LG

TOTAL HVAC SOLUTION PROVIDER

ENGINEERING PRODUCT DATA BOOK

Heat Pump Water Heater

R290

MFL66101133

LG Life's Good

Region : EU

Published on May 27, 2025

Heat Pump Water Heater

Product Data

1. Model line up

Category	Picture	Water Tank Volume [L]	Model Name
Heat Pump Water Heater		100	R6TS10H-EA0 [WH10ESF0.HA]
		150	R6TS15H-EA0 [WH15ESF0.HA]
		200	R6TS20C-EA0 [WH20ESF0.CA]

2. Specifications

Model Name		Unit	R6TS10H-EA0 [WH10ESF0.HA]	R6TS15H-EA0 [WH15ESF0.HA]
Capacity	Volume(Nominal)	L	100	150
	COP(7℃)_COP	-	2.70 (A+)	2.95 (A+)
	COP(7℃)_Daily electrical energy consumption	kWh	2.214	3.853
	COP(7℃)_V40	L	110	173
	Load Profile	-	Medium	Large
	Annual Energy Consumption(AEC) (15℃ / 7℃)	kWh	438(7℃)	812 (7℃)
Power Input	Upper Element (230V)	W	1,200	1,200
	Lower Element (230V)	W	-	-
	Heat Pump	W	370	370
	Max.	W	1,570	1,570
Annual Energy Consumption(AEC) (15℃ / 7℃)		-	438(7℃)	812 (7℃)
Power Supply		Ø, V, Hz	1, 230, 50	1, 230, 50
Available Voltage Range		V	195 ~ 265	195 ~ 265
Air Flow Rate	High/Low	CMM	3.6	3.6
Fan Speed	High/Low	RPM	900	900
Sound Pressure Level	Auto	dB(A)	38.0	38.0
	Turbo/Heat Pump	dB(A)	38.0	38.0
Sound Power Level	Outdoor / Indoor	dB(A)	49.0 / 45.0	49.0 / 45.0
Dimensions	Net(W x H x D)	mm	540 × 1,280 × 565	540 × 1,620 × 565
	Shipping(W x H x D)	mm	580 × 1,447 × 630	580 × 1,787 × 630
Weight	Net	kg	64	75
	Shipping	kg	82	94
Operation Range	Heating	℃ DB	-7 ~ 48	-7 ~ 48
Exterior Color (Code)		-	Essence white (RAL 9003)	Essence white (RAL 9003)
Compressor	Type	-	Constant speed rotary	Constant speed rotary
	Model	-	WHP00950PSV	WHP00950PSV
	Motor Type	-	PSC	PSC
	Locked Rotor Ampere(LRA)	A	7.3 (240V/50Hz)	7.3 (240V/50Hz)
	Oil Type	-	P-60M or equivalent	P-60M or equivalent
	Oil Charge	cc	150 ± 20	150 ± 20
	Manufacturer / Country of Origin	-	Highly / China	Highly / China
Fan	Type	-	Centrifugal fan	Centrifugal fan
	Motor Type	-	BLDC	BLDC
	Motor Output	W	15	15
Heat Exchanger	Quantity	EA	1	1
	Rows x Columns x FPI	-	2 x 17 x 16	2 x 17 x 16
Design Pressure(System)	High Side	kPa	3,000	3,000
	Low Side	kPa	1,500	1,500
Max Working Pressure(Water Tank)		kPa	800	800
Recommended circuit breaker (ELCB)	Heat Pump & Heater	A	16	16
Wiring Connections	Power Supply Cable(included Earth)	mm^2 × cores	1.5 x 3C	1.5 x 3C
Drain Hose Size	I.D	mm	15	15

2. Specifications

Model Name		Unit	R6TS10H-EA0 [WH10ESF0.HA]	R6TS15H-EA0 [WH15ESF0.HA]
Refrigerant	Type	-	R290	R290
	Pre Charge	g	148	148
	Additional Charge	g/m	-	-
	Control	-	Electronic Expansion Valve	Electronic Expansion Valve
	t-CO2 eq.	-	0.000444	0.000444
	GWP	-	3	3
Defrost Method		-	Reverse Cycle	Reverse Cycle
Anode		-	ICCP + Mg Anode	ICCP + Mg Anode
Foam Insulation		mm	50	50
T&P Relief Valve		-	P valve	P valve
Water Connection Location		-	Bottom	Bottom
Water Connection Size		inch	G 1/2	G 1/2
Digital Display		-	O	O
Wi-Fi		-	O	O
SG Ready		-	O	O

Note

1. - : No Relation
2. For Circuit Breaker Rating, please conform to local standards whenever necessary.
3. Some specifications may be changed without notifications due to out policy of innovation.
4. Test conditions are based on EN16147 and EN12102.
5. COP at Air 7°C water 10°C with duct.
   COP at Air 15°C water 10°C without duct.

