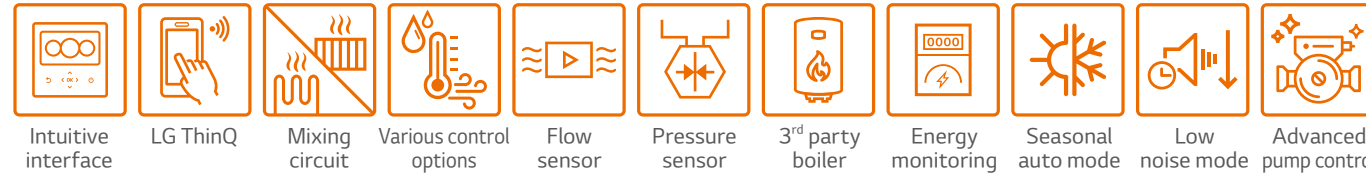
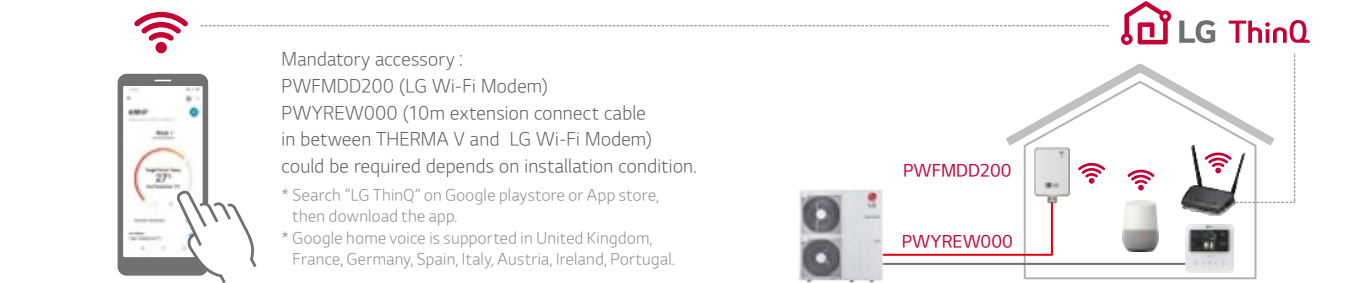


User Convenience



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.



Intuitive Control

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

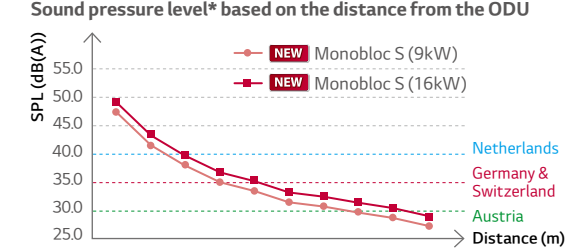
- Premium design (4.3 inch color LCD)
- User friendly interface (simple graphic, icon & text)
- Convenient functions (easy schedule setting & installer setting)
- Energy monitoring without meter interface (estimated power consumption)

* Instant power consumption and cumulative power consumption

Reduced Noise Level

R32 Monobloc S can be installed at the minimum of 4m away (based on 9kW model & Low noise mode) from neighboring houses while complying with German noise regulation.

Description	Germany	Austria	Switzerland	Netherlands
Sound Pressure Threshold	50 dB (A) (06:00 - 22:00)	40 dB (A) (06:00 - 19:00)	40 dB (A) (07:00 - 19:00)	45 dB (A) (07:00 - 19:00)
	-	35 dB (A) (19:00 - 22:00)	-	-
	35 dB (A) (22:00 - 06:00)	30 dB (A) (22:00 - 06:00)	35 dB (A) (19:00 - 07:00)	40 dB (A) (19:00 - 07:00)



