LG
Life's Good

THERMA V™ R32

R32 Monobloc S

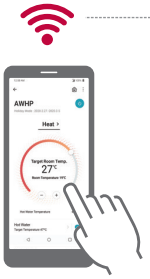


User Convenience

Intuitive interface | LG ThinQ | Mixing circuit | Various control options | Flow sensor | Pressure sensor | 3rd party boiler | Energy monitoring | Seasonal auto mode | Low noise mode | Advanced pump control

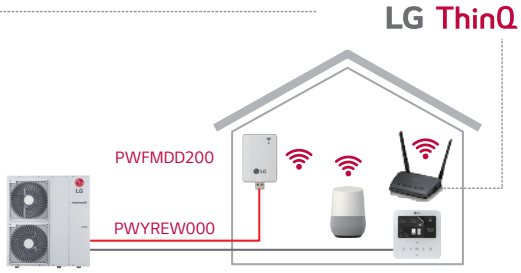
LG ThinQ Seamless Connectivity

LG ThinQ allows users to monitor and control compatible LG products remotely, so they can set the temperature and regulate the use of their THERMA V anytime, anywhere. ThinQ technology also works with voice activation with Google Home.



Mandatory accessory :
PWFMDD200 (LG Wi-Fi Modem)
PWYREW000 (10m extension connect cable in between THERMA V and LG Wi-Fi Modem) could be required depends on installation condition.

* Search "LG ThinQ" on Google playstore or App store, then download the app.
* Google home voice is supported in United Kingdom, France, Germany, Spain, Italy, Austria, Ireland, Portugal.

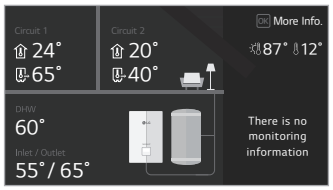


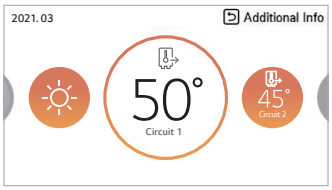
Intuitive Control

THERMA V is equipped with a new remote controller which supports various functions.

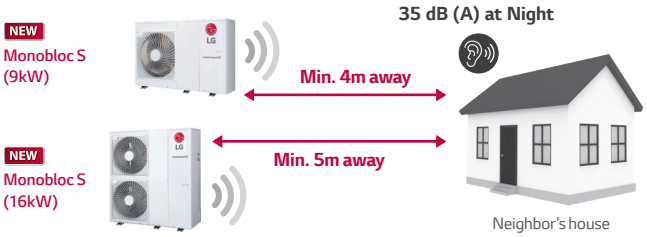
- Premium design (4.3 inch color LCD)
- User friendly interface (simple graphic, icon & text)
- Convenient functions
  (easy schedule setting & installer setting)
- Energy monitoring without meter interface
  (estimated power consumption)

* Instant power consumption and cumulative power consumption





Reduced Noise Level

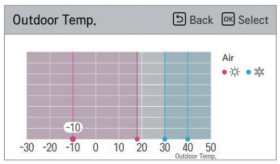


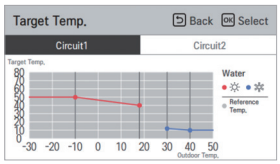
The UK Government states that the noise level should not be higher than 45dB when being 1 meter away from the window of a neighbouring residential property.

* Sound Pressure Level is converted from Sound Power Level of Low Noise Mode based on Tonality penalty of 0dB and installation in free-field.

Seasonal Auto Mode

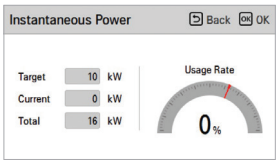
The operation mode and target temperature will be changed according to the outdoor temperature automatically. Moreover, this function can be conveniently set using visualized graphics.

