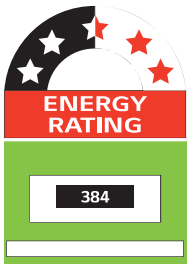
LG Business Solutions

Annex L
(informative)

A sample energy guide label



Kenya Energy Regulation

Grade	EER (W/W)
1 Star(MEPS)	3.10 ≤ EER < 3.30
2 Star	3.30 ≤ EER < 3.50
3 Star	3.50 ≤ EER < 4.00
4 Star	4.00 ≤ EER < 4.50
5 Star	4.50 ≤ EER

COMMERCIAL AIR CONDITIONER

LG SMART INVERTER

Cassette units with high EER for East Africa

WHAT IS **INVERTER?**

Traditional compressors normally cease operation once the set temperature has been reached, then start again when the room gets warmer. This results in inefficient energy usage that increases energy bills. LG's Smart Inverter Single Split air conditioners on the other hand, operate much more efficiently, slowly decreasing and increasing output depending on the temperature outside and inside. This ultimately improves energy efficiency, as the air conditioner is able to control operational capacity.

Brain

Non inverter running at constant-speed has only two choices ; RUN or STOP. It runs at single speed without judging the ambient conditions. In contrast, Inverter operating at variable speed, can adjust its pace in the most efficient way.

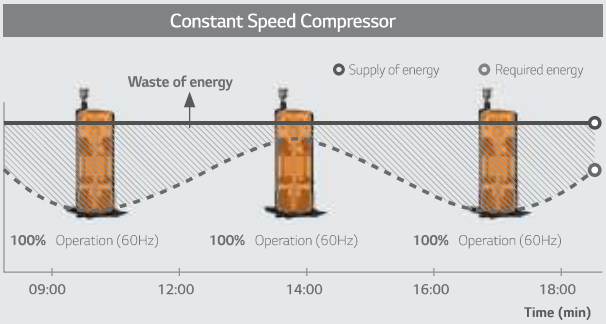
Constant Compressor **Inverter Compressor**

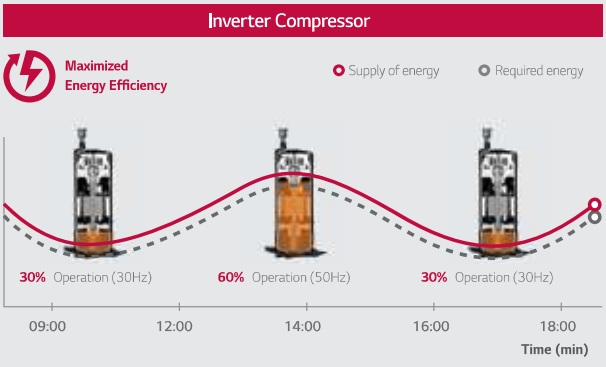
Dimmable lamp

Constant speed runs only ON/OFF operation, while variable speed adjusts its frequency upon external conditions, just like dimmable lighting can be controlled its brightness by ambient light.

Constant Compressor **Inverter Compressor**

Benefit of Inverter compressor





SPECIFICATIONS

KEY FEATURES 3

01 Quick Cooling

At the same condition, the inverter reaches the set temperature about 30% faster than the constant speed

SMART SENSORS

Temperature Sensor

+

Pressure Sensor

Sensing and ready for operation

Quick and reliable operation

02 Enhanced Performance with R1 Compressor

R1 Compressor makes it possible to improve capacity and efficiency with a wider operating range.

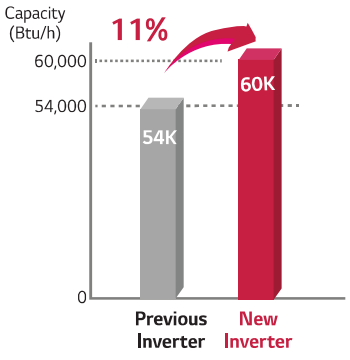
Enhanced Performance

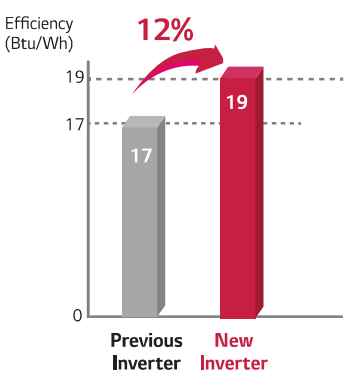
- Maximum cooling capacity (11%↑)
- Incresed seasonal energy efficiency (12%↑)

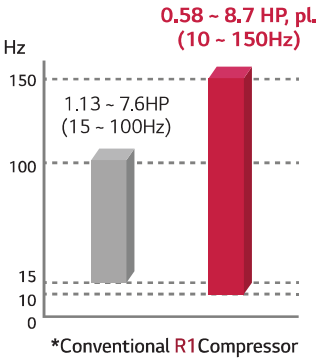
Enhanced Operation Range

- World best compressor speed (Up to 150 Hz)
- Optimized for low load operation (down to 10 Hz) (Efficiency increases)

