LG

LG THERMA V™

LG Electronics

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LG
Life's Good

THERMA V™

Air-to-Water Heat Pump

LG Heating SOLUTION

Focus on Energy and Environment

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 pumps are the new product category to 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.
From 26 September 2015, the ErP rules applied to heat pumps, which have to meet minimum requirements for energy efficiency and maximum sound power levels. Products that do not satisfy these rules will not reach the UK market anymore.

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 7.63 Pence / 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) NF PAC (France) EUROVENT (EU)

LG Energy 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

LG testLab Korea

LG's 7 Years Warranty

LG and it's distributors provide various levels of technical support to cover model selection and quotations, installation and commissioning. LG's Therma V comes with a standard 3 years warranty for all parts and a contribution towards labour. For those who have attended and passed the Therma V technical product training course an Approved Installer Status is offered providing a 7 year warranty for all parts and labour contribution. This also ensures quality heat pump installations for the end users.

SEVEN YEAR 7 YEAR WARRANTY

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 saving.
THERMA V can be used as various heating solution from floor heating to hot water supply with multiple heat sources.

Energy Efficient Application

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

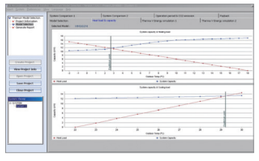
Optimal Application

Advanced model selection software enables designers to choose optimal THERMA V model based on the location and environmental factors.

- Model selection screen

- Monthly energy simulation

- Heat load and heat pump capacity



- System comparison chart

MCS Software

This is a total solution MCS tool for installers, consisting of;

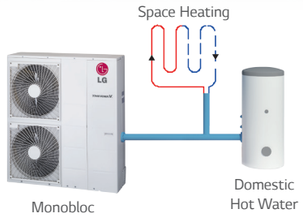
- Automatic completion of MCS Compliance certificate.
- MCS 3005 heat pump calculations with heat loss tool compliant to BSEN12831.
- The program includes Therma V product database allowing you to automatically select the LG heat pump and update the performance criteria.
- Includes customer CRM pages for recording basic customer communication information.
- Documents section for installers to upload site photos and customer documentation.
- Generate a site survey from to pdf prior to site visit based on telephone/desk survey.
- Automatically create rooms from site survey.

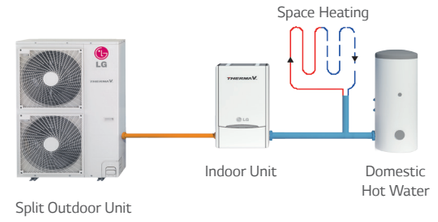
Various Application

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

New Build

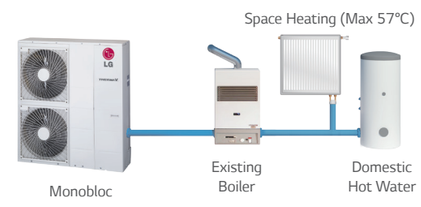
With low temp. monobloc and split model, heating and cooling can be done.





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.



CONTENTS

Why LG THERMA V?

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

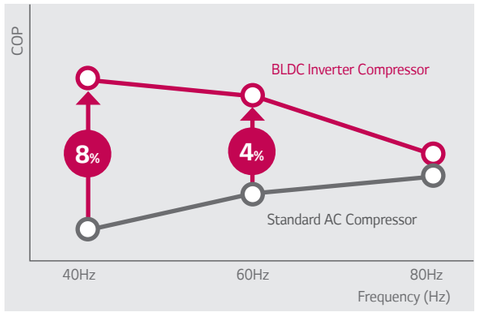
The LG Inverter Technology provides excellent energy efficiency with optimal components such as water pump, heat exchanger and fan motor. Moreover, the pressure control technology provides stable heating capacity at low temperature and reaches target performance without difficulties.

Additionally, 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.

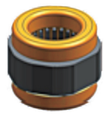
ENERGY EFFICIENCY

BLDC (Brushless Direct Current Motor) Compressor

THERMA V is equipped with a BLDC* compressor that uses a strong neodymium magnet.
The compressor has improved efficiency compared to standard AC inverter product and it is optimised for seasonal efficiency.



- Minimized oil circulation
- High efficiency motor
- Optimised compression
- Optimised vibration, noise
- High reliability



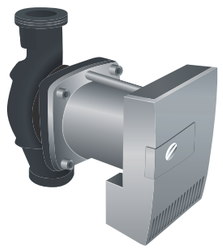
Conventional
Distributed Winding

New
Concentrated Winding

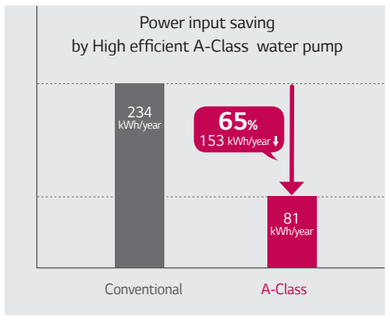
High Efficient Water Pump

THERMA V is equipped with a high efficiency A-Class water pump.
The pump pressure is adjustable, to suit design conditions.

3 / 5 / 7 / 9 kW



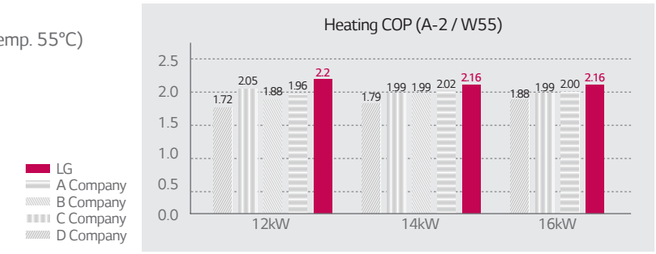
12 / 14 / 16 kW



* Condition : 12 hours x 30 days x 5 month (estimated value)

Energy Efficiency at -2°C

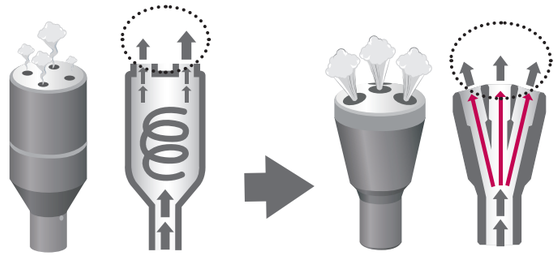
Energy efficiency is higher than others.
(Condition : Ambient temp. -2°C / Leaving water temp. 55°C)



* Peak value / Monobloc models.

Heat Exchanger Improvement

Efficiency and performance are improved by increased heat exchange rate of wide louver fin and new optimal distributor design applied to the heat exchanger.



