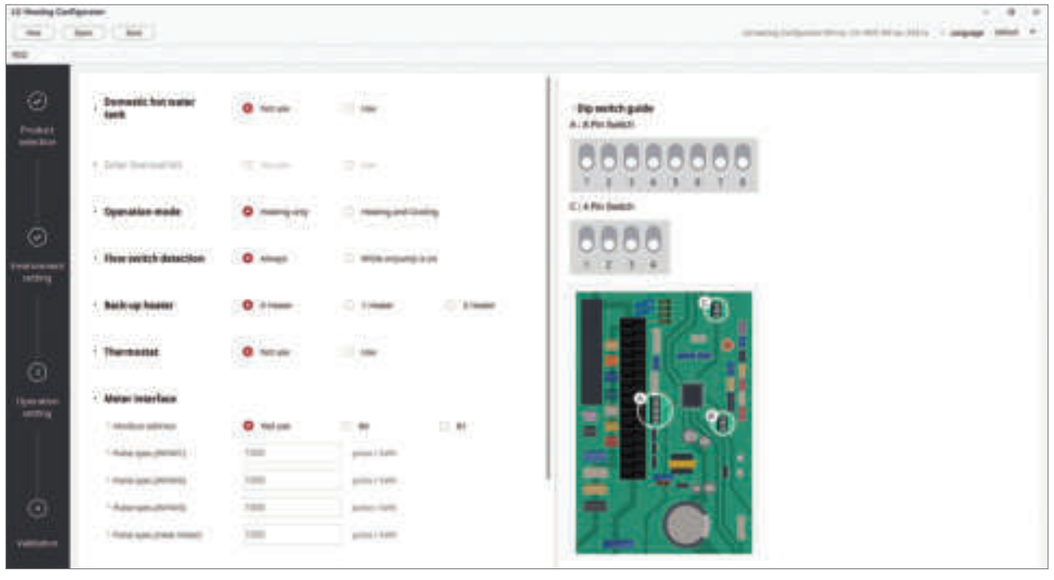
EASY INSTALLATION & MAINTENANCE

LG Heating Configurator

* Applied model : R32 Series, R410A Split Hydro Box
R32 IWT, R32 Hydrosplit will be supported within 2020.

Easy Installation Setting and Commissioning

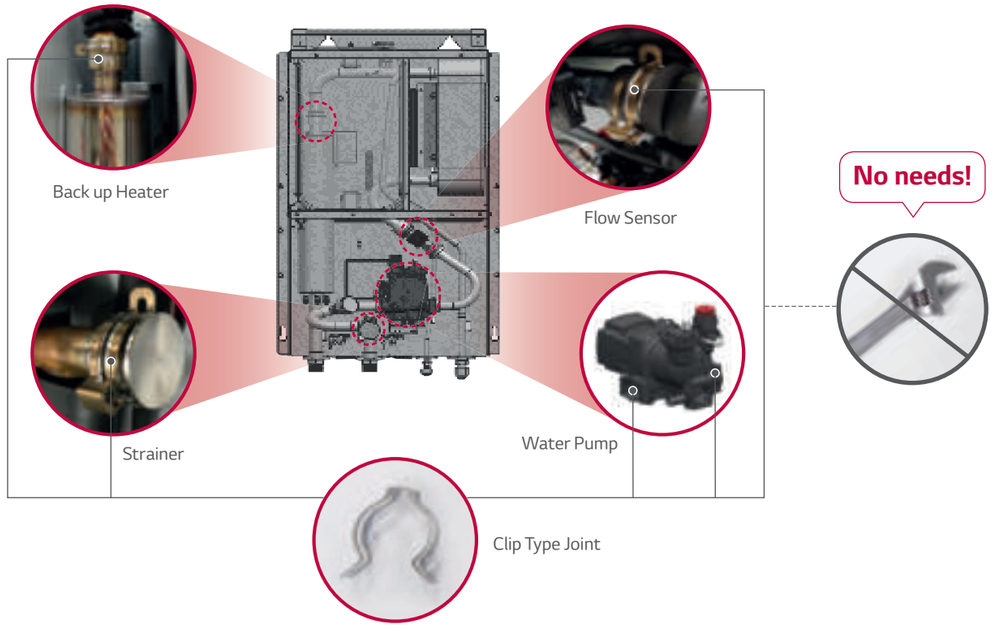
- Based on installation site information, installers can prepare presetting with the LG heating configurator and save data into a memory card from the office.
- Once on site, installers can simply insert memory card into the back of the remote control to activate configuration data.



Clip Type Connection for Easy Maintenance

* Applied model : R32 Series, R410A Split Hydro Box

- Easy access to water pump and strainer (front panel)
- Clip type connection for components

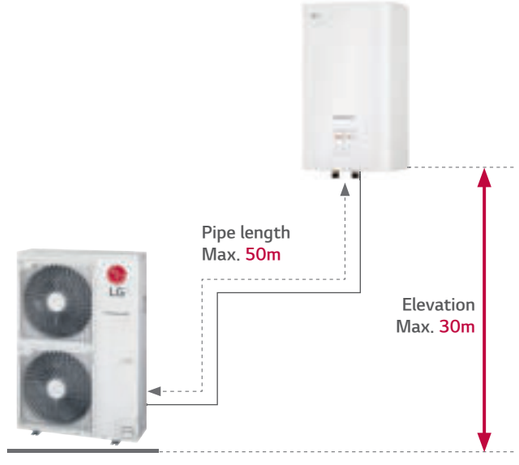


Flexible Refrigerant Piping Design

* Applied model : R32 IWT, R32 Split, R410A Split,
R410A IWT, High Temp.

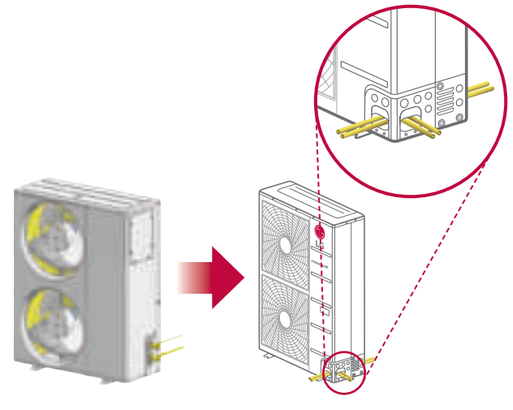
Long piping length and 3 Way piping enable flexible design and easy installation.

