

#Care For Where You Live



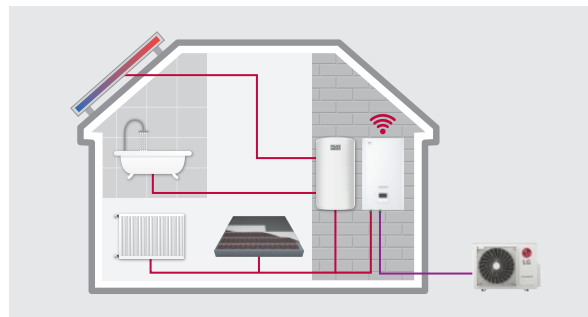
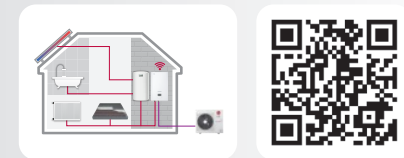
THERMA V™



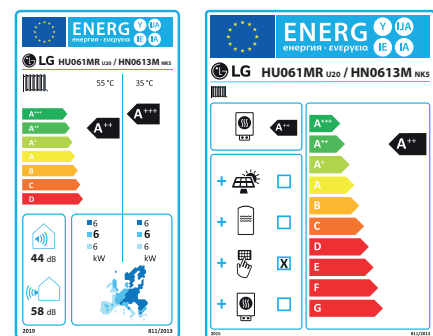


THERMA V™ R32

R32 SPLIT 4/6 kW HYDRO BOX



Energy Label

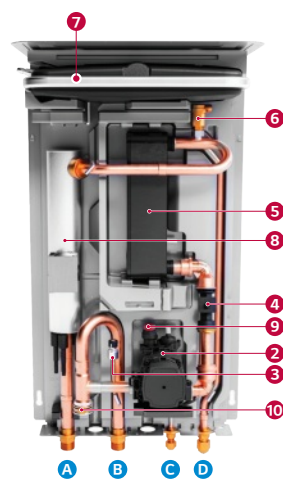


* 6 kW 1 Ø model.
* A+++ to D scale.

R32 Split Hydro Box Introduction

The LG Therma V R32 Split Hydro Box is a hydro box type system consisting of an indoor hydro box unit and an outdoor unit. The two units are connected by refrigerant piping only, thus hydronic components such as plate heat exchanger, expansion tank and water pump are located within the indoor unit. Due to the split nature, freezing will not compromise this unit regardless of outdoor ambient temperatures. The outdoor unit is on offer in 4/6 kW and 5/7/9 kW capacity range and R32 Split 4/6 kW model is suitable for new build houses that are well insulated and require a small heating load.

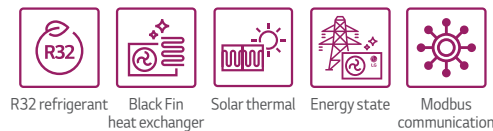
Key Components



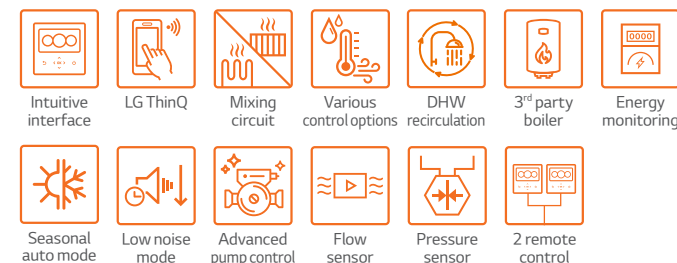
Components

- Standard III remote controller (attached on the front panel)
- Water pump
- Water pressure sensor
- Flow sensor
- Plate type heat exchanger (ref/water)
- Air vent valve
- Expansion vessel (8 l)
- Back up electric heater (3 kW)
- Safety valve
- Strainer

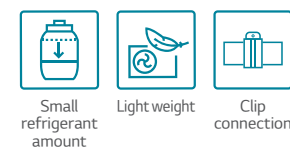
Excellent performance & efficiency



User convenience



Easy installation & maintenance



Small Refrigerant Amount - free from minimum floor area requirements due to R32 refrigerant

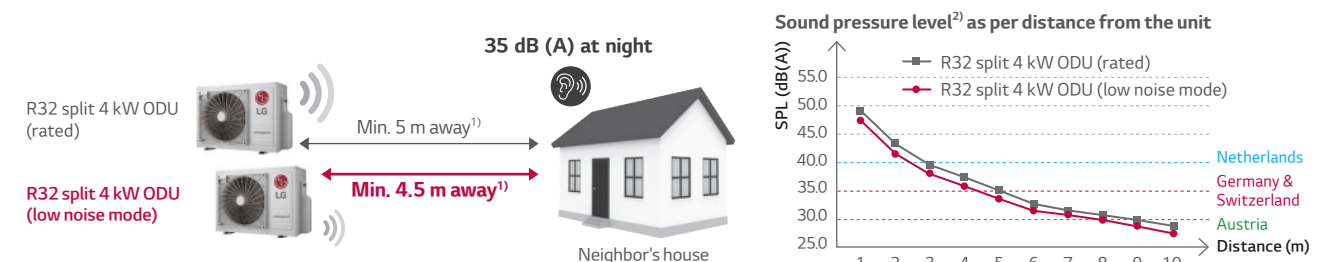
Minimum floor space requirements do not apply to R32 Split 4/6 kW, as the maximum refrigerant amount (including 30 m pipes) used in the product is smaller than the minimum set by regulation. As a result, there are more opportunities for flexible design and installation.



Reduced Noise Level

The R32 Split outdoor unit can be installed at the minimum of 4.5 m away¹⁾ from neighboring houses while complying with noise-related requirements in most European countries, including Germany. (based on 4 kW ODU & low noise mode)

Description	Germany	Austria	Switzerland	Netherlands
Sound pressure threshold	Day time 50 dB (A) (06:00 ~ 22:00)	40 dB (A) (06:00 ~ 19:00)	40 dB (A) (07:00 ~ 19:00)	45 dB (A) (07:00 ~ 19:00)
	Evening -	35 dB (A) (19:00 ~ 22:00)	-	-
	Night time 35 dB (A) (22:00 ~ 06:00)	30 dB (A) (22:00 ~ 06:00)	35 dB (A) (19:00 ~ 07:00)	40 dB (A) (19:00 ~ 07:00)



1) Minimum distance to be away from a neighboring property may vary depending on installation conditions and noise regulations in individual countries.
2) Sound pressure level is converted from sound power level of low noise mode based on a tonality penalty of 0 dB and installation in free-field. The directivity index (Q) is assumed as 2.

Connections

- Heating circuit outlet pipe (male PT 1" *)
- Heating circuit inlet pipe (male PT 1" *)
- Refrigerant liquid pipe (SAE 1/4" with connector **)
- Refrigerant gas pipe (SAE 1/2" with connector **)

* According to ISO 7-1 (tapered pipe threads)

** In case of Split 4/6 kW model, the adaptors provided with the outdoor unit must be separately installed on the gas/liquid connection of the indoor unit when connecting the refrigerant pipe. After installing the adaptors, the liquid and gas connection size becomes Ø 6.35 (1/4 inch) and Ø 12.7 (1/2 inch) respectively.

THERMA V™ R32 SPLIT 4/6 kW HYDRO BOX

R32 Split 4/6 kW Hydro Box



Indoor unit

HN0613M NK5

Outdoor unit

HU041MR U20

HU061MR U20



011-1W0567

* MCS and EHPA label under development



Black Fin ThinQ

Features

- Answers the needs of new build houses with good insulation and a small heating demand
- Demonstrates a lower noise level
(sound pressure level at 3 m: 39 dB (A) for 4 kW / 40 dB (A) for 6 kW)

Enhanced installation flexibility

- Free from minimum floor area requirements due to R32 refrigerant
(Max. refrigerant amount (including 30 m pipes) < 1.842 kg)
- Light weight and compact size
- Max. 30 m refrigerant piping
- Integrated 3 kW backup heater and expansion tank for heating (8 ℓ)

High efficiency & operational range

- SCOP up to 4.65 / 3.23 (low temp. / mid temp. application): A+++ / A++
- COP up to 5.10 (outdoor air 7°C / leaving water 35°C)
- Operation range (ambient: -20 ~ 35°C / water side: 15 ~ 55°C)

Innovative design & technology

- Energy monitoring of estimated power consumption

Control & connectivity

- LG ThinQ Wi-Fi control and monitoring solution
- PV / ESS or smart grid connectivity

Model line-up

Category	Unit	Model name	
		Capacity (kW)	
		4.0	6.0
1 Phase model 220 ~ 240 V, 1 Ø, 50 Hz	Outdoor unit	HU041MR U20	HU061MR U20
	Indoor unit	HN0613M NK5	

Seasonal energy

Description			Outdoor unit	HU041MR U20	HU061MR U20
			Indoor unit	HN0613M NK5	
Space heating (according to EN14825)	Average climate water outlet 35°C	SCOP	-	4.65	4.65
		Seasonal space heating efficiency (η _s)	%	183	183
		Seasonal space heating eff. class (A+++ to D scale)	-	A+++	A+++
	Average climate water outlet 55°C	SCOP	-	3.23	3.23
		Seasonal space heating efficiency (η _s)	%	126	126
		Seasonal space heating eff. class (A+++ to D scale)	-	A++	A++

Nominal capacity and nominal power input

Description		OAT ¹⁾ (DB)	LWT ²⁾ (DB)	Outdoor unit Indoor unit	HU041MR U20	HU061MR U20
					HN0613M NK5	
Nominal capacity	Heating	7°C	35°C	kW	4.00	6.00
		7°C	55°C		3.70	4.60
		2°C	35°C		3.60	4.80
		-7°C	35°C		4.00	6.00
	Cooling	35°C	18°C		4.00	6.00
		35°C	7°C		4.00	6.00
Nominal power input	Heating	7°C	35°C	kW	0.78	1.21
		7°C	55°C		1.30	1.59
		2°C	35°C		0.96	1.32
		-7°C	35°C		1.30	2.01
	Cooling	35°C	18°C		0.83	1.25
		35°C	7°C		1.18	1.88
COP	Heating	7°C	35°C	W/W	5.10	4.95
		7°C	55°C		2.85	2.90
		2°C	35°C		3.75	3.65
		-7°C	35°C		3.08	2.98
EER	Cooling	35°C	18°C	W/W	4.80	4.80
		35°C	7°C		3.40	3.20

1) OAT : Outdoor Air Temperature

2) LWT : Leaving Water Temperature

PRODUCT SPECIFICATION

Product specification (outdoor unit)

Technical specification			Unit	HU041MR U20	HU061MR U20
Operation range (outdoor temp.)	Heating	Min. ~ Max.	°C DB	-20 ~ 35	
	Cooling			5 ~ 48	
Compressor	Type		-	Hermetic sealed twin rotary	
Refrigerant	Type		-	R32	
	GWP (Global Warming Potential)		-	675	
	Precharged amount		g	1,100	
	t-CO ₂ eq		-	0.743	
Piping connections	Outer diameter	Liquid	mm (inch)	Ø 6.35 (1/4)	
		Gas	mm (inch)	Ø 12.7 (1/2)	
	Length	Standard	m	5	
		Max.	m	30	
	Level difference	Max.	m	30	
	Chargeless-pipe length		m	10	
	Additional charging volume		g/m	20	
Rated water flow rate (at LWT 35°C)			ℓ/min	11.5	17.3
Sound power level	Heating	Rated	dB(A)	57	58
Sound pressure level (at 1 m)	Heating	Rated	dB(A)	49	50
Dimensions	Unit	W x H x D	mm	870 × 650 × 330	
Weight	Unit		kg	44.7	
Exterior	Color / RAL code		-	Warm gray / RAL 7044	
Power supply	Voltage, phase, frequency		V, Ø, Hz	220-240, 1, 50	
	Rated running current	Heating	A	3.5	5.6
		Cooling	A	3.7	5.4
	Recommended circuit breaker		A	16	20
Wiring connections	Power supply cable (included earth, H07RN-F)		mm² x cores	2.5 x 3 C	

Product specification (indoor unit)

Technical specification			Unit	HN0613M NK5
Operation range (leaving water)	Heating	Min. ~ Max.	°C DB	15 ~ 55
	Cooling			5 ~ 27 (16 ~ 27) ¹⁾
	DHW			15 ~ 80 ²⁾
Flow sensor	Measuring range	Min. ~ Max.	LPM	5 ~ 80
Water pressure sensor	Measuring range	Min. ~ Max.	bar(G)	0 ~ 20
Expansion vessel	Volume			ℓ
Safety valve	Pressure limit	Upper limit	bar	3
Backup heater	Type			Sheath
	Number of heating coil			2
	Capacity combination			1.5 + 1.5
	Heating steps			2
	Power supply			V, Ø, Hz
	Rated running current			A
Piping connections	Power supply cable (included earth, H07RN-F)		mm ² x cores	2.5 x 3 C
	Water circuit	Inlet	inch	Male PT 1" according to ISO 7-1 (tapered pipe threads)
		Outlet	inch	Male PT 1" according to ISO 7-1 (tapered pipe threads)
	Refrigerant circuit	Gas (outside diameter)	mm (inch)	Ø 6.35 (1/4) ³⁾
		Liquid (outside diameter)	mm (inch)	Ø 12.7 (1/2) ³⁾
Wiring connections	Power and communication cable (included earth, H07RN-F)		mm ² x cores	0.75 x 4 C
Sound power level	Heating	Rated	dB(A)	44
Dimensions	Unit	W x H x D	mm	490 × 850 × 315
Weight	Unit			37.8
Exterior	Color / RAL code		-	Noble white / RAL 9016

1) When a fan coil unit is not used.

2) DHW 50 ~ 80°C operating is available only when the booster heater is operating.

3) When connecting the refrigerant pipe, the adaptors provided with the outdoor unit must be installed on the connection of the indoor unit.

Note

- Due to our policy of innovation, some specifications may be changed without notification.
- Wiring cable size must comply with the applicable local and national codes. Especially the power cable and circuit breaker should be selected in accordance with that.
- Sound power level is measured on the rated condition in accordance with ISO 9614 standard. Sound pressure level is converted from sound power level based on a tonality penalty of 0 dB and installation in free-field. The directivity index (Q) is assumed as 2. Therefore, these values can be increased owing to ambient conditions during operation. Rated sound power level is in accordance with EN12102-1 under condition of EN14825.

- Performances are in accordance with EN14511 and reflect ErP testing conditions. Above gives the declared values at rated conditions acc. ErP regulation
- Rated running current: outdoor Temp. 7°C (DB) / 6 °C (WB), Leaving Water Temp. 35°C
- Interconnected pipe length is standard length and difference of elevation (outdoor ~ indoor unit) is 0 m.
- This product contains fluorinated greenhouse gases.
- All installation sites must be equipped with an earth leakage circuit breaker (ELCB).

Performance Table for Cooling Operation

Maximum cooling capacity

HU041MR U20 + HN0613M NK5

[illegible]

HU061MR U20 + HN0613M NK5

Outdoor temperature	LWT 7°C	LWT 10°C	LWT 13°C	LWT 15°C	LWT 18°C	LWT 20°C	LWT 22°C
	Capacity (kW)						
10°C DB	6.00	6.00	6.00	6.00	6.00	6.00	6.00
20°C DB	6.00	6.00	6.00	6.00	6.00	6.00	6.00
30°C DB	6.00	6.00	6.00	6.00	6.00	6.00	6.00
35°C DB	6.00	6.00	6.00	6.00	6.00	6.00	6.00
40°C DB	5.74	5.81	5.87	5.91	6.00	6.00	6.00
45°C DB	5.48	5.61	5.73	5.81	5.94	6.00	6.00

Note

1. DB : Dry Bulb Temperature (°C), LWT : Leaving Water Temperature (°C)
2. Direct interpolation is permissible. Do not extrapolate.
3. Measuring procedure follows EN-14511.

Rated values are based on standard conditions and can be found on specifications.

Above table values may not be matched according to installation conditions. Except for rated values, the performance is not guaranteed.

The rating might slightly vary depending on test standards or countries.

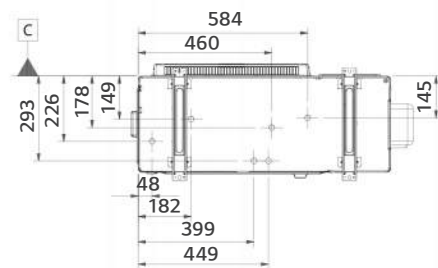
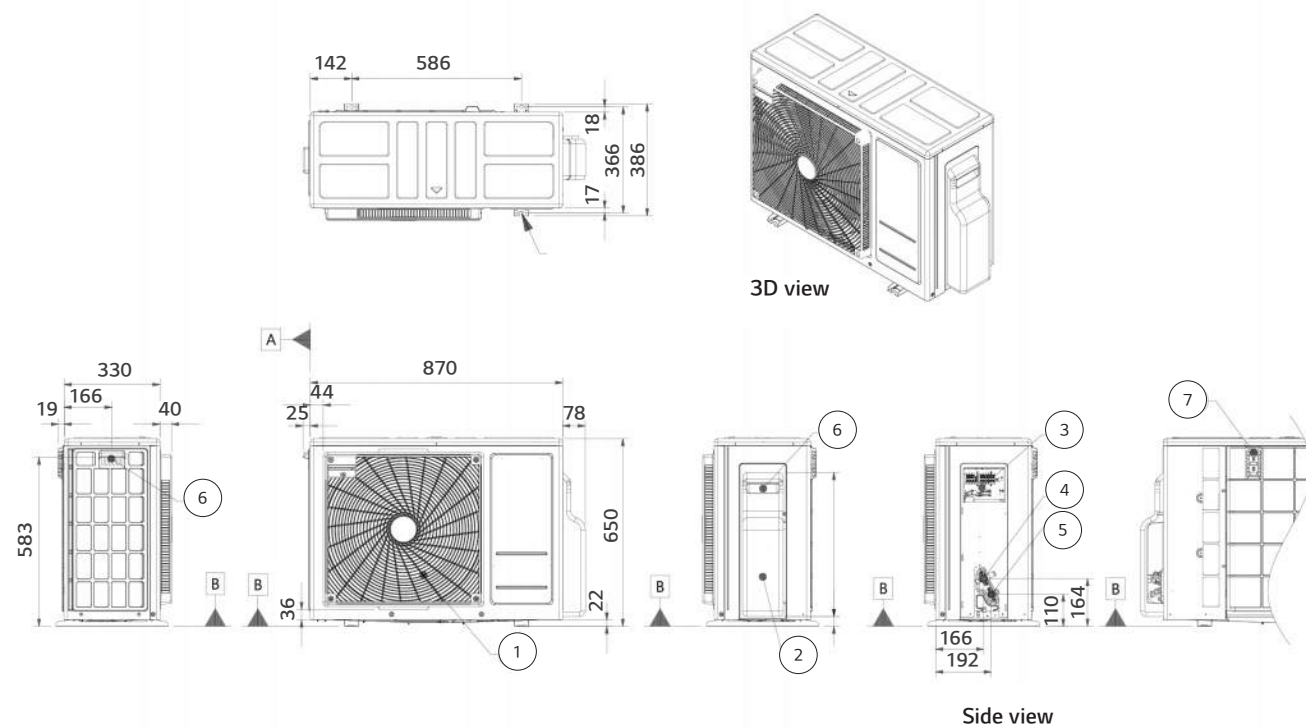
The shaded areas are not guaranteed continuous operation.