Conventional
Unequal Distribution

New
Equal Distribution

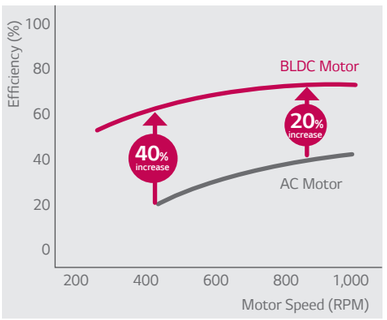
Optimised Heat Exchanger Path
Improved cycle efficiency up to 5% with equal distribution.

Heat Exchange Rate (%)

Heating	123%

Inverter BLDC Fan Motor

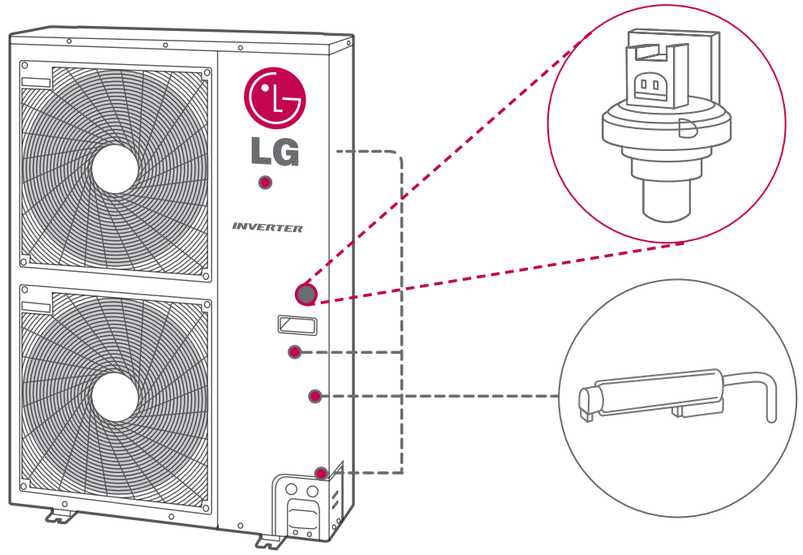
LG BLDC fan motor offers additional energy savings up to 40% at low speed and 20% at high speed compared to an AC motor.



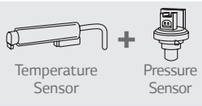
RELIABILITY

Reliability at Low Temperature

Pressure control reinforces heating performance by operating in stable condition at low ambient temperature.

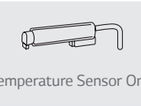


Pressure Control



This ensures to reach target performance point without failing to keep a reliable operation.

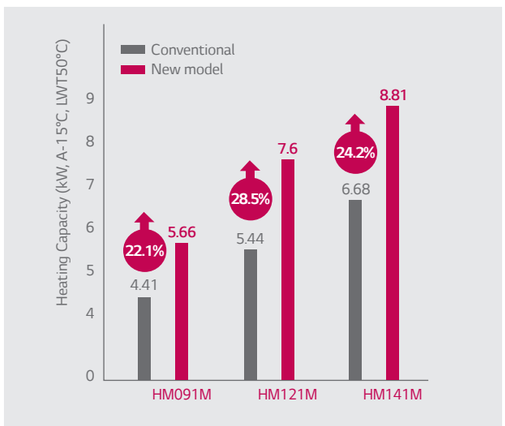
Temperature Control



This algorithm is more likely to be affected by temperature change and it takes more time to calculate proper operation range of compressor to target point.

Heating Capacity at Low Temperature

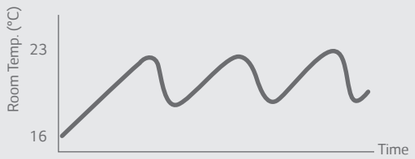
High and stable performance at low temperatures.



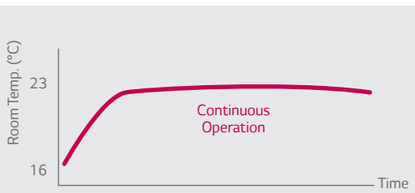
Stable Operation

High and stable heating performance at low temperatures.

Conventional



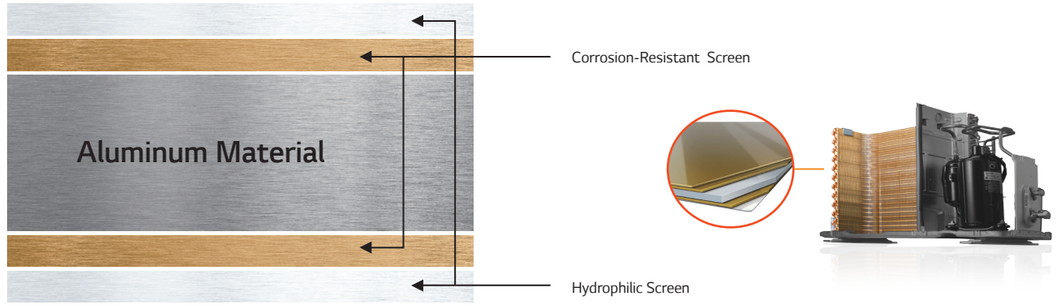
New



Corrosion Resistant Heat Exchanger

LG's Outdoor Heat Exchanger is coated with a gold-colored anti-corrosive epoxy 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™ fin is perfect for areas with high pollution or locations exposed to saltwater spray from the sea.

• Composition of Fin screens

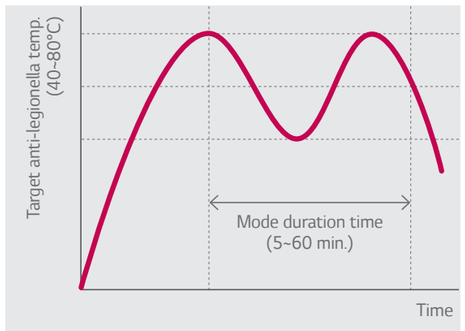


| Salt Spray Test for 15 Days |

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

Anti-Legionella Function

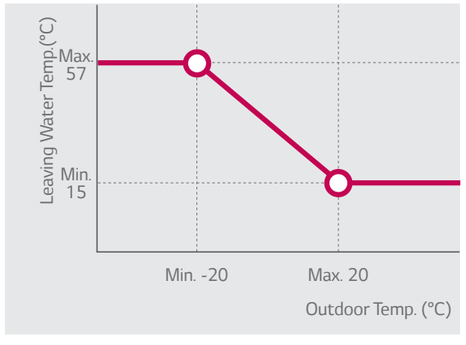
By setting Anti-legionella operation mode on, THERMA V heats the whole water tank automatically once a week until water temperature reaches up to 80°C to de-sanitise.



