2026 | LG | THERMA V™

R290 MONOBLOC









LG

www.lg.com | http://partner.lge.com | Copyright © 2026 LG Electronics. All rights reserved.

- The images in this catalogue are scenes created to help customers understand and may differ from the actual product.
- The specifications or product appearance may be subject to change without prior notice to improve the appearance and product performance.

LG

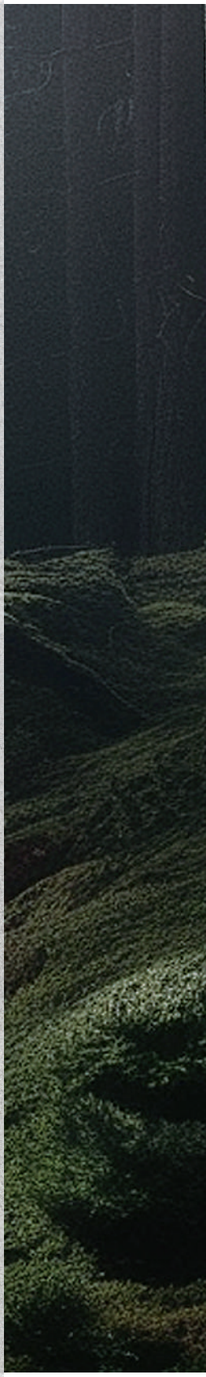


THE SUSTAINABLE CHOICE

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™



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.

THERMA V™ R290 Monobloc



What is R290 Monobloc

The LG THERMA V R290 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 quiet operation, high energy efficiency, and reliable performance 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 time and space.

Key Features

- Capacity range from 5 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)
- 100% Heating capacity at -7°C outdoor temperature (14 kW 89% / 16 kW 84%)
- Provides 75°C leaving water even at -15°C outdoor temperatures (5/7/9 kW only)
- Maximum flow temperature up to 75°C
- Operation range down to -25°C
- Customized options through different three indoor units combinations
- 2024 IDEA Design Awards Bronze Winner (Outdoor Unit)
- 2026 IF Design and RED DOT Design (Indoor Unit)

R290 Natural refrigerant with GWP 0.02 · A+++ 35°C · A++ 55°C · 75°C · -25°C · ThinQ

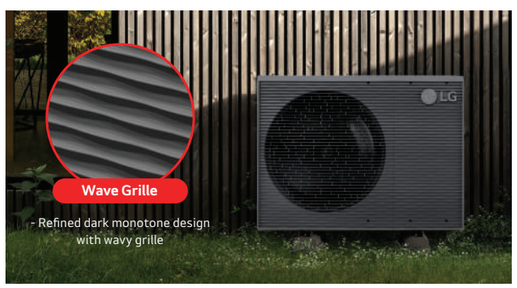
Product Range

Phase	Capacity (kW)	Indoor Unit				Outdoor Unit
		Control Unit	Hydro Unit	Combi Unit (1-Zone)	Combi Unit (2-Zone)	
1 Ø	5	PHCS1 EEWXLEU	HN16XAHC NK1	HN20XAHY NK1	HN20XAHB NK1	HM051HFD UA41 HM071HFD UA41 HM091HFD UA41
	7					
	9					
	12					HM121HFD UB41 HM141HFD UB41 HM161HFD UB41
	14					
	16					
3 Ø	7					HM073HFD UA41 HM093HFD UA41
	9					
	12					HM123HFD UB41 HM143HFD UB41 HM163HFD UB41
	14					
	16					

HIGHLIGHT OF R290 MONOBLOC

Sleek Design

European Dark Monotone



Enhanced Convenience



- Outdoor unit design meets European standards
- Refined dark monotone design that will look great anywhere
- 2 feet instead of 3 feet which was uncomfortable

Compact & Lightweight

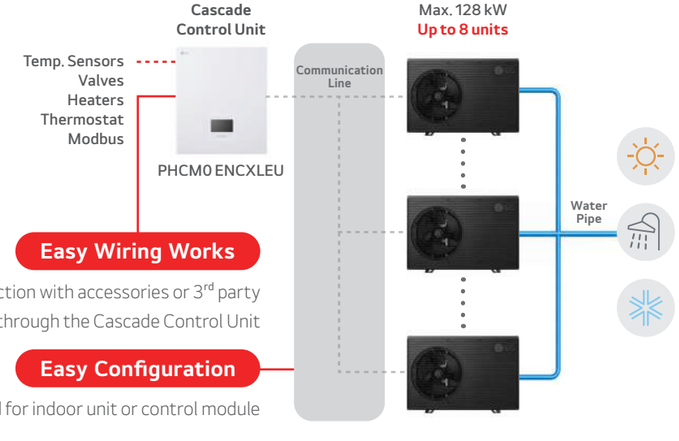
	Premium Monobloc		NEW Monobloc	
	7, 9 kW	12, 14, 16 kW	5, 7, 9 kW	12, 14, 16 kW
				
Footprint	0.69 m^2	0.81 m^2	**0.49 m^2 (-29%)**	**0.69 m^2 (-15%)**
Volume	0.70 m^3	0.83 m^3	**0.41 m^3 (-41%)**	**0.70 m^3 (-16%)**
Weight	130 kg	181 kg	**96 kg (1 Ø)** [1] **(-26%)**	**125 kg (-31%)**

1) The weight of the 3-phase 7, 9 kW model is 97.5 kg.

Cascade Control Capable

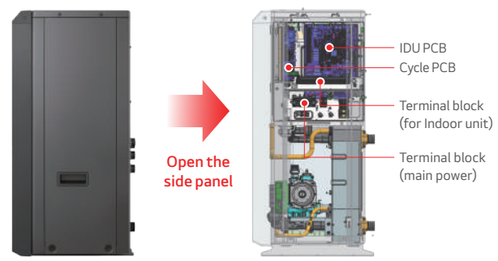
Excellent Performance

- High efficiency up to SCOP 4.85 (14 kW) (ErP Energy Label A+++ / A++)
- Improved cooling performance for Southern EU
- Wide operation range (Water Temp. : Up to 75℃, Ambient Temp. : -25 ~ 35℃)



Easy Maintenance

Easy Access to the Control Panel by Opening Side Panel



For inspection of control panel or wiring connection, No need to open the front panel [1]



Access for control panel is possible by Opening the side panel

It can reduce the hassle and time of opening the front panel.

1) Replacing the inverter PCB requires to open of the front panel.

Reliable Performance

Remarkable Heating Performance even in Cold Weather

- 100% heating capacity at -7°C outdoor temperature (14 kW 89% / 16 kW 84%)
- Longer continuous heating periods with reduced defrost operation time and extended intervals



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 3rd 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 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

DESIGN AWARD 2026

reddot winner 2026



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.



Indicator Lighting

Warm White
: normal operation

Red
: warning or malfunction



6.8 inch Full Color Touch Screen

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

- No Wi-Fi Modem (PWFMDD202)

New Hydro Unit

- No Wi-Fi Modem (PWFMDD202)
- No 3-way valve (OSHA-3V)
- No Drain Pan (PHDPC)
- No DHW Tank Kit[1] (PHLTA or PHLTB)

New Combi Unit (Two-Zone)

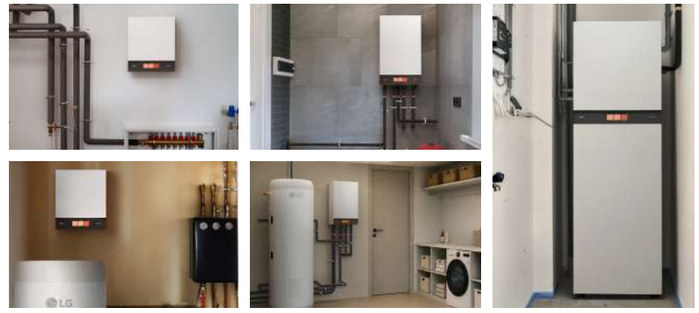
- No Wi-Fi Modem (PWFMDD202)
- No Thermistor (PRSTAT5K10)
- No Buffer Tank (SB006SAAN0)
- No Direct Pump (3rd party)
- No Mixing Pump Group (3rd party)

1) When using the backup heater installed in the product as a DHW Booster Heater

Modernized Design for Enhanced Space Integration

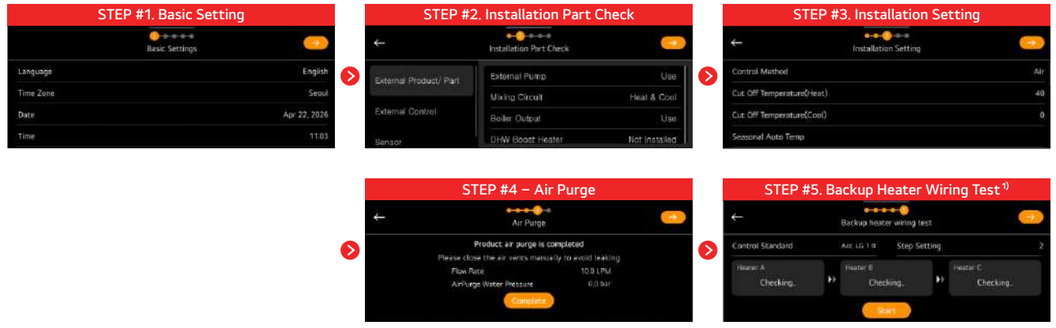
The newly designed indoor unit brings a modern aesthetic that naturally complements every installation space.

- 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.



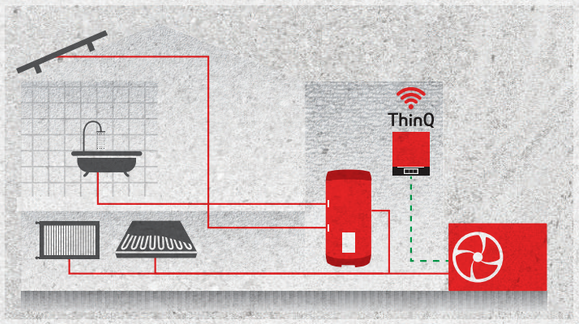
1) Backup Heater Wiring Test is only supported when using the built-in Backup heater inside the Hydro Unit and Combi Unit.

THERMA V R290 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

A+++ 35℃ A++ 55℃

THERMA V R290 MONOBLOC CONTROL UNIT (5 / 7 / 9 kW)

Outdoor unit

HM051HFD UA41
HM071HFD UA41 / HM073HFD UA41
HM091HFD UA41 / HM093HFD UA41

Indoor unit

PHCS1 EEWXLEU





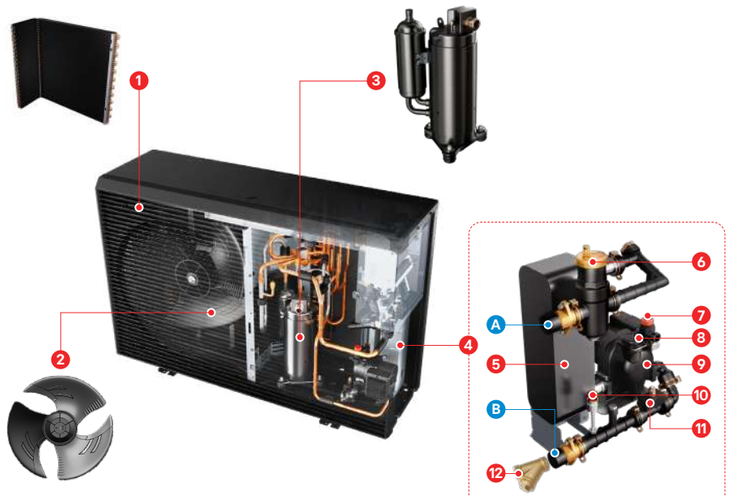
011-1W1195

R290 Natural refrigerant with GWP 0.02

A+++ 35℃ | A++ 55℃ | 75℃ | -25℃ | ThinQ

Key Components

Outdoor Unit



Components

1. Black Fin heat exchanger (air / ref.)
2. Biomimetic fan
3. Twin rotary compressor
4. Hydronic components assembly
5. Plate heat exchanger
6. Deaerator
7. Safety valve
8. Air vent valve
9. Water pump
10. Pressure sensor
11. Flow sensor
12. 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 Controller [1)] (Wi-Fi modem integrated)

1) Temperature control class (ERP class) : V

Product Specification

Efficiency Data		Unit	5 kW (1 Ø)	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++	A+++ / A++
Seasonal space heating efficiency (η_s) (35°C / 55°C)		%	180 / 140	187 / 141	185 / 143
SCOP (35°C / 55°C)		-	4.58 / 3.58	4.75 / 3.60	4.70 / 3.66
Sound power level (outdoor unit)	Rated / low noise mode	dB(A)	53 / 52	54 / 53	56 / 55
Sound pressure level at 5 m (outdoor unit)	Rated / low noise mode	dB(A)	31 / 30	32 / 31	34 / 33
Nominal Capacity and COP / EER					
Air +7°C / water +35°C	Heating capacity / COP	kW / -	5.50 / 4.90	7.00 / 4.70	9.00 / 4.60
Air +2°C / water +35°C	Heating capacity / COP	kW / -	5.50 / 3.20	6.50 / 3.15	7.00 / 3.10
Air -7°C / water +35°C	Heating capacity / COP	kW / -	5.50 / 2.85	7.00 / 2.05	9.00 / 2.00
Air +7°C / water +55°C	Heating capacity / COP	kW / -	5.50 / 2.95	7.00 / 2.85	8.00 / 2.80
Air -7°C / water +55°C	Heating capacity / COP	kW / -	5.50 / 1.90	7.00 / 1.85	8.00 / 1.80
Air +35°C / water +18°C	Cooling capacity / EER	kW / -	5.50 / 4.90	7.00 / 4.70	8.00 / 4.50
Air +35°C / water +7°C	Cooling capacity / EER	kW / -	5.50 / 3.00	7.00 / 2.90	8.00 / 2.85

Outdoor Units		Unit	HM051HFD UA41	HM071HFD UA41 HM073HFD UA41	HM091HFD UA41 HM093HFD UA41
Operation range (outdoor air temperature)	Heating & DHW (Min. ~ Max.)	°C	-25 ~ 35		
	Cooling (Min. ~ Max.)	°C	5 ~ 48		
Refrigerant	Type	-	R290		
	GWP	-	0.02		
	Precharged amount	g	700		
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	853 x 1,242 x 391		
Weight	Net	kg	1 Ø: 96.0 / 3 Ø: 97.5		
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	220 ~ 240, 1, 50 / 380 ~ 415, 3, 50	
	Standby power consumption	W	10		
	Recommended circuit breaker	A	20	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 MONOBLOC CONTROL UNIT (5 / 7 / 9 kW)