Drawings

Category	Unit	Model name	
		Capacity (kW)	
		4.0	6.0
1 Phase model 220 ~ 240 V, 1 Ø, 50 Hz	Outdoor unit	HU041MR U20	HU061MR U20
	Indoor unit	HN0613M NK5	

HU041MR U20 / HU061MR U20

[Unit: mm]

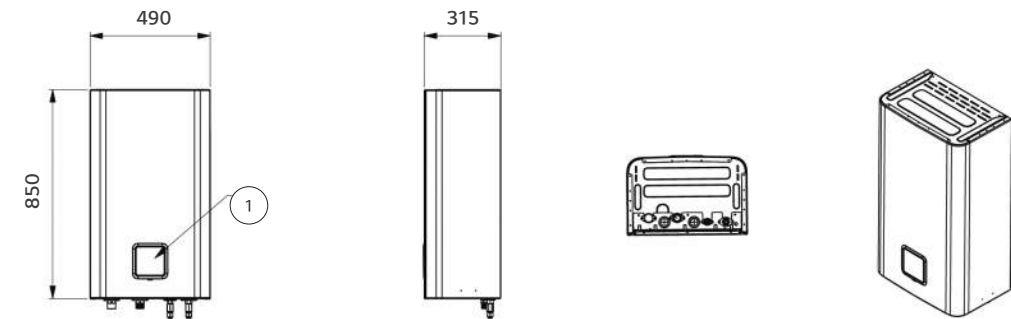


No.	Part name	Description
1	Air outlet	-
2	Control cover & SVC valve cover	-
3	Power and communication cable connection	-
4	Gas pipe connection	Flare joint
5	Liquid pipe connection	Flare joint
6	Handle	-
7	Intake air temperature sensor cover	-

PRODUCT SPECIFICATION

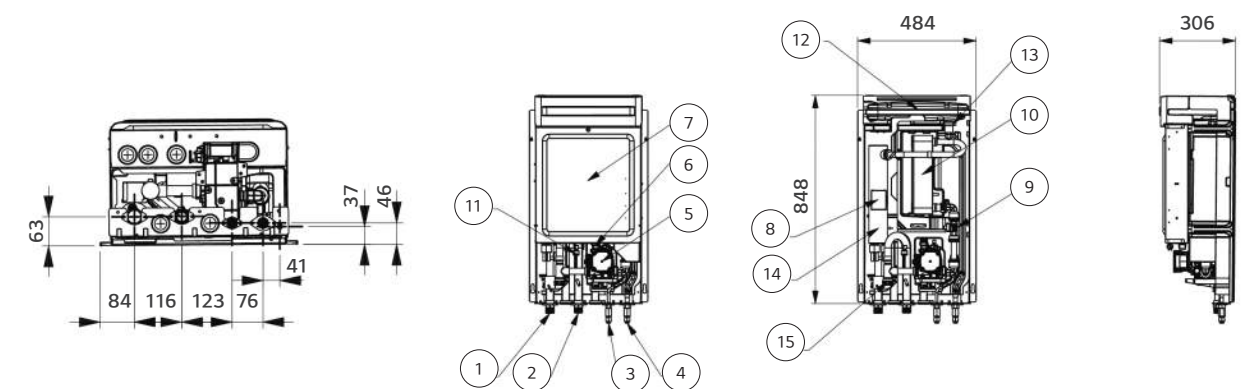
HN0613M NK5

[Unit: mm]



No.	Part name	Description
1	Control panel	Built-in remote controller

Internal

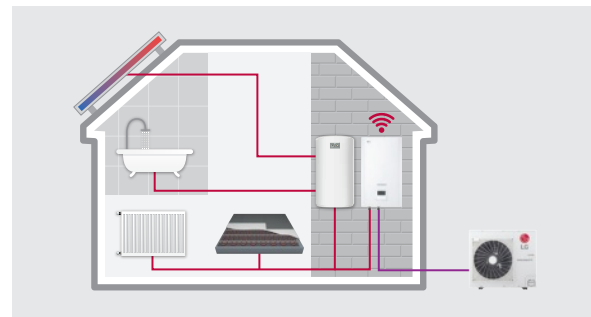
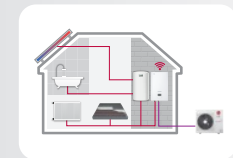


No.	Part name	Description
1	Leaving water pipe	Male PT 1" according to ISO 7-1 (tapered pipe threads)
2	Entering water pipe	Male PT 1" according to ISO 7-1 (tapered pipe threads)
3	Refrigerant piping connection	Ø 6.35 ¹⁾ (mm)
4	Refrigerant piping connection	Ø 12.7 ¹⁾ (mm)
5	Water pump	To circulate water inside the system
6	Safety valve	Open at water pressure 3 bar
7	Control box	PCB and terminal blocks
8	Thermostat	Cut-off power input to electric heater at 90°C
9	Flow sensor	To measure the water flow rate (5-80 LPM)
10	Plate heat exchanger	Heat exchange between refrigerant and water
11	Pressure sensor	To measure the water pressure (0-2 MPa)
12	Expansion tank	Absorbing volume change of heated water
13	Air vent	Air purging when charging water
14	Backup heater	3 kW
15	Strainer	Filtering and stacking particles inside circulating water

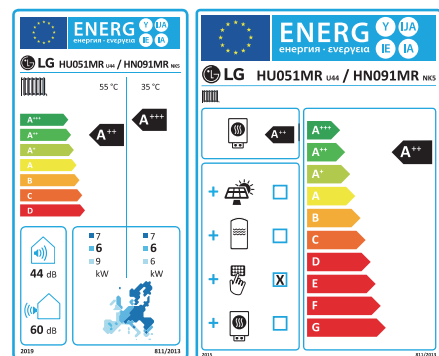
1) When connecting the refrigerant pipe, the adaptors provided with the outdoor unit must be installed on the connection of the indoor unit.

THERMA V™ R32

R32 SPLIT 5/7/9 kW HYDRO BOX



Energy Label

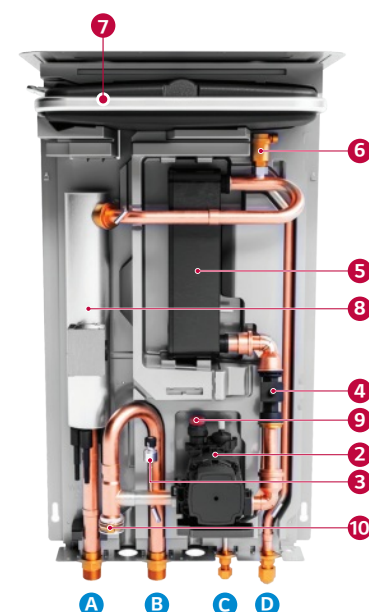


* 5 kW 1 Ø model.
* A+++ to D scale.

R32 Split Hydro Box Introduction

The LG Therma V R32 Split Hydro Box is a hydro box type comprising a separate indoor and outdoor unit, which are connected by refrigerant piping. Hydronic components such as a plate heat exchanger, an expansion tank and a water pump are located within the indoor unit, making the unit capable of withstanding freezing outside ambient temperatures. The outdoor unit is on offer in 4/6 kW and 5/7/9 kW capacity range and R32 Split 5/7/9 kW model is suitable for both new build and renovation projects.

Key Components



Components

- 1 Standard III remote controller (attached on the front panel)
- 2 Water pump
- 3 Water pressure sensor
- 4 Flow sensor
- 5 Plate type heat exchanger (ref/water)
- 6 Air vent valve
- 7 Expansion vessel (8 l)
- 8 Back up electric heater (6 kW)
- 9 Safety valve
- 10 Strainer

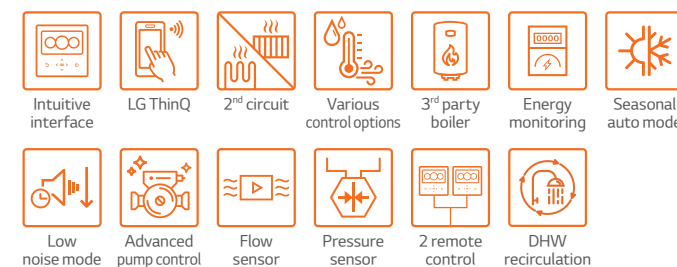
Connections

- A Heating circuit outlet pipe (male PT 1" *)
- B Heating circuit inlet pipe (male PT 1" *)
- C Refrigerant liquid pipe (SAE 3/8")
- D Refrigerant gas pipe (SAE 5/8")

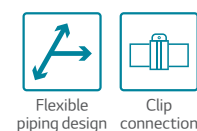
Excellent performance & efficiency



User convenience



Easy installation & maintenance

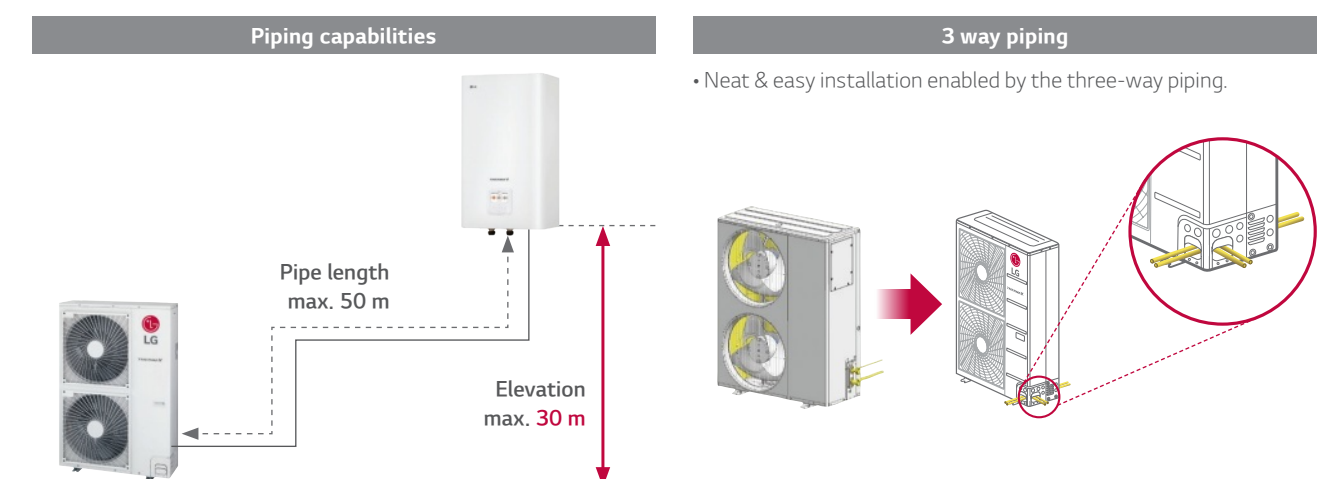


* Detailed description for each function is presented on page 44 – 54.



Flexible Refrigerant Piping Design

Installation flexibility is enabled by Therma V Split's long pipe length (up to 50 m) and the fact that the refrigerant piping can be connected in three directions: front, side and rear.



R32 Split 5/7/9 kW Hydro Box

Indoor unit

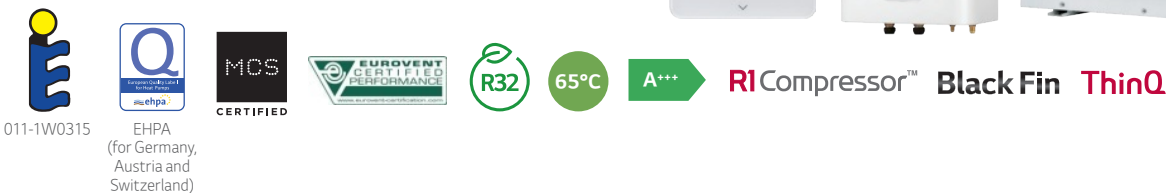
HN091MR NK5

Outdoor unit

HU051MR U44

HU071MR U44

HU091MR U44



Features

- Refrigerant pipes connect IDU & ODU
- SCOP up to 4.65 (average climate / low temp. application): **A+++**
SCOP up to 3.23 (average climate / mid temp. application): **A++**
- COP up to 4.90 (outdoor air 7°C / leaving water 35°C)
- 100 % heating capacity at -7°C OAT (@ LWT 35°C)
- Wide operation range (ambient: -25 ~ 35°C / water side: 15 ~ 65°C)
- Built-in water flow & pressure sensors to monitor real-time water circuit
- R32 refrigerant with reduced Global Warming Potential (GWP)
- R1 Compressor
- Black Fin heat exchanger
- LG ThinQ
- Keymark / EHPA (for Germany, Austria and Switzerland) / MCS / Eurovent certification

Model line-up

Category	Unit	Model name		
		Capacity (kW)		
		5.5	7.0	9.0
1 Phase model 220 ~ 240 V, 1 Ø, 50 Hz	Outdoor unit	HU051MR U44	HU071MR U44	HU091MR U44
	Indoor unit	HN091MR NK5		

Seasonal energy

Description			Outdoor unit	HU051MR U44	HU071MR U44	HU091MR U44
			Indoor unit	HN091MR NK5		
Space heating (according to EN14825)	Average climate water outlet 35°C	SCOP	-	4.65	4.65	4.65
		Seasonal space heating efficiency (η _s)	%	183	183	183
		Seasonal space heating eff. class (A+++ to D scale)	-	A+++	A+++	A+++
	Average climate water outlet 55°C	SCOP	-	3.23	3.23	3.23
		Seasonal space heating efficiency (η _s)	%	126	126	126
		Seasonal space heating eff. class (A+++ to D scale)	-	A++	A++	A++

Nominal capacity and nominal power input

Description		OAT ¹⁾ (DB)	LWT ²⁾ (DB)	Outdoor unit	HU051MR U44	HU071MR U44	HU091MR U44
				Indoor unit	HN091MR NK5		
Nominal capacity	Heating	7°C	35°C	kW	5.50	7.00	9.00
		7°C	55°C		5.50	5.50	5.50
		2°C	35°C		3.30	4.20	5.40
	Cooling	35°C	18°C		5.50	7.00	9.00
		35°C	7°C		5.50	7.00	9.00
		7°C	35°C		1.12	1.43	1.94
Nominal power input	Heating	7°C	55°C	kW	2.04	2.04	2.04
		2°C	35°C		0.94	1.20	1.54
		35°C	18°C		1.20	1.56	2.14
	Cooling	35°C	7°C		1.96	2.59	3.46
		7°C	35°C		4.90	4.90	4.65
		7°C	55°C		2.70	2.70	2.70
COP	Heating	2°C	35°C	W/W	3.52	3.51	3.50
EER	Cooling	35°C	18°C	W/W	4.60	4.50	4.20
		35°C	7°C		2.80	2.70	2.60

1) OAT : Outdoor Air Temperature
2) LWT : Leaving Water Temperature

Product specification (outdoor unit)

Technical specification			Unit	HU051MR U44	HU071MR U44	HU091MR U44
Operation range (outdoor temp.)	Heating	Min. ~ Max.	°C DB	-25 ~ 35		
	Cooling			5 ~ 48		
Compressor	Quantity		EA	1		
	Type		-	Hermetic sealed scroll		
Refrigerant	Type		-	R32		
	GWP (Global Warming Potential)		-	675		
	Precharged amount		g	1,500		
	t-CO ₂ eq		-	1.013		
Piping connections	Outside diameter	Gas	mm (inch)	Ø 15.88 (5/8)		
		Liquid	mm (inch)	Ø 9.52 (3/8)		
	Length	Standard	m	5		
		Max.	m	50		
	Level difference	Max.	m	30		
	Chargeless-pipe length		m	10		
	Additional charging volume		g/m	40		
Rated water flow rate (at LWT 35°C)			LPM	15.8	20.1	25.9
Sound power level	Heating	Rated	dB(A)	60		
Sound pressure level (at 1 m)	Heating	Rated	dB(A)	52		
Dimensions	Unit	W x H x D	mm	950 x 834 x 330		
Weight	Unit		kg	60.0		
Exterior	Color / RAL code		-	Warm gray / RAL 7044		
	Voltage, phase, frequency		V, Ø, Hz	220-240, 1, 50		
Power supply	Rated running current	Heating	A	5.0	6.3	8.6
		Cooling	A	5.3	6.9	9.5
	Recommended circuit breaker		A	20	25	30
Wiring connections	Power supply cable (included earth, H07RN-F)		mm ² x cores	4.0 x 3 C		

Product specification (indoor unit)

Technical specification			Unit	HN091MR NK5
Operation range (leaving water)	Heating	Min. ~ Max.	°C DB	15 ~ 65
	Cooling			5 ~ 27 (16 ~ 27) ¹⁾
	DHW			15 ~ 80 ²⁾
Flow sensor	Measuring range	Min. ~ Max.	LPM	5 ~ 80
Water pressure sensor	Measuring range	Min. ~ Max.	bar(G)	0 ~ 20
Expansion vessel	Volume		ℓ	8
Safety valve	Pressure limit	Upper limit	bar	3
Backup heater	Type		-	Sheath
	Number of heating coil		EA	2
	Capacity combination		kW	3.0 + 3.0
	Heating steps		Step	2
	Power supply		V, Ø, Hz	220-240, 1, 50
	Rated running current		A	25.0
	Power supply cable (included earth, H07RN-F)		mm ² x cores	4.0 x 3 C
Piping connections	Water circuit	Inlet	inch	Male PT 1" according to ISO 7-1 (tapered pipe threads)
		Outlet	inch	Male PT 1" according to ISO 7-1 (tapered pipe threads)
	Refrigerant circuit	Gas (outside diameter)	mm (inch)	Ø 15.88 (5/8)
		Liquid (outside diameter)	mm (inch)	Ø 9.52 (3/8)
Wiring connections	Power and communication cable (included earth, H07RN-F)		mm ² x cores	0.75 x 4 C
Sound power level	Heating	Rated	dB(A)	44
Dimensions	Unit	W x H x D	mm	490 x 850 x 315
Weight	Unit		kg	38.1
Exterior	Color / RAL code		-	Noble white / RAL 9016

1) When a fan coil unit is not used.
2) DHW 55 ~ 80°C operating is available only when the booster heater is operating.

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. Especially the power cable and circuit breaker should be selected in accordance with that.
3. Sound power level is measured on the rated condition in accordance with ISO 9614 standard. Sound pressure level is converted from sound power level based on a tonality penalty of 0 dB and installation in free-field. The directivity index (Q) is assumed as 2. Therefore, these values can be increased owing to ambient conditions during operation. Rated sound power level is in accordance with EN12102-1 under condition of EN14825.
4. Performances are in accordance with EN14511 and reflect ErP testing conditions. Above gives the declared values at rated conditions acc. ErP regulation
• Rated running current: outdoor Temp. 7°C DB / 6°C WB, LWT 35°C
• Interconnected pipe length is standard length and difference of elevation (outdoor ~ indoor unit) is 0 m.
5. This product contains fluorinated greenhouse gases.
6. All installation sites must be equipped with an earth leakage circuit breaker (ELCB).

Performance Table for Heating Operation

Maximum heating capacity (including defrost effect)

HU051MR U44 + HN091MR NK5

Outdoor temperature	LWT 30°C	LWT 35°C	LWT 40°C	LWT 45°C	LWT 50°C	LWT 55°C	LWT 60°C	LWT 65°C
	Capacity (kW)							
-25°C DB	4.02	3.90	3.78	3.66	-	-	-	-
-20°C DB	4.64	4.51	4.38	4.26	4.13	-	-	-
-15°C DB	5.26	5.12	4.99	4.85	4.72	4.58	-	-
-7°C DB	5.50	5.50	5.50	5.50	5.50	5.50	5.50	-
-4°C DB	5.50	5.50	5.50	5.50	5.50	5.50	5.50	-
-2°C DB	5.50	5.50	5.50	5.50	5.50	5.50	5.50	-
2°C DB	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50
7°C DB	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50
10°C DB	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50
15°C DB	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50
18°C DB	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50
20°C DB	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50
35°C DB	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50

HU071MR U44 + HN091MR NK5

Outdoor temperature	LWT 30°C	LWT 35°C	LWT 40°C	LWT 45°C	LWT 50°C	LWT 55°C	LWT 60°C	LWT 65°C
	Capacity (kW)							
-25°C DB	5.00	4.85	4.71	4.56	-	-	-	-
-20°C DB	5.58	5.43	5.27	5.11	4.95	-	-	-
-15°C DB	6.17	6.00	5.83	5.66	5.49	5.32	-	-
-7°C DB	7.00	7.00	7.00	7.00	7.00	7.00	7.00	-
-4°C DB	7.00	7.00	7.00	7.00	7.00	7.00	7.00	-
-2°C DB	7.00	7.00	7.00	7.00	7.00	7.00	7.00	-
2°C DB	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00
7°C DB	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00
10°C DB	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00
15°C DB	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00
18°C DB	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00
20°C DB	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00
35°C DB	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00

HU091MR U44 + HN091MR NK5

Outdoor temperature	LWT 30°C	LWT 35°C	LWT 40°C	LWT 45°C	LWT 50°C	LWT 55°C	LWT 60°C	LWT 65°C
	Capacity (kW)							
-25°C DB	6.40	6.20	6.00	5.80	-	-	-	-
-20°C DB	7.23	7.00	6.77	6.54	6.31	-	-	-
-15°C DB	8.06	7.80	7.54	7.28	7.02	6.76	-	-
-7°C DB	9.00	9.00	9.00	9.00	9.00	9.00	9.00	-
-4°C DB	9.00	9.00	9.00	9.00	9.00	9.00	9.00	-
-2°C DB	9.00	9.00	9.00	9.00	9.00	9.00	9.00	-
2°C DB	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00
7°C DB	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00
10°C DB	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00
15°C DB	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00
18°C DB	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00
20°C DB	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00
35°C DB	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00

Note

1. DB: Dry Bulb Temperature (°C), LWT: Leaving Water Temperature (°C)
2. Direct interpolation is permissible. Do not extrapolate.
3. Measuring procedure follows EN-14511.
- Rated values are based on standard conditions and can be found on specifications.
 - Above table values may not be matched according to installation conditions. Except for rated values, the performance is not guaranteed.
 - The rating might slightly vary depending on test standards or countries.
4. The shaded areas are not guaranteed continuous operation.

