is not guaranteed.
- In accordance with the test standard (or nations), the rating will vary slightly.

4. The shaded areas are not guaranteed continuous operation.

Supplied Parts

Strainer



Technical Specification		Unit	Details
Material	Body	-	Brass
	Mesh	-	Stainless steel (STS304)
Mesh	Mesh no.	-	30
	Max. particle size	mm	0.6
Piping connection		-	Female G1" according to ISO 228-1

* The strainer is supplied with the product, but it needs to be installed separately.

* This strainer should be installed at the inlet connection of the outdoor unit to protect the clogging of a plate heat exchanger.

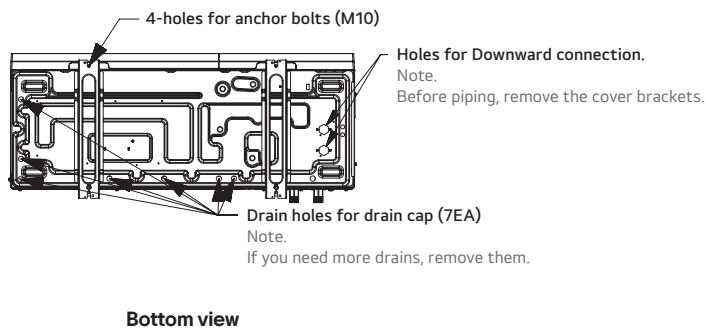
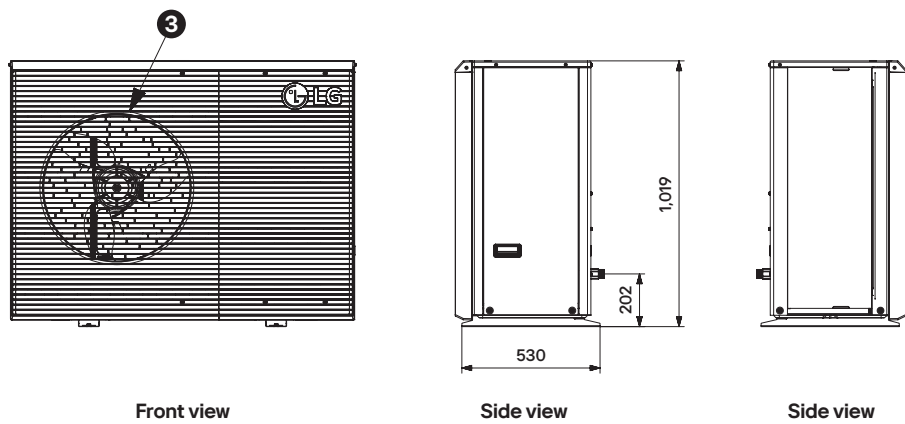
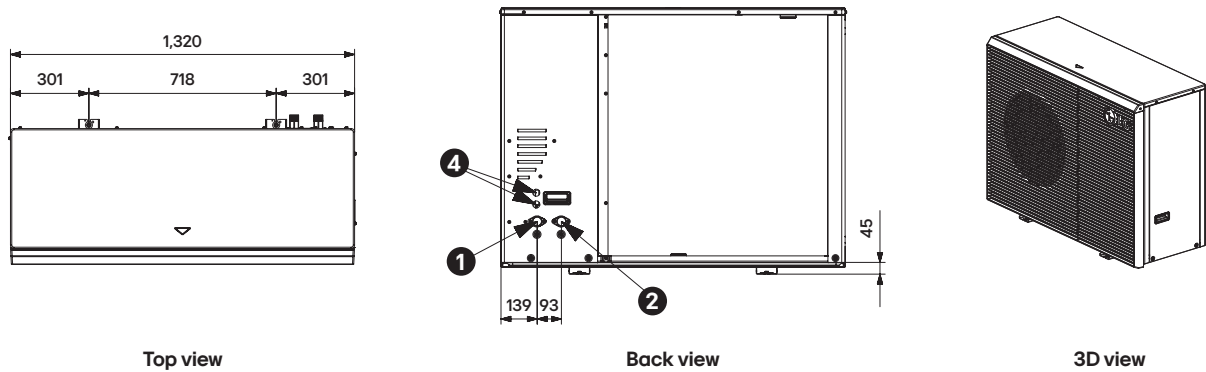
THERMA V R290 PREMIUM MONOBLOC

HYDRO UNIT (7 / 9 kW)

Drawings

[Unit: mm]

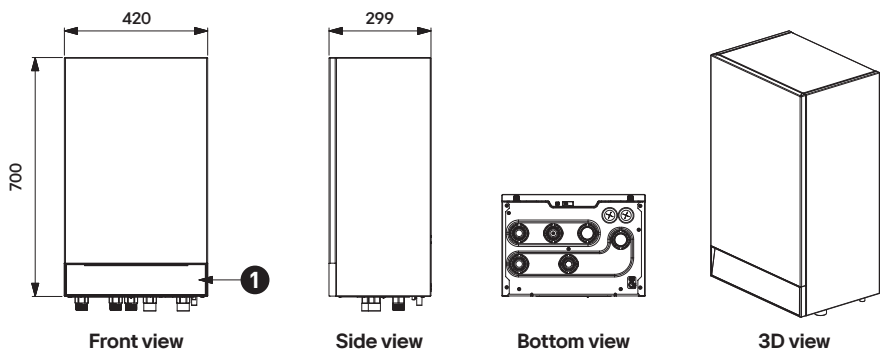
HM071HF UB40 / HM073HF UB40
HM091HF UB40 / HM093HF UB40



No.	Part Name	Description
1	Leaving water pipe	Male PT 1 inch
2	Entering water pipe	Male PT 1 inch
3	Air discharge grille	-
4	Access to electrical terminals	Power, communication

External

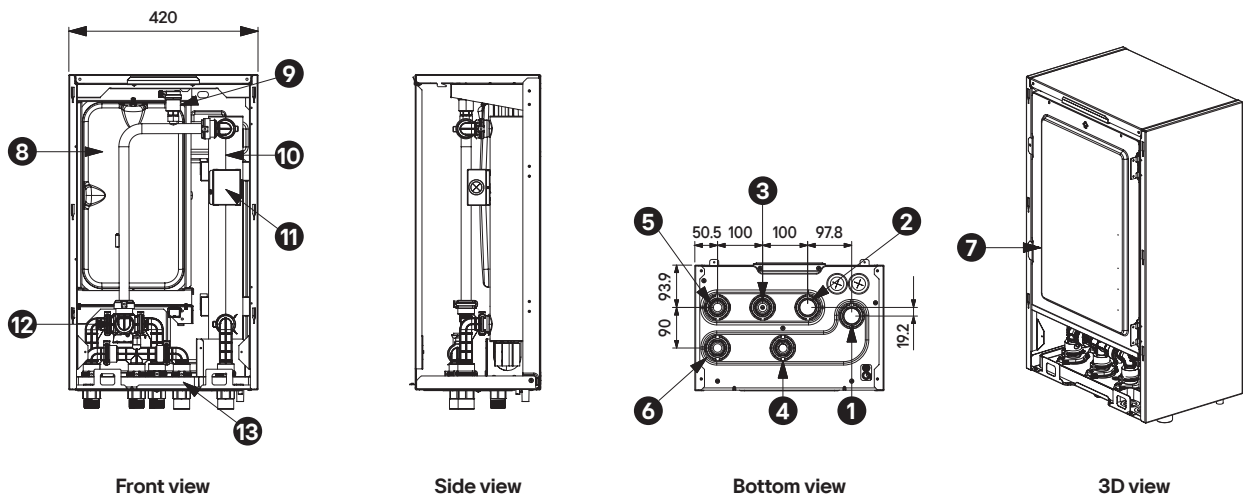
HN16XAHC NK1



No.	Part Name	Description
1	Control panel	Human machine interface

Internal

HN16XAHC NK1



No.	Part Name	Description
1	Inlet from outdoor unit	Male PT 1" according to ISO 7-1
2	Outlet from outdoor unit	Male PT 1" according to ISO 7-1
3	DHW inlet pipe	Male PT 1" according to ISO 7-1
4	DHW outlet pipe	Male PT 1" according to ISO 7-1
5	Heating circuit inlet pipe	Male PT 1" according to ISO 7-1
6	Heating circuit outlet pipe	Male PT 1" according to ISO 7-1
7	Control box	PCB and terminal blocks
8	Expansion tank	Absorbing volume change of heater water (12 L)
9	Air vent	Air purging when charging water
10	Backup heater	Capacity : 3 / 6 kW (1 Ø), 3 / 6 / 9 kW (3 Ø)
11	Thermal switch	Cut-off power input to backup heater at 90°C (manual return at 55°C)
12	3 way valve	For DHW / heating
13	Drain pan	For condensate water drainage

THERMA V R290 PREMIUM MONOBLOC

HYDRO UNIT (12 / 14 / 16 kW)

THERMA V™ R290 Premium Monobloc

Outdoor unit

HM121HF UB60 / HM123HF UB60
HM141HF UB60 / HM143HF UB60
HM161HF UB60 / HM163HF UB60

Indoor unit

HN16XAHC NK1



Key Components

Outdoor Unit



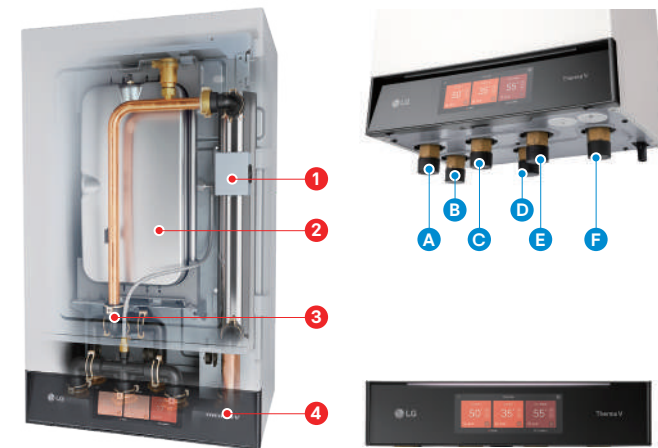
Components

- 1 Black Fin heat exchanger (air / ref.)
- 2 Biomimetic fan
- 3 Dual sound shield
- 4 R1 compressor
- 5 Hydronic components assembly
- 6 Water pump
- 7 Deaerator
- 8 Plate heat exchanger (ref / water)
- 9 Flow sensor
- 10 Pressure sensor
- 11 Strainer (loose supplied)

Connections

- A Leaving water pipe (male PT 1")
B Entering water pipe (male PT 1")

Indoor Unit (Hydro Unit)



Components

- 1 Electric heater (common)
1 Ø : 6 kW / 3 Ø : 9 kW (as per wiring method)
- 2 Expansion tank (12 L)
- 3 3 way valve (DC type)
- 4 6.8 inch HMI Controller¹⁾
(Wi-Fi modem integrated)

1) Temperature control class (ERP class) : V

Connections

- A Heating circuit inlet pipe (male PT 1")
B Heating circuit outlet pipe (male PT 1")
C DHW circuit inlet pipe (male PT 1")
D DHW circuit outlet pipe (male PT 1")
E Outlet pipe to outdoor unit (male PT 1")
F Inlet pipe to outdoor unit (male PT 1")

Product Specification

Efficiency Data		Unit	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+++
Seasonal space heating efficiency (η _s) (35°C / 55°C)		%	215 / 156	212 / 155	201 / 154
SCOP (35°C / 55°C)		-	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	51 / 50	52 / 51
Sound pressure level at 5 m (outdoor unit)	Rated / low noise mode	dB(A)	27 / 26	29 / 28	30 / 29
Sound power level (indoor unit)	Rated	dB(A)	39		
Sound pressure level at 1 m (indoor unit)	Rated	dB(A)	31		
Nominal Capacity and COP / EER					
Air +7°C / water +35°C	Heating capacity / COP	kW / -	12.00 / 4.70	14.00 / 4.50	16.00 / 4.30
Air +2°C / water +35°C	Heating capacity / COP	kW / -	12.00 / 3.72	14.00 / 3.61	14.50 / 3.49
Air -7°C / water +35°C	Heating capacity / COP	kW / -	11.80 / 3.27	13.00 / 3.21	13.80 / 3.17
Air +7°C / water +55°C	Heating capacity / COP	kW / -	10.00 / 3.10	11.00 / 3.25	12.00 / 3.30
Air -7°C / water +55°C	Heating capacity / COP	kW / -	9.30 / 2.32	10.30 / 2.28	10.90 / 2.26
Air +35°C / water +18°C	Cooling capacity / EER	kW / -	11.50 / 3.78	12.00 / 3.70	12.50 / 3.70
Air +35°C / water +7°C	Cooling capacity / EER	kW / -	10.50 / 3.12	12.00 / 2.99	12.50 / 2.95
Outdoor Units		Unit	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	-	0.02		
	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	Net	kg	181.0		
Exterior	Color of chassis / RAL code	-	Black STS silver solid / RAL 8019		
	Color of front grille / RAL code	-	Light graphite / RAL 8022		
Power supply	Voltage, phase, frequency	V, Ø, Hz	220 ~ 240, 1, 50 / 380 ~ 415, 3, 50		
	Standby power consumption	W	10		
	Recommended circuit breaker	A	1 Ø: 25 / 3 Ø: 16		
Indoor Units		Unit	HN16XAHC NK1		
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	12		
Backup heater	Capacity combination	kW	3.0 / 3.0 + 3.0 / 3.0 + 3.0 + 3.0		
	Heating steps	Steps	1 / 2 / 3		
	Power supply	V, Ø, Hz	3, 6 kW : 220 - 240, 1, 50 / 9 kW : 380 - 415, 3, 50		
	Rated running current	A	3, 6 kW : 26 / 9 kW : 13		
Piping connections (water)	Heating circuit inlet / outlet pipe	inch	Male PT 1" according to ISO 7-1 (tapered pipe threads)		
	Inlet / outlet pipe to outdoor unit	inch			
	DHW inlet / outlet pipe	inch			
Dimension	H x W x D	mm	700 x 420 x 299		
Weight	Net	kg	33.6		
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		

Note

1. Due to our policy of innovation, some specifications may be changed without notification.
2. Wiring cable size must comply with the applicable local and national codes. Especially the power cable and circuit breaker should be selected in accordance with that.
3. Sound power level is measured on the rated condition in accordance with EN12102-1 and ISO 9614 standard. Sound pressure level is converted from sound power level based on a tonality penalty of 0 dB and installation in free-field. The directivity index (Q) is assumed as 2. Therefore, these values can be increased owing to ambient conditions during operation. Rated sound power level is in accordance with EN12102-1 under condition of EN14825.
4. Performances are in accordance with EN14511 and reflect ErP testing conditions. Above gives the declared values at rated conditions according to ErP regulation.
5. All installation sites must be equipped with an earth leakage circuit breaker (ELCB).
6. DHW 65 ~ 80°C Operating is available only when the booster heater is operating.
7. The RAL Code may not accurately represent the actual color.

