Latin America

LG INVERTER
SINGLE PACKAGE (HEAT PUMP)

LG Business Solutions

LG Electronics

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WHY
LG INVERTER
SINGLE PACKAGE?

NEW

WORLD'S FIRST 25RT HEAT PUMP

LG launches the world's first 25RT Inverter Heat pump Single package

NEW

CONVENIENCE

Direct drive fan motor
Easy set-up method (by ESP function)

NEW

ULTIMATE PERFORMANCE

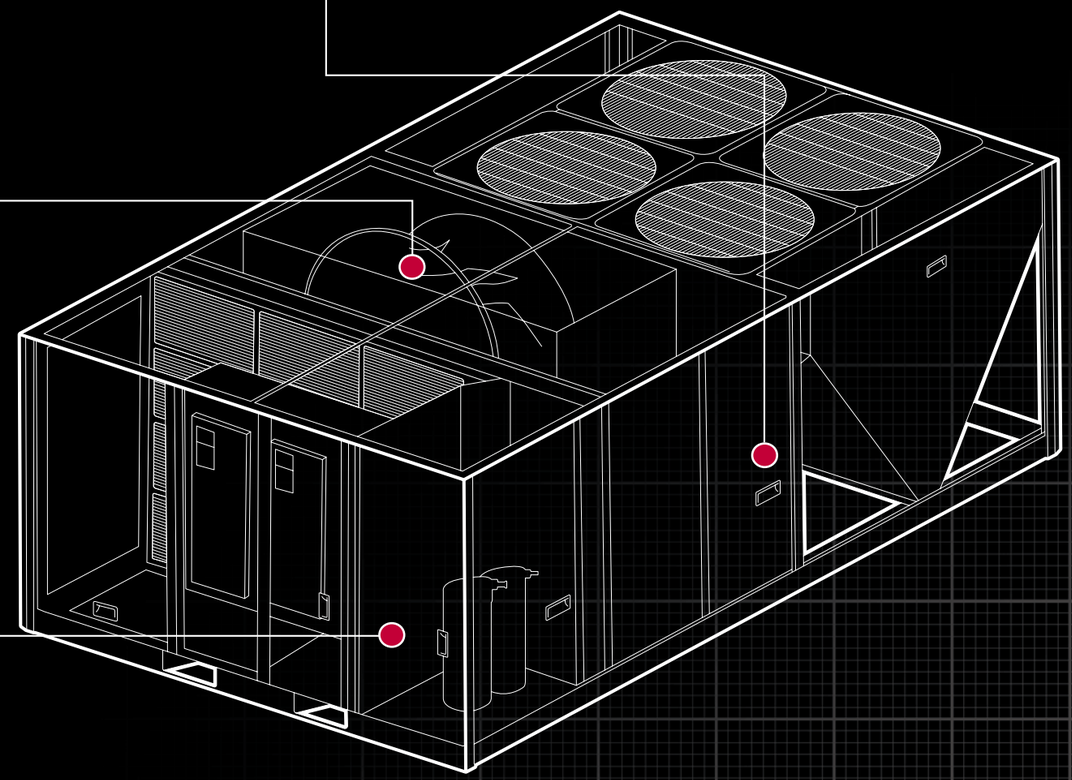
High efficient ultimate inverter compressor
Applied BLDC motors for all fans
Highest level *IEER 18.3

* The value is based on 25RT model.

NEW

EASY ACCESS

Hinged doors made it easy to service components
3rd party compatible 2 inch filter



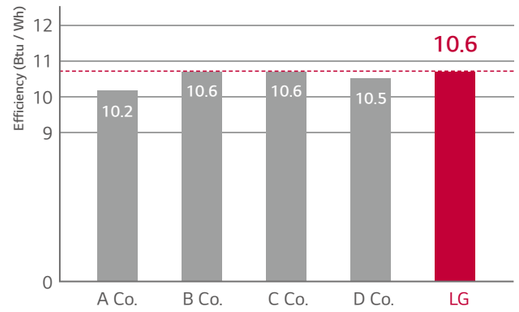
HIGH EFFICIENCY

Highest Level IEER
High Partial Load Efficiency
Energy Savings with Linear Control
High Efficiency Heat Pump
Annual Energy Savings Estimation
Payback
Dual Sensing Control

HIGHEST LEVEL IEER

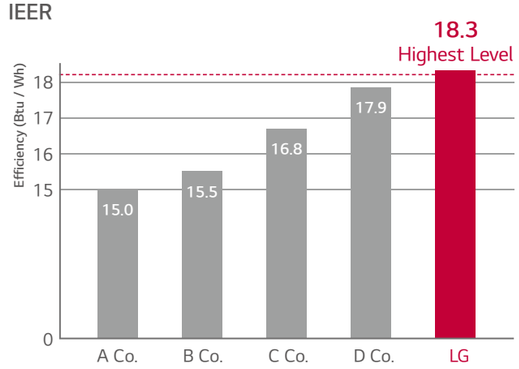
LG inverter single package achieved a high efficiency of IEER 18.3 with all inverter technology.

EER



※ Control method of cooling operation
- A Company : 4 stage control
- B Company : 4 stage control
- C Company : 2 stage control
- D Company : 2 stage control
- LG : Inverter control

IEER



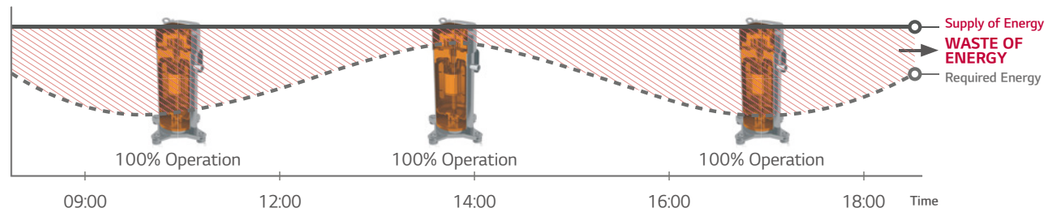
※ The values are based on registered models of AHRI ('19.02)
- AHRI Type : SP-A, HSP-A
- Capacity : 25RT

HIGH PARTIAL LOAD EFFICIENCY

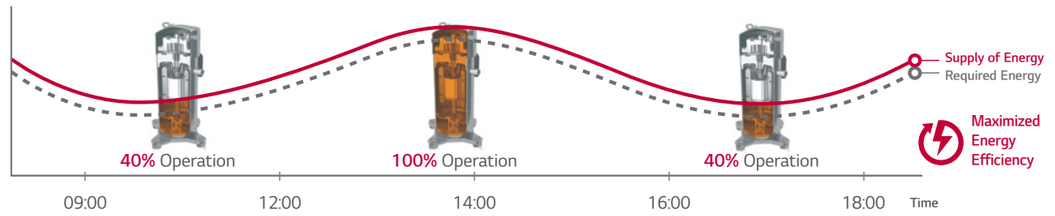
Inverter compressor maximizes energy efficiency, by adjusting energy supply as required.

Energy saving concept comparison

Constant Speed Compressor



Inverter Compressor



HIGH EFFICIENCY

ENERGY SAVING WITH LINEAR CONTROL

New inverter single package be operated linearly with wide operating range(30~120Hz). It provides optimized cooling and energy saving at the same time.

