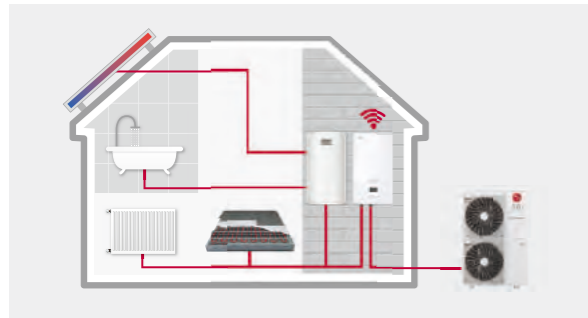
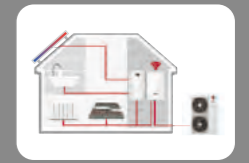




THERMAV™
FEATURES

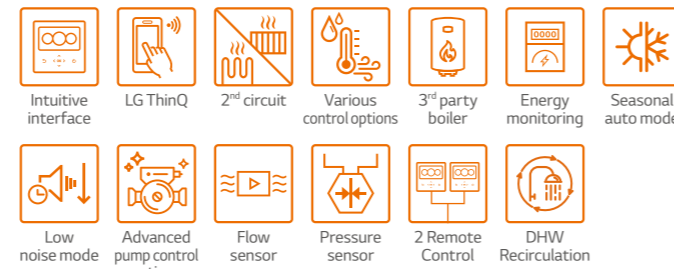
THERMA V™ R32 R32 HYDROPLIT HYDRO BOX



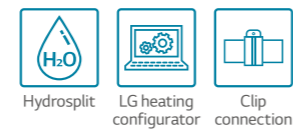
Excellent Performance & Efficiency



User Convenience

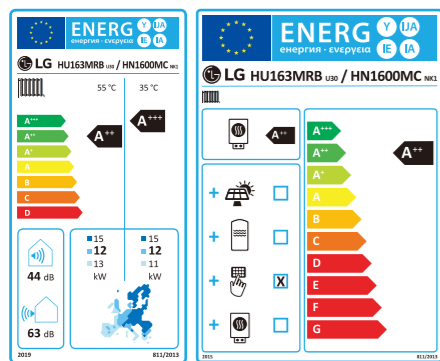


Easy Installation & Maintenance



* Detailed description for each function is presented on page 28 - 35.

Energy Label

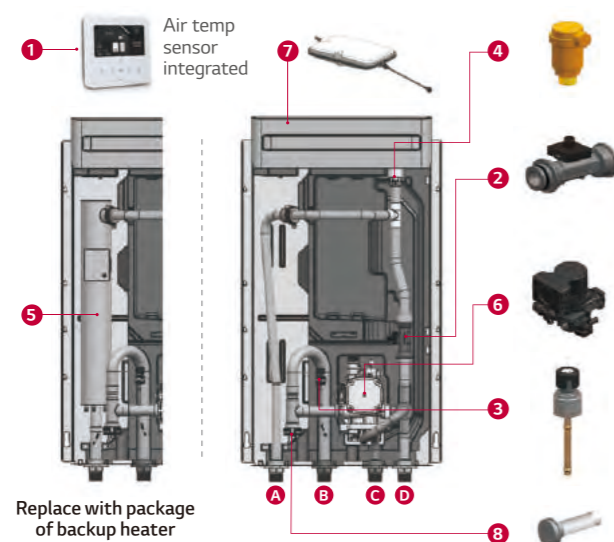


* 16kW 30 model.
* A+++ to D scale.

R32 Hydrosplit Hydro Box Introduction

The LG THERMA V Hydrosplit series separates the Indoor unit (IDU) and outdoor unit (ODU), connecting them via water pipes. The unit's heat exchanger is located within the ODU, reducing the risk of indoor refrigerant leakage. THERMA V R32 Hydrosplit Hydro Box is a solution providing space heating and cooling with high installation flexibility thanks to the characteristic of being a wall mounted type.