Performance Table for Heating Operation

Maximum heating capacity (Include defrost effect)

HM051HFD UA41 + 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	4.98	4.85	4.72	4.59	4.47	4.34	4.21	-	-	-
-20	5.50	5.29	5.09	4.90	4.69	4.45	4.11	3.66	-	-
-15	5.50	5.50	5.50	5.21	4.94	4.83	4.29	3.89	3.49	3.10
-7	5.50	5.50	5.50	5.50	5.50	5.50	4.68	4.23	3.77	3.31
-4	5.50	5.50	5.50	5.50	5.50	5.50	4.85	4.36	3.88	3.39
-2	5.50	5.50	5.50	5.50	5.50	5.50	4.97	4.45	3.95	3.44
2	5.50	5.50	5.50	5.50	5.50	5.50	5.19	4.63	4.08	3.55
7	5.50	5.50	5.50	5.50	5.50	5.50	5.50	4.83	4.25	3.68
10	5.50	5.50	5.50	5.50	5.50	5.50	5.50	4.95	4.35	3.76
15	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.15	4.52	3.89
18	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.27	4.62	3.92
20	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.35	4.69	3.96
35	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.20	4.00

HM071HFD UA41 + PHCS1 EEWXLEU / HM073HFD UA41 + 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	6.34	6.17	6.01	5.85	5.68	5.42	5.36	-	-	-
-20	7.00	6.73	6.48	6.23	5.97	5.86	5.23	4.65	-	-
-15	7.00	7.00	7.00	6.63	6.29	6.12	5.36	4.85	4.44	3.95
-7	7.00	7.00	7.00	7.00	7.00	7.00	5.95	5.38	4.80	4.21
-4	7.00	7.00	7.00	7.00	7.00	7.00	6.17	5.55	4.93	4.31
-2	7.00	7.00	7.00	7.00	7.00	7.00	6.32	5.67	5.02	4.38
2	7.00	7.00	7.00	7.00	7.00	7.00	6.61	5.89	5.20	4.51
7	7.00	7.00	7.00	7.00	7.00	7.00	7.00	6.15	5.41	4.68
10	7.00	7.00	7.00	7.00	7.00	7.00	7.00	6.30	5.54	4.78
15	7.00	7.00	7.00	7.00	7.00	7.00	7.00	6.55	5.75	4.95
18	7.00	7.00	7.00	7.00	7.00	7.00	7.00	6.71	5.88	5.05
20	7.00	7.00	7.00	7.00	7.00	7.00	7.00	6.81	4.96	5.11
35	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	6.62	5.20

HM091HFD UA41 + PHCS1 EEWXLEU / HM093HFD UA41 + 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	6.65	6.92	6.89	6.86	6.82	6.79	6.47	-	-	-
-20	8.09	7.74	7.51	7.32	7.16	6.98	6.72	6.35	-	-
-15	9.00	8.45	8.08	7.77	7.50	7.35	6.93	6.60	6.26	5.69
-7	9.00	9.00	8.80	8.38	8.05	8.00	7.34	6.95	6.54	5.72
-4	9.00	9.00	8.87	8.56	8.25	8.00	7.52	7.09	6.65	5.75
-2	8.20	8.30	8.30	8.20	8.10	8.00	7.64	7.19	6.72	5.80
2	8.00	8.00	8.10	8.10	8.10	8.00	7.90	7.38	6.86	5.83
7	9.00	9.00	9.00	9.00	9.00	9.00	8.24	7.63	7.04	5.85
10	9.00	9.00	9.00	9.00	9.00	9.00	8.39	7.77	7.15	5.90
15	9.00	9.00	9.00	9.00	9.00	9.00	8.64	7.99	7.33	6.06
18	9.00	9.00	9.00	9.00	9.00	9.00	8.81	8.13	7.43	6.22
20	9.00	9.00	9.00	9.00	9.00	9.00	8.93	8.23	7.50	6.30
35	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	8.07	6.35

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

HM051HFD UA41 + 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	5.50	5.50	5.50	5.50	5.50	5.50	5.50
30	5.50	5.50	5.50	5.50	5.50	5.50	5.50
35	5.50	5.50	5.50	5.50	5.50	5.50	5.50
40	4.91	5.50	5.50	5.50	5.50	5.50	5.50
45	4.67	5.05	5.50	5.50	5.50	5.50	5.50

HM071HFD UA41 + PHCS1 EEWXLEU / HM073HFD UA41 + 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	7.00	7.00	7.00	7.00	7.00	7.00	7.00
30	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
40	6.25	7.00	7.00	7.00	7.00	7.00	7.00
45	5.94	6.42	7.00	7.00	7.00	7.00	7.00

HM091HFD UA41 + PHCS1 EEWXLEU / HM093HFD UA41 + 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	9.00	9.00	9.00	9.00	9.00	9.00	9.00
30	9.00	8.00	9.00	9.00	9.00	9.00	9.00
35	8.00	8.89	9.00	9.00	9.00	9.00	9.00
40	8.00	8.26	8.52	8.69	9.00	9.00	9.00
45	7.54	7.63	7.73	7.80	7.90	7.96	8.03

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

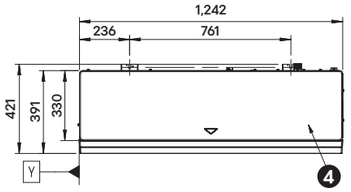
* The strainer is supplied with the product, but it needs to be installed separately.
* This strainer should be installed at the inlet connection of the outdoor unit to protect the clogging of a plate heat exchanger.

THERMA V R290 MONOBLOC CONTROL UNIT (5 / 7 / 9 kW)

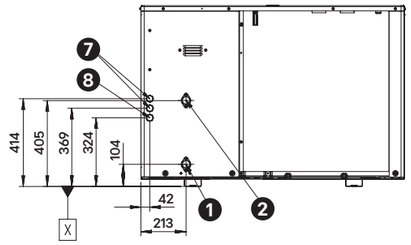
Drawings

[Unit: mm]

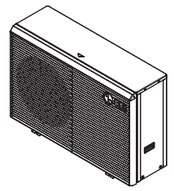
HM051HFD UA41
HM071HFD UA41 / HM073HFD UA41
HM091HFD UA41 / HM093HFD UA41



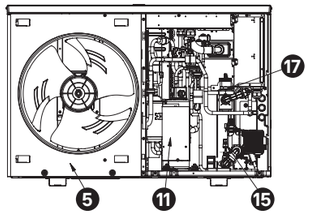
Top view



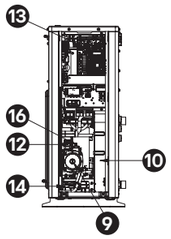
Back view



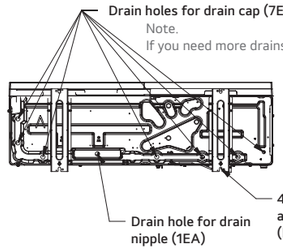
3D view



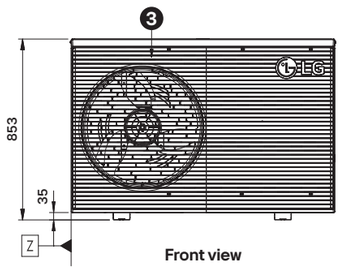
Internal front view



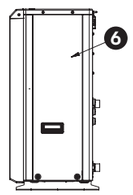
Internal side view



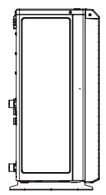
Bottom view



Front view



Right side view

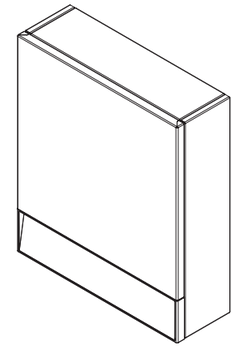


Left side view

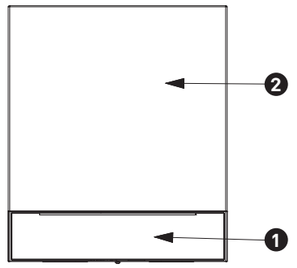
No.	Part Name	Description	No.	Part Name	Description
1	Entering water pipe	Male PT 1" according to ISO 7-1 (tapered pipe threads)	10	Plate heat exchanger	Heat exchange between refrigerant and water
2	Leaving water pipe	Male PT 1" according to ISO 7-1 (tapered pipe threads)	11	Compressor	R290 rotary compressor
3	Air discharge grille	-	12	Safety relief valve	Open at water pressure 3 bar
4	Top cover	-	13	Control box	Cycle, sub PCB, terminal blocks and inverter PCB
5	Front panel	-	14	Flow sensor	To measure the Water Flow Rate (5 - 80 LPM)
6	Side panel	-	15	Water pressure sensor	To measure the Water Pressure (0 - 2 MPa)
7	Low voltage	Conduit for communication	16	Automatic air vents	-
8	Unit power	Conduit for power cable	17	Deaerator	Automatic gas separator
9	Water pump	To circulate water inside the system			

[Unit: mm]

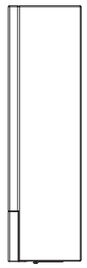
PHCS1 EEWXLEU



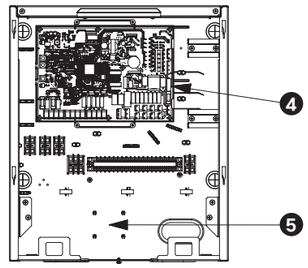
3D view



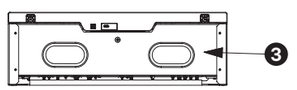
Front view



Side view



Internal view



Bottom view

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 MONOBLOC CONTROL UNIT (12 / 14 / 16 kW)

Outdoor unit

HM121HFD UB41 / HM123HFD UB41
HM141HFD UB41 / HM143HFD UB41
HM161HFD UB41 / HM163HFD UB41

Indoor unit

PHCS1 EEWXLEU



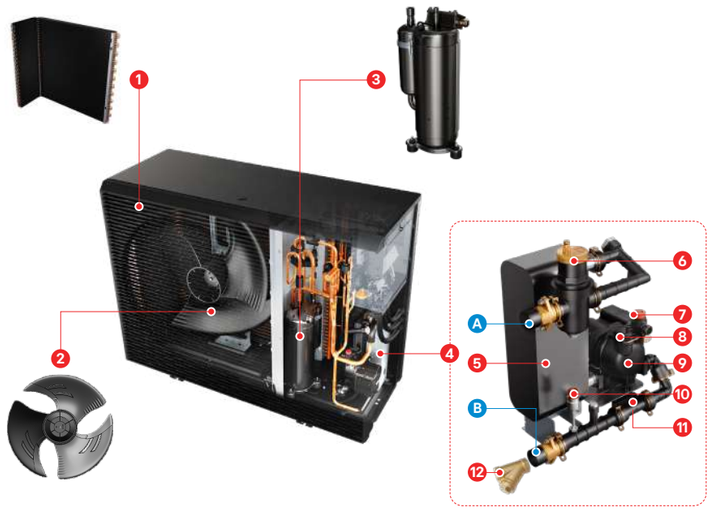


011-1W1270

R290 Natural refrigerant with GWP 0.02 | A+++ 35℃ | A++ 55℃ | 75℃ | -25℃ | ThinQ

Key Components

Outdoor Unit



Components

1. Black Fin heat exchanger (air / ref.)
2. Biomimetic fan
3. Twin rotary compressor
4. Hydronic components assembly
5. Plate heat exchanger
6. Deaerator
7. Safety valve
8. Air vent valve
9. Water pump
10. Pressure sensor
11. Flow sensor
12. 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 Controller [1] (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)		%	187 / 143	191 / 143	189 / 141
SCOP (35°C / 55°C)		-	4.75 / 3.65	4.85 / 3.65	4.80 / 3.60
Sound power level (outdoor unit)	Rated / low noise mode	dB(A)	56 / 55	57 / 56	59 / 57
Sound pressure level at 5 m (outdoor unit)	Rated / low noise mode	dB(A)	34 / 33	35 / 34	37 / 35
Nominal Capacity and COP / EER					
Air +7°C / water +35°C	Heating capacity / COP	kW / -	12.00 / 4.60	14.00 / 4.50	16.00 / 4.40
Air +2°C / water +35°C	Heating capacity / COP	kW / -	12.00 / 3.10	12.50 / 3.05	13.00 / 3.00
Air -7°C / water +35°C	Heating capacity / COP	kW / -	12.00 / 2.50	12.50 / 2.50	13.50 / 2.50
Air +7°C / water +55°C	Heating capacity / COP	kW / -	12.00 / 2.95	13.00 / 2.90	14.00 / 2.80
Air -7°C / water +55°C	Heating capacity / COP	kW / -	10.00 / 1.90	11.00 / 1.85	12.00 / 1.80
Air +35°C / water +18°C	Cooling capacity / EER	kW / -	12.00 / 4.70	12.50 / 4.60	13.00 / 4.50
Air +35°C / water +7°C	Cooling capacity / EER	kW / -	10.05 / 3.20	11.00 / 3.15	11.50 / 3.10
Outdoor Units		**Unit**	**HM121HFD UB41 HM123HFD UB41**	**HM141HFD UB41 HM143HFD UB41**	**HM161HFD UB41 HM163HFD UB41**
Operation range (outdoor air temperature)	Heating & DHW (Min. ~ Max.)	°C	-25 ~ 35		
	Cooling (Min. ~ Max.)	°C	5 ~ 48		
Refrigerant	Type	-	R290		
	GWP	-	0.02		
	Precharged amount	g	1,000		
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	125.0		
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: 32 / 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 MONOBLOC CONTROL UNIT (12 / 14 / 16 kW)

Performance Table for Heating Operation

Maximum heating capacity (Include defrost effect)

