

# HEATING



MONOBLOC (LOW TEMPERATURE)  
SPLIT (HIGH TEMPERATURE)  
DOMESTIC HOT WATER TANK

SPLIT (LOW TEMPERATURE)  
SPLIT (DHW TANK INTEGRATED)  
ACCESSORIES



# WHAT IS THERMA V

## What is LG THERMA V?

THERMA V is LG's Air to Water Heat Pump system, especially designed for new and renovated housings. It is an in-house design by LG's advanced heating technology consuming less energy.

THERMA V can be used as a multi-purpose heating Solution ranging from floor heating to hot water supply using various heat sources.

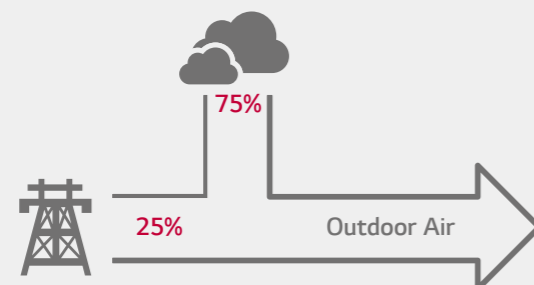


## Energy Efficient Application

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 the traditional boiler system by absorbing energy from the outdoor environment.

### • AIR SOURCE

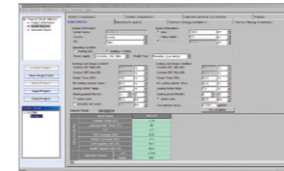
- Free energy
- Green energy
- Easy energy



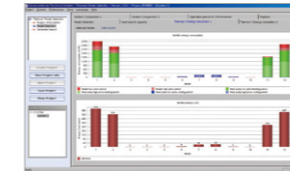
## Optimal Application

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

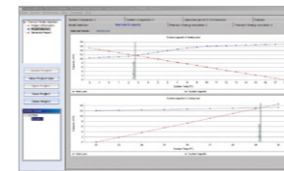
### • Model selection screen



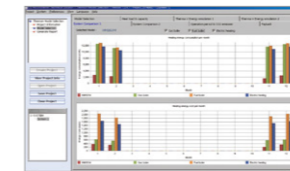
### • Monthly energy simulation



### • Heat load & heat pump capacity

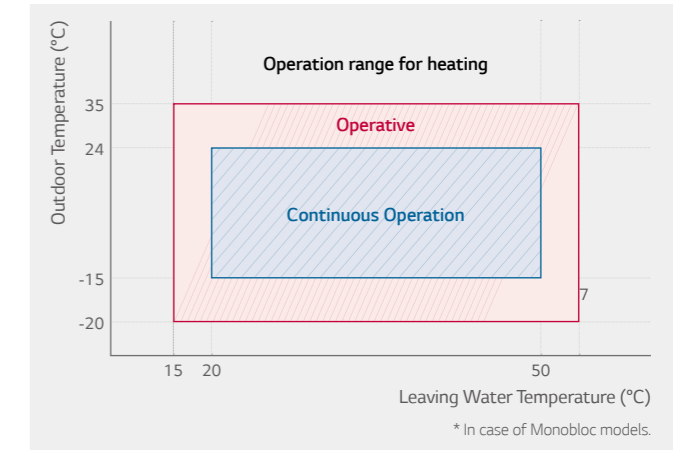


### • System comparison chart



## Reliable Application

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

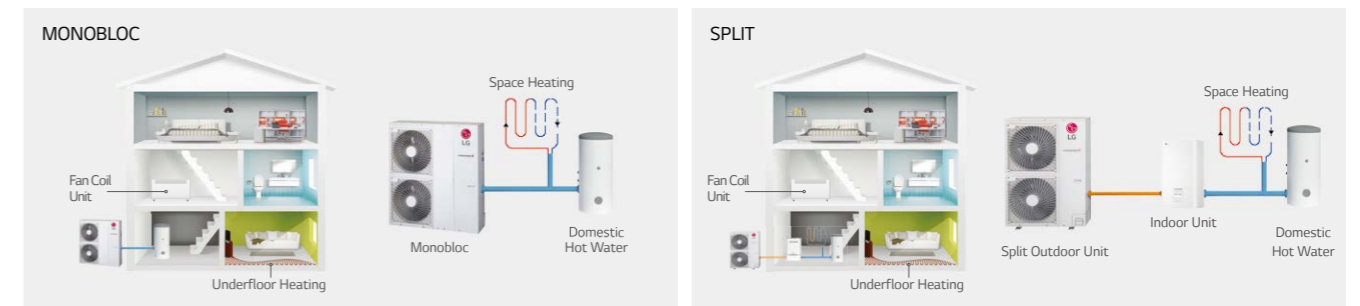


## Various Application

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

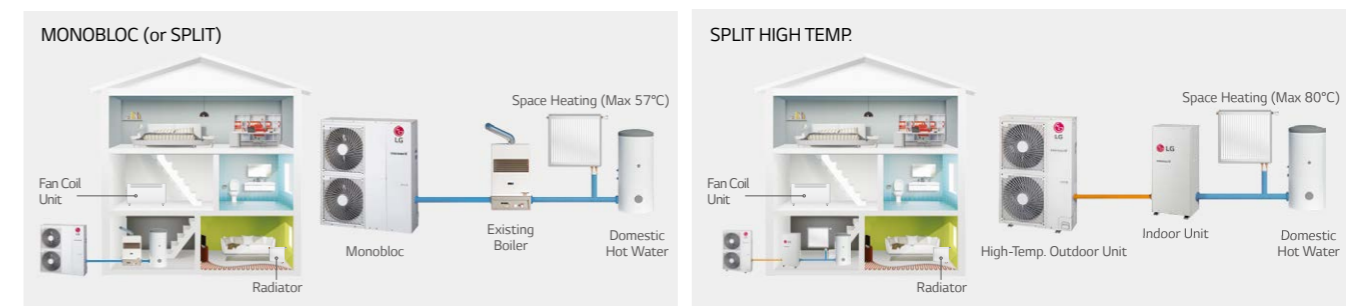
### • New House

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








### • 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 provide equivalent water heating to a boiler of up to 80°C.



# LINE-UP

## THERMA V

Type	Phase	1Φ	1Φ	1Φ	1Φ	1Φ	1Φ	3Φ	3Φ	3Φ
	kW	5	7	9	12	14	16	12	14	16
Monobloc Type		HM051MU42	HM071MU42	HM091MU42						
					HM121MU32	HM141MU32	HM161MU32	HM123MU32	HM143MU32	HM163MU32
Split Type		HN1616.NK3	HN1616.NK3	HN1616.NK3						
		HU051.U43	HU071.U43	HU091.U43						
					HN1616.NK3	HN1616.NK3	HN1616.NK3	HN1639.NK3	HN1639.NK3	HN1639.NK3
					HU121.U33	HU141.U33	HU161.U33	HU123.U33	HU143.U33	HU163.U33

Type	Phase	1Φ	1Φ	1Φ	1Φ	1Φ	1Φ	3Φ	3Φ	3Φ
	kW	5	7	9	12	14	16	12	14	16
Split DHW Tank Integrated Type				HN1616.TNB0						
				HU091.U43						
					HN1616.TNB0	HN1616.TNB0	HN1616.TNB0	HN1616.TNB0	HN1616.TNB0	HN1616.TNB0
					HU121.U33	HU141.U33	HU161.U33	HU123.U33	HU143.U33	HU163.U33
Split High Temp. Type							HN1610H.NK2			
							HU161HU32			



## Why LG THERMA V?

The LG THERMA V is designed to provide reasonable benefits such as 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 a low temperature and reaches target performance without difficulties.

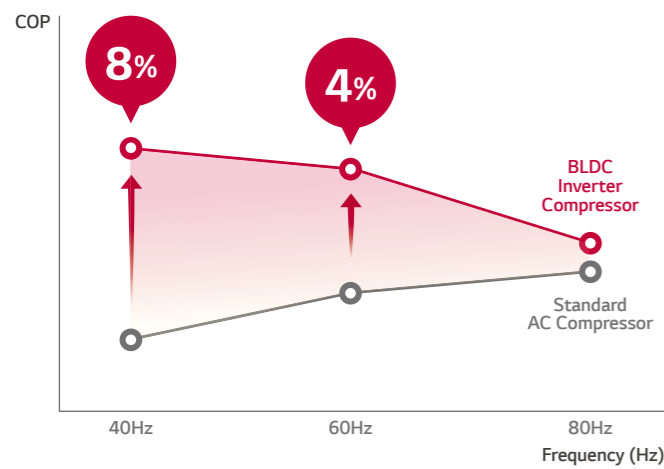
Additionally, the amalgamated model where all-in-one features are combined such as gold-fin and users-oriented functions. This has resulted in boosting professional reputation and enhancing end-user's experience in the form of LG's full line-up from 5kW to 16kW in heating capacity.