Piping Capabilities



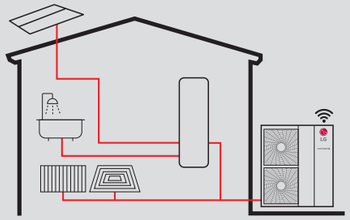
3 Way Piping

- The pipes can be connected in 3 directions
- Neat & easy installation by 3 Way piping



THERMA V™
PRODUCTS

R32 MONOBLOC



Excellent Performance & Efficiency

- R1 compressor
- R32 refrigerant
- Flash gas injection
- Wide operation range
- Black Fin heat exchanger
- Solar thermal
- Energy state

User Convenience

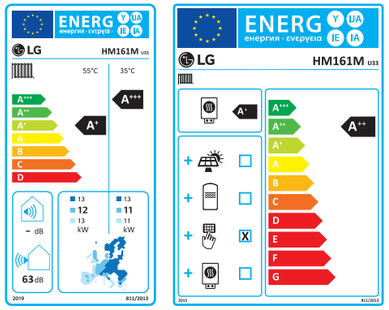
- Intuitive interface
- LG ThinQ
- 2nd circuit
- Various control options
- 3rd party boiler
- Energy monitoring
- Seasonal auto mode
- Low noise mode

Easy Installation & Maintenance

- All in one
- LG heating configurator
- Clip connection

* Detailed description for each function is presented on page 26 ~ 43.

Energy Labeling



* 16kW 1Ø model.
* A+++ to D scale.

Monobloc Concept

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.

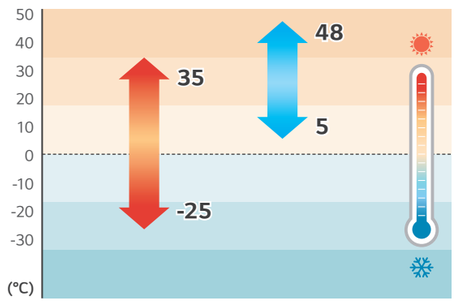
Capacity Range (Heating & Cooling)

R32 Monobloc

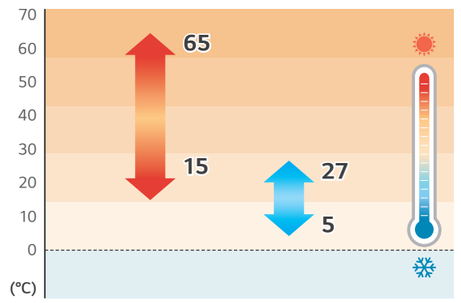
Capacity Range [kW]	5	7	9	12	14	16
Heating Capacity	(5.5)	(7.0)	(9.0)	(12.0)	(14.0)	(16.0)
Cooling Capacity	(5.5)	(7.0)	(9.0)	(12.0)	(14.0)	(16.0)

Operation Range (Heating & Cooling)

Ambient Temperature



Leaving Water Temperature



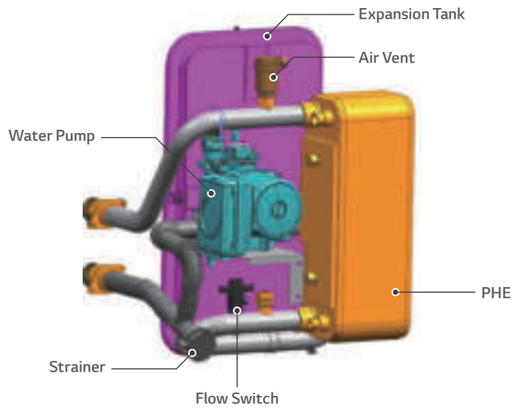
PRODUCT FEATURES

All in One Concept

THERMA V's all in one concept and reduce weight allow for quicker and easier installations.

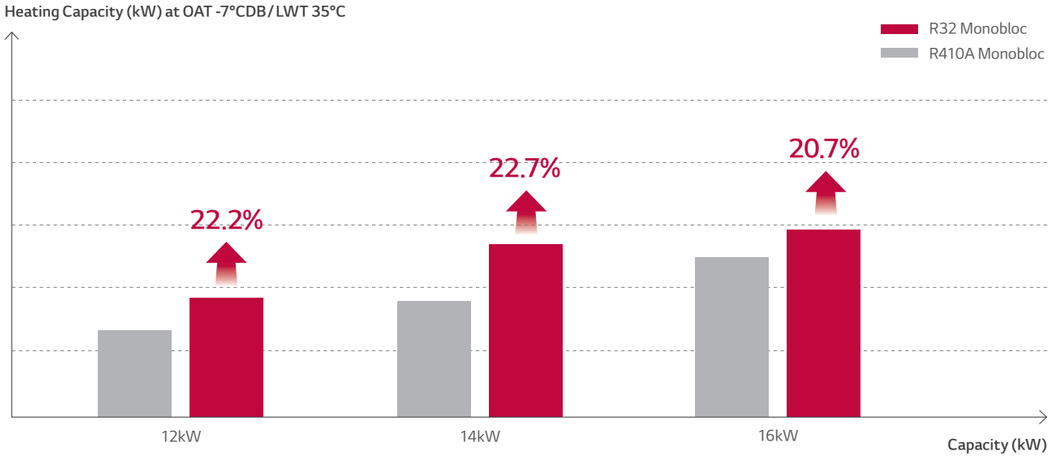
- LG provides fully packaged THERMA V Monobloc : additional hydronic components are included in the package
- Easier and quicker installation without refrigerant piping work

THERMA V R32 Monobloc



High Heating Performance even at Low Temperature

The R32 Monobloc provides excellent heating performance – especially at low ambient temperature. The heating capacity of THERMA V R32 Monobloc at low ambient temperature is 20% higher than the R410A Monobloc.