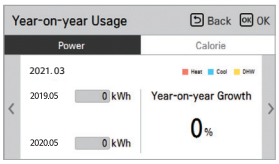




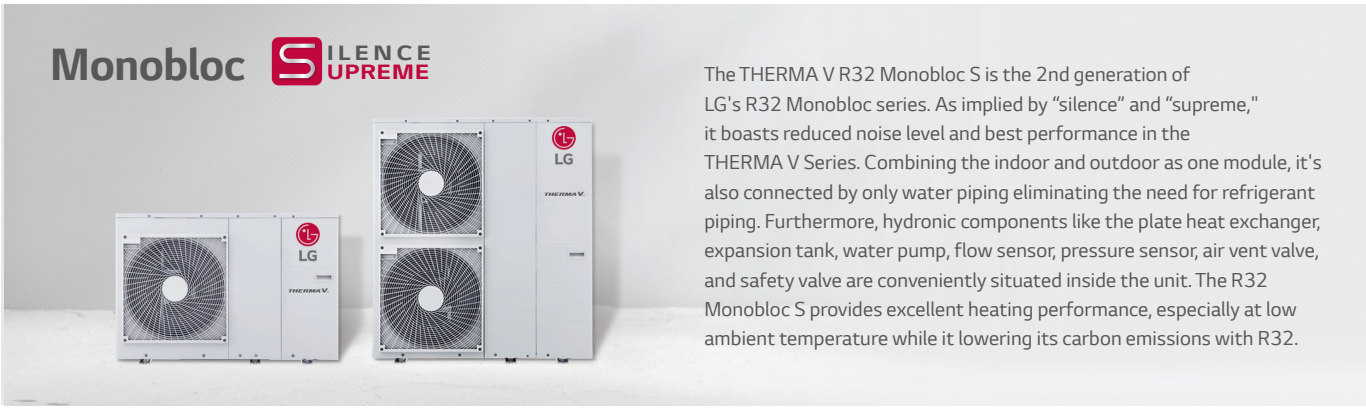
Energy Monitoring

Without connection of Meter Interface, estimated power consumption for Therma V and backup heater can be monitored on the remote controller.





THERMA V R32 Monobloc S at a Glance

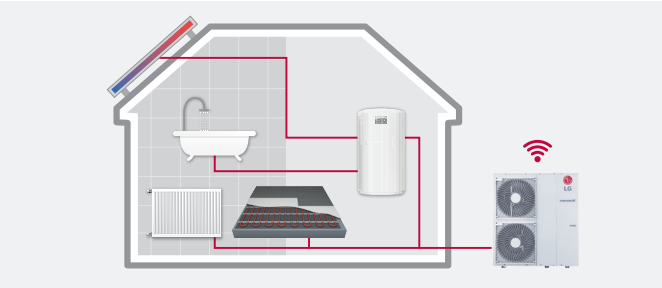


The THERMA V R32 Monobloc S is the 2nd generation of LG's R32 Monobloc series. As implied by "silence" and "supreme," it boasts reduced noise level and best performance in the THERMA V Series. Combining the indoor and outdoor as one module, it's also connected by only water piping eliminating the need for refrigerant piping. Furthermore, hydronic components like the plate heat exchanger, expansion tank, water pump, flow sensor, pressure sensor, air vent valve, and safety valve are conveniently situated inside the unit. The R32 Monobloc S provides excellent heating performance, especially at low ambient temperature while it lowering its carbon emissions with R32.

THERMA V R32 Monobloc S

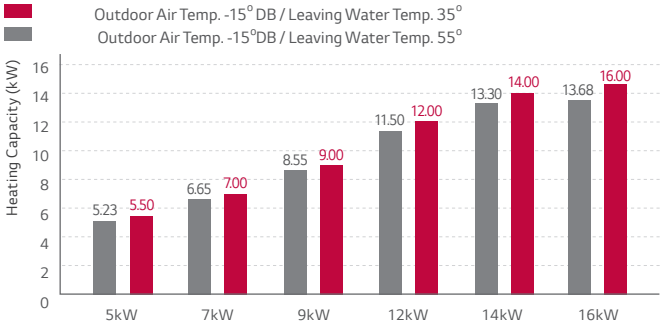
Enhanced installation flexibility

- All-in-one outdoor unit
- Low sound level allowing high installation location flexibility
- ODU with built-in hydronic components : water pump, flow sensor, pressure sensor, expansion tank, air vent, etc.
- User-friendly installation settings interface
- Optional electric backup heater (3kW or 6kW)
- Enhanced connectivity for 3rd party backup heater