# ENERGY EFFICIENCY

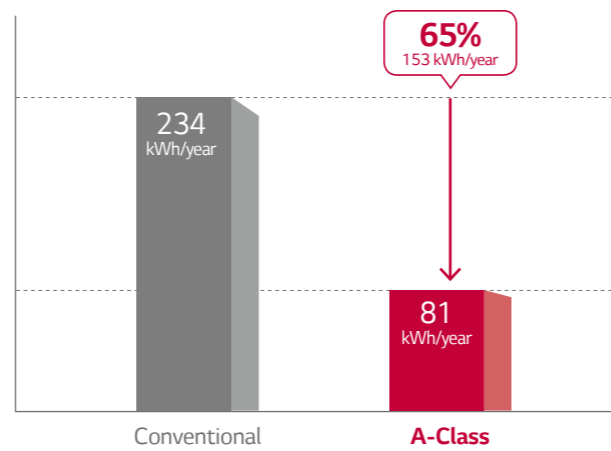
## BLDC (Brushless Direct Current Motor) Compressor

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 optimized for seasonal efficiency.

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

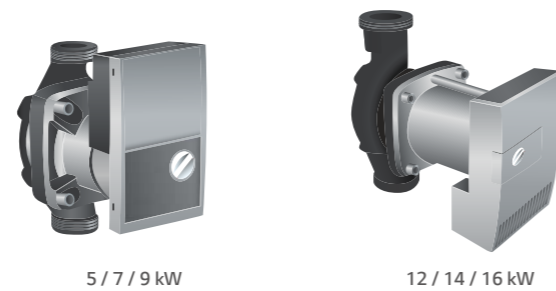


Power input saving by High efficient A-Class water pump



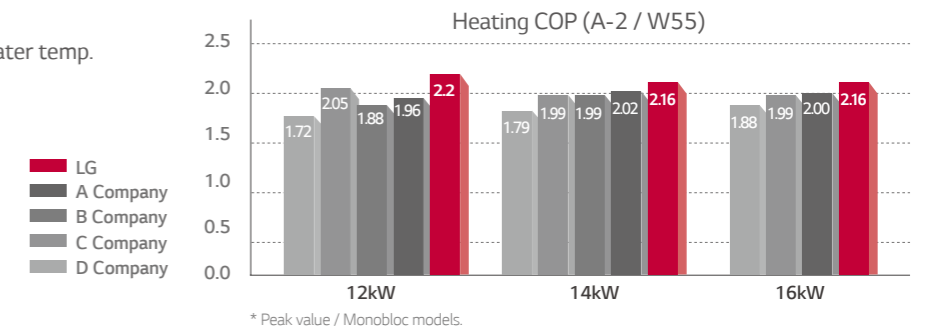
\* Condition: 12 hours x 30 days x 5 month (estimated value)

Only THERMA V Monobloc applied



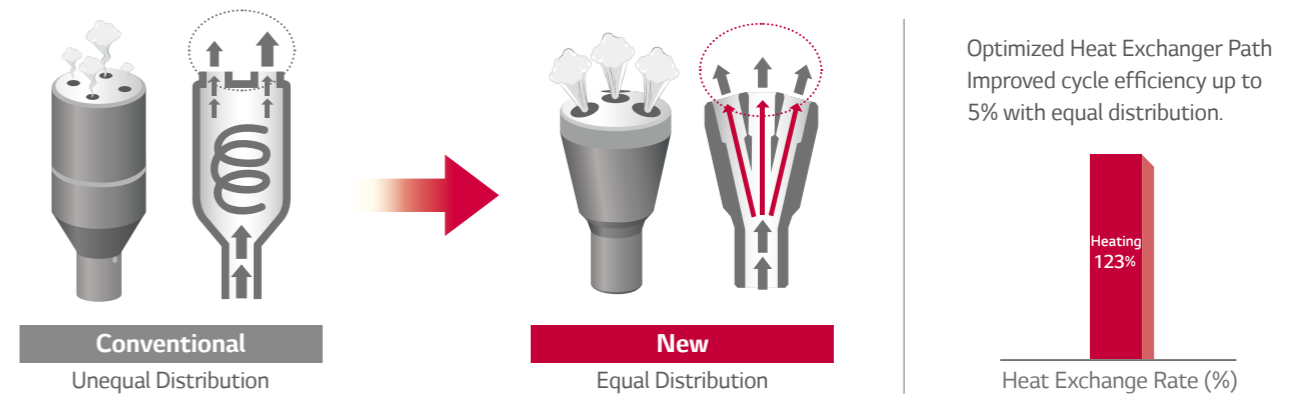
## Energy Efficiency at -2°C

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



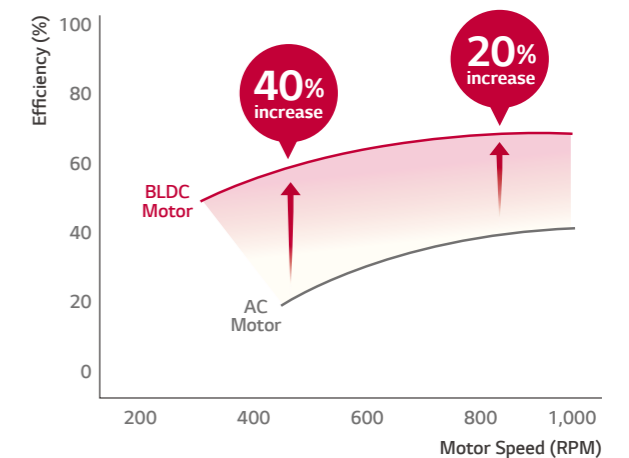
## Heat Exchanger Improvement

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



## Inverter BLDC Fan Motor

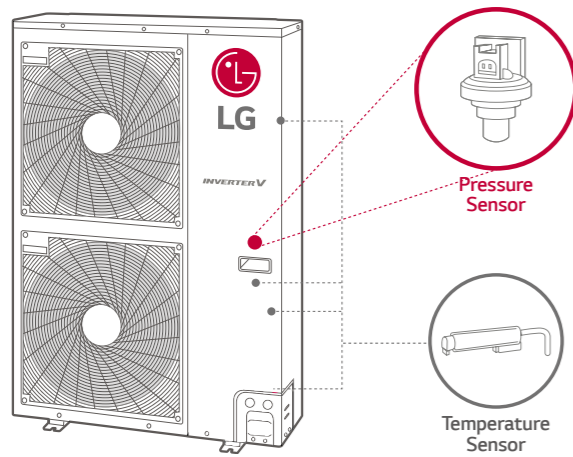
LG BLDC fan motor offers additional energy savings up to 40% at low speed and 20% at high speed compared to an AC motor.



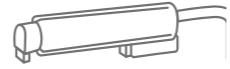
# RELIABILITY

## Reliability at Low Temperature

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



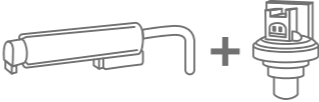
**Temperature Control**



**Temperature Sensor Only**

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.

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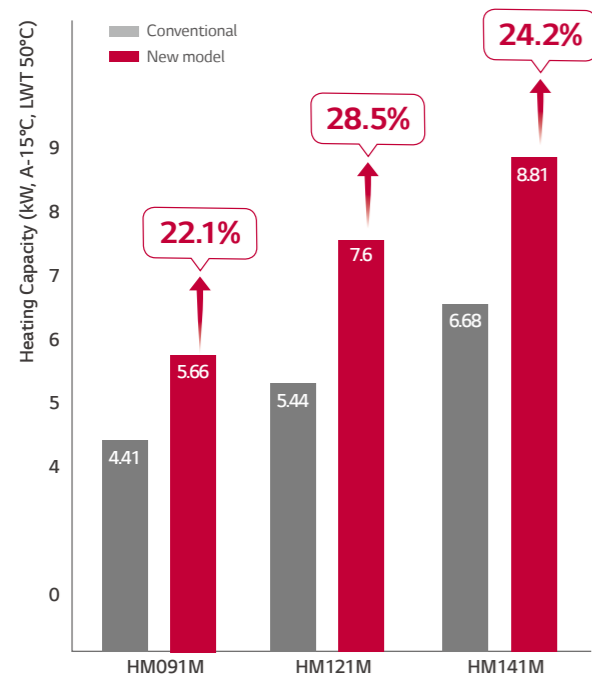


**Pressure Control**

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

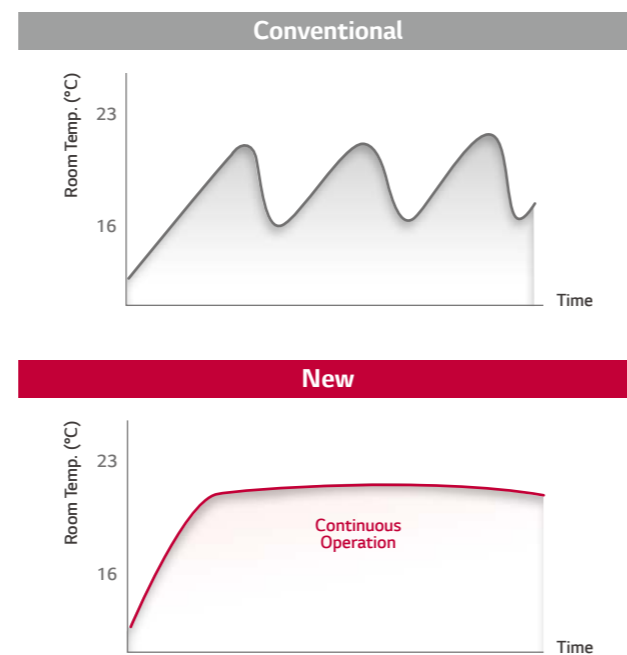
### • Heating Capacity at Low Temperature

High and stable performance at low temperatures.



