

04-01-2021

Havant Borough Council
Planning Department
Public Service Plaza
Civic Centre Road
Havant PO9 2AX
For the attention of Ms. Selina Donophy

Dear Ms. Donophy,

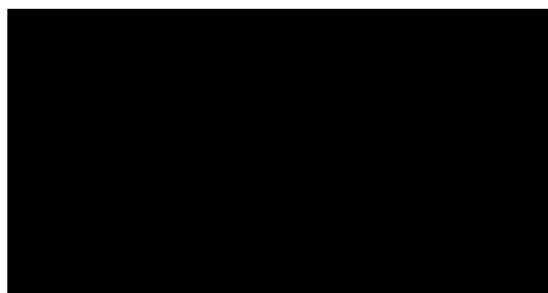
APP/20/01132 1 Woodbury Avenue PO9 1RH

In support of my objection submitted to HBC 16/12/2020 on line please find enclosed herewith a copy of the heat pump equipment data produced and published on line by the manufacturer, LG Electronics. The sound pressure level declared by LG for the twin fan unit as installed at 1 Woodbury Avenue is shown on the highlighted page.

Although already high I would suggest that the sound data declared by the manufacturer would relate to ideal conditions and that these noise levels are rarely achieved in practice.

I also enclose a copy of my initial correspondence 

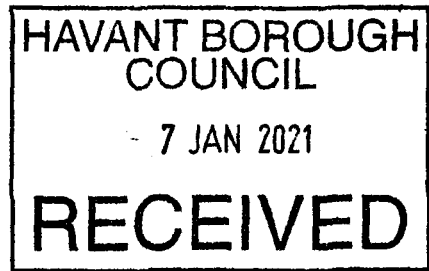
Should you wish to witness this heat pump in operation please contact me to arrange a Covid safe visit to my garden.



APP/20/01132 REFERS
SEE HIGHLIGHTED BOOKMARK



APP/20/01132 REFERS
SEE HIGHLIGHTED BOOKMARK



LG Electronics
www.lg.com/uk/heating

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For a complete, detailed manual please visit the website www.lg.com/uk/heating or contact your local LG service center. **Warning:** Always use caution when using any electrical appliance. Read the instructions carefully before using the appliance. The manufacturer is not responsible for any damage or injury caused by the use of the appliance. The manufacturer is not responsible for any damage or injury caused by the use of the appliance. The manufacturer is not responsible for any damage or injury caused by the use of the appliance.

For a complete, detailed manual please visit the website www.lg.com/uk/heating or contact your local LG service center.