2. Specifications

Model Name		Unit	R6TS20C-EA0 [WH20ESF0.CA]
Capacity	Volume(Nominal)	L	200
	COP(15℃)_COP	-	3.20 (A+)
	COP(15℃)_Daily electrical energy consumption	kWh	3.652
	COP(15℃)_V40	L	245
	Load Profile	-	Large
	Annual Energy Consumption(AEC) (15℃ / 7℃)	kWh	770 (15°C)
Power Input	Upper Element (230V)	W	2,000
	Lower Element (230V)	W	-
	Heat Pump	W	580
	Max.	W	2,580
Annual Energy Consumption(AEC) (15℃ / 7℃)		-	770 (15°C)
Power Supply		Ø, V, Hz	1, 230, 50
Available Voltage Range		V	195 ~ 265
Air Flow Rate	High/Low	CMM	4.5
Fan Speed	High/Low	RPM	1,400
Sound Pressure Level	Auto	dB(A)	38.0
	Turbo/Heat Pump	dB(A)	38.0
Sound Power Level	Outdoor / Indoor	dB(A)	- / 53.0
Dimensions	Net(W x H x D)	mm	600 × 1,708 × 608
	Shipping(W x H x D)	mm	660 × 1,894 × 660
Weight	Net	kg	92
	Shipping	kg	115
Operation Range	Heating	°C DB	-7 ~ 43
Exterior Color (Code)		-	Essence white (RAL 9003)
Compressor	Type	-	Constant speed rotary
	Model	-	WHP01750PSV-H3BUA
	Motor Type	-	PSC
	Locked Rotor Ampere(LRA)	A	12 (240V/50Hz)
	Oil Type	-	PAG or equivalent
	Oil Charge	cc	150 ± 20
	Manufacturer / Country of Origin	-	Highly / China
Fan	Type	-	Centrifugal fan
	Motor Type	-	BLDC
	Motor Output	W	30
Heat Exchanger	Quantity	EA	1
	Rows x Columns x FPI	-	3 x 16 x 16
Design Pressure(System)	High Side	kPa	3,000
	Low Side	kPa	1,500
Max Working Pressure(Water Tank)		kPa	1,000
Recommended circuit breaker (ELCB)	Heat Pump & Heater	A	16
Wiring Connections	Power Supply Cable(included Earth)	mm^2 × cores	2.5 x 3C
Drain Hose Size	I.D	mm	19

2. Specifications

Model Name		Unit	R6TS20C-EA0 [WH20ESF0.CA]
Refrigerant	Type	-	R290
	Pre Charge	g	150
	Additional Charge	g/m	-
	Control	-	Electronic Expansion Valve
	t-CO2 eq.	-	0.000450
	GWP	-	3
Defrost Method		-	Reverse Cycle
Anode		-	ICCP
Foam Insulation		mm	50
T&P Relief Valve		-	T&P valve
Water Connection Location		-	Side
Water Connection Size		inch	G 3/4
Digital Display		-	O
Wi-Fi		-	O
SG Ready		-	O

Note

1. - : No Relation
2. For Circuit Breaker Rating, please conform to local standards whenever necessary.
3. Some specifications may be changed without notifications due to out policy of innovation.
4. Test conditions are based on EN16147 and EN12102.
5. COP at Air 7°C water 10°C with duct.
   COP at Air 15°C water 10°C without duct.

3. List of functions

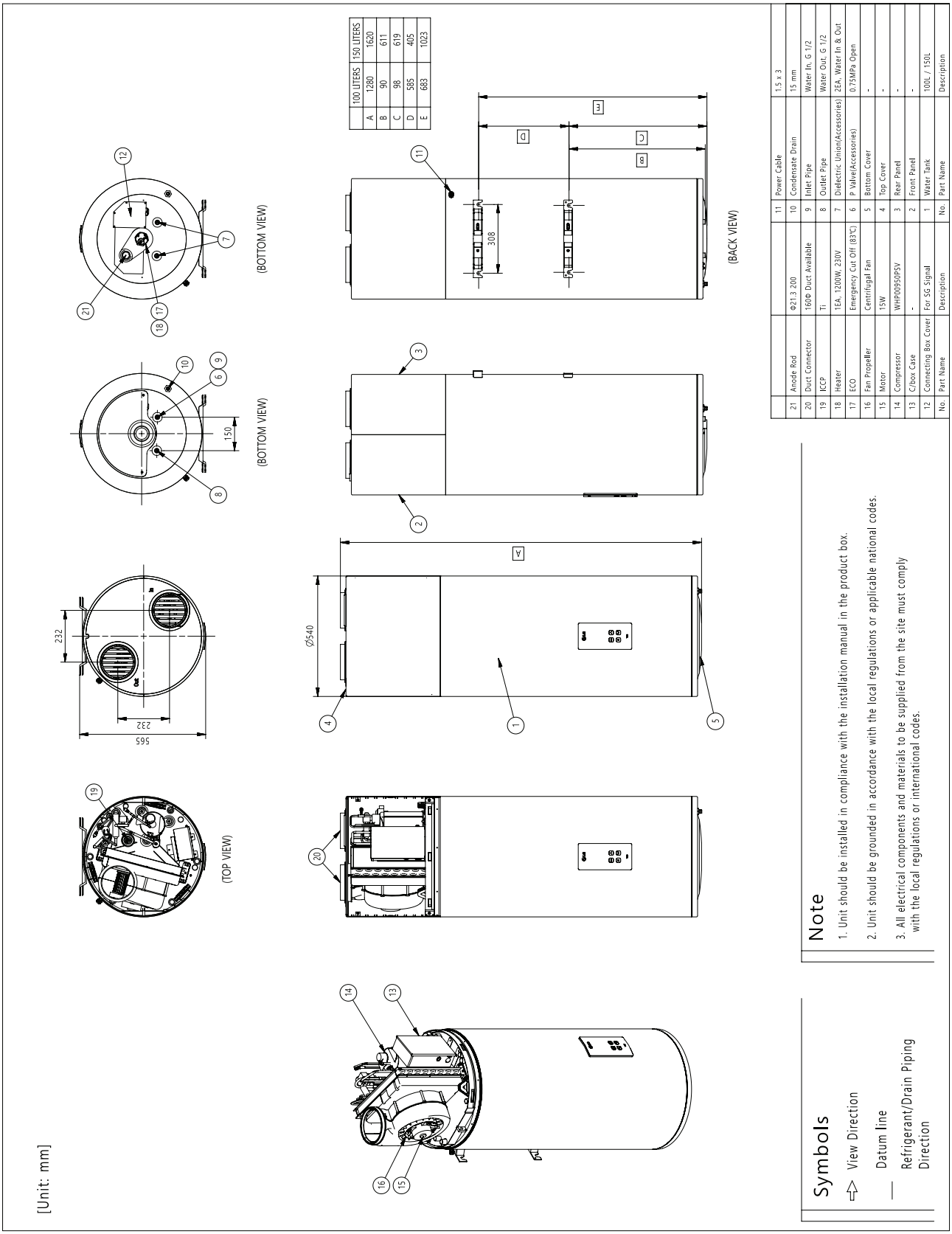
Category	Functions	Description	R6TS10H-EA0 [WH10ESF0.HA] R6TS15H-EA0 [WH15ESF0.HA] R6TS20C-EA0 [WH20ESF0.CA]
Air Purifying	Prefilter (Washable)	Capture dust particles.	O
Reliability	Self diagnosis	Self-diagnostic for product protection.	O
	Defrost control (De-ice)	This mode will de-ice the evaporator automatically.	O
Convenience	Heat Pump mode	This mode minimizes power consumption by using only heat pump for heating.	O
	Auto mode	This mode provides relatively low power consumption and high recovery.	O
	Turbo mode	This mode provides the highest recovery.	O
	Vacation mode	In this mode, tank temperature will be maintained at about 20°C to minimize energy consumption and prevent the HPWH from freezing.	O
	Schedule	The customer can set up operation time and mode with ThinQ based on their demand conditions.	O
	Auto restart operation	If power is resupplied after blackout, product restarts automatically.	O
	Two thermistor control 1	If there is a temperature difference between water tank temperature and desired temperature, the customer can use this function in other to prevent insufficient cooling and heating.	O
	Overheating protection	If there is a temperature difference between water tank temperature and desired temperature, the customer can use this function in order to prevent over-heating.	O
	Indoor unit display type	-	Number Display
	Anti-legionella	If the set temperature is less than 60 ℃, the heat pump will automatically start disinfection within 7 days. If the set temperature is greater than or equal to 60 ℃, the disinfection operation will not begin.	O
	Duct mode	The fan RPM will be higher if a duct is installed.	X
Special Function Kit	Wi-Fi 2	Easily access and control a water heater's functions from anywhere.	Embedded
	Water level sensor connection 2	Detect the water level in drain pan.	X
	Smart inverter monitoring system(SIMs) 2	Helps the customer to easily monitor, diagnose the heat pump and get a quick resoultion.	X
Others	Temperature control	Basic cycle control method	Thermistor

