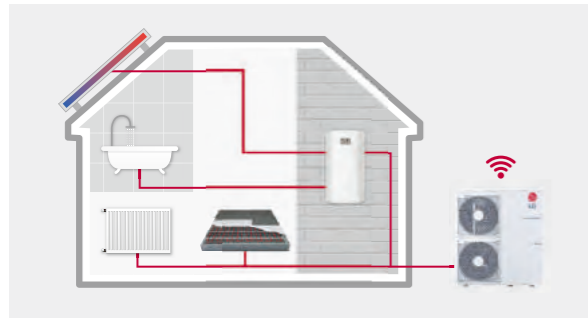
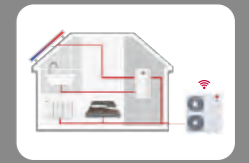




THERMAV™
PRODUCTS

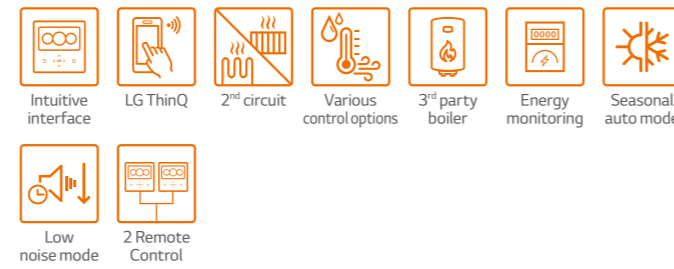
THERMA V™ R32 R32 MONOBLOC



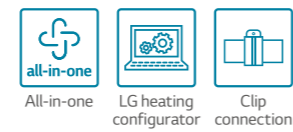
Excellent Performance & Efficiency



User Convenience

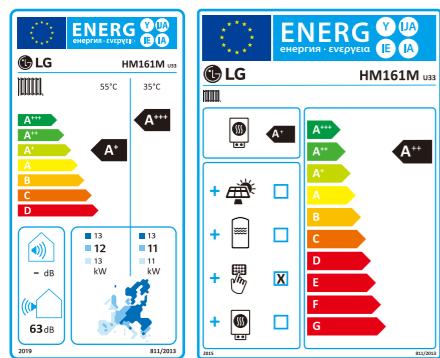


Easy Installation & Maintenance



* Detailed description for each function is presented on page 28 - 35.

Energy Label

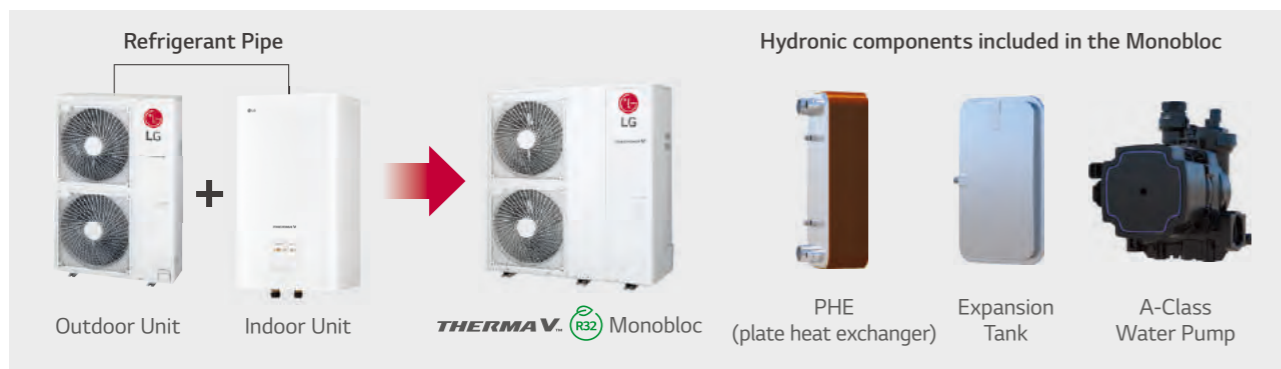


* 16kW 1Ø model.
* A+++ to D scale.

R32 Monobloc Introduction

The LG THERMA V R32 Monobloc is a fully packaged unit, where the indoor and outdoor units are combined as one module. This unit does not require refrigerant piping work since the Monobloc's outdoor unit is connected exclusively to water piping. Further, hydronic components such as plate heat exchanger, expansion tank and water pump are included in the package.

