THERMA V R32

MONOBLOC

www.unithermhs.ie

LG AIR CONDITIONING AND ENERGY SOLUTIONS

LG Life's Good

R32

Our vision...

As a leading heating supplier, LG's product portfolio comprises of a wide range of highly energy efficient renewable energy systems, providing the right heating solution for any application and requirement.

What is LG THERMA V?

THERMA V is LG's Air to Water Heat Pump system, especially designed for new housing and rennovation by LG's advanced heating technology with energy savings.

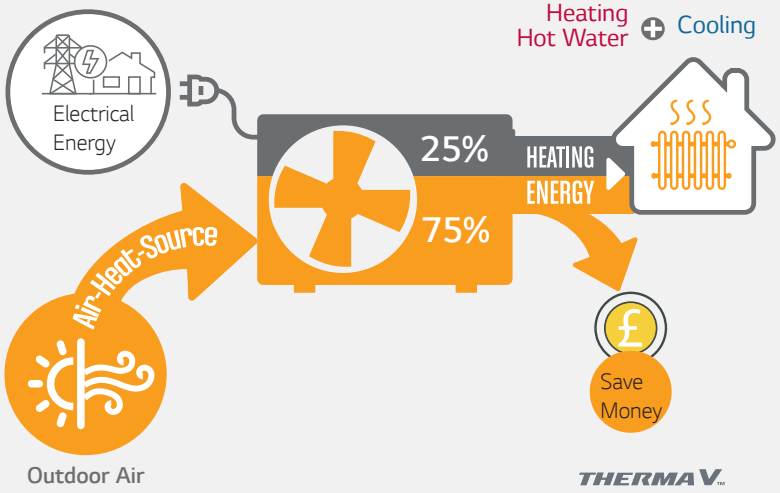
THERMA V can connect to various heat emitters for space heating solution from under floor heating - radiators - water fan coil units, to domestic hot water supply.

ENERGY EFFICIENT APPLICATION

THERMA V offers the best solution for home heating and hot water supply with LG's inverter technology. It is aproximatley 4 times more energy efficient than a traditional fossil fuel boiler system by absorbing energy from the outside environment.

AIR SOURCE

- Free energy
- Green energy
- Easy energy



VARIOUS APPLICATION


RADIATOR


FLOOR HEATING


HOT WATER

THERMA V

R32 Monobloc

About LG THERMA V ?

The LG THERMA V is designed to provide customer values such as - energy savings, perfect comfort, easy controls, great services and reduced environmental impact.

The LG Inverter Technology provides excellent energy efficiency with optimal components such as the A class water pump, heat exchanger and fan motor, ensuring savings, comfort and environment values are met.

Combined with LG's pressure control technology Therma V provides stable heating capacity at low temperature and reaches target performance quickly.

The all-in-one structure, ocean black fin coating and users-oriented functions enhance professional reputations as well as end-users happiness by experiencing the LG's full line-up from 5kW to 16kW in heating capacity.


LG
THERMA V

THERMA V R32

MONOBLOC

Excellent Performance

- High Energy Efficiency (SCOP 4.45/A+++)
- Excellent Performance at Low Ambient Temperature (100% @ -7°C)
- Wide Operation Range
- Reduced Noise Level
- Revolutionary Scroll Compressor
- Wet Vapour Injection

User Convenience

- New Interface
- LG Wi-Fi Solution (Smart ThinQ)
- 2nd Heating Circuit
- Various Temperature Control Options

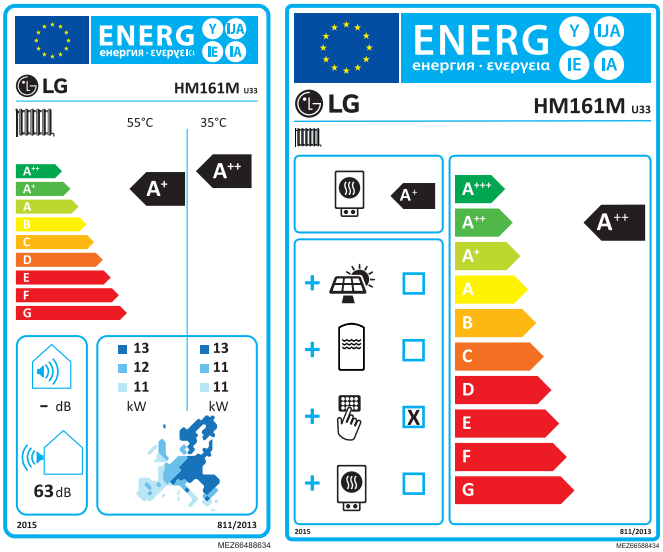
Easy Installation and Maintenance

- All-In-One Concept (No Refrigerant Pipework)
- Easy Commissioning by PC Tool (LG Heating Configurator)

