



LG HEATING

PRODUCT CATALOGUE 2019

LG HEATING PRODUCT

CATALOGUE 2019



LG Electronics

Commercial Air Conditioning

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www.lg.com <http://partner.lge.com> <http://www.lgethermav.com>

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RESIDENTIAL SOLUTION

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HEAT PUMP TECHNOLOGY

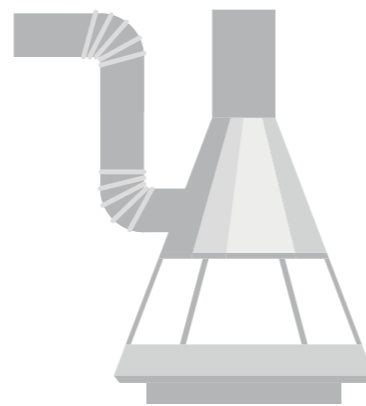
LG is a true leader of heat pump technology.

As a leading HVAC supplier, LG's heating product portfolio comprises a wide range of highly energy efficient renewable energy systems, Providing the right heating solution for any requirement and building.

What is Heat Pump System?

Modernized Technology

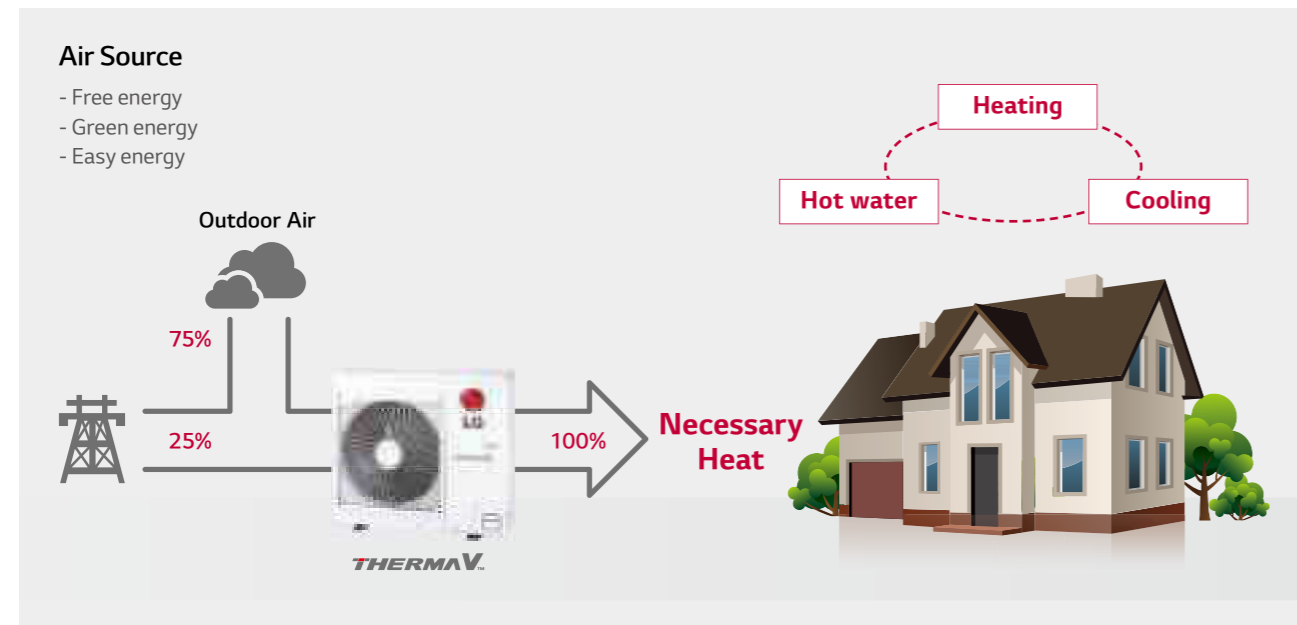
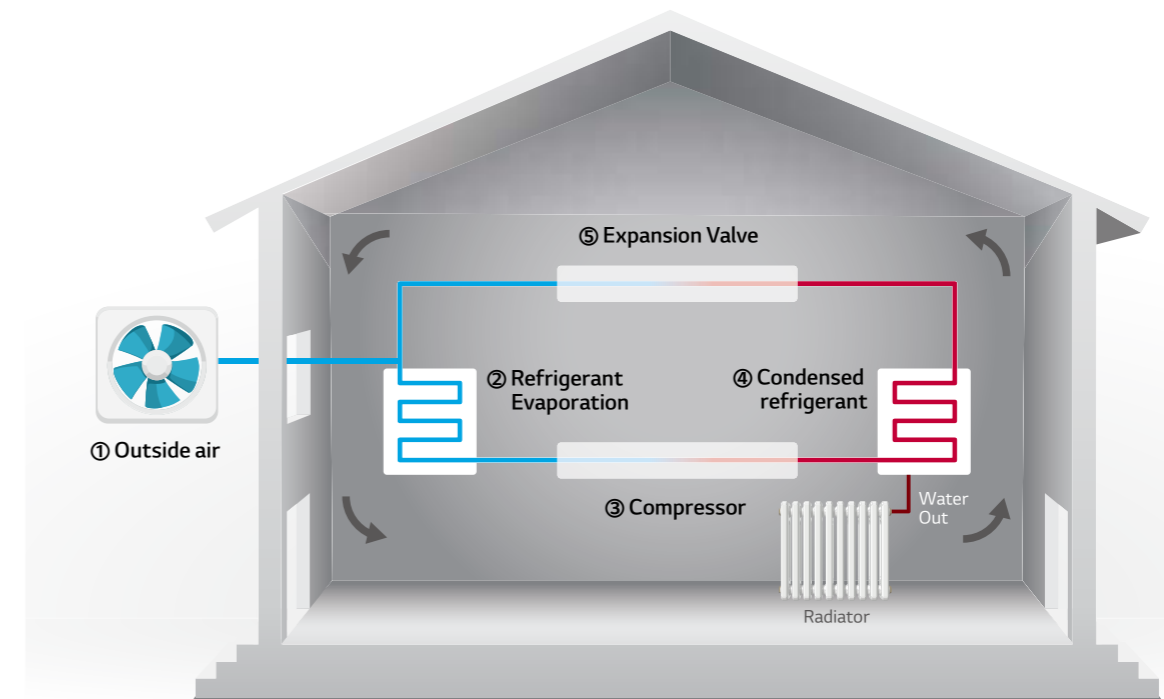
For a long time, conventional heating systems have been used gas, oil, or electric heaters. In such conventional heating systems, environmental aspects such as fossil fuel use and environmental pollution have been overlooked. In recent years, interest in these environmentally friendly devices has been increasing, and in order to meet these market demands, LG has further developed their heat pump technology to produce the most efficient, environmentally friendly products in the industry.



Renewable Technology

The heat pump is a device that transforms energy from the air, ground and water to useful heat. This transformation is done via the refrigerant cycle. In other words, it refers to a technique for pumping heat from renewable energy resources such as air or water. The energy required to produce the necessary heat compared to boilers using conventional fossil fuels such as gas and oil is one in every four quarters, and the remaining three quarters are utilized in renewable energy such as water and air.

How do Air to water Heat Pumps work?



① Outside air
Heat is extracted from the outside air.

② Refrigerant evaporation
As the outside air is pulled through the evaporator, refrigerant is circulated through the evaporator.

③ Compressor
This raises the temperature of the refrigerant and turns the liquid refrigerant to gas.

④ Condensed refrigerant
The hot gas is then passed through a condenser where the heat is passed onto water.

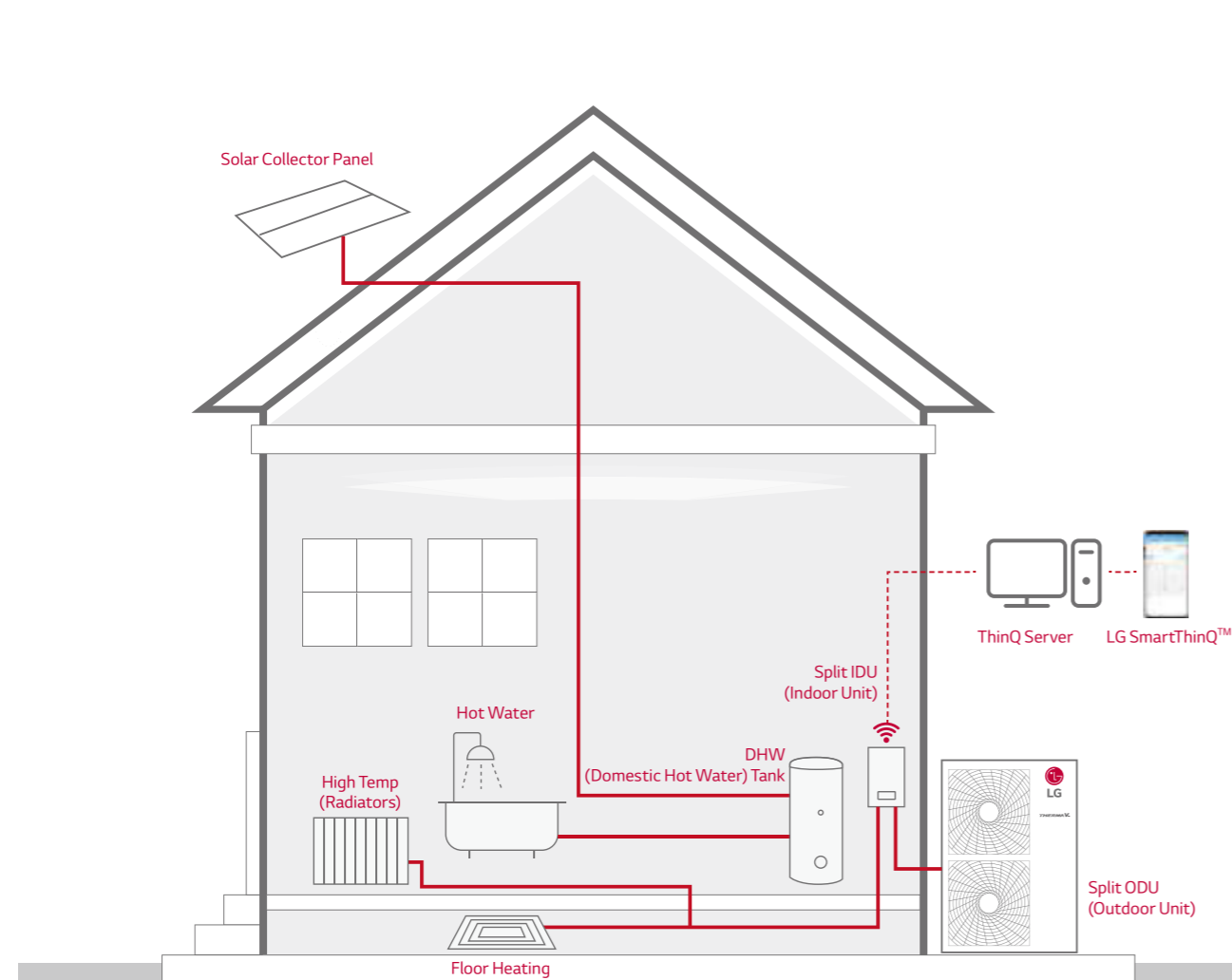
⑤ Expansion Valve
Once the heat has been removed the hot gas turns back into a liquid to start the cycle again.

LG HEATING SOLUTION

LG heating solution provide a greener and more energy performance building for your home, and office through continuous research and development of green energy technologies such as R32 refrigerant and R1 scroll compressor.

Residential Building

LG's residential heating solution can cover space heating and hot water demand of house at the same time. Compared to conventional boiler system, it is more efficient and reduces CO₂ emission as it uses renewable energy from the outside air. Furthermore, these heating solutions can be connected with smart control solutions, LG SmartThinQ™.

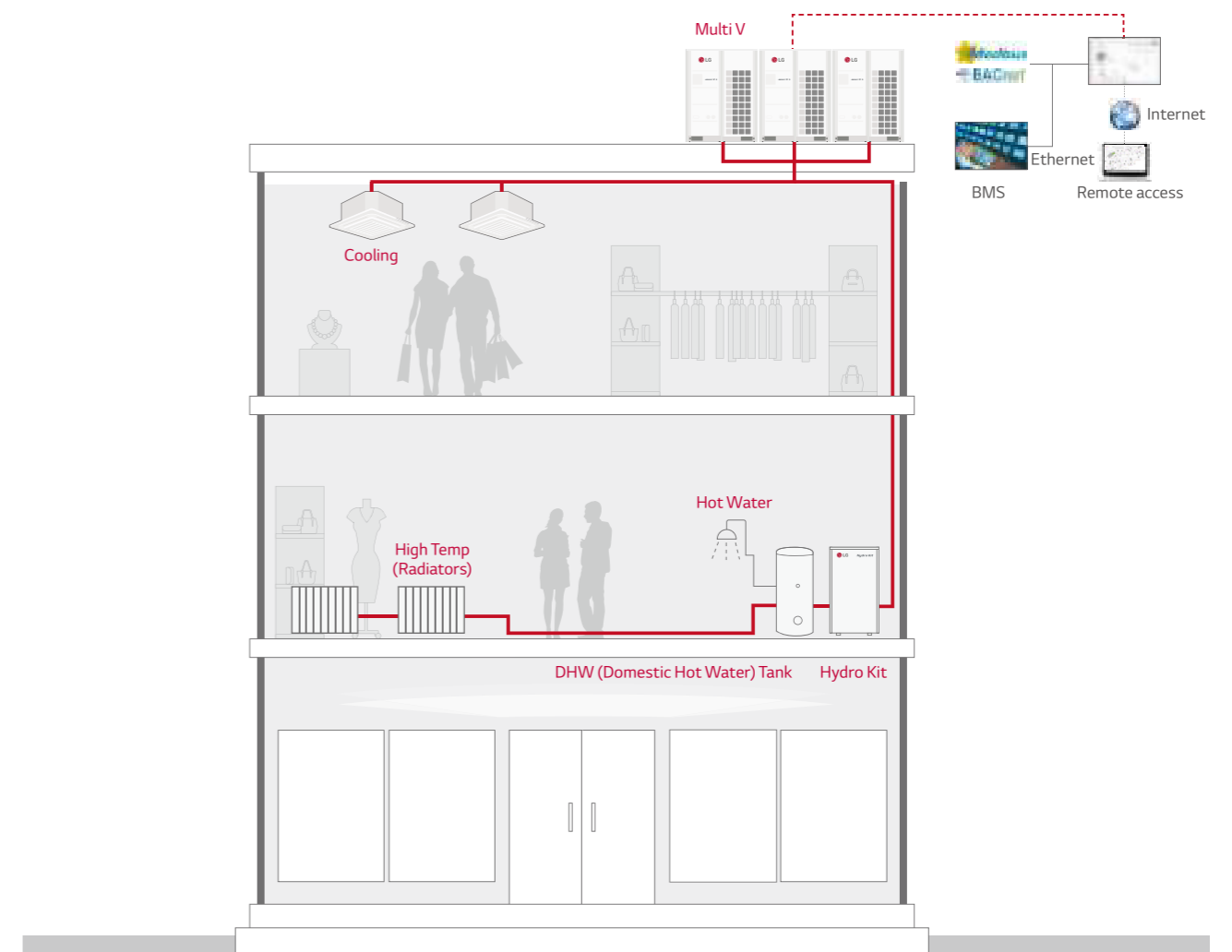


Therma V (Air to Water Heat Pump)

- Application : Residential
- Heating Capacity (kW) : 5 ~ 16

Commercial Building

LG's commercial heating solution can be provided for all kinds of commercial applications such as office, hotel, and spa. Our solution reduces energy consumption and CO₂ emission. Regardless of season, heating, hot water, and cooling can be provided at the same time by using LG's high VRF Technology and inverter scroll chiller heat pump.



Multi V (VRF) with Hydro Kit

- Application: Commercial
- Heating Capacity (kW) : 22 ~ 268

Inverter Scroll Chiller Heat Pump


- Application : Commercial & Industrial
- Heating Capacity (kW) : 70 ~ 2,460*

* Group control of 10 chiller units

HEATING CONTROL SYSTEM

Residential Building

LG's control system provides a variety of solutions that save operational costs and deliver efficient energy control. Remote Standard Controller III(RS3) with relevant accessories offers not only simple interface to make it easier to control but also diverse information and management function.



MOBILE REMOTE CONTROL

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

REMOTE CONTROLLER

- 4.3" Color Display
- Easy interface
- Multi Language

DRY CONTACT FOR THERMOSTAT

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

INTERFACE

- Annual operation schedule
- Operation history
- Easy commissioning


ENERGY MONITOR

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

Individual Control

Commercial Building

As an advanced central controllers, AC Smart 5 offers BMS integration via BACnet or Modbus protocol as well as its own smart management function and flexible interface for user's each accessing device.



INTERFACE

- 10.2" touch screen
- Intuitive interface
- Compact installation

MOBILE REMOTE CONTROL

- Web access control based on HTML5
- Optimized interface for PC, Tablet and Smartphone

INTERFACE

- Operation trend
- Power consumption check
- Error email alarm

CHILLER HEAT PUMP CONTROL

- Chiller Heat Pump control
- Operation schedule
- Cycle monitor

DEVICE INTERLOCK

- Building facility interlocking with automatic control logic

ENERGY MONITOR

- BACnet IP and Modbus TCP protocol integration

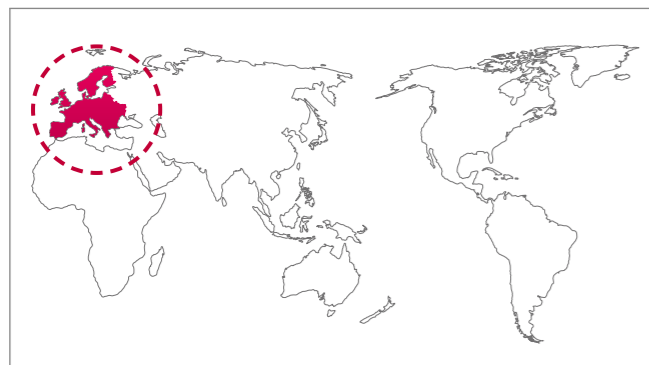
Centralized Control







LG AS A TRUSTED PARTNER

Europe business infra & global production site

All of LG's heat pump products are manufactured in Korea to ensure high quality production. The highest quality LG provides will be enough to satisfy your customers. In addition, 16 sales offices and 20 academies in Europe are committed to assuring a solid support for your business success. Our highly competitive products produced in Korea are delivered through the European distribution center, ensuring a stable supply of products.

Through our Energy Lab in Europe, LG is developing heat pump technology that is optimized for European climate and weather, along with continuous product performance verification.



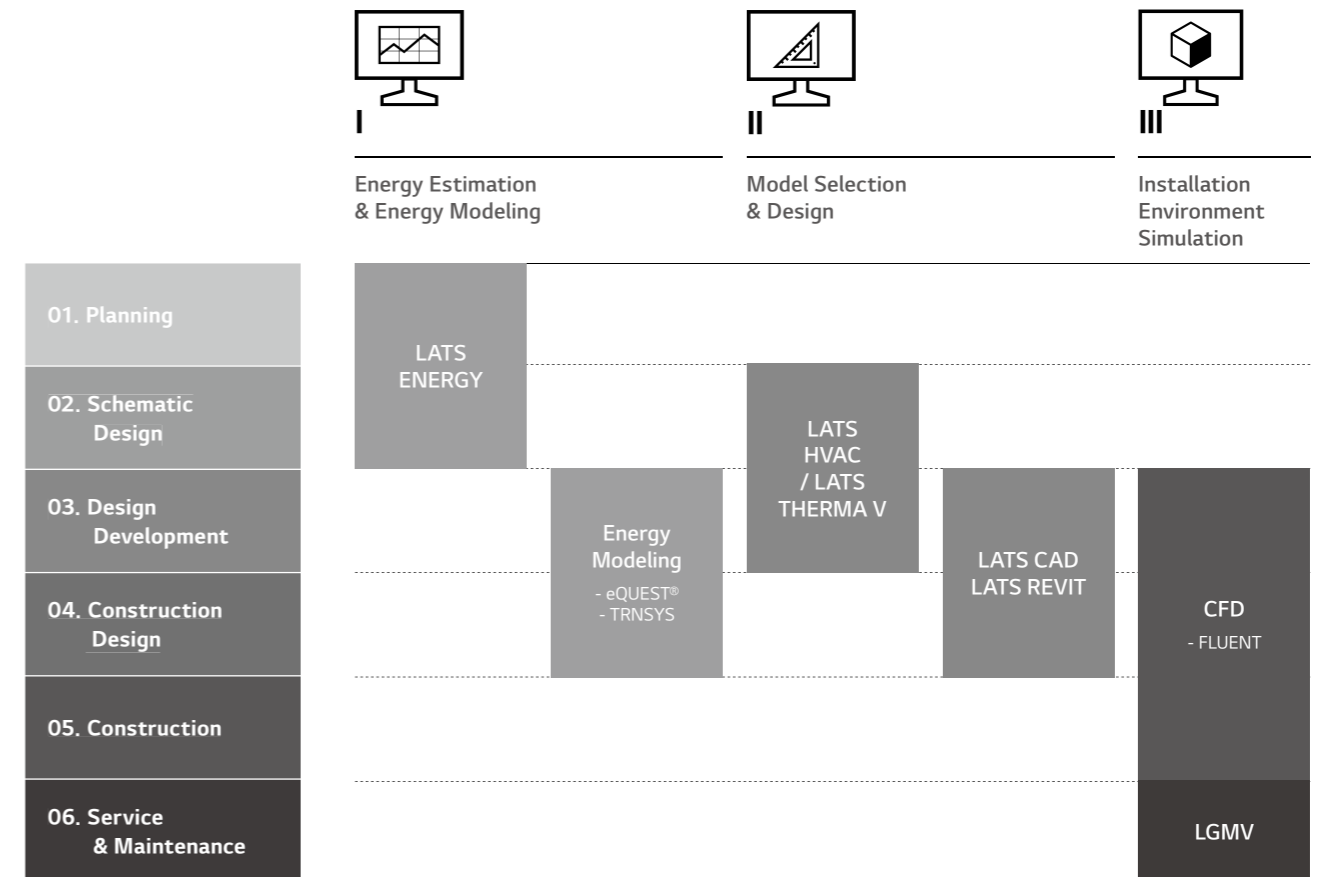
-  Europe B2B Regional Head Office
-  National Sales Office
-  LG Academy
-  European Distribution Center
-  Europe Energy Lab
-  Production Site



Professional Engineering Tools

From planning to service & maintenance, a project goes through many stages from the beginning to the end of its lifecycle. Along those stages, various engineering tools are applied to solve the diverse issues happening in each stage, with the most optimal solution possible. Given the usage of such tools, buildings are effectively designed, built, supervised, and maintained throughout their lifecycle. Dedicated to provide the best engineering support, LG Electronics offers several engineering tools. The LATS* Program series has been developed to offer the best tool for LG Heating systems, providing our customers a faster, easier, and a more accurate way in everyday duties of Model-selection, designing, and many more.

* LATS : LG Air-conditioner Technical Solution



LATS Therma V

LATS THERMA V is a model selection program of LG Therma V products, enabling an accurate and quick selection on the best model suitable to each house. In addition to model selection, faster energy simulation and cost comparison to other system is possible. Furthermore, customer is easily able to simulate payback comparing conventional system such as gas boiler, electric boiler by using LATS THERMA V.



PRODUCT OVERVIEW








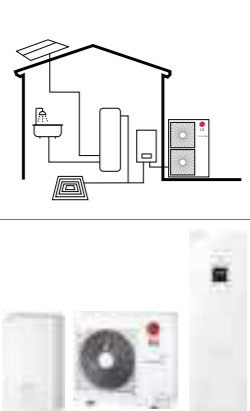
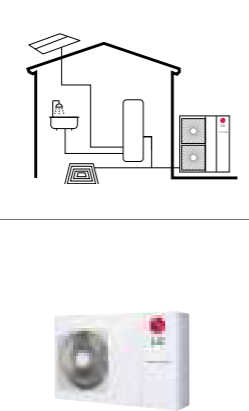
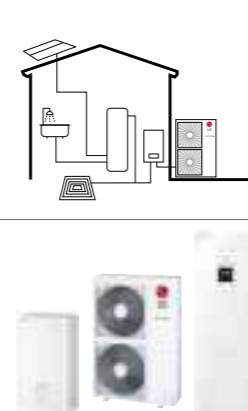
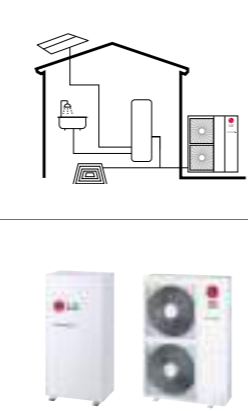
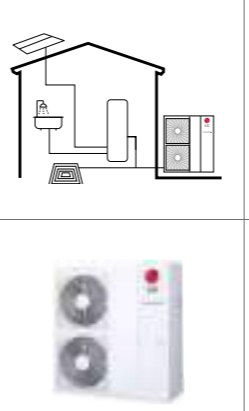
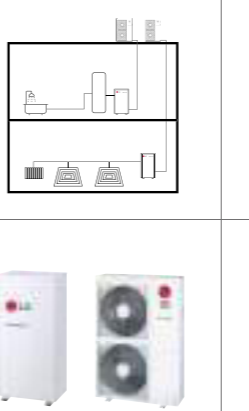
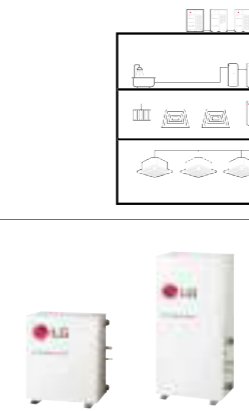
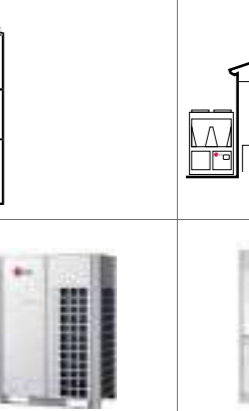
HEAT PUMP
TECHNOLOGY

LG HEATING
SOLUTION

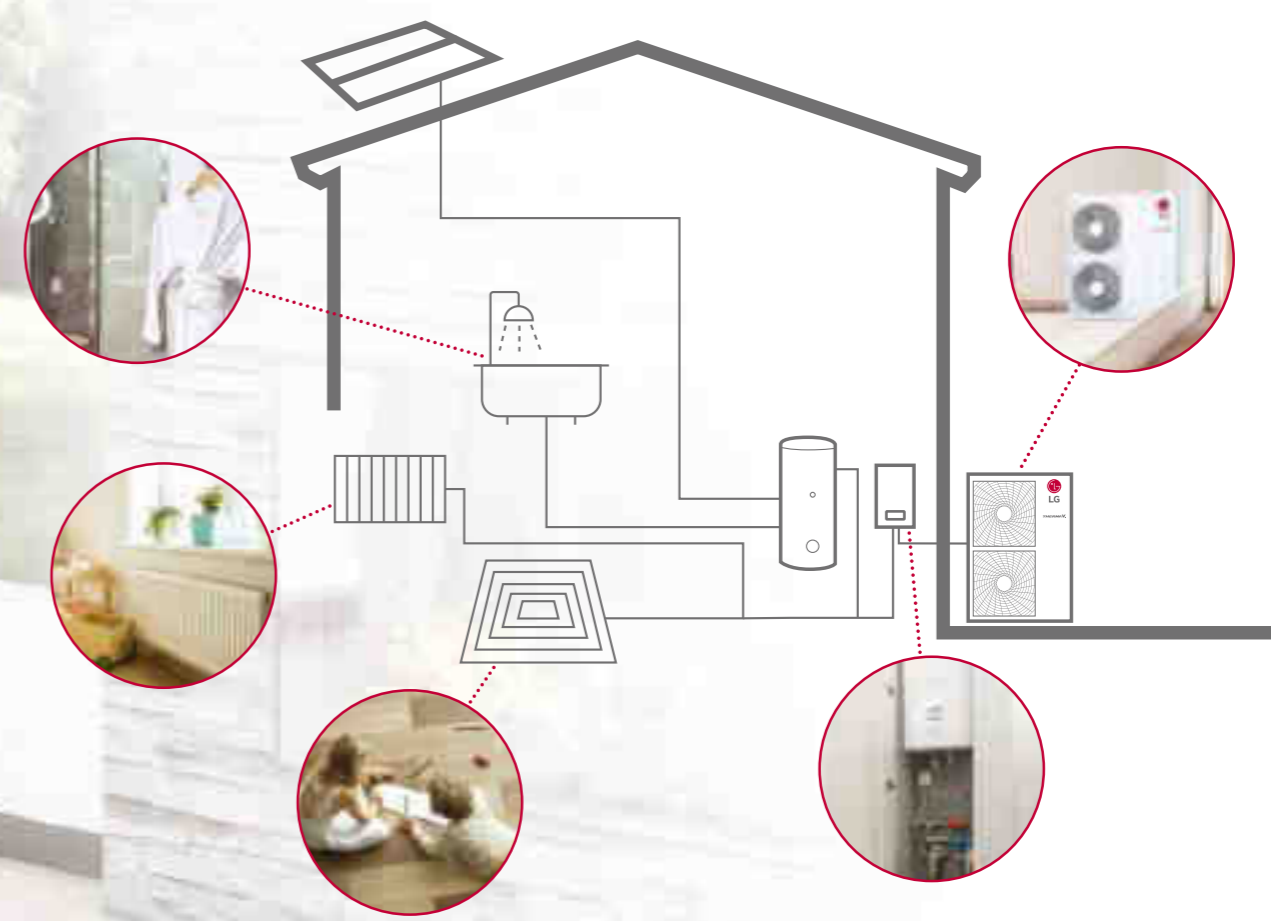
LG HEATING
CONTROL SYSTEM

LG AS A
TRUSTED PARTNER

HEATING PRODUCT
OVERVIEW

	Residential				Commercial				
Vertical Segment (Target)									
Requirement	For Designer & Installer <ul style="list-style-type: none"> - Space heating, domestic hot water, cooling, swimming pool - Easy installation - Energy metering - Ventilation (option) For Designer & Installer <ul style="list-style-type: none"> - High energy efficiency - Reliable operation - Silent operation - Simple & Easy control 	For Designer & Installer <ul style="list-style-type: none"> - Space heating, domestic hot water, cooling - Using existing facilities (radiator, boiler) - High water temperature - Easy installation 	For User <ul style="list-style-type: none"> - High energy efficiency - Silent operation - Control integration (Boiler, AWHP) 	For Designer & Installer <ul style="list-style-type: none"> - Space heating, domestic hot water, cooling - Flexible design and application - Easy installation - Energy metering For User <ul style="list-style-type: none"> - Silent operation - High energy efficiency - Reliable operation - Simple & Easy control 	For Designer & Installer <ul style="list-style-type: none"> - Space heating, domestic hot water, cooling - Flexible design and application - Energy saving with continuously operation 	For Designer & Installer <ul style="list-style-type: none"> - Large amount of domestic hot water - Space Heating, domestic hot water, cooling - Flexible design and application - Energy saving with continuously operation 	For Designer & Installer <ul style="list-style-type: none"> - Large amount of domestic hot water - Energy saving with continuously operation 		
LG Approach	Therma V (R32 Split L/T, IWT) 	Therma V (R32 Mono) 	Therma V (R410 Split L/T, IWT) 	Therma V (Split H/T) 	Therma V (R32 Mono) 	Multi V S H/R with Hydro Kit 	Multi V 5 with Hydro Kit 	Inverter Scroll Chiller Heat Pump 	
Benefit	<ul style="list-style-type: none"> - Energy saving by utilizing renewable energy and high efficient equipment - Energy monitoring on time and remote control - Economic support by incentive program 	<ul style="list-style-type: none"> - High energy efficiency - LG own wi-fi solution (SmartThinQ™) - Easy commissioning by PC tool (LG Heating Configurator) 	<ul style="list-style-type: none"> - High energy efficiency - New interface (RS3 remote controller) - All in one concept (No refrigerant piping work) 	<ul style="list-style-type: none"> - High energy efficiency - LG own wi-fi solution (SmartThinQ™) - Easy commissioning by PC tool (LG Heating Configurator) 	<ul style="list-style-type: none"> - Cascade 2 stage compression can produce max 80°C - Suitable for old radiator 	<ul style="list-style-type: none"> - High energy efficiency - New interface (RS3 remote controller) - All in one concept (No refrigerant piping work) 	<ul style="list-style-type: none"> - Saving cost through high efficiency - Night silent operation - Smartphone monitoring & control 	<ul style="list-style-type: none"> - Energy saving through MULTI V 5 heat recovery - Easy to install as it uses a compact and modular structure - High temperature concept of HYDRO KIT 	<ul style="list-style-type: none"> - High efficient inverter technology - Continuous heating operation - Low noise level
Benefit	<ul style="list-style-type: none"> - Energy saving by utilizing renewable energy and high efficient equipment - Energy monitoring on time and remote control - Economic support by incentive program 	<ul style="list-style-type: none"> - Hybrid operation with existing facilities (radiator, boiler) - Quick and easy installation - Economic support by incentive program 	<ul style="list-style-type: none"> - Operation cost saving - Simultaneous heating and cooling operation - Saving valuable floor space 	<ul style="list-style-type: none"> - Operation cost saving - Simultaneous heating and cooling operation - Applicable for various building type - Convenient installation & maintenance 	<ul style="list-style-type: none"> - Operation cost saving - Simultaneous heating and cooling operation - Convenient installation & maintenance 	<ul style="list-style-type: none"> - Operation cost saving - Simultaneous heating and cooling operation - Applicable for various part load condition - Convenient installation & maintenance 	<ul style="list-style-type: none"> - Operation cost saving - Convenient installation & maintenance 		

THERMA V™
Residential Solution



Why LG THERMA V ?

The Green Choice for Smart Customers :

THERMA V™

Expecting Ultimate Heating Energy Efficiency, Performance and User Convenience

If you think yourself as smart consumer, you might have faced with some struggles on which AHP system you should have to choose. The key when choosing would utterly be if it performs well and easily controllable while meeting the strengthened environmental regulations. And considering environmental regulations have been tightened year after year, it's anything but easy for smart consumers – especially for those who are living in Europe – to keep up with the strengthened F-Gas regulations which newly apply across the Europe region since January 1, 2015.

For those who are seeking to meet this tightened regulations, refrigerant R32 takes center stage for the new smart solution as it has much less global warming potential (GWP) than the current refrigerant, R410A. And to live up to smart consumers' needs that energy efficiency comes along with high performance, LG can give smart consumers the crystal clear solution with the THERMA V R32 Products that fulfills the high standard of regulations while bringing additional benefits through increased levels of efficiency and performance.

Note
1. A+++ label is available from 26, Sep. 2019 and should be considered as A++ label until that time.

