



THERMAV™

RENEWABLE > SHIFT AWAY FROM FOSSIL FUELS

LG Renewable Heating Solutions



Products in this brochure contain fluorinated greenhouse gases (R410A) and (R134a)

Energy Related Product (ErP)

European Eco design rules (the ErP rules) have become an effective tool to drive European consumers towards products with reduced environmental impact and increased energy performances. Air-to-water heat pump product category must meet strict criterias for efficiency, while our customers will also be able to make more informed choices thanks to the energy labeling that accompanies LG's THERMA V range.

The energy class of the product indicated on the energy label reflects the seasonal space heating efficiency.

The energy efficiency of heat pumps is based upon their Seasonal Coefficient of Performance, calculated by taking the annual heat demand of the building and dividing it by the annual energy consumption, while considering the consumption of back-up systems and the regional location of the heat pump.

LG THERMA V products' efficiency is calculated according to the average climate zone of Strasbourg.

Last but not least, water-based heat pumps are relying on a renewable energy for their functioning and it is important to keep in mind that the increased use of renewable energy in Europe will also reduce our energy dependency.



Example ErP label



European Standards

LG Electronics is committed to product excellence, hence why we participate in different national and European certification schemes. Third party certification allows LG customers to compare our products' efficiency with other manufacturers on an equal footing, so as to make informed choices, based on the highest performance standards. In addition, LG THERMA V products that hold a third party performance certificate can often benefit from national bonus schemes that make the product more affordable for the customer.

In the UK, MCS certification on THERMA V allows its holders to benefit from the Renewable Heat Incentive payments. In France, NF PAC enables the implementation of THERMA V in new built projects, where the French building regulation (RT 2012) promotes the use of highly efficient products, certified by an independent organism. Additionally, the French tax bonus can only benefit to the holders of the NF PAC certificate for air-to-water heat pumps. Lastly, Eurovent heat pump certification grants recognition to THERMA V product performance across all European countries.

Certification benefit

- MCS (UK) : RHI (Renewable Heat Incentive) tariff 10.18Pence / kWh for 7 years
- NF PAC (France) : Promoted in the context of Thermal Regulation RT 2012.
Tax Refund (15%~25% of product cost)
- EUROVENT (EU) : Model registration at the EUROVENT website



MCS (UK)



CERTIFICATE BBA 0006



NF PAC (France)



EUROVENT (EU)

LG Energy Research and Development Lab

LG THERMA V has passed through the severe testing condition at the Energy Lab which is located in northern France. It can prove LG THERMA V is designed to make sure the steady performance and reliability under European winter condition.



LG energyLab
France

About LG THERMA V?

The **LG THERMA V** is designed to create incomparable customer values like energy saving, comforts, easy controls and services by applying advanced technologies.

The **LG Inverter Technology** provides excellent energy efficiency with optimal components such as water pump, heat exchanger and fan motor. Pressure control technology provides stable heating capacity at low temperature and reaches target performance without difficulties.

The differentiated structure like the 'true' all-in-one type, gold-fin and user-oriented functions enhance professionals reputations as well as end-user happiness by experiencing the LG's full line-up from 3kW to 16kW in heating capacity.





CONTENTS

Energy Related Product (ErP)
European Standards
Certification Benefits
LG Energy Research and Development Lab


2 - 3

About LG Therma V
Contents

3 - 4

Energy Efficient Application
Various Applications (New Build / Refurbishment)
LG's 7 Year Warranty
Optimal Application

5 - 6



Reliability
Energy Efficient
Low Noise System
Anti-Legionella Function
Weather Dependent Operation
Easy to Use Controller

7 - 8

Therma V Product Range
Corrosion Resistant Heat Exchanger
Monobloc Technical Data
Split Type Technical Data (Low Temp)
Split Type Technical Data (High Temp)
LG Therma V Design Software

9 - 10

THERMA V™

THERMA V is LG's Air to Water Heat Pump system, especially designed to provide heating and/or domestic hot water to new housing and renovations.

Energy Efficient Application

THERMA V offers the best solution for home heating and hot water supply with LG's inverter technology.

It is more energy efficient than a conventional boiler system by absorbing energy from the outdoor environment.