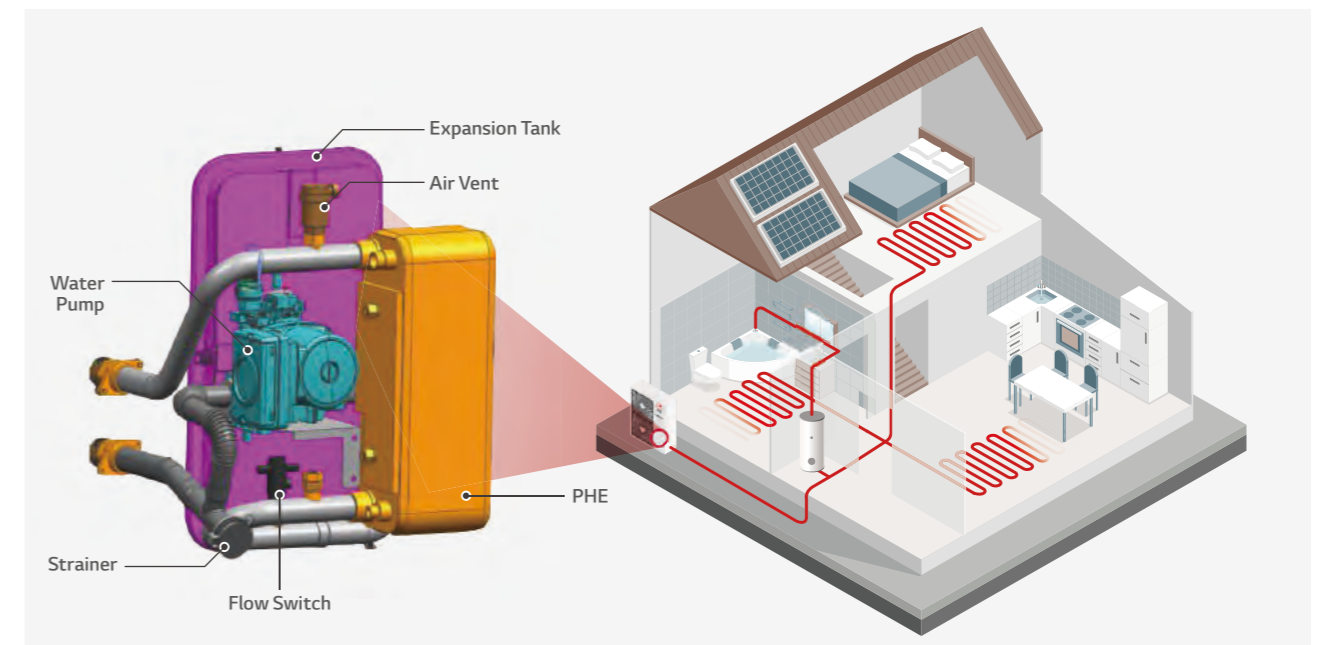
Key Components



Monobloc Concept

R32 Monobloc is an all-in-one concept and reduced weight allows for quicker and easier installations.

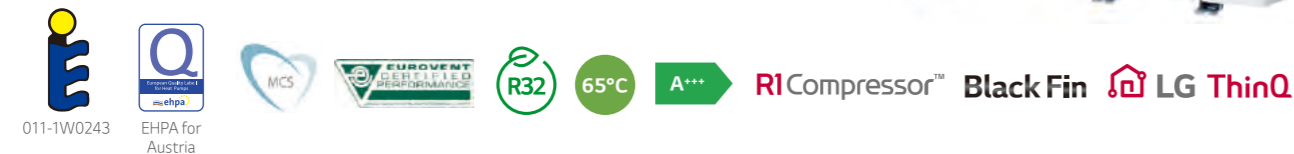
- Additional hydronic components are included in the package
- Easier and quicker installation without refrigerant piping work



PRODUCT SPECIFICATION

R32 Monobloc

HM051M U43
HM071M U43
HM091M U43



Features

- All-in-one outdoor unit
- SCOP up to 4.45 (Average climate / Low temp. application) : A+++
SCOP up to 3.12 (Average climate / Mid temp. application) : A+
- COP up to 4.50 (Outdoor air 7°C / Leaving water 35°C)
- 100% heating capacity at -7°C OAT (@ LWT 35°C)
- Wide operation range (ambient : -25 ~ 35°C / water side : 15 ~ 65°C)
- R32 refrigerant with reduced global warming potential (GWP)
- R1 compressor
- Black Fin heat exchanger
- LG ThinQ
- KEYMARK / EHPA (for Austria) / MCS / EUROVENT certification

* EHPA (for Germany and Switzerland) under renewal of valid date

Model Line-up

Capacity	Unit	Model Name		
		Capacity (kW)		
		5.5	7.0	9.0
1 Phase Model 220 - 240V, 1Ø, 50Hz	Monobloc Unit	HM051M U43	HM071M U43	HM091M U43

Seasonal Energy

Description	Unit	HM051M U43	HM071M U43	HM091M U43		
Space Heating (According to EN14825)	Average Climate Water Outlet 35°C	SCOP	-	4.45	4.45	4.45
		Seasonal Space Heating Efficiency (η _s)	%	175	175	175
	Average Climate Water Outlet 55°C	SCOP	-	3.12	3.12	3.12
		Seasonal Space Heating Efficiency (η _s)	%	122	122	122
	Seasonal Space Heating Eff. Class (A+++ to D Scale)	-	A+++	A+++	A+++	
	Seasonal Space Heating Eff. Class (A+++ to D Scale)	-	A+	A+	A+	

Nominal Capacity and Nominal Power Input

Description		OAT ¹⁾ (DB)	LWT ²⁾ (DB)	Unit	HM051M U43	HM071M U43	HM091M U43
Nominal Capacity	Heating	7°C	35°C	kW	5.50	7.00	9.00
		7°C	55°C		5.50	5.50	5.50
	Cooling	2°C	35°C		3.30	4.20	5.40
		35°C	18°C		5.50	7.00	9.00
Nominal Power Input	Heating	7°C	35°C	kW	1.22	1.56	2.15
		7°C	55°C		2.04	2.04	2.04
	Cooling	2°C	35°C		0.94	1.20	1.54
		35°C	18°C		1.20	1.56	2.14
COP	Heating	7°C	35°C	W/W	4.50	4.50	4.18
		7°C	55°C		2.70	2.70	2.70
	Cooling	2°C	35°C		3.52	3.51	3.50
		35°C	18°C		4.60	4.50	4.20
EER	Cooling	35°C	7°C	W/W	2.80	2.70	2.60

1) OAT : Outdoor Air Temperature
2) LWT : Leaving Water Temperature

Product Specification

Technical Specification		Unit	HM051M U43	HM071M U43	HM091M U43	
Water Side	Operation Range (leaving water temperature)	Heating	15 - 65			
		Cooling	5 - 27 (16 - 27) ¹⁾			
		DHW	15 - 80 ²⁾			
	Piping Connections	Water Circuit	Inlet	Male PT 1" according to ISO 7-1 (tapered pipe threads)		
		Outlet	Male PT 1" according to ISO 7-1 (tapered pipe threads)			
	Rated Water Flow Rate at LWT 35°C	LPM	15.8	20.1	25.9	
Refrigerant Side	Operation Range (outdoor temperature)	Heating	-25 - 35			
		Cooling	5 - 48			
	Compressor	Quantity	EA	1		
		Type	-	Hermetic Sealed Scroll		
	Refrigerant	Type	-	R32		
		GWP (Global Warming Potential)	-	675		
Precharged Amount		g	1,400			
	t-CO2 eq	-	0.945			
Sound Power Level	Heating	Rated	dB(A)			
Sound Pressure Level (at 1m)	Heating	Rated	dB(A)			
Dimensions	Unit	W x H x D	mm			
Weight	Unit		kg			
Exterior	Color / RAL Code		Warm Gray / RAL 7044			
Power Supply	Voltage, Phase, Frequency		V, Ø, Hz	220-240, 1, 50		
	Rated Running Current	Heating	A	5.4	6.9	9.6
		Cooling	A	5.3	6.9	9.5
	Recommended Circuit Breaker		A	16	20	25
Wiring Connections	Power Supply Cable (included earth, H07RN-F)	mm ² x cores	4.0 x 3C			

1) When fan coil unit not used.
2) DHW 58-80°C Operating is available only when the booster heater is operating.

