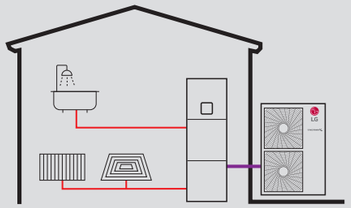
R410A IWT (INTEGRATED WATER TANK)



Excellent Performance & Efficiency

- Twin rotary compressor
- R410A refrigerant
- Wide operation range (up to 58°C)
- Gold Fin heat exchanger

User Convenience

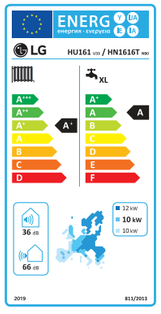
- Harmonious Exterior
- 2nd circuit
- 3rd party boiler
- Seasonal auto mode
- Low noise mode

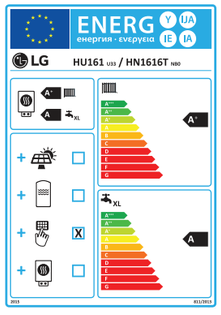
Easy Installation & Maintenance

- All in one
- Flexible piping design

* Detailed description for each function is presented on page 26 ~ 43.

Energy Labeling

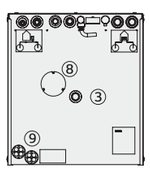


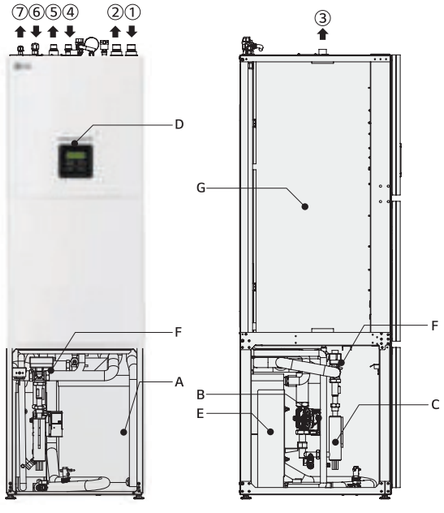


* 16kW 1Ø model.
* A+++ to D scale.

IWT (Integrated Water Tank) Concept

The LG THERMA V R410A IWT, or integrated water tank, is an integrated unit that indoor unit is combined with a domestic hot water tank while outdoor unit is separately located outside. THERMA V R410A IWT is more suitable for the house which has less indoor spaces because hydronic components such as DHW tank and buffer tank normally installed additionally are integrated as one unit.





Key Components

No.	Part Name	No.	Part Name
1	Heating / Cooling Inlet	A	Buffer Tank
2	Heating / Cooling Outlet	B	Circulating Pump
3	Warm Sanitary	C	Electric Flow Heater
4	DHW - Circulation	D	TT3000 Controller
5	Cold Sanitary Water - Supply	E	Condenser
6	Gas Pipe 5/8" - Refrigerant	F	3 Way Valve
7	Liquid Pipe 3/8" - Refrigerant	G	DHW Tank
8	Mg. Anode		
9	Wiring Connection		

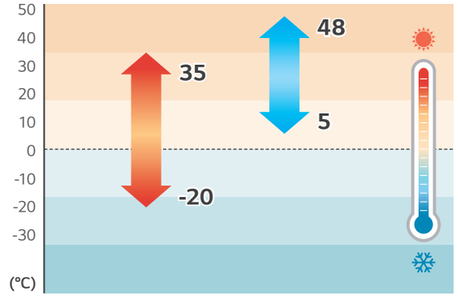
Capacity Range (Heating & Cooling)

R410A IWT

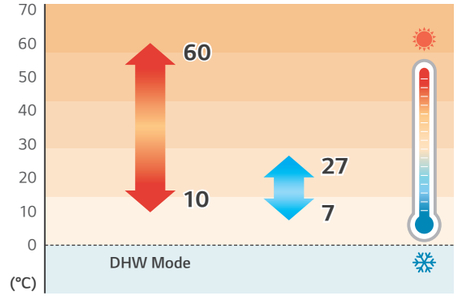
Capacity Range [kW]	9	12	14	16
Heating Capacity	(9.0)	(12.0)	(14.0)	(16.0)
Cooling Capacity	(9.0)	(10.4)	(11.0)	(12.0)

Operation Range (Heating & Cooling)

Ambient Temperature



Leaving Water Temperature

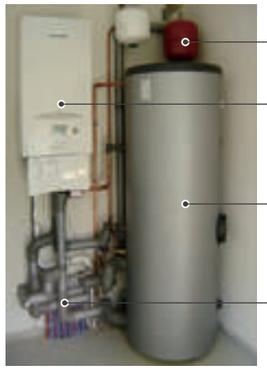


PRODUCT FEATURES

Save Space & Time

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

Conventional



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

R410A IWT (Integrated Water Tank)

All in One

Small space for product installation
200 liter DHW tank with extra 40 liter

Less Water Piping Work

More easy & save time

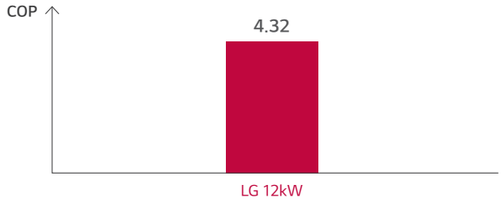
Sophisticated and Harmonious Exterior

THERMA V R410A IWT indoor unit is suitable to install in indoor space like utility room, kitchen, etc. thanks to the sophisticated & harmonious exterior with white color and modern design.

Space Heating Efficiency

The energy label directive is a key factor in selecting a heating device in the European heating market. The R410A IWT has an energy label rating (ErP) of A++.