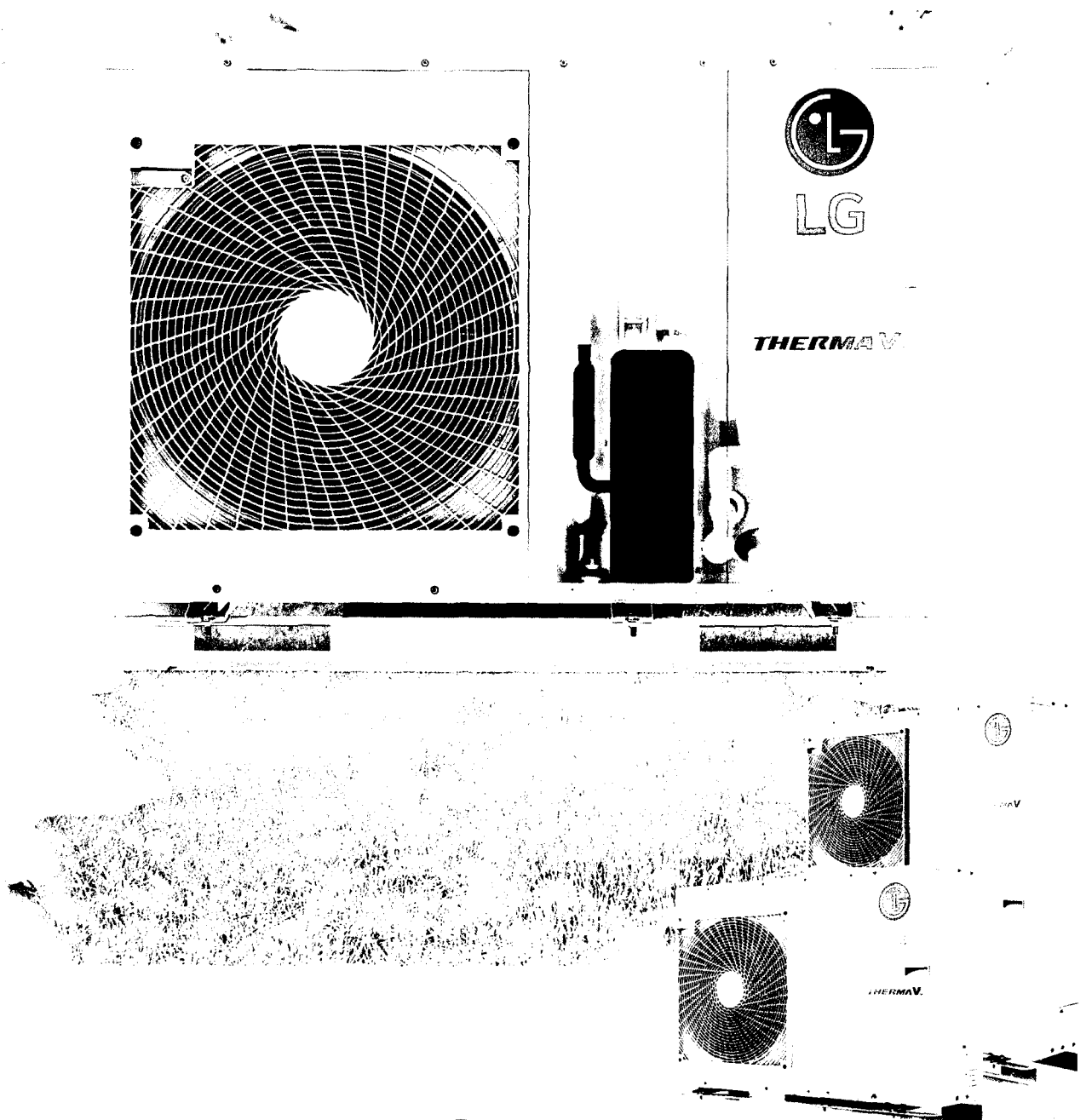
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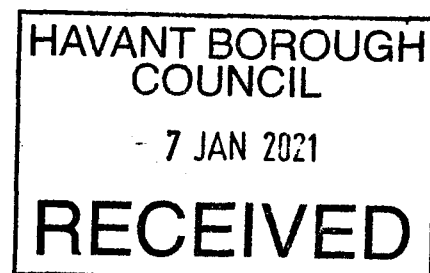
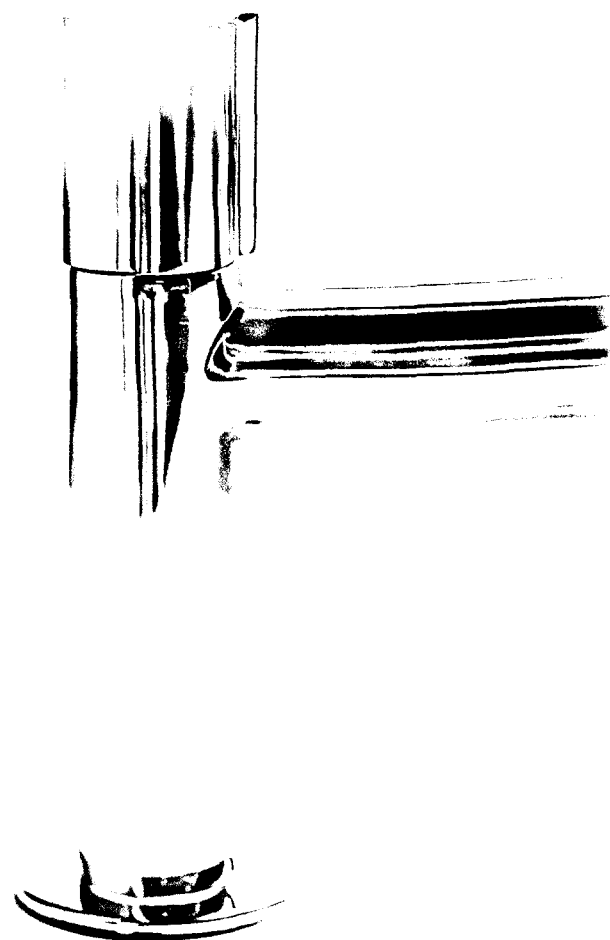
THERMA V R32 MONOBLOC

LG AIR CONDITIONING AND ENERGY SOLUTIONS UK



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.