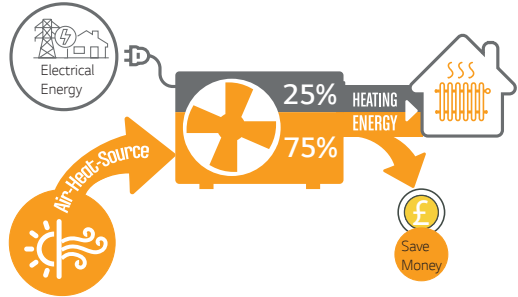


Image above: Example diagram 'How an air to water heat pump works'.

Various Application

Various kinds of application is possible with THERMA V units including new builds and renovations.

New Build

With low temp. monobloc and split model, heating and cooling can be done.

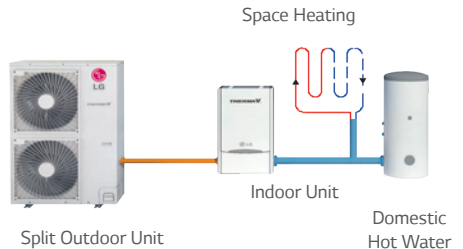
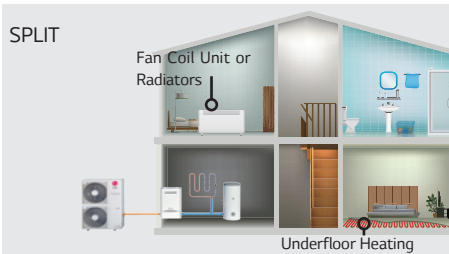
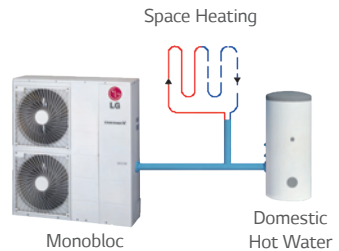


Image above: Example diagram showing different heat emitters, for illustration only.

LG's 7 Years Warranty

LG and it's distributors provide various levels of technical support to cover model selection, quotations, installation and commissioning.



The Therma V heat pump comes with a standard warranty of 3 years if installed and maintained correctly.

For companies who have attended and passed the Therma V technical product training course and are MCS registered they can gain access to LG's extended product warranty. Ensure your installer has attended the course by checking with one of our distributors. Find our heating distributors online: <http://www.lg.com/uk/business/find-the-dealer>

Optimal Application

Advanced model selection software enables designers to choose the optimal THERMA V model based on the location and environmental factor, to ensure that the right model is selected for your home.

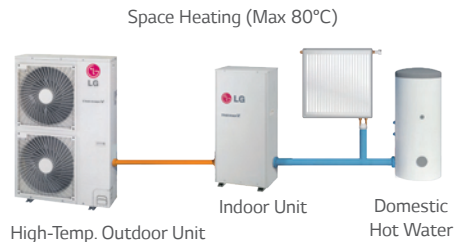
Renovation

THERMA V can be connected to an existing boiler system to optimise energy efficiency and heating capacity for renovation.

THERMA V High Temperature can replace the entire system completely as it provides 80°C hot water.



Image above: Example diagram showing different heat emitters, for illustration only.



Solar Connection

Simple accessory kit can be provided to connect to new or existing solar thermal panel. Both monobloc and low temperature split type systems.

THERMA V™

Reliability

LG's Therma V renewable heating system is extremely reliable. In the unlikely event of a failure the system incorporates a back up heating system, so you will not be without heating or hot water.

Therma V also comes with a long warranty of 7 years providing your system is maintained annually in accordance with the manufactures guidelines.

LG THERMA V



Energy Efficient

Using the most energy efficient components, class A water pump, LG designed and manufactured compressor.

Therma V is **A+** or **A++** rated.

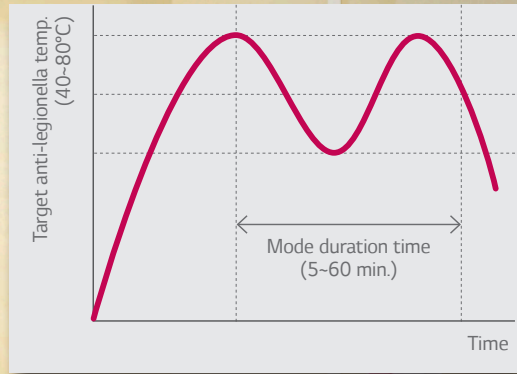
Low Noise System

The fans have been designed in a way to reduce noise and enhance air flow.