THERMA V R290 PREMIUM MONOBLOC

HYDRO UNIT (12 / 14 / 16 kW)

Performance Table for Heating Operation

Maximum heating capacity (Include defrost effect)

HM121HF UB60 + HN16XAHC NK1 / HM123HF UB60 + HN16XAHC NK1

Outdoor Temp. [°C DB]	LWT 30°C	LWT 35°C	LWT 40°C	LWT 45°C	LWT 50°C	LWT 55°C	LWT 60°C	LWT 65°C	LWT 70°C	LWT 75°C
	Capacity (kW)									
-25	8.36	8.07	7.79	7.54	7.32	6.37	-	-	-	-
-20	9.60	9.39	9.20	9.09	9.08	8.27	6.77	-	-	-
-15	10.84	10.69	10.55	10.55	10.84	10.76	8.71	7.17	-	-
-7	12.00	12.00	12.00	12.00	12.00	12.00	11.27	10.00	8.99	-
-4	12.00	12.00	12.00	12.00	12.00	12.00	12.00	10.88	9.65	8.91
-2	12.00	12.00	12.00	12.00	12.00	12.00	12.00	11.45	10.29	9.32
2	12.00	12.00	12.00	12.00	12.00	12.00	12.00	8.08	6.84	6.36
7	12.00	12.00	12.00	12.00	12.00	12.00	12.00	10.28	8.34	7.67
10	12.00	12.00	12.00	12.00	12.00	12.00	12.00	11.20	9.90	8.95
15	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	11.09
18	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	11.69
20	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
35	-	-	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00

HM141HF UB60 + HN16XAHC NK1 / HM143HF UB60 + HN16XAHC NK1

Outdoor Temp. [°C DB]	LWT 30°C	LWT 35°C	LWT 40°C	LWT 45°C	LWT 50°C	LWT 55°C	LWT 60°C	LWT 65°C	LWT 70°C	LWT 75°C
	Capacity (kW)									
-25	8.88	8.57	8.28	8.01	7.78	6.37	-	-	-	-
-20	10.20	9.97	9.78	9.66	9.48	8.27	6.77	-	-	-
-15	12.06	11.99	11.79	11.59	11.29	10.76	8.71	7.17	-	-
-7	14.00	14.00	13.82	13.63	13.45	12.58	11.27	10.00	8.99	-
-4	14.00	14.00	13.90	13.83	13.83	13.23	12.06	10.88	9.65	8.91
-2	14.00	14.00	13.96	13.95	14.00	13.71	12.59	11.45	10.29	9.32
2	14.00	14.00	14.00	14.00	14.00	14.00	13.16	8.08	6.84	6.36
7	14.00	14.00	14.00	14.00	14.00	14.00	14.00	10.28	8.34	7.67
10	14.00	14.00	14.00	14.00	14.00	14.00	14.00	11.20	9.90	8.95
15	14.00	14.00	14.00	14.00	14.00	14.00	14.00	12.72	12.02	11.09
18	14.00	14.00	14.00	14.00	14.00	14.00	14.00	13.82	12.89	11.69
20	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00	13.47	12.09
35	-	-	14.00	14.00	14.00	14.00	14.00	14.00	14.00	12.80

HM161HF UB60 + HN16XAHC NK1 / HM163HF UB60 + HN16XAHC NK1

Outdoor Temp. [°C DB]	LWT 30°C	LWT 35°C	LWT 40°C	LWT 45°C	LWT 50°C	LWT 55°C	LWT 60°C	LWT 65°C	LWT 70°C	LWT 75°C
	Capacity (kW)									
-25	9.41	9.08	8.76	8.48	7.81	6.37	-	-	-	-
-20	10.80	10.56	10.35	10.23	9.48	8.27	6.77	-	-	-
-15	13.36	13.28	12.74	12.15	11.29	10.76	8.71	7.17	-	-
-7	16.00	16.00	15.17	14.35	13.52	12.58	11.27	10.00	8.99	-
-4	16.00	16.00	15.43	14.85	14.29	13.23	12.06	10.88	9.65	8.91
-2	16.00	16.00	15.69	15.34	14.81	13.71	12.59	11.45	10.29	9.32
2	16.00	16.00	16.00	16.00	16.00	14.84	13.16	8.08	6.84	6.36
7	16.00	16.00	16.00	16.00	16.00	16.00	14.25	10.28	8.34	7.67
10	16.00	16.00	16.00	16.00	16.00	16.00	14.92	11.20	9.90	8.95
15	16.00	16.00	16.00	16.00	16.00	16.00	16.00	12.72	12.02	11.09
18	16.00	16.00	16.00	16.00	16.00	16.00	16.00	13.82	12.89	11.69
20	16.00	16.00	16.00	16.00	16.00	16.00	16.00	14.56	13.47	12.09
35	-	-	16.00	16.00	16.00	16.00	16.00	16.00	14.40	12.80

- Note
- DB : Dry Bulb Temperature (°C), LWT : Leaving Water Temperature (°C), LPM : Liters Per Minute (ℓ/min), TC : Total Capacity (kW)
 - Direct interpolation is permissible. Do not extrapolate.
 - Measuring procedure follows EN-14511.
 - Rated values are based on standard conditions and it can be found on specifications.
 - Above table values may not be matched according to installation condition. Except for rated value, the performance is not guaranteed.
 - In accordance with the test standard (or nations), the rating will vary slightly.
 - The shaded areas are not guaranteed continuous operation.

Performance Table for Cooling Operation

Maximum cooling capacity

HM121HF UB60 + HN16XAHC NK1 / HM123HF UB60 + HN16XAHC NK1

Outdoor Temp. [°C DB]	LWT 7°C	LWT 10°C	LWT 13°C	LWT 15°C	LWT 18°C	LWT 20°C	LWT 22°C
	Capacity (kW)						
20	11.50	11.50	11.50	11.50	11.50	11.50	11.50
30	10.97	11.50	11.50	11.50	11.50	11.50	11.50
35	10.50	11.28	11.50	11.50	11.50	11.50	11.50
40	9.35	10.08	10.80	11.27	11.50	11.50	11.50
45	8.19	8.90	9.61	10.07	10.77	11.23	11.50

HM141HF UB60 + HN16XAHC NK1 / HM143HF UB60 + HN16XAHC NK1

Outdoor Temp. [°C DB]	LWT 7°C	LWT 10°C	LWT 13°C	LWT 15°C	LWT 18°C	LWT 20°C	LWT 22°C
	Capacity (kW)						
20	12.00	12.00	12.00	12.00	12.00	12.00	12.00
30	12.00	12.00	12.00	12.00	12.00	12.00	12.00
35	12.00	12.00	12.00	12.00	12.00	12.00	12.00
40	10.68	11.52	12.00	12.00	12.00	12.00	12.00
45	9.36	10.17	10.98	11.51	12.00	12.00	12.00

HM161HF UB60 + HN16XAHC NK1 / HM163HF UB60 + HN16XAHC NK1

Outdoor Temp. [°C DB]	LWT 7°C	LWT 10°C	LWT 13°C	LWT 15°C	LWT 18°C	LWT 20°C	LWT 22°C
	Capacity (kW)						
20	12.50	12.50	12.50	12.50	12.50	12.50	12.50
30	12.50	12.50	12.50	12.50	12.50	12.50	12.50
35	12.50	12.50	12.50	12.50	12.50	12.50	12.50
40	12.02	12.50	12.50	12.50	12.50	12.50	12.50
45	10.03	10.78	11.54	12.05	12.50	12.50	12.50

- Note
- DB : Dry Bulb Temperature (°C), LWT : Leaving Water Temperature (°C), LPM : Liters Per Minute (ℓ/min), TC : Total Capacity (kW)
 - Direct interpolation is permissible. Do not extrapolate.
 - Measuring procedure follows EN-14511.
 - Rated values are based on standard conditions and it can be found on specifications.
 - Above table values may not be matched according to installation condition. Except for rated value, the performance is not guaranteed.
 - In accordance with the test standard (or nations), the rating will vary slightly.
 - The shaded areas are not guaranteed continuous operation.

Supplied Parts

Strainer



Technical Specification		Unit	Details
Material	Body	-	Brass
	Mesh	-	Stainless steel (STS304)
Mesh	Mesh no.	-	30
	Max. particle size	mm	0.6
Piping connection		-	Female G1" according to ISO 228-1

- * The strainer is supplied with the product, but it needs to be installed separately.
* This strainer should be installed at the inlet connection of the outdoor unit to protect the clogging of a plate heat exchanger.

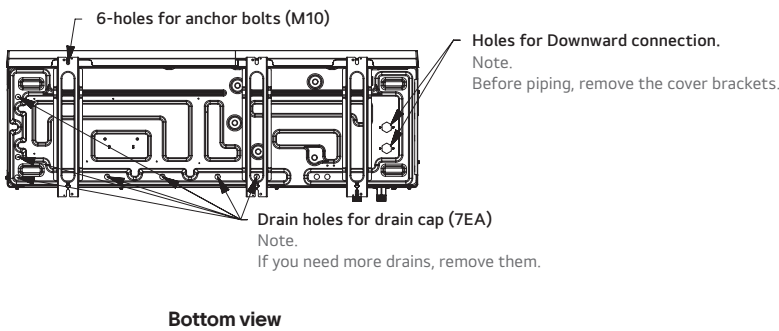
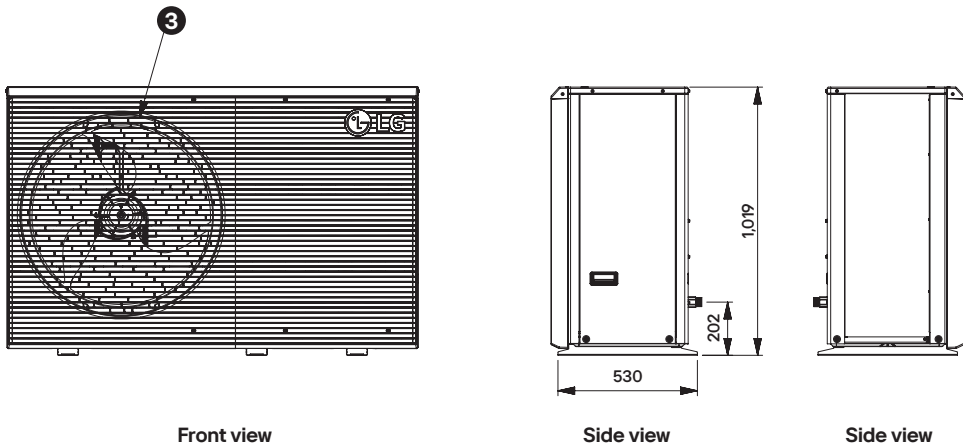
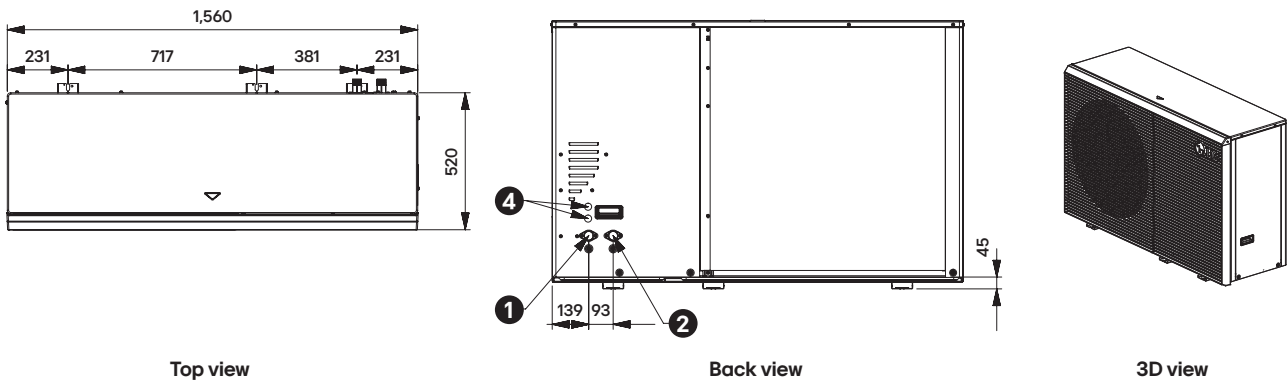
THERMA V R290 PREMIUM MONOBLOC

HYDRO UNIT (12 / 14 / 16 kW)

Drawings

[Unit: mm]