CONVENIENCE

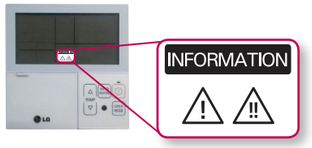
Weather Dependent Operation

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



Emergency Operation

Even in case of sudden product error, THERMA V ensures stable heating operation by applying 2 steps of emergency control.



- In case of **Minor Error**
  (Mainly caused by sensor)
  - THERMA V = ON, Electric Heater = ON/OFF

- In case of **Major Error**
  (Mainly caused by cycle parts)
  - THERMA V = OFF, Electric Heater = ON

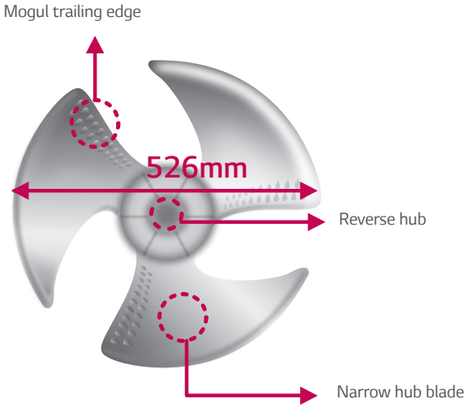
Conventional

LG THERMA V

Improved Fan for Low Noise

The New Axial Fan has a narrow hub blade and mogul trailing edge, this provides a high efficiency, low noise as well as improving the air flow rate.

Conventional

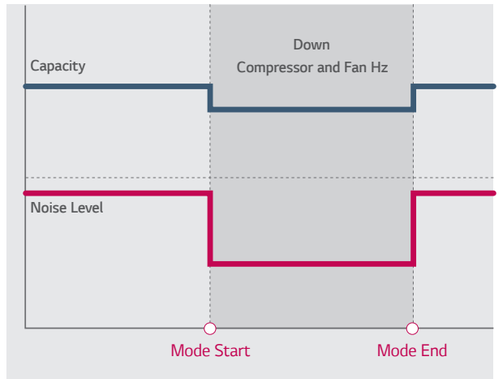


New

Silent Mode and Scheduler

Silent mode operation can reduce the noise level specially during the setting time by remote controller and users can set the weekly on/off schedule also.

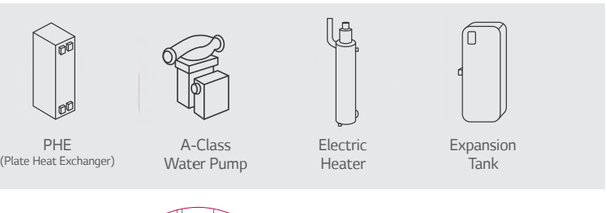
Heating Capacity (kW)	Heating Sound Pressure (dBA)	
	Normal	Silent Mode
3	47	43
5	51	48
7	52	48
9	52	48
12	53	50
14	53	50
16	53	50

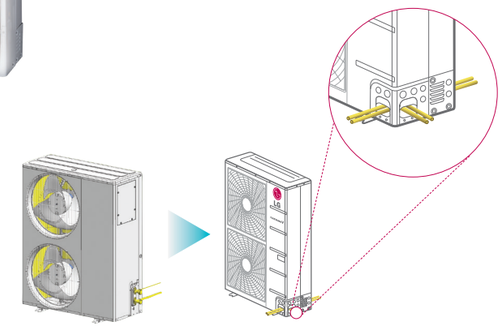


EASY INSTALLATION AND SERVICE

All in One Concept

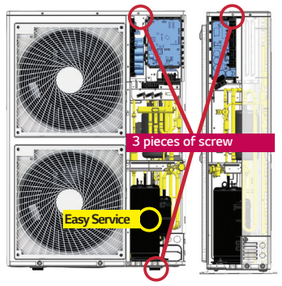
LG will provide fully packaged monobloc with 4 main component. (except 3kW monobloc) basically.
No need to work refrigerant piping, easier and quicker installation.





3-Way charging pipe (Split type only)

Refrigerating connection is possible in three directions.



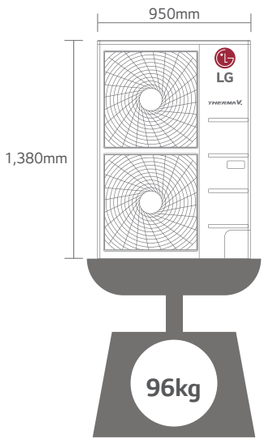
Compact design and Easy Service

- Remove 3 screws for service
- Front panel removal system

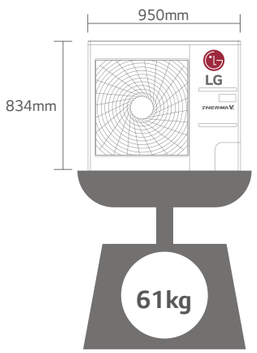
Compact and Slim

Therma V is shaped to minimize the size and weight in order to help easy and efficient work condition for installation.

• SPLIT TYPE (16kW)



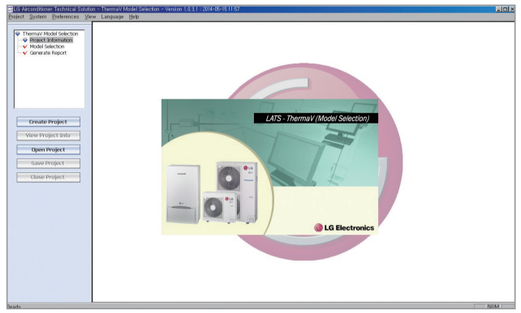
• MONOBLOC TYPE (3kW)

