



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



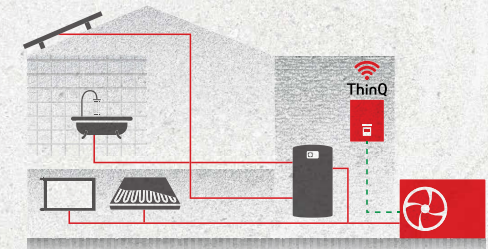
Easy to Install, Minimal Space Required

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.

Key Features

- 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



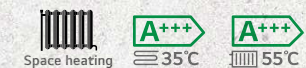
Application



Certifications



Energy Label



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

Outdoor unit

HM071HF UB40 / HM073HF UB40
HM091HF UB40 / HM093HF UB40



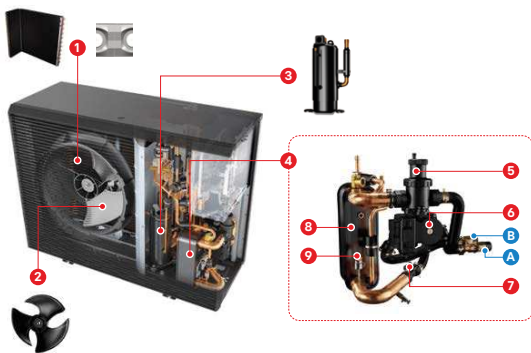
Indoor unit

PHCS0 ENCXLEU



Key Components

Outdoor Unit



Components

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

Connections

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

Indoor Unit (Control Unit)



Components

- 1 Standard III remote controller¹⁾ (air temp. sensor integrated)

1) Temperature control class (ERP class) - V

Product Specification

Efficiency Data	Unit	7 kW (1 Ø) 7 kW (3 Ø)	9 kW (1 Ø) 9 kW (3 Ø)
Seasonal space heating eff. class (35°C / 55°C)	-	A+++ / A+++	A+++ / A+++
Seasonal space heating efficiency (η _s) (35°C / 55°C)	%	207 / 151	205 / 151
SCOP (35°C / 55°C)	-	5.24 / 3.86	5.20 / 3.86
Sound power level (outdoor unit)	Rated / low noise mode	dB(A)	49 / 48
Sound pressure level at 5m (outdoor unit)	Rated / low noise mode	dB(A)	27 / 26
Nominal Capacity and COP/EER			
Air +7°C / water +35°C	Heating capacity / COP	kW / -	7.00 / 5.00
Air +2°C / water +35°C	Heating capacity / COP	kW / -	7.00 / 3.80
Air -7°C / water +35°C	Heating capacity / COP	kW / -	7.00 / 2.80
Air +7°C / water +55°C	Heating capacity / COP	kW / -	4.50 / 3.35
Air -7°C / water +55°C	Heating capacity / COP	kW / -	7.00 / 2.40
Air +35°C / water +18°C	Cooling capacity / EER	kW / -	5.00 / 4.40
Air +35°C / water +7°C	Cooling capacity / EER	kW / -	5.00 / 2.80
Outdoor Units			
Operation range (outdoor air temperature)	Heating & DHW (Min. - Max.)	°C	-28 - 35
	Cooling (Min. - Max.)	°C	5 - 48
Refrigerant	Type	-	R290
	GWEP	-	3
	Precharged amount	g	900
Piping connections (water)	Inlet / outlet diameter	inch	Male PT 1" according to ISO 7-1 (tapered pipe threads)
Dimension	H x W x D	mm	1,019 x 1,320 x 520
Weight	Net	kg	130.0
Exterior	Color of chassis / RAL code	-	Dawn gray / RAL 7037
	Color of front grille / RAL code	-	Dark dawn gray / RAL 7012
Power supply	Voltage, phase, frequency	V, Ø, Hz	220 - 240, 1, 50 / 380 - 415, 3, 50
	Standby power consumption	W	10
	Recommended circuit breaker	A	1 Ø: 20 / 3 Ø: 16
Indoor Units			
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	6.8
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 ISO 9614 standard. Sound pressure level is not a value declared on Eurovent Program and 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. This product contains fluorinated greenhouse gases.
6. All installation sites must be equipped with an earth leakage circuit breaker (ELCB).
7. DHW 65 - 80°C Operating is available only when the booster heater is operating.