Key Components



- 1 RS3 Remote Controller (attached on the front panel)
 - 2 Flow sensor (SIKA)
 - 3 Water pressure sensor (SENSATA)
 - 4 Air vent valve
 - 5 Backup electric heater (6kW, accessory)
 - 6 Water pump (GRUNDFOS)
 - 7 Expansion vessel (8L)
 - 8 Strainer
- A Heating circuit outlet pipe (male PT 1")
 - B Heating circuit inlet pipe (male PT 1")
 - C Outlet pipe to outdoor unit (male PT 1")
 - D Inlet pipe from outdoor unit (male PT 1")

Replace with package of backup heater

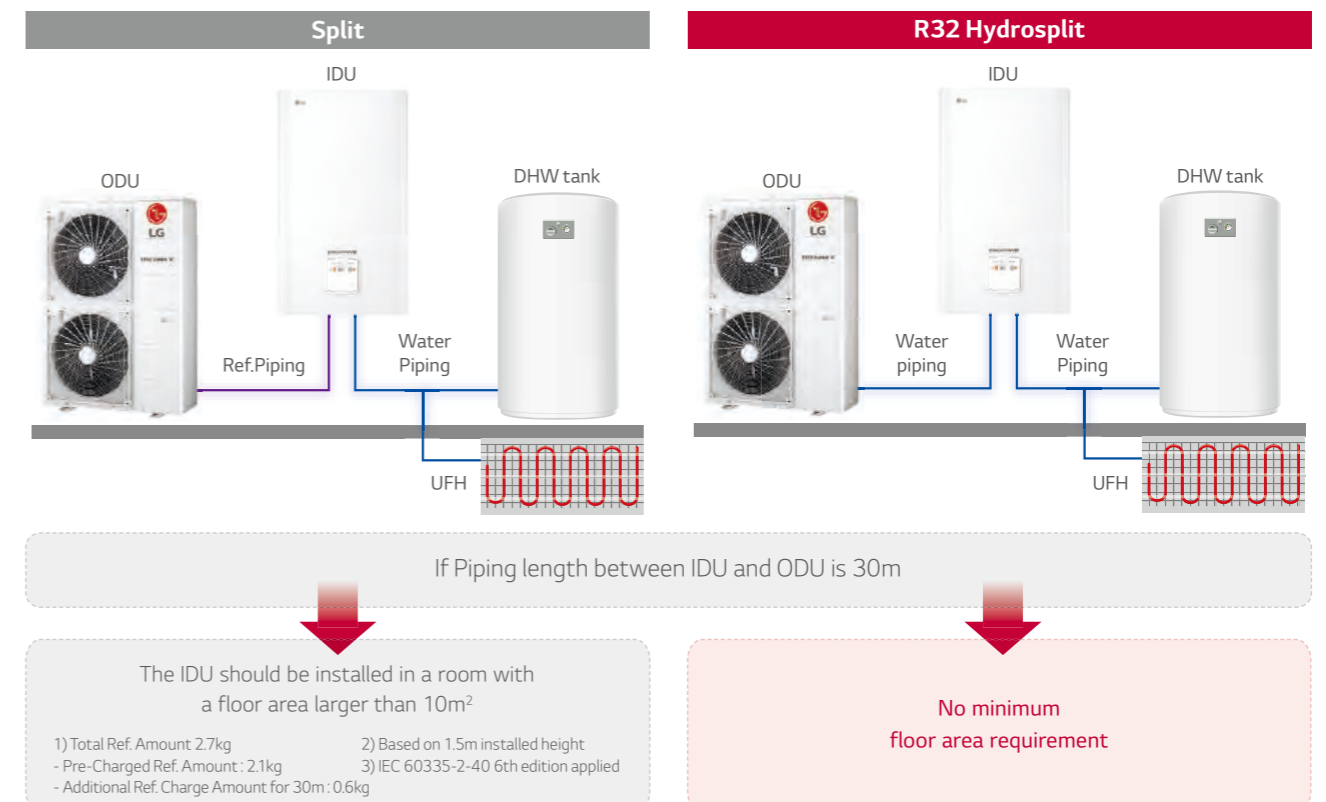
Hydrosplit Concept

The THERMA V R32 Hydrosplit Hydro Box connects an IDU and ODU by water pipes due to the heat exchanger's location in the outdoor unit, thus reducing the risk of indoor refrigerant leakage.