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



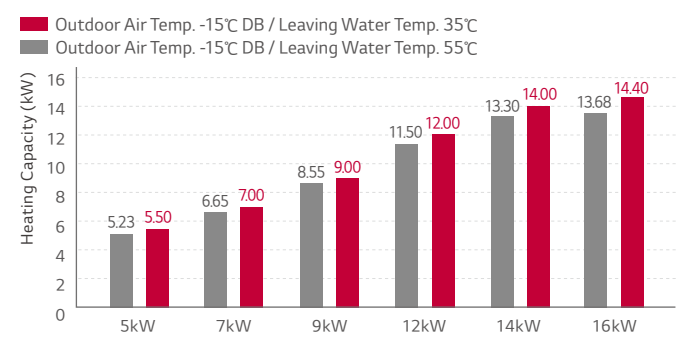
THERMA V™ R32 Monobloc S

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

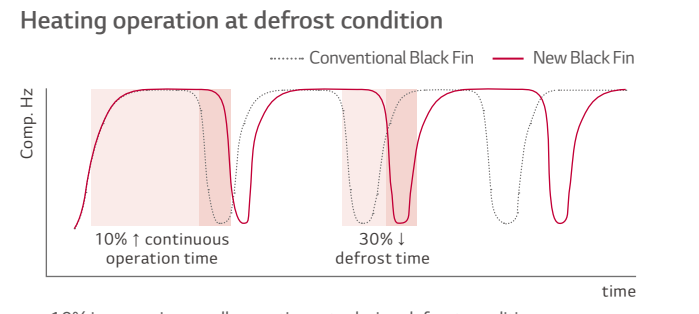
High efficiency & wide operational range

- R32 refrigerant with reduced global warming potential (GWP)
- Less environmental impact with low refrigerant amount
- 100% heating capacity at -15°C OAT (@ LWT 35°C, except for 16kW model)
- 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°C / Leaving water 35°C)
- Leaving water temperature up to 65°C
- Expanded operative range of solar thermal system



Innovative design & 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, fixed ΔT)
- 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



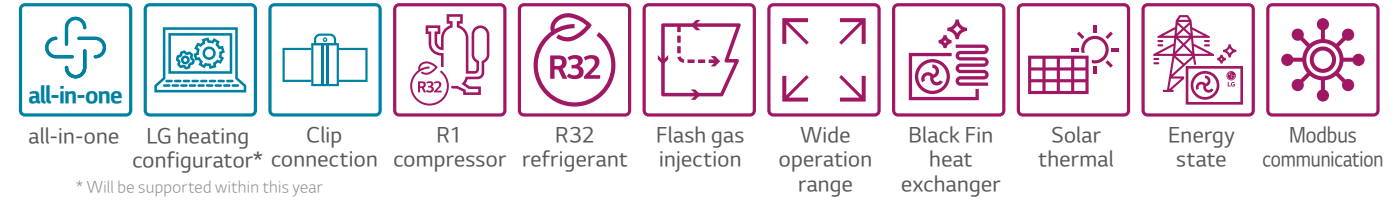
Product	Capacity (kW)	Unit		Appearance
		1Ø	3Ø	
R32 Monobloc S	5	HM051MR U44	-	
	7	HM071MR U44	-	
	9	HM091MR U44	-	
	12	HM121MR U34	HM123MR U34	
	14	HM141MR U34	HM143MR U34	
	16	HM161MR U34	HM163MR U34	



