

PRODUCT SPECIFICATION

High Temperature

IDU
HN1610H NK3
ODU
HU161HA U33



Features

- High energy efficiency
- Maximum 80°C LWT
- Only for heating (no cooling)
- Suitable for old radiator
- Black Fin heat exchanger
- LG ThinQ
- Excellent performance at low ambient temperature (100% @ -7°C)
- Wide operation range (ambient : -25 ~ 35°C / water side : 25 ~ 80°C)
- Cascade 2 stage compression
- R1 scroll compressor (for outdoor unit)
- Efficient & flexible design
- KEYMARK/MCS/Eurovent certification

Model Line-up

Category	Unit	Model Name	
		Capacity (kW)	16.0
1 Phase Model 220 - 240V, 1Ø, 50Hz	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 (DB)	LWT (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	

Product Specification (Outdoor Unit)

Description			Unit	HU161HA U33
Operation Range (outdoor temp.)	Heating	Min. - Max.	°CDB	-25 - 35
	Quantity		EA	1
Compressor	Type		-	Hermetic Sealed Scroll
	Type		-	R410A
Refrigerant	GWP (global warming potential)		-	2087.5
	Precharged Amount		g	3,800
	t-CO ₂ eq		-	7.933
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
	Sound Power Level	Heating	Rated	dB(A)
Sound Pressure Level (at 1m)	Heating	Rated	-	55
Dimensions	Unit	W x H x D	mm	950 x 1,380 x 330
Weight	Unit		kg	89.0
	Voltage, Phase, Frequency		V, Ø, Hz	220 - 240, 1, 50
Power Supply	Rated Running Current		A	11.9
	Recommended Circuit Breaker		A	20
	Power Cable (included earth)		mm ² x cores	4.0 x 3C (H07RN-F)

Product Specification (Indoor Unit)

Description			Unit	HN1610H NK3
Operation Range (leaving water)	Heating, DHW	Min. - Max.	°CDB	25 - 80
	Quantity		EA	1
Compressor	Type		-	Hermetic Sealed Twin Rotary
	Type		-	R134a
Refrigerant	GWP (global warming potential)		-	1430.0
	Precharged Amount		g	1,800
	t-CO ₂ eq		-	2.574
Heat Exchanger	Water Circuit	Type	-	Brazed Plate HEX
		Water Volume	ℓ	1
	Refrigerant Circuit	Type	-	Brazed Plate HEX
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)
Rated Water Flow Rate (at LWT 35°C)			LPM	46
Sound Power Level	Heating	Rated	dB(A)	58 / 63 ¹⁾
Sound Pressure Level (at 1m)	Heating	Rated	dB(A)	50
Dimensions	Unit	W x H x D	mm	520 x 1,080 x 330
Weight	Unit		kg	84.0
Electrical Specification			Unit	HN1610H NK3
Power Supply	Voltage, Phase, Frequency		V, Ø, Hz	220 - 240, 1, 50
	Rated Running Current		A	9.8
	Recommended Circuit Breaker		A	25
Wiring Connections	Power Cable (included earth)		mm ² x cores	4.0 x 3C (H07RN-F)
	Communication Cable (included earth)		mm ² x cores	1.0 - 1.5 x 2C (VCTF-SB)
Accessory Kit of the Indoor Unit			Unit	HN1610H NK3
Remote Controller			-	RS3
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 (63dB(A)) is when 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. 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.
- Sound level values are measured at noise measuring chamber accordance with standard. Therefore, these values depend on the ambient conditions and values are normally higher in actual operation.
- Performances are based on the following conditions (It is according to EN14511):
 - Heating : inlet/outlet water temp. 30°C / 35°C, outdoor temp. 7°CDB / 6°CWB
 - Interconnected pipe length is 5m and difference of elevation (outdoor - indoor unit) is 0m.
- This product contains fluorinated greenhouse gases.

PRODUCT SPECIFICATION

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
	TC	TC	TC	TC	TC	TC	TC	TC	TC	TC
-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), 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.