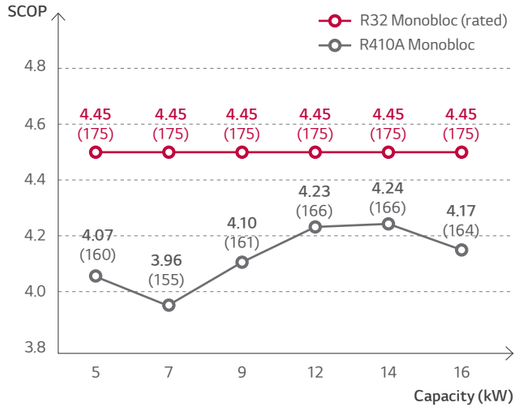


Note
1. LWT : Leaving Water Temperature, OAT : Outdoor Air Temperature

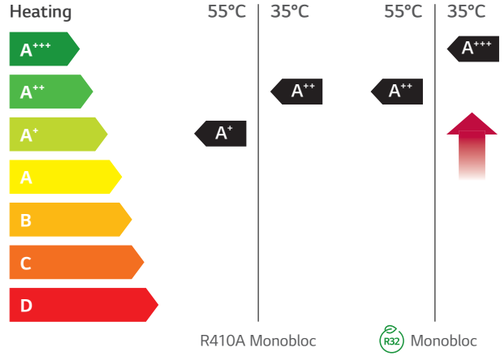
High Energy Efficiency

The energy label directive is a key factor in selecting a heating device in the European heating market. The R32 Monobloc type has an energy label rating (ErP) of A+++.

SCOP



ErP Energy Labeling

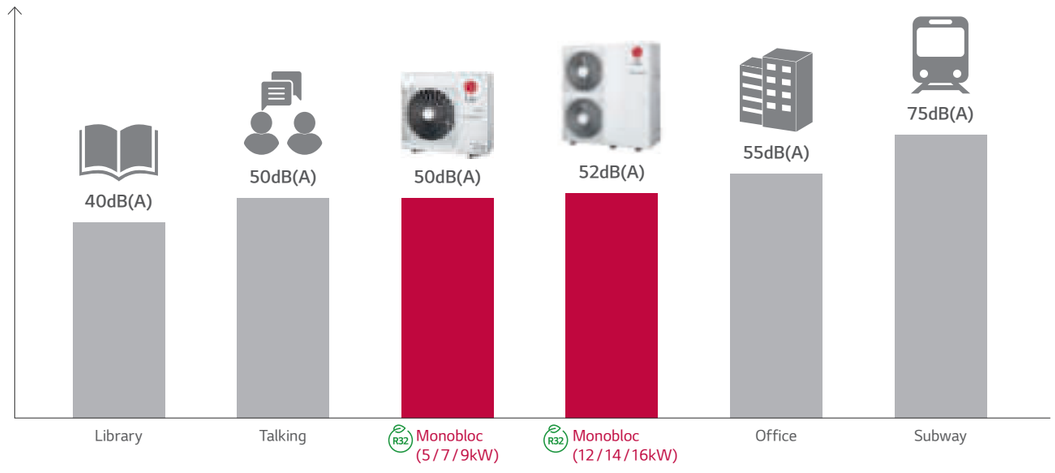


*Test Condition
Test procedure follows EN14825 (low temp.. average), based on the single phase model line-up.

Reduced Noise Level

THERMA V R32 Monobloc boasts reduced noise levels compared to previous generations as well as everyday environments.

Sound Pressure Level Comparison



PRODUCT SPECIFICATION

R32 Monobloc

HM051M U43
HM071M U43
HM091M U43

011-1W0243 EHPA for Austria, Switzerland and Germany

R1 Compressor™ Black Fin LG ThinQ

Features

- High energy efficiency (SCOP4.45 / A+++)
- Excellent performance at low ambient temperature (100% @ -7°C)
- Wide operation range (ambient : -25 ~ 35°C / water side : 15 ~ 65°C)
- R32 refrigerant with low GWP
- R1 scroll compressor
- Black Fin heat exchanger
- LG ThinQ
- KEYMARK / EHPA certification / MCS / Eurovent certification

Model Line-up

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

Seasonal Energy

Description			Unit	HM051M U43	HM071M U43	HM091M U43
Space Heating (according to EN14825)	Average Climate Water Outlet 35°C	SCOP	W/W	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+

Nominal Capacity and Nominal Power Input

Description		OAT (DB)	LWT (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
		2°C	35°C		3.30	4.20	5.40
	Cooling	35°C	18°C		5.50	7.00	9.00
		35°C	7°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
		2°C	35°C		0.94	1.20	1.54
	Cooling	35°C	18°C		1.20	1.56	2.14
		35°C	7°C		1.96	2.59	3.46
COP	Heating	7°C	35°C	W/W	4.50	4.50	4.18
		7°C	55°C		2.70	2.70	2.70
		2°C	35°C		3.52	3.51	3.50
EER	Cooling	35°C	18°C	W/W	4.60	4.50	4.20
		35°C	7°C		2.80	2.70	2.60

Product Specification

Technical Specification				Unit	HM051M U43	HM071M U43	HM091M U43
Water Side	Operation Range (leaving water temperature)	Heating	Min. ~ Max.	°CDB	15 ~ 65		
		Cooling			5 ~ 27 (16 ~ 27)[2]		
		DHW[1]			15 ~ 80		
	Piping Connections	Water Circuit	Inlet	mm (inch)	Male PT 25.4 (1)		
			Outlet	mm (inch)	Male PT 25.4 (1)		
	Rated Water Flow Rate at LWT 35°C			LPM	15.81	20.12	25.87
Refrigerant Side	Operation Range (outdoor temp.)	Heating	Min. ~ Max.	°CDB	-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-CO_2 eq		-	0.945		
Sound Power Level		Heating	Rated	dB(A)	60		
Sound Pressure Level (at 1m)		Heating	Rated	dB(A)	50		
Dimensions		Unit	W x H x D	mm	1,239 x 834 x 330		
Weight		Unit		kg	91.0		
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) DHW 58 ~ 80°C operating is available only when the booster heater is operating.
2) When fan coil unit not used.

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. And "Electric characteristics" chapter should be considered for electrical work and design. Especially the power cable and circuit breaker should be selected in accordance with that.
3. Sound pressure level is measured on the rated condition in the anechoic rooms by ISO 3745 standard. Sound power level is measured on the rated condition in the reverberation rooms by ISO 9614 standard. Therefore, these values can be increased owing to ambient conditions during operation.
4. Performances are accordance with EN14511 and reflect ErP testing conditions. Above gives the declared values at rated conditions acc. ErP regulation. For max. capacities, refer to performance data.
   • Rated running current : outdoor temp. 7°CDB / 6°CWB, LWT 35°C
5. This product contains fluorinated greenhouse gases.