No Risk of Indoor Refrigerant Leakage

As there is no refrigerant inside of room, no need to consider minimum floor area requirement for IDU due to R32 refrigerant. As a result, it is possible to expand living area more for other purpose.



PRODUCT SPECIFICATION

R32 Hydrosplit Hydro Box

Indoor Unit

HN1600MC NK1

Outdoor Unit

HU121MRB U30 / HU123MRB U30

HU141MRB U30 / HU143MRB U30

HU161MRB U30 / HU163MRB U30



Features

- Water pipes connects IDU & ODU
- SCOP up to 4.60 (Average climate / Low temp. application) : A+++
SCOP up to 3.50 (Average climate / Mid temp. application) : A++
- COP up to 5.04 (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) / MCS / EUROVENT certification

* Only the outdoor units are registered in EHPA certification.

Model Line-up

Category	Unit	Model Name		
		Capacity (kW)		
		12.0	14.0	16.0
1 Phase Model 220 ~ 240V, 1Ø, 50Hz	Outdoor Unit	HU121MRB U30	HU141MRB U30	HU161MRB U30
	Indoor Unit	HN1600MC NK1		
3 Phase Model 380 ~ 415V, 3Ø, 50Hz	Outdoor Unit	HU123MRB U30	HU143MRB U30	HU163MRB U30
	Indoor Unit	HN1600MC NK1		

Seasonal Energy

Description	Outdoor Unit	Indoor Unit	HU121MRB U30 (1Ø)	HU141MRB U30 (1Ø)	HU161MRB U30 (1Ø)	
			HU123MRB U30 (3Ø)	HU143MRB U30 (3Ø)	HU163MRB U30 (3Ø)	
			HN1600MC NK1			
Space Heating (according to EN14825)	Average Climate Water Outlet 35°C	SCOP	-	4.60	4.57	4.55
		Seasonal Space Heating Efficiency (η _s)	%	181	180	179
		Seasonal Space Heating Eff. Class (A+++ to D scale)	-	A+++	A+++	A+++
	Average Climate Water Outlet 55°C	SCOP	-	3.50	3.47	3.45
		Seasonal Space Heating Efficiency (η _s)	%	137	136	135
		Seasonal Space Heating Eff. Class (A+++ to D scale)	-	A++	A++	A++

Nominal Capacity and Nominal Power Input

Description	OAT (DB)	LWT (DB)	Outdoor Unit	HU121MRB U30 (1Ø)	HU141MRB U30 (1Ø)	HU161MRB U30 (1Ø)
				HU123MRB U30 (3Ø)	HU143MRB U30 (3Ø)	HU163MRB U30 (3Ø)
				HN1600MC NK1		
Nominal Capacity	Heating	7°C 35°C	kW	12.00	14.00	16.00
		7°C 55°C		11.00	11.50	12.00
		2°C 35°C		11.00	12.00	13.80
	Cooling	35°C 18°C		12.00	14.00	16.00
		35°C 7°C		12.00	14.00	16.00
		7°C 35°C		2.38	2.86	3.33
Nominal Power Input	Heating	7°C 55°C	kW	3.79	4.04	4.29
		2°C 35°C		3.01	3.31	3.83
		35°C 18°C		2.53	3.26	4.00
	Cooling	35°C 7°C		4.44	5.38	6.40
		7°C 35°C		5.04	4.89	4.80
		7°C 55°C		2.90	2.85	2.80
COP	Heating	2°C 35°C	W/W	3.65	3.63	3.60
		35°C 18°C		4.75	4.30	4.00
EER	Cooling	35°C 7°C	W/W	2.70	2.60	2.50

PRODUCT SPECIFICATION

R32 Hydrosplit Hydro Box

Product Specification (Outdoor Unit)