Note

- Due to our policy of innovation some specifications may be changed without notification.
- Wiring cable size must comply with the applicable local and national codes. Especially the power cable and circuit breaker should be selected in accordance with that.
- Sound power level is measured on the rated condition in accordance with ISO 9614 standard. Sound pressure level is converted from sound power level based on tonality penalty of 0dB and installation in free-field. Therefore, these values can be increased owing to ambient conditions during operation. Rated sound power level is according to the EN12102-1 under conditions of the EN14825.
- Performances are accordance with EN14511 and reflect ErP testing conditions. Above gives the declared values at rated conditions acc. ErP regulation.
 - Rated running current : Outdoor Temp. 7°C DB / 6°CWB, LWT 35°C
- This product contains Fluorinated greenhouse gases.

PRODUCT SPECIFICATION

Performance Table for Heating Operation

Maximum Heating Capacity (Including Defrost Effect)

HM051M U43

Outdoor Temperature	LWT 30 °C	LWT 35 °C	LWT 40 °C	LWT 45 °C	LWT 50 °C	LWT 55 °C	LWT 60 °C	LWT 65 °C
	TC	TC	TC	TC	TC	TC	TC	TC
-25°C DB	3.79	3.67	3.54	3.42	-	-	-	-
-20°C DB	4.22	4.09	3.96	3.83	3.70	-	-	-
-15°C DB	4.66	4.52	4.38	4.25	4.11	3.97	-	-
-7°C DB	5.50	5.50	5.50	5.50	5.50	5.50	5.50	-
-4°C DB	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50
-2°C DB	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50
2°C DB	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50
7°C DB	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50
10°C DB	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50
15°C DB	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50
18°C DB	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50
20°C DB	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50
35°C DB	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50

HM071M U43

Outdoor Temperature	LWT 30 °C	LWT 35 °C	LWT 40 °C	LWT 45 °C	LWT 50 °C	LWT 55 °C	LWT 60 °C	LWT 65 °C
	TC	TC	TC	TC	TC	TC	TC	TC
-25°C DB	4.82	4.67	4.51	4.36	-	-	-	-
-20°C DB	5.38	5.21	5.05	4.88	4.72	-	-	-
-15°C DB	5.93	5.76	5.58	5.41	5.23	5.06	-	-
-7°C DB	7.00	7.00	7.00	7.00	7.00	7.00	7.00	-
-4°C DB	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00
-2°C DB	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00
2°C DB	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00
7°C DB	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00
10°C DB	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00
15°C DB	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00
18°C DB	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00
20°C DB	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00
35°C DB	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00

HM091M U43

Outdoor Temperature	LWT 30 °C	LWT 35 °C	LWT 40 °C	LWT 45 °C	LWT 50 °C	LWT 55 °C	LWT 60 °C	LWT 65 °C
	TC	TC	TC	TC	TC	TC	TC	TC
-25°C DB	6.20	6.00	5.80	5.60	-	-	-	-
-20°C DB	6.91	6.70	6.49	6.28	6.06	-	-	-
-15°C DB	7.63	7.40	7.18	6.95	6.73	6.50	-	-
-7°C DB	9.00	9.00	9.00	9.00	9.00	9.00	9.00	-
-4°C DB	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00
-2°C DB	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00
2°C DB	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00
7°C DB	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00
10°C DB	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00
15°C DB	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00
18°C DB	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00
20°C DB	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00
35°C DB	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00

Note

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

Performance Table for Cooling Operation

Maximum Cooling Capacity

HM051M U43

Outdoor Temperature	LWT 7°C	LWT 10°C	LWT 13°C	LWT 15°C	LWT 18°C	LWT 20°C	LWT 22°C
	TC	TC	TC	TC	TC	TC	TC
10°C DB	5.16	5.65	6.14	6.47	6.96	7.29	7.62
20°C DB	5.29	5.59	5.89	6.08	6.38	6.58	6.77
30°C DB	5.43	5.53	5.63	5.69	5.79	5.86	5.92
35°C DB	5.50	5.50	5.50	5.50	5.50	5.50	5.50
40°C DB	5.57	5.50	5.43	5.38	5.31	5.27	5.22
45°C DB	5.64	5.50	5.36	5.27	5.13	5.04	4.94

HM071M U43

Outdoor Temperature	LWT 7°C	LWT 10°C	LWT 13°C	LWT 15°C	LWT 18°C	LWT 20°C	LWT 22°C
	TC	TC	TC	TC	TC	TC	TC
10°C DB	6.56	7.19	7.82	8.24	8.86	9.28	9.70
20°C DB	6.74	7.11	7.49	7.74	8.12	8.37	8.62
30°C DB	6.91	7.04	7.16	7.25	7.37	7.46	7.54
35°C DB	7.00	7.00	7.00	7.00	7.00	7.00	7.00
40°C DB	7.09	7.00	6.91	6.85	6.76	6.70	6.65
45°C DB	7.18	7.00	6.82	6.70	6.53	6.41	6.29

HM091M U43

Outdoor Temperature	LWT 7°C	LWT 10°C	LWT 13°C	LWT 15°C	LWT 18°C	LWT 20°C	LWT 22°C
	TC	TC	TC	TC	TC	TC	TC
10°C DB	8.44	9.24	10.05	10.59	11.40	11.93	12.47
20°C DB	8.66	9.15	9.63	9.95	10.44	10.76	11.08
30°C DB	8.89	9.05	9.21	9.32	9.48	9.59	9.69
35°C DB	9.00	9.00	9.00	9.00	9.00	9.00	9.00
40°C DB	9.11	9.00	8.89	8.81	8.70	8.62	8.54
45°C DB	9.23	9.00	8.77	8.62	8.39	8.24	8.09