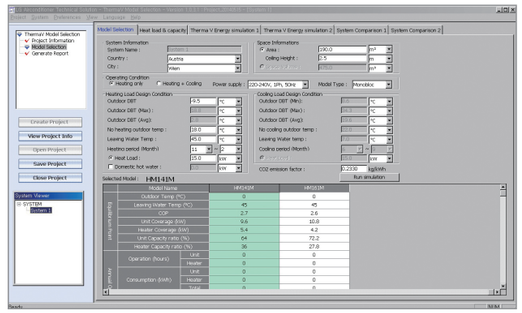


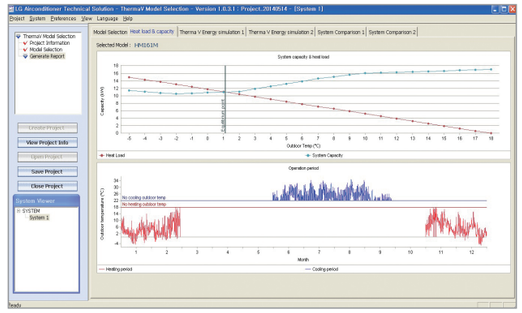
LG LATS THERMA V

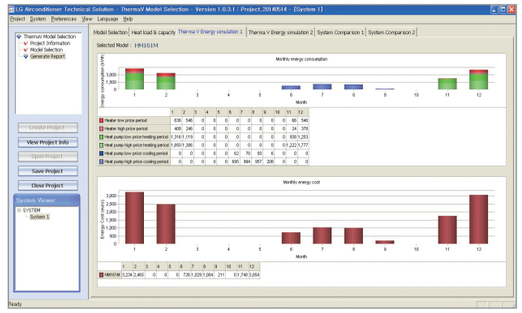
THERMA V Selection Program

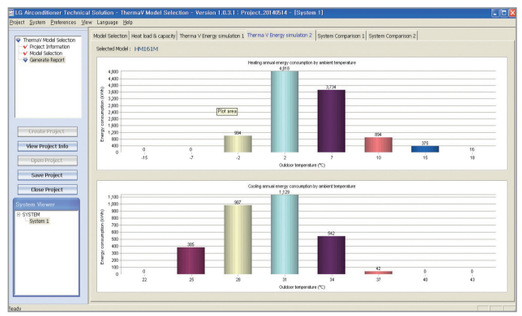
LATS THERMA V simulates quick and easy result of THERMA V's economic benefits.
By specifying a number of parameters, this program shows annual energy cost compared with conventional heating system and CO_2 annual amount, monthly energy amount and cost, total amount of thermal energy in kWh as the outside temperature.

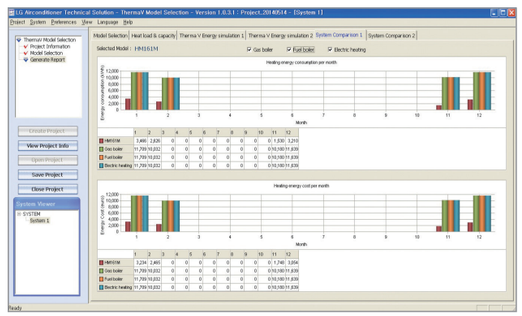








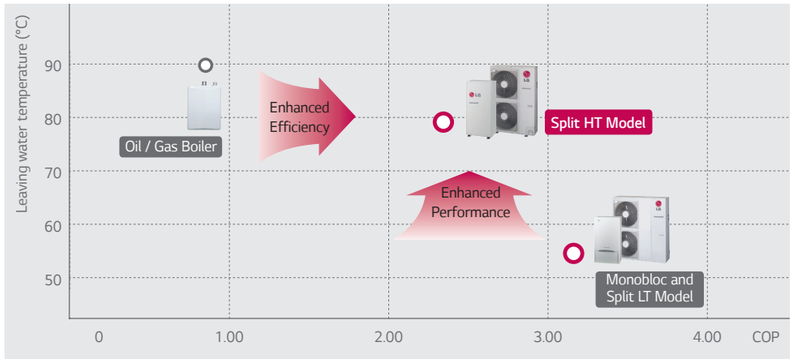




THERMA V HIGH TEMPERATURE

Enhanced Efficiency and Performance

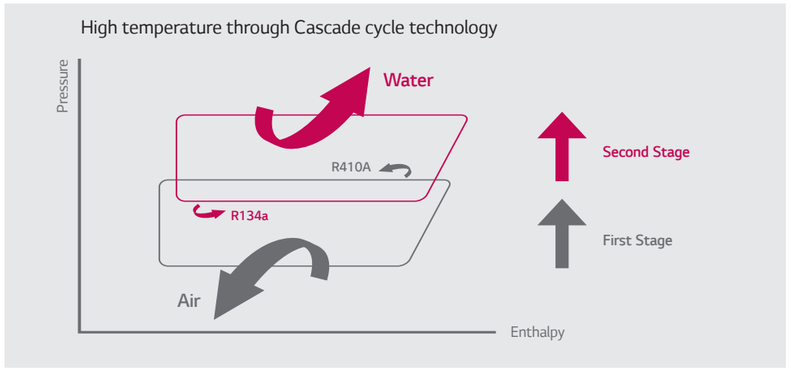
THERMA V high temp. can produce Max. 80°C hot water with high efficiency (Max. COP 4.06 at 24°C ODT and 40/45 EWT/LWT) through cascade 2 stage compression technology.



*Condition for HT model : Outdoor air temp. 18°C, entering water temp. 70°C
*Condition for LT model : Outdoor air temp. 18°C, entering water temp. 50°C

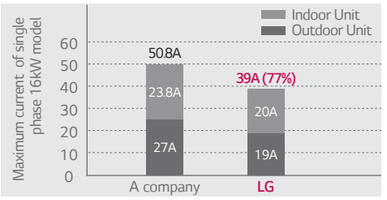
Cascade 2 Stage Compression Technology

Max. 80°C hot water can be generated through Cascade R410A to R134a BLDC compressor technology and applicable for existing old boiler heating system which demands hot water supply.



Low Maximum Current Level

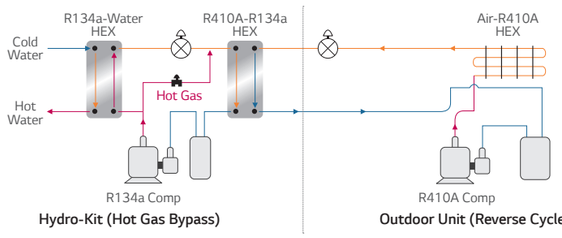
LG High Temperature THERMA V can be easily installed without any additional electric connection cost.

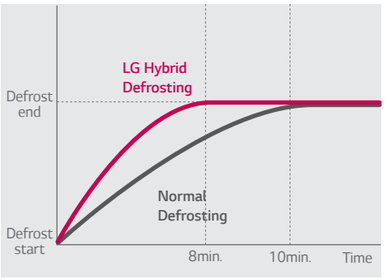


Quick Defrosting

Through R134A compressor controlling technology, necessary time for defrost operation has been minimized effectively. (LG Patent)

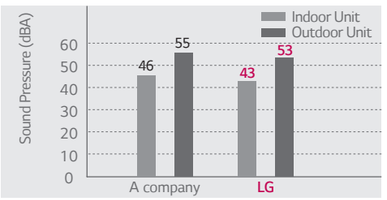
As compared to normal reverse cycle defrost, 25% reduction in defrost time, and 10% increase of integrated heating capacity is achieved using hybrid defrosting.