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

Performance Table for Heating Operation

Maximum heating capacity (Include defrost effect)

HM071HF UB40 + PHCS0 ENCXLEU / HM073HF UB40 + PHCS0 ENCXLEU

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

HM091HF UB40 + PHCS0 ENCXLEU

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

HM093HF UB40 + PHCS0 ENCXLEU

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

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

2. Direct interpolation is permissible. Do not extrapolate.

3. Measuring procedure follows EN-14511.

* Rated values are based on standard conditions and it can be found on specifications.

* Above table values may not be matched according to installation condition. Except for rated value, the performance is not guaranteed.

* In accordance with the test standard (or nations), the rating will vary slightly.

4. The shaded areas are not guaranteed continuous operation.

Performance Table for Cooling Operation

Maximum cooling capacity

HM071HF UB40 + PHCS0 ENCXLEU / HM073HF UB40 + PHCS0 ENCXLEU

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

HM091HF UB40 + PHCS0 ENCXLEU / HM093HF UB40 + PHCS0 ENCXLEU

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

Note

1. DB : Dry Bulb Temperature (°C), LWT : Leaving Water Temperature (°C),

LPM : Liters Per Minute (ℓ/min), TC : Total Capacity (kW)

2. Direct interpolation is permissible. Do not extrapolate.

3. Measuring procedure follows EN-14511.

* Rated values are based on standard conditions and it can be found on specifications.

* Above table values may not be matched according to installation condition. Except for rated value, the performance is not guaranteed.

* In accordance with the test standard (or nations), the rating will vary slightly.

4. The shaded areas are not guaranteed continuous operation.

Supplied Parts

Strainer



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

* The strainer and valves are supplied with the product, but it need to be installed separately.

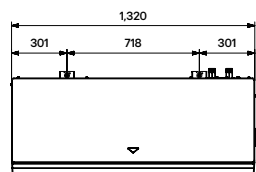
* This strainer should be installed at the inlet connection of the outdoor unit to protect the clogging of a plate heat exchanger.

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

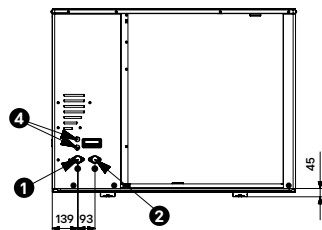
Drawings

[Unit: mm]

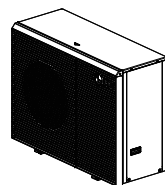
HM071HF UB40 / HM073HF UB40
HM091HF UB40 / HM093HF UB40



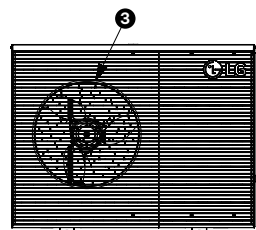
Top view



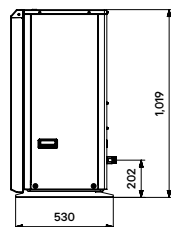
Back view



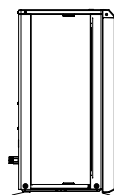
3D view



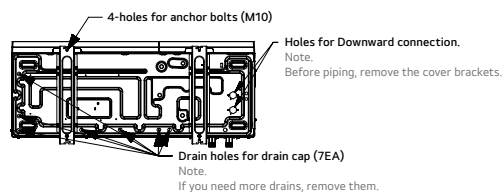
Front view



Side view



Side view

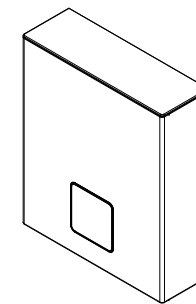


Bottom view

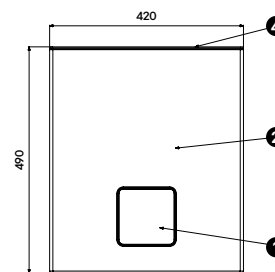
No.	Part Name	Description
1	Leaving Water Pipe	Male PT 1 inch
2	Entering Water Pipe	Male PT 1 inch
3	Air Discharge Grille	-
4	Access to Electrical Terminals	Power, Communication