High efficiency and wide operational range

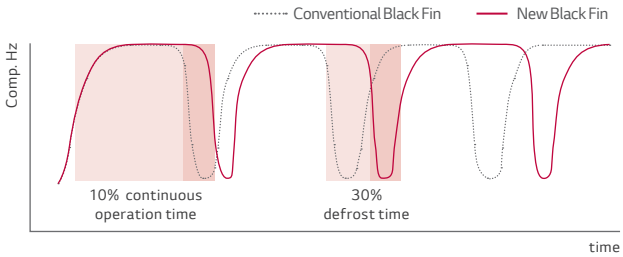
- R32 refrigerant with reduced global warming potential (GWP)
- Less environmental impact with low refrigerant amount (compared to R410A)
- 100% heating capacity at -15 °OAT (@LWT 35°)
- Improved heating operation at defrost condition
- SCOP up to 4.67 (Average climate / Low temp. application) : A+++
  SCOP up to 3.47 (Average climate / Mid temp. application) : A++
- COP up to 4.90 (Outdoor air 7° / Leaving water 35°)
- Leaving water temperature up to 65°
- Expanded operative range of solar thermal system



Innovative design and technology

- Improved heat exchanger design (New Black Fin)
- Built-in water flow & pressure sensors to monitor real-time water circuit
- Advanced water pump control
  (Optimal flow rate, fixed capacity, fixed flow rate)
- Enhanced 2nd circuit control logic
- Energy monitoring of estimated power consumption via remote controller
- Modbus connectivity without gateway
- Control for DHW recirculation pump based on schedule

Heating operation at defrost condition



10% increase in overall operating rate during defrost condition

* This result is based on LG internal test and it can be different depending on actual environment.

Product	Capacity (kW)	Unit		Appearance
		1Ø	3Ø	
R32 Monobloc S	5	HM051MR U44	-	
	7	HM071MR U44	-	
	9	HM091MR U44	-	
	12	HM121MR U34	HM123MR U34	
	14	HM141MR U34	HM143MR U34	
	16	HM161MR U34	HM163MR U34	

EASY INSTALLATION

EXCELLENT PERFORMANCE & EFFICIENCY

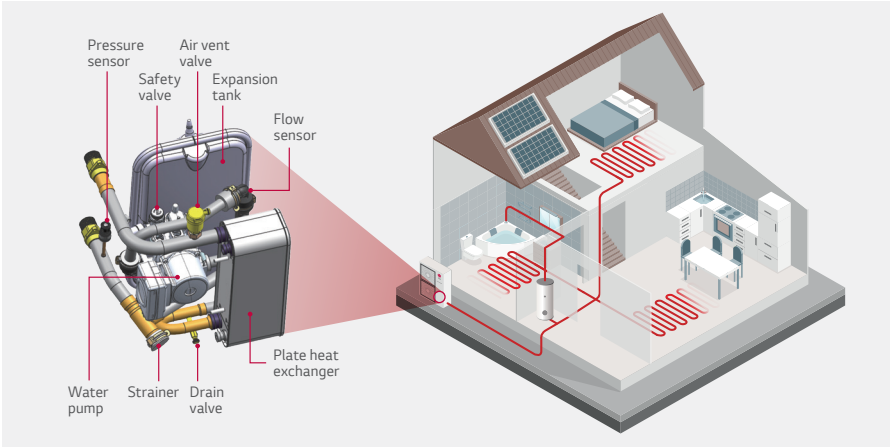
all-in-one | LG heating configurator* | Clip connection | R1 compressor | R32 refrigerant | Flash gas injection | Wide operation range | Black Fin heat exchanger | Solar thermal | Energy state | Modbus communication

* Will be supported within this year

Monobloc Concept

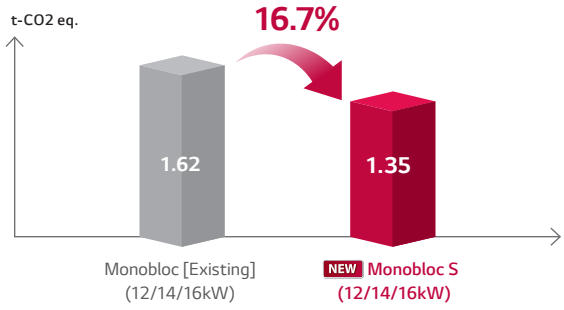
R32 Monobloc S is an all-in-one concept and reduced weight allows for quicker and easier installations.