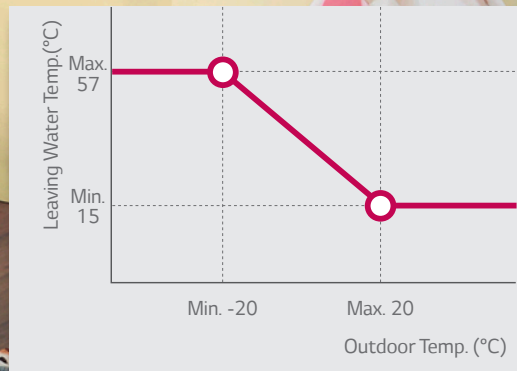
Anti-Legionella Function

By setting Anti-legionella operation mode on, THERMA V heats the whole water tank automatically once a week until water temperature reaches up to 80°C to de-sanitise.



Weather Dependent Operation

If users choose this mode, setting temperature will follow outdoor temperature automatically. If the outdoor temperature decreases, heating capacity for the house will increase automatically in order to keep comfortable heating performance according to weather.



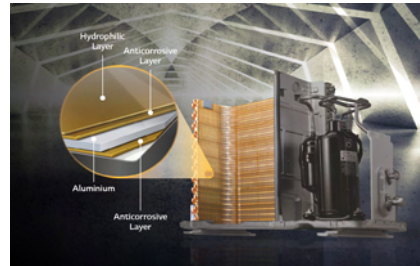
The THERMA V Product Range

All Therma V systems are inverter driven and highly energy efficient. Therma V can be used in replace of a conventional fossil-fuel boiler systems, able to connect to raidators, underfloor heating, fan coil units and domestic hot water cylinders. A simple accessory kit can connect to new or existing solar thermal panels.



Corrosion Resistant Heat Exchanger

LG's Outdoor Heat Exchanger is coated with a gold-coloured anti-corrosive acryl resin treatment on the aluminum coil, to prevent corrosion. This maintains excellent heat transfer properties of the coil for an extended time, whereas non-Gold Fin™ coils progressively lose efficiency due to surface corrosion. Gold Fin™ is perfect for areas with high pollution or locations exposed to saltwater spray from the sea.

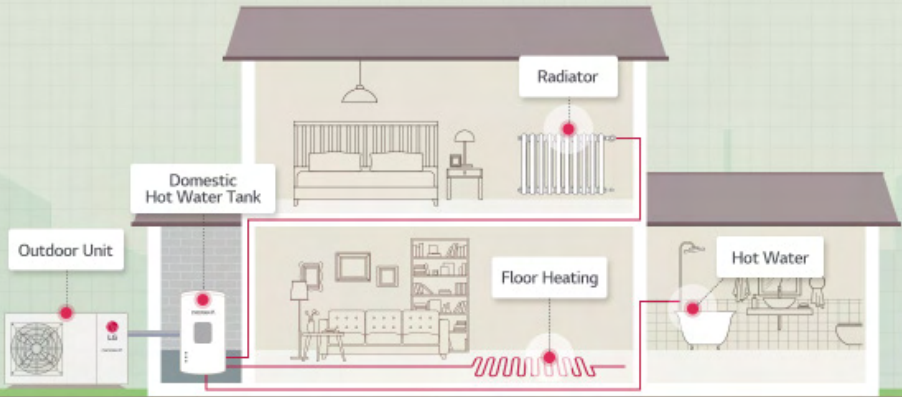


| Salt Spray Test for 15 Days |



• Gold Fin is long lasting, durable and makes the Outdoor Unit look prestigious.

Diagram of a monobloc installation, connecting to a variety of heat emitters.



THERMAV™

Easy to Use

With multi-line, back-lit stylish and intuitive controller:
Online step-by-step video guides, includes;
Scheduling, Mode change, Setting Time, Weekly reservation, Holiday mode, Sanitary water heating operation and child lock programming.

<http://bit.ly/1MEU1Y3>



Monobloc - Water temperature up to 57°C

LG provide the true all-in-one air to water heat pump monobloc, with the 4 main components fitted at the factory. No need to work with refrigerant piping for easier and quicker installation.