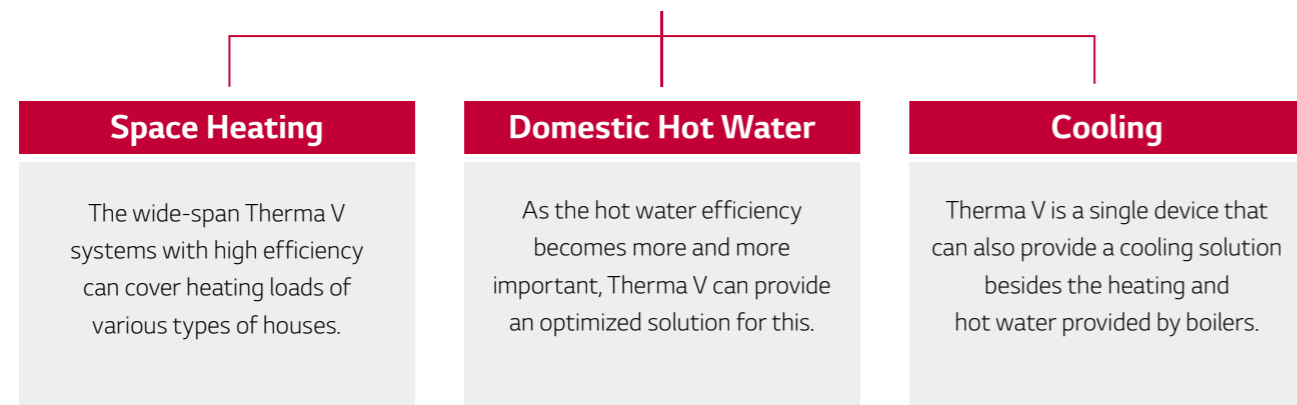


- Ultimate Energy Efficiency : A+++ in the ErP energy labelling regulation, Wide operation range, Reduced Noise Level
- Excellent performance : R1 Compressor embedded, high heating capacity at low ambient temperature
- User Convenience : LG SmartThinQ™ Wi-Fi control, Convenient Scheduler, Wider Connectivity, Energy Monitoring

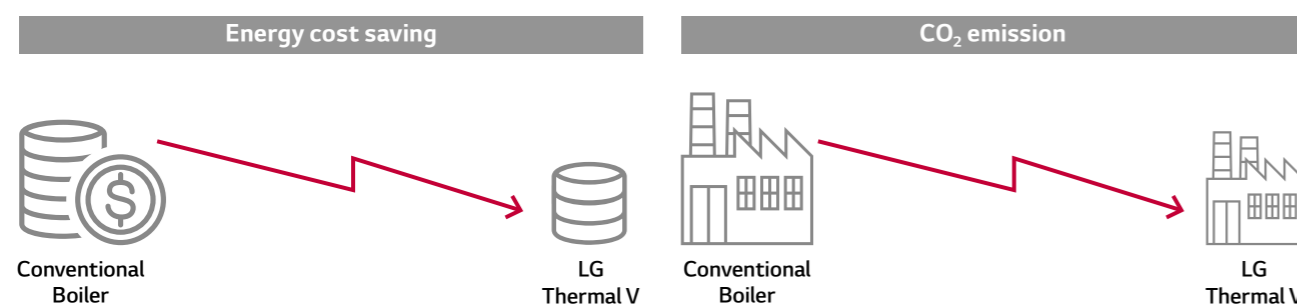
WHAT IS LG THERMA V?

LG'S ADVANCED HEATING TECHNOLOGY

THERMA V is LG's Air to Water Heat Pump system, especially designed for the modernized houses (new and renovated houses). THERMA V can be used as a multi-purpose solution for space heating, cooling and hot water. Even more remarkable thing is LG's advanced heating technology, market leading technology that can minimize energy consumption than any solution in the market.



High efficiency and low CO₂ emission



BENEFITS OF LG Therma V



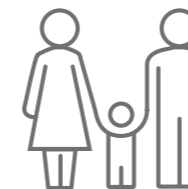
For House Owner

- Energy saving by utilizing renewable energy and high efficient equipment.
- Simultaneous operation for heating and cooling.
- Reusability existing heating installation with radiator, boiler, etc.
- Economic support by incentive program.
- Lower investment cost.
- Energy monitoring and remote control.



For Installer

- Time Saving by Fast & Easy installation.
- Simultaneous heating and cooling operation.
- Excellent heating performance at low ambient temperature.
- Less men power for carrying. (2 people)
- Low Repair Cost and less breakdowns with long lasting parts. Only 1 controller can handle all our product. (need to less training)



For End-user

- Simple to use. (especially for senior people)
- Higher comfort by user-friendly controller.
- Higher reliability by long lasting parts and less breakdowns.
- Reduce the noise level with night silent operation.
- Confidence for the green and sustainable solution. (high efficiency)
- Peace of mind. (no need to pay more)

R1 COMPRESSOR

R1 Compressor

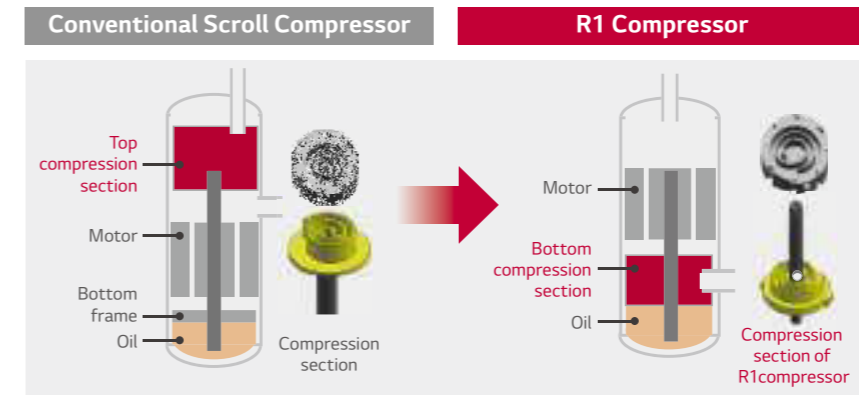


R1 Compressor™

* LG Internal test result, Based on single split 10 kW Cassette.
 ** LG Internal test result, Based on conventional compressor. (Rotary type GPT442M)

R1 Compressor

R1 Compressor is applied for high-efficiency and reliability. This compressor is more advanced compared to the conventional one. especially tilting motion of scroll has been improved. Further, the operation range is improved compared to the conventional type.

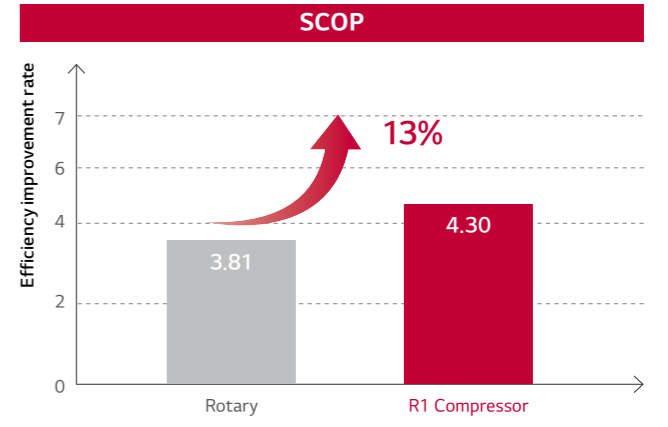
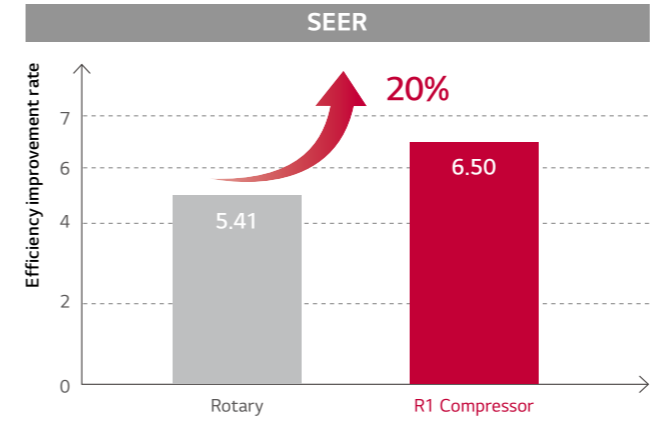


※ Applied models : R32 Monobloc (5 - 16kW), R32 split (5 - 9 kW)

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

Seasonal energy efficiency

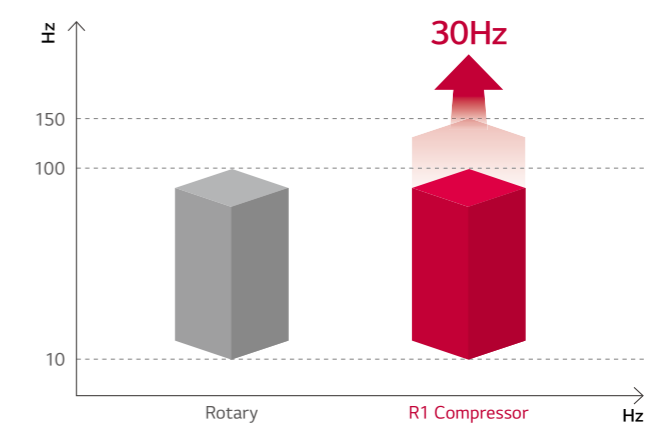
SEER 20%, SCOP 13% improvement (vs. rotary)



* LG Internal test result, Based on single split 10 kW CST







Wide Operation Range






































- Optimized for various cooling & heat load operation.
- World best compressor speed. (up to 150 Hz)
- Optimized for even low load operation. (down to 10 Hz) (Efficiency increases / Improved comfort)

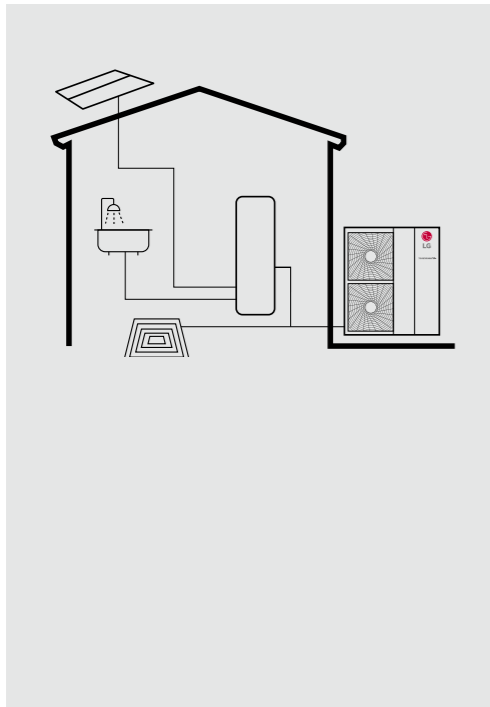
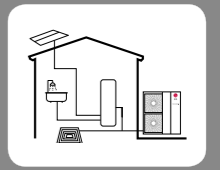


Therma V Line Up



		Refrigerant	Capacity(kW)	5	7
Monobloc Mid Temp. (65°C)		R32	1ø 220V	HM051M.U43 	HM071M.U43 
			3ø 380V		
Split Mid Temp. (65°C)	Hydro Box Type	R32	1ø 220V	NEW HN0916M.NK4 	NEW HN0916M.NK4 
				NEW HU051MR.U44 	NEW HU071MR.U44 
Split Low Temp. (57°C)	Hydro Box Type	R410A	1ø 220V		
				3ø 380V	
	DHW Tank Integrated Type		1ø 220V		
				3ø 380V	
Split High Temp. (80°C)		R410A + R134a	1ø 220V		

9	12	14	16
HM091M.U43 	HM121M.U33 	HM141M.U33 	HM161M.U33 
	HM123M.U33 	HM143M.U33 	HM163M.U33 
NEW HN0916M.NK4 			
NEW HU091MR.U44 			
	HN1616.NK3 	HN1616.NK3 	HN1616.NK3 
	HU121.U33 	HU141.U33 	HU161.U33 
	HN1639.NK3 	HN1639.NK3 	HN1639.NK3 
	HU123.U33 	HU143.U33 	HU163.U33 
HN1616T.NB0 	HN1616T.NB0 	HN1616T.NB0 	HN1616T.NB0 
HU091.U43 	HU121.U33 	HU141.U33 	HU161.U33 
	HN1616T.NB0 	HN1616T.NB0 	HN1616T.NB0 
	HU123.U33 	HU143.U33 	HU163.U33 
			NEW HN1610H.NK3 
			NEW HU161HA.U33 



Excellent Performance

- High heating performance even at Low Temperature.
- Wide Operation Range.
- Reduced Noise Level.

User Convenience

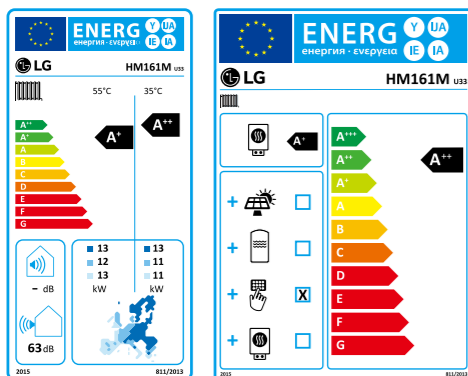
- Controller with intuitive interface.
- Various Temperature Control Options.
- LG Own Wi-Fi Solution. (SmartThinQ™)
- 2nd Heating Circuit.

Easy Installation & Maintenance

- All In One Concept. (No Refrigerant Piping Work)
- Easy Commissioning by PC Tool. (LG Heating Configurator)



Energy Labeling



* 16kW 1Ø model.

Monobloc Concept

THERMA V Monobloc is a fully packaged piece of equipment, where the indoor and outdoor unit are combined as one module. Therefore, there is no need for refrigerant piping work since Monobloc unit located outside is connected by only water piping. Further, additional water side items such as PHE, Expansion Tank, Water Pump are included in the package.

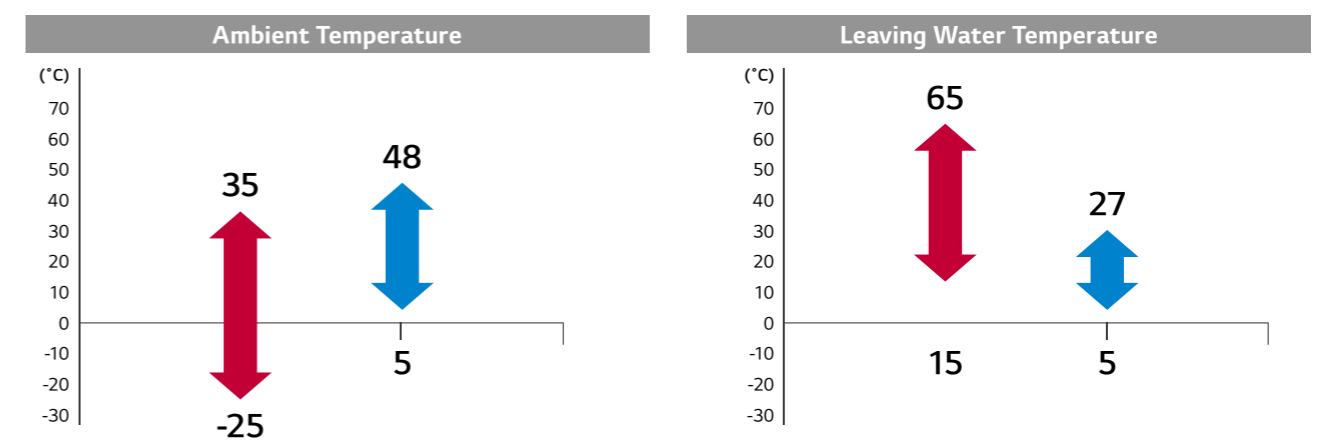


Capacity Range (Heating & Cooling)

Monobloc

Capacity Range [kW]	5	6	7	8	9	10	11	12	13	14	15	16	17
Heating Capacity	●		●		●			●		●		●	
Cooling Capacity	●		●		●			●		●		●	

Operation Range (Heating & Cooling)



EXCELLENT PERFORMANCE

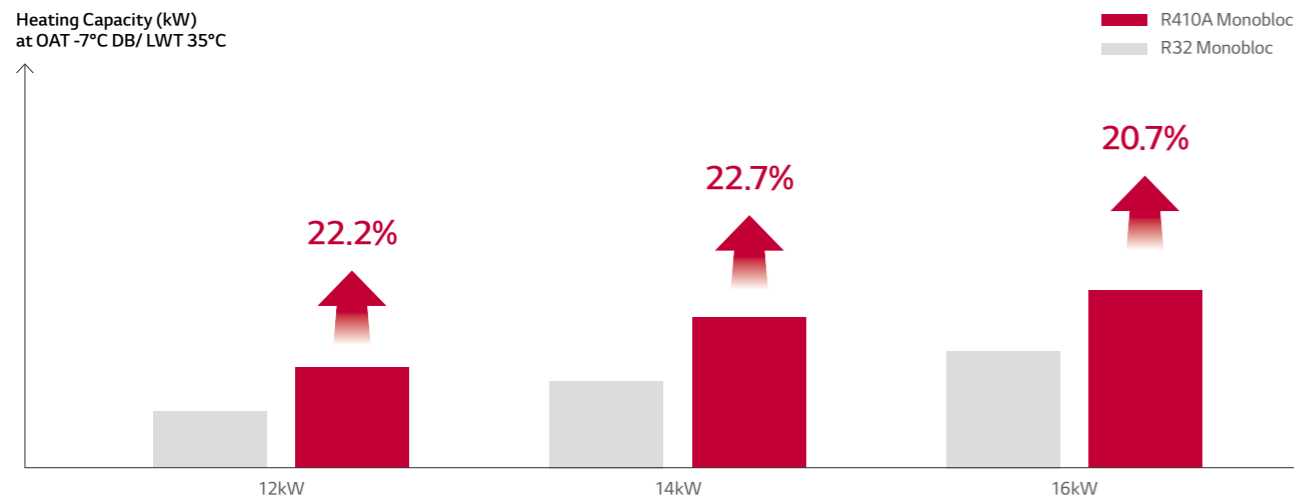
Low GWP Refrigerant R32

Comparison & Benefit

	R32	R410A
GWP Global Warming Potential	675	2088
Less amount Gas Charge		
More System Performance	R32 systems also use less refrigerant per kilowatt of capacity delivered.	
Easy refrigerant recycle	Single Component	Mixture R32 50% / R125 50%
High Capacity	High refrigerant compression rates lead to high capacity as compared to existing refrigerant R22, and R410A.	

High heating performance even at Low Temperature

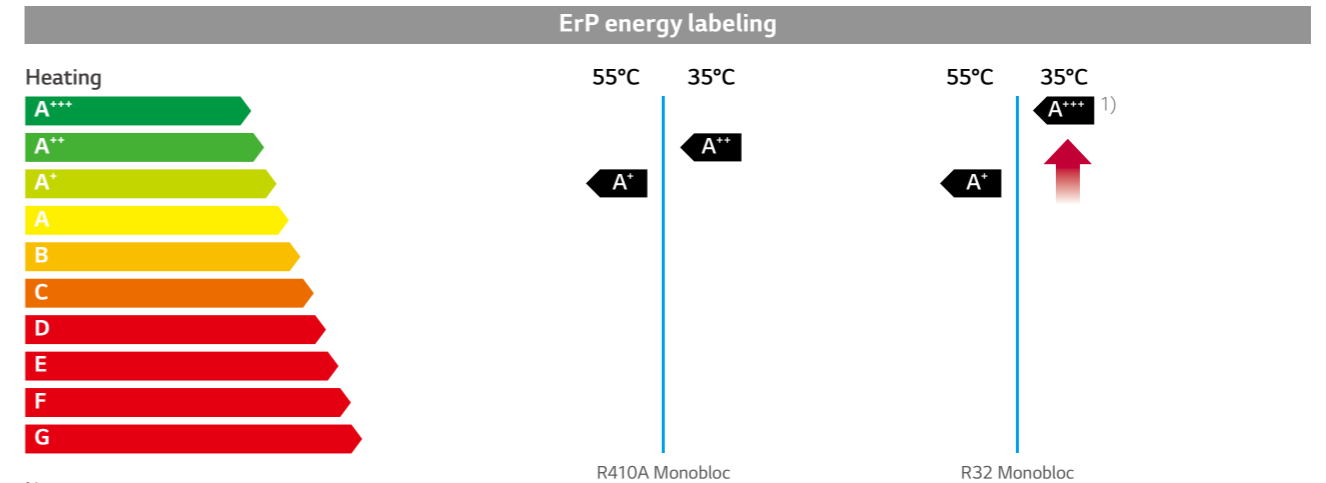
The R32 Monobloc provides excellent heating performance – especially at Low Ambient Temperature. Heating capacity of R32 Monobloc At Low Ambient Temperature is improved more than 20% compared to R410A Monobloc.



Note
1. LWT : Leaving Water Temperature, OAT : Outdoor Air Temperature

High Energy Efficiency

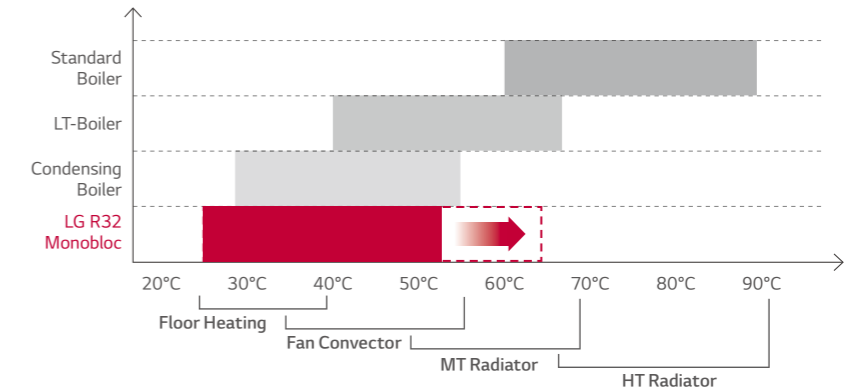
The Energy label Directive is a key factor of selecting heating device in Europe heating market. The R32 Monobloc type has an energy label rating A+++ in ErP energy labeling regulation.



Note
1. A+++ label is available from 26, Sep. 2019 and should be considered as A++ label until that time.

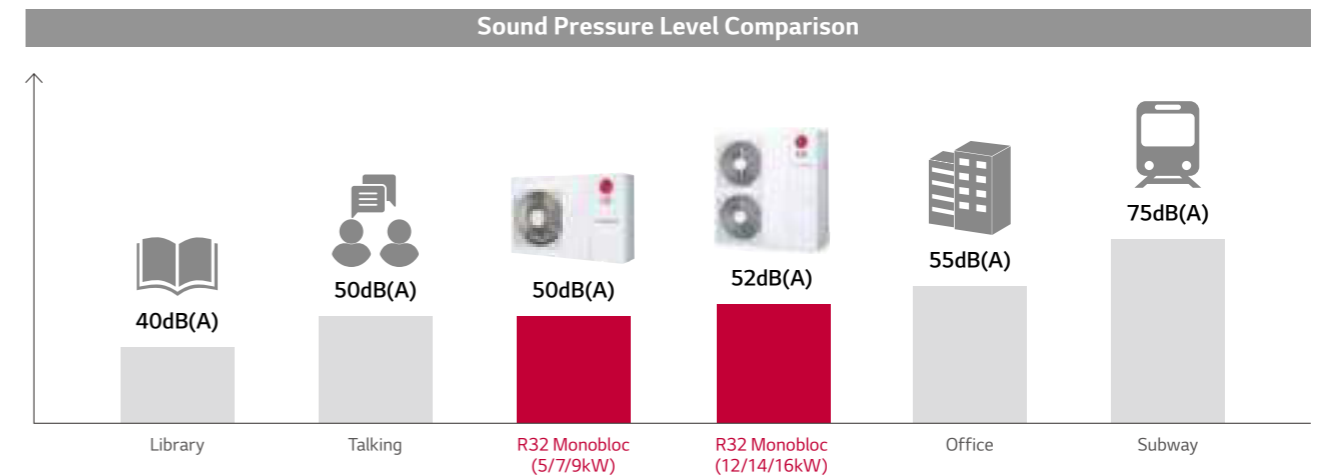
Wide Operation Range

Due to the Leaving Water Temperature (LWT) up to 65°C, Mid Temperature Radiator range can be fully covered. As a result, R32 Monobloc has high competitiveness for replacement case as well as new case.



Reduced Noise Level

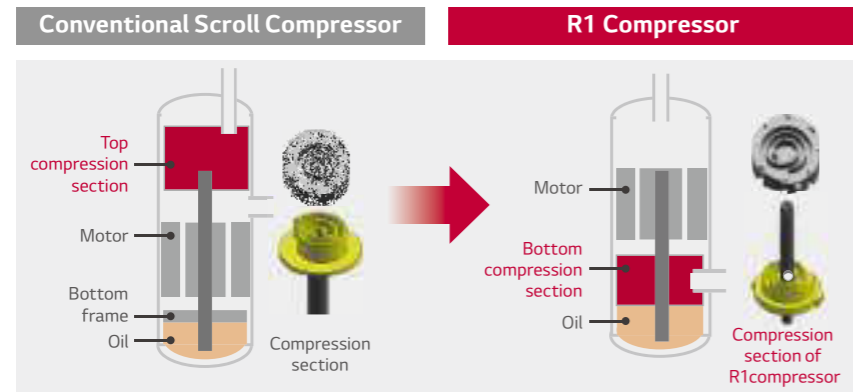
The R32 Monobloc reduces noise level compared to previous models.



EXCELLENT PERFORMANCE

R1 Compressor

R1 Compressor is applied for high-efficiency and reliability. This compressor is more advanced compressor compared to the conventional scroll compressor, especially tilting motion of scroll has been improved. Further, compressor operation range is improved compared to previous model.

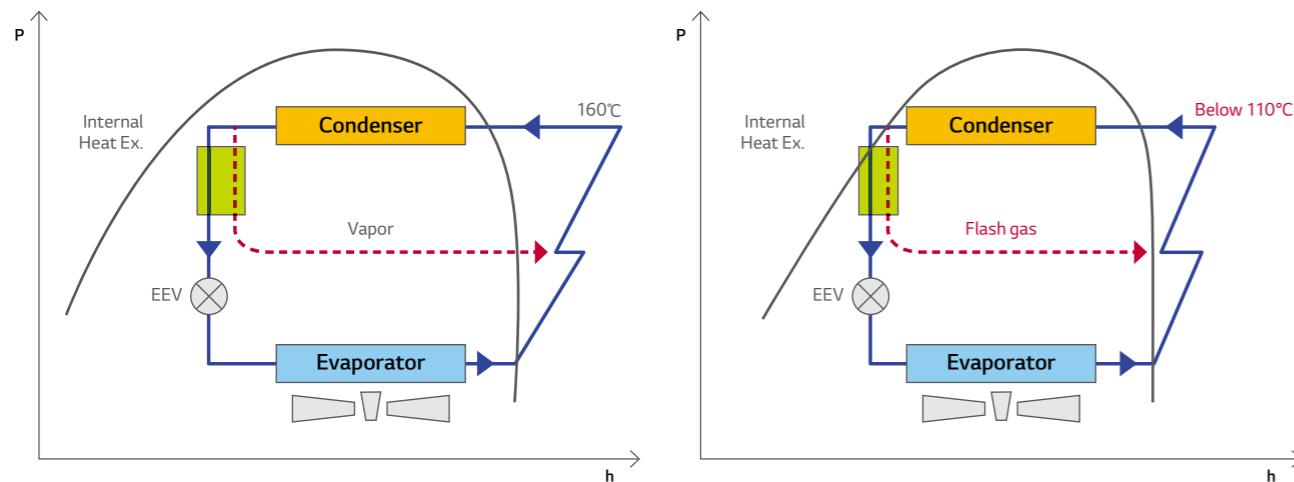


- Scroll compressor with simple structure.
- High efficiency. (low load at low speed / total efficiency)
- Low noise. (high speed possible)
- Improved Tilting Motion of scroll.
- 20% weight reduction. (vs. conventional compressor)

Flash Gas Injection

In case of R32 Refrigerant, it is very important to control discharge temperature of compressor properly. In the R32 Monobloc, Flash Gas Injection technology is applied to control discharge temperature of compressor efficiently. As a result of this technology, heating operation range is expanded and heating performance at low ambient temperature is enhanced.

- | Vapor Injection | Flash Gas Injection |
|---|---|
| • Discharge temperature of compressor is very high (160°C). | • Discharge temperature of compressor is below (110°C). |
| • Failure of injection cycle and compressor operation under protection logic. | • Good operation of injection cycle. |



USER CONVENIENCE

Controller with intuitive interface

The R32 Monobloc system is equipped with new remote controller.

Premium Design

- New modern design 4.3 inch color LCD display.
- Capacitive touch button. (Especially on/off button turn on LED)

More Energy Contents

- Auto controlled by weather and time.

User Friendly Interface

- Information displayed with simple graphic, icon & text.
- Navigation button, easy to use.

Convenient Functions

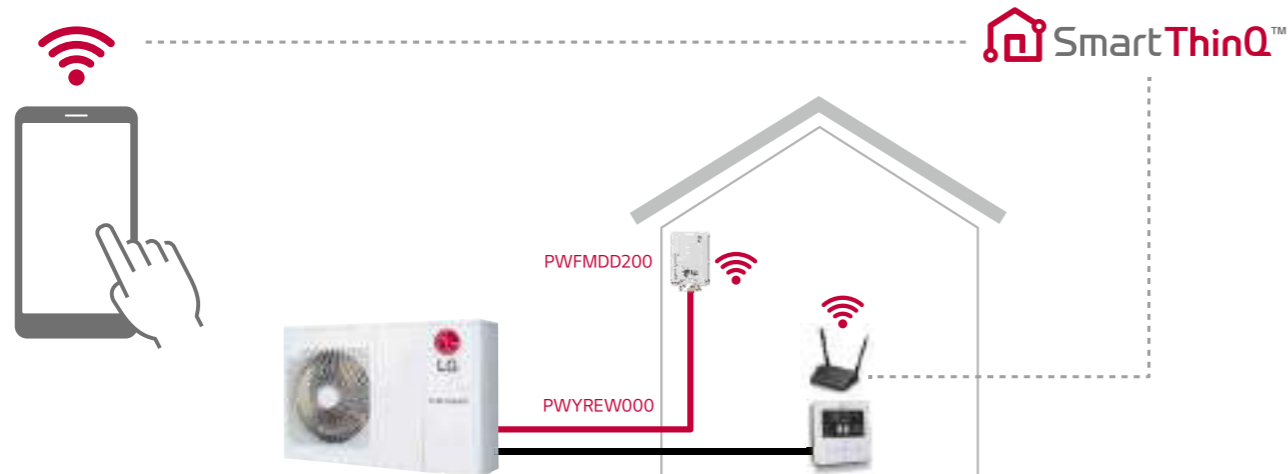
- Optimize schedule setting logic.
 - Set the period, date, on/off time, operation mode, target temp. Easy installation setting. (as -is : numeric code, to-be : word)



THERMA V™ R32 MONOBLOC USER CONVENIENCE

LG own Wi-Fi Solution

Access your THERMA V anytime from anywhere.



※ Search "LG SmartThinQ™" on Google market or Appstore then download the app.

Simple operation for various functions

- On/off
- Operation mode selection
- Current temperature
- Set temperature
- On/off reservation
- Energy monitoring



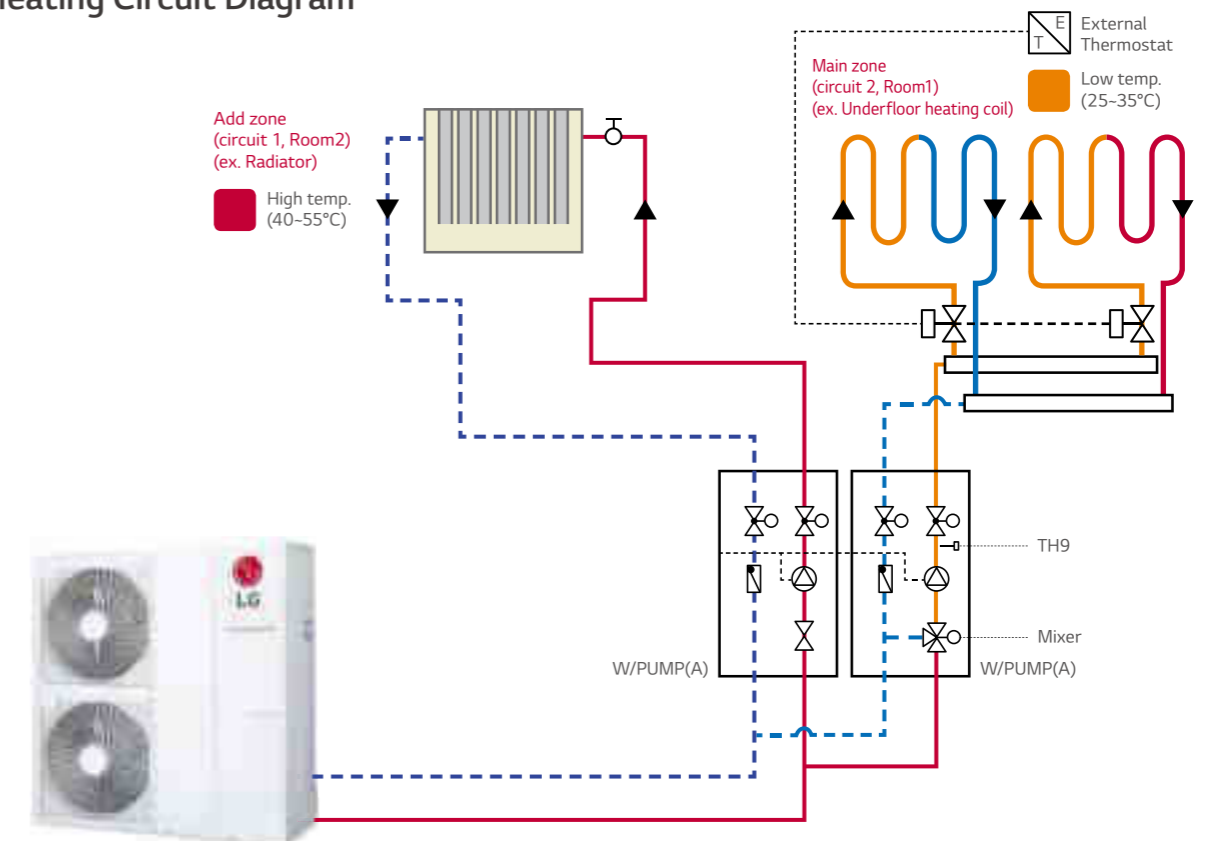
Mandatory Accessory :
PWFMD200 (LG Wi-Fi Modem) and
PWYREW000 (10m extension connect cable
in between THERMA V Indoor and Wi-Fi module)

2nd Heating Circuit

2 zones (Add / Main zone) temperature control through separate heating circuits is possible with mixing valve kit.