Note

1. A+++ label is available from 26, Sep. 2019 and should be considered as A++ label until that time.

ENERGY LABELING



* 16kW 1상 model

MONOBLOC CONCEPT

THERMA V Monobloc is a fully packaged piece of equipment, where the indoor and outdoor unit are combined as one module. Therefore, there is no need for refrigerant pipework since the Monobloc unit located outside is connected by only water pipes.
Further, additional water side items such as PHE, Expansion Tank, Water Pump are included in the package.

Water side Items included in the Monobloc

PHE (Plate Heat Exchanger)

Expansion Tank

A-Class Water Pump

MONOBLOC LINE UP

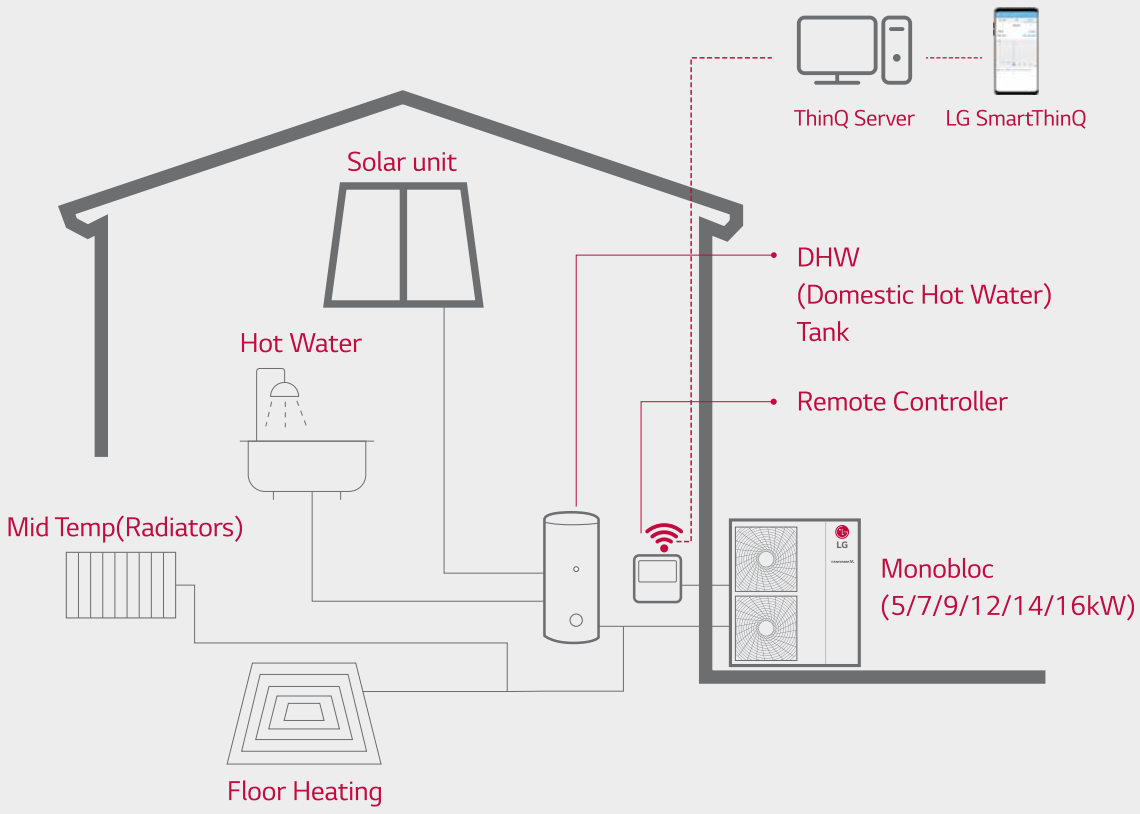
Capacity (kW)	Phase	5	7	9	12	14	16
THERMA V Monobloc	1	 HM051M.U43	 HM071M.U43	 HM091M.U43	 HM121M.U33	 HM141M.U33	 HM161M.U33
	3				 HM123M.U33	 HM143M.U33	 HM163M.U33

LG Heating solution for future buildings

Our heating products provide a greener and more energy efficient heating solution for your home and office through continuous research and development of green energy technologies such as R32 refrigerant AWHP and revolutionary scroll compressor.