### • Stable Operation

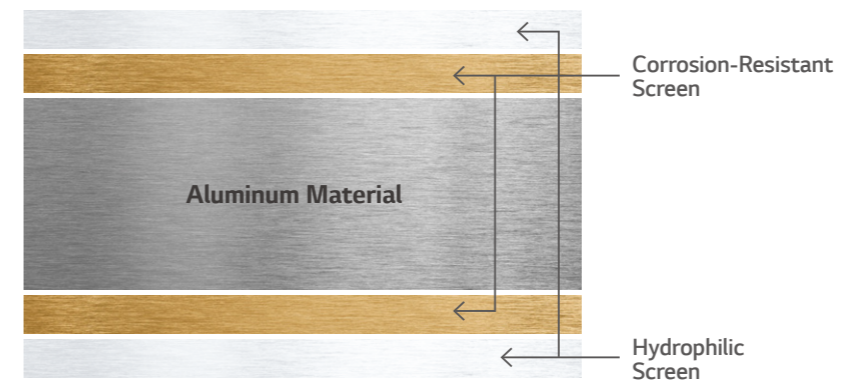
High and stable heating performance at low temperatures.



## 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 exhibits pre-eminent heat transfer properties of the coil for a lengthy period, whereas non-Gold Fin™ coils progressively lose efficiency due to surface corrosion. Gold Fin™ fin is extremely suitable for areas affected by high pollution and areas exposed to salt water breeze.

### • Composition of Fin Screens

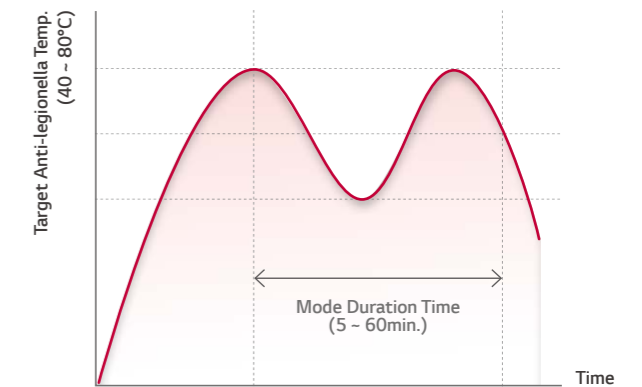


### • Salt Spray Test for 15 Days



## Anti-Legionella Function

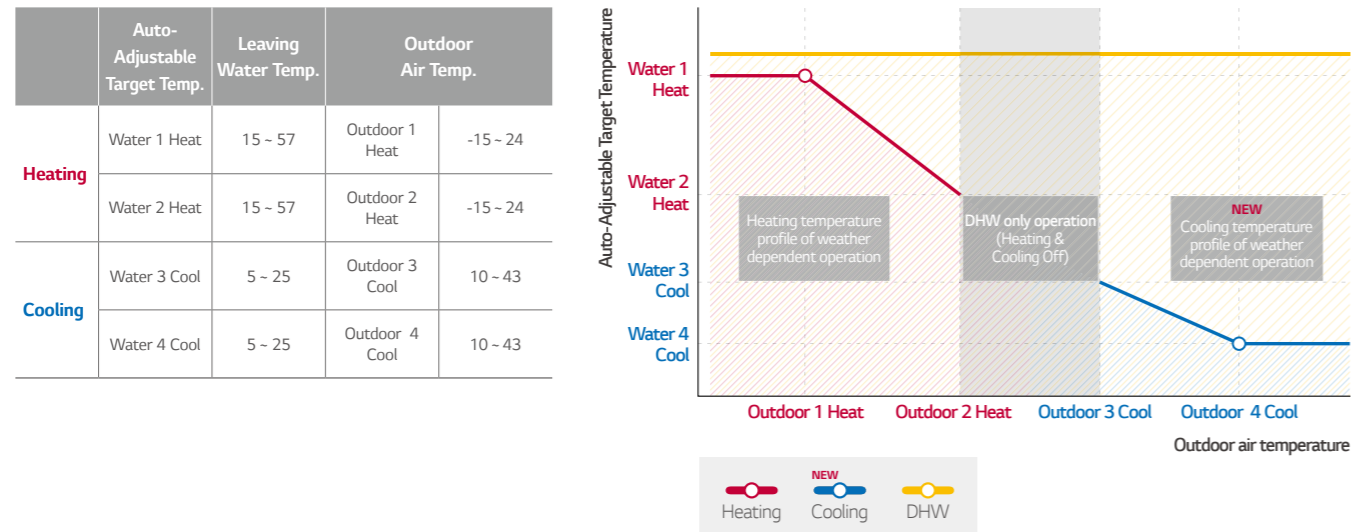
By setting Anti-legionella operation mode ON, THERMA V heats the whole water tank automatically once a week until the water temperature reached up to 80°C.



# CONVENIENCE

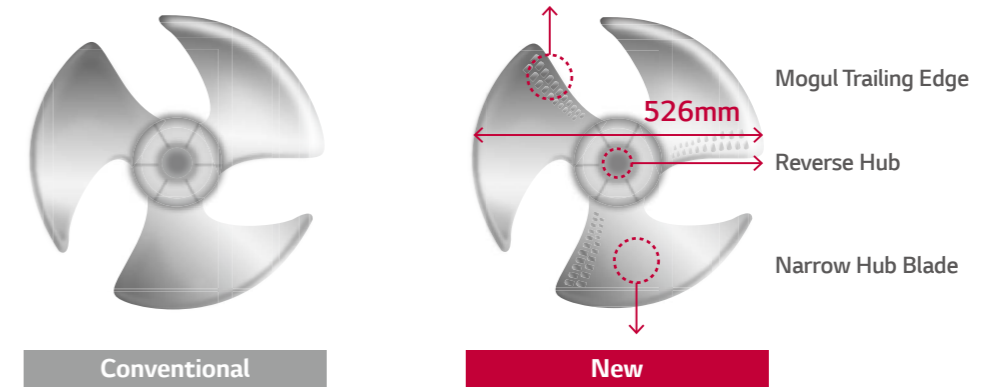
## Seasonal Auto Mode

In this mode, the target temperature will vary according to the outdoor temperature automatically. This mode adds the cooling season function to the conventional weather dependent operation mode.



## 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.



## Emergency Operation

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

- Minor Error** (Mainly caused by sensor)
  - THERMA V - On
  - Electric Heater - On/Off
- Major Error** (Mainly caused by cycle parts)
  - THERMA V - Off
  - Electric Heater - On

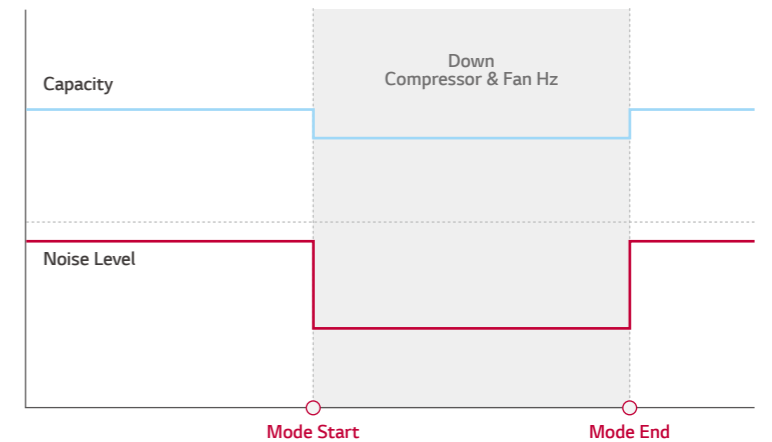
Conventional

LG THERMA V

## Silent Mode & Scheduler

Silent mode operation can reduce the noise level by remote controller and users can set the weekly On / Off schedule too.