* Test Condition
Ambient temp. 7°C / Leaving water temp. 35°C, based on 12kW set



Quiet Operation

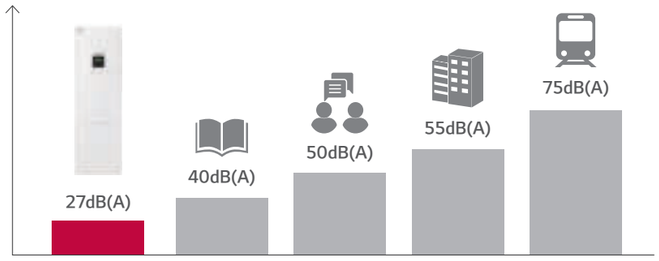
Due to quiet operation, it creates an atmosphere of calm and restfulness in case of indoor installation.

Operation Noise

- Sound power level : 36dB(A)
- Sound pressure level : 27dB(A)

Quiet operation.
Calm and restfulness indoor environment.

Sound Pressure Level Comparison

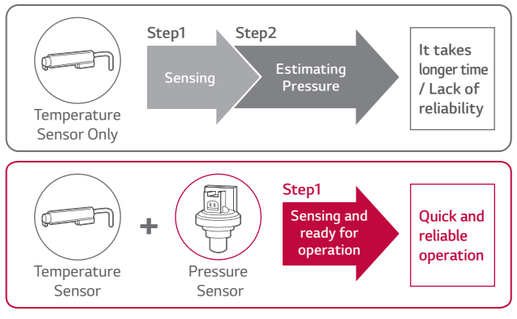


Temperature + Pressure Control & Quick Operating Response

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

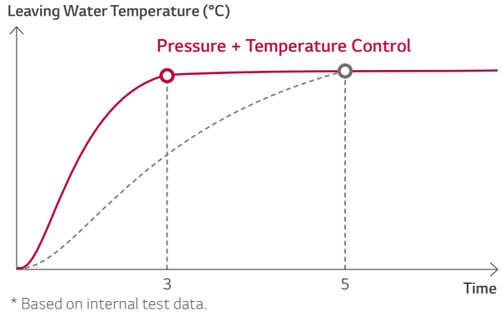
Faster and More Exact with Pressure Control

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



Quick Reaching to Target Temperature

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



* Based on internal test data.

PRODUCT SPECIFICATION

R410A IWT

IDU

HN1616T NB0

ODU

HU091 U43
HU121 U33
HU141 U33
HU161 U33
HU123 U33
HU143 U33
HU163 U33

Mandatory accessory : PP485B00K.ENCXLEU

EHPA for Austria, Switzerland and Germany

R410A 58°C A++

Features

- Space (floor) heating efficiency with ErP A++[1] class
- Maximum 58°C LWT
- Gold Fin heat exchanger
- EHPA[2] certification

1) under average climate conditions for medium-temperature application
2) Approved model by EHPA : HU091 U43, HU123 U33, HU143 U33, HU163 U33

Model Line-up

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

Note
1. PP485B00K. ENCXLEU is required for communication between outdoor unit and indoor unit. (install at outdoor unit)
2. Production of this product could be discontinued without prior notice considering manufacturer's circumstances.

Seasonal Energy

Description			Outdoor Unit	HU091 U43	HU121 U33 HU123 U33	HU141 U33 HU143 U33	HU161 U33 HU163 U33
			Indoor Unit	HN1616T NB0			
Space Heating (according to EN14825)	Average Climate Water Outlet 35°C	SCOP	W/W	4.04	4.20	4.15	4.15
		Seasonal Space Heating Efficiency (η_s)	%	159	165	163	163
		Seasonal Space Heating Eff. Class (A+++ to D scale)	-	A++	A++	A++	A++
	Average Climate Water Outlet 55°C	SCOP	-	2.88	3.00	3.00	3.00
		Seasonal Space Heating Efficiency (η_s)	%	112	117	117	117
		Seasonal Space Heating Eff. Class (A+++ to D scale)	-	A+	A+	A+	A+
Domestic Hot Water Efficiency acc. EN16147	General	Declared Load Profile	-	XL	XL	XL	XL
	Average Climate	Water Heating Efficiency (η_{wh})	%	98	89	89	89
		Water Heating Energy Eff. Class (A + to F scale)	-	A	A	A	A

Nominal Capacity and Nominal Power Input

Description		OAT (DB)	LWT (DB)	Outdoor Unit	HU091 U43	HU121 U33 HU123 U33	HU141 U33 HU143 U33	HU161 U33 HU163 U33
				Indoor Unit	HN1616T NB0			
Nominal Capacity	Heating	7°C	35°C	kW	9.00	12.00	14.00	16.00
		7°C	55°C		6.70	12.50	12.50	12.50
		2°C	35°C		7.30	9.81	10.37	11.45
	Cooling	35°C	18°C		9.00	10.40	11.00	12.00
		35°C	7°C		6.43	6.75	7.14	7.79
Nominal Power Input	Heating	7°C	35°C	kW	2.23	2.78	3.43	4.18
		7°C	55°C		2.79	4.89	4.89	4.89
		2°C	35°C		2.27	3.12	3.30	3.64
	Cooling	35°C	18°C		2.88	3.30	3.53	4.00
		35°C	7°C		2.76	3.20	3.42	3.87
COP	Heating	7°C	35°C	W/W	4.04	4.32	4.08	3.83
		7°C	55°C		2.40	2.56	2.56	2.56
		2°C	35°C		3.22	3.14	3.14	3.15
EER	Cooling	35°C	18°C	W/W	3.12	3.15	3.12	3.00
		35°C	7°C		2.33	2.11	2.09	2.01

Product Specification (Outdoor Unit)