Performance Table for Cooling Operation

Maximum cooling capacity

HU051MR U44 + HN091MR NK5

Outdoor temperature	LWT 7°C	LWT 10°C	LWT 13°C	LWT 15°C	LWT 18°C	LWT 20°C	LWT 22°C
	Capacity (kW)						
10°C DB	6.42	6.95	7.49	7.85	8.39	8.75	9.11
20°C DB	6.05	6.37	6.70	6.91	7.23	7.45	7.66
30°C DB	5.68	5.79	5.90	5.97	6.08	6.15	6.22
35°C DB	5.50	5.50	5.50	5.50	5.50	5.50	5.50
40°C DB	5.32	5.34	5.35	5.37	5.38	5.40	5.41
45°C DB	5.13	5.17	5.21	5.23	5.27	5.29	5.32

HU071MR U44 + HN091MR NK5

Outdoor temperature	LWT 7°C	LWT 10°C	LWT 13°C	LWT 15°C	LWT 18°C	LWT 20°C	LWT 22°C
	Capacity (kW)						
10°C DB	8.17	8.85	9.54	9.99	10.68	11.13	11.59
20°C DB	7.70	8.11	8.52	8.80	9.21	9.48	9.75
30°C DB	7.23	7.37	7.51	7.60	7.74	7.83	7.92
35°C DB	7.00	7.00	7.00	7.00	7.00	7.00	7.00
40°C DB	6.77	6.79	6.81	6.83	6.85	6.87	6.88
45°C DB	6.53	6.58	6.63	6.66	6.70	6.74	6.77

HU091MR U44 + HN091MR NK5

Outdoor temperature	LWT 7°C	LWT 10°C	LWT 13°C	LWT 15°C	LWT 18°C	LWT 20°C	LWT 22°C
	Capacity (kW)						
10°C DB	10.50	11.38	12.26	12.85	13.73	14.31	14.90
20°C DB	9.90	10.43	10.96	11.31	11.84	12.19	12.54
30°C DB	9.30	9.48	9.65	9.77	9.95	10.06	10.18
35°C DB	9.00	9.00	9.00	9.00	9.00	9.00	9.00
40°C DB	8.70	8.73	8.76	8.78	8.81	8.83	8.85
45°C DB	8.40	8.46	8.52	8.56	8.62	8.66	8.70

Note

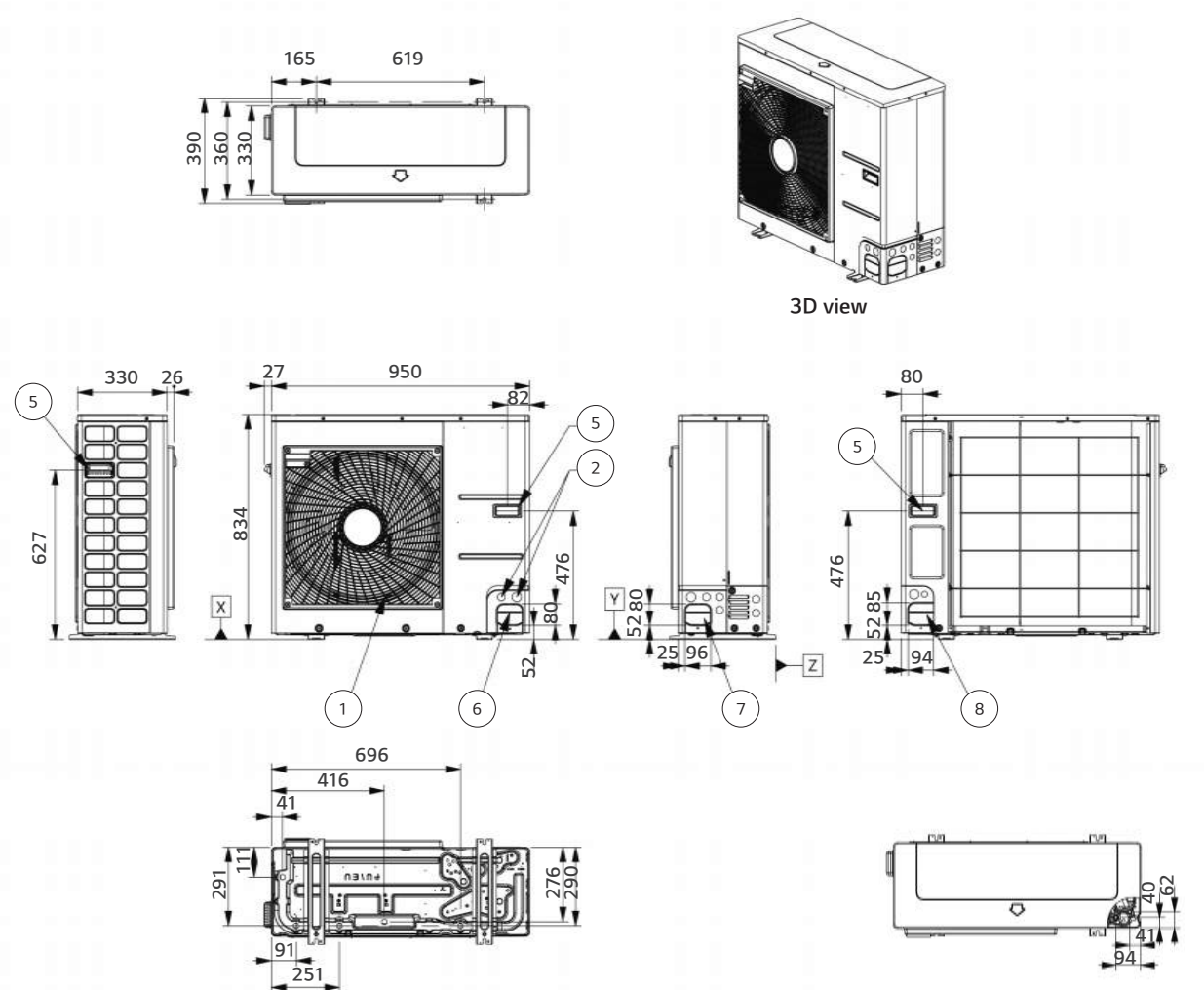
1. DB: Dry Bulb Temperature (°C), WT: Leaving Water Temperature (°C)
2. Direct interpolation is permissible. Do not extrapolate.
3. Measuring procedure follows EN-14511.
• Rated values are based on standard conditions and can be found on specifications.
• Above table values may not be matched according to installation conditions. Except for rated values, the performance is not guaranteed.
• The rating might slightly vary depending on test standards or countries.
4. The shaded areas are not guaranteed continuous operation.

Drawings

Category	Unit	Model name		
		Capacity (kW)		
		5.5	7.0	9.0
1 Phase model 220 ~ 240 V, 1 Ø, 50 Hz	Outdoor unit	HU051MR U44	HU071MR U44	HU091MR U44
	Indoor unit	HN091MR NK5		

HU051MR U44 / HU071MR U44 / HU091MR U44

[Unit: mm]



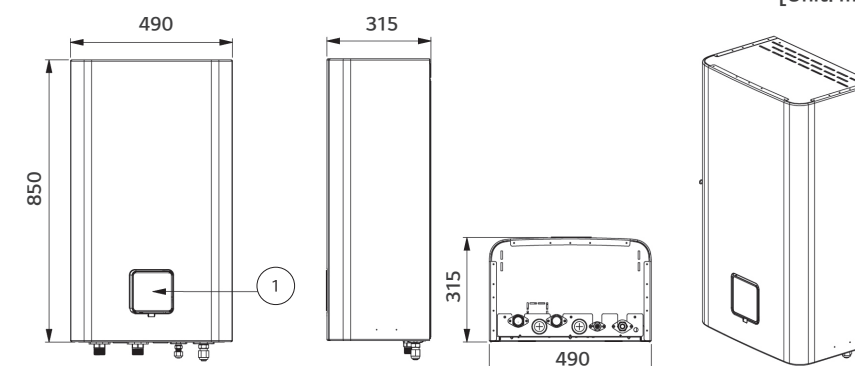
No.	Part name	Description
1	Air outlet	-
2	Power and communication cable hole	-
3	Gas pipe connection	Flare joint
4	Liquid pipe connection	Flare joint
5	Handle	-
6	Pipe routing hole (front)	-
7	Pipe routing hole (side)	-
8	Pipe routing hole (back)	-

PRODUCT SPECIFICATION

HN091MR NK5

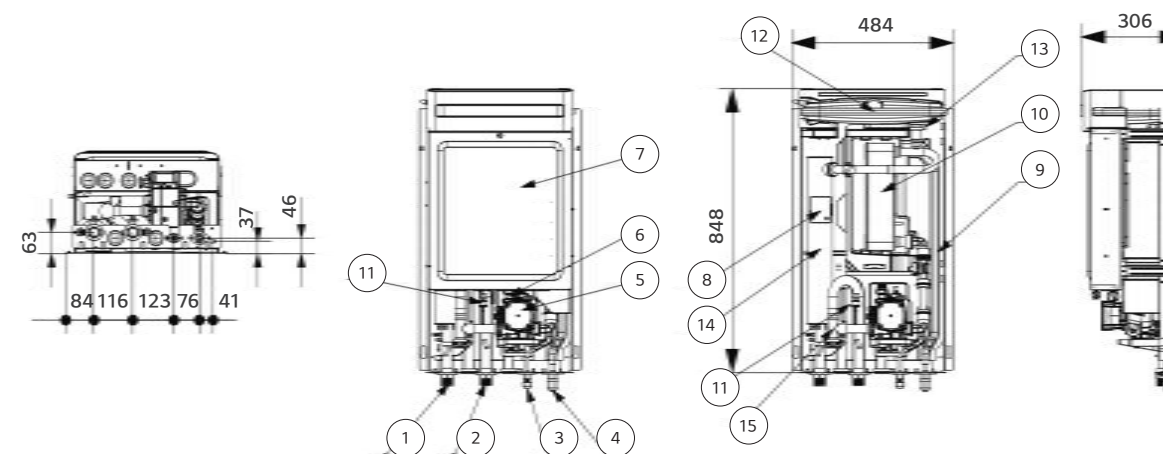
External

[Unit: mm]



No.	Part name	Description
1	Control panel	Built-in remote controller

Internal

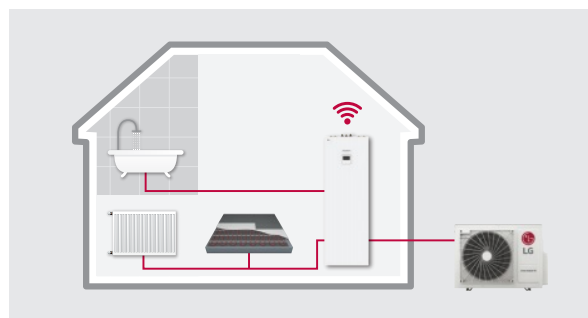
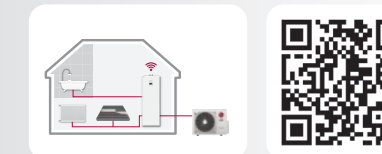


No.	Part name	Description
1	Leaving water pipe	Male PT 1" according to ISO 7-1 (tapered pipe threads)
2	Entering water pipe	Male PT 1" according to ISO 7-1 (tapered pipe threads)
3	Refrigerant pipe (liquid)	Ø 9.52 (mm)
4	Refrigerant pipe (gas)	Ø 15.88 (mm)
5	Water pump	To circulate water inside the system
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
9	Flow sensor	To measure the water flow rate (5-80 LPM)
10	Plate heat exchanger	Heat exchange between refrigerant and water
11	Pressure sensor	To measure the water pressure (0-2 MPa)
12	Expansion tank	Absorbing volume change of heated water
13	Air vent	Air purging when charging water
14	Backup heater	6 kW
15	Strainer	Filtering and stacking particles inside circulating water

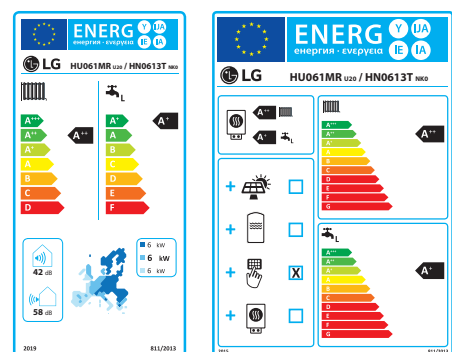


THERMA V™ R32

R32 SPLIT 4/6 kW IWT



Energy Label



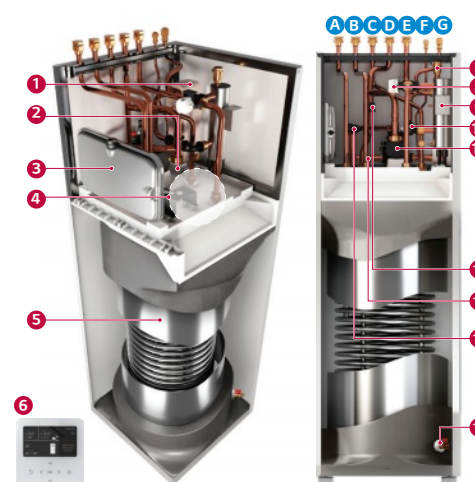
* 16 kW 3 Ø model.
* A+++ to D scale.

R32 Split IWT Introduction

LG Therma V Split IWT with an integrated indoor hot water tank – a domestic hot water supply, space heating and cooling solution – has reached a new era of innovation. A stainless steel water tank reduces the risk of corrosion, while an internal coil type heat exchanger contributes to higher efficiency. Compact and lightweight components allow quicker and easier installation, with various advanced control options providing for user convenience.

The outdoor unit is on offer in 4/6 kW and 5/7/9 kW capacity range and R32 Split 4/6 kW model is suitable for new build houses that are well insulated and require a small heating load.

Key Components



Components

- 1 Plate heat exchanger (ref. / water)
- 2 Strainer
- 3 Expansion tank for heating (8 l)
- 4 Reserved space for DHW expansion tank
- 5 DHW storage tank (stainless steel, 200 l) with internal coil type heat exchanger
- 6 Standard III remote controller (attached on front panel)
- 7 Air vent valve
- 8 3 Way diverting valve (DC)
- 9 Electric back-up heater (3 kW)
- 10 Water flow sensor
- 11 Main water pump with air vent and safety valve (water circuit, 3 bar)
- 12 Water pressure sensor
- 13 Drain valve for water circuit
- 14 Safety valve (DHW tank, 10 bar)
- 15 Drain valve for DHW tank

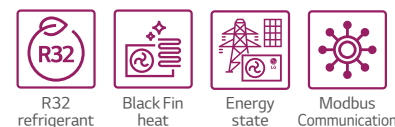
Connections

- A DHW recirculation pipe (female G1" *)
- B Domestic hot water outlet pipe (female G1" *)
- C Domestic cold water inlet pipe (female G1" *)
- D Heating circuit inlet pipe (female G1" *)
- E Heating circuit outlet pipe (female G1" *)
- F Refrigerant liquid pipe (SAE 1/4" with connector **)
- G Refrigerant gas pipe (SAE 1/2" with connector **)

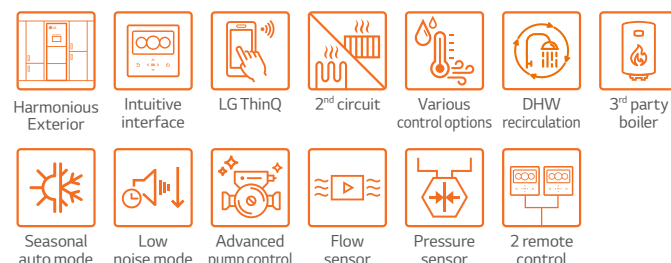
* According to ISO 228-1 (parallel pipe threads)

** In case of Split 4/6 kW model, the adaptors provided with the outdoor unit must be separately installed on the gas/liquid connection of the indoor unit when connecting the refrigerant pipe. After installing the adaptors, the liquid and gas connection size becomes Ø 6.35 (1/4 inch) and Ø 12.7 (1/2 inch) respectively.

Excellent performance & efficiency



User convenience



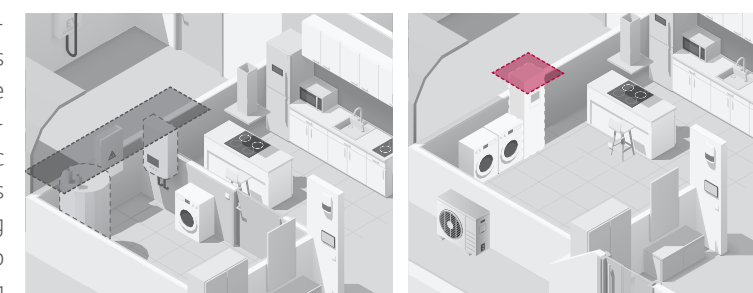
Easy installation & maintenance



* Detailed description for each function is presented on page 44 – 54.

All-in-One Solution: Integrated Water Tank Type

Therma V R32 Split IWT is the perfect space-saving solution for residential application thanks to its fully integrated hot water tank. Unlike in the case of typical separate installation, in this all-in-one solution hydronic components and Domestic Hot Water (DHW) are pre-wired, which requires reduced installation time and saves valuable living space. Therma V R32 Split IWT is easy to set up and operate while it demonstrates outstanding reliability and efficiency.

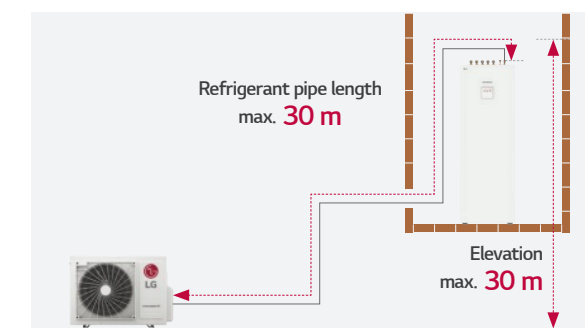
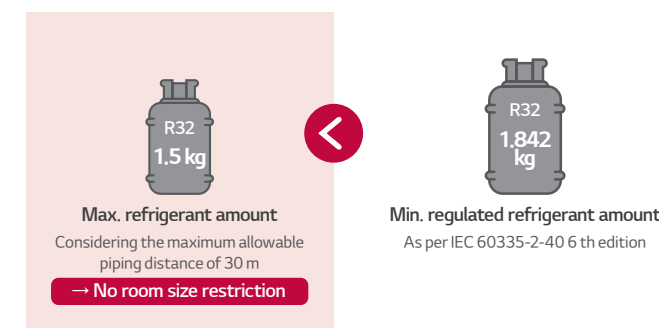


Conventional

LG Therma V R32 Split IWT
(less installation space required)

Small Refrigerant Amount - free from minimum floor area requirements due to R32 refrigerant

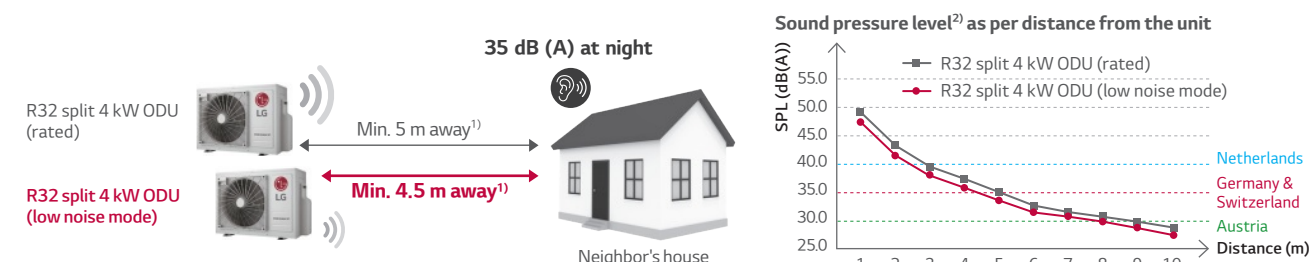
Minimum floor space requirements do not apply to R32 Split 4/6 kW, as the maximum refrigerant amount (including 30 m pipes) used in the product is smaller than the minimum set by regulation. As a result, there are more opportunities for flexible design and installation.



Reduced Noise Level

The R32 Split outdoor unit can be installed at the minimum of 4.5 m away¹⁾ from neighboring houses while complying with noise-related requirements in most European countries, including Germany. (based on 4 kW ODU & low noise mode)

Description		Germany	Austria	Switzerland	Netherlands
Sound pressure threshold	Day time	50 dB (A) (06:00 ~ 22:00)	40 dB (A) (06:00 ~ 19:00)	40 dB (A) (07:00 ~ 19:00)	45 dB (A) (07:00 ~ 19:00)
	Evening	-	35 dB (A) (19:00 ~ 22:00)	-	-
	Night time	35 dB (A) (22:00 ~ 06:00)	30 dB (A) (22:00 ~ 06:00)	35 dB (A) (19:00 ~ 07:00)	40 dB (A) (19:00 ~ 07:00)



1) Minimum distance to be away from a neighboring property may vary depending on installation conditions and noise regulations in individual countries.
2) Sound pressure level is converted from sound power level of low noise mode based on a tonality penalty of 0 dB and installation in free-field. The directivity index (Q) is assumed as 2.

R32 Split 4/6 kW IWT

Indoor unit

HN0613T NK0

Outdoor unit

HU041MR U20

HU061MR U20



* Keymark, Eurovent and EHPA label under development

Features

- Answers the needs of new build houses with good insulation and a small heating demand
- Demonstrates a lower noise level (sound pressure level at 3 m : 39 dB (A) for 4 kW / 40 dB (A) for 6 kW)

All-in-one integration

- Quick and easy installation
- DHW tank and hydronic component integration
- Integrated 3 kW backup heater and expansion tank for heating (8 ℓ)

Enhanced installation flexibility

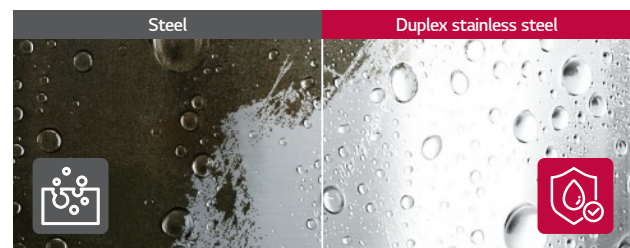
- Free from minimum floor area requirements due to R32 refrigerant
- (max. refrigerant amount (including 30 m pipes) < 1.842 kg)
- Light weight and compact size
- Max. 30 m refrigerant piping

High efficiency & operational range

- SCOP up to 4.65 / 3.23 (low temp. / mid temp. application):
- Water heating efficiency 133 % (4,6 kW, profile L):
- COP up to 5.10 (outdoor air 7°C / leaving water 35°C)
- Operation range (ambient: -20 ~ 35°C / water side: 15 ~ 55°C)

Innovative design & technology

- Duplex stainless steel water tank (200 ℓ)
 - Durable stainless steel: no need to install an anode and replace it on a regular basis in the case of a magnesium anode, or no electricity consumption in the case of an impressed current anode.