PRODUCT SPECIFICATION

Performance Table for Heating Operaion

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
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

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
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.

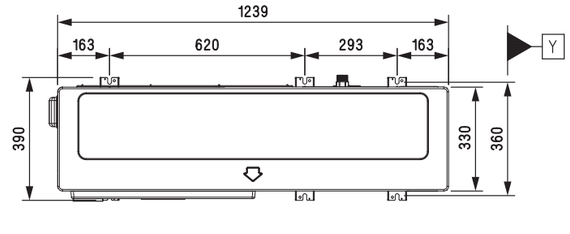
PRODUCT SPECIFICATION

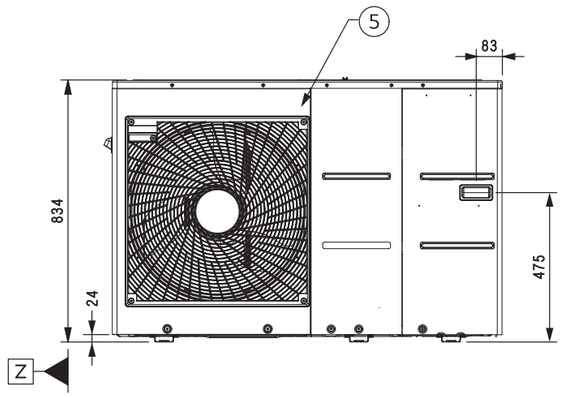
Drawings

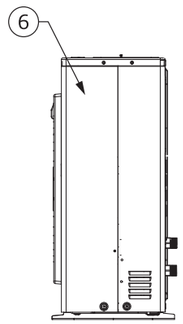
Category	Unit	Model Name		
		Capacity (kW)		
		5.5	7.0	9.0
1 Phase Model 220 ~ 240V, 1Ø, 50Hz	Monobloc Unit	HM051M U43	HM071M U43	HM091M U43

HM051M U43
HM071M U43
HM091M U43

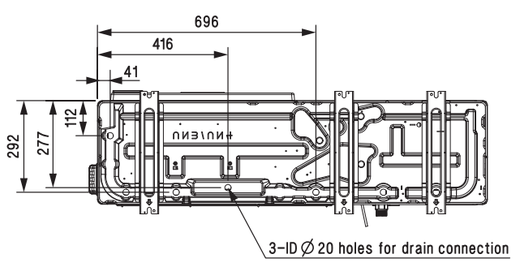
[Unit : mm]



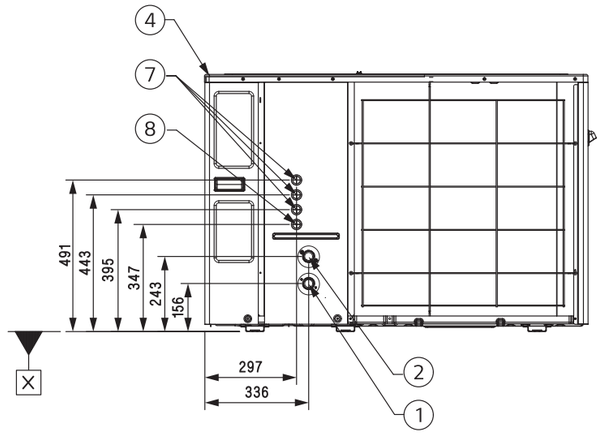


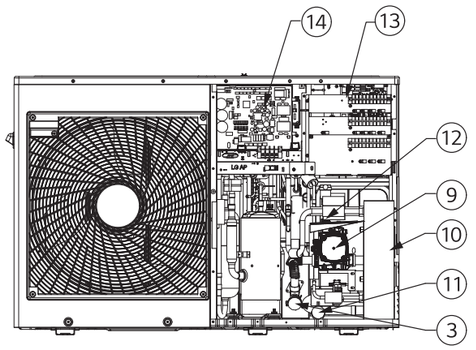


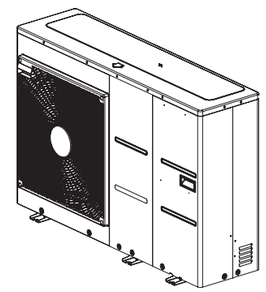
Side View



[Unit : mm]







3D View

No.	Part Name	Description
1	Entering Water Pipe	Male PT 1 inch
2	Leaving Water Pipe	Male PT 1 inch
3	Strainer	Filtering and stacking particles inside circulating water
4	Top Cover	-
5	Front Panel	-
6	Side Panel	-
7	Low Voltage	Accessory kit cables
8	Unit Power	Outdoor entry power cable
9	Water Pump	-
10	Plate Heat Exchanger	Heat exchange between refrigerant and water
11	Pressure Gauge	Indicates circulating water pressure
12	Safety Valve	Open at water pressure 3bar
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

011-1W0244 EHPA for Austria, Switzerland and Germany

R1 Compressor™ Black Fin LG ThinQ

Features

- High energy efficiency (SCOP 4.45 / A+++)
- Excellent performance at low ambient temperature (100% @ -7°C)
- Wide operation range (ambient : -25 ~ 35°C/water side : 15 ~ 65°C)
- R32 refrigerant with low GWP
- R1 scroll compressor
- Black Fin heat exchanger
- LG ThinQ
- KEYMARK/EHPA[1)] certification/MCS/Eurovent certification

1) Approved model by EHPA : HM123M U33, HM143M U33, HM163M U33.

