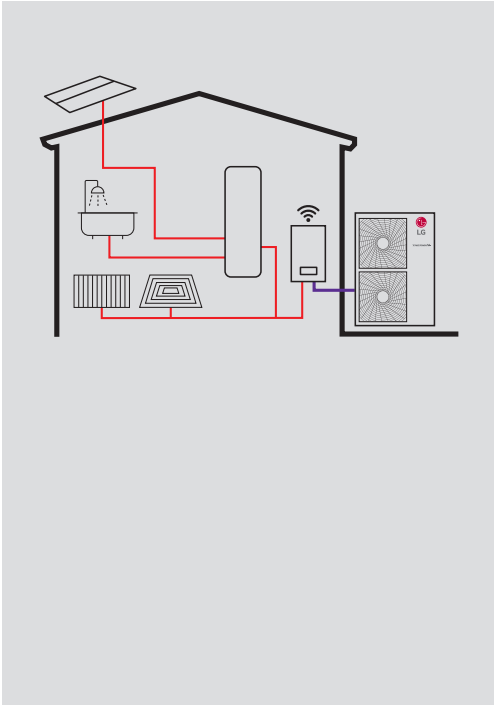
THERMA V™

R410A SPLIT



Excellent Performance & Efficiency

- Twin rotary compressor
- R410A refrigerant
- Wide operation range (up to 57°C)
- Gold Fin heat exchanger
- Solar thermal
- Smart grid (energy state)

User Convenience

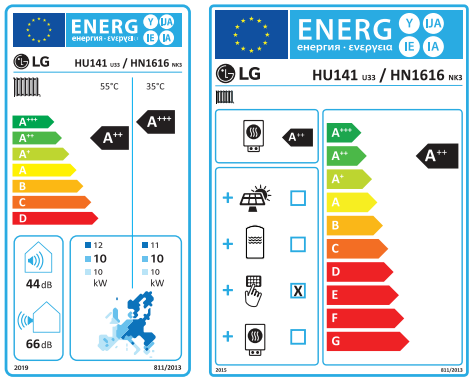
- Intuitive interface
- LG ThinQ
- 2nd circuit
- Various control options
- 3rd party boiler
- Energy monitoring
- Seasonal auto mode
- Low noise mode

Easy Installation & Maintenance

- LG heating configurator
- Clip connection
- Flexible piping design

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

Energy Labeling



* 14kW 1Ø model.
* A+++ to D scale.

Split Hydro Box Concept

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

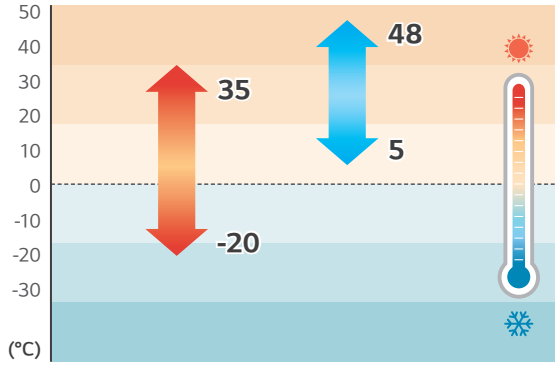
Capacity Range (Heating & Cooling)

R410A Split

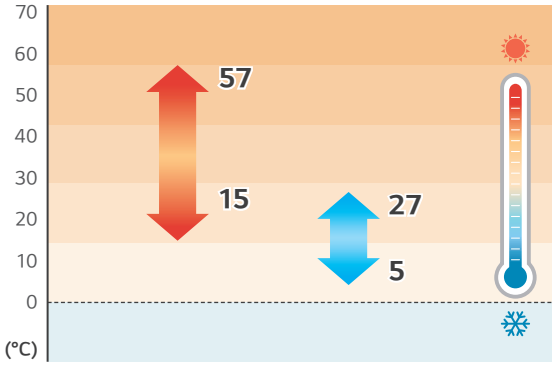
Capacity Range [kW]	12	14	16
Heating Capacity	(12.0)	(14.0)	(16.0)
Cooling Capacity	(10.4)	(12.0)	(13.0)