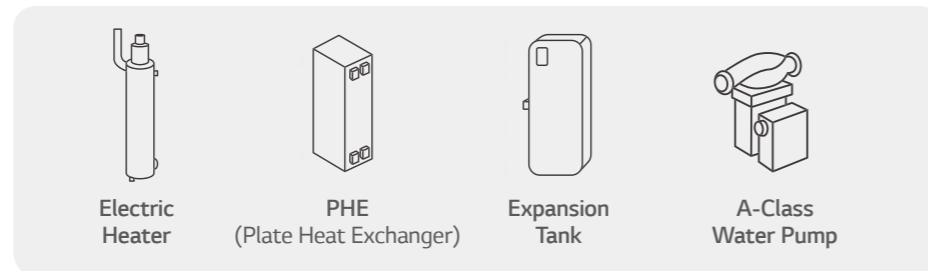
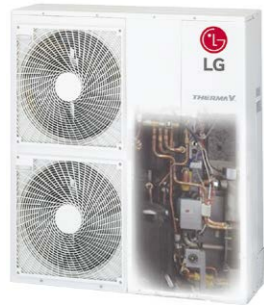
Heating Capacity (kW)	Heating Sound Pressure (dBA)	
	Normal	Silent Mode
3	47	43
5	51	48
7	52	48
9	52	48
12	53	50
14	53	50
16	53	50



# EASY INSTALLATION & SERVICE

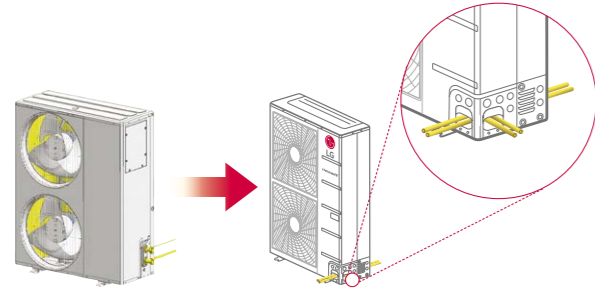
## All in One Concept

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



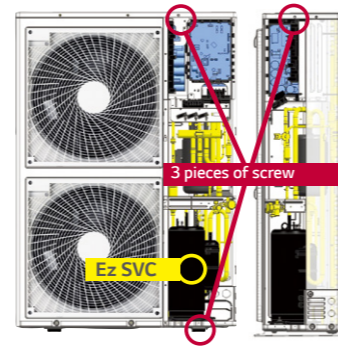
### • 3-Way charging pipe (Split type only)

Refrigerating connection is possible in three directions.



### • Compact design & Ez SVC

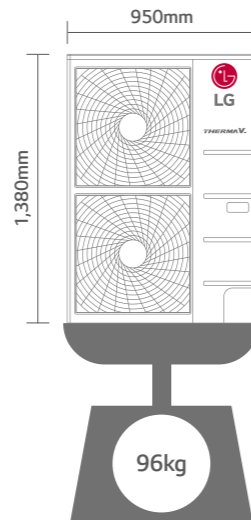
- Remove 3 pieces of screw for SVC
- Front panel removal system



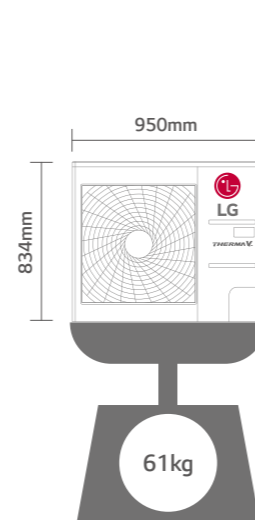
## Compact & Slim

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)



# HIGH TEMPERATURE



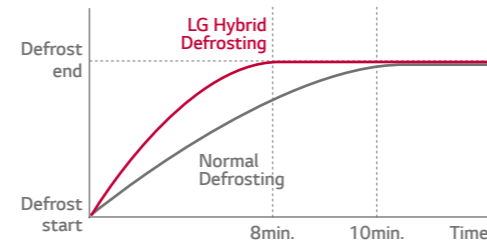
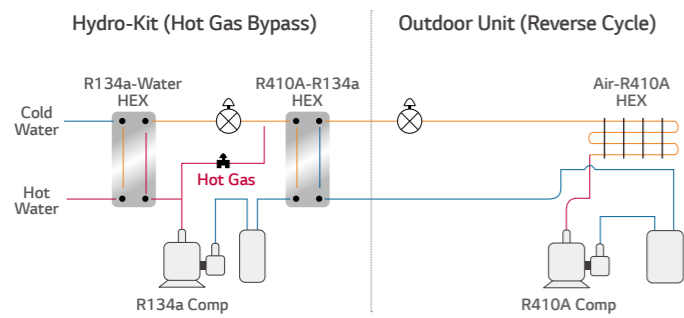


# HIGH TEMPERATURE

## Quick Defrosting

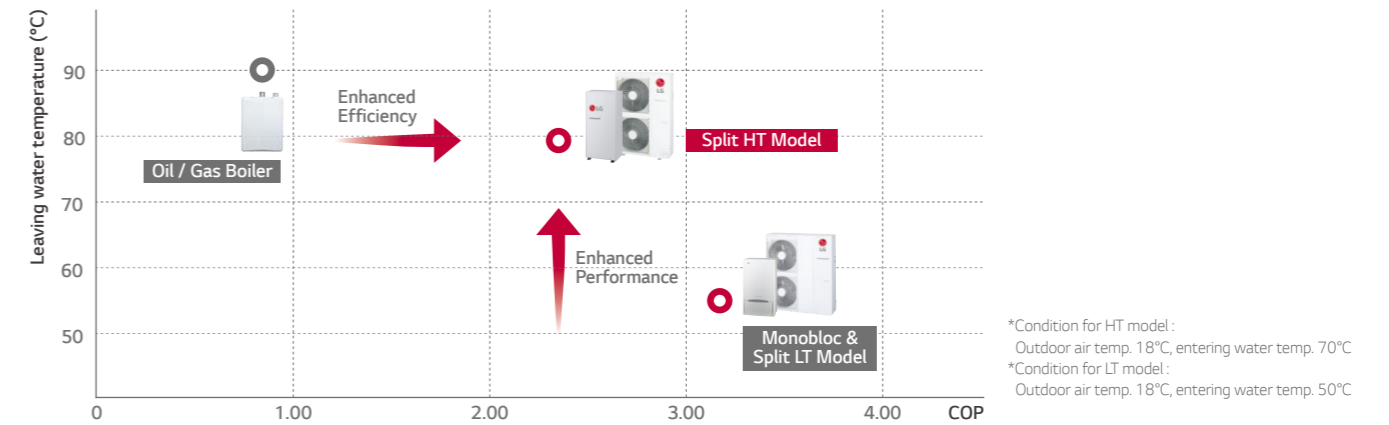
Through R134A compressor controlling technology, necessary time for defrost operation has been minimized effectively. (LG Patent)

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



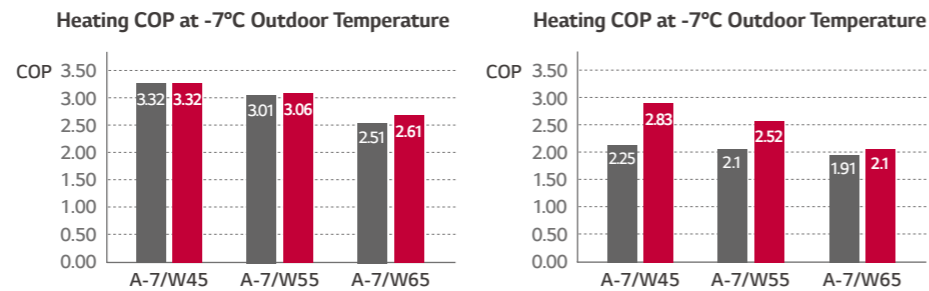
## Enhanced Efficiency & Performance

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.



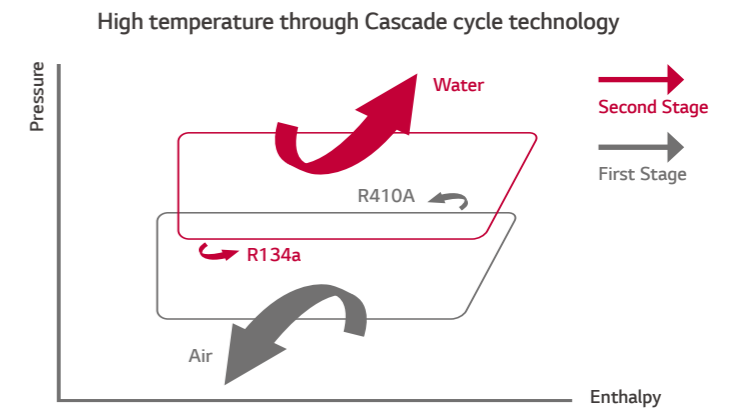
## Higher Energy Efficiency

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



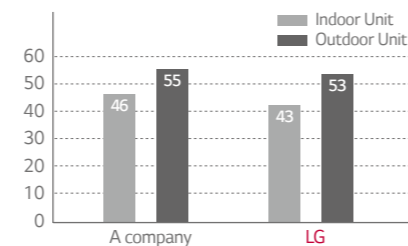
## Cascade 2 Stage Compression Technology

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



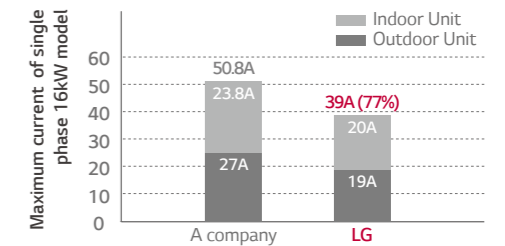
## Low Noise Level

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



## Low Maximum Current Level

LG High Temperature THERMA V can be easily installed without incurring any additional costs to the electric connections.



# DHW TANK INTEGRATED



## THERMA V KEY FEATURES

# SPLIT DHW TANK INTEGRATED

## Save space & Save time

Compared with conventional system, easy & quick installation is possible and smaller spaces are required for installation.