1) Cooling load is standard of AHRI 340/360 (IEER) :
100% Load = 35℃ (95℉), 75% Load = 27.5℃ (81.5℉), 50% Load = 20℃ (68℉), 25% Load = 18.3℃ (65℉)

HIGH EFFICIENCY HEAT PUMP

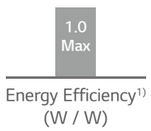
New inverter single package provides both heating and cooling while saving energy.

CONVENTIONAL

- High initial investment cost by installing electric heater for heating
- High electricity charges by auxiliary device

Additional Cost
(About 5% of product price)

Unit (Cooling only) + Electric Heater2)



Energy Efficiency1)
(W / W)

NEW INVERTER

- No initial investment due to no need for heater installation for heating
- Annual energy savings with high efficiency heat pump system

Unit (Heat pump)

Energy Efficiency1)
(W / W)

1) Energy efficiency is based on the following conditions :
- Indoor Temp. 21.1℃(70℉) DB / 15.6℃(60℉) WB
- Outdoor Temp. 8.3℃(47℉) DB / 6.1℃(43℉) WB

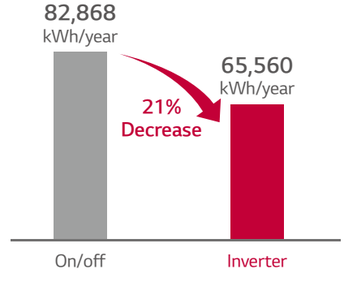
2) Specification : 25kW / 460V / 3Φ / 60Hz

※ This result can be different depending on actual environment
(In regions with low load condition, the efficiency of H/P product is higher.)

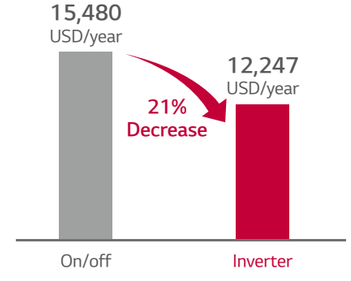
ANNUAL ENERGY SAVINGS ESTIMATION (Panama City)

Electricity consumption are expected to decline by 21% compared to on/off model.

Electricity Consumption



Electricity Cost



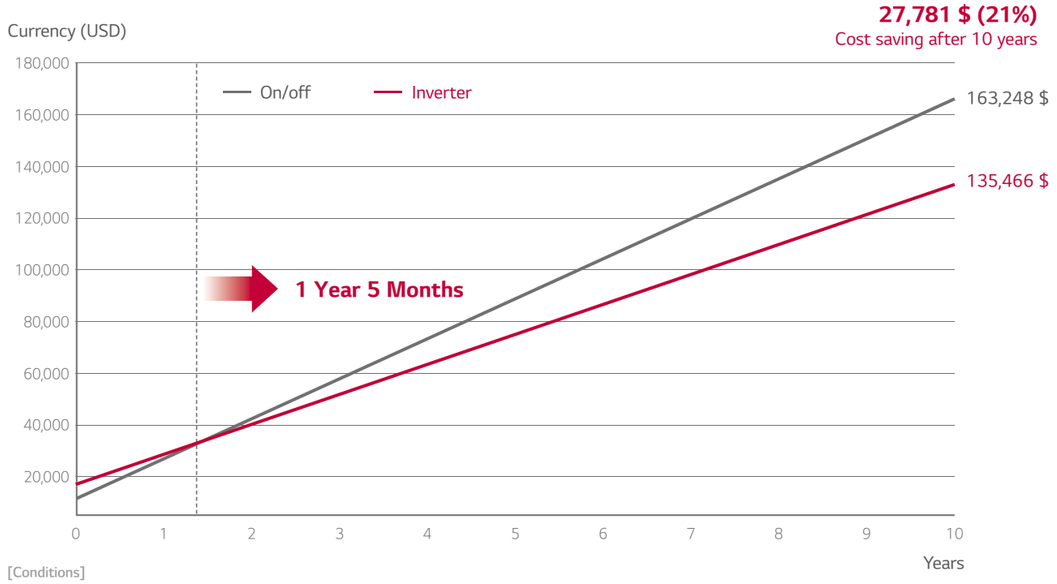
▶ Electric charges : 0.1868 USD/kWh
(It may vary by region)

[Condition]
- Capacity : 25RT Single Package
- Operating time : 08:00~20:00
- Cooling partial load and power consumption calculated based on yearly weather data (target indoor temperature : 24℃)

※ This result can be different depending on actual environment

PAYBACK (Panama City)

If you purchase the LG smart inverter, You can get back your investment cost after 1 Year 5 months.



[Conditions]
- Capacity : 25RT Single Package
- Operating time : 08:00~20:00
- Cooling partial load and power consumption calculated based on yearly weather data (target indoor temperature : 24℃)

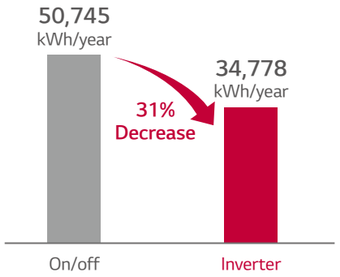
※ This result can be different depending on actual environment

HIGH EFFICIENCY

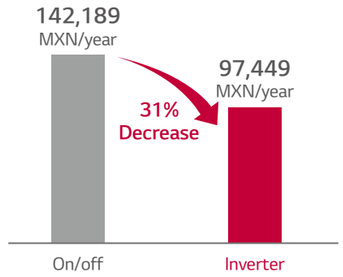
ANNUAL ENERGY SAVINGS ESTIMATION (Mexico, Monterrey)

Electricity consumption are expected to decline by 31% compared to on/off model.

Electricity Consumption



Electricity Cost



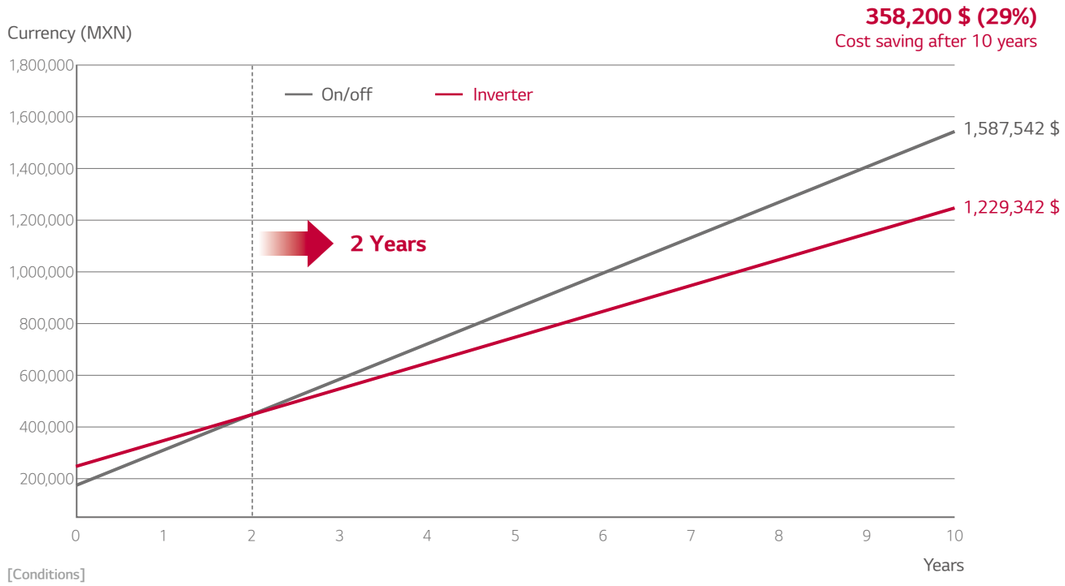
▶ Electric charges : 2.802 MXN/kWh
(It may vary by region)

[Conditions]
- Capacity : 25RT Single Package
- Operating time : 08:00~20:00
- Cooling partial load and power consumption calculated based on yearly weather data (target indoor temperature : 24℃)

※ This result can be different depending on actual environment

PAYBACK (Mexico, Monterrey)

If you purchase the LG smart inverter, You can get back your investment cost after 2 years.



