LG Business Solutions

LG HVAC SOLUTION

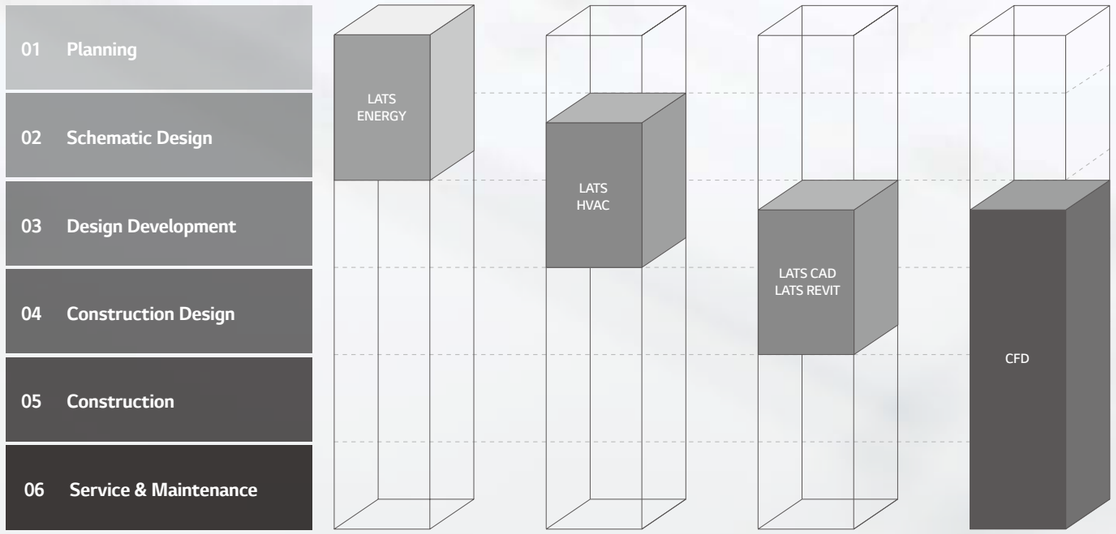
MULTI V™ 5

ENGINEERING CAPABILITY :HVAC TOOL & SUPPORT

From planning to service & maintenance and then to de-construction, an architectural project goes along many stages from the beginning to the end of its lifecycle. Along those stages, various engineering tools are applied to solve the diverse issues happening in each stage, with the most optimal solution possible. Due to the usage of such tools, buildings are effectively designed, built, supervised, and maintained throughout the lifecycle.
Dedicated to provide exceptional HVAC engineering support, LG Electronics Air-Solution Business Unit offers several engineering tools and solutions focused on HVAC, during the overall lifecycle of a building, related to the three categories: I. Draft Energy Estimation, II. Model Selection & Design, and III. Installation Environment Simulation. Among them, the LATS* Program series has been developed to offer optimised tool for LG HVAC systems, providing our customers a fast, easy, and accurate way in everyday duties of Model-selection, Draft Energy Estimation & Designing, and many more.

* LATS : LG Air-conditioner Technical Solution

I	II	III
Energy Estimation	Model Selection & Design	Installation Environment Simulation



01 Draft Energy Estimation

LATS Energy
LATS Energy program is a draft energy estimation program, self-developed by LG. This program helps estimate the draft energy usage and analyses the life cycle cost of LG VRF models during the early stage of a project.

02 Model Selection

LATS HVAC
LATS HVAC is an integrated model selection program of LG HVAC products, enabling an accurate and quick selection on the best model suitable to each sites. In addition to model selection, faster estimation on refrigerant piping diameter and additional refrigerant is possible, along with auto printing of reports.

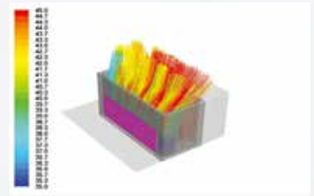
03 Design

LATS CAD
LATS CAD enables faster and a more accurate design of LG HVAC products. Moreover, it offers not only designing, but also quotation and installation review in order to minimise problems during installation processes.

LATS Revit
LATS REVIT is developed to make 3D designing of LG HVAC products easier than the previous program. It enables engineers to check 3D images from designing stage and prevents possible issues of the installation stage.