THERMA V™ R32 Monobloc S

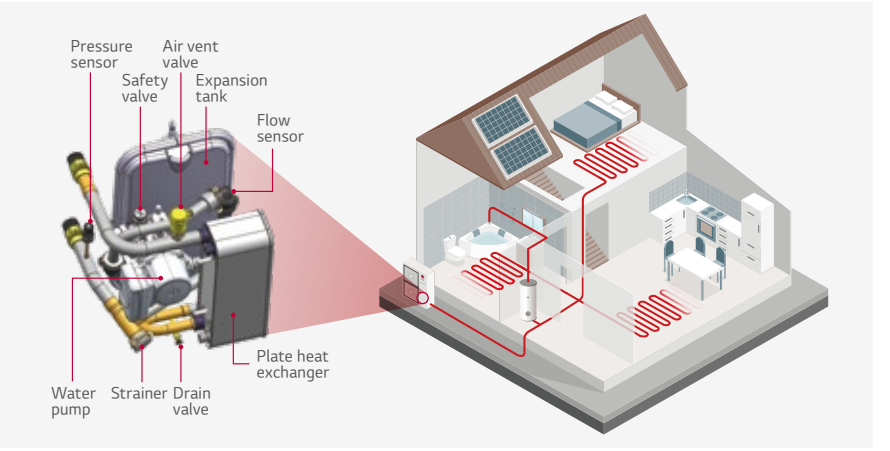


EASY INSTALLATION EXCELLENT PERFORMANCE & EFFICIENCY



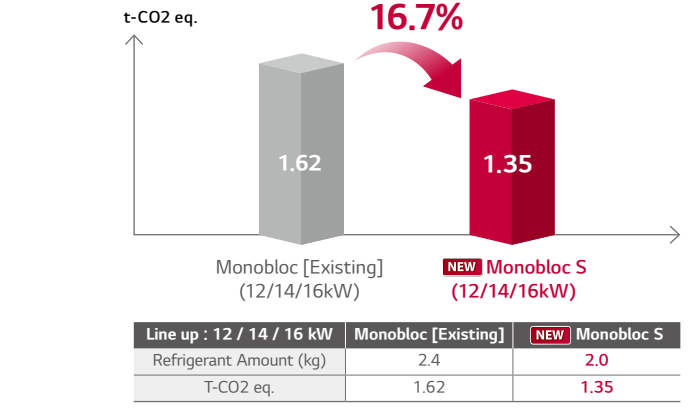
Monobloc Concept

- 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



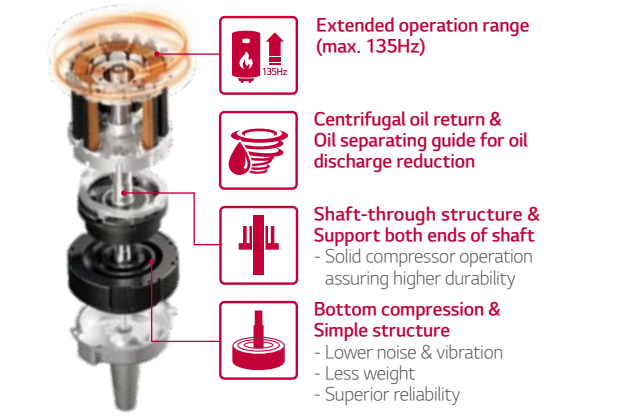
Less Environmental Impact

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



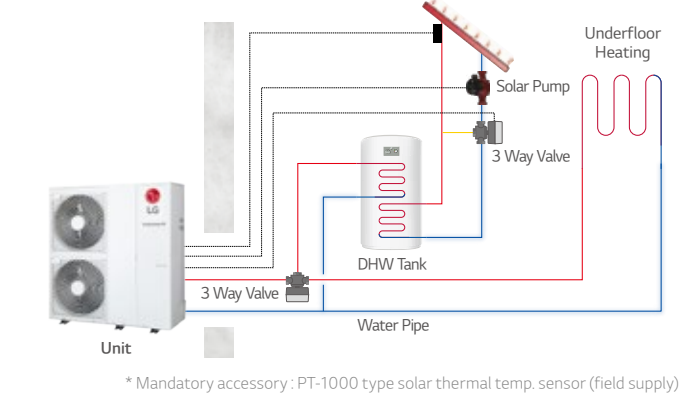
RI Compressor™ LG's Revolutionary Technology