Technical Specification			Unit	HU121MRB U30	HU141MRB U30	HU161MRB U30	HU123MRB U30	HU143MRB U30	HU163MRB U30
Operation Range (outdoor temp.)	Heating	Min. - Max.	°C DB	-25 - 35					
	Cooling								
Compressor	Quantity	EA	1						
	Type	-	Hermetic Sealed Scroll						
Refrigerant	Type	-	R32						
	GWP (global warming potential)	-	675						
	Precharged Amount	g	2,100						
	t-CO ₂ eq	-	1,418						
Piping Connections	Water Circuit	Inlet	mm (inch)	Male PT 1" according to ISO 7-1 (tapered pipe threads)					
		Outlet	mm (inch)	Male PT 1" according to ISO 7-1 (tapered pipe threads)					
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)	61	62	63	61	62	63
Sound Pressure Level (at 1m)	Heating	Rated	dB(A)	53	54	55	53	54	55
Dimensions	Unit	W x H x D	mm	950 x 1,380 x 330					
Weight	Unit		kg	91.7					
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	10.6	12.7	14.8	3.5	4.2	4.9
		Cooling	A	11.2	14.4	17.7	3.7	4.8	5.9
	Recommended Circuit Breaker		A	40			16		
Wiring Connections	Power Supply Cable (included earth, H07RN-F)		mm ² x cores	6.0 x 3C			2.5 x 5C		

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 tonality penalty of 0dB and installation in free-field. Therefore, these values can be increased owing to ambient conditions during operation. Rated sound power level is according to the EN12102-1 under conditions of the EN14825.
- Performances are based on the following conditions (It is according to EN14511):
 - Interconnected Pipe Length is standard length and difference of Elevation
- This product contains Fluorinated greenhouse gases. (Outdoor - Indoor Unit) is 0m.

Product Specification (Indoor Unit)

Technical Specification			Unit	HN1600MC NK1
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.	l/min	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
Piping Connections	Water Circuit	Outlet to Heat Load	Inch	Male PT 1" according to ISO 7-1 (tapered pipe threads)
		Inlet from Heat Load		Male PT 1" according to ISO 7-1 (tapered pipe threads)
		Outlet to Outdoor Unit		Male PT 1" according to ISO 7-1 (tapered pipe threads)
		Inlet from Outdoor Unit		Male PT 1" according to ISO 7-1 (tapered pipe threads)
Wiring Connections	Power and Communication Cable (included earth, H07RN-F)		mm ² x cores	0.75 x 4C
Sound Power Level	Heating	Rated	dB(A)	44
Dimensions	Unit	W x H x D	mm	490 x 850 x 315
Weight	Unit		kg	30.5
Exterior	Color / RAL Code		-	Noble White / RAL 9016

1) When fan coil unit not used.

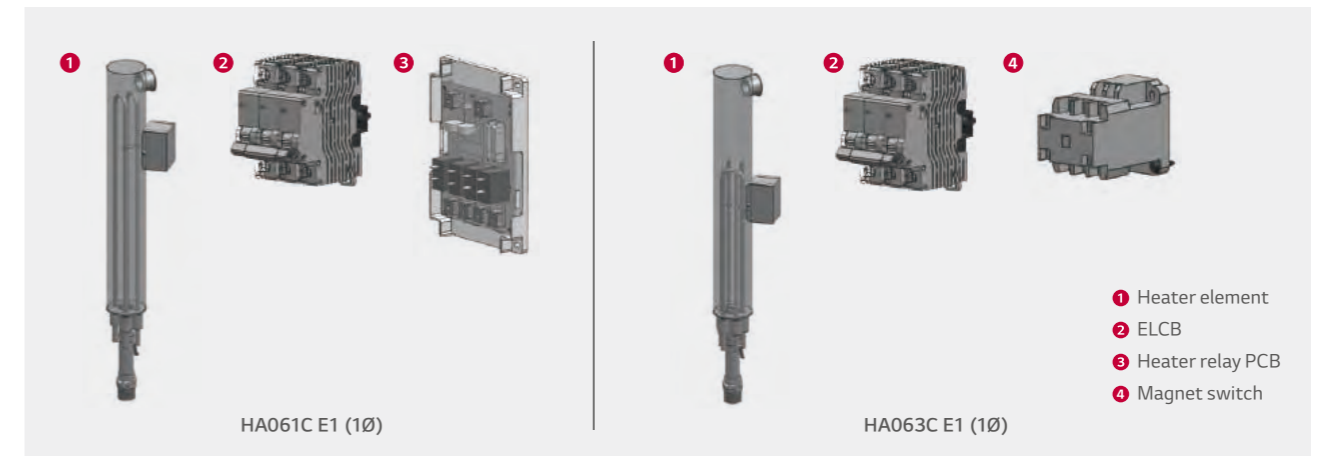
2) DHW 58-80°C Operating is available only when the booster heater is operating.

