LG
Life's Good

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Distributed by

LG
Life's Good

THERMA V™

Air-to-water Heat Pump

High Efficient Heating Solution

Focus on Energy & Environment

Continuous Challenges

The EU has set a target to cut emissions by 40% by 2030 with 27% of energy being produced by renewable sources. Plans are in place to move each country to a more energy efficient, low-carbon economy to help meet this target.

The UK's example

- The UK "Green Deal" and the "CRC Energy Efficiency Scheme" to assist investing in low carbon technologies
- All properties (homes, commercial and public buildings) must have an "Energy Performance Certificate (EPC)" when sold, built or rented.
- Larger public buildings over 500m² must display a "Display Energy Certificate (DEC)".

The Renewable Heat Incentive (RHI)

The RHI is the UK Government financial incentive scheme to encourage a switch from fossil fuel heating systems to renewable heating systems.

Renewable heat is defined as the heat generated minus the electrical input. (If the output is 10 kW, and the input is 3 kW, then the renewable output is 7kW, or 7kWh every hour of operation.)

- The domestic RHI for Air to Water Heat Pump (launched 9 April 2014) :
  RHI pays 7.3p/kWhr to homeonwers, private landlords, social landlords and self-builders.
- Non-domestic RHI for Air to Water Heat Pump (launched 28 May 2014) :
  RHI pays 2.5p/kWhr to industry, businesses and public sector organization.

In order to claim for the RHI you will need a Green Deal Assessment and a MCS approved product and an MCS approved installer.

Microgeneration Certified Scheme (MCS)

Before applying

- A Green Deal Assessment must be carried out.
- Install loft or cavity wall insulation if it's recommended in the Green Deal Advice Report.
- Get an updated EPC (Energy Performance Certificate) to verify you've installed the loft or cavity wall insulation.

How to apply

The end-user must complete an online application form and supply

- MCS Certificate (or equivalent) Number
  This is at the top of the certificate and looks like : MCS 01234567-A
- EPC Number
  This is at the top of your certificate and looks like : 12345-5678-9012-3456
- Green Deal Advice Report Number
  This is at the top of your report and looks like : 12345-6789-0123-4567

Save money and pay-back

- Domestic RHI Claimable for 7 years (this can be backdated) Tariff 7.3pkWhr
- Non-domestic RHI Claimable for 20 years Tariff 2.5pkWhr

*Further Information

https://www.ofgem.gov.uk/environmental-programmes/domestic-renewable-heat-incentive

https://gdcashback.decc.gov.uk/

https://www.gov.uk/crc-energy-efficiency-scheme-qualification-and-registration

European Standards

LG THERMA V has adopted for the energy certification to correspond with the market demand for the each country.
THERMA V has been validated for its reliability and efficiency by acquiring these certifications under strict conditions..

Certification benefit

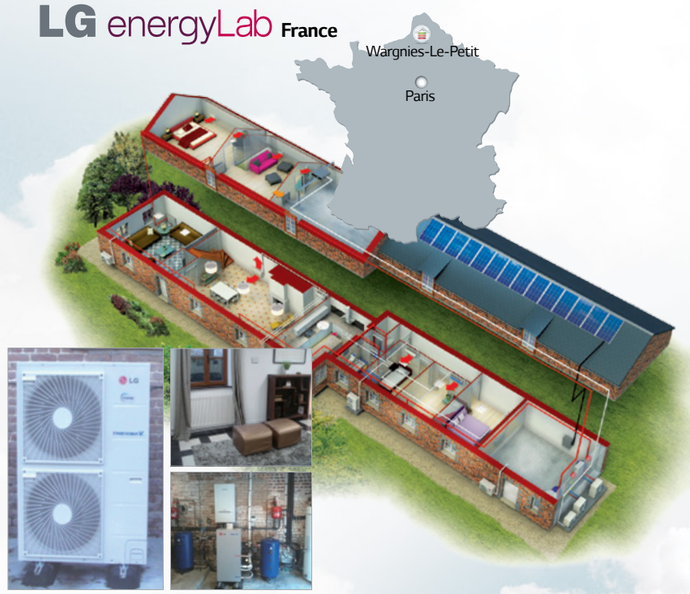
- MCS (UK) : RHI (Renewable Heat Incentive) tariff 7.3 Pence / kWh for 7 years
- NF PAC (France) : Promoted in the context of Thermal Regulation RT 2012.
  Tax Refund (15%~25% of product cost)
- EUROVENT (EU) : Model registration at the EUROVENT website

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

What is LG THERMA V?

THERMA V is LG's newest 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 boiler system by absorbing energy from the outdoor environment.

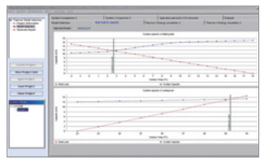
Optimal Application

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

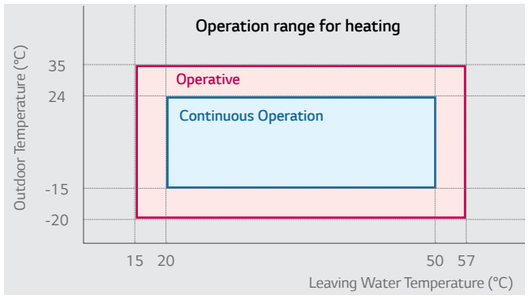
- Heat load & heat pump capacity



- System comparison chart

Reliable Application

Heating range for outdoor temperature is down to -20°C and leaving water temperature can reach max. 57 degree.



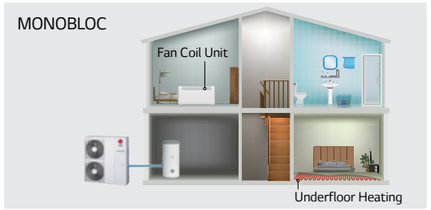
* In case of Monobloc models.

Various Application

Various kinds of application is possible with THERMA V units including new house also renovation house.

New House

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



Renovation House

THERMA V can be connected to existing boiler system to optimize energy efficiency and heating capacity for renovation house. Also THERMA V High Temperature can replace completely exiting boiler by providing 80°C hot water.

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

1 ENERGY EFFICIENCY

P.08

- Highly efficient inverter compressor
- Savings from energy efficient water pump
- Energy efficiency at -2°C
- Optimized components

2 CONVENIENCE & COMFORT

P.10

- Stable heating capacity with refrigerant pressure control
- Low operating noise
- Convenient control for end-users

3 EASY INSTALLATION & SVC

P.12

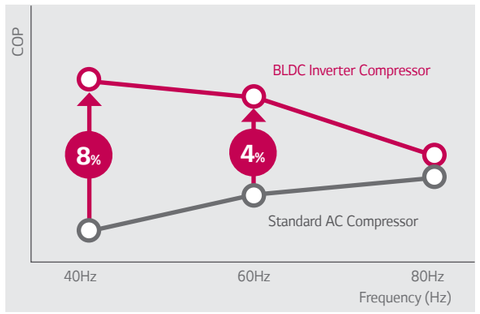
- Compact size & light weight for easy installation
- All-in-one type for quick and reliable installation
- Improved structure for easy service
- Emergency operation mode
- Service & Warranty support

1 ENERGY EFFICIENCY

Powerful BLDC* Compressor

*BLDC : Brushless DC Motor

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 optimized for seasonal efficiency.



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

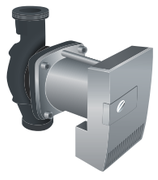
Conventional
Distributed Winding

New
Concentrated Winding

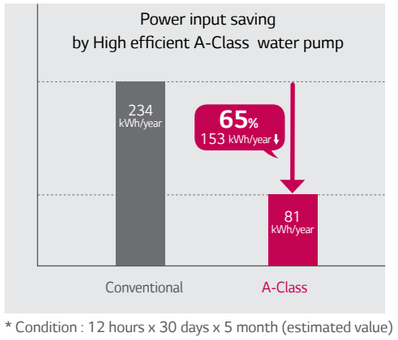
High Efficient Water Pump

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



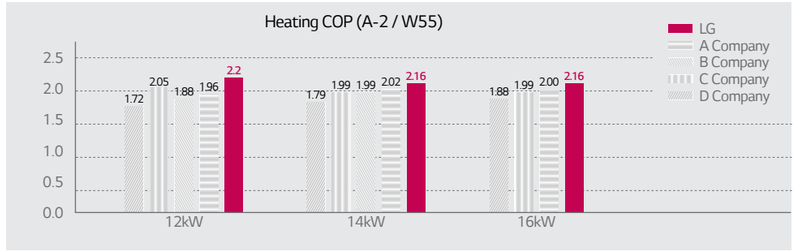
12 / 14 / 16 kW



* 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.

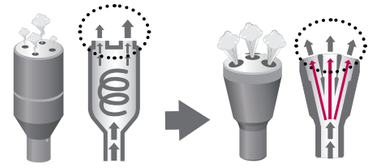
Heat Exchanger Improvement

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

Wide Louver Fin
Improved heat exchanger efficiency of up to 28%.
Optimized Heat Exchanger Path
Improved cycle efficiency up to 5% with equal distribution.

Heat Exchange Rate (%)

Heating 123%

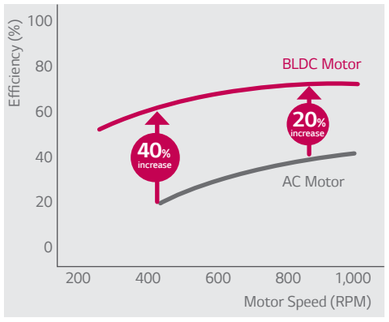


Conventional
Unequal Distribution

New
Equal Distribution

Inverter BLDC Fan Motor

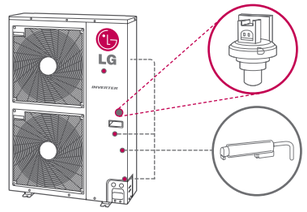
LG BLDC fan motor offers additional energy savings up to 40% at low speed and 20% at high speed compared to an AC motor.



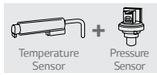
2 CONVENIENCE & COMFORT

Reliability at Low Temperature

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

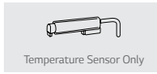


Pressure Control



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

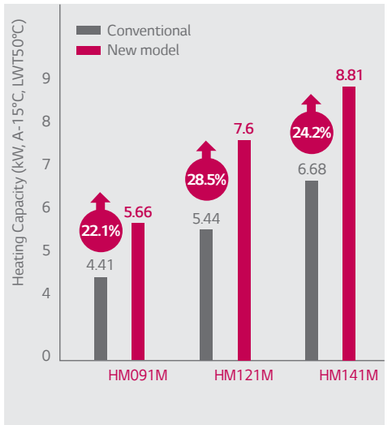
Temperature Control



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.

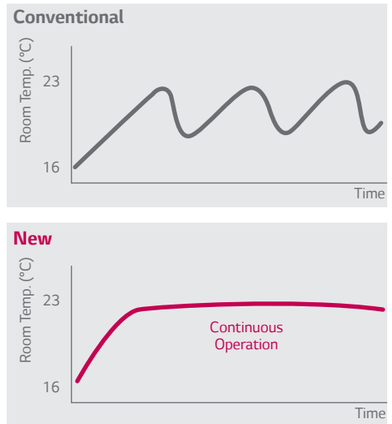
Heating Capacity at Low Temperature

High and stable performance at low temperatures.



Stable Operation

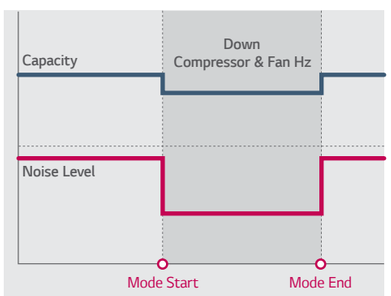
High and stable heating performance at low temperatures.



Silent Mode & 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.

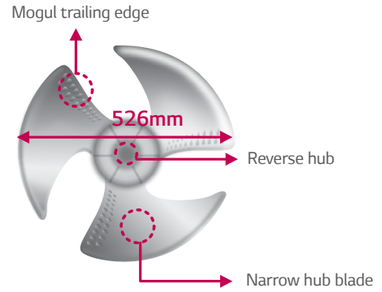
Heating Capacity (kW)	Heating Sound Pressure (dBA)	
	Normal	Silent Mode
3	47	43
5	51	48
7	52	48
9	52	48
12	53	50
14	53	50
16	53	50



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.

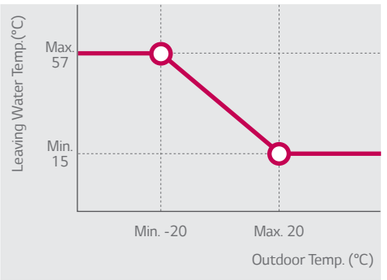
Conventional



New

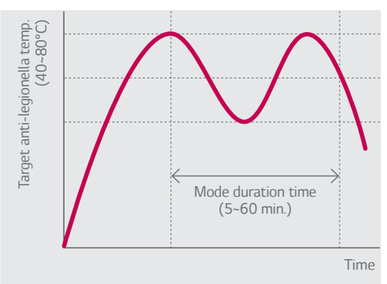
Weather Dependent Operation

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.



Anti-Legionella Function

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

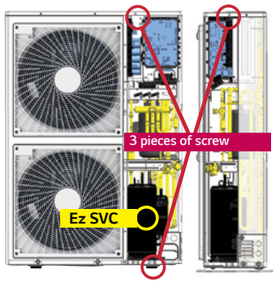


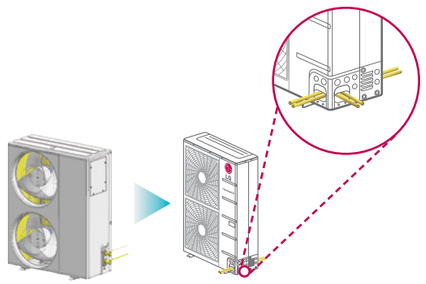
3 EASY INSTALLATION & SVC

Ez Installation & SVC

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.





Compact design & Ez SVC

- Remove 3 pieces of screw for SVC
- Front panel removal system

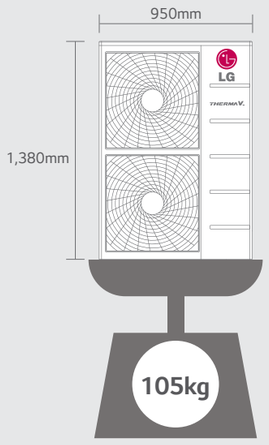
3-Way charging pipe (Split type only)

Refrigerating connection is possible in three directions.

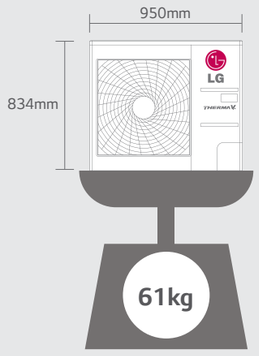
Compact & Slim

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

• SPLIT TYPE (16kW)

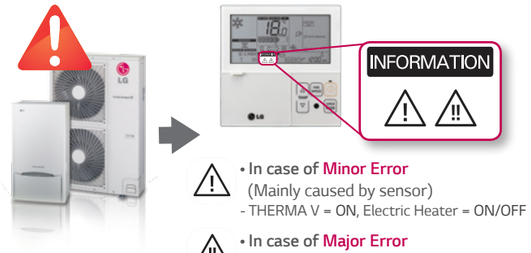


• MONOBLOC TYPE (3kW)



Emergency Operation

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

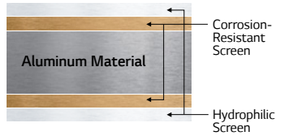


- In case of **Minor Error**
  (Mainly caused by sensor)
  - THERMA V = ON, Electric Heater = ON/OFF
- In case of **Major Error**
  (Mainly caused by cycle parts)
  - THERMA V = OFF, Electric Heater = ON

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.

Service and Warranty

LG provide various levels of technical support to cover model selection & quotation, installation, commissioning and spare parts & warranty.

3 Levels of Technical Service

1 Level
BEFORE INSTALLATION
- Model selection
- Energy simulation
- Life time cost simulation
- Quotation

2 Level
ON-SITE SUPPORT
- Engineers visit (on demand)
- Consultative support
- LG Hot-line support
- Installation assistance

3 Level
COMMISSIONING & WARRANTY VALIDATION
- Pre commissioning
- Commissioning
- Post commissioning
- Spare parts
- Warranty SVC

LG Warranty Package (The UK Example)

PRE-PREVENTIVE ACTION
- Free technical training
- Free AWHP health check*
- Dedicated spare parts division
- TM44 CIBSE Energy inspections

POST-CONTROL ACTION
- 3 years warranty for all parts and a contribution towards labor.
- Optional 5 year warranty on parts with the LG Approved Installer Scheme.
- On-site attendance within 48 hours.**
- SMS or email fault code diagnostics.

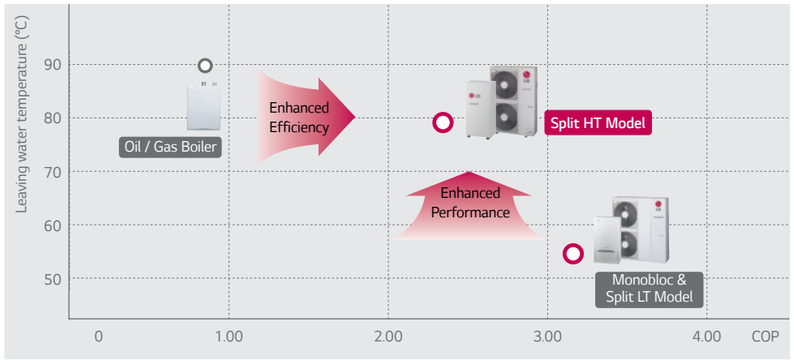
* If 3 warranty issues are claimed within the warranty period.
** Mainland UK only, excluding Northern Ireland, Scottish Highlands and Islands, Eire (Monday-Friday).

NEW

THERMA V HIGH TEMPERATURE

Enhanced Efficiency & Performance

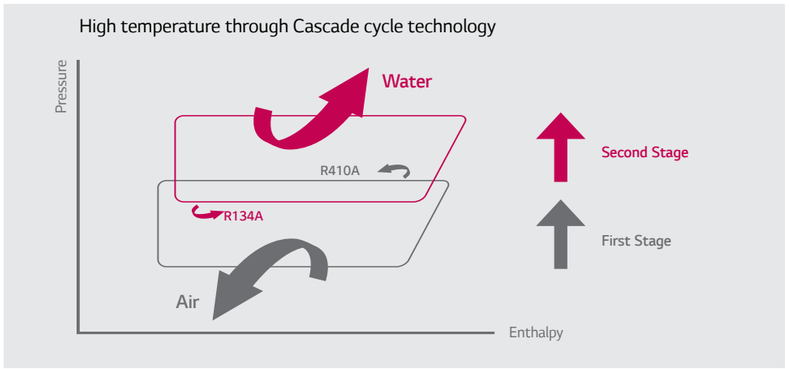
THERMA V high temp. can produce Max. 80°C hot water with high efficiency (Max. COP 4.06 at 24°C ODT & 40/45 EWT/LWT) through cascade 2 stage compression technology.



*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

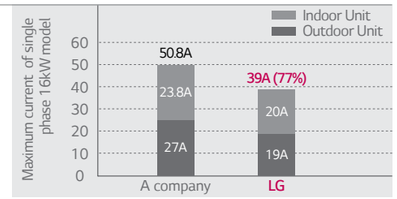
Cascade 2 Stage Compression Technology

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.



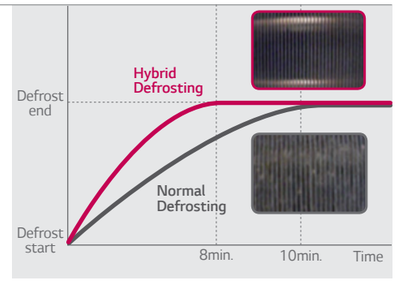
Low Maximum Current Level

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

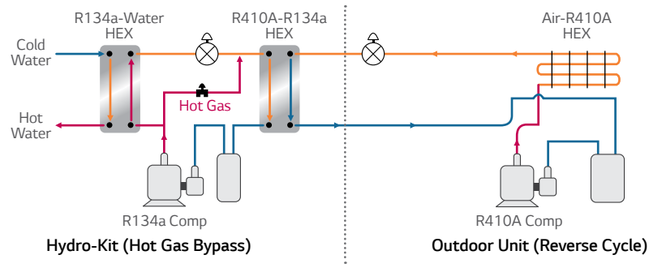


Quick Defrosting

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



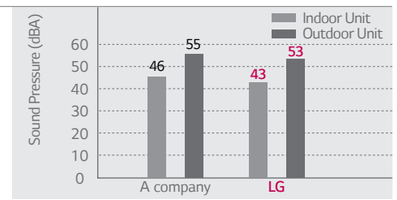
As compared to normal reverse cycle defrost, 25% reduction in defrost time, and 10% increase of integrated heating capacity is achieved using hybrid defrosting.



Hydro-Kit (Hot Gas Bypass) **Outdoor Unit (Reverse Cycle)**

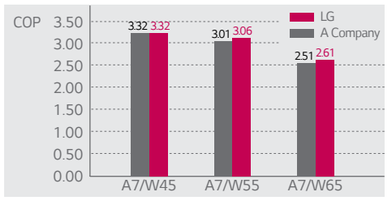
Low Noise Level

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

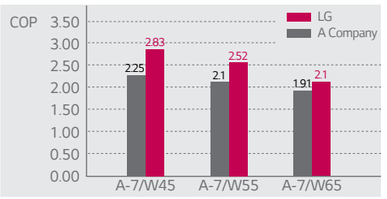


Higher Energy Efficiency

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



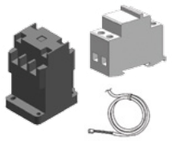
Heating COP at 7°C ODT



Heating COP at -7°C ODT

ACCESSORY

Accessories provided by LG

Accessory	Feature
Domestic Hot Water Tank Kit	• **PHLTA** (1Φ, Split) • **PHLTC** (3Φ, Split) • **PHLTB** (Monobloc) * The sensor (PHRSTA0) can be purchased separately in case of using other brand's Domestic tank.  PHLTA / PHLTC  PHLTB **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.
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** **Features** For connection with boiler(Bivalent scene) 

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	Condensate Pan		Collects condensate water (when dropping to the base is not possible) and drains the water to a pipe	Diameter of drainage at least 3/4" Minimum dimensions according to chassis sizes (refer to specification) plus 5-10cm in width and length
11	Antifreeze		Prevents the heating water from freezing, when heat pump is out of order	Monoethyleneglycole Concentration according to lowest possible outdoor temperature
12	Noise Damper		Prevents that structure-born noise is transported via the water piping	EPDM; Operating temperature according climate region (at least -10 ~ +90°C)
13	Anti-Noise Sockets		Prevents that structure-born noise is transported to the base or to the brackets	Dimensioning on-site required
14	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
15	Refrigerant Tubes		Pre-fabricated double-pipe to connect split indoor and outdoor unit	Diameter. Please refer to Specification
16	Water Tubes		Pre-fabricated double-pipe to connect monobloc outdoor unit with heating system	When heat pump is used for cooling: diffusion-resistant tubes
17	Bushing Sleeve		Protecting the building against pressing water coming through the duct of the heating tubes	Dimensioning on-site required
18	Insulation Material		Mandatory when heat pump is used for cooling; prevents condensate water on cold pipes and assemblies	Diffusion-resistant

FLEXIBLE APPLICATIONS

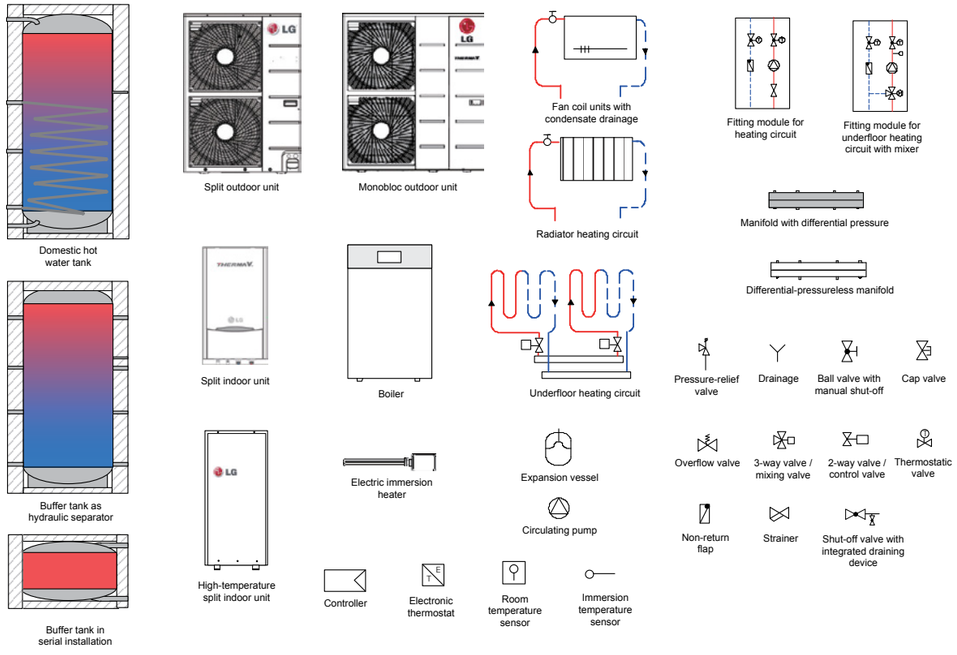
Table of the Hydraulic Applications

This shows some examples of how to integrate the THERMA V into the heating system according to each customer needs.
Each application is accompanied with the representative connection and installation explanations with symbol icons.

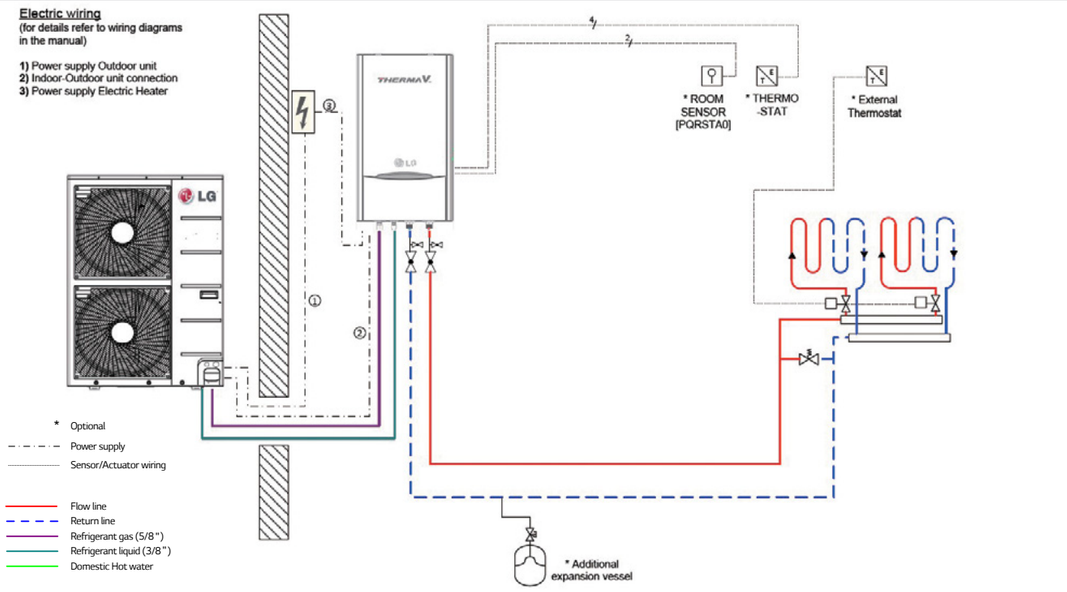
Case	Heating	DHW	Heating & Cooling	Bivalent with boiler	Double Zone Heating
1	•				
2	•	•			
3	•	•	•		
4	•	•			•
5	•	•		•	•
6	•*	•	•		

Combinations of these systems might be possible. Please refer to your local LG heating specialist.
* High Temperature 80°C

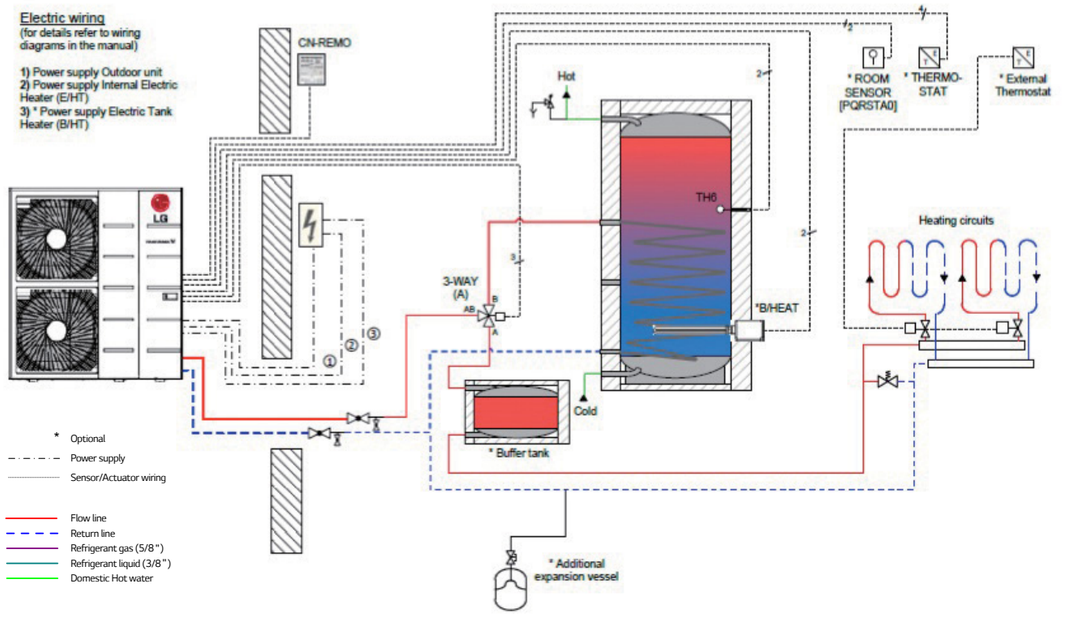
Used Symbols



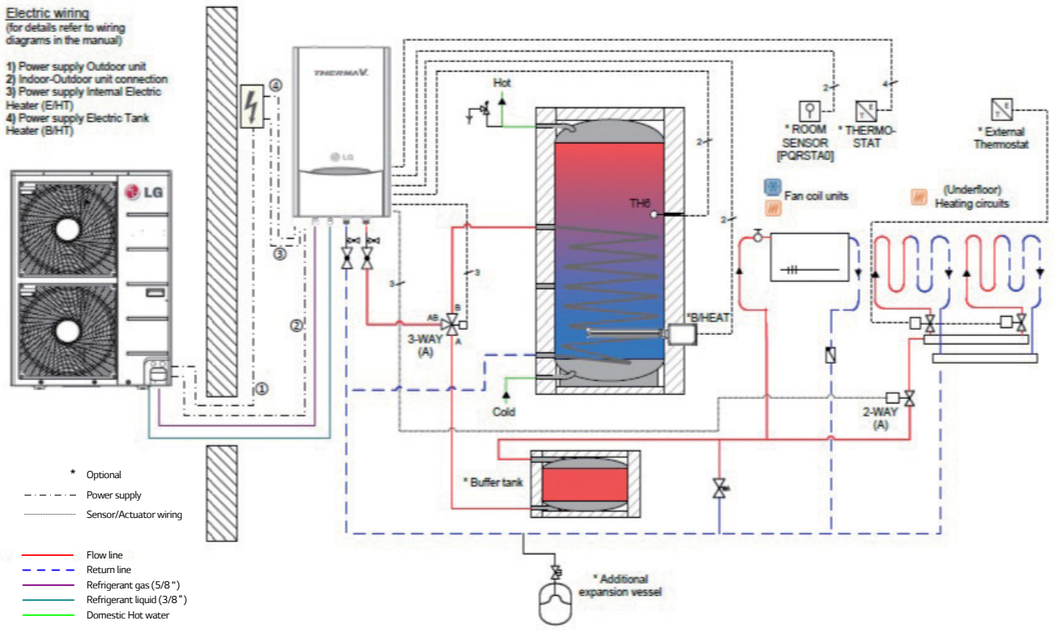
Case 1. Split _ for Floor Heating



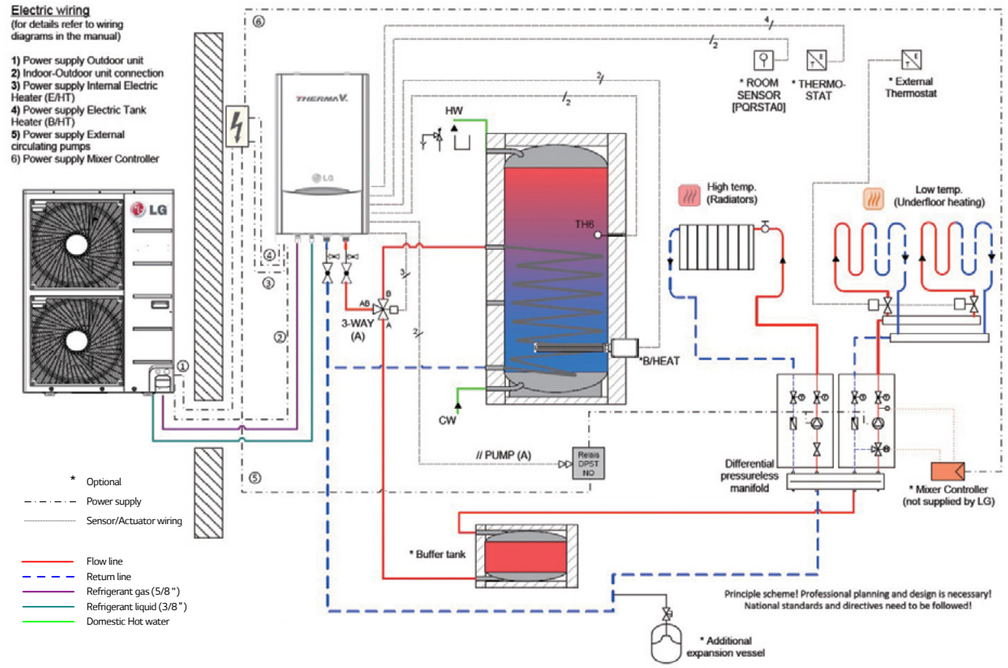
Case 2. Monobloc _ for Floor Heating & DHW



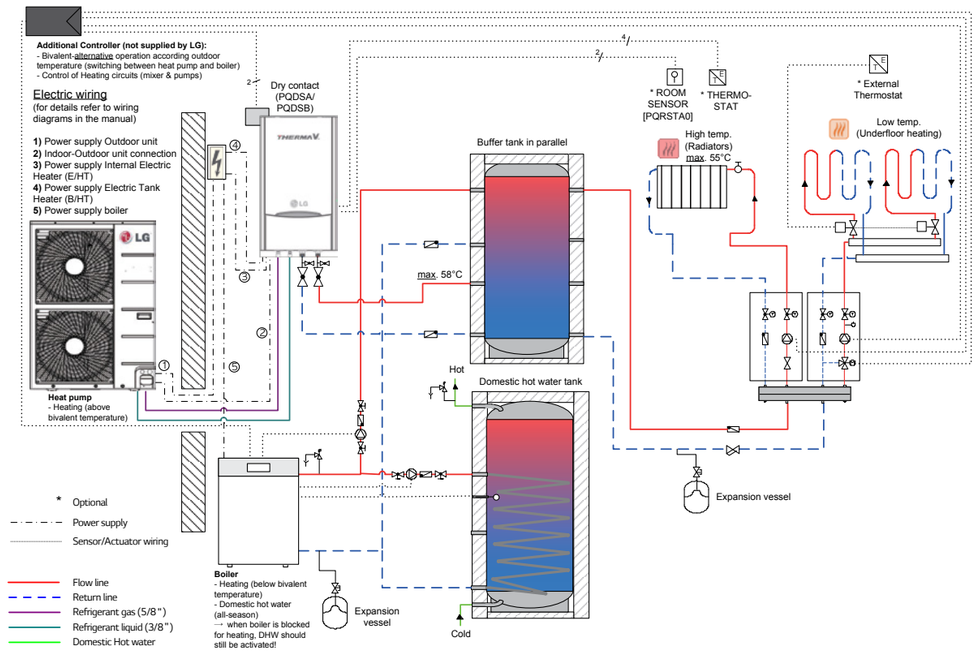
Case 3. Split _ for Floor Heating & DHW & Cooling with Fan Coil Unit



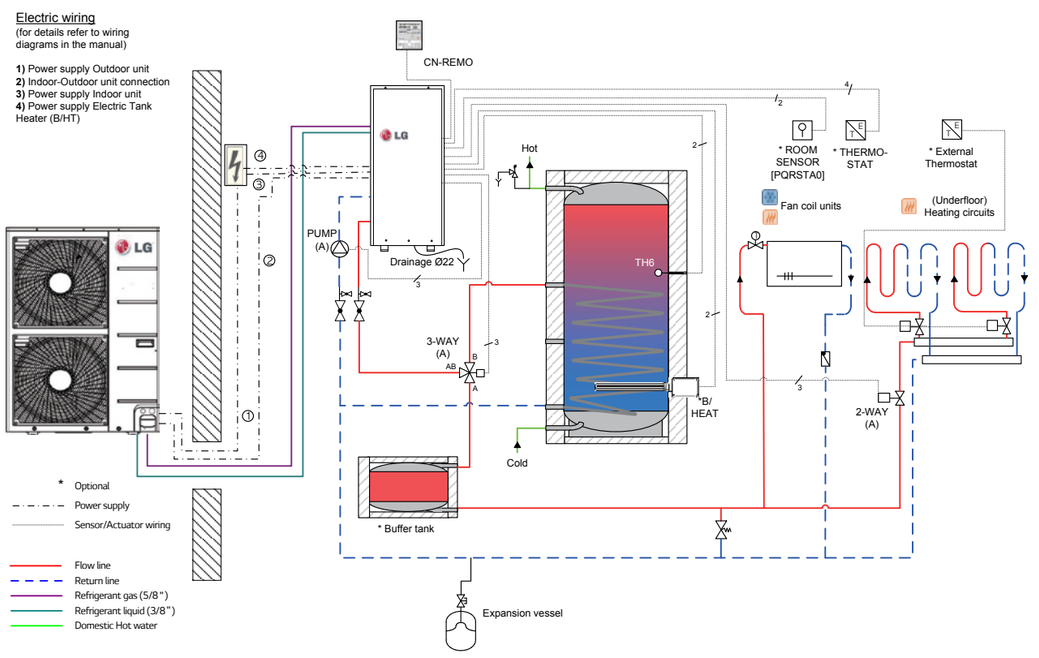
Case 4. Split _ for Floor Heating & Radiator & DHW (2 Zone Heating)



Case 5. Split _ for Floor Heating & Radiator & DHW with Boiler (Bivalent Scene)



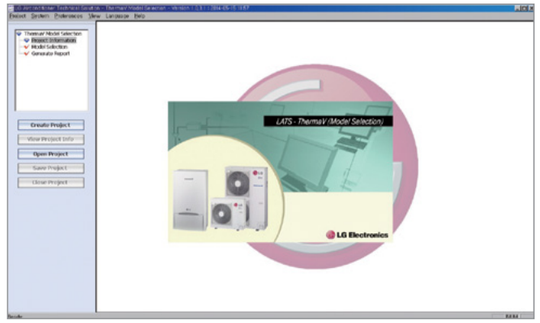
Case 6. Split (High Temp.) _ for Floor Heating & DHW & Fan Coil Units

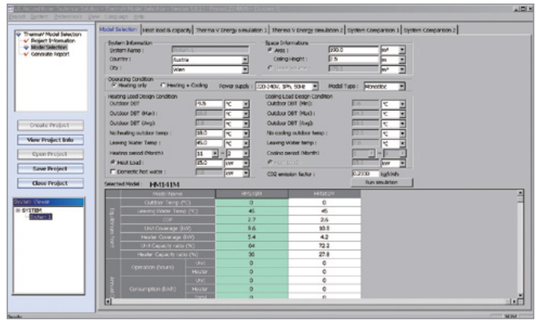


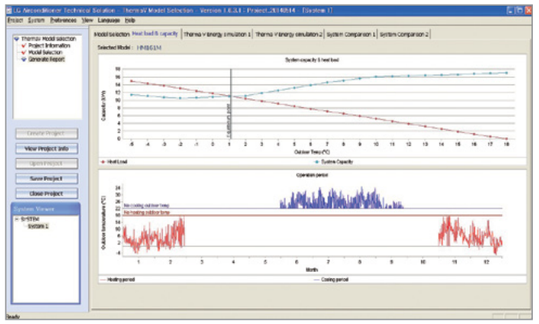
BEFORE SALES & AFTER SALES SERVICE

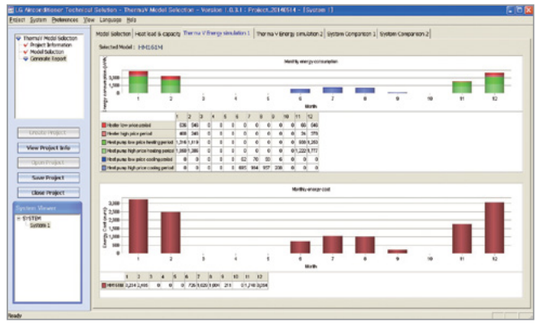
THERMA V Selection Program

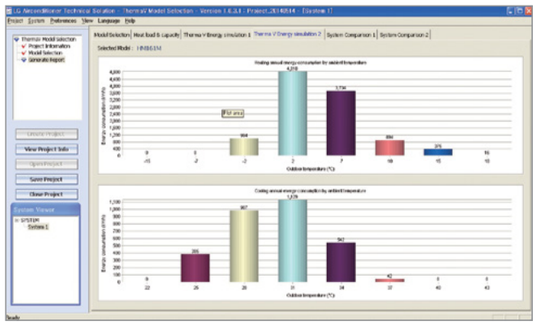
LATS THERMA V simulates quick and easy result of THERMA V's economic benefits. By specifying a number of parameters, this program shows annual energy cost compared with conventional heating system and CO_2 annual amount, monthly energy amount and cost, total amount of thermal energy in kWh as the outside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

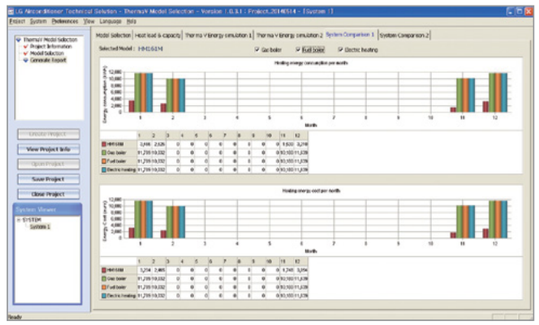












Service and Warranty

A dedicated Technical Service department and LG's authorized Service Centers provide various levels of technical support to cover model selection & quotation, installation, commissioning and spar parts & warranty.

3 Levels of Technical Service

1 Level
BEFORE INSTALLATION
- Model selection
- Energy simulation
- Life time cost simulation
- Quotation

2 Level
ON-SITE SUPPORT
- Engineers visit (on demand)
- Consultative support
- LG Hot-line support
- Installation assistance

3 Level
COMMISSIONING & WARRANTY VALIDATION
- Pre commissioning
- Commissioning
- Post commissioning
- Spare parts
- Warranty SVC

LG Warranty Package (The UK Example)

PRE-PREVENTIVE ACTION
- Free technical training
- Free AWHP health check*
- Dedicated spare parts division
- TM44 CIBSE Energy inspections

POST-CONTROL ACTION
- 3 years warranty for all parts and a contribution towards labor
- Optional 5 year warranty on parts with the LG Approved Installer Scheme
- On-site attendance within 48 hours**
- SMS or email fault code diagnostics

* If 3 warranty issues are claimed within the warranty period.
** Mainland UK only, excluding Northern Ireland, Scottish Highlands and Islands, Eire (Monday-Friday).

SMS 24/7
Just text the 1,2 or 3 digital fault code to : **07624 818 794**
Available 24 hours a day, 365 days per year.

E-mail support
Send your question by e-mail to : **uk.aircon@lge.com**
Available Monday to Friday between 09:00 and 17:00

Telephone
Speak to an LG engineer call :
08448 471 402 and select 'Option 4.'
Available Monday to Friday between 09:00 and 17:00

For specific enquiries please email
Spare parts : **aircon.spares@lge.com**
Warranty queries : **aircon.warranty@lge.com**
Commissioning : **aircon.commissioning@lge.com**
Training : **aircon.training@lge.com**

LG Training and CPD Seminars (The UK Example)

Two Training Academies positioned in the South and North of England – Slough and Leeds, both equipped with the latest THERMA V, LG Air to Water Heat Pump. Installers can gain hands-on practical experience of the product range as well as theory in the purpose built classroom. Training courses are free of charge. LG also offer CPD accredited seminars, which can be held at your offices or at our own premises.

THERMA V™

2014 Full Line-up of LG AWHP

Type	Capacity	Φ	Product	European Certificate	Performance at Low Ambient				Reliability & Comfort									Convenience		
					A7 / W35		A-2 / W55		Heating Operating Range			BLDC Inverter Compressor	Control Sensor	Embedded Component	Water Pump	Heat Exchanger Coating	Electric Heater		Timer	Emergency Operation	Weather Dependant Operation
					COP	Capacity	COP	Capacity	Outdoor Temp.	Leaving Water Temp.							Size	Capacity Control			
Monobloc Type	3kW	1Φ	NEW	MCS BBA NF	4.10	3.00	2.07	2.07	-20°C ~ 30°C	15°C ~ 57°C		LG Twin Rotary		A-Class Water Pump + PHE (Plate Heat Exchanger)	A CLASS	gold Gold-fin	N/A	N/A	24H WEEKLY	1 LEVEL	AUTO
	5kW	1Φ	NEW	MCS BBA NF	4.42	4.99	2.20	3.44	-20°C ~ 35°C	15°C ~ 57°C		LG Twin Rotary		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
	7kW	1Φ	NEW	MCS BBA NF	4.30	7.00	2.14	4.81	-20°C ~ 35°C	15°C ~ 57°C		LG Twin Rotary			A CLASS	gold Gold-fin	4kW	1 2 STEP	24H WEEKLY	2 LEVEL	AUTO
	9kW	1Φ	NEW	MCS BBA NF	4.09	9.00	2.16	6.19	-20°C ~ 35°C	15°C ~ 57°C		LG Twin Rotary			A CLASS	gold Gold-fin	4kW	1 2 STEP	24H WEEKLY	2 LEVEL	AUTO
	12kW	1Φ	NEW	MCS BBA NF	4.49	12.00	2.20	8.25	-20°C ~ 35°C	15°C ~ 57°C		LG Twin Rotary			A CLASS	gold Gold-fin	6kW	1 2 STEP	24H WEEKLY	2 LEVEL	AUTO
		3Φ			4.49	12.00	2.16	8.35													
	14kW	1Φ	NEW	MCS BBA NF	4.44	14.00	2.16	9.90	-20°C ~ 35°C	15°C ~ 57°C		LG Twin Rotary			A CLASS	gold Gold-fin	6kW	1 2 STEP	24H WEEKLY	2 LEVEL	AUTO
		3Φ			4.44	14.00	2.15	9.63													
	16kW	1Φ	NEW	MCS BBA NF	4.20	16.00	2.15	11.00	-20°C ~ 35°C	15°C ~ 57°C		LG Twin Rotary			A CLASS	gold Gold-fin	6kW	1 2 STEP	24H WEEKLY	2 LEVEL	AUTO
		3Φ			4.20	16.00	2.14	11.00													
Split Type	3kW*	1Φ	NEW	NF	4.62	3.00	2.07	2.07	-20°C ~ 35°C	15°C ~ 57°C		LG Twin Rotary		A-Class Water Pump + PHE (Plate Heat Exchanger) + Expansion Tank + Electric Heater	A CLASS	gold Gold-fin	N/A	N/A	24H WEEKLY	1 LEVEL	AUTO
	5kW*	1Φ	NEW	NF	4.55	5.00	2.33	3.45	-20°C ~ 35°C	15°C ~ 57°C		LG Twin Rotary			A CLASS	gold Gold-fin	4kW	1 2 STEP	24H WEEKLY	2 LEVEL	AUTO
	7kW*	1Φ	NEW	NF	4.40	7.00	2.20	4.81	-20°C ~ 35°C	15°C ~ 57°C		LG Twin Rotary			A CLASS	gold Gold-fin	4kW	1 2 STEP	24H WEEKLY	2 LEVEL	AUTO
	9kW	1Φ		NF	4.09	9.00	2.04	5.41	-20°C ~ 30°C	15°C ~ 55°C		LG Twin Rotary			Normal	gold Gold-fin	4kW	1 2 STEP	24H WEEKLY	2 LEVEL	AUTO
	12kW	1Φ		NF	4.49	12.00	2.05	7.27	-20°C ~ 30°C	15°C ~ 55°C		LG Twin Rotary			Normal	gold Gold-fin	6kW	1 2 STEP	24H WEEKLY	2 LEVEL	AUTO
		3Φ			4.41	12.00	2.04	7.31													
	14kW	1Φ		NF	4.44	14.00	2.03	8.42	-20°C ~ 30°C	15°C ~ 55°C		LG Twin Rotary			Normal	gold Gold-fin	6kW	1 2 STEP	24H WEEKLY	2 LEVEL	AUTO
		3Φ			4.32	14.00	2.02	8.40													
	16kW	1Φ		NF	4.20	16.00	2.02	9.56	-20°C ~ 30°C	15°C ~ 55°C		LG Twin Rotary			Normal	gold Gold-fin	6kW	1 2 STEP	24H WEEKLY	2 LEVEL	AUTO
		3Φ			4.20	16.00	2.01	9.57													
Split High Temp. Type	16kW	1Φ	NEW	NF	2.61 (A7/W65)	16.00	2.62	16.60	-15°C ~ 35°C	25°C ~ 80°C		LG Twin Rotary		PHE (Plate Heat Exchanger)	N/A	gold Gold-fin	N/A	N/A	24H WEEKLY	1 LEVEL	AUTO

* These models will be available in Q1 2015.

SPECIFICATION

MONOBLOC TYPE

Monobloc (Outdoor Unit)		Capacity	NEW 3kW 1Φ	NEW 5kW 1Φ	NEW 7kW 1Φ	NEW 9kW 1Φ
		Reference	HM031M.U42	HM051M.U42	HM071M.U42	HM091M.U42
Nominal Capacity	Heating (A7/W35)	kW	3.00	4.99	7.00	9.00
	Heating (A2/W50)	kW	2.18	3.63	5.08	6.54
	Heating (A-2/W50)	kW	2.15	3.59	5.02	6.46
	Heating (A-7/W35)	kW	2.45	4.07	5.88	7.34
	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	2.09	2.67
	Heating (A-2/W50)	kW	0.98	1.52	2.16	2.78
	Heating (A-7/W35)	kW	0.95	1.48	1.73	2.72
	Cooling (A35/W18)	kW	-	1.38	2.00	2.65
COP	Heating (A7/W35)		4.10	4.40	4.30	4.10
	Heating (A2/W50)		2.34	2.49	2.43	2.45
	Heating (A-2/W50)		2.19	2.36	2.32	2.32
	Heating (A-7/W35)		2.58	2.75	3.40	2.70
EER	Cooling (A35/W18)		-	3.61	3.50	3.40
Dimension	W*H*D	mm	950 x 834 x 330	1,239 x 907 x 390		
Weight		kg	61	97	98	99
Sound Pressure Level (Heating)		dB(A)	47	51	52	52
Outdoor Air Operation Range	Heating	°CDB	-20 ~ 30	-20 ~ 35		
	Cooling	°CDB	-	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

Monobloc (Outdoor Unit)		Capacity	NEW 12kW 1Φ	NEW 14kW 1Φ	NEW 16kW 1Φ	NEW 12kW 3Φ	NEW 14kW 3Φ	NEW 16kW 3Φ
		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	9.80	11.61	13.01	9.82	11.41	13.26
	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	3.55	4.30	4.93	3.56	4.22	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	2.64	2.76	2.70	2.51
EER	Cooling (A35/W18)		3.63	3.30	3.18	3.63	3.30	3.18
Dimension	W*H*D	mm	1,239 x 1,450 x 390					
Weight		Kg	141			145		
Sound Pressure Level (Heating)		dB(A)	53					
Outdoor Air Operation Range	Heating	°CDB	-20 ~ 35					
	Cooling	°CDB	5 ~ 48					
Leaving Water Temp. Range	Heating	°C	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			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		

SPECIFICATION

SPLIT TYPE

Split (Outdoor Unit)		Capacity	NEW 3kW 1Φ	NEW 5kW 1Φ	NEW 7kW 1Φ	9kW 1Φ
		Reference	HU031.UE2*	HU051.U42*	HU071.U42*	HU091. U41*
Nominal Capacity	Heating (A7/W35)	kW	3.00	5.00	7.00	9.00
	Heating (A2/W50)	kW	2.18	3.64	5.08	6.29
	Heating (A-2/W50)	kW	2.15	3.59	5.25	5.88
	Heating (A-7/W35)	kW	2.45	4.08	6.71	8.61
	Cooling (A35/W18)	kW	3.00	5.00	7.00	9.00
Nominal Power Input	Heating (A7/W35)	kW	0.65	1.07	1.59	2.20
	Heating (A2/W50)	kW	0.93	1.38	2.04	2.57
	Heating (A-2/W50)	kW	0.98	1.44	2.11	2.54
	Heating (A-7/W35)	kW	0.95	1.40	2.06	3.19
	Cooling (A35/W18)	kW	0.75	1.35	2.05	2.65
COP	Heating (A7/W35)		4.62	4.67	4.40	4.09
	Heating (A2/W50)		2.34	2.64	2.49	2.45
	Heating (A-2/W50)		2.19	2.49	2.38	2.31
	Heating (A-7/W35)		2.58	2.91	2.77	2.70
EER	Cooling (A35/W18)		4.00	3.70	3.40	3.40
Dimension	W*H*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 Pressure Level (Heating)		dB(A)	52	54	54	52
Outdoor Air Operation Range	Heating	°CDB	-20 ~ 30	-20~30	-20~30	-20~30
	Cooling	°CDB	5 ~ 48	5~48	5~48	5~48
Refrigerant (R410a)	Pipe Diameter (Liquid)	mm(inch)	Φ6.35(1/4)	9.52(3/8)	9.52(3/8)	9.52(3/8)
	Pipe Diameter (Gas)	mm(inch)	Φ12.7(1/2)	15.88(5/8)	15.88(5/8)	15.88(5/8)
	Pre-Charged Amount	kg	1	1.55	1.55	1.9
	Chargeless Pipe Length	m	7.5	7.5	7.5	7.5
	Additional Charging Volume	g/m	20	40	40	30
Ref. Pipe Length	Minimum	m	-	-	-	3
	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

Split (Indoor Unit)		Capacity	NEW 3kW	NEW 5,7kW		9kW			
		Reference	HN0314.NK2	HN0914.NK2		HN0914.NK1	HN0916.NK1	HN0926.NK1	HN0936.NK1
Dimension	W*H*D	mm	490*850*315	490*850*315	490*850*315	490 x 850 x 315			
Weight		kg	46	48	48	48			
Electric Heater	Power Supply	P/V/Hz	1 / 220-240 / 50	1 / 220-240 / 50	1 / 220-240 / 50	1 / 220-240 / 50		3 / 220 / 50	3 / 380-415 / 50
	Capacity	kW	4	4	4	4	6	6	6
Leaving Water Temp. Range	Heating	°C	15~55	15~55	15~55	15~55			
	Cooling	°C	6~30	6~30	6~30	6~30			
Water Flowrate Limit		LPM	Min. 8	Min. 15	Min. 15	Min. 15			
Max. Water Head		m	6	7	7	6			
Water Pipe Connection	Inlet	mm(inch)	Male PT 25(1)	Male PT 25(1)	Male PT 25(1)	Male PT 25(1)			
	Outlet	mm(inch)	Male PT 25(1)	Male PT 25(1)	Male PT 25(1)	Male PT 25(1)			

* Combination Table

Outdoor Unit (1Φ)	3kW	5kW	7kW	9kW			
Indoor Unit	HU031.UE2	HU051.U42	HU071.U42	HU091. U41			
	HN0314.NK2	HN0914.NK2	HN0914.NK2	HN0914.NK1	HN0916.NK1	HN0926.NK1	HN0936.NK1

* These models will be available in Q4 2014

Split (Outdoor Unit)		Capacity	12kW 1Φ	14kW 1Φ	16kW 1Φ	12kW 3Φ	14kW 3Φ	16kW 3Φ
		Reference	HU121. U31	HU141. U31	HU161. U31	HU123. U31	HU143. U31	HU163. U31
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	11.30
	Heating (A-2/W50)	kW	7.94	9.14	10.30	7.99	9.18	10.50
	Heating (A-7/W35)	kW	11.48	13.11	14.80	11.66	12.72	14.92
	Cooling (A35/W18)	kW	14.50	15.50	16.10	14.60	15.50	16.80
Nominal Power Input	Heating (A7/W35)	kW	2.67	3.15	3.81	2.72	3.24	3.81
	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	4.31	4.98	5.95
	Cooling (A35/W18)	kW	4.00	4.69	5.07	4.02	4.65	5.09
COP	Heating (A7/W35)		4.49	4.44	4.20	4.41	4.32	4.20
	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	2.27
	Heating (A-7/W35)		2.76	2.70	2.64	2.71	2.55	2.51
EER	Cooling (A35/W18)		3.63	3.30	3.18	3.63	3.33	3.30
Dimension	W*H*D	mm	950 x 1,380 x 330					
Weight		kg	105					
Sound Pressure Level (Heating)		dB(A)	53					
Outdoor Air Operation Range	Heating	°CDB	-20 ~ 30					
	Cooling	°CDB	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	2.85	2.85	2.85	2.98	2.98	2.98
	Chargeless Pipe Length	m	7.5	7.5	7.5	7.5	7.5	7.5
	Additional Charging Volume	g/m	60	60	60	50	50	50
Ref. Pipe Length	Minimum	m	3					
	Standard	m	7.5					
	Maximum	m	50					
Power Supply		P/V/Hz	1 / 220-240 / 50			3 / 380-415 / 50		
Recommended Fuse		A	32			16		

Split (Indoor Unit)		Capacity	12~16kW				
		Reference	HN1616.NK1	HN1626.NK1	HN1629.NK1	HN1636.NK1	HN1639.NK1
Dimension	W*H*D	mm	490 x 850 x 315				
Weight		kg	54.5				
Electric Heater	Power Supply	P/V/Hz	1 / 220-240 / 50	3 / 220 / 50		3 / 380-415 / 50	
	Capacity	kW	6	6	9	6	9
Leaving Water Temp. Range	Heating	°C	15 ~ 55				
	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)				

* Combination Table

Outdoor Unit (1Φ)	HU121.U31	HU141.U31	HU161.U31
	12kW	14kW	16kW
Indoor Unit	HN1616. NK1	HN1616. NK1	HN1616. NK1
	HN1626. NK1	HN1626. NK1	HN1626. NK1
	HN1636. NK1	HN1636. NK1	HN1636. NK1
	HN1629. NK1	HN1629. NK1	HN1629. NK1
	HN1639. NK1	HN1639. NK1	HN1639. NK1

Outdoor Unit (3Φ)	HU123.U31	HU143.U31	HU163.U31
	12kW	14kW	16kW
Indoor Unit	HN1616. NK1	HN1616. NK1	HN1616. NK1
	HN1626. NK1	HN1626. NK1	HN1626. NK1
	HN1636. NK1	HN1636. NK1	HN1636. NK1
	HN1629. NK1	HN1629. NK1	HN1629. NK1
	HN1639. NK1	HN1639. NK1	HN1639. NK1

SPECIFICATION

HIGH TEMPERTURE TYPE

High Temp. Split (Outdoor Unit)			
		Capacity	NEW 16kW 1Φ
		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*H*D	mm	950 x 1,380 x 330
Weight		Kg	105
Sound Pressure Level (Heating)		dB(A)	53
Outdoor Air Operation Range	Heating	°CDB	-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

High Temp. Split (Indoor Unit)			
		Capacity	NEW 16kW 1Φ
		Reference	HN1610H.NK2
Dimension	W*H*D	mm	520 x 1,080 x 330
Weight		kg	94
Sound Pressure Level (Heating)		dB(A)	43
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

DOMESTIC HOT WATER TANK

Double Coil

Single Coil

Domestic Hot Water Tank – Double Coil

Domestic Hot Water Tank			LGRTV200VE	LGRTV300VE
General Characteristics	Water Volume	L	198	287
	Diameter	mm	580	580
	Height	mm	1,230	1,680
	Empty Weight	kg	50	64
	Tank – Materials		Stainless Steel	Stainless Steel
	Outer Skin – Materials		Paint Epoxy	Paint Epoxy
	Color – White RAL		White NC	White NC
Characteristics of Electrical Back-Up	Additional Electric Heater	kW	3	3
	Adjustable Thermostat	°C	60 ~ 90	60 ~ 90
Characteristics of Exchanger	Exchanger Type		Double	Double
	Material Exchanger		LDX 2101 – Stainless Steel	LDX 2101 – Stainless Steel
	Maximum Water Temperature	°C	80 (With an Heat Pump)	80 (With an Heat Pump)
	Coil Surface	mm	0.94	0.94
Hydraulic Connections – Heat Pump	THERMA V Entry	mm	25	25
	THERMA V Exit	mm	25	25
Hydraulic Connections – Domestic Hot Water Tank	City Water Entry	mm	22	22
	Hot water Exit	mm	22	22
Electric Connection	Supply	Φ/V/Hz	1Φ / 220-240V 50Hz	1Φ / 220-240V 50Hz

MANDATORY OPTIONAL ACCESSORIES

Domestic Hot Water Tank Installation Kit	PHLTA	PHLTA

Domestic Hot Water Tank – Single Coil

Domestic Hot Water Tank			LGRTV200E	LGRTV300E
General Characteristics	Water Volume	L	198	287
	Diameter	mm	580	580
	Height	mm	1,230	1,680
	Empty Weight	kg	50	64
	Tank – Materials		Stainless Steel	Stainless Steel
	Outer Skin – Materials		Paint Epoxy	Paint Epoxy
	Color – White RAL		White NC	White NC
Characteristics of Electrical Back-Up	Additional Electric Heater	kW	3	3
	Adjustable Thermostat	°C	60 ~ 90	60 ~ 90
Characteristics of Exchanger	Exchanger Type		Single	Single
	Material Exchanger		LDX 2101 – Stainless Steel	LDX 2101 – Stainless Steel
	Maximum Water Temperature	°C	80 (With an Heat Pump)	80 (With an Heat Pump)
	Coil Surface	mm	0.94	0.94
Hydraulic Connections – Heat Pump	THERMA V Entry	mm	25	25
	THERMA V Exit	mm	25	25
Hydraulic Connections – Domestic Hot Water Tank	City Water Entry	mm	22	22
	Hot water Exit	mm	22	22
Electric Connection	Supply	Φ/V/Hz	1Φ / 220-240V 50Hz	1Φ / 220-240V 50Hz

MANDATORY OPTIONAL ACCESSORIES

Domestic Hot Water Tank Installation Kit	PHLTA	PHLTA