Description			Unit	HU091 U43	HU121 U33	HU141 U33	HU161 U33	HU123 U33	HU143 U33	HU163 U33
Operation Range (outdoor temp.)	Heating	Min. ~ Max.	°CDB	-20 ~ 35						
	Cooling		°CDB	5 ~ 48						
Compressor	Quantity		EA	1						
	Type		-	Hermetic Sealed Twin Rotary						
Refrigerant	Type		-	R410A						
	GWP (global warming potential)		-	2,087.5						
	Precharged Amount[1]		g	1,800	2,300					
	t-CO_2 eq		-	3.758	4.801					
Piping Connections	Outer Diameter	Gas	mm (inch)	Ø15.88 (5/8)						
		Liquid	mm (inch)	Ø9.52 (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	26.0	34.0	40.0	46.0	34.0	40.0	46.0
Sound Power Level	Heating	Rated	dB(A)	65	66					
Sound Pressure Level (at 1m)	Heating	Rated	dB(A)	57	58					
Dimensions	Heating	Rated	mm	950 x 834 x 330	950 x 1,380 x 330					
Weight	Unit	W x H x D	kg	59.0	94.0					
Power Supply	Voltage, Phase, Frequency		V, Ø, Hz	220 ~ 240, 1, 50				380 ~ 415, 3, 50		
	Rated Running Current	Heating	A	9.7	12.1	14.9	16.3	7.0	8.6	10.5
		Cooling	A	12.5	14.3	15.3	17.4	8.3	8.8	10.0
	Recommended Circuit Breaker		A	30	40			20		
Wiring Connections	Power Supply Cable (included earth, H07RN-F)		mm^2 x cores	4.0 x 3C	6.0 x 3C			2.5 x 5C		

1) After installation, additional refrigerant must be charged 800g for HU091 U43 and 1,200g for the others.

Note
1. Due to our policy of innovation some specifications may be changed without notification.
2. Wiring cable size must comply with the applicable local and national codes. And "Electric characteristics" chapter should be considered for electrical work and design. Especially the power cable and circuit breaker should be selected in accordance with that.
3. Sound power level is measured on the rated condition in the reverberation rooms by ISO 9614 standard. Therefore, these values can be increased owing to ambient conditions during operation. Sound pressure level is converted values from sound power level as per distance.
4. Performances are based on the following conditions (It is according to EN14511) : Interconnected pipe length is standard length and difference of elevation (outdoor ~ indoor unit) is 0m.
5. This product contains fluorinated greenhouse gases.

PRODUCT SPECIFICATION

R410A IWT

Product Specification (Indoor Unit)

Description			Unit	HN1616T NB0
Operation Range (leaving water)	Heating	Min. ~ Max.	°CDB	25 ~ 58
	Cooling		°CDB	7 ~ 25
	DHW		°CDB	10 ~ 60
DHW Tank	Type		-	Hydro module with integrated boiler
	Material		-	Enameled steel
	Water Volume	Rated	ℓ	200
	Internal Thermal Protect limit		°C	95
	Maximum Water Pressure Limit		bar	10
	Insulation	Material	-	Polyurethane foam
		Thickness	mm	50
		Heat loss (for 24hr)	kWh	1.67
Buffer Tank	Water Volume	Rated	ℓ	40
	Material		-	Steel powder coated
	Insulation Material		-	Closed cell foamed rubber
Piping Connections	Water Circuit	Inlet	mm (inch)	Male PT 25.4 (1)
		Outlet	mm (inch)	Male PT 25.4 (1)
	DHW Tank Water Circuit	Cold Inlet	mm (inch)	Male PT 19.05 (3/4)
		Hot Outlet	mm (inch)	Male PT 25.4 (1)
		Recirculation	mm (inch)	Male PT 19.05 (3/4)
	Refrigerant Circuit	Gas	mm (inch)	Ø15.88 (5/8)
		Liquid	mm (inch)	Ø9.52 (3/8)
Sound Power Level	Heating	Rated	dB(A)	36
Sound Pressure Level (at 1m)	Heating	Rated	dB(A)	27
Dimensions	Unit	W x H x D	mm	607 x 2,079 x 725
Weight	Unit		kg	228
Electrical Specification			**Unit**	**HN1616T NB0**
Back up Heater (1) (1 phase)	Type		-	Sheath
	Number of Heating Coil		EA	1
	Capacity Combination		kW	2
	Operation		-	Automatic
	Heating Steps		Step	1
	Power Supply		V, Ø, Hz	230, 1, 50
	Rated Current		A	8.7
Wiring Connections	Power Supply Cable (included earth, H07RN-F)		mm^2 x cores	4.0 x 3C
Back up Heater (2) (1 phase)	Type		-	Sheath
	Number of Heating Coil		EA	2
	Capacity Combination		kW	2.0 + 2.0
	Operation		-	Automatic
	Heating Steps		Step	1
	Power Supply		V, Ø, Hz	230, 1, 50
	Rated Current		A	17.4
Wiring Connections	Power Supply Cable (included earth, H07RN-F)		mm^2 x cores	4.0 x 3C
Back up Heater (3) (3 phase)	Type		-	Sheath
	Number of Heating Coil		EA	3
	Capacity Combination		kW	2.0 + 2.0 + 2.0
	Operation		-	Automatic
	Heating Steps		Step	1
	Power Supply		V, Ø, Hz	400, 3, 50
	Rated Current		A	8.7
Wiring Connections	Power Supply Cable (included earth, H07RN-F)		mm^2 x cores	2.5 x 5C

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 code. And "Electric characteristics" chapter should be considered for electrical work and design. Especially the power cable and circuit breaker should be selected in accordance with that.
3. Sound pressure level is measured on the rated condition in the anechoic rooms by ISO 3745 standard.
   Sound power level is measured on the rated condition in the reverberation rooms by ISO 9614 standard.
   Therefore, these values can be increased owing to ambient conditions during operation.
4. This is true for pipe connections of suitable dimensions and joint distance of up to 20m.
   Pipe dimensions and types of pumps must always be verified or determined by the designing engineer of electrical installations.
   Circulation pumps must be dimensioned in such a way so as to ensure rated voltage (see table) through the device.
5. The guideline about cable is taken into account laying B2 from the table A.52.4 – IEC 60364-5-52. The cable in the installation pipe is fixed to the wall.
6. The size of electrical heater and the fuses depend on the choice of the connection power.
7. Joint maximal load (circulation pumps, electronic valves ...) which can be connected to or powered by the internal unit, must not exceed the specified value. Higher consumed parts (i.e. pumps) should have their own supply.
8. This product contains fluorinated greenhouse gases.