Note

1. These functions must be applied according to the model. Please refer to the follow ing function list for each model.
2. 1 : This function can be operated only w hen the w ired remote controller is connected. The applicability of each function depends on the above table.
3. 2 : Optional accessories must be purchased separately. If show n as "Embedded", this function is included in product.
4. The function Wi-Fi is only compatible w ith 2.4 GHz band. (802.11 b/g/n)
5. Some specifications may be changed w ithout notification due to our policy of innovation.

4. Dimensions

■ Models : R6TS10H-EA0 [WH10ESF0.HA], R6TS15H-EA0 [WH15ESF0.HA]

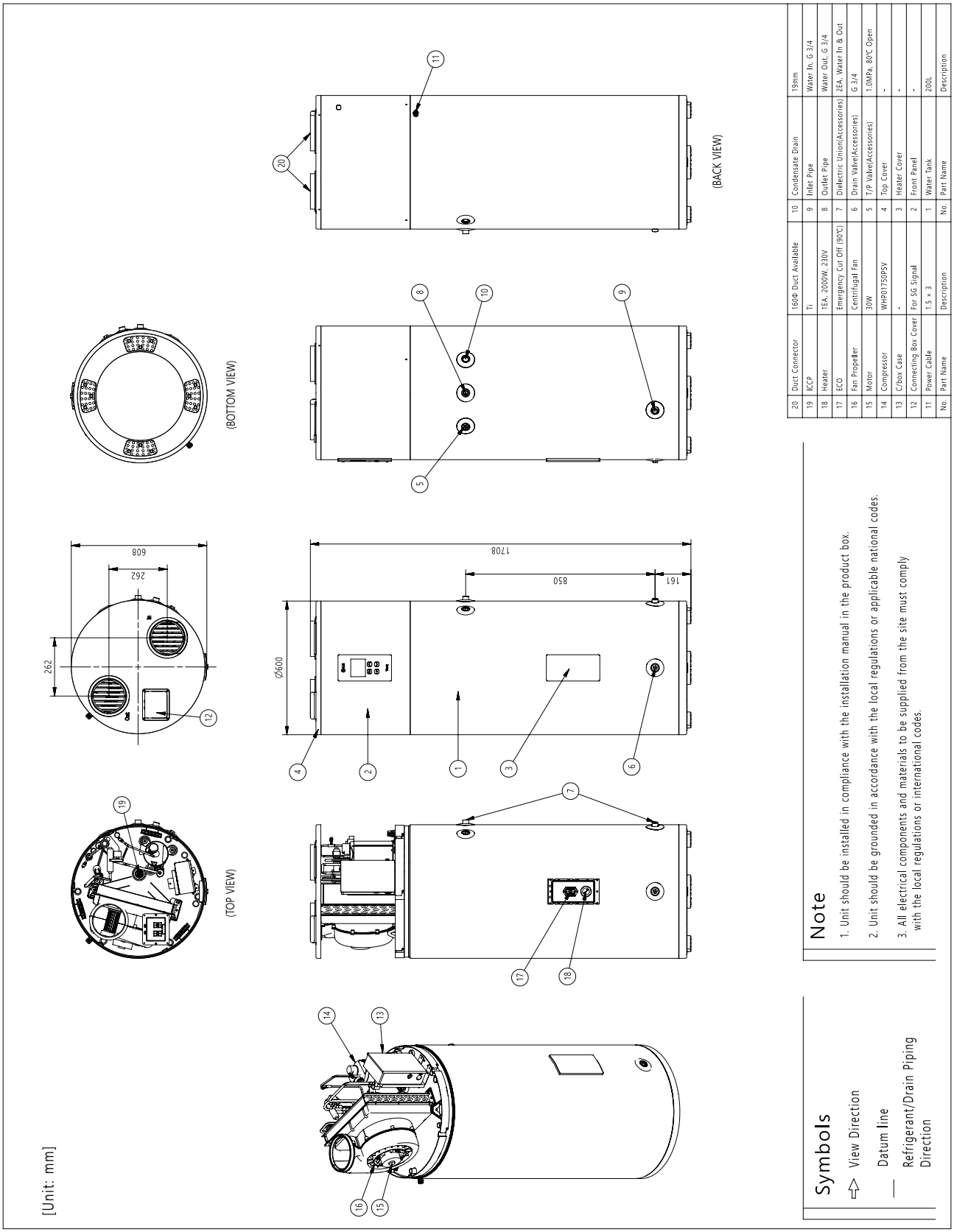


	100 LITERS	150 LITERS
A	1280	1620
B	90	611
C	98	619
D	585	405
E	683	1023

No.	Part Name	Description
21	Anode Rod	Φ21.3 200
20	Duct Connector	160Φ Duct Available
19	ICCP	Ti
18	Heater	1EA, 1200W, 230V
17	ECO	Emergency Cut Off (83℃)
16	Fan Propeller	Centrifugal Fan
15	Motor	15W
14	Compressor	WHP009S0P5V
13	C/box Case	-
12	Connecting Box Cover	For SG Signal
11	Power Cable	1.5 x 3
10	Condensate Drain	15 mm
9	Inlet Pipe	Water In, G 1/2
8	Outlet Pipe	Water Out, G 1/2