2 Zones Temperature Control

2nd Heating Circuit Diagram



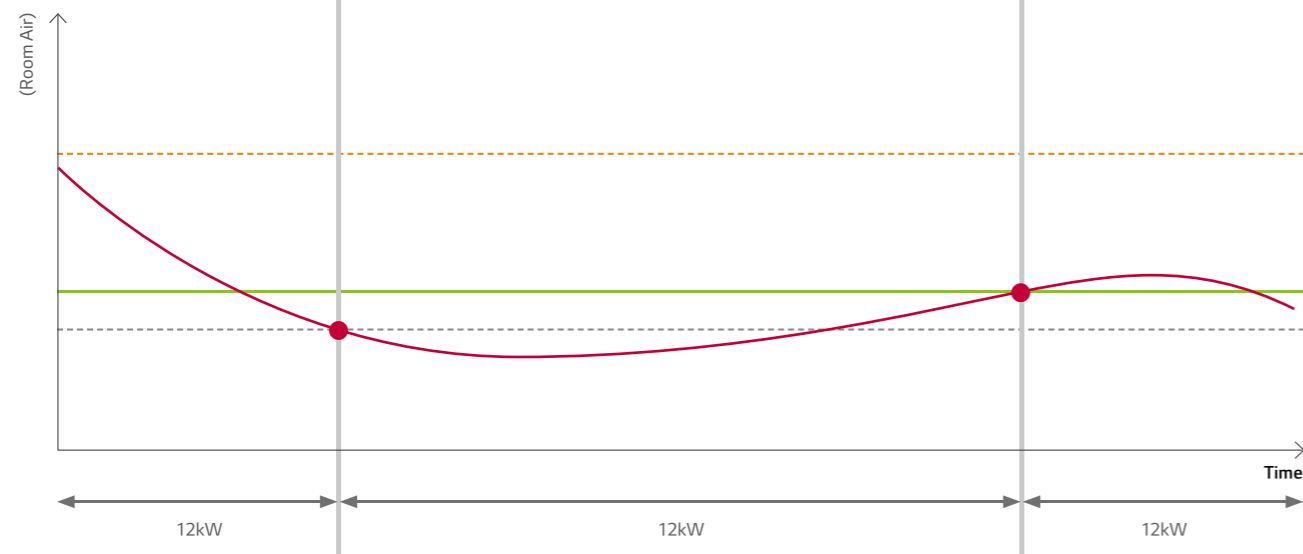
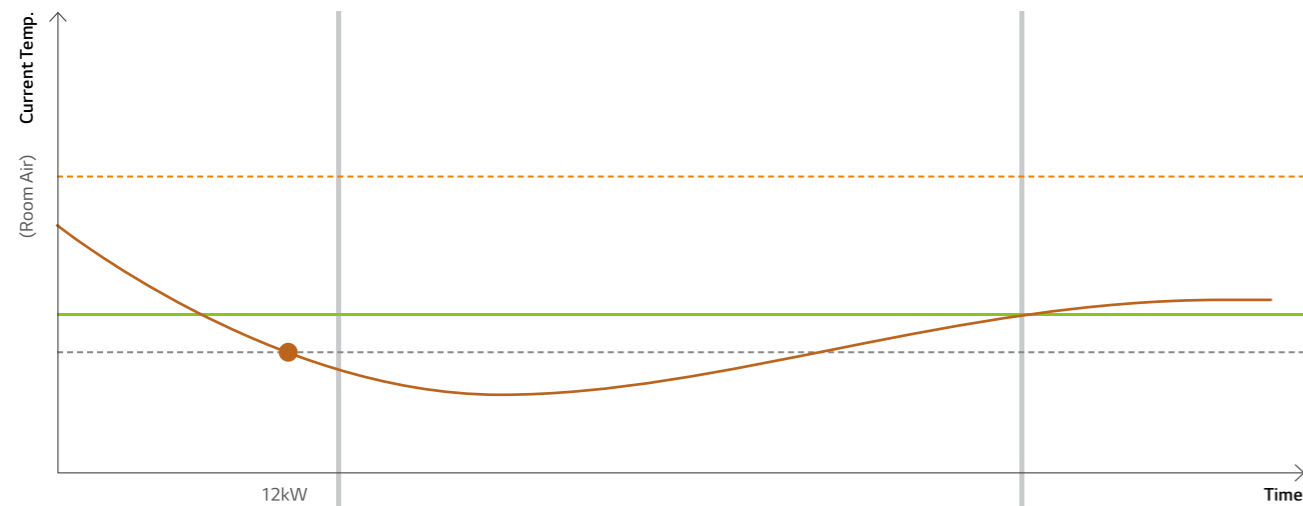
Various Temperature Control Options

Various temperature control options are possible for the user's comfort and convenience. Especially for European life style where thermal comfort is preferred, simultaneous control of room air and water temp. Function is added.

- Control of Leaving Water Temperature.
- Control of Entering Water Temperature.
- Control of Room Air Temperature.
- Simultaneous Control of Room Air and Water Temp.

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

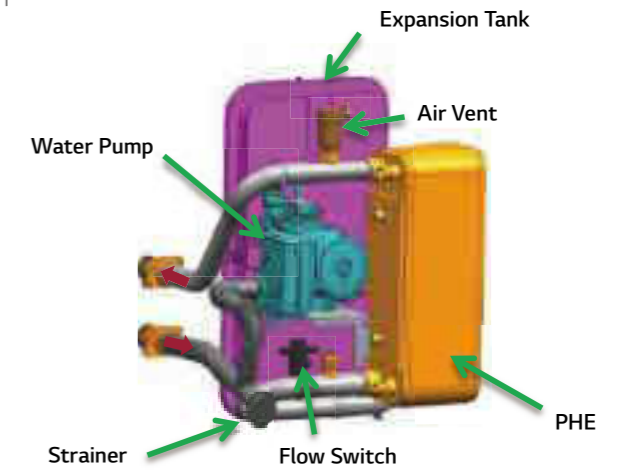
----- Thermo On Temp.
 ----- Thermo Off Temp.
 _____ Target Temp.
 _____ Cut Off Temp.



All in One Concept

The R32 Monobloc system is equipped with new remote controller.

- LG provides fully packaged THERMA V Monobloc that additional water side components are included in the package.
- No need to work refrigerant piping, easier and quicker installation.



Easy Commissioning

Pre-Installation Setting

- Based on installation site information, installers can prepare presetting with LG Heating Configurator and save data into memory card from office.
- At the site, then installers can simply insert memory card at the back of remote controller to activate configuration data.



MONOBLOC

HM051M.U43
HM071M.U43
HM091M.U43



Features

- High Energy Efficiency (SCOP4.45 / A+++¹⁾)
- Excellent Performance at Low Ambient Temperature (100% @ -7°C)
- Wide Operation Range (Ambient : -25 ~ 35°C / Water Side : 15 ~ 65°C)
- R32 Refrigerant with High Performance
- R1 Scroll Compressor
- Ocean Black Fin
- SmartThinQ™
- KEYMARK / MCS / EHPA²⁾ Certification

Model Line Up

Category	Unit	Model Name		
		Capacity (kW)		
		5.5	7.0	9.0
1 Phase Model 1Ø, 220-240V, 50Hz	Monobloc Unit	HM051M.U43	HM071M.U43	HM091M.U43

Note
1. A+++ label is available from 26, Sep. 2019 and should be considered as A++ label until that time.
2. EHPA for Austria.

Seasonal Energy

Description		Unit	HM051M.U43	HM071M.U43	HM091M.U43	
Space Heating (According to EN14825)	Average Climate water outlet 35°C	SCOP	4.45	4.45	4.45	
		Rated heat output (Prated)	kW	6	6	6
		Seasonal space heating efficiency (ηs)	%	175	175	175
		Seasonal space heating eff. Class		A+++	A+++	A+++
		Annual energy consumption	kWh	2,551	2,551	2,551
	Average Climate water outlet 55°C	SCOP		3.12	3.12	3.12
		Rated heat output (Prated)	kW	6	6	6
		Seasonal space heating efficiency (ηs)	%	122	122	122
		Seasonal space heating eff. Class		A+	A+	A+
		Annual energy consumption	kWh	3,638	3,638	3,638

Note
1. A+++ label is available from 26, Sep. 2019 and should be considered as A++ label until that time.

Product Specification

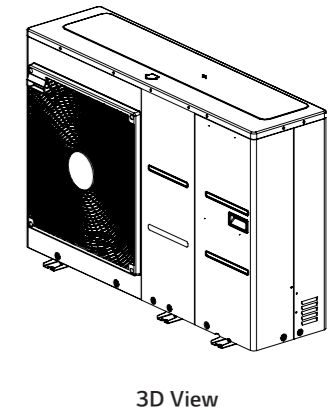
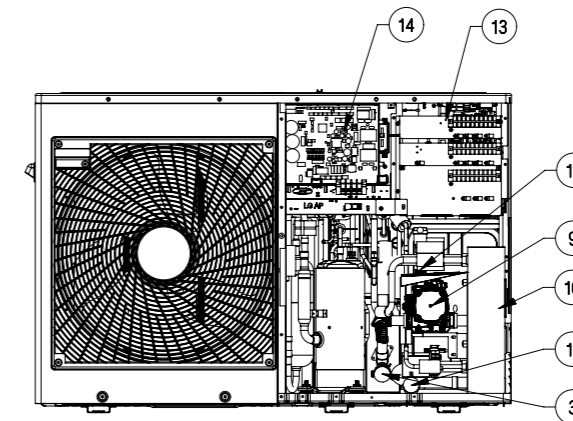
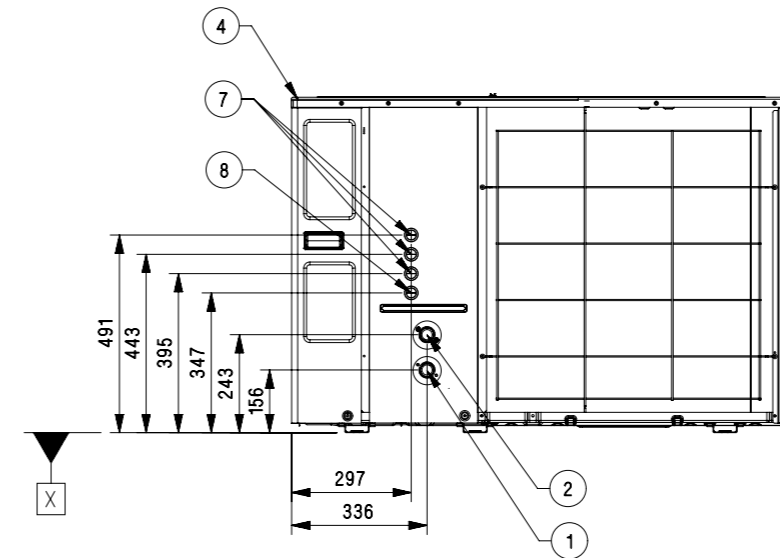
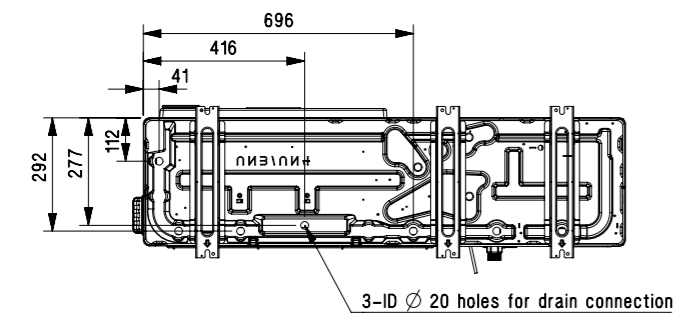
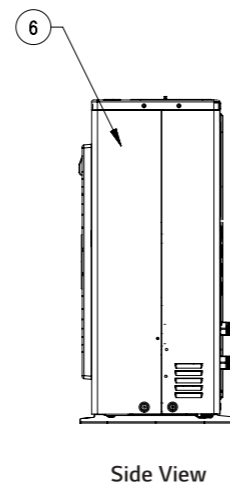
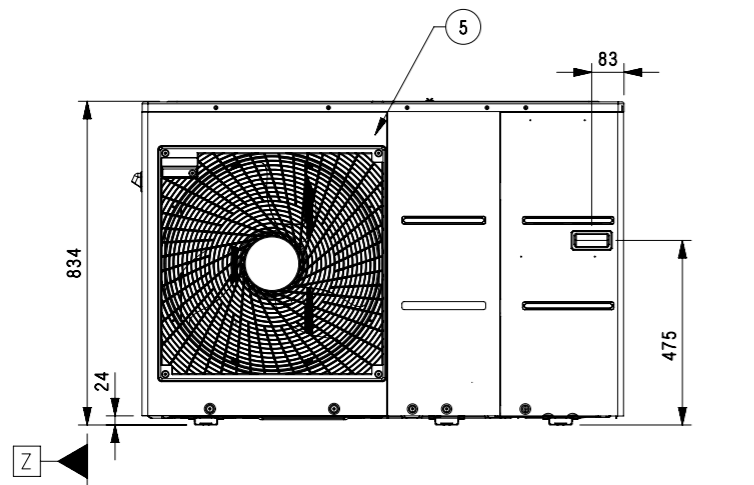
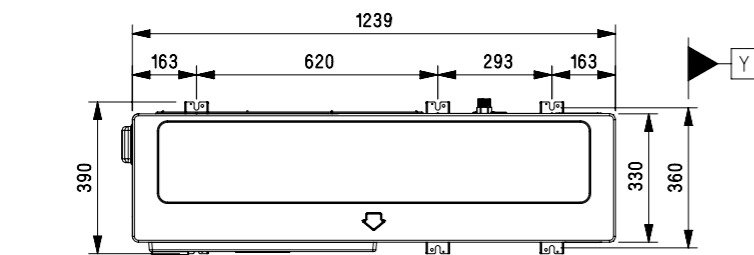
Description				Unit	HM051M.U43	HM071M.U43	HM091M.U43
Nominal Capacity	Heating	OAT	LWT				
		7°C	35°C	kW	5.50	7.00	9.00
		7°C	55°C	kW	5.50	5.50	5.50
	Cooling	2°C	35°C	kW	3.30	4.20	5.40
		35°C	18°C	kW	5.50	7.00	9.00
		35°C	7°C	kW	5.50	7.00	9.00
Nominal Power Input	Heating	7°C	35°C	kW	1.22	1.56	2.15
		7°C	55°C	kW	2.04	2.04	2.04
		2°C	35°C	kW	0.94	1.20	1.54
	Cooling	35°C	18°C	kW	1.20	1.56	2.14
		35°C	7°C	kW	1.96	2.59	3.46
		35°C	7°C	kW	1.96	2.59	3.46
COP	Heating	7°C	35°C	W/W	4.50	4.50	4.18
		7°C	55°C	W/W	2.70	2.70	2.70
	Cooling	2°C	35°C	W/W	3.52	3.52	3.50
		35°C	18°C	W/W	4.60	4.50	4.20
EER	Cooling	35°C	7°C	W/W	2.80	2.70	2.60
		35°C	7°C	W/W	2.80	2.70	2.60
Operation range	Heating	Water Side (LWT)		°C		15 - 65	
		Ambient (OAT)		°C		-25 - 35	
	Cooling	Water Side (LWT)		°C		5 - 27	
		Ambient (OAT)		°C		5 - 48	
	Domestic Hot Water	Water Side (LWT)		°C		15 - 80 ⁷⁾	
		Water Side (LWT)		°C		15 - 80 ⁷⁾	
Refrigerant	Type					R32	
	GWP (Global Warming Potential)					675	
	Charge			kg	1.4		
Compressor	Quantity			EA	1		
	Type					Scroll	
Water Flow Rate	Min. (Recommended)			LPM	15		
Piping Connections	Water Circuit	Inlet		mm(inch)		Male PT 25(1)	
		Outlet		mm(inch)		Male PT 25(1)	
Dimensions	Unit	W x H x D		mm	1,239 × 834 × 330		
Net Weight	Unit			kg	91		
Sound Pressure Level (at 1m)	Heating	Rated		dB(A)	50		
Sound power level	Heating	Rated		dB(A)	60		
Power supply	Phase / Frequency / Voltage			Φ / Hz / V		1 / 50 / 220-240	
	Maximum Running Current			A		23	

Note
1. Due to our policy of innovation some specifications may be changed without notification.
2. Wiring cable size must comply with the applicable local and national codes. And "Electric characteristics" chapter should be considered for electrical work and design. Especially the power cable and circuit breaker should be selected in accordance with that.
3. Sound pressure level is measured on the rated condition in the anechoic rooms by ISO 3745 standard. Sound power level is measured on the rated condition in the reverberation rooms by ISO 3741 standard. Therefore, these values can be increased owing to ambient conditions during operation.
4. Performances are accordance with EN14511.
5. This product contains Fluorinated greenhouse gases.
6. LWT : Leaving Water Temperature, OAT : Outdoor Air Temperature.
7. DHW Heat pump operation : max. 55 °C
DHW operation with electric heater : max. 80 °C

DRAWINGS

Category	Unit	Model Name		
		5.5	7.0	9.0
1 Phase Model 1Ø, 220-240V, 50Hz	Monobloc Unit	HM051M.U43	HM071M.U43	HM091M.U43

[Unit : mm]



No.	Part Name	Description
1	Entering water pipe	Male PT 1 inch
2	Leaving water pipe	Male PT 1 inch
3	Strainer	Filtering and stacking particles inside circulating water
4	Top cover	-
5	Front Panel	-
6	Side Panel	-
7	Low Voltage	Accessory Kit cables
8	UNIT Power	Outdoor entry power cable
9	Water Pump	-
10	Plate Heat Exchanger	Heat exchange between refrigerant and water
11	Pressure Gauge	Indicates circulating water pressure
12	Safety valve	Open at water pressure 3 bar
13	Indoor Control Box	Indoor PCB and terminal blocks
14	Outdoor Control Box	Outdoor PCB and terminal blocks

MONOBLOC

HM121M.U33
HM141M.U33
HM161M.U33
HM123M.U33
HM143M.U33
HM163M.U33



Features

- High Energy Efficiency (SCOP 4.45 / A+++¹⁾)
- Excellent Performance at Low Ambient Temperature (100% @ -7°C)
- Wide Operation Range (Ambient : -25 ~ 35°C / Water Side : 15 ~ 65°C)
- R32 Refrigerant with High Performance
- R1 Scroll Compressor
- Ocean Black Fin
- SmartThinQ™
- KEYMARK / MCS / EHPA²⁾ Certification

Model Line Up

Category	Unit	Model Name		
		Capacity (kW)		
		12.0	14.0	16.0
1 Phase Model 1Ø, 220-240V, 50Hz	Monobloc Unit	HM121M.U33	HM141M.U33	HM161M.U33
		HM123M.U33	HM143M.U33	HM163M.U33

Note
1. A+++ label is available from 26, Sep. 2019 and should be considered as A++ label until that time.
2. EHPA for Austria.

Seasonal Energy

Description		Unit	HM121M.U33 HM123M.U33	HM141M.U33 HM143M.U33	HM161M.U33 HM163M.U33	
Space Heating (According to EN14825)	Average Climate water outlet 35°C	SCOP	4.45	4.45	4.45	
		Rated heat output (Prated)	kW	10	11	11
		Seasonal space heating efficiency (ηs)	%	175	175	175
		Seasonal space heating eff. Class		A+++	A+++	A+++
		Annual energy consumption	kWh	4,642	4,875	5,103
		SCOP		3.18	3.18	3.18
	Average Climate water outlet 55°C	Rated heat output (Prated)	kW	12	12	12
		Seasonal space heating efficiency (ηs)	%	124	124	124
		Seasonal space heating eff. Class		A+	A+	A+
		Annual energy consumption	kWh	7,795	7,795	7,795

Note
1. A+++ label is available from 26, Sep. 2019 and should be considered as A++ label until that time.

Product Specification (1Phase)

Description				Unit	HM121M.U33	HM141M.U33	HM161M.U33
Nominal Capacity	Heating	7°C	35°C	kW	12.00	14.00	16.00
		7°C	55°C	kW	12.00	12.00	12.00
	Cooling	2°C	35°C	kW	11.00	12.00	13.80
		35°C	18°C	kW	14.00	14.00	16.00
Nominal Power Input	Heating	7°C	35°C	kW	2.61	3.11	4.00
		7°C	55°C	kW	4.29	4.29	4.29
	Cooling	2°C	35°C	kW	3.13	3.42	3.94
		35°C	18°C	kW	3.04	3.26	4.00
COP	Heating	35°C	7°C	kW	5.19	5.38	6.40
		7°C	35°C	W/W	4.60	4.50	4.00
	Cooling	7°C	55°C	W/W	2.80	2.80	2.80
		2°C	35°C	W/W	3.52	3.51	3.50
EER	Cooling	35°C	18°C	W/W	4.60	4.30	4.00
		35°C	7°C	W/W	2.70	2.60	2.50
Operation range	Heating	Water Side (LTW)	°C		15 - 65		
		Ambient (OAT)	°C		-25 - 35		
	Cooling	Water Side (LTW)	°C		5 - 27		
		Ambient (OAT)	°C		5 - 48		
	Domestic Hot Water	Water Side (LTW)	°C		15 - 80 ⁷⁾		
Refrigerant	Type				R32		
	GWP (Global Warming Potential)				675		
	Charge			kg	2.4		
Compressor	Quantity			tCO2eq	1.62		
	Type			EA	1		
Water Flow Rate	Min. (Recommended)			LPM	20		
Piping Connections	Water Circuit	Inlet		mm(inch)		Male PT 25(1)	
		Outlet		mm(inch)		Male PT 25(1)	
Dimensions	Unit	W x H x D		mm	1,239 x 1,380 x 330		
Net Weight	Unit			kg	125		
Sound Pressure Level (at 1m)	Heating	Rated		dB(A)	52		
	Heating	Rated		dB(A)	63		
Power supply	Phase / Frequency / Voltage			Φ / Hz / V	1 / 50 / 220-240		
	Maximum Running Current			A	35		

Note
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3. Sound pressure level is measured on the rated condition in the anechoic rooms by ISO 3745 standard. Sound power level is measured on the rated condition in the reverberation rooms by ISO 3741 standard. Therefore, these values can be increased owing to ambient conditions during operation.
4. Performances are accordance with EN14511.
5. This product contains Fluorinated greenhouse gases.
6. LWT : Leaving Water Temperature, OAT : Outdoor Air Temperature.
7. DHW Heat pump operation : max. 55 °C
DHW operation with electric heater : max. 80 °C

Product Specification (3Phase)

Description		OAT	LWT	Unit	HM123M.U33	HM143M.U33	HM163M.U33
Nominal Capacity	Heating	7°C	35°C	kW	12.00	14.00	16.00
		7°C	55°C	kW	12.00	12.00	12.00
		2°C	35°C	kW	11.00	12.00	13.80
	Cooling	35°C	18°C	kW	14.00	14.00	16.00
		35°C	7°C	kW	14.00	14.00	16.00
Nominal Power Input	Heating	7°C	35°C	kW	2.61	3.11	4.00
		7°C	55°C	kW	4.29	4.29	4.29
		2°C	35°C	kW	3.13	3.42	3.94
	Cooling	35°C	18°C	kW	3.04	3.26	4.00
		35°C	7°C	kW	5.19	5.38	6.40
COP	Heating	7°C	35°C	W/W	4.60	4.50	4.00
		7°C	55°C	W/W	2.80	2.80	2.80
		2°C	35°C	W/W	3.52	3.51	3.50
EER	Cooling	35°C	18°C	W/W	4.60	4.30	4.00
		35°C	7°C	W/W	2.70	2.60	2.50
Operation range	Heating	Water Side (LTW)		°C	15 - 65		
		Ambient (OAT)		°C	-25 - 35		
	Cooling	Water Side (LTW)		°C	5 - 27		
		Ambient (OAT)		°C	5 - 48		
	Domestic Hot Water	Water Side (LTW)		°C	15 - 80 ⁷⁾		
Refrigerant	Type				R32		
	GWP (Global Warming Potential)				675		
	Charge				kg	2.4	
			tCO2eq	1.62			
Compressor	Quantity			EA	1		
	Type				Scroll		
Water Flow Rate	Min. (Recommended)			LPM	20		
Piping Connections	Water Circuit	Inlet		mm(inch)	Male PT 25(1)		
		Outlet		mm(inch)	Male PT 25(1)		
Dimensions	Unit	W x H x D		mm	1,239 x 1,380 x 330		
Net Weight	Unit			kg	125		
Sound Pressure Level (at 1m)	Heating	Rated		dB(A)	52		
Sound power level	Heating	Rated		dB(A)	63		
Power supply	Phase / Frequency / Voltage			Φ / Hz / V	3 / 50 / 380-415		
	Maximum Running Current			A	15		

Note

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3. Sound pressure level is measured on the rated condition in the anechoic rooms by ISO 3745 standard. Sound power level is measured on the rated condition in the reverberation rooms by ISO 3741 standard. Therefore, these values can be increased owing to ambient conditions during operation.
4. Performances are accordance with EN14511.
5. This product contains Fluorinated greenhouse gases.
6. LWT : Leaving Water Temperature, OAT : Outdoor Air Temperature.
7. DHW Heat pump operation : max. 55 °C
 DHW operation with electric heater : max. 80 °C

ELECTRIC BACK UP HEATER

HA031M.E1

HA061M.E1



Product Specification

Description		Unit	HM123M.U33	HM163M.U33
Backup Heater	Type	-	Sheath	Sheath
	Number of Heating Coil	EA	1	2
	Capacity Combination	kW	30	3.0 + 3.0
	Operation	-	Automatic	Automatic
	Heating Steps	Step	1	2
	Power Supply	V, Ø, Hz	220-240, 1, 50	220-240, 1, 50
	Maximum Current	A	12.0	24.0
	Dimensions (W x H x D)	mm	210 x 220 x 607	210 x 220 x 607
	Net Weight (Unit)	kg	14.5	15.0
Wiring Connections	Power Cable (Included Earth, H07RN-F)	No. x mm ²	3 x 1.5	3 x 4.0
	Communication Cable (H07RN-F)	No. x mm ²	4 x 0.75	4 x 0.75

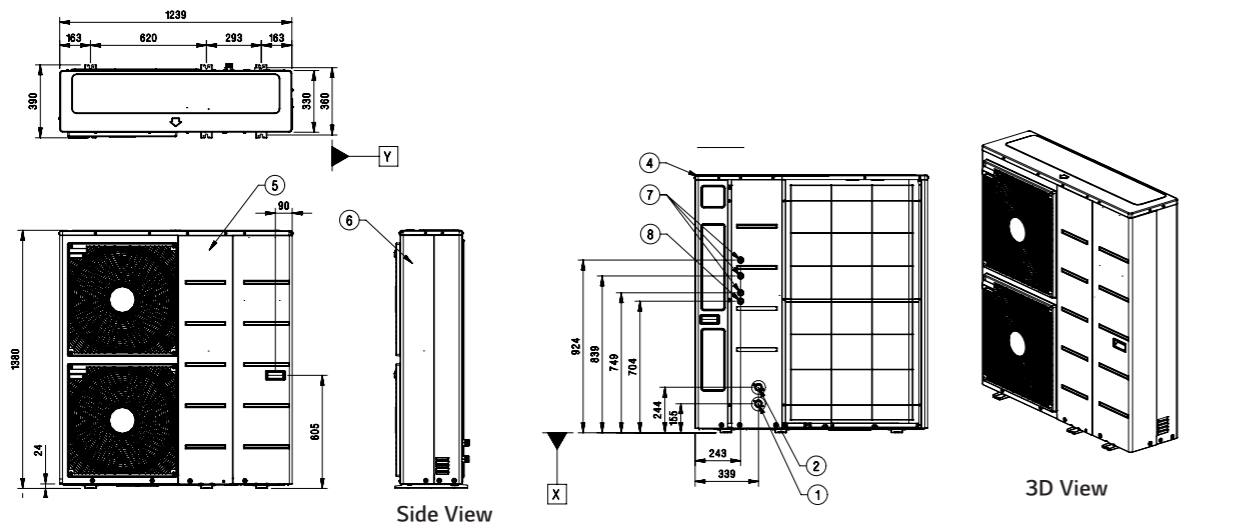
Note

1. Due to our policy of innovation some specifications may be changed without notification.
2. Wiring cable size must comply with the applicable local and national codes.

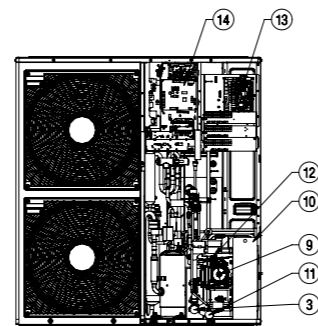
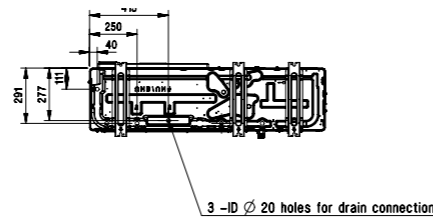
DRAWINGS

Category	Unit	Model Name		
		Capacity (kW)		
		12.0	14.0	16.0
1 Phase Model 1Ø, 220-240V, 50Hz	Monobloc Unit	HM121M.U33	HM141M.U33	HM161M.U33
3 Phase Model 3Ø, 380-415V, 50Hz		HM123M.U33	HM143M.U33	HM163M.U33

[Unit : mm]



No.	Part Name	Description
1	Entering water pipe	Male PT 1 inch
2	Leaving water pipe	Male PT 1 inch
3	Strainer	Filtering and stacking particles inside circulating water
4	Top cover	-
5	Front Panel	-
6	Side Panel	-
7	Low Voltage	Accessory Kit cables
8	UNIT Power	Outdoor entry power cable
9	Water Pump	-
10	Plate Heat Exchanger	Heat exchange between refrigerant and water
11	Pressure Gauge	Indicates circulating water pressure
12	Safety valve	Open at water pressure 3 bar
13	Indoor Control Box	Indoor PCB and terminal blocks
14	Outdoor Control Box	Outdoor PCB and terminal blocks

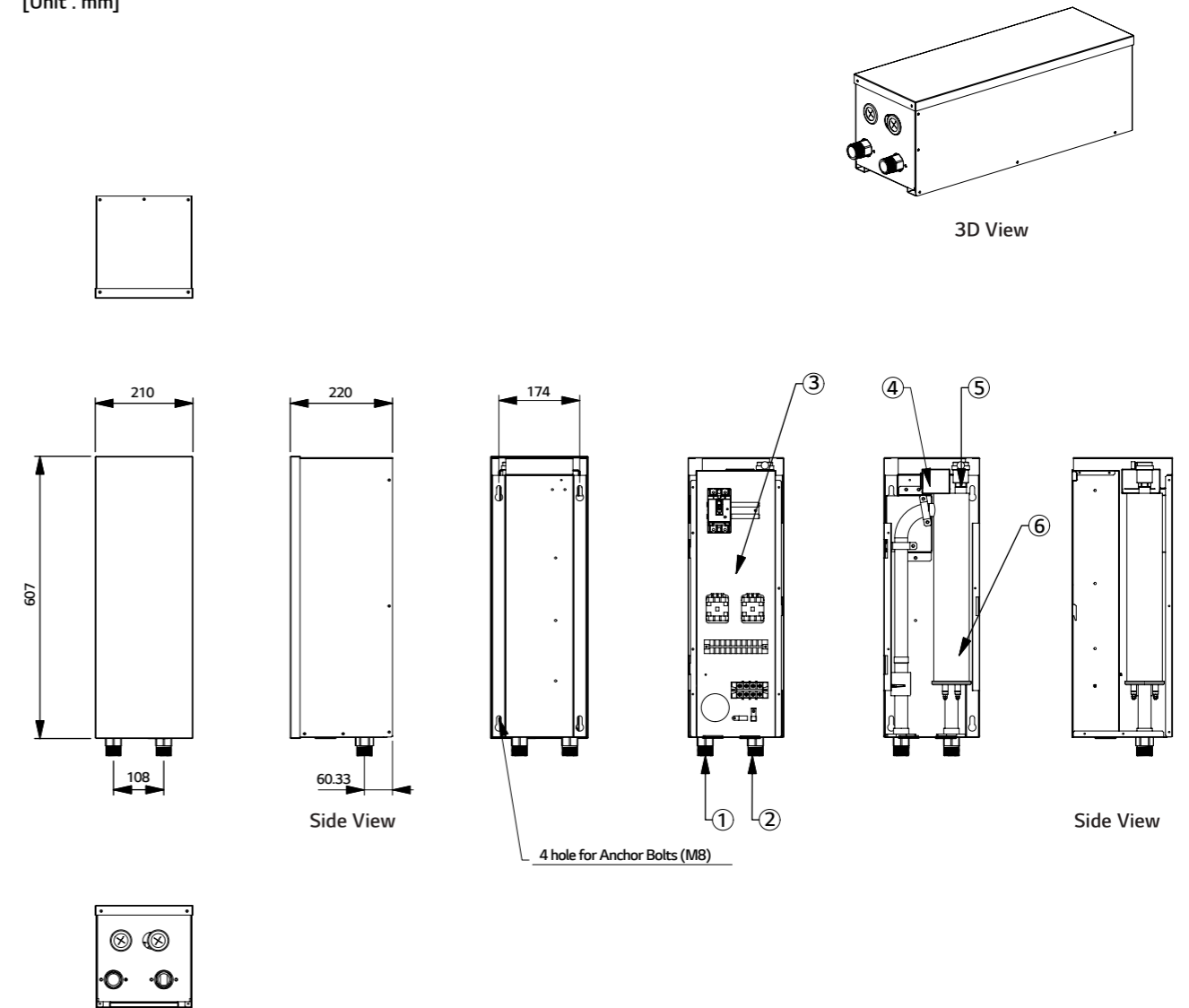


ELECTRIC BACK UP HEATER

Backup Heater

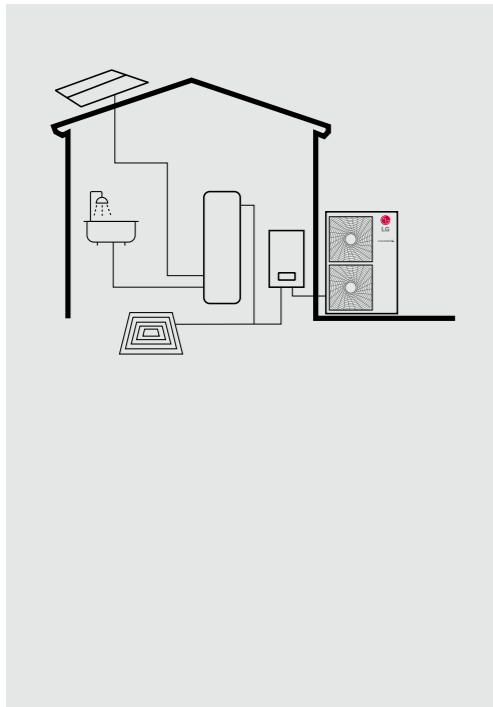
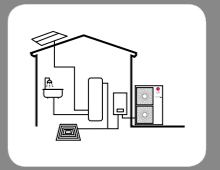
HA031M.E1
HA061M.E1

[Unit : mm]



No.	Part Name	Description
1	Leaving water pipe	Male PT 1inch
2	Entering water pipe	Male PT 1inch
3	Control box	Circuit breaker, Magnetic switch, Terminal blocks
4	Thermal switch	Cut-off power input to E/Heater at 90°C
5	Air vent	Air purging when charging water
6	Electric heater	Refer the related information

SPLIT HYDRO BOX TYPE



Excellent Performance

- High heating performance even at Low Temperature.
- Wide operation Range.
- Reduced Noise Level.

User Convenience

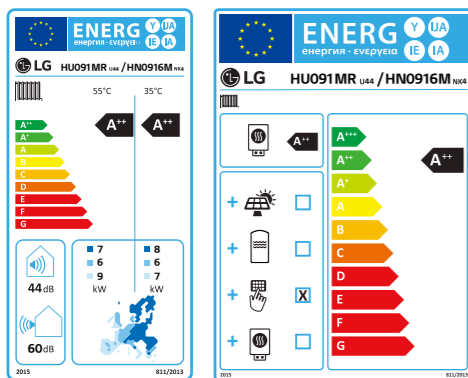
- Controller with intuitive interface.
- LG Own Wi-Fi Solution. (SmartThinQ™)
- 2nd Heating Circuit.
- Energy Information Monitoring.

Easy Installation & Maintenance

- Easy Commissioning by PC Tool. (LG Heating Configurator)
- Easy Service.



Energy Labeling



* 9kW 10 model.

Split Hydro Box Concept

THERMA V Split Hydro Box Type is that the indoor and outdoor unit are separated. These two units are connected by refrigerant piping and water side components such as PHE, Expansion Tank, Water Pump are located inside of indoor unit.

Further, all water lines related to the heating are located indoor, so it is easy to withstand freezing issues regardless of outside ambient temperature.