Note

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

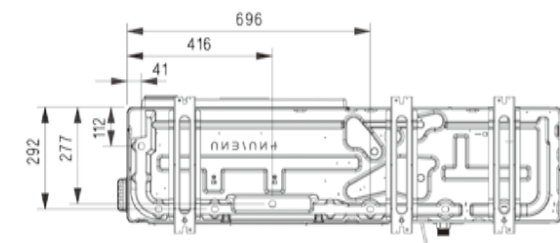
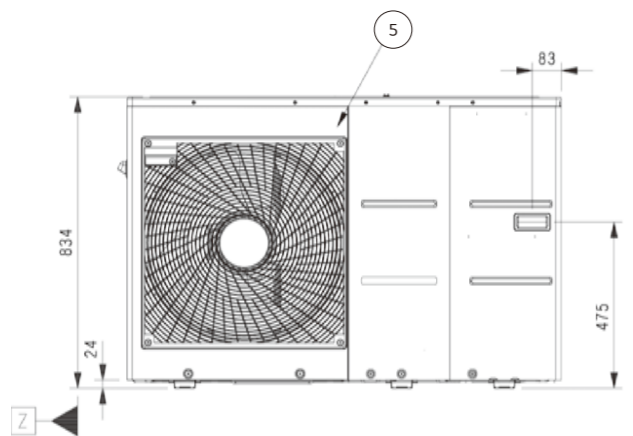
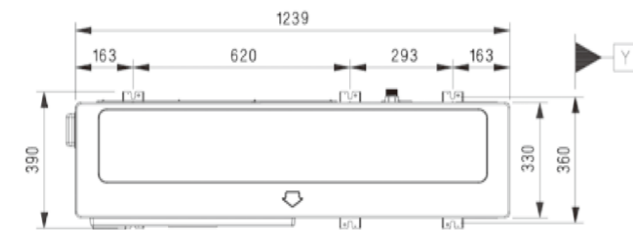
PRODUCT SPECIFICATION

Drawings

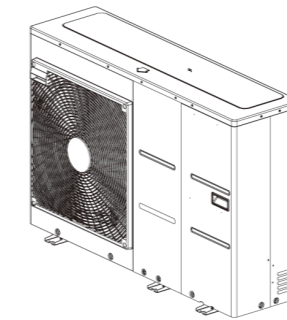
Category	Unit	Model Name		
		5.5	7.0	9.0
1 Phase Model 220 - 240V, 1Ø, 50Hz	Monobloc Unit	HM051M U43	HM071M U43	HM091M U43

HM051M U43
HM071M U43
HM091M U43

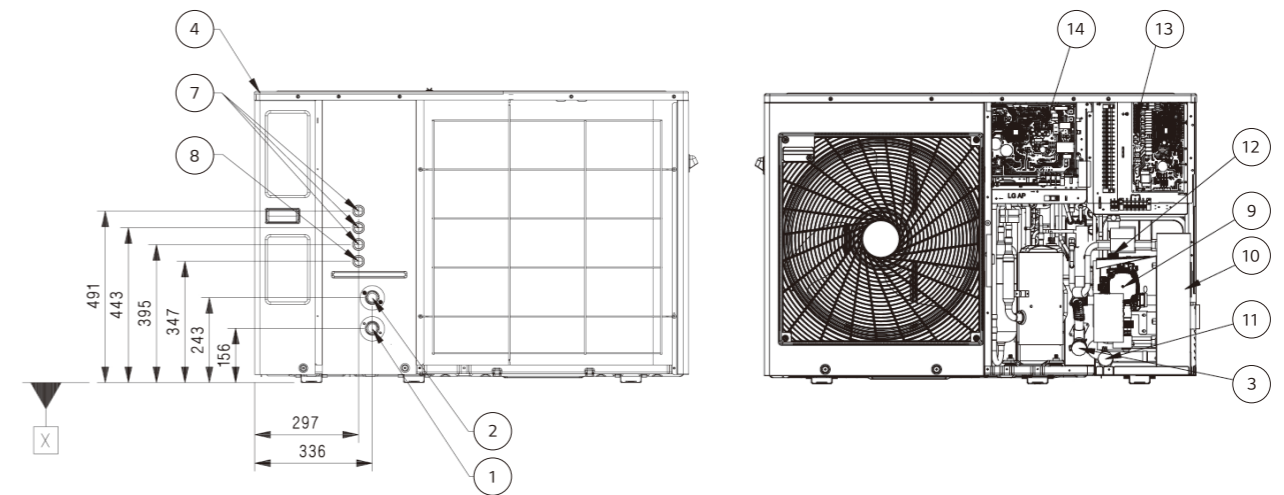
[Unit : mm]



[Unit : mm]



3D View



No.	Part Name	Description
1	Entering Water Pipe	Male PT 1" according to ISO 7-1 (tapered pipe threads)
2	Leaving Water Pipe	Male PT 1" according to ISO 7-1 (tapered pipe threads)
3	Strainer	Filtering and stacking particles inside circulating water
4	Top Cover	-
5	Front Panel	-
6	Side Panel	-
7	Low Voltage	Communication cable hole
8	Unit Power	Power cable hole
9	Water Pump	GRUNDFOS UPM3K 20-75 CHBL
10	Plate Heat Exchanger	Heat exchange between refrigerant and water
11	Pressure Gauge	Indicates circulating water pressure
12	Safety Valve	Open at water pressure 3 bar
13	Indoor Control Box	Indoor PCB and terminal blocks
14	Outdoor Control Box	Outdoor PCB and terminal blocks