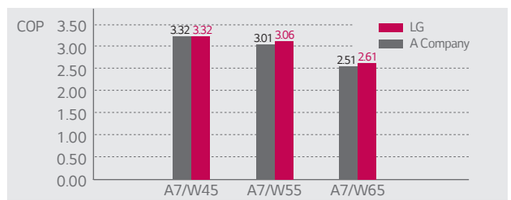
Low Noise Level

Through cutting edge technology for DC inverter compressor, operating noise level of indoor and outdoor unit has been reduced and serves more comfort.

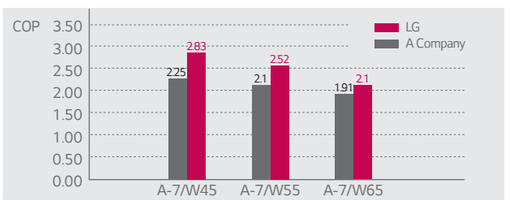


Higher Energy Efficiency

By applying efficient compressor and optimally designed structure, the more energy saving, the lower operating cost make sooner return on initial investment.



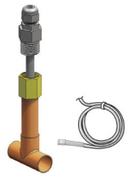
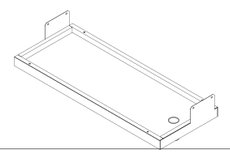
Heating COP at 7°C Outdoor Temperature



Heating COP at -7°C Outdoor Temperature

ACCESSORY

Accessories Provided by LG

Accessory	Feature
Domestic Hot Water Tank Kit	• **PHLTA (1Φ, Split)** • **PHLTC (3Φ, Split)** • **PHLTB (Monobloc)** **Features** Easy to install the domestic hot water for monobloc. There is a MCCB to protect the product. Dimension(mm) (HxWxD) : 250x170x110 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.  PHLTA / PHLTC 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) (HxWxD) : 110x55x22 
Dry Contact	• **PQDSA / PDRYCB000** **Features** For connection with boiler(Bivalent scene) 
Drain Pan	• **PHDPA** **Features** Collects condensate water (when dropping to the base is not possible) and drains the water to a pipe 

Optional Accessories Supplied in the Fields

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 ~ 1x1mm 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
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

THERMA V™

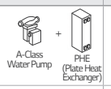
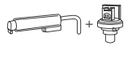
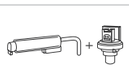
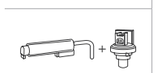
2016-2017 LG AWHP Line-up

MCS BBA

SEVEN YEAR 7 YEAR WARRANTY

THERMA V™

Type	Capacity	Φ	Product	Performance						BLDC Inverter Compressor
				A7 / W35		A-2 / W55		Heating Operating Range		
				COP	Capac-ity	COP	Capacity	Outdoor Temp.	Leaving Water Temp.	
Monobloc Type	3kW	1Φ		4.10	3.00	2.08	2.17	-20°C ~ 35°C	20°C ~ 57°C	LG Twin Rotary
	5kW	1Φ		4.42	4.99	2.20	3.44		15°C ~ 57°C	
	7kW	1Φ		4.30	7.00	2.14	4.81			
	9kW	1Φ		4.09	9.00	2.16	6.19			
	12kW	1Φ		4.49	12.00	2.17	8.25			
		3Φ		4.49	12.00	2.17	8.35			
	14kW	1Φ		4.44	14.00	2.19	9.90			
		3Φ		4.44	14.00	2.17	9.63			
	16kW	1Φ		4.20	16.00	2.22	11.00			
		3Φ		4.20	16.00	2.14	11.00			
Split Type	3kW	1Φ		4.62	3.00	2.07	2.07	-20°C ~ 30°C	15°C ~ 57°C	LG Twin Rotary
	5kW	1Φ		4.67	5.00	2.33	3.45			
	7kW	1Φ		4.40	7.00	2.21	4.81			
	9kW	1Φ		4.30	9.00	2.28	6.19			
	12kW	1Φ	NEW 	4.62	12.00	2.20	8.25			
		3Φ		4.62	12.00	2.16	8.35			
	14kW	1Φ	NEW 	4.49	14.00	2.15	9.90			
		3Φ		4.49	14.00	2.15	9.63			
	16kW	1Φ	NEW 	4.26	16.00	2.15	11.00			
		3Φ		4.26	16.00	2.14	11.00			
Split High Temp. Type	16kW	1Φ		3.32 (A7/W45)	16.80	2.09 (A-7/W65)	15.1	-15°C ~ 35°C	25°C ~ 80°C	LG Twin Rotary

Reliability						Convenience				
Control Sensor	Embedded Component	Water Pump	Heat Exchanger Coating	Electric Heater		Timer	Emergency Operation	Dry Contact Connecta-bility	Weather Dependant Operation	PHEX An-ti-Freez-ing Control
				Size	Capacity Control					
	 A-Class Water Pump + PHE (Plate Heat Exchanger)	A CLASS	gold™ Gold-fin	N/A	N/A	24H WEEKLY	1 LEVEL		AUTO	
	 A-Class Water Pump +  PHE (Plate Heat Exchanger) +  Expansion Tank +  Electric Heater	A CLASS	gold™ Gold-fin	4kW	1 2 STEP	24H WEEKLY	2 LEVEL		AUTO	
		A CLASS	gold™ Gold-fin	4kW	1 2 STEP	24H WEEKLY	2 LEVEL		AUTO	
		A CLASS	gold™ Gold-fin	4kW	1 2 STEP	24H WEEKLY	2 LEVEL		AUTO	
		A CLASS	gold™ Gold-fin	6kW	1 2 STEP	24H WEEKLY	2 LEVEL		AUTO	
		A CLASS	gold™ Gold-fin	6kW	1 2 STEP	24H WEEKLY	2 LEVEL		AUTO	
		A CLASS	gold™ Gold-fin	6kW	1 2 STEP	24H WEEKLY	2 LEVEL		AUTO	
	 A-Class Water Pump +  PHE (Plate Heat Exchanger) +  Expansion Tank +  Electric Heater	A CLASS	gold™ Gold-fin	3kW	N/A	24H WEEKLY	1 LEVEL		AUTO	
		A CLASS	gold™ Gold-fin	4kW	1 2 STEP	24H WEEKLY	2 LEVEL		AUTO	
		A CLASS	gold™ Gold-fin	4kW	1 2 STEP	24H WEEKLY	2 LEVEL		AUTO	
		A CLASS	gold™ Gold-fin	4kW	1 2 STEP	24H WEEKLY	2 LEVEL		AUTO	
		A CLASS	gold™ Gold-fin	6kW 9kW	1 2 STEP	24H WEEKLY	2 LEVEL		AUTO	
		A CLASS	gold™ Gold-fin	6kW 9kW	1 2 STEP	24H WEEKLY	2 LEVEL		AUTO	
		A CLASS	gold™ Gold-fin	6kW 9kW	1 2 STEP	24H WEEKLY	2 LEVEL		AUTO	
	 PHE (Plate Heat Exchanger)	N/A	gold™ Gold-fin	N/A	N/A	24H WEEKLY	1 LEVEL		AUTO	