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



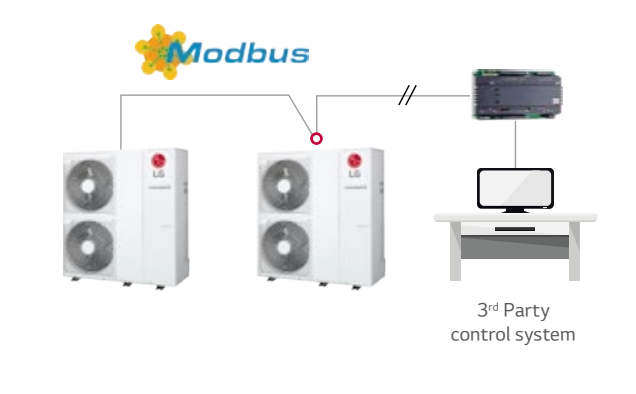
Combination with Solar Thermal System

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

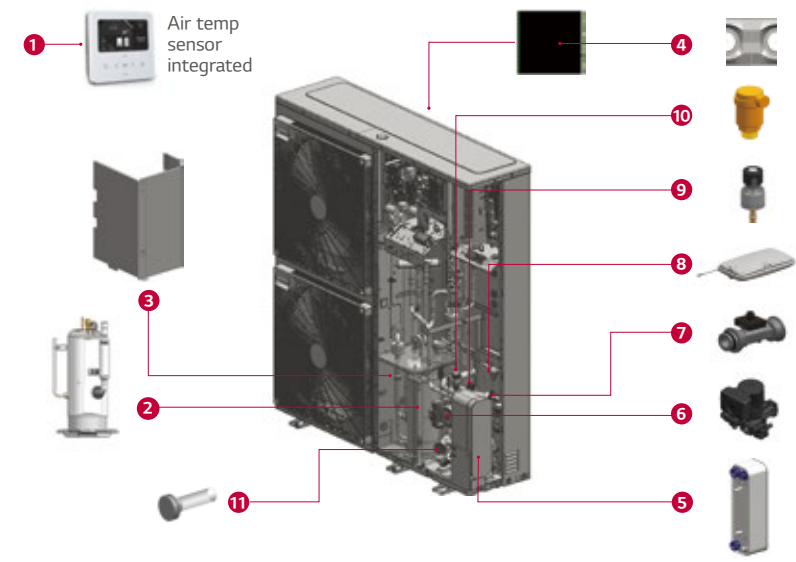


Direct Modbus Communication

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



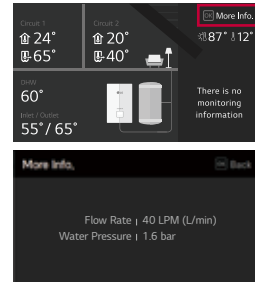
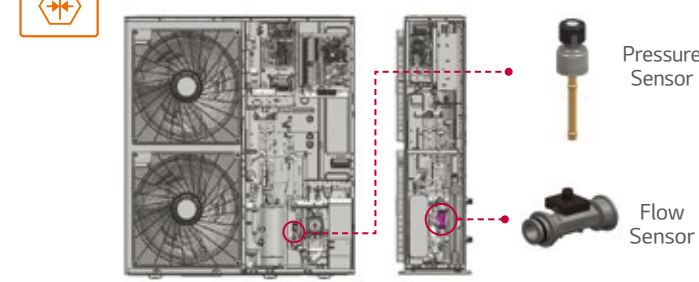
Key Components



- 1 Standard IR 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

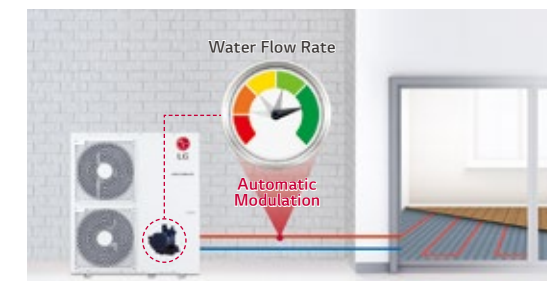
It is possible to monitor via remote controller not only temperature of water circuit but also flow rate and pressure. These information provides installers with more reliable information for easier installation and maintenance (periodic strainer cleaning).



- 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°C)	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
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		
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		
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		

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
				TC	TC	TC	TC	TC	TC
Nominal Capacity	Heating	7°C 35°C	kW	5.50	7.00	9.00	12.00	14.00	16.00
		2°C 35°C		4.40	5.60	6.80	11.00	12.00	13.80
		25°C 18°C		5.50	7.00	9.00	12.00	14.00	16.00
Nominal Power Input	Heating	7°C 35°C	kW	1.17	1.49	1.96	2.45	2.92	3.40
		2°C 35°C		1.22	1.58	1.94	3.01	3.31	3.83
		25°C 18°C		1.17	1.49	1.94	2.53	3.26	4.00
COP	Heating	7°C 35°C	W/W	4.70	4.70	4.60	4.90	4.80	4.70
		2°C 35°C		2.70	2.70	2.70	2.90	2.85	2.80
		25°C 18°C		3.60	3.55	3.50	3.65	3.63	3.60
EER	Cooling	35°C 7°C	W/W	4.70	4.50	4.30	4.75	4.50	4.00
		25°C 18°C		3.30	3.20	3.10	3.30	3.30	3.10
		35°C 7°C		3.30	3.20	3.10	3.30	3.30	3.10