Model Line-up

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

Seasonal Energy

Description			Unit	HM121M U33 HM123M U33	HM141M U33 HM143M U33	HM161M U33 HM163M U33
Space Heating (according to EN14825)	Average Climate Water Outlet 35°C	SCOP	W/W	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 (DB)	LWT (DB)	Unit	HM121M U33 HM123M U33	HM141M U33 HM143M U33	HM161M U33 HM163M U33
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

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.	°CDB	15 ~ 65					
		Cooling			5 ~ 27 (16 ~ 27)[2)]					
		DHW[1)]			15 ~ 80					
	Piping Connections	Water Circuit	Inlet	mm (inch)	Male PT 25.4 (1)					
			Outlet	mm (inch)	Male PT 25.4 (1)					
	Rated Water Flow Rate at LWT 35°C			LPM	34.50	40.25	46.00	34.50	40.25	46.00
Refrigerant Side	Operation Range (outdoor temp.)	Heating	Min. ~ Max.	°CDB	-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 1,380 x 330					
Weight		Unit		kg	124.5					
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) DHW 58 ~ 80°C operating is available only when the booster heater is operating.
2) When fan coil unit not used.

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. And "Electric characteristics" chapter should be considered for electrical work and design. Especially the power cable and circuit breaker should be selected in accordance with that.
3. Sound pressure level is measured on the rated condition in the anechoic rooms by ISO 3745 standard. Sound power level is measured on the rated condition in the reverberation rooms by ISO 9614 standard. Therefore, these values can be increased owing to ambient conditions during operation.
4. Performances are accordance with EN14511 and reflect ErP testing conditions. Above gives the declared values at rated conditions acc. ErP regulation. For max. capacities, refer to performance data.
   • Rated running current : outdoor temp. 7°CDB / 6°CWB, LWT 35°C
5. This product contains fluorinated greenhouse gases.

PRODUCT SPECIFICATION

Performance Table for Heating Operaion

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
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

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
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.

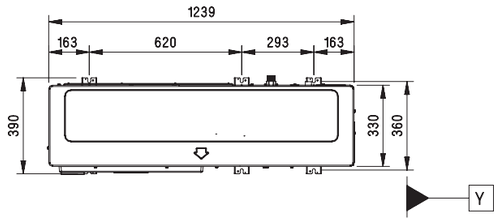
PRODUCT SPECIFICATION

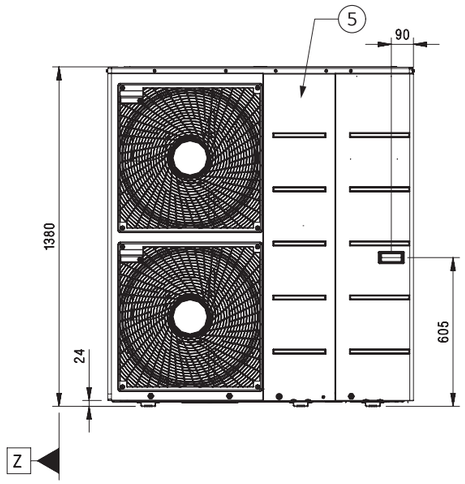
Drawings

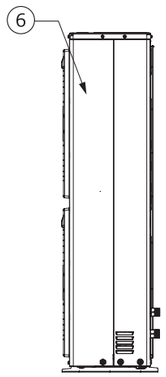
Category	Unit	Model Name		
		Capacity (kW)		
		12.0	14.0	16.0
1 Phase Model 220 ~ 240V, 1Ø, 50Hz	Monobloc Unit	HM121M U33	HM141M U33	HM161M U33
3 Phase Model 380 ~ 415V, 3Ø, 50Hz		HM123M U33	HM143M U33	HM163M U33

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

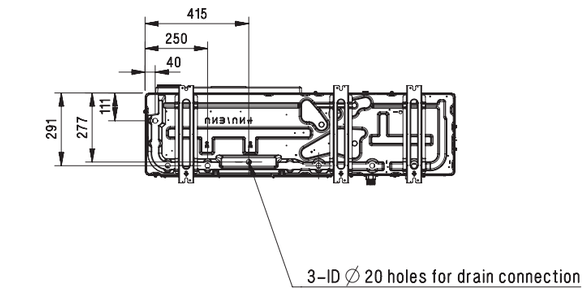
[Unit : mm]



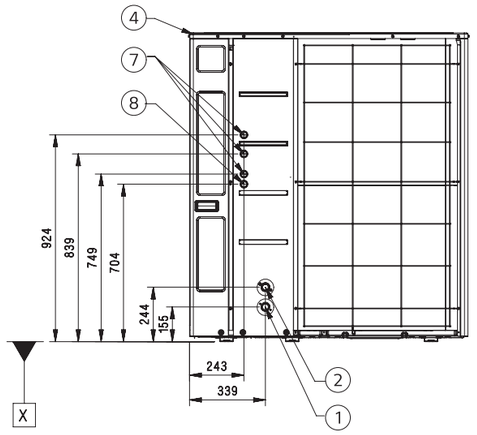


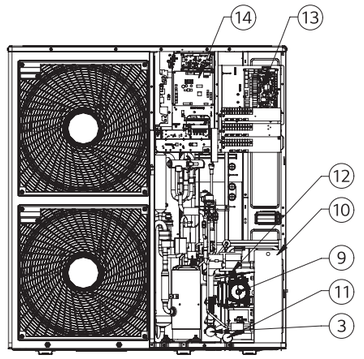


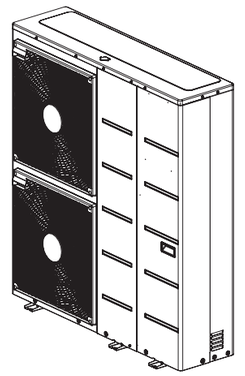
Side View



[Unit : mm]