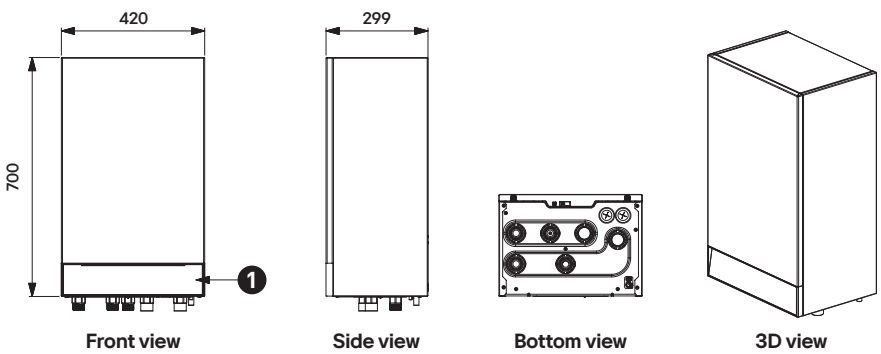
HM121HF UB60 / HM123HF UB60
HM141HF UB60 / HM143HF UB60
HM161HF UB60 / HM163HF UB60



No.	Part Name	Description
1	Leaving water pipe	Male PT 1 inch
2	Entering water pipe	Male PT 1 inch
3	Air discharge grille	-
4	Access to electrical terminals	Power, communication

External

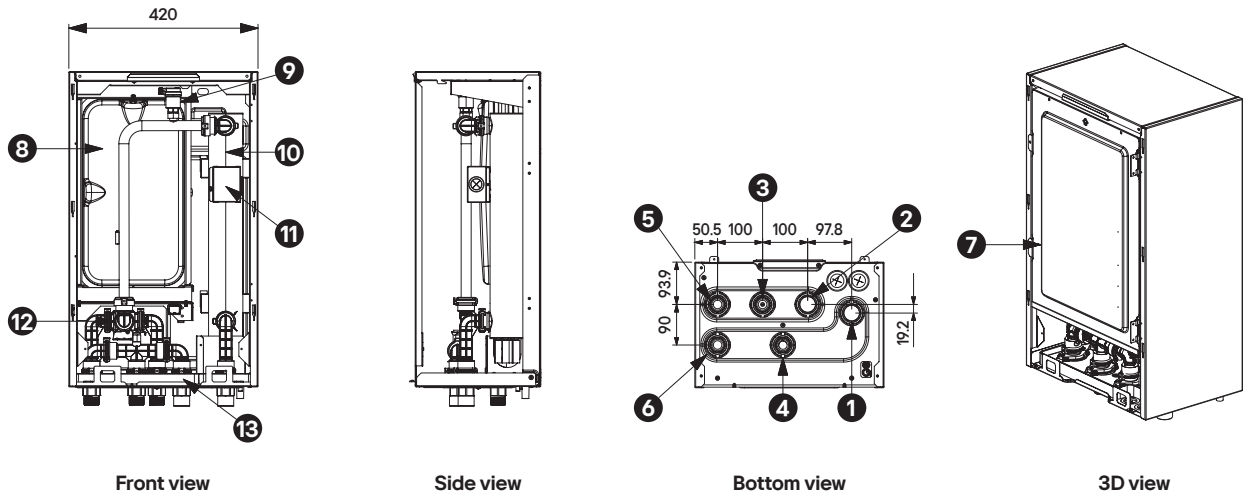
HN16XAHC NK1



No.	Part Name	Description
1	Control panel	Human machine interface

Internal

HN16XAHC NK1



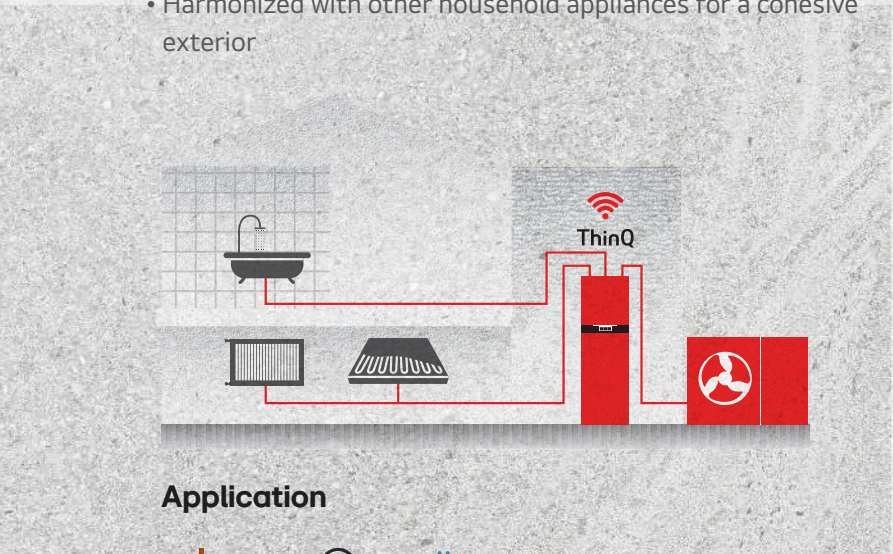
No.	Part Name	Description
1	Inlet from outdoor unit	Male PT 1" according to ISO 7-1
2	Outlet from outdoor unit	Male PT 1" according to ISO 7-1
3	DHW inlet pipe	Male PT 1" according to ISO 7-1
4	DHW outlet pipe	Male PT 1" according to ISO 7-1
5	Heating circuit inlet pipe	Male PT 1" according to ISO 7-1
6	Heating circuit outlet pipe	Male PT 1" according to ISO 7-1
7	Control box	PCB and terminal blocks
8	Expansion tank	Absorbing volume change of heater water (12 L)
9	Air vent	Air purging when charging water
10	Backup heater	Capacity : 3 / 6 kW (1 Ø), 3 / 6 / 9 kW (3 Ø)
11	Thermal switch	Cut-off power input to backup heater at 90°C (manual return at 55°C)
12	3 way valve	For DHW / heating
13	Drain pan	For condensate water drainage



Therma V™ R290 Premium Monobloc | COMBI UNIT

Key Features

- Brand new stylish design with family look
- 6.8 inch full-touch interface
- Wi-Fi embedded
- Compatible with both single-phase and three-phase power supplies
- Two lineups are offered (1-zone and 2-zone models)
- All-in-one Combi Unit with integrated hot water cylinder
- Saves space in the technical room with a small footprint
- Reduced installation time with pre-installed components
- Harmonized with other household appliances for a cohesive exterior



Application



All-in-One

Designed to streamline your home's heating, cooling, and hot water systems, this all-in-one solution provides seamless integration.

It efficiently saves space in your home.

Certifications



Energy Label



THERMA V R290 PREMIUM MONOBLOC COMBI UNIT (7 / 9 kW)

THERMA V™ R290 Premium Monobloc

Outdoor unit

HM071HF UB40 / HM073HF UB40
HM091HF UB40 / HM093HF UB40

Indoor unit

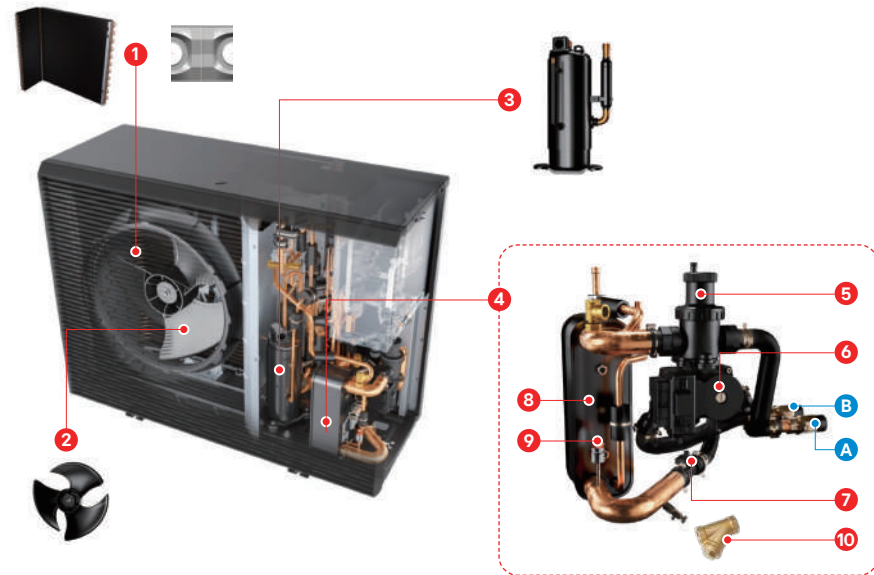
HN20XAHY NK1 (1 zone)
HN20XAHB NK1 (2 zone)



ThinQ

Key Components

Outdoor Unit



Components

- 1 Black Fin heat exchanger (air / ref.)
- 2 Biomimetic fan
- 3 R1 compressor
- 4 Hydronic components assembly
- 5 Deaerator
- 6 Water pump
- 7 Flow sensor
- 8 Plate heat exchanger
- 9 Pressure sensor
- 10 Strainer (loose supplied)

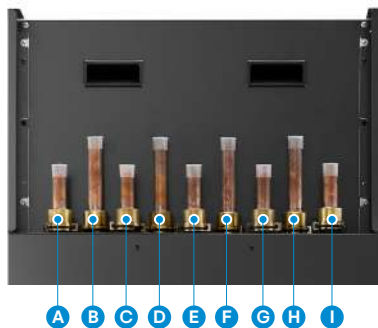
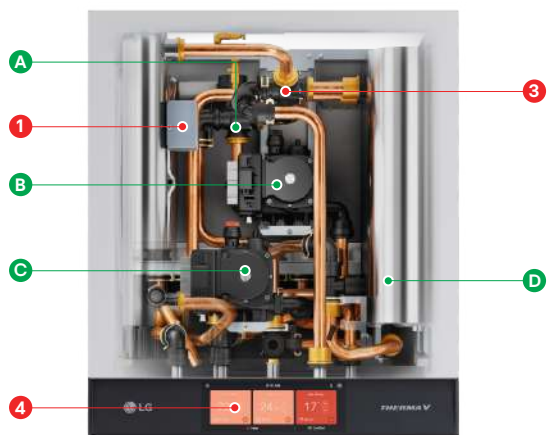
Connections

- A Leaving water pipe (male PT 1")
- B Entering water pipe (male PT 1")

Key Components

Indoor Unit (Combi Unit)

* The picture below shows the Combi Unit 2 zone model.



Components

- 1 Electric heater (common)
1 Ø : 6 kW / 3 Ø : 9 kW (as per wiring method)
- 2 Expansion tank (12 L)
- 3 3 way valve (DC type)
- 4 6.8 inch HMI controller¹⁾ (Wi-Fi modem integrated)

1) Temperature control class (ERP class) : V

2 Zone Model Only

- A Mixing valve
- B Mixing pump
- C Direct pump
- D 3 ports buffer tank (16 L)

Connections

- A Heating 1st circuit inlet pipe (plain end 1")
- B Heating 1st circuit outlet pipe (plain end 1")
- C Domestic cold water inlet pipe (plain end 1")
- D Domestic hot water outlet pipe (plain end 1")
- E Heating 2nd circuit inlet pipe (plain end 1") - 2 zone model only
- F Heating 2nd circuit outlet pipe (plain end 1") - 2 zone model only
- G Outlet pipe to outdoor unit (plain end 1")
- H Inlet pipe from outdoor unit (plain end 1")
- I DHW re-circulation (plain end 1")

THERMA V R290 PREMIUM MONOBLOC

COMBI UNIT (7 / 9 kW)



Product Specification

Efficiency Data		Unit	7 kW (1 Ø) 7 kW (3 Ø)	9 kW (1 Ø) 9 kW (3 Ø)
Seasonal space heating eff. class (35°C / 55°C)		-	A+++ / A+++	A+++ / A+++
Seasonal space heating efficiency (η _s) (35°C / 55°C)		%	207 / 151	205 / 151
SCOP (35°C / 55°C)		-	5.24 / 3.86	5.20 / 3.86
Declared load profile, average climate		-	L	L
Water heating efficiency (η _{WH}), average climate		%	130	130
COP _{DHW} , average climate		-	3.10	3.10
Water heating eff. class, average climate		-	A+	A+
Annual energy consumption, DHW (average climate)		kWh	780	780
Heating up time acc. to EN 16147 (average climate)		h/mm	1h 25	1h 25
Max. usable water volume acc. to EN 16147 (average climate)		ℓ	240	240
Declared load profile, warmer climate		-	L	L
Water heating efficiency (η _{WH}), warmer climate		%	160	160
COP _{DHW} , warmer climate		-	3.78	3.78
Water heating eff. class, warmer climate		-	A++	A++
Declared load profile, colder climate		-	L	L
Water heating efficiency (η _{WH}), colder climate		%	110	110
COP _{DHW} , colder climate		-	2.64	2.64
Water heating eff. class, colder climate		-	A	A
Sound power level (outdoor unit)	Rated / low noise mode	dB(A)	49 / 48	50 / 48
Sound pressure level at 5 m (outdoor unit)	Rated / low noise mode	dB(A)	27 / 26	28 / 26
Sound power level (indoor unit)	Rated	dB(A)	1 zone: 39 / 2 zone: 42	
Sound pressure level at 1 m (indoor unit)	Rated	dB(A)	1 zone: 31 / 2 zone: 34	
Nominal Capacity and COP / EER				
Air +7°C / water +35°C	Heating capacity / COP	kW / -	7.00 / 5.00	9.00 / 4.70
Air +2°C / water +35°C	Heating capacity / COP	kW / -	7.00 / 3.80	8.00 / 3.70
Air -7°C / water +35°C	Heating capacity / COP	kW / -	7.00 / 2.80	9.00 / 2.70
Air +7°C / water +55°C	Heating capacity / COP	kW / -	4.50 / 3.35	5.50 / 3.30
Air -7°C / water +55°C	Heating capacity / COP	kW / -	7.00 / 2.40	8.00 / 2.20
Air +35°C / water +18°C	Cooling capacity / EER	kW / -	5.00 / 4.40	5.50 / 4.20
Air +35°C / water +7°C	Cooling capacity / EER	kW / -	5.00 / 2.80	5.50 / 2.60

Note

1. Due to our policy of innovation, some specifications may be changed without notification.

2. Wiring cable size must comply with the applicable local and national codes. Especially the power cable and circuit breaker should be selected in accordance with that.