- Internal coil type heat exchanger
- Built-in water flow and pressure sensors to monitor the water circuit in real time
- PWM-pump with option to control by ΔT
- Energy monitoring of estimated power consumption

Control & connectivity

- LG ThinQ Wi-Fi control and monitoring solution
- PV / ESS or smart grid connectivity
- Modbus connectivity without a gateway
- Schedule-based control logic for DHW recirculation pump
- Enhanced 2nd circuit control logic

Model line-up

Category	Unit	Model name	
		Capacity (kW)	
		4.0	6.0
1 Phase model 220 ~ 240 V, 1 Ø, 50 Hz	Outdoor unit	HU041MR U20	HU061MR U20
	Indoor unit	HN0613T NK0	

PRODUCT SPECIFICATION

Seasonal energy

Description			Outdoor unit	HU041MR U20	HU061MR U20
			Indoor unit	HN0613T NK0	
Space heating (according to EN14825)	Average climate water outlet 35°C	SCOP	-	4.65	4.65
		Seasonal space heating efficiency (η _s)	%	183	183
		Seasonal space Heating eff. class	-	A+++	A+++
	Average climate water outlet 55°C	SCOP	-	3.23	3.23
		Seasonal space heating efficiency (η _s)	%	126	126
		Seasonal space heating eff. class	-	A++	A++
Domestic hot water efficiency (according to EN16147)	Average climate	Declared load profile	-	L	L
		Water heating efficiency (η _{WH})	%	133	133
		COP _{DHW}	-	3.15	3.15
	Warmer climate	Water heating eff. class	-	A+	A+
		Declared load profile	-	L	L
		Water heating efficiency (η _{WH})	%	160	160
	Colder climate	COP _{DHW}	-	3.69	3.69
		Water heating eff. class	-	A++	A++
		Declared load profile	-	L	L
		Water heating efficiency (η _{WH})	%	110	110
		COP _{DHW}	-	2.54	2.54
		Water heating eff. class	-	A	A

Nominal capacity and nominal power input

Technical specification		OAT ¹⁾	LWT ²⁾	Outdoor unit	HU041MR U20	HU061MR U20
				Indoor unit	N0613T NK0	
Nominal capacity	Heating	7°C	35°C	kW	4.00	6.00
		7°C	55°C	kW	3.70	4.60
		2°C	35°C	kW	3.60	4.80
		-7°C	35°C	kW	4.00	6.00
	Cooling	35°C	18°C	kW	4.00	6.00
		35°C	7°C	kW	4.00	6.00
Nominal power input	Heating	7°C	35°C	kW	0.78	1.21
		7°C	55°C	kW	1.30	1.59
		2°C	35°C	kW	0.96	1.32
		-7°C	35°C	kW	1.30	2.01
	Cooling	35°C	18°C	kW	0.83	1.25
		35°C	7°C	kW	1.18	1.88
COP	Heating	7°C	35°C	W/W	5.10	4.95
		7°C	55°C	W/W	2.85	2.90
		2°C	35°C	W/W	3.75	3.65
		-7°C	35°C	W/W	3.08	2.98
EER	Cooling	35°C	18°C	W/W	4.80	4.80
		35°C	7°C	W/W	3.40	3.20

1) OAT: Outdoor Air Temperature
2) LWT: Leaving Water Temperature

R32 Split 4/6 kW IWT

Product specification (outdoor unit)

Technical specification			Unit	HU041MR U20	HU061MR U20
Operation range (outdoor temp.)	Heating	Min. – Max.	°C DB	-20 ~ 35	
	Cooling			5 ~ 48	
Compressor	Type		-	Hermetic sealed twin rotary	
Refrigerant	Type		-	R32	
	GWP (Global Warming Potential)		-	675	
	Precharged amount		g	1,100	
	t-CO ₂ eq		-	0.743	
Piping connections	Outer diameter	Liquid	mm (inch)	Ø 6.35 (1/4)	
		Gas	mm (inch)	Ø 12.7 (1/2)	
	Length	Standard	m	5	
		Max.	m	30	
	Level difference	Max.	m	30	
	Chargeless-pipe length		m	10	
	Additional charging volume		g/m	20	
Rated water flow rate (at LWT 35°C)			ℓ/min	11.5	17.3
Sound power level	Heating	Rated	dB(A)	57	58
Sound pressure level (at 1 m)	Heating	Rated	dB(A)	49	50
Dimensions	Unit	W x H x D	mm	870 × 650 × 330	
Weight	Unit		kg	44.7	
Exterior	Color / RAL code		-	Warm gray / RAL 7044	
Power supply	Voltage, phase, frequency		V, Ø, Hz	220-240, 1, 50	
	Rated running current	Heating	A	3.5	5.6
		Cooling	A	3.7	5.4
		Recommended circuit breaker		A	16
Wiring connections	Power supply cable (included earth, H07RN-F)		mm² x cores	2.5 × 3 C	

Product specification (indoor unit)

Technical specification			Unit	HN0613T NKO
Operation range (Leaving water temperature)	Heating	Min. – Max.	°C DB	15 – 55
	Cooling			5 – 27 (16 – 27) ¹⁾
	DHW			15 – 80 ²⁾
Domestic hot water tank	Volume		ℓ	200
	Material		-	Duplex stainless steel
	Internal thermal protect limit		°C	85
Flow sensor	Measuring range	Min. – Max.	LPM	5 – 80
Water pressure sensor	Measuring range	Min. – Max.	bar (G)	0 – 20
Expansion vessel (heating circuit)	Volume		ℓ	8
Safety valve	Heating circuit	Upper limit	bar	3
	DHW circuit	Upper limit	bar	10
Piping connections	Refrigerant circuit	Liquid (outside diameter)	mm (inch)	Ø 6.35 (1/4) ³⁾
		Gas (outside diameter)	mm (inch)	Ø 12.7 (1/2) ³⁾
	Water circuit	Inlet	inch	Female G1" according to ISO228-1 (parallel pipe threads)
		Outlet	inch	
	DHW tank water circuit	Cold inlet	inch	Female G1" according to ISO228-1 (parallel pipe threads)
		Hot outlet	inch	
Recirculation		inch		
Sound power level	Heating	Rated	dB(A)	42
Dimensions	Unit	W × H × D	mm	600 × 1,750 × 660
Weight	Unit		kg	118
Exterior	Color / RAL code		-	Noble white / RAL 9016
Wiring connections	Power and communication cable (included earth, H07RN-F)		mm ² x cores	0.75 x 4 C
Electric heater	Type		-	Sheath
	No. of heating coil		EA	2
	Capacity combination		kW	3
	Heating step		Step	1
	Power supply		V, Ø, Hz	220-240, 1, 50
	Wiring connections power supply cable (included earth, H07RN-F)		mm ² x cores	2.5 x 3 C
	Rated current		A	13

1) When a fan coil unit is not used.

2) DHW 50 ~ 80°C operating is available only when the booster heater is operating.

3) When connecting the refrigerant pipe, the adaptors provided with the outdoor unit must be installed on the connection of the indoor unit.

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.
Especially the power cable and circuit breaker should be selected in accordance with that.
3. Sound power level is measured on the rated condition in accordance with ISO 9614 standard.
Sound pressure level is converted from sound power level based on a tonality penalty of 0 dB and installation in free-field. The directivity index (Q) is assumed as 2.
Therefore, these values can be increased owing to ambient conditions during operation.
Rated sound power level is in accordance with EN12102-1 under condition of EN14825.
4. Performances are in accordance with EN14511 and reflect ErP testing conditions. Above gives the declared values at rated conditions acc. ErP regulation
 - Rated running current: outdoor Temp. 7°C DB / 6°C WB, LWT 35°C
 - Interconnected pipe length is standard length and difference of elevation (outdoor - indoor unit) is 0 m.
5. This product contains fluorinated greenhouse gases.
6. All installation sites must be equipped with an earth leakage circuit breaker (ELCB).



Performance Table for Heating Operation

Maximum heating capacity (including defrost effect)

HU041MR U20 + HN0613T NK0

Outdoor temperature	LWT 30°C	LWT 35°C	LWT 40°C	LWT 45°C	LWT 50°C	LWT 55°C
	Capacity (kW)					
-20°C DB	4.00	4.00	4.00	4.00	-	-
-15°C DB	4.00	4.00	4.00	4.00	4.00	-
-7°C DB	4.00	4.00	4.00	4.00	4.00	4.00
-4°C DB	4.00	4.00	4.00	4.00	4.00	4.00
-2°C DB	4.00	4.00	4.00	4.00	4.00	4.00
2°C DB	4.00	4.00	4.00	4.00	4.00	4.00
7°C DB	4.00	4.00	4.00	4.00	4.00	4.00
10°C DB	4.00	4.00	4.00	4.00	4.00	4.00
15°C DB	4.00	4.00	4.00	4.00	4.00	4.00
18°C DB	4.00	4.00	4.00	4.00	4.00	4.00
20°C DB	4.00	4.00	4.00	4.00	4.00	4.00
35°C DB	4.00	4.00	4.00	4.00	4.00	4.00

HU061MR U20 + HN0613T NK0

Outdoor temperature	LWT 30°C	LWT 35°C	LWT 40°C	LWT 45°C	LWT 50°C	LWT 55°C
	Capacity (kW)					
-20°C DB	4.92	4.78	4.64	4.50	-	-
-15°C DB	5.56	5.52	5.48	5.44	5.40	-
-7°C DB	6.00	6.00	6.00	6.00	6.00	6.00
-4°C DB	6.00	6.00	6.00	6.00	6.00	6.00
-2°C DB	6.00	6.00	6.00	6.00	6.00	6.00
2°C DB	6.00	6.00	6.00	6.00	6.00	6.00
7°C DB	6.00	6.00	6.00	6.00	6.00	6.00
10°C DB	6.00	6.00	6.00	6.00	6.00	6.00
15°C DB	6.00	6.00	6.00	6.00	6.00	6.00
18°C DB	6.00	6.00	6.00	6.00	6.00	6.00
20°C DB	6.00	6.00	6.00	6.00	6.00	6.00
35°C DB	6.00	6.00	6.00	6.00	6.00	6.00

Note

1. DB: Dry Bulb Temperature (°C), LWT: Leaving Water Temperature (°C)
2. Direct interpolation is permissible. Do not extrapolate.
3. Measuring procedure follows EN-14511.
 - Rated values are based on standard conditions and can be found on specifications.
 - Above table values may not be matched according to installation conditions. Except for rated values, the performance is not guaranteed.
 - The rating might slightly vary depending on test standards or countries.
4. The shaded areas are not guaranteed continuous operation.

Performance Table for Cooling Operation

Maximum cooling capacity

HU041MR U20 + HN0613T NK0

Outdoor temperature	LWT 7°C	LWT 10°C	LWT 13°C	LWT 15°C	LWT 18°C	LWT 20°C	LWT 22°C
	Capacity (kW)						
	10°C DB	4.00	4.00	4.00	4.00	4.00	4.00
	20°C DB	4.00	4.00	4.00	4.00	4.00	4.00
	30°C DB	4.00	4.00	4.00	4.00	4.00	4.00
	35°C DB	4.00	4.00	4.00	4.00	4.00	4.00
	40°C DB	4.00	4.00	4.00	4.00	4.00	4.00
45°C DB	4.00	4.00	4.00	4.00	4.00	4.00	4.00

HU061MR U20 + HN0613T NK0

Outdoor temperature	LWT 7°C	LWT 10°C	LWT 13°C	LWT 15°C	LWT 18°C	LWT 20°C	LWT 22°C
	Capacity (kW)						
10°C DB	6.00	6.00	6.00	6.00	6.00	6.00	6.00
20°C DB	6.00	6.00	6.00	6.00	6.00	6.00	6.00
30°C DB	6.00	6.00	6.00	6.00	6.00	6.00	6.00
35°C DB	6.00	6.00	6.00	6.00	6.00	6.00	6.00
40°C DB	5.74	5.81	5.87	5.91	6.00	6.00	6.00
45°C DB	5.48	5.61	5.73	5.81	5.94	6.00	6.00

Note

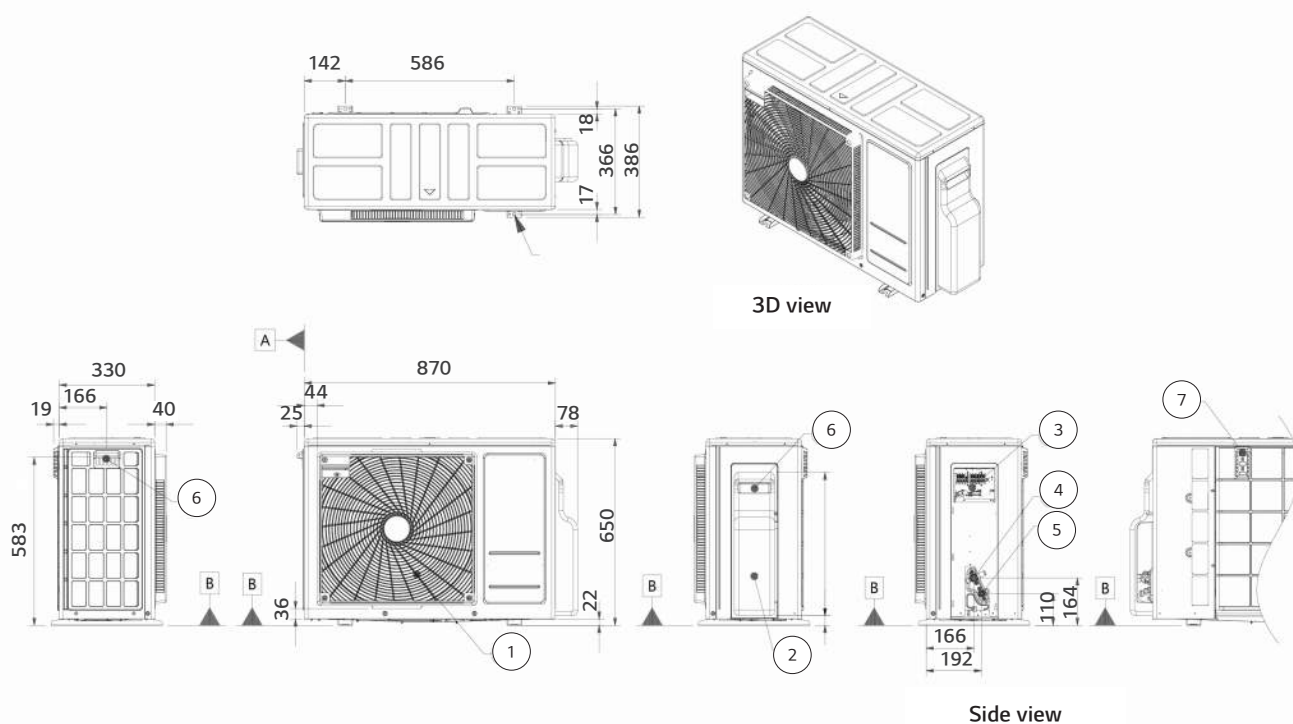
1. DB: Dry Bulb Temperature (°C), LWT: Leaving Water Temperature (°C)
2. Direct interpolation is permissible. Do not extrapolate.
3. Measuring procedure follows EN-14511.
 - Rated values are based on standard conditions and can be found on specifications.
 - Above table values may not be matched according to installation conditions. Except for rated values, the performance is not guaranteed.
 - The rating might slightly vary depending on test standards or countries.
4. The shaded areas are not guaranteed continuous operation.

Drawings

Category	Unit	Model name	
		Capacity (kW)	
		4.0	6.0
1 Phase model 220 ~ 240 V, 1 Ø, 50 Hz	Outdoor unit	HU041MR U20	HU061MR U20
	Indoor unit	HN0613T NK0	

HU041MR U20 / HU061MR U20

[Unit: mm]

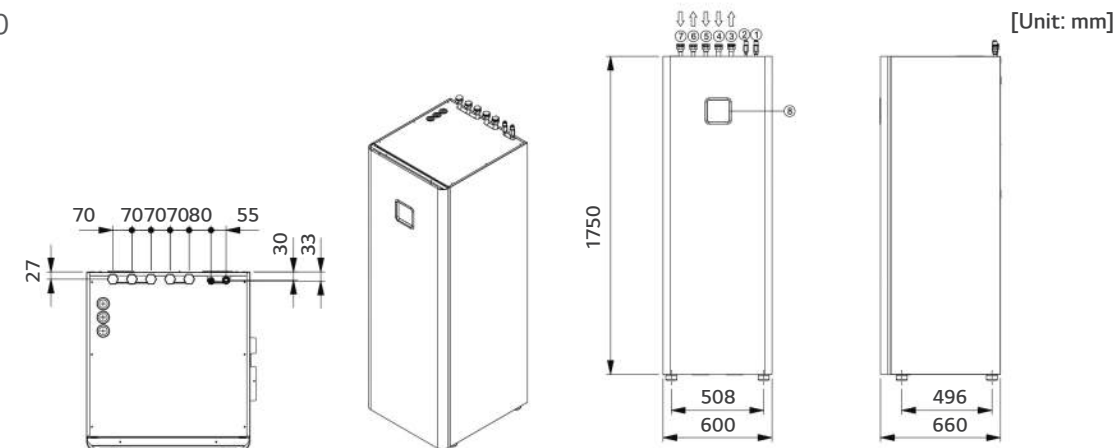


No.	Part name	Description
1	Air outlet	-
2	Control cover & SVC valve cover	-
3	Power and communication cable connection	-
4	Gas pipe connection	Flare joint
5	Liquid pipe connection	Flare joint
6	Handle	-
7	Intake air temperature sensor cover	-

PRODUCT SPECIFICATION

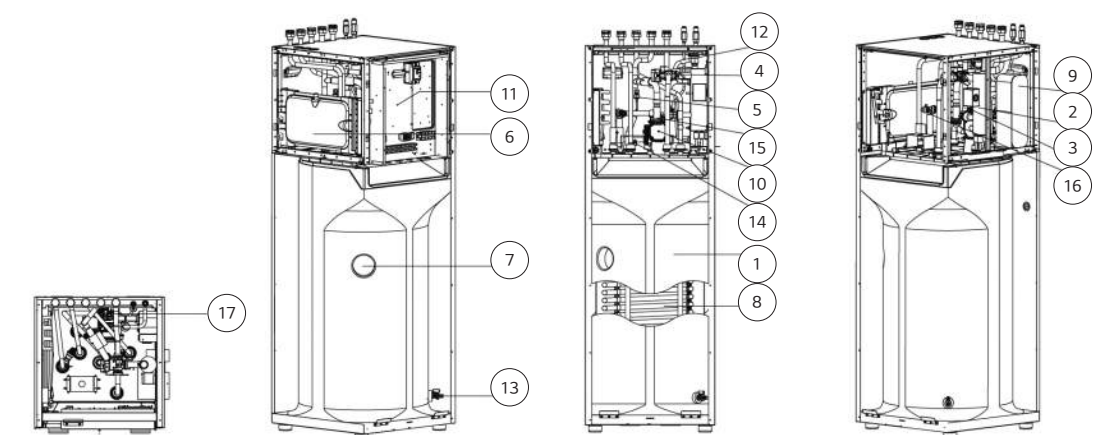
HN0613T NK0

External



No.	Part name	Description
1	Refrigerant gas pipe	SAE 1/2"¹)
2	Refrigerant liquid pipe	SAE 1/4"¹)
3	Heating circuit outlet pipe	Female G1" according to ISO228-1 (parallel pipe threads)
4	Heating circuit inlet pipe	
5	Domestic cold water inlet pipe	
6	Domestic cold water outlet pipe	
7	DHW re-circulation pipe	
8	Control panel	Built-in remote controller

1) When connecting the refrigerant pipe, the adaptors provided with the outdoor unit must be installed on the connection of the indoor units.

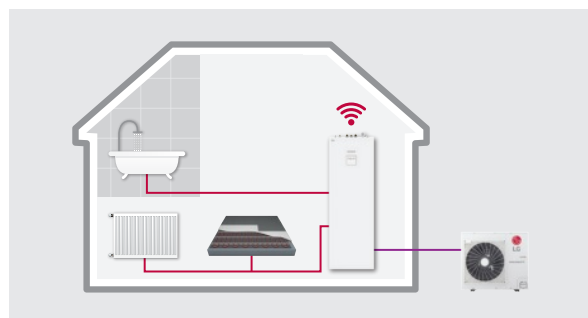
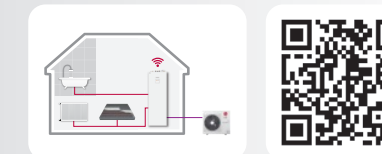


No.	Part name	Description
1	DHW tank	Domestic hot water tank (200 ℓ)
2	Heater	Electric heater (3 kW)
3	Flow sensor	Flow metering sensor
4	3 way valve	For DHW / heating
5	Pressure sensor	Pressure sensor
6	Expansion vessel	8 ℓ for Heating circuit
7	DHW tank sensor	Temperature sensor
8	Heat exchanger 1	Coil heat exchange (water / DHW)
9	Heat exchanger 2	Plate heat exchange (ref. / Water)

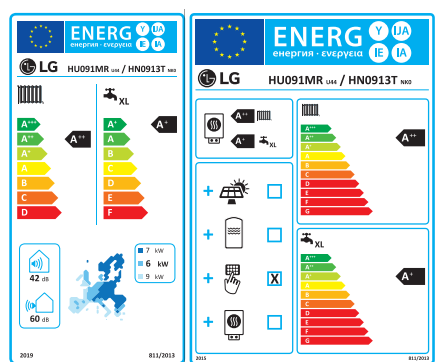
No.	Part name	Description
10	Water pump	Main circulation pump
11	Control box	PCB/A and terminal blocks
12	Air vent	For air purging
13	Drain cock 1	Valve for DHW tank drain
14	Drain cock 2	Valve for water circuit drain
15	Strainer	For water circuit
16	Safety valve	For DHW (10 bar)
17	Safety valve	For water circuit (3 bar)

THERMA V™ R32

R32 SPLIT 5/7/9 kW IWT



Energy Label



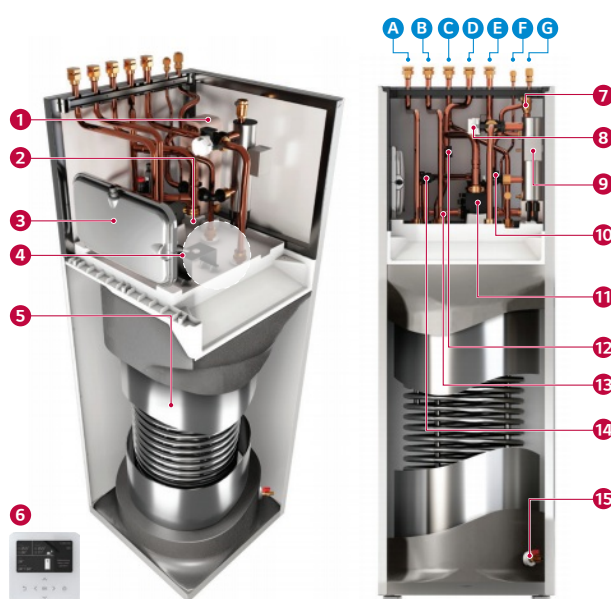
* 9 kW 1 Ø model.
* A+++ to D scale.