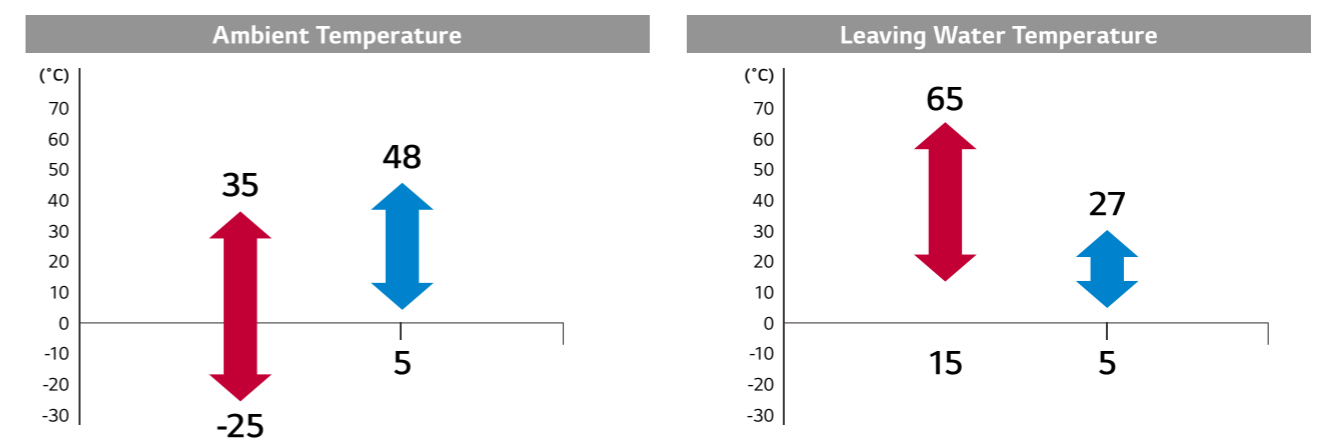


Capacity Range (Heating & Cooling)

Split Hydro Box Type

Capacity Range [kW]	5	6	7	8	9	10	11	12	13	14	15	16	17
Heating Capacity	●		●		●								
Cooling Capacity	●		●		●								

Operation Range (Heating & Cooling)



THERMAV™ R32 SPLIT HYDRO BOX TYPE
EXCELLENT PERFORMANCE

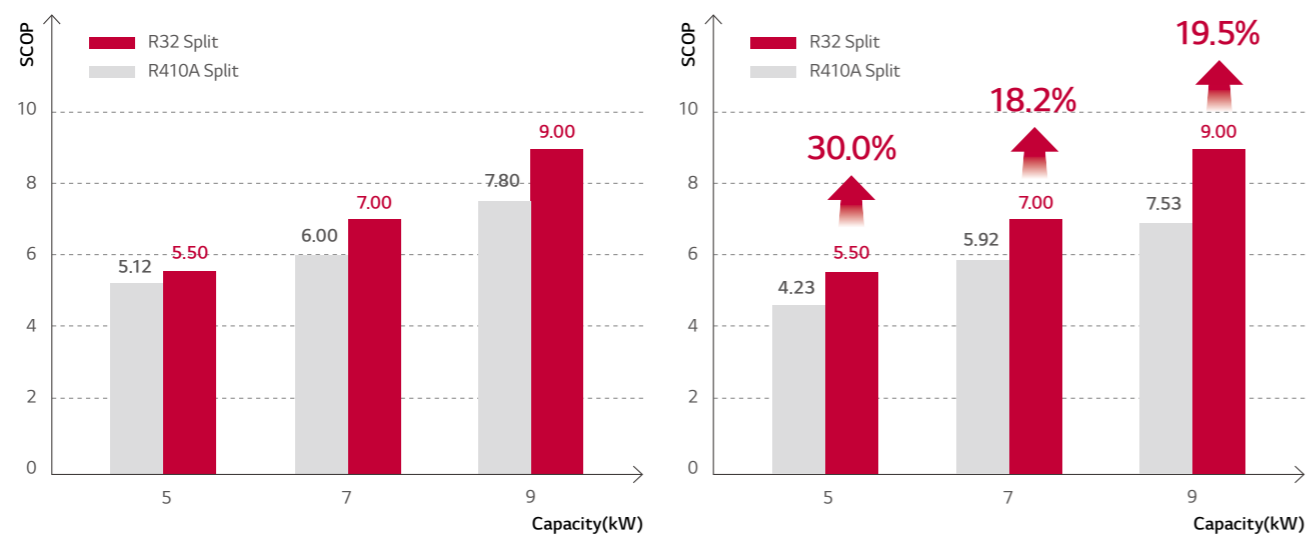
Low GWP Refrigerant R32

Comparison & Benefit

	R32	R410A
GWP Global Warming Potential	675	2088
Less amount Gas Charge		
More System Performance	R32 systems also use less refrigerant per kilowatt of capacity delivered.	
Easy refrigerant recycle	Single Component	Mixture R32 50% / R125 50%
High Capacity	High refrigerant compression rates lead to high capacity as compared to existing refrigerant R22, and R410A.	

High heating performance even at Low Temperature

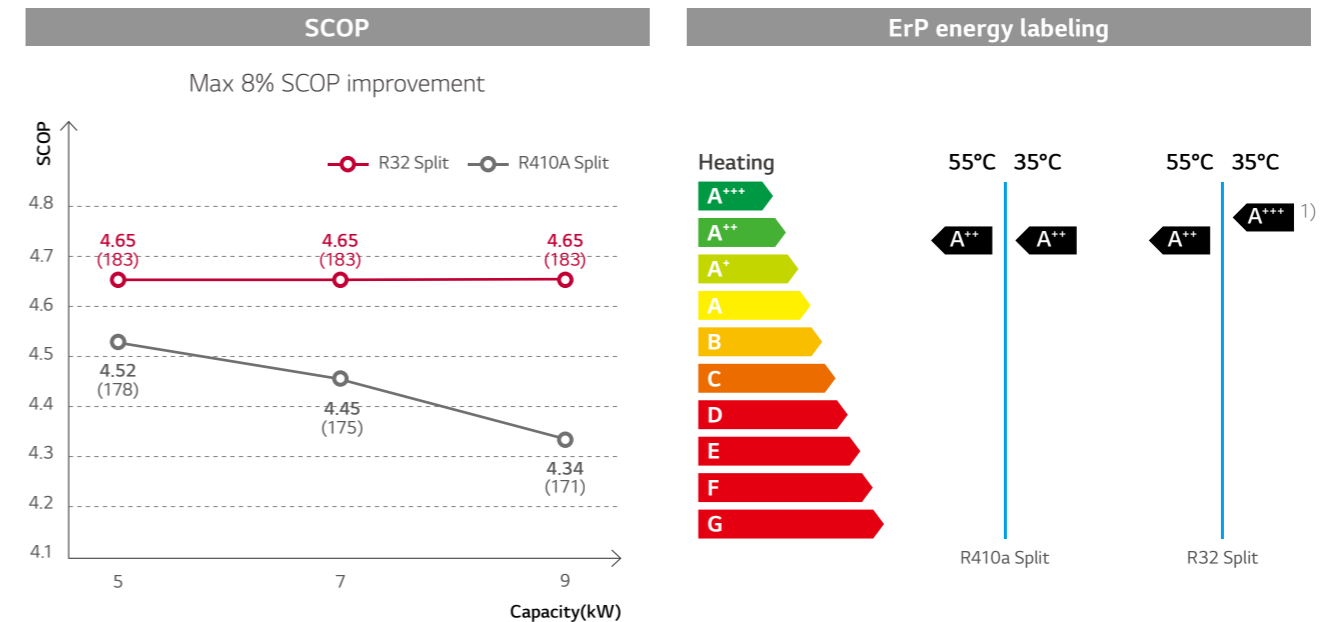
The R32 Split provides excellent heating performance— especially at Low Ambient Temperature. Heating Capacity at OAT -7°C DB is same as normal capacity and Heating Capacity at OAT -15°C DB is more than 85% of normal capacity. Heating capacity of R32 Split at Low Ambient Temperature is improved more than 18% compared to R410A Split.



High Energy Efficiency

The Energy Label Directive is a key factor of selecting heating device in Europe heating market. The R32 Split type has an energy label rating over A+++ in ErP energy labeling regulation.

1) Seasonal space heating efficiency class at water outlet 35°C and this A+++ label is available from 26, Sep. 2019

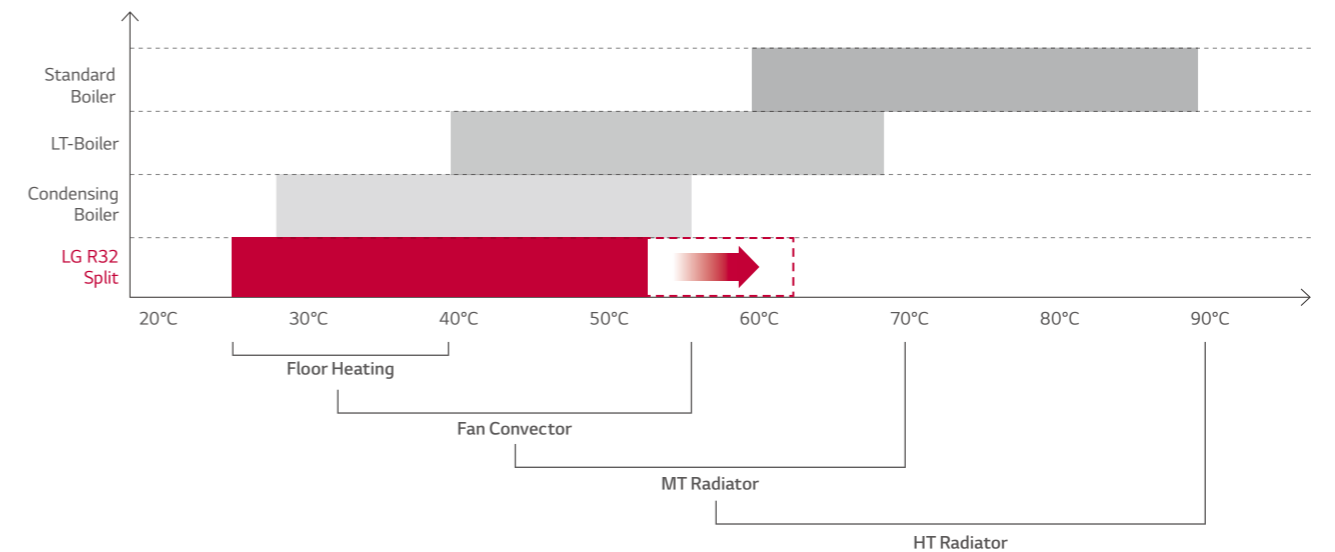


* Test Condition
 Test procedure follows EN14825 (Low Temp. Average), Based on the single phase model line up.

Note
 1. A+++ label is available from 26, Sep. 2019 and should be considered as A++ label until that time.

Wide Operation Range

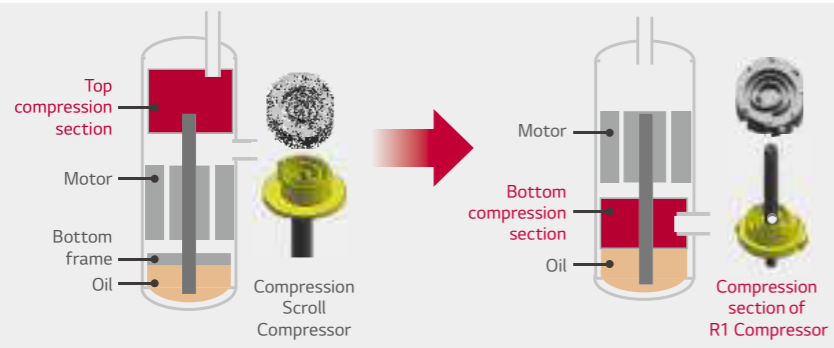
Thanks to the Leaving Water Temperature (LWT) up to 65°C, Mid Temperature Radiator range can be fully covered. As a result, R32 Split has high competitiveness for replacement case as well as new case.



EXCELLENT PERFORMANCE

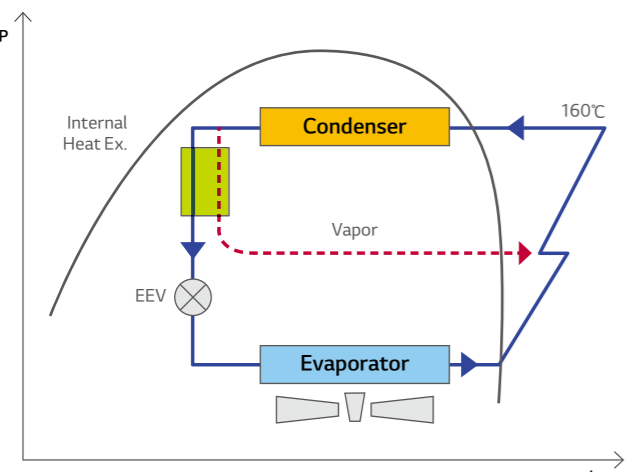
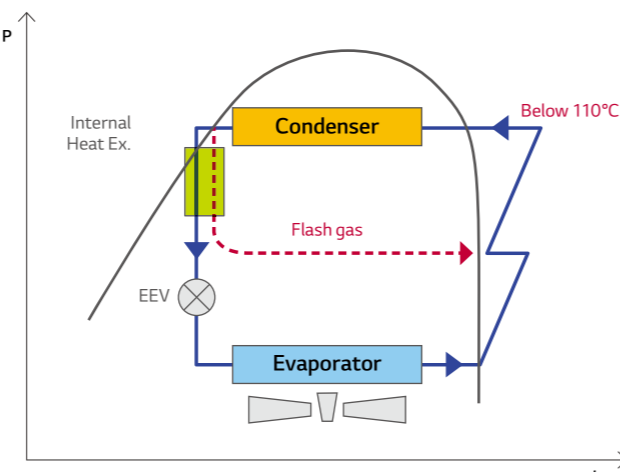
R1 Compressor

R1 Compressor is applied for high-efficiency and reliability. This compressor is more advanced compressor compared to the conventional scroll compressor, especially tilting motion of scroll has been improved. Further, compressor operation range is improved compared to previous model.

Conventional Scroll Compressor	R1 Compressor	
		
		<ul style="list-style-type: none"> • Scroll compressor with simple structure. • High efficiency. (low load at low speed / total efficiency) • Low noise. (high speed possible) • Improved Tilting Motion of scroll. • 20% weight reduction. (vs. conventional compressor)

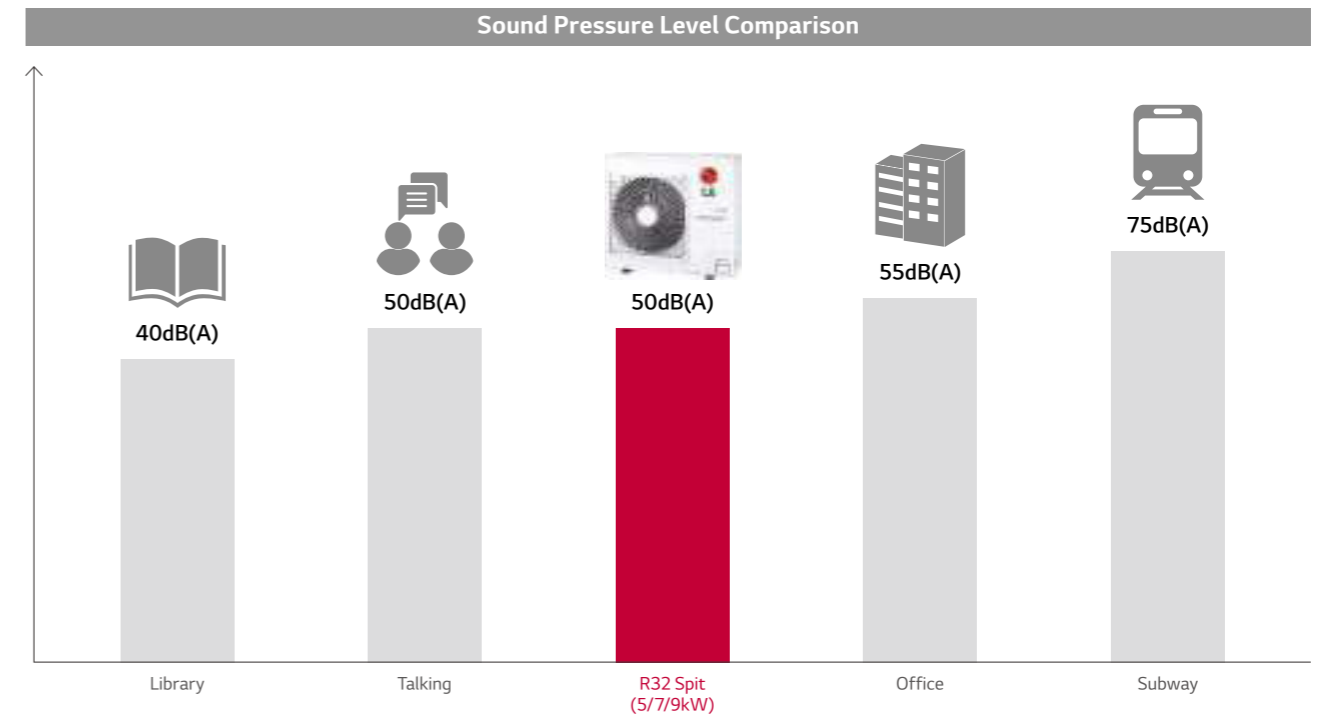
Flash Gas Injection

In case of R32 Refrigerant, it is very important to control discharge temperature of compressor properly. In the R32 Split, Flash Gas Injection technology is applied to control discharge temperature of compressor efficiently. As a result of this technology, heating operation range is expanded and heating performance at low ambient temperature is enhanced.

Vapor Injection	Flash Gas Injection
<ul style="list-style-type: none"> • Discharge temperature of compressor is very high (160°C). • Failure of injection cycle and compressor operation under protection logic. 	<ul style="list-style-type: none"> • Discharge temperature of compressor is below (110°C). • Good operation of injection cycle.
	

Reduced Noise Level

The R32 Split reduces noise level compared to previous models.



Ocean Black Fin

'Ocean Black Fin' heat exchanger is highly corrosion resistant, designed to perform in corrosive environments such as contaminated and humid condition.

Ocean Black Fin

- Longer lifespan, lower operational costs.
- Strengthened corrosion resistant coating.

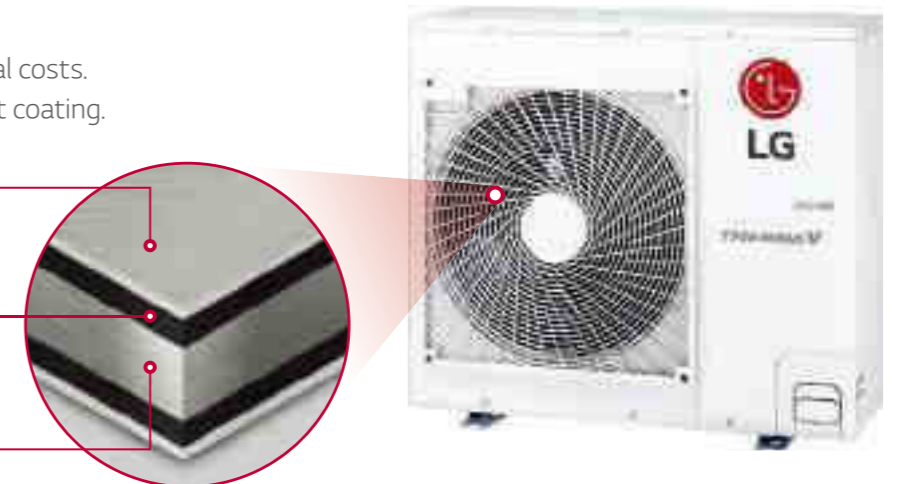
Hydrophilic Film (Water flow)

The hydrophilic coating minimizes moisture build up on the fin.

Epoxy Resin (Corrosion Resistant)

The black coating provides strong protection from corrosion.

Aluminum Fin



THERMA V™ R32 SPLIT HYDRO BOX TYPE
USER CONVENIENCE

Controller with intuitive interface

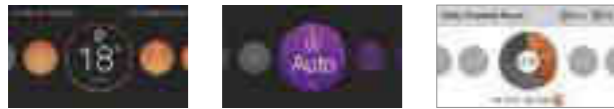
The R32 Split Hydro box type is equipped with new remote controller.

Premium Design

- New modern design 4.3 inch color LCD display.
- Capacitive touch button.
(Especially on/off button turn on LED)

User Friendly Interface

- Information displayed with simple graphic, icon & text.
- Navigation button, easy to use.



More Energy Contents

- Auto controlled by weather and time.

Convenient Functions

- Optimize schedule setting logic.
- Set the period, date, on/off time, operation mode, target temp. Easy installation setting.
(as -is : numeric code, to-be : word)



LG own Wi-Fi Solution

Access your THERMA V anytime from anywhere.

Simple operation for various functions

- On/off
- Operation mode selection
- Current temperature
- Set temperature
- On/off reservation
- Energy monitoring

Mandatory Accessory :
 PWFMD200 (LG Wi-Fi Modem).
 PWYREW000 (10m extension connect cable in between THERMA V Indoor and Wi-Fi module) could be required depends on installation condition.



Embedded Flow Sensor

Flow sensor provides the actual flow rate information in a display of wired remote controller.

- Flow Sensor Type : Vortex
- Measuring duration : 1s

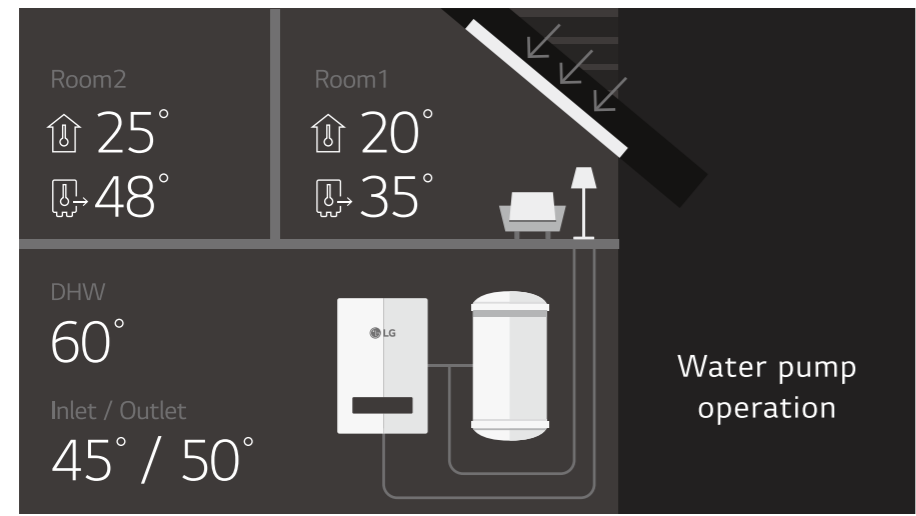


SPLIT HYDRO BOX TYPE **USER CONVENIENCE**

2nd Heating Circuit

2 zones (Add/Main zone) temperature control through separate heating circuits is possible with mixing valve kit.

2 Zones Temperature Control

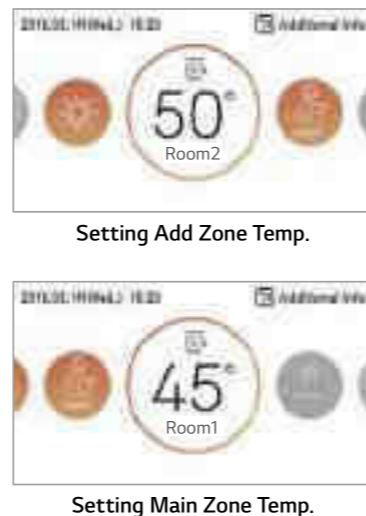


Room2
↑ 25°
↓ 48°

Room1
↑ 20°
↓ 35°

DHW
60°
Inlet / Outlet
45° / 50°

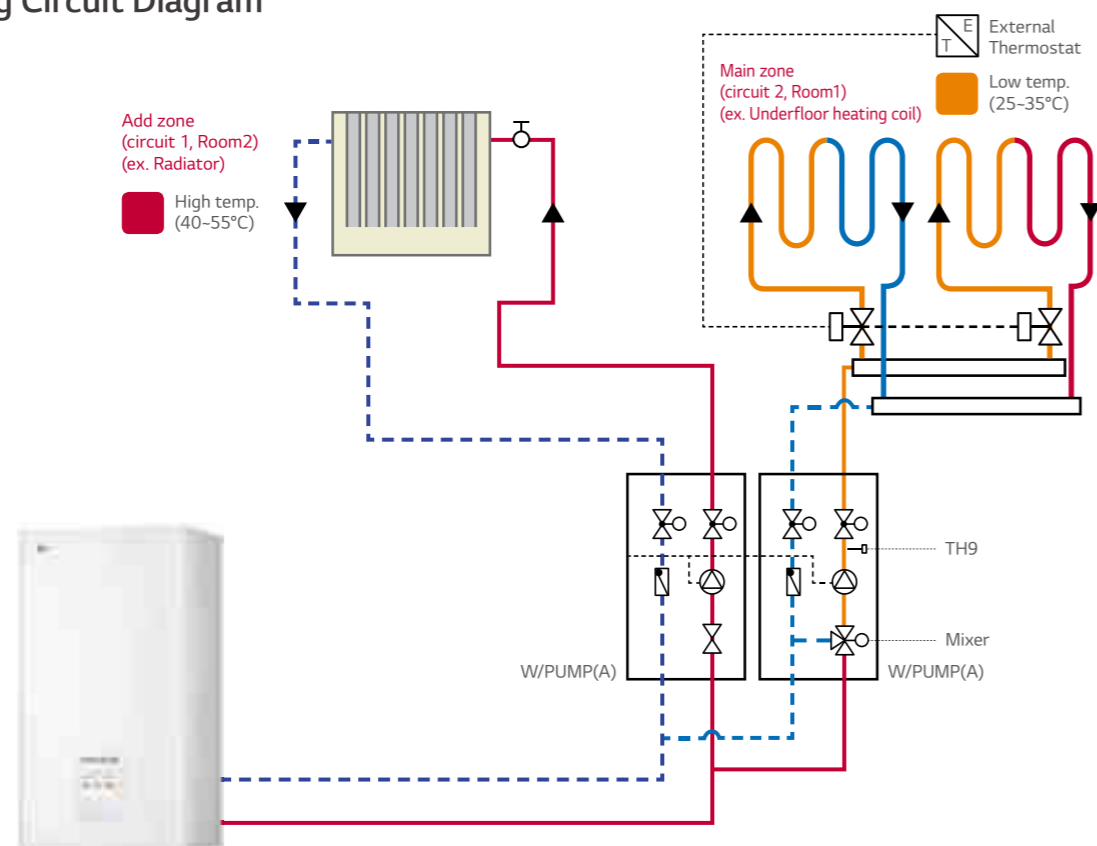
Water pump operation



Setting Add Zone Temp.

Setting Main Zone Temp.

2nd Heating Circuit Diagram



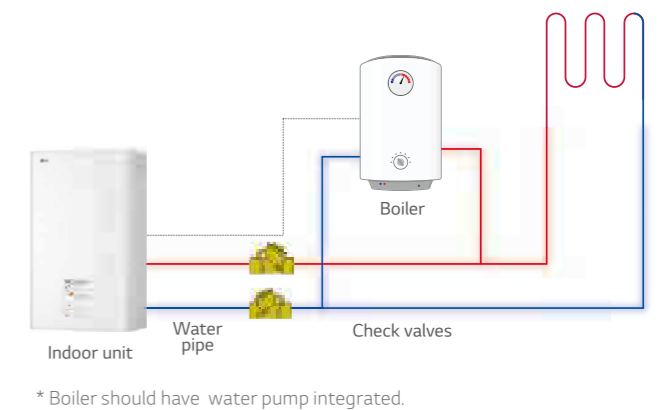
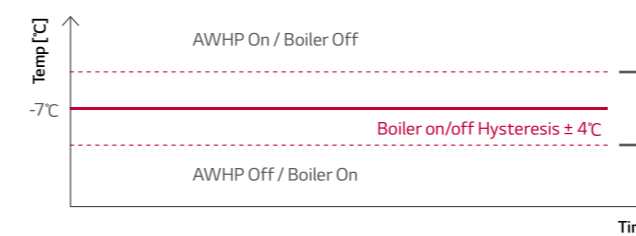
Interlocking operation with 3rd party boiler

3rd Party Boiler can be activated by the R32 Split Controller as an auxiliary equipment of AHWP.

Control Mode : Auto / Manual

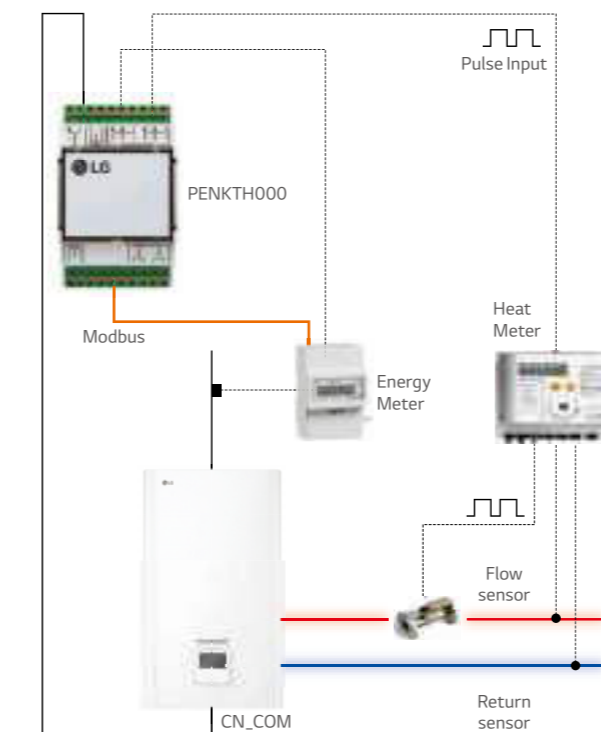
- Control Mode : Auto / Manual
 - 1) Auto control mode
 - Base Ambient temperature : -25 ~ 15°C (Default : -7°C)
 - Hysteresis : 2 ~ 10°C (Default : 4°C)
 - 2) Manual control mode
 - 3rd Party boiler On/Off control by user function.

Auto control mode

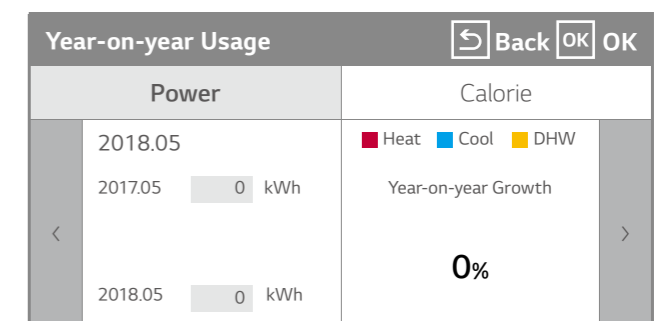
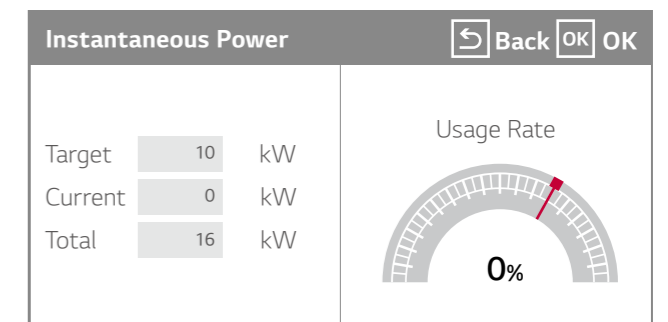


Energy Information Monitoring

Power Consumption and Heat provided by the AWHP can be measured and monitored on the Remoter Controller using Meter Interface Module.



Mandatory Accessory : PENKTH000 (Meter Interface Module)

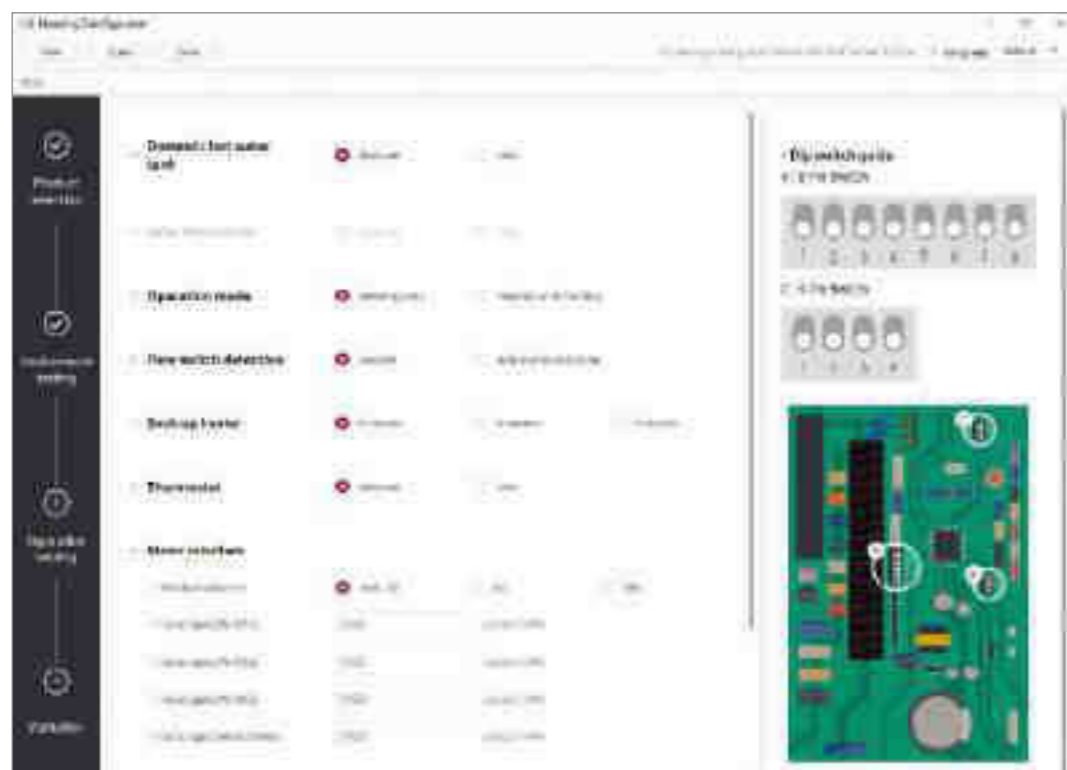


THERMAV™ R32 SPLIT HYDRO BOX TYPE
EASY INSTALLATION & MAINTENANCE

Easy Commissioning

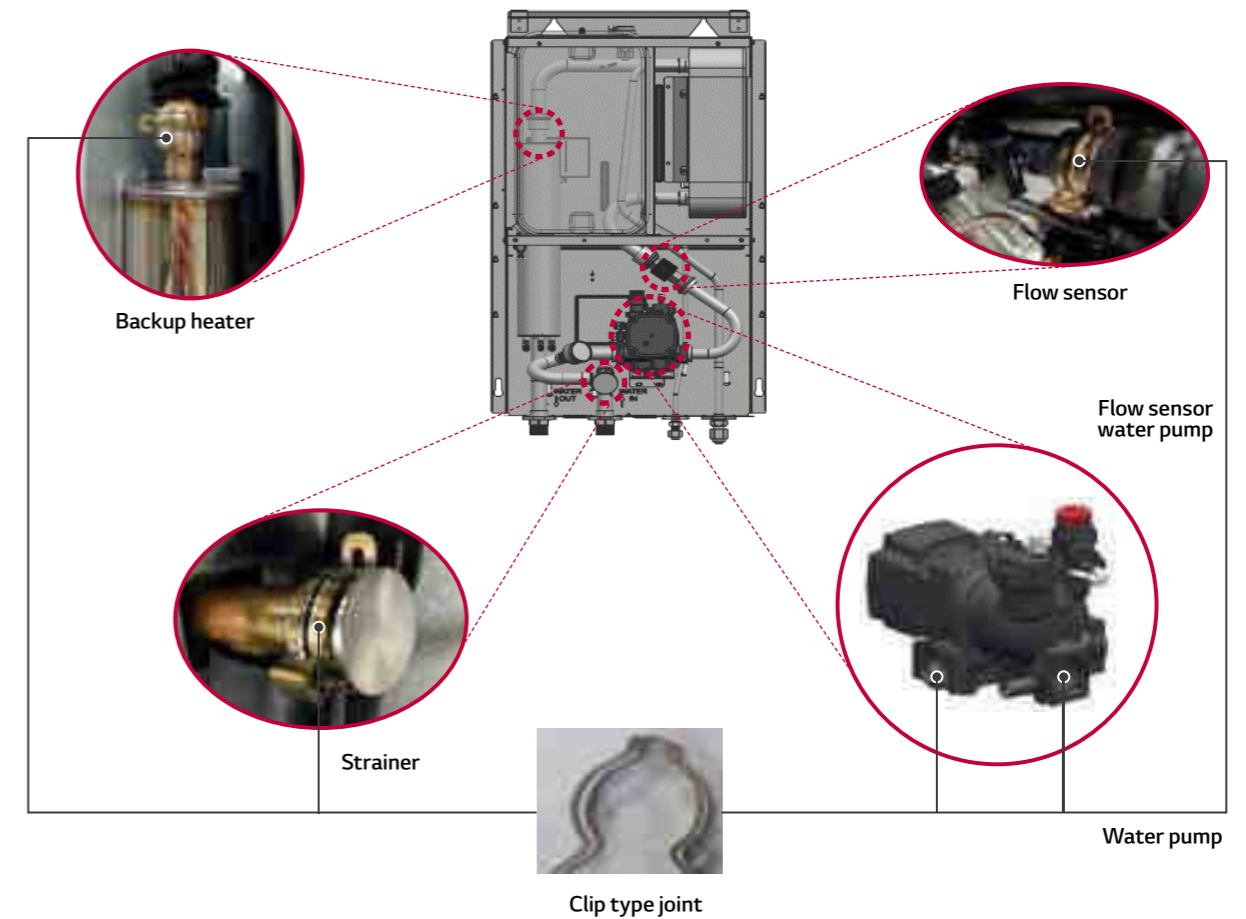
Pre-Installation Setting

- Based on installation site information, installers can prepare presetting with LG Heating Configurator and save data into memory card from office.
- At the site, then installers can simply insert memory card at the back of remote controller to activate configuration data.