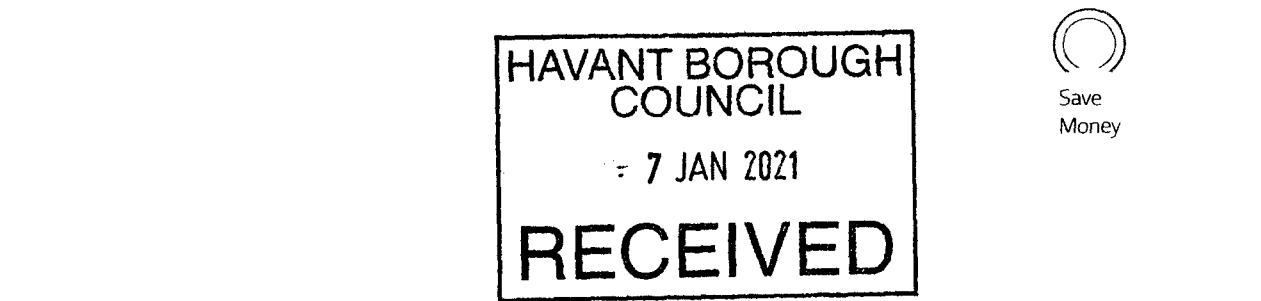
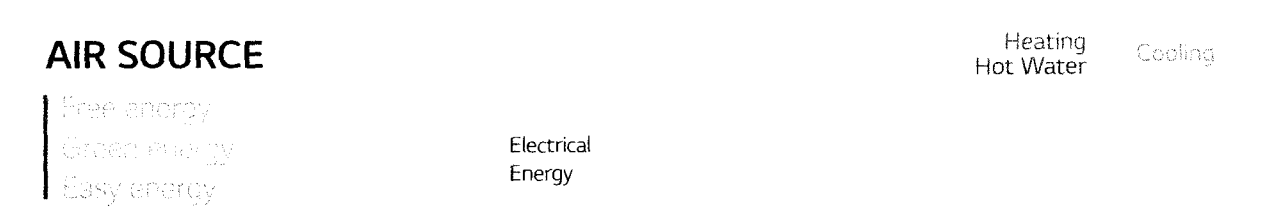
What is LG THERMA V?

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

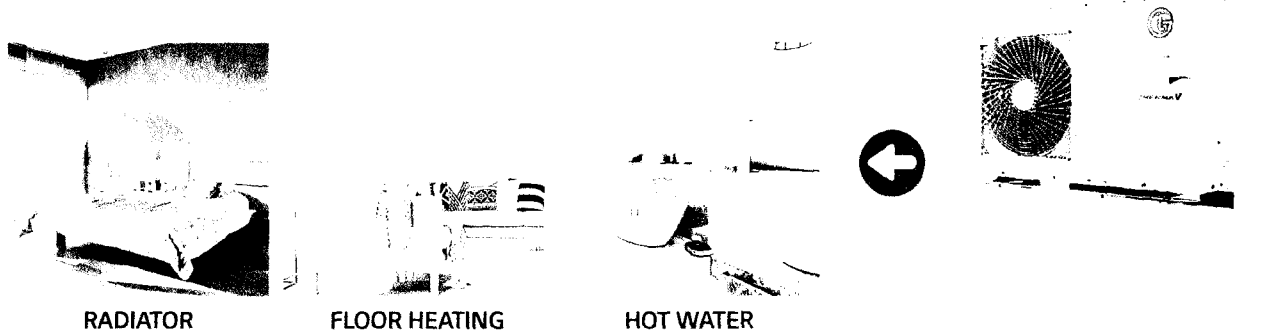
THERMA V can connect to various heat emitters for space heating solution from under floor heating - radiators - water fan coil units, to domestic hot water supply.

ENERGY EFFICIENT APPLICATION

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



VARIOUS APPLICATION



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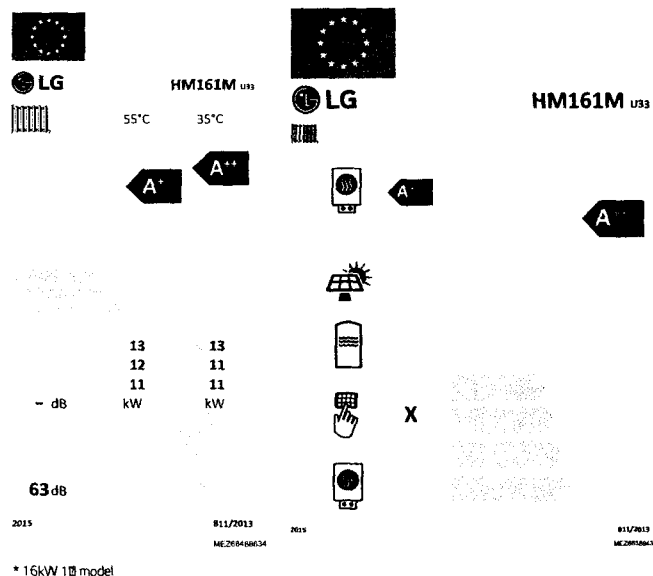
LG

THERMA





ENERGY LABELING



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

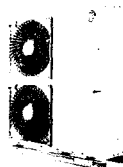
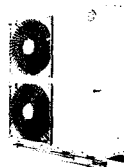


A-Class
Water Pump

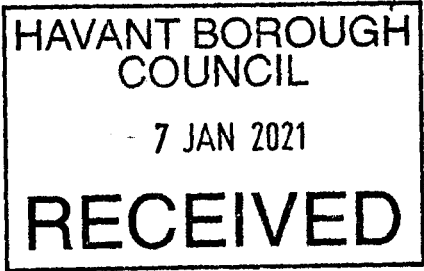
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MONOBLOC LINE UP