Conventional	New (DHW tank integrated type)
<ul style="list-style-type: none"> <li>- Enough rooms for product installation</li> <li>- Need to secure the space for water tank</li> <li>- More water piping work &amp; More installation time</li> </ul>	<ul style="list-style-type: none"> <li><b>All in one</b> Small space for product installation</li> <li><b>Less water piping work</b> More easy &amp; Save time</li> </ul>

## 2nd Heating Circuit

Possible heating individually through separate heating circuits with a controller and a mixing valve.

Conventional	New
<p><b>Only 1 heating circuit</b> not individually controllable</p>	<p><b>Basically 2 heating circuits</b> with individual control</p> <p>With the circuit extension module, <b>max 4 heating circuits</b> to control individually (option, available in 1Q, 2018)</p>

## Controller for convenient control

Easy & convenient setting room temperature!

Default controller installed	Option controller installed
<p>Must move to control</p>	<p>It is not required to move it once it has been set up in your room.</p> <p><b>Room controller</b> Thermostat without display Basic settings of room temperature</p>

# SPLIT DHW TANK INTEGRATED

HN1616T.NBO



HN1616T.NBO / HU091.U43, HU121.U33, HU141.U33, HU161.U33



SPLIT (INDOOR UNIT)		Capacity	16kW 1/3Ø	
		Reference	HN1616T.NBO	
Dimensions	W x H x D	mm	607 x 2,079 x 25	
Weight		kg	228	
DHW Tank	Water volume	L	200	
	Buffer volume	L	40	
	Maximum water temperature	°C	95	
	Maximum water pressure	bar	10	
	Insulation	Material	-	Polyurethane foam
	Thickness	mm	50	
	Heat loss (for 24hr)	kWh	1.67	
Buffer Tank	Water volume	L	40	
	Material	-	Steel powder coated	
	Insulation Material	-	Closed cell foamed rubber	
Water Pump	Model	-	Yonos PARA RS25/7 PWM1	
	Motor type	-	BLDC	
	Steps of speed	EA	Variable speed 13% to 100%	
	Power Input	W	3 - 45	
	Water Flow Rate	Min. L / min	16	
	Rated L / min	40		
	Pressure drop Max.	kPa	70	
Heat Exchanger (Water Side)	Type	-	Brazed Plate HEX	
	Quantity	-	1	
	Water Volume	L	3.3	
	Water Flow Rate (Min. - Max.)	bar	13 - 70	
Safety Valve	Insulation Material	-	Closed cell foamed rubber	
	Pressure Limit Max.	Bar	3	
Piping Connection	Refrigerant Circuit	Gas (Outer Dia.)	mm(inch)	Ø 15.88 (5/8)
		Liquid (Outer Dia.)	mm(inch)	Ø 9.52 (3/8)
	Water Circuit	Inlet (Inner Dia.)	mm(inch)	Male PT 25 (1)
		Outlet (Inner Dia.)	mm(inch)	Male PT 25 (1)
	DHW Tank Water Circuit	Cold Inlet (Outer Dia.)	mm(inch)	Male PT 19.05 (3/4)
		Hot Outlet (Outer Dia.)	mm(inch)	Male PT 25 (1)
Operation Range	Recirculation (Outer Dia.)	mm(inch)	Male PT 19.05 (3/4)	
	Heating	Water side Min.-Max.	°C	25-58
	Cooling	Water side Min.-Max.	°C	7-25
Sound Power Level	Domestic hot water	Water side Min.-Max.	°C	25-52 (60*)
	Nom.	dBA		36

SPLIT (OUTDOOR)		Capacity	9kW 1Ø	12kW 1Ø	14kW 1Ø	16kW 1Ø	12kW 3Ø	14kW 3Ø	16kW 3Ø	
		Reference	HU091.U43	HU121.U33	HU141.U33	HU161.U33	HU123.U33	HU143.U33	HU163.U33	
Nominal Capacity	Heating (A7 / W35)	kW	9	12	14	16	12	14	16	
	Cooling (A35 / W18)	kW	9	10.4	11	12	10.4	11	12	
Nominal Power Input	Heating (A7 / W35)	kW	2.23	2.78	3.43	4.18	2.78	3.43	4.18	
	Cooling (A35 / W18)	kW	2.88	3.3	3.53	4	3.3	3.53	4	
COP	Heating (A7 / W35)		4.04	4.32	4.08	3.83	4.32	4.08	3.83	
EER	Cooling (A35 / W18)		3.12	3.15	3.12	3	3.15	3.12	3	
Space heating	Average climate water outlet 55°C	General	SCOP							
			η <sub>s</sub> (Seasonal space heating efficiency) %	112	117	117	117	117	117	
			Seasonal space heating eff. Class	A+	A+	A+	A+	A+	A+	
	Average climate water outlet 35°C	General	SCOP	4.04	4.2	4.15	4.15	4.2	4.15	4.15
			η <sub>s</sub> (Seasonal space heating efficiency) %	159	165	163	163	165	163	
			Seasonal space heating eff. Class	A++	A++	A++	A++	A++	A++	
Domestic Hot Water Heating	General	Declared load profile	XL	XL	XL	XL	XL	XL	XL	
	Average climate	η <sub>wh</sub> (water heating efficiency) %	98	89	89	89	89	89	89	
Dimensions	Unit	W x H x D	mm	834x950x330			1,380 x 950 x 330			
	Shipping	W x H x D	mm	900x1140x461			1,462 x 1,140 x 461			
Weight	Net		kg	59	94	94	94	94	94	
	Gross		kg	65	107	107	107	107	107	
Operation Range	Heating	Min. ~ Max.	°C	-20 - 35	-20 - 35	-20 - 35	-20 - 35	-20 - 35	-20 - 35	
	Cooling	Min. ~ Max.	°C	5 - 48	5 - 48	5 - 48	5 - 48	5 - 48	5 - 48	
	Domestic hot water	Min. ~ Max.	°C	-20 - 30	-20 - 30	-20 - 30	-20 - 30	-20 - 30	-20 - 30	
Refrigerant	Type		-	R410a			R410a			
	GWP		-	2,087.50			2,087.50			
	Charge	TCO <sub>2eq</sub>	kg	3.76	4.8	4.8	4.8	4.8	4.8	
	Chargeless-Pipe Length		m	1.8	2.3	2.3	2.3	2.3	2.3	
Sound Power Level	Additional Charging Volume		g/m	7.5			40			
	Heating	Nom.	dBA	65	66	66	66	66	66	
Piping Connections	liquid	Type	-	Flare			Flare			
		Outer Dia.	mm (inch)	Ø 9.52(3/8)			Ø 9.52(3/8)			
	Gas	Type	-	Flare			Flare			
Outer Dia.		mm (inch)	Ø 15.88(5/8)			Ø 15.88(5/8)				
Piping Length	Min.	m	3			3				
	Standard	m	7.5			7.5				
	Max.	m	50			50				
Piping Level Difference	Outdoor Unit - Indoor Unit	Max.	m	30			30			
Power supply	Phase/Frequency/Voltage	Hz/V	1-/50/220-240			3-/50/380-415				
Current	Recommended fuses	A	30	40	40	40	20			
Modbus Converter (*Required purchase separately)	Type	-	Gateway PI485			Gateway PI485				
	Model	-	PP485B00K			PP485B00K				

\* with integrated electrical heater

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

# MONOBLOC

HM051M.U42 / HM071M.U42 / HM091M.U42



EUROVENT CERTIFIED PERFORMANCE  
 LG participates in the ECP programme for EUROVENT EURO-HP program.  
 Check ongoing validity of certification :  
[www.eurovent-certification.com](http://www.eurovent-certification.com)

MONOBLOC (OUTDOOR UNIT)		Capacity Reference	5kW 1Ø	7kW 1Ø	9kW 1Ø
			HM051M.U42	HM071M.U42	HM091M.U42
Nominal Capacity	Heating (A7 / W35)	kW	4.99	7.00	9.00
	Heating (A2 / W50)	kW	3.63	5.08	6.18
	Heating (A-2 / W50)	kW	3.59	5.02	6.46
	Heating (A-7 / W35)	kW	3.68	5.16	6.97
	Cooling (A35 / W18)	kW	4.99	5.60	8.80
Nominal Power Input	Heating (A7 / W35)	kW	1.13	1.63	2.20
	Heating (A2 / W50)	kW	1.46	2.15	2.85
	Heating (A-2 / W50)	kW	1.52	2.16	2.78
	Heating (A-7 / W35)	kW	1.54	2.21	2.99
	Cooling (A35 / W18)	kW	1.38	1.55	2.32
COP	Heating (A7 / W35)		4.42	4.29	4.09
	Heating (A2 / W50)		2.49	2.36	2.17
	Heating (A-2 / W50)		2.36	2.32	2.32
	Heating (A-7 / W35)		2.39	2.33	2.33
EER	Cooling (A35 / W18)		3.62	3.61	3.79
Dimension	W x H x D	mm	1,239 x 907 x 390	1,239 x 907 x 390	1,239 x 907 x 390
Weight		kg	97	98	99
Sound Power Level (Heating)		dB (A)	66	66	66
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 - 30	
Water Pipe Connection	Inlet	mm (inch)			
	Outlet	mm (inch)			
Electric Heater	Power Supply	P / V / Hz		1 / 220-240 / 50	
	Capacity	kW		4	
Water Flowrate Limit		LPM			
Max. Water Head		m		7	
Power Supply		P / V / Hz			
Recommended Fuse		A		20	
Refrigerant (R410a)	Pre-Charged Amount	kg	1.20	1.45	1.60
	GWP	TCO <sub>2</sub> eq	2.50	3.02	3.34
Seasonal space heating energy efficiency class	35°C / 55°C		A++ / A+	A++ / A+	A++ / A+
Seasonal space heating energy efficiency (average)	35°C / 55°C	%	160 / 110	155 / 112	161 / 114
Rated heat output (average)	35°C / 55°C	kW	6 / 5	7 / 6	7 / 7
Annual energy consumption (average)	35°C / 55°C	kWh	3,119 / 3,707	3,631 / 4,641	3,761 / 4,638
Water pump EEI ≤			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.  
 \* Above table values does include humidification effect in the outdoor temperature below zero.  
 \* All specification is based on EN14511 and EN14825.  
 \* EHPA label for Germany, Austria and Switzerland.