Therma V Monobloc at 55°C is **A+**
Therma V Monobloc at 35°C is **A++**

MONOBLOC (OUTDOOR UNIT)		Capacity	5kW 1Ø	7kW 1Ø	9kW 1Ø
		Reference	HM051M.U42	HM071M.U42	HM091M.U42
Nominal Capacity	Heating (A7 / W35)	kW	4.99	7.00	9.00
COP	Heating (A7 / W35)		4.42	4.29	4.09
Dimension	W x H x D	mm	1,239 x 907 x 390	1,239 x 907 x 390	1,239 x 907 x 390
Weight		kg	97	98	99
Sound Power Level (Heating)		dB (A)	63	65	65
Outdoor Air Operation Range	Heating	°C DB		-20 - 35	
Leaving Water Temp. Range	Heating	°C		15 - 57	
	GWP				
Seasonal space heating energy efficiency class		35°C / 55°C	A++ / A+	A++ / A+	A++ / A+
Seasonal space heating energy efficiency (average)	35°C / 55°C	%	160 / 110	155 / 112	161 / 114
Rated heat output (average)	35°C / 55°C	kW	6 / 5	7 / 6	7 / 7
Annual Energy Consumption (average)	35°C / 55°C	kWh	3,119 / 3,707	3,631 / 4,641	3,761 / 4,638
Water pump EEL ≤			0.20	0.20	0.20
Power Supply		P/N/Hz		1 / 220 - 240 / 50	

Note:

Capacities and power inputs are based on the following conditions:

1. Heating conditions - Inlet/Outlet Water Temperature 30°C/35°C, Outdoor Air Temperature 7°CDB/6°CWB
 2. Wiring cable size must comply with the applicable local and national code.
 3. The specification may be subject to change without prior notice for purpose of improvement.
 4. Sound power levels measured at 1m away from 1.5m height.
- This product contains fluorinated greenhouse gases. (R410A)
All models have an electric heating cable for frost prevention, from condensing water at the condensing pan.
All specifications are based on EN14511 and EN14825
12-14-16kW monobloc units also available in 3 phase option.



MONOBLOC (OUTDOOR UNIT)		Capacity	12kW 1Ø	14kW 1Ø	16kW 1Ø	12kW 3Ø	14kW 3Ø	16kW 3Ø
		Reference	HM121M.U32	HM141M.U32	HM161M.U32	HM123M.U32	HM143M.U32	HM163M.U32
Nominal Capacity	Heating (A7 / W35)	kW	12.00	14.00	16.00	12.00	14.00	16.00
COP	Heating (A7 / W35)		4.49	4.44	4.20	4.49	4.44	4.20
Dimension	W x H x D	mm			1,239 x 1,450 x 390			
Weight		kg		141			145	
Sound Power Level (Heating)		dB (A)			67			
Outdoor Air Operation Range	Heating	°C DB			-20 - 35			
Leaving Water Temp. Range	Heating	°C			15 - 57			
Seasonal space heating energy efficiency class		35°C / 55°C	A++ / A+	A++ / A+	A++ / A+	A++ / A+	A++ / A+	A++ / A+
Seasonal space heating energy efficiency (average)	35°C / 55°C	%	166 / 121	166 / 121	164 / 121	174 / 124	164 / 124	163 / 124
Rated heat output (average)	35°C / 55°C	kW	11 / 10	12 / 10	12 / 10	11 / 11	12 / 11	11 / 13
Annual Energy Consumption (average)	35°C / 55°C	kWh	5,536 / 6,698	5,819 / 6,698	6,094 / 6,698	5,812 / 7,078	5,922 / 7,078	6,210 / 7,078
Power Supply		P/N/Hz		220-240, 1, 50			380-415, 3, 50	

Note:

- Capacities and power inputs are based on the following conditions:
1. Heating conditions - Inlet/Outlet Water Temperature 30°C/35°C, Outdoor Air Temperature 7°CDB/6°CWB
 2. Wiring cable size must comply with the applicable local and national code.
 3. The specification may be subject to change without prior notice for purpose of improvement.