Capacity (kW)	Phase	5	7	9	12	14	16
THERMA V Monobloc	1Ø						
	3Ø						
		HM051MU43	HM071MU43	HM091MU43	HM121MU33	HM141MU33	HM161MU33
					HM123MU33	HM143MU33	HM163MU33

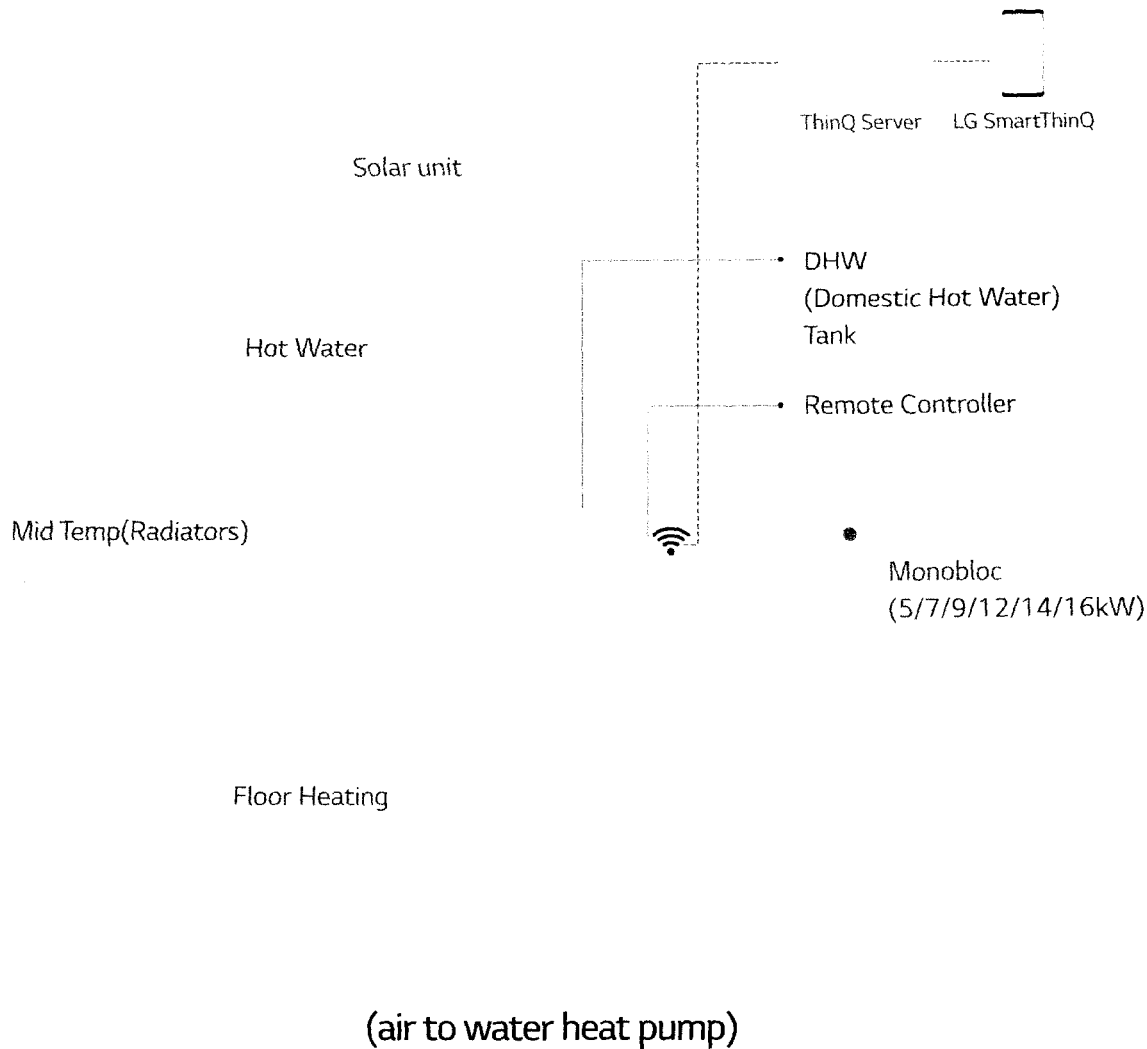
LG Heating solution for future buildings



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 CO₂ 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.



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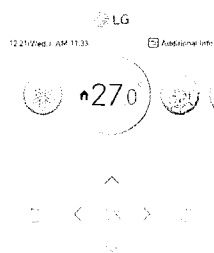
LG's control system provides a variety of solutions that save operational costs and deliver efficient energy control. The 'standard III' remote controller with relevant accessories offers not only a simple interface to make it easier to control but also diverse information and management function.



