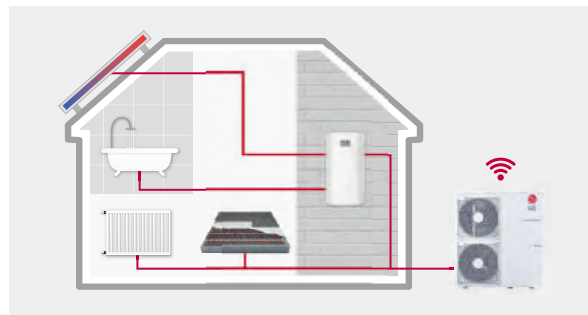
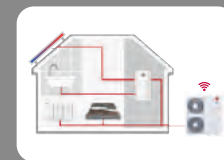




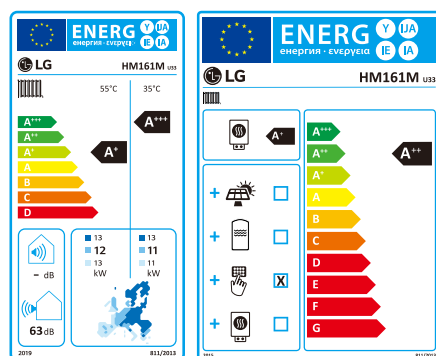
THERMAV[™]
PRODUCTS

THERMA VTM R32

R32 MONOBLOC

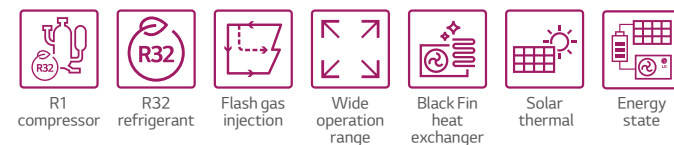


Energy Label

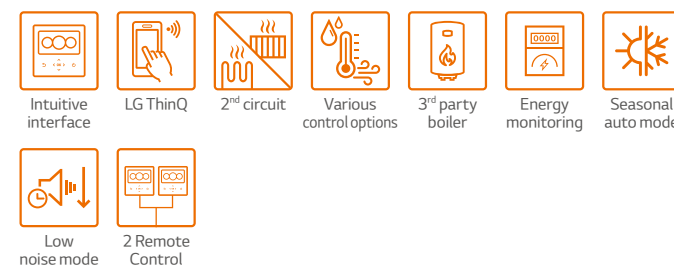


* 16kW 10 model.
* A+++ to D scale.

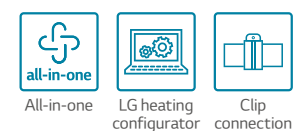
Excellent Performance & Efficiency



User Convenience



Easy Installation & Maintenance

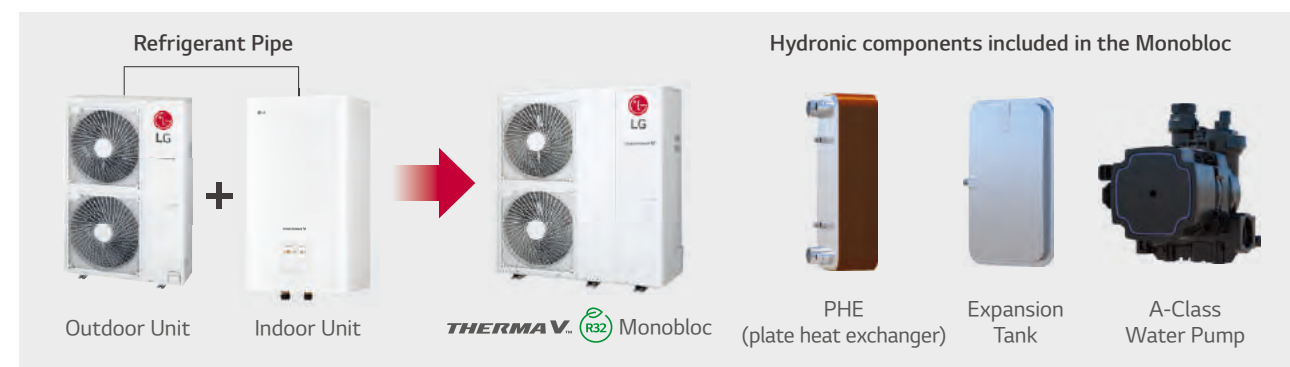


* Detailed description for each function is presented on page 28 ~ 35.