Performance Table for Heating Operaion

Maximum Heating Capacity (Including Defrost Effect)

HU091 U43 + HN1616T NB0

Outdoor Temperature	LWT 30°C	LWT 35°C	LWT 40°C	LWT 45°C	LWT 50°C	LWT 55°C
	TC	TC	TC	TC	TC	TC
-20°C DB	7.00	6.58	6.24	5.89	-	-
-15°C DB	7.39	6.95	6.59	6.22	5.84	-
-7°C DB	8.01	7.53	7.44	7.33	7.24	7.13
-4°C DB	7.95	7.47	7.47	7.47	7.45	7.43
-2°C DB	7.89	7.42	7.48	7.54	7.60	7.64
2°C DB	7.77	7.30	7.50	7.69	7.87	8.04
7°C DB	9.58	9.00	8.89	8.78	8.66	8.55
10°C DB	9.82	9.23	9.09	8.95	8.81	8.67
15°C DB	10.22	9.61	9.43	9.24	9.06	8.88
18°C DB	10.46	9.84	9.63	9.42	9.21	9.00

U121 U33 + HN1616T NB0 / HU123 U33 + HN1616T NB0

Outdoor Temperature	LWT 30°C	LWT 35°C	LWT 40°C	LWT 45°C	LWT 50°C	LWT 55°C
	TC	TC	TC	TC	TC	TC
-20°C DB	10.29	10.39	10.72	10.61	-	-
-15°C DB	10.32	10.41	10.75	11.07	10.53	-
-7°C DB	10.34	10.44	10.51	10.78	10.57	10.63
-4°C DB	10.12	10.23	10.47	10.77	10.84	10.92
-2°C DB	10.01	10.11	10.42	10.73	10.96	11.12
2°C DB	9.71	9.81	10.23	10.65	11.08	11.51
7°C DB	11.88	12.00	12.00	12.00	12.00	12.00
10°C DB	12.38	12.51	12.55	12.59	12.63	12.67
15°C DB	13.23	13.37	13.47	13.58	13.68	13.79
18°C DB	13.73	13.88	14.03	14.17	14.32	14.46

HU141 U33 + HN1616T NB0 / HU143 U33 + HN1616T NB0

Outdoor Temperature	LWT 30°C	LWT 35°C	LWT 40°C	LWT 45°C	LWT 50°C	LWT 55°C
	TC	TC	TC	TC	TC	TC
-20°C DB	11.72	11.42	11.12	10.61	-	-
-15°C DB	11.94	11.63	11.46	11.07	10.53	-
-7°C DB	12.29	11.97	11.81	11.66	11.47	11.30
-4°C DB	11.76	11.45	11.54	11.61	11.65	11.73
-2°C DB	11.51	11.21	11.42	11.64	11.83	12.01
2°C DB	10.65	10.37	10.94	11.50	12.04	12.59
7°C DB	14.38	14.00	13.83	13.65	13.48	13.30
10°C DB	15.02	14.63	14.38	14.14	13.89	13.64
15°C DB	16.09	15.67	15.30	14.94	14.57	14.21
18°C DB	16.73	16.29	15.86	15.42	14.99	14.55

HU161 U33 + HN1616T NB0 / HU163 U33 + HN1616T NB0

Outdoor Temperature	LWT 30°C	LWT 35°C	LWT 40°C	LWT 45°C	LWT 50°C	LWT 55°C
	TC	TC	TC	TC	TC	TC
-20°C DB	12.25	11.61	11.12	10.61	-	-
-15°C DB	12.78	12.12	11.61	11.07	10.53	-
-7°C DB	13.64	12.93	12.55	12.16	11.75	11.33
-4°C DB	13.15	12.47	12.42	12.36	12.26	12.16
-2°C DB	12.81	12.14	12.32	12.47	12.61	12.71
2°C DB	12.07	11.45	12.08	12.67	13.26	13.82
7°C DB	16.88	16.00	15.80	15.60	15.40	15.20
10°C DB	17.79	16.87	16.51	16.14	15.78	15.42
15°C DB	19.31	18.31	17.68	17.05	16.41	15.78
18°C DB	20.22	19.17	18.38	17.59	16.79	16.00

Note
1. DB : Dry Bulb Temperature (°C), LWT : Leaving Water Temperature (°C), LPM : Liters Per Minute (ℓ/min), TC : Total Capacity (kW)
2. Direct interpolation is permissible. Do not extrapolate.
3. Measuring procedure follows 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.
4. The shaded areas are not guaranteed continuous operation.