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 tonality penalty of 0dB and installation in free-field. Therefore, these values can be increased owing to ambient conditions during operation. Rated sound power level is according to the EN12102-1 under conditions of the EN14825.
- This product contains Fluorinated greenhouse gases.

Accessory Parts (Optional Accessory)

Backup Heater¹⁾



Electrical Specification			HA061C E1 (1Ø)	HA063C E1 (1Ø)
Backup Heater	Type	-	Sheath	
	No. of Heating Coil	EA	2	3
	Max. Power Consumption	kW	3.0 + 3.0	2.0 + 2.0 + 2.0
	Heating Step	Step	1	1
	Power Supply	V, Ø, Hz	220 - 240, 1, 50	380 - 415, 3, 50
	Current (rated)	A	24.0	8.7
	Circuit Breaker (ELCB)	A	40	20
Wiring Connection	Power Cable (included earth, H07RN-F)	mm ² x cores	6.0 x 3C	2.5 x 5C

PRODUCT SPECIFICATION

Performance Table for Heating Operation

Maximum Heating Capacity (Including Defrost Effect)

HU121MRB U30 / HU123MRB U30 + HN1600MC NK1

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
	TC	TC	TC	TC	TC	TC	TC	TC
-25°C DB	9.66	8.85	8.42	8.29	-	-	-	-
-20°C DB	10.13	10.00	9.88	9.75	9.63	-	-	-
-15°C DB	11.50	11.50	11.50	11.50	11.50	11.50	-	-
-7°C DB	12.00	12.00	12.00	12.00	12.00	12.00	12.00	-
-4°C DB	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
-2°C DB	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
2°C DB	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
7°C DB	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
10°C DB	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
15°C DB	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
18°C DB	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
20°C DB	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
35°C DB	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00

HU141MRB U30 / HU143MRB U30 + HN1600MC NK1

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
	TC	TC	TC	TC	TC	TC	TC	TC
-25°C DB	10.04	9.21	8.76	8.62	-	-	-	-
-20°C DB	11.82	11.25	10.95	10.67	10.59	-	-	-
-15°C DB	12.52	12.90	13.26	12.88	12.81	12.63	-	-
-7°C DB	14.00	14.00	14.00	14.00	14.00	14.00	14.00	-
-4°C DB	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00
-2°C DB	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00
2°C DB	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00
7°C DB	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00
10°C DB	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00
15°C DB	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00
18°C DB	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00
20°C DB	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00
35°C DB	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00

HU161MRB U30 / HU163MRB U30 + HN1600MC NK1

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
	TC	TC	TC	TC	TC	TC	TC	TC
-25°C DB	10.98	10.00	9.50	9.33	-	-	-	-
-20°C DB	13.43	12.54	12.03	11.78	11.47	-	-	-
-15°C DB	14.23	14.39	14.50	13.95	13.86	13.12	-	-
-7°C DB	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
-2°C DB	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
7°C DB	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
15°C DB	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
20°C DB	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

Note

- DB : Dry Bulb Temperature (°C), LWT : Leaving Water Temperature (°C), LPM : Liters Per Minute (ℓ/min), TC : Total Capacity (kW)
- Direct interpolation is permissible. Do not extrapolate.
- Measuring procedure follows EN-14511.
 - Rated values are based on standard conditions and it can be found on specifications.
 - Above table values may not be matched according to installation condition. Except for rated value, the performance is not guaranteed.
 - In accordance with the test standard (or nations), the rating will vary slightly.
- The shaded areas are not guaranteed continuous operation.