LG's residential heating solution (Therma V) can cover the space heating and domestic hot water demand of a house at the same time. Compared to a conventional boiler system, it is more efficient and reduces CO_2 emissions as it uses renewable energy from the outside air.

These environmental friendly solutions can be connected to various smart control solutions such as LG's smart ThinQ.



THERMA V™

(air to water heat pump)

LG's control system provides a variety of solutions that save operational costs and deliver efficient energy control. The 'standard III' remote controller with relevant accessories offers not only a simple interface to make it easier to control but also diverse information and management function.

MOBILE REMOTE CONTROL

- LG Mobile App. Control (ThinQ)
- Operation schedule
- Error Check

REMOTE CONTROLLER

- 4.3" Color Display
- Easy interface
- Multi Language

DRY CONTACT FOR THERMOSTAT

- Interface for 3rd party thermostat
- On/Off and operation mode control
- Operation and error status monitor

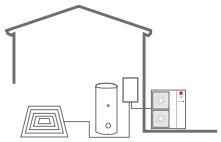
Individual Control

INTERFACE

- Annual operation schedule
- Operation history
- Easy commissioning

ENERGY MONITOR

- Power consumption check
- Produced heat energy check
- Yearly trend



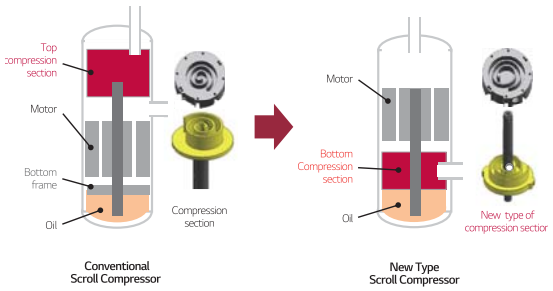
Excellent Performance

REVOLUTIONARY COMPRESSOR

The new type Scroll compressor is applied for high-efficiency and reliability. This compressor is a more advanced compressor compared to the conventional scroll compressor, the tilting motion of the scroll has been improved. The compressor operation range is also improved compared to the previous model.

Revolutionary Scroll Compressor

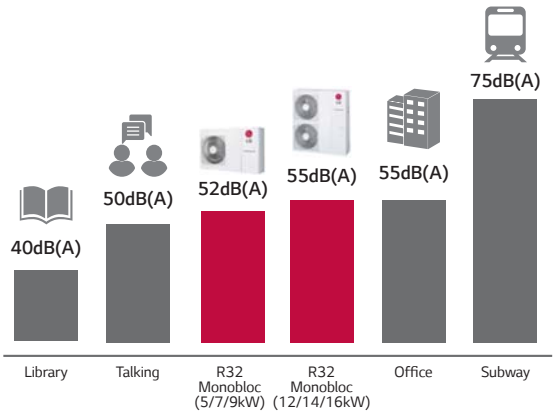
- Scroll compressor with simple structure
- High efficiency (low load at low speed / total efficiency)
- Low noise (high speed possible)
- Improved Tilting Motion of scroll
- 20% weight reduction (vs. conventional compressor)



REDUCED NOISE LEVEL

The R32 Monobloc has lower noise levels than the previous product.

Sound Pressure Level Comparison

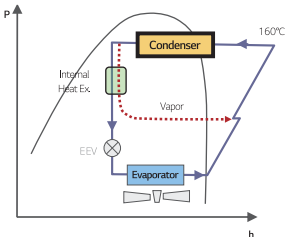


WET VAPOUR INJECTION

In case of R32 Refrigerant, it is very important to control the discharge temperature of compressor accurately. In the R32 Monobloc, Wet Vapour Injection technology is applied to control the discharge temperature of the compressor efficiently. As a result of this technology the heating operation range is expanded and the heating performance at low ambient temperature is enhanced.

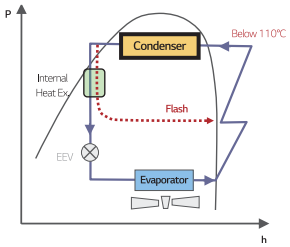
Vapour Injection

- Discharge Temperature of compressor is very high (160˚C)
- Failure of Injection Cycle and compressor operation under protection logic



Wet Vapour Injection

- Discharge temperature of Compressor is below 110˚C
- Good operation of Injection Cycle



VARIOUS TEMPERATURE CONTROL OPTIONS

Various temperature control options are possible for the user's comfort and convienance. Room temperature is maintained while adjusting the water temperature to maximise effiecency and comfort.