7	Dielectric Union(Accessories)	2EA, Water In & Out
6	P Valve(Accessories)	0.75MPa Open
5	Bottom Cover	-
4	Top Cover	-
3	Rear Panel	-
2	Front Panel	-
1	Water Tank	100L / 150L
No.	Part Name	Description

4. Dimensions

■ Models : R6TS20C-EA0 [WH20ESF0.CA]



No.	Part Name	Description
20	Duct Connector	160Φ Duct Available
19	ICCP	Ti
18	Heater	1EA, 2000W, 230V
17	ECO	Emergency Cut Off (90℃)
16	Fan Propeller	Centrifugal Fan
15	Motor	30W
14	Compressor	WHP01750PSV
13	C/box Case	-
12	Connecting Box Cover	For SG Signal
11	Power Cable	1.5 x 3
10	Condensate Drain	19mm
9	Inlet Pipe	Water In, G 3/4
8	Outlet Pipe	Water Out, G 3/4
7	Dielectric Union(Accessories)	2EA, Water In & Out
6	Drain Valve(Accessories)	G 3/4
5	T/P Valve(Accessories)	1.0MPa, 80℃ Open
4	Top Cover	-
3	Heater Cover	-
2	Front Panel	-
1	Water Tank	200L

Note

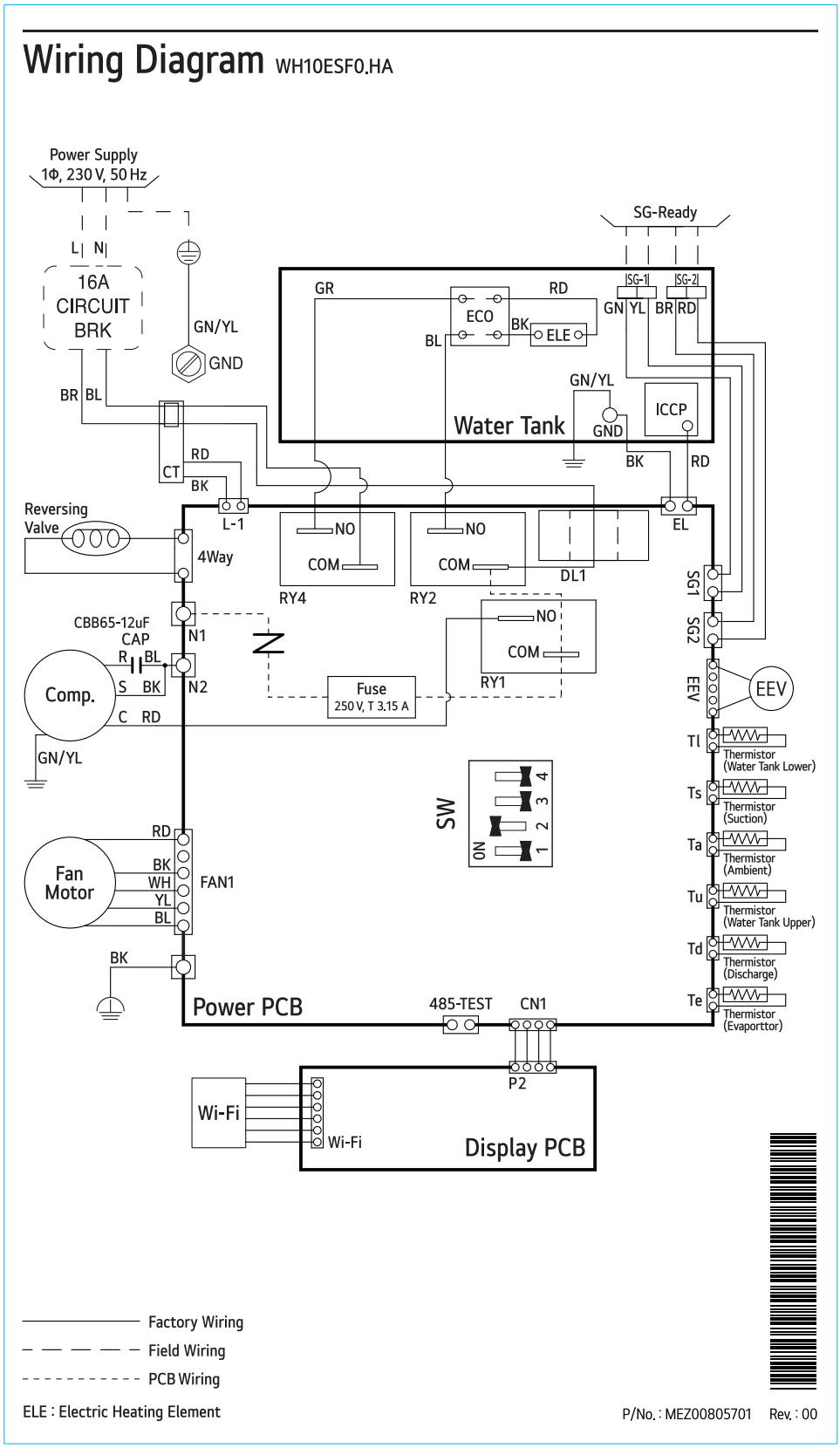
1. Unit should be installed in compliance with the installation manual in the product box.
2. Unit should be grounded in accordance with the local regulations or applicable national codes.
3. All electrical components and materials to be supplied from the site must comply with the local regulations or international codes.