HM121HFD UB41 + PHCS1 EEWXLEU / HM123HFD UB41 + 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	8.97	8.70	8.43	8.16	7.90	7.63	7.36	-	-	-
-20	9.85	9.53	9.18	8.82	8.45	8.07	7.68	7.29	-	-
-15	10.75	10.37	9.95	9.49	9.01	8.52	8.01	7.50	6.98	6.48
-7	12.00	12.00	11.26	10.62	10.13	10.00	8.56	7.87	7.17	6.46
-4	12.00	12.00	11.81	11.07	10.50	10.30	8.77	8.01	7.24	6.45
-2	12.00	12.00	12.00	11.37	10.74	10.51	8.91	8.11	7.29	6.45
2	12.00	12.00	12.00	11.97	11.00	10.90	9.19	8.31	7.42	6.44
7	12.00	12.00	12.00	12.00	11.52	11.35	9.53	8.58	7.63	-
10	12.00	12.00	12.00	12.00	11.80	10.73	9.72	8.73	7.76	-
15	12.00	12.00	12.00	12.00	12.00	11.09	10.02	8.98	7.99	-
18	12.00	12.00	12.00	12.00	12.00	11.28	10.18	9.12	8.15	-
20	12.00	12.00	12.00	12.00	12.00	11.41	10.29	9.20	7.93	-
35	12.00	12.00	12.00	12.00	12.00	12.00	10.81	9.43	-	-

HM141HFD UB41 + PHCS1 EEWXLEU / HM143HFD UB41 + 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	9.40	9.15	8.90	8.65	8.40	8.15	7.90	-	-	-
-20	10.27	9.94	9.60	9.26	8.92	8.57	8.23	7.90	-	-
-15	11.14	10.74	10.32	9.88	9.44	8.99	8.54	8.09	7.66	7.29
-7	12.56	12.50	11.92	11.31	11.15	11.00	9.02	8.39	7.74	7.09
-4	13.11	13.04	12.40	11.70	11.42	11.13	9.21	8.50	7.77	7.02
-2	13.49	13.40	12.72	11.97	11.62	11.26	9.33	8.58	7.79	6.97
2	14.00	13.68	12.89	12.04	11.70	11.35	9.58	8.75	7.87	6.87
7	14.00	14.00	13.66	12.66	12.07	11.48	9.91	9.00	8.06	-
10	14.00	14.00	14.00	13.00	12.26	11.52	10.12	9.17	8.21	-
15	14.00	14.00	14.00	13.53	12.60	11.66	10.45	9.45	8.47	-
18	14.00	14.00	14.00	13.84	12.76	11.70	10.65	9.62	8.66	-
20	14.00	14.00	14.00	14.00	12.94	11.85	10.78	9.72	8.48	-
35	14.00	14.00	14.00	14.00	14.00	12.89	11.53	10.17	-	-

HM161HFD UB41 + PHCS1 EEWXLEU / HM163HFD UB41 + 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	9.82	9.59	9.36	9.13	8.90	8.67	8.44	-	-	-
-20	10.83	10.52	10.20	9.86	9.51	9.17	8.84	8.55	-	-
-15	11.84	11.45	11.03	10.58	10.12	9.65	9.20	8.76	8.37	8.10
-7	14.02	13.50	12.90	12.22	12.11	12.00	9.71	9.04	8.38	7.72
-4	14.67	14.12	13.44	12.68	12.37	12.07	9.90	9.14	8.37	7.58
-2	15.10	14.56	13.82	12.97	12.54	12.12	10.01	9.20	8.36	7.48
2	15.39	14.94	14.03	13.56	12.87	12.19	10.25	9.33	8.37	7.29
7	16.00	16.00	14.89	13.66	12.99	12.31	10.53	9.52	8.49	-
10	16.00	16.00	15.20	13.97	13.20	12.43	10.69	9.64	8.58	-
15	16.00	16.00	15.57	14.00	13.23	12.78	10.95	9.84	8.76	-
18	16.00	16.00	15.81	14.64	13.44	12.97	11.10	9.95	8.90	-
20	16.00	16.00	16.00	14.79	13.58	13.09	11.18	10.02	8.65	-
35	16.00	16.00	16.00	16.00	14.51	13.81	11.60	10.21	-	-

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

HM121HFD UB41 + PHCS1 EEWXLEU / HM123HFD UB41 + 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	10.06	10.79	11.53	12.00	12.00	12.00	12.00
35	9.01	9.65	10.36	10.96	12.00	12.00	12.00
40	7.95	8.37	8.79	9.07	9.37	9.43	9.42
45	6.89	7.04	7.19	7.29	7.43	7.53	7.63

HM141HFD UB41 + PHCS1 EEWXLEU / HM143HFD UB41 + 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	12.84	14.00	14.00	14.00	14.00	14.00	14.00
30	10.61	11.50	12.39	12.98	13.76	14.00	14.00
35	9.50	10.28	11.10	11.75	13.75	12.78	12.60
40	8.39	8.95	9.51	9.88	10.35	10.55	10.70
45	7.28	7.58	7.89	8.09	8.39	8.60	8.80

HM161HFD UB41 + PHCS1 EEWXLEU / HM163HFD UB41 + 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	13.50	14.82	16.00	16.00	16.00	16.00	16.00
30	11.16	12.20	13.24	13.93	14.91	15.49	16.00
35	9.99	10.89	11.83	12.53	14.30	13.88	14.01
40	8.83	9.52	10.21	10.68	11.32	11.68	11.99
45	7.66	8.12	8.58	8.89	9.36	9.67	9.98

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

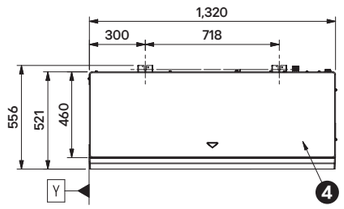
* The strainer is supplied with the product, but it needs to be installed separately.
* This strainer should be installed at the inlet connection of the outdoor unit to protect the clogging of a plate heat exchanger.

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

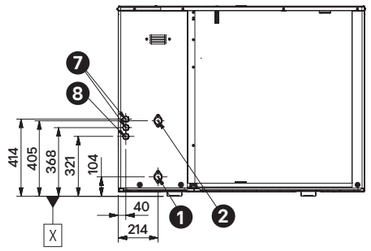
Drawings

[Unit: mm]

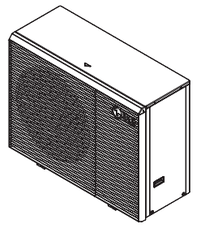
HM121HFD UB41 / HM123HFD UB41
HM141HFD UB41 / HM143HFD UB41
HM161HFD UB41 / HM163HFD UB41



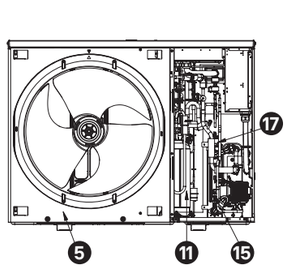
Top view



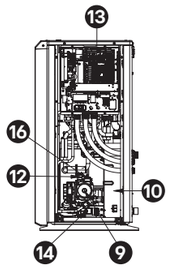
Back view



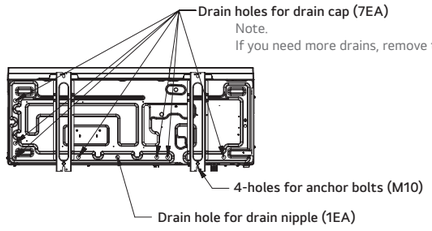
3D view



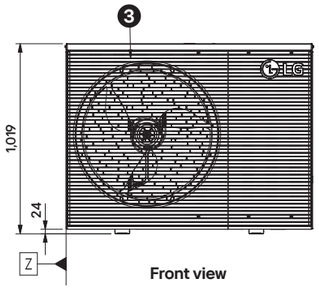
Internal front view



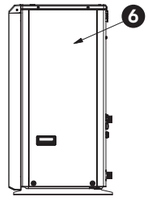
Internal side view



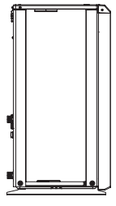
Bottom view



Front view



Right side view

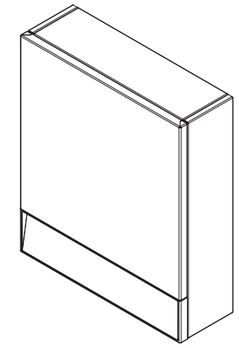


Left side view

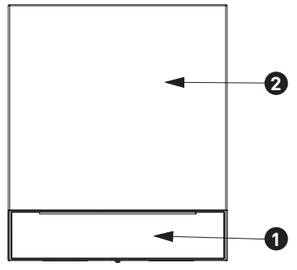
No.	Part Name	Description	No.	Part Name	Description
1	Entering water pipe	Male PT 1" according to ISO 7-1 (tapered pipe threads)	10	Plate heat exchanger	Heat exchange between refrigerant and water
2	Leaving water pipe	Male PT 1" according to ISO 7-1 (tapered pipe threads)	11	Compressor	R290 rotary compressor
3	Air discharge grille	-	12	Safety relief valve	Open at water pressure 3 bar
4	Top cover	-	13	Control box	Cycle, sub PCB, terminal blocks and inverter PCB
5	Front panel	-	14	Flow sensor	To measure the Water Flow Rate (5 - 80 LPM)
6	Side panel	-	15	Water pressure sensor	To measure the Water Pressure (0 - 2 MPa)
7	Low voltage	Conduit for communication	16	Automatic air vents	-
8	Unit power	Conduit for power cable	17	Deaerator	Automatic gas separator
9	Water pump	To circulate water inside the system			

[Unit: mm]

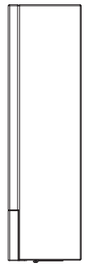
PHCS1 EEWXLEU



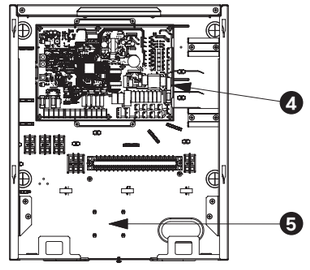
3D view



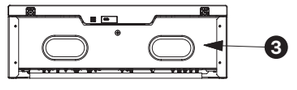
Front view



Side view



Internal view



Bottom view

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 Monobloc |

HYDRO UNIT

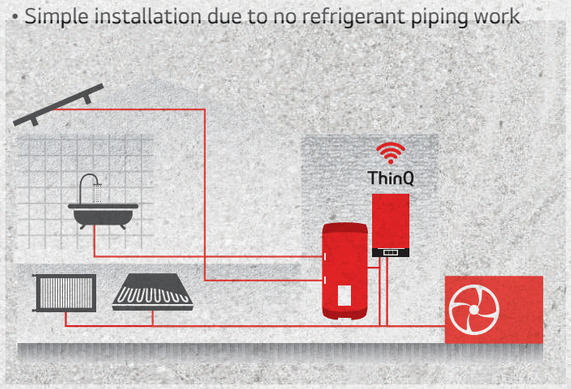


Optimized Solution, Time and Space Saving Design

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

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



Application

Certifications

Energy Label

A+++ 35℃ A++ 55℃

THERMA V R290 MONOBLOC HYDRO UNIT (5 / 7 / 9 kW)

Outdoor unit

HM051HFD UA41
HM071HFD UA41 / HM073HFD UA41
HM091HFD UA41 / HM093HFD UA41

Indoor unit

HN16XAHC NK1



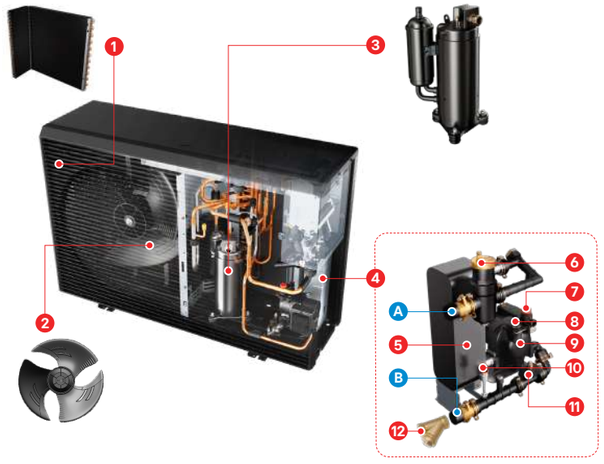


011-1W1195

R290 Natural refrigerant with GWP 0.02 | A+++ 35℃ | A++ 55℃ | 75℃ | -25℃ | ThinQ

Key Components

Outdoor Unit



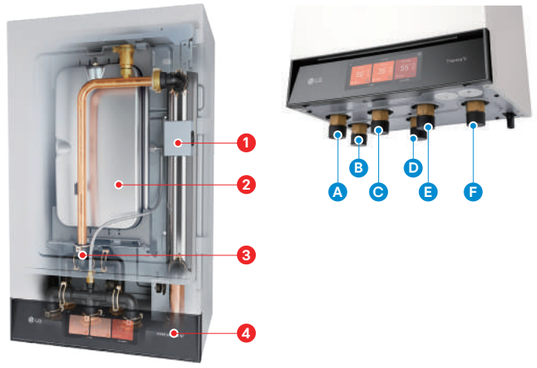
Components

1. Black Fin heat exchanger (air / ref.)
2. Biomimetic fan
3. Twin rotary compressor
4. Hydronic components assembly
5. Plate heat exchanger
6. Deaerator
7. Safety valve
8. Air vent valve
9. Water pump
10. Pressure sensor
11. Flow sensor
12. 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 Controller [1] (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	5 kW (1 Ø)	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++	A+++ / A++
Seasonal space heating efficiency (η_s) (35°C / 55°C)		%	180 / 140	187 / 141	185 / 143
SCOP (35°C / 55°C)		-	4.58 / 3.58	4.75 / 3.60	4.70 / 3.66
Sound power level (outdoor unit)	Rated / low noise mode	dB(A)	53 / 52	54 / 53	56 / 55
Sound pressure level at 5 m (outdoor unit)	Rated / low noise mode	dB(A)	31 / 30	32 / 31	34 / 33
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 / -	5.50 / 4.90	7.00 / 4.70	9.00 / 4.60
Air +2°C / water +35°C	Heating capacity / COP	kW / -	5.50 / 3.20	6.50 / 3.15	7.00 / 3.10
Air -7°C / water +35°C	Heating capacity / COP	kW / -	5.50 / 2.85	7.00 / 2.05	9.00 / 2.00
Air +7°C / water +55°C	Heating capacity / COP	kW / -	5.50 / 2.95	7.00 / 2.85	8.00 / 2.80
Air -7°C / water +55°C	Heating capacity / COP	kW / -	5.50 / 1.90	7.00 / 1.85	8.00 / 1.80
Air +35°C / water +18°C	Cooling capacity / EER	kW / -	5.50 / 4.90	7.00 / 4.70	8.00 / 4.50
Air +35°C / water +7°C	Cooling capacity / EER	kW / -	5.50 / 3.00	7.00 / 2.90	8.00 / 2.85