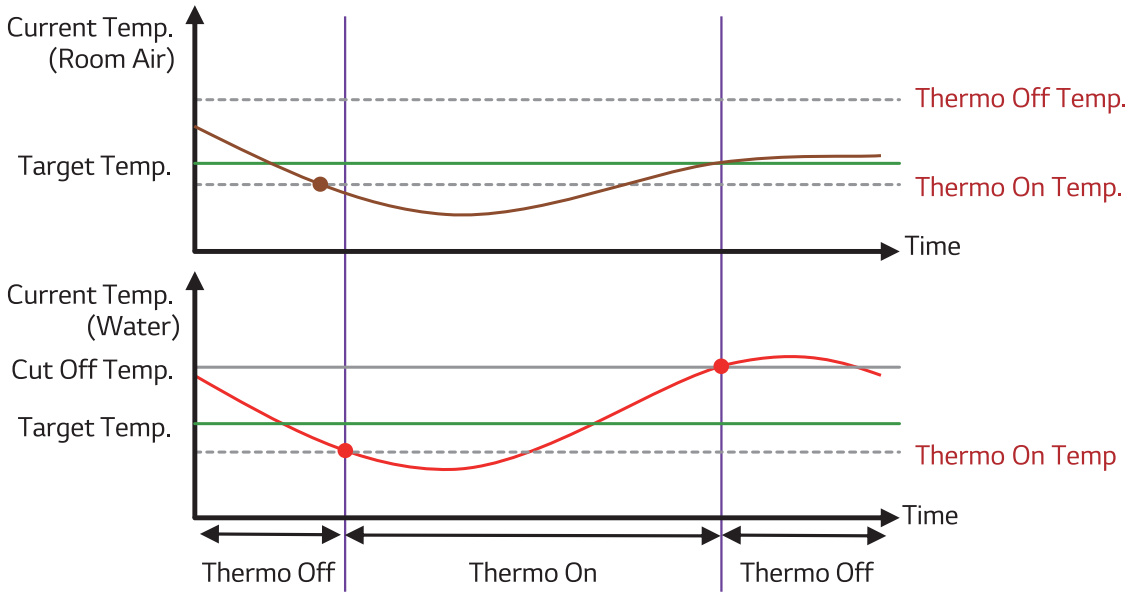
① Control of Leaving Water Temperature

② Control of Entering Water Temperature

③ Control of Room Air Temperature

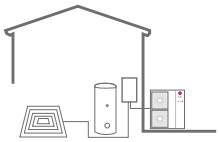
④ Simultaneous Control of Room Air and Water Temp.

- Thermo On : When Satisfied both Room Air Temp. Condition and Water Temp. Condition
- Thermo Off : When Satisfied Room Air Temp. Condition or Water Temp. Condition



WIDE OPERATION RANGE

As the water temperature can be up to 65°C, LG's Therma V can be the most economic heat source for replacing an exsisting fossil fuel boiler.



User Convenience

NEW REMOTE CONTROLLER

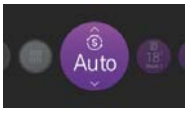
The R32 Monobloc system is upgraded with new standard remote controller.

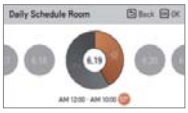
Premium Design

New Modern design 4.3 inch color LCD display
Capacitive touch button (especially on/off button turn on LED)

Intuitive Interface

Information displayed with simple graphic, icon and text
Navigation button, easy to use