MONOBLOC TYPE

HM031M.U42 / HM051M.U42
HM071M.U42 / HM091M.U42

Up to 57°C

Monobloc (Outdoor Unit)		Capacity	3kW 1Ø	5kW 1Ø	7kW 1Ø	9kW 1Ø
		Reference	HM031M.U42	HM051M.U42	HM071M.U42	HM091M.U42
Nominal Capacity	Heating (A7 / W35)	kW	3.00	4.99	7.00	8.70
	Heating (A2 / W50)	kW	2.18	3.63	5.08	6.18
	Heating (A-2 / W50)	kW	2.15	3.59	5.02	6.46
	Heating (A-7 / W35)	kW	2.33	3.87	5.42	6.97
	Cooling (A35 / W18)	kW	-	4.99	7.00	9.00
Nominal Power Input	Heating (A7 / W35)	kW	0.73	1.13	1.63	2.20
	Heating (A2 / W50)	kW	0.93	1.46	2.15	2.85
	Heating (A-2 / W50)	kW	0.98	1.52	2.16	2.78
	Heating (A-7 / W35)	kW	0.95	1.63	2.33	2.99
	Cooling (A35 / W18)	kW	-	1.38	2.00	2.65
COP	Heating (A7 / W35)		4.11	4.42	4.29	3.95
	Heating (A2 / W50)		2.34	2.49	2.36	2.17
	Heating (A-2 / W50)		2.19	2.36	2.32	2.32
	Heating (A-7 / W35)		2.45	2.37	2.33	2.33
EER	Cooling (A35 / W18)		-	3.62	3.50	3.40
Dimension	W x H x D	mm	950 x 834 x 330	1,239 x 907 x 390	1,239 x 907 x 390	1,239 x 907 x 390
Weight		kg	61	97	98	99
Sound Power Level (Heating)		dB (A)	57	66	66	66
Outdoor Air Operation Range	Heating	°C DB	-20 ~ 30	-20 ~ 35		
	Cooling	°C DB	-	5 ~ 48		
Leaving Water Temp. Range	Heating	°C	20 ~ 57	15 ~ 57		
	Cooling	°C	-	6 ~ 30		
Water Pipe Connection	Inlet	mm (inch)	Female 25.4 (1)			
	Outlet	mm (inch)	Female 25.4 (1)			
Electric Heater	Power Supply	P / V / Hz	-	1 / 220-240 / 50		
	Capacity	kW	-	4		
Water Flowrate Limit		LPM	Min.15			
Max. Water Head		m	6		7	
Power Supply		P / V / Hz	1 / 220-240 / 50			
Recommended Fuse		A	16	20		
Seasonal space heating energy efficiency class	35°C / 55°C		A++ / A	A++ / A+	A++ / A+	A++ / A+
Seasonal space heating energy efficiency (average)	35°C / 55°C	%	153 / 97	159 / 108	154 / 111	161 / 114
Rated heat output (average)	35°C / 55°C	kW	3 / 2	6 / 5	7 / 6	7 / 7
Annual energy consumption (average)	35°C / 55°C	kWh	1,541 / 1,969	3,140 / 3,757	3,652 / 4,691	3,759 / 4,636
Water pump EEI ≤			0.20	0.20	0.20	0.20

This product contains fluorinated greenhouse gases. (R410A)
All models do have electric heating cable for prevent frost from condensing water at the condensing pan except 3kW capacity.
Above table values does include humidification effect in the outdoor temperature below zero.
All specification in based on EN14511 and EN14825.

MONOBLOC TYPE

HM121M.U32 / HM141M.U32 / HM161M.U32
HM123M.U32 / HM143M.U32 / HM163M.U32

Up to 57°C

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
	Heating (A2 / W50)	kW	8.76	10.41	11.58	8.94	10.43	12.21
	Heating (A-2 / W50)	kW	8.63	10.33	11.45	8.84	10.31	12.07
	Heating (A-7 / W35)	kW	9.31	11.03	12.36	9.33	10.84	12.60
	Cooling (A35 / W18)	kW	14.50	15.50	16.10	14.50	15.50	16.10
Nominal Power Input	Heating (A7 / W35)	kW	2.67	3.15	3.81	2.67	3.15	3.81
	Heating (A2 / W50)	kW	3.51	4.26	4.83	3.65	4.32	5.12
	Heating (A-2 / W50)	kW	3.57	4.45	5.05	3.75	4.45	5.25
	Heating (A-7 / W35)	kW	3.37	4.09	5.08	3.38	4.01	5.29
	Cooling (A35 / W18)	kW	4.00	4.69	5.07	4.00	4.69	5.07
COP	Heating (A7 / W35)		4.49	4.44	4.20	4.49	4.44	4.20
	Heating (A2 / W50)		2.50	2.44	2.40	2.45	2.41	2.38
	Heating (A-2 / W50)		2.42	2.32	2.27	2.36	2.32	2.30
	Heating (A-7 / W35)		2.76	2.70	2.43	2.76	2.70	2.38
EER	Cooling (A35 / W18)		3.63	3.30	3.18	3.63	3.30	3.17
Dimension	W x H x D	mm	1,239 x 1,450 x 390					
Weight		kg	141			145		
Sound Power Level (Heating)		dB (A)	68					
Outdoor Air Operation Range	Heating	°C DB	-20 ~ 35					
	Cooling	°C DB	5 ~ 48					
Leaving Water Temp. Range	Heating	°C	15 ~ 57					
	Cooling	°C	6 ~ 35					
Water Pipe Connection	Inlet	mm (inch)	Female 25.4 (1)					
	Outlet	mm (inch)	Female 25.4 (1)					
Electric Heater	Power Supply	P / V / Hz	1 / 220-240 / 50			3 / 380~415 / 50		
	Capacity	kW	6					
Water Flowrate Limit		LPM	Min.15					
Max. Water Head		m	8					
Power Supply		P / V / Hz	1 / 220-240 / 50			3 / 380-415 / 50		
Recommended Fuse		A	32			20		
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	%	168 / 121	168 / 121	165 / 121	173 / 124	163 / 124	162 / 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	5,478 / 6,698	5,763 / 6,698	6,038 / 6,698	5,193 / 7,078	5,942 / 7,078	6,256 / 7,078
Water pump EEI ≤			0.23	0.23	0.23	0.23	0.23	0.23

This product contains fluorinated greenhouse gases. (R410A)
All models do have electric heating cable for prevent frost from condensing water at the condensing pan except 3kW capacity.
Above table values does include humidification effect in the outdoor temperature below zero.
All specification in based on EN14511 and EN14825.