Operation Range (Heating & Cooling)

Ambient Temperature



Leaving Water Temperature



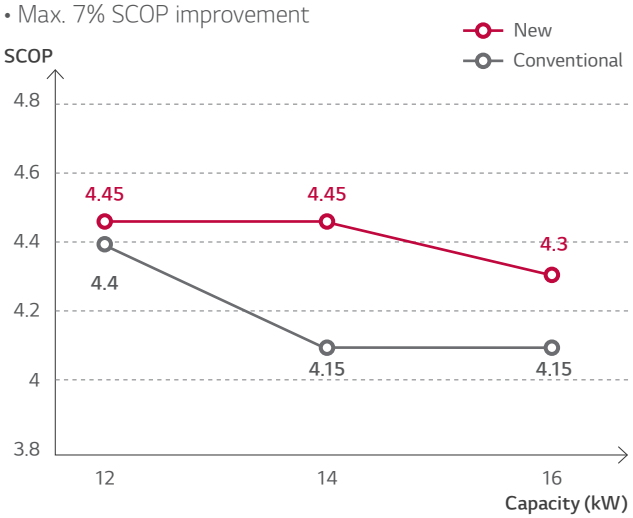
PRODUCT FEATURES

High Energy Efficiency

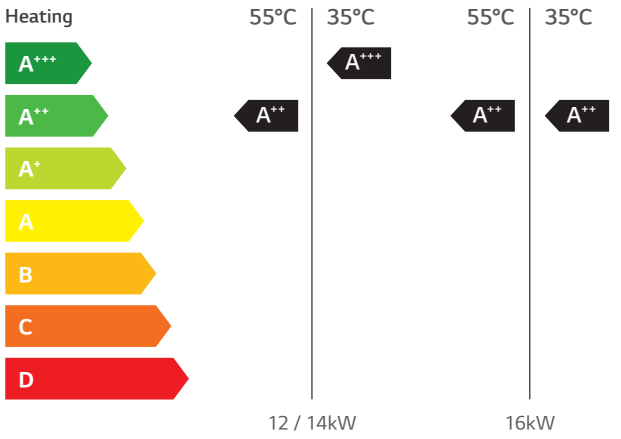
The energy label directive is a key factor in selecting a heating device in the European heating market. The R410A Split type has an energy label rating (ErP) of A+++ except for 16kW model.