R32 Split IWT Introduction

LG Therma V Split IWT with an integrated indoor hot water tank – a domestic hot water supply, space heating and cooling solution – has reached a new era of innovation. A stainless steel water tank reduces the risk of corrosion, while an internal coil type heat exchanger contributes to higher efficiency. Compact and lightweight components allow quicker and easier installation, with various advanced control options providing for user convenience.

The outdoor unit is on offer in 4/6 kW and 5/7/9 kW capacity range and R32 Split 5/7/9 kW model is suitable for both new build and renovation projects.

Key Components



Components

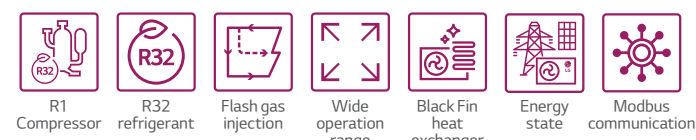
- 1 Plate heat exchanger (ref. / water)
- 2 Strainer
- 3 Expansion tank for heating (8 l)
- 4 Reserved space for DHW expansion tank
- 5 DHW storage tank (stainless steel, 200 l) with internal coil type heat exchanger
- 6 Standard III remote controller (attached on front panel)
- 7 Air vent valve
- 8 3 way diverting valve (DC)
- 9 Electric back-up heater (3 kW)
- 10 Water flow sensor
- 11 Main water pump with air vent and safety valve (water circuit, 3 bar)
- 12 Water pressure sensor
- 13 Drain valve for water circuit
- 14 Safety valve (DHW tank, 10 bar)
- 15 Drain valve for DHW tank

Connections

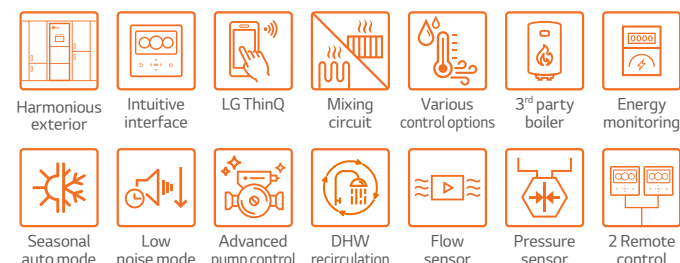
- A DHW recirculation pipe (female G1" *)
- B Domestic hot water outlet pipe (female G1" *)
- C Domestic cold water inlet pipe (female G1" *)
- D Heating circuit inlet pipe (female G1" *)
- E Heating circuit outlet pipe (female G1" *)
- F Refrigerant liquid pipe (SAE 3/8")
- G Refrigerant gas pipe (SAE 5/8")

* According to ISO 228-1 (parallel pipe threads)

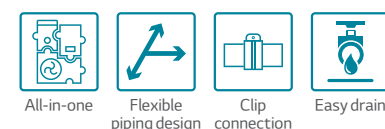
Excellent performance & efficiency



User convenience



Easy Installation & Maintenance



* Detailed description for each function is presented on page 44 – 54.

All-in-One Solution: Integrated Water Tank Type

Therma V R32 Split IWT is the perfect space-saving solution for residential application thanks to its fully integrated hot water tank. Unlike in the case of typical separate installation, in this all-in-one solution hydronic components and Domestic Hot Water (DHW) are pre-wired, which requires reduced installation time and saves valuable living space. Therma V R32 Split IWT is easy to set up and operate while it demonstrates outstanding reliability and efficiency.

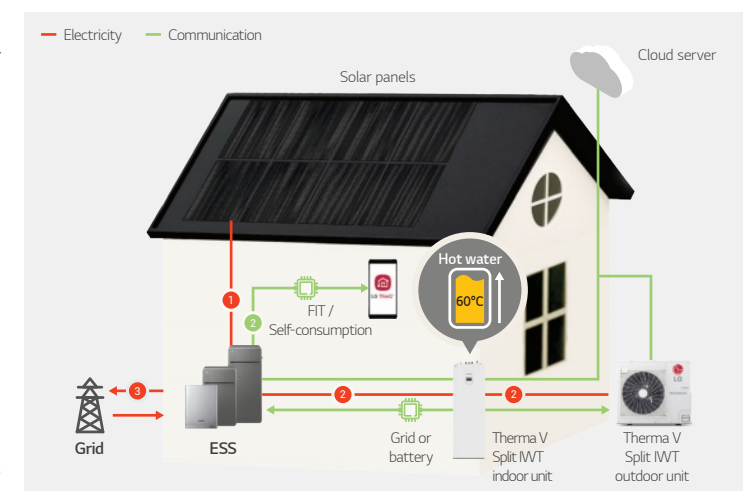


Conventional

LG Therma V R32 Split IWT
(less installation space required)

Energy States Interlock

Therma V R32 Split IWT provides an energy state interlock function enabling customers to use their own renewable energy as much as possible. It can shift set points depending on input signal from the Energy Storage System (ESS) or any other third-party device using Modbus or Digital 230 V inputs.



- 1) Energy is generated from solar panels and sent to your battery.
- 2) Once the battery is fully charged, the surplus energy from the ESS will heat the water tank. The user gets to monitor the status with the LG ThinQ app.
- 3) Once the water is heated, the user can choose to sell surplus energy to the grid.

Easy Draining System

It is convenient for maintenance or moving as the water inside can be easily drained through the built-in drain valve.



DHW Recirculation Pump Control

Therma V can be connected to the DHW recirculation pump, which can then be managed via the scheduling function. When a user opens the faucet, hot water is immediately accessible thanks to the DHW recirculating function. This feature also has the added advantage of preventing Legionella growth in the hot water pipe.



R32 Split IWT (Integrated Water Tank)

Indoor unit

HN0913T NK0

Outdoor unit

HU051MR U44

HU071MR U44

HU091MR U44



Features

All-in-one integration

- Quick and easy installation
- DHW tank and hydronic component integration
- Integrated 3 kW backup heater and expansion tank for heating (8 ℓ)

Enhanced installation flexibility

- Refrigerant pipes connect IDU & ODU
- Light weight and compact size indoor unit
- Max. 50 m refrigerant piping and 3-way piping connection availability

High efficiency & wide operational range

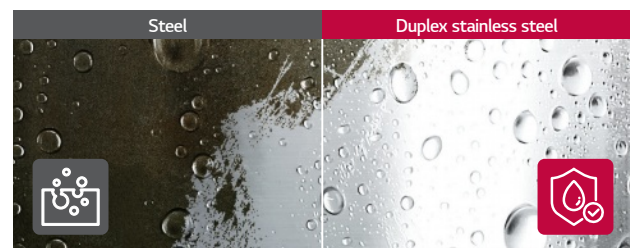
- R32 Refrigerant with low GWP
- SCOP up to 4.65 / 3.23 (low temp. / mid temp. application):

A+++ / A++
- Water heating efficiency 133 % (5,7 kW, profile L) / 140 % (9 kW, profile XL):

A+
- COP up to 4.90 (outdoor air 7°C / leaving water 35°C)
- Operation range (ambient: -25 ~ 35°C / water side: 15 ~ 65°C)

Innovative design & technology

- Duplex stainless steel water tank (200 ℓ)
 - Durable stainless steel: no need to install an anode and replace it on a regular basis in the case of a magnesium anode, or no electricity consumption in the case of an impressed current anode.



- Internal coil type heat exchanger
- Built-in water flow and pressure sensors to monitor the water circuit in real time
- PWM-pump with option to control by ΔT
- Energy monitoring of estimated power consumption

Control & connectivity

- LG ThinQ Wi-Fi control and monitoring solution
- PV / ESS or smart grid connectivity
- Modbus connectivity without a gateway
- Schedule-based control logic for DHW recirculation pump
- Enhanced 2nd circuit control logic

Model line-up

Category	Unit	Model name		
		Capacity (kW)		
		5.0	7.0	9.0
1 Phase model 220 ~ 240 V, 1 Ø, 50 Hz	Outdoor unit	HU051MR U44	HU071MR U44	HU091MR U44
	Indoor unit	HN0913T NK0		

Seasonal energy

Description			Outdoor unit	HU051MR U44	HU071MR U44	HU091MR U44
			Indoor unit	HN0913T NK0		
Space heating (according to EN14825)	Average climate water outlet 35°C	SCOP	-	4.65	4.65	4.65
		Seasonal space heating efficiency (η_s)	%	183	183	183
		Seasonal space heating eff. Class	-	A+++	A+++	A+++
	Average climate water outlet 55°C	SCOP	-	3.23	3.23	3.23
		Seasonal space heating efficiency (η_s)	%	126	126	126
		Seasonal space heating eff. class	-	A++	A++	A++
Domestic hot water efficiency (according to EN16147)	Average climate	Declared load profile	-	L	L	XL
		Water heating efficiency (η_{WH})	%	133	133	140
		COP _{DHW}	-	3.15	3.15	3.40
	Warmer climate	Water heating eff. class	-	A+	A+	A+
		Declared load profile	-	L	L	XL
		Water heating efficiency (η_{WH})	%	160	160	170
	Colder climate	COP _{DHW}	-	3.69	3.69	4.10
		Water heating eff. class	-	A++	A++	A++
		Declared load profile	-	L	L	XL
		Water heating efficiency (η_{WH})	%	110	110	115
		COP _{DHW}	-	2.54	2.54	2.65
		Water heating eff. class	-	A	A	A

Nominal capacity and nominal power input

Description		OAT ¹⁾ (DB)	LWT ²⁾ (DB)	Outdoor unit	HU051MR U44	HU071MR U44	HU091MR U44
				Indoor unit	HN0913T NK0		
Nominal capacity	Heating	7°C	35°C	kW	5.50	7.00	9.00
		7°C	55°C		5.50	5.50	5.50
	Cooling	2°C	35°C		3.30	4.20	5.40
		35°C	18°C		5.50	7.00	9.00
		35°C	7°C		5.50	7.00	9.00
		35°C	7°C		5.50	7.00	9.00
Nominal power input	Heating	7°C	35°C	kW	1.12	1.43	1.94
		7°C	55°C		2.04	2.04	2.04
	Cooling	2°C	35°C		0.94	1.20	1.54
		35°C	18°C		1.20	1.56	2.14
		35°C	7°C		1.96	2.59	3.46
		35°C	7°C		1.96	2.59	3.46
COP	Heating	7°C	35°C	W/W	4.90	4.90	4.65
		7°C	55°C		2.70	2.70	2.70
		2°C	35°C		3.52	3.51	3.50
EER	Cooling	35°C	18°C	W/W	4.60	4.50	4.20
		35°C	7°C		2.80	2.70	2.60

1) OAT: Outdoor Air Temperature

2) LWT: Leaving Water Temperature

R32 Split 5/7/9 kW IWT (Integrated Water Tank)

Product specification (outdoor unit)

Technical specification			Unit	HU051MR U44	HU071MR U44	HU091MR U44
Operation range (outdoor temp.)	Heating	Min. - Max.	°C DB		-25 ~ 35	
	Cooling				5 ~ 48	
Compressor	Type		-		Hermetic sealed scroll	
Refrigerant	Type		-		R32	
	GWP (Global Warming Potential)		-		675	
	Precharged amount		g		1,500	
	t-CO ₂ eq		-		1.013	
Piping connections	Outer diameter	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	Max.	m		30	
	Chargeless-pipe length		m		10	
	Additional charging volume		g/m		40	
Rated water flow rate (at LWT 35°C)			ℓ/min	15.8	20.1	25.9
Sound power level	Heating	Rated	dB(A)		60	
Sound pressure level (at 1 m)	Heating	Rated	dB(A)		52	
Dimensions	Unit	W x H x D	mm		950 x 834 x 330	
Weight	Unit		kg		60.0	
Exterior	Color / RAL code		-		Warm gray / RAL 7044	
	Voltage, phase, frequency		V, Ø, Hz		220-240, 1, 50	
Power supply	Rated	Heating	A	5.0	6.3	8.6
	running current	Cooling	A	5.3	6.9	9.5
	Recommended circuit breaker		A	20	25	30
Wiring connections	Power supply cable (included earth, H07RN-F)		mm ² x cores		4.0 x 3 C	

Product specification (indoor unit)

Technical specification			Unit	HN0913T NK0
Operation range (leaving water temperature)	Heating	Min. - Max.	°C DB	15 ~ 65
	Cooling			5 ~ 27 (16 ~ 27) ¹⁾
	DHW			15 ~ 80 ²⁾
Domestic hot water tank	Volume		ℓ	200
	Material		-	Duplex stainless steel
	Internal thermal protect limit		°C	85
Flow sensor	Measuring range	Min. - Max.	LPM	5 ~ 80
Water pressure sensor	Measuring range	Min. - Max.	bar (G)	0 ~ 20
Expansion vessel (heating circuit)	Volume		ℓ	8
Safety valve	Heating circuit	Upper limit	bar	3
	DHW circuit	Upper limit	bar	10
Piping connections	Refrigerant circuit	Liquid (outside diameter)	mm (inch)	Ø 9.52 (3/8)
		Gas (outside diameter)	mm (inch)	Ø 15.88 (5/8)
	Water circuit	Inlet	inch	Female G1" according to ISO228-1 (parallel pipe threads)
		Outlet	inch	
	DHW tank water circuit	Cold inlet	inch	Female G1" according to ISO228-1 (parallel pipe threads)
		Hot outlet	inch	
		Recirculation	inch	
Sound power level	Heating	Rated	dB(A)	42
Dimensions	Unit	W x H x D	mm	600 x 1,750 x 660
Weight	Unit		kg	118
Exterior	Color / RAL code		-	White / RAL 9016
Wiring connections	Power and communication cable (included earth, H07RN-F)		mm ² x cores	0.75 x 4 C
	Type		-	Sheath
Electric heater	No. of heating coil		EA	2
	Capacity combination		kW	3
	Heating step		Step	1
	Power supply		V, Ø, Hz	220-240, 1, 50
	Wiring connections power supply cable (included earth, H07RN-F)		mm ² x cores	2.5 x 3 C
	Rated current		A	13.0

1) When a fan coil unit is not used.

2) DHW 55 ~ 80°C operating is available only when the electric heater is operating.

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.

Especially the power cable and circuit breaker should be selected in accordance with that.

3. Sound power level is measured on the rated condition in accordance with ISO 9614 standard.

Sound pressure level is converted from sound power level based on a tonality penalty of 0 dB and installation in free-field. The directivity index (Q) is assumed as 2.

Therefore, these values can be increased owing to ambient conditions during operation.

Rated sound power level is in accordance with EN12102-1 under condition of EN14825.

4. Performances are in accordance with EN14511 and reflect ErP testing conditions. Above gives the declared values at rated conditions acc. ErP regulation

• Rated running current: Outdoor Temp. 7°C DB / 6°CWVB, LWT 35°C

• Interconnected pipe length is standard length and difference of elevation (outdoor ~ indoor unit) is 0 m.

5. This product contains fluorinated greenhouse gases.

6. All installation sites must be equipped with an earth leakage circuit breaker (ELCB).



Performance Table for Cooling Operation

Maximum cooling capacity

HU051MR U44 + HN0913T NK0

Outdoor temperature	LWT 7°C	LWT 10°C	LWT 13°C	LWT 15°C	LWT 18°C	LWT 20°C	LWT 22°C
	Capacity (kW)						
10°C DB	5.50	5.50	5.50	5.50	5.50	5.50	5.50
20°C DB	5.50	5.50	5.50	5.50	5.50	5.50	5.50
30°C DB	5.50	5.50	5.50	5.50	5.50	5.50	5.50
35°C DB	5.50	5.50	5.50	5.50	5.50	5.50	5.50
40°C DB	5.32	5.34	5.35	5.37	5.38	5.40	5.41
45°C DB	5.13	5.17	5.21	5.23	5.27	5.29	5.32

HU071MR U44 + HN0913T NK0

Outdoor temperature	LWT 7°C	LWT 10°C	LWT 13°C	LWT 15°C	LWT 18°C	LWT 20°C	LWT 22°C
	Capacity (kW)						
10°C DB	7.00	7.00	7.00	7.00	7.00	7.00	7.00
20°C DB	7.00	7.00	7.00	7.00	7.00	7.00	7.00
30°C DB	7.00	7.00	7.00	7.00	7.00	7.00	7.00
35°C DB	7.00	7.00	7.00	7.00	7.00	7.00	7.00
40°C DB	6.50	6.63	6.81	7.00	7.00	7.00	7.00
45°C DB	6.43	6.48	6.63	6.66	6.70	6.74	6.77

HU091MR U44 + HN0913T NK0

Outdoor temperature	LWT 7°C	LWT 10°C	LWT 13°C	LWT 15°C	LWT 18°C	LWT 20°C	LWT 22°C
	Capacity (kW)						
10°C DB	9.00	9.00	9.00	9.00	9.00	9.00	9.00
20°C DB	9.00	9.00	9.00	9.00	9.00	9.00	9.00
30°C DB	9.00	9.00	9.00	9.00	9.00	9.00	9.00
35°C DB	9.00	9.00	9.00	9.00	9.00	9.00	9.00
40°C DB	8.10	8.10	8.70	9.00	9.00	9.00	9.00
45°C DB	7.50	7.70	7.80	7.90	8.00	8.10	8.20

Note

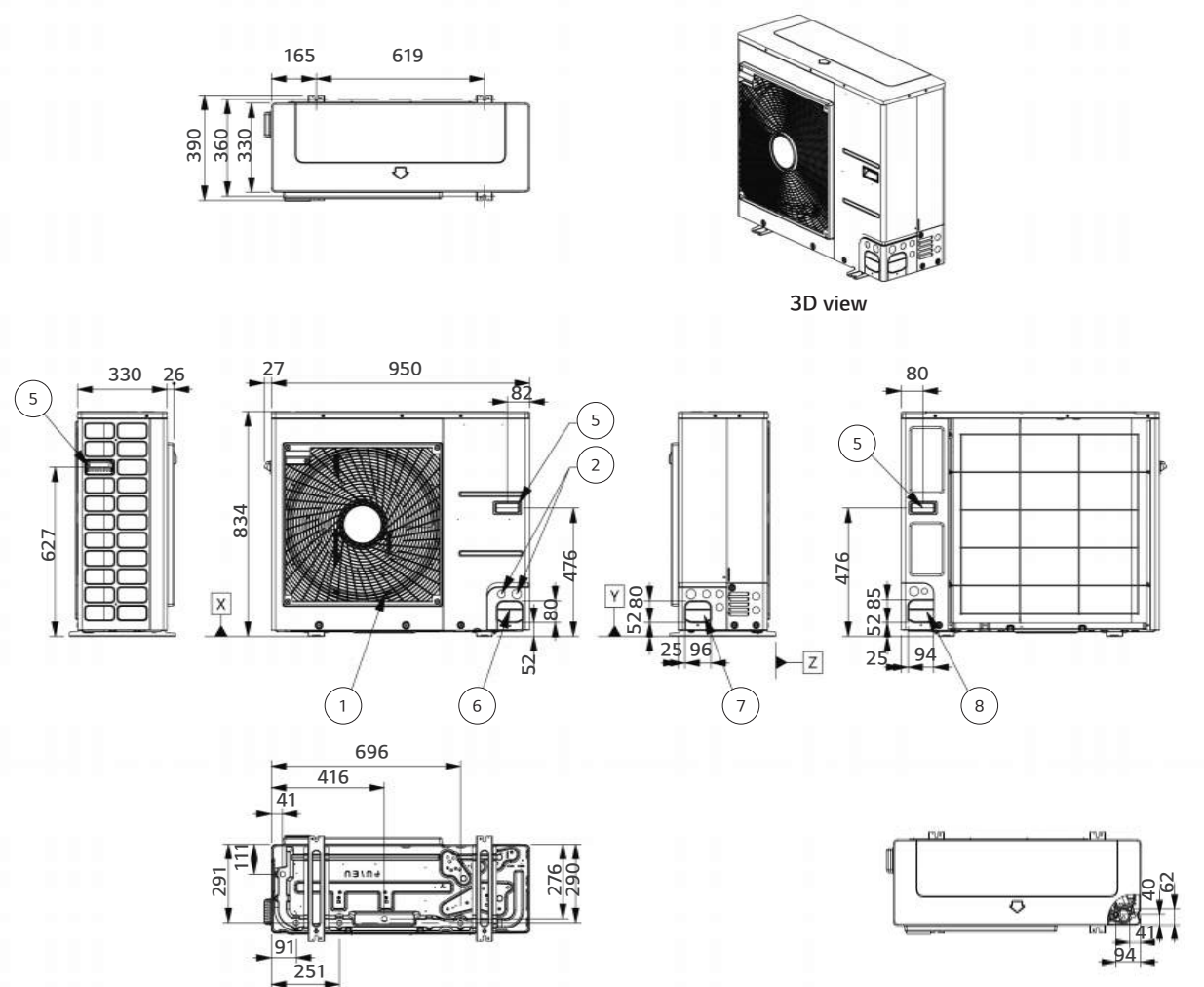
1. DB: Dry Bulb Temperature (°C), LWT: Leaving Water Temperature (°C)
2. Direct interpolation is permissible. Do not extrapolate.
3. Measuring procedure follows EN-14511.
 - Rated values are based on standard conditions and can be found on specifications.
 - Above table values may not be matched according to installation conditions. Except for rated values, the performance is not guaranteed.
 - The rating might slightly vary depending on test standards or countries.
4. The shaded areas are not guaranteed continuous operation.