[Unit: mm]

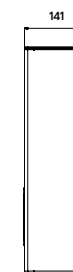
PHCS0 ENCXLEU



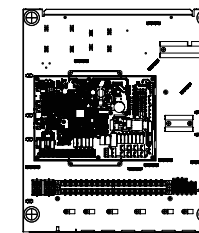
3D view



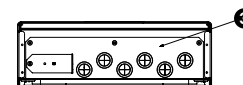
Front view



Side view



Internal view



Bottom view

No.	Part Name	Description
1	Remote Controller Assembly	Built-in Remote Controller
2	Panel Assembly,Front	SGMCD1 M08 ESSENCE WHITE PCM
3	Panel Assembly,Indoor	PCB and Terminal Blocks
4	Cover	MOLD ABS

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

Outdoor unit

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



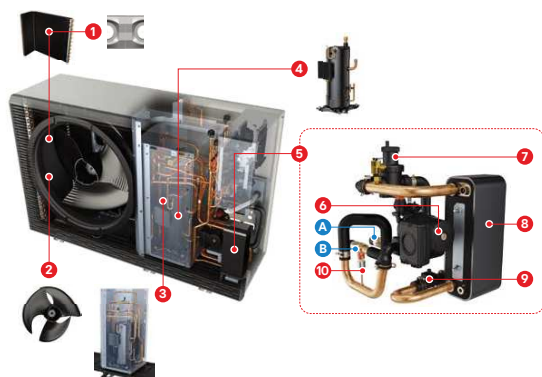
Indoor unit

PHCS0 ENCXLEU



Key Components

Outdoor Unit



Components

- 1 Black Fin heat exchanger (air / ref.)
- 2 New biomimetic fan
- 3 Dual sound shield
- 4 R290 scroll compressor
- 5 Hydronic components assembly
- 6 Water pump
- 7 Deaerator
- 8 Plate heat exchanger (ref / water)
- 9 Flow sensor
- 10 Pressure sensor

Connections

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

Indoor Unit (Control Unit)



Components

- 1 Standard III remote controller¹⁾ (air temp. sensor integrated)

1) Temperature control class (ERP class) : V

Product Specification

Efficiency Data	Unit	12 kW (1 Ø) 12 kW (3 Ø)	14 kW (1 Ø) 14 kW (3 Ø)	16 kW (1 Ø) 16 kW (3 Ø)	
Seasonal space heating eff. class (35°C / 55°C)	-	A+++ / A+++	A+++ / A+++	A+++ / A+++	
Seasonal space heating efficiency (η _s) (35°C / 55°C)	%	215 / 156	212 / 155	201 / 154	
SCOP (35°C / 55°C)	-	5.45 / 3.97	5.38 / 3.96	5.11 / 3.92	
Sound power level (outdoor unit)	Rated / low noise mode	49 / 48	51 / 50	52 / 51	
Sound pressure level at 5m (outdoor unit)	Rated / low noise mode	27 / 26	29 / 28	30 / 29	
Nominal Capacity and COP/EER					
Air +7°C / water +35°C	Heating capacity / COP	kW / -	12.00 / 4.70	14.00 / 4.50	16.00 / 4.30
Air +2°C / water +35°C	Heating capacity / COP	kW / -	12.00 / 3.72	14.00 / 3.61	14.50 / 3.49
Air -7°C / water +35°C	Heating capacity / COP	kW / -	11.80 / 3.27	13.00 / 3.21	13.80 / 3.17
Air +7°C / water +55°C	Heating capacity / COP	kW / -	10.00 / 3.10	11.00 / 3.25	12.00 / 3.30
Air -7°C / water +55°C	Heating capacity / COP	kW / -	9.30 / 2.32	10.30 / 2.28	10.90 / 2.26
Air +35°C / water +18°C	Cooling capacity / EER	kW / -	11.50 / 3.78	12.00 / 3.70	12.50 / 3.70
Air +35°C / water +7°C	Cooling capacity / EER	kW / -	10.50 / 3.12	12.00 / 2.99	12.50 / 2.95
Outdoor Units		Unit	HM121HF UB60 HM123HF UB60	HM141HF UB60 HM143HF UB60	HM161HF UB60 HM163HF UB60
Operation range (outdoor air temperature)	Heating & DHW (Min. - Max.)	°C	-28 - 35		
	Cooling (Min. - Max.)	°C	5 - 48		
Refrigerant	Type	-	R290		
	GWP	-	3		
	Precharged amount	g	1,200		
Piping connections (water)	Inlet / outlet diameter	inch	Male PT 1" according to ISO 7-1 (tapered pipe threads)		
Dimension	H x W x D	mm	1,019 x 1,560 x 520		
Weight	Net	kg	181.0		
Exterior	Color of chassis / RAL code	-	Dawn gray / RAL 7037		
	Color of front grille / RAL code	-	Dark dawn gray / RAL 7012		
Power supply	Voltage, phase, frequency	V, Ø, Hz	220 - 240, 1, 50 / 380 - 415, 3, 50		
	Standby power consumption	W	10		
	Recommended circuit breaker	A	1 Ø: 25 / 3 Ø: 16		
Indoor Units		Unit	PHCS0 ENCXLEU		
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	6.8		
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 ISO 9614 standard. Sound pressure level is not a value declared on Eurovent Program and 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. This product contains fluorinated greenhouse gases.
6. All installation sites must be equipped with an earth leakage circuit breaker (ELCB).
7. DHW 65 - 80°C Operating is available only when the booster heater is operating.