SCOP

• Max. 7% SCOP improvement



ErP Energy Labeling

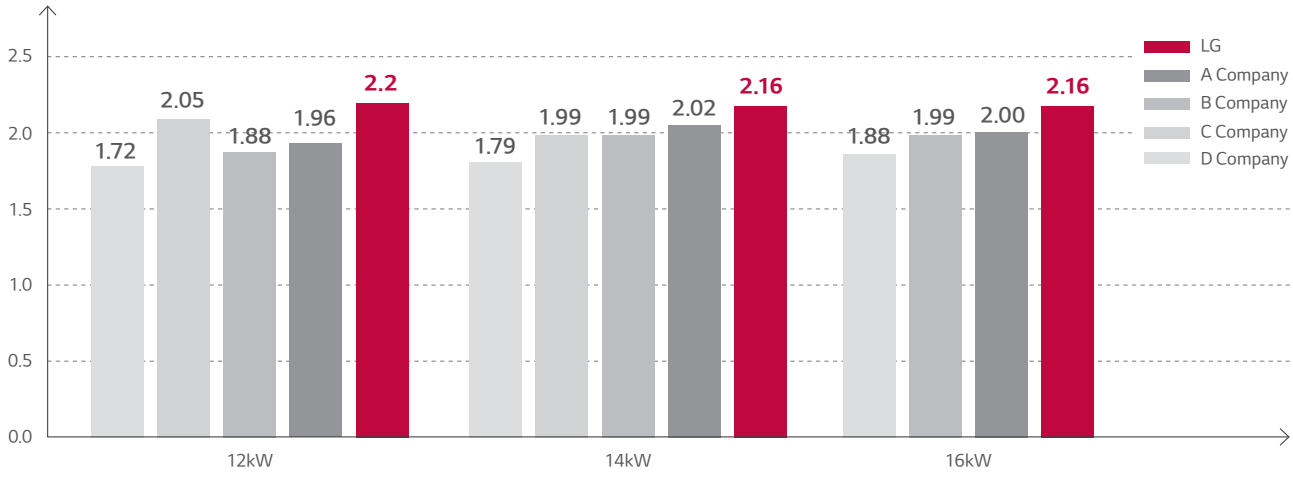


* Test Condition
Test procedure follows EN14825 (low temp average), based on the single phase model line-up.

Energy Efficiency at -2°C

Energy efficiency is higher than others. (condition : ambient temp. -2°C / leaving water temp. 55°C)

Heating COP (A -2 / W55)

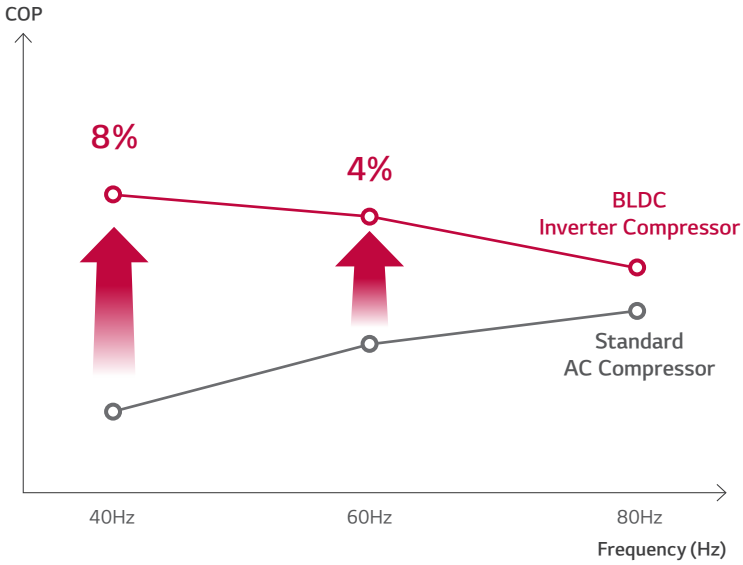


* Peak value / Split models

BLDC (Brushless Direct Current Motor) Compressor

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

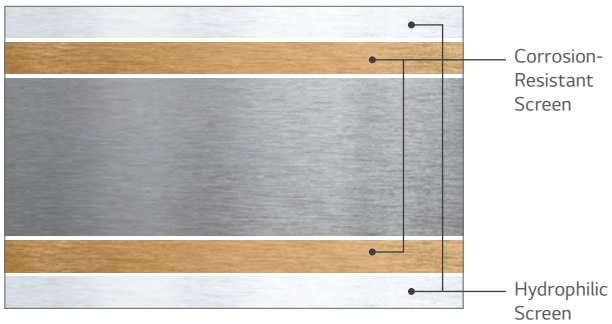
- Minimized oil circulation
- High efficiency motor
- Optimized compression
- Optimized vibration, noise
- High reliability



Corrosion Resistant Heat Exchanger

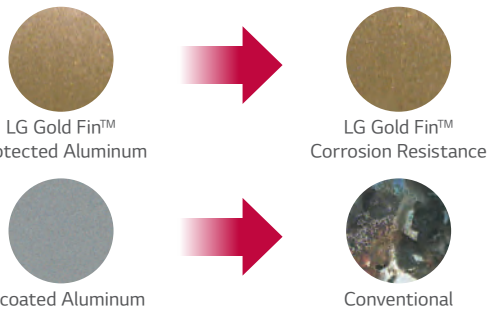
The outdoor heat exchanger is coated with a gold-coloured anti-corrosive epoxy treatment on the aluminum coil. This exhibits pre-eminent heat transfer properties of the coil for an extended period of time, whereas non-Gold Fin™ coils progressively lose efficiency due to surface corrosion. Gold Fin™ is extremely suitable for areas affected by high pollution and those exposed to salt water breeze.