Drawings

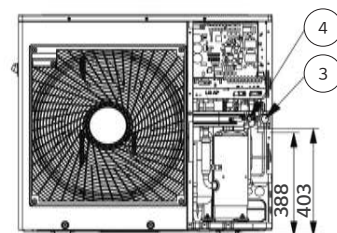
Category	Unit	Model name		
		Capacity (kW)		
		5.0	7.0	9.0
1 Phase model 220 – 240 V, 1 Ø, 50 Hz	Outdoor unit	HU051MR U44	HU071MR U44	HU091MR U44
	Indoor unit	HN0913T NK0		

HU051MR U44 / HU071MR U44 / HU091MR U44

[Unit: mm]



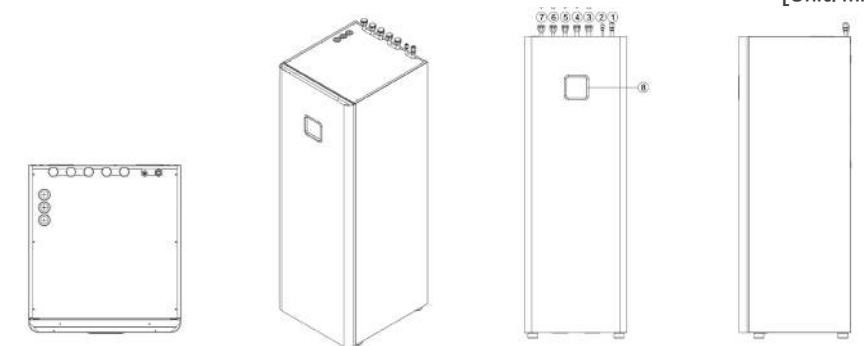
No.	Part name	Description
1	Air outlet	-
2	Power and communication cable hole	-
3	Gas pipe connection	Flare joint
4	Liquid pipe connection	Flare joint
5	Handle	-
6	Pipe routing hole (front)	-
7	Pipe routing hole (side)	-
8	Pipe routing hole (back)	-



HN0913T NK0

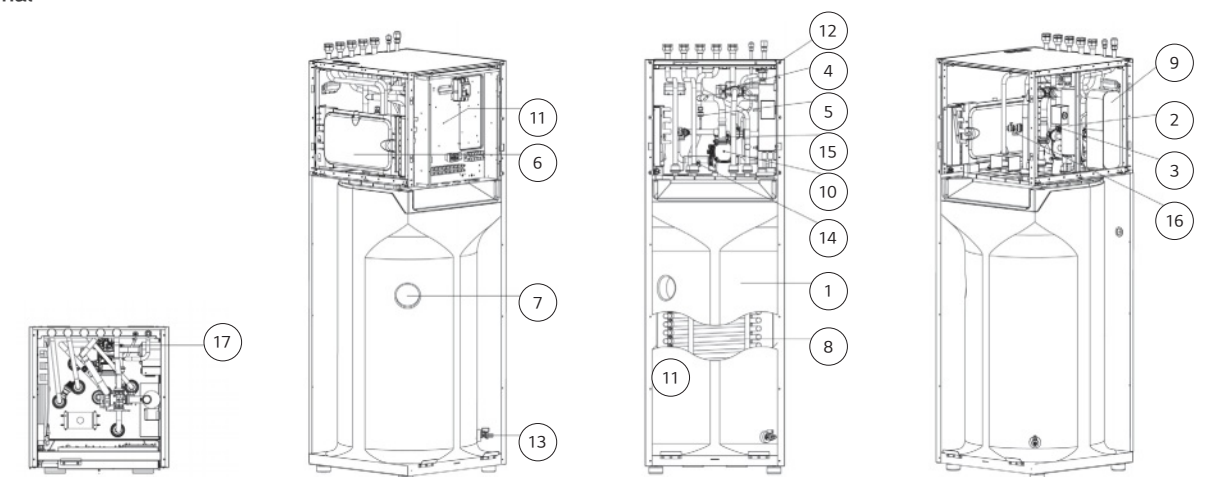
External

[Unit: mm]



No.	Part name	Description
1	Refrigerant gas pipe	SAE 5/8"
2	Refrigerant liquid pipe	SAE 3/8"
3	Heating circuit outlet pipe	Female G1" according to ISO228-1 (parallel pipe threads)
4	Heating circuit inlet pipe	
5	Domestic cold water inlet pipe	
6	Domestic cold water outlet pipe	
7	DHW re-circulation pipe	
8	Control panel	Built-in remote controller

Internal

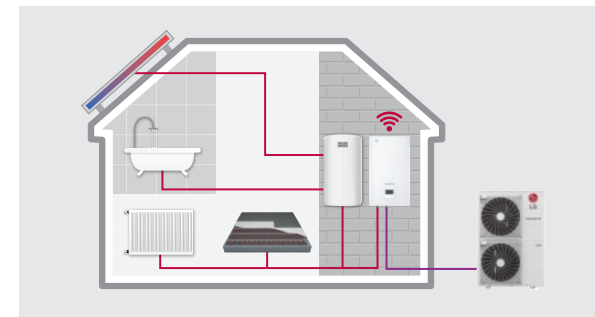
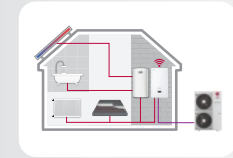


No.	Part name	Description
1	DHW tank	Domestic hot water tank (200 ℓ)
2	Heater	Electric heater (3 kW)
3	Flow sensor	Flow metering sensor
4	3 way valve	For DHW / heating
5	Pressure sensor	Pressure sensor
6	Expansion vessel	8 ℓ for heating circuit
7	DHW tank sensor	Temperature sensor
8	Heat exchanger 1	Coil heat exchange (water / DHW)
9	Heat exchanger 2	Plate heat exchange (ref. / water)

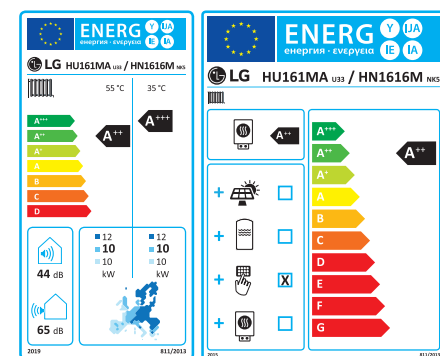
No.	Part name	Description
10	Water pump	Main circulation pump
11	Control box	PCB'A and terminal blocks
12	Air vent	For air purging
13	Drain cock 1	Valve for DHW tank drain
14	Drain cock 2	Valve for water circuit drain
15	Strainer	For water circuit
16	Safety valve	For DHW (10 bar)
17	Safety valve	For water circuit (3 bar)



THERMA V™ R410A SPLIT HYDRO BOX



Energy Label

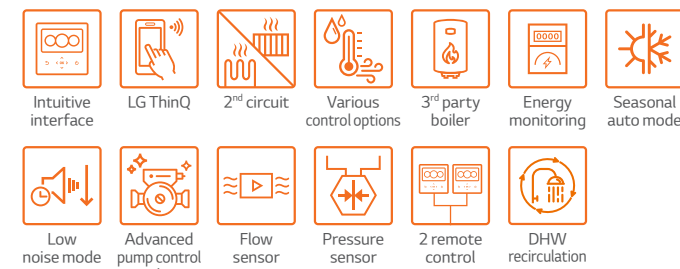


* 16 kW 1 Ø model.
* A+++ to D scale.

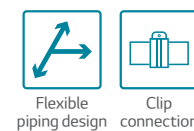
Excellent performance & efficiency



User convenience



Easy installation & maintenance



* Detailed description for each function is presented on page 44 – 54.

R410A Split Hydro Box Introduction

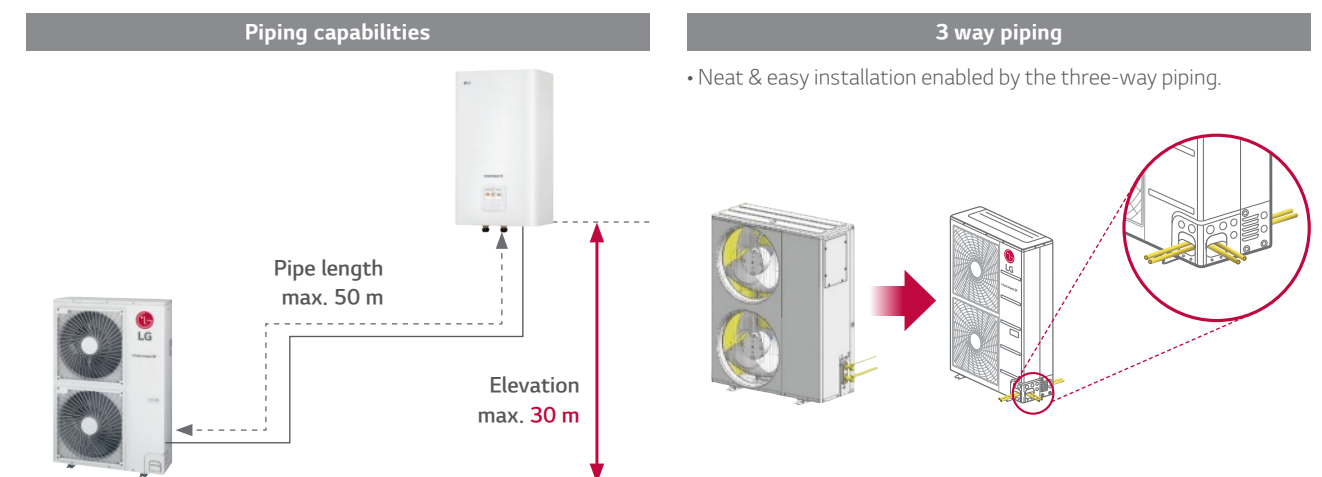
The LG Therma V R410A Split Hydro Box is a hydro box type comprising a separate indoor and outdoor unit, which are connected by refrigerant piping. Hydronic components such as a plate heat exchanger, an expansion tank and a water pump are located within the indoor unit, making the unit capable of withstanding freezing outside ambient temperatures.

Key Components



Flexible Refrigerant Piping Design

Installation flexibility is enabled by Therma V Split's long pipe length (up to 50 m) and the fact that the refrigerant piping can be connected in three directions: front, side and rear.



R410A Split Hydro Box

Product specification (outdoor unit)

Technical specification			Unit	HU121MA U33	HU141MA U33	HU161MA U33	HU123MA U33	HU143MA U33	HU163MA U33
Operation range (outdoor temp.)	Heating	Min. – Max.	°C DB	-25 ~ 35 5 ~ 48					
	Cooling								
Compressor	Quantity		EA	1					
	Type		-	Hermetic sealed scroll					
Refrigerant	Type		-	R410A					
	GWP (Global Warming Potential)		-	2,088					
	Precharged amount		g	2,500					
	t-CO ₂ eq		-	5.219					
Piping connections	Outside diameter	Gas	mm (inch)	Ø 15.88 (5/8)					
		Liquid	mm (inch)	Ø 9.52 (3/8)					
	Length	Standard	m	7.5					
		Max.	m	50					
	Level difference	Max.	m	30					
	Chargeless-pipe length		m	7.5					
	Additional charging volume		g/m	40					
Rated water flow rate (at LWT 35°C)			LPM	34.5	40.3	46.0	34.5	40.3	46.0
Sound power level	Heating	Rated	dB(A)	63	64	65	63	64	65
Sound pressure level (at 1 m)	Heating	Rated	dB(A)	55	56	57	55	56	57
Dimensions	Unit	W x H x D	mm	950 x 1,380 x 330					
Weight	Unit		kg	84.8			85.4		
Exterior	Color / RAL code		-	Warm gray / RAL 7044					
Power supply	Voltage, phase, frequency		V, Ø, Hz	220-240, 1, 50			380-415, 3, 50		
	Rated running current	Heating	A	11.5	13.8	16.3	6.6	8.0	9.4
		Cooling	A	11.3	13.4	15.7	6.5	7.7	9.0
	Recommended circuit breaker		A	40			20		
Wiring connections	Power supply cable (included earth, H07RN-F)		mm ² x cores	6.0 x 3 C			2.5 x 5 C		

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.
Especially the power cable and circuit breaker should be selected in accordance with that.
3. Sound power level is measured on the rated condition in accordance with ISO 9614 standard.
Sound pressure level is converted from sound power level based on a tonality penalty of 0 dB and installation in free-field. The directivity index (Q) is assumed as 2.
Therefore, these values can be increased owing to ambient conditions during operation.
Rated sound power level is in accordance with EN12102-1 under condition of EN14825.
4. Performances are in accordance with EN14511 and reflect ErP testing conditions. Above gives the declared values at rated conditions acc. ErP regulation
 - Rated running current: outdoor Temp. 7°C DB / 6°C WB, LWT 35°C
 - Interconnected pipe length is standard length and difference of elevation (outdoor ~ indoor unit) is 0 m.
5. This product contains fluorinated greenhouse gases.
6. All installation sites must be equipped with an earth leakage circuit breaker (ELCB).

PRODUCT SPECIFICATION

Product specification (indoor unit)

Technical specification			Unit	HN1616M NK5	HN1636M NK5
Operation range (leaving water)	Heating	Min. ~ Max.	°C DB	15 ~ 57	
	Cooling			5 ~ 27 (16 ~ 27) ¹⁾	
	DHW			15 ~ 80 ²⁾	
Flow sensor	Measuring range	Min. ~ Max.	LPM	5 ~ 80	
Water pressure sensor	Measuring range	Min. ~ Max.	bar(G)	0 ~ 20	
Expansion vessel	Volume		ℓ	8	
Safety valve	Pressure limit	Upper limit	bar	3	
Backup heater	Type		-	Sheath	Sheath
	Number of heating coil		EA	2	3
	Capacity combination		kW	3.0 + 3.0	2.0 + 2.0 + 2.0
	Heating steps		Step	2	2
	Power supply		V, Ø, Hz	220-240, 1, 50	380-415, 3, 50
	Rated running current		A	25.0	8.7
	Power supply cable (included earth, H07RN-F)		mm² x cores	4.0 x 3 C	2.5 x 4 C
Piping connections	Water circuit	Inlet	inch	Male PT 1" according to ISO 7-1 (tapered pipe threads)	
		Outlet	inch	Male PT 1" according to ISO 7-1 (tapered pipe threads)	
	Refrigerant circuit	Gas (outside diameter)	mm (inch)	Ø 15.88 (5/8)	
		Liquid (outside diameter)	mm (inch)	Ø 9.52 (3/8)	
Wiring connections	Power and communication cable (included earth, H07RN-F)		mm² x cores	0.75 x 4 C	
Sound power level	Heating	Rated	dB(A)	44	
Dimensions	Unit	W x H x D	mm	490 x 850 x 315	
Weight	Unit		kg	40.5	41.5
Exterior	Color / RAL code		-	Noble white / RAL 9016	

- 1) When a fan coil unit is not used.
- 2) DHW 50 ~ 80°C Operating is available only when the booster heater is operating.

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.
Especially the power cable and circuit breaker should be selected in accordance with that.
3. Sound power level is measured on the rated condition in accordance with ISO 9614 standard.
Sound pressure level is converted from sound power level based on a tonality penalty of 0 dB and installation in free-field. The directivity index (Q) is assumed as 2.
Therefore, these values can be increased owing to ambient conditions during operation.
Rated sound power level is in accordance with EN12102-1 under condition of EN14825.
4. Performances are in accordance with EN14511 and reflect ErP testing conditions. Above gives the declared values at rated conditions acc. ErP regulation
 - Rated running current: outdoor Temp. 7°C DB / 6°C WB, LWT 35°C
 - Interconnected pipe length is standard length and difference of elevation (outdoor - indoor unit) is 0 m.
5. This product contains fluorinated greenhouse gases.
6. All installation sites must be equipped with an earth leakage circuit breaker (ELCB).

Performance Table for Cooling Operation

Maximum cooling capacity

HU121MA U33 + HN1616M NK5 / HU123MA U33 + HN1636M NK5

Outdoor temperature	LWT 7°C	LWT 10°C	LWT 13°C	LWT 15°C	LWT 18°C	LWT 20°C	LWT 22°C
	Capacity (kW)						
20°C DB	7.60	8.55	9.51	10.33	11.19	11.98	-
30°C DB	8.62	9.05	9.78	10.67	10.90	11.37	-
35°C DB	7.94	8.66	9.33	10.10	10.40	10.75	11.16
40°C DB	7.56	8.02	8.81	9.36	9.54	9.89	10.28
45°C DB	6.38	7.08	7.79	8.44	9.14	9.44	9.78

HU141MA U33 + HN1616M NK5 / HU143MA U33 + HN1636M NK5

Outdoor temperature	LWT 7°C	LWT 10°C	LWT 13°C	LWT 15°C	LWT 18°C	LWT 20°C	LWT 22°C
	Capacity (kW)						
20°C DB	8.13	9.87	10.97	11.92	12.91	13.82	-
30°C DB	9.24	10.44	11.29	12.31	12.58	13.12	-
35°C DB	8.50	9.99	10.76	11.65	12.00	12.40	12.88
40°C DB	8.10	9.25	10.17	10.80	11.01	11.42	11.86
45°C DB	7.17	8.17	8.99	9.73	10.55	10.89	11.23

HU161MA U33 + HN1616M NK5 / HU163MA U33 + HN1636M NK5

Outdoor temperature	LWT 7°C	LWT 10°C	LWT 13°C	LWT 15°C	LWT 18°C	LWT 20°C	LWT 22°C
	Capacity (kW)						
20°C DB	8.54	10.69	11.89	12.91	13.98	14.97	-
30°C DB	9.70	11.31	12.22	13.34	13.63	14.21	-
35°C DB	8.92	10.82	11.66	12.63	13.00	13.43	13.96
40°C DB	8.51	10.03	11.02	11.70	11.93	12.37	12.85
45°C DB	7.52	8.85	9.73	10.55	11.42	11.80	12.16

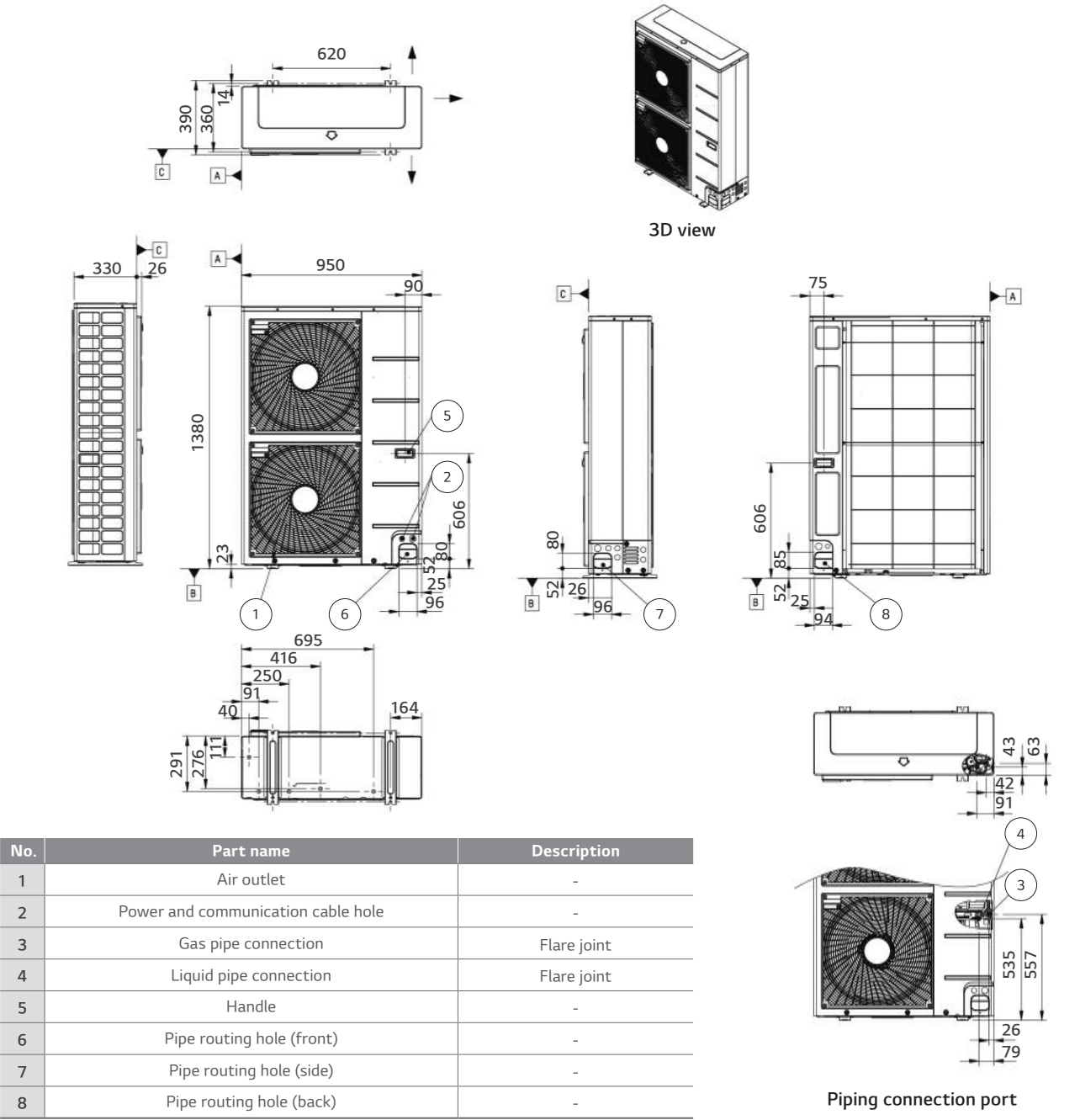
Note

1. DB: Dry Bulb Temperature (°C), LWT: Leaving Water Temperature (°C)
 2. Direct interpolation is permissible. Do not extrapolate.
 3. Measuring procedure follows EN-14511.
 • Rated values are based on standard conditions and can be found on specifications.
 • Above table values may not be matched according to installation conditions. Except for rated values, the performance is not guaranteed.
 • The rating might slightly vary depending on test standards or countries.
 4. The shaded areas are not guaranteed continuous operation.

