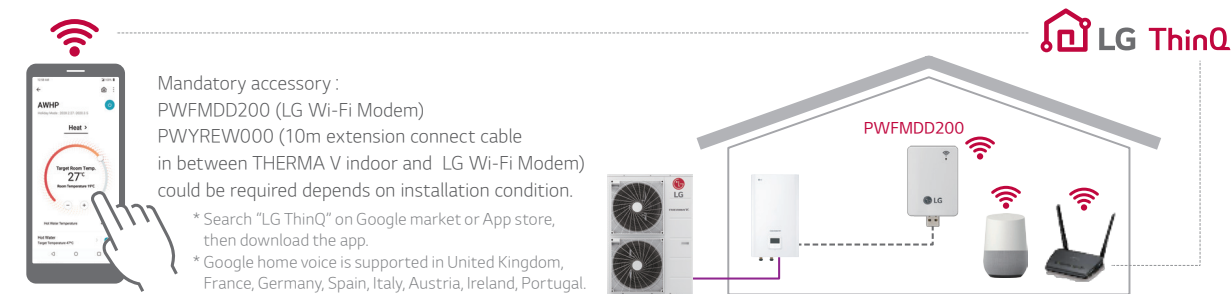




## LG ThinQ SEAMLESS CONNECTIVITY

LG ThinQ allows users to monitor and control compatible LG products remotely, so they can set the temperature and regulate the use of their THERMA V anytime, anywhere. LG ThinQ technology also works with voice activation with Google Home.

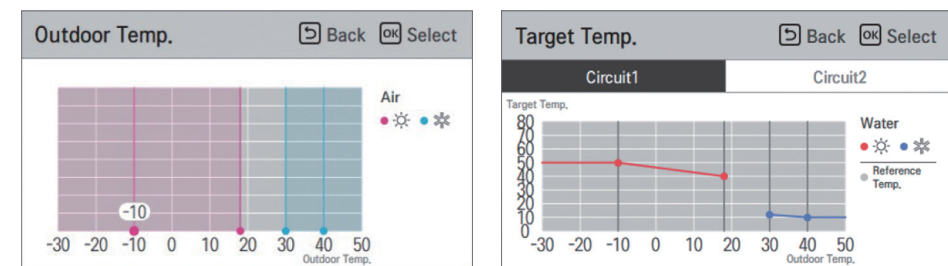


Mandatory accessory :  
PWFMD200 (LG Wi-Fi Modem)  
PWYREW000 (10m extension connect cable in between THERMA V indoor and LG Wi-Fi Modem) could be required depends on installation condition.  
\* Search "LG ThinQ" on Google market or App store, then download the app.  
\* Google home voice is supported in United Kingdom, France, Germany, Spain, Italy, Austria, Ireland, Portugal.



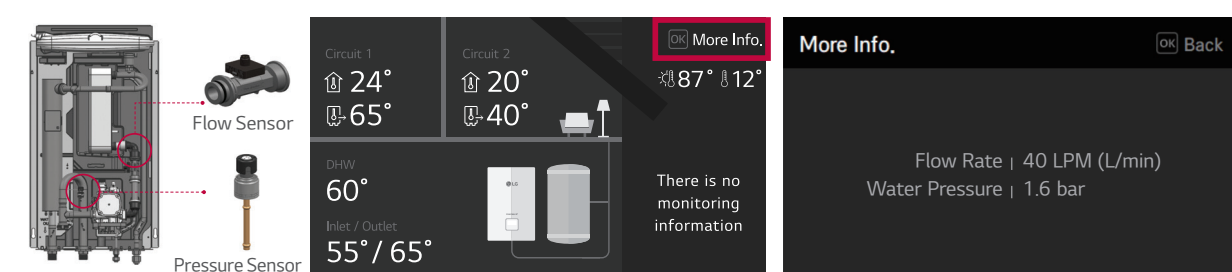
## SEASONAL AUTO MODE

In this mode, the target temperature will vary according to the outdoor temperature automatically. This mode adds the cooling function to the conventional weather dependent operation mode. Moreover, this function can be conveniently set using visualized graphics.