Easy Service

- Easy access to water pump and strainer (Front Panel)
- Clip type connection for components



3 Way Piping

- ' The pipes can be connectable in 3 directions.
- ' Neat & easy installation by 3 way piping.



THERMAV™ R32 SPLIT HYDRO BOX TYPE
SPLIT HYDRO BOX TYPE

SPLIT HYDRO BOX TYPE

IDU

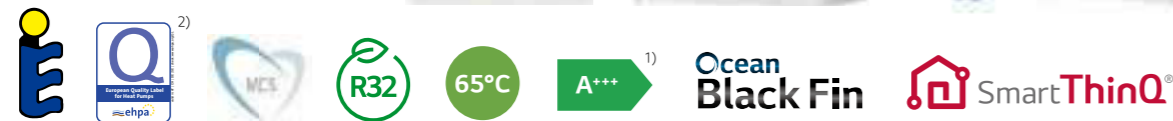
HN0916M NK4

ODU

HU051MR U44

HU071MR U44

HU091MR U44



Features

- High Energy Efficiency (SCOP 4.65 / A+++¹⁾)
- Excellent Performance at Low Ambient Temperature (100% @ -7°C)
- Wide Operation Range (Ambient : -25 ~ 35°C / Water Side : 15 ~ 65°C)
- R32 Refrigerant with High Performance
- R1 Scroll Compressor
- Ocean Black Fin
- SmartThinQ™
- KEYMARK / MCS / EHPA²⁾ Certification

Model Line Up

Category	Unit	Model Name		
		Capacity (kW)		
		5.5	7.0	9.0
1 Phase Model 1Ø, 220-240V, 50Hz	Outdoor Unit	HU051MR U44	HU071MR U44	HU091MR U44
	Indoor Unit	HN0916M NK4		

Seasonal Energy

Description		Outdoor Unit	HU051MR U44	HU071MR U44	HU091MR U44	
		Indoor Unit	HN0916M NK4			
Space Heating (According to EN14825)	Average Climate water outlet 35°C	SCOP	4.65	4.65	4.65	
		Rated heat output (Prated)	kW	6	6	6
		Seasonal space heating efficiency (ηs)	%	183	183	183
		Seasonal space heating eff. Class		A+++	A+++	A+++
		Annual energy consumption	kWh	2,444	2,552	2,669
	Average Climate water outlet 55°C	SCOP	3.23	3.23	3.23	
		Rated heat output (Prated)	kW	6	6	6
		Seasonal space heating efficiency (ηs)	%	126	126	126
		Seasonal space heating eff. Class		A++	A++	A++
		Annual energy consumption	kWh	3,843	3,843	3,843

Note
 1. A+++ label is available from 26, Sep. 2019 and should be considered as A++ label until that time.
 2. EHPA for Austria.

Outdoor Unit Specification

Description				Outdoor Unit	HU051MR U44	HU071MR U44	HU091MR U44
				Indoor Unit	HN0916M NK4		
Nominal Capacity	Heating	OAT	LWT	kW	5.50	7.00	9.00
		7°C	35°C	kW	5.50	5.50	5.50
	Cooling	2°C	35°C	kW	3.30	4.20	5.40
		35°C	18°C	kW	5.50	7.00	9.00
Nominal Power Input	Heating	35°C	7°C	kW	5.50	7.00	9.00
		7°C	35°C	kW	1.12	1.43	1.94
	Cooling	7°C	55°C	kW	1.57	1.57	1.57
		2°C	35°C	kW	0.94	1.20	1.54
COP	Heating	35°C	18°C	kW	1.20	1.56	2.14
		35°C	7°C	kW	1.96	2.59	3.46
	Cooling	7°C	35°C	W/W	4.90	4.90	4.65
		7°C	55°C	W/W	3.50	3.50	3.50
EER	Cooling	2°C	35°C	W/W	3.52	3.51	3.50
		35°C	18°C	W/W	4.60	4.50	4.20
Operation range (Outdoor Air)	Heating	Min. - Max.		°C DB	-25 ~ 35		
	Cooling	Min. - Max.		°C DB	5 ~ 48		
Refrigerant	Type				R32		
	GWP (Global Warming Potential)				675		
	Charge			kg	1.5		
	Chargeless Pipe Length			tCO2eq	1.013		
	Additional Charging Volume			m	10		
				g/m	30		
Compressor	Quantity			EA	1		
	Type				Scroll		
Refrigerant Piping Connection	Outer Dia.	Liquid		mm(inch)	Ø 9.52 (3/8)		
		Gas		mm(inch)	Ø 15.88 (5/8)		
	Length	Standard		m	5		
		Max.		m	50		
Level Difference (ODU - IDU)	Max.		m	30			
Dimensions	Unit	W x H x D		mm	950 x 834 x 330		
Weight	Unit			kg	60		
Sound power level	Heating	Rated		dB(A)	60		
	Cooling	Rated		dB(A)	60		
Power supply	Phase / Frequency / Voltage			Φ / Hz / V	1 / 50 / 220-240		
	Maximum Running Current			A	21	22	23
	Recommended Circuit Breaker			A	25		

Note
 1. Due to our policy of innovation some specifications may be changed without notification.
 2. Wiring cable size must comply with the applicable local and national codes. And "Electric characteristics" chapter should be considered for electrical work and design. Especially the power cable and circuit breaker should be selected in accordance with that.
 3. Sound Level Values are measured at Anechoic chamber. Therefore, these values depend on the ambient conditions and values are normally higher in actual operation.
 4. Performances are based on that Interconnected Pipe Length is standard length and difference of Elevation (Outdoor - Indoor Unit) is Zero.
 5. This product contains Fluorinated greenhouse gases.
 6. LWT : Leaving Water Temperature, OAT : Outdoor Air Temperature.

Indoor Unit Specification

Description		Unit	HN1616.NK3
Operation Range (Leaving Water)	Heating	°C	15 ~ 65
	Cooling	For Fan Coil Unit	°C
		For under floor	°C
Electric Heater	Power supply	Phase / Frequency / Voltage	Φ / Hz / V
	Number of Heating Coil	EA	2
	Capacity	kW	3 + 3
	Maximum Running Current	A	32
Water Flow Rate	Min.	LPM	15
	Type		Vortex
Flow sensor	Measuring Range	LPM	5 ~ 80
	Flow (Trigger point)	LPM	7
Piping Connections	Water Circuit	Inlet	mm(inch)
		Outlet	mm(inch)
	Refrigerant Circuit	Gas	mm(inch)
		Liquid	mm(inch)
Dimensions	Body	W x H x D	mm
Net Weight	Body		kg
Sound power level	Heating	Rated	
	Cooling	Rated	

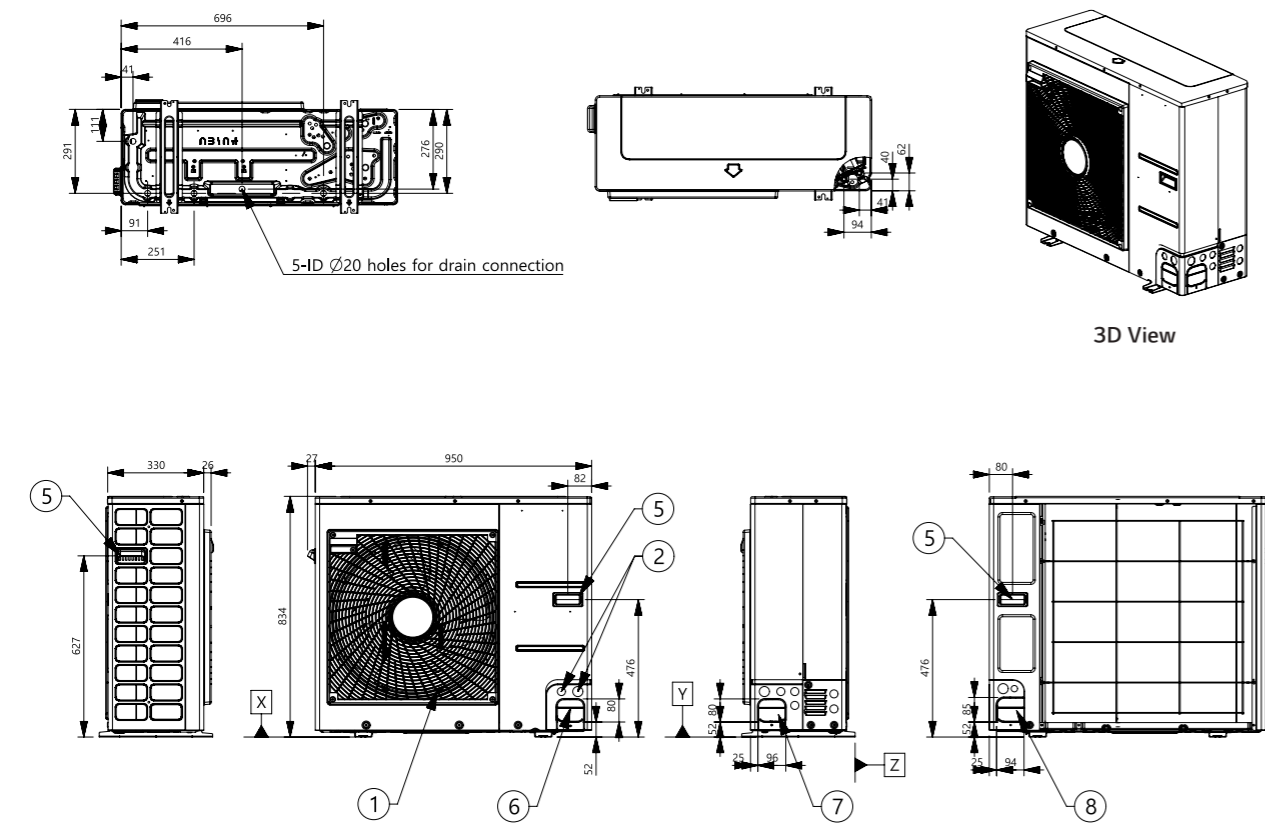
THERMAV™ R32 SPLIT HYDRO BOX TYPE
SPLIT HYDRO BOX TYPE

DRAWINGS

Category	Unit	Model Name		
		Capacity (kW)		
		5.5	7.0	9.0
1 Phase Model 1Ø, 220-240V, 50Hz	Outdoor Unit	HU051MR U44	HU071MR U44	HU091MR U44
	Indoor Unit	HN0916M NK4		

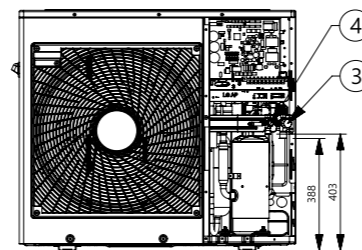
HU051MR U44 / HU071MR U44 / HU091MR U44

[Unit : mm]



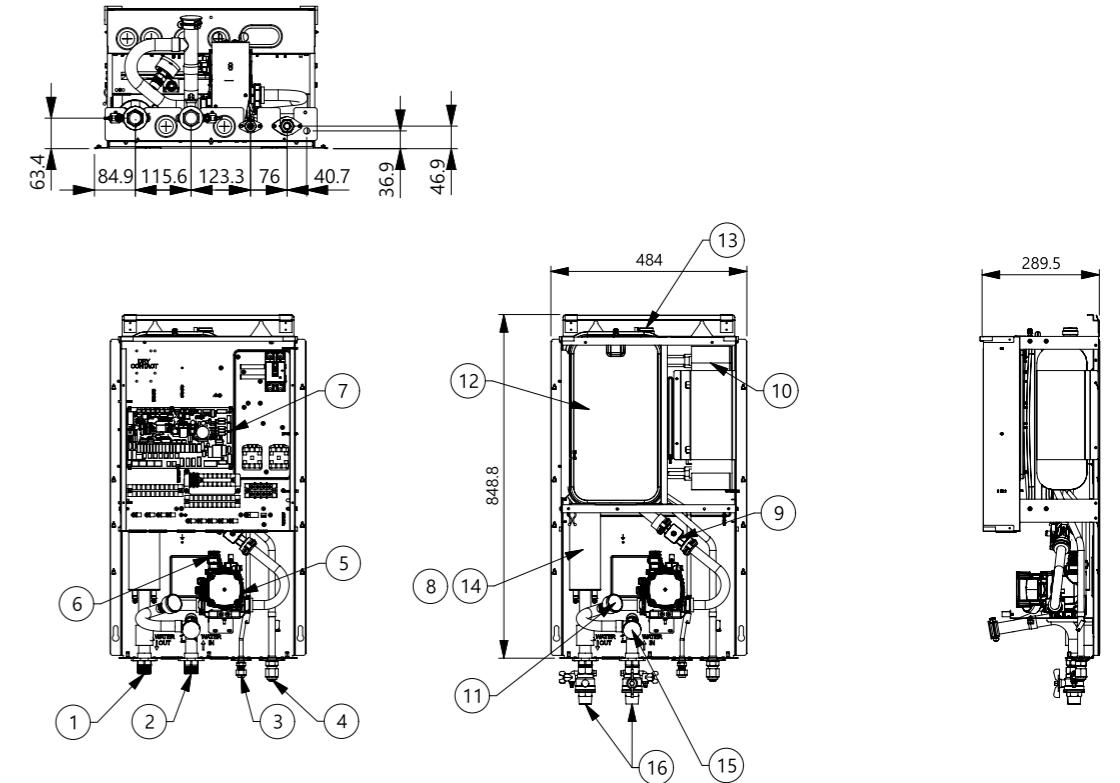
3D View

No.	Part Name	Description
1	Air Outlet	-
2	Power and communication cable Hole	-
3	Gas Pipe Connection	Flare joint
4	Liquid Pipe Connection	Flare joint
5	Handle	-
6	Pipe routing hole (front)	-
7	Pipe routing hole (side)	-
8	Pipe routing hole (back)	-



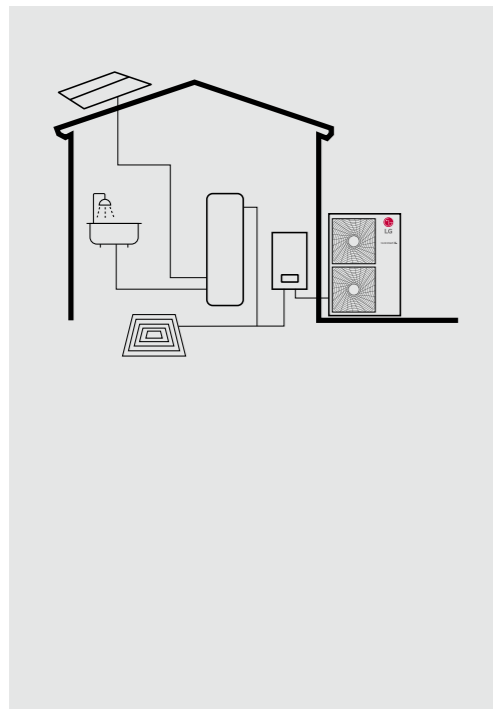
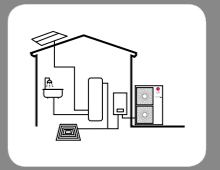
Piping connection port

[Unit : mm]



No.	Part Name	Description
1	Leaving Water Pipe	Male PT 1inch
2	Entering water pipe	Male PT 1inch
3	Refrigerant Pipe	Ø9.52mm
4	Refrigerant Pipe	Ø15.88mm
5	Water Pump	GROUNDFOS UPM3K 20-75 CHBL
6	Safety Valve	Open at water pressure 3 bar
7	Control Box	PCB and terminal blocks
8	Thermal Switch	Cut-off power input to electric heater at 90°C (manual return at 55°C)
9	Flow Switch	SIKA VVX20 5-80 LPM
10	Plate Heat Exchanger	Heat exchange between refrigerant and water
11	Pressure Gage	Indicates circulating water pressure
12	Expansion Tank	Absorbing Volume change of heated water
13	Air Vent	Air purging when Charging water
14	Electric Heater	6 Kw
15	Strainer	Filtering and stacking particles inside circulating water
16	Shut-off Valve	To drain or to block water when pipe connecting

SPLIT HYDRO BOX TYPE



Excellent Performance

- High Energy Efficiency.
- Energy Efficiency at -2°C.
- Corrosion Resistant Heat Exchanger.

User Convenience

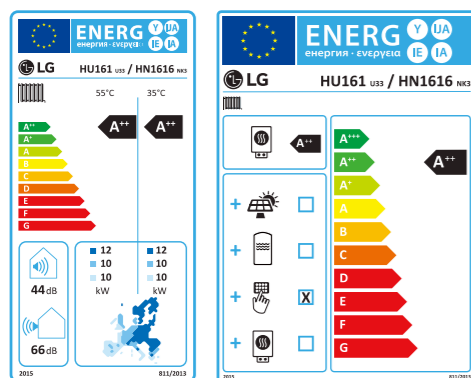
- Controller with intuitive interface.
- LG Own Wi-Fi Solution. (SmartThinQ™)
- Seasonal Auto Mode.
- Silent Mode & Scheduler.

Easy Installation & Maintenance

- Easy Commissioning by PC Tool. (LG Heating Configurator)
- Compact & Slim.



Energy Labeling



* 16kW 1Ø model.

Split Hydro Box Concept

THERMA V Split Hydro Box Type is that the indoor and outdoor unit are separated. These two units are connected by refrigerant piping and water side components such as PHE, Expansion Tank, Water Pump are located inside of indoor unit.

Further, all water lines related to the heating are located indoor, so it is easy to withstand freezing issues regardless of outside ambient temperature.

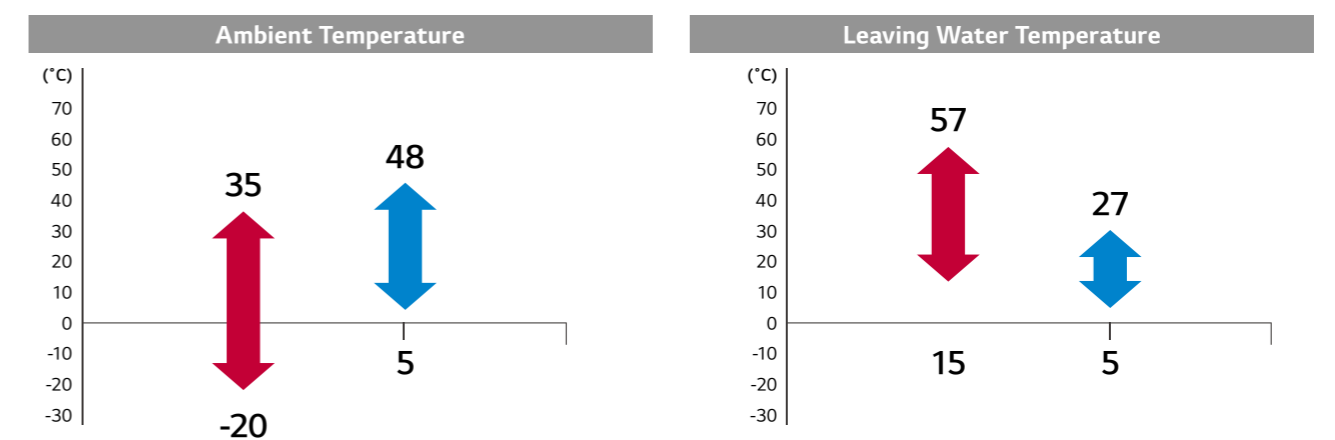


Capacity Range (Heating & Cooling)

Split Hydro Box Type

Capacity Range [kW]	6	8	10	11	12	13	14	15	16	17
Heating Capacity					●		●		●	
Cooling Capacity			●		●	●				

Operation Range (Heating & Cooling)



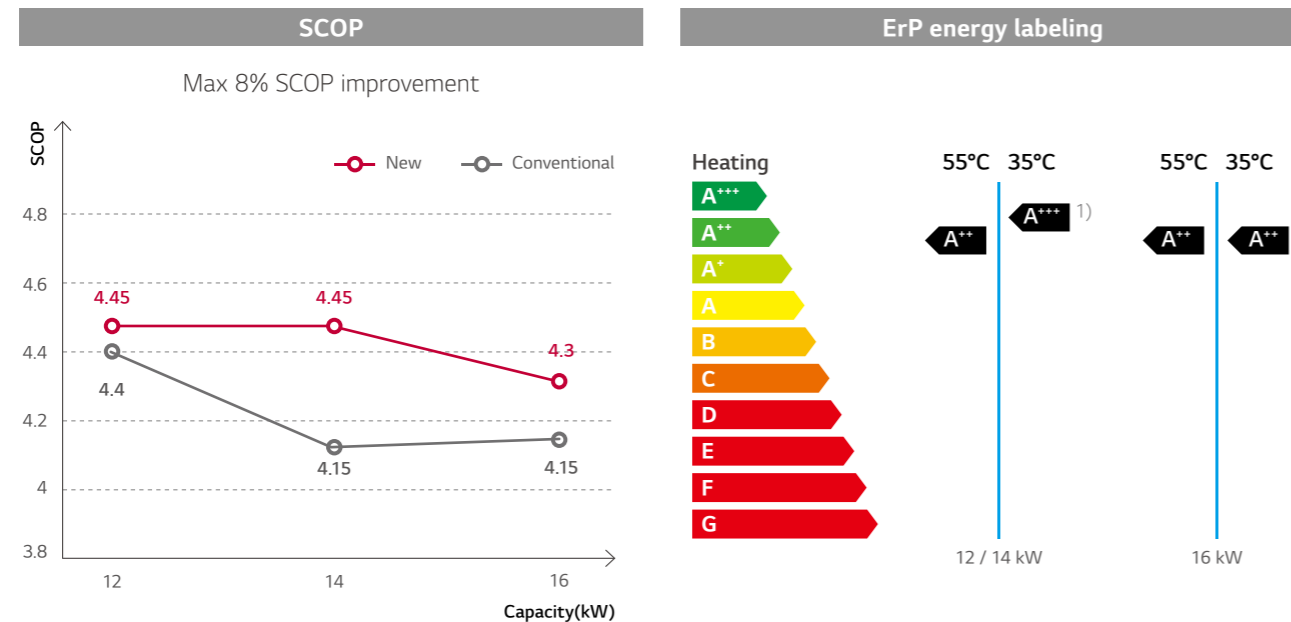
THERMA V™ SPLIT HYDRO BOX TYPE

EXCELLENT PERFORMANCE

High Energy Efficiency

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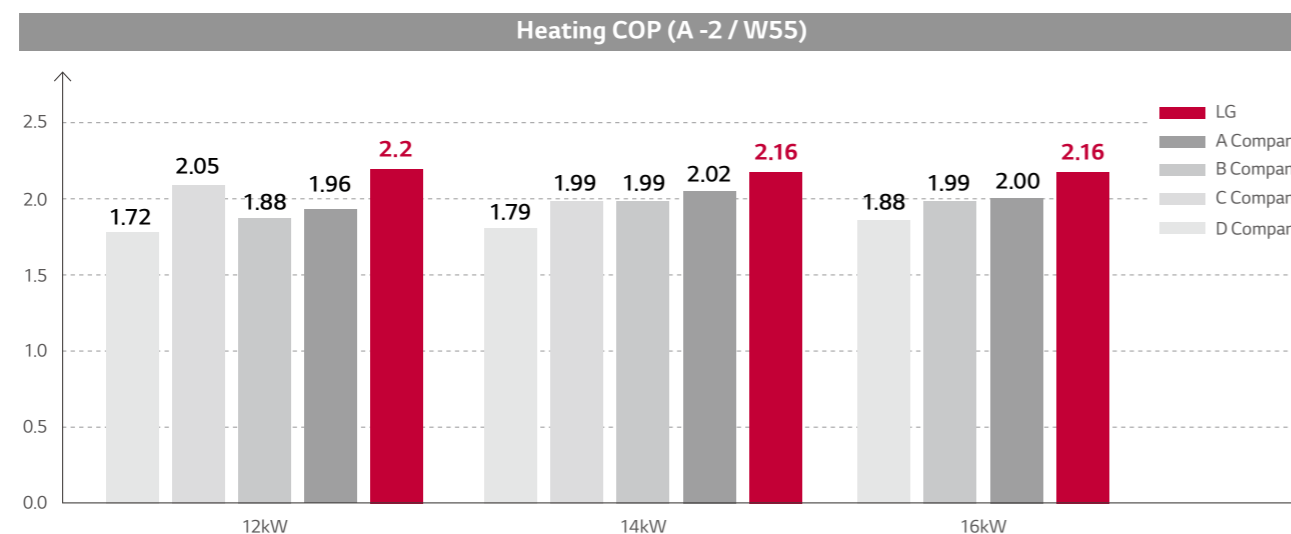
1) Seasonal space heating efficiency class at water outlet 35°C and this A+++ label is available from 26, Sep. 2019.



* Test Condition
Test procedure follows EN14825 (Low Temp. Average), Based on the single phase model line up.

Energy Efficiency at -2°C

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

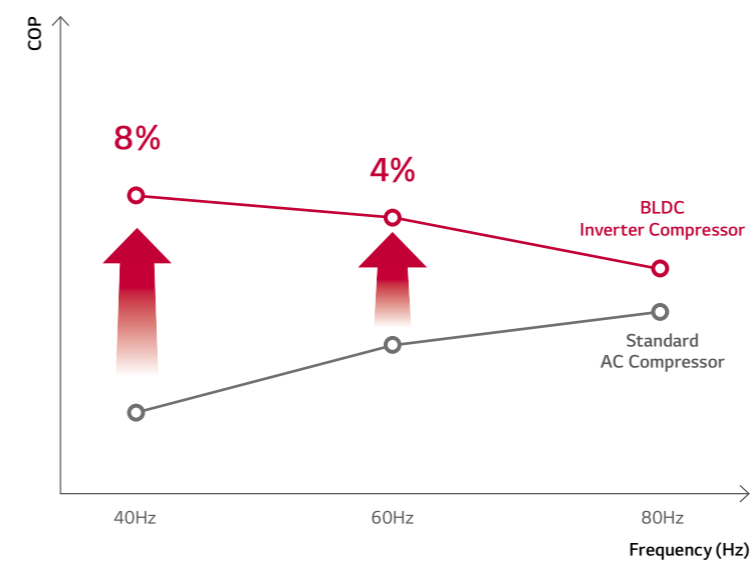


* Peak value / Monobloc models.

BLDC (Brushless Direct Current Motor) Compressor

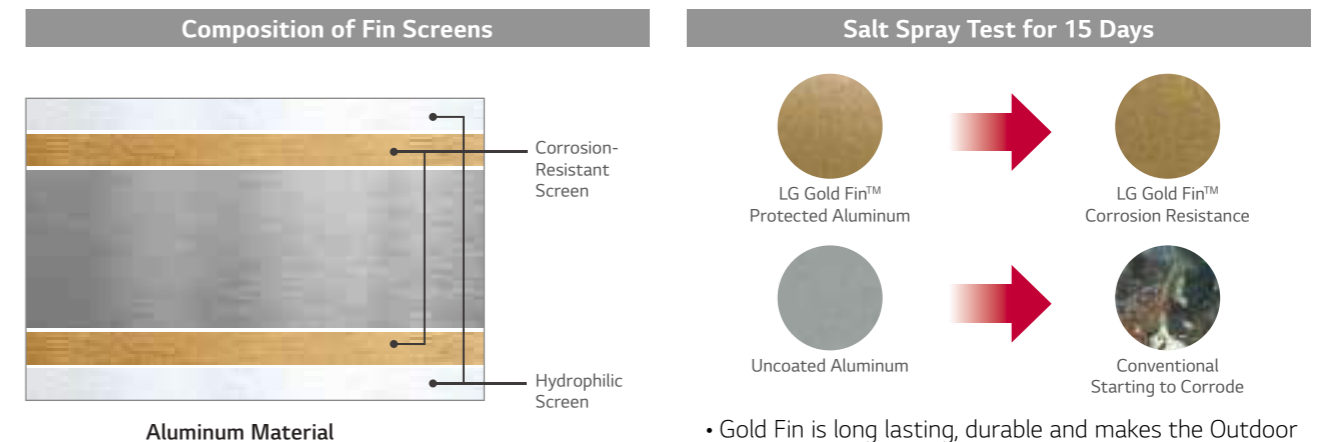
THERMA V is equipped with a BLDC compressor that uses a strong neodymium magnet. The compressor has improved efficiency compared to standard AC inverter product and it is optimized for seasonal efficiency.

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



Corrosion Resistant Heat Exchanger

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.



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

THERMA V™ SPLIT HYDRO BOX TYPE USER CONVENIENCE

Controller with intuitive interface

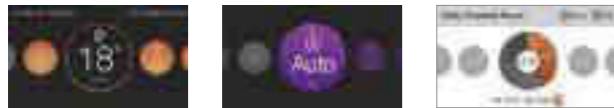
The Split Hydrobox Type is equipped with new remote controller.

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LG own Wi-Fi Solution

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Simple operation for various functions

- On/off
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- Energy monitoring

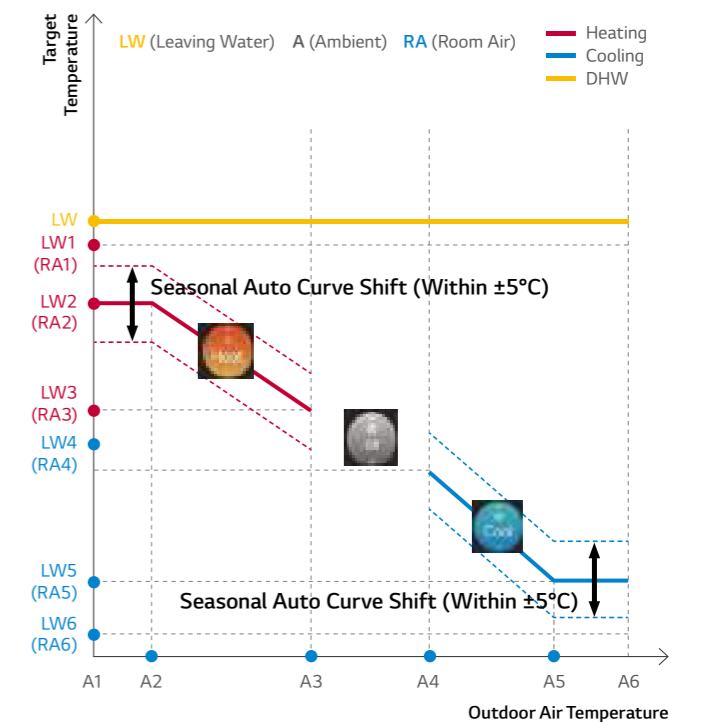
Mandatory Accessory :
PWFMD200 (LG Wi-Fi Modem).
PWYREW000 (10m extension connect cable in between THERMA V Indoor and Wi-Fi module) could be required depends on installation condition.



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.

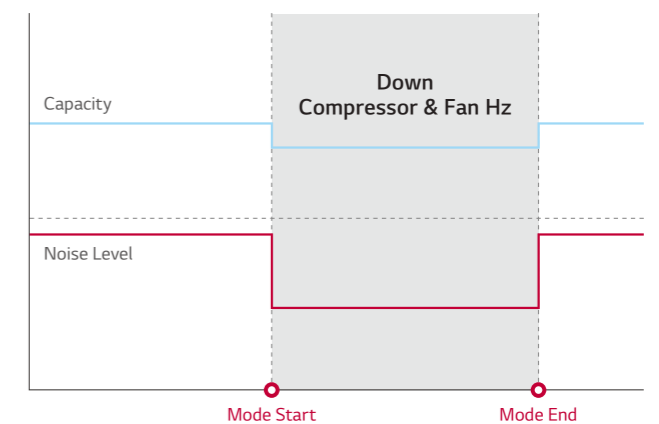
Setting	Description	Range(°C)	Default(°C)
A1	Lowest Ambient Temp.	Fix	-15
A2	Heating Lower Ambient Temp.	-15 - 24	-10
A3	Heating Higher Ambient Temp.		16
A4	Cooling Lower Ambient Temp.	10 - 43	30
A5	Cooling Higher Ambient Temp.		40
A6	Highest Ambient Temp.	Fix	43
LW1	Heating Highest Water Temp.	15 - 57	57
LW2	Heating Higher Water Temp.		35
LW3	Heating Lower Water Temp.		28
LW4	Cooling Higher Water Temp.	5 - 25	20
LW5	Cooling Lower Water Temp.		16
LW6	Cooling Lowest Water Temp.		16
RA1	Heating Highest Air Temp.	16 - 30	30
RA2	Heating Higher Air Temp.		30
RA3	Heating Lower Air Temp.		26
RA4	Cooling Higher Air Temp.	18 - 30	22
RA5	Cooling Lower Air Temp.		18
RA6	Cooling Lowest Air Temp.		18



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)	
	(kW)	Silent Mode
5	51	48
7	52	48
9	52	48
12	53	50
14	53	50
16	53	50



EASY INSTALLATION & MAINTENANCE

Easy Commissioning

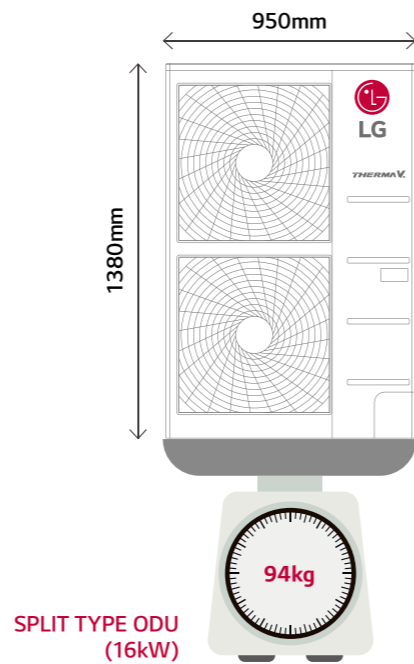
Pre-Installation Setting

- Based on installation site information, installers can prepare presetting with LG Heating Configurator and save data into memory card from office.
- At the site, then installers can simply insert memory card at the back of remote controller to activate configuration data.