04 Installation Environment Simulation

CFD Analysis
CFD Analysis is applied in areas of estimating: indoor airflow and temperature distribution while operating VRF products, outdoor airflow distribution, and noise level. By running a simulation before construction, engineers estimate possible issues and find optimal solutions of malfunction that could occur after construction.



LG CONTROL SOLUTION

MULTI V 5 offers a diverse range of effective control solutions that satisfy specific needs of each building and its user scene. These controlling systems are equipped with user friendly interface, flexible interlocking environment, energy management and smart individual controller for optimised controlling conditions and smart building management.

HOTEL

Hotel Room Solution

15.8kW

10.6kW

7.1kW

Integration Solution

reddot award
User Interface Design

*2016 AC Manager 5

APARTMENT

Power Distribution Solution

OFFICE

3rd Party BMS

Central Control Solution

Service/Maintenance

· Energy Management

· External Device

Lighting Pump Fan CO_2 Sensor Temp. Sensor

RESIDENTIAL

Smart Individual Control Solution

SMALL BUILDING

Small Central Control Solution

MULTI V™
BRAND HISTORY

From the moment when LG introduced Korea's first residential air conditioner in 1968, the company has continuously enhanced its technological innovation and credibility. As a result of sustained improvement, LG VRF launched the first generation of MULTI V in 2006 and achieved significant development. With top class compressor and innovative technology competency applied on every part, cycle and controlling solutions, it has evolved to be one of the world's most efficient and reliable VRFs.

Following the first and second generations with Inverter technology and non-ozone depleting refrigerant, MULTI V III has advanced its efficiency with diverse cutting-edge technologies such as HiPORTM that directly returns oil to compressor and Vapor Injection that allows double compression by adding mid-pressure refrigerant. As acknowledged by the Eurovent Certification, the innovative technologies of 4th generation secured MULTI V brand the product leadership based on efficient system like Smart Load Control that controls operational load according to external temperature and other technologies that are optimised to manage refrigerant and heat exchange for all cooling, heating and part load operations.

Finally, the time has arrived for LG's ultimate VRF system, MULTI V 5. This generation has fully improved its technological potential with the powerful, reliable and economical LG's Ultimate Inverter Compressor, Ocean Black Fin with effective corrosion resistance performance and biomimetics technology-applied to the fan design. At the same time, the Dual Sensing Control offers users a more pleasant environment while minimising the unnecessary energy loss with a system that senses both the temperature and humidity to efficiently manage cooling, heating and part load operations.

The MULTI V 5 that has been solely designed for high efficiency, performance, flexibility, comfort and control.

MULTI V™ 5

- Dual Sensing Control
- LG's Ultimate Inverter Compressor
- Large Capacity ODU with Biomimetics Technology Fan
- Continuous Heating
- Ocean Black Fin

2006
MULTI V™

- Ø7.0 Corrugate
- Fuzzy Algorithm
- AC Inverter
- R410A

2008
MULTI V™ II

- Heat Recovery
- Ø7.0 Wide louver
- Fuzzy Algorithm
- LGDC Inverter

2010
MULTI V™ III

- High Pressure Oil Return
- Vapor Injection
- Continuous Heating

2013
MULTI V™ IV

- Eurovent Certification
- Active Refrigerant Control
- Variable Heat Exchanger Circuit
- Smart Load Control
- Smart Oil Return
- Vapor Injection (Advanced)

DUAL SENSING CONTROL

The cooling load is based on the amount of both sensible heat load and latent heat load. Most importantly, the cooling load is keen to, and thus, greatly affected by external humidity, rather than the outdoor temperature. For this reason, MULTI V 5's Dual Sensing Control applied function senses both temperature and humidity and applies sensed data for load control in order to obtain in-depth understanding of sensible heat load and latent heat load. This helps preventing excessive cooling load supply and offers a pleasant and comfortable cooling environment users want combined with reduction in energy consumption.

Regular VRF : Single Sensing

Were you aware that until now VRF has only sensed a single referenced value?

DUAL SENSING CONTROL

MULTI V™ 5 : Dual Sensing

Smart Load Control (SLC)

This understanding of environmental conditions allows optimised energy efficiency and maximised indoor comfort level.

Improved seasonal efficiency

Comfort Cooling

This maintains operation at mild cooling mode around set temperature without stopping in between operations for maximised user comfort.

Improved Indoor Comfort

LG’s ULTIMATE INVERTER COMPRESSOR

As the core technology of the air conditioning system, LG’s Ultimate Inverter Compressor of MULTI V 5 boasts a strong efficient and durable design based on the latest technology and innovation of LG HVAC.