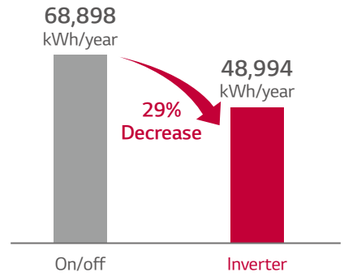
[Conditions]
- Capacity : 25RT Single Package
- Operating time : 08:00~20:00
- Cooling partial load and power consumption calculated based on yearly weather data (target indoor temperature : 24℃)

※ This result can be different depending on actual environment

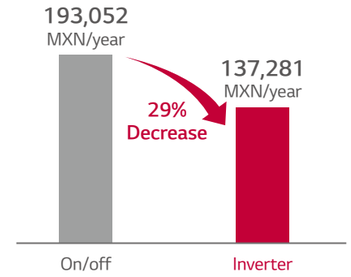
ANNUAL ENERGY SAVINGS ESTIMATION (Mexico, Cancun)

Electricity consumption are expected to decline by 29% compared to on/off model.

Electricity Consumption



Electricity Cost



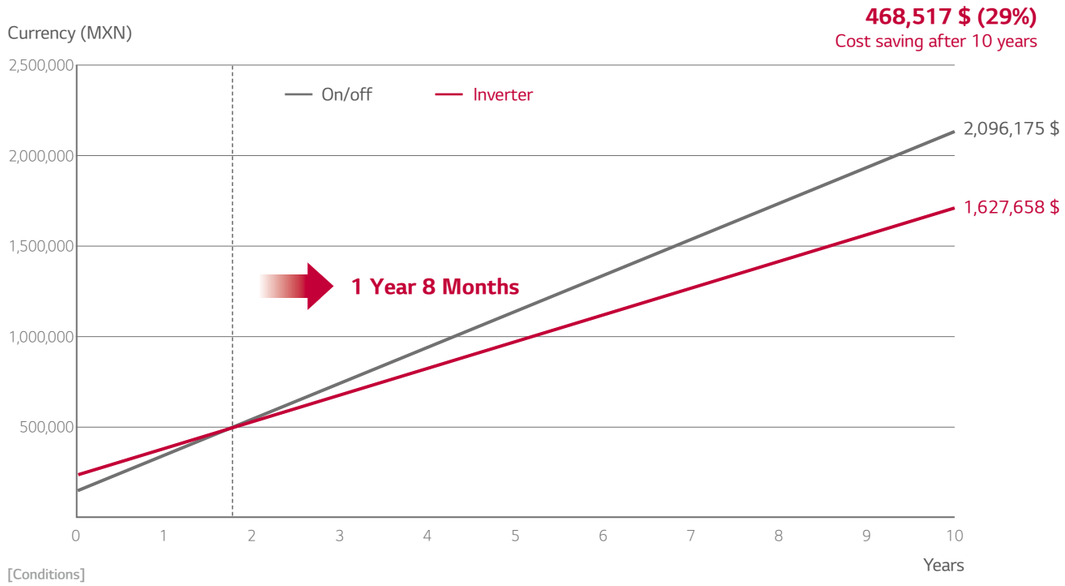
▶ Electric charges : 2.802 MXN/kWh
(It may vary by region)

[Conditions]
- Capacity : 25RT Single Package
- Operating time : 08:00~20:00
- Cooling partial load and power consumption calculated based on yearly weather data (target indoor temperature : 24℃)

※ This result can be different depending on actual environment

PAYBACK (Mexico, Cancun)

If you purchase the LG smart inverter, You can get back your investment cost after 1 year 8 months



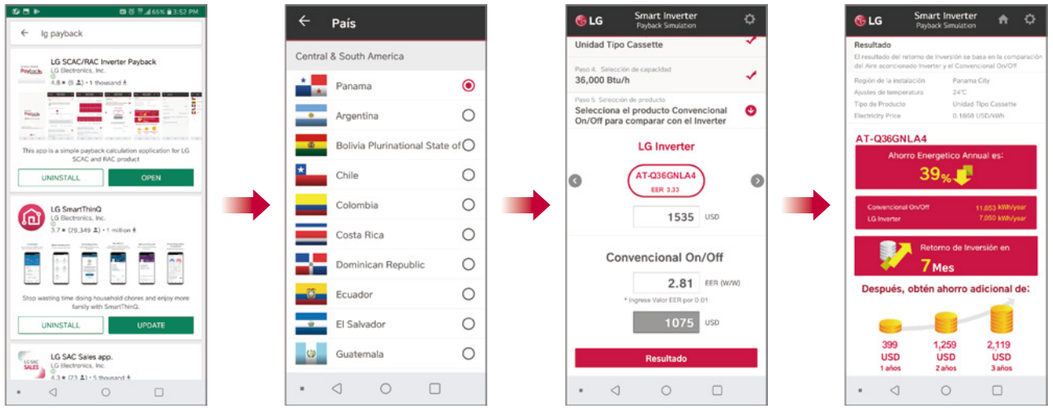
[Conditions]
- Capacity : 25RT Single Package
- Operating time : 08:00~20:00
- Cooling partial load and power consumption calculated based on yearly weather data (target indoor temperature : 24℃)

※ This result can be different depending on actual environment

HIGH EFFICIENCY

PAYBACK

You can easily simulate on mobile via payback app. (Install "LG SCAC / RAC Inverter Payback")