PRODUCT SPECIFICATION

R32 Monobloc

HM121M U33
 HM141M U33
 HM161M U33
 HM123M U33
 HM143M U33
 HM163M U33



Features

- All-in-one outdoor unit
- SCOP up to 4.45 (Average climate / Low temp. application) : A+++
 SCOP up to 3.12 (Average climate / Mid temp. application) : A+
- COP up to 4.50 (Outdoor air 7°C / Leaving water 35°C)
- 100% heating capacity at -7°C OAT (@ LWT 35°C)
- Wide operation range (ambient : -25 ~ 35°C / water side : 15 ~ 65°C)
- R32 refrigerant with reduced global warming potential (GWP)
- R1 compressor
- Black Fin heat exchanger
- LG ThinQ
- KEYMARK / EHPA (for Austria, 3Ø model only) / MCS / EUROVENT certification

* EHPA (for Germany and Switzerland) under renewal of valid date

Model Line-up

Capacity	Unit	Model Name		
		Capacity (kW)		
		12.0	14.0	16.0
1 Phase Model 220 - 240V, 1Ø, 50Hz	Monobloc Unit	HM121M U33	HM141M U33	HM161M U33
		HM123M U33	HM143M U33	HM163M U33
3 Phase Model 380 - 415V, 3Ø, 50Hz				

Seasonal Energy

Description	Unit	HM121M U33 (1Ø)	HM141M U33 (1Ø)	HM161M U33 (1Ø)	
		HM123M U33 (3Ø)	HM143M U33 (3Ø)	HM163M U33 (3Ø)	
Space Heating (According to EN14825)	Average Climate Water Outlet 35°C	SCOP	4.45	4.45	4.45
		Seasonal Space Heating Efficiency (η _s)	175	175	175
		Seasonal Space Heating Eff. Class (A+++ to D Scale)	A+++	A+++	A+++
	Average Climate Water Outlet 55°C	SCOP	3.18	3.18	3.18
		Seasonal Space Heating Efficiency (η _s)	124	124	124
		Seasonal Space Heating Eff. Class (A+++ to D Scale)	A+	A+	A+

Nominal Capacity and Nominal Power Input

Description	OAT ¹⁾ (DB)	LWT ²⁾ (DB)	Unit	HM121M U33 (1Ø)	HM141M U33 (1Ø)	HM161M U33 (1Ø)
				HM123M U33 (3Ø)	HM143M U33 (3Ø)	HM163M U33 (3Ø)
Nominal Capacity	Heating	7°C	35°C	12.00	14.00	16.00
		7°C	55°C	12.00	12.00	12.00
	Cooling	2°C	35°C	11.00	12.00	13.80
		35°C	18°C	12.00	14.00	16.00
Nominal Power Input	Heating	35°C	7°C	12.00	14.00	16.00
		7°C	35°C	2.61	3.11	3.64
	Cooling	7°C	55°C	4.29	4.29	4.29
		2°C	35°C	3.13	3.42	3.94
COP	Heating	35°C	18°C	2.61	3.26	4.00
		35°C	7°C	4.44	5.38	6.40
	Cooling	7°C	35°C	4.60	4.50	4.40
		7°C	55°C	2.80	2.80	2.80
EER	Cooling	2°C	35°C	3.52	3.51	3.50
		35°C	18°C	4.60	4.30	4.00
		35°C	7°C	2.70	2.60	2.50

1) OAT : Outdoor Air Temperature
 2) LWT : Leaving Water Temperature

Product Specification

Technical Specification			Unit	HM121M U33	HM141M U33	HM161M U33	HM123M U33	HM143M U33	HM163M U33	
Water Side	Operation Range (leaving water temperature)	Heating	Min. - Max.	°C DB	15 ~ 65					
		Cooling			5 ~ 27 (16 ~ 27) ¹⁾					
		DHW			15 ~ 80 ²⁾					
	Piping Connections	Water Inlet	Inch	Male PT 1" according to ISO 7-1 (tapered pipe threads)						
		Circuit Outlet	Inch	Male PT 1" according to ISO 7-1 (tapered pipe threads)						
Rated Water Flow Rate at LWT 35°C			LPM	34.5	40.3	46.0	34.5	40.3	46.0	
Refrigerant Side	Operation Range (outdoor temp.)	Heating	Min. - Max.	°C DB	-25 ~ 35					
		Cooling			5 ~ 48					
	Compressor	Quantity		1						
		Type		Hermetic Sealed Scroll						
	Refrigerant	Type		R32						
		GWP (global warming potential)		675						
Precharged Amount		g	2,400							
t-CO ₂ eq				1,620						
Sound Power Level			Heating	Rated	dB(A)					
Sound Pressure Level (at 1m)			Heating	Rated	dB(A)					
Dimensions			Unit	W x H x D	mm					
Weight			Unit		kg					
Exterior			Color / RAL Code		Warm Gray / RAL 7044					
Power Supply	Voltage, Phase, Frequency		V, Ø, Hz	220-240, 1, 50			380-415, 3, 50			
	Rated Running Current	Heating	A	11.6	13.8	16.1	3.8	4.6	5.4	
		Cooling	A	11.6	14.4	17.7	3.8	4.8	5.9	
	Recommended Circuit Breaker		A		40			16		
Wiring Connections			Power Supply Cable (included earth, H07RN-F)	mm ² x cores	6.0 x 3C			4.0 x 5C		

1) When fan coil unit not used.
 2) DHW 58-80°C Operating is available only when the booster heater is operating.

Note

- Due to our policy of innovation some specifications may be changed without notification.
- Wiring cable size must comply with the applicable local and national codes. Especially the power cable and circuit breaker should be selected in accordance with that.
- Sound power level is measured on the rated condition in according with ISO 9614 standard. Sound pressure level is converted from sound power level based on tonality penalty of 0dB and installation in free-field. Therefore, these values can be increased owing to ambient conditions during operation. Rated sound power level is according to the EN12102-1 under conditions of the EN14825.
- Performances are accordance with EN14511 and reflect ErP testing conditions. Above gives the declared values at rated conditions acc. ErP regulation.
 - Rated running current : Outdoor Temp. 7°C DB / 6°CWB, LWT 35°C
- This product contains Fluorinated greenhouse gases.