PRODUCT SPECIFICATION

Performance Table for Cooling Operation

Maximum Cooling Capacity

HU091 U43 + HN1616T NB0

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
20°C DB	9.00	9.33	9.66	9.88	10.21	10.75	-
30°C DB	9.00	9.11	9.22	9.29	9.40	9.89	-
35°C DB	9.00	9.00	9.00	9.00	9.00	9.47	9.94
40°C DB	7.80	8.13	8.45	8.67	9.00	9.25	9.49
45°C DB	6.60	7.25	7.91	8.35	9.00	9.02	9.04

U121 U33 + HN1616T NB0 / HU123 U33 + HN1616T NB0

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
20°C DB	10.40	10.51	10.63	10.71	10.82	11.51	-
30°C DB	10.40	10.44	10.48	10.50	10.54	11.21	-
35°C DB	10.40	10.40	10.40	10.40	10.40	11.07	11.73
40°C DB	9.73	9.91	10.09	10.22	10.40	10.99	11.57
45°C DB	9.06	9.42	9.79	10.03	10.40	10.91	11.41

HU141 U33 + HN1616T NB0 / HU143 U33 + HN1616T NB0

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
20°C DB	11.00	11.12	11.25	11.33	11.45	12.18	-
30°C DB	11.00	11.04	11.08	11.11	11.15	11.86	-
35°C DB	11.00	11.00	11.00	11.00	11.00	11.70	12.40
40°C DB	10.29	10.48	10.68	10.81	11.00	11.62	12.23
45°C DB	9.58	9.97	10.35	10.61	11.00	11.53	12.06

HU161 U33 + HN1616T NB0 / HU163 U33 + HN1616T NB0

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
20°C DB	12.00	12.13	12.27	12.36	12.49	13.29	-
30°C DB	12.00	12.04	12.09	12.12	12.16	12.94	-
35°C DB	12.00	12.00	12.00	12.00	12.00	12.77	13.53
40°C DB	11.23	11.44	11.65	11.79	12.00	12.68	13.35
45°C DB	10.45	10.87	11.30	11.58	12.00	12.58	13.16

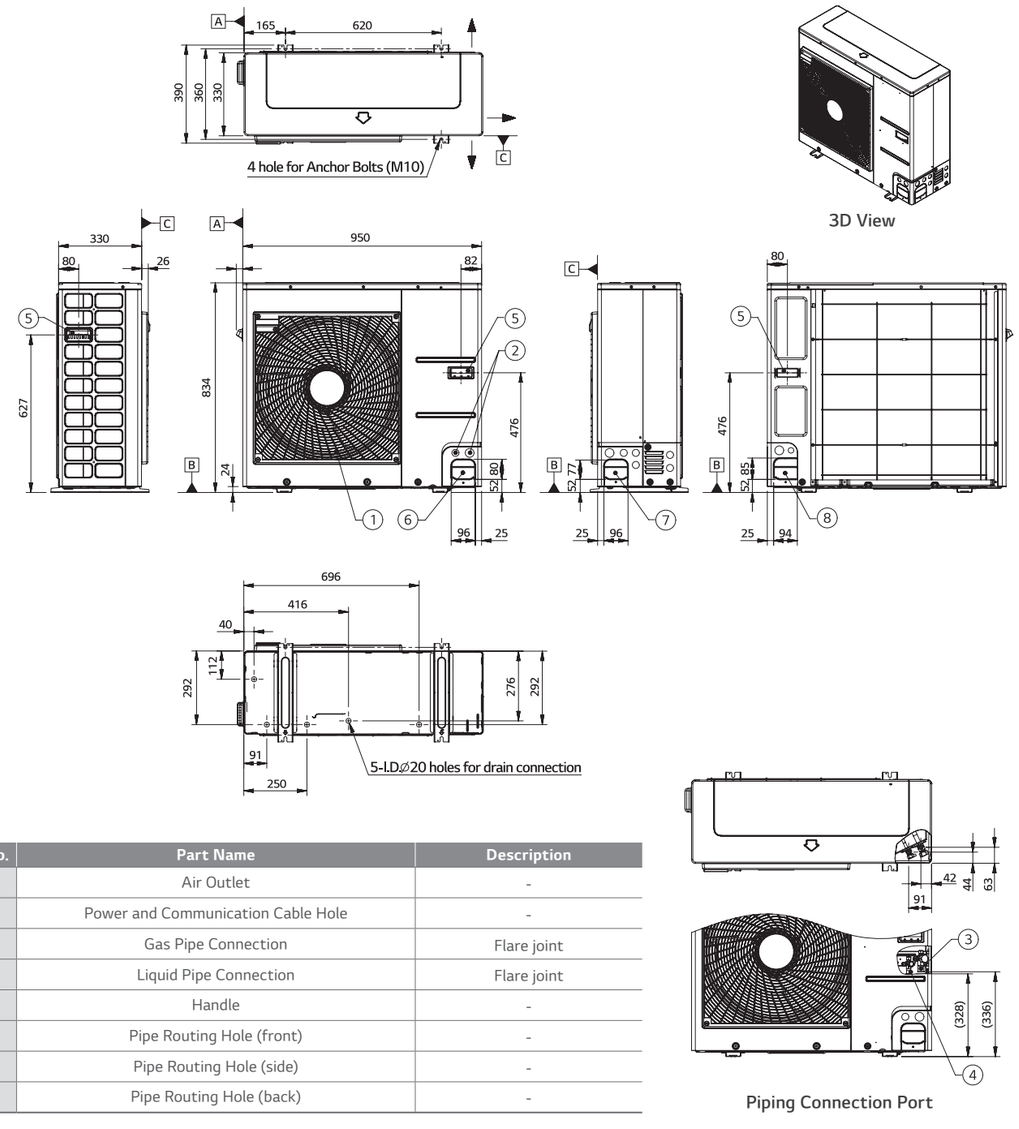
Note
1. DB : Dry Bulb Temperature (°C), LWT : Leaving Water Temperature (°C), LPM : Liters Per Minute (ℓ/min), TC : Total Capacity (kW)
2. Direct interpolation is permissible. Do not extrapolate.
3. Measuring procedure follows EN-14511.
   • Rated values are based on standard conditions and it can be 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.
4. The shaded areas are not guaranteed continuous operation.