Symbols

- ⇦ View Direction
- Datum line
- — Refrigerant/Drain Piping Direction

5. Wiring Diagrams

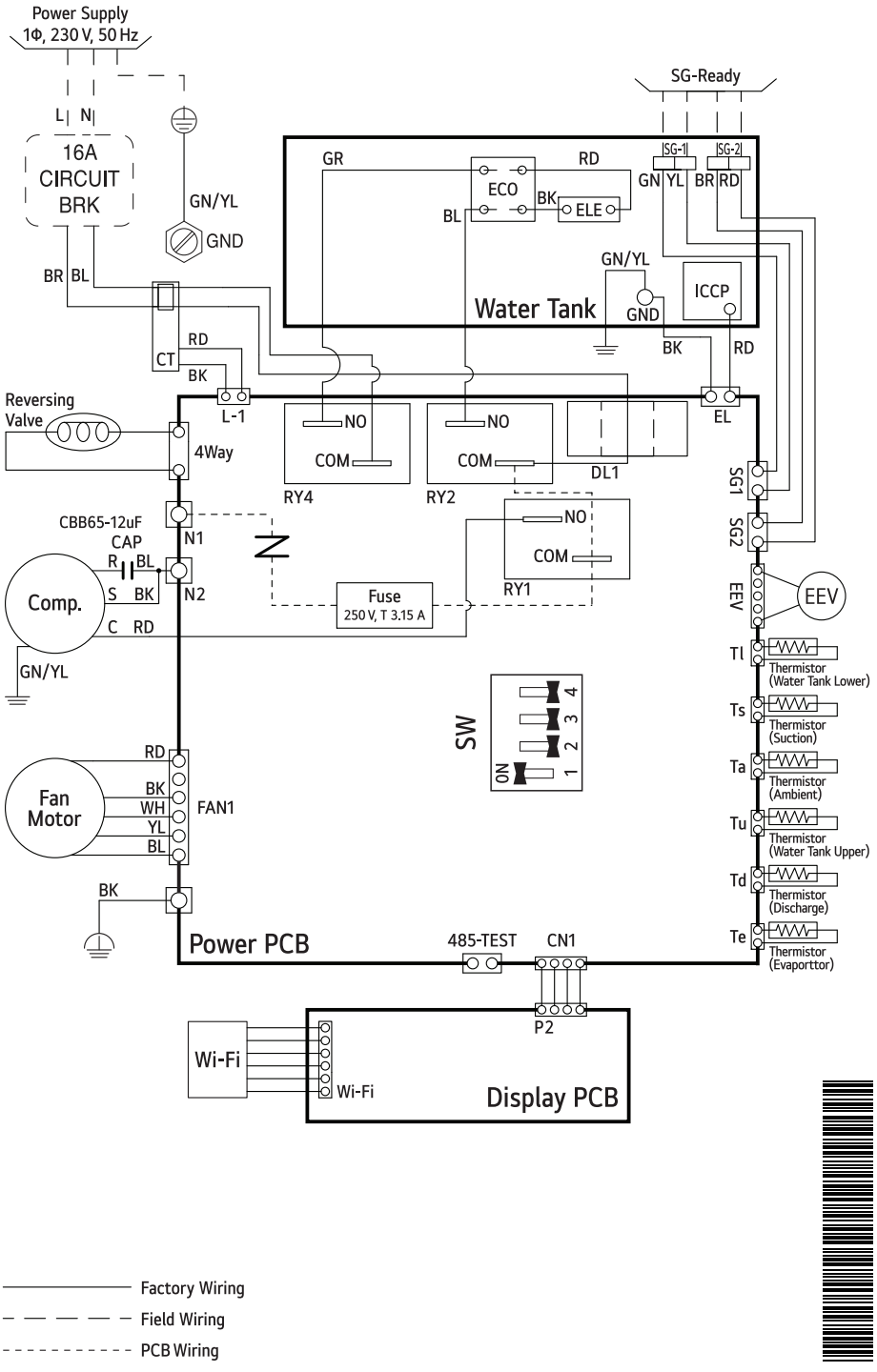
■ Models : R6TS10H-EA0 [WH10ESF0.HA]