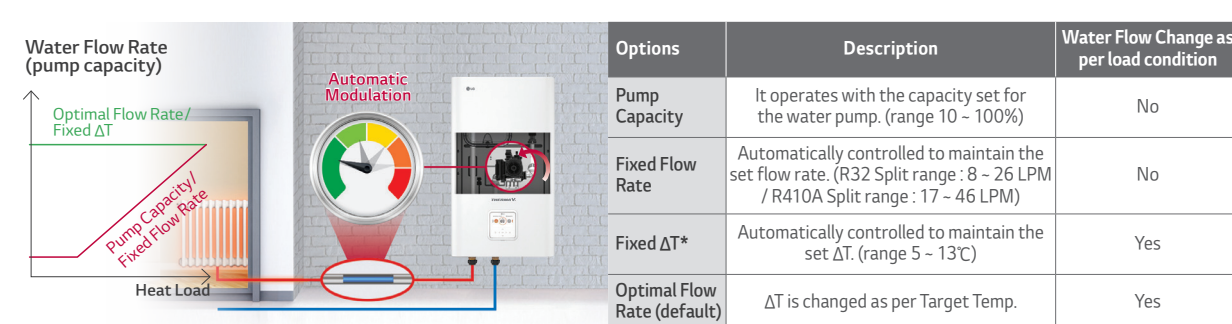
## WATER CIRCUIT MONITORING

It is possible to monitor via remote controller not only temperature of water circuit but also flow rate and pressure. This information is not only useful to the installer during installation, but also helps to periodically clean the strainer.



## ADVANCED PUMP CONTROL OPTIONS

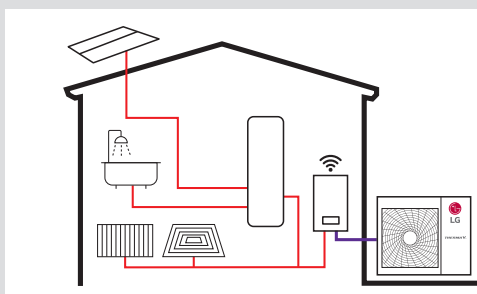
Various pump control options are possible for the user's convenience. With the the R32 Split & R410A Split, the water flow rate can be changed as per heat load condition, therefore it makes more energy efficient operation during low load condition.



\*ΔT = temperature difference between inlet and outlet water temperature.

# LG'S THERMA V SPLIT AT A GLANCE

The LG THERMA V Split is a hydro box type comprising a separate indoor and outdoor unit, which are connected by refrigerant piping. Hydronic components such as plate heat exchanger, expansion tank and water pump are located within the indoor unit, making the unit capable of withstanding freezing outside ambient temperatures.



# THERMA V™

R32 Split / R410A Split

## LG'S THERMA V R32 Split / R410A Split

### Enhanced installation flexibility

- Refrigerant pipes connects IDU & ODU
- Hydronic components built into IDU : plate heat exchanger, water pump, back up heater, expansion tank, air vent, etc
- User-friendly installation settings interface

### High efficiency & operational range

- SCOP up to 4.65 (average climate / low temp. application) : A+++
- 100% Heating capacity at -7°C outdoor temperature (except for 16kW R410A Split)
- Leaving water temperature up to 65°C (R32) / 57°C (R410A)
- Expanded operative range of solar thermal system

### Innovative design & technology

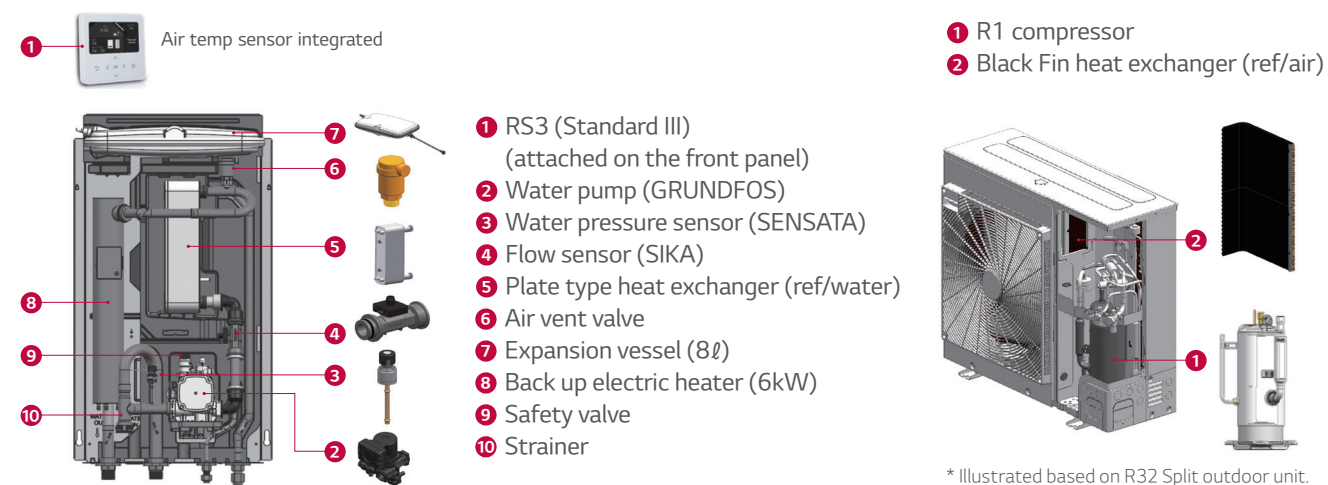
- Built-in water flow & pressure sensors to monitor real-time water circuit
- Advanced water pump control (optimal flow rate, fixed capacity, fixed flow rate, fixed ΔT)
- Enhanced 2nd circuit control logic