3. Sound power level is measured on the rated condition in accordance with EN12102-1 and ISO 9614 standard. Sound pressure level is converted from sound power level based on a tonality penalty of 0 dB and installation in free-field. The directivity index (Q) is assumed as 2. Therefore, these values can be increased owing to ambient conditions during operation. Rated sound power level is in accordance with EN12102-1 under condition of EN14825.

4. Performances are in accordance with EN14511 and reflect ErP testing conditions. Above gives the declared values at rated conditions according to ErP regulation.

5. All installation sites must be equipped with an earth leakage circuit breaker (ELCB).

6. DHW 65 ~ 80°C Operating is available only when the booster heater is operating.

7. The RAL Code may not accurately represent the actual color.

Outdoor Units		Unit	HM071HF UB40 HM073HF UB40	HM091HF UB40 HM093HF UB40
Operation range (outdoor air temperature)	Heating & DHW (Min. ~ Max.)	°C	-28 ~ 35	
	Cooling (Min. ~ Max.)	°C	5 ~ 48	
Refrigerant	Type	-	R290	
	GWP	-	0.02	
	Precharged amount	g	900	
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 1,320 x 520	
Weight	Net	kg	130.0	
Exterior	Color of chassis / RAL code	-	Black STS silver solid / RAL 8019	
	Color of front grille / RAL code	-	Light graphite / RAL 8022	
Power supply	Voltage, phase, frequency	V, Ø, Hz	220 ~ 240, 1, 50 / 380 ~ 415, 3, 50	
	Standby power consumption	W	10	
	Recommended circuit breaker	A	1 Ø: 20 / 3 Ø: 16	
Indoor Units		Unit	HN20XAHY NK1 (1 zone) / HN20XAHB NK1 (2 zone)	
Operation range (leaving water temperature)	Heating (Min. ~ Max.)	°C	15 ~ 75	
	Cooling (Min. ~ Max.)	°C	5 ~ 27	
	DHW (Min. ~ Max.)	°C	15 ~ 80	
Domestic hot water tank	Volume	ℓ	200	
	Tank material	-	Duplex stainless steel	
Expansion vessel (heating circuit)	Volume	ℓ	12	
Buffer tank	Volume	ℓ	1 zone: - / 2 zone: 16	
Water pump	Main pump for heating circuit	-	1 zone: - / 2 zone: Integrated	
	Mixing pump for 2nd circuit	-	1 zone: - / 2 zone: Integrated	
Backup heater	Capacity combination	kW	3.0 / 3.0 + 3.0 / 3.0 + 3.0 + 3.0	
	Heating steps	Steps	1 / 2 / 3	
	Power supply	V, Ø, Hz	3, 6 kW : 220 - 240, 1, 50 / 9 kW : 380 - 415, 3, 50	
	Rated running current	A	3, 6 kW : 26 / 9 kW : 13	
Piping connections (water)	1st Heating circuit inlet / outlet pipe	-	Plain end (Copper, 22 x 1.2 mm)	
	2nd Heating circuit inlet / outlet pipe	-	2 zone only: Plain end (Copper, 22 x 1.2 mm)	
	Inlet / outlet pipe to outdoor unit	-	Plain end (Copper, 22 x 1.2 mm)	
	DHW inlet / outlet pipe	-		
	Recirculation	-		
Dimension	H x W x D	mm	1,850 x 600 x 600	
Weight	Net	kg	1 zone: 111.5 / 2 zone: 131.0	
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	

Note

1. Due to our policy of innovation, some specifications may be changed without notification.

2. Wiring cable size must comply with the applicable local and national codes. Especially the power cable and circuit breaker should be selected in accordance with that.

3. Sound power level is measured on the rated condition in accordance with EN12102-1 and ISO 9614 standard. Sound pressure level is converted from sound power level based on a tonality penalty of 0 dB and installation in free-field. The directivity index (Q) is assumed as 2. Therefore, these values can be increased owing to ambient conditions during operation. Rated sound power level is in accordance with EN12102-1 under condition of EN14825.

4. Performances are in accordance with EN14511 and reflect ErP testing conditions. Above gives the declared values at rated conditions according to ErP regulation.

5. All installation sites must be equipped with an earth leakage circuit breaker (ELCB).

6. DHW 65 ~ 80°C Operating is available only when the booster heater is operating.

7. The RAL Code may not accurately represent the actual color.

THERMA V R290 PREMIUM MONOBLOC COMBI UNIT (7 / 9 kW)

Performance Table for Heating Operation

Maximum heating capacity (Include defrost effect)

HM071HF UB40 + HN20XAHY(B) NK1 / HM073HF UB40 + HN20XAHY(B) NK1

[illegible]

HM091HF UB40 + HN20XAHY(B) NK1

[illegible]

HM093HF UB40 + HN20XAHY(B) NK1

[illegible]

Note

1. DB : Dry Bulb Temperature (°C), LWT : Leaving Water Temperature (°C), LPM : Liters Per Minute (ℓ/min), TC : Total Capacity (kW)
2. Direct interpolation is permissible. Do not extrapolate.
3. Measuring procedure follows EN-14511.
 - Rated values are based on standard conditions and it can be found on specifications.
 - Above table values may not be matched according to installation condition. Except for rated value, the performance is not guaranteed.
 - In accordance with the test standard (or nations), the rating will vary slightly.
4. The shaded areas are not guaranteed continuous operation.



Performance Table for Cooling Operation

Maximum cooling capacity

HM071HF UB40 + HN20XAHY(B) NK1 / HM073HF UB40 + HN20XAHY(B) NK1

Outdoor Temp. [°C DB]	LWT 7°C	LWT 10°C	LWT 13°C	LWT 15°C	LWT 18°C	LWT 20°C	LWT 22°C
	Capacity (kW)						
20	5.30	6.00	6.70	7.00	7.00	7.00	7.00
30	5.10	5.40	5.80	6.20	7.00	7.00	7.00
35	5.00	5.40	5.80	6.20	6.80	6.80	7.00
40	4.60	4.90	5.30	5.60	6.20	6.70	7.00
45	4.20	4.70	5.30	5.60	6.20	6.50	7.00

HM091HF UB40 + HN20XAHY(B) NK1 / HM093HF UB40 + HN20XAHY(B) NK1

Outdoor Temp. [°C DB]	LWT 7°C	LWT 10°C	LWT 13°C	LWT 15°C	LWT 18°C	LWT 20°C	LWT 22°C
	Capacity (kW)						
20	5.80	6.70	7.50	9.00	9.00	9.00	9.00
30	5.60	6.40	7.20	7.70	9.00	9.00	9.00
35	5.50	6.30	7.20	7.80	9.00	9.00	9.00
40	5.00	5.70	6.40	6.80	7.40	7.70	9.00
45	4.40	5.10	5.70	6.10	6.80	7.20	7.60

Note

1. DB : Dry Bulb Temperature (°C), LWT : Leaving Water Temperature (°C),
LPM : Liters Per Minute (ℓ/min), TC : Total Capacity (kW)
2. Direct interpolation is permissible. Do not extrapolate.
3. Measuring procedure follows EN-14511.
- Rated values are based on standard conditions and it can be found on specifications.
 - Above table values may not be matched according to installation condition. Except for rated value, the performance is not guaranteed.
 - In accordance with the test standard (or nations), the rating will vary slightly.
4. The shaded areas are not guaranteed continuous operation.

Supplied Parts

Strainer



Technical Specification		Unit	Details
Material	Body	-	Brass
	Mesh	-	Stainless steel (STS304)
Mesh	Mesh no.	-	30
	Max. particle size	mm	0.6
Piping connection		-	Female G1" according to ISO 228-1

* The strainer is supplied with the product, but it needs to be installed separately.

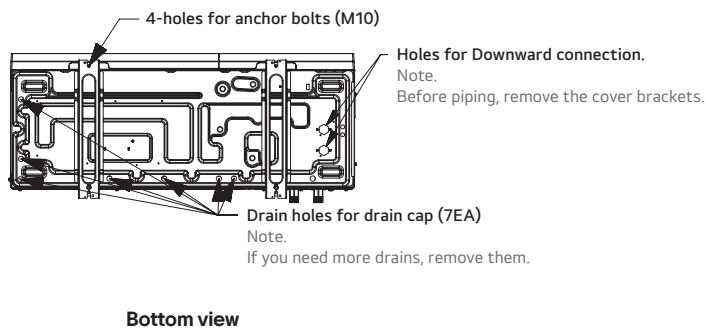
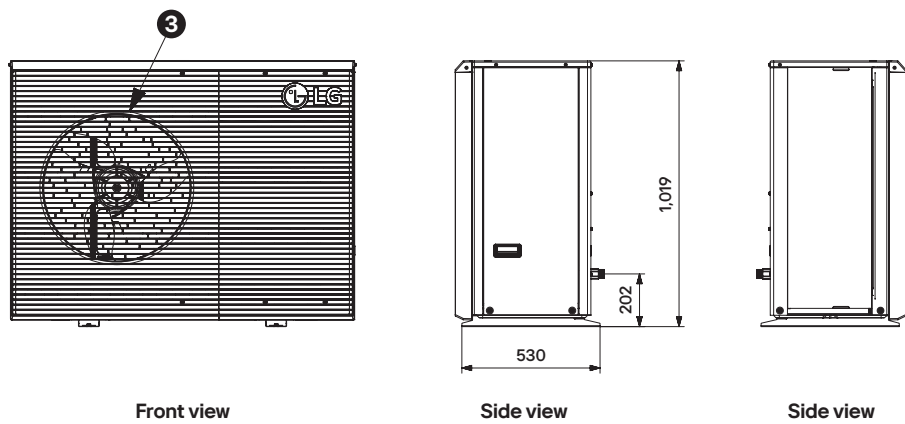
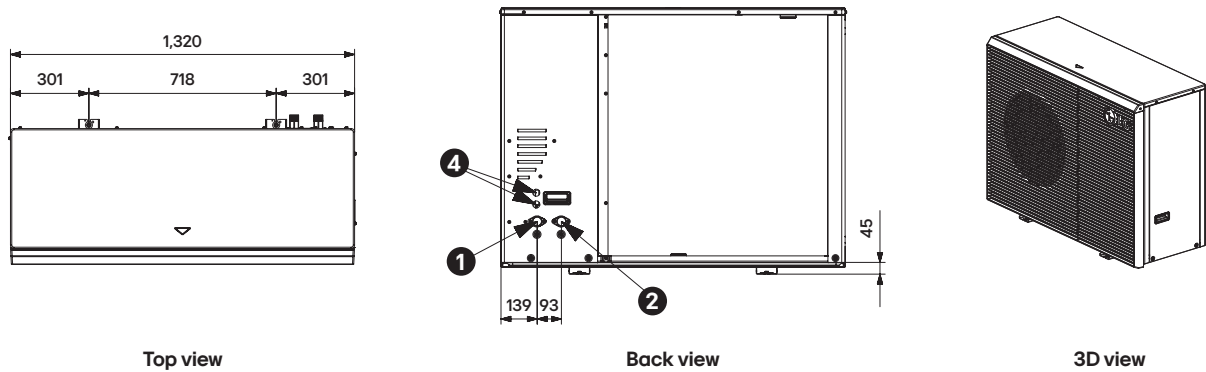
* This strainer should be installed at the inlet connection of the outdoor unit to protect the clogging of a plate heat exchanger.

THERMA V R290 PREMIUM MONOBLOC COMBI UNIT (7 / 9 kW)

Drawings

[Unit: mm]

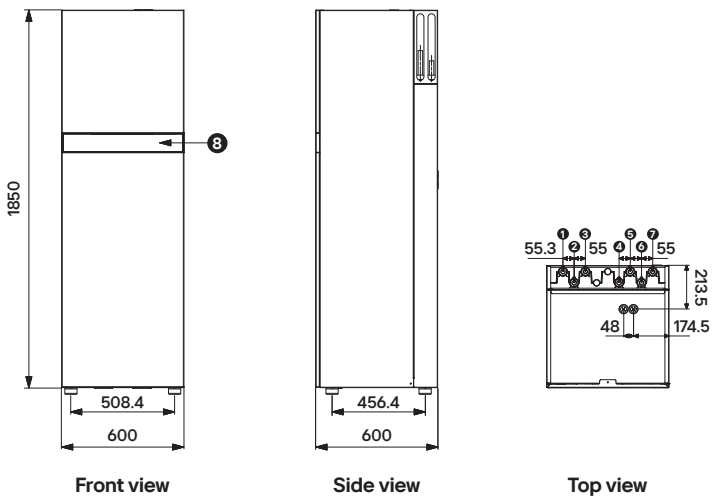
HM071HF UB40 / HM073HF UB40
HM091HF UB40 / HM093HF UB40



No.	Part Name	Description
1	Leaving water pipe	Male PT 1 inch
2	Entering water pipe	Male PT 1 inch
3	Air discharge grille	-
4	Access to electrical terminals	Power, communication