Split type low temperature - Water temperature up to 57°C

Energy Label A++



SPLIT (OUTDOOR UNIT)		Capacity Reference	5kW Ø HU051.U43	7kW 1Ø HU071.U43	9kW 1Ø HU091.U43
Nominal Capacity	Heating (A7 / W35)	kW	5.00	7.00	9.00
COP	Heating (A7 / W35)		4.93	4.80	4.40
Dimension	W x H x D	mm	950 x 834 x 330		
Weight		kg	60		
Sound Pressure Level (Heating)		dB(A)	-		
Sound Power Level (Heating)		dB(A)	65		
Outdoor Air Operation Range	Heating	°C DB	-20 - 35		
	Minimum	m	3		
Ref. Pipe Length	Standard	m	7.5		
	Maximum	m	50		
Power Supply		P/V/Hz	1, 220-240, 50		

Note: *Outdoor unit supply | †From indoor unit supply (not ODU)

- Note:
- Capacities are based on the following conditions: • Cooling conditions - Indoor Water Temperature 23°C/18°C | Outdoor Air Temperature 35°CDB/24°CWB
 - Heating conditions - Indoor Water Temperature 30°C/35°C Outdoor Air Temperature 7°CDB/6°CWB • Standard piping length 7.5m • Difference Limit of Elevation (Outdoor - Indoor Unit) is Zero.
 - Wiring cable size must comply with the applicable local and national codes.
 - Due to our policy of innovation some specifications may be changed without notification.
 - Sound Level Values are measured at Anechoic chamber. Therefore, these values can be increased owing to ambient conditions during operation.
 - This product contains Fluorinated Greenhouse Gases. (R410A)

SPLIT (INDOOR UNIT)		Capacity Reference	5,7,9kW HN1616.NK3		
Dimension	W*H*D	mm	490 x 850 x 315		
Weight		kg	42		
Electric Heater	Power Supply	P/V/Hz	1 / 220-240 / 50		
Energy Efficiency Class Seasonal Space	35°C / 55°C		A++ / A++		
Seasonal Space Energy Efficiency (Average)	35°C / 55°C	%	4.52 / 3.23	4.45 / 3.23	4.34 / 3.23
Rated Heat Output (kW)	35°C / 55°C	kW	178 / 126	175 / 126	171 / 126
Annual Energy Consumption (Average)	35°C / 55°C	kWh	2,512 / 3,581	2,783 / 3,581	3,093 / 3,581

All models have electric heating cable to prevent frost from condensing water at the condensing pan.

SPLIT (OUTDOOR UNIT)		Capacity Reference	12kW 1Ø HU121.U33	14kW 1Ø HU141.U33	16kW 1Ø HU161.U33	12kW 3Ø HU123.U33	14kW 3Ø HU143.U33	16kW 3Ø HU163.U33
Nominal Capacity	Heating (A7 / W35)	kW	12.00	14.00	16.00	12.00	14.00	16.00
COP	Heating (A7 / W35)		4.55	4.41	4.26	4.55	4.41	4.26
Dimension	W x H x D	mm	950 x 1,380 x 330					
Weight		kg	94					
Sound Pressure Level (Heating)		dB(A)	-					
Sound Power Level (Heating)		dB(A)	66					
Outdoor Air Operation Range	Heating	°C DB	-20 - 35					
	Minimum	m	3					
Ref. Pipe Length	Standard	m	7.5					
	Maximum	m	50					
Power Supply		P / V / Hz	1 / 220-240 / 50			3 / 380-415 / 50		

- Note:
- Capacities are based on the following conditions: • Cooling conditions - Indoor Water Temperature 23°C/18°C | Outdoor Air Temperature 35°CDB/24°CWB
 - Heating conditions - Indoor Water Temperature 30°C/35°C Outdoor Air Temperature 7°CDB/6°CWB • Standard piping length 7.5m • Difference Limit of Elevation (Outdoor - Indoor Unit) is Zero.
 - Wiring cable size must comply with the applicable local and national codes.
 - Due to our policy of innovation some specifications may be changed without notification.
 - Sound Level Values are measured at Anechoic chamber. Therefore, these values can be increased owing to ambient conditions during operation.
 - This product contains Fluorinated Greenhouse Gases.