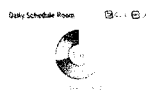
- LG Mobile App. Control (ThinQ)
- Operation schedule
- Error Check



- 4.3" Color Display
- Easy interface
- Multi Language



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



Individual Control

- Annual operation schedule
- Operation history
- Easy commissioning



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

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Excellent Performance

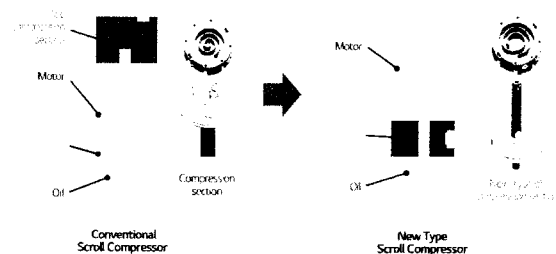
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REVOLUTIONARY COMPRESSOR

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

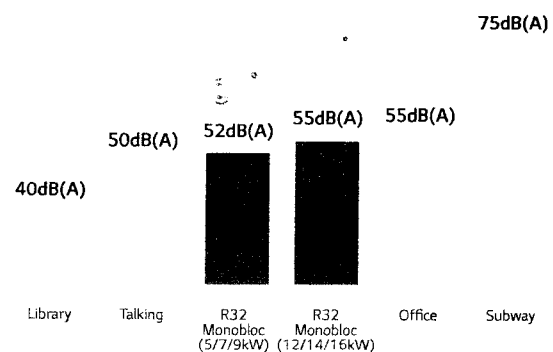
- Scroll compressor with simple structure
- High efficiency (low load at low speed / total efficiency)
- Low noise (high speed possible)
- Improved Tilting Motion of scroll
- 20% weight reduction (vs. conventional compressor)



REDUCED NOISE LEVEL

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

Sound Pressure Level Comparison

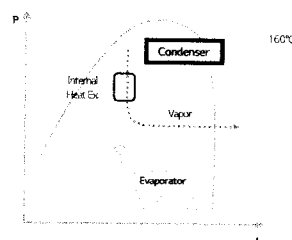


WET VAPOUR INJECTION

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.

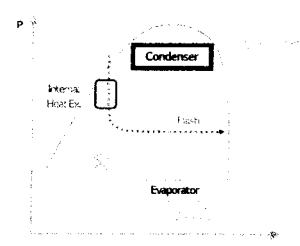
Vapour Injection

- 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



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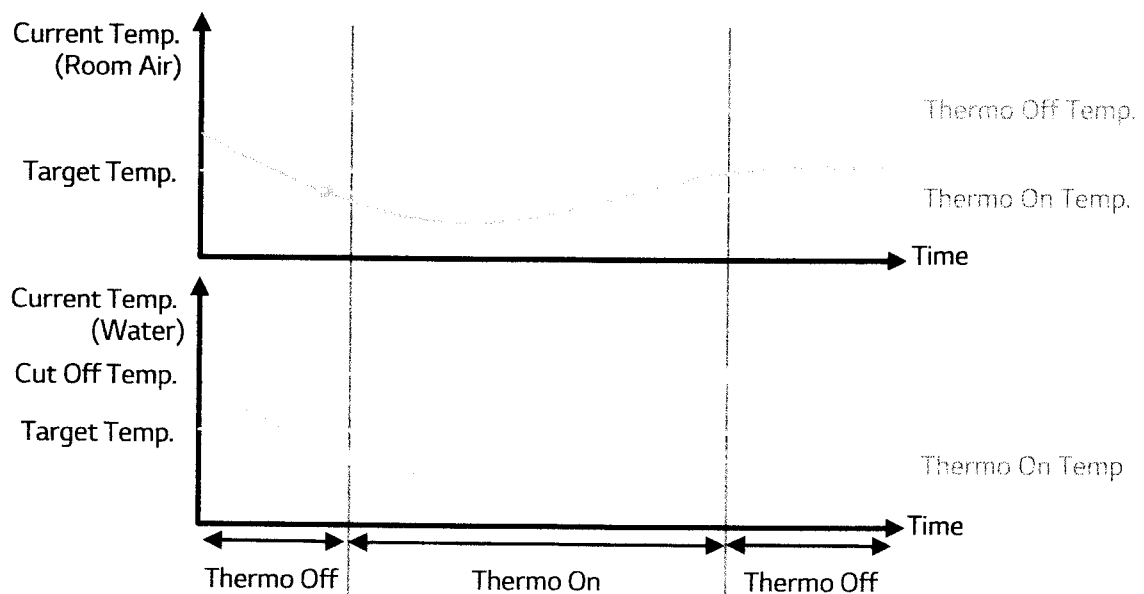
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VARIOUS TEMPERATURE CONTROL OPTIONS

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

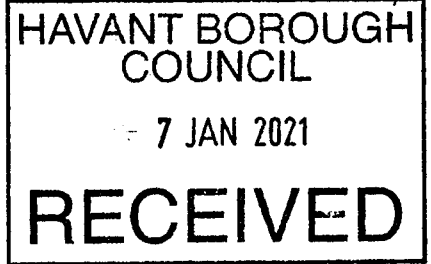
- Thermo On : When Satisfied both Room Air Temp. Condition and Water Temp. Condition
- Thermo Off : When Satisfied Room Air Temp. Condition or Water Temp. Condition