IMPROVED ENERGY EFFICIENCY ENHANCED COMPRESSOR RELIABILITY

All Inverter

Provide high efficiency with low vibration and low noise

Six By-pass Valves

Prevent compressor damage due to excessively compressed refrigerant more efficiently than 4 by-pass valves

01. Vapor Injection

Maximise heating capacity via two-stage compression

02. Enhanced Bearing with PEEK Material

Applied newly invented scroll system driven by PEEK (Polyetheretherketone) bearing used for aero engine

- Can operate longer without oil supply
- Increase durability and reliability

03. Wide Operation Range from 10 to 165Hz

Improved part load efficiency at all operation ranges

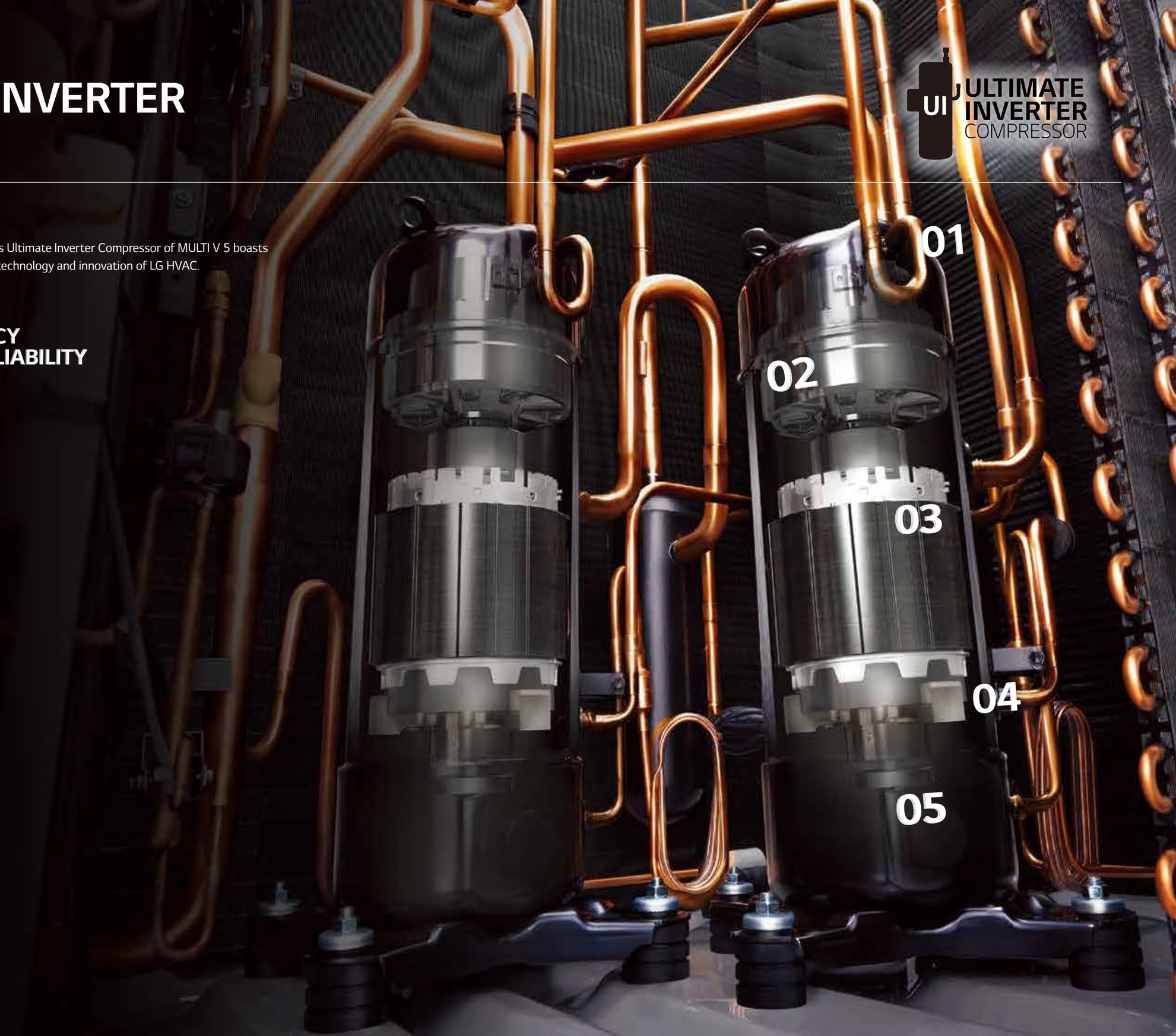
- 10% increase of magnetic flux density

04. HiPOR™ (High Pressure Oil Return)

Resolve compressor efficiency loss caused by oil return

05. Smart Oil Management

Oil level detection in real time



IMPROVED AIR FLOW RATE

REDUCED POWER CONSUMPTION

*Based on 4833l/s

LARGE CAPACITY
WITH BIOMIMETICS TECH

LARGE CAPACITY ODU WITH BIOMIMETICS TECHNOLOGY FAN

As a result of the biomimetics technology invented through years of joint study with Department of Mechanical and Aerospace Engineering of Seoul National University, the fan of MULTI V 5 increased airflow capacity while it reduced its power consumption when operating.