Drawings

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

HU091 U43

[Unit : mm]



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

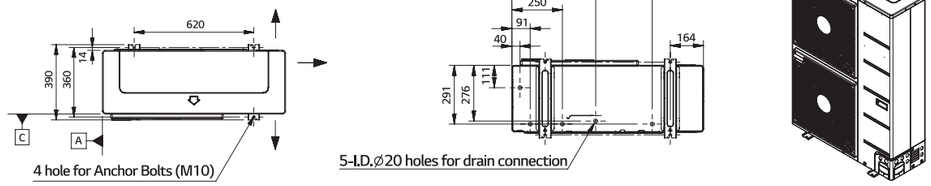
Piping Connection Port

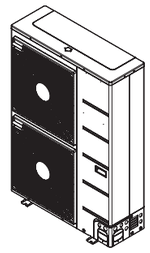
PRODUCT SPECIFICATION

Drawings

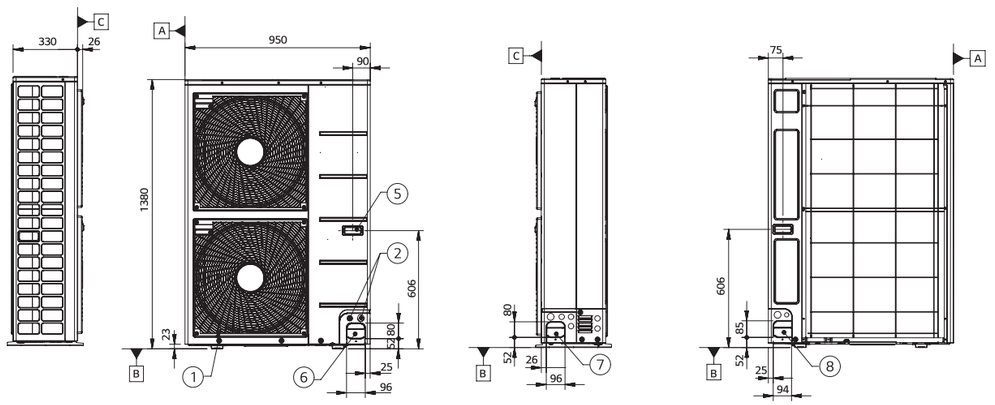
HU121 U33 / HU141 U33 / HU161 U33 / HU123 U33 / HU143 U33 / HU163 U33

[Unit : mm]

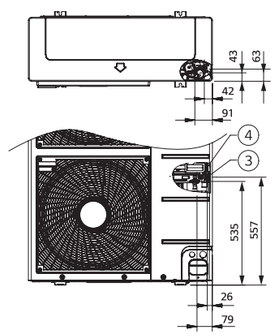




3D View



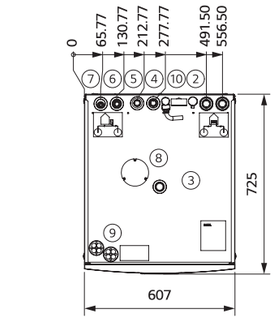
No.	Part Name	Description
1	Air Outlet	-
2	Power and Communication Cable Hole	-
3	Gas Pipe Connection	Flare joint
4	Liquid Pipe Connection	Flare joint
5	Handle	-
6	Pipe Routing Hole (front)	-
7	Pipe Routing Hole (side)	-
8	Pipe Routing Hole (back)	-

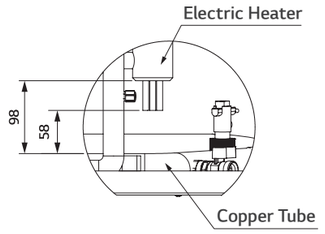


Piping Connection Port

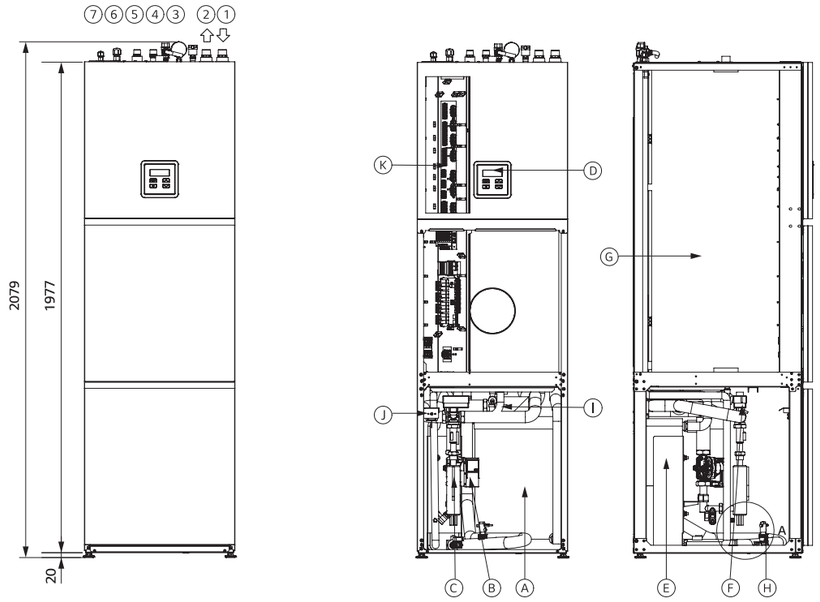
HN1616T NB0

[Unit : mm]





DETAILA
SCALE 1 : 5

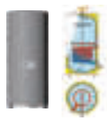


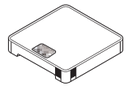
No.	Part Name	No.	Part Name
1	Heating / Cooling Inlet	A	Buffer Tank
2	Heating / Cooling Outlet	B	Circulating Pump
3	Warm Sanitary	C	Electric Flow Heater
4	DHW - Circulation	D	TT3000 Controller
5	Cold Sanitary Water - Supply	E	Condenser
6	Gas Pipe 5/8” - Refrigerant	F	3 Way Valve
7	Liquid Pipe 3/8” - Refrigerant	G	DHW Tank
8	Mg. Anode	H	Flow Switch
9	Wiring Connection	I	Ball Valve
10	Safety Valve, Pressure Gauge, Air Vent	J	Safety Thermostat
		K	Wiring Connection