5. Wiring Diagrams

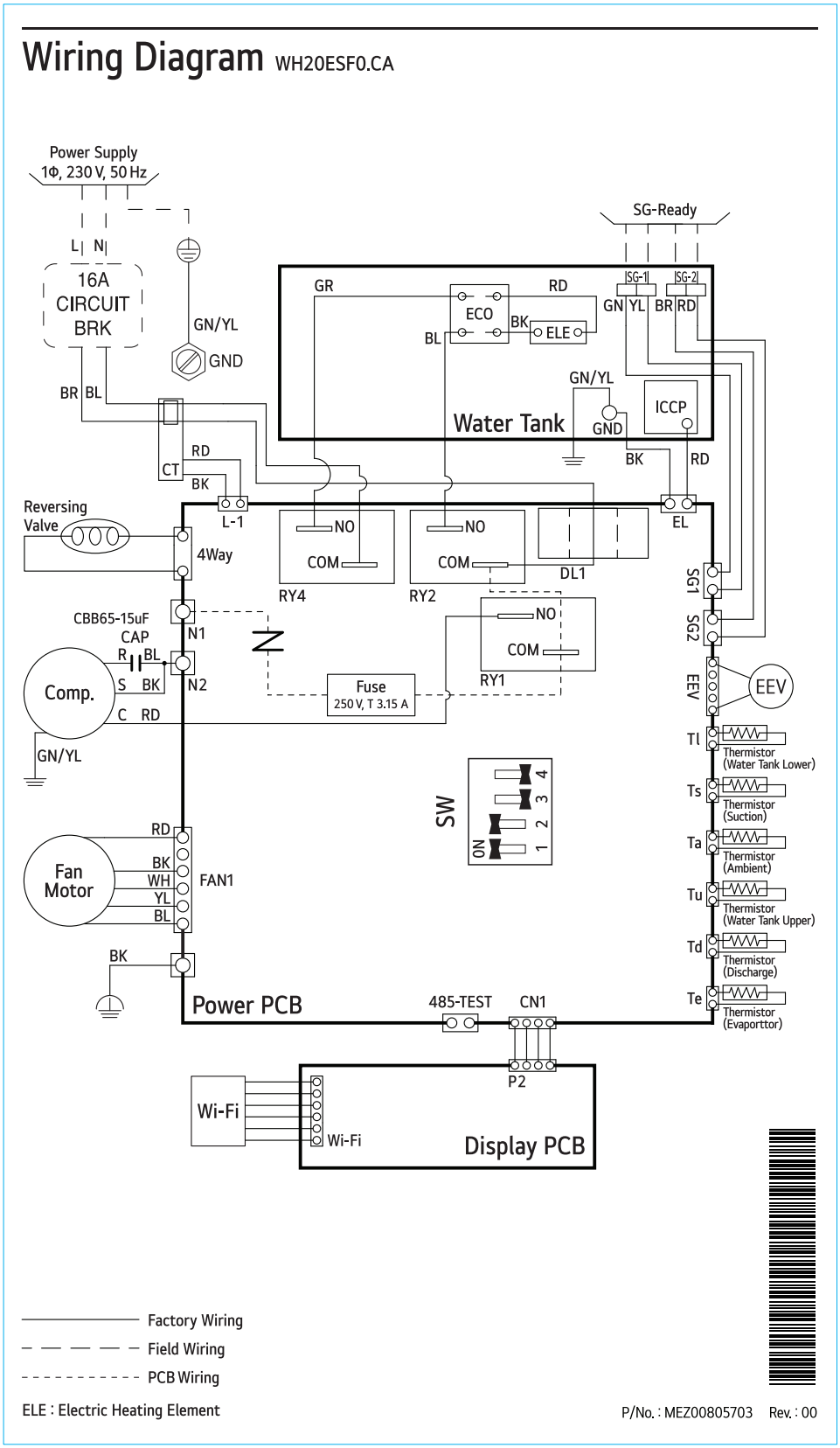
■ Models : R6TS15H-EA0 [WH15ESF0.HA]