WIDE OPERATION RANGE

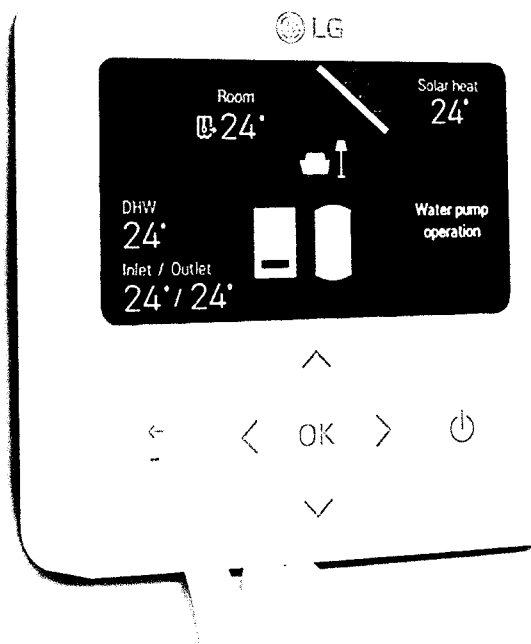
As the water temperature can be up to 65°C, LG's Therma V can be the most economic heat source for replacing an existing fossil fuel boiler.

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).

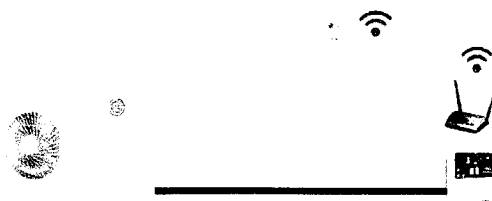
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LG WI-FI SOLUTION

Access your THERMA V anytime from anywhere



Smart ThinQ



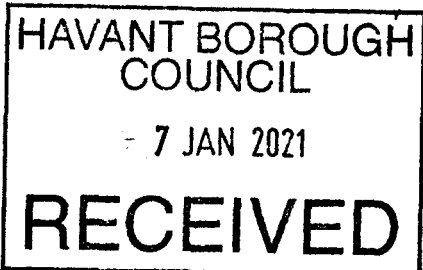
Simple operation for various functions

- 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)