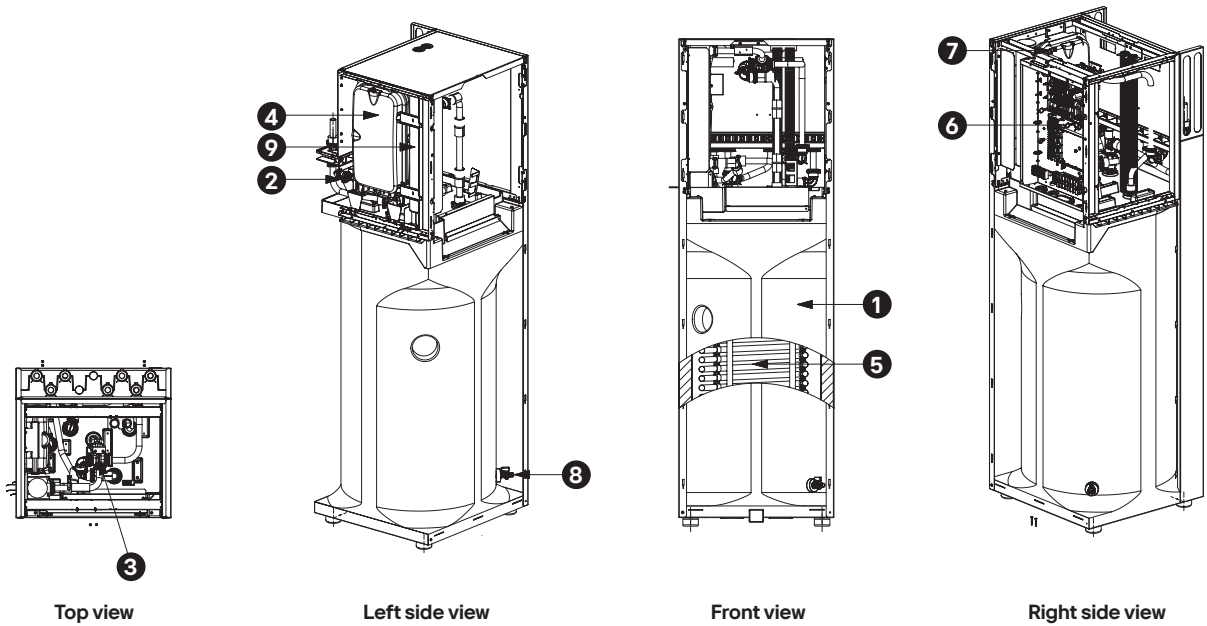
[Unit: mm]

External
HN20XAHY NK1



No.	Part Name	Description	No.	Part Name	Description
1	Re-circulation	Plain end (Copper, 22 x 1.2 mm)	5	Inlet (domestic cold water)	Plain end (Copper, 22 x 1.2 mm)
2	Inlet (heating water from ODU)		6	Outlet (heating circuit supply)	
3	Outlet (return water to ODU)		7	Inlet (heating circuit return)	
4	Outlet (domestic hot water)		8	Control panel	Human machine interface

Internal
HN20XAHY NK1



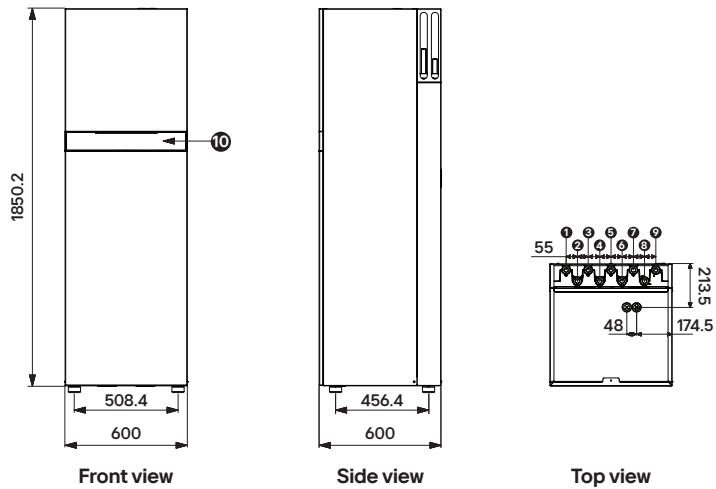
No.	Part Name	Description	No.	Part Name	Description
1	DHW tank	Domestic hot water tank (200 L)	6	Control box	PCB/A and terminal blocks
2	Heater	Electric heater	7	Air vent	For air purging
3	3 way valve (DHW)	3 way valve for DHW and heating circuit	8	Drain cock	Valve for DHW tank drain
4	Expansion vessel	12 L for heating circuit	9	Safety valve	For DHW (10 bar)
5	Heat exchanger	Coil heat exchanger (water / DHW)			

THERMA V R290 PREMIUM MONOBLOC COMBI UNIT (7 / 9 kW)

Drawings

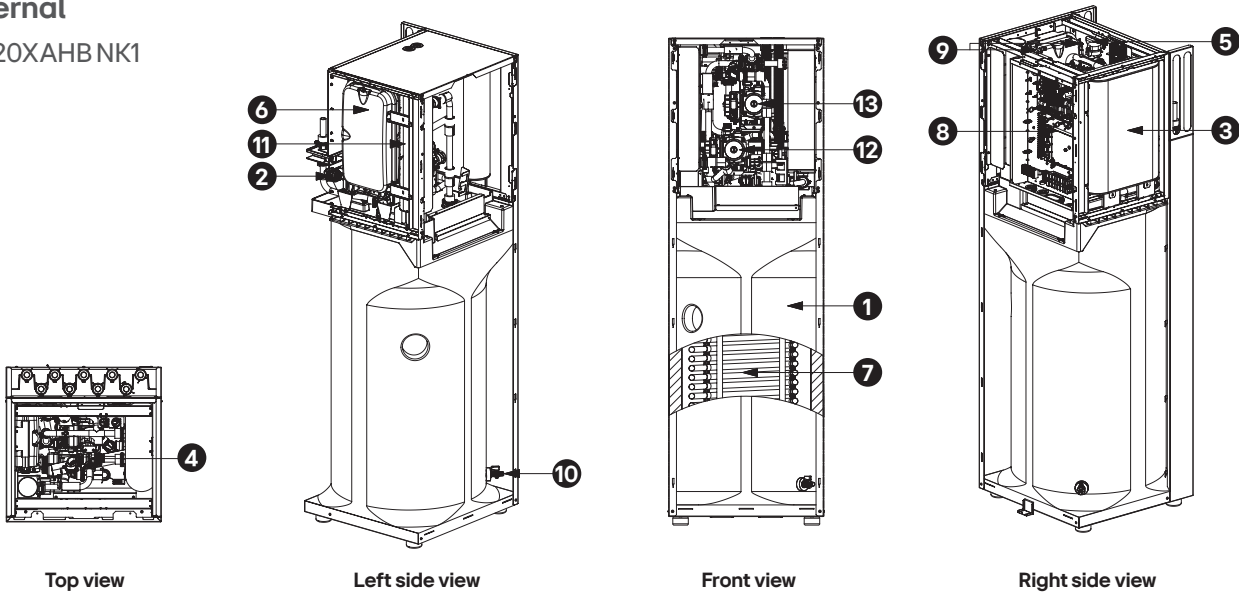
[Unit: mm]

External
HN20XAHB NK1



No.	Part Name	Description	No.	Part Name	Description
1	DHW re-circulation	Plain end (Copper, 22 x 1.2 mm)	6	Outlet (domestic hot water)	Plain end (Copper, 22 x 1.2 mm)
2	Inlet (heating water from ODU)		7	Inlet (domestic cold water)	
3	Outlet (return water to ODU)		8	Outlet (1st circuit supply)	
4	Outlet (2nd circuit supply)		9	Inlet (1st circuit return)	
5	Inlet (2nd circuit return)		10	Control panel	Human machine interface

Internal
HN20XAHB NK1



No.	Part Name	Description	No.	Part Name	Description
1	DHW tank	Domestic hot water tank (200L)	8	Control box	PCB'A and terminal blocks
2	Heater	Electric heater	9	Air vent	For air purging
3	Buffer tank	16 L	10	Drain cock	Valve for DHW tank drain
4	3 way valve (DHW)	3 way valve for DHW and heating circuit	11	Safety valve	For DHW (10 bar)
5	3 way valve (Mix)	3 way for mix zone	12	Water pump (direct)	For direct circuit (1st circuit)
6	Expansion vessel	12 L for heating circuit	13	Water pump (mix)	For mix circuit (2nd circuit)
7	Heat exchanger	Coil heat exchanger (water / DHW)			



THERMA V R290 PREMIUM MONOBLOC COMBI UNIT (12 / 14 / 16 kW)

THERMA V™ R290 Premium Monobloc

Outdoor unit

HM121HF UB60 / HM123HF UB60
HM141HF UB60 / HM143HF UB60
HM161HF UB60 / HM163HF UB60

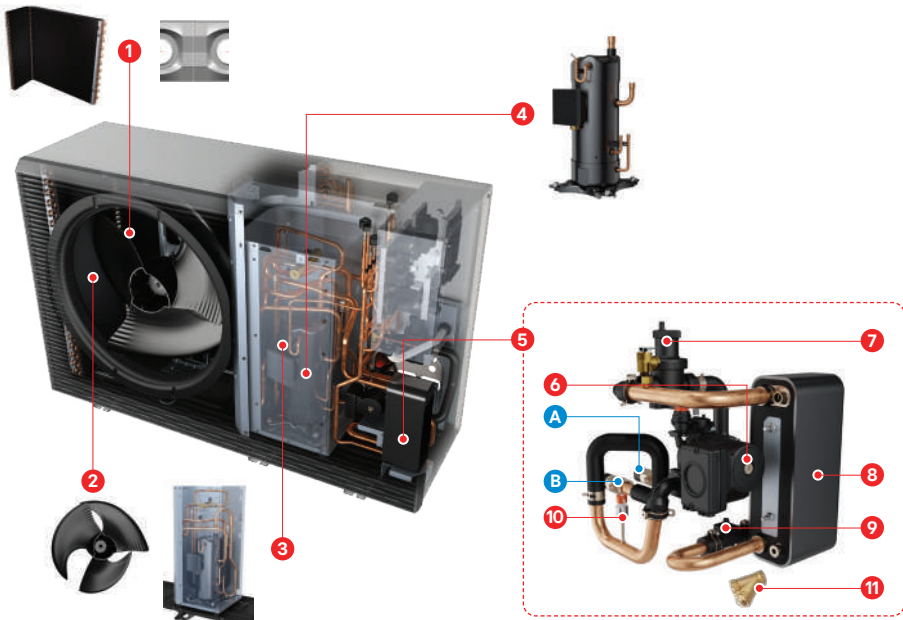
Indoor unit

HN20XAHY NK1 (1 zone)
HN20XAHB NK1 (2 zone)



Key Components

Outdoor Unit



Components

- 1 Black Fin heat exchanger (air / ref.)
- 2 Biomimetic fan
- 3 Dual sound shield
- 4 R1 compressor
- 5 Hydronic components assembly
- 6 Water pump
- 7 Deaerator
- 8 Plate heat exchanger (ref / water)
- 9 Flow sensor
- 10 Pressure sensor
- 11 Strainer (loose supplied)

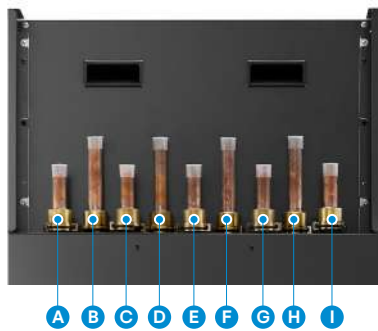
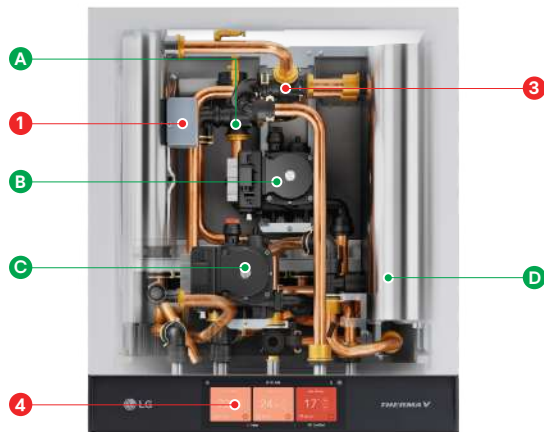
Connections

- A Leaving water pipe (male PT 1")
- B Entering water pipe (male PT 1")

Key Components

Indoor Unit (Combi Unit)

* The picture below shows the Combi Unit 2 zone model.