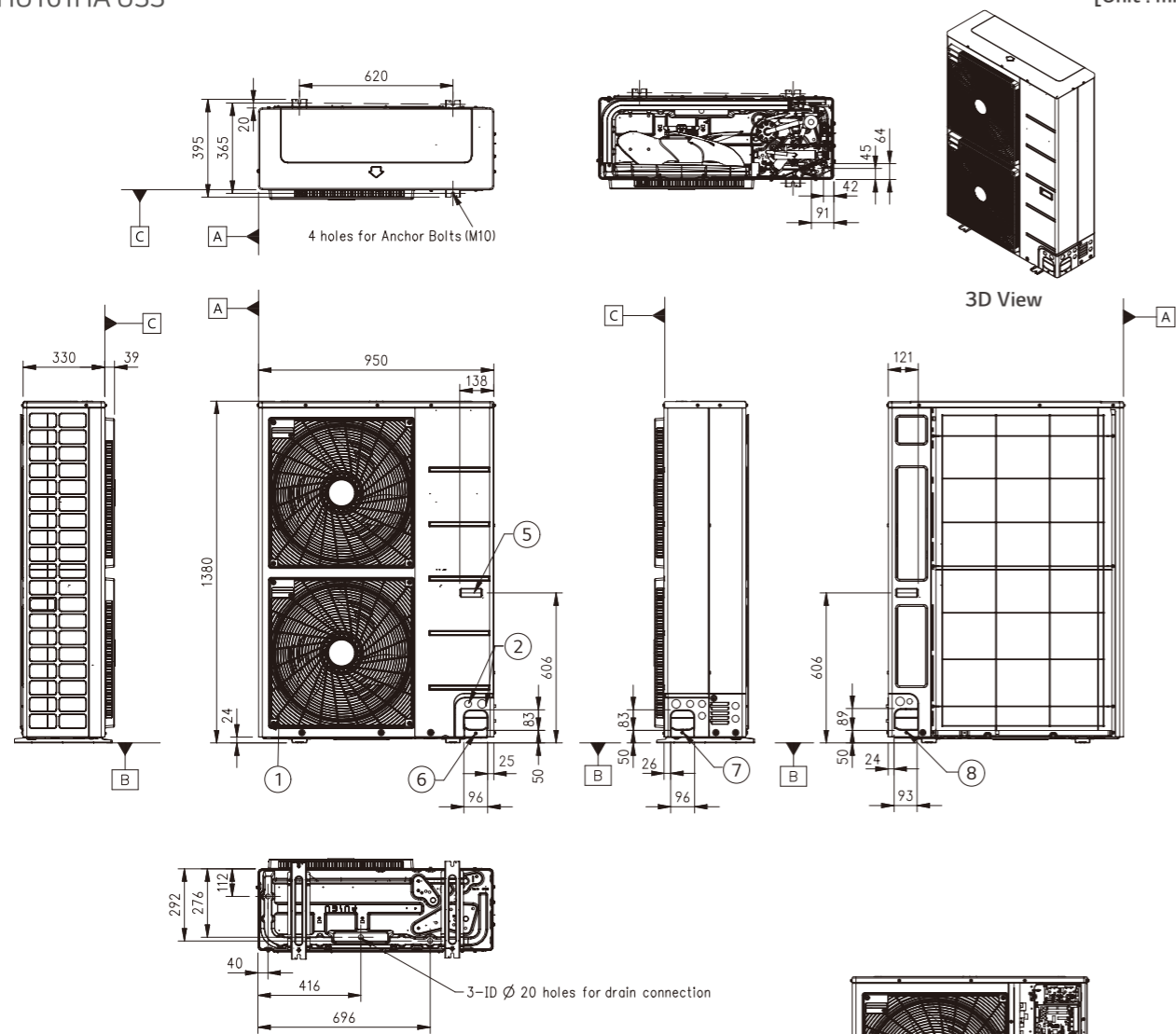
PRODUCT SPECIFICATION

Drawings

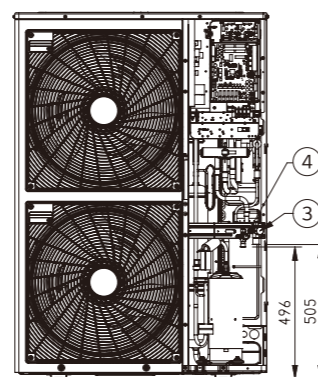
Category	Unit	Model Name
		Capacity (kW)
1 Phase Model 220 - 240V, 1Ø, 50Hz	Outdoor Unit	HU161HA U33
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		16.0