SPLIT (INDOOR UNIT)		Capacity Reference	12 - 16kW 1Ø HN1616.NK3			12 - 16kW 3Ø HN1639.NK3		
Dimension	W x H x D	mm	490 x 850 x 315					
Weight		kg	42					
Electric Heater	Power Supply	P / V / Hz	1 / 220-240 / 50			3 / 380-415 / 50		
	Capacity	kW	6					
Energy Efficiency Class Seasonal Space	35°C / 55°C		A++ / A++					
Seasonal Space Energy Efficiency (Average)	35°C / 55°C	%	4.45 / 3.32	4.45 / 3.32	4.30 / 3.32	4.45 / 3.32	4.45 / 3.32	4.30 / 3.32
Rated Heat Output (kW)	35°C / 55°C	kW	9 / 10	10 / 10	10 / 10	9 / 10	10 / 10	10 / 10
Annual Energy Consumption (Average)	35°C / 55°C	kWh	4,177 / 6,154	4,408 / 6,154	4,802 / 6,154	4,177 / 6,154	4,408 / 6,154	4,802 / 6,154

All models have electric heating cable to prevent frost from condensing water at the condensing pan.

Split type - high temperature - Water temperature up to 80°C



Energy Label A+



MCS certification up to 65°C

HIGH TEMP. SLIT (OUTDOOR UNIT)		Capacity Reference	16kW 1Ø HUT161H.U32
Nominal Capacity	Heating (A7 / W65)	kW	16.00
COP	Heating (A7 / W65)		2.61
Dimension	W x H x D	mm	950 x 1,380 x 330
Weight		Kg	105
Sound Power Level (Heating)		dB (A)	68
Outdoor Air Operation Range	Heating	°C DB	-15 - 35
	Minimum	m	5
Ref Pipe Length	Standard	m	7.5
	Maximum	m	50
Power Supply		P / V / Hz	1 / 220-240 / 50

Note:

- Capacities are based on the following conditions: • Cooling conditions - Indoor Water Temperature 23°C/18°C | Outdoor Air Temperature 35°CDB/24°CWB
• Heating conditions - Indoor Water Temperature 30°C/35°C Outdoor Air Temperature 7°CDB/6°CWB
- Standard piping length 7.5m • Difference Limit of Elevation (Outdoor - Indoor Unit) is Zero.
- Wiring cable size must comply with the applicable local and national codes.
- Due to our policy of innovation some specifications may be changed without notification.
- Sound Level Values are measured at Anechoic chamber Therefore, these values can be increased owing to ambient conditions during operation.
- This product contains Fluorinated Greenhouse Gases.

HIGH TEMP. SLIT (INDOOR UNIT)		Capacity Reference	16kW 1Ø HN1610H.NK2
Dimension	W x H x D	mm	520 x 1,080 x 330
Weight		kg	94
Sound Power Level (Heating)		dB (A)	57
Leaving Water Temp. Range	Heating	°C	25 - 80
Water Flowrate Limit		LPM	Min.15
Power Supply		P / V / Hz	1 / 220-240 / 50
Recommended Fuse		A	25
Seasonal space energy efficiency class	35°C / 55°C		A / A+
Seasonal space energy efficiency (average)	35°C / 55°C	%	115 / 113
Rated heat output (average)	35°C / 55°C	kW	13 / 11
Annual energy consumption (average)	35°C / 55°C	kWh	9,395 / 7,642

This product contains Fluorinated Greenhouse gases (R410A and R134a). Specifications based on EN 14511 and EN 14825.

THERMA V™

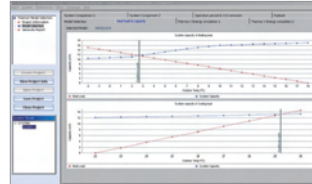
Optimal Application

Heating Engineers will have access to LG's advanced model selection software, enabling the designer of your air-to-water system to choose the optimal THERMA V model based on your location and environmental factors for your project.

• Model selection screen



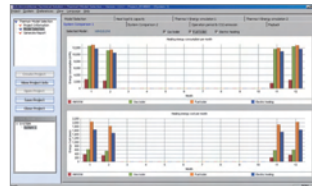
• Heat load and heat pump capacity



• Monthly energy simulation



• System comparison chart





LG Electronics

Web: www.lg.com/uk/heating

For continual product development, LG reserves the right to change specifications without notice.

Information on the complete range of LG Air Conditioning and Energy Solutions is available on our website. You can also download from PDF versions from our website. Whilst every care has been taken in the preparation of this catalogue, some changes may have occurred since publication. LG Electronics cannot accept responsibility for errors and omissions.

LG Electronics UK Limited have been working closely with their supplier's to reduce their environmental impact on the world.

Copyright © 2018 LG Electronics. All rights reserved. Printed in the UK.



LGUKTHVmidCat:07/18