Components

- 1 Electric heater (common)
1 Ø : 6 kW / 3 Ø : 9 kW (as per wiring method)
- 2 Expansion tank (12 L)
- 3 3 way valve (DC type)
- 4 6.8 inch HMI controller¹⁾ (Wi-Fi modem integrated)

1) Temperature control class (ERP class) : V

2 Zone Model Only

- A Mixing valve
- B Mixing pump
- C Direct pump
- D 3 ports buffer tank (16 L)

Connections

- A Heating 1st circuit inlet pipe (plain end 1")
- B Heating 1st circuit outlet pipe (plain end 1")
- C Domestic cold water inlet pipe (plain end 1")
- D Domestic hot water outlet pipe (plain end 1")
- E Heating 2nd circuit inlet pipe (plain end 1") - 2 zone model only
- F Heating 2nd circuit outlet pipe (plain end 1") - 2 zone model only
- G Outlet pipe to outdoor unit (plain end 1")
- H Inlet pipe from outdoor unit (plain end 1")
- I DHW re-circulation (plain end 1")

THERMA V R290 PREMIUM MONOBLOC

COMBI UNIT (12 / 14 / 16 kW)



Product Specification

Efficiency Data		Unit	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+++
Seasonal space heating efficiency (η _s) (35°C / 55°C)		%	215 / 156	212 / 155	201 / 154
SCOP (35°C / 55°C)		-	5.45 / 3.97	5.38 / 3.96	5.11 / 3.92
Declared load profile, average climate		-	L	L	L
Water heating efficiency (η _{wh}), average climate		%	130	130	130
COP _{DHW} , average climate		-	3.00	3.00	3.00
Water heating eff. class, average climate		-	A+	A+	A+
Annual energy consumption, DHW (average climate)		kWh	771	771	771
Heating up time acc. to EN 16147 (average climate)		h/mm	1h 25	1h 25	1h 25
Max. usable water volume acc. to EN 16147 (average climate)		ℓ	240	240	240
Declared load profile, warmer climate		-	L	L	L
Water heating efficiency (η _{wh}), warmer climate		%	151	151	151
COP _{DHW} , warmer climate		-	3.43	3.43	3.43
Water heating eff. class, warmer climate		-	A++	A++	A++
Declared load profile, colder climate		-	L	L	L
Water heating efficiency (η _{wh}), colder climate		%	101	101	101
COP _{DHW} , colder climate		-	2.34	2.34	2.34
Water heating eff. class, colder climate		-	A	A	A
Sound power level (outdoor unit)	Rated / low noise mode	dB(A)	49 / 48	51 / 50	52 / 51
Sound pressure level at 5 m (outdoor unit)	Rated / low noise mode	dB(A)	27 / 26	29 / 28	30 / 29
Sound power level (indoor unit)	Rated	dB(A)	1 zone: 39 / 2 zone: 42		
Sound pressure level at 1 m (indoor unit)	Rated	dB(A)	1 zone: 31 / 2 zone: 34		
Nominal Capacity and COP / EER					
Air +7°C / water +35°C	Heating capacity / COP	kW / -	12.00 / 4.70	14.00 / 4.50	16.00 / 4.30
Air +2°C / water +35°C	Heating capacity / COP	kW / -	12.00 / 3.72	14.00 / 3.61	14.50 / 3.49
Air -7°C / water +35°C	Heating capacity / COP	kW / -	11.80 / 3.27	13.00 / 3.21	13.80 / 3.17
Air +7°C / water +55°C	Heating capacity / COP	kW / -	10.00 / 3.10	11.00 / 3.25	12.00 / 3.30
Air -7°C / water +55°C	Heating capacity / COP	kW / -	9.30 / 2.32	10.30 / 2.28	10.90 / 2.26
Air +35°C / water +18°C	Cooling capacity / EER	kW / -	11.50 / 3.78	12.00 / 3.70	12.50 / 3.70
Air +35°C / water +7°C	Cooling capacity / EER	kW / -	10.50 / 3.12	12.00 / 2.99	12.50 / 2.95

Note

1. Due to our policy of innovation, some specifications may be changed without notification.

2. Wiring cable size must comply with the applicable local and national codes. Especially the power cable and circuit breaker should be selected in accordance with that.

3. Sound power level is measured on the rated condition in accordance with EN12102-1 and ISO 9614 standard. Sound pressure level is converted from sound power level based on a tonality penalty of 0 dB and installation in free-field. The directivity index (Q) is assumed as 2. Therefore, these values can be increased owing to ambient conditions during operation. Rated sound power level is in accordance with EN12102-1 under condition of EN14825.

4. Performances are in accordance with EN14511 and reflect ErP testing conditions. Above gives the declared values at rated conditions according to ErP regulation.

5. All installation sites must be equipped with an earth leakage circuit breaker (ELCB).

6. DHW 65 ~ 80°C Operating is available only when the booster heater is operating.

7. The RAL Code may not accurately represent the actual color.

Outdoor Units		Unit	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	-	0.02		
	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	Net	kg	181.0		
Exterior	Color of chassis / RAL code	-	Black STS silver solid / RAL 8019		
	Color of front grille / RAL code	-	Light graphite / RAL 8022		
Power supply	Voltage, phase, frequency	V, Ø, Hz	220 ~ 240, 1, 50 / 380 ~ 415, 3, 50		
	Standby power consumption	W	10		
	Recommended circuit breaker	A	1 Ø: 25 / 3 Ø: 16		
Indoor Units		Unit	HN20XAHY NK1 (1 zone) / HN20XAHB NK1 (2 zone)		
Operation range (leaving water temperature)	Heating (Min. ~ Max.)	°C	15 ~ 75		
	Cooling (Min. ~ Max.)	°C	5 ~ 27		
	DHW (Min. ~ Max.)	°C	15 ~ 80		
Domestic hot water tank	Volume	ℓ	200		
	Tank material	-	Duplex stainless steel		
Expansion vessel (heating circuit)	Volume	ℓ	12		
Buffer tank	Volume	ℓ	1 zone: - / 2 zone: 16		
Water pump	Main pump for heating circuit	-	1 zone: - / 2 zone: Integrated		
	Mixing pump for 2nd circuit	-	1 zone: - / 2 zone: Integrated		
Backup heater	Capacity combination	kW	3.0 / 3.0 + 3.0 / 3.0 + 3.0 + 3.0		
	Heating steps	Steps	1 / 2 / 3		
	Power supply	V, Ø, Hz	3, 6 kW : 220 - 240, 1, 50 / 9 kW : 380 - 415, 3, 50		
	Rated running current	A	3, 6 kW : 26 / 9 kW : 13		
Piping connections (water)	1st Heating circuit inlet / outlet pipe	-	Plain end (Copper, 22 x 1.2 mm)		
	2nd Heating circuit inlet / outlet pipe	-	2 zone only: Plain end (Copper, 22 x 1.2 mm)		
	Inlet / outlet pipe to outdoor unit	-	Plain end (Copper, 22 x 1.2 mm)		
	DHW inlet / outlet pipe	-			
	Recirculation	-			
Dimension	H x W x D	mm	1,850 x 600 x 600		
Weight	Net	kg	1 zone: 111.5 / 2 zone: 131.0		
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		

Note

1. Due to our policy of innovation, some specifications may be changed without notification.

2. Wiring cable size must comply with the applicable local and national codes. Especially the power cable and circuit breaker should be selected in accordance with that.

3. Sound power level is measured on the rated condition in accordance with EN12102-1 and ISO 9614 standard. Sound pressure level is converted from sound power level based on a tonality penalty of 0 dB and installation in free-field. The directivity index (Q) is assumed as 2. Therefore, these values can be increased owing to ambient conditions during operation. Rated sound power level is in accordance with EN12102-1 under condition of EN14825.

4. Performances are in accordance with EN14511 and reflect ErP testing conditions. Above gives the declared values at rated conditions according to ErP regulation.

5. All installation sites must be equipped with an earth leakage circuit breaker (ELCB).

6. DHW 65 ~ 80°C Operating is available only when the booster heater is operating.

7. The RAL Code may not accurately represent the actual color.

THERMA V R290 PREMIUM MONOBLOC

COMBI UNIT (12 / 14 / 16 kW)

Performance Table for Heating Operation

Maximum heating capacity (Include defrost effect)

HM121HF UB60 + HN20XAHY(B) NK1 / HM123HF UB40 + HN20XAHY(B) NK1

Outdoor Temp. [°C DB]	LWT 30°C	LWT 35°C	LWT 40°C	LWT 45°C	LWT 50°C	LWT 55°C	LWT 60°C	LWT 65°C	LWT 70°C	LWT 75°C
	Capacity (kW)									
-25	8.36	8.07	7.79	7.54	7.32	6.37	-	-	-	-
-20	9.60	9.39	9.20	9.09	9.08	8.27	6.77	-	-	-
-15	10.84	10.69	10.55	10.55	10.84	10.76	8.71	7.17	-	-
-7	12.00	12.00	12.00	12.00	12.00	12.00	11.27	10.00	8.99	-
-4	12.00	12.00	12.00	12.00	12.00	12.00	12.00	10.88	9.65	8.91
-2	12.00	12.00	12.00	12.00	12.00	12.00	12.00	11.45	10.29	9.32
2	12.00	12.00	12.00	12.00	12.00	12.00	12.00	8.08	6.84	6.36
7	12.00	12.00	12.00	12.00	12.00	12.00	12.00	10.28	8.34	7.67
10	12.00	12.00	12.00	12.00	12.00	12.00	12.00	11.20	9.90	8.95
15	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	11.09
18	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	11.69
20	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
35	-	-	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00

HM141HF UB60 + HN20XAHY(B) NK1 / HM143HF UB40 + HN20XAHY(B) NK1

Outdoor Temp. [°C DB]	LWT 30°C	LWT 35°C	LWT 40°C	LWT 45°C	LWT 50°C	LWT 55°C	LWT 60°C	LWT 65°C	LWT 70°C	LWT 75°C
	Capacity (kW)									
-25	8.88	8.57	8.28	8.01	7.78	6.37	-	-	-	-
-20	10.20	9.97	9.78	9.66	9.48	8.27	6.77	-	-	-
-15	12.06	11.99	11.79	11.59	11.29	10.76	8.71	7.17	-	-
-7	14.00	14.00	13.82	13.63	13.45	12.58	11.27	10.00	8.99	-
-4	14.00	14.00	13.90	13.83	13.83	13.23	12.06	10.88	9.65	8.91
-2	14.00	14.00	13.96	13.95	14.00	13.71	12.59	11.45	10.29	9.32
2	14.00	14.00	14.00	14.00	14.00	14.00	13.16	8.08	6.84	6.36
7	14.00	14.00	14.00	14.00	14.00	14.00	14.00	10.28	8.34	7.67
10	14.00	14.00	14.00	14.00	14.00	14.00	14.00	11.20	9.90	8.95
15	14.00	14.00	14.00	14.00	14.00	14.00	14.00	12.72	12.02	11.09
18	14.00	14.00	14.00	14.00	14.00	14.00	14.00	13.82	12.89	11.69
20	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00	13.47	12.09
35	-	-	14.00	14.00	14.00	14.00	14.00	14.00	14.00	12.80

HM161HF UB60 + HN20XAHY(B) NK1 / HM163HF UB40 + HN20XAHY(B) NK1

Outdoor Temp. [°C DB]	LWT 30°C	LWT 35°C	LWT 40°C	LWT 45°C	LWT 50°C	LWT 55°C	LWT 60°C	LWT 65°C	LWT 70°C	LWT 75°C
	Capacity (kW)									
-25	9.41	9.08	8.76	8.48	7.81	6.37	-	-	-	-
-20	10.80	10.56	10.35	10.23	9.48	8.27	6.77	-	-	-
-15	13.36	13.28	12.74	12.15	11.29	10.76	8.71	7.17	-	-
-7	16.00	16.00	15.17	14.35	13.52	12.58	11.27	10.00	8.99	-
-4	16.00	16.00	15.43	14.85	14.29	13.23	12.06	10.88	9.65	8.91
-2	16.00	16.00	15.69	15.34	14.81	13.71	12.59	11.45	10.29	9.32
2	16.00	16.00	16.00	16.00	16.00	14.84	13.16	8.08	6.84	6.36
7	16.00	16.00	16.00	16.00	16.00	16.00	14.25	10.28	8.34	7.67
10	16.00	16.00	16.00	16.00	16.00	16.00	14.92	11.20	9.90	8.95
15	16.00	16.00	16.00	16.00	16.00	16.00	16.00	12.72	12.02	11.09
18	16.00	16.00	16.00	16.00	16.00	16.00	16.00	13.82	12.89	11.69
20	16.00	16.00	16.00	16.00	16.00	16.00	16.00	14.56	13.47	12.09
35	-	-	16.00	16.00	16.00	16.00	16.00	16.00	14.40	12.80

Note

1. DB : Dry Bulb Temperature (°C), LWT : Leaving Water Temperature (°C), LPM : Liters Per Minute (ℓ/min), TC : Total Capacity (kW)

2. Direct interpolation is permissible. Do not extrapolate.

3. Measuring procedure follows EN-14511.

- Rated values are based on standard conditions and it can be found on specifications.
- Above table values may not be matched according to installation condition. Except for rated value, the performance is not guaranteed.
- In accordance with the test standard (or nations), the rating will vary slightly.

4. The shaded areas are not guaranteed continuous operation.

Performance Table for Cooling Operation

Maximum cooling capacity

HM121HF UB60 + HN20XAHY(B) NK1 / HM123HF UB40 + HN20XAHY(B) NK1

Outdoor Temp. [°C DB]	LWT 7°C	LWT 10°C	LWT 13°C	LWT 15°C	LWT 18°C	LWT 20°C	LWT 22°C
	Capacity (kW)						
20	11.50	11.50	11.50	11.50	11.50	11.50	11.50
30	10.97	11.50	11.50	11.50	11.50	11.50	11.50
35	10.50	11.28	11.50	11.50	11.50	11.50	11.50
40	9.35	10.08	10.80	11.27	11.50	11.50	11.50
45	8.19	8.90	9.61	10.07	10.77	11.23	11.50

HM141HF UB60 + HN20XAHY(B) NK1 / HM143HF UB40 + HN20XAHY(B) NK1

Outdoor Temp. [°C DB]	LWT 7°C	LWT 10°C	LWT 13°C	LWT 15°C	LWT 18°C	LWT 20°C	LWT 22°C
	Capacity (kW)						
20	12.00	12.00	12.00	12.00	12.00	12.00	12.00
30	12.00	12.00	12.00	12.00	12.00	12.00	12.00
35	12.00	12.00	12.00	12.00	12.00	12.00	12.00
40	10.68	11.52	12.00	12.00	12.00	12.00	12.00
45	9.36	10.17	10.98	11.51	12.00	12.00	12.00

HM161HF UB60 + HN20XAHY(B) NK1 / HM163HF UB40 + HN20XAHY(B) NK1

Outdoor Temp. [°C DB]	LWT 7°C	LWT 10°C	LWT 13°C	LWT 15°C	LWT 18°C	LWT 20°C	LWT 22°C
	Capacity (kW)						
20	12.50	12.50	12.50	12.50	12.50	12.50	12.50
30	12.50	12.50	12.50	12.50	12.50	12.50	12.50
35	12.50	12.50	12.50	12.50	12.50	12.50	12.50
40	12.02	12.50	12.50	12.50	12.50	12.50	12.50
45	10.03	10.78	11.54	12.05	12.50	12.50	12.50

Note

1. DB : Dry Bulb Temperature (°C), LWT : Leaving Water Temperature (°C), LPM : Liters Per Minute (ℓ/min), TC : Total Capacity (kW)

2. Direct interpolation is permissible. Do not extrapolate.

3. Measuring procedure follows EN-14511.

- Rated values are based on standard conditions and it can be found on specifications.
- Above table values may not be matched according to installation condition. Except for rated value, the performance is not guaranteed.
- In accordance with the test standard (or nations), the rating will vary slightly.

