1. List of Functions

■ Basic functions of Unit

◆ Water Side

Category	Functions	ZHBW056A0 [HM051M U43] ZHBW076A0 [HM071M U43] / ZHBW096A0 [HM091M U43] ZHBW126A0 [HM121M U33] / ZHBW128A0 [HM123M U33] ZHBW146A0 [HM141M U33] / ZHBW148A0 [HM143M U33] ZHBW166A0 [HM161M U33] / ZHBW168A0 [HM163M U33]
Installation	Backup heater (Install kit)	O (Accessory)
Reliability	Self diagnosis	O
Convenience	Auto Restart	O
	Child lock*	O
	Sleep mode	O
	Timer (on/off)	O
	Timer (weekly)*	O
	Two thermistor control	X
Air to Water Heat Pump Functions	Anti-condensation on floor (cooling)	O
	Water pump on / off Control	O
	Flow switch control	O
	Thermostat interface (230V AC)	O
	Thermostat interface (24V AC)	X
	DHW(Domestic Hot Water) Tank heater kit (Install kit)	O (Accessory)
	Solar thermal kit interface with DHW Tank	O (Accessory)
	PHEX anti-freezing control	O
	Water pump forced operation	O
	Autosetting according to ambient temperature	O
	Slient operation	O
	Anti-overheating of water pipe	O
	Emergency operation	O
	Weather Dependent Operation with Thermostat	O
	Scheduler (DHW Tank Heater)	O
	Timer (Domestic Hot Water Tank Heater)	O
	Quick Domestic Hot Water Tank Heating	O
	Backup Heater Capacity Control	O
	Screed Drying Mode	O
	Sump Heater	O
	Base Pan Heater	O
	Dry Contact (Main PCB)	O

◆ Refrigerant Side

Category	Functions	ZHBW056A0 [HM051M U43] ZHBW076A0 [HM071M U43] ZHBW096A0 [HM091M U43] ZHBW126A0 [HM121M U33] ZHBW146A0 [HM141M U33] ZHBW166A0 [HM161M U33]	ZHBW128A0 [HM123M U33] ZHBW148A0 [HM143M U33] ZHBW168A0 [HM163M U33]
Reliability	Defrost / Deicing	O	O
	High pressure switch	O	O
	Low pressure switch	X	X
	Phase protection	X	O
	Restart delay (3-minutes)	O	O
	Self diagnosis	O	O
	Soft start	X	X
Convenience	Test function	X	X
	Night Low Noise Operation	O	O
	Wiring Error Check	X	X
	Peak Control	X	X
	Mode Lock	O	O
	Forced Cooling Operation (Outdoor Unit)	X	X
Network function	Network solution(LGAP)	O	O

Note

1. O : Applied, X : Not applied
   Accessory : Ordered and purchased separately the accessory package referring to the model name provided and install at field.
   Accessory line-ups varies by region, so check your local catalogue or local sales material.
2. * : These functions need to connect the wired remote controller.

1. List of Functions

■ Accessory Compatibility List

Category		Product	Remark	ZHBW056A0 [HM051M U43] ZHBW076A0 [HM071M U43] ZHBW096A0 [HM091M U43] ZHBW126A0 [HM121M U33] ZHBW146A0 [HM141M U33] ZHBW166A0 [HM161M U33] ZHBW128A0 [HM123M U33] ZHBW148A0 [HM143M U33] ZHBW168A0 [HM163M U33]
Dry Contact	Simple Contact	PDRYCB000	Simple Dry Contact	O
	Communication Type	PDRYCB400	2 Points Dry Contact (For Setback)	X
		PDRYCB300	8 Points Dry Contact (For Thermostat)	O
		PDRYCB500	Dry Contact for Modbus	X
ETC	Remote temperature sensor	PQRSTA0	-	O
	Zone Controller	ABZCA	-	X
	Electronic thermostat	AQETC	-	X
	CTI (Communication transfer interface)	PKEC0	-	X
	Group control wire	PZCWRCG3	0.25 m	X
	2-Remo Control Wire	PZCWRC2	0.25 m	X
	Extension wire	PZCWRC1	10 m	O
	Wi-Fi controller *	PWFMDD200	-	O
	Meter Interface Module	PENKTH000	Interface between IDU and Meter	O
Accessory Kit for AWHP	DHW tank kit (Split)	PHLTA	For Split	X
	DHW tank kit (Monobloc)	PHLTB	For Monobloc	O
	Solar thermal kit	PHLLA	-	O
	Backup heater	HA031M E1 / HA061M E1	-	O
	Drain pan	PHDPB	-	X
Central Controller	AC EZ	PQCSZ250S0	AC EZ	X
	AC Ez Touch	PACEZA000	AC Ez Touch	O
	AC Smart	PACS4B000	AC Smart IV	O
		PACS5A000	AC Smart 5	O
	ACP	PACP4B000	ACP IV	O
		PACP5A000	ACP 5	O
	AC Manager [1)]	PACM4B000	AC Manager IV	O
		PACM5A000	AC Manager 5	O
Gateway	IDU PI485	PHNFP14A0	Connected with Indoor Units	X
		PSNFP14A0	Connected with Indoor Units	X
	ODU PI485	PMNFP14A1	PI 485 Gateway	O
	BACnet	PQNFB17C0	ACP BACnet	O
	Lonworks	PLNWKB000	ACP Lonworks	O