3D View

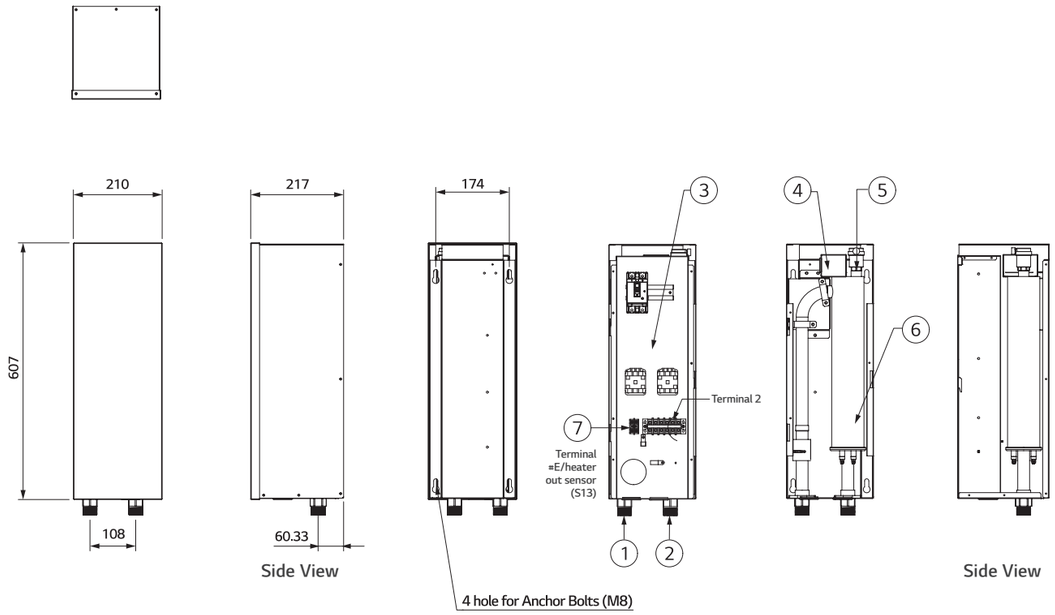
No.	Part Name	Description
1	Entering Water Pipe	Male PT 1 inch
2	Leaving Water Pipe	Male PT 1 inch
3	Strainer	Filtering and stacking particles inside circulating water
4	Top Cover	-
5	Front Panel	-
6	Side Panel	-
7	Low Voltage	Accessory kit cables
8	UNIT Power	Outdoor entry power cable
9	Water Pump	-
10	Plate Heat Exchanger	Heat exchange between refrigerant and water
11	Pressure Gauge	Indicates circulating water pressure
12	Safety Valve	Open at water pressure 3bar
13	Indoor Control Box	Indoor PCB and terminal blocks
14	Outdoor Control Box	Outdoor PCB and terminal blocks

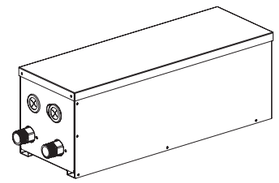
PRODUCT SPECIFICATION

Electric Back up Heater

HA031M E1
HA061M E1
HA063M E1

[Unit : mm]





3D View

Product Specification

Electrical Specification		Unit	HA031M E1	HA061M E1	HA063M E1
Back up 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
	Operation	-	Automatic		
	Heating Steps	Step	1	2	1
	Power Supply	V, Ø, Hz	220 ~ 240, 1, 50		380 ~ 415, 3, 50
	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 2C	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. And "Electric characteristics" chapter should be considered for electrical work and design. Especially the power cable and circuit breaker should be selected in accordance with that.

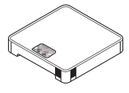
No.	Part Name	Description
1	Leaving Water Pipe	Male PT 1 inch
2	Entering Water Pipe	Male PT 1 inch
3	Control Box	Circuit breaker, Magnetic switch, Terminal blocks
4	Thermal Switch	Cut-off power input to E/heater at 90°C
5	Air Vent	Air purging when charging water
6	Electric Heater	Refer the related information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

THERMA V™
ACCESSORIES

ACCESSORIES

Accessories Provided by LG

Category	Model Name	Model Number	Figure	Applicable Product	Relevant Function	Purpose	Feature
Sensors	Room Temperature Sensor	PQRSTA0		All except for R410A IWT	Room Temperature Based Control	To detect room air temperature for room temperature based control	• Max. wire length : 15m
	2nd Circuit Thermistor	PRSTAT5K10		All except for R410A IWT and High temp.	2nd Circuit (mixing circuit)	To detect 2nd circuit temperature when using 2nd circuit function	• 5kΩ thermistor, 10m
	Domestic Hot Water Sensor	PHRSTA0		All except for IWT and High temp. models	Domestic Hot Water Heating	To detect DHW tank temperature	• Included in PHLTA kit
Valves	3 Way Valve	OSHA-3V		All except for IWT models	Domestic Hot Water Heating	To divert water flow between space heating and DHW heating	• Size : DN 20 G 1" connection, male threaded
	Thermostatic Mixing Valve	OSHA-MV		Regardless of model	Domestic Hot Water Supply	To blend hot water with cold water for ensuring constant, safe shower and bath outlet temp.	• Size : 3/4" DN20 male threaded
		OSHA-MV1					• Size : 1" DN25 male threaded
DHW Tanks	Domestic Hot Water Tank (single coil)	OSHW-200F		All except for IWT models	Domestic Hot Water Heating	To generate and store domestic hot water	• Storage volume : 200L, 300L, 500L • Type : Internal double coil • Material : Stainless steel • Capacity of booster heater : 2.4kW
		OSHW-300F					
		OSHW-500F					
	Domestic Hot Water Tank (double coil)	OSHW-300FD		All except for IWT and High temp. models			• Storage volume : 300L • Type : Internal double coil • Material : Stainless steel • Capacity of booster heater : 2.4kW
Installation Kits	Domestic Hot Water Tank Kit	PHLTA (1Ø, split)		All except for IWT and High temp. models	Domestic Hot Water Heating	To operate with DHW tank	• Parts included : DHW tank sensor (thermistor), Circuit breaker, Relay
		PHLTC (3Ø, split)					
		PHLTB (monobloc)					• Parts included : DHW tank sensor (thermistor), Circuit breaker, Relay, Multi harness
	Solar Thermal Kit	PHLLA		All except for IWT, Hydrosplit and High temp. models	Solar Thermal Heat Utilization	To operate with solar thermal system	• Length of thermistor : 12m • Size of tube connector (W x H x D) : 110 x 55 x 22