THERMA V™
ACCESSORIES

ACCESSORIES

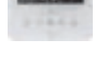
Accessories Provided by LG

Category	Model Name	Model Number	Figure	Applicable Product	Relevant Function	Purpose	Feature
Sensors	Room Temperature Sensor	PQRSTA0		All except for R410A IWT	Room Temperature Based Control	To detect room air temperature for room temperature based control	• Max. wire length : 15m
	2nd Circuit Thermistor	PRSTAT5K10		All except for R410A IWT and High temp.	2nd Circuit (mixing circuit)	To detect 2nd circuit temperature when using 2nd circuit function	• 5kΩ thermistor, 10m
	Domestic Hot Water Sensor	PHRSTA0		All except for IWT and High temp. models	Domestic Hot Water Heating	To detect DHW tank temperature	• Included in PHLTA kit
Valves	3 Way Valve	OSHA-3V		All except for IWT models	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 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-200F		All except for IWT models	Domestic Hot Water Heating	To generate and store domestic hot water	• Storage volume : 200L, 300L, 500L • Type : Internal double coil • Material : Stainless steel • Capacity of booster heater : 2.4kW
		OSHW-300F					
		OSHW-500F					
	Domestic Hot Water Tank (double coil)	OSHW-300FD		All except for IWT and High temp. models			• Storage volume : 300L • Type : Internal double coil • Material : Stainless steel • Capacity of booster heater : 2.4kW
Installation Kits	Domestic Hot Water Tank Kit	PHLTA (1Ø, split)		All except for IWT and High temp. models	Domestic Hot Water Heating	To operate with DHW tank	• Parts included : DHW tank sensor (thermistor), Circuit breaker, Relay
		PHLTC (3Ø, split)					
		PHLTB (monobloc)					• Parts included : DHW tank sensor (thermistor), Circuit breaker, Relay, Multi harness
	Solar Thermal Kit	PHLLA		All except for IWT, Hydrosplit and High temp. models	Solar Thermal Heat Utilization	To operate with solar thermal system	• Length of thermistor : 12m • 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 and R32 Silent Monobloc (HA063M E1 is not applicable for R32 Silent Monobloc)	Capacity Back Up & Emergency Operation	To supplement insufficient capacity	• Heater capacity : 3kW • Number of heating coil : 1EA (3.0kW) • Size (W x H x D) : 210 x 607 x 217 • Power : 220 ~ 240V, 1Ø
		HA061M E1					• Heater capacity : 6kW • Number of heating coil : 2EA (3.0 + 3.0kW) • Size (W x H x D) : 210 x 607 x 217 • Power : 220 ~ 240V, 1Ø
		HA063M E1					• Heater capacity : 6kW • Number of heating coil : 3EA (2.0 + 2.0 + 2.0kW) • Size (W x H x D) : 210 x 607 x 217 • Power : 380 ~ 415V, 3Ø
Vessel	Buffer Tank for Space Heating	OSHB-40KT		R32 IWT	-	To provide the buffer volume of water to the heating circuit	• Volume : 40L • Size (W x H x D) : 518 x 560 x 175
	Expansion Vessel for DHW	OSHE-12KT		R32 IWT	-	To absorb the volume changes by temperature of water for the DHW circuit	• Volume : 8L • Connection : 3/4" • Max. pressure : 10 bar • Size (W x H x D) : 416 x 238 x 502
ETC	Extension Wire for Wire Remote Controller	PZCWRC1		All except for R410A IWT	-	To extend wire between wired remote controller and indoor unit	• Length : 10m
	Extension Cable for Wi-Fi Modem	PWYREW000		All except for R410A IWT	Wi-Fi Control via LG ThinQ	To extend wire between WI-Fi modem and indoor unit	• Length : 10m
	2 Remote Control Wire	PZCWRC2		All except for R410A IWT model	2 Remote Control	To connect two remote controller on the one indoor unit	• Length : 0.25m
	Drain Pan	PHDPB		R32 Split, R410A Split	Cooling Operation	To collect condensed water in indoor unit when cooling operation	-
		PHDPC		R32 Hydrosplit			
	Cover Plate	PDC-HK10		R32 Hydrosplit, R32 Split, R32 IWT, R410A Split	-	To fill the blank space of the indoor unit front panel when the remote controller is relocated indoors.	-

ACCESSORIES

Accessories Provided by LG

Category	Model Name	Model Number	Figure	Applicable Product	Relevant Function	Purpose	Feature
Remote Controller	Wired Remote Controller	PREMTW101		All except for R410A IWT model	2 Remote Control	To control AWHP using two remote controller (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, 10m) and 2 remote cable (PZCWRC2, 0.25m) are included
Central Controller	AC Ez Touch	PACEZA000		All except for R410A IWT model	Centralized Control	To control 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 1EA (emergency stop only) • Size (W x H x D) : 137 x 121 x 25
	AC Smart 5	PACS4B000 (Smart 4) PACS5A000 (Smart 5)					• 10.2 inch color display • User-friendly control with iconographic interface (touch screen) • (Smart 4)_Max. IDU 32, (Smart 5)_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 2EA, DO 2EA • BACnet IP/ modbus TCP protocol support • Size (W x H x D) : 253.2 x 167.7 x 28.9
	ACP 5	PACP4B000 (ACP4) PACP5A000 (ACP5)					• 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 10EA, DO 4EA • BACnet IP/ modbus TCP protocol support • Size (W x H x D) : 270 x 155 x 65
Gateway	ACP Lonworks	PLNWKB000		All except for R410A IWT model	Centralized Control	To link with AWHP and other existing building control system	• Web access controller • Max. 64 unit control • ACP function included • Lonworks protocol support • Size (W x H x D) : 270 x 155 x 65