Wiring Diagram WH15ESF0.HA



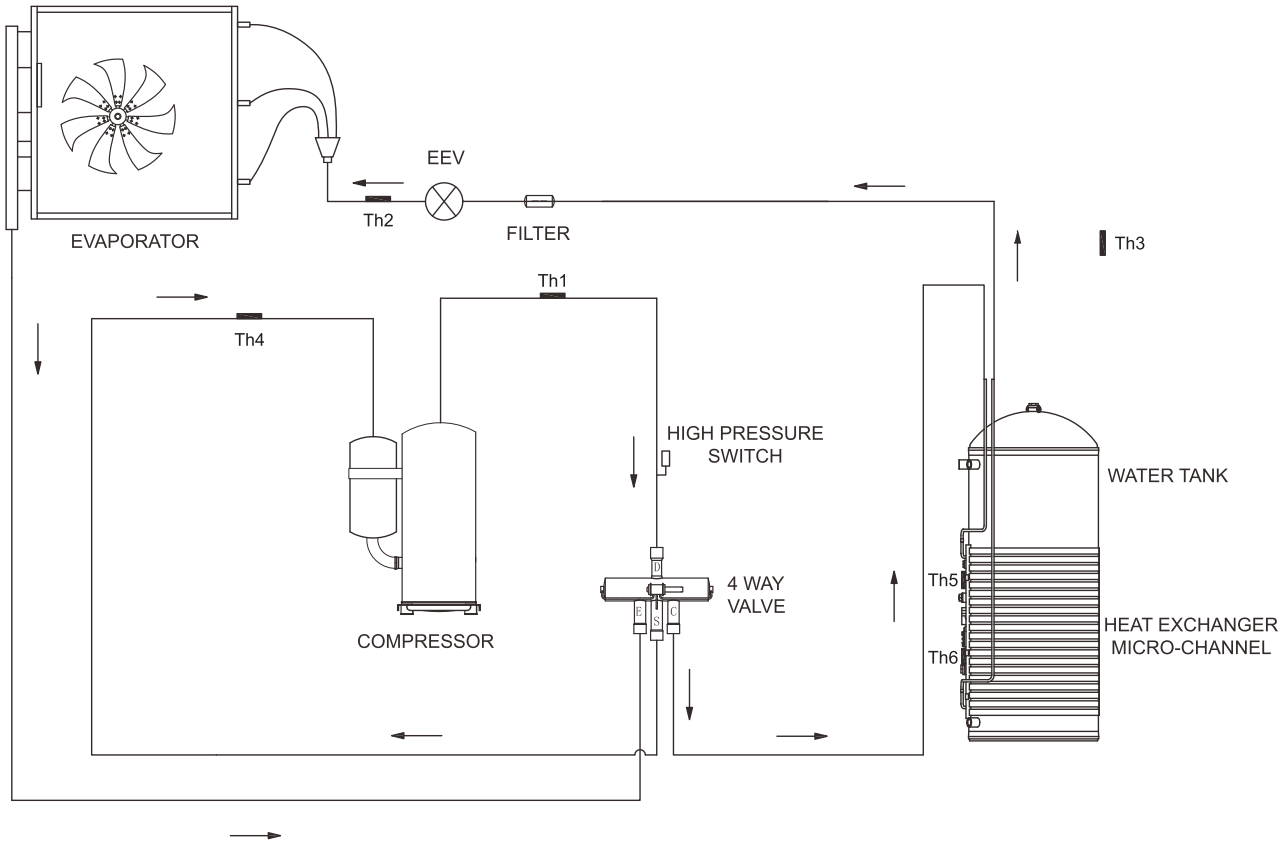
5. Wiring Diagrams

■ Models : R6TS20C-EA0 [WH20ESF0.CA]



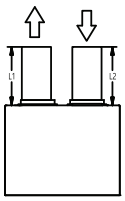
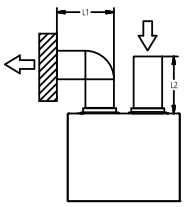
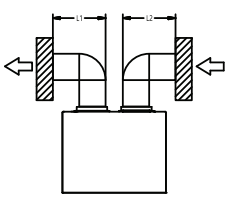
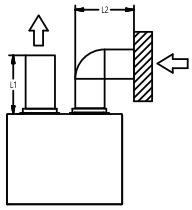
6. Piping diagrams

■ Models : R6TS10H-EA0 [WH10ESF0.HA], R6TS15H-EA0 [WH15ESF0.HA], R6TS20C-EA0 [WH20ESF0.CA]



LOC	Description	PCB Connector
Th1	Thermistor for discharge pipe temperature	Td
Th2	Thermistor for evaporating temperature	Te
Th3	Thermistor for indoor air temperature	Ta
Th4	Thermistor for suction pipe temperature	Ts
Th5	Thermistor for upper water tank temperature	Tu
Th6	Thermistor for lower water tank temperature	Tl

7. Maximum Duct Length

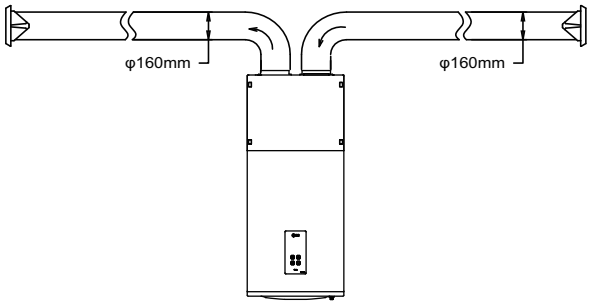
Type					
100L/150L Wall-mounted units Maximum piping length L1 exhaust + L2 intake	Ø150(PVC)	16 m	13 m	10 m	13 m
	Ø160(PVC)	21 m	17 m	13 m	17 m
	Ø180(PVC)	28 m	24 m	20 m	24 m
	Ø200(PVC)	50 m	43 m	37 m	43 m
200L floor unit Maximum piping length L1 exhaust + L2 intake	Ø150(PVC)	20 m	17 m	14 m	17 m
	Ø160(PVC)	26 m	22 m	18 m	22 m
	Ø180(PVC)	35 m	31 m	27 m	31 m
	Ø200(PVC)	62 m	56 m	50 m	56 m

Note

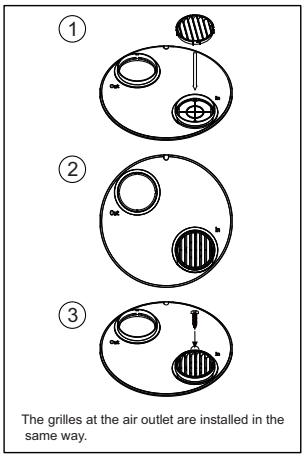
1. Pressure drops from duct must be lower than or equal to the static pressure of the fan.
2. If the pressure drops out of range, the performance of the appliance will be impaired.
3. To ensure the performance of the machine, the maximum length of the air duct should not exceed the values specified in the table.
4. It is recommended that an air grille with a mosquito net be installed at the air inlet of the air guide duct. Ventilation area not less than 150cm².

◆ Air connection

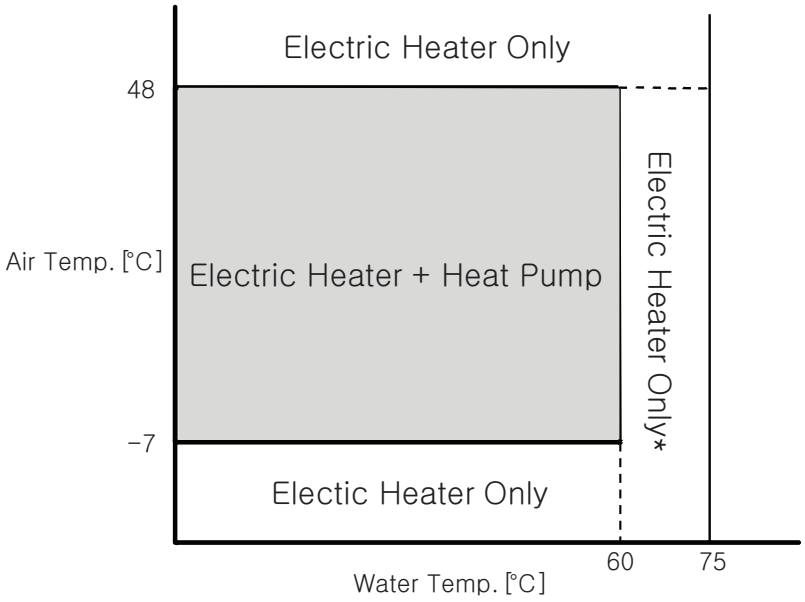
If the user intends to install the air duct, it is recommended not to install the grille, because the installation of the grille will affect the air flow in and out, affecting the energy efficiency of the machine; If the user does not install the air duct, you must install a grille, which can prevent foreign objects from entering the machine.