Outdoor Units		Unit	HM051HFD UA41	HM071HFD UA41 HM073HFD UA41	HM091HFD UA41 HM093HFD UA41
Operation range (outdoor air temperature)	Heating & DHW (Min. ~ Max.)	°C	-25 ~ 35		
	Cooling (Min. ~ Max.)	°C	5 ~ 48		
Refrigerant	Type	-	R290		
	GWP	-	0.02		
	Precharged amount	g	700		
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	853 x 1,242 x 391		
Weight	Net	kg	1 Ø: 96.0 / 3 Ø: 97.5		
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	220 ~ 240, 1, 50 / 380 ~ 415, 3, 50	
	Standby power consumption	W	10		
	Recommended circuit breaker	A	20	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 MONOBLOC HYDRO UNIT (5 / 7 / 9 kW)

Performance Table for Heating Operation

Maximum heating capacity (Include defrost effect)

HM051HFD UA41 + 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	4.98	4.85	4.72	4.59	4.47	4.34	4.21	-	-	-
-20	5.50	5.29	5.09	4.90	4.69	4.45	4.11	3.66	-	-
-15	5.50	5.50	5.50	5.21	4.94	4.83	4.29	3.89	3.49	3.10
-7	5.50	5.50	5.50	5.50	5.50	5.50	4.68	4.23	3.77	3.31
-4	5.50	5.50	5.50	5.50	5.50	5.50	4.85	4.36	3.88	3.39
-2	5.50	5.50	5.50	5.50	5.50	5.50	4.97	4.45	3.95	3.44
2	5.50	5.50	5.50	5.50	5.50	5.50	5.19	4.63	4.08	3.55
7	5.50	5.50	5.50	5.50	5.50	5.50	5.50	4.83	4.25	3.68
10	5.50	5.50	5.50	5.50	5.50	5.50	5.50	4.95	4.35	3.76
15	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.15	4.52	3.89
18	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.27	4.62	3.92
20	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.35	4.69	3.96
35	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.20	4.00

HM071HFD UA41 + HN16XAHC NK1 / HM073HFD UA41 + 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	6.34	6.17	6.01	5.85	5.68	5.42	5.36	-	-	-
-20	7.00	6.73	6.48	6.23	5.97	5.86	5.23	4.65	-	-
-15	7.00	7.00	7.00	6.63	6.29	6.12	5.36	4.85	4.44	3.95
-7	7.00	7.00	7.00	7.00	7.00	7.00	5.95	5.38	4.80	4.21
-4	7.00	7.00	7.00	7.00	7.00	7.00	6.17	5.55	4.93	4.31
-2	7.00	7.00	7.00	7.00	7.00	7.00	6.32	5.67	5.02	4.38
2	7.00	7.00	7.00	7.00	7.00	7.00	6.61	5.89	5.20	4.51
7	7.00	7.00	7.00	7.00	7.00	7.00	7.00	6.15	5.41	4.68
10	7.00	7.00	7.00	7.00	7.00	7.00	7.00	6.30	5.54	4.78
15	7.00	7.00	7.00	7.00	7.00	7.00	7.00	6.55	5.75	4.95
18	7.00	7.00	7.00	7.00	7.00	7.00	7.00	6.71	5.88	5.05
20	7.00	7.00	7.00	7.00	7.00	7.00	7.00	6.81	4.96	5.11
35	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	6.62	5.20

HM091HFD UA41 + HN16XAHC NK1 / HM093HFD UA41 + 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	6.65	6.92	6.89	6.86	6.82	6.79	6.47	-	-	-
-20	8.09	7.74	7.51	7.32	7.16	6.98	6.72	6.35	-	-
-15	9.00	8.45	8.08	7.77	7.50	7.35	6.93	6.60	6.26	5.69
-7	9.00	9.00	8.80	8.38	8.05	8.00	7.34	6.95	6.54	5.72
-4	9.00	9.00	8.87	8.56	8.25	8.00	7.52	7.09	6.65	5.75
-2	8.20	8.30	8.30	8.20	8.10	8.00	7.64	7.19	6.72	5.80
2	8.00	8.00	8.10	8.10	8.10	8.00	7.90	7.38	6.86	5.83
7	9.00	9.00	9.00	9.00	9.00	9.00	8.24	7.63	7.04	5.85
10	9.00	9.00	9.00	9.00	9.00	9.00	8.39	7.77	7.15	5.90
15	9.00	9.00	9.00	9.00	9.00	9.00	8.64	7.99	7.33	6.06
18	9.00	9.00	9.00	9.00	9.00	9.00	8.81	8.13	7.43	6.22
20	9.00	9.00	9.00	9.00	9.00	9.00	8.93	8.23	7.50	6.30
35	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	8.07	6.35

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

HM051HFD UA41 + 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	5.50	5.50	5.50	5.50	5.50	5.50	5.50
30	5.50	5.50	5.50	5.50	5.50	5.50	5.50
35	5.50	5.50	5.50	5.50	5.50	5.50	5.50
40	4.91	5.50	5.50	5.50	5.50	5.50	5.50
45	4.67	5.05	5.50	5.50	5.50	5.50	5.50

HM071HFD UA41 + HN16XAHC NK1 / HM073HFD UA41 + 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	7.00	7.00	7.00	7.00	7.00	7.00	7.00
30	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
40	6.25	7.00	7.00	7.00	7.00	7.00	7.00
45	5.94	6.42	7.00	7.00	7.00	7.00	7.00

HM091HFD UA41 + HN16XAHC NK1 / HM093HFD UA41 + 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	9.00	9.00	9.00	9.00	9.00	9.00	9.00
30	9.00	8.00	9.00	9.00	9.00	9.00	9.00
35	8.00	8.89	9.00	9.00	9.00	9.00	9.00
40	8.00	8.26	8.52	8.69	9.00	9.00	9.00
45	7.54	7.63	7.73	7.80	7.90	7.96	8.03

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.

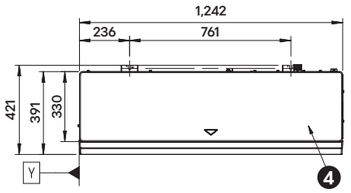
THERMA V R290 MONOBLOC
HYDRO UNIT (5 / 7 / 9 kW)

THERMA V R290 Monobloc

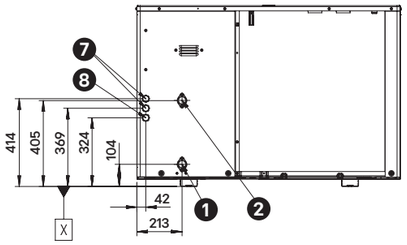
Drawings

[Unit: mm]

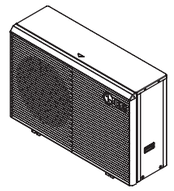
HM051HFD UA41
HM071HFD UA41 / HM073HFD UA41
HM091HFD UA41 / HM093HFD UA41



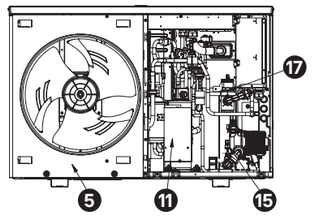
Top view



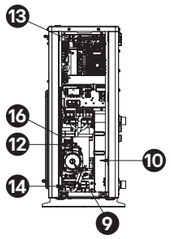
Back view



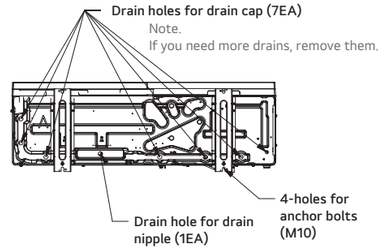
3D view



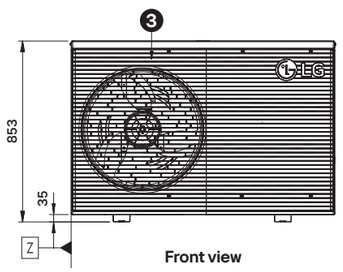
Internal front view



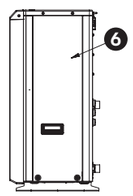
Internal side view



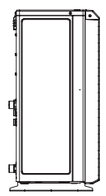
Bottom view



Front view



Right side view



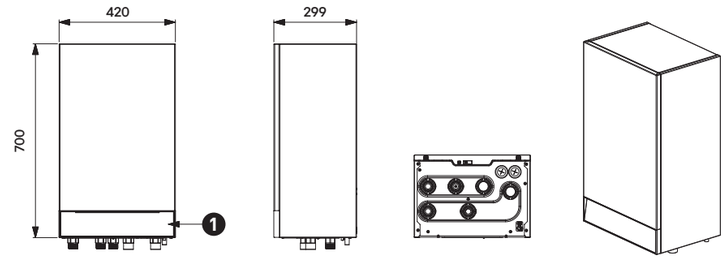
Left side view

No.	Part Name	Description	No.	Part Name	Description
1	Entering water pipe	Male PT 1" according to ISO 7-1 (tapered pipe threads)	10	Plate heat exchanger	Heat exchange between refrigerant and water
2	Leaving water pipe	Male PT 1" according to ISO 7-1 (tapered pipe threads)	11	Compressor	R290 rotary compressor
3	Air discharge grille	-	12	Safety relief valve	Open at water pressure 3 bar
4	Top cover	-	13	Control box	Cycle, sub PCB, terminal blocks and inverter PCB
5	Front panel	-	14	Flow sensor	To measure the Water Flow Rate (5 - 80 LPM)
6	Side panel	-	15	Water pressure sensor	To measure the Water Pressure (0 - 2 MPa)
7	Low voltage	Conduit for communication	16	Automatic air vents	-
8	Unit power	Conduit for power cable	17	Deaerator	Automatic gas separator
9	Water pump	To circulate water inside the system			

[Unit: mm]

External

HN16XAHC NK1

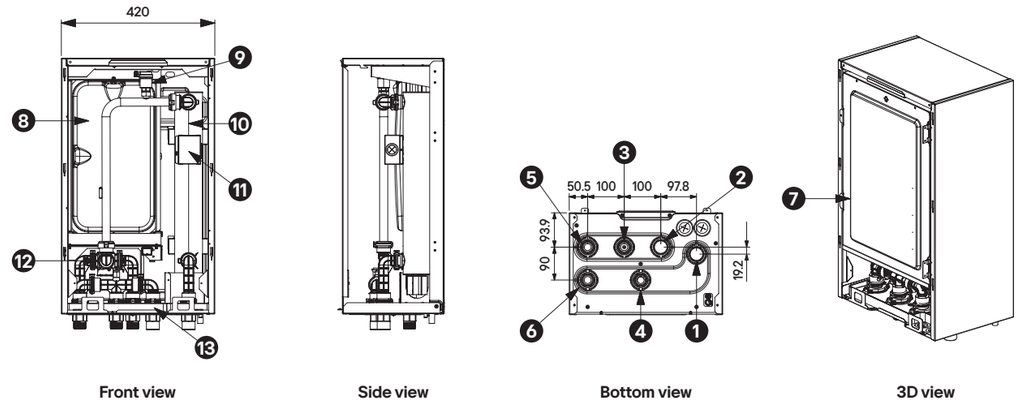


Front view | Side view | Bottom view | 3D view

No.	Part Name	Description
1	Control panel	Human machine interface

Internal

HN16XAHC NK1



Front view | Side view | Bottom view | 3D view

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 MONOBLOC HYDRO UNIT (12 / 14 / 16 kW)

Outdoor unit

HM121HFD UB41 / HM123HFD UB41
HM141HFD UB41 / HM143HFD UB41
HM161HFD UB41 / HM163HFD UB41

Indoor unit

HN16XAHC NK1





011-1W1270

R290 Natural refrigerant with GWP 0.02 | A+++ 35℃ | A++ 55℃ | 75℃ | -25℃ | ThinQ

Key Components

Outdoor Unit



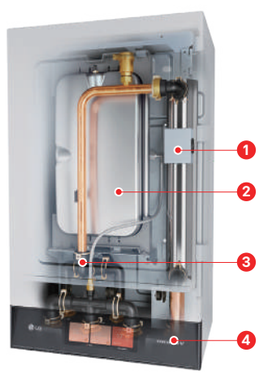
Components

1. Black Fin heat exchanger (air / ref.)
2. Biomimetic fan
3. Twin rotary compressor
4. Hydronic components assembly
5. Plate heat exchanger
6. Deaerator
7. Safety valve
8. Air vent valve
9. Water pump
10. Pressure sensor
11. Flow sensor
12. 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 Controller [1] (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)		%	187 / 143	191 / 143	189 / 141
SCOP (35°C / 55°C)		-	4.75 / 3.65	4.85 / 3.65	4.80 / 3.60
Sound power level (outdoor unit)	Rated / low noise mode	dB(A)	56 / 55	57 / 56	59 / 57
Sound pressure level at 5 m (outdoor unit)	Rated / low noise mode	dB(A)	34 / 33	35 / 34	37 / 35
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 / 4.60	14.00 / 4.50	16.00 / 4.40
Air +2°C / water +35°C	Heating capacity / COP	kW / -	12.00 / 3.10	12.50 / 3.05	13.00 / 3.00
Air -7°C / water +35°C	Heating capacity / COP	kW / -	12.00 / 2.50	12.50 / 2.50	13.50 / 2.50
Air +7°C / water +55°C	Heating capacity / COP	kW / -	12.00 / 2.95	13.00 / 2.90	14.00 / 2.80
Air -7°C / water +55°C	Heating capacity / COP	kW / -	10.00 / 1.90	11.00 / 1.85	12.00 / 1.80
Air +35°C / water +18°C	Cooling capacity / EER	kW / -	12.00 / 4.70	12.50 / 4.60	13.00 / 4.50
Air +35°C / water +7°C	Cooling capacity / EER	kW / -	10.05 / 3.20	11.00 / 3.15	11.50 / 3.10
Outdoor Units		**Unit**	**HM121HFD UB41 HM123HFD UB41**	**HM141HFD UB41 HM143HFD UB41**	**HM161HFD UB41 HM163HFD UB41**
Operation range (outdoor air temperature)	Heating & DHW (Min. ~ Max.)	°C	-25 ~ 35		
	Cooling (Min. ~ Max.)	°C	5 ~ 48		
Refrigerant	Type	-	R290		
	GWP	-	0.02		
	Precharged amount	g	1,000		
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	125.0		
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: 32 / 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 MONOBLOC HYDRO UNIT (12 / 14 / 16 kW)

Performance Table for Heating Operation

Maximum heating capacity (Include defrost effect)