Note

1. O: Possible, X: Impossible, - : Not applicable
2. * : Some advanced functions controlled by individual controller cannot be operated.
3. [1)] : ACP, AC Smart, ACP BACnet or ACP Lonworks is needed.
4. If you need more detail, please refer to the ***BECON*** PDB or the manual of product.
   (http://partner.lge.com/global : Home> Download> Manuals)

2. Specification

■ 1 phase Inverter (12 ~ 16 kW)

Nominal Capacity and Nominal Input					ZHBW126A0 [HM121M U33]	ZHBW146A0 [HM141M U33]	ZHBW166A0 [HM161M U33]
-	-	Outdoor Temp. (°C) DB / WB	Leaving Water Temp. (°C)	-			
Capacity	Cooling	35 / 24	18	kW	12.00	14.00	16.00
			7	kW	12.00	14.00	16.00
	Heating	7 / 6	35	kW	12.00	14.00	16.00
			55	kW	12.00	12.00	12.00
		2 / 1	35	kW	11.00	12.00	13.80
Power Input	Cooling	35 / 24	18	kW	2.61	3.26	4.00
			7	kW	4.44	5.38	6.40
	Heating	7 / 6	35	kW	2.61	3.11	3.64
			55	kW	4.29	4.29	4.29
		2 / 1	35	kW	3.13	3.42	3.94
EER	Cooling	35 / 24	18	W/W	4.60	4.30	4.00
			7	W/W	2.70	2.60	2.50
COP	Heating	7 / 6	35	W/W	4.60	4.50	4.40
			55	W/W	2.80	2.80	2.80
		2 / 1	35	W/W	3.52	3.51	3.50
SCOP (Low temp. Average)					4.45	4.45	4.45
SCOP (High temp. Average)					3.18	3.18	3.18

Electrical Specifications			ZHBW126A0 [HM121M U33]	ZHBW146A0 [HM141M U33]	ZHBW166A0 [HM161M U33]
Power Supply		V, Ø, Hz	220-240, 1, 50	220-240, 1, 50	220-240, 1, 50
Maximum Running Current	Cooling	A	35.0	35.0	35.0
	Heating	A	35.0	35.0	35.0
Peak Control Running Current	Cooling	A	25.0	25.0	25.0
	Heating	A	27.0	27.0	27.0
Rated Running Current	Cooling	A	11.6	14.4	17.7
	Heating	A	11.6	13.8	16.1
Wiring Connections	Power Supply Cable (included Earth, H07RN-F)	No × mm²	3 × 6.0	3 × 6.0	3 × 6.0

Technical Specifications				ZHBW126A0 [HM121M U33]	ZHBW146A0 [HM141M U33]	ZHBW166A0 [HM161M U33]
Sound Power Level	Heating	Rated	dB(A)	63	63	63
Dimensions	Unit	W × H × D	mm	1,239 × 1,450 × 390	1,239 × 1,450 × 390	1,239 × 1,450 × 390
	Packed Unit	W × H × D	mm	1,364 × 1,602 × 461	1,364 × 1,602 × 461	1,364 × 1,602 × 461
Weight	Unit		kg	130.0	130.0	130.0
	Packed Unit		kg	145.0	145.0	145.0

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 3741 standard.
   Therefore, these values can be increased owing to ambient conditions during operation.
4. Performances are accordance with EN14511.
   - Rated running current : Outdoor Temp. 7°CDB / 6°CWB, LWT 35℃
5. This product contains Fluorinated greenhouse gases.