Humpback Whale Design

Inspired by the bumps on the humpback whale's flipper, the tubercles on the back side increased airflow by reducing flacking.

Clam Shell Pattern

Like the clam shell textures, the range difference created by moire pattern reduces noise level.

Increased Air Flow Rate

With extended shroud, discharged air current is stabilised and power consumption is reduced.

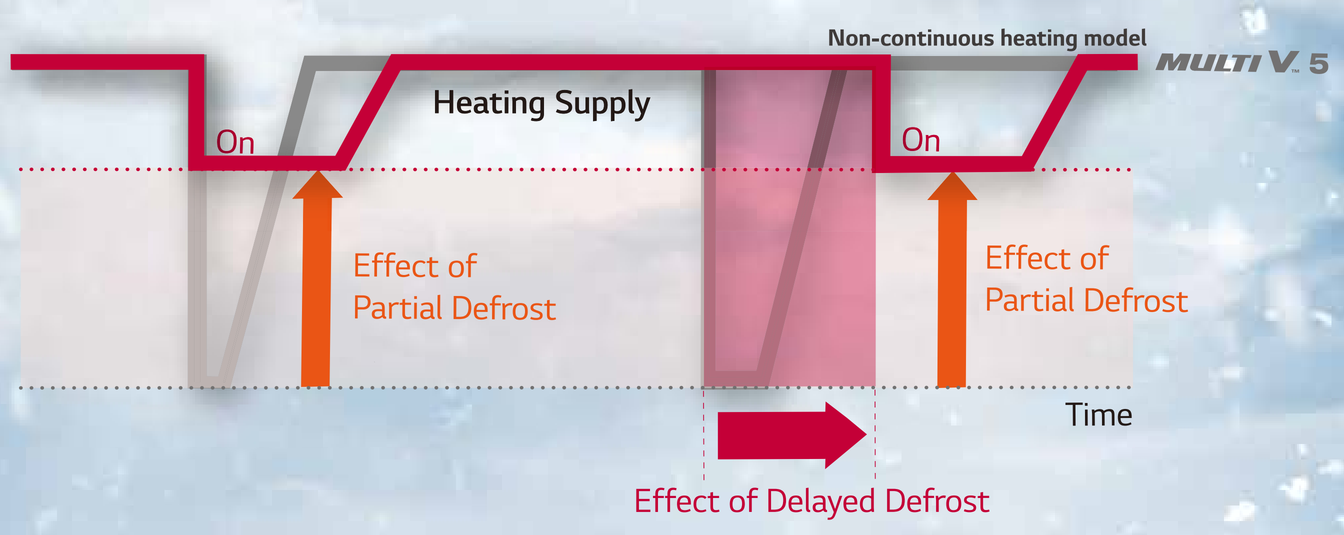
Large Capacity Outdoor Unit

Enhanced core parts like biomimetics technology-based fans, 4-sided heat exchanger as opposed to 3-sided heat exchanger of previous model and compressor with increased efficiency and capacity allow large capacity for outdoor units. A single unit of MULTI V 5 can provide up to 72.8kW.

CONTINUOUS HEATING

CONTINUOUS HEATING

Improved technologies such as Dual Sensing Control, Partial Defrost and Smart Oil Management enhance Continuous Heating for increased heating capacity and indoor comfort. The delayed and partial defrost technologies minimise unnecessary operational consumption to provide consistent heating.