SEER





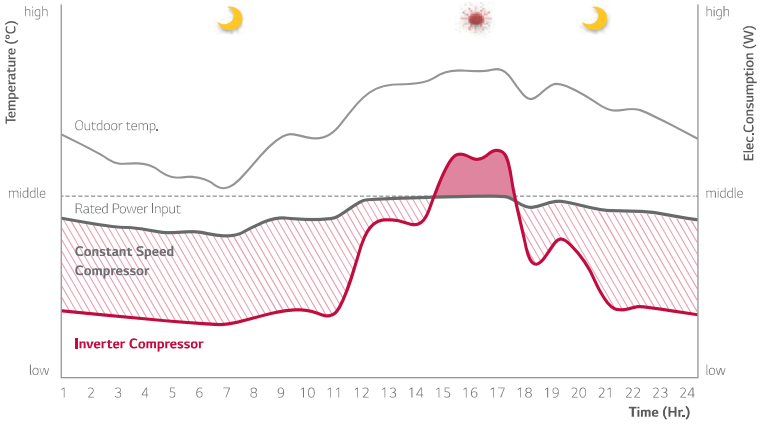


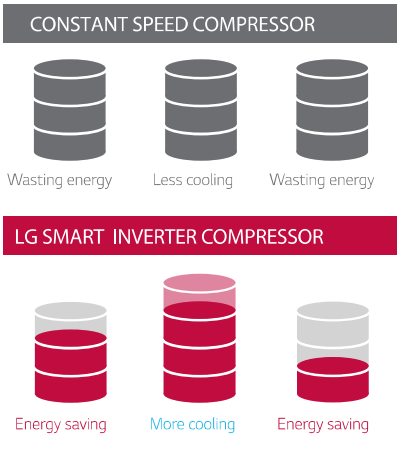
*The values are based on 60k(Capacity), 40k(SEER) model

*Conventional Compressor : Rotary type (GPT442M)

03 Energy Saving

the non-inverter works by turning the compressor on and off, it needs even more energy each time it restarts the compressor. however, inverter V works without turning the compressor on and off, it doesn't need extra energy to restart while working. inverter V minimizes energy consumption along with higher energy efficiency than the non-inverter





04 What is change between previous and new models?

Compressor

Rotary → R1 Compressor

High perfomance with stable & simple structure

R1 Compressor™
Revolutionary Scroll Shape Design (***Patent)

Gold → Black || Fin

Highly corrosion resistant heat exchanger

Smart Inverter

Function

Humidity Control

Comfort and efficient operation by dual sensing

Human Detection Sensor

Automatic direction of airflow & operation by sensing human body

Smart ThinQ

Smart control by smartphone & google assistant

Wider Operation Range

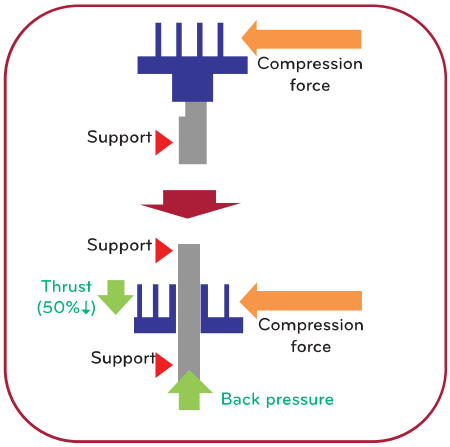
Previous inverter | New Smart Inverter

05 R1 Compressor Structure and working

R1 Compressor is more stable and simple compressing structure with low-vibration characteristics of scroll compressor.

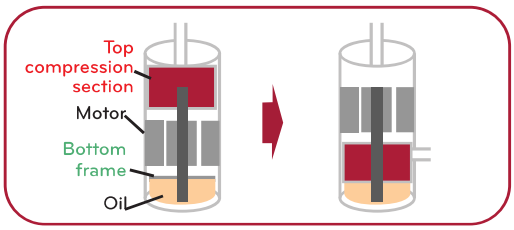
Stable structure

- Support both ends of shaft
- 50% thrust reduction compared to previous compressor*



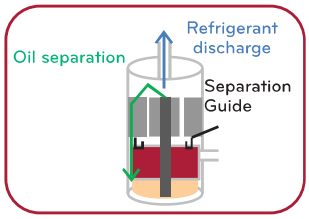
Simple structure

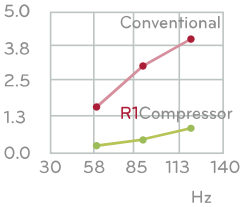
- Bottom compression structure
- Removed bottom frame



Reduction oil at discharge at high HZ

- Reduction of maximum oil discharge compared to conventional compressor (4.0wt% ➔ 1.0wt% at 120 HZ)
- Discharge gas, return oil separation structure





* LG Internal test result, Based on conventional compressor (Scroll type, JAB068MA)
R1 Compressor is applied to 40, 50, 60 kBtu/h model

06 Ocean 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.

※ Verification of corrosion resistance performance.