◆ How to install a grille when duct is not installed



8. Operation Range



Note

* Operating at 60~75℃ is only possible in Turbo mode

9. Sound Levels

9.1 Sound Pressure Levels

Note

1. Sound measured at 2 m away from the unit.
2. Data is valid at free field condition.
3. Data is valid at nominal operation condition.
4. Reference accoustic pressure 0dB = 20μPa.
5. Sound level will vary depending on a range of factors such as the construction (acoustic absorption coefficient) of particular room in which the equipment is installed.
6. The operating conditions are assumed to be standard.
7. Sound pressure level is measured on the rated condition in the anechoic rooms by EN12102 standard.
8. Sound level is measured in an anechoic room and may be different according to the test condition or equipment.

Model	Sound Pressure Levels [dB(A)]
R6TS10H-EA0 [WH10ESF0.HA]	38.0
R6TS15H-EA0 [WH15ESF0.HA]	38.0
R6TS20C-EA0 [WH20ESF0.CA]	38.0

9. Sound Levels

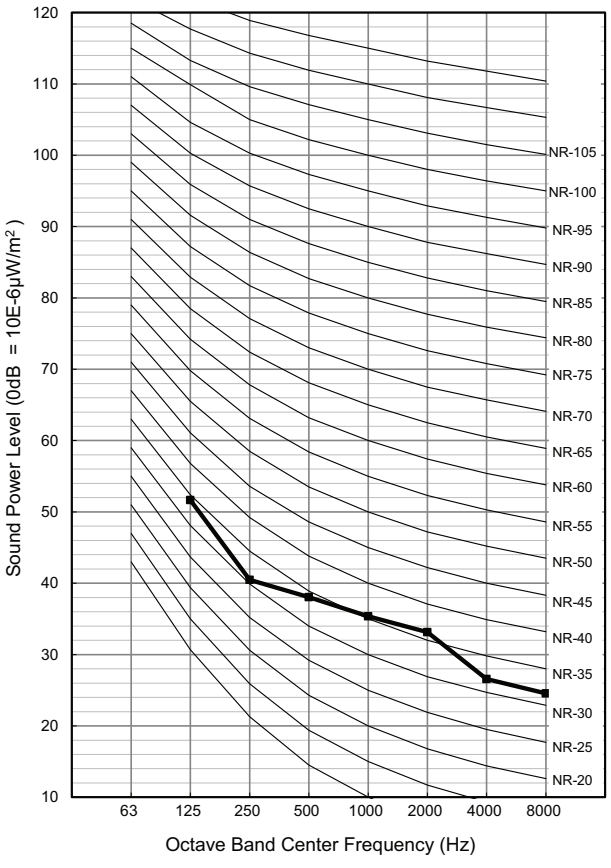
9.2 Sound Power Levels

Note

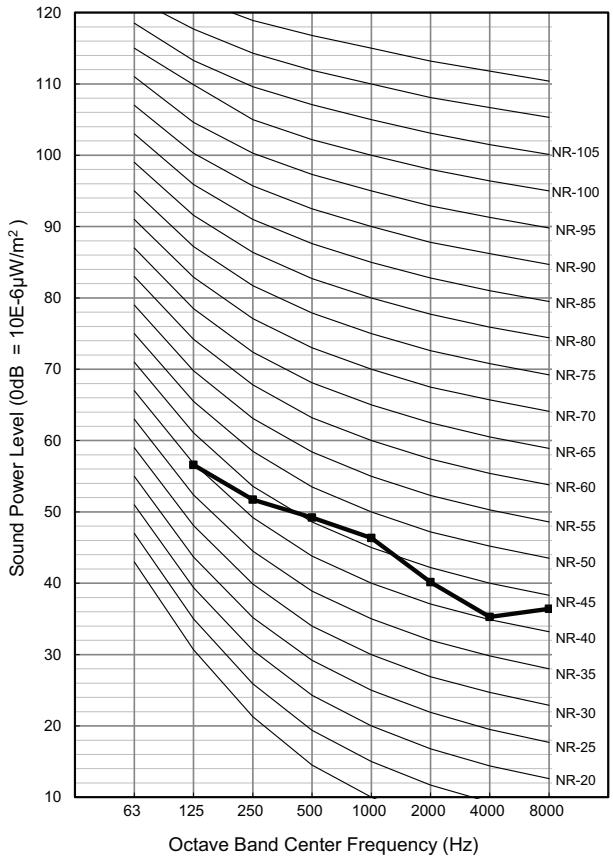
1. Data is valid at diffuse field condition.
2. Data is valid at nominal operation condition.
   Refer to the Model Specifications for nominal conditions(Power source and Ambient temperature, etc)
3. Sound level can be increased in static pressure mode or used air guide.
4. Sound level will vary depending on a range of factors such as the construction (acoustic absorption coefficient).
5. Reference acoustic intensity 0dB = 10E-6μW/m^2
6. The primary measurement method used is EN 12102-2:2019. This standard relates to the acoustical standard EN ISO 3741:2010.

Model	Sound Power Levels [dB(A)]
R6TS10H-EA0 [WH10ESF0.HA]	45.0
R6TS15H-EA0 [WH15ESF0.HA]	45.0
R6TS20C-EA0 [WH20ESF0.CA]	53.0

R6TS10H-EA0 [WH10ESF0.HA]
R6TS15H-EA0 [WH15ESF0.HA]



R6TS20C-EA0 [WH20ESF0.CA]



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