4. The shaded areas are not guaranteed continuous operation.

Supplied Parts

Strainer



Technical Specification		Unit	Details
Material	Body	-	Brass
	Mesh	-	Stainless steel (STS304)
Mesh	Mesh no.	-	30
	Max. particle size	mm	0.6
Piping connection		-	Female G1" according to ISO 228-1

* The strainer is supplied with the product, but it needs to be installed separately.

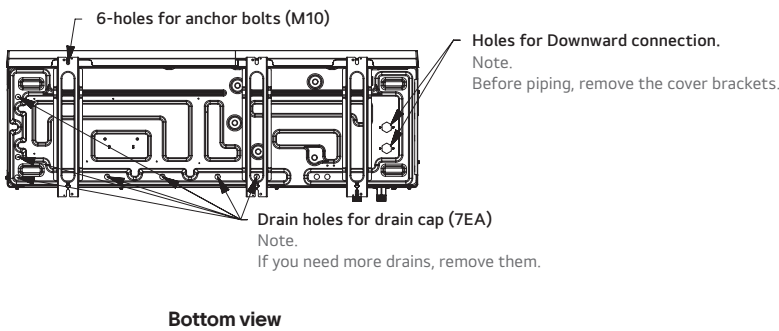
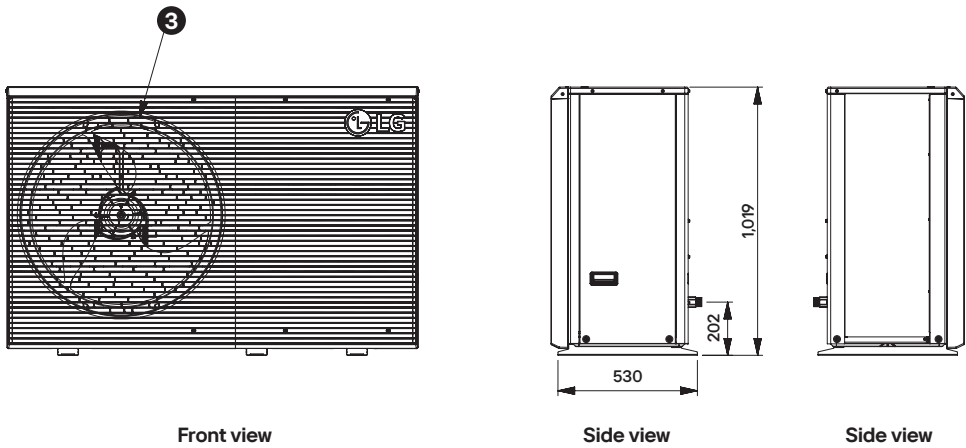
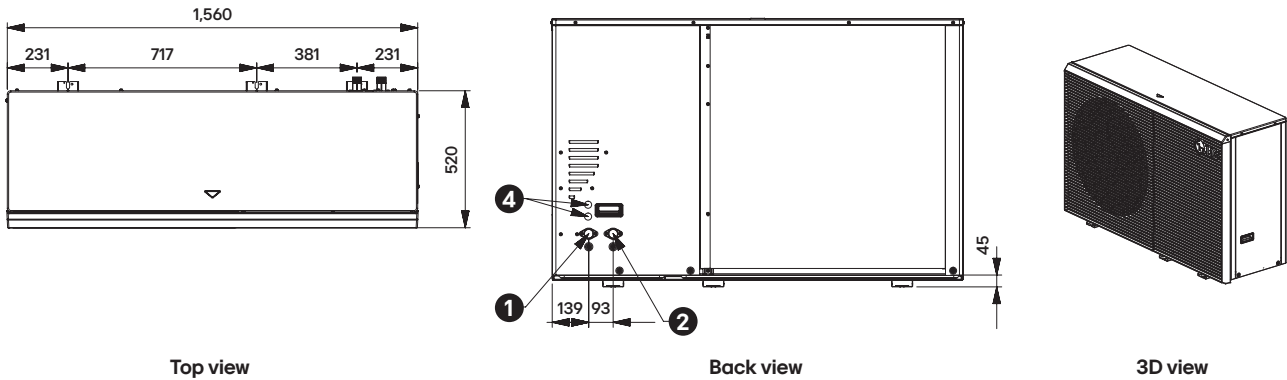
* This strainer should be installed at the inlet connection of the outdoor unit to protect the clogging of a plate heat exchanger.

THERMA V R290 PREMIUM MONOBLOC COMBI UNIT (12 / 14 / 16 kW)

Drawings

[Unit: mm]

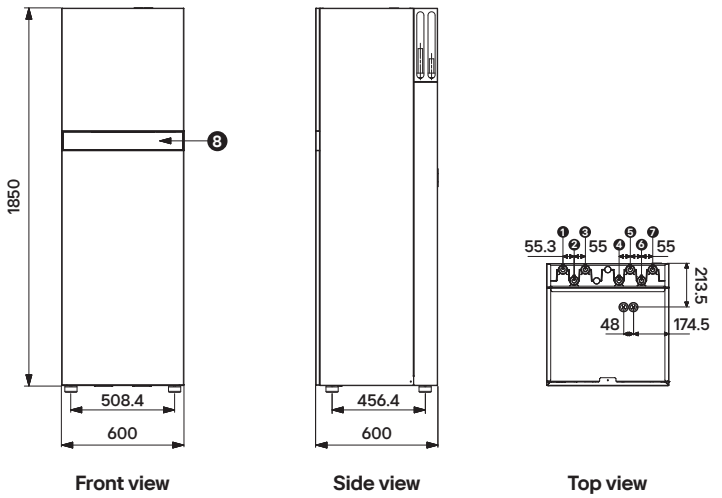
HM121HF UB60 / HM123HF UB60
HM141HF UB60 / HM143HF UB60
HM161HF UB60 / HM163HF UB60



No.	Part Name	Description
1	Leaving water pipe	Male PT 1 inch
2	Entering water pipe	Male PT 1 inch
3	Air discharge grille	-
4	Access to electrical terminals	Power, communication

External

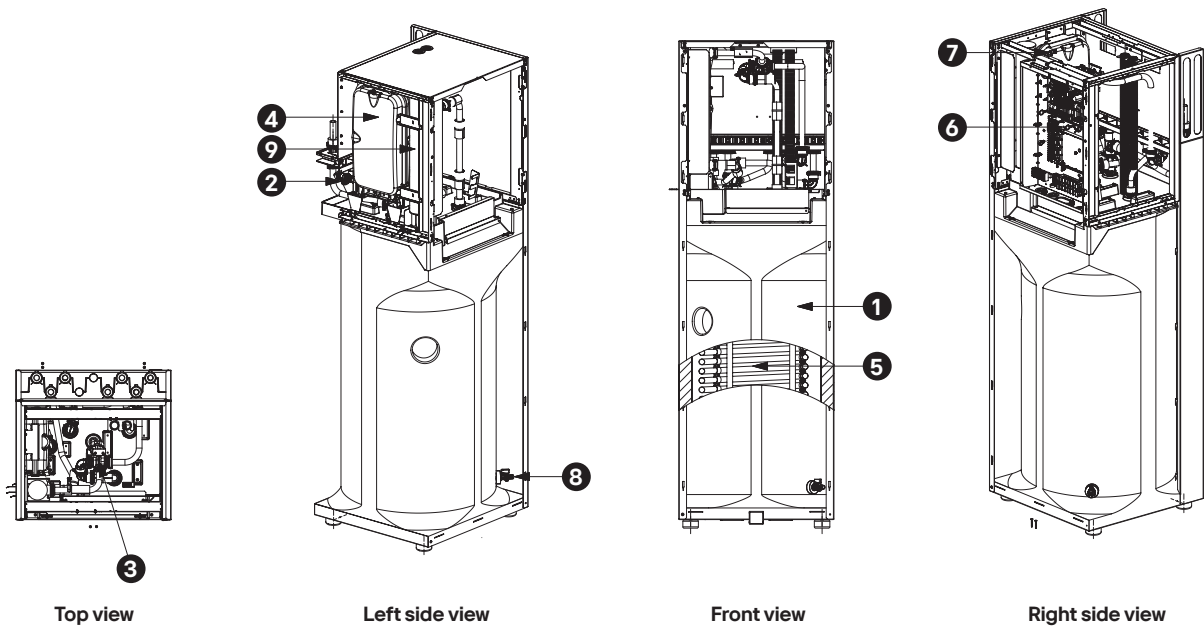
HN20XAHY NK1



No.	Part Name	Description	No.	Part Name	Description
1	Re-circulation	Plain end (Copper, 22 x 1.2 mm)	5	Inlet (domestic cold water)	Plain end (Copper, 22 x 1.2 mm)
2	Inlet (heating water from ODU)		6	Outlet (heating circuit supply)	
3	Outlet (return water to ODU)		7	Inlet (heating circuit return)	
4	Outlet (domestic hot water)		8	Control panel	Human machine interface

Internal

HN20XAHY NK1



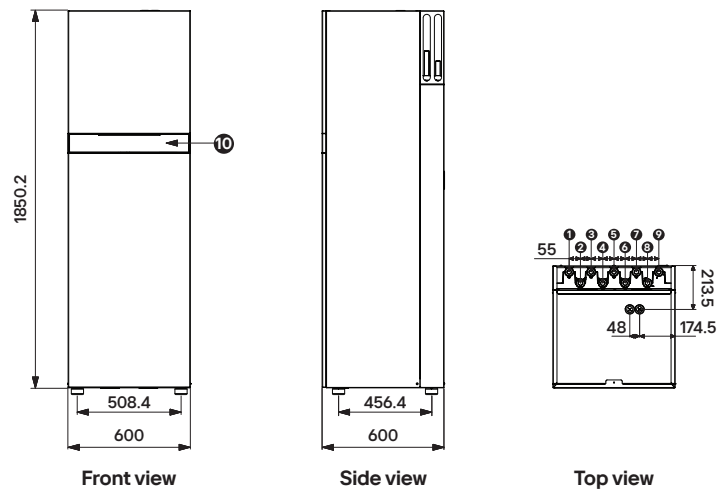
No.	Part Name	Description	No.	Part Name	Description
1	DHW tank	Domestic hot water tank (200 L)	6	Control box	PCB/A and terminal blocks
2	Heater	Electric heater	7	Air vent	For air purging
3	3 way valve (DHW)	3 way valve for DHW and heating circuit	8	Drain cock	Valve for DHW tank drain
4	Expansion vessel	12 L for heating circuit	9	Safety valve	For DHW (10 bar)
5	Heat exchanger	Coil heat exchanger (water / DHW)			

THERMA V R290 PREMIUM MONOBLOC COMBI UNIT (12 / 14 / 16 kW)

Drawings

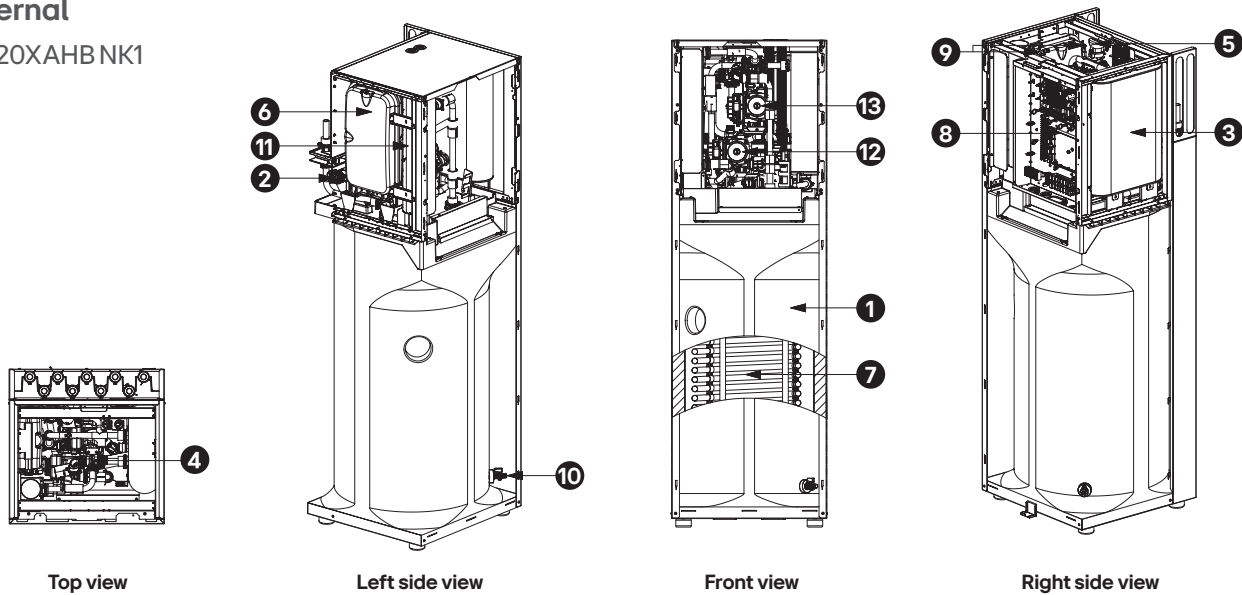
[Unit: mm]

External
HN20XAHB NK1



No.	Part Name	Description	No.	Part Name	Description
1	DHW re-circulation	Plain end (Copper, 22 x 1.2 mm)	6	Outlet (domestic hot water)	Plain end (Copper, 22 x 1.2 mm)
2	Inlet (heating water from ODU)		7	Inlet (domestic cold water)	
3	Outlet (return water to ODU)		8	Outlet (1st circuit supply)	
4	Outlet (2nd circuit supply)		9	Inlet (1st circuit return)	
5	Inlet (2nd circuit return)		10	Control panel	Human machine interface

Internal
HN20XAHB NK1



No.	Part Name	Description	No.	Part Name	Description
1	DHW tank	Domestic hot water tank (200L)	8	Control box	PCB'A and terminal blocks
2	Heater	Electric heater	9	Air vent	For air purging
3	Buffer tank	16 L	10	Drain cock	Valve for DHW tank drain
4	3 way valve (DHW)	3 way valve for DHW and heating circuit	11	Safety valve	For DHW (10 bar)
5	3 way valve (Mix)	3 way for mix zone	12	Water pump (direct)	For direct circuit (1st circuit)
6	Expansion vessel	12 L for heating circuit	13	Water pump (mix)	For mix circuit (2nd circuit)
7	Heat exchanger	Coil heat exchanger (water / DHW)			



THERMA V R290 PREMIUM MONOBLOC WITH LG WATER TANK

Why LG Hot Water Solutions?