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.

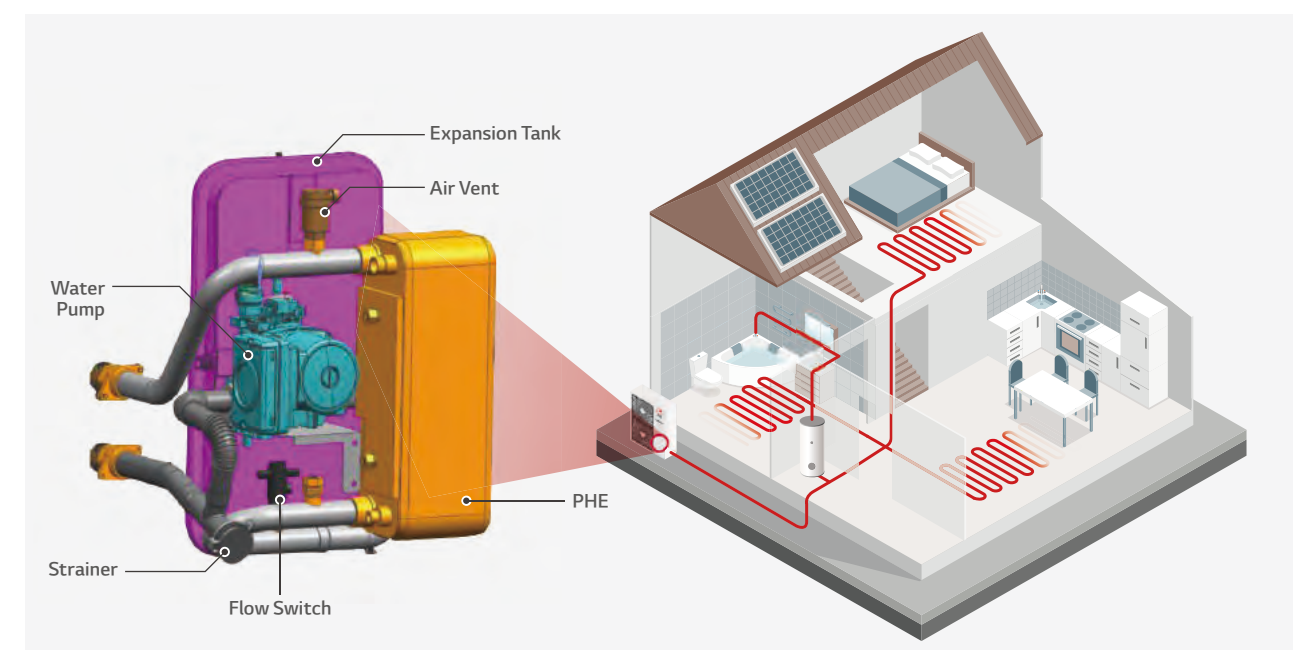
Key Components



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



HM091M U43



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

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
		Seasonal Space Heating Eff. Class (A+++ to D Scale)	-	A+++	A+++	A+++
	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+

Technical Specification				Unit	HM051M U43	HM071M U43	HM091M U43
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 Circuit	Inlet	Inch	Male PT 1" according to ISO 7-1 (tapered pipe threads)		
			Outlet	Inch	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	Min ~ Max	°C DB	-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)	60		
Sound Pressure Level (at 1m)		Heating	Rated	dB(A)	50		
Dimensions		Unit	W × H × D	mm	1,239 × 834 × 330		
Weight		Unit		kg	88.0		
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)		mm² x cores	4.0 x 3C		

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 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.
4. 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
5. This product contains Fluorinated greenhouse gases.