PRODUCT SPECIFICATION

Performance Table for Heating Operation

Maximum Heating Capacity (Including Defrost Effect)

HM121M U33 / HM123M U33

Outdoor Temperature	LWT 30 °C	LWT 35 °C	LWT 40 °C	LWT 45 °C	LWT 50 °C	LWT 55 °C	LWT 60 °C	LWT 65 °C
	TC	TC	TC	TC	TC	TC	TC	TC
-25°C DB	8.75	8.50	8.25	8.00	-	-	-	-
-20°C DB	10.13	10.00	9.88	9.75	9.63	-	-	-
-15°C DB	11.50	11.50	11.50	11.50	11.50	11.50	-	-
-7°C DB	12.00	12.00	12.00	12.00	12.00	12.00	12.00	-
-4°C DB	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
-2°C DB	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
2°C DB	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
7°C DB	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
10°C DB	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
15°C DB	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
18°C DB	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
20°C DB	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
35°C DB	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00

HM141M U33 / HM143 U33

Outdoor Temperature	LWT 30 °C	LWT 35 °C	LWT 40 °C	LWT 45 °C	LWT 50 °C	LWT 55 °C	LWT 60 °C	LWT 65 °C
	TC	TC	TC	TC	TC	TC	TC	TC
-25°C DB	9.25	9.00	8.75	8.50	-	-	-	-
-20°C DB	10.63	10.50	10.38	10.25	10.13	-	-	-
-15°C DB	12.00	12.00	12.00	12.00	12.00	12.00	-	-
-7°C DB	14.00	14.00	14.00	14.00	14.00	14.00	14.00	-
-4°C DB	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00
-2°C DB	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00
2°C DB	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00
7°C DB	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00
10°C DB	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00
15°C DB	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00
18°C DB	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00
20°C DB	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00
35°C DB	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00

HM161M U33 / HM163 U33

Outdoor Temperature	LWT 30 °C	LWT 35 °C	LWT 40 °C	LWT 45 °C	LWT 50 °C	LWT 55 °C	LWT 60 °C	LWT 65 °C
	TC	TC	TC	TC	TC	TC	TC	TC
-25°C DB	10.50	10.00	9.50	9.00	-	-	-	-
-20°C DB	12.30	11.75	11.44	11.13	10.75	-	-	-
-15°C DB	14.10	13.50	13.38	13.25	13.13	13.00	-	-
-7°C DB	16.00	16.00	16.00	16.00	16.00	16.00	16.00	-
-4°C DB	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00
-2°C DB	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00
2°C DB	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00
7°C DB	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00
10°C DB	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00
15°C DB	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00
18°C DB	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00
20°C DB	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00
35°C DB	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00

Note

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

Performance Table for Cooling Operation

Maximum Cooling Capacity

HM121M U33 / HM123M U33

Outdoor Temperature	LWT 7°C	LWT 10°C	LWT 13°C	LWT 15°C	LWT 18°C	LWT 20°C	LWT 22°C
	TC	TC	TC	TC	TC	TC	TC
10°C DB	11.25	12.33	13.40	14.12	15.20	15.91	16.63
20°C DB	11.55	12.20	12.84	13.27	13.92	14.35	14.78
30°C DB	11.85	12.07	12.28	12.42	12.64	12.78	12.93
35°C DB	12.00	12.00	12.00	12.00	12.00	12.00	12.00
40°C DB	12.15	12.00	11.85	11.75	11.59	11.49	11.39
45°C DB	12.30	12.00	11.69	11.49	11.19	10.99	10.78

HM141M U33 / HM143 U33

Outdoor Temperature	LWT 7°C	LWT 10°C	LWT 13°C	LWT 15°C	LWT 18°C	LWT 20°C	LWT 22°C
	TC	TC	TC	TC	TC	TC	TC
10°C DB	13.13	14.38	15.64	16.47	17.73	18.57	19.40
20°C DB	13.48	14.23	14.98	15.48	16.24	16.74	17.24
30°C DB	13.83	14.08	14.33	14.49	14.75	14.91	15.08
35°C DB	14.00	14.00	14.00	14.00	14.00	14.00	14.00
40°C DB	14.18	14.00	13.82	13.70	13.53	13.41	13.29
45°C DB	14.35	14.00	13.64	13.41	13.05	12.82	12.58

HM161M U33 / HM163 U33

Outdoor Temperature	LWT 7°C	LWT 10°C	LWT 13°C	LWT 15°C	LWT 18°C	LWT 20°C	LWT 22°C
	TC	TC	TC	TC	TC	TC	TC
10°C DB	15.00	16.43	17.87	18.83	20.26	21.22	22.17
20°C DB	15.40	16.26	17.12	17.70	18.56	19.13	19.70
30°C DB	15.80	16.09	16.37	16.57	16.85	17.04	17.23
35°C DB	16.00	16.00	16.00	16.00	16.00	16.00	16.00
40°C DB	16.20	16.00	15.80	15.66	15.46	15.32	15.19
45°C DB	16.40	16.00	15.59	15.32	14.92	14.65	14.38