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



Less Environmental Impact

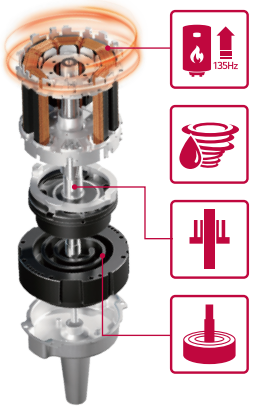
R32 Monobloc S produces less carbon emission by reducing the amount of refrigerant in the system compared to current model.



Line up : 12 / 14 / 16 kW	Monobloc [Existing]	NEW Monobloc S
Refrigerant Amount (kg)	2.4	2.0
T-CO2 eq.	1.62	1.35

R1 Compressor™ LG's Revolutionary Technology

R1 Compressor™ technology offers advanced efficiency, reliability and operational range due in part to the enhanced tilting motion of the scroll.



Extended operation range (max. 135Hz)

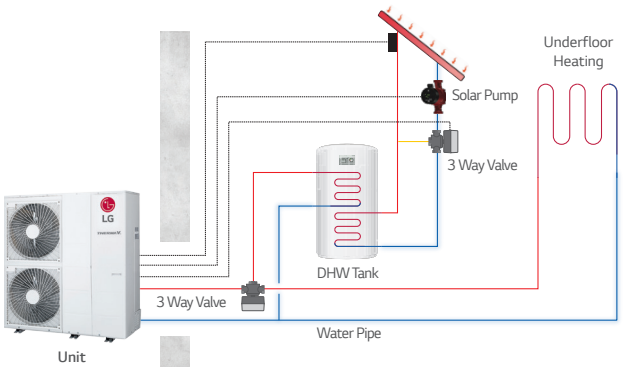
Centrifugal oil return & Oil separating guide for oil discharge reduction

Shaft-through structure & Support both ends of shaft
- Solid compressor operation assuring higher durability

Bottom compression & Simple structure
- Lower noise & vibration
- Less weight
- Superior reliability

Combination with Solar Thermal System

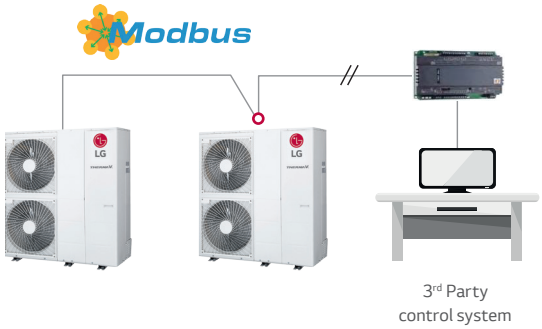
By combining the solar system with Therma V, the efficiency of DHW heating operation can be maximised.



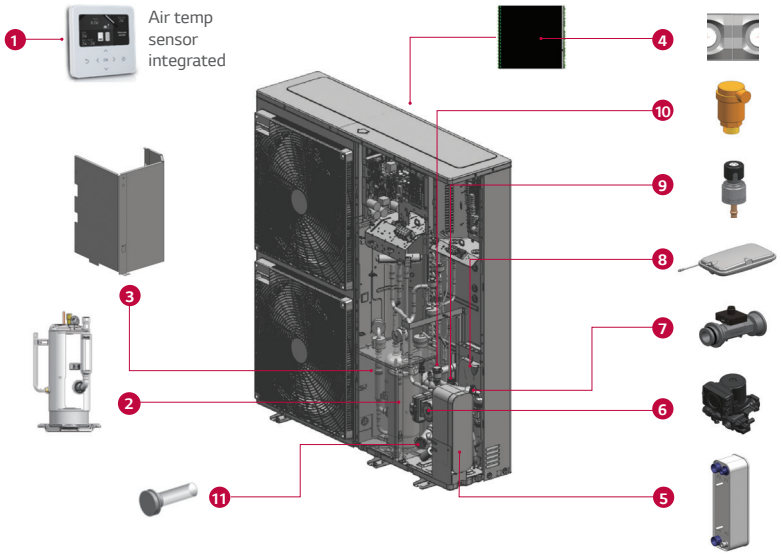
* Mandatory accessory : PT-1000 type solar thermal temp. sensor (field supply)

Direct Modbus Communication

R32 Monobloc S can be connected and controlled by 3rd party control system using Modbus protocol directly, without Modbus RTU gateway.