* At least 40A circuit breaker can be used, but when using 3rd party product, connect external power.

2. Specification

Technical Specifications (Water side)				ZHBW126A0 [HM121M U33]	ZHBW146A0 [HM141M U33]	ZHBW166A0 [HM161M U33]
Operation Range (Leaving Water Temp.)	Cooling	Min. ~ Max.	°C DB	5 ~ 27	5 ~ 27	5 ~ 27
	Heating	Min. ~ Max.	°C DB	15 ~ 65	15 ~ 65	15 ~ 65
	DHW *	Min. ~ Max.	°C DB	15 ~ 80	15 ~ 80	15 ~ 80
Water Pump	Type		-	Canned type for hot water circulation		
	Model		-	UPML GEO 20-105 CHBL		
	Motor Type		-	BLDC		
	Steps of Pumping Performance		-	Variable speed 10% to 100%		
	Power input	Min. / Rated	W	14 / 140	14 / 140	14 / 140
	Water Flow Rate	Min. / Rated	ℓ/min	5.0 / 46.0	5.0 / 46.0	5.0 / 46.0
Heat Exchanger	Type		-	Brazed Plate HEX		
	Quantity		-	1	1	1
	Number of Plate		EA	76	76	76
	Water Volume		ℓ	1.0	1.0	1.0
	Water Flow Rate	Min. ~ Max.	ℓ/min	13 ~ 70	13 ~ 70	13 ~ 70
Expansion Vessel	Volume	Max.	ℓ	8	8	8
	Water pressure	Max.	bar	3	3	3
		Pre-charged	bar	1	1	1
Piping Connections	Inlet		mm(inch)	Male PT 25(1)		
	Outlet		mm(inch)	Male PT 25(1)		
Strainer	Mesh size		-	28 mesh	28 mesh	28 mesh
	Material		-	Stainless Steel		
Relief Valve	Pressure Limit	Upper Limit	bar	3.0	3.0	3.0
Devices for Water Circuit			-	Relief valve / Flow Swich		
			-	Drain hose / Shut Off Valve		
			-	Pressure gage / Air vent valve		

Technical Specifications (Refrigerant side)				ZHBW126A0 [HM121M U33]	ZHBW146A0 [HM141M U33]	ZHBW166A0 [HM161M U33]
Operation Range (Outdoor Temp.)	Cooling	Min. ~ Max.	°C DB	5 ~ 48	5 ~ 48	5 ~ 48
	Heating	Min. ~ Max.	°C DB	-25 ~ 35	-25 ~ 35	-25 ~ 35
Compressor	Type		-	Hermetic Sealed Scroll		
	Model		Model × No.	RJB036MAA × 1		
	Motor Type		-	BLDC		
	Displacement		cm³/Rev.	31.6	31.6	31.6
Refrigerant	Type		-	R32	R32	R32
	GWP (Global Warming Potential)		-	675.0	675.0	675.0
	Precharged Amount		g	2,400	2,400	2,400
	t-CO2 eq.		-	1.620	1.620	1.620
	Control		-	Electronic Expansion Valve		
Refrigerant Oil	Type		-	FW68D		
	Charged Volume		cc × No.	1,000	1,000	1,000
Fan	Type		-	Propeller		
	Air Flow Rate	Rated	m³/min × No.	60.0 × 2	60.0 × 2	60.0 × 2
Fan Motor	Type		-	BLDC	BLDC	BLDC
	Output		W × No.	124 × 2	124 × 2	124 × 2