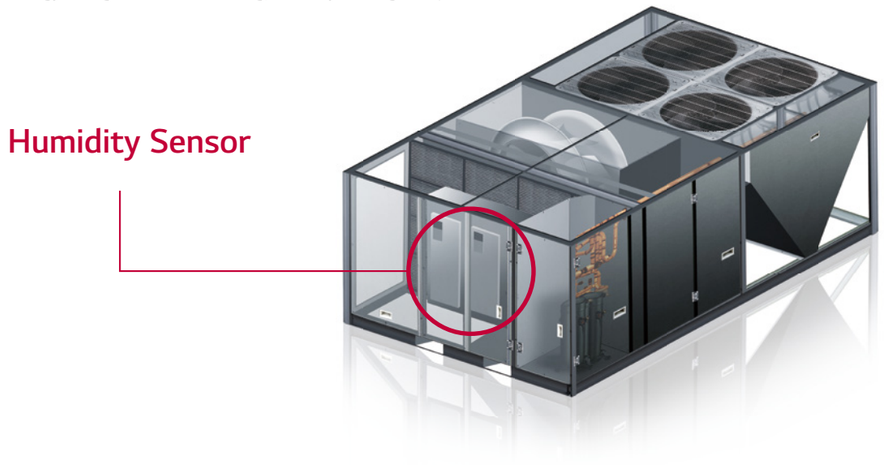


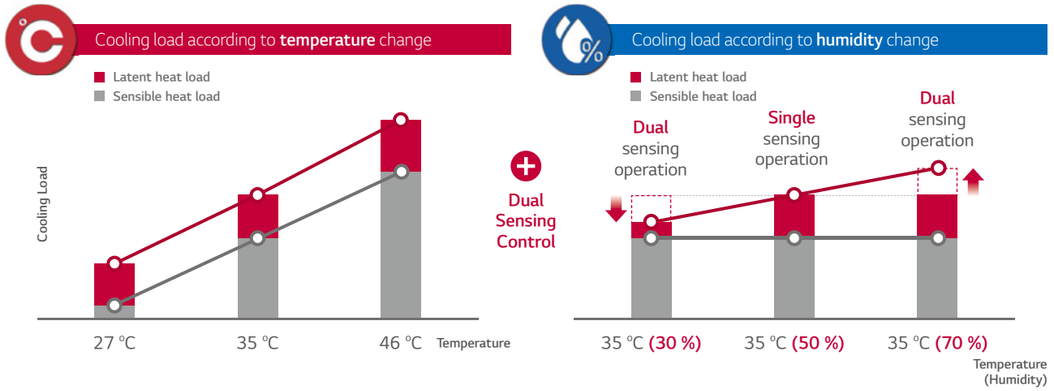
DUAL SENSING CONTROL

New model can be operated by dual sensors for comfort and efficient operation. (Temperature & Humidity)

Why do we need dual sensing?

To operate energy saving and comfort cooling, humidity sensing is required.

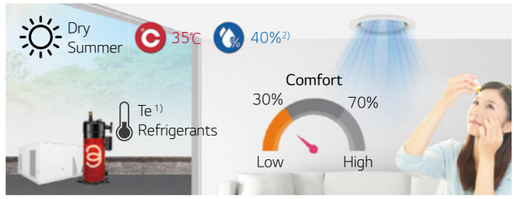


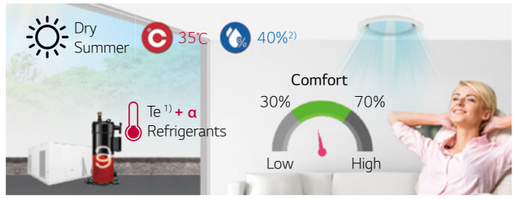


Dry condition

Dual sensing control is a function that changes evaporation temperature according to temperature & humidity.

CONVETNTIONAL	NEW INVERTER
-Excessive latent heat elimination regardless of humidity -Waste Energy to eliminate latent heat	- Comfortable environment by making the room less dry - Increased Seasonal Efficiency



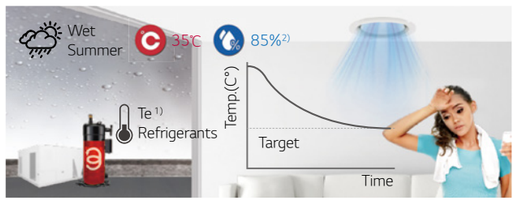


1) Te : Evaporation Temperature 2) Temperature & humidity of outdoor

Wet condition

In wet summer season, the system senses the high humidity level and increases operating ratio to decrease humidity level rapidly for making room condition in comfort zone.

CONVETNTIONAL	NEW INVERTER
- High humidity condition is not considered by only sensing the room temperature - General latent heat elimination regardless of humidity	- Comfortable environment - With quick latent heat elimination by sensing humidity - At higher humidity, the compressor runs more powerfully



1) Te : Evaporation Temperature 2) Temperature & humidity of outdoor

CONVENIENCE

Direct Drive Fan Motor
Convertible Duct Connection
Enhanced Structure
Sliding Type Filter

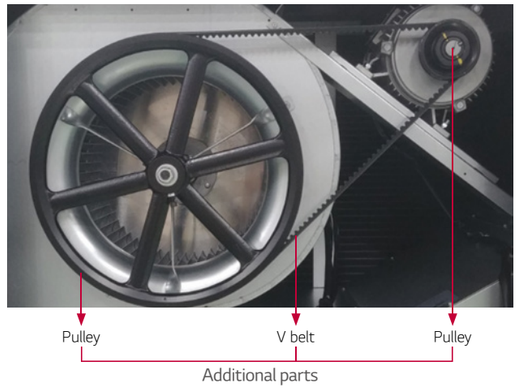
DIRECT DRIVE FAN MOTOR

Easy maintenance

Beltless direct drive system is easy to maintain and cost effective.

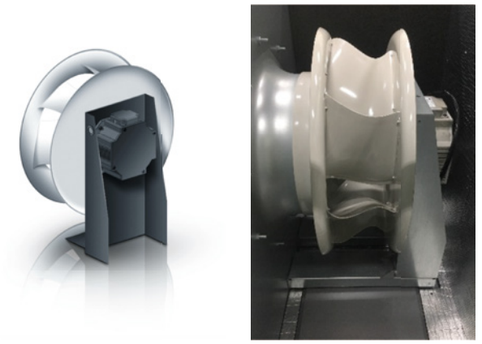
CONVENTIONAL

- Adjust pulley and belt periodically
- Grease periodically
- High cost of replacement and repair with large number of parts



NEW INVERTER

- No need to adjust pulley and belt periodically
- No need to grease periodically
- Low cost of replacement and repair with fewer parts



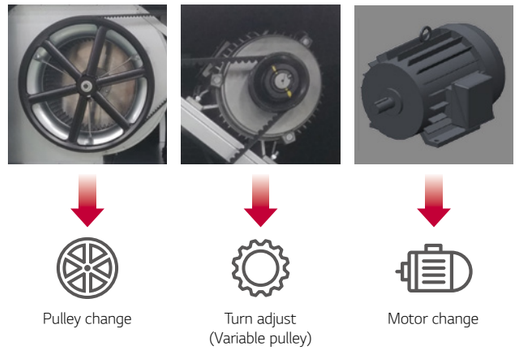
No additional parts
(Reduced parts and labor costs)

Easy installation

By applying a high static pressure motor, It has wide E.S.P coverage and easy to set the air volume.

CONVENTIONAL

- It is necessary to change the pulley and motor to change airflow

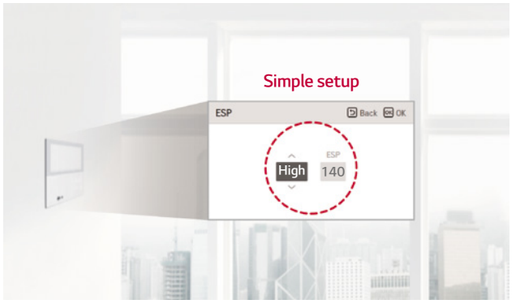


Pulley change | Turn adjust (Variable pulley) | Motor change

※ Motor operation range (Based on 9,400 CFM)

NEW INVERTER

- Set RPM by simple touch on remote control to change airflow



※ ESP Setting guide (Wired Remote Controller) :
- Standard III (PREMTB100/10) : Menu → Setting → Installer → ESP setting
- Standard II (PREMTB001/01) : ◎ Button click → 03 : XX → ESP setting