HM121HFD UB41 + HN16XAHC NK1 / HM123HFD UB41 + 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	8.97	8.70	8.43	8.16	7.90	7.63	7.36	-	-	-
-20	9.85	9.53	9.18	8.82	8.45	8.07	7.68	7.29	-	-
-15	10.75	10.37	9.95	9.49	9.01	8.52	8.01	7.50	6.98	6.48
-7	12.00	12.00	11.26	10.62	10.13	10.00	8.56	7.87	7.17	6.46
-4	12.00	12.00	11.81	11.07	10.50	10.30	8.77	8.01	7.24	6.45
-2	12.00	12.00	12.00	11.37	10.74	10.51	8.91	8.11	7.29	6.45
2	12.00	12.00	12.00	11.97	11.00	10.90	9.19	8.31	7.42	6.44
7	12.00	12.00	12.00	12.00	11.52	11.35	9.53	8.58	7.63	-
10	12.00	12.00	12.00	12.00	11.80	10.73	9.72	8.73	7.76	-
15	12.00	12.00	12.00	12.00	12.00	11.09	10.02	8.98	7.99	-
18	12.00	12.00	12.00	12.00	12.00	11.28	10.18	9.12	8.15	-
20	12.00	12.00	12.00	12.00	12.00	11.41	10.29	9.20	7.93	-
35	12.00	12.00	12.00	12.00	12.00	12.00	10.81	9.43	-	-

HM141HFD UB41 + HN16XAHC NK1 / HM143HFD UB41 + 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	9.40	9.15	8.90	8.65	8.40	8.15	7.90	-	-	-
-20	10.27	9.94	9.60	9.26	8.92	8.57	8.23	7.90	-	-
-15	11.14	10.74	10.32	9.88	9.44	8.99	8.54	8.09	7.66	7.29
-7	12.56	12.50	11.92	11.31	11.15	11.00	9.02	8.39	7.74	7.09
-4	13.11	13.04	12.40	11.70	11.42	11.13	9.21	8.50	7.77	7.02
-2	13.49	13.40	12.72	11.97	11.62	11.26	9.33	8.58	7.79	6.97
2	14.00	13.68	12.89	12.04	11.70	11.35	9.58	8.75	7.87	6.87
7	14.00	14.00	13.66	12.66	12.07	11.48	9.91	9.00	8.06	-
10	14.00	14.00	14.00	13.00	12.26	11.52	10.12	9.17	8.21	-
15	14.00	14.00	14.00	13.53	12.60	11.66	10.45	9.45	8.47	-
18	14.00	14.00	14.00	13.84	12.76	11.70	10.65	9.62	8.66	-
20	14.00	14.00	14.00	14.00	12.94	11.85	10.78	9.72	8.48	-
35	14.00	14.00	14.00	14.00	14.00	12.89	11.53	10.17	-	-

HM161HFD UB41 + HN16XAHC NK1 / HM163HFD UB41 + 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	9.82	9.59	9.36	9.13	8.90	8.67	8.44	-	-	-
-20	10.83	10.52	10.20	9.86	9.51	9.17	8.84	8.55	-	-
-15	11.84	11.45	11.03	10.58	10.12	9.65	9.20	8.76	8.37	8.10
-7	14.02	13.50	12.90	12.22	12.11	12.00	9.71	9.04	8.38	7.72
-4	14.67	14.12	13.44	12.68	12.37	12.07	9.90	9.14	8.37	7.58
-2	15.10	14.56	13.82	12.97	12.54	12.12	10.01	9.20	8.36	7.48
2	15.39	14.94	14.03	13.56	12.87	12.19	10.25	9.33	8.37	7.29
7	16.00	16.00	14.89	13.66	12.99	12.31	10.53	9.52	8.49	-
10	16.00	16.00	15.20	13.97	13.20	12.43	10.69	9.64	8.58	-
15	16.00	16.00	15.57	14.00	13.23	12.78	10.95	9.84	8.76	-
18	16.00	16.00	15.81	14.64	13.44	12.97	11.10	9.95	8.90	-
20	16.00	16.00	16.00	14.79	13.58	13.09	11.18	10.02	8.65	-
35	16.00	16.00	16.00	16.00	14.51	13.81	11.60	10.21	-	-

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

HM121HFD UB41 + HN16XAHC NK1 / HM123HFD UB41 + 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	10.06	10.79	11.53	12.00	12.00	12.00	12.00
35	9.01	9.65	10.36	10.96	12.00	12.00	12.00
40	7.95	8.37	8.79	9.07	9.37	9.43	9.42
45	6.89	7.04	7.19	7.29	7.43	7.53	7.63

HM141HFD UB41 + HN16XAHC NK1 / HM143HFD UB41 + 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	12.84	14.00	14.00	14.00	14.00	14.00	14.00
30	10.61	11.50	12.39	12.98	13.76	14.00	14.00
35	9.50	10.28	11.10	11.75	13.75	12.78	12.60
40	8.39	8.95	9.51	9.88	10.35	10.55	10.70
45	7.28	7.58	7.89	8.09	8.39	8.60	8.80

HM161HFD UB41 + HN16XAHC NK1 / HM163HFD UB41 + 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	13.50	14.82	16.00	16.00	16.00	16.00	16.00
30	11.16	12.20	13.24	13.93	14.91	15.49	16.00
35	9.99	10.89	11.83	12.53	14.30	13.88	14.01
40	8.83	9.52	10.21	10.68	11.32	11.68	11.99
45	7.66	8.12	8.58	8.89	9.36	9.67	9.98

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

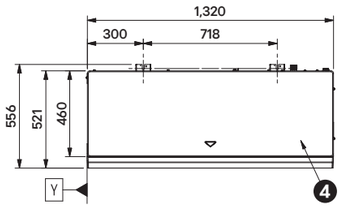
* The strainer is supplied with the product, but it needs to be installed separately.
* This strainer should be installed at the inlet connection of the outdoor unit to protect the clogging of a plate heat exchanger.

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

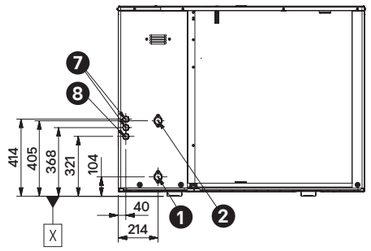
Drawings

[Unit: mm]

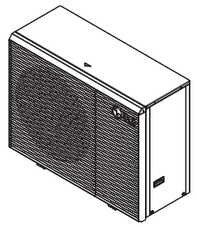
HM121HFD UB41 / HM123HFD UB41
HM141HFD UB41 / HM143HFD UB41
HM161HFD UB41 / HM163HFD UB41



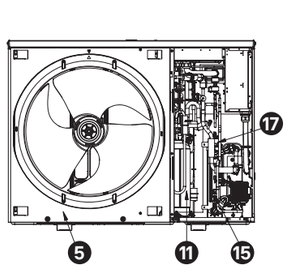
Top view



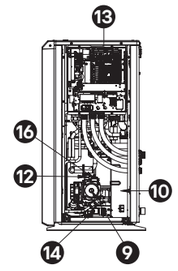
Back view



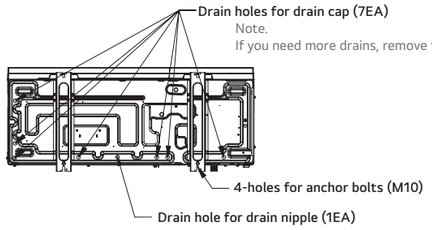
3D view



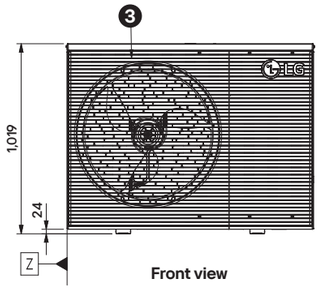
Internal front view



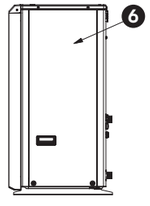
Internal side view



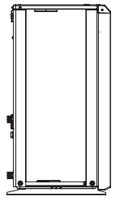
Bottom view



Front view



Right side view



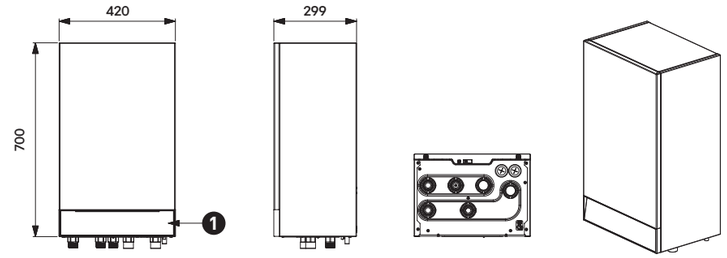
Left side view

No.	Part Name	Description	No.	Part Name	Description
1	Entering water pipe	Male PT 1" according to ISO 7-1 (tapered pipe threads)	10	Plate heat exchanger	Heat exchange between refrigerant and water
2	Leaving water pipe	Male PT 1" according to ISO 7-1 (tapered pipe threads)	11	Compressor	R290 rotary compressor
3	Air discharge grille	-	12	Safety relief valve	Open at water pressure 3 bar
4	Top cover	-	13	Control box	Cycle, sub PCB, terminal blocks and inverter PCB
5	Front panel	-	14	Flow sensor	To measure the Water Flow Rate (5 - 80 LPM)
6	Side panel	-	15	Water pressure sensor	To measure the Water Pressure (0 - 2 MPa)
7	Low voltage	Conduit for communication	16	Automatic air vents	-
8	Unit power	Conduit for power cable	17	Deaerator	Automatic gas separator
9	Water pump	To circulate water inside the system			

[Unit: mm]

External

HN16XAHC NK1

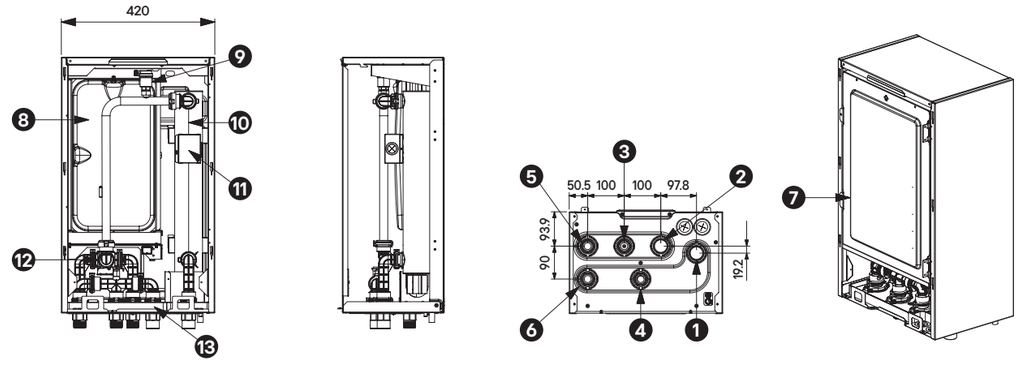


Front view | Side view | Bottom view | 3D view

No.	Part Name	Description
1	Control panel	Human machine interface

Internal

HN16XAHC NK1



Front view | Side view | Bottom view | 3D view

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 Monobloc |

COMBI UNIT



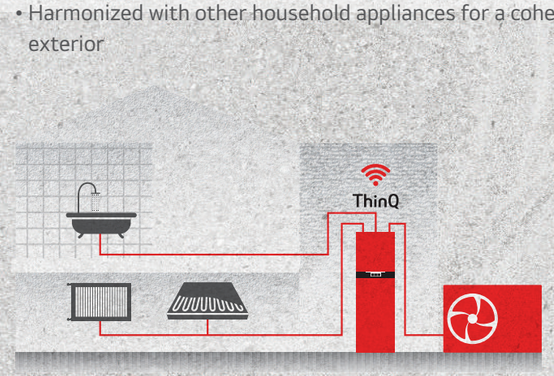
All-in-One

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.

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

Certifications

Energy Label

THERMA V R290 MONOBLOC COMBI UNIT (5 / 7 / 9 kW)

Outdoor unit

HM051HFD UA41
HM071HFD UA41 / HM073HFD UA41
HM091HFD UA41 / HM093HFD UA41

Indoor unit

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

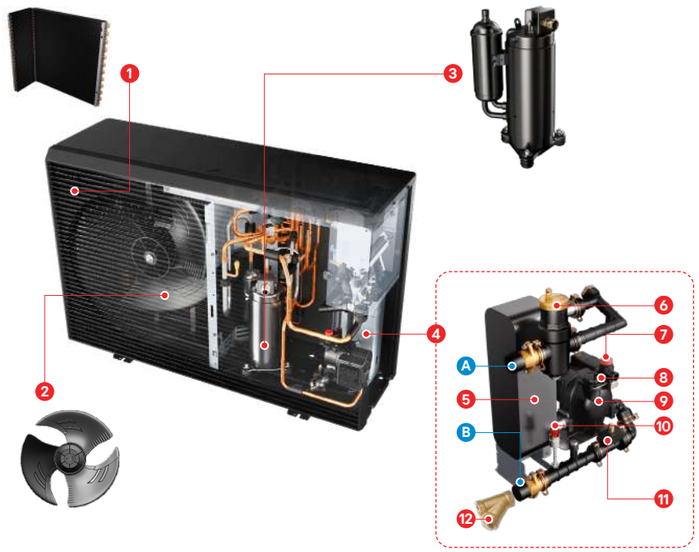


011-1W1195

R290 Natural refrigerant with GWP 0.02 | A+++ 35℃ | A++ 55℃ | A+ L | 75℃ | -25℃ | ThinQ

Key Components

Outdoor Unit



Components

1. Black Fin heat exchanger (air / ref.)
2. Biomimetic fan
3. Twin rotary compressor
4. Hydronic components assembly
5. Plate heat exchanger
6. Deaerator
7. Safety valve
8. Air vent valve
9. Water pump
10. Pressure sensor
11. Flow sensor
12. Strainer (loose supplied)

Connections

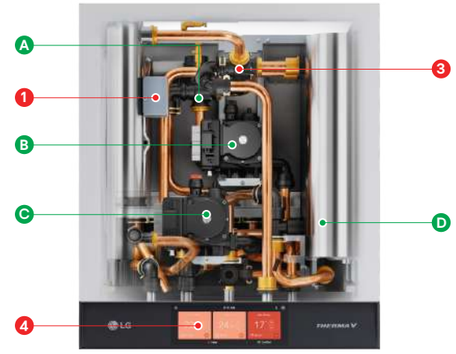
- A Leaving water pipe (male PT 1")
- B Entering water pipe (male PT 1")