Composition of Fin Screens



Aluminum Material

Salt Spray Test for 15 Days



- Gold Fin™ is long lasting and durable while enhancing the premium design aesthetic of the outdoor unit.

PRODUCT SPECIFICATION

R410A Split Hydro Box Type

IDU

HN1616 NK3
HN1639 NK3

ODU

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

011-1W0253 EHPA for Austria, Switzerland and Germany

R410A 57°C A+++ LG ThinQ

Features

- High energy efficiency (SCOP up to 4.45/A+++)
- Maximum 57°C LWT
- Intuitive interface
- LG ThinQ
- Gold Fin heat exchanger
- KEYMARK/EHPA[1)] certification/MCS/Eurovent certification

1) Approved model by EHPA : HU123 U33, HU143 U33, HU163 U33.

Model Line-up

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

Seasonal Energy

Description			Outdoor Unit	HU121 U33	HU141 U33	HU161 U33
			Indoor Unit	HN1616 NK3		
Space Heating (according to EN14825)	Average Climate Water Outlet 35°C	SCOP	W/W	4.45	4.45	4.30
		Seasonal Space Heating Efficiency (η_s)	%	175	175	169
		Seasonal Space Heating Eff. Class (A+++ to D scale)	-	A+++	A+++	A++
	Average Climate Water Outlet 55°C	SCOP	-	3.32	3.32	3.32
		Seasonal Space Heating Efficiency (η_s)	%	130	130	130
		Seasonal Space Heating Eff. Class (A+++ to D scale)	-	A++	A++	A++

Description			Outdoor Unit	HU123 U33	HU143 U33	HU163 U33
			Indoor Unit	HN1639 NK3		
Space Heating (according to EN14825)	Average Climate Water Outlet 35°C	SCOP	W/W	4.45	4.45	4.30
		Seasonal Space Heating Efficiency (η_s)	%	175	175	169
		Seasonal Space Heating Eff. Class (A+++ to D scale)	-	A+++	A+++	A++
	Average Climate Water Outlet 55°C	SCOP	-	3.32	3.32	3.32
		Seasonal Space Heating Efficiency (η_s)	%	130	130	130
		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	HU121 U33	HU141 U33	HU161 U33
					HU123 U33	HU143 U33	HU163 U33
				Indoor Unit	HN1616 NK3		
					HN1639 NK3		
Nominal Capacity	Heating	7°C	35°C	kW	12.00	14.00	16.00
		7°C	55°C		12.50	12.50	12.50
		2°C	35°C		10.33	10.83	11.95
	Cooling	35°C	18°C		10.40	12.00	13.00
		35°C	7°C		7.94	8.50	8.92
Nominal Power Input	Heating	7°C	35°C	kW	2.64	3.18	3.76
		7°C	55°C		4.94	4.94	4.94
		2°C	35°C		2.93	3.09	3.41
	Cooling	35°C	18°C		2.60	3.08	3.60
		35°C	7°C		2.66	3.03	3.30
COP	Heating	7°C	35°C	W/W	4.55	4.41	4.26
		7°C	55°C		2.53	2.53	2.53
		2°C	35°C		3.53	3.50	3.50
EER	Cooling	35°C	18°C	W/W	4.00	3.90	3.61
		35°C	7°C		2.98	2.81	2.70

PRODUCT SPECIFICATION

R410A Split

Product Specification (Outdoor Unit)

Description			Unit	HU121 U33	HU141 U33	HU161 U33	HU123 U33	HU143 U33	HU163 U33
Operation Range (outdoor temp.)	Heating	Min. ~ Max.	°CDB	-20 ~ 35					
	Cooling		°C	5 ~ 48					
Compressor	Quantity		EA	1					
	Type		-	Hermetic Sealed Twin Rotary					
Refrigerant	Type		-	R410A					
	GWP (global warming potential)		-	2,087.5					
	Precharged Amount		g	2,300					
	t-CO_2 eq		-	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	34.0	40.0	46.0	34.0	40.0	46.0
Sound Power Level	Heating	Rated	dB(A)	66					
Sound Pressure Level (at 1m)	Heating	Rated	dB(A)	58					
Dimensions	Unit	W x H x D	mm	950 x 1,380 x 330					
Weight	Unit		kg	94.0					
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 3C			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 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 (Indoor Unit)