Maximum Heating Capacity (Including Defrost Effect)

[illegible][illegible][illegible]

1. DB : Dry Bulb Temperature (°C), WWT : 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.

Maximum Cooling Capacity

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

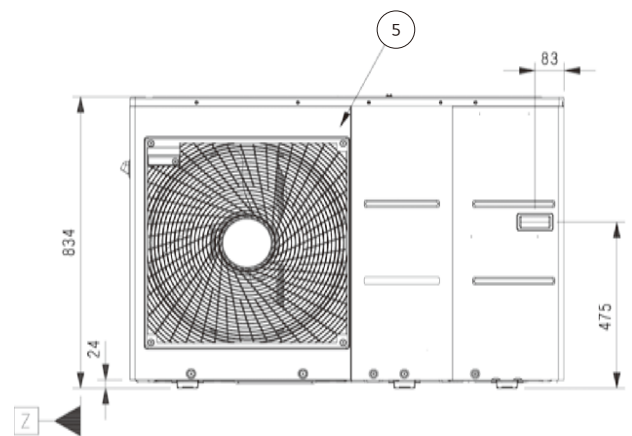
Outdoor Temperature	LWT 7°C	LWT 10°C	LWT 13°C	LWT 15°C	LWT 18°C	LWT 20°C	LWT 22°C
	TC	TC	TC	TC	TC	TC	TC
10°C DB	6.56	7.19	7.82	8.24	8.86	9.28	9.70
20°C DB	6.74	7.11	7.49	7.74	8.12	8.37	8.62
30°C DB	6.91	7.04	7.16	7.25	7.37	7.46	7.54
35°C DB	7.00	7.00	7.00	7.00	7.00	7.00	7.00
40°C DB	7.09	7.00	6.91	6.85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

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

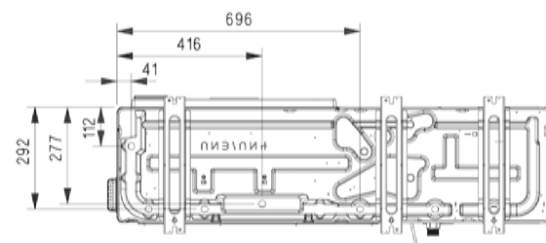
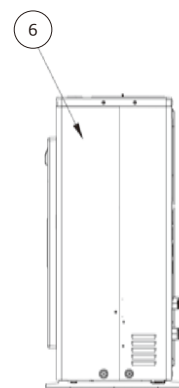
1. DB : Dry Bulb Temperature (°C), LWT : Leaving Water Temperature (°C), LPM : Liters Per Minute (ℓ/min), TC : Total Capacity (kW)
2. Direct interpolation is permissible. Do not extrapolate.
3. Measuring procedure follows EN-14511.
• Rated values are based on standard conditions and it can be found on 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.

Category	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

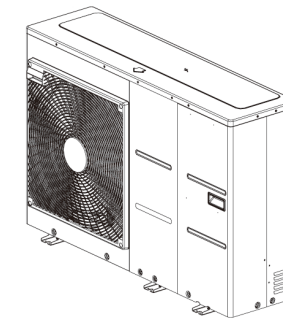
[Unit : mm]