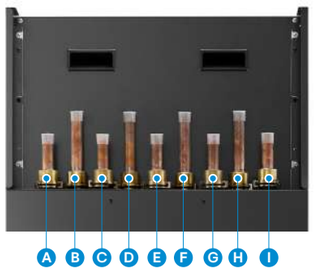
Key Components

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 controller [1] (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 MONOBLOC
COMBI UNIT (5 / 7 / 9 kW)

Product Specification

Efficiency Data		Unit	5 kW (1 Ø)	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++	A+++ / A++
Seasonal space heating efficiency (η_s) (35°C / 55°C)		%	180 / 140	187 / 141	185 / 143
SCOP (35°C / 55°C)		-	4.58 / 3.58	4.75 / 3.60	4.70 / 3.66
Declared load profile, average climate		-	L	L	L
Water heating efficiency (η_{WH}), average climate		%	130	130	130
COP_{DHW}, average climate		-	3.10	3.10	3.10
Water heating eff. class, average climate		-	A+	A+	A+
Annual energy consumption, DHW (average climate)		kWh	790	790	790
Heating up time acc. to EN 16147 (average climate)		h/mm	2h 07	2h 07	2h 07
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		%	160	160	160
COP_{DHW}, warmer climate		-	3.76	3.76	3.76
Water heating eff. class, warmer climate		-	A++	A++	A++
Declared load profile, colder climate		-	L	L	L
Water heating efficiency (η_{WH}), colder climate		%	110	110	110
COP_{DHW}, colder climate		-	2.57	2.57	2.57
Water heating eff. class, colder climate		-	A	A	A
Sound power level (outdoor unit)	Rated / low noise mode	dB(A)	53 / 52	54 / 53	56 / 55
Sound pressure level at 5 m (outdoor unit)	Rated / low noise mode	dB(A)	31 / 30	32 / 31	34 / 33
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 / -	5.50 / 4.90	7.00 / 4.70	9.00 / 4.60
Air +2°C / water +35°C	Heating capacity / COP	kW / -	5.50 / 3.20	6.50 / 3.15	7.00 / 3.10
Air -7°C / water +35°C	Heating capacity / COP	kW / -	5.50 / 2.85	7.00 / 2.05	9.00 / 2.00
Air +7°C / water +55°C	Heating capacity / COP	kW / -	5.50 / 2.95	7.00 / 2.85	8.00 / 2.80
Air -7°C / water +55°C	Heating capacity / COP	kW / -	5.50 / 1.90	7.00 / 1.85	8.00 / 1.80
Air +35°C / water +18°C	Cooling capacity / EER	kW / -	5.50 / 4.90	7.00 / 4.70	8.00 / 4.50
Air +35°C / water +7°C	Cooling capacity / EER	kW / -	5.50 / 3.00	7.00 / 2.90	8.00 / 2.85

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	HM051HFD UA41	HM071HFD UA41 HM073HFD UA41	HM091HFD UA41 HM093HFD UA41
Operation range (outdoor air temperature)	Heating & DHW (Min. ~ Max.)	°C	-25 ~ 35		
	Cooling (Min. ~ Max.)	°C	5 ~ 48		
Refrigerant	Type	-	R290		
	GWP	-	0.02		
	Precharged amount	g	700		
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	853 x 1,242 x 391		
Weight	Net	kg	1 Ø: 96.0 / 3 Ø: 97.5		
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	220 ~ 240, 1, 50 / 380 ~ 415, 3, 50	
	Standby power consumption	W	10		
	Recommended circuit breaker	A	20	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 MONOBLOC COMBI UNIT (5 / 7 / 9 kW)

Performance Table for Heating Operation

Maximum heating capacity (Include defrost effect)

HM051HFD UA41 + 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	4.98	4.85	4.72	4.59	4.47	4.34	4.21	-	-	-
-20	5.50	5.29	5.09	4.90	4.69	4.45	4.11	3.66	-	-
-15	5.50	5.50	5.50	5.21	4.94	4.83	4.29	3.89	3.49	3.10
-7	5.50	5.50	5.50	5.50	5.50	5.50	4.68	4.23	3.77	3.31
-4	5.50	5.50	5.50	5.50	5.50	5.50	4.85	4.36	3.88	3.39
-2	5.50	5.50	5.50	5.50	5.50	5.50	4.97	4.45	3.95	3.44
2	5.50	5.50	5.50	5.50	5.50	5.50	5.19	4.63	4.08	3.55
7	5.50	5.50	5.50	5.50	5.50	5.50	5.50	4.83	4.25	3.68
10	5.50	5.50	5.50	5.50	5.50	5.50	5.50	4.95	4.35	3.76
15	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.15	4.52	3.89
18	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.27	4.62	3.92
20	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.35	4.69	3.96
35	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.20	4.00

HM071HFD UA41 + HN20XAHY(B) NK1 / HM073HFD UA41 + 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	6.34	6.17	6.01	5.85	5.68	5.42	5.36	-	-	-
-20	7.00	6.73	6.48	6.23	5.97	5.86	5.23	4.65	-	-
-15	7.00	7.00	7.00	6.63	6.29	6.12	5.36	4.85	4.44	3.95
-7	7.00	7.00	7.00	7.00	7.00	7.00	5.95	5.38	4.80	4.21
-4	7.00	7.00	7.00	7.00	7.00	7.00	6.17	5.55	4.93	4.31
-2	7.00	7.00	7.00	7.00	7.00	7.00	6.32	5.67	5.02	4.38
2	7.00	7.00	7.00	7.00	7.00	7.00	6.61	5.89	5.20	4.51
7	7.00	7.00	7.00	7.00	7.00	7.00	7.00	6.15	5.41	4.68
10	7.00	7.00	7.00	7.00	7.00	7.00	7.00	6.30	5.54	4.78
15	7.00	7.00	7.00	7.00	7.00	7.00	7.00	6.55	5.75	4.95
18	7.00	7.00	7.00	7.00	7.00	7.00	7.00	6.71	5.88	5.05
20	7.00	7.00	7.00	7.00	7.00	7.00	7.00	6.81	4.96	5.11
35	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	6.62	5.20

HM091HFD UA41 + HN20XAHY(B) NK1 / HM093HFD UA41 + 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	6.65	6.92	6.89	6.86	6.82	6.79	6.47	-	-	-
-20	8.09	7.74	7.51	7.32	7.16	6.98	6.72	6.35	-	-
-15	9.00	8.45	8.08	7.77	7.50	7.35	6.93	6.60	6.26	5.69
-7	9.00	9.00	8.80	8.38	8.05	8.00	7.34	6.95	6.54	5.72
-4	9.00	9.00	8.87	8.56	8.25	8.00	7.52	7.09	6.65	5.75
-2	8.20	8.30	8.30	8.20	8.10	8.00	7.64	7.19	6.72	5.80
2	8.00	8.00	8.10	8.10	8.10	8.00	7.90	7.38	6.86	5.83
7	9.00	9.00	9.00	9.00	9.00	9.00	8.24	7.63	7.04	5.85
10	9.00	9.00	9.00	9.00	9.00	9.00	8.39	7.77	7.15	5.90
15	9.00	9.00	9.00	9.00	9.00	9.00	8.64	7.99	7.33	6.06
18	9.00	9.00	9.00	9.00	9.00	9.00	8.81	8.13	7.43	6.22
20	9.00	9.00	9.00	9.00	9.00	9.00	8.93	8.23	7.50	6.30
35	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	8.07	6.35

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

HM051HFD UA41 + 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	5.50	5.50	5.50	5.50	5.50	5.50	5.50
30	5.50	5.50	5.50	5.50	5.50	5.50	5.50
35	5.50	5.50	5.50	5.50	5.50	5.50	5.50
40	4.91	5.50	5.50	5.50	5.50	5.50	5.50
45	4.67	5.05	5.50	5.50	5.50	5.50	5.50

HM071HFD UA41 + HN20XAHY(B) NK1 / HM073HFD UA41 + 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	7.00	7.00	7.00	7.00	7.00	7.00	7.00
30	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
40	6.25	7.00	7.00	7.00	7.00	7.00	7.00
45	5.94	6.42	7.00	7.00	7.00	7.00	7.00

HM091HFD UA41 + HN20XAHY(B) NK1 / HM093HFD UA41 + 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	9.00	9.00	9.00	9.00	9.00	9.00	9.00
30	9.00	8.00	9.00	9.00	9.00	9.00	9.00
35	8.00	8.89	9.00	9.00	9.00	9.00	9.00
40	8.00	8.26	8.52	8.69	9.00	9.00	9.00
45	7.54	7.63	7.73	7.80	7.90	7.96	8.03

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

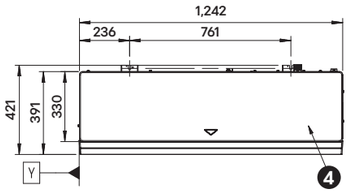
* The strainer is supplied with the product, but it needs to be installed separately.
* This strainer should be installed at the inlet connection of the outdoor unit to protect the clogging of a plate heat exchanger.

THERMA V R290 MONOBLOC COMBI UNIT (5 / 7 / 9 kW)

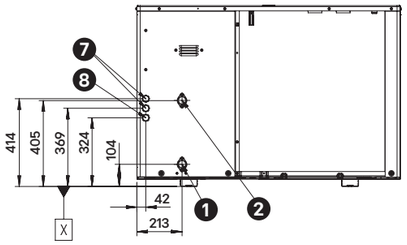
Drawings

[Unit: mm]

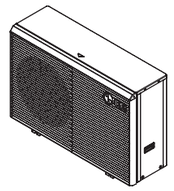
HM051HFD UA41
HM071HFD UA41 / HM073HFD UA41
HM091HFD UA41 / HM093HFD UA41



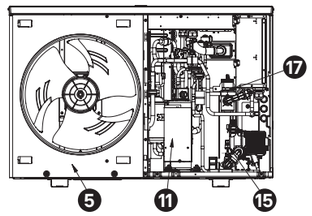
Top view



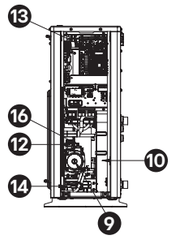
Back view



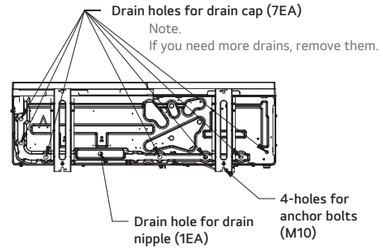
3D view



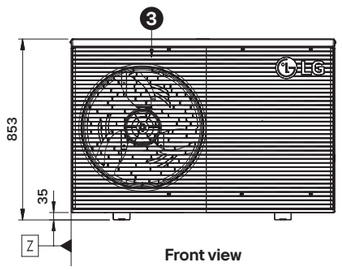
Internal front view



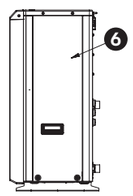
Internal side view



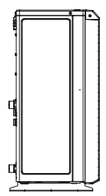
Bottom view



Front view



Right side view



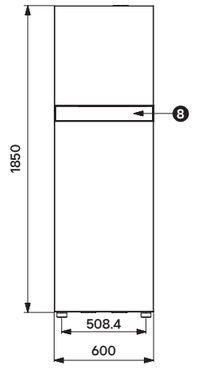
Left side view

No.	Part Name	Description	No.	Part Name	Description
1	Entering water pipe	Male PT 1" according to ISO 7-1 (tapered pipe threads)	10	Plate heat exchanger	Heat exchange between refrigerant and water
2	Leaving water pipe	Male PT 1" according to ISO 7-1 (tapered pipe threads)	11	Compressor	R290 rotary compressor
3	Air discharge grille	-	12	Safety relief valve	Open at water pressure 3 bar
4	Top cover	-	13	Control box	Cycle, sub PCB, terminal blocks and inverter PCB
5	Front panel	-	14	Flow sensor	To measure the Water Flow Rate (5 - 80 LPM)
6	Side panel	-	15	Water pressure sensor	To measure the Water Pressure (0 - 2 MPa)
7	Low voltage	Conduit for communication	16	Automatic air vents	-
8	Unit power	Conduit for power cable	17	Deaerator	Automatic gas separator
9	Water pump	To circulate water inside the system			

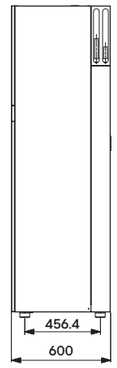
[Unit: mm]

External

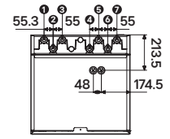
HN20XAHY NK1



Front view



Side view

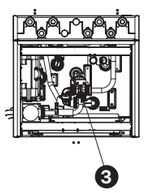


Top view

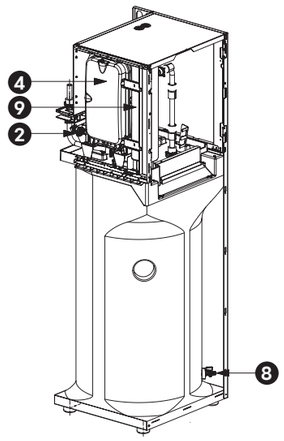
No.	Part Name	Description	No.	Part Name	Description
1	Re-circulation	Plain end (Copper, 22 x 1.2 mm)	5	Inlet (domestic cold water)	Plain end (Copper, 22 x 1.2 mm)
2	Inlet (heating water from ODU)		6	Outlet (heating circuit supply)	
3	Outlet (return water to ODU)		7	Inlet (heating circuit return)	
4	Outlet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

Internal

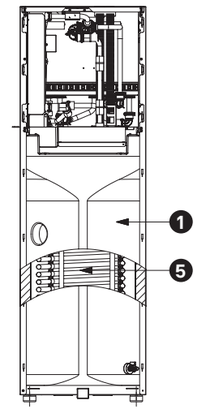
HN20XAHY NK1



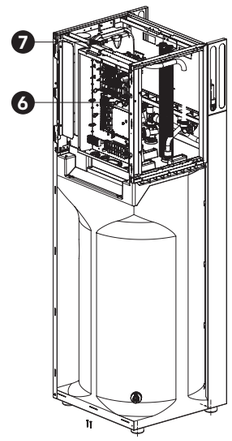
Top view



Left side view



Front view



Right side view

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)			