Drawings

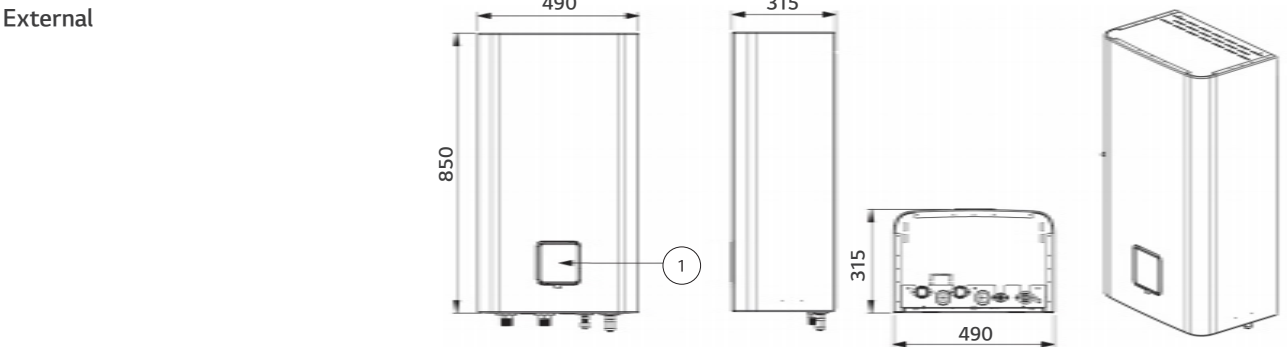
Category	Unit	Model name		
		Capacity (kW)		
		12.0	14.0	16.0
1 Phase model 220 ~ 240 V, 1 Ø, 50 Hz	Outdoor unit	HU121MA U33	HU141MA U33	HU161MA U33
	Indoor unit	HN1616M NK5		
3 Phase model 380 ~ 415 V, 3 Ø, 50 Hz	Outdoor unit	HU123MA U33	HU143MA U33	HU163MA U33
	Indoor unit	HN1636M NK5		

HU121MA U33 / HU141MA U33 / HU161MA U33 /
HU123MA U33 / HU143MA U33 / HU163MA U33



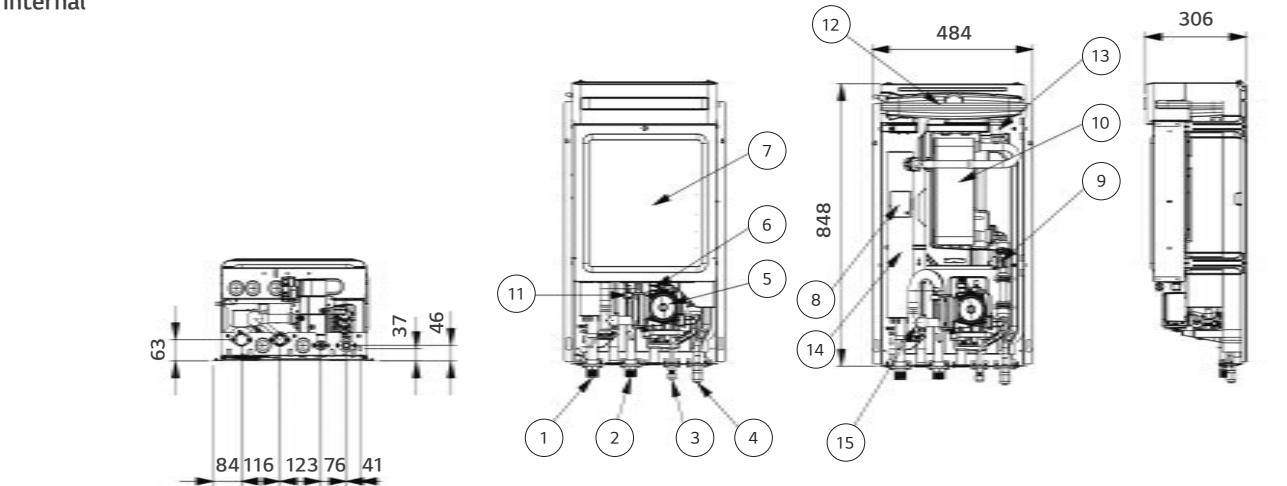
HN1616M NK5 / HN1636M NK5

External



No.	Part name	Description
1	Control panel	Built-in remote controller

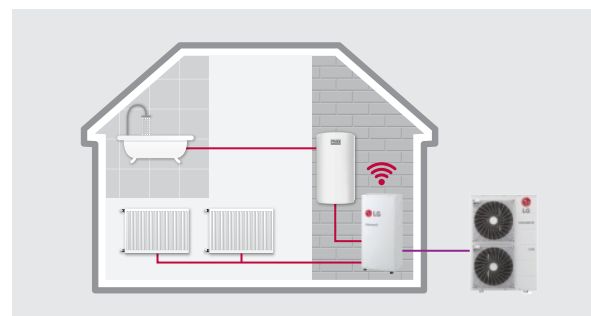
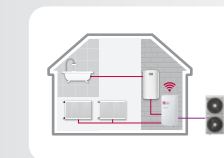
Internal



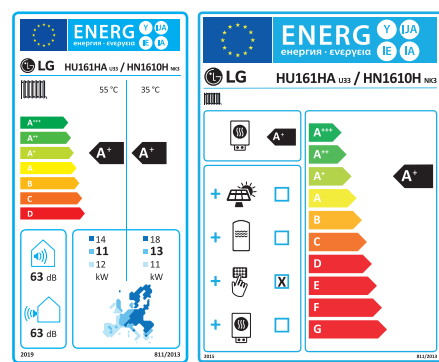
No.	Part name	Description
1	Leaving water pipe	Male PT 1" according to ISO 7-1 (tapered pipe threads)
2	Entering water pipe	Male PT 1" according to ISO 7-1 (tapered pipe threads)
3	Refrigerant pipe (liquid)	Ø 9.52 (mm)
4	Refrigerant pipe (Gas)	Ø 15.88 (mm)
5	Water pump	To circulate water inside the system
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
9	Flow sensor	To measure the water flow rate (5-80 LPM)
10	Plate heat exchanger	Heat exchange between refrigerant and water
11	Pressure sensor	To measure the water pressure (0-2 MPa)
12	Expansion tank	Absorbing volume change of heated water
13	Air vent	Air purging when charging water
14	Backup heater	6 kW
15	Strainer	Filtering and stacking particles inside circulating water



THERMA VTM HIGH TEMPERATURE

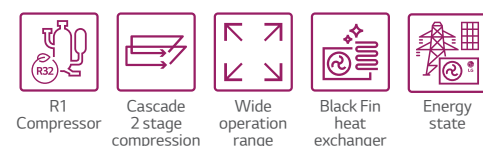


Energy Label

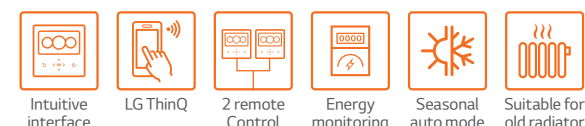


* 16 kW 1 Ø model.
* A+++ to D scale.

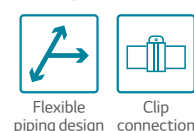
Excellent performance & efficiency



User convenience

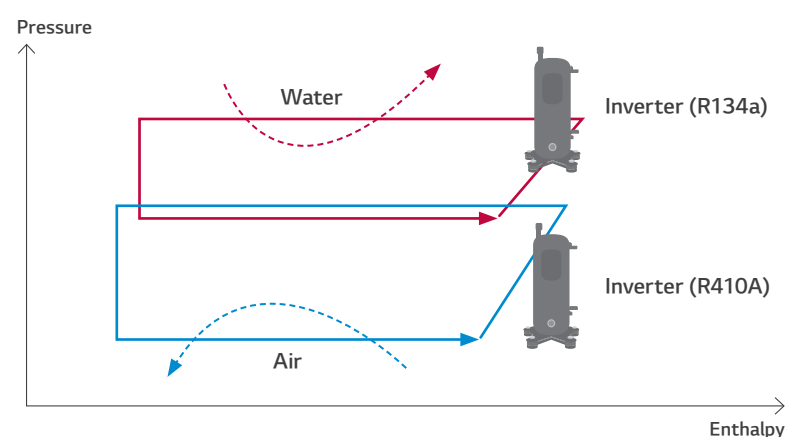


Easy installation & maintenance



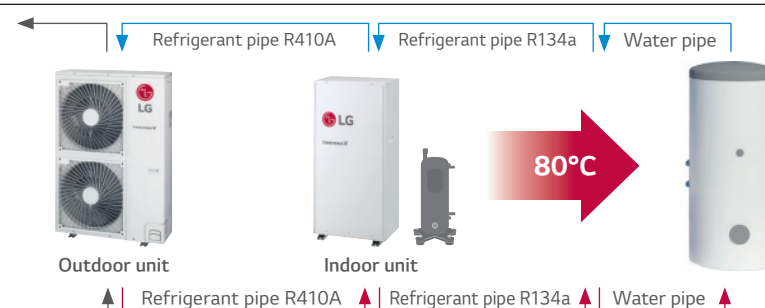
* Detailed description for each function is presented on page 44 ~ 54.

THERMA V High Temperature Cycle



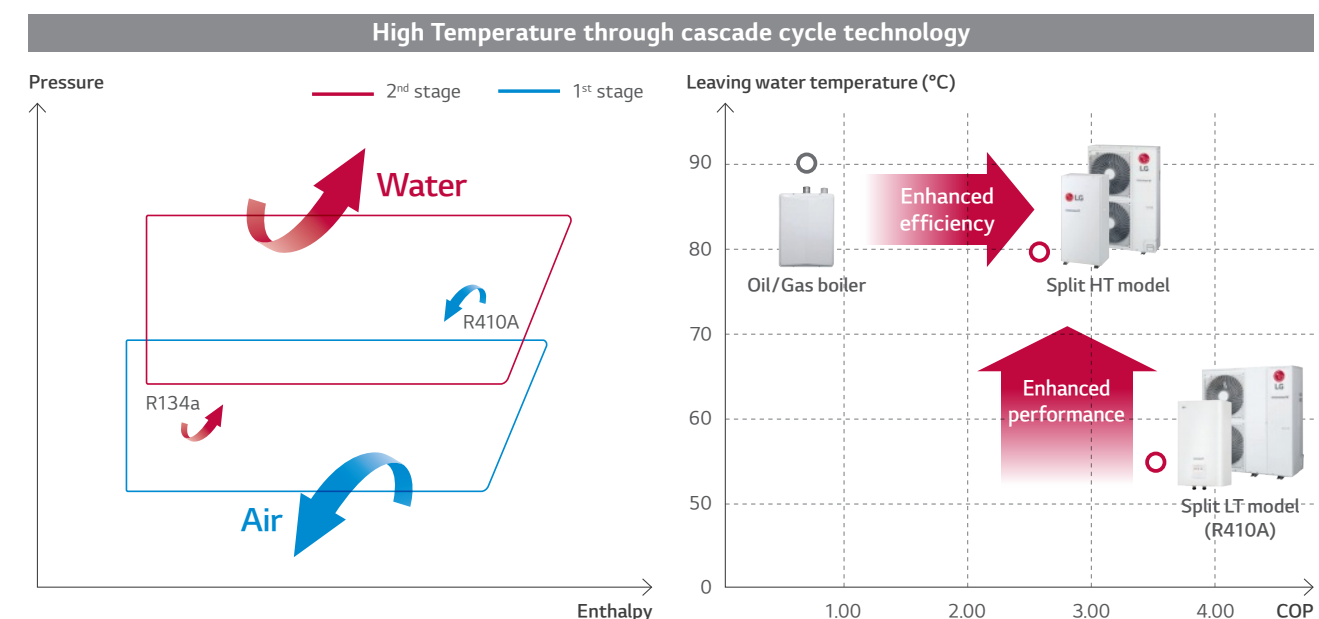
High Temperature Introduction

The LG Therma V High Temperature is a split type unit that consists of a separate indoor and outdoor unit. With cascade 2 stage compression technology, it can supply a high leaving water temperature of up to 80°C, while maintaining high energy efficiency.



Cascade 2 Stage Compression Technology

The Therma V High Temperature unit can produce up to 80°C hot water with high efficiency through cascade 2 stage compression (from R410A to R134a) technology, making it an optimized replacement for a boiler heating system which demands hot water supply.



* 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

Suitable for Old Radiator

The LG Therma V High Temperature product is suitable for houses with poor insulation, an existing radiator heating system, or are required to meet sanitary water regulation needs at high temperatures.



High Temperature



Indoor unit

HN1610H NK3

Outdoor unit

HU161HA U33



Features

- Maximum 80°C leaving water temperature
- Cascade 2 stage compression
- Only for heating (no cooling)
- Suitable for old radiator
- SCOP up to 3.23 (average climate / low temp. application): **A⁺**
- SCOP up to 3.01 (average climate / mid temp. application): **A⁺**
- COP up to 3.27 (outdoor air 7°C / leaving water 35°C)
- 100 % heating capacity at -7°C OAT (@ LWT 35°C)
- Wide operation range (ambient: -25 ~ 35°C / water side: 25 ~ 80°C)
- R1 Compressor (for outdoor unit)
- Black Fin heat exchanger
- LG ThinQ
- Keymark / MCS / Eurovent certification

Model line-up

Category	Unit	Model name
		Capacity (kW)
		16.0
1 Phase model 220 ~ 240 V, 1 Ø, 50 Hz	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
		Seasonal space heating efficiency (η _s)	%	126
		Seasonal space heating eff. class (A+++ to D scale)	-	A+
	Average climate water outlet 55°C	SCOP	-	3.01
		Seasonal space heating efficiency (η _s)	%	117
		Seasonal space heating eff. class (A+++ to D scale)	-	A+

Nominal capacity and nominal power input

Description		OAT ¹⁾ (DB)	LWT ²⁾ (DB)	Outdoor unit	HU161HA U33
				Indoor unit	HN1610H NK3
Nominal capacity	Heating	7°C	35°C	kW	16.00
		7°C	55°C		14.00
		2°C	35°C		16.00
Nominal power input	Heating	7°C	35°C	kW	4.89
		7°C	55°C		5.00
		2°C	35°C		4.92
COP	Heating	7°C	35°C	W/W	3.27
		7°C	55°C		2.78
		2°C	35°C		3.25

1) OAT: Outdoor Air Temperature
2) LWT: Leaving Water Temperature

Product specification (outdoor unit)

Technical specification			Unit	HU161HA U33
Operation range (outdoor temp.)	Heating	Min. ~ Max.	°C DB	-25 ~ 35
	Quantity		EA	1
Compressor	Type		-	Hermetic sealed scroll
	Type		-	R410A
Refrigerant	GWP (Global Warming Potential)		-	2,088
	Precharged amount		g	3,800
	t-CO ₂ eq		-	7.933
Piping connections	Outside diameter	Gas	mm (inch)	Ø 15.88 (5/8)
		Liquid	mm (inch)	Ø 9.52 (3/8)
	Length	Standard	m	7.5
		Max.	m	50
	Level difference	Max.	m	30
	Chargeless-pipe length		m	7.5
	Additional charging volume		g/m	40
Rated water flow rate	at LWT 35°C		LPM	46.0
Sound power level	Heating	Rated	dB(A)	63
Sound pressure level (at 1 m)	Heating	Rated	dB(A)	55
Dimensions	Unit	W x H x D	mm	950 x 1,380 x 330
Weight	Unit		kg	89.0
Exterior	Color / RAL code		-	Warm gray / RAL 7044
Power supply	Voltage, phase, frequency		V, Ø, Hz	220-240, 1, 50
	Rated running current	Heating	A	8.4
	Recommended circuit breaker		A	20
Wiring connections	Power cable (included earth)		mm ² x cores	4.0 x 3 C

Product specification (indoor unit)

Technical specification			Unit	HN1610H NK3
Operation range (leaving water temp.)	Heating	Min. ~ Max.	°C DB	25 ~ 80
	Quantity		EA	1
Compressor	Type		-	Hermetic sealed twin rotary
	Type		-	R134a
Refrigerant	GWP (Global Warming Potential)		-	1,430
	Precharged amount		g	1,800
	t-CO ₂ eq		-	2.574
Piping connections	Water circuit	Inlet	inch	Male PT 1" according to ISO 7-1 (tapered pipe threads)
		Outlet	inch	Male PT 1" according to ISO 7-1 (tapered pipe threads)
	Refrigerant circuit	Gas (outside diameter)	mm (inch)	Ø 15.88 (5/8)
		Liquid (outside diameter)	mm (inch)	Ø 9.52 (3/8)
Rated water flow rate (at LWT 35°C)			LPM	46.0
Sound power level	Heating	Rated	dB(A)	58 / 63 ¹⁾
Sound pressure level (at 1 m)	Heating	Rated	dB(A)	50
Dimensions	Unit	W x H x D	mm	520 x 1,080 x 330
Weight	Unit		kg	84.0
Exterior	Color / RAL code		-	Morning gray / RAL 7030
Power supply	Voltage, phase, frequency		V, Ø, Hz	220 ~ 240, 1, 50
	Rated running current	Heating	A	9.8
	Recommended circuit breaker		A	25
Wiring connections	Power cable (included earth)		mm ² x cores	4.0 x 3 C (H07RN-F)
	Communication cable (included earth)		mm ² x cores	1.0 ~ 1.5 x 2 C (VCTF-SB)
Accessory kit of the indoor unit			Unit	HN1610H NK3
Remote controller			-	Standard III
Water tank temperature sensor with holder	Sensor size		Ø	7
	Resistance		kΩ	5
Strainer	Mesh size / material		-	28 mesh / stainless steel

1) This sound power level (63 dB(A)) is when AC cooling fan is operated.

Note

- Due to our policy of innovation, some specifications may be changed without notification.
- Wiring cable size must comply with the applicable local and national codes. Especially the power cable and circuit breaker should be selected in accordance with that.
- Sound power level is measured on the rated condition in accordance with ISO 9614 standard. Sound pressure level is converted from sound power level based on a tonality penalty of 0 dB and installation in free-field. The directivity index (Q) is assumed as 2. Therefore, these values can be increased owing to ambient conditions during operation. Rated sound power level is in accordance with EN12102-1 under condition of EN14825.
- Performances are in accordance with EN14511 and reflect ErP testing conditions. Above gives the declared values at rated conditions acc. ErP regulation
 - Rated running current: outdoor Temp. 7°C DB / 6°C WB, LWT 35°C
 - Interconnected pipe length is standard length and difference of elevation (outdoor - indoor unit) is 0 m.
- This product contains fluorinated greenhouse gases.
- All installation sites must be equipped with an earth leakage circuit breaker (ELCB).

Performance Table for Heating Operation

Maximum heating capacity (including defrost effect)

HU161HA U33 + HN1610H NK3

Outdoor temperature	LWT 35°C	LWT 40°C	LWT 45°C	LWT 50°C	LWT 55°C	LWT 60°C	LWT 65°C	LWT 70°C	LWT 75°C	LWT 80°C
	Capacity (kW)									
-25°C DB	13.50	13.29	13.07	12.86	12.64	12.43	12.21	12.00	-	-
-20°C DB	14.19	14.04	13.88	13.73	13.58	13.42	13.27	13.11	12.96	-
-15°C DB	14.89	14.79	14.70	14.60	14.51	14.41	14.32	14.22	14.10	14.00
-7°C DB	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00
-4°C DB	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00
-2°C DB	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00
2°C DB	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00
7°C DB	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00
10°C DB	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00
15°C DB	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00
18°C DB	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00
20°C DB	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00
35°C DB	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00

Note
 1. DB: Dry Bulb Temperature (°C), LWT: Leaving Water Temperature (°C)
 2. Direct interpolation is permissible. Do not extrapolate.
 3. Measuring procedure follows EN-14511.
 • Rated values are based on standard conditions and can be found on specifications.
 • Above table values may not be matched according to installation conditions. Except for rated values, the performance is not guaranteed.
 • The rating might slightly vary depending on test standards or countries.
 4. The shaded areas are not guaranteed continuous operation.