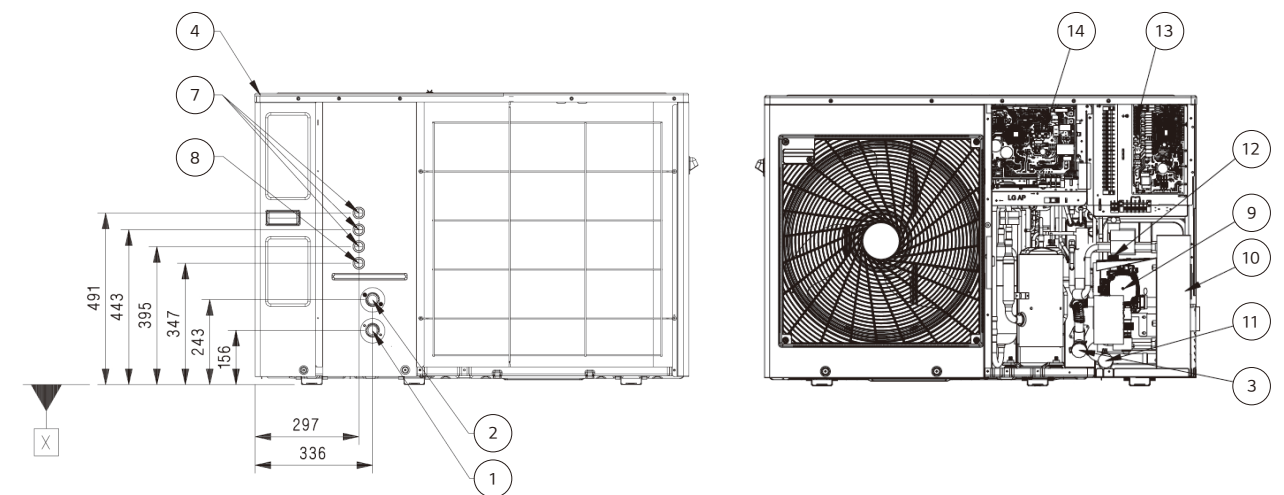
Side View



[Unit : mm]



3D View

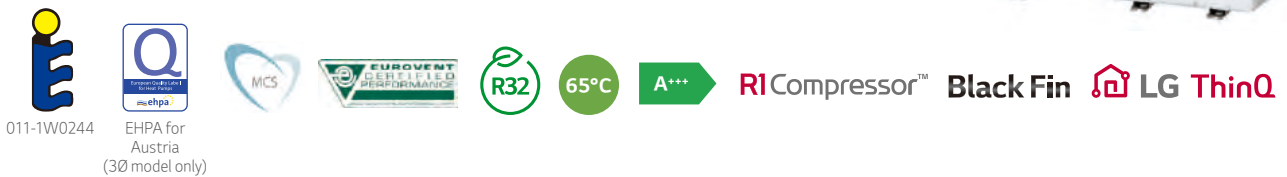


No.	Part Name	Description
1	Entering Water Pipe	Male PT 1" according to ISO 7-1 (tapered pipe threads)
2	Leaving Water Pipe	Male PT 1" according to ISO 7-1 (tapered pipe threads)
3	Strainer	Filtering and stacking particles inside circulating water
4	Top Cover	-
5	Front Panel	-
6	Side Panel	-
7	Low Voltage	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
3 Phase Model 380 ~ 415V, 3Ø, 50Hz		HM123M U33	HM143M U33	HM163M U33

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 (ηs)	%	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 (ηs)	%	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) HM123M U33 (3Ø)	HM141M U33 (1Ø) HM143M U33 (3Ø)	HM161M U33 (1Ø) HM163M U33 (3Ø)
Nominal Capacity	Heating	7°C	35°C	kW	12.00	14.00	16.00
		7°C	55°C		12.00	12.00	12.00
		2°C	35°C		11.00	12.00	13.80
	Cooling	35°C	18°C		12.00	14.00	16.00
		35°C	7°C		12.00	14.00	16.00
Nominal Power Input	Heating	7°C	35°C	kW	2.61	3.11	3.64
		7°C	55°C		4.29	4.29	4.29
		2°C	35°C		3.13	3.42	3.94
	Cooling	35°C	18°C		2.61	3.26	4.00
		35°C	7°C		4.44	5.38	6.40
COP	Heating	7°C	35°C	W/W	4.60	4.50	4.40
		7°C	55°C		2.80	2.80	2.80
		2°C	35°C		3.52	3.51	3.50
EER	Cooling	35°C	18°C	W/W	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 Circuit	Inlet	Inch	Male PT 1" according to ISO 7-1 (tapered pipe threads)						
			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			EA	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)	63						
Sound Pressure Level (at 1m)		Heating	Rated	dB(A)	52						
Dimensions		Unit	W x H x D	mm	1,239 x 834 x 330						
Weight		Unit		kg	124.5						
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.