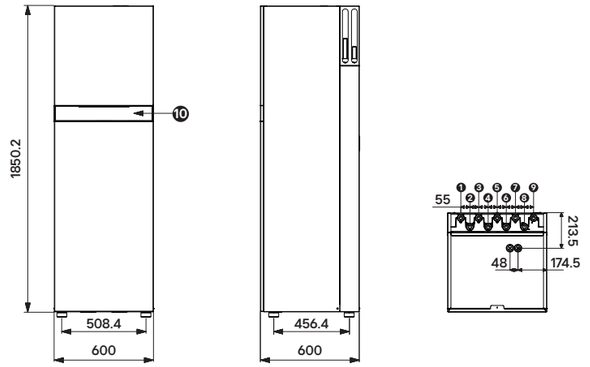
THERMA V R290 MONOBLOC COMBI UNIT (5 / 7 / 9 kW)

Drawings

[Unit: mm]

External

HN20XAHB NK1

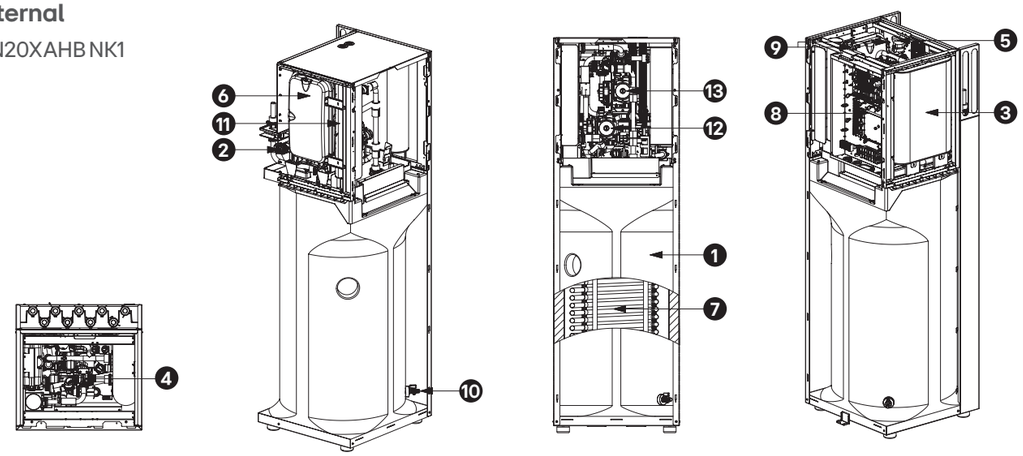


Front view | Side view | Top view

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



Top view | Left side view | Front view | Right side view

No.	Part Name	Description	No.	Part Name	Description
1	DHW tank	Domestic hot water tank (200 L)	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 MONOBLOC COMBI UNIT (12 / 14 / 16 kW)

Outdoor unit

HM121HFD UB41 / HM123HFD UB41
HM141HFD UB41 / HM143HFD UB41
HM161HFD UB41 / HM163HFD UB41

Indoor unit

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



011-1W1270

R290 Natural refrigerant with GWP 0.02 | A+++ 35℃ | A++ 55℃ | A+ L | 75℃ | -25℃ | ThinQ

Key Components

Outdoor Unit



Components

1. Black Fin heat exchanger (air / ref.)
2. Biomimetic fan
3. Twin rotary compressor
4. Hydronic components assembly
5. Plate heat exchanger
6. Deaerator
7. Safety valve
8. Air vent valve
9. Water pump
10. Pressure sensor
11. Flow sensor
12. Strainer (loose supplied)

Connections

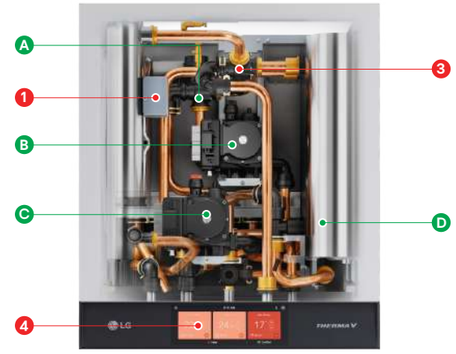
A. Leaving water pipe (male PT 1")
B. Entering water pipe (male PT 1")

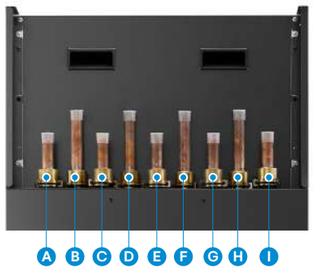
Key Components

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 controller [1] (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 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)		%	187 / 143	191 / 143	189 / 141
SCOP (35°C / 55°C)		-	4.75 / 3.65	4.85 / 3.65	4.80 / 3.60
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	790	790	790
Heating up time acc. to EN 16147 (average climate)		h/mm	2h 05	2h 05	2h 05
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		-	3.53	3.53	3.53
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		-	2.38	2.38	2.38
Water heating eff. class, colder climate		-	A	A	A
Sound power level (outdoor unit)	Rated / low noise mode	dB(A)	56 / 55	57 / 56	59 / 57
Sound pressure level at 5 m (outdoor unit)	Rated / low noise mode	dB(A)	34 / 33	35 / 34	37 / 35
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 / 4.60	14.00 / 4.50	16.00 / 4.40
Air +2°C / water +35°C	Heating capacity / COP	kW / -	12.00 / 3.10	12.50 / 3.05	13.00 / 3.00
Air -7°C / water +35°C	Heating capacity / COP	kW / -	12.00 / 2.50	12.50 / 2.50	13.50 / 2.50
Air +7°C / water +55°C	Heating capacity / COP	kW / -	12.00 / 2.95	13.00 / 2.90	14.00 / 2.80
Air -7°C / water +55°C	Heating capacity / COP	kW / -	10.00 / 1.90	11.00 / 1.85	12.00 / 1.80
Air +35°C / water +18°C	Cooling capacity / EER	kW / -	12.00 / 4.70	12.50 / 4.60	13.00 / 4.50
Air +35°C / water +7°C	Cooling capacity / EER	kW / -	10.05 / 3.20	11.00 / 3.15	11.50 / 3.10

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.

Outdoor Units		Unit	HM121HFD UB41 HM123HFD UB41	HM141HFD UB41 HM143HFD UB41	HM161HFD UB41 HM163HFD UB41
Operation range (outdoor air temperature)	Heating & DHW (Min. ~ Max.)	°C	-25 ~ 35		
	Cooling (Min. ~ Max.)	°C	5 ~ 48		
Refrigerant	Type	-	R290		
	GWP	-	0.02		
	Precharged amount	g	1,000		
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	125.0		
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: 32 / 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		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 MONOBLOC COMBI UNIT (12 / 14 / 16 kW)

Performance Table for Heating Operation

Maximum heating capacity (Include defrost effect)

HM121HFD UB41 + HN20XAHY(B) NK1 / HM123HFD UB41 + 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	8.97	8.70	8.43	8.16	7.90	7.63	7.36	-	-	-
-20	9.85	9.53	9.18	8.82	8.45	8.07	7.68	7.29	-	-
-15	10.75	10.37	9.95	9.49	9.01	8.52	8.01	7.50	6.98	6.48
-7	12.00	12.00	11.26	10.62	10.13	10.00	8.56	7.87	7.17	6.46
-4	12.00	12.00	11.81	11.07	10.50	10.30	8.77	8.01	7.24	6.45
-2	12.00	12.00	12.00	11.37	10.74	10.51	8.91	8.11	7.29	6.45
2	12.00	12.00	12.00	11.97	11.00	10.90	9.19	8.31	7.42	6.44
7	12.00	12.00	12.00	12.00	11.52	11.35	9.53	8.58	7.63	-
10	12.00	12.00	12.00	12.00	11.80	10.73	9.72	8.73	7.76	-
15	12.00	12.00	12.00	12.00	12.00	11.09	10.02	8.98	7.99	-
18	12.00	12.00	12.00	12.00	12.00	11.28	10.18	9.12	8.15	-
20	12.00	12.00	12.00	12.00	12.00	11.41	10.29	9.20	7.93	-
35	12.00	12.00	12.00	12.00	12.00	12.00	10.81	9.43	-	-

HM141HFD UB41 + HN20XAHY(B) NK1 / HM143HFD UB41 + 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	9.40	9.15	8.90	8.65	8.40	8.15	7.90	-	-	-
-20	10.27	9.94	9.60	9.26	8.92	8.57	8.23	7.90	-	-
-15	11.14	10.74	10.32	9.88	9.44	8.99	8.54	8.09	7.66	7.29
-7	12.56	12.50	11.92	11.31	11.15	11.00	9.02	8.39	7.74	7.09
-4	13.11	13.04	12.40	11.70	11.42	11.13	9.21	8.50	7.77	7.02
-2	13.49	13.40	12.72	11.97	11.62	11.26	9.33	8.58	7.79	6.97
2	14.00	13.68	12.89	12.04	11.70	11.35	9.58	8.75	7.87	6.87
7	14.00	14.00	13.66	12.66	12.07	11.48	9.91	9.00	8.06	-
10	14.00	14.00	14.00	13.00	12.26	11.52	10.12	9.17	8.21	-
15	14.00	14.00	14.00	13.53	12.60	11.66	10.45	9.45	8.47	-
18	14.00	14.00	14.00	13.84	12.76	11.70	10.65	9.62	8.66	-
20	14.00	14.00	14.00	14.00	12.94	11.85	10.78	9.72	8.48	-
35	14.00	14.00	14.00	14.00	14.00	12.89	11.53	10.17	-	-

HM161HFD UB41 + HN20XAHY(B) NK1 / HM163HFD UB41 + 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	9.82	9.59	9.36	9.13	8.90	8.67	8.44	-	-	-
-20	10.83	10.52	10.20	9.86	9.51	9.17	8.84	8.55	-	-
-15	11.84	11.45	11.03	10.58	10.12	9.65	9.20	8.76	8.37	8.10
-7	14.02	13.50	12.90	12.22	12.11	12.00	9.71	9.04	8.38	7.72
-4	14.67	14.12	13.44	12.68	12.37	12.07	9.90	9.14	8.37	7.58
-2	15.10	14.56	13.82	12.97	12.54	12.12	10.01	9.20	8.36	7.48
2	15.39	14.94	14.03	13.56	12.87	12.19	10.25	9.33	8.37	7.29
7	16.00	16.00	14.89	13.66	12.99	12.31	10.53	9.52	8.49	-
10	16.00	16.00	15.20	13.97	13.20	12.43	10.69	9.64	8.58	-
15	16.00	16.00	15.57	14.00	13.23	12.78	10.95	9.84	8.76	-
18	16.00	16.00	15.81	14.64	13.44	12.97	11.10	9.95	8.90	-
20	16.00	16.00	16.00	14.79	13.58	13.09	11.18	10.02	8.65	-
35	16.00	16.00	16.00	16.00	14.51	13.81	11.60	10.21	-	-

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

HM121HFD UB41 + HN20XAHY(B) NK1 / HM123HFD UB41 + 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	10.06	10.79	11.53	12.00	12.00	12.00	12.00
35	9.01	9.65	10.36	10.96	12.00	12.00	12.00
40	7.95	8.37	8.79	9.07	9.37	9.43	9.42
45	6.89	7.04	7.19	7.29	7.43	7.53	7.63

HM141HFD UB41 + HN20XAHY(B) NK1 / HM143HFD UB41 + 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	12.84	14.00	14.00	14.00	14.00	14.00	14.00
30	10.61	11.50	12.39	12.98	13.76	14.00	14.00
35	9.50	10.28	11.10	11.75	13.75	12.78	12.60
40	8.39	8.95	9.51	9.88	10.35	10.55	10.70
45	7.28	7.58	7.89	8.09	8.39	8.60	8.80

HM161HFD UB41 + HN20XAHY(B) NK1 / HM163HFD UB41 + 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	13.50	14.82	16.00	16.00	16.00	16.00	16.00
30	11.16	12.20	13.24	13.93	14.91	15.49	16.00
35	9.99	10.89	11.83	12.53	14.30	13.88	14.01
40	8.83	9.52	10.21	10.68	11.32	11.68	11.99
45	7.66	8.12	8.58	8.89	9.36	9.67	9.98

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

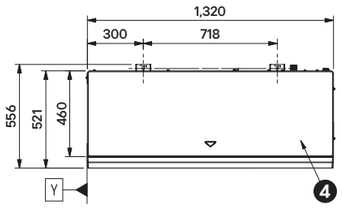
* The strainer is supplied with the product, but it needs to be installed separately.
* This strainer should be installed at the inlet connection of the outdoor unit to protect the clogging of a plate heat exchanger.