Performance Table for Cooling Operation

Maximum Cooling Capacity

HU121MRB U30 / HU123MRB U30 + HN1600MC NK1

Outdoor Temperature	LWT 7°C	LWT 10°C	LWT 13°C	LWT 15°C	LWT 18°C	LWT 20°C	LWT 22°C
	TC	TC	TC	TC	TC	TC	TC
10°C DB	12.00	12.00	12.00	12.00	12.00	12.00	12.00
20°C DB	12.00	12.00	12.00	12.00	12.00	12.00	12.00
30°C DB	12.00	12.00	12.00	12.00	12.00	12.00	12.00
35°C DB	12.00	12.00	12.00	12.00	12.00	12.00	12.00
40°C DB	11.75	12.00	12.00	12.00	12.00	12.00	12.00
45°C DB	11.50	12.00	12.00	12.00	12.00	12.00	12.00

HU141MRB U30 / HU143MRB U30 + HN1600MC NK1

Outdoor Temperature	LWT 7°C	LWT 10°C	LWT 13°C	LWT 15°C	LWT 18°C	LWT 20°C	LWT 22°C
	TC	TC	TC	TC	TC	TC	TC
10°C DB	14.00	14.00	14.00	14.00	14.00	14.00	14.00
20°C DB	14.00	14.00	14.00	14.00	14.00	14.00	14.00
30°C DB	14.00	14.00	14.00	14.00	14.00	14.00	14.00
35°C DB	14.00	14.00	14.00	14.00	14.00	14.00	14.00
40°C DB	13.75	14.00	14.00	14.00	14.00	14.00	14.00
45°C DB	13.50	14.00	14.00	14.00	14.00	14.00	14.00

HU161MRB U30 / HU163MRB U30 + HN1600MC NK1

Outdoor Temperature	LWT 7°C	LWT 10°C	LWT 13°C	LWT 15°C	LWT 18°C	LWT 20°C	LWT 22°C
	TC	TC	TC	TC	TC	TC	TC
10°C DB	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
30°C DB	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
40°C DB	15.75	16.00	16.00	16.00	16.00	16.00	16.00
45°C DB	15.50	16.00	16.00	16.00	16.00	16.00	16.00

Note

- DB : Dry Bulb Temperature (°C), LWT : Leaving Water Temperature (°C), LPM : Liters Per Minute (ℓ/min), TC : Total Capacity (kW)
- Direct interpolation is permissible. Do not extrapolate.
- Measuring procedure follows EN-14511.
 - Rated values are based on standard conditions and it can be found on specifications.
 - Above table values may not be matched according to installation condition. Except for rated value, the performance is not guaranteed.
 - In accordance with the test standard (or nations), the rating will vary slightly.
- The shaded areas are not guaranteed continuous operation.