Maximum Heating Capacity (Including Defrost Effect)

[illegible][illegible][illegible]

1. DB : Dry Bulb Temperature (°C), WWT : 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.

Maximum Cooling Capacity

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

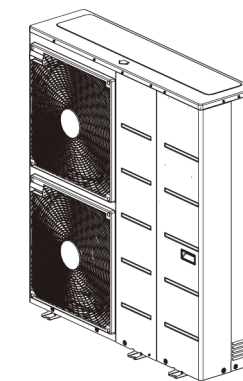
Outdoor Temperature	LWT 7°C	LWT 10°C	LWT 13°C	LWT 15°C	LWT 18°C	LWT 20°C	LWT 22°C
	TC	TC	TC	TC	TC	TC	TC
10°C DB	13.13	14.38	15.64	16.47	17.73	18.57	19.40
20°C DB	13.48	14.23	14.98	15.48	16.24	16.74	17.24
30°C DB	13.83	14.08	14.33	14.49	14.75	14.91	15.08
35°C DB	14.00	14.00	14.00	14.00	14.00	14.00	14.00
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

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

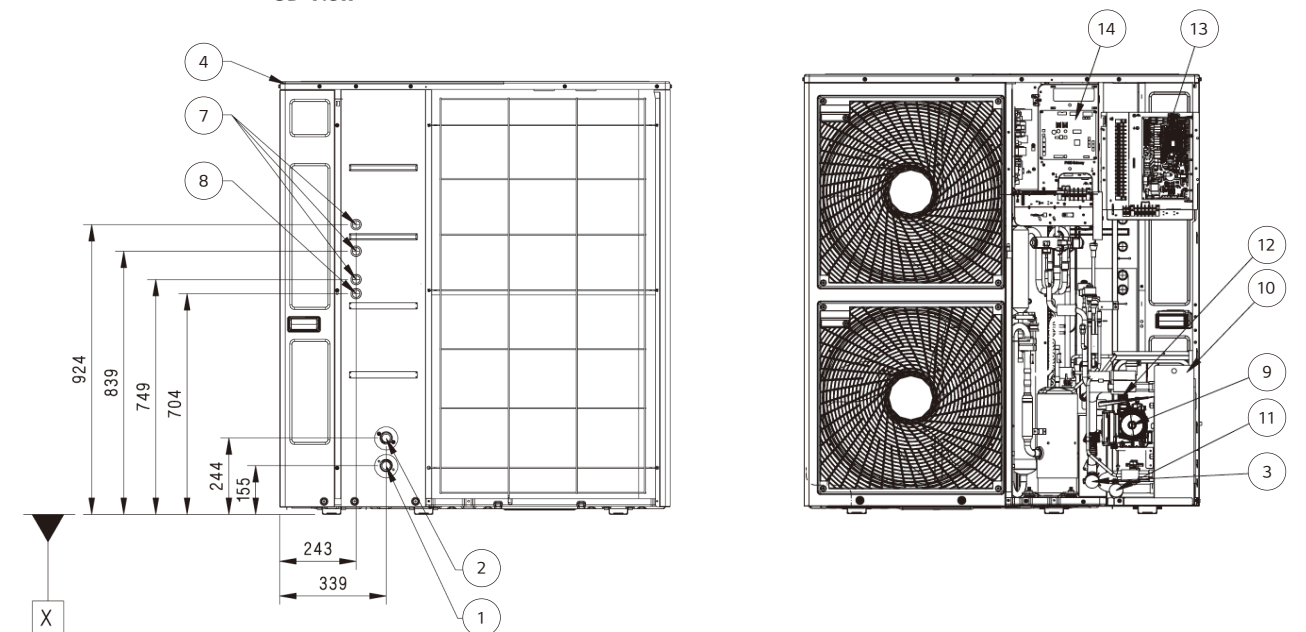
1. DB : Dry Bulb Temperature (°C), LWT : Leaving Water Temperature (°C), LPM : Liters Per Minute (ℓ/min), TC : Total Capacity (kW)
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• Rated values are based on standard conditions and it can be found on specifications.
• Above table values may not be 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.