Heating Operation Time Per Day
Up to 11%

Power Input
Down to 7%

* LG internal test result
* Test condition : Outdoor 2/1℃, Indoor 20/15℃, Humidity 83%

Dual Sensing Control

Partial Defrost

Smart Oil Management

OCEAN BLACK FIN HEAT EXCHANGER

The LG exclusive "Ocean Black Fin" heat exchanger is specially designed for durable and long-lasting performance even in corrosive environments. The black coating is applied for protection from various corrosive external conditions and the hydrophilic film keeps water from accumulating on the heat exchanger's fin, minimising moisture buildup. This improvement in durability prolongs the product's lifespan and lowers both the operational and maintenance costs.

Ocean Black Fin

CERTIFICATE OF VALIDATION

Certificate Number / Report Reference	4786735320-1 / 4786735320-15-1
Issue Date:	2015-03-25
Expiration Date:	2018-03-24
Issued to:	LG Electronics Inc 76 Seongsan-dong, Changwon-Si, Gyeongnam, 641-713, Korea
Claim Validated:	Aluminum Fin & Copper Tube Heat Exchanger employed on the Outdoor Unit of Air-Conditioners. Simulating the corrosive load for 27 years of exposure in a more severe traffic environment with salt contamination(Test Method B).
Tests:	Test method B of ISO21207 : Salt contaminated condition + severe industrial or traffic environment
Standards / Regulations:	ISO 21207, 6.2 & Annex A LG(65)-E-8148

This certificate and the claim validation expire on the expiration date listed above. UL validated the claim based upon criteria defined by the client. Client's use of the validated claim on or in connection with the product is and shall remain Client's representation that the claim is true and accurate. UL neither selected the samples nor determined whether the samples were representative of production units. The test results apply only to the actual samples tested. UL is not responsible for the scope of the tests performed or for the accuracy of test data generated by third parties. Please see test report for full details including test standards.

This certificate in no way conveys or implies Listing, Classification or Recognition or other certification by UL and does not authorize the use of UL Listing, Classification or Recognition Marks on or in connection with the product. The validated claim relates solely to product performance and in no way conveys or implies evaluation of the safety of the product identified above.

Churlbae Kim
Engineering Leader
Commercial & Industrial

UL Korea Ltd.
26th Fl. Gangnam Finance Center, 737
Yeoksam-dong, Gangnam-gu, Seoul, Korea

* Test Method B Simulation Validated
  (Test condition: Salt contaminated condition +severe industrial/traffic environment (NO_x/SO_2)
* Based on 1,500 UL test hours

MULTI V 5

LG'S ULTIMATE EFFICIENCY

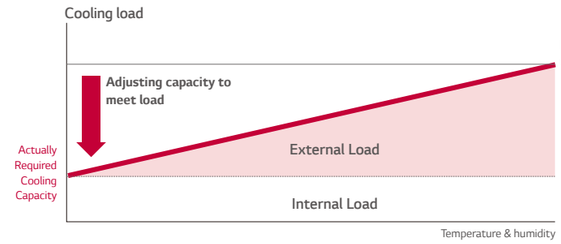
Smart Load Control (SLC)

Smart Load Control function enables comprehensive understanding of environmental conditions in order to optimise energy efficiency and maximise indoor comfort level. This technology allows active control of discharge refrigerant temperature which eventually increases the SEER 15% on average for outdoor units in comparison to the previous models.

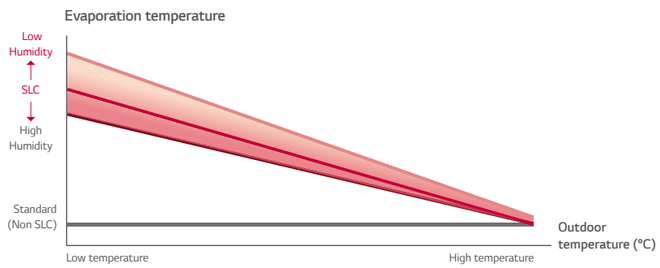
DUAL SENSING CONTROL

Increased Energy Efficiency (SLC SEER)