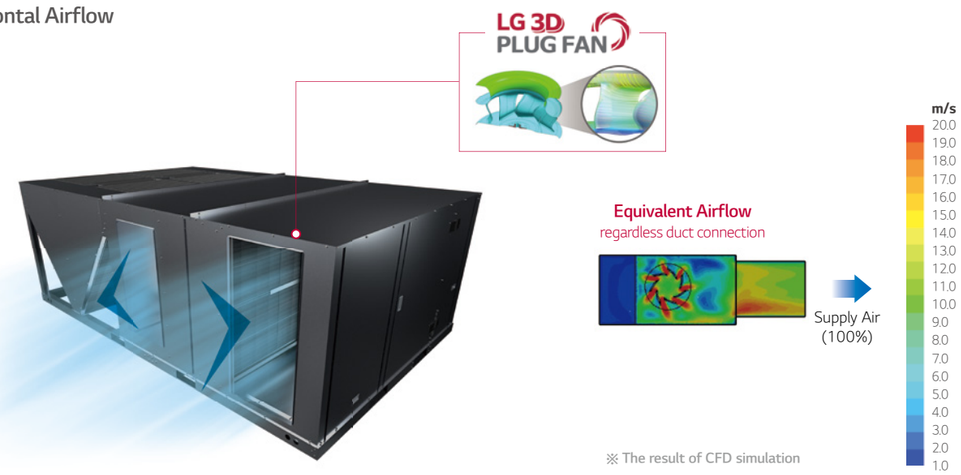
※ Motor operation range (Based on 9,200 CFM)

CONVENIENCE

CONVERTIBLE DUCT CONNECTION

*One model allows duct installation in various directions and can be installed on various sites. Additionally,
LG 3D PLUG FAN minimizes the flow resistance and enables to take out the air in all directions, so there is no air loss.

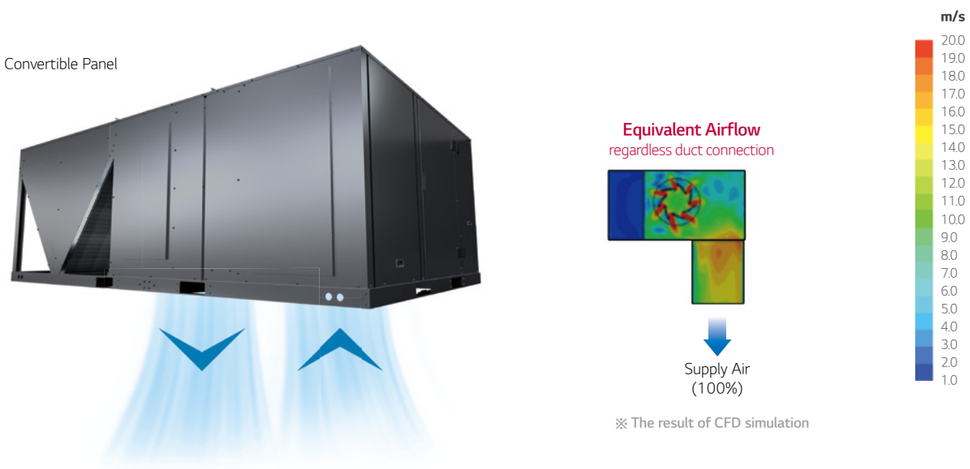
Horizontal Airflow



※ The result of CFD simulation

Convertible Panel

Vertical Airflow

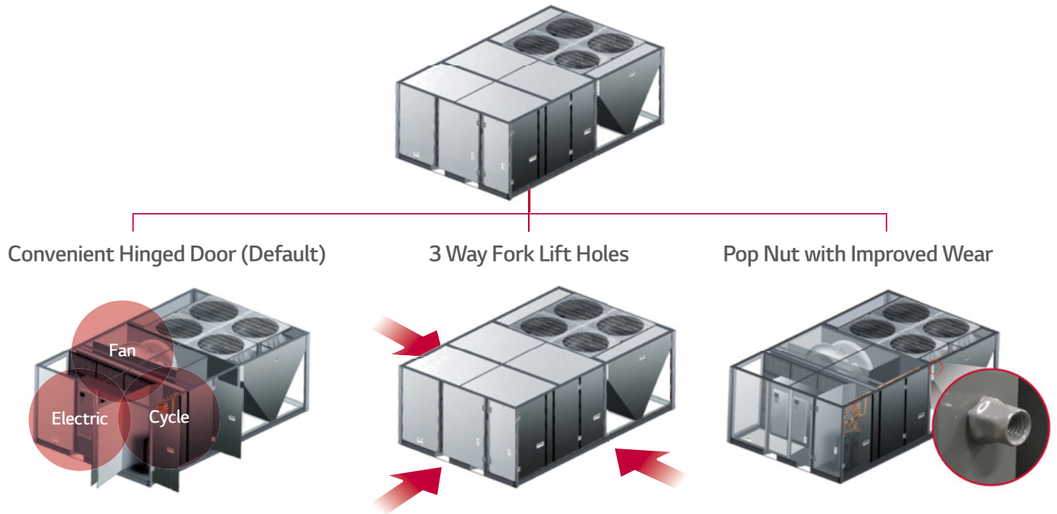


※ The result of CFD simulation

* With one model, It can be installed either horizontally or vertically. However, competitors have separate models depending on the type of connection.

ENHANCED STRUCTURE

By applying the hinged door, Installation & maintenance working time has been shortened. In addition,
3 way fork lift holes easy to carry the product in various places and pop nut structure increases screw wear reliability.



SLIDING TYPE FILTER

Easy maintenance and extended product life with sliding type filter. The pre-filter is easy to clean with water and replaceable 2 inch filter can also be installed.

1) Specification : 25 x 20 (in.) x 6 (EA)

※ When 2inch filter is applied, Static pressure drops by 0.142 in.Aq.

RELIABILITY

Ultimate Inverter Compressor
Protection for Voltage Fluctuation
Black Fin

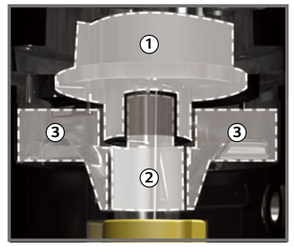
ULTIMATE INVERTER COMPRESSOR

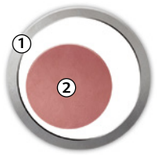
By applying world class technology of Multi V, High efficient and reliable operation has been achieved. 18 years of inverter technology applied to LG new single package.

CONVENTIONAL

- Inner bearing type
- Low speed operation with unstable structure

6.8 HP



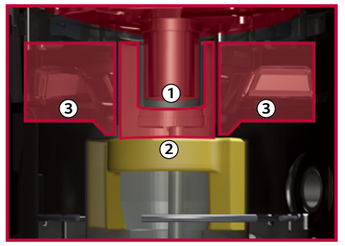


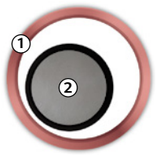
① Material : PTFE [1)]
①+② Structure : Inner Bearing
③ Supporter

NEW COMPRESSOR

- Increased durability and reliability with outer bearing type
- High speed operation with reduction of bearing load and vibration

9.6 HP





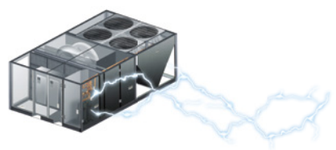
① Material : PEEK [2)]
①+② Structure : Outer Bearing
③ Supporter

1) PTFE : Polytetra fluoro ethylene
2) PEEK : Polyether ether ketone
※ Conventional : JBA068MAC (6.8 HP) x 2EA in product
New inverter : JBA096MAC (9.6 HP) x 2EA in product

PROTECTION FOR VOLTAGE FLUCTUATION

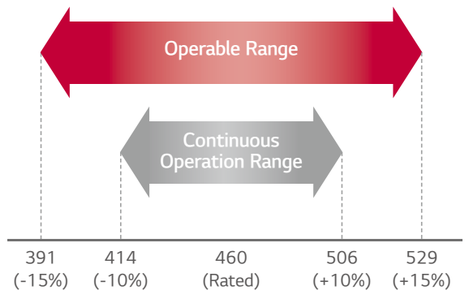
Below low voltage limit, inverter compressor reduces frequency(Hz) and boost DC voltage, over high voltage limit, cuts off the relay to prevent damage of DC capacitor. And inverter is able to operate at a wider voltage range than constant speed model.