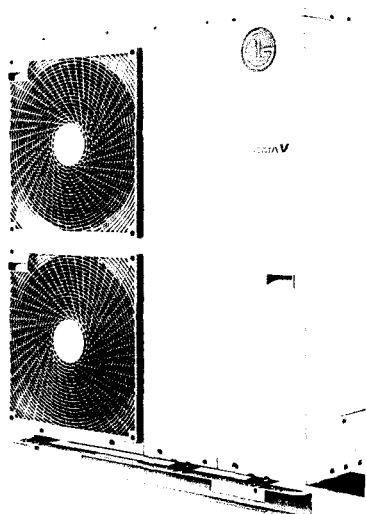
Easy Installation and Maintenance



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

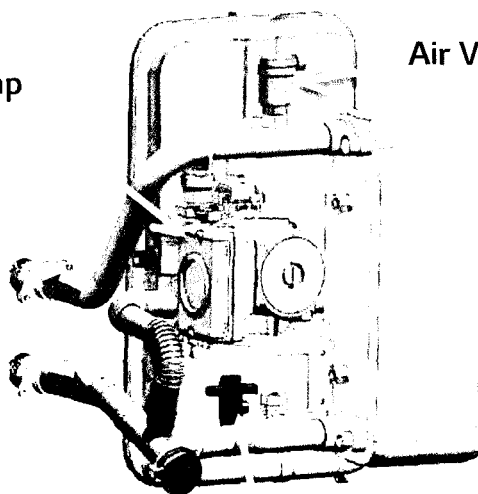


A-Class
Water Pump

Expansion Tank

Water Pump

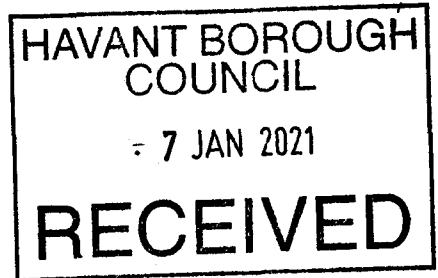
Air Vent



PHE

Strainer

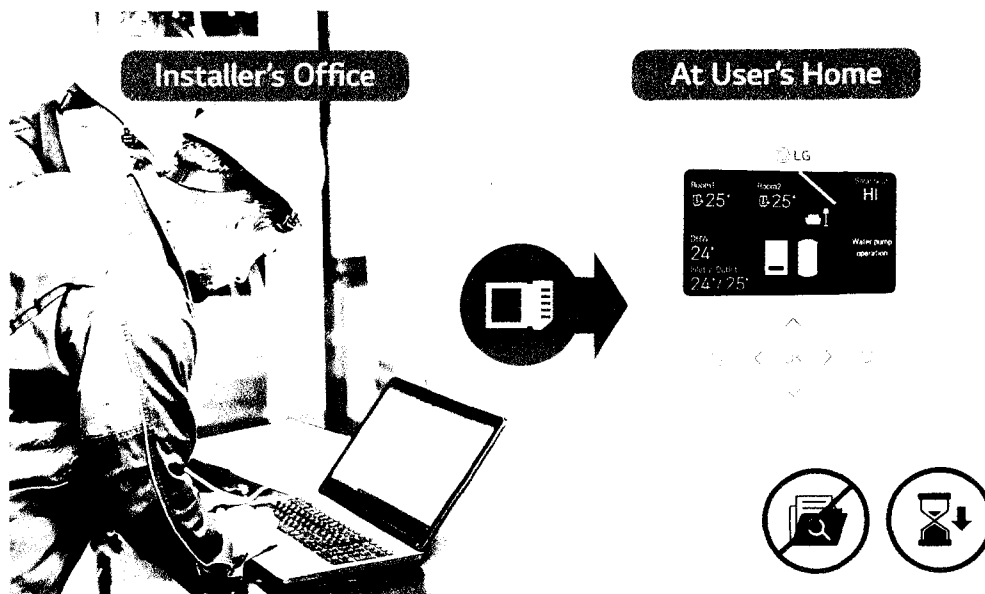
Flow Switch



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

LG

Data logging Back

Air	DHW (Set / Target / Current)	ODU	Error
25.5°	On / - / 24°	On	CH019
25.5	On / - / 48	On	-
25.5	On / - / 48	On	CH008
25.5	On / 48 / 24°	On	CH006
25.5	On / 48 / 24	On	CH006

OK

- 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

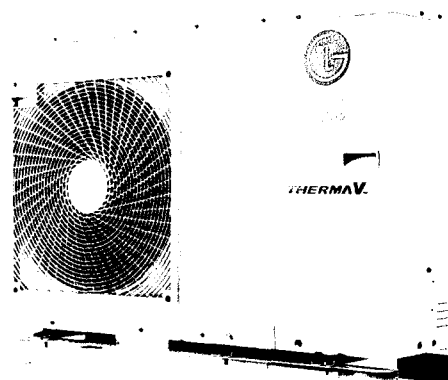
MONOBLOC

HM051M.U43

HM071M.U43

HM091M.U43

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Ocean
Black Fin



ThinQ

Seasonal Energy

Description			Unit	HM051M.U43	HM071M.U43	HM091M.U43
Space Heating (According to EN14825)	Average Climate water outlet 35 °C	SCOP		4.45	4.45	4.45
		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 °C	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

Product Specification

Description			Unit	HM051M.U43	HM071M.U43	HM091M.U43
Nominal Capacity	Heating	LWT 35°C at OAT 7°C	kW	5.50	7.00	9.00
		LWT 55°C at OAT 7°C	kW	5.50	5.50	5.50
		LWT 35°C at OAT 2°C	kW	3.30	4.20	5.40
Nominal Power Input	Heating	LWT 35°C at OAT 7°C	kW	1.22	1.56	2.15
		LWT 55°C at OAT 7°C	kW	2.04	2.04	2.04
		LWT 35°C at OAT 2°C	kW	0.94	1.20	1.54
COP	Heating	LWT 35°C at OAT 7°C	kW	4.50	4.50	4.18
		LWT 55°C at OAT 7°C	kW	2.70	2.70	2.70
		LWT 35°C at OAT 2°C	kW	3.52	3.51	3.50
Operation range	Heating	Water Side (LWT)	°C	15 - 65		
		Air Side	°C	-25 - 35		
	Domestic Hot Water	Water Side (LWT)	°C	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 x 907 x 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		

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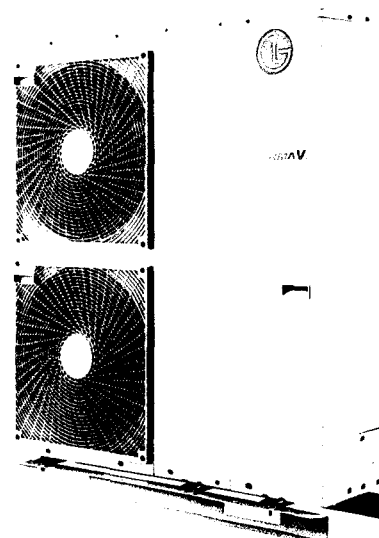
Note

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

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Ocean
Black Fin



ThinQ

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		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 °C	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