More energy contents

Auto controlled by weather and time

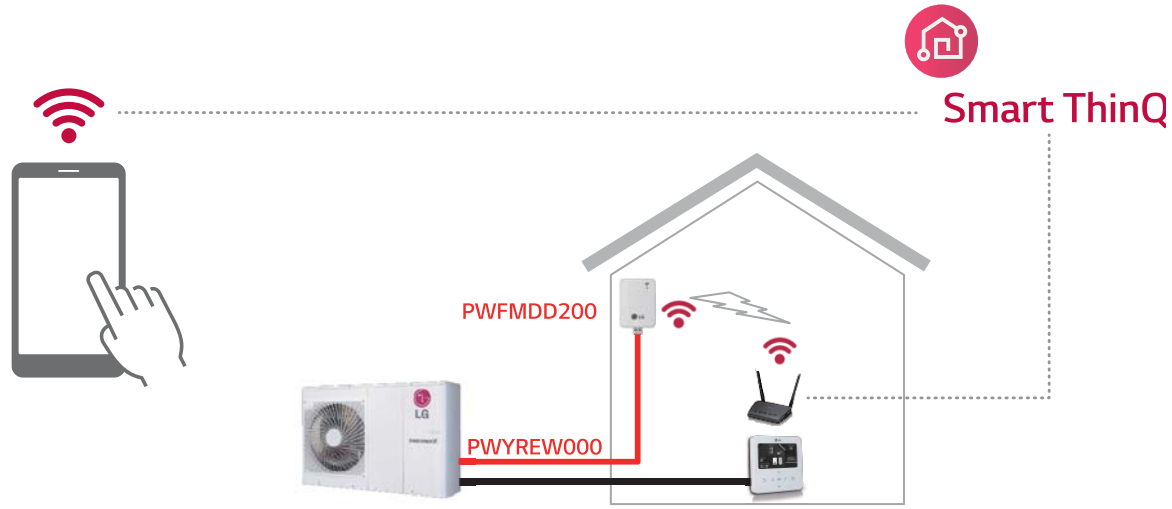
Convenient Functions

Optimise schedule setting logic

- Set the period, date, on/off time, operation mode and target temperature.
- Easy installation setting (displays text not codes).

LG WI-FI SOLUTION

Access your THERMA V anytime from anywhere

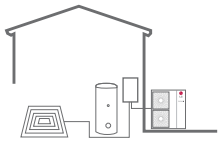


※ Search “LG Smart ThinQ” on Google market or App store then download the app.

Simple operation for various functions

- On/Off
- Operation Mode Selection
- Current temperature
- Set temperature
- On/Off Reservation
- Energy Monitoring

Mandatory Accessory: PWFMDD200 (LG Wi-Fi Modem) and PWYREW000 (10m extension connect cable in between the THERMA V unit and Wi-Fi module)



Easy Installation and Maintenance

EASY INSTALLATION

All-in-one Concept

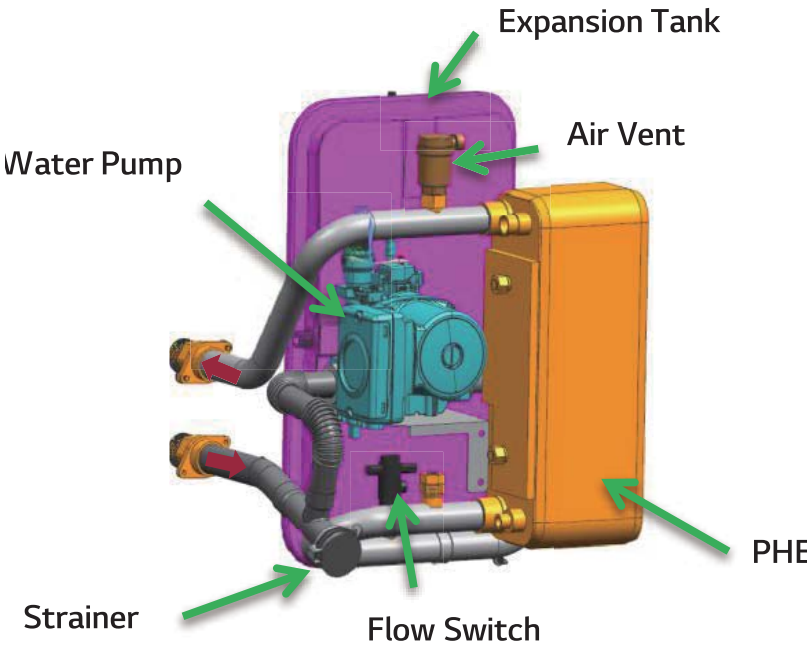
- LG's THERMA V Monobloc unit is a full packaged with the water side components such as the Plate Heat Exchanger , Expansion, and Water Pump included.
- No refrigerant pipework needed, the unit connects to water piping as a conventional fossil fuel boiler.

Water side Items included in the Monobloc

PHE
(Plate Heat Exchanger)

Expansion Tank

A-Class Water Pump



TIME SAVING COMMISSIONING

Pre-Installation Setting

- Based on installation site information, installers can prepare presetting with LG's Heating Configurator and save data into memory card from office.
- The Therma V RS III remote controller can be configured based on site specific installation requirements and uploaded to a memory card. The memory card can be used to commission multiple units, saving time and money.