	Constant	LG Inverter
Low & High Voltage detection	No protection logic	Automatic detection and blocking
CT(Current transformer) current limit	On/off operation	Inverter control without stopping
DC peak detection	No need	Automatic detection and blocking
N phase reverse wiring (3 phase only)	No detection	Automatic detection
Missing phase detection (3 phase only)	No detection	Automatic detection



Product Protection

No loss of capacity



※ The allowable operation range is ±10% of rated voltage (460V).
※ This result can be different depending on actual environment.

BLACK FIN

The black coating with enhanced epoxy resin is applied for strong protection from various corrosive external conditions such as salt contamination and air pollution including fumes from factories. This improvement in durability prolongs the product's lifespan and lowers both the operational and maintenance costs.

Longer Lifespan, Lower Maintenance Costs

※ Verification of corrosion resistance performance.

Black Fin's performance of corrosion resistance is improved based on Gold fin.

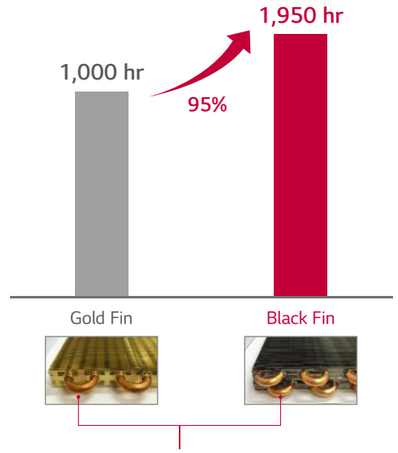
SST (Salt Spray Test)

Test Process

× Process repeated

Test process is conducted according to ISO 9227.
1) Salty water concentration : NaCl aqueous solution (5%)

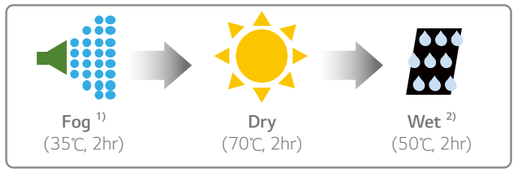
Test Result (5% Area of defects compared to initial)



100% copper material to prevent corrosion & refrigerant leakage

CCT (Cyclic Corrosion Test)

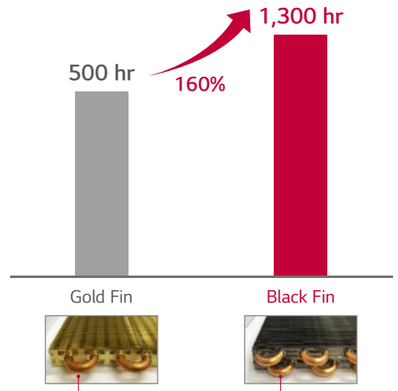
Test Process



× Process Repeated

Test process is conducted according to ISO 14933.
1) Salty water concentration : NaCl aqueous solution (5%)
※ Dry condition changed : 60℃, 4hr → 70℃, 2hr
2) Deionized water

Test Result (5% Area of defects compared to initial)



100% copper material to prevent corrosion & refrigerant leakage

NEW DESIGN REMOTE CONTROLLER

LG Individual controller provides intuitive GUI with color LCD and touch type interface button.

※ Installed at field, ordered and purchased separately by the corresponding model name, supplied with separate package.

GROUP CONTROL

Group Control is to control multiple units at once. This is the appropriate solution for zoning the big area as a one control zone.

Good Looking Interior

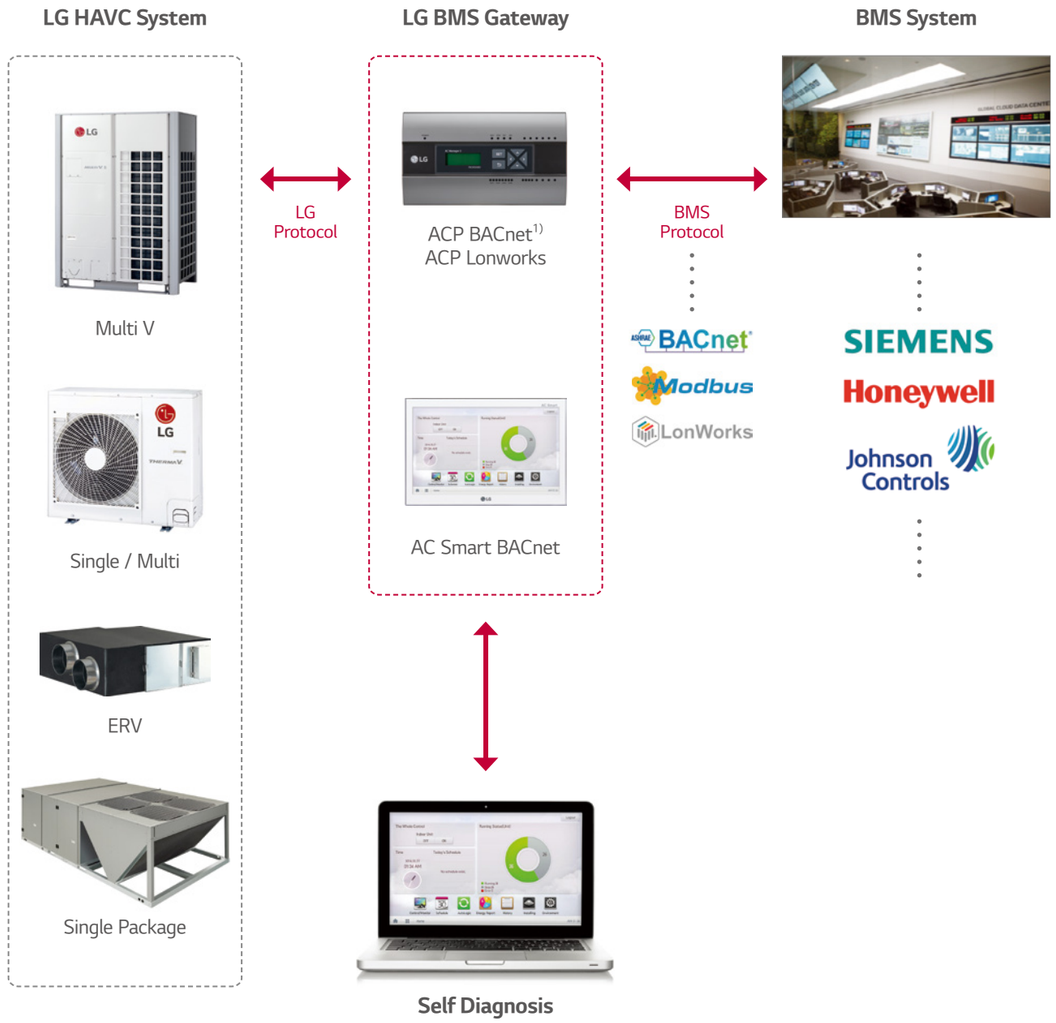
Conventional

New

Controller & Installation Cost Saving

3rd PARTY BMS SYSTEM COMPATIBILITY

LG Inverter Single Package can be connected with gateway products for different protocols such as Modbus, BACnet and LonWorks. And gateway product offers self diagnosis interface thanks to smart GUI included.