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



EUROVENT CERTIFIED PERFORMANCE  
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MONOBLOC (OUTDOOR UNIT)		Capacity Reference	12kW 1Ø	14kW 1Ø	16kW 1Ø	12kW 3Ø	14kW 3Ø	16kW 3Ø
			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	8.27	9.80	10.98	8.29	9.64	11.19
	Cooling (A35 / W18)	kW	10.40	12.20	13.20	10.40	12.20	13.20
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	2.97	3.57	4.30	2.95	3.50	4.39
	Cooling (A35 / W18)	kW	2.67	3.32	3.65	2.67	3.32	3.65
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)		2.78	2.75	2.55	2.81	2.75	2.55
EER	Cooling (A35 / W18)		3.90	3.67	3.62	3.89	3.67	3.62
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		
Refrigerant (R410a)	Pre-Charged Amount	kg			2.20			
	GWP	TCO <sub>2</sub> eq			4.59			
Seasonal space heating energy efficiency class	35°C / 55°C		A++ / A+	A++ / A+	A++ / A+	A++ / A+	A++ / A+	A++ / A+
Seasonal space heating energy efficiency (average)	35°C / 55°C	%	166 / 121	166 / 121	164 / 121	174 / 124	164 / 124	163 / 124
Rated heat output (average)	35°C / 55°C	kW	11 / 10	12 / 10	12 / 10	11 / 11	12 / 11	11 / 13
Annual energy consumption (average)	35°C / 55°C	kWh	5,536 / 6,698	5,819 / 6,698	6,094 / 6,698	5,812 / 7,078	5,922 / 7,078	6,210 / 7,078
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 is based on EN14511 and EN14825.  
 \* EHPA label for Germany, Austria and Switzerland. \* EHPA label is not include 12/14/16kW single phase type.

# SPLIT

HN1616.NK3 / HU051.U43, HU071.U43, HU091.U43



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SPLIT (OUTDOOR UNIT)		Capacity Reference	5kW Ø HU051.U43	7kW 1Ø HU071.U43	9kW 1Ø HU091.U43
Nominal Capacity	Heating (A7 / W35)	kW	5.00	7.00	9.00
	Heating (A2 / W35)	kW	4.30	5.97	7.30
	Heating (A-2 / W50)	kW	6.24	6.68	7.08
	Heating (A-7 / W35)	kW	4.23	5.88	7.53
	Cooling (A35 / W18)	kW	5.00	7.00	9.00
Nominal Power Input	Heating (A7 / W35)	kW	1.01	1.59	2.05
	Heating (A2 / W35)	kW	3.52	1.70	2.09
	Heating (A-2 / W50)	kW	3.20	3.34	3.54
	Heating (A-7 / W35)	kW	2.78	2.14	2.74
	Cooling (A35 / W18)	kW	1.09	1.56	2.37
COP	Heating (A7 / W35)		4.93	4.80	4.40
	Heating (A2 / W35)		3.52	3.51	3.50
	Heating (A-2 / W50)		1.95	2.00	2.00
	Heating (A-7 / W35)		2.78	2.75	2.75
EER	Cooling (A35 / W18)		4.60	4.50	3.80
Dimension	W x H x D	mm	950 x 834 x 330		
Weight		kg	60		
Sound Pressure Level (Heating)		dB(A)	-		
Sound Power Level (Heating)		dB(A)	65		
Outdoor Air Operation Range	Heating	°C DB	-20 - 35		
	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	1.55		
		TCO <sub>2</sub> eq	3.24		
	GWP		2087.5		
	Chargeless Pipe Length	m	7.5		
Ref. Pipe Length	Additional Charging Volume	g/m	40		
	Minimum	m	3		
	Standard	m	7.5		
	Maximum	m	50		
Power Supply	P / V / Hz		1 / 220-240 / 50		
Recommended Fuse	A		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.  
 \* All specification is based on EN14511 and EN14825. \* Above table values does include humidification effect in the outdoor temperature below zero.

SPLIT (INDOOR UNIT)		Capacity Reference	5,7,9kW HN1616.NK3		
Dimension	W*H*D	mm	490 x 850 x 315		
Weight		kg	42		
Electric Heater	Power Supply	P/V/Hz	1 / 220-240 / 50		
	Capacity	kW	6		
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)		
Energy Efficiency Class Seasonal Space Heating	35°C / 55°C		4.52 / 3.23	4.45 / 3.23	4.34 / 3.23
Seasonal Space Heating Energy Efficiency (Average)	35°C / 55°C	%	178 / 126	175 / 126	171 / 126
Rated Heat Output (kW)	35°C / 55°C	kW	6 / 6	6 / 6	7 / 6
Annual Energy Consumption (Average)	35°C / 55°C	kWh	2,512 / 3,581	2,783 / 3,581	3,093 / 3,581
Water Pump EEI			0.23	0.23	0.23

HN1616.NK3 / HU121.U33, HU141.U33, HU161.U33  
 HN1639.NK3 / HU123.U33, HU143.U33, HU163.U33



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SPLIT (OUTDOOR UNIT)		Capacity Reference	12kW 1Ø HU121.U33	14kW 1Ø HU141.U33	16kW 1Ø HU161.U33	12kW 3Ø HU123.U33	14kW 3Ø HU143.U33	16kW 3Ø HU163.U33
Nominal Capacity	Heating (A7 / W35)	kW	12.00	14.00	16.00	12.00	14.00	16.00
	Heating (A2 / W35)	kW	10.33	10.83	11.95	10.33	10.83	11.95
	Heating (A-2 / W50)	kW	11.89	11.89	11.89	11.89	11.89	11.89
	Heating (A-7 / W35)	kW	11.00	12.50	13.50	11.00	12.50	13.50
	Cooling (A35 / W18)	kW	10.40	12.00	13.00	10.40	12.00	13.00
Nominal Power Input	Heating (A7 / W35)	kW	2.64	3.17	3.76	2.64	3.17	3.76
	Heating (A2 / W35)	kW	2.93	3.09	3.41	2.93	3.09	3.41
	Heating (A-2 / W50)	kW	5.25	5.25	5.25	5.25	5.25	5.25
	Heating (A-7 / W35)	kW	3.14	3.73	4.35	3.14	3.73	4.35
	Cooling (A35 / W18)	kW	2.60	3.08	3.60	2.60	3.08	3.60
COP	Heating (A7 / W35)		4.55	4.41	4.26	4.55	4.41	4.26
	Heating (A2 / W35)		3.52	3.51	3.50	3.52	3.51	3.50
	Heating (A-2 / W50)		2.27	2.27	2.27	2.27	2.27	2.27
	Heating (A-7 / W35)		3.50	3.35	3.10	3.50	3.35	3.10
EER	Cooling (A35 / W18)		4.00	3.90	3.61	4.00	3.90	3.61
Dimension	W x H x D	mm	950 x 1,380 x 330					
Weight		kg	94					
Sound Pressure Level (Heating)		dB(A)	-					
Sound Power Level (Heating)		dB(A)	66					
Outdoor Air Operation Range	Heating	°C DB	-20 - 35					
	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	2.30					
		TCO <sub>2</sub> eq	4.80					
	GWP		2087.5					
	Chargeless Pipe Length	m	7.5					
Ref. Pipe Length	Additional Charging Volume	g/m	60	60	60	50	50	50
	Minimum	m	3					
	Standard	m	7.5					
	Maximum	m	50					
Power Supply	P / V / Hz		1 / 220-240 / 50	1 / 220-240 / 50	1 / 220-240 / 50	3 / 380-415 / 50	3 / 380-415 / 50	3 / 380-415 / 50
Recommended Fuse	A		40					

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

SPLIT (INDOOR UNIT)		Capacity Reference	12 - 16kW 1Ø HN1616.NK3			12 - 16kW 3Ø HN1639.NK3	
Dimension	W x H x D	mm	490 x 850 x 315				
Weight		kg	42		43		
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		7		
Water Pipe Connection	Inlet	mm (inch)	Male PT 25 (1)				
	Outlet	mm (inch)	Male PT 25 (1)				
Energy Efficiency Class Seasonal Space Heating	35°C / 55°C		4.45 / 3.32	4.45 / 3.32	4.30 / 3.32	4.45 / 3.32	4.45 / 3.32
Seasonal Space Heating Energy Efficiency (Average)	35°C / 55°C	%	175 / 130	175 / 130	169 / 130	175 / 130	175 / 130
Rated Heat Output (kW)	35°C / 55°C	kW	9 / 10	10 / 10	10 / 10	9 / 10	10 / 10
Annual Energy Consumption (Average)	35°C / 55°C	kWh	4,177 / 6,154	4,408 / 6,154	4,802 / 6,154	4,177 / 6,154	4,408 / 6,154
Water Pump EEI			0.23	0.23	0.23	0.23	0.23