EASY AND QUICK MAINTENANCE

Data Logging

- The remote controller can store up to 50 history items, making it possible to easily identify cause of malfunctioning or faults using the history data and prompt solution

- Date and time
- Operation mode (Cooling, Heating, Hot Water, Auto)
- Setting temperature
- Inlet / Outlet temperature
- Room air temperature
- DHW (Operation status / Target temperature / current temperature)
- ODU operation status
- Error status and code

MONOBLOC

HM051M.U43
HM071M.U43
HM091M.U43

011-1W0243

Seasonal Energy

Description			Unit	HM051M.U43	HM071M.U43	HM091M.U43
Space Heating (According to EN14825)	Average Climate water outlet 35 ℃	SCOP		4.45	4.45	4.45
		Rated heat output (Prated)	kW	6	6	6
		Seasonal space heating efficiency	%	175	175	175
		Seasonal space heating eff. Class		A+++[1)]	A+++[1)]	A+++[1)]
		Annual energy consumption	kWh	2,551	2,668	2,784
	Average Climate water outlet 55 ℃	SCOP		3.12	3.12	3.12
		Rated heat output (Prated)	kW	6	6	6
		Seasonal space heating efficiency	%	122	122	122
		Seasonal space heating eff. Class		A+	A+	A+
		Annual energy consumption	kWh	3,638	3,638	3,638

Note

1. A+++ label is available from 26, Sep. 2019 and should be considered as A++ label until that time.

Product Specification

Description			Unit	HM051M.U43	HM071M.U43	HM091M.U43
Nominal Capacity	Heating	LWT 35℃ at OAT 7℃	kW	5.50	7.00	9.00
		LWT 55℃ at OAT 7℃	kW	5.50	5.50	5.50
		LWT 35℃ at OAT 2℃	kW	3.30	4.20	5.40
Nominal Power Input	Heating	LWT 35℃ at OAT 7℃	kW	1.22	1.56	2.15
		LWT 55℃ at OAT 7℃	kW	2.04	2.04	2.04
		LWT 35℃ at OAT 2℃	kW	0.94	1.20	1.54
COP	Heating	LWT 35℃ at OAT 7℃	kW	4.50	4.50	4.18
		LWT 55℃ at OAT 7℃	kW	2.70	2.70	2.70
		LWT 35℃ at OAT 2℃	kW	3.52	3.51	3.50
Operation range	Heating	Water Side (LWT)	℃	15 ~ 65		
		Air Side	℃	-25 ~ 35		
	Domestic Hot Water	Water Side (LWT)	℃	15 ~ 80		
Refrigerant	Type			R32		
	GWP (Global Warming Potential)			675		
	Charge		kg	1.4		
			TCO2eq	0.95		
Compressor	Quantity		EA	1		
	Type			Scroll		
Water Flow Rate	Rated		LPM	14.4	20.1	25.9
Piping Connections	Water Circuit	Inlet	mm (in)	Male PT 25(1)		
		Outlet	mm (in)	Male PT 25(1)		
Dimensions	Unit	W x H x D	mm	1,239 × 907 × 404		
Net Weight	Unit		kg	96		
Sound power level	Heating	Rated	dBA	60 (50 at 1m)		
Maximum Running Current			A	23		
Maximum Circuit Breaker Rating			A	32		
Power Supply	Phase / Frequency / Voltage		Ø / Hz / V	1 / 50 / 220-240		

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 Level Values are measured at Noise Measuring chamber accordance with standard. Therefore, these values depend on the ambient conditions and values are normally higher in actual operation.
4. Performances are accordance with EN14511.
5. This product contains Fluorinated greenhouse gases.
6. LWT : Leaving Water Temperature, OAT : Outdoor Air Temperature

MONOBLOC

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

R32

011-1W0244

65℃ A+++ Ocean Black Fin SmartThinQ

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 ℃	SCOP		4.45	4.45	4.45
		Rated heat output (Prated)	kW	10	11	11
		Seasonal space heating efficiency	%	175	175	175
		Seasonal space heating eff. Class		A+++[1)]	A+++[1)]	A+++[1)]
		Annual energy consumption	kWh	4,642	4,875	5,103
	Average Climate water outlet 55 ℃	SCOP		3.18	3.18	3.18
		Rated heat output (Prated)	kW	12	12	12
		Seasonal space heating efficiency	%	124	124	124
		Seasonal space heating eff. Class		A+	A+	A+
		Annual energy consumption	kWh	7,795	7,795	7,795