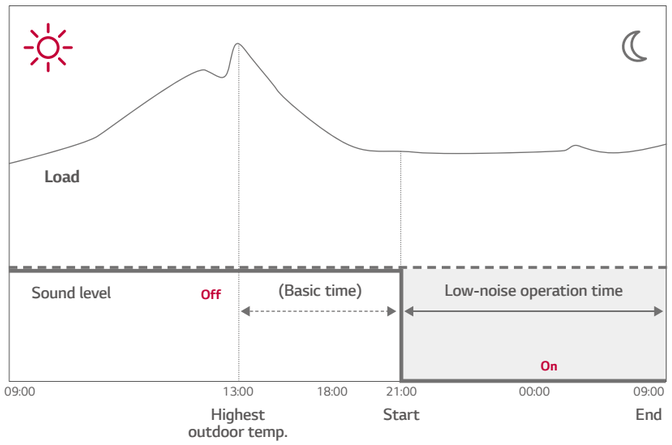
1) ACP BACnet (Modbus) Interface : PQNFB17C0
ACP LonWorks (Modbus) Interface : PLNWKB000

LOW NOISE OPERATION

The Low-Noise Operation is possible regardless of the time where noise sensitive areas. Instead of installer setting, the low noise operation is set by a building manager easily.

Conventional

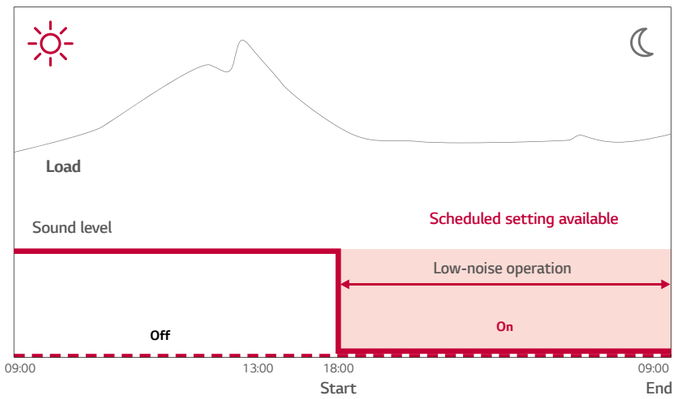
Outdoor Unit setting only



Only outdoor unit dip switch setting is possible.

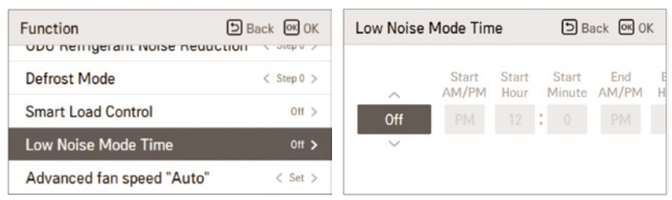
New Inverter

Standard III wired remote controller setting possible



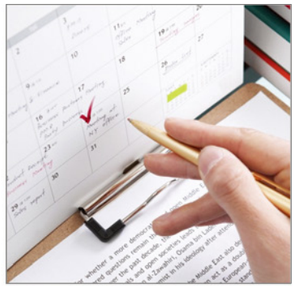
※ Low-Noise Operation requires Standard III wired Remote controller.

Remote controller setting is possible.



EASY SCHEDULING

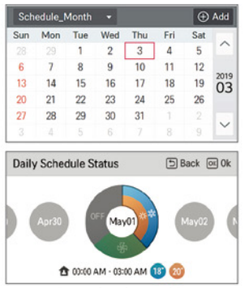
Schedule function allows customers to arrange the operation setting of equipment according to their desired schedule. Customers easily schedule daily, weekly, monthly, yearly plan with a calendar, also an exception date enables patterned schedule.



ACP / AC Smart

ACP EZ Touch

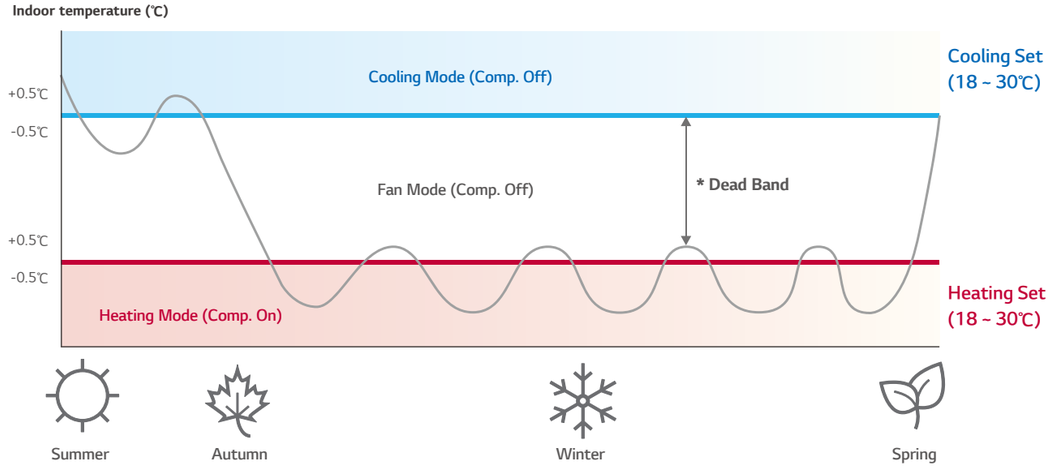
Premium R/C



Standard III R/C

2 SET POINT CONTROL

Auto Changeover can manage room temperature with changing Heating/cooling mode and Compressor-off automatically. With setting heating and cooling set temperature just one time, comfortable condition will continue at all times. It is also possible to reduce the energy use by broadening the set temperature gap of cooling and heating.