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
3 Phase Model 380 ~ 415V, 3Ø, 50Hz		HM123M U33	HM143M U33	HM163M U33

[Unit : mm]

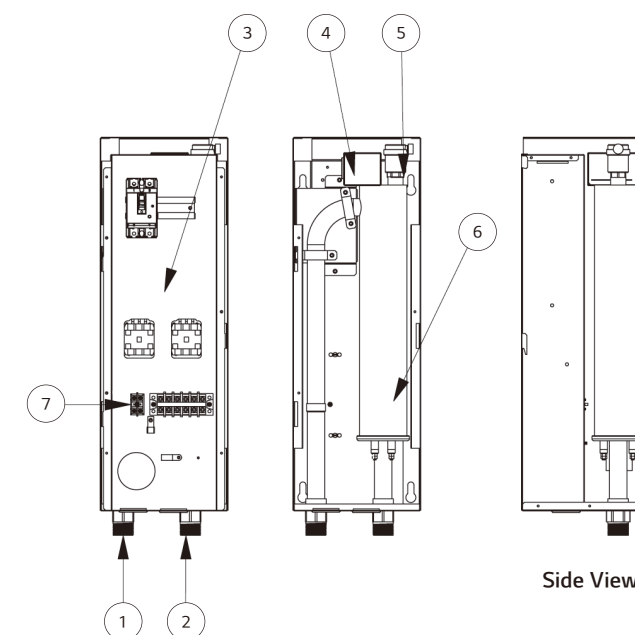
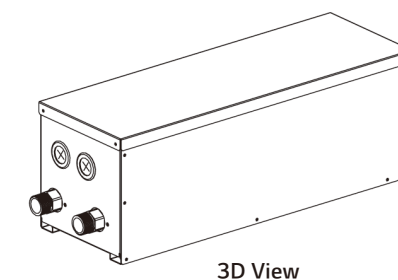
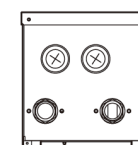
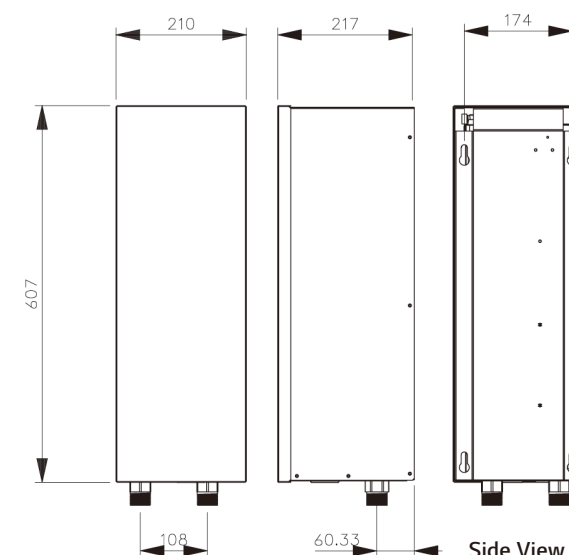
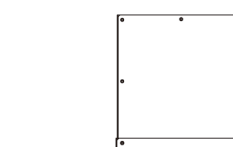


3D View



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 20-10S 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

HA031M E1
HA061M E1
HA063M E1



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)