07 Comfort Cooling With Humidity Sensor

'Comfort Cooling' is a function that changes evaporation temperature according to temperature & humidity.

Conventional model

Temperature sensor

LG Single CAC

Temperature sensor + Humidity sensor

Max. 18% Energy Saving*

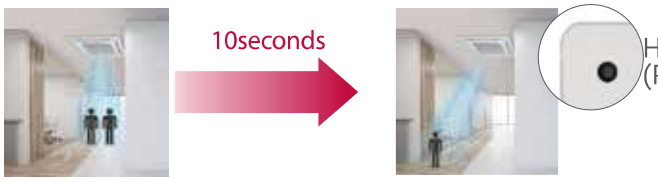
* Test condition :
- Indoor Temp.
  27 °C (DB) / 26.4°C (WB)
- Outdoor Temp.
  35 °C (DB) / 24°C (WB)
- Applied model : AT-Q22GPLA4

Comfortable and power saving control v based on indoor humidity*

* To display humidity, new remote controller, PREMTB100 or PREMTBB10 is needed

08 Human Detection Sensor

Detection control based on human motion
Air flow direction is controlled automatically by motion sensor that detects the activity of people every 10 seconds.



Detection range

Height 3.2 (15 x 8 m)

Height 3.5 (16 x 10 m)

A sensor is installed 90˚rotation
12 × 6 m → 6 × 12 m detecting

※ Sensor is optional accessary (PTVSMA0) : only can be applied to PT-MCHW0(CST Panel)

※ To use this function, new remote controller, PREMTB100 or PREMTBB10 is needed

SPECIFICATIONS

Cassette

• Heat pump

Combination	Outdoor unit			Unit	ATUW18GPLT1	ATUW24GPLT1	ATUW36GNLT1	ATUW48GMLT1
	Indoor unit				ATNW18GPLT1	ATNW24GPLT1	ATNW36GNLT1	ATNW48GMLT1
Cooling Capacity			Min. / Rated / Max.	Btu/h	7200 / 18000 / 20000	9600 / 24000 / 28000	16030 / 34100 / 38000	18400 / 46000 / 53000
Heating Capacity			Min. / Rated / Max.	Btu/h	7200 / 18000 / 21000	9600 / 24000 / 28000	13640 / 34100 / 37000	19200 / 48000 / 54000
Power input	Cooling		Rated	kW	1.55	2.06	2.93	3.96
	Heating		Rated	kW	1.5	2.05	2.84	4
EER/COP				W/W	3.4 / 3.51	3.41 / 3.43	3.4 / 3.52	3.4 / 3.52
Outdoor Unit				**Unit**	**ATUW18GPLT1**	**ATUW24GPLT1**	**ATUW36GNLT1**	**ATUW48GMLT1**
Power Supply				V, Ø, Hz	220-240, 1, 50	220-240, 1, 50	220-240, 1, 50	220-24, 1, 50
Dimensions			W x H x D	mm	770 × 545 × 288	870 × 650 × 330	950 × 834 × 330	950 × 1,380 × 330
Net Weight			Body	kg	35.2	45.5	60.8	90.2
Compressor	Type			-	Twin Rotary, BLDC	Twin Rotary, BLDC	Twin Rotary, BLDC	LG Inverter Scroll
Refrigerant					R410A	R410A	R410A	R410A
Fan Motor	Type			-	BLDC	BLDC	BLDC	BLDC
Piping Connections	Liquid, Gas		Outer Dia.	mm(inch)	Ø 6.35 (1/4), Ø 12.7 (1/2)	Ø 9.52 (3/8), Ø 15.88 (5/8)	Ø 9.52 (3/8), Ø 15.88 (5/8)	Ø 9.52 (3/8), Ø 19.05 (3/4)
Piping Length			Min. / Max. / Max.Height	m	5 / 50 / 30	5 / 50 / 30	5 / 50 / 30	5 / 50 / 30
Indoor unit				**Unit**	**ATNW18GPLT1**	**ATNW24GPLT1**	**ATNW36GNLT1**	**ATNW48GMLT1**
Panel Name					**PT-UMC1 / PT-MCHW0**	**PT-UMC1 / PT-MCHW0**	**PT-UMC1 / PT-MCHW0**	**PT-UMC1 / PT-MCHW0**
Power Supply				V, Ø, Hz	220-240 , 1 , 50	220-240 , 1 , 50	220-240 , 1 , 50	220-240 , 1 , 50
Dimensions	Body		W x H x D	mm	840 × 204 × 840	840 × 204 × 840	840 × 246 × 840	840 × 288 × 840
Net Weight				kg	19.6	20.5	23.3	25.5
Fan	Air Flow Rate		H / M / L	m^3/min	17.0/15.0/13.0	17.0 / 15.0 / 13.0	23.0/21.0/19.0	32.0 / 30.0 / 28.0
Fan Motor	Type				BLDC	BLDC	BLDC	BLDC
Sound Pressure Level	H / M / L			dB(A)	36 / 34 / 32	38 / 36 / 34	42 / 40 / 38	44 / 42 / 40