※ 2 Set point control requires Standard III or Premium wired remote controller.
- Model : PREMTB100(Standard III), PREMTA000 / PREMTA000A / PREMTA000B (Premium)

* Minimum temperature gap : Setting value (0~5℃)

460 V

Nominal Capacity			RT	20	25
Model Name			-	AK-W240DC00	AK-W300DC00
Cooling Capacity	Net Capacity		kW	70.3	80.9
			kcal/h	60,480	69,552
			Btu/h	240,000	276,000
Heating Capacity	Net Capacity		kW	70.3	80.9
			kcal/h	60,480	69,552
			Btu/h	240,000	276,000
EER			Btu / Wh	11.3	10.6
IEER			Btu / Wh	19.0	18.3
COP			W / W	3.38	3.24
Power Input	Cooling		kW	21.3	26.0
	Heating		kW	20.8	25.0
Power Supply			V, Ø, Hz	460, 3, 60	460, 3, 60
Indoor Coil	Fin Type		-	LG Louver	LG Louver
	Tube Size	Outer Dia.	mm (inch)	9.52 (3/8)	9.52 (3/8)
	(Row × Column × Fins per inch) × No.		-	(4 × 44 × 16) × 2	(4 × 44 × 16) × 2
	Face Area		m^2 (ft^2)	2.01 (21.6)	2.01 (21.6)
Indoor Fan	Type		-	Plug Fan	Plug Fan
	Diameter		mm (inch)	630 (25)	630 (25)
	Motor Output		W × No.	10.0	10.0
	Air Flow Rate	Nominal	m^3/min	227	261
		Nominal	ft^3/min	8,000	9,200
	Drive Type		-	Direct	Direct
Compressor (#1, A Cycle)	Type		-	HCC DC SCROLL	HCC DC SCROLL
	Motor Output		W × No.	5,500 × 1	5,500 × 1
	Oil Type		-	FVC68D	FVC68D
	Oil Charge		cc × No.	1,500 × 1	1,500 × 1
Compressor (#2, B Cycle)	Type		-	HCC DC SCROLL	HCC DC SCROLL
	Motor Output		W × No.	5,500 × 1	5,500 × 1
	Oil Type		-	FVC68D	FVC68D
	Oil Charge		cc × No.	1,500 × 1	1,500 × 1
Outdoor Coil	Fin Type		-	Wide Louver Plus (Black)	Wide Louver Plus (Black)
	Tube Size	Outer Dia.	mm (inch)	7 (9/32)	7 (9/32)
	(Row × Column × Fins per inch) × No.		-	(3 × 52 × 14) × 2	(3 × 52 × 14) × 2
	Face Area		m^2 (ft^2)	4.5 (48.3)	4.5 (48.3)
Outdoor Fan	Type		-	Propeller Fan	Propeller Fan
	Diameter		mm (inch)	680 (26-25/32)	680 (26-25/32)
	Motor Output		W × No.	900 × 4	900 × 4
	Air Flow Rate		m^3/min × No.	105 × 4	105 × 4
			ft^3/min × No.	3,700 × 4	3,700 × 4
	Drive		-	BLDC Inverter	BLDC Inverter
	Discharge Direction		-	Top	Top
Dehumidification Rate			ℓ/h	24.1	30.1
Drain Connection Size			-	NPT 1"	NPT 1"
Refrigerant	Refrigerant Name		-	R410A	R410A
	Precharged Amount	A-Circuit	kg	9.0	9.0
		B-Circuit	kg	9.0	9.0
	Control		-	EEV	EEV
Dimensions (W × H × D)			mm	2,230 × 1,242 × 3,520	2,230 × 1,242 × 3,520
			inch	87-25/32×48-29/32×138-19/32	87-25/32×48-29/32×138-19/32
Net Weight			kg (lbs)	910 (2,006)	910 (2,006)
Sound Power Levels	Cooling		dB(A)	86	86
	Heating		dB(A)	86	86
Operation Range (Outdoor Temperature)	Cooling	Min. ~ Max.	℃ DB (℉ DB)	-5 ~ 48 (23.0~118.4)	-5 ~ 48 (23.0~118.4)
	Heating	Min. ~ Max.	℃ WB (℉ WB)	-15 ~ 18 (5.0~64.4)	-15 ~ 18 (5.0~64.4)

380 V

Nominal Capacity			RT	20	25
Model Name			-	AK-W240LC00	AK-W300LC00
Cooling Capacity	Net Capacity		kW	70.3	80.9
			kcal/h	60,480	69,552
			Btu/h	240,000	276,000
Heating Capacity	Net Capacity		kW	70.3	80.9
			kcal/h	60,480	69,552
			Btu/h	240,000	276,000
EER			Btu / Wh	11.3	10.6
IEER			Btu / Wh	19.0	18.3
COP			W / W	3.38	3.24
Power Input	Cooling		kW	21.3	26.0
	Heating		kW	20.8	25.0
Power Supply			V, Ø, Hz	380, 3, 50/60	380, 3, 50/60
Indoor Coil	Fin Type		-	LG Louver	LG Louver
	Tube Size	Outer Dia.	mm (inch)	9.52 (3/8)	9.52 (3/8)
	(Row × Column × Fins per inch) × No.		-	(4 × 44 × 16) × 2	(4 × 44 × 16) × 2
	Face Area		m^2 (ft^2)	2.01 (21.6)	2.01 (21.6)
Indoor Fan	Type		-	Plug Fan	Plug Fan
	Diameter		mm (inch)	630 (25)	630 (25)
	Motor Output		W × No.	10.0	10.0
	Air Flow Rate	Nominal	m^3/min	227	261
		Nominal	ft^3/min	8,000	9,200
	Drive Type		-	Direct	Direct
Compressor (#1, A Cycle)	Type		-	HCC DC SCROLL	HCC DC SCROLL
	Motor Output		W × No.	5,500 × 1	5,500 × 1
	Oil Type		-	FVC68D	FVC68D
	Oil Charge		cc × No.	1,500 × 1	1,500 × 1
Compressor (#2, B Cycle)	Type		-	HCC DC SCROLL	HCC DC SCROLL
	Motor Output		W × No.	5,500 × 1	5,500 × 1
	Oil Type		-	FVC68D	FVC68D
	Oil Charge		cc × No.	1,500 × 1	1,500 × 1
Outdoor Coil	Fin Type		-	Wide Louver Plus (Black)	Wide Louver Plus (Black)
	Tube Size	Outer Dia.	mm (inch)	7 (9/32)	7 (9/32)
	(Row × Column × Fins per inch) × No.		-	(3 × 52 × 14) × 2	(3 × 52 × 14) × 2
	Face Area		m^2 (ft^2)	4.5 (48.2)	4.5 (48.2)
Outdoor Fan	Type		-	Propeller Fan	Propeller Fan
	Diameter		mm (inch)	680 (26-25/32)	680 (26-25/32)
	Motor Output		W × No.	900 × 4	900 × 4
	Air Flow Rate		m^3/min × No.	105 × 4	105 × 4
			ft^3/min × No.	3,700 × 4	3,700 × 4
	Drive		-	BLDC Inverter	BLDC Inverter
	Discharge Direction		-	Top	Top
Dehumidification Rate			ℓ/h	24.1	30.1
Drain Connection Size			-	NPT 1"	NPT 1"
Refrigerant	Refrigerant Name		-	R410A	R410A
	Precharged Amount	A-Circuit	kg	9.0	9.0
		B-Circuit	kg	9.0	9.0
	Control		-	EEV	EEV
Dimensions (W × H × D)			mm	2,230 × 1,242 × 3,520	2,230 × 1,242 × 3,520
			inch	87-25/32×48-29/32×138-19/32	87-25/32×48-29/32×138-19/32
Net Weight			kg (lbs)	910 (2,006)	910 (2,006)
Sound Power Levels	Cooling		dB(A)	86	86
	Heating		dB(A)	86	86
Operation Range (Outdoor Temperature)	Cooling	Min. ~ Max.	℃ DB (℉ DB)	-5 ~ 48 (23.0~118.4)	-5 ~ 48 (23.0~118.4)
	Heating	Min. ~ Max.	℃ WB (℉ WB)	-15 ~ 18 (5.0~64.4)	-15 ~ 18 (5.0~64.4)

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