Technical Specification			Unit	HN1616 NK3	HN1639 NK3
Operation Range (leaving water)	Heating	Min. ~ Max.	°CDB	15 ~ 57	
	Cooling			5 ~ 27 (16 ~ 27)[2]	
	DHW[1]			15 ~ 80	
Piping Connections	Water Circuit	Inlet	mm (inch)	Male PT 25.4 (1)	
		Outlet	mm (inch)	Male PT 25.4 (1)	
	Refrigerant Circuit	Gas	mm (inch)	Ø15.88 (5/8)	
		Liquid	mm (inch)	Ø9.52 (3/8)	
Sound Power Level	Heating	Rated	dB(A)	44	
Dimensions	Unit	W x H x D	mm	490 x 850 x 315	
Weight	Unit		kg	42.2	45.0
Electrical Specification			**Unit**	**HN1616 NK3**	**HN1639 NK3**
Wiring Connections	Power and Communication Cable (included earth, H07RN-F)		mm^2 x cores	0.75 x 4C	
Back up Heater	Type		-	Sheath	Sheath
	Number of Heating Coil		EA	2	3
	Capacity Combination		kW	3.0 + 3.0	3.0 + 3.0 + 3.0
	Operation		-	Automatic	Automatic
	Heating Steps		Step	2	2
	Power Supply		V, Ø, Hz	220 ~ 240, 1, 50	220 ~ 240, 1, 50
	Rated Current		A	25.0	13.0
	Power Supply Cable (included earth, H07RN-F)		mm^2 x cores	4.0 x 3C	2.5 x 4C

1) DHW 58 ~ 80°C operating is available only when the booster heater is operating.
2) When fan coil unit not used.

PRODUCT SPECIFICATION

Performance Table for Heating Operaion

Maximum Heating Capacity (Including Defrost Effect)

HU121 U33 + HN1616 NK3 / HU123 U33 + HN1639 NK3

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	10.89	11.00	11.37	11.74	-	-
-15°C DB	10.89	11.00	11.37	11.74	10.99	-
-7°C DB	10.89	11.00	11.37	11.74	11.72	11.09
-4°C DB	10.66	10.77	11.17	11.58	11.83	11.35
-2°C DB	10.54	10.65	11.07	11.49	11.89	11.53
2°C DB	10.22	10.33	10.79	11.26	11.74	11.88
7°C DB	11.88	12.00	12.13	12.25	12.38	12.50
10°C DB	12.03	12.16	12.28	12.41	12.54	12.66
15°C DB	12.29	12.42	12.55	12.67	12.80	12.93
18°C DB	12.44	12.57	12.70	12.83	12.96	13.10

HU141 U33 + HN1616 NK3 / HU143 U33 + HN1639 NK3

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	12.24	11.92	11.61	11.08	-	-
-15°C DB	12.47	12.14	11.96	11.56	10.99	-
-7°C DB	12.83	12.50	12.31	12.12	11.72	11.09
-4°C DB	12.28	11.96	11.95	11.93	11.83	11.35
-2°C DB	12.01	11.70	11.79	11.85	11.89	11.53
2°C DB	11.12	10.83	11.20	11.53	11.82	11.88
7°C DB	14.38	14.00	13.63	13.25	12.88	12.50
10°C DB	14.66	14.28	13.90	13.52	13.13	12.75
15°C DB	15.15	14.75	14.36	13.96	13.57	13.17
18°C DB	15.44	15.03	14.63	14.23	13.83	13.42

HU161 U33 + HN1616 NK3 / HU163 U33 + HN1639 NK3

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	12.79	12.13	11.61	11.08	-	-
-15°C DB	13.35	12.65	12.12	11.56	10.99	-
-7°C DB	14.24	13.50	12.93	12.34	11.72	11.09
-4°C DB	13.73	13.02	12.67	12.27	11.83	11.35
-2°C DB	13.37	12.68	12.48	12.22	11.89	11.53
2°C DB	12.60	11.95	12.07	12.09	12.03	11.88
7°C DB	16.88	16.00	15.13	14.25	13.38	12.50
10°C DB	17.38	16.48	15.58	14.68	13.78	12.88
15°C DB	18.23	17.28	16.34	15.39	14.45	13.50
18°C DB	18.73	17.76	16.79	15.82	14.85	13.88

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.