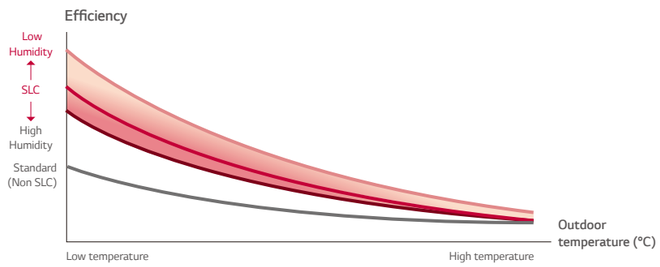
For low temperature, lower load and capacity are required



Lower load and capacity need higher evaporation temperature



Higher evaporation temperature results in higher efficiency

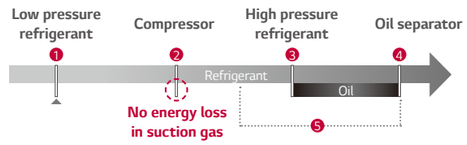


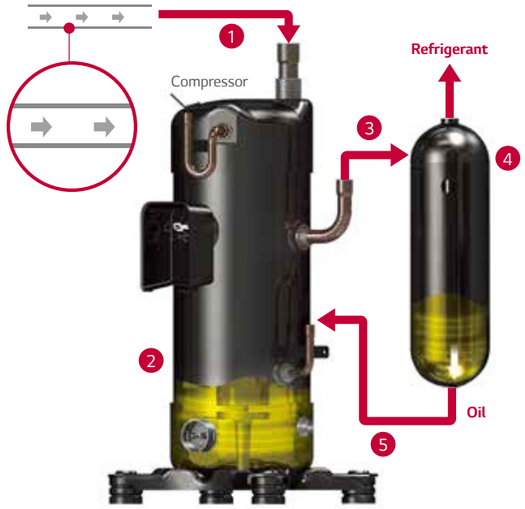
* Low humidity: Below 50% / Standard: 50~70% / High humidity: 70~100%
* Setting is available in indoor (Standard III Remote Controller)

HiPOR™ (High Pressure Oil Return)

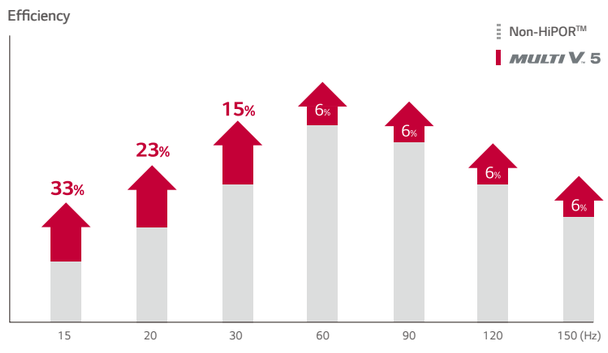
HiPOR™ technology enables oil to return directly into the compressor, instead of returning through the refrigerant suction pipe in order to minimise energy losses while maximising the efficiency of compressor. The previous model compressor that caused loss of low pressure refrigerant return to the refrigerant pipe. However MULTI V 5 maximises reliability and efficiency of the compressor by reducing high pressure refrigerant loss.

Process comparison





Efficiency comparison



* Rating condition (Tc=54.4 °C, Te=7.2 °C)