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

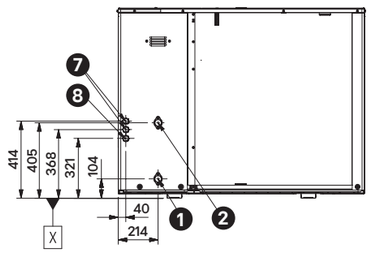
Drawings

[Unit: mm]

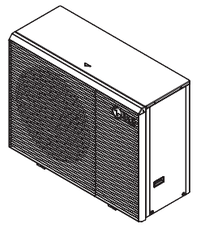
HM121HFD UB41 / HM123HFD UB41
HM141HFD UB41 / HM143HFD UB41
HM161HFD UB41 / HM163HFD UB41



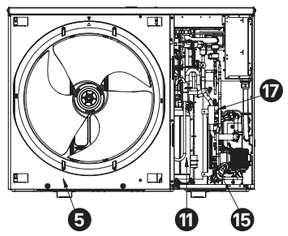
Top view



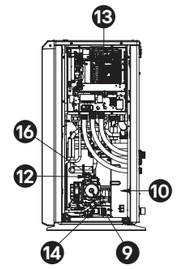
Back view



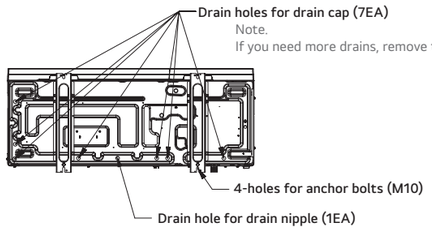
3D view



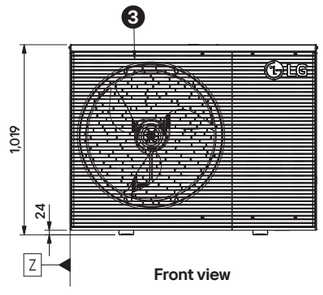
Internal front view



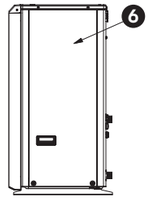
Internal side view



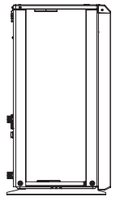
Bottom view



Front view



Right side view



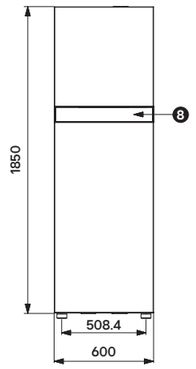
Left side view

No.	Part Name	Description	No.	Part Name	Description
1	Entering water pipe	Male PT 1" according to ISO 7-1 (tapered pipe threads)	10	Plate heat exchanger	Heat exchange between refrigerant and water
2	Leaving water pipe	Male PT 1" according to ISO 7-1 (tapered pipe threads)	11	Compressor	R290 rotary compressor
3	Air discharge grille	-	12	Safety relief valve	Open at water pressure 3 bar
4	Top cover	-	13	Control box	Cycle, sub PCB, terminal blocks and inverter PCB
5	Front panel	-	14	Flow sensor	To measure the Water Flow Rate (5 - 80 LPM)
6	Side panel	-	15	Water pressure sensor	To measure the Water Pressure (0 - 2 MPa)
7	Low voltage	Conduit for communication	16	Automatic air vents	-
8	Unit power	Conduit for power cable	17	Deaerator	Automatic gas separator
9	Water pump	To circulate water inside the system			

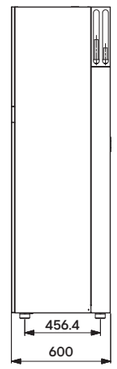
[Unit: mm]

External

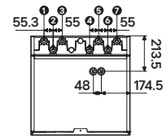
HN20XAHY NK1



Front view



Side view

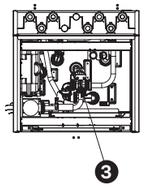


Top view

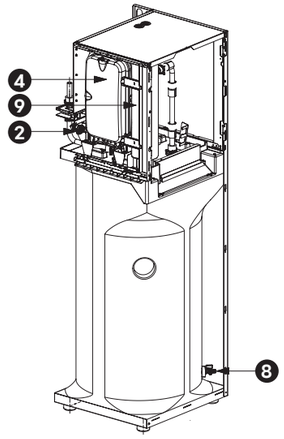
No.	Part Name	Description	No.	Part Name	Description
1	Re-circulation	Plain end (Copper, 22 x 1.2 mm)	5	Inlet (domestic cold water)	Plain end (Copper, 22 x 1.2 mm)
2	Inlet (heating water from ODU)		6	Outlet (heating circuit supply)	
3	Outlet (return water to ODU)		7	Inlet (heating circuit return)	
4	Outlet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

Internal

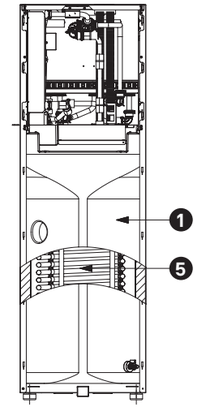
HN20XAHY NK1



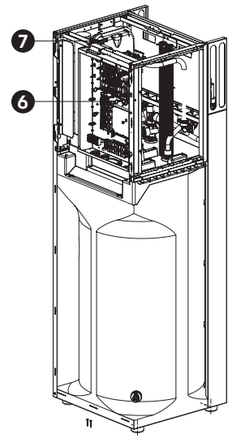
Top view



Left side view



Front view



Right side view

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)			

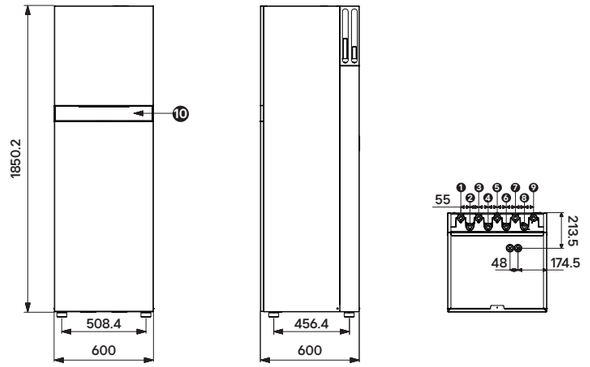
THERMA V R290 MONOBLOC COMBI UNIT (12 / 14 / 16 kW)

Drawings

[Unit: mm]

External

HN20XAHB NK1

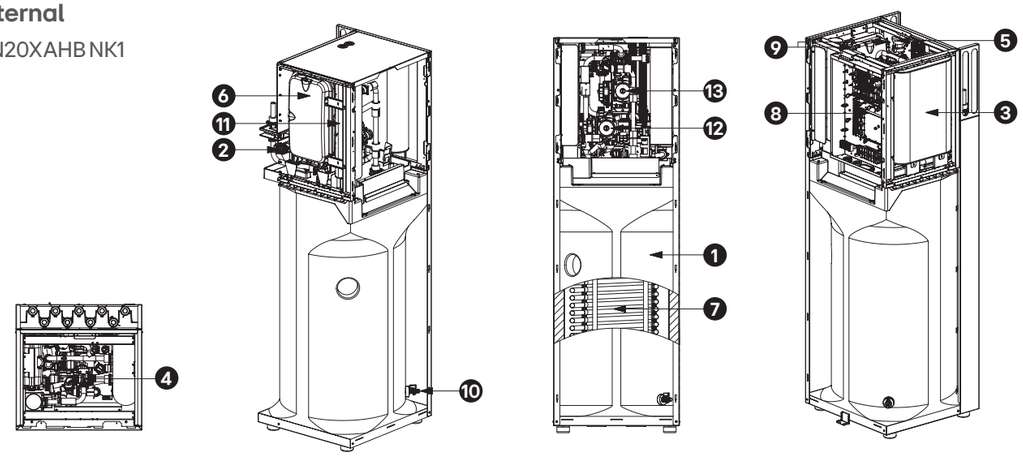


Front view | Side view | Top view

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



Top view | Left side view | Front view | Right side view

No.	Part Name	Description	No.	Part Name	Description
1	DHW tank	Domestic hot water tank (200 L)	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 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 Monobloc (5, 7, 9 kW, 1 / 3 Phase) w/ LG Water Tanks	HM051HFD UA41	PHCS1 EEWXLEU or HN16XAHC NK1	SD020SASN0 (200ℓ)	L	Colder	A	106	2.5	Based on Test (EN16147:2017+A1:2022)
					Average	A+	135	3.2	
					Warmer	A++	150	3.6	
	HM071HFD UA41 or HM073HFD UA41	PHCS1 EEWXLEU or HN16XAHC NK1		L	Colder	A	106	2.5	
					Average	A+	135	3.2	
					Warmer	A++	150	3.6	
	HM091HFD UA41 or HM093HFD UA41	PHCS1 EEWXLEU or HN16XAHC NK1		L	Colder	A	106	2.5	
					Average	A+	135	3.2	
					Warmer	A++	150	3.6	
R290 Monobloc (12, 14, 16 kW, 1 / 3 Phase) w/ LG Water Tanks	HM121HFD UB41 or HM123HFD UB41	PHCS1 EEWXLEU or HN16XAHC NK1	SD030SASN0 (300ℓ)	XL	Colder	A	86	2.1	Based on Test (EN16147:2017+A1:2022)
					Average	A+	124	3.0	
					Warmer	A+	152	3.6	
	HM141HFD UB41 or HM143HFD UB41	PHCS1 EEWXLEU or HN16XAHC NK1		XL	Colder	A	86	2.1	
					Average	A+	124	3.0	
					Warmer	A+	152	3.6	
	HM161HFD UB41 or HM163HFD UB41	PHCS1 EEWXLEU or HN16XAHC NK1		XL	Colder	A	86	2.1	
					Average	A+	124	3.0	
					Warmer	A+	152	3.6	

THERMA V R290 MONOBLOC WITH LG WATER TANK

Package for Heating Only

Outdoor Unit

HM051HFD UA41
HM071HFD UA41 / HM073HFD UA41
HM091HFD UA41 / HM093HFD UA41
HM121HFD UB41 / HM123HFD UB41
HM141HFD UB41 / HM143HFD UB41
HM161HFD UB41 / HM163HFD UB41

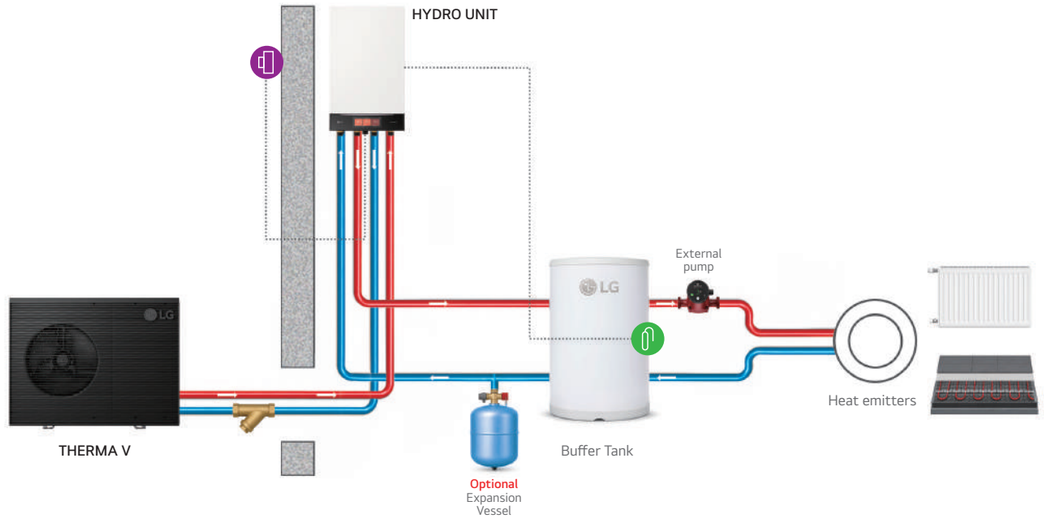
Buffer Tank

SB006SAAN0 (60 ℓ)
SB010SAAN0 (100 ℓ)



Proposed Package

Capacity	THERMA V		Buffer Tanks
	Outdoor Unit	Indoor Unit	
5 kW	HM051HFD UA41	PHCS1 EEWXLEU or HN16XAHC NK1	SB006SAAN0 (60 ℓ)
7 kW	HM071HFD UA41		
	HM073HFD UA41		
9 kW	HM091HFD UA41		
	HM093HFD UA41		
12 kW	HM121HFD UB41		SB010SAAN0 (100 ℓ)
	HM123HFD UB41		
14 kW	HM141HFD UB41		
	HM143HFD UB41		
16 kW	HM161HFD UB41		
	HM163HFD UB41		



Optional
Outside Temp. sensor (PHATS0)

Optional
Buffer Tank Sensor (PHRSTA0)

Package for Heating and Domestic Hot Water

Outdoor Unit

HM051HFD UA41
HM071HFD UA41 / HM073HFD UA41
HM091HFD UA41 / HM093HFD UA41
HM121HFD UB41 / HM123HFD UB41
HM141HFD UB41 / HM143HFD UB41
HM161HFD UB41 / HM163HFD UB41

Buffer Tank

SB006SAAN0 (60 ℓ)
SB010SAAN0 (100 ℓ)

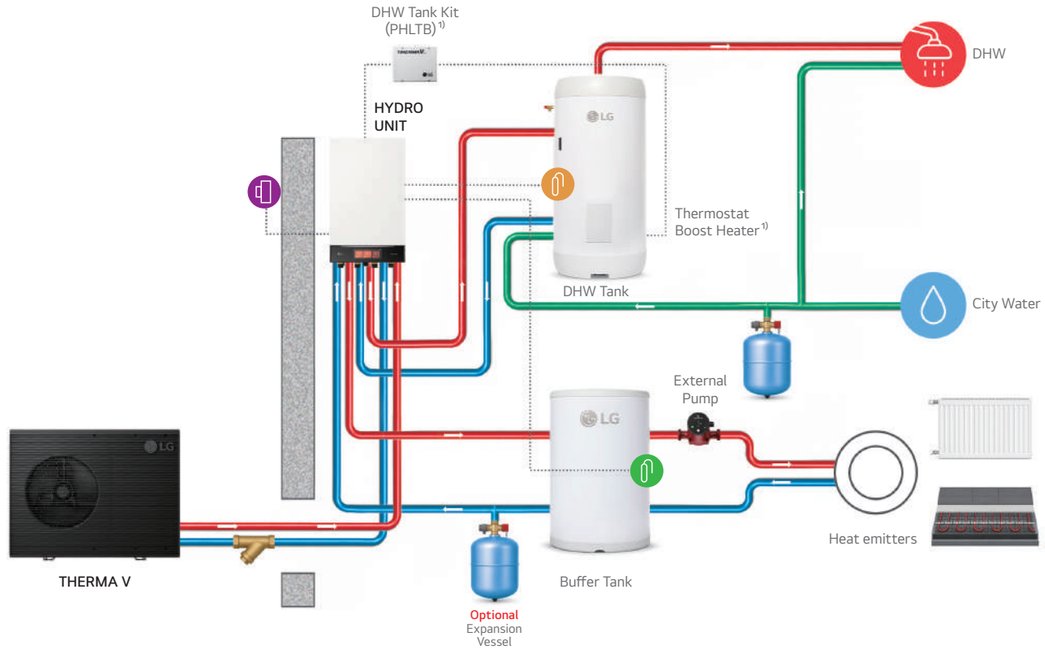
Domestic Hot Water Tank

SD020SASN0 (200 ℓ)
SD030SASN0 (300 ℓ)

Proposed Package

Capacity	THERMA V		Buffer Tanks	Domestic Hot Water Tank
	Outdoor Unit	Indoor Unit		
5 kW	HM051HFD UA41	PHCS1 EEWXLEU or HN16XAHC NK1	SB006SAAN0 (60 ℓ)	SD020SASN0 (200 ℓ)
7 kW	HM071HFD UA41			
	HM073HFD UA41			
9 kW	HM091HFD UA41			
	HM093HFD UA41			
12 kW	HM121HFD UB41		SB010SAAN0 (100 ℓ)	SD030SASN0 (300 ℓ)
	HM123HFD UB41			
14 kW	HM141HFD UB41			
	HM143HFD UB41			
16 kW	HM161HFD UB41			
	HM163HFD UB41			





Optional
Outside Temp. sensor (PHATS0)

Optional
Buffer Tank Sensor (PHRSTA0)

DHW Temp. Sensor (PHRSTA0) 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 (PHRSTA0) is also included.

MEMO