Performance Table for Cooling Operation

Maximum Cooling Capacity

HU121 U33 + HN1616 NK3 / HU123 U33 + HN1639 NK3

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	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	9.73

HU141 U33 + HN1616 NK3 / HU143 U33 + HN1639 NK3

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	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

HU161 U33 + HN1616 NK3 / HU163 U33 + HN1639 NK3

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	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

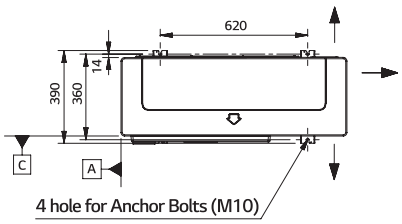
Note
1. DB : Dry Bulb Temperature (°C), LWT : Leaving Water Temperature (°C), LPM : Liters Per Minute (ℓ/min), TC : Total Capacity (kW)
2. Direct interpolation is permissible. Do not extrapolate.
3. Measuring procedure follows EN-14511.
   • Rated values are based on standard conditions and it can be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

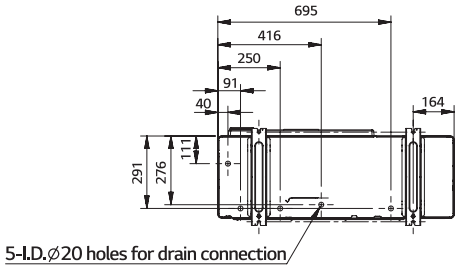
PRODUCT SPECIFICATION

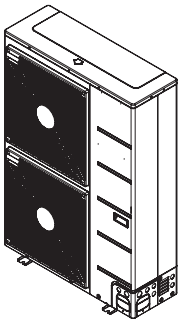
Drawings

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

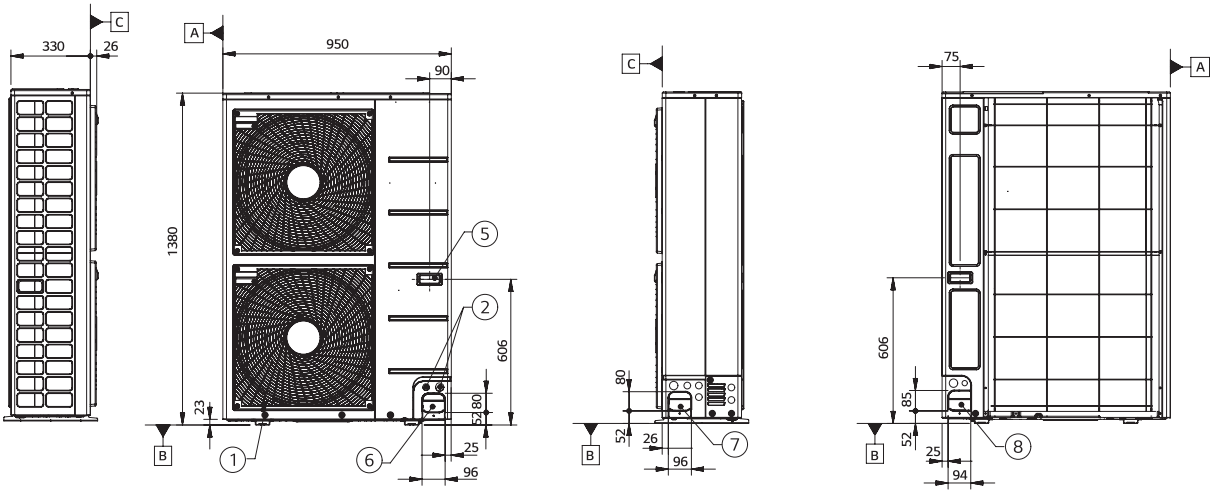
HU121 U33 / HU141 U33 / HU161 U33 / HU123 U33 / HU143 U33 / HU163 U33 [Unit : mm]