	Indoor Unit	Outdoor Unit
10	HN091MR NK5	HU051MR U44 HU071MR U44 HU091MR U44

	Indoor Unit	Outdoor Unit
10	HN1616M NK5	HU121MA U33 HU141MA U33 HU1611MA U33
30	HN1636M NK5	HU123MA U33 HU143MA U33 HU163MA U33

Capacity Range [kW]	Phase	5	7	9	12	14	16	
R32 Split	10	Heating	● (5.5)	● (7.0)	● (7.0)			
		Cooling	● (5.5)	● (7.0)	● (7.0)			
R410A Split	10 / 30	Heating			● (12.0)	● (14.0)	● (16.0)	
		Cooling			● (10.4)	● (12.0)	● (13.0)	

## KEY COMPONENTS



- 1 R1 compressor
- 2 Black Fin heat exchanger (ref/air)

\* Illustrated based on R32 Split outdoor unit.  
\* For R410A Split, Gold Fin heat exchanger is applied.



**EXCELLENT PERFORMANCE & EFFICIENCY**

- R1 compressor
- Flash gas injection\* (R32 Split only)
- Wide operation range
- Black Fin heat exchanger\* (R32 Split only)
- Solar thermal
- Energy state
- Modbus communication
- LG heating configurator\* (will be supported from 3Q 2021)

**EASY INSTALLATION**

- Clip connection
- Flexible piping design

**USER CONVENIENCE**

- Intuitive interface
- LG ThinQ
- Mixing circuit
- Various control options
- Flow sensor
- Pressure sensor
- 3<sup>rd</sup> party boiler
- Energy monitoring
- Seasonal auto mode
- Low noise mode
- Advanced pump control

### R1 Compressor™ LG'S REVOLUTIONARY TECHNOLOGY

R1 Compressor™ technology offers advanced efficiency, reliability and operational range due in part to the enhanced tilting motion of the scroll.

**Conventional Scroll Compressor**

**R1 Compressor**

### MODBUS COMMUNICATION

Considering the units in parallel installation, it is required to think how to control them. The R32 Split & R410A Split can be connected to 3<sup>rd</sup> party control system using Modbus protocol directly, without Modbus RTU gateway and PI485 gateway. Moreover, The R32 Split & R410A Split is able to support much more functions than conventional one using new Modbus memory map.

### ENERGY STATES INTERLOCK

The R32 Split & R410A Split provide provides energy state interlock function that enables customers to use as much as possible of their own renewable energy. It can shift set points depending on input signal from Energy Storage System (ESS) or any other third-party device using Modbus or Digital 230V inputs.

Energy States	Smart Grid (Contact) Operation Mode	Power Supply Status	ESS (Modbus) Operation Mode	Battery Charged Status	Operation
ES1	Operation Off				Forced off to avoid peak load
ES2	Normal		Normal		Normal operation
ES3*	On Recommend				Changed target temperature higher (Heating : +2°C / DHW : +5°C)
ES4*	On Command				Changed target temperature higher (DHW : 80°C)
ES5**			On Command (Step2)		Changed target temperature higher (Heating : +5°C, Cooling : -5°C, DHW : +30°C)
ES6**			On Recommend (Step1)		Changed target temperature higher (Heating : +2°C, Cooling : -2°C, DHW : +10°C)
ES7**			Energy Saving		Changed target temperature lower (Heating : -2°C, Cooling : +2°C)
ES8**			Super Energy Saving		Changed target temperature lower (Heating : -5°C, Cooling : +5°C)

\* Contact signal designated ES3 and ES4 can be changed to ES5 - ES8.  
\*\* Offset values of heating, cooling and DHW are changeable.  
\*\*\* Therma V can connect not only ESS but also 3<sup>rd</sup> party controller through Modbus, in that case, ES1 to ES8 are used.

# PRODUCT SPECIFICATION

R32 Split

## INDOOR UNIT

Technical Specification table for R32 Split Indoor Unit, including Operation Range, Flow Sensor, Water Pressure Sensor, Safety Valve, Piping Connections, Sound Power Level, Dimensions, and Wiring Connections.

1) When fan coil unit used. 2) DHW 58 - 80°C operating is available only when the booster heater is operating.

## OUTDOOR UNIT

Technical Specification table for R32 Split Outdoor Unit, including Nominal Capacity, Nominal Power Input, COP, EER, Operation Range, Compressor, Refrigerant, Piping Connections, Rated Water Flow Rate, Sound Power Level, Dimensions, Weight, and Electrical Specification.