• Cooling Only

Combination	Outdoor unit				ATUQ22GPLA4 *	ATUQ30GPLA4 *	AUUQ40GH4 *	AUUQ50GH4	AUUQ60GH4
	Indoor unit				ATNQ22GPLA4	ATNQ30GPLA4	ATNQ40GNLA4	ATNQ50GMLA4	ATNQ60GMLA4
Cooling Capacity	Cooling	Min. / Rated / Max.		kW	1.58 ~ 5.00 ~ 6.45	2.11 ~ 6.70 ~ 8.79	3.15 ~ 9.82 ~ 11.55	4.05 ~ 12.9~ 14.5	4.05 ~ 17.00 ~ 17.88
		Min. / Rated / Max.		Btu/h	5,400 ~ 17,060 ~ 22,000	7,200 ~ 22,860 ~ 30,000	10,800 ~ 33,500 ~ 39,400	13,800 ~ 44,000 ~ 49,500	13,800 ~ 58,000 ~ 61,000
Power input	Cooling	Rated		kW	1.52	2.16	3.10	4.53	5.85
Running Current	Cooling	Rated		A	6.60	9.60	14.60	19.90	25.70
EER				W/W	3.29	3.10	3.17	2.85	2.91
Outdoor Unit				**Unit**	**ATUQ22GPLA4**	**ATUQ30GPLA4**	**AUUQ40GH4**	**AUUQ50GH4**	**AUUQ60GH4**
Power Supply				V, Ø, Hz	220-240, 1, 50/60	220-240, 1, 50/60	220-240, 1, 50/60	220-240, 1, 50/60	220-240, 1, 50/60
Net Weight	Net			kg	33.0	41.5	56.0	67.0	83.0
Compressor	Type			-	Twin Rotary	Twin Rotary	LG Inverter Scroll	LG Inverter Scroll	LG Inverter Scroll
Refrigerant	Type			-	R410A	R410A	R410A	R410A	R410A
Fan Motor	Type			-	BLDC	BLDC	BLDC	BLDC	BLDC
Sound Power Level	Cooling			dB(A)	-	-	-	-	-
Piping Connections	Liquid, Gas	Outer Dia.		mm(inch)	Ø 6.35 (1/4), Ø 12.7 (1/2)	Ø 9.52 (3/8), Ø 15.88 (5/8)	Ø 9.52 (3/8), Ø 15.88 (5/8)	Ø 9.52 (3/8), Ø 19.05 (3/4)	Ø 9.52 (3/8), Ø 19.05 (5/8)
Piping Length		Min. / Max. / Max.Height		m	5 / 50 / 20	5 / 50 / 30	5 / 50 / 30	5 / 50 / 30	5 / 50 / 30
Indoor unit				**Unit**	**ATNQ22GPLA4 ***	**ATNQ30GPLA4 ***	**ATNQ40GNLA4 ***	**ATNQ48GMLA4**	**ATNQ60GMLA4**
Power Supply				V, Ø, Hz	220-240, 1, 50/60	220-240, 1, 50/60	220-240, 1, 50/60	220-240, 1, 50/60	220-240, 1, 50/60
Indoor Fan	Flow			m^3/min	16.5 / 14.5 / 13.0	17.0 / 15.0 / 13.0	23.0 / 21.0 / 19.0	31.0 / 28.0 / 25.0	31.0 / 28.0 / 25.0
Indoor Fan Motor	Type			-	BLDC	BLDC	BLDC	BLDC	BLDC
Dimensions	Net			mm	840 × 204 × 840	840 × 204 × 840	840 × 246 × 840	840 x 288 x 840	840 x 288 x 840
Weight	Net	W x H x D		kg	21.0	21.0	24.0	28.0	28.0
Sound Pressure Level	H / M / L			dB(A)+3dB	36 / 34 / 32	38 / 36 / 34	40 / 38 / 36	47 / 45 / 42	47 / 45 / 42

*High EER non-ducted units for Kenya