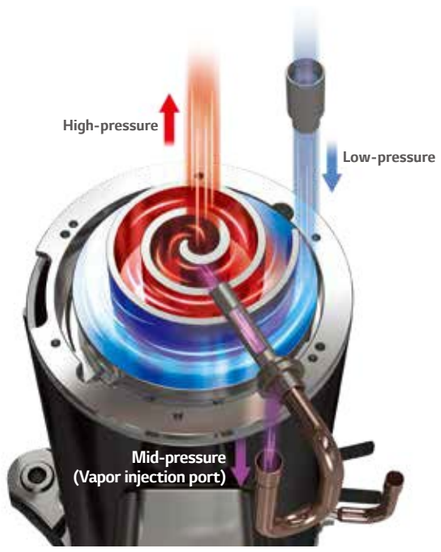
MULTI V 5

LG'S ULTIMATE EFFICIENCY

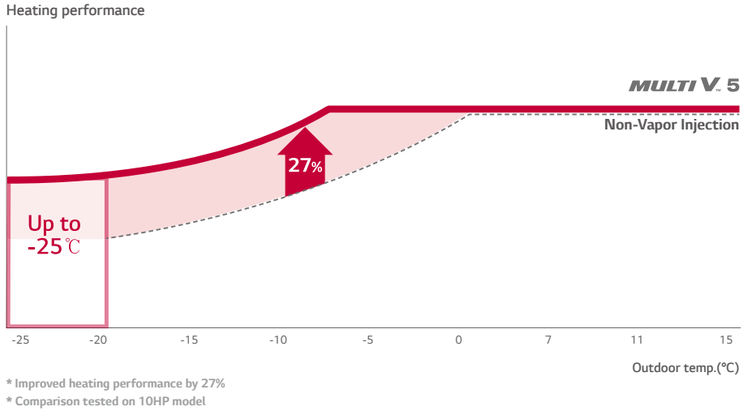
Vapor Injection

Vapor Injection uses a two-stage compression effect, which is designed to provide efficient heating in very cold environments. Combined with HiPOR™, this system boosts heating performance and enhances heating temperature range.

Technology mechanism



Performance comparison

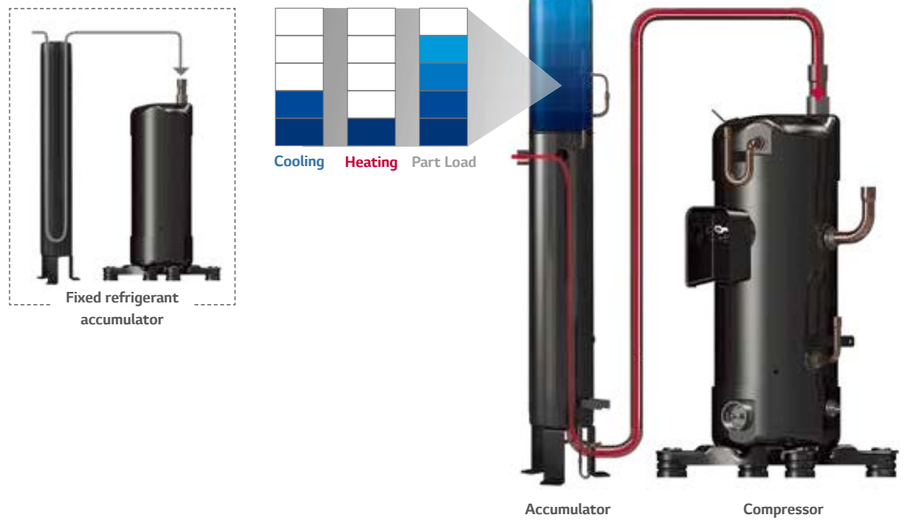


* Improved heating performance by 27%
* Comparison tested on 10HP model

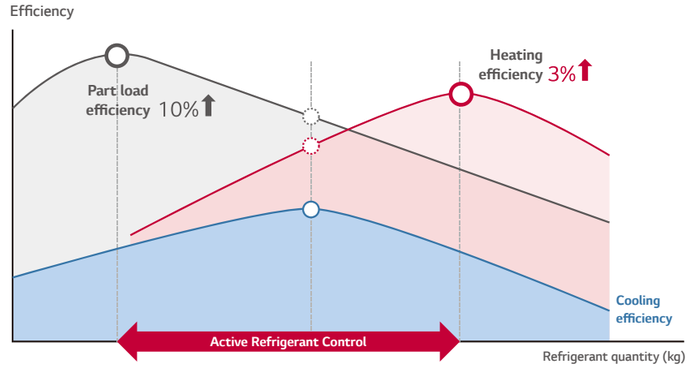
Active Refrigerant Control

Active Refrigerant Control monitors and adjusts the quantity of circulating refrigerant during each cycle to maximise efficiency in real time when it runs cooling and heating operation, as well as the part load operation. This five step control leads to an improvement in energy efficiency, unlike when fixed amount of refrigerant is provided to the compressor regardless of operation mode, which limits optimal efficiency for each operation.