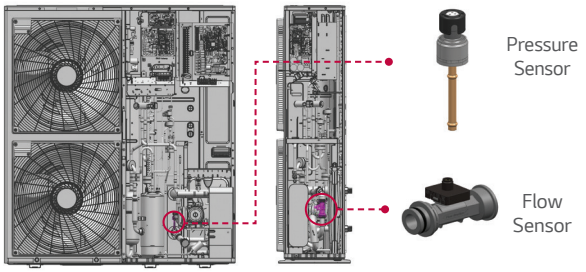
Key Components

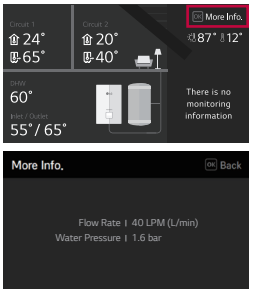


1. Standard III remote controller (separately provided)
2. R1 Compressor
3. NEW Compressor noise shield
4. NEW Black Fin heat exchanger (ref/air)
5. Plate type heat exchanger (ref/water)
6. Water pump (GRUNDFOS)
7. NEW Water flow sensor
8. Expansion vessel (8ℓ)
9. NEW Water pressure sensor
10. Air vent valve
11. Strainer

Water Circuit Monitoring

It is possible to monitor via remote controller not only temperature of water circuit but also flow rate and pressure. These information provides installers with more reliable information for easier installation and maintenance (periodic strainer cleaning).



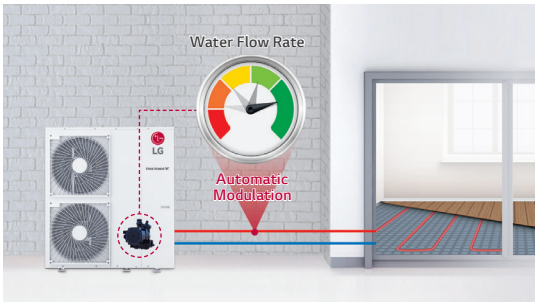


Available information on the screen

- The room temperature
- The water inlet / outlet temperature
- The water pump operation
- NEW The water flow rate
- NEW The water pressure
- The solar heat temperature
- The outdoor temperature

Advanced Pump Control Options

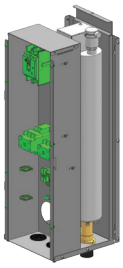
Various pump operation options contribute to energy savings by providing optimum water pump control and reliable product operation.



Options	Description	Water Flow Change as per load condition
Pump Capacity	It operates with the capacity set for the water pump. (range 10 ~ 100%)	No
Fixed Flow Rate	Automatically controlled to maintain the set flow rate. (5, 7, 9kW range : 8 ~ 26 LPM / 12, 14, 16kW range : 17 ~ 46 LPM)	No
Fixed ΔT*	Automatically controlled to maintain the set ΔT. (range 5 ~ 13℃)	Yes
Optimal Flow Rate (default)	ΔT is changed as per Target Temp.	Yes

*ΔT = temperature difference between inlet and outlet water temperature.

Accessory Backup Heater



Technical 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
	Current (Rated)	A	12.5	25.0	8.7
	Circuit Breaker (ELCB)	A	25	40	25
	Dimensions (W x H x D)	mm	210 x 607 x 217		
Wiring Connections	Power 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

Nominal Capacity and Nominal Input

Description		OAT[1] (DB)	LWT[2] (DB)	Unit	HM051MR U44	HM071MR U44	HM091MR U44	HM121MR U34 / HM123MR U34	HM141MR U34 / HM143MR U34	HM161MR U34 / HM163MR U34
Nominal Capacity	Heating	7°	35°	kW	5.50	7.00	9.00	12.00	14.00	16.00
		7°	55°		5.50	7.00	9.00	11.00	11.50	12.00
		2°	35°		5.50	7.00	9.00	11.00	12.00	13.80
Nominal Power Input	Heating	7°	35°	kW	1.17	1.49	1.96	2.45	2.92	3.40
		7°	55°		2.04	2.04	2.04	3.79	4.04	4.29
		2°	35°		1.22	1.58	1.94	3.01	3.31	3.83
COP	Heating	7°	35°	W/W	4.70	4.70	4.60	4.90	4.80	4.70
		7°	55°		2.70	2.70	2.70	2.90	2.85	2.80
		2°	35°		3.60	3.55	3.50	3.65	3.63	3.60