Note

1. A+++ label is available from 26, Sep. 2019 and should be considered as A++ label until that time.

Product Specification

Description			Unit	HM121M.U33	HM141M.U33	HM161M.U33
Nominal Capacity	Heating	LWT 35℃ at OAT 7℃	kW	12.00	14.00	16.00
		LWT 55 ℃ at OAT 7℃	kW	12.00	12.00	12.00
		LWT 35 ℃ at OAT 2 ℃	kW	11.00	12.00	13.80
Nominal Power Input	Heating	LWT 35 ℃ at OAT 7 ℃	kW	2.61	3.11	4.00
		LWT 5 ℃ at OAT 7 ℃	kW	4.29	4.29	4.29
		LWT 35 ℃ at OAT 2 ℃	kW	3.13	3.42	3.94
COP	Heating	LWT 35 ℃ at OAT 7 ℃	kW	4.60	4.50	4.00
		LWT 55 ℃ at OAT 7 ℃	kW	2.80	2.80	2.80
		LWT 35 ℃ at OAT 2 ℃	kW	3.52	3.51	3.50
Operation range	Heating	Water Side (LWT)	℃	15 ~ 65		
		Air Side	℃	-25 ~ 35		
	Domestic Hot Water	Water Side (LWT)	℃	15 ~ 80		
Refrigerant	Type			R32		
	GWP (Global Warming Potential)			675		
	Charge		kg	2.4		
			TCO2eq	1.62		
Compressor	Quantity		EA	1		
	Type			Scroll		
Water Flow Rate	Rated		LPM	34.5	40.3	46.0
Piping Connections	Water Circuit	Inlet	mm (in)	Male PT 25(1)		
		Outlet	mm (in)	Male PT 25(1)		
Dimensions	Unit	W x H x D	mm	1,239 × 1,450 × 404		
Net Weight	Unit		kg	130		
Sound power level	Heating	Rated	dBA	63		
Maximum Running Current			A	36		
Maximum Circuit Breaker Rating			A			
Power Supply	Phase / Frequency / Voltage		Ø / Hz / V	1 / 50 / 220-240		

Description three phase option			Unit	HM123M.U33	HM143M.U33	HM163M.U33
Power supply	Phase / Frequency / Voltage		Ø/ Hz / V	3 / 50 / 380-415		
	Maximum Running Current		A	15		

Note
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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 Level Values are measured at Noise Measuring chamber accordance with standard. Therefore, these values depend on the ambient conditions and values are normally higher in actual operation.
4. Performances are accordance with EN14511.
5. This product contains Fluorinated greenhouse gases.
6. LWT : Leaving Water Temperature, OAT : Outdoor Air Temperature

ELECTRIC BACK UP HEATER

HA031M.E1
HA061M.E1

Product Specification

Electrical Specification			HM031M.E1	HA061M.E1
Backup Heater	Type		Sheath	Sheath
	Number of Heating Coil	EA	1	2
	Capacity Combination	kW	3.0	3.0 + 3.0
	Operation		Automatic	Automatic
	Heating Steps	Step	1	2
	Power Supply	V, Ø, Hz	220-240, 1, 50	220-240,1,50
	Maximum Current	A	12.0	24.0
Wiring Connections	Power Cable (included Earth, H07RN-F)	No. x mm2	3 x 1.5	3 x 4.0
	Communication Cable (H07RN-F)	No. x mm2	4 x 0.75	4 x 0.75

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 (Smart ThinQ) is available
Simple operation for various functions

- On/Off
- Operation Mode Selection
- Current Temperature
- Set Temperature
- On/Off Reservation
- Energy Monitoring

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

* Functionality may be different according to each Indoor model (Split and Monobloc available)
* User interface of application shall be revised for its design and contents improvement
* Application is optimised for smartphone use, so it may not be well functioning with tablet devices.
  1) Vane Control may not be possible according to the type of indoor unit
  2) For the compatibility with indoor unit, please contact regional office

ACCESSORIES PROVIDED BY LG

Accessory	Feature
Domestic Hot Water Tank Kit	• **PHLTB (Monobloc)** **Features** Easy to install the domestic hot water for monobloc. There is a MCCB to protect the product. Dimension (mm) (H x W x D) : 250 x 170 x 110 Weight (kg) : 2.1 To extend THERMA V functionality in generating domestic hot water. * The sensor (PHRSTA0) can be purchased separately in case of using other brand's Domestic tank.  PHLTB
Remote Temperature Sensor	• **PQRSTA0** **Features** It can help to detect the exact room temperature. Applied to ceiling cassette, ceiling concealed duct, AWHP and Hydro Kit. **Parts Included** Remote temperature sensor / Extension cable (15m) / Manual 
Solar Thermal Kit	• **PHLLA** **Features** To interface solar-thermal system with THERMA V and double coil Domestic tank. Installed at the water pipe, between Domestic tank and solar-thermal system. Dimension (mm) (H x W x D) : 110 x 55 x 22 
Dry Contact	• **PDRYCB000 / PDRYCB300** **Features** For connection with boiler (Bivalent scene) 