Technology mechanism



Efficiency performance



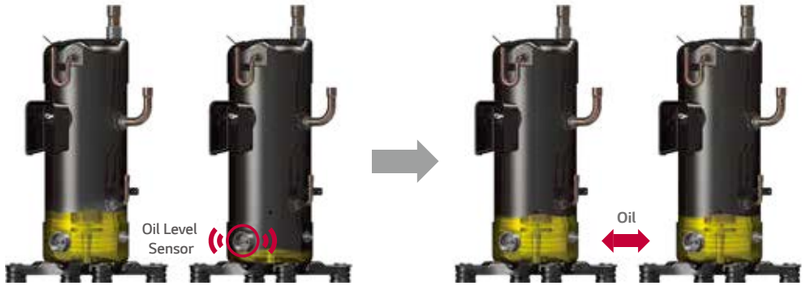
MULTI V 5

LG'S ULTIMATE EFFICIENCY

Smart Oil Management

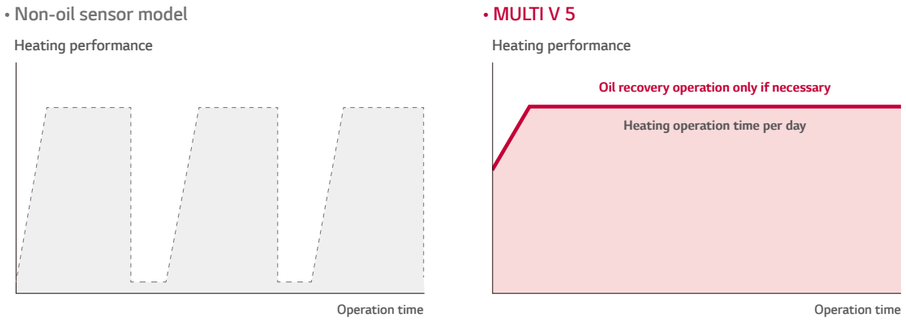
Compressor reliability and Efficiency are improved with an oil sensor that allows oil balancing and oil return. The value of the capacitance between the electrodes can measure the presence of oil in real-time. This real-time measurement of oil in the compressor reduces energy loss, providing consistent heating for the indoor environment. With Smart Oil Return, heating operation time per day is increased.

Auto Oil Balancing



Smart Oil Return

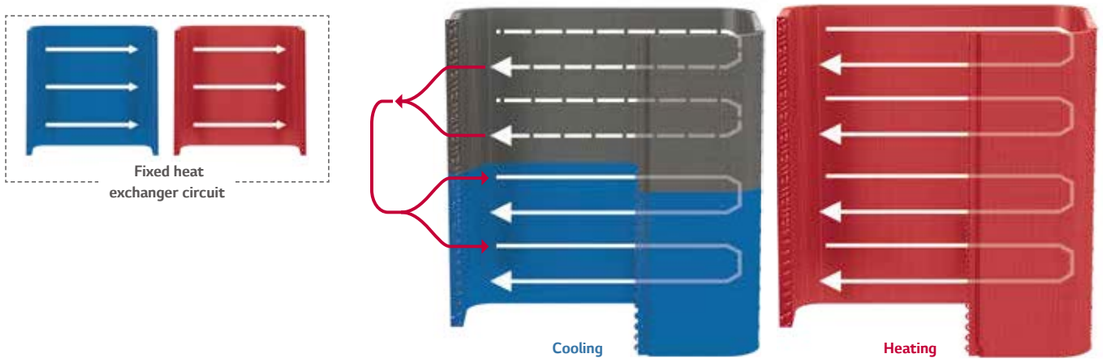
Operation time comparison



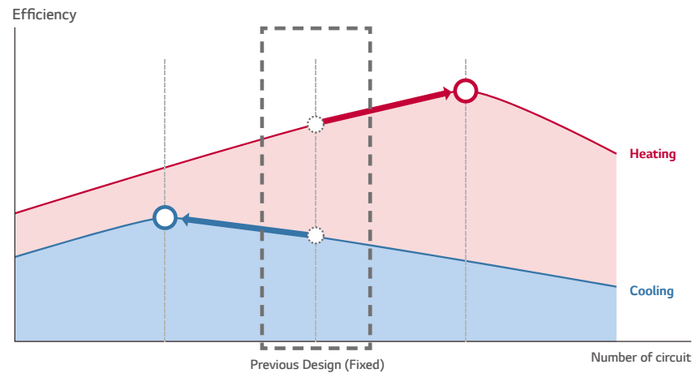
Variable Heat Exchanger Circuit

Variable Heat Exchanger Circuit intelligently selects the optimal path for both heating and cooling operations. With this smart path selection technology, an increase in the efficiency of both operations has been achieved. The paths number and circuit velocity are adjusted to match temperatures and operation modes in order to maximise efficiency instead of compromising efficiency for each operation when the number and direction of paths are fixed independently of temperature operation mode.

Technology mechanism