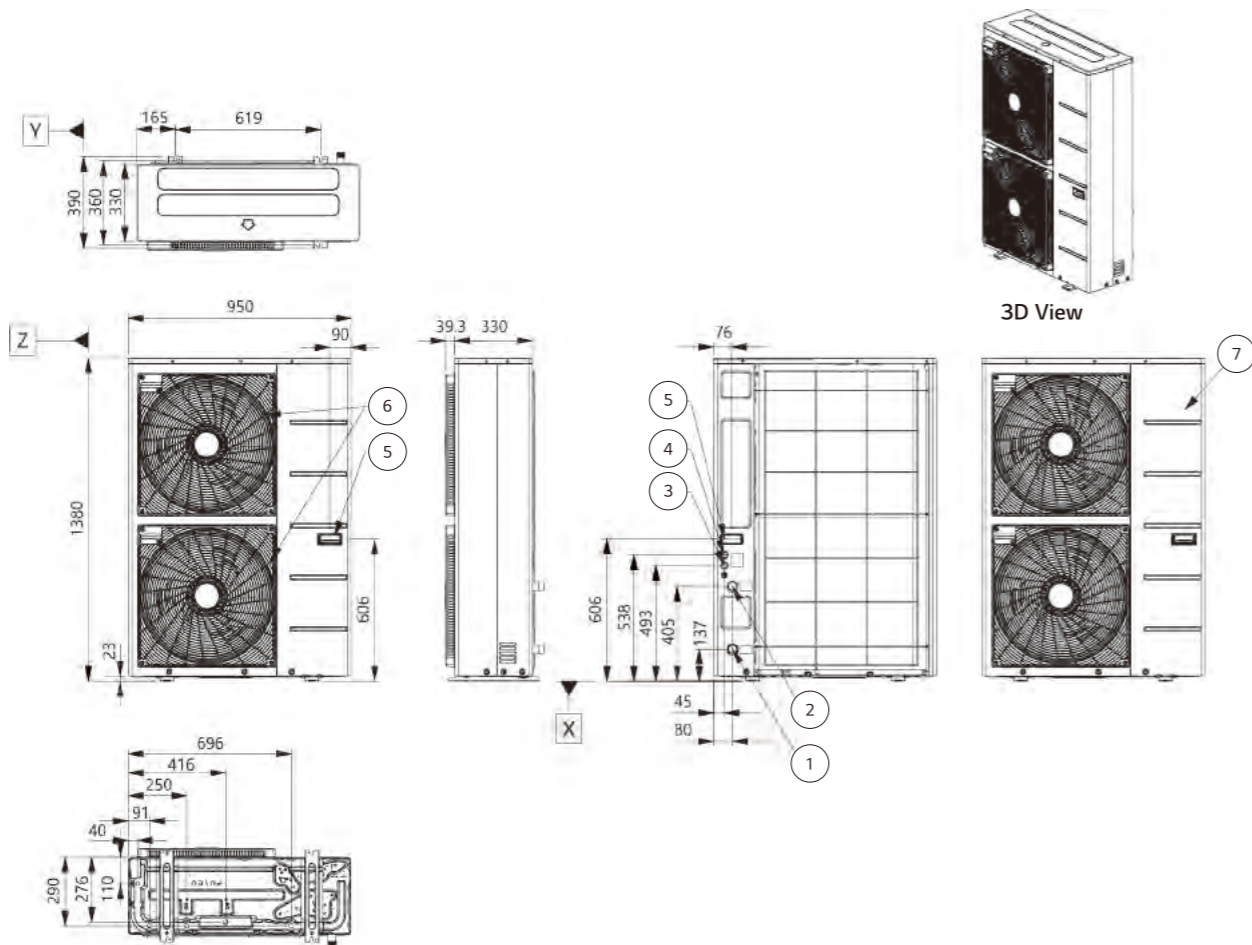
PRODUCT SPECIFICATION

Drawings

Category	Unit	Model Name		
		Capacity (kW)		
		12.0	14.0	16.0
1 Phase Model 220 - 240V, 1Ø, 50Hz	Outdoor Unit	HU121MRB U30	HU141MRB U30	HU161MRB U30
	Indoor Unit	HN1600MC NK1		
3 Phase Model 380 - 415V, 3Ø, 50Hz	Outdoor Unit	HU123MRB U30	HU143MRB U30	HU163MRB U30
	Indoor Unit	HN1600MC NK1		

HU121MRB U30 / HU141MRB U30 / HU161MRB U30
 HU123MRB U30 / HU143MRB U30 / HU163MRB U30

[Unit : mm]