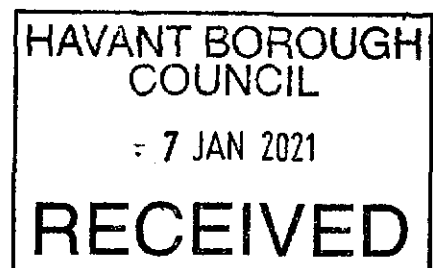
Product Specification

Description			Unit	HM121M.U33	HM141M.U33	HM161M.U33
Nominal Capacity	Heating	LWT 35°C at OAT 7°C	kW	12.00	14.00	16.00
		LWT 55°C at OAT 7°C	kW	12.00	12.00	12.00
		LWT 35°C at OAT 2°C	kW	11.00	12.00	13.80
Nominal Power Input	Heating	LWT 35°C at OAT 7°C	kW	2.61	3.11	4.00
		LWT 5°C at OAT 7°C	kW	4.29	4.29	4.29
		LWT 35°C at OAT 2°C	kW	3.13	3.42	3.94
COP	Heating	LWT 35°C at OAT 7°C	kW	4.60	4.50	4.00
		LWT 55°C at OAT 7°C	kW	2.80	2.80	2.80
		LWT 35°C at OAT 2°C	kW	3.52	3.51	3.50
Operation range	Heating	Water Side (LWT)	°C	15 - 65		
		Air Side	°C	-25 - 35		
	Domestic Hot Water	Water Side (LWT)	°C	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 x 1,450 x 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

- Due to our policy of innovation some specifications may be changed without notification.
- Wiring cable size must comply with the applicable local and national codes. 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.
- 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.
- Performances are accordance with EN14511.
- This product contains Fluorinated greenhouse gases.
- LWT: Leaving Water Temperature, OAT: Outdoor Air Temperature



ELECTRIC BACK UP HEATER

HA031M.E1

HA061M.E1

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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 mm ²	3 x 1.5	3 x 4.0
	Communication Cable (H07RN-F)	No. x mm ²	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)

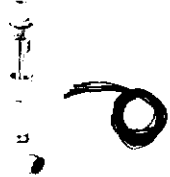
* User interface of application shall be revised for its design and contents improvement

* 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

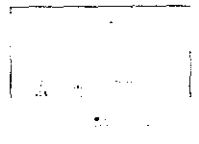
2) For the compatibility with indoor unit, please contact regional office

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 (PHRSTAD) can be purchased separately in case of using other brand's Domestic tank. 
Remote Temperature Sensor	• PQRSTAD Features It can help to detect the exact room temperature. Applied to ceiling cassette, ceiling concealed duct, AWHHP 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) 

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ACCESSORIES CENTRAL CONTROLLERS

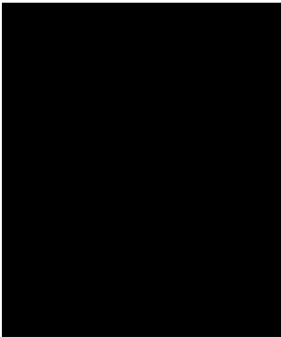
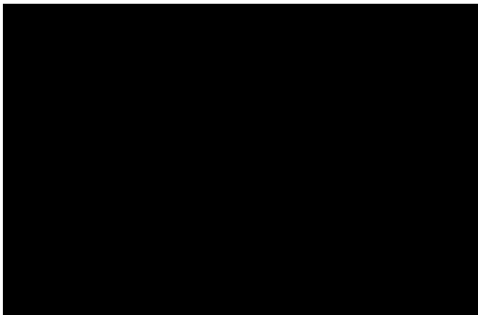
Accessory	Feature
AC Ez Touch	• PACEZA000 Features Smart management with 5 inch touch screen for on all sites. Dimension (mm) (W x H x D): 137 x 121 x 25 
AC Smart	• PACSA000 Features New AC Smart 5 has mobile web access and BACnet gateway function. An all-in-one solution for BMS integration via BACnet and Modbus protocol as well as its own smart management function with touch screen interface. 
AC Manager*	• PACMSA000 Features Multiple ACP and AC Smart integration solution to manage multi sites up to 8, 40 units as a single system. Dimension (mm) (W x H x D): 137 x 121 x 25 
ACP	• PACP5A000 Features Advanced solution for BMS integration up to 255 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): 137 x 121 x 25 

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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 $\geq 3 \text{ m}^2$
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	1 inch / 25.4mm, Mesh size $\sim 1 \times 1 \text{ mm}$ 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 $-10 - + 90^\circ\text{C}$)
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



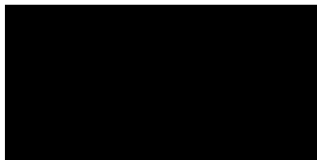
Dear 


For some time now the noises generated by your outdoor high level wall mounted LG twin fan heat pump unit have intruded into my home and garden.

The machine noise is a nuisance which interferes with my enjoyment of both my home and garden.



Yours sincerely,



cc F