Note

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

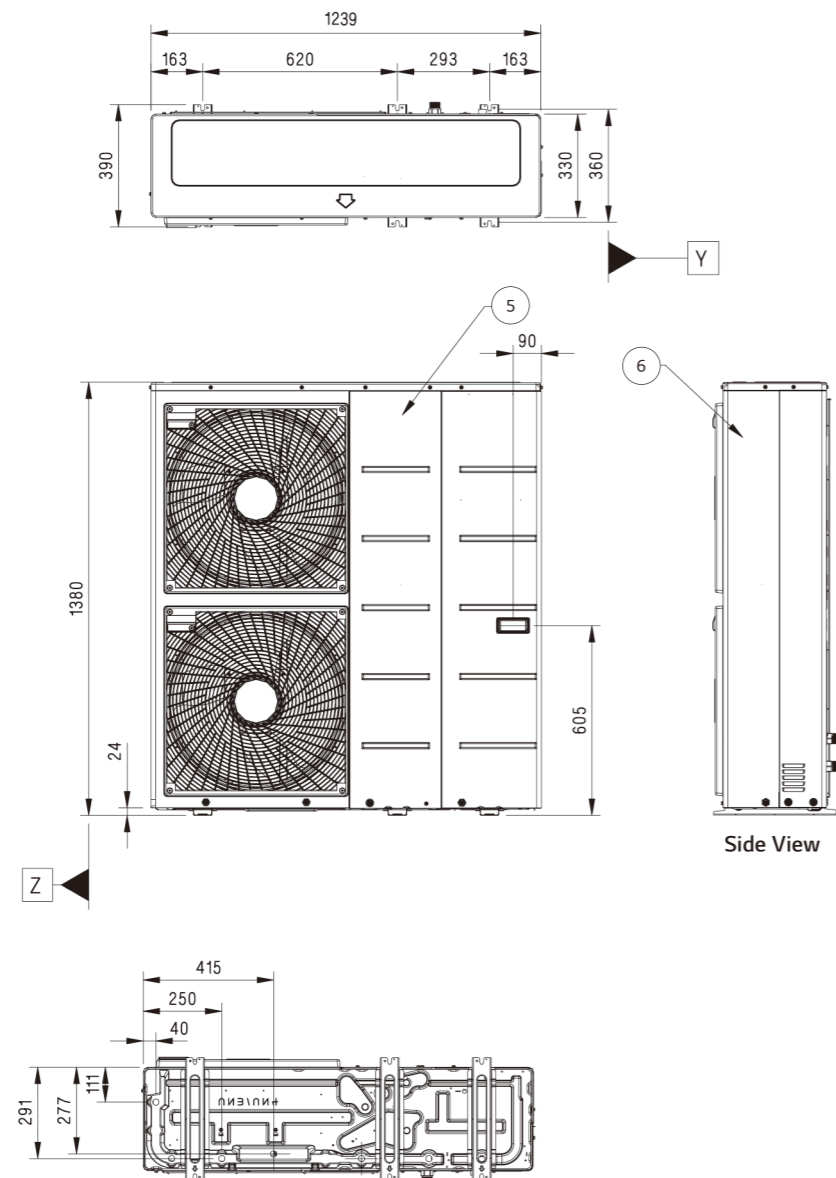
PRODUCT SPECIFICATION

Drawings

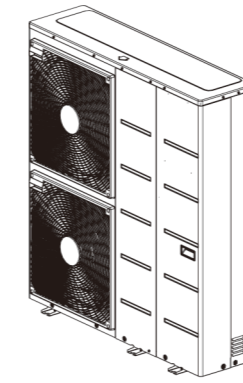
Category	Unit	Model Name		
		Capacity (kW)		
		12.0	14.0	16.0
1 Phase Model 220 - 240V, 1Ø, 50Hz	Monobloc Unit	HM121M U33	HM141M U33	HM161M U33
		HM123M U33	HM143M U33	HM163M U33

HM121M U33 / HM141M U33 / HM161M U33
 HM123M U33 / HM143M U33 / HM163M U33

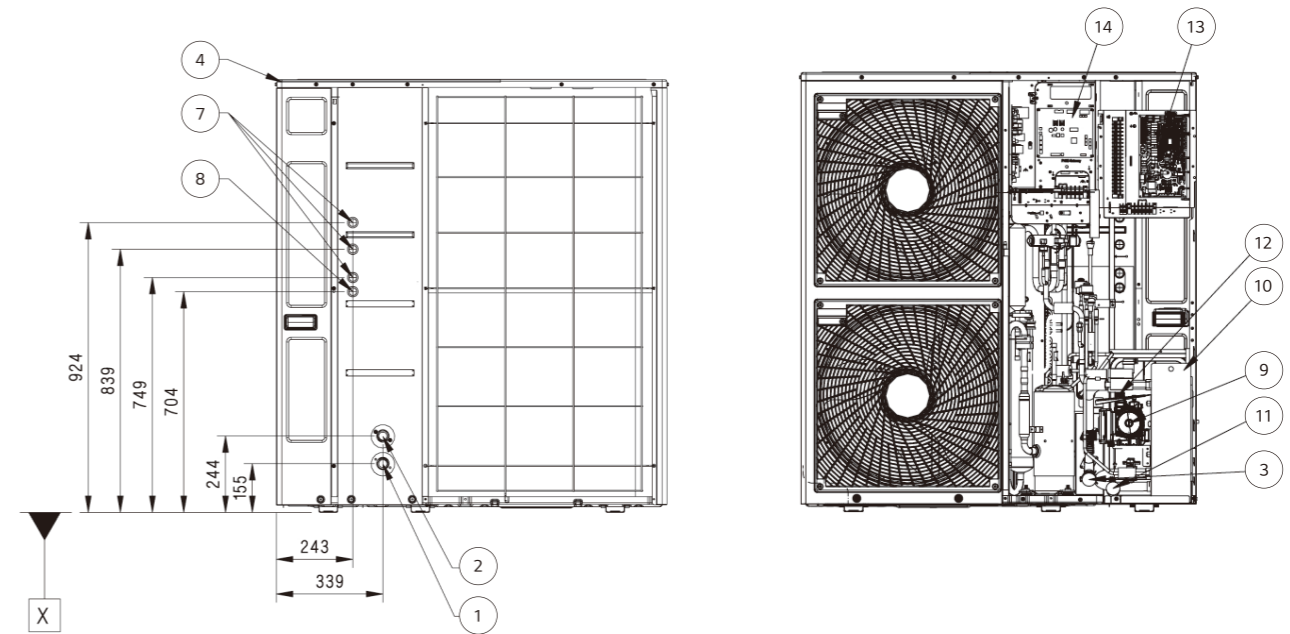
[Unit : mm]



[Unit : mm]