SPLIT TYPE

HU031.UE2 / HU051.U42
HU071.U42 / HU091.U42

Up to 57°C

Split (Outdoor Unit)		Capacity	3kW 1Ø	5kW 1Ø	7kW 1Ø	9kW 1Ø
		Reference	HU031.UE2	HU051.U42	HU071.U42	HU091.U42
Nominal Capacity	Heating (A7 / W35)	kW	2.94	5.01	7.02	9.03
	Heating (A2 / W50)	kW	2.18	3.64	5.08	6.54
	Heating (A-2 / W50)	kW	2.15	3.59	5.02	6.46
	Heating (A-7 / W35)	kW	2.45	4.08	5.71	7.34
	Cooling (A35 / W18)	kW	3.00	5.00	7.00	9.00
Nominal Power Input	Heating (A7 / W35)	kW	0.61	1.07	1.59	2.06
	Heating (A2 / W50)	kW	0.93	1.38	2.04	2.54
	Heating (A-2 / W50)	kW	0.98	1.44	2.11	2.64
	Heating (A-7 / W35)	kW	0.95	1.40	2.06	2.58
	Cooling (A35 / W18)	kW	0.75	1.35	2.05	2.65
COP	Heating (A7 / W35)		4.75	4.68	4.39	4.38
	Heating (A2 / W50)		2.34	2.64	2.49	2.57
	Heating (A-2 / W50)		2.19	2.49	2.38	2.45
	Heating (A-7 / W35)		2.58	2.91	2.77	2.84
EER	Cooling (A35 / W18)		4.00	3.70	3.41	3.40
Dimension	W x H x D	mm	870 × 655 × 320	950 x 834 x 330	950 x 834 x 330	950 x 834 x 330
Weight		kg	46	64	64	64
Sound Power Level (Heating)		dB (A)	65	64	64	65
Outdoor Air Operation Range	Heating	°C DB	-20 ~ 30	-20 ~ 30	-20 ~ 30	-20 ~ 30
	Cooling	°C DB	5 ~ 48	5 ~ 48	5 ~ 48	5 ~ 48
Refrigerant (R410a)	Pipe Diameter (Liquid)	mm (inch)	Ø6.35 (1/4)	9.52 (3/8)	9.52 (3/8)	9.52 (3/8)
	Pipe Diameter (Gas)	mm (inch)	Ø12.7 (1/2)	15.88 (5/8)	15.88 (5/8)	15.88 (5/8)
	Pre-Charged Amount	kg	1	1.55	1.55	1.55
	Chargeless Pipe Length	m	7.5	7.5	7.5	7.5
	Additional Charging Volume	g / m	20	40	40	40
Ref. Pipe Length	Minimum	m	-	-	-	-
	Standard	m	7.5	7.5	7.5	7.5
	Maximum	m	30	50	50	50
Power Supply		P / V / Hz	1 / 220-240 / 50	1 / 220-240 / 50	1 / 220-240 / 50	1 / 220-240 / 50
Recommended Fuse		A	20	20	20	20

This product contains fluorinated greenhouse gases. (R410A) / All models do have electric heating cable for prevent frost from condensing water at the condensing pan except 3kW capacity.
All specification in based on EN14511 and EN14825.

Split (Indoor Unit)			Capacity	3kW	5, 7, 9kW		
			Reference	HN0314.NK2	HN0914.NK2		
Dimension	W x H x D		mm	490 x 850 x 315	490 x 850 x 315		
Weight			kg	46	48		
Electric Heater	Power Supply		P / V / Hz	1 / 220-240 / 50	1 / 220-240 / 50		
	Capacity		kW	4	4		
Leaving Water Temp. Range	Heating		°C	15~57	15~57		
	Cooling		°C	6~30	6~30		
Water Flowrate Limit			LPM	Min.15	Min.15		
Max. Water Head			m	6	7		
Water Pipe Connection	Inlet		mm (inch)	Male PT 25 (1)	Male PT 25 (1)		
	Outlet		mm (inch)	Male PT 25 (1)	Male PT 25 (1)		
Seasonal space heating energy efficiency class	35°C / 55°C			A++ / A	A++ / A+	A++ / A+	A++ / A+
Seasonal space heating energy efficiency (average)	35°C / 55°C		%	152 / 91	171 / 115	167 / 119	158 / 118
Rated heat output (average)	35°C / 55°C		kW	3 / 2	6 / 5	7 / 6	8 / 7
Annual energy consumption (average)	35°C / 55°C		kWh	1,523 / 1,971	2,816 / 3,537	3,381 /4,118	3,902 / 4,706
Water pump EEI ≤				0.2	0.20	0.20	0.20

SPLIT TYPE

HU121.U32 / HU141.U32 / HU161.U32
HU123.U32 / HU143.U32 / HU163.U32

Up to 57°C

Split (Outdoor Unit)		Capacity	NEW 12kW 1Ø	NEW 14kW 1Ø	NEW 16kW 1Ø	NEW 12kW 3Ø	NEW 14kW 3Ø	NEW 16kW 3Ø
		Reference	HU121.U32	HU141.U32	HU161.U32	HU123.U32	HU143.U32	HU163.U32
Nominal Capacity	Heating (A7 / W35)	kW	12.00	14.00	16.00	12.00	14.00	16.00
	Heating (A2 / W50)	kW	8.50	9.78	11.03	8.55	9.83	11.29
	Heating (A-2 / W50)	kW	7.94	9.14	10.30	7.99	9.18	10.54
	Heating (A-7 / W35)	kW	11.48	13.11	14.80	11.48	13.11	14.92
	Cooling (A35 / W18)	kW	12.50	14.00	15.10	12.50	14.00	15.10
Nominal Power Input	Heating (A7 / W35)	kW	2.70	3.19	3.86	2.70	3.19	3.86
	Heating (A2 / W50)	kW	3.41	4.00	4.60	3.49	4.07	4.73
	Heating (A-2 / W50)	kW	3.30	3.95	4.63	3.40	4.00	4.63
	Heating (A-7 / W35)	kW	4.16	4.85	5.61	4.16	4.85	5.95
	Cooling (A35 / W18)	kW	3.68	4.55	5.57	3.68	4.55	5.57
COP	Heating (A7 / W35)		4.44	4.39	4.15	4.44	4.39	4.15
	Heating (A2 / W50)		2.49	2.45	2.40	2.45	2.42	2.39
	Heating (A-2 / W50)		2.41	2.31	2.22	2.35	2.30	2.28
	Heating (A-7 / W35)		2.76	2.70	2.64	2.76	2.70	2.51
EER	Cooling (A35 / W18)		3.40	3.08	2.71	3.40	3.08	2.71
Dimension	W x H x D	mm	950 x 1,380 x 330					
Weight		kg	94			96		
Sound Power Level (Heating)		dB (A)	68	69	69	68	69	69
Outdoor Air Operation Range	Heating	°C DB	-20 ~ 30					
	Cooling	°C DB	5 ~ 48					
Refrigerant (R410a)	Pipe Diameter (Liquid)	mm (inch)	9.52 (3/8)					
	Pipe Diameter (Gas)	mm (inch)	15.88 (5/8)					
	Pre-Charged Amount	Kg	2.3					
	Chargeless Pipe Length	m	7.5					
	Additional Charging Volume	g / m	40					
Ref. Pipe Length	Minimum	m	-					
	Standard	m	7.5					
	Maximum	m	50					
Power Supply		P / V / Hz	1 / 220-240 / 50			3 / 380-415 / 50		
Recommended Fuse		A	40			20		