Compact & Slim

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



THERMA V™

SPLIT HYDRO BOX TYPE

SPLIT HYDRO BOX TYPE

IDU

HN1616.NK3
HN1639.NK3

ODU

HU121.U33
HU141.U33
HU161.U33
HU123.U33
HU143.U33
HU163.U33



Features

- High Energy Efficiency
- Maximum 57°C LWT
- Intuitive Interface
- SmartThinQ™
- Corrosion Resistant Heat Exchanger
- KEYMARK / NF-PAC / MCS / EHPA Certification

Model Line Up

Category	Unit	Model Name		
		Capacity (kW)		
		12.0	14.0	16.0
1 Phase Model 1Ø, 220-240V, 50Hz	Outdoor Unit	HU121.U33	HU141.U33	HU161.U33
	Indoor Unit	HN1616.NK3		
3 Phase Model 3Ø, 380-415V, 50Hz	Outdoor Unit	HU123.U33	HU143.U33	HU163.U33
	Indoor Unit	HN1639.NK3		

Note

1. A+++ label is available from 26, Sep. 2019 and should be considered as A++ label until that time.
2. LWT : Leaving Water Temperature.

Seasonal Energy

Description		Outdoor Unit	HU121.U33	HU141.U33	HU161.U33	HU123.U33	HU143.U33	HU163.U33
		Indoor Unit	HN1616.NK3			HN1639.NK3		
Space Heating (According to EN14825)	Average SCOP		4.45	4.45	4.30	4.45	4.45	4.30
	Climate water outlet	Rated heat output (Prated)	kW	9	10	10	9	10
	35°C	Seasonal space heating efficiency (η _s)	%	175	175	169	175	175
		Seasonal space heating eff. Class		A+++	A+++	A++	A+++	A+++
	35°C	Annual energy consumption	kWh	4,177	4,408	4,802	4,177	4,408
		Average SCOP		3.32	3.32	3.32	3.32	3.32
Climate water outlet	Climate water outlet	Rated heat output (Prated)	kW	10	10	10	10	10
	55°C	Seasonal space heating efficiency (η _s)	%	130	130	130	130	130
		Seasonal space heating eff. Class		A++	A++	A++	A++	A++
	55°C	Annual energy consumption	kWh	6,154	6,154	6,154	6,154	6,154

Note

1. A+++ label is available from 26, Sep. 2019 and should be considered as A++ label until that time.

Outdoor Unit Specification (1Phase)

Description				Outdoor Unit	HU121.U33	HU141.U33	HU161.U33
				Indoor Unit	HN1616.NK3		
Nominal Capacity	Heating	OAT	LWT				
		7°C	35°C	kW	12.00	14.00	16.00
		2°C	35°C	kW	10.33	10.83	11.95
	Cooling	-2°C	50°C	kW	11.89	11.89	11.89
		-7°C	35°C	kW	11.00	12.50	13.50
		35°C	18°C	kW	10.40	12.00	13.00
Nominal Power Input	Heating	7°C	35°C	kW	2.64	3.17	3.76
		2°C	35°C	kW	2.93	3.09	3.41
		-2°C	50°C	kW	5.25	5.25	5.25
	Cooling	-7°C	35°C	kW	3.14	3.73	4.35
		35°C	18°C	kW	2.60	3.08	3.60
		7°C	35°C	W/W	4.55	4.41	4.26
COP	Heating	2°C	35°C	W/W	3.52	3.51	3.50
		-2°C	50°C	W/W	2.27	2.27	2.27
		-7°C	35°C	W/W	3.50	3.35	3.10
		35°C	18°C	W/W	4.00	3.90	3.61
EER	Cooling			W/W			
		35°C	18°C	W/W	4.00	3.90	3.61
Operation range (Outdoor Air)	Heating	Min. - Max.		°C DB	-20 - 35		
	Cooling	Min. - Max.		°C DB	5 - 48		
Refrigerant	Type				R410A		
	GWP (Global Warming Potential)				2,088		
	Charge			kg	2.3		
				tCO ₂ eq	4.8		
	Chargeless Pipe Length			m	7.5		
Additional Charging Volume			g/m	40			
Compressor	Quantity			EA	1		
	Type				Rotary		
Refrigerant Piping Connection	Outer Dia.	Liquid	mm(inch)		Ø 9.52 (3/8)		
		Gas	mm(inch)		Ø 15.88 (5/8)		
	Length	Min.	m		3		
		Standard	m		7.5		
	Level Difference (ODU - IDU)	Max.	m		50		
		Max.	m		30		
Dimensions	Unit	W x H x D		mm			
Weight	Unit			kg			
Sound power level	Heating	Rated	dB(A)		66		
		Phase / Frequency / Voltage	φ / Hz / V		1 / 50 / 220-240		
Power supply	Maximum Running Current		A		25		
	Recommended Circuit Breaker		A		40		

Note

1. Due to our policy of innovation some specifications may be changed without notification.
2. Wiring cable size must comply with the applicable local and national codes. And "Electric characteristics" chapter should be considered for electrical work and design. Especially the power cable and circuit breaker should be selected in accordance with that.
3. Sound Level Values are measured at Anechoic chamber. Therefore, these values depend on the ambient conditions and values are normally higher in actual operation.
4. Performances are based on that Interconnected Pipe Length is standard length and difference of Elevation (Outdoor - Indoor Unit) is Zero.
5. This product contains Fluorinated greenhouse gases.
6. LWT : Leaving Water Temperature, OAT : Outdoor Air Temperature.

SPLIT HYDRO BOX TYPE

Indoor Unit Specification (1Phase)

Description			Unit	HN1616.NK3
Operation Range (Leaving Water)	Heating		°C	15 - 57
	Cooling	For Fan Coil Unit	°C	5 - 27
		For under floor	°C	16 - 30
Electric Heater	Power supply		Φ / Hz / V	1 / 50 / 220 - 240
	Number of Heating Coil		EA	2
	Capacity		kW	3 + 3
	Maximum Running Current		A	32
Water Flow Rate	Min.		LPM	15
Piping Connections	Water Circuit		mm(inch)	Male PT 25(1)
	Refrigerant Circuit		mm(inch)	Male PT 25(1)
	Gas	Gas	mm(inch)	Ø 15.88 (5/8)
		Liquid	mm(inch)	Ø 9.52 (3/8)
Dimensions	Body		mm	490 x 850 x 315
Net Weight	Body		kg	43
Sound power level	Heating	Rated	dB(A)	44

Outdoor Unit Specification (3Phase)

Description				Outdoor Unit	HU123.U33	HU143.U33	HU163.U33
				Indoor Unit	HN1639.NK3		
		OAT	LWT				
Nominal Capacity	Heating	7°C	35°C	kW	12.00	14.00	16.00
		2°C	35°C	kW	10.33	10.83	11.95
		-2°C	50°C	kW	11.89	11.89	11.89
		-7°C	35°C	kW	11.00	12.50	13.50
	Cooling	35°C	18°C	kW	10.40	12.00	13.00
Nominal Power Input	Heating	7°C	35°C	kW	2.64	3.17	3.76
		2°C	35°C	kW	2.93	3.09	3.41
		-2°C	50°C	kW	5.25	5.25	5.25
		-7°C	35°C	kW	3.14	3.73	4.35
	Cooling	35°C	18°C	kW	2.60	3.08	3.60
COP	Heating	7°C	35°C	W/W	4.55	4.41	4.26
		2°C	35°C	W/W	3.52	3.51	3.50
		-2°C	50°C	W/W	2.27	2.27	2.27
		-7°C	35°C	W/W	3.50	3.35	3.10
	EER	Cooling	35°C	18°C	W/W	4.00	3.90
Operation range (Outdoor Air)	Heating	Min. - Max.		°C DB	-20 - 35		
	Cooling	Min. - Max.		°C DB	5 - 48		
Refrigerant	Type				R410A		
	GWP (Global Warming Potential)				2,088		
	Charge			kg	2.3		
	Chargeless Pipe Length			tCO2eq	4.8		
	Additional Charging Volume			m	7.5		
Compressor	Quantity			g/m	40		
	Type			EA	1		
Refrigerant Piping Connection	Outer Dia.	Liquid	mm(inch)	Rotary			
		Gas	mm(inch)	Ø 9.52 (3/8)			
	Length	Min.	m	3			
		Standard	m	7.5			
		Max.	m	50			
	Level Difference (ODU - IDU)	Max.	m	30			
Dimensions	Unit	W x H x D	mm	950 x 1,380 x 330			
Weight	Unit		kg	94			
Sound power level	Heating	Rated	dB(A)	66			
Power supply	Phase / Frequency / Voltage		Φ / Hz / V	3 / 50 / 380-415			
	Maximum Running Current		A	16.1			
	Recommended Circuit Breaker		A	20			

Note

1. Due to our policy of innovation some specifications may be changed without notification.
2. Wiring cable size must comply with the applicable local and national codes. And "Electric characteristics" chapter should be considered for electrical work and design. Especially the power cable and circuit breaker should be selected in accordance with that.
3. Sound Level Values are measured at Anechoic chamber. Therefore, these values depend on the ambient conditions and values are normally higher in actual operation.
4. Performances are based on that Interconnected Pipe Length is standard length and difference of Elevation (Outdoor - Indoor Unit) is Zero.
5. This product contains Fluorinated greenhouse gases.
6. LWT : Leaving Water Temperature, OAT : Outdoor Air Temperature.

Indoor Unit Specification (3Phase)

Description			Unit	HN1616.NK3
Operation Range (Leaving Water)	Heating		°C	15 - 57
	Cooling	For Fan Coil Unit	°C	5 - 27
		For under floor	°C	16 - 27
Electric Heater	Power supply		Φ / Hz / V	3 / 50 / 380-415
	Number of Heating Coil		EA	3
	Capacity		kW	3 + 3 + 3
	Maximum Running Current		A	20
Water Flow Rate	Min.		LPM	15
Piping Connections	Water Circuit		mm(inch)	Male PT 25(1)
	Refrigerant Circuit		mm(inch)	Male PT 25(1)
	Gas	Gas	mm(inch)	Ø 15.88 (5/8)
		Liquid	mm(inch)	Ø 9.52 (3/8)
Dimensions	Body		mm	490 x 850 x 315
Net Weight	Body		kg	45
Sound power level	Heating	Rated	dB(A)	44

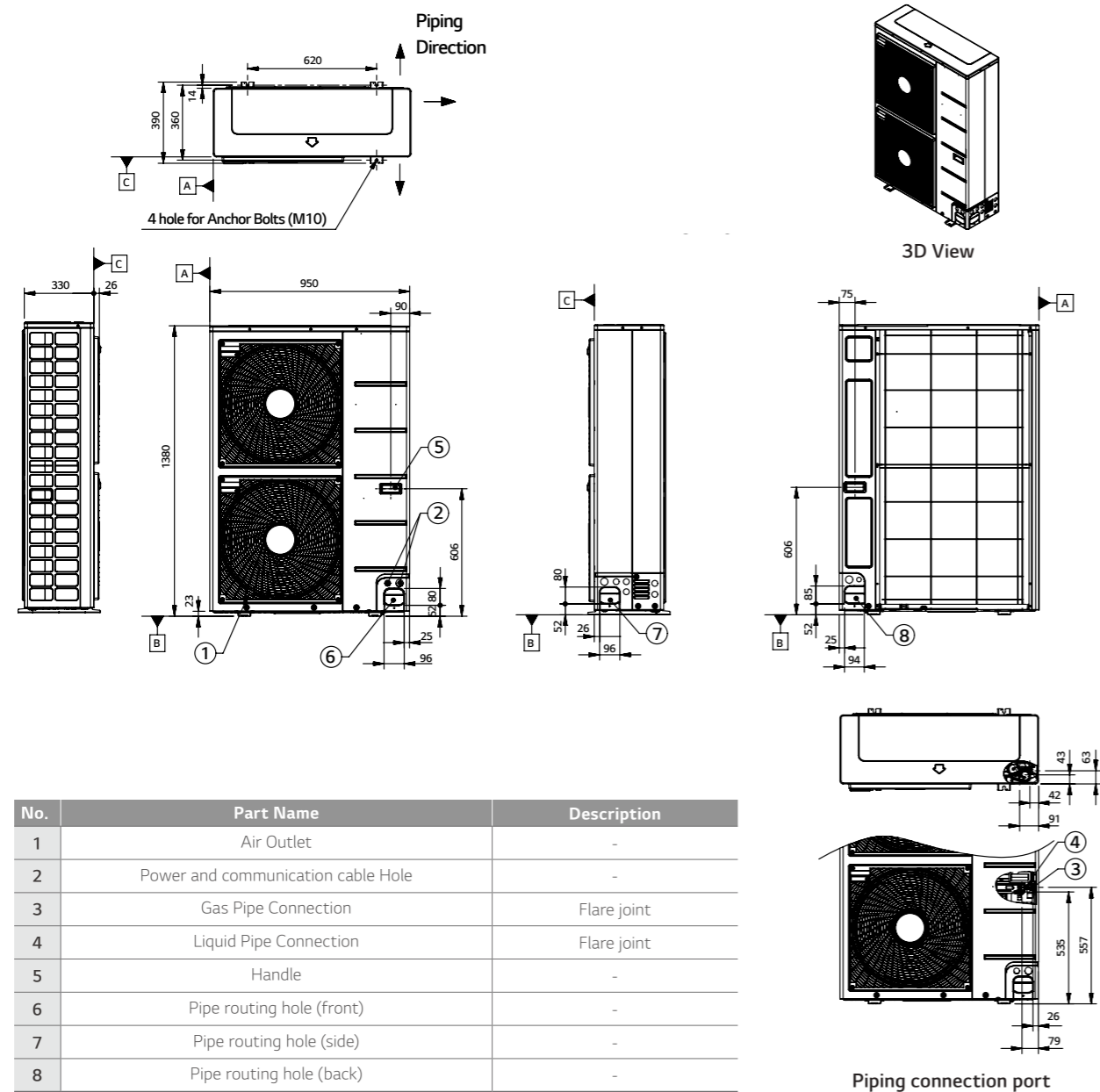
SPLIT HYDRO BOX TYPE

DRAWINGS

Category	Unit	Model Name		
		Capacity (kW)		
		12.0	14.0	16.0
1 Phase Model 1Ø, 220-240V, 50Hz	Outdoor Unit	HU121.U33	HU141.U33	HU161.U33
	Indoor Unit		HN1616.NK3	
3 Phase Model 3Ø, 380-415V, 50Hz	Outdoor Unit	HU123.U33	HU143.U33	HU163.U33
	Indoor Unit		HN1639.NK3	

HU121.U33 / HU141.U33 / HU161.U33 / HU123.U33 / HU143.U33 / HU163.U33

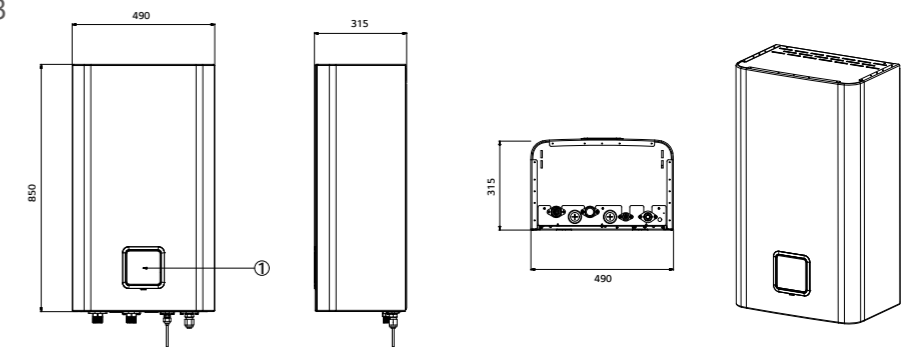
[Unit : mm]



No.	Part Name	Description
1	Air Outlet	-
2	Power and communication cable Hole	-
3	Gas Pipe Connection	Flare joint
4	Liquid Pipe Connection	Flare joint
5	Handle	-
6	Pipe routing hole (front)	-
7	Pipe routing hole (side)	-
8	Pipe routing hole (back)	-

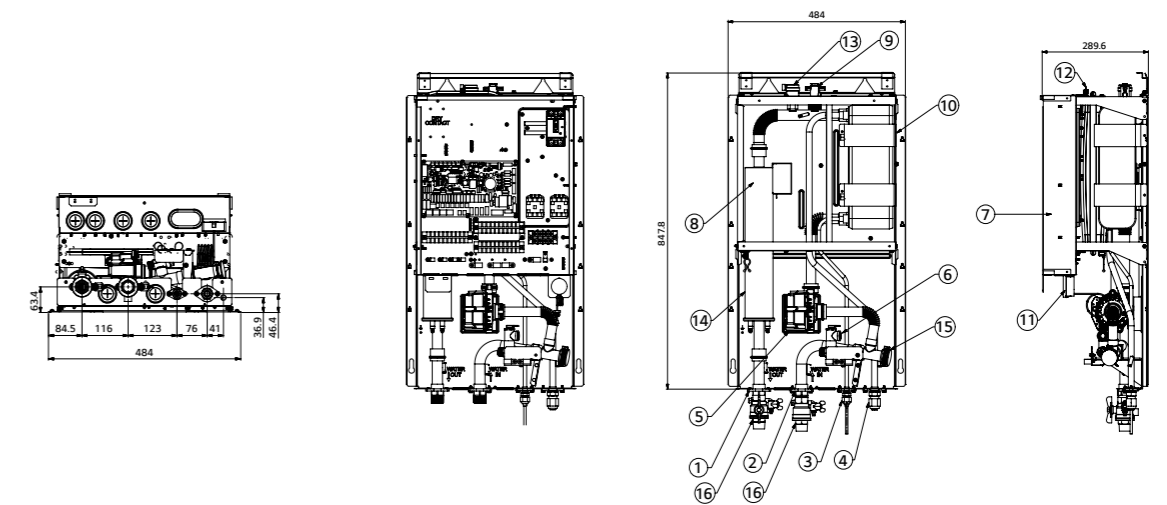
HN1616.NK3 / HN1639.NK3

External



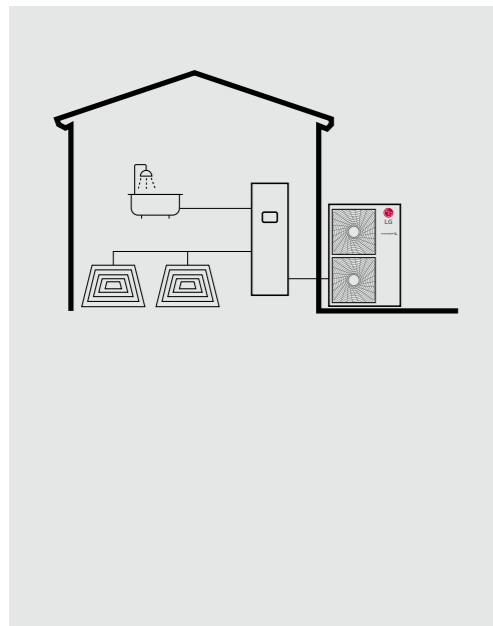
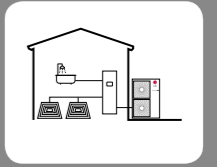
No.	Part Name	Description
1	Control Panel	Built-in Remote Controller

Internal



No.	Part Name	Description
1	Leaving Water Pipe	Male PT 1inch
2	Entering water pipe	Male PT 1inch
3	Refrigerant Pipe	Ø9.52mm
4	Refrigerant Pipe	Ø15.88mm
5	Water Pump	Max Head 9.5 / 7 / 6m
6	Safety Valve	Open at water pressure 3 bar
7	Control Box	PCB and terminal blocks
8	Thermal Switch	Cut-off power input to electric heater at 90°C (manual return at 55°C)
9	Flow Switch	Minimum operation range at 15LPM.
10	Plate Heat Exchanger	Heat exchange between refrigerant and water
11	Pressure Gage	Indicates circulating water pressure
12	Expansion Tank	Absorbing Volume change of heated water
13	Air Vent	Air purging when Charging water
14	Electric Heater	Please refer to the below Page 'Model name and related information'
15	Strainer	Filtering and stacking particles inside circulating water
16	Shut-off Valve	To drain or to block water when pipe connecting

SPLIT DHW TANK INTEGRATED TYPE



Excellent Performance

- Space heating efficiency.
- Pressure control & quick operation.

User Convenience

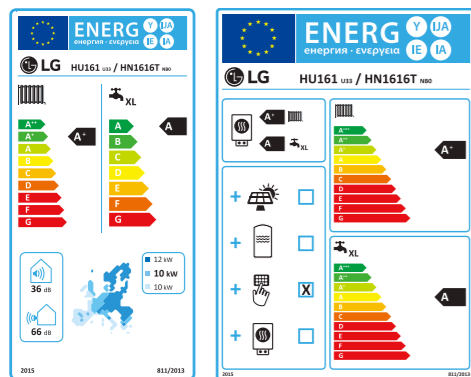
- Sophisticated and Harmonious exterior.
- Quiet operation.
- 2nd Heating Circuit.
- Controller for convenient control.

Easy Installation & Maintenance

- Save space & time.
- 200 liter DHW tank with extra 40 liter buffer tank.
- Flexible refrigerant piping design.



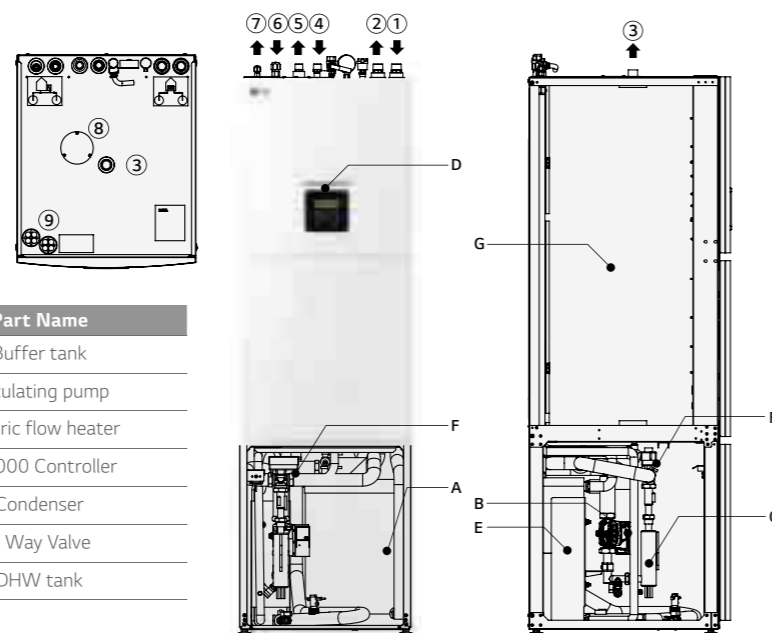
Energy Labeling



* 16kW 10 model.

Split DHW Tank Integrated Concept

THERMA V Split DHW Tank Integrated Type is that indoor unit is combined with domestic hot water tank while outdoor unit is located outside separately. It is more suitable for less indoor space, because water side components such as DHW tank and buffer tank normally installed additionally are combined as one unit.



Key Components

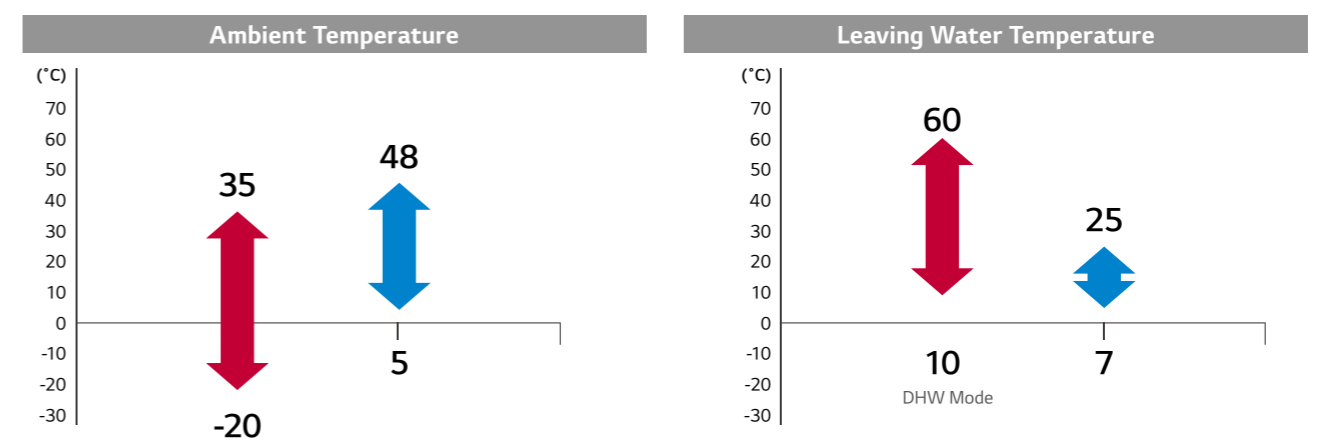
No.	Part Name	No.	Part Name
1	Heating / Cooling Inlet	A	Buffer tank
2	Heating / Cooling Outlet	B	Circulating pump
3	Warm sanitary	C	Electric flow heater
4	DHW - circulation	D	TT3000 Controller
5	Cold sanitary water - supply	E	Condenser
6	Gas pipe 5/8" - refrigerant	F	3 Way Valve
7	Liquid pipe 3/8" - refrigerant	G	DHW tank
8	Mg. Anode		

Capacity Range (Heating & Cooling)

Split DHW Tank Integrated Type

Capacity Range [kW]	5	6	7	8	9	10	11	12	13	14	15	16	17
Heating Capacity					●			●		●		●	
Cooling Capacity					●	●	●	●					

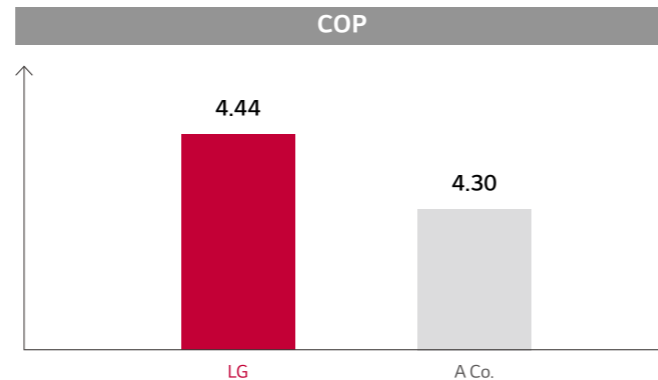
Operation Range (Heating & Cooling)



THERMAV™ SPLIT DHW TANK INTEGRATED TYPE
EXCELLENT PERFORMANCE

Space Heating Efficiency

The Energy Label Directive is a key factor of selecting heating device in Europe heating market. Therma V split DHW tank integrated type has an energy label rating A++ in ErP energy labeling regulation.



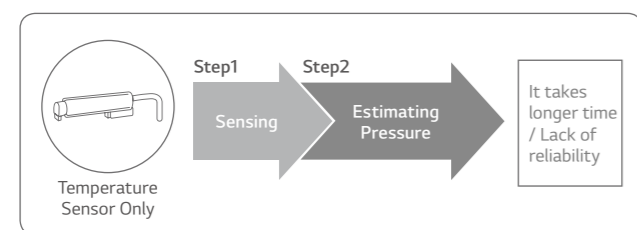
*Test Condition
 Ambient temp. 7°C / Leaving water temp. 35°C, Based on 14kW set.

Pressure Control & Quick Operating

Pressure Control secures faster and more exact response than temperature control, so it reduces the time to reach the target water temperature by 44%.

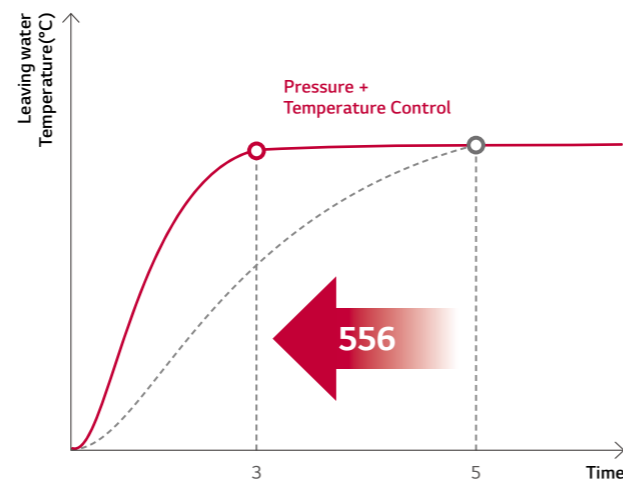
SCOP

- Quick response due to sensing with ready for operation.
- Ensures to reach target performance point without failing to keep a reliable operation.



ErP energy labeling

- Pressure control takes up to 44% less time to reach the desired water temperature with a high level of accuracy and stability.



* Based on internal test data.

Sophisticated and Harmonious Exterior

It is good to install in indoor space like utility room, kitchen, etc. due to the sophisticated & harmonious exterior with white color and modern design.



Quiet Operation

Due to quiet operation, it creates an atmosphere of calm and restfulness in case of indoor installation.

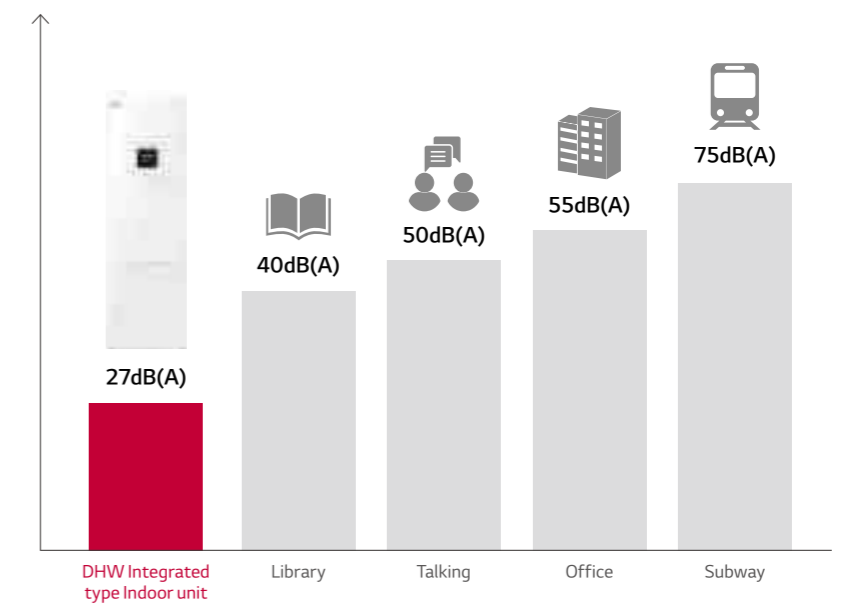
Operation Noise

- Sound Power level : 36 dB(A)
- Sound Pressure level : 27 dB(A)

Quiet operation.
 Calm and restfulness indoor environment.



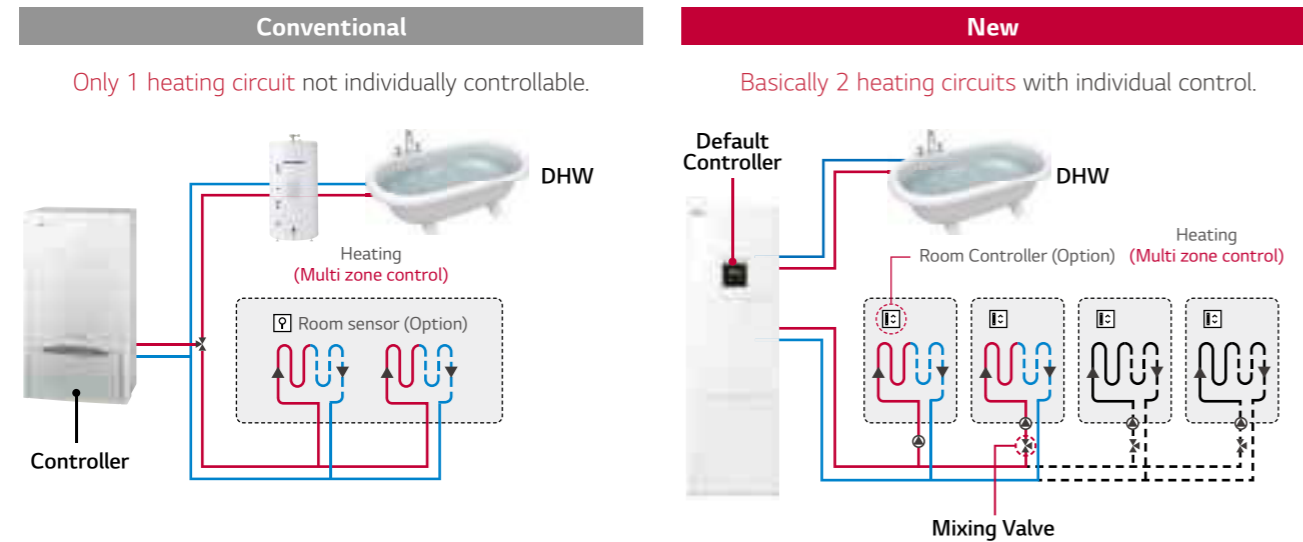
Sound Pressure Level Comparison



USER CONVENIENCE

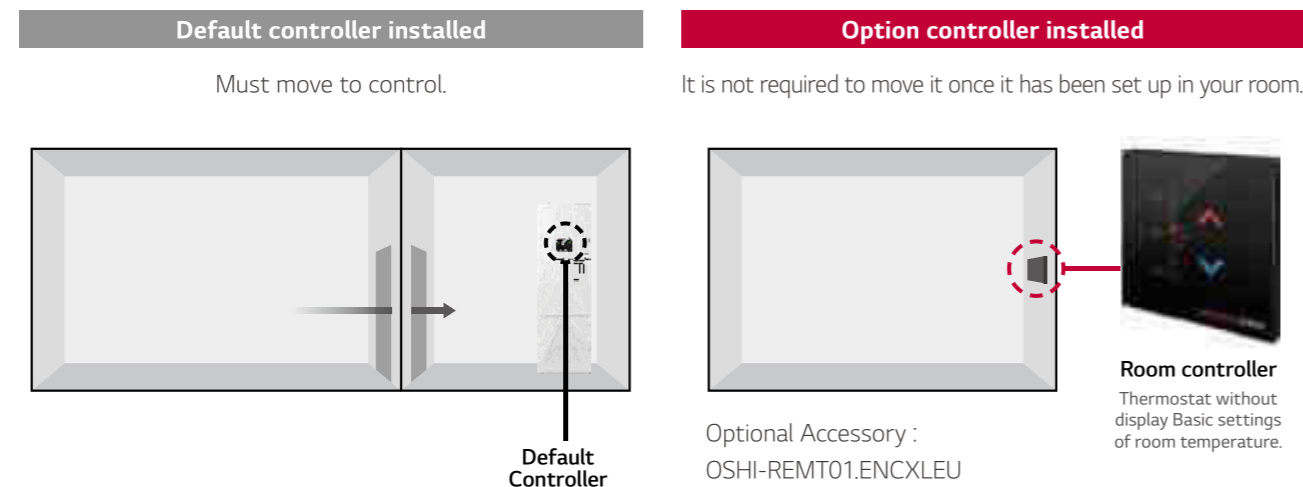
2nd Heating Circuit

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



Controller for Convenient Control

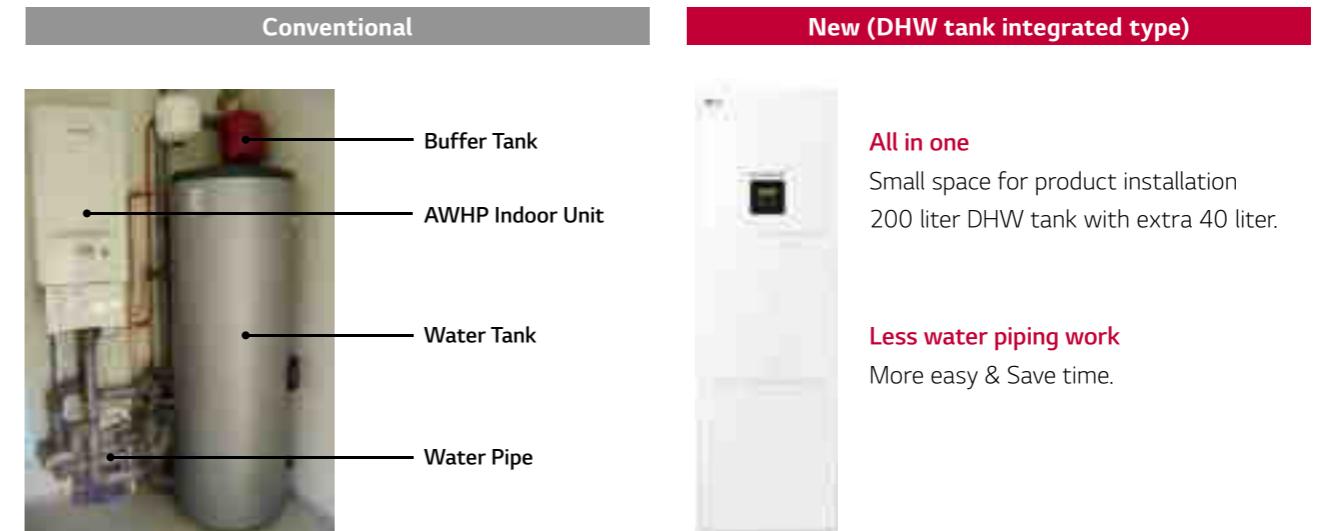
Easy & convenient setting room temperature!