At LG, we strive to deliver perfect comfort through solutions designed for safer, more convenient, and energy-efficient everyday living. Seamlessly integrated with LG THERMA V, our premium hot water solutions combine a modern design with easy installation, while durable stainless steel construction inspired by Nordic craftsmanship ensures lasting comfort and reliability. Experience perfect comfort with LG.



Performance & Comfort

Reliable Heating,
More Hot Water, Less Energy

- Smarter storage for more hot water
- Advanced insulation for enhanced comfort
- Large coils for efficient heating performance
- Solar-ready design for better energy efficiency



Hygiene

High-quality Stainless Steel
for Clean Water

- Corrosion-resistant design for cleaner water
- Designed for hard water conditions
- Smart heating for lower legionella risk
- Helping protect against limescale



Durability & Reliability

Norwegian Quality,
Built to Last

- High-quality stainless-steel tanks
- Integrated thermostat for enhanced safety
- Blended for comfortable water temperatures
- Premium design for modern homes



Flexibility & Convenience

Modern Solutions for
Easy Installation and Maintenance

- Modern design that fits any space
- Lightweight design for easier installation
- Simplified installation, just plug and go
- Engineered for low-maintenance operation

Product Range

Line-up	Capacity (ℓ) and Model Name				
	60	100	200	250	300
Domestic Hot Water Tank Single Coil	-	-	SD020SASN0	SD025SASN0	SD030SASN0
Domestic Hot Water Tank Dual Coil	-	-	-	-	SD030SSSN0
Domestic Hot Water Tank with Buffer	-	-	-	-	ST030SASN0
Buffer Tank	SB006SAAN0	SB010SAAN0	-	-	-

Compatibility Table

Domestic Hot Water Tank

Model name		SD020SASN0	SD025SASN0	SD030SASN0	SD030SSSN0		ST030SASN0
Capacity (ℓ)		200	250	300	300		223/62
Coil surface (m²)		2.6	2.6	3.1	1.4 (Lower)	0.8 (Upper)	2.8
Heat Pump Capacity (kW)	5 kW	●	▲	▲	●	▲	●
	7 kW	●	▲	▲	●	×	●
	9 kW	●	▲	▲	×	×	●
	12 kW	▲	●	●	×	×	▲
	14 kW	▲	●	●	×	×	×
	16 kW	×	×	●	×	×	×

●: Recommended / ▲: Compatible / ×: Not Recommended

Buffer Tank

Model name		SB006SAAN0	SB010SAAN0
Capacity (ℓ)		60	100
Heat Pump Capacity (kW)	5 kW	●	▲
	7 kW	●	▲
	9 kW	●	▲
	12 kW	▲	●
	14 kW	▲	●
	16 kW	▲	●

●: Recommended / ▲: Compatible / ×: Not Recommended

EN16147 Combination Efficiency

Type of Combination	Heat Pump		DHW Tank	Profile	Climate	Efficiency Class	Water Heating Efficiency (%)	COP _{DHW}	Method
	Outdoor Unit	Indoor Unit							
R290 Premium Monobloc (7, 9 kW, 1 / 3 Phase) w/ LG Water Tanks	HM071HF UB40 HM073HF UB40	PHCS1 EEWXLEU or HN16XAHC NK1	SD020SASN0 (200 ℓ)	L	Colder	A	105	2.5	Based on Test (EN16147:2017+A1:2022)
					Average	A+	134	3.2	
					Warmer	A++	151	3.6	
	HM091HF UB40 HM093HF UB40	PHCS1 EEWXLEU or HN16XAHC NK1		L	Colder	A	105	2.5	
					Average	A+	134	3.2	
					Warmer	A++	151	3.6	
R290 Premium Monobloc (12, 14, 16 kW, 1 / 3 Phase) w/ LG Water Tanks	HM121HF UB60 HM123HF UB60	PHCS1 EEWXLEU or HN16XAHC NK1	SD030SASN0 (300 ℓ)	XL	Colder	A	88	2.1	Based on Test (EN16147:2017+A1:2022)
					Average	A+	125	3.0	
					Warmer	A+	156	3.7	
	HM141HF UB60 HM143HF UB60	PHCS1 EEWXLEU or HN16XAHC NK1		XL	Colder	A	88	2.1	
					Average	A+	125	3.0	
					Warmer	A+	156	3.7	
	HM161HF UB60 HM163HF UB60	PHCS1 EEWXLEU or HN16XAHC NK1		XL	Colder	A	88	2.1	
					Average	A+	125	3.0	
					Warmer	A+	156	3.7	

THERMA V R290 PREMIUM MONOBLOC WITH LG WATER TANK

Package for Heating Only

Outdoor Unit

HM071HF UB40 / HM073HF UB40
HM091HF UB40 / HM093HF UB40
HM121HF UB60 / HM123HF UB60
HM141HF UB60 / HM143HF UB60
HM161HF UB60 / HM163HF UB60

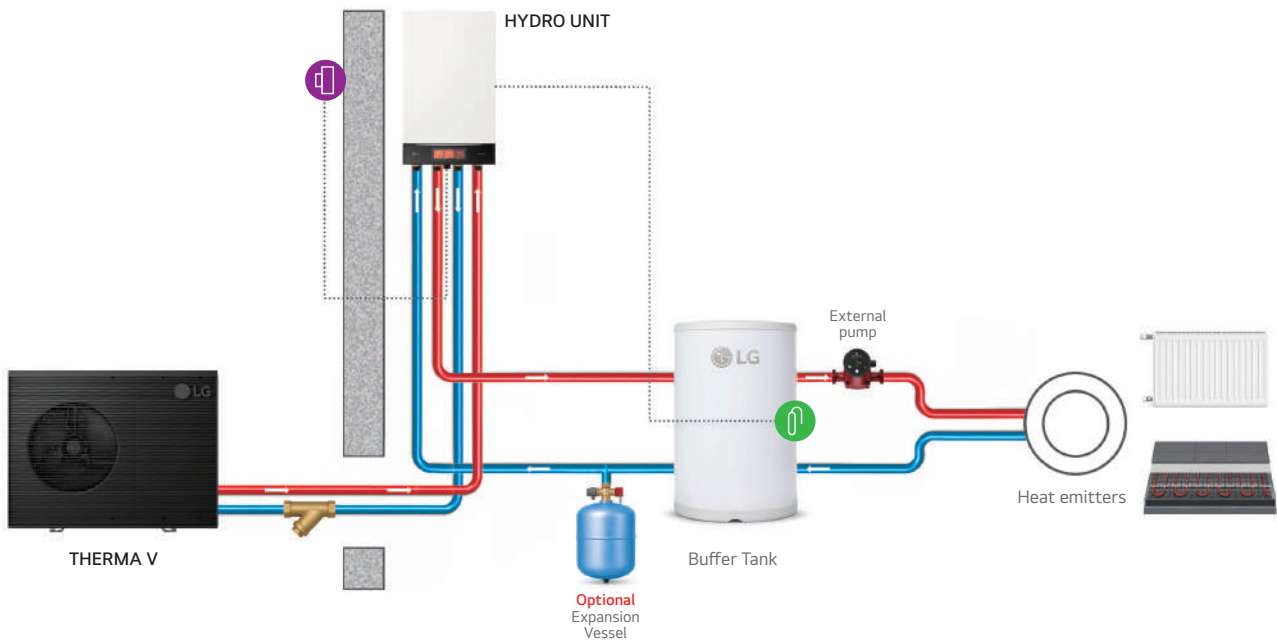
Buffer Tank

SB006SAANO (60 ℓ)
SB010SAANO (100 ℓ)



Proposed Package

Capacity	THERMA V		Buffer Tanks
	Outdoor Unit	Indoor Unit	
7 kW	HM071HF UB40	PHCS1 EEWXLEU or HN16XAHC NK1	SB006SAANO (60 ℓ)
	HM073HF UB40		
9 kW	HM091HF UB40		SB010SAANO (100 ℓ)
	HM093HF UB40		
12 kW	HM121HF UB60		
	HM123HF UB60		
14 kW	HM141HF UB60		
	HM143HF UB60		
16 kW	HM161HF UB60		
	HM163HF UB60		



Optional Outside Temp. sensor (PHATS0) Optional Buffer Tank Sensor (PHRSTAO)

Package for Heating and Domestic Hot Water

Outdoor Unit

HM071HF UB40 / HM073HF UB40
HM091HF UB40 / HM093HF UB40
HM121HF UB60 / HM123HF UB60
HM141HF UB60 / HM143HF UB60
HM161HF UB60 / HM163HF UB60

Buffer Tank

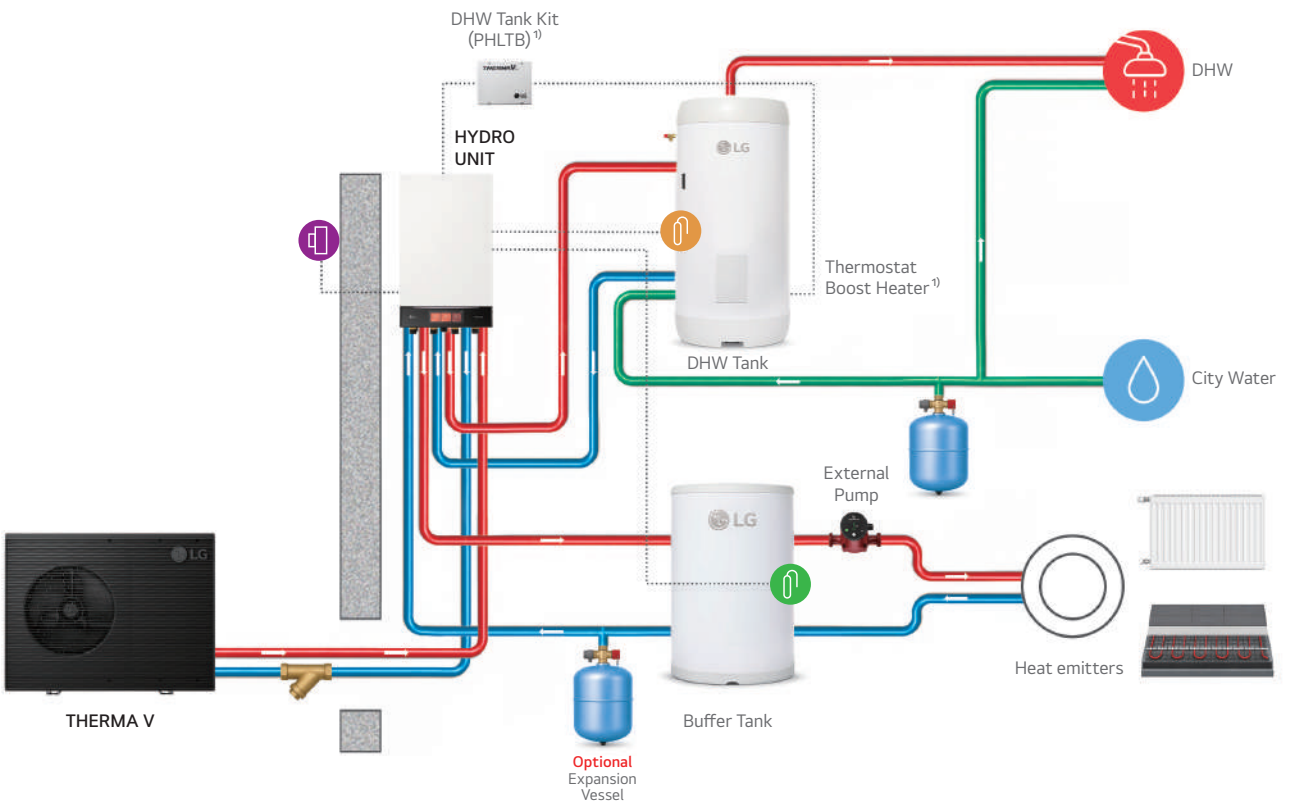
SB006SAANO (60 ℓ)
SB010SAANO (100 ℓ)

Domestic Hot Water Tank

SD020SASNO (200 ℓ)
SD030SASNO (300 ℓ)

Proposed Package

Capacity	THERMA V		Buffer Tanks	Domestic Hot Water Tank
	Outdoor Unit	Indoor Unit		
7 kW	HM071HF UB40	PHCS1 EEWXLEU or HN16XAHC NK1	SB006SAANO (60 ℓ)	SD020SASNO (200 ℓ)
	HM073HF UB40			
9 kW	HM091HF UB40		SB010SAANO (100 ℓ)	SD030SASNO (300 ℓ)
	HM093HF UB40			
12 kW	HM121HF UB60			
	HM123HF UB60			
14 kW	HM141HF UB60			
	HM143HF UB60			
16 kW	HM161HF UB60			
	HM163HF UB60			



Optional Outside Temp. sensor (PHATS0) Optional Buffer Tank Sensor (PHRSTAO) DHW Temp. Sensor (PHRSTAO)¹⁾

¹⁾ If DHW Booster Heater is controlled from THERMA V, magnetic contactor (3rd party) or DHW Tank Kit (PHLTB) should be installed. In case of DHW Tank Kit (PHLTB), a DHW Temp. Sensor (PHRSTAO) is also included.

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