Category	Model Name	Model Number	Figure	Applicable Product	Relevant Function	Purpose	Feature
Gateway	Modbus RTU Gateway	PMBUSB00A		All except for R410A IWT model	Centralized Control	To communicate and control through the central controller (providing modbus RTU connection between 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 12V
	PI485 Gateway	PMNFP14A1		All except for R410A IWT model		To communicate and control through the central controller (converting LG protocol to RS485 protocol)	• 1 for each outdoor unit • Power : Supplied by outdoor unit
	PI485 Gateway	PP485B00K		R410A IWT		To communicate between outdoor unit and IWT type indoor unit	• 1 for each outdoor unit • Power : Supplied by outdoor unit
Dry Contact	Simple Dry Contact	PDRYCB000		All except for R410A IWT model	-	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 ~ 240V • 2 output contacts - Operation status - Error status
	Dry Contact for Thermostat	PDRYCB320					• 1 Set per 1 unit • Non voltage or 12 ~ 24V • 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 except for R410A IWT model	Wi-Fi Control via LG ThinQ	To control AWHP via smartphone	• Basic control function - On/off, operation mode, set temp - DHW heating and set temp • Weekly on/off schedule • Error status check • Frequency : 2.4GHz • IEEE 802.11b/g/n supported
	Meter Interface	PENKTH000		All except for R410A IWT model	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 : 40ms ~ 100ms • Modbus RTU comm. with THERMA V - 2 wire RS485 / 9600bps • Power : DC 12V • Size (W x H x D) : 54 x 90 x 61
	2 Zone Valve Controller	PZNVVB200		All except for R410A IWT model	Zone Valve Control	To control individual zone valves with room temperature sensor or room thermostat	• Individual temperature setting possible. (to be set through wired remote control in room temperature input mode) • Room temperature detection (AI : 2 ports) • 3rd Party thermostat interlock input. (DI : 2 port) • Can read one DI or AI for each zone. • Maximum number of connections : Max. 4EA (expandable up to 8-zone) • Size (W x H x D) : 53.6 x 89.7 x 60.7 • Power : DC12V for module, AC24V for valve

Note
1. PI485 Gateway (PMNFP14A1) should be installed on outdoor unit to use central controller.

ACCESSORIES

LG Wi-Fi Modem

PWFMDD200 ENCXLEU

Access LG THERMA V anytime and from anywhere with Wi-Fi equipped device. LG's exclusive Home Appliances control app (LG ThinQ) is available.
Simple operation for 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 except for R410A IWT
Connection Type	Indoor Unit 1 : 1
Communication Frequency	2.4GHz
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 (10m 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

Double Coil Single Coil

Domestic Hot Water Tank		Unit	OSHW-200F	OSHW-300F	OSHW-500F	OSHW-300FD
General Characteristics	Water Volume	ℓ	200	300	500	300
	Diameter	mm	640	640	640	640
	Height	mm	1,350	1,850	1,900	1,850
	Empty Weight	Kg	61	100	146	106
	Tank Materials	-	STS : F18	STS : F18	STS : F18	STS : F18
	Color	-	Grey	Grey	Grey	Grey
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	-	Single	Single	Single	Double
	Material Exchanger	-	STS : F18	STS : F18	STS : F18	STS : F18
	Maximum Water Temp.	°C	90	90	90	90
	Coil Surface	m^2	2.3	3.1	4.8	3.1 + 0.97
Water Connections	Heat Pump Inlet	inch	1 BSP female	1 BSP female	1 ¼ BSP female	¾ BSP female (upper coil)
	Heat Pump Outlet	inch	1 BSP female	1 BSP female	1 ¼ BSP female	¾ BSP female (upper coil)
	Solar Inlet	inch	-	-	-	1 BSP Female (lower coil)
	Solar Outlet	inch	-	-	-	1 BSP Female (lower coil)
	City Water Inlet	inch	¾ BSP male	¾ BSP male	1 BSP male	¾ BSP male
	Hot Water Outlet	inch	¾ BSP female	1 BSP female	1 BSP female	1 BSP female
Energy Efficiency Class (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 (1Ø, split), PHLTB (monobloc), PHLTC (3Ø, split)
Optional Accessories	
Thermostatic Mixing Valve (3/4" DN20)	OSHA-MV
Thermostatic Mixing Valve (1" DN25)	OSHA-MV1
3 Way Valve	OSHA-3V

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 order to cope with European nZEB regulations.

- R32 Monobloc (5, 7, 9kW) + OSHW-200F
- R32 Monobloc (12, 14, 16kW) + OSHW-200F
- R32 Monobloc (5, 7, 9kW) + OSHW-300F
- R32 Split Hydro Box (5, 7, 9kW) + OSHW-200F

Model	AWHP	R32 Split (5,7,9kW)	R32 Monobloc (5,7,9kW)	R32 Monobloc (12,14,16kW)	R32 Monobloc (5,7,9kW)
	IDU	HN0916M NK4	HM051M U43 HM071M U43 HM091M U43	HM121M U33 HM141M U33 HM161M U33	HM051M U43 HM071M U43 HM091M U43
	ODU	HU051MR U44 HU071MR U44 HU091MR U44			
	Tank	OSHW-200F AEU	OSHW-200F AEU	OSHW-200F AEU	OSHW-300F AEU
Declared Load Profile		L	L	L	XL
Average Climate	Grade	A+	A+	A	A+
	Efficiency	118%	122%	109%	134%
	Annual Energy Consumption	865kWh	839kWh	940kWh	1,254kWh
Energy Label