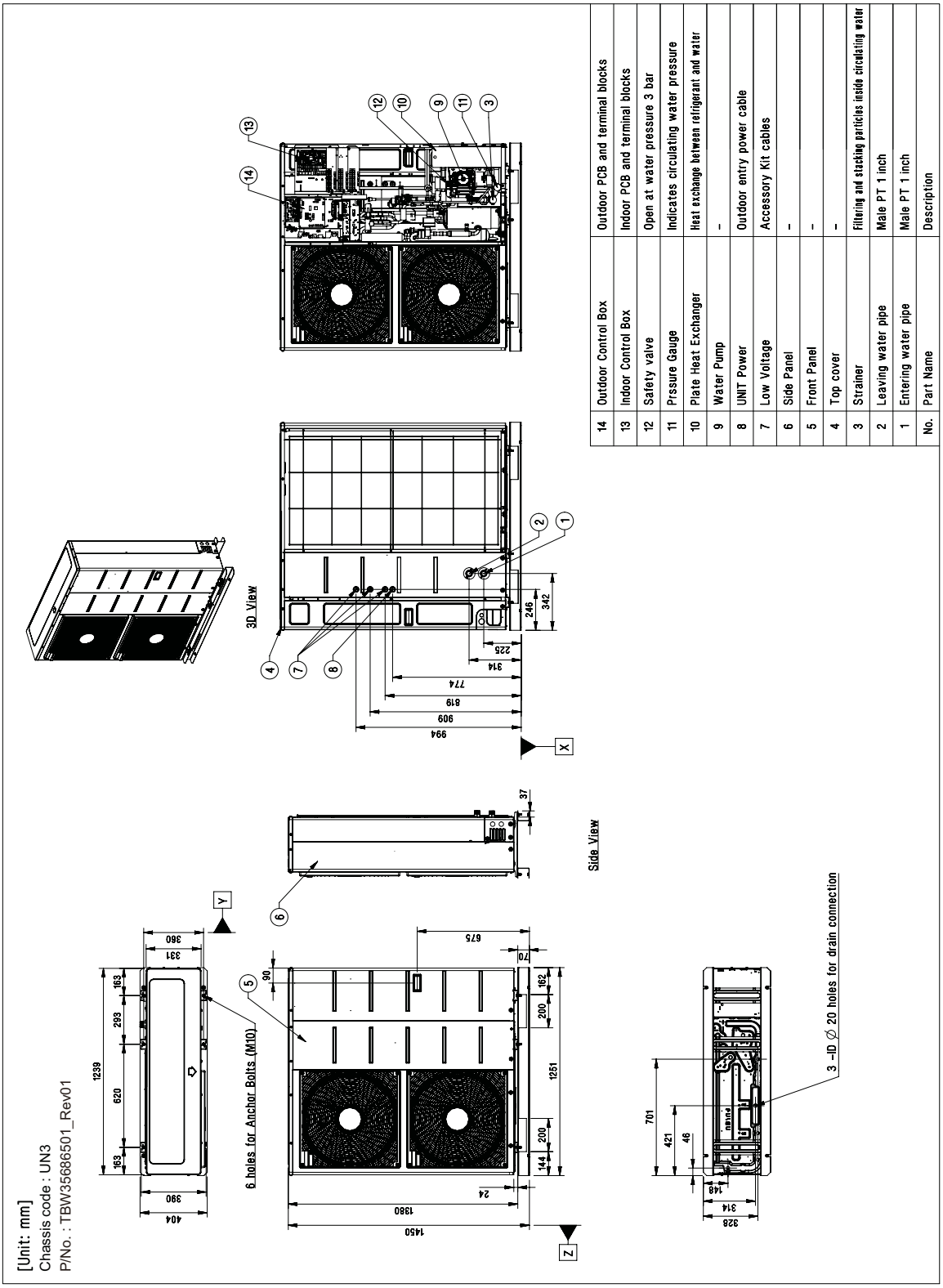
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3. Sound power level is measured on the rated condition in the reverberation rooms by ISO 3741 standard. Therefore, these values can be increased owing to ambient conditions during operation.
4. Performances are accordance with EN14511.
   - Rated running current : Outdoor Temp. 7°CDB / 6°CWB, LWT 35℃
5. This product contains Fluorinated greenhouse gases.

* DHW 55~80℃ Operating is available only when the booster heater is operating.

3. Dimensions

◆ ZHBW126A0 [HM121M U33] / ZHBW146A0 [HM141M U33] / ZHBW166A0 [HM161M U33] ZHBW128A0 [HM123M U33] / ZHBW148A0 [HM143M U33] / ZHBW168A0 [HM163M U33]



No.	Part Name	Description
14	Outdoor Control Box	Outdoor PCB and terminal blocks
13	Indoor Control Box	Indoor PCB and terminal blocks
12	Safety valve	Open at water pressure 3 bar
11	Pressure Gauge	Indicates circulating water pressure
10	Plate Heat Exchanger	Heat exchange between refrigerant and water
9	Water Pump	-
8	UNIT Power	Outdoor entry power cable
7	Low Voltage	Accessory Kit cables
6	Side Panel	-
5	Front Panel	-
4	Top cover	-
3	Strainer	Filtering and stacking particles inside circulating water
2	Leaving water pipe	Male PT 1 inch
1	Entering water pipe	Male PT 1 inch