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

Product Specification

Technical Specification				Unit	HM051MR U44	HM071MR U44	HM091MR U44	HM121MR U34 (1Ø) / HM123MR U34 (3Ø)	HM141MR U34 (1Ø) / HM143MR U34 (3Ø)	HM161MR U34 (1Ø) / HM163MR U34 (3Ø)
Water Side	Operation Range (Leaving Water Temp.)	Heating	Min. ~ Max.	°DB	15 ~ 65					
		DHW			15 ~ 80 [2]					
	Water Pump	Model		-	Grundfos UPM3K 20-75 CHBL			Grundfos UPML 20-105 CHBL		
	Flow Sensor	Measuring Range		ℓ/min	5 ~ 80					
	Water Pressure Sensor	Measuring Range		bar (G)	0 ~ 20					
	Expansion Vessel	Volume	Max.	ℓ	8					
	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)					
	Strainer	Max. Particle Size / Material		mm / -	0.6 / Stainless Steel					
	Safety Valve	Pressure Limit	Upper Limit	bar	3.0					
	Rated Water Flow Rate	at LWT 35 °		ℓ/min	15.8	20.1	25.9	34.5	40.3	46.0
Refrigerant Side	Operation Range (Outdoor Temp.)	Heating	Min ~ Max	°DB	-25 ~ 35					
	Compressor	Type		-	Hermetic Sealed Scroll					
	Refrigerant	Type		-	R32					
		GWP (Global Warming Potential)		-	675					
		Precharged Amount		g	1,400			2,000		
		t-CO2 eq		-	0.945			1.350		
Sound Power Level		Heating	Rated	dB(A)	57			60	61	
			Low Noise Mode	dB(A)	54	55		56	57	
Sound Pressure Level (at 5m)		Heating	Rated	dB(A)	35			38	39	
			Low Noise Mode	dB(A)	32	33		34	35	
Dimensions		Unit	W × H × D	mm	1,239 × 834 × 330			1,239 × 1,380 × 330		
Weight		Unit		kg	89.0			118.6		
Exterior		Color / RAL Code		-	Warm Grey / RAL 7044					
Power Supply		Voltage, Phase, Frequency		V, Ø, Hz	220-240, 1, 50			220-240, 1, 50 / 380-415, 3, 50		
		Rated Running Current	Heating	A	5.2	6.6	8.7	1Ø : 10.9 / 3Ø : 3.6	1Ø : 12.9 / 3Ø : 4.3	1Ø : 15.1 / 3Ø : 5.0
		Recommended Circuit Breaker		A	16	20	25	1Ø : 40 / 3Ø : 16		

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

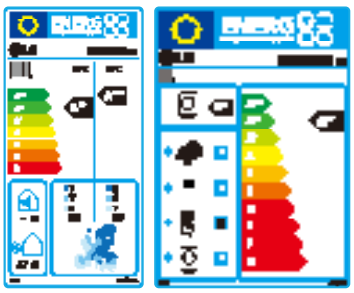
Note
1. Due to our policy of innovation some specifications may be changed without notification.
2. Wiring cable size must comply with the applicable local and national codes. Especially the power cable and circuit breaker should be selected in accordance with that.
3. Sound power level is measured on 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°CDB / 6°CWB, LWT 35°C
5. This product contains fluorinated greenhouse gases.

Seasonal Energy Efficiency

Description			Unit	HM051MR U44	HM071MR U44	HM091MR U44
Space Heating (According to EN14825)	Average Climate Water Outlet 35°C	SCOP	W/W	4.46	4.48	4.55
		Seasonal Space Heating Efficiency (ηs)	%	175	176	179
		Seasonal Space Heating Eff. Class (A+++ to D Scale)	-	A+++	A+++	A+++
	Average Climate Water Outlet 55°C	SCOP	-	3.20	3.20	3.20
		Seasonal Space Heating Efficiency (ηs)	%	125	125	125
		Seasonal Space Heating Eff. Class (A+++ to D Scale)	-	A++	A++	A++

011-1W0471

* EHPA & MCS label under development.



* 9kW 1Ø model.
* A+++ to D scale.