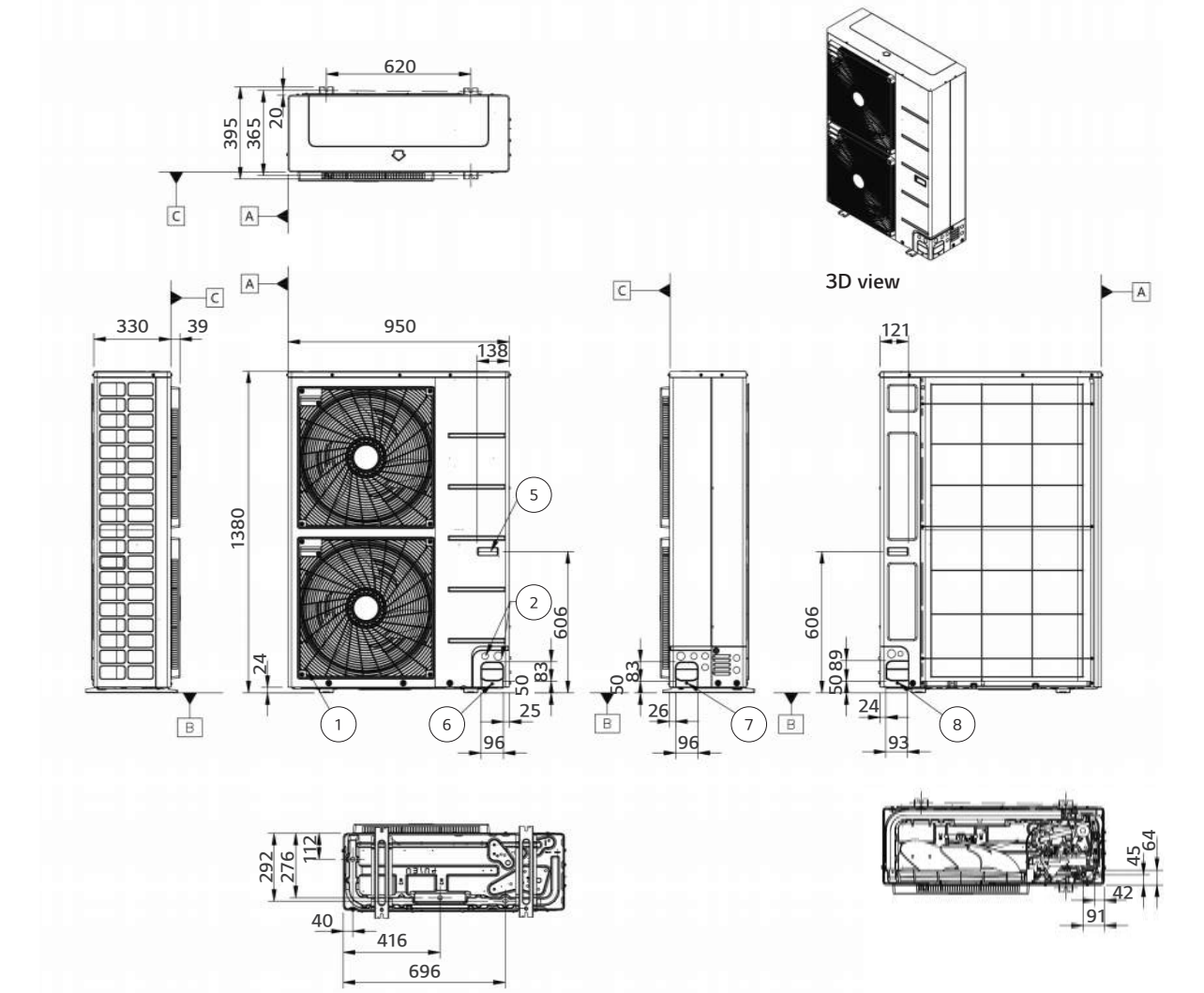


Drawings

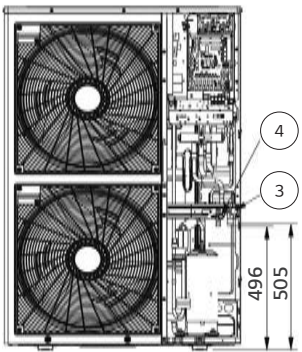
Category	Unit	Model name
		Capacity (kW)
		16.0
1 Phase model 220 – 240 V, 1 Ø, 50 Hz	Outdoor unit	HU161HA U33
	Indoor unit	HN1610H NK3

HU161HA U33

[Unit: mm]

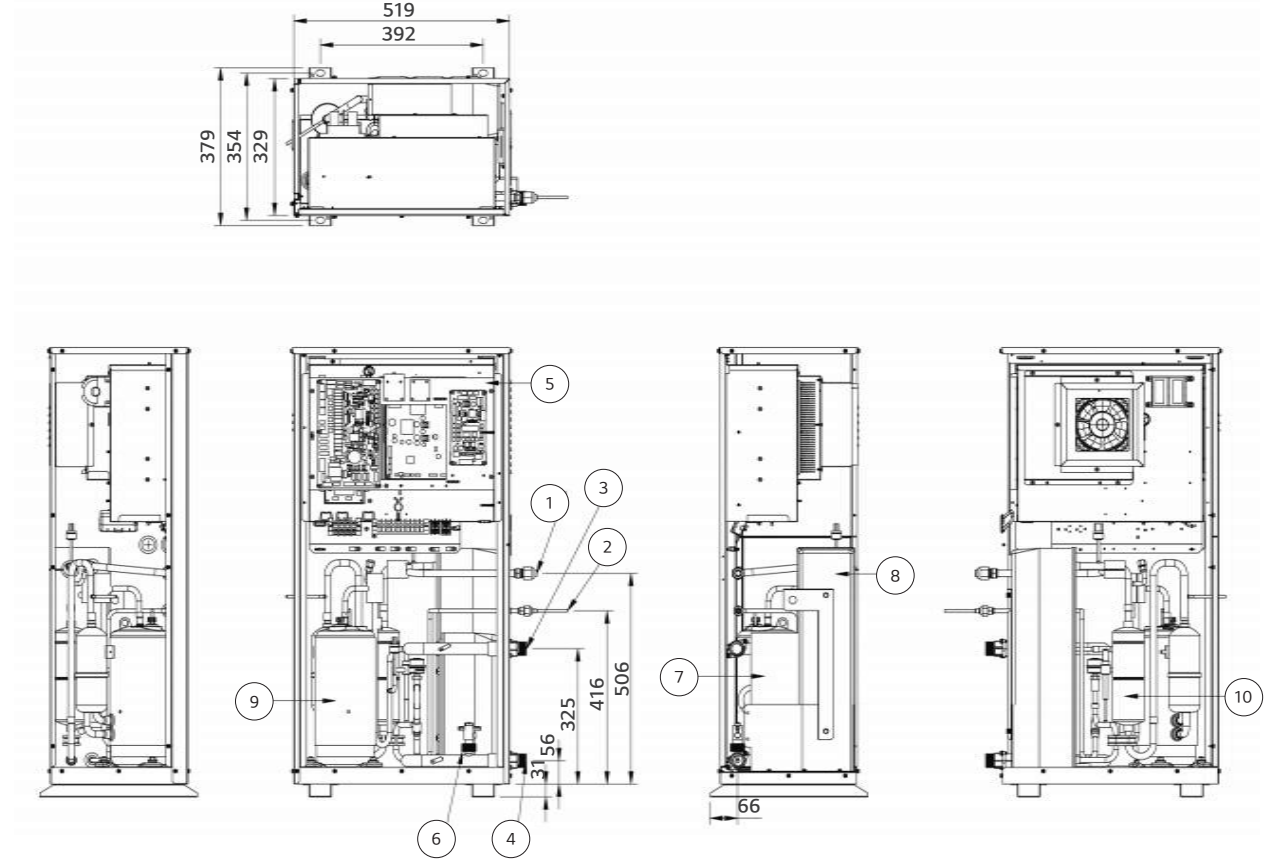


No.	Part name	Description
1	Air outlet	-
2	Power and communication cable hole	-
3	Gas pipe connection	Flare joint
4	Liquid pipe connection	Flare joint
5	Handle	-
6	Pipe routing hole (front)	-
7	Pipe routing hole (side)	-
8	Pipe routing hole (back)	-



HN1610H NK3

[Unit: mm]



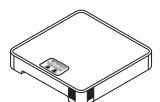
No.	Part name	Description
1	Refrigerant pipe (liquid)	Ø9.52 (mm)
2	Refrigerant pipe (gas)	Ø15.88 (mm)
3	Leaving water pipe	Male PT 1" according to ISO 7-1 (tapered pipe threads)
4	Entering water pipe	Male PT 1" according to ISO 7-1 (tapered pipe threads)
5	Control box	PCB and terminal blocks
6	Flow switch	Minimum operation range at 15 LPM
7	Plate heat exchanger	Heat exchanger between refrigerant and water
8	Plate heat exchanger	Heat exchanger between refrigerant and refrigerant
9	Compressor	EPT525MBA
10	Accumulator	716 cc

THEIRMA V™ ACCESSORIES



Accessories Provided by LG

Category	Model name	Model number	Figure	Applicable product	Relevant function	Purpose	Feature
Sensors	Room temperature sensor	PQRSTA0		All Therma V products	Room temperature based control	To detect room air temperature for room temperature based control	• Max. wire length: 15 m
	Thermistor for 2 nd circuit or e/heater	PRSTAT5K10		All except for High Temperature	2 nd circuit (mixing circuit)	To detect 2 nd circuit temperature when using 2 nd circuit function	• 5 kΩ thermistor, 10 m
	Domestic hot water sensor	PHRSTA0		All except for R32 Split IWT and R32 Hydrosplit IWT	Domestic hot water heating	To detect DHW tank temperature	• Included in DHW tank kit
Valves	3 way valve	OSHA-3 V		All except for R32 Split IWT and R32 Hydrosplit IWT	Domestic hot water heating	To divert water flow between space heating and DHW heating	• Size: DN 20 G 1" connection, male threaded
	Thermostatic mixing valve	OSHA-MV		Regardless of the model	Domestic hot water supply	To blend hot water with cold water for ensuring constant, safe shower and bath outlet temp.	• Size: 3/4" DN20 male threaded
		OSHA-MV1					• Size: 1" DN25 male threaded
DHW tanks	Domestic hot water tank (single coil)	OSHW-200 F		All except for R32 Split IWT and R32 Hydrosplit IWT	Domestic hot water heating	To generate and store domestic hot water	• Storage volume: 200 ℓ, 300 ℓ, 500 ℓ
		OSHW-300 F					• Type: internal single coil
		OSHW-500 F					• Material: stainless steel
	Domestic hot water tank (double coil)	OSHW-300 FD		All except for R32 Split IWT, R32 Hydrosplit IWT and High Temperature			• Capacity of booster heater: 2.4 kW
Installation kits	Domestic hot water tank kit	PHLTA		Hydro Box for Split & Hydrosplit	Domestic hot water heating	To operate with DHW tank including the booster heater	• Parts included: DHW tank sensor (thermistor), circuit breaker, relay
		PHLTC		Old Hydro Box for R410A Split - 3 Ø (HN1639 NK3 only)			
		PHLTB		R32 Monobloc, R32 Monobloc S			• Parts included: DHW tank sensor (thermistor), circuit breaker, relay, multi harness
	Solar thermal kit	PHLLA		R32 Split 4/6 kW Hydro Box (HN0613M NK5), R32 Monobloc, R410A Split Hydro Box (HN1616 NK3 / HN1639 NK3)	Solar thermal heat utilization	To operate with solar thermal system	• Length of thermistor: 12 m • Size of tube connector (W x H x D): 110 x 55 x 22

Category	Model name	Model number	Figure	Applicable product	Relevant function	Purpose	Feature
Installation kits	Electric back-up heater	HA031M E1		R32 Monobloc, R32 Monobloc S	Capacity back up & emergency operation	To supplement insufficient capacity	• Heater capacity: 3 kW • Number of heating coil: 1ea (3.0 kW) • Size (W x H x D): 210 x 607 x 217 • Power: 220 ~ 240 V, 1 Ø
		HA061M E1					• Heater capacity: 6 kW • Number of heating coil: 2 ea (3.0 + 3.0 kW) • Size (W x H x D): 210 x 607 x 217 • Power: 220 ~ 240 V, 1 Ø
		HA063M E1					• Heater capacity: 6 kW • Number of heating coil: 3 ea (2.0 + 2.0 + 2.0 kW) • Size (W x H x D): 210 x 607 x 217 • Power: 380 ~ 415 V, 3 Ø
		HA061C E1		R32 Hydrosplit Hydro Box (HN1600MC NK1)	Capacity back Up & emergency operation	To supplement insufficient capacity	• Heater capacity: 6 kW • Number of heating coil: 2 ea (3.0 + 3.0 kW) • Power: 220-240 V, 1 Ø
		HA063C E1					• Heater capacity: 6 kW • Number of heating coil: 3 ea (2.0 + 2.0 + 2.0 kW) • Power: 380-415 V, 3 Ø
Vessel	Buffer tank for space heating	OSHB-40KT		R32 Hydrosplit IWT	-	To provide the buffer volume of water to the heating circuit	• Volume: 40 ℓ • Size (W x H x D): 518 x 560 x 175
	Expansion vessel for DHW	OSHE-12KT		R32 Hydrosplit IWT	-	To absorb the volume changes by temperature of water for the DHW circuit	• Volume: 8 ℓ • Connection: 3/4" • Max. pressure: 10 bar • Size (W x H x D): 416 x 238 x 502
ETC	Extension wire for a wired remote controller	PZCWRC1		All Therma V products	-	To extend the wire between the wired remote controller and the indoor unit	• Length: 10 m
	Extension cable for Wi-Fi modem	PWYREW000		All Therma V products	Wi-Fi control via LG ThinQ	To extend a wire between the Wi-Fi modem and the indoor unit	• Length: 10 m
	2-remote control wire	PZCWRC2		All Therma V products	2 remote control	To connect two remote controllers on one indoor unit	• Length: 0.25 m
	Drain pan	PHDPB		R32 Split Hydro Box (NK4 suffix), R410A Split Hydro Box (NK3 suffix)	Cooling operation	To collect condensed water in the indoor unit during the cooling operation	-
		PHDPC		R32 Hydrosplit, R32 Split Hydro Box (NK5 suffix), R410A Split Hydro Box (NK5 suffix)			-
	Cover plate	PDC-HK10		R32 Hydrosplit Hydro Box, R32 Hydrosplit IWT, R32 Split Hydro Box, R32 Split IWT, R410A Split Hydro Box	-	To fill the blank space of the indoor unit front panel when the remote controller is relocated indoors.	-

Accessories Provided by LG

Category	Model name	Model number	Figure	Applicable product	Relevant function	Purpose	Feature
Remote controller	Wired remote controller	PREMTW101		All Therma V products	2 remote control	To control the AWHP using two remote controllers (an additional remote controller)	- New modern design 4.3 inch color LCD display - Information displayed with simple graphic, icon & text - Built-in temperature sensor - Size (W x H x D): 120 x 120 x 16 - Extension cable (PZCWRC1, 10 m) and 2 remote cable (PZCWRC2, 0.25 m) are included
	AC Ez Touch ¹⁾	PACEZA000		All Therma V products	Centralized control	To control the AWHP using LG central controller	5 inch color display - User-friendly control with iconographic interface (touch screen) - Max. 32 unit control - Total 200 schedule events (weekly / monthly / yearly / exception day) - Operation history - Remote controller lock (all, temp, mode) - PC access supported (IPv6 supported) - DI 1 ea (emergency stop only) - Size (W x H x D): 137 x 121 x 25
Central controller	AC Smart 5 ¹⁾	PACSSA000 (Smart 5)		All Therma V products	Centralized control	To control the AWHP using LG central controller	10.2 inch color display - User-friendly control with iconographic interface (touch screen) - Max. IDU 64 - Total 100 schedule events (weekly / monthly / yearly / exception day) - History / operation trend - Interlock with 3rd party equipment (ACS IO, ACU IO module is needed) - Error alarm by e-mail - Remote controller lock (all, temp, mode) - Map view (visual navigation) - Web access supported with HTML5 (PC, smartphone, tablet) - DI 2 ea, DO 2 ea - BACnet IP/modbus TCP protocol support - Size (W x H x D): 253.2 x 167.7 x 28.9
	ACP 5 ¹⁾	PACP5A000 (ACPS)		All Therma V products	Centralized control	To control the AWHP using LG central controller	- Web access controller - Max. 128 unit control - Total 100 schedule events (weekly / monthly / yearly / exception day) - History / operation trend - Interlock with 3rd party equipment (ACS IO, ACU IO module is needed) - Error alarm by e-mail - Remote controller lock (all, temp, mode) - Map view (visual navigation) - DI 10 ea, DO 4 ea - BACnet IP/modbus TCP protocol support - Lonworks protocol support* (max. 64 unit control) - Size (W x H x D): 270 x 155 x 65

* For using Lonworks protocol, only ACP 5 provides interface for BMS integration, and, need to U60FT module between ACP 5 and BMS system interface between Lonworks FT-10 BMS and LG HVAC unit. U60FT should be purchased separately from 3rd party supplier. Please contact regional LG office for more detailed information.

Category	Model name	Model number	Figure	Applicable product	Relevant function	Purpose	Feature
Gateway	Modbus RTU gateway	PMBUSB00A		All Therma V products	Centralized control	To communicate and control through the central controller (providing modbus RTU connection between the AWHP and BMS)	- Modbus RTU slave (RS485) / 9,600 bps - 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 12 V
	PI485 gateway for Therma V	PP485A00T		All Therma V products	Centralized control	To communicate and control through the central controller (converting LG protocol to RS485 protocol)	1 for each outdoor unit - Power: supplied by outdoor unit
Dry contact	Simple dry contact	PDRYCB000		All Therma V products	-	To connect between the AWHP and external devices to control various functions	1 Set per 1 unit 1 Input contact for turning on/off - Input power: 220 ~ 240 V 2 output contacts - Operation status - Error status
	Dry contact for thermostat	PDRYCB320		All Therma V products	-	To connect between the AWHP and external devices to control various functions	1 Set per 1 unit - Non voltage or 12 ~ 24 V 8 digital input contacts for thermostat - On/off, operation mode, DHW heating - Emergency mode, silent mode 2 Output contacts - Operation status - Error status
ETC	LG Wi-Fi modem	PWFMDD200		All Therma V products	Wi-Fi control via LG ThinQ	To control the AWHP via a smartphone	- Basic control function - On/off, operation mode, set temp - DHW heating and set temp - Weekly on/off schedule - Error status check - Frequency: 2.4 GHz - IEEE 802.11b/g/n supported
	Cloud gateway ¹⁾	PWFMDB200		R32 Monobloc S, R32 Split IWT, New Hydro Box for Split & Hydrosplit	LG BECON cloud service	For remote control, monitoring and diagnosis	- Max 16 indoor units - RS485: 1 channel (LGAP) - Wired/wireless IAN - Power: 12 V DC - Size (W x H x D): 120 x 120 x 29
	Meter interface	PENKTH000		All Therma V products	Energy monitoring	To measure production / consumption power	- Energy meter interface to monitor Electricity and Heat energy - Max. 3 watt - Hour meter - Max. 1 heat meter - Pulse width: 40 ms ~ 100 ms - Modbus RTU comm. with Therma V 2 wire RS485 / 9600 bps - Power: DC 12 V - Size (W x H x D): 54 x 90 x 61

Note
 1. PI485 Gateway (PP485A00T) should be installed on outdoor unit to use the central controller and cloud gateway.

LG Wi-Fi Modem

PWFMDD200 ENCXLEU

Access LG Therma V anytime and from anywhere with a Wi-Fi equipped device. LG's exclusive home appliances control app (LG ThinQ) offers simple operation and various functions.

- On / Off
- Operation mode selection
- Current temperature
- Set temperature
- On / Off reservation scheduling
- Energy monitoring
- ESS monitoring
- Silent mode reservation
- Holiday mode
- Quick DHW heating



Model name	PWFMDD200
Size (mm)	46 x 68 x 14
Interfaceable products	All Therma V line-ups
Connection type	Indoor unit 1 : 1
Communication frequency	2.4 GHz
Wireless standards	IEEE 802.11b/g/n
Mobile application	LG ThinQ (Android v4.1 (Jellybean) or higher, iPhone iOS 9.0 or higher)
Optional extension cable	PWYREW000 (10 m extension)

Note

1. Functionality may be different according to each Indoor model.
2. User interface of application shall be revised for its design and contents improvement.
3. Application is optimized for smartphone use, so it may not be well functioning with tablet devices.
 - 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



Technical specification		Unit	OSHW-200F	OSHW-300F	OSHW-500F	OSHW-300FD
General characteristics	Water volume	ℓ	200	300	500	300
	Diameter	mm	640	640	810	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
	Color	-	Grey (RAL 7035)	Grey (RAL 7035)	Grey (RAL 7035)	Grey (RAL 7035)
Specification of electric back up	Additional electric heater	W	2,400	2,400	2,400	2,400
	Power supply	V, Ø, Hz	230, 1, 50 (60)	230, 1, 50 (60)	230, 1, 50 (60)	230, 1, 50 (60)
	Adjustable thermostat	°C	0 ~ 90	0 ~ 90	0 ~ 90	0 ~ 90
Specification of heat exchanger	Exchanger type	-	Internal single coil	Internal single coil	Internal single coil	Internal double coil
	Material exchanger	-	STS : F18	STS : F18	STS : F18	STS : F18
	Maximum water temp.	°C	90	90	90	90
	Coil surface	m²	2.3	3.1	4.8	3.1 + 1
Water connections	Heat pump inlet	inch	1 BSP female	1 BSP female	1 ¼ BSP female	1 BSP female (upper coil)
	Heat pump outlet	inch	1 BSP female	1 BSP female	1 ¼ BSP female	1 BSP female (upper coil)
	Solar inlet	inch	-	-	-	¾ BSP Female (lower coil)
	Solar outlet	inch	-	-	-	¾ 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 (A+ to F scale)		-	B	B	B	B
Standing heat loss		W	61	70	83	70

Mandatory optional accessories	
Domestic hot water tank installation kit	PHLTA (Hydro Box for Split & Hydrosplit), PHLTB (Monobloc), PHLTC (old Hydro Box for R410A Split 3 Ø - HN1639 NK3)
Optional accessories	
Thermostatic mixing valve (3/4" DN20)	OSHA-MV
Thermostatic mixing valve (1" DN25)	OSHA-MV1
3 way valve	OSHA-3V

THERMA V™ ACCESSORIES

Combined Test with DHW Tank

LG has conducted a combination test of Therma V with DHW tanks in accordance with EN16147 and obtained an ErP label for packages in accordance with the European nZEB regulations.

• R32 Monobloc S (5 ~ 16 kW) + OSHW-200 F

- HM051MR U44
- HM071MR U44
- HM091MR U44
- HM121MR U34
- HM141MR U34
- HM161MR U34
- HM123MR U34
- HM143MR U34
- HM163MR U34



Model	Therma V line-up	R32 Monobloc S (5, 7, 9 kW)	R32 Monobloc S (12, 14, 16 kW)
	Model name	HM051MR U44 HM071MR U44 HM091MR U44	HM121MR U34 HM141MR U34 HM161MR U34 HM123MR U34 HM143MR U34 HM163MR U34
	DHW tank	OSHW-200F AEU	OSHW-200F AEU
Declared load profile		L	L
Average climate	Water heating eff. class	A+	A+
	Water heating efficiency (η_{WH})	144 %	146 %
	COP _{DHW}	3.1	3.2
	Annual energy consumption	712 kWh	701 kWh
Warmer climate	Water heating eff. class	A++	A++
	Water heating efficiency (η_{WH})	174 %	166 %
	COP _{DHW}	3.8	3.6
	Annual energy consumption	588 kWh	616 kWh
Colder climate	Water heating eff. class	A	A
	Water heating efficiency (η_{WH})	87 %	101 %
	COP _{DHW}	1.9	2.2
	Annual energy consumption	1,172 kWh	1,011 kWh
Energy label		