- 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.
3. Sound power level is measured on the rated condition in accordance with ISO 9614 standard.
4. Performances are based on the following conditions (It is according to EN14511):
5. This product contains fluorinated greenhouse gases.

# SEASONAL ENERGY EFFICIENCY

Table showing Seasonal Energy Efficiency (SEER) for R32 Split Indoor and Outdoor Units across various conditions.



# Performance Table for Heating Operation

Maximum Heating Capacity (Including Defrost Effect)

Performance Table for Heating Operation showing Heating Capacity (kW) vs. Outdoor Temperature (°C) for R32 Split units.

## HU071MR U44 + HN091MR NK5

Performance Table for Heating Operation for HU071MR U44 + HN091MR NK5 model.

## HU091MR U44 + HN091MR NK5

Performance Table for Heating Operation for HU091MR U44 + HN091MR NK5 model.

# Performance Table for Cooling Operation

Maximum Cooling Capacity

Performance Table for Cooling Operation showing Cooling Capacity (kW) vs. Outdoor Temperature (°C) for R32 Split units.

## HU071MR U44 + HN091MR NK5

Performance Table for Cooling Operation for HU071MR U44 + HN091MR NK5 model.

## HU091MR U44 + HN091MR NK5

Performance Table for Cooling Operation for HU091MR U44 + HN091MR NK5 model.

- Note: 1. DB : Dry Bulb Temperature (°C), LWT : Leaving Water Temperature (°C), LPM : Liters Per Minute (l/min), TC : Total Capacity (kW)
2. Direct interpolation is permissible. Do not extrapolate.
3. Measuring procedure follows EN14511.
4. Rated values are based on standard conditions and it can be found on specifications.
5. Above table values may not be matched according to installation condition.
6. In accordance with the test standard (or nations), the rating will vary slightly.
7. The shaded areas are not guaranteed continuous operation.

R32 Split

# PRODUCT SPECIFICATION

R410A Split

## INDOOR UNIT

Technical Specification table for R410A Split Indoor Unit, including Operation Range, Flow Sensor, Water Pressure Sensor, Safety Valve, Piping Connections, Sound Power Level, Dimensions, and Wiring Connections.

1) When fan coil unit used. 2) DHW 50 - 80°C operating is available only when the booster heater is operating.

## OUTDOOR UNIT

Technical Specification table for R410A Split Outdoor Unit, including Nominal Capacity, Nominal Power Input, COP, EER, Operation Range, Compressor, Refrigerant, Piping Connections, Rated Water Flow Rate, Sound Power Level, Dimensions, Weight, and Electrical Specification.

- 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.
3. Sound power level is measured on the rated condition in accordance with ISO 9614 standard.
4. Performances are based on the following conditions (It is according to EN14511):
5. This product contains fluorinated greenhouse gases.

# SEASONAL ENERGY EFFICIENCY

Table showing Seasonal Energy Efficiency (SEER) for R410A Split Indoor and Outdoor Units across various conditions.



# Performance Table for Heating Operation

Maximum Heating Capacity (Including Defrost Effect)

Performance Table for Heating Operation showing Heating Capacity (kW) vs. Outdoor Temperature (°C) for R410A Split units.

## HU121MA U33 + HN1616M NK5 / HU123MA U33 + HN1636M NK5

Performance Table for Heating Operation for HU121MA U33 + HN1616M NK5 model.

## HU161MA U33 + HN1616M NK5 / HU163MA U33 + HN1636M NK5

Performance Table for Heating Operation for HU161MA U33 + HN1616M NK5 model.

# Performance Table for Cooling Operation

Maximum Cooling Capacity

Performance Table for Cooling Operation showing Cooling Capacity (kW) vs. Outdoor Temperature (°C) for R410A Split units.

## HU121MA U33 + HN1616M NK5 / HU123MA U33 + HN1636M NK5

Performance Table for Cooling Operation for HU121MA U33 + HN1616M NK5 model.

## HU141MA U33 + HN1616M NK5 / HU143MA U33 + HN1636M NK5

Performance Table for Cooling Operation for HU141MA U33 + HN1616M NK5 model.

- Note: 1. DB : Dry Bulb Temperature (°C), LWT : Leaving Water Temperature (°C), LPM : Liters Per Minute (l/min), TC : Total Capacity (kW)
2. Direct interpolation is permissible. Do not extrapolate.
3. Measuring procedure follows EN14511.
4. Rated values are based on standard conditions and it can be found on specifications.
5. Above table values may not be matched according to installation condition.
6. In accordance with the test standard (or nations), the rating will vary slightly.
7. The shaded areas are not guaranteed continuous operation.

R410A Split