Description			Unit	HM121MR U34 / HM123MR U34	HM141MR U34 / HM143MR U34	HM161MR U34 / HM163MR U34
Space Heating (According to EN 14825)	Average Climate Water Outlet 35°C	SCOP	-	4.67	4.62	4.53
		Seasonal Space Heating Efficiency (ηs)	%	184	182	178
		Seasonal Space Heating Eff. Class (A+++ to D Scale)	-	A+++	A+++	A+++
	Average Climate Water Outlet 55°C	SCOP	-	3.47	3.46	3.45
		Seasonal Space Heating Efficiency (ηs)	%	136	135	135
		Seasonal Space Heating Eff. Class (A+++ to D Scale)	-	A++	A++	A++

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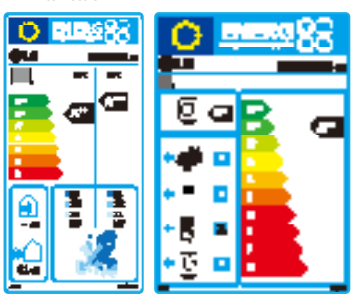
* EHPA & MCS label under development.



* 16kW 1Ø model.
* A+++ to D scale.

Performance Table for Heating Operation

5 / 7 / 9 kW

Maximum Heating Capacity (Including Defrost Effect)

HM051MR U44

Outdoor Temperature	LWT 30℃	LWT 35℃	LWT 40℃	LWT 45℃	LWT 50℃	LWT 55℃	LWT 60℃	LWT 65℃
	TC	TC	TC	TC	TC	TC	TC	TC
-25°C DB	5.50	5.50	5.50	5.50	-	-	-	-
-20°C DB	5.50	5.50	5.50	5.50	5.23	-	-	-
-15°C DB	5.50	5.50	5.50	5.50	5.23	5.23	-	-
-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

HM071MR U44

Outdoor Temperature	LWT 30℃	LWT 35℃	LWT 40℃	LWT 45℃	LWT 50℃	LWT 55℃	LWT 60℃	LWT 65℃
	TC	TC	TC	TC	TC	TC	TC	TC
-25°C DB	5.85	5.85	5.85	5.85	-	-	-	-
-20°C DB	6.43	6.43	6.43	6.43	6.10	-	-	-
-15°C DB	7.00	7.00	7.00	7.00	6.65	6.65	-	-
-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

HM091MR U44

Outdoor Temperature	LWT 30℃	LWT 35℃	LWT 40℃	LWT 45℃	LWT 50℃	LWT 55℃	LWT 60℃	LWT 65℃
	TC	TC	TC	TC	TC	TC	TC	TC
-25°C DB	6.20	6.20	6.20	6.20	-	-	-	-
-20°C DB	7.60	7.60	7.60	7.60	7.22	-	-	-
-15°C DB	9.00	9.00	9.00	9.00	8.55	8.55	-	-
-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 Heating Operation

12 / 14 / 16 kW

Maximum Heating Capacity (Including Defrost Effect)

HM121MR U34 / HM123MR U34

Outdoor Temperature	LWT 30℃	LWT 35℃	LWT 40℃	LWT 45℃	LWT 50℃	LWT 55℃	LWT 60℃	LWT 65℃
	TC	TC	TC	TC	TC	TC	TC	TC
-25°C DB	9.50	9.50	9.50	9.50	-	-	-	-
-20°C DB	10.75	10.75	10.75	10.75	10.21	-	-	-
-15°C DB	12.00	12.00	12.00	12.00	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

HM141MR U34 / HM143MR U34

Outdoor Temperature	LWT 30℃	LWT 35℃	LWT 40℃	LWT 45℃	LWT 50℃	LWT 55℃	LWT 60℃	LWT 65℃
	TC	TC	TC	TC	TC	TC	TC	TC
-25°C DB	10.00	10.00	10.00	10.00	-	-	-	-
-20°C DB	12.00	12.00	12.00	12.00	11.40	-	-	-
-15°C DB	14.00	14.00	14.00	14.00	13.30	13.30	-	-
-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

HM161MR U34 / HM163MR U34

Outdoor Temperature	LWT 30℃	LWT 35℃	LWT 40℃	LWT 45℃	LWT 50℃	LWT 55℃	LWT 60℃	LWT 65℃
	TC	TC	TC	TC	TC	TC	TC	TC
-25°C DB	10.50	10.50	10.50	10.50	-	-	-	-
-20°C DB	13.25	13.25	13.25	13.25	12.59	-	-	-
-15°C DB	16.00	16.00	16.00	16.00	13.68	13.68	-	-
-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.