ACCESSORIES CENTRAL CONTROLLERS

Accessory	Feature	
AC Ez Touch	• **PACEZA000** **Features** Smart management with 5 inch touch screen for small sitet. Dimension (mm) (W x H x D) : 137 x 121 x 25	
AC Smart	• **PACS5A000** **Features** New AC Smart 5 has mobile web access and BACnet gateway function. An all-in-one solution for BMS integration via BACnet and Modbus protocol as well as its own smart management function with touch screen interface.	
AC Manager*	• **PACM5A000** **Features** Multiple ACP and AC Smart integration solution to manage multi sites up to 8,192 units as a single system Dimension (mm) (W x H x D) : 270 x 155 x 65 *ACP, AC Smart or Lonworks is needed	
ACP	• **PACP5A000** **Features** Advanced solution for BMS integration up to 256 units via BACnet and Modbus protocol as well as its own smart management function with web server interface Dimension (mm) (W x H x D) : 270 x 155 x 65	

RECOMMENDED OPTIONAL ACCESSORIES

No.	Accessory	Picture	Purpose	Specification
1	Domestic Hot Water Tank		Store and provide hot water for sanitation	Volume : 200 • 400 l Enameld or stainless-steel tank / Insulating foam (e.g. PUR • polyurethane) heat-exchanger surface ≥ 3 m²
2	3-Way-Valve		Switch between heating and domestic hot water circuit	230V AC SPDT (Single Pole Double Throw) / opening time 30 • 90 sec / final position switch Internal leakage rate < 0,1%
3	Electrical Tank Heater		Supports heating of domestic hot water, when heat pump is blocked or capacity is limited	2 • 6 kW Connector dimension suitable for DHW tank
4	Buffer Tank		Prevents cycling, when water volume is low and /or heating demand is low; secures enough heat for defrosting cycle	Insulating foam (e.g. PUR • polyurethane) Volume : 100 • 200 l (Installation in series with heat pump) 500 ~ 1,000 l (Installation in parallel with heat pump)
5	Bypass Valve		Ensures minimum water flow rate, when flow through heating circuits is limited due to closed valves	Dimensioning according manufacturer adjustable opening pressure
6	2-Way-Valve		Blocks heating circuits, that are not suitable for cooling during cooling operation	230V AC NO or NC type final position switch
7	Expansion Vessel		Absorption of pressure differences in the heating circuits due to temperature increase / decrease of the water	Dimensioning on-site required
8	Strainer		Protects plate-heat-exchanger from blocking particles	1inch / 25.4mm, Mesh size ~ 1 x 1mm for HM03M1.U42 only (other models are included)
9	Heating Cable		Prevents the condensate pan and the drainage pipe from icing	Thermostatic control depending on outdoor temperature All models do have electric heating cable for prevent frost from condensing water at the condensing pan except 3kW capacity.
10	Antifreeze		Prevents the heating water from freezing, when heat pump is out of order	Monoethyleneglycole Concentration according to lowest possible outdoor temperature
11	Noise Damper		Prevents that structure-born noise is transported via the water piping	EPDM; Operating temperature according climate region (at least -10 ~ + 90°C)
12	Anti-Noise Sockets		Prevents that structure-born noise is transported to the base or to the brackets	Dimensioning on-site required
13	Thermostat		When thermostatic room temperature control is preferred by costumer	230V AC When heat pumps operates in heating and cooling mode : thermostat with mode selection
14	Refrigerant Tubes		Pre-fabricated double-pipe to connect split indoor and outdoor unit	Diameter : Please refer to Specification
15	Water Tubes		Pre-fabricated double-pipe to connect monobloc outdoor unit with heating system	When heat pump is used for cooling : diffusion-resistant tubes
16	Bushing Sleeve		Protecting the building against pressing water coming through the duct of the heating tubes	Dimensioning on-site required
17	Insulation Material		Mandatory when heat pump is used for cooling; prevents condensate water on cold pipes and assemblies	Diffusion-resistant