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

Performance Table for Heating Operation

Maximum heating capacity (Include defrost effect)

HM121HF UB60 + PHCS0 ENCXLEU / HM123HF UB60 + PHCS0 ENCXLEU

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

HM141HF UB60 + PHCS0 ENCXLEU / HM143HF UB60 + PHCS0 ENCXLEU

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

HM161HF UB60 + PHCS0 ENCXLEU / HM163HF UB60 + PHCS0 ENCXLEU

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

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

2. Direct interpolation is permissible. Do not extrapolate.

3. Measuring procedure follows EN-14511.

* Rated values are based on standard conditions and it can be found on specifications.

* Above table values may not be matched according to installation condition. Except for rated value, the performance is not guaranteed.

* In accordance with the test standard (or nations), the rating will vary slightly.

4. The shaded areas are not guaranteed continuous operation.

Performance Table for Cooling Operation

Maximum cooling capacity

HM121HF UB60 + PHCS0 ENCXLEU / HM123HF UB60 + PHCS0 ENCXLEU

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

HM141HF UB60 + PHCS0 ENCXLEU / HM143HF UB60 + PHCS0 ENCXLEU

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

HM161HF UB60 + PHCS0 ENCXLEU / HM163HF UB60 + PHCS0 ENCXLEU

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

Note

1. DB : Dry Bulb Temperature (°C), LWT : Leaving Water Temperature (°C),

LPM : Liters Per Minute (l/min), TC : Total Capacity (kW)

2. Direct interpolation is permissible. Do not extrapolate.

3. Measuring procedure follows EN-14511.

* Rated values are based on standard conditions and it can be found on specifications.

* Above table values may not be matched according to installation condition. Except for rated value, the performance is not guaranteed.

* In accordance with the test standard (or nations), the rating will vary slightly.

4. The shaded areas are not guaranteed continuous operation.

Supplied Parts

Strainer



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

* The strainer and valves are supplied with the product, but it need to be installed separately.