EASY INSTALLATION & MAINTENANCE

Save Space & Time

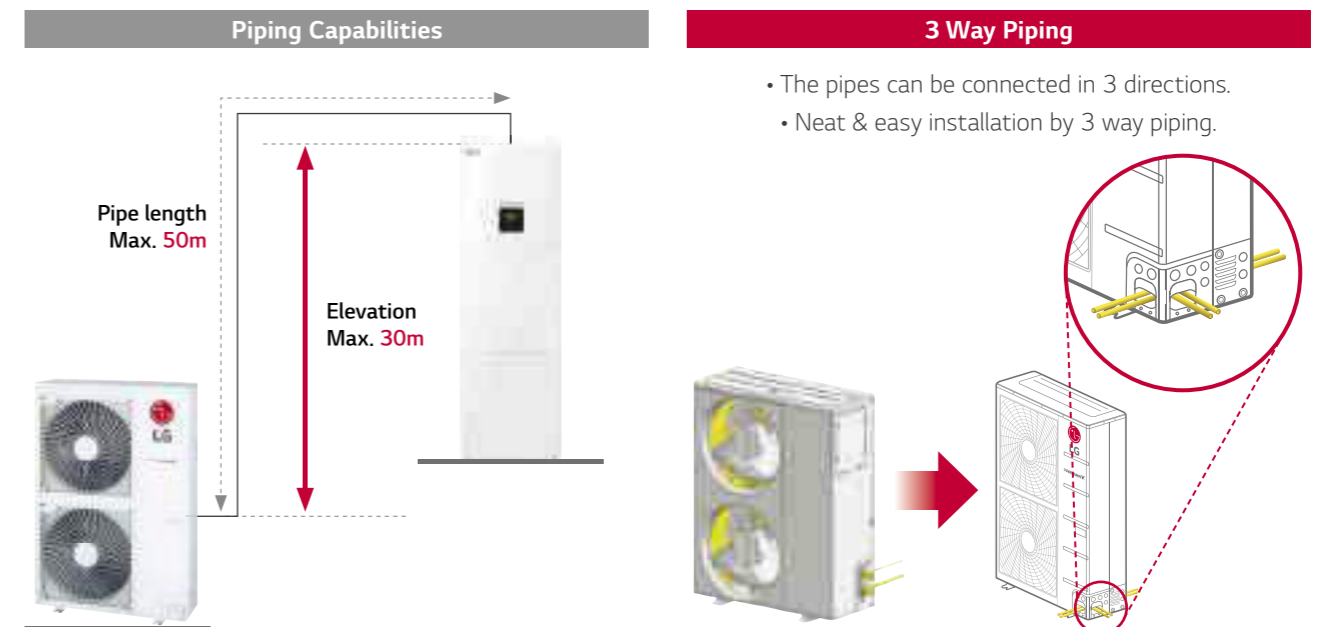
Compared with conventional system, easy & quick installation is possible and smaller spaces are required for installation.



- Enough rooms for product installation.
- Need to secure the space for water tank.
- More water piping work & More installation time.

Flexible Refrigerant Piping Design

Long piping length and 3-way piping enable flexible design and easy installation.



SPLIT DHW TANK INTEGRATED TYPE

SPLIT DHW TANK INTEGRATED TYPE

IDU

HN1616T.NB0

ODU

HU091.U43

HU121.U33

HU141.U33

HU161.U33

HU123.U33

HU143.U33

HU163.U33

Mandatory Accessory

PP485B00K.ENCXLEU²⁾



Features

- Space (Floor) Heating Efficiency with ErP A++ class
- Maximum 58°C LWT
- Corrosion Resistant Heat Exchanger
- KEYMARK / EHPA Certification

Model Line Up

Category	Unit	Model Name			
		Capacity (kW)			
		9.0	12.0	14.0	16.0
1 Phase Model 1Ø, 220-240V, 50Hz	Outdoor Unit	HU091.U43	HU121.U33	HU141.U33	HU161.U33
	Indoor Unit	HN1616T.NB0			
3 Phase Model 3Ø, 380-415V, 50Hz	Outdoor Unit	-	HU123.U33	HU143.U33	HU163.U33
	Indoor Unit	HN1616T.NB0			

Note
 1. LWT: Leaving Water Temperature.
 2. PP485B00K.ENCXLEU is required for communication between Outdoor Unit and Indoor Unit (Install at Outdoor Unit).

Seasonal Energy

Description		Outdoor Unit	HU091.U43	HU121.U33	HU141.U33	HU161.U33	HU123.U33	HU143.U33	HU163.U33	
		Indoor Unit	HN1616T.NB0							
Space Heating (According to EN14825)	Average Climate water outlet 35°C	SCOP	4.04	4.20	4.15	4.15	4.20	4.15	4.15	
		Rated heat output (Prated)	kW	7	10	10	11	10	10	11
		Seasonal space heating efficiency (ηs)	%	159	165	163	163	165	163	163
		Seasonal space heating eff. Class		A++	A++	A++	A++	A++	A++	A++
	Average Climate water outlet 55°C	Annual energy consumption	kWh	3,321	4,820	5,183	5,376	4,820	5,183	5,376
		SCOP		2.88	3.00	3.00	3.00	3.00	3.00	3.00
		Rated heat output (Prated)	kW	6	10	10	10	10	10	10
		Seasonal space heating efficiency (ηs)	%	112	117	117	117	117	117	117
Domestic Hot Water Heating	Average Climate	Seasonal space heating eff. Class		A+	A+	A+	A+	A+	A+	
		Annual energy consumption	kWh	4,020	6,755	6,755	6,755	6,755	6,755	6,755
General	Declared load profile	Water heating efficiency (ηwh)	XL	XL	XL	XL	XL	XL	XL	
			%	98	89	89	89	89	89	89
Average Climate	Water heating energy eff. class	Water heating energy eff. class	A	A	A	A	A	A	A	

Indoor Unit Specification (200L)

Description		Unit	HN1616T.NB0					
Operation Range (Leaving Water)	Heating	°C	25 - 58					
	Cooling	°C	7 - 25					
	Domestic Hot Water	°C	10 - 60					
Electric Heater	Power supply	Phase / Frequency / Voltage	Φ / Hz / V	1 / 50 / 220-240	1 / 50 / 220-240	3 / 50 / 380-415		
	Number of Heating Coil	EA		1	2	3		
	Capacity	kW		2	2 + 2	2 + 2 + 2		
	Maximum Running Current	A		11.1	19.9	11.1		
	Recommended Circuit Breaker	A		16	20	16		
Water Flow Rate	Min.	LPM	13					
Piping Connections	Water Circuit	Inlet	mm(inch)	Male PT 25(1)				
		Outlet	mm(inch)	Male PT 25(1)				
	Refrigerant Circuit	Gas	mm(inch)	Ø 15.88 (5/8)				
		Liquid	mm(inch)	Ø 9.52 (3/8)				
	DHW Tank Water Circuit	Cold Inlet	mm(inch)	Male PT 19.05 (3/4)				
		Hot Outlet	mm(inch)	Male PT 25 (1)				
DHW Tank	Type	Material	-	Hydro module with integrated boiler				
				Enameled steel				
				Water Volume	Rated	ℓ	200	
				Internal Thermal Protect limit	°C	95		
	Maximum water pressure limit	bar	10					
	Insulation	Material	-	Polyurethane foam				
				Thickness	mm	50		
Heat loss (for 24hr)				kWh	1.67			
Buffer Tank	Water Volume	Rated	ℓ	40				
	Material	-	Steel powder coated					
Insulation Material	-	Closed cell foamed rubber						
		Dimensions	Body	W x H x D	mm	607 x 2,079 x 725		
Weight	Body	kg	228					
Sound power level	Heating	Rated	dB(A)	36				

SPLIT DHW TANK INTEGRATED TYPE

Outdoor unit Product Specification (1Phase)

Description				Outdoor Unit	HU091.U43	HU121.U33	HU141.U33	HU161.U33
				Indoor Unit	HN1616T.NB0			
Nominal Capacity	Heating	OAT	LWT	kW	9.0	12.0	14.0	16.0
	Cooling	35°C	18°C	kW	9.0	10.4	11.0	12.0
Nominal Power Input	Heating	7°C	35°C	kW	2.23	2.78	3.43	4.18
	Cooling	35°C	18°C	kW	2.88	3.30	3.53	4.00
COP	Heating	7°C	35°C	W/W	4.04	4.32	4.08	3.83
EER	Cooling	35°C	18°C	W/W	3.12	3.15	3.12	3.00
Operation range (Outdoor Air)	Heating	Min. - Max.		°C DB	-20 - 35			
	Cooling	Min. - Max.		°C DB	5 - 48			
Refrigerant	Type				R410A			
	GWP (Global Warming Potential)				2,088			
	Charge			kg	1.8	2.3		
				tCO2eq	3.76	4.8		
	Chargeless Pipe Length			m	7.5			
Additional Charging Volume			g/m	40				
Compressor	Quantity			EA	1			
	Type				Rotary			
Refrigerant Piping Connection	Outer Dia.	Liquid		mm(inch)	Ø 9.52 (3/8)			
		Gas		mm(inch)	Ø 15.88 (5/8)			
	Length	Min.		m	3			
		Standard		m	7.5			
		Max.		m	50			
Level Difference (ODU - IDU)	Max.		m	30				
Dimensions	Unit	W x H x D	mm	950 x 834 x 330	950 x 1,380 x 330			
Weight	Unit		kg	59	94			
Sound power level	Heating	Rated		dB(A)	65	66		
	Phase / Frequency / Voltage			Φ / Hz / V	1 / 50 / 220-240			
Power supply	Maximum Running Current			A	19	25		
	Recommended Circuit Breaker			A	30	40		

Note

1. Due to our policy of innovation some specifications may be changed without notification.
2. Wiring cable size must comply with the applicable local and national codes. And "Electric characteristics" chapter should be considered for electrical work and design. Especially the power cable and circuit breaker should be selected in accordance with that.
3. Sound Level Values are measured at Anechoic chamber. Therefore, these values depend on the ambient conditions and values are normally higher in actual operation.
4. Performances are based on that Interconnected Pipe Length is standard length and difference of Elevation (Outdoor - Indoor Unit) is Zero.
5. This product contains Fluorinated greenhouse gases.
6. LWT : Leaving Water Temperature, OAT : Outdoor Air Temperature.

Indoor unit Product Specification (3Phase)

Description				Outdoor Unit	HU121.U33	HU141.U33	HU161.U33
				Indoor Unit	HN1616.NK3		
Nominal Capacity	Heating	OAT	LWT	kW	12.0	14.0	16.0
	Cooling	35°C	18°C	kW	10.4	11.0	12.0
Nominal Power Input	Heating	7°C	35°C	kW	2.78	3.43	4.18
	Cooling	35°C	18°C	kW	3.30	3.53	4.00
COP	Heating	7°C	35°C	W/W	4.32	4.08	3.83
EER	Cooling	35°C	18°C	W/W	3.15	3.12	3.00
Operation range (Outdoor Air)	Heating	Min. - Max.		°C DB	-20 - 35		
	Cooling	Min. - Max.		°C DB	5 - 48		
Refrigerant	Type				R410A		
	GWP (Global Warming Potential)				2,088		
	Charge			kg	2.3		
				tCO2eq	4.8		
	Chargeless Pipe Length			m	7.5		
Additional Charging Volume			g/m	40			
Compressor	Quantity			EA	1		
	Type				Rotary		
Refrigerant Piping Connection	Outer Dia.	Liquid		mm(inch)	Ø 9.52 (3/8)		
		Gas		mm(inch)	Ø 15.88 (5/8)		
	Length	Min.		m	3		
		Standard		m	7.5		
		Max.		m	50		
Level Difference (ODU - IDU)	Max.		m	30			
Dimensions	Unit	W x H x D	mm	950 x 1,380 x 330			
Weight	Unit		kg	94			
Sound power level	Heating	Rated		dB(A)	66		
	Phase / Frequency / Voltage			Φ / Hz / V	3 / 50 / 380-415		
Power supply	Maximum Running Current			A	16.1		
	Recommended Circuit Breaker			A	20		

Note

1. Due to our policy of innovation some specifications may be changed without notification.
2. Wiring cable size must comply with the applicable local and national codes. And "Electric characteristics" chapter should be considered for electrical work and design. Especially the power cable and circuit breaker should be selected in accordance with that.
3. Sound Level Values are measured at Anechoic chamber. Therefore, these values depend on the ambient conditions and values are normally higher in actual operation.
4. Performances are based on that Interconnected Pipe Length is standard length and difference of Elevation (Outdoor - Indoor Unit) is Zero.
5. This product contains Fluorinated greenhouse gases.
6. LWT : Leaving Water Temperature, OAT : Outdoor Air Temperature.

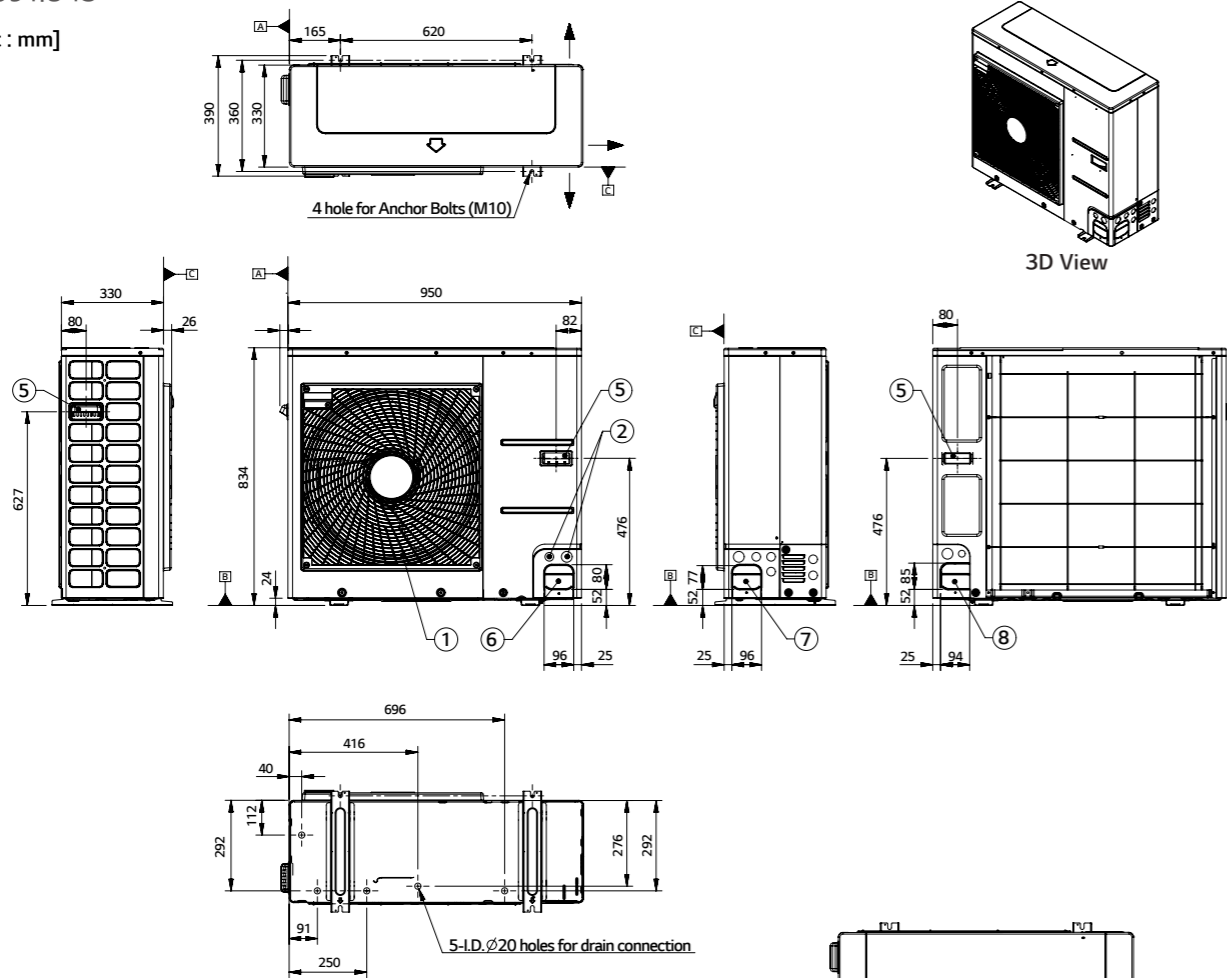
SPLIT DHW TANK INTEGRATED TYPE

DRAWINGS

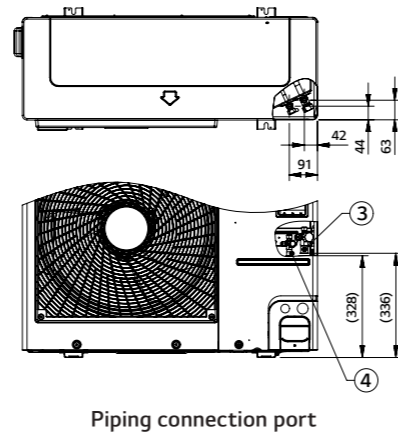
Category	Unit	Model Name			
		Capacity (kW)			
		9.0	12.0	14.0	16.0
1 Phase Model 1Ø, 220-240V, 50Hz	Outdoor Unit	HU091.U43	HU121.U33	HU141.U33	HU161.U33
	Indoor Unit	HN1616T.NB0			
3 Phase Model 3Ø, 380-415V, 50Hz	Outdoor Unit	-	HU123.U33	HU143.U33	HU163.U33
	Indoor Unit	HN1616T.NB0			

HU091.U43

[Unit : mm]

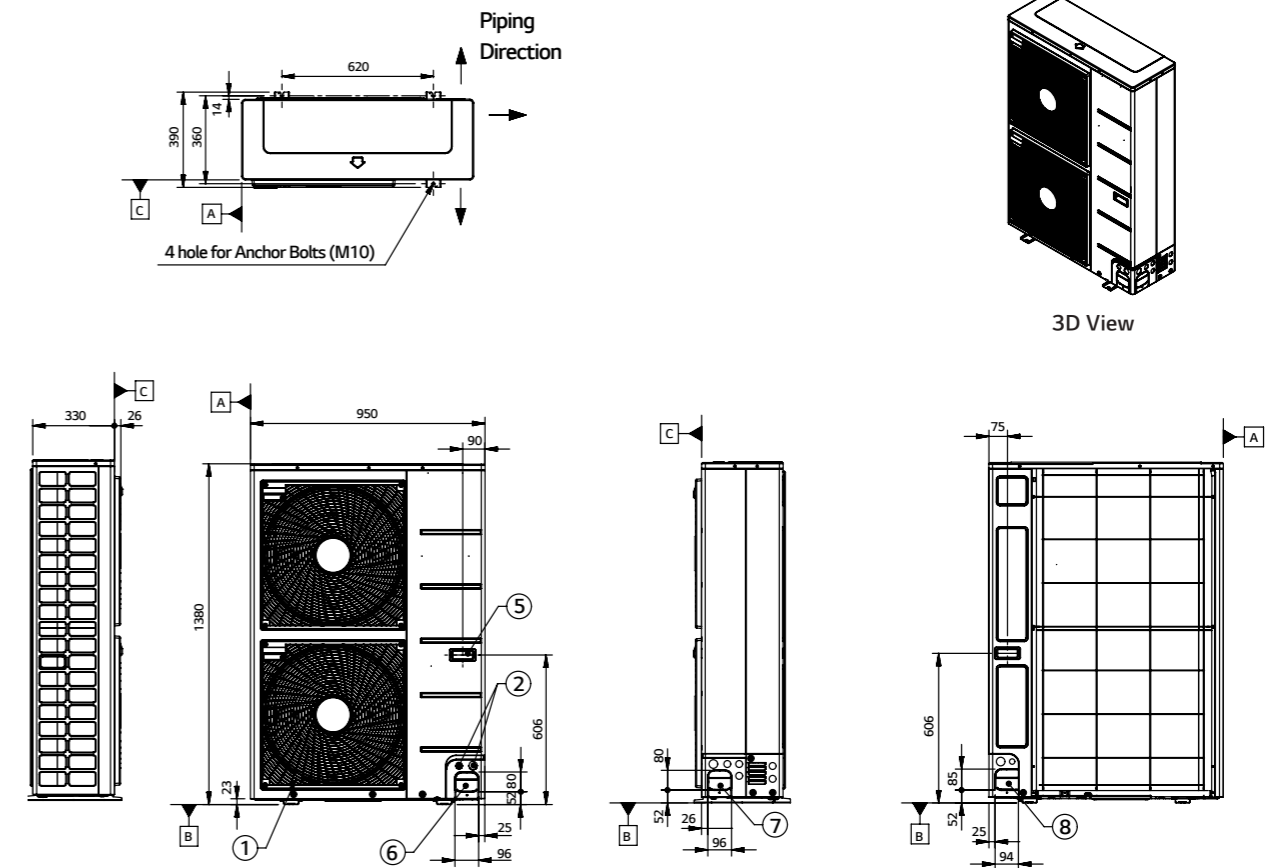


No.	Part Name	Description
1	Air Outlet	-
2	Power and communication cable Hole	-
3	Gas Pipe Connection	Flare joint
4	Liquid Pipe Connection	Flare joint
5	Handle	-
6	Pipe routing hole (front)	-
7	Pipe routing hole (side)	-
8	Pipe routing hole (back)	-

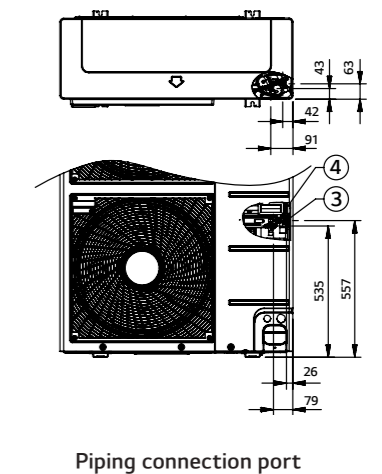


HU121.U33 / HU141.U33 / HU161.U33 / HU123.U33 / HU143.U33 / HU163.U33

[Unit : mm]



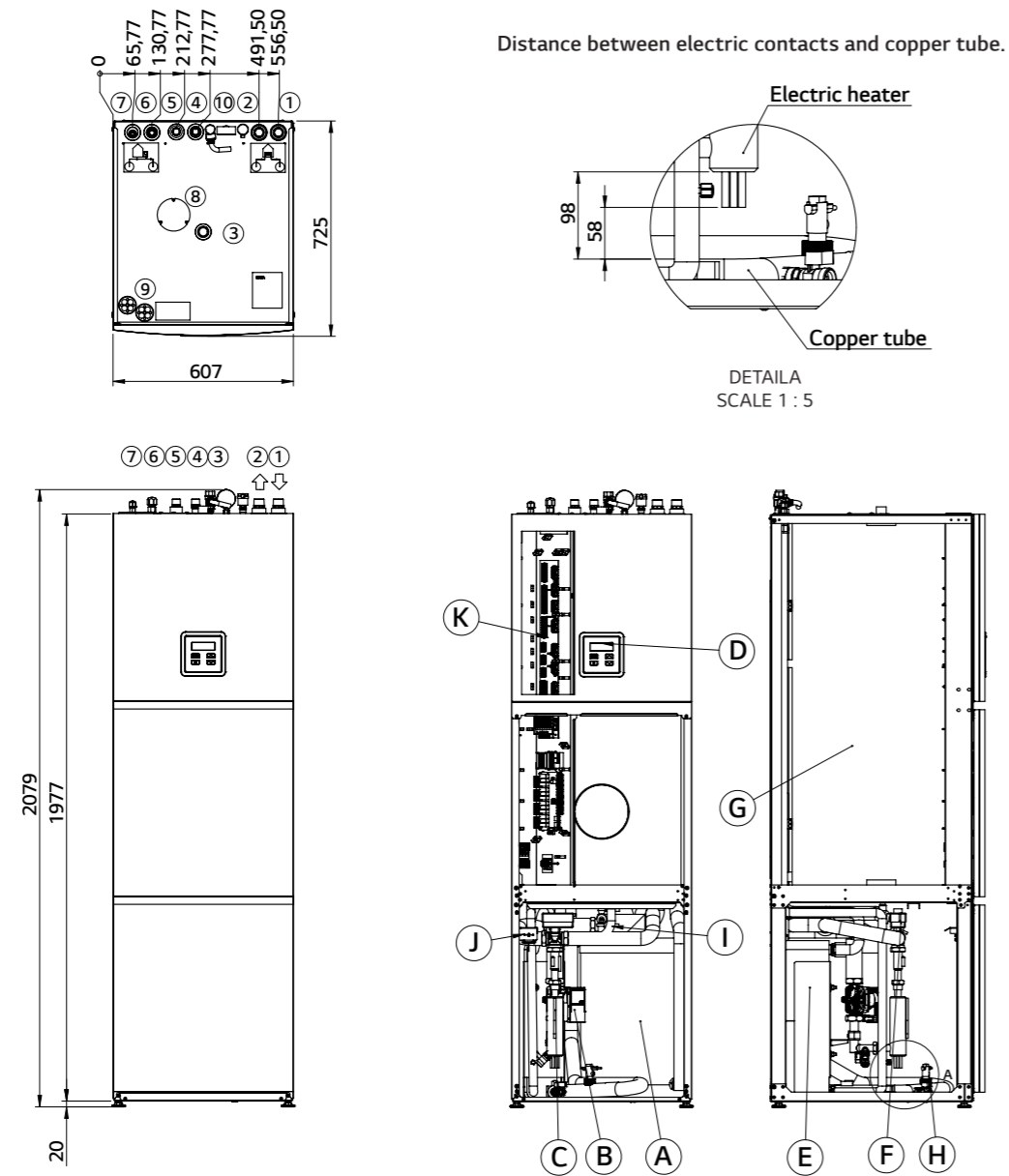
No.	Part Name	Description
1	Air Outlet	-
2	Power and communication cable Hole	-
3	Gas Pipe Connection	Flare joint
4	Liquid Pipe Connection	Flare joint
5	Handle	-
6	Pipe routing hole (front)	-
7	Pipe routing hole (side)	-
8	Pipe routing hole (back)	-



SPLIT DHW TANK INTEGRATED TYPE

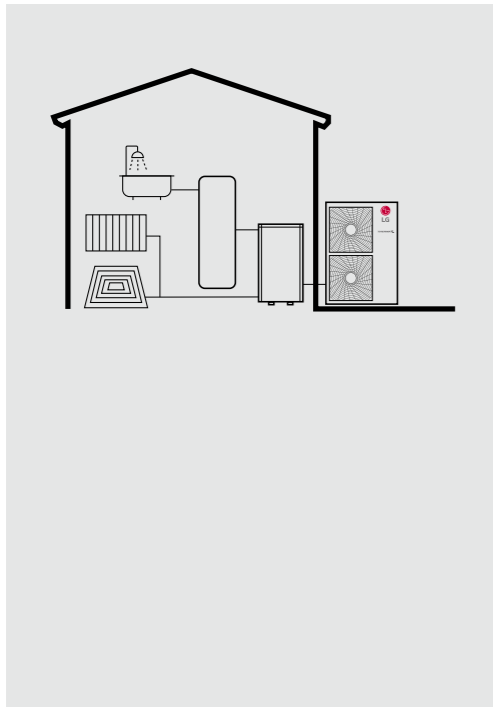
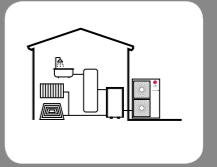
HN1616T.NB0

[Unit : mm]



No.	Part Name	No.	Part Name
1	Heating / Cooling Inlet	A	Buffer tank
2	Heating / Cooling Outlet	B	Circulating pump
3	Warm sanitary	C	Electric flow heater
4	DHW - circulation	D	TT3000 Controller
5	Cold sanitary water - supply	E	Condenser
6	Gas pipe 5/8" - refrigerant	F	3 Way Valve
7	Liquid pipe 3/8" - refrigerant	G	DHW tank
8	Mg. Anode		

HIGH TEMPERATURE



Excellent Performance

- Higher energy efficiency.
- Enhanced efficiency & performance.
- Cascade 2 stage compression.

User Convenience

- Suitable for old radiator.
- Low noise.
- Quick Defrosting.

Easy Installation & Maintenance

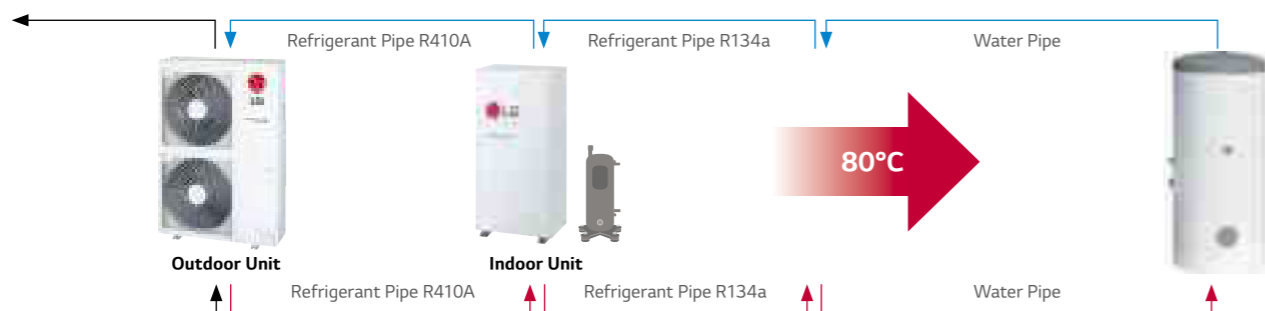
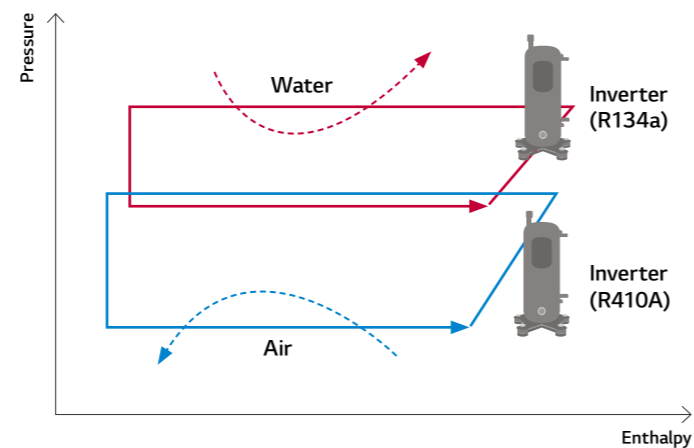
- Efficient & flexible design.
- Light weight.
- Low current level.



High Temperature Concept

THERMA V High Temperature is suitable for houses which have poor insulation or existing old radiator, or have to meet sanitary water regulation which needs high water temperature.