HU161HA U33

[Unit : mm]



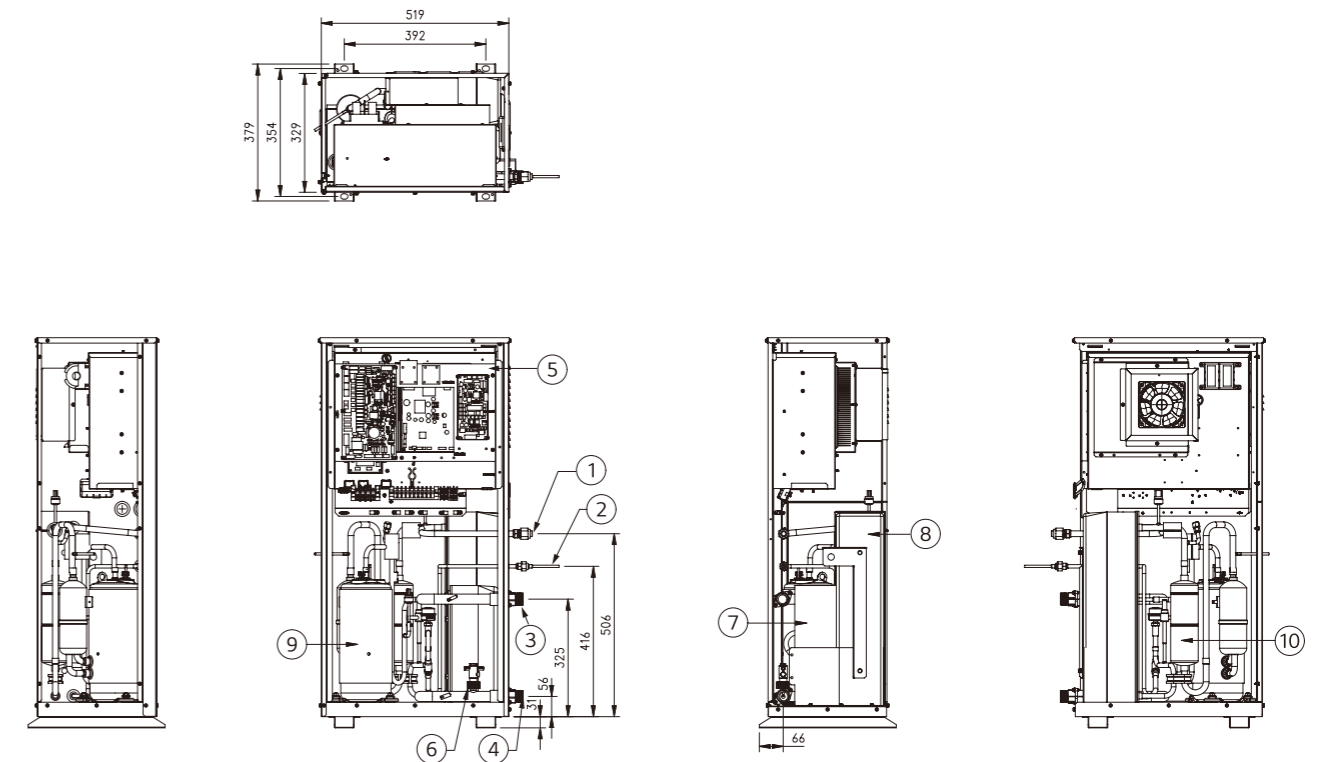
No.	Part Name	Description
1	Air Outlet	-
2	Power and Communication Cable Hole	-
3	Gas Pipe Connection	Flare joint
4	Liquid Pipe Connection	Flare joint
5	Handle	-
6	Pipe Routing Hole (front)	-
7	Pipe Routing Hole (side)	-
8	Pipe Routing Hole (back)	-



Piping Connection Port

HN1610H NK3

[Unit : mm]



No.	Part Name	Description
1	Refrigerant Pipe	Ø9.52 (mm)
2	Refrigerant Pipe	Ø15.88 (mm)
3	Leaving Water Pipe	Male PT 25mm (1 inch)
4	Entering Water Pipe	Male PT 25mm (1 inch)
5	Control Box	PCB and terminal blocks
6	Flow Switch	Minimum operation range at 15LPM
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