3D View

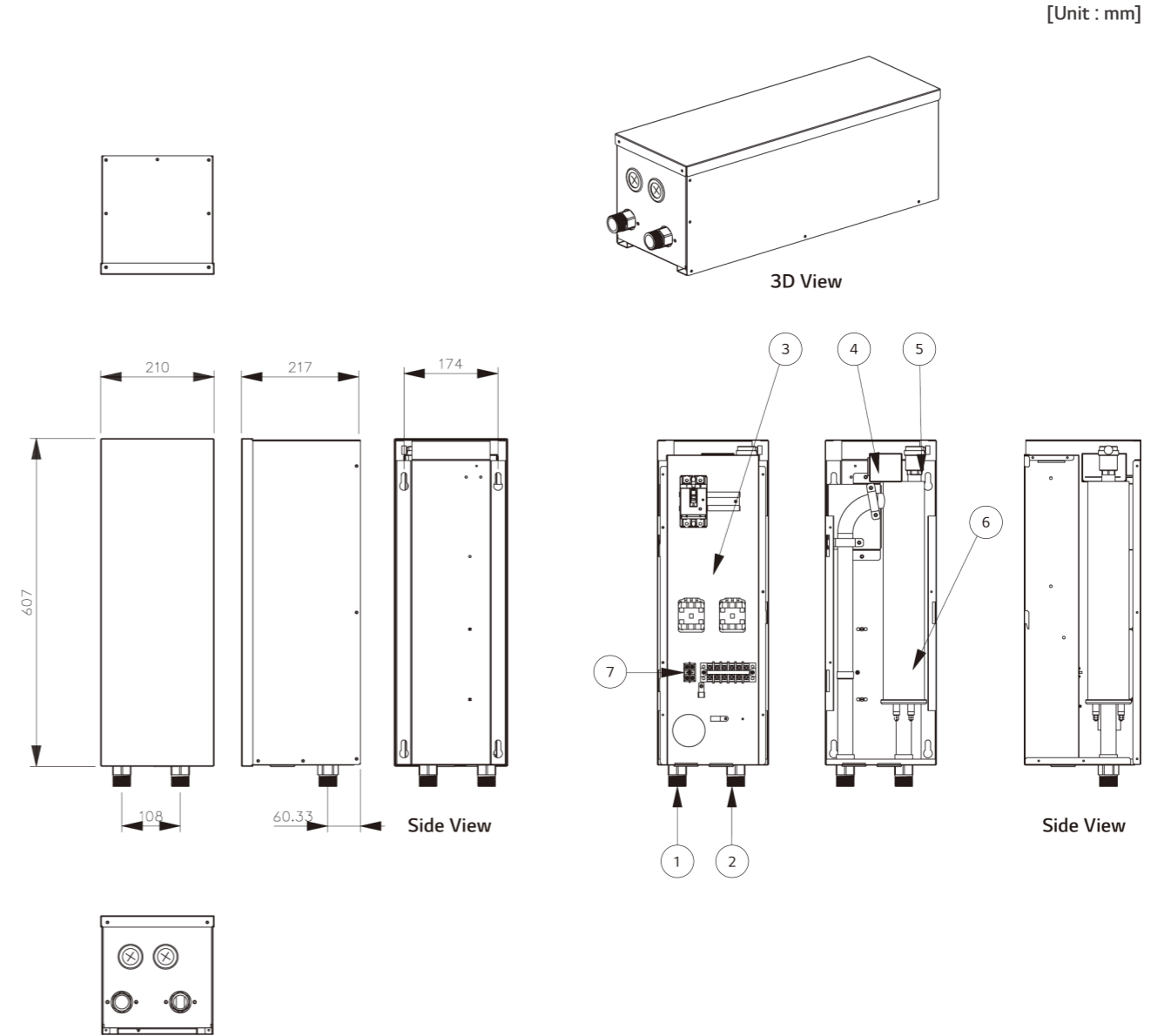


No.	Part Name	Description
1	Entering Water Pipe	Male PT 1" according to ISO 7-1 (tapered pipe threads)
2	Leaving Water Pipe	Male PT 1" according to ISO 7-1 (tapered pipe threads)
3	Strainer	Filtering and stacking particles inside circulating water
4	Top Cover	-
5	Front Panel	-
6	Side Panel	-
7	Low Voltage	Communication cable hole
8	UNIT Power	Power cable hole
9	Water Pump	GRUNDFOS UPML 20-105 CHBL
10	Plate Heat Exchanger	Heat exchange between refrigerant and water
11	Pressure Gauge	Indicates circulating water pressure
12	Safety Valve	Open at water pressure 3 bar
13	Indoor Control Box	Indoor PCB and terminal blocks
14	Outdoor Control Box	Outdoor PCB and terminal blocks

PRODUCT SPECIFICATION

Electric Backup Heater

HA031M E1
HA061M E1
HA063M E1



Product Specification

Electrical Specification		Unit	HA031M E1	HA061M E1	HA063M E1
Backup Heater	Type	-	Sheath		
	Number of Heating Coil	EA	1	2	3
	Capacity Combination	kW	3.0	3.0 + 3.0	2.0 + 2.0 + 2.0
	Heating Steps	Step	1	2	1
	Power Supply	V, Ø, Hz	220 ~ 240, 1, 50		380 - 415, 3, 50
	Rated Running Current	A	12.5	25.0	8.7
	Recommended Circuit Breaker	A	25	40	25
	Dimensions (W x H x D)	mm	210 x 607 x 217		
Net Weight (unit)	kg	13.0	13.8	14.1	
Wiring Connections	Power Supply Cable (included earth, H07RN-F)	mm ² x cores	1.5 x 3C	4.0 x 3C	2.5 x 4C
	Communication Cable (H07RN-F)	mm ² x cores	0.75 x 4C		0.75 x 2C

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.

No.	Part Name	Description
1	Leaving Water Pipe	Male PT 1" according to ISO 7-1 (tapered pipe threads)
2	Entering Water Pipe	Male PT 1" according to ISO 7-1 (tapered pipe threads)
3	Control Box	Circuit breaker, Magnetic switch, Terminal blocks
4	Thermal Switch	Cut-off power input to E/heater at 90°C
5	Air Vent	Air purging when charging water
6	Electric Heater	Refer the related information
7	Backup Heater Outlet Sensor (S13)	Connect to unit (heat pump)