Therma V High Temperature Cycle

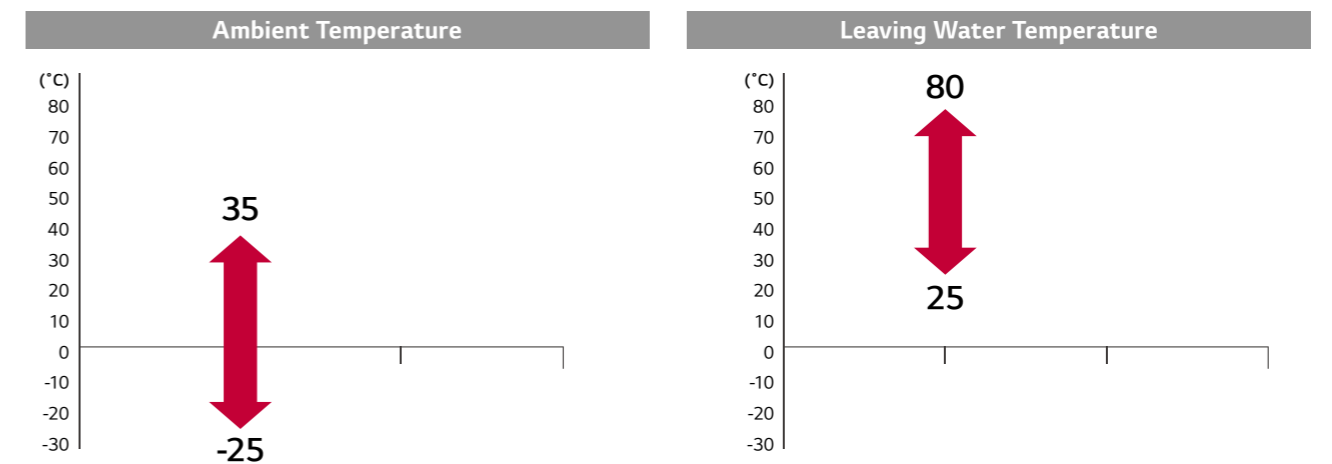


Capacity Range (Heating)

High Temperature Model

Capacity Range [kW]	5	6	7	8	9	10	11	12	13	14	15	16	17
Heating Capacity												●	

Operation Range (Heating)

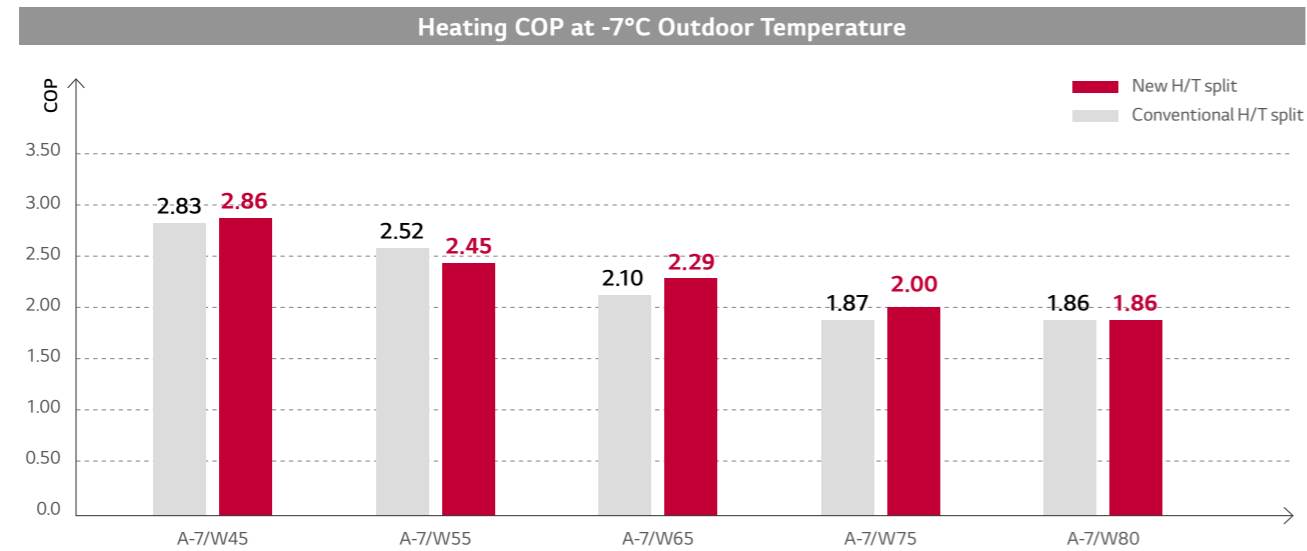


EXCELLENT PERFORMANCE

THERMA V™ HIGH TEMPERATURE

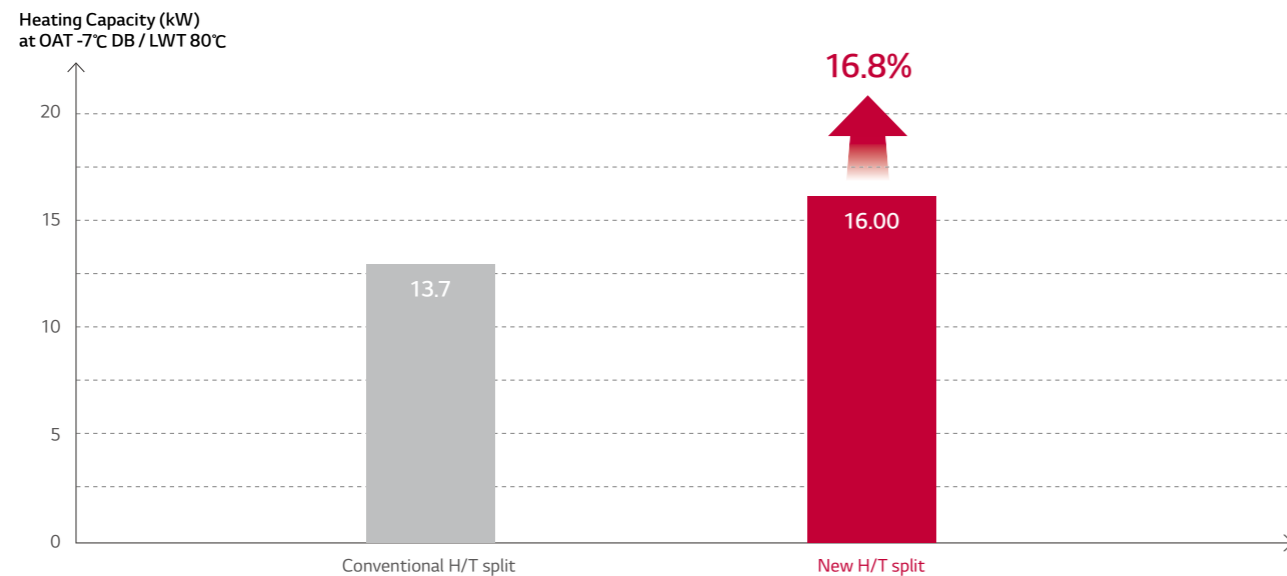
High Energy Efficiency

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



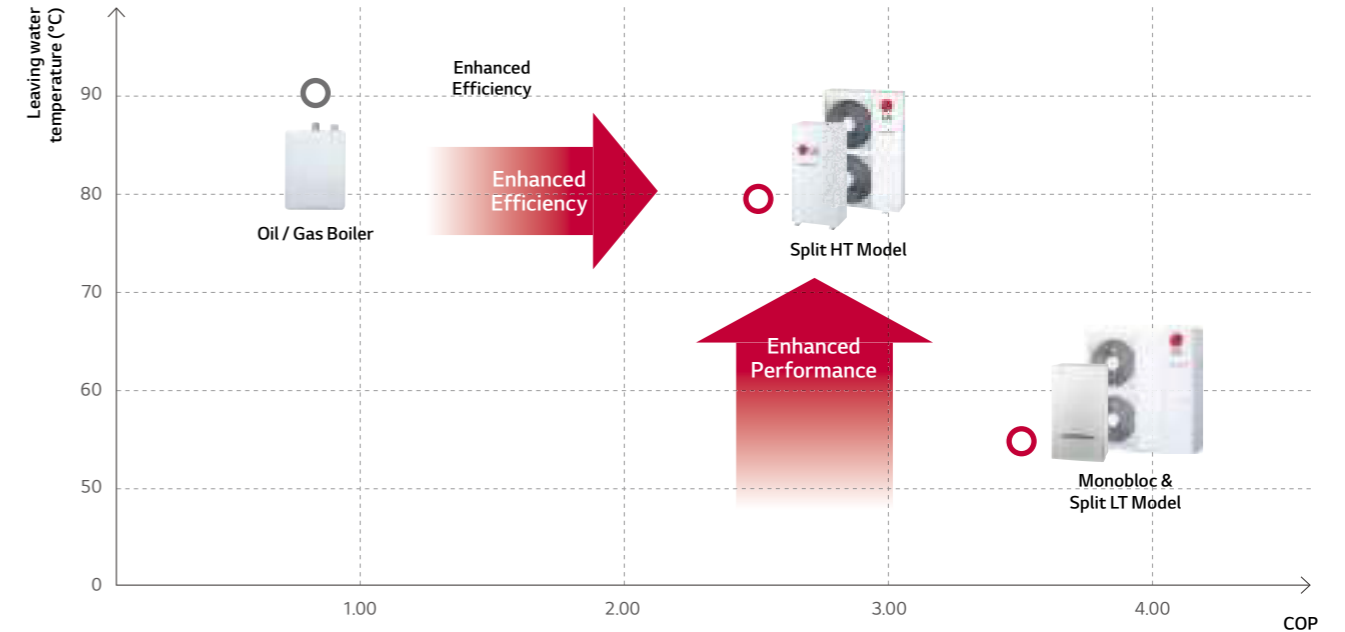
Excellent Performance at LAT

New H/T split provides excellent heating performance – especially at Low Ambient Temperature. Even at outside temperatures of -7 °C and LWT of 80 °C, New H/T split is able to provide 16kW heating capacity improved by 16.8% compared to the previous models.



Enhanced Efficiency & Performance

THERMA V High temp. can produce Max. 80°C hot water with high efficiency through cascade 2 stage compression technology.

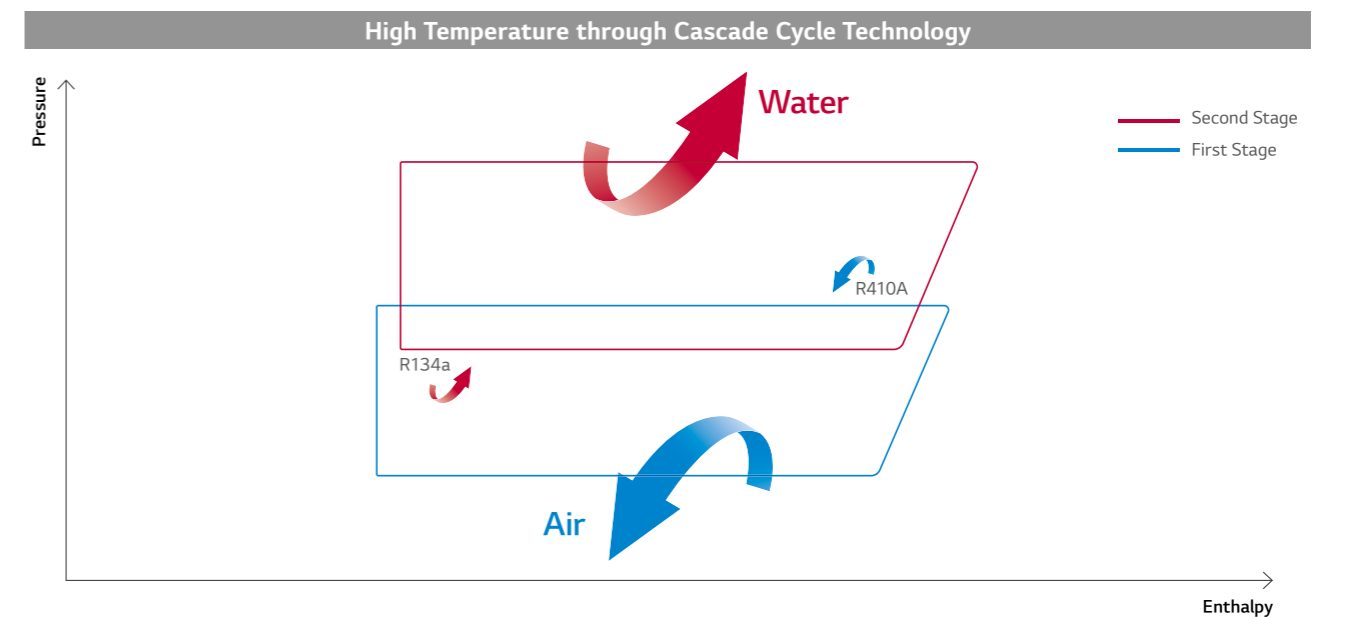


* Condition for HT model : Outdoor air temp. 18°C, Entering water temp. 70°C
 * Condition for LT model : Outdoor air temp. 18°C, Entering water temp. 55°C

Note
 1. OAT : Outdoor Air Temperature, EWT : Entering Water Temperature, LWT : Leaving Water Temperature.

Cascade 2 Stage Compression Technology

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



THERMA V™ HIGH TEMPERATURE
USER CONVENIENCE

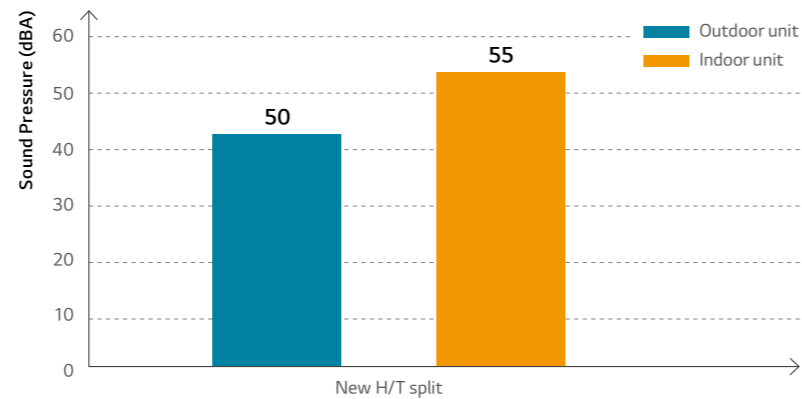
Suitable for Old Radiator

THERMA V High Temperature is suitable for houses which have poor insulation or existing old radiator, or have to meet sanitary water regulation which needs high water temperature.



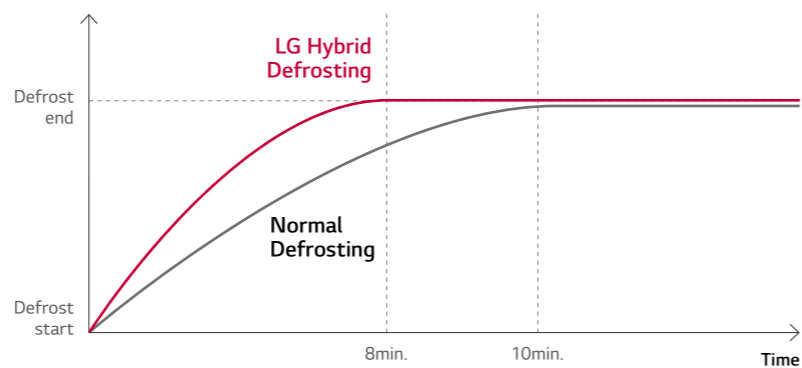
Low Noise Level

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



Quick Defrosting

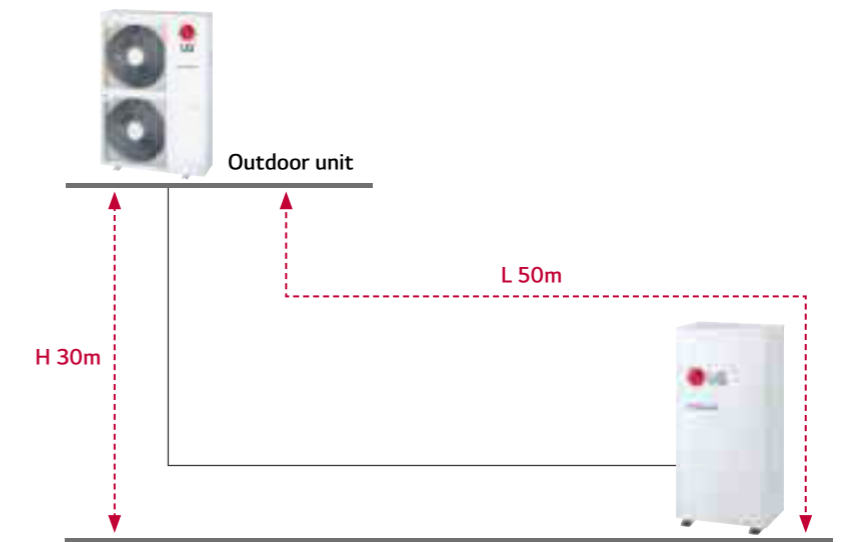
Through R134a compressor controlling technology, necessary time for defrost operation has been minimized effectively. (LG Patent)



THERMA V™ HIGH TEMPERATURE
EASY INSTALLATION & MAINTENANCE

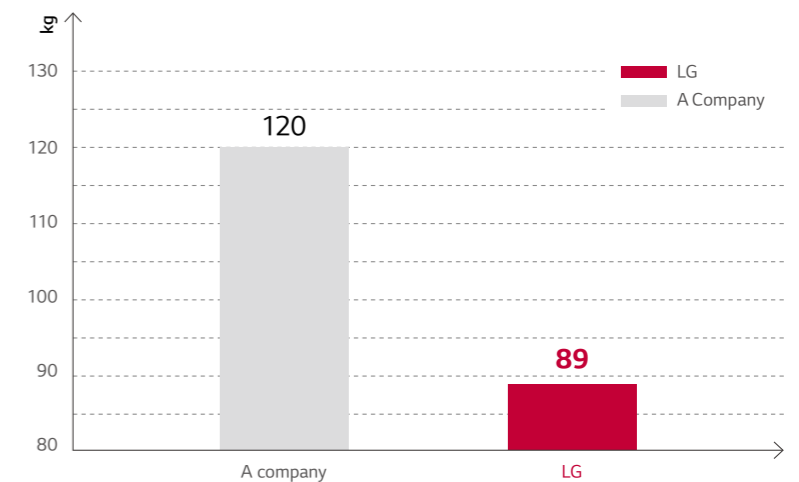
Efficient & Flexible Design

World-class level of ref. piping distance enables more efficient design & flexible installation.



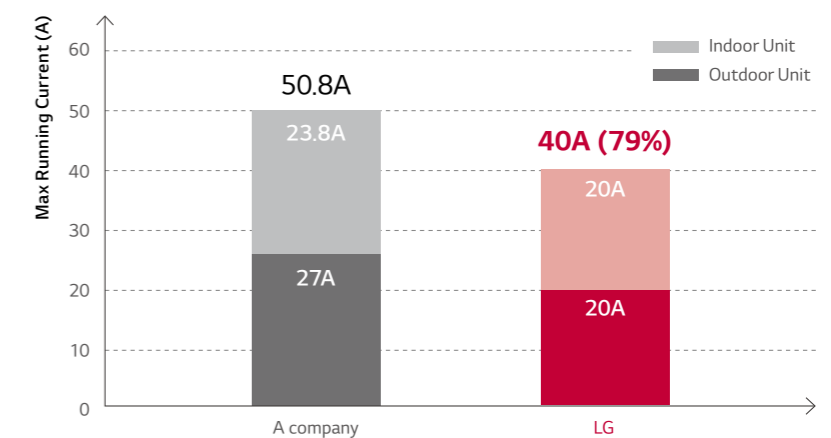
Light Weight

Lighter weight enables easy installation work.



Low Current Level

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



HIGH TEMPERATURE

HIGH TEMPERATURE

IDU

HN1610H.NK3

ODU

HU161HA.U33



Features

- Higher Energy Efficiency
- Cascade 2 Stage Compression
- Maximum 80°C LWT
- Suitable For Old Radiator
- Only For Heating (No Cooling)
- Quick Defrosting
- Efficient & Flexible Design
- MCS Certification

Model Line Up

Category	Unit	Model Name	
		Capacity (kW)	16.0
1 Phase Model 1Ø, 220-240V, 50Hz	Outdoor Unit	HU161HA.U33	
	Indoor Unit	HN1610H.NK3	

Seasonal Energy

Description		Outdoor Unit	HU161HA.U33	
		Indoor Unit	HN1610H.NK3	
Space Heating (According to EN14825)	Average Climate water outlet 35°C	SCOP	3.23	
		Rated heat output (Prated)	kW	13
		Seasonal space heating efficiency (ηs)	%	126
		Seasonal space heating eff. Class		A+
		Annual energy consumption	kWh	8,618
	Average Climate water outlet 55°C	SCOP		3.01
		Rated heat output (Prated)	kW	11
		Seasonal space heating efficiency (ηs)	%	117
		Seasonal space heating eff. Class		A+
		Annual energy consumption	kWh	7,424

Note
1. LWT : Leaving Water Temperature.

Outdoor Unit Specification

Description		Outdoor Unit		HU161HA.U33
Nominal Capacity	Heating	OAT	LWT	
		7°C	35°C	kW
Nominal Power Input	Heating	7°C	55°C	kW
		7°C	55°C	kW
COP	Heating	7°C	35°C	W/W
		7°C	55°C	W/W
Operation range (Outdoor Air)	Heating	Min. - Max.	°C DB	-25 - 35
Refrigerant	Type			R410A
	GWP (Global Warming Potential)			2088.00
	Charge			kg
				tCO2eq
	Chargeless Pipe Length			m
Additional Charging Volume			g/m	
Compressor	Quantity			EA
	Type			Scroll
Refrigerant Piping Connection	Outer Dia.	Liquid	mm(inch)	Ø 9.52 (3/8)
		Gas	mm(inch)	Ø 15.88 (5/8)
	Length	Standard	m	7.5
		Max.	m	50
Level Difference (ODU - IDU)	Max.	m	30	
Dimensions	Unit	W x H x D	mm	950 x 1,380 x 330
Weight	Unit			kg
Sound power level	Heating	Rated	dB(A)	63
	Phase / Frequency / Voltage			Φ / Hz / V
Power supply	Maximum Running Current			A
	Recommended Circuit Breaker			A

Note
1. Capacities and power inputs are based on the following conditions:
- Piping Length : Interconnected Pipe Length = 7.5m - Difference Limit of Elevation (Outdoor - Indoor Unit) is Zero.
2. Wiring cable size must comply with the applicable local and national codes.
3. Due to our policy of innovation some specifications may be changed without notification.
4. Sound Level Values are measured at Anechoic chamber. Therefore, these values can be increased owing to ambient conditions during operation.
5. This product contains Fluorinated Greenhouse Gases.
6. LWT : Leaving Water Temperature, OAT : Outdoor Air Temperature.

Indoor Unit Specification

Description		Unit	HN1610H.NK3	
Operation Range (Leaving Water)	Heating	°C	25 - 80	
Refrigerant	Type	-	R134a	
	GWP (Global Warming Potential)	-	1,430	
	Charge	kg	1.8	
tCO2eq		2.57		
Compressor	Quantity	EA	1	
	Type	Scroll		
Water Flow Rate	Min. (Recommended)	LPM	15	
Piping Connections	Water Circuit	Inlet	mm(inch)	Male PT 25(1)
		Outlet	mm(inch)	Male PT 25(1)
	Refrigerant Circuit	Gas	mm(inch)	Ø 15.88 (5/8)
Liquid		mm(inch)	Ø 9.52 (3/8)	
Dimensions	Body	W x H x D	mm	520 x 1,080 x 330
Net Weight	Body			kg
Sound power level	Heating	Rated	dB(A)	58
	Phase / Frequency / Voltage			Φ / Hz / V
Power Supply	Maximum Running Current			A
	Recommended Circuit Breaker			A

Note
1. Wiring cable size must comply with the applicable local and national codes.
2. Due to our policy of innovation some specifications may be changed without notification.
3. Sound Level Values are measured at Anechoic chamber. Therefore, these values can be increased owing to ambient conditions during operation.
4. This product contains Fluorinated Greenhouse Gases.

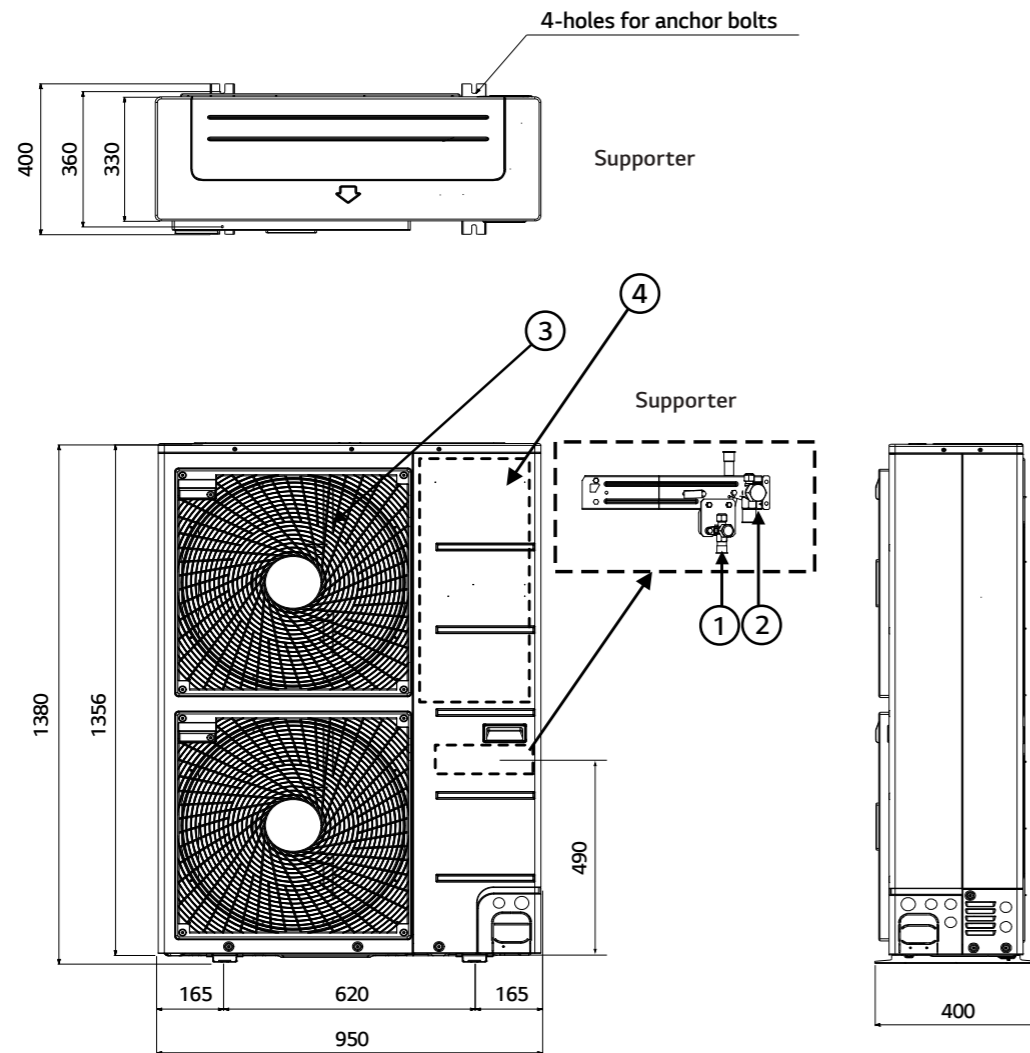
THERMAV™ HIGH TEMPERATURE HIGH TEMPERATURE

DRAWINGS

Category	Unit	Model Name
		Capacity (kW)
		16.0
1 Phase Model 1Ø, 220-240V, 50Hz	Outdoor Unit	HU161HA.U33
	Indoor Unit	HN1610H.NK3

HU161HA.U33

[Unit : mm]

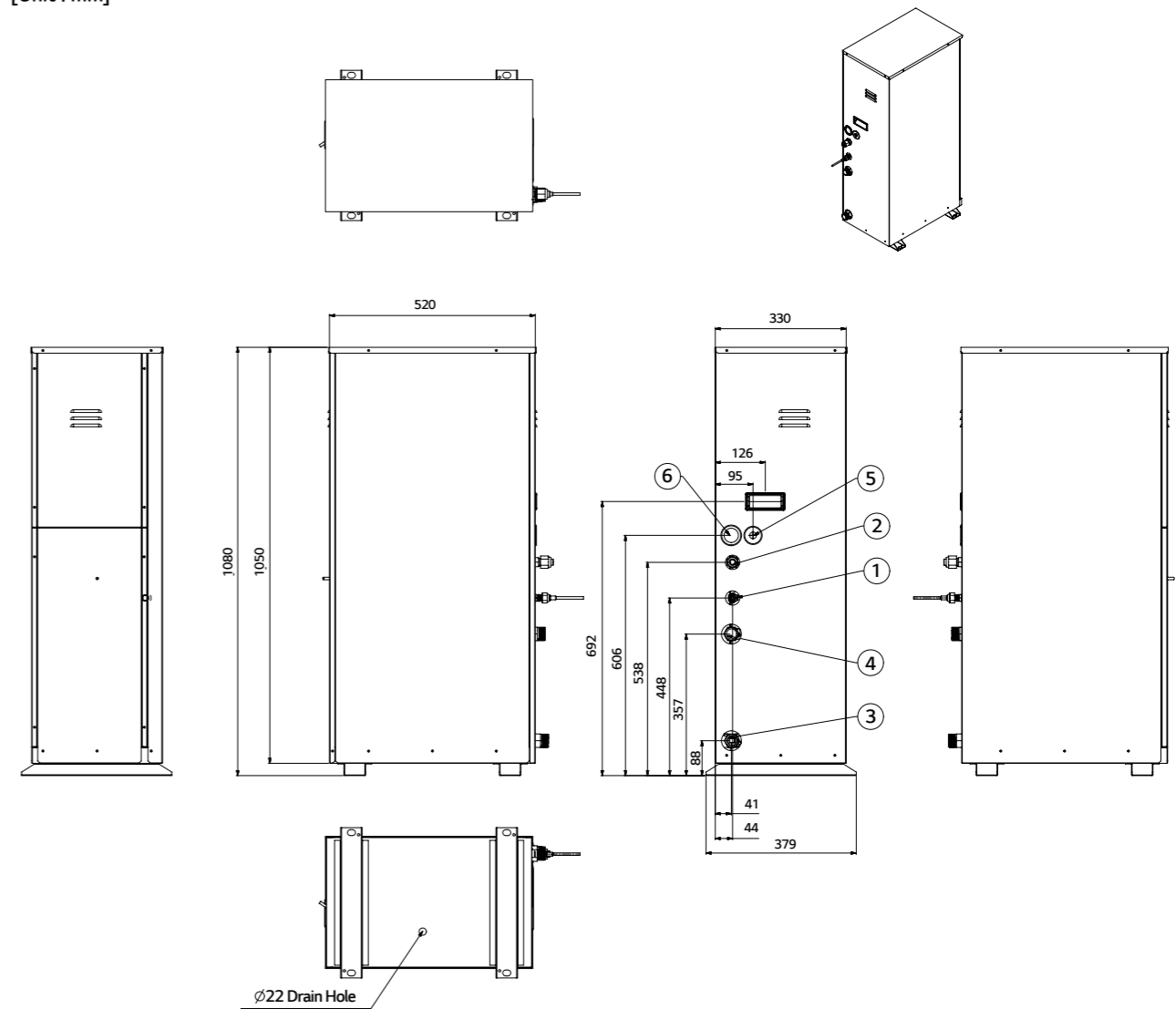


No.	Part Name	Description
1	Liquid Side Service Valve (mm)	-
2	Gas Side Service Valve (mm)	-
3	Air Discharge Grill	-
4	Control Cover	-

HN1610H.NK3

External

[Unit : mm]



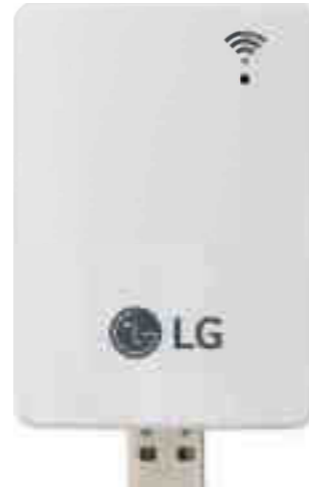
No.	Part Name	Description
1	Refrigerant Pipe	Ø15.88mm
2	Refrigerant Pipe	Ø9.52mm
3	Entering water pipe	Male PT 1inch
4	Leaving Water Pipe	Male PT 1inch
5	Control Box	PCB and Terminal Blocks
6	Flow Switch	Minimum Operation Range at 23LPM
7	Plate Heat Exchanger	Heat Exchanger Between Refrigerant and Water
8	Plate Heat Exchanger	Heat Exchanger Between Refrigerant and Refrigerant
9	Compressor	EPT525DBA
10	Accumulator	Complex P76.2 T2.0

ACCESSORIES

LG Wi-Fi MODEM

PWFMDD200.ENCXLEU

Access LG THERMA V anytime and from anywhere with Wi-Fi equipped device. LG's exclusive Home Appliances control app (SmartThinQ™) is available. Simple operation for various functions.



- On/Off
- Operation Mode Selection
- Current Temperature
- Set Temperature
- On/Off Reservation
- Energy Monitoring

Model Name	PWFMDD200
Size (mm)	46 x 68 x 14
Interfaceable Products	THERMA V Split & Monobloc
Connection Type	Indoor Unit 1:1
Communication Frequency	2.4GHz
Wireless Standards	IEEE 802.11b/g/n
Mobile Application	LG SmartThinQ™ (Android v4.1(Jellybean) or higher, iPhone iOS 9.0 or higher)
Optional Extension Cable	PWYREW000 (10m extension)

* Functionality may be different according to each Indoor model. (Split and Monobloc available)
 * User interface of application shall be revised for its design and contents improvement.
 * Application is optimized for smartphone use, so it may not be well functioning with tablet devices.
 1) For the compatibility with indoor unit, please contact regional office.

DOMESTIC HOT WATER TANK

OSHW-200F.AEU
 OSHW-300F.AEU
 OSHW-500F.AEU
 OSHW-300FD.AEU



Double Coil












Single Coil




Domestic Hot Water Tank		Unit	OSHW-200F	OSHW-300F	OSHW-500F	OSHW-300FD
General Characteristics	Water Volume	L	200	300	500	300
	Diameter	mm	640	640	640	640
	Height	mm	1,350	1,850	1,900	1,850
	Empty Weight	Kg	61	100	146	106
	Tank Materials		STS:F18	STS:F18	STS:F18	STS:F18
Specification of Electric Back-up	Additional Electric Heater	W	2,400	2,400	2,400	2,400
	Power Supply	Φ / V / Hz	1 / 230 / 50(60)	1 / 230 / 50(60)	1 / 230 / 50(60)	1 / 230 / 50(60)
	Adjustable Thermostat	℃	0-90	0-90	0-90	0-90
Specification of Heat Exchanger	Exchanger Type		Single	Single	Single	Double
	Material Exchanger		STS:F18	STS:F18	STS:F18	STS:F18
	Maximum Water Temp	℃	90	90	90	90
	Coil Surface	m ²	2.3	3.1	4.8	3.1+0.97
Water Connections	Heat Pump Inlet	inch	1 BSP Female	1 BSP Female	1 ¼ BSP Female	¾ BSP Female (Upper Coil)
	Heat Pump Outlet	inch	1 BSP Female	1 BSP Female	1 ¼ BSP Female	¾ BSP Female (Upper Coil)
	Solar Inlet	inch				1 BSP Female (Lower Coil)
	Solar Outlet	inch				1 BSP Female (Lower Coil)
	City Water Inlet	inch	¾ BSP Male	¾ BSP Male	1 BSP Male	¾ BSP Male
	Hot Water Outlet	inch	¾ BSP Female	1 BSP Female	1 BSP Female	1 BSP Female
Energy Efficiency Class			B	B	B	B
Standing Heat Loss	W		61	70	83	70

Mandatory Optional Accessories	
Domestic Hot Water Tank Installation Kit	PHLTA / PHLTB / PHLTC
Optional Accessories	
Mixing Valve (3/4" dn20)	OSHA-MV
Mixing Valve (1" dn25)	OSHA-MV1
3-Way Valve	OSHA-3V

ACCESSORIES

ACCESSORIES PROVIDED BY LG

Accessory	Feature
Domestic Hot Water Tank	 <p>OSHW-200F 200 LITRES OSHW-300F 300 LITRES OSHW-500F 500 LITRES</p> <p>Single Coil</p>  <p>OSHW-300FD 300 LITRES</p> <p>Double Coil</p>  <p>OSHA-3V 3-Way Valve</p>  <p>OSHA-MV OSHA-MV1 Mixing Valve</p>
Domestic Hot Water Tank Kit	<ul style="list-style-type: none"> • PHLTA (1Ø, Split) • PHLTC (3Ø, Split) • PHLTB (Monobloc) <p>Features Easy to install the domestic hot water for monobloc. There is a MCCB to protect the product. Dimension (mm) (H x W x D) : 250 x 170 x 110 Weight (kg) : 2.1</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. * 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"> • PQRSTA0 <p>Features It can help to detect the exact room temperature. Applied to ceiling cassette, ceiling concealed duct, AWHP and Hydro Kit.</p> <p>Parts Included Remote temperature sensor / Extension cable (15m) / Manual</p> 
Solar Thermal Kit	<ul style="list-style-type: none"> • PHLA <p>Features To interface solar-thermal system with THERMA V and double coil Domestic tank. Installed at the water pipe, between Domestic tank and solar-thermal system. Dimension (mm) (H x W x D) : 110 x 55 x 22</p> 
Dry Contact	<ul style="list-style-type: none"> • PDRYCB000 (Simple Dry Contact) <p>Features - 1SET / 1 IDU - Input power 220 ~ 240 V- - 1 contact point - 2 output contacts (operation, error)</p> 
	<ul style="list-style-type: none"> • PDRYCB300 (Dry Contact for Thermostat) <p>Features - 1SET / 1 IDU - Target temperature setting is possible - 8 contact point - 2 output contacts (operation, error) - No need for AC input</p> 
Drain Pan	<ul style="list-style-type: none"> • PHDPB <p>Features Collects condensate water (When dropping to the base is not possible), and drains the water to a pipe.</p> 

Accessory	Feature
Meter Interface	<ul style="list-style-type: none"> • PENKTH000 <p>Features Energy meter interface to monitor electricity and heat energy. - Max. 3 Watt-hour meter - Max. 1 Heat meter - Pulse width : 40ms ~ 100ms</p> 
2 zone valve controller	<ul style="list-style-type: none"> • PZNVVB200 <p>Features It is the Controller that controls the valve of each zone interlocking with room temperature sensor or room thermostat. - Individual temperature setting possible (to be set through wired remote control in Room temperature input mode) - Room Temperature Detection (AI : 2 ports) - 3rd Party Thermostat Interlock Input (DI : 2 port) - can read one DI or AI for each zone. - Maximum number of connections : Max. 4EA (expandable up to 8-zone)</p> 
MODBUS RTU	<ul style="list-style-type: none"> • PMBUSB002 <p>Features MODBUS RTU communication with MODBUS master controller. - MODBUS RTU slave (RS485) / 9,600 bps - Applicable for Multi V 5 - Size (W x H x D) : 53.6 x 89.7 x 60.7 - Max. 16 IDUs with single module / Max. 64 IDUs with 4 modules - Power : DC 12V</p> 
PI485 Gateway	<ul style="list-style-type: none"> • PMNFP14A1 (for Monobloc & Split) • PP485B00K (for DHW tank integrated type) <p>Features Interface module for LGAP or Modbus communication. - For Monobloc & Split : PMNFP14A1 * This is for LGAP comm. with central controller - For DHW tank integrated unit : PP485B00K * This is for Modbus comm. with indoor unit</p> 