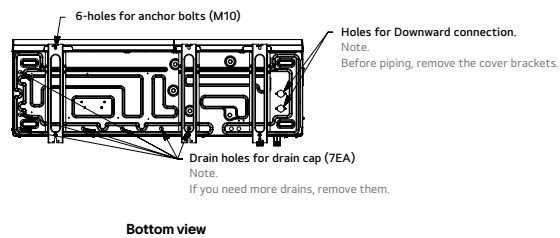
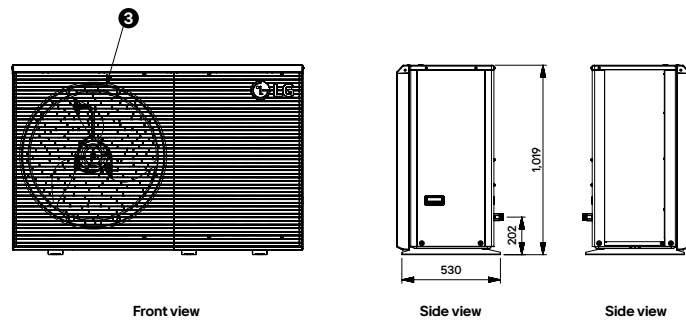
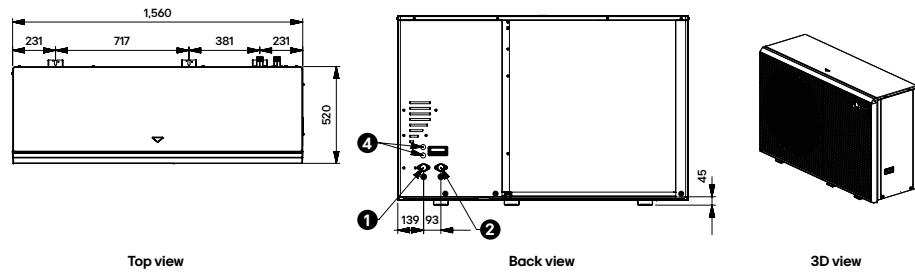
* This strainer should be installed at the inlet connection of the outdoor unit to protect the clogging of a plate heat exchanger.

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

Drawings

[Unit: mm]

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

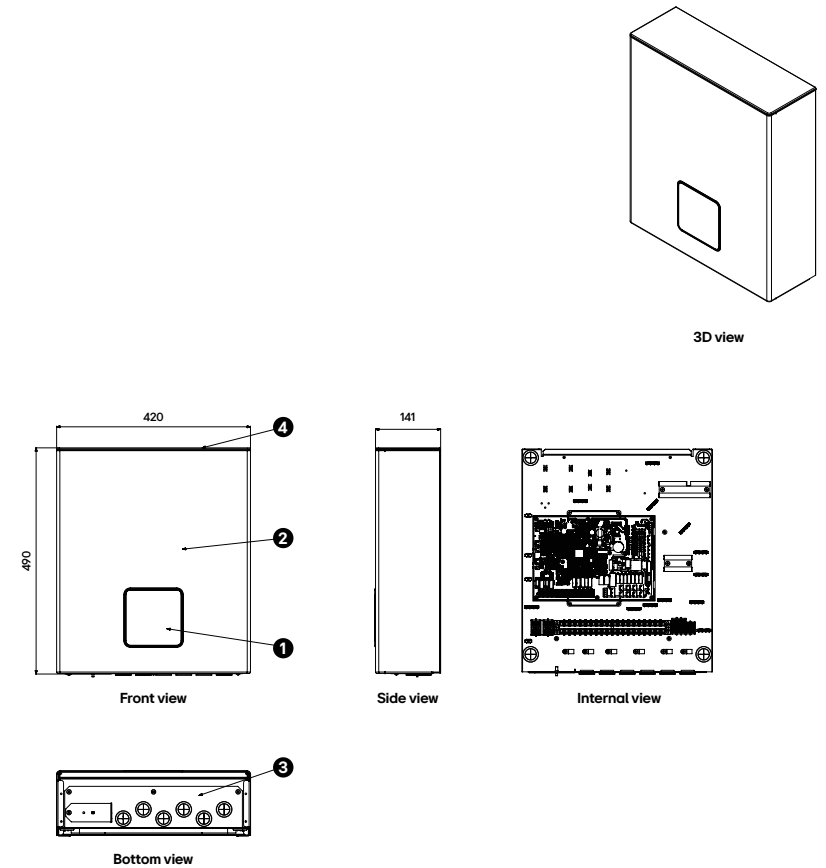


Bottom view

No.	Part Name	Description
1	Leaving Water Pipe	Male PT 1 inch
2	Entering Water Pipe	Male PT 1 inch
3	Air Discharge Grille	-
4	Access to Electrical Terminals	Power, Communication

[Unit: mm]

PHCS0 ENCXLEU



No.	Part Name	Description
1	Remote Controller Assembly	Built-in Remote Controller
2	Panel Assembly/Front	SGMCD1 M08 ESSENCE WHITE PCM
3	Panel Assembly/Indoor	PCB and Terminal Blocks
4	Cover	MOLD ABS