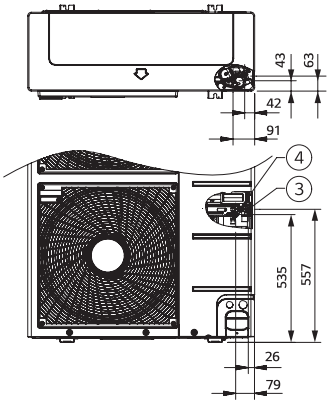






3D View





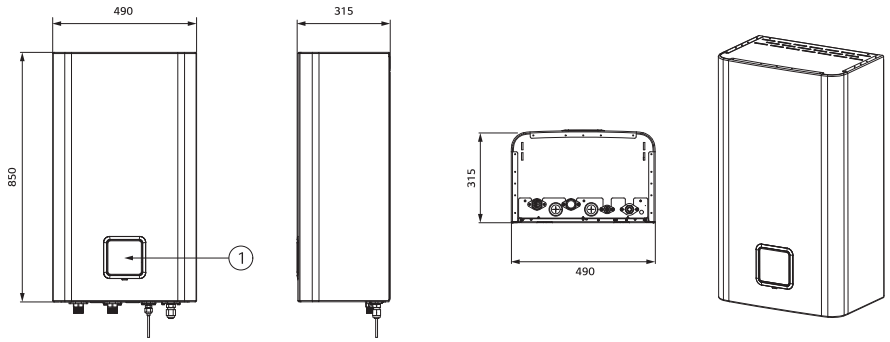
Piping Connection Port

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

HN1616 NK3 / HN1639 NK3

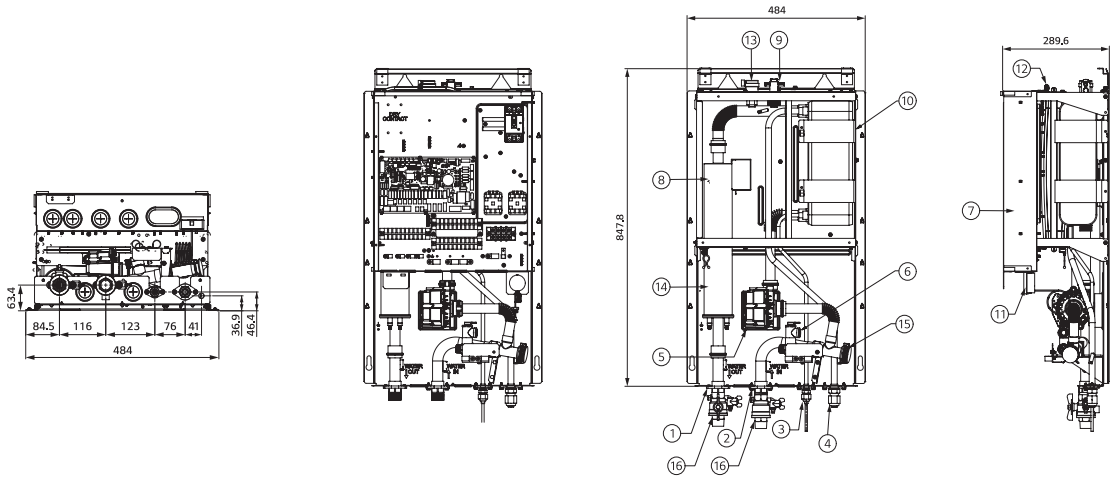
[Unit : mm]

External



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

Internal



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

THERMA V™
ACCESSORIES


Additional Info
65°
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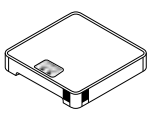
ACCESSORIES

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

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 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