This product contains fluorinated greenhouse gases. (R410A) / All models do have electric heating cable for prevent frost from condensing water at the condensing pan except 3kW capacity.
All specification in based on EN14511 and EN14825.

Split (Indoor Unit)			Capacity	12~16kW	
			Reference	HN1616.NK2	HN1639.NK2
Dimension	W x H x D		mm	490 x 850 x 315	
Weight			kg	56	51
Electric Heater	Power Supply		P / V / Hz	1 / 220-240 / 50	3 / 380-415 / 50
	Capacity		kW	6	9
Leaving Water Temp. Range	Heating		°C	15 ~ 57	
	Cooling		°C	6 ~30	
Water Flowrate Limit			LPM	Min.15	
Max. Water Head			m	7	
Water Pipe Connection	Inlet		mm (inch)	Male PT 25 (1)	
	Outlet		mm (inch)	Male PT 25 (1)	
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		%	173 / 122	163 / 122	163 / 122	159 / 115	160 / 115	159 / 115
Rated heat output (average)	35°C / 55°C		kW	10 / 10	10 / 10	11 / 10	10 / 10	10 / 10	11 / 10
Annual energy consumption (average)	35°C / 55°C		kWh	4,651 / 6,564	5,238 / 6,564	5,422 / 6,564	5,121 / 7,046	5,337 / 7,046	5,526 / 7,046
Water pump EEI ≤				0.23	0.23	0.23	0.23	0.23	0.23

HIGH TEMPERATURE TYPE

HU161H.U32 / HN1610H.NK2

Up to 80°C

High Temp. Split (Outdoor Unit)		Capacity	16kW 1Ø
		Reference	HU161H.U32
Nominal Capacity	Heating (A7/W65)	kW	16
	Heating (A2/W65)	kW	14.6
	Heating (A-2/W65)	kW	15.7
	Heating (A-7/W65)	kW	15.1
Nominal Power Input	Heating (A7/W65)	kW	6.13
	Heating (A2/W65)	kW	6.81
	Heating (A-2/W65)	kW	6.96
	Heating (A-7/W65)	kW	7.2
COP	Heating (A7/W65)		2.61
	Heating (A2/W65)		2.14
	Heating (A-2/W65)		2.26
	Heating (A-7/W65)		2.10
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
Refrigerant (R410a)	Pipe Diameter (Liquid)	mm (inch)	9.52 (3/8)
	Pipe Diameter (Gas)	mm (inch)	15.88 (5/8)
	Pre-Charged Amount	Kg	3.5
	Chargeless Pipe Length	m	10
	Additional Charging Volume	G/m	60
Ref. Pipe Length	Minimum	m	5
	Standard	m	7.5
	Maximum	m	50
Power Supply		P / V / Hz	1 / 220-240 / 50
Recommended Fuse		A	25

This product contains fluorinated greenhouse gases. (R410A)
All specification in based on EN14511 and EN14825.

High Temp. Split (Indoor Unit)		Capacity	16kW 1Ø
		Reference	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
Nominal Power Input	Heating	kW	6.13
Leaving Water Temp. Range	Heating	°C	25 ~ 80
Water Flowrate Limit		LPM	Min.15
Refrigerant (R134a)	Pipe Diameter (Liquid)	mm (inch)	9.52 (3/8)
	Pipe Diameter (Gas)	mm (inch)	15.88 (5/8)
	Pre-Charged Amount	kg	2.3
Water Pipe Connection	Inlet	mm (inch)	Male PT 25 (1)
	Outlet	mm (inch)	Male PT 25 (1)
Draining Pipe Connection		mm (inch)	Male PT 25 (1)
Power Supply		P / V / Hz	1 / 220-240 / 50
Recommended Fuse		A	25
Seasonal space heating energy efficiency class	35°C / 55°C		A / A+
Seasonal space heating energy efficiency (average)	35°C / 55°C	%	13 / 11
Rated heat output (average)	35°C / 55°C	kW	115 / 113
Annual energy consumption (average)	35°C / 55°C	kWh	9,395 / 7,642

This product contains fluorinated greenhouse gases. (R134a)

Training and CPD Seminars

All of LG's CPD seminars are under an hour long and can be scheduled at a date/time to suit your company,

Register your interest to **HVAC.marketing@lge.com**

SEMINAR NAME:
Effect of AWHP system design on running costs and emissions

COURSE CODE: CPD-AWHP **DURATION:** 1 hour

SEMINAR SYNOPSIS:

Demonstrates how emissions and running costs for air to water heat pumps compare with conventional heating systems as well as how to calculate emissions and running cost savings. Understand the design criteria that are important for potential savings to be realised.

SEMINAR NAME:
TM44 Energy inspections to save costs

COURSE CODE: CPD-TM44 **DURATION:** 1 hour

SEMINAR SYNOPSIS:

Identifies who is legally responsible for air conditioning inspections and introduces some of the legal requirements for A/C energy inspections. Gain an overview of current reporting methods and report content as well as understanding what happens to a report on completion..

SEMINAR NAME:
Heat recovery ventilation

COURSE CODE: CPD-HRV **DURATION:** 1 hour

SEMINAR SYNOPSIS:

Explains how to assess the ventilation design requirements and estimate the heat loss due to ventilation with or without heat recovery.

TRAINING COURSE NAME:
Therma V Technical Product Course

COURSE CODE: THV1 **DURATION:** 1 day

COURSE SYNOPSIS:

Therma V is the trade name given to LG's air-to-water heat pump range. The course is ideal for consultants, sales and maintenance engineers or installers, whi are interested in the design and specification of air-to-water heat pumps.