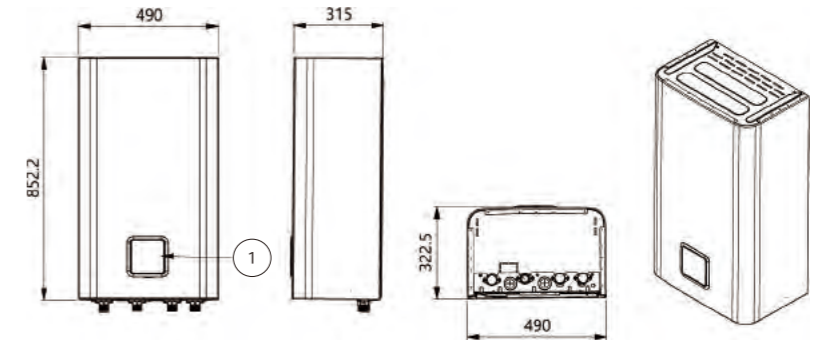


No.	Part Name	Description
1	Entering Water Pipe	Male PT 1" according to ISO 7-1 (tapered pipe threads)
2	Leaving Water Pipe	Male PT 1" according to ISO 7-1 (tapered pipe threads)
3	Unit Power	Power cable hole
4	Low Voltage	Communication cable hole
5	Handle	-
6	Air Outlet	-
7	Side Panel	-

HN1600MC NK1

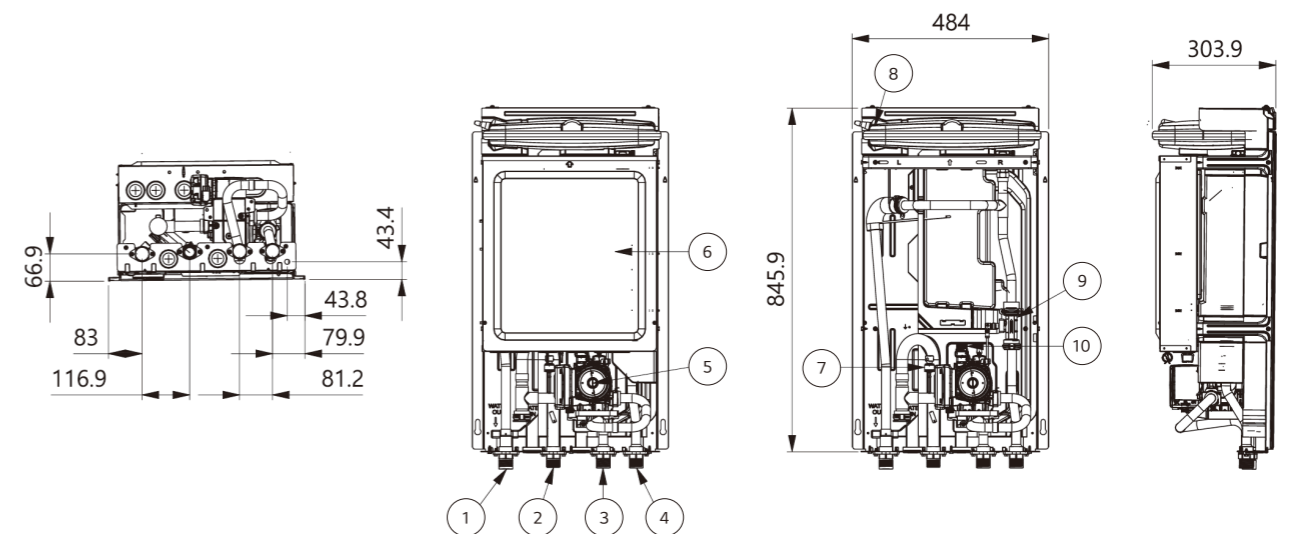
[Unit : mm]

External



No.	Part Name	Description
1	Control Panel	Built-in remote controller

Internal



No.	Part Name	Description
1	Heating Circuit Outlet Pipe	Male PT 1" according to ISO 7-1 (tapered pipe threads)
2	Heating Circuit Inlet Pipe	Male PT 1" according to ISO 7-1 (tapered pipe threads)
3	Outlet Pipe to Outdoor Unit	Male PT 1" according to ISO 7-1 (tapered pipe threads)
4	Inlet Pipe to Outdoor Unit	Male PT 1" according to ISO 7-1 (tapered pipe threads)
5	Water Pump	GRUNDFOS UPML 20-105 CHBL
6	Control Box	PCB and Terminal blocks
7	Pressure Sensor	SENSATA 2HMP3-04W, 0-2Mpa
8	Expansion Tank	8 Liter, 3/4" connection
9	Flow Sensor	Flow range : 5 - 80 LPM
10	Safety Valve	Open at water pressure 3 bar