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

Product Specification

Technical Specification	Unit	HM051MR U44	HM071MR U44	HM091MR U44	HM121MR U34 (10) HM123MR U34 (20)	HM141MR U34 (10) HM143MR U34 (20)	HM161MR U34 (10) HM163MR U34 (20)			
Water Side	Operation Range (Leaving Water Temp.)	Heating	15 - 65							
	Water Pump	Model	Grundfos UPM3K 20-75 CHBL							
	Flow Sensor	Measuring Range	5 - 80							
	Water Pressure Sensor	Measuring Range	0 - 20							
	Expansion Vessel	Volume	8							
	Piping Connections	Water Circuit	Male PT 1" according to ISO 7-1 (tapered pipe threads)							
	Strainer	Max. Particle Size / Material	0.6 / Stainless Steel							
	Safety Valve	Pressure Limit / Upper Limit	3.0							
	Rated Water Flow Rate at LWT 35°C	l/min	15.8	20.1	25.9	34.5	40.3	46.0		
	Refrigerant Side	Operation Range (Outdoor Temp.)	Heating	-25 - 35						
Compressor		Type	Hermetic Sealed Scroll							
Refrigerant		Type	R32							
		GWP (Global Warming Potential)	675							
Sound Power Level	Heating	Rated	57							
		Low Noise Mode	54	55	56	57	61			
Sound Pressure Level (at 5m)	Heating	Rated	32							
		Low Noise Mode	32	33	34					
Dimensions	Unit	W x H x D	1,239 x 834 x 330				1,239 x 1,380 x 330			
		Weight	89.0							
Exterior	Color / RAL Code	Warm Gray / RAL 7044								
		Voltage, Phase, Frequency	220-240, 1, 50							
Power Supply	Rated	Heating	A	5.2	6.6	8.7	10	12.9 / 30	15.1 / 30	18.1 / 30
		Cooling	A	5.2	6.9	9.5	10	11.2 / 30	13.7 / 30	16.1 / 30
		Running Current	A	5.2	6.9	9.5	10	11.2 / 30	13.7 / 30	16.1 / 30
		Recommended Circuit Breaker	A	16	20	25		10	14.0 / 30	16

1) When fan coil unit not used.

2) DHW 58-80°C. 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 accordance with ISO 9614 standard.

4. 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
Average Climate Water Outlet 35°C	SCOP	4.46	4.48	4.55
	Seasonal Space Heating Efficiency (η _s)	%	176	179
	Seasonal Space Heating Eff. Class (A+++ to D Scale)	-	A+++	A+++
Average Climate Water Outlet 55°C	SCOP	-	3.20	3.20
	Seasonal Space Heating Efficiency (η _s)	%	125	125
	Seasonal Space Heating Eff. Class (A+++ to D Scale)	-	A++	A++



* EHPA & MCS label under development.

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



* EHPA & MCS label under development.

Performance Table for Heating Operation

5 / 7 / 9 kW

Maximum Heating Capacity (Including Defrost Effect)

HM051MR U44

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
-25°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
-15°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
-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
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°C	LWT 35°C	LWT 40°C	LWT 45°C	LWT 50°C	LWT 55°C	LWT 60°C	LWT 65°C
-25°C DB	6.43	6.43	6.43	6.43	6.10	-	-	-
-20°C DB	7.00	7.00	7.00	7.00	6.65	6.65	-	-
-15°C DB	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
-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
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°C	LWT 35°C	LWT 40°C	LWT 45°C	LWT 50°C	LWT 55°C	LWT 60°C	LWT 65°C
-25°C DB	6.20	6.20	6.20	6.20	5.90	-	-	-
-20°C DB	7.60	7.60	7.60	7.60	7.22	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	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
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

Performance Table for Cooling Operation

Maximum Cooling Capacity

HM051MR U44

Outdoor Temperature	LWT 7°C	LWT 10°C	LWT 13°C	LWT 15°C	LWT 18°C	LWT 20°C	LWT 22°C
10°C DB	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
30°C DB	5.50	5.50	5.50	5.50	5.50	5.50	5.50
35°C DB	5.29	5.32	5.36	5.38	5.40	5.43	5.45
45°C DB	5.09	5.15	5.21	5.25	5.31	5.36	5.40

HM071MR U44

Outdoor Temperature	LWT 7°C	LWT 10°C	LWT 13°C	LWT 15°C	LWT 18°C	LWT 20°C	LWT 22°C
10°C DB	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
30°C DB	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
40°C DB	6.36	6.45	6.55	6.61	6.71	6.84	6.94
45°C DB	5.71	5					