Category	Model Name	Model Number	Figure	Applicable Product	Relevant Function	Purpose	Feature
Installation Kits	Electric Back Up Heater	HA031M E1		R32 Monobloc and R32 Silent Monobloc (HA063M E1 is not applicable for R32 Silent Monobloc)	Capacity Back Up & Emergency Operation	To supplement insufficient capacity	• Heater capacity : 3kW • Number of heating coil : 1EA (3.0kW) • Size (W x H x D) : 210 x 607 x 217 • Power : 220 ~ 240V, 1Ø
		HA061M E1					• Heater capacity : 6kW • Number of heating coil : 2EA (3.0 + 3.0kW) • Size (W x H x D) : 210 x 607 x 217 • Power : 220 ~ 240V, 1Ø
		HA063M E1					• Heater capacity : 6kW • Number of heating coil : 3EA (2.0 + 2.0 + 2.0kW) • Size (W x H x D) : 210 x 607 x 217 • Power : 380 ~ 415V, 3Ø
Vessel	Buffer Tank for Space Heating	OSHB-40KT		R32 IWT	-	To provide the buffer volume of water to the heating circuit	• Volume : 40L • Size (W x H x D) : 518 x 560 x 175
	Expansion Vessel for DHW	OSHE-12KT		R32 IWT	-	To absorb the volume changes by temperature of water for the DHW circuit	• Volume : 8L • Connection : 3/4" • Max. pressure : 10 bar • Size (W x H x D) : 416 x 238 x 502
ETC	Extension Wire for Wire Remote Controller	PZCWRC1		All except for R410A IWT	-	To extend wire between wired remote controller and indoor unit	• Length : 10m
	Extension Cable for Wi-Fi Modem	PWYREW000		All except for R410A IWT	Wi-Fi Control via LG ThinQ	To extend wire between WI-Fi modem and indoor unit	• Length : 10m
	2 Remote Control Wire	PZCWRC2		All except for R410A IWT model	2 Remote Control	To connect two remote controller on the one indoor unit	• Length : 0.25m
	Drain Pan	PHDPB		R32 Split, R410A Split	Cooling Operation	To collect condensed water in indoor unit when cooling operation	-
		PHDPC		R32 Hydrosplit			
	Cover Plate	PDC-HK10		R32 Hydrosplit, R32 Split, R32 IWT, R410A Split	-	To fill the blank space of the indoor unit front panel when the remote controller is relocated indoors.	-

ACCESSORIES

Accessories Provided by LG

Category	Model Name	Model Number	Figure	Applicable Product	Relevant Function	Purpose	Feature
Remote Controller	Wired Remote Controller	PREMTW101		All except for R410A IWT model	2 Remote Control	To control AWHP using two remote controller (additional remote controller)	• New modern design 4.3 inch color LCD display • Information displayed with simple graphic, icon & text • Built-in temperature sensor • Size (W x H x D) : 120 x 120 x 16 • Extension cable (PZCWRC1, 10m) and 2 remote cable (PZCWRC2, 0.25m) are included
Central Controller	AC Ez Touch	PACEZA000		All except for R410A IWT model	Centralized Control	To control AWHP using LG central controller	• 5 inch color display • User-friendly control with iconographic interface (touch screen) • Max. 32 unit control • Total 200 schedule events (weekly / monthly / yearly / exception day) • Operation history • Remote controller lock (all, temp, mode) • PC access supported (IPv6 supported) • DI 1EA (emergency stop only) • Size (W x H x D) : 137 x 121 x 25
	AC Smart 5	PACS4B000 (Smart 4) PACS5A000 (Smart 5)					• 10.2 inch color display • User-friendly control with iconographic interface (touch screen) • (Smart 4)_Max. IDU 32, (Smart 5)_Max. IDU 64 • Total 100 schedule events (weekly / monthly / yearly / exception day) • History / operation trend • Interlock with 3rd party equipment (ACS IO, ACU IO module is needed) • Error alarm by e-mail • Remote controller lock (all, temp, mode) • Map view (visual navigation) • Web access supported with HTML5 (PC, smartphone, tablet) • DI 2EA, DO 2EA • BACnet IP/ modbus TCP protocol support • Size (W x H x D) : 253.2 x 167.7 x 28.9
	ACP 5	PACP4B000 (ACP4) PACP5A000 (ACP5)					• Web access controller • Max. 128 unit control • Total 100 schedule events (weekly / monthly / yearly / exception day) • History / operation trend • Interlock with 3rd party equipment (ACS IO, ACU IO module is needed) • Error alarm by e-mail • Remote controller lock (all, temp, mode) • Map view (visual navigation) • DI 10EA, DO 4EA • BACnet IP/ modbus TCP protocol support • Size (W x H x D) : 270 x 155 x 65
Gateway	ACP Lonworks	PLNWKB000		All except for R410A IWT model	Centralized Control	To link with AWHP and other existing building control system	• Web access controller • Max. 64 unit control • ACP function included • Lonworks protocol support • Size (W x H x D) : 270 x 155 x 65

Category	Model Name	Model Number	Figure	Applicable Product	Relevant Function	Purpose	Feature
Gateway	Modbus RTU Gateway	PMBUSB00A		All except for R410A IWT model	Centralized Control	To communicate and control through the central controller (providing modbus RTU connection between AWHP and BMS)	• Modbus RTU slave (RS485) / 9,600 bps • Size (W x H x D) : 53.6 x 89.7 x 60.7 • Max. 16 IDUs with single module / Max. 64 IDUs with 4 modules • Power : DC 12V
	PI485 Gateway	PMNFP14A1		All except for R410A IWT model		To communicate and control through the central controller (converting LG protocol to RS485 protocol)	• 1 for each outdoor unit • Power : Supplied by outdoor unit
	PI485 Gateway	PP485B00K		R410A IWT		To communicate between outdoor unit and IWT type indoor unit	• 1 for each outdoor unit • Power : Supplied by outdoor unit
Dry Contact	Simple Dry Contact	PDRYCB000		All except for R410A IWT model	-	To connect between the AWHP and external devices to control various functions	• 1 Set per 1 unit • 1 Input contact for turning on/off • Input power : 220 ~ 240V • 2 output contacts - Operation status - Error status
	Dry Contact for Thermostat	PDRYCB320					• 1 Set per 1 unit • Non voltage or 12 ~ 24V • 8 digital input contacts for thermostat - On/off, operation mode, DHW heating - Emergency mode, silent mode • 2 Output contacts - Operation status - Error status
ETC	LG Wi-Fi Modem	PWFMDD200		All except for R410A IWT model	Wi-Fi Control via LG ThinQ	To control AWHP via smartphone	• Basic control function - On/off, operation mode, set temp - DHW heating and set temp • Weekly on/off schedule • Error status check • Frequency : 2.4GHz • IEEE 802.11b/g/n supported
	Meter Interface	PENKTH000		All except for R410A IWT model	Energy Monitoring	To measure production / consumption power	• Energy meter interface to monitor Electricity and Heat energy - Max. 3 watt - Hour meter - Max. 1 heat meter - Pulse width : 40ms ~ 100ms • Modbus RTU comm. with THERMA V - 2 wire RS485 / 9600bps • Power : DC 12V • Size (W x H x D) : 54 x 90 x 61
	2 Zone Valve Controller	PZNVVB200		All except for R410A IWT model	Zone Valve Control	To control individual zone valves with room temperature sensor or room thermostat	• Individual temperature setting possible. (to be set through wired remote control in room temperature input mode) • Room temperature detection (AI : 2 ports) • 3rd Party thermostat interlock input. (DI : 2 port) • Can read one DI or AI for each zone. • Maximum number of connections : Max. 4EA (expandable up to 8-zone) • Size (W x H x D) : 53.6 x 89.7 x 60.7 • Power : DC12V for module, AC24V for valve

Note
1. PI485 Gateway (PMNFP14A1) should be installed on outdoor unit to use central controller.

ACCESSORIES

LG Wi-Fi Modem

PWFMDD200 ENCXLEU

Access LG THERMA V anytime and from anywhere with Wi-Fi equipped device. LG's exclusive Home Appliances control app (LG ThinQ) is available.
Simple operation for various functions.

- On/off
- Operation mode selection
- Current temperature
- Set temperature
- On/off reservation scheduling
- Energy monitoring
- ESS monitoring
- Silent mode reservation
- Holiday mode
- Quick DHW heating

Model Name	PWFMDD200
Size (mm)	46 x 68 x 14
Interfaceable Products	All THERMA V Line-ups except for R410A IWT
Connection Type	Indoor Unit 1 : 1
Communication Frequency	2.4GHz
Wireless Standards	IEEE 802.11b/g/n
Mobile Application	LG ThinQ (Android v4.1 (Jellybean) or higher, iPhone iOS 9.0 or higher)
Optional Extension Cable	PWYREW000 (10m extension)

Note

1. Functionality may be different according to each Indoor model.
2. User interface of application shall be revised for its design and contents improvement.
3. Application is optimized for smartphone use, so it may not be well functioning with tablet devices.
   - For the compatibility with indoor unit, please contact regional office.

Domestic Hot Water Tank

OSHW-200F AEU
OSHW-300F AEU
OSHW-500F AEU
OSHW-300FD AEU

Double Coil Single Coil

Domestic Hot Water Tank		Unit	OSHW-200F	OSHW-300F	OSHW-500F	OSHW-300FD
General Characteristics	Water Volume	ℓ	200	300	500	300
	Diameter	mm	640	640	640	640
	Height	mm	1,350	1,850	1,900	1,850
	Empty Weight	Kg	61	100	146	106
	Tank Materials	-	STS : F18	STS : F18	STS : F18	STS : F18
	Color	-	Grey	Grey	Grey	Grey
Specification of Electric Back up	Additional Electric Heater	W	2,400	2,400	2,400	2,400
	Power Supply	V, Ø, Hz	230, 1, 50 (60)	230, 1, 50 (60)	230, 1, 50 (60)	230, 1, 50 (60)
	Adjustable Thermostat	°C	0 ~ 90	0 ~ 90	0 ~ 90	0 ~ 90
Specification of Heat Exchanger	Exchanger Type	-	Single	Single	Single	Double
	Material Exchanger	-	STS : F18	STS : F18	STS : F18	STS : F18
	Maximum Water Temp.	°C	90	90	90	90
	Coil Surface	m^2	2.3	3.1	4.8	3.1 + 0.97
Water Connections	Heat Pump Inlet	inch	1 BSP female	1 BSP female	1 ¼ BSP female	¾ BSP female (upper coil)
	Heat Pump Outlet	inch	1 BSP female	1 BSP female	1 ¼ BSP female	¾ BSP female (upper coil)
	Solar Inlet	inch	-	-	-	1 BSP Female (lower coil)
	Solar Outlet	inch	-	-	-	1 BSP Female (lower coil)
	City Water Inlet	inch	¾ BSP male	¾ BSP male	1 BSP male	¾ BSP male
	Hot Water Outlet	inch	¾ BSP female	1 BSP female	1 BSP female	1 BSP female
Energy Efficiency Class (A+ to F scale)		-	B	B	B	B
Standing Heat Loss		W	61	70	83	70

Mandatory Optional Accessories	
Domestic Hot Water Tank Installation Kit	PHLTA (1Ø, split), PHLTB (monobloc), PHLTC (3Ø, split)
Optional Accessories	
Thermostatic Mixing Valve (3/4" DN20)	OSHA-MV
Thermostatic Mixing Valve (1" DN25)	OSHA-MV1
3 Way Valve	OSHA-3V

ACCESSORIES

Combined Test with DHW Tank

LG has conducted a combination test of THERMA V with DHW tanks in accordance with EN16147 and obtained an ErP label for packages in order to cope with European nZEB regulations.

- R32 Monobloc (5, 7, 9kW) + OSHW-200F
- R32 Monobloc (12, 14, 16kW) + OSHW-200F
- R32 Monobloc (5, 7, 9kW) + OSHW-300F
- R32 Split Hydro Box (5, 7, 9kW) + OSHW-200F

Model	AWHP	R32 Split (5,7,9kW)	R32 Monobloc (5,7,9kW)	R32 Monobloc (12,14,16kW)	R32 Monobloc (5,7,9kW)
	IDU	HN0916M NK4	HM051M U43 HM071M U43 HM091M U43	HM121M U33 HM141M U33 HM161M U33	HM051M U43 HM071M U43 HM091M U43
	ODU	HU051MR U44 HU071MR U44 HU091MR U44			
	Tank	OSHW-200F AEU	OSHW-200F AEU	OSHW-200F AEU	OSHW-300F AEU
Declared Load Profile		L	L	L	XL
Average Climate	Grade	A+	A+	A	A+
	Efficiency	118%	122%	109%	134%
	Annual Energy Consumption	865kWh	839kWh	940kWh	1,254kWh
Energy Label