# HIGH TEMPERATURE

HN1610H.NK2  
HU161H.U32



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HIGH TEMP. SLIT (OUTDOOR UNIT)		Capacity Reference	16kW 1Ø HU161H.U32
Nominal Capacity	Heating (A7 / W65)	kW	16.00
	Heating (A2 / W65)	kW	14.60
	Heating (A-2 / W65)	kW	15.70
Nominal Power Input	Heating (A-7 / W65)	kW	15.10
	Heating (A7 / W35)	kW	16.00
	Heating (A7 / W65)	kW	6.13
	Heating (A2 / W65)	kW	6.81
	Heating (A-2 / W65)	kW	6.96
	Heating (A-7 / W65)	kW	7.20
	Heating (A7 / W35)	kW	4.70
COP	Heating (A7 / W65)		2.61
	Heating (A2 / W65)		2.14
	Heating (A-2 / W65)		2.25
	Heating (A-7 / W65)		2.09
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
		TCO <sub>2</sub> eq	7.3
	GWP		2,087.5
Ref. Pipe Length	Chargeless Pipe Length	m	10
	Additional Charging Volume	G/m	60
	Minimum	m	5
Power Supply	Standard	m	7.5
	Maximum	m	50
Recommended Fuse	P / V / Hz		1 / 220-240 / 50
	A		25

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

HIGH TEMP. SLIT (INDOOR UNIT)		Capacity Reference	16kW 1Ø HN1610H.NK2
Dimension	W x H x D	mm	520 x 1,080 x 330
Weight		kg	94
Sound Power Level (Heating)		dB (A)	57
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
	TCO <sub>2</sub> eq		3.3
Water Pipe Connection	GWP		1430
	Inlet	mm (inch)	Male PT 25 (1)
Draining Pipe Connection	Outlet	mm (inch)	Male PT 25 (1)
		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	%	115 / 113
Rated heat output (average)	35°C / 55°C	kW	13 / 11
Annual energy consumption (average)	35°C / 55°C	kWh	9,395 / 7,642

# DOMESTIC HOT WATER TANK

OSHW-200F  
OSHW-300F  
OSHW-500F  
OSHW-300FD



## Domestic Hot Water Tank – Double Coil

DOMESTIC HOT WATER TANK		OSHW-200F	OSHW-300F	OSHW-500F	OSHW-300FD
General Characteristics	Water Volume	L	200	300	500
	Diameter	mm	640	640	810
	Height	mm	1,350	1,850	1,900
	Empty Weight	kg	61	100	146
Characteristics of Electrical Back-up	Tank Materials		F18 S.STEEL	F18 S.STEEL	F18 S.STEEL
	Color		Grey	Grey	Grey
	Additional Electric Heater	W	2,400	2,400	2,400
	Power supply electric heater	Ø / V / Hz	230W / 50 / 60Hz	230W / 50 / 60Hz	230W / 50 / 60Hz
Characteristics of Exchanger	Adjustable Thermostat	°C	0-90	0-90	0-90
	Exchanger Type		Internal Single Coil	Internal Single Coil	Internal Single Coil
	Material Exchanger		F18 S.STEEL	F18 S.STEEL	F18 S.STEEL
	Maximum Water Temperature	°C	90	90	90
Hydraulic Connections – Heat Pump	Coil Surface	mm	2.3	3.1	4.8
	Inlet	mm	1"	1"	1 1/4"
Hydraulic connections – Domestic Hot Water Tank	Outlet	mm	1"	1"	1 1/4"
	Domestic hot water inlet	mm	3/4"	3/4"	1"
Energy Efficiency Class	Domestic hot water outlet	mm	3/4"	1"	1"
			B	B	B
Standing Heat loss	W	61	70	83	
Number of Coil		Single	Single	Single	
<b>MANDATORY OPTIONAL ACCESSORIES</b>					
Domestic Hot Water Tank Installation Kit		PHLTA	PHLTA	PHLTA	PHLTA
<b>OPTIONAL ACCESSORIES</b>					
Mixing Valve		OSHA-MV	OSHA-MV	OSHA-MV	OSHA-MV
3-Way Valve		OSHA-3V	OSHA-3V	OSHA-3V	OSHA-3V

# LG Wi-Fi MODEM

Control LG THERMA V via using the internet devices as Android or iOS bases smartphones



PWFMD200

## Features

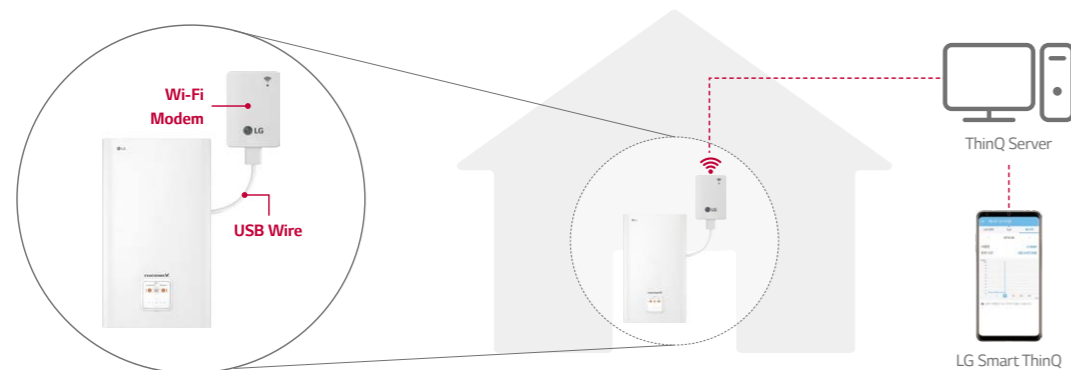
- Access LG THERMA V anytime and from anywhere with Wi-Fi equipped device
- LG's exclusive Home Appliances control app(SmartThinQ) is available
- Simple operation for various functions
  - On/Off
  - Operation Mode
  - Current/Set Temperature

Model Name	PWFMD200
Size (W x H x D, mm)	48 x 68 x 14
Interfaceable Products	THERMA V Split Indoor unit
Connection Type	Indoor unit 1:1
Communication Frequency	2.4 GHz
Wireless Standards	IEEE 802.11b/g/n
Mobile Application	LG Smart ThinQ (Android v4.1(Jellybean) or higher, iPhone iOS 9.0 or higher)
Optional Extension Cable	PWYREW000 (10m extension)

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



## Overview



\* Search "LG Smart ThinQ" on Google market or Appstore then download the app.  
 \* Internet service with Wi-Fi connection has to be available

# Wi-Fi CONTROLLER

LG-AW-WF-1



## Features

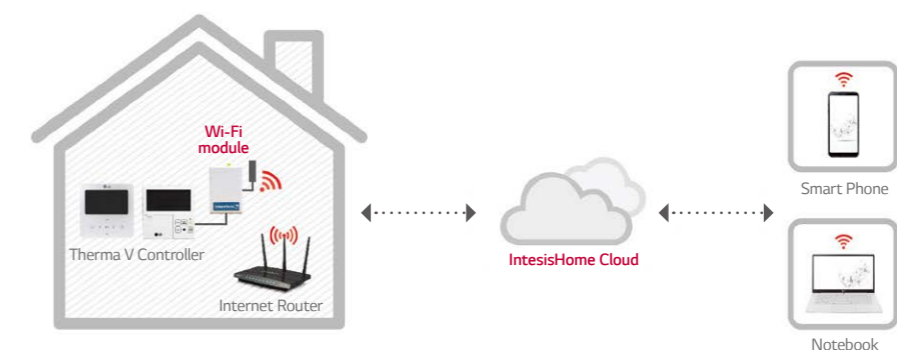
- External Power is not required
- Single system unit capacity (Monobloc, Split Low/High Temp)
- Control and monitor by mobile device
- Additional internet service has to be available and registration user account in IntesisHome cloud to use Wi-Fi controller is mandatory
- IntesisHome cloud application is available for smart devices such as smart phone(Android, iOS), laptop, tablet.

Model Name	LG-AW-WF-1
Start / Stop Operation	0
Operation Mode	Heating / Heating & DHW / Cooling & DHW / Cooling / DHW
Set Point	0
Ambient Temperature	0
Fan Speed	0

## Specifications

Model Name	LG-AW-WF-1
Enclosure	ABS (UL 94 HB), 2.5 mm thickness
Dimensions (mm)	70 x 108 x 28 mm
Weight (g)	80g
Color	White
Power Supply	12V, 60mA typical Doesn't require external power supply (supplied by the Indoor Unit)
Mounting	Wall
Operating Temperature	From 0°C to 40°C
Operating Humidity	<93% HR, no condensation
Stock Humidity	<93% HR, no condensation
RoHS Conformity	Compliant with RoHS directive (2002/95/CE)
Certifications	CE conformity to EMC directive (2004/108/EC), Low-voltage directive (2006/95/EC) EN 60950-1 / EN301489-1 v1.8.1 / EN 301489-17 v2.1.1











## Overview




















1) This product is provided by Intesis.

# ACCESSORIES

## Accessories Provided by LG

Accessory	Feature
Domestic Hot Water Tank	 <ul style="list-style-type: none"> <li>OSHW-200F 200 LITRES</li> <li>OSHW-300F 300 LITRES</li> <li>OSHW-500F 500 LITRES</li> </ul>  <ul style="list-style-type: none"> <li>OSHW-300FD 300 LITRES</li> </ul>  <p>3-Way Valve</p>  <p>Mixing Valve</p> <ul style="list-style-type: none"> <li>OSHA-3V</li> <li>OSHA-MV</li> </ul>
Domestic Hot Water Tank Kit	<ul style="list-style-type: none"> <li>• PHLTA (1Ø, Split)</li> <li>• PHLTC (3Ø, Split)</li> <li>• PHLTB (Monobloc)</li> </ul> <p><b>Features</b> Easy to install the domestic hot water for monobloc. There is a MCCB to protect the product. Dimension (mm) (H x W x D): 250 x 170 x 110 Weight (kg): 2.1</p> <p>To extend THERMA V functionality in generating domestic hot water.</p> <p>* PHLTA, PHLTC is required only when you want to use the electric heater function at the sanitary tank. If not, it's not necessary. THERMA V indoor unit it self already has electric heater (back up heating) function.</p> <p>* The sensor (PHRSTA0) can be purchased separately in case of using other brand's Domestic tank.</p>  <p>PHLTA / PHLTC</p>  <p>PHLTB</p>
Remote Temperature Sensor	<ul style="list-style-type: none"> <li>• PQRSTA0</li> </ul> <p><b>Features</b> It can help to detect the exact room temperature. Applied to ceiling cassette, ceiling concealed duct, AWHP and Hydro Kit.</p> <p><b>Parts Included</b> Remote temperature sensor / Extension cable (15m) / Manual</p> 
Solar Thermal Kit	<ul style="list-style-type: none"> <li>• PHLLA</li> </ul> <p><b>Features</b> To interface solar-thermal system with THERMA V and double coil Domestic tank. Installed at the water pipe, between Domestic tank and solar-thermal system. Dimension (mm) (H x W x D): 110 x 55 x 22</p> 
Dry Contact	<ul style="list-style-type: none"> <li>• PDRYCB000</li> </ul> <p><b>Features</b> For connection with boiler (Bivalent scene)</p> 
Drain Pan	<ul style="list-style-type: none"> <li>• PHDPB</li> </ul> <p><b>Features</b> Collects condensate water (When dropping to the base is not possible) and drains the water to a pipe</p> 

## Recommended Optional Accessories

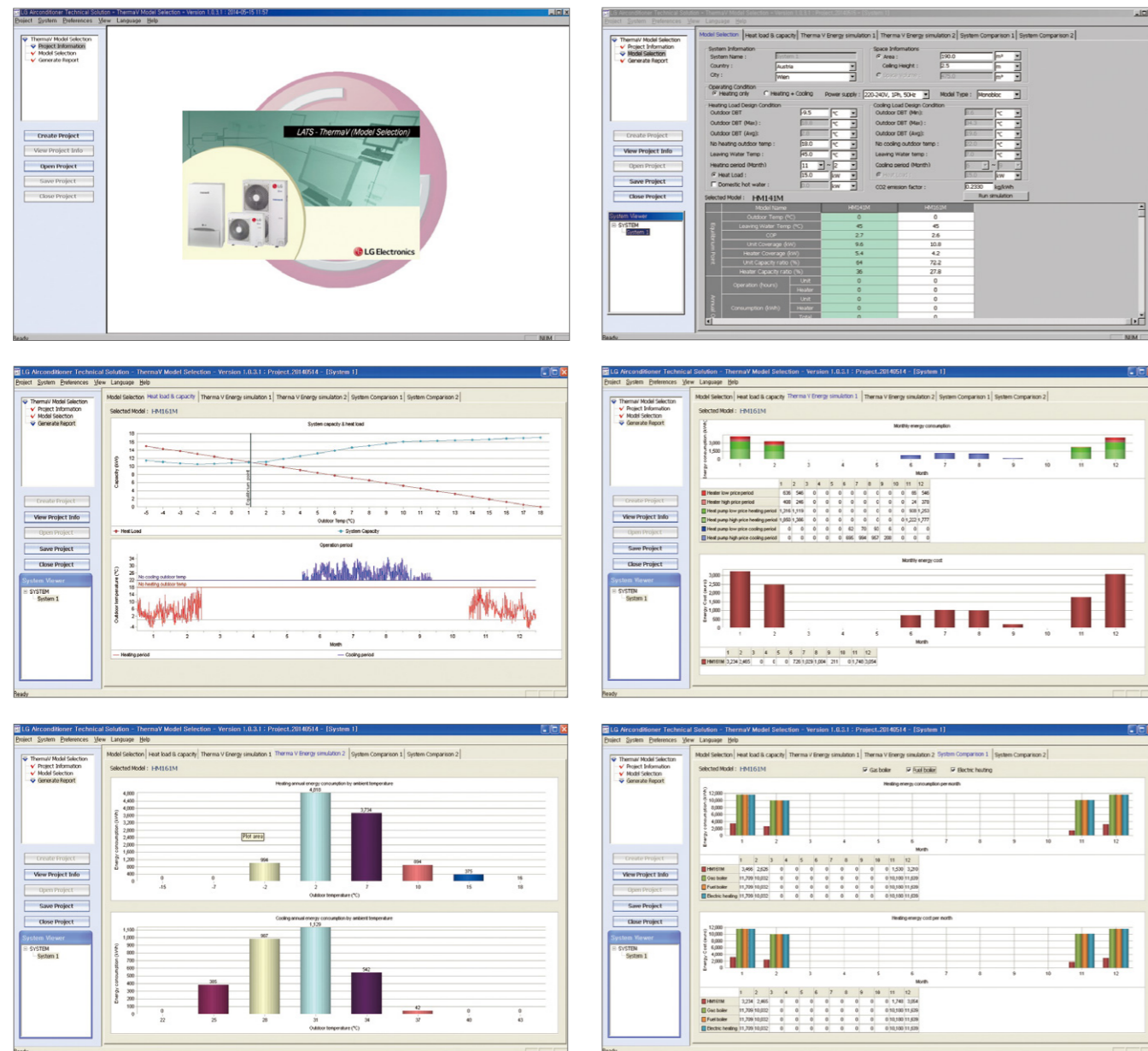
No.	Accessory	Picture	Purpose	Specification
1	Domestic Hot Water Tank		Store and provide hot water for sanitation	Volume : 200 - 400 l Enameld or stainless-steel tank / Insulating foam (e.g. PUR - polyurethane) heat-exchanger surface $\geq 3 \text{ m}^2$
2	3-Way-Valve		Switch between heating and domestic hot water circuit	230V AC SPDT (Single Pole Double Throw) / opening time 30 - 90 sec / final position switch Internal leakage rate < 0,1%
3	Electrical Tank Heater		Supports heating of domestic hot water, when heat pump is blocked or capacity is limited	2 - 6 kW Connector dimension suitable for DHW tank
4	Buffer Tank		Prevents cycling, when water volume is low and /or heating demand is low, secures enough heat for defrosting cycle	Insulating foam (e.g. PUR - polyurethane) Volume : 100 - 200 l (Installation in series with heat pump) 500 - 1,000 l (Installation in parallel with heat pump)
5	Bypass Valve		Ensures minimum water flow rate, when flow through heating circuits is limited due to closed valves	Dimensioning according manufacturer adjustable opening pressure
6	2-Way-Valve		Blocks heating circuits, that are not suitable for cooling during cooling operation	230V AC NO or NC type final position switch
7	Expansion Vessel		Absorption of pressure differences in the heating circuits due to temperature increase / decrease of the water	Dimensioning on-site required
8	Strainer		Protects plate-heat-exchanger from blocking particles	1 inch / 25.4mm, Mesh size ~ 1 x 1 mm for HM03M1.U42 only (other models are included)
9	Heating Cable		Prevents the condensate pan and the drainage pipe from icing	Thermostatic control depending on outdoor temperature All models do have electric heating cable for prevent frost from condensing water at the condensing pan except 3kW capacity.
10	Antifreeze		Prevents the heating water from freezing, when heat pump is out of order	Monoethyleneglycole Concentration according to lowest possible outdoor temperature
11	Noise Damper		Prevents that structure-born noise is transported via the water piping	EPDM; Operating temperature according climate region (at least -10 - +90°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



# 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<sub>2</sub> annual amount, monthly energy amount and cost, total amount of thermal energy in kWh as the outside temperature.



## LG THERMA V Micro Web Site

THERMA V microsite where you can do

1. Energy simulation for your home by following 6 simple steps. (<http://www.lgethermav.com>)
2. Able to find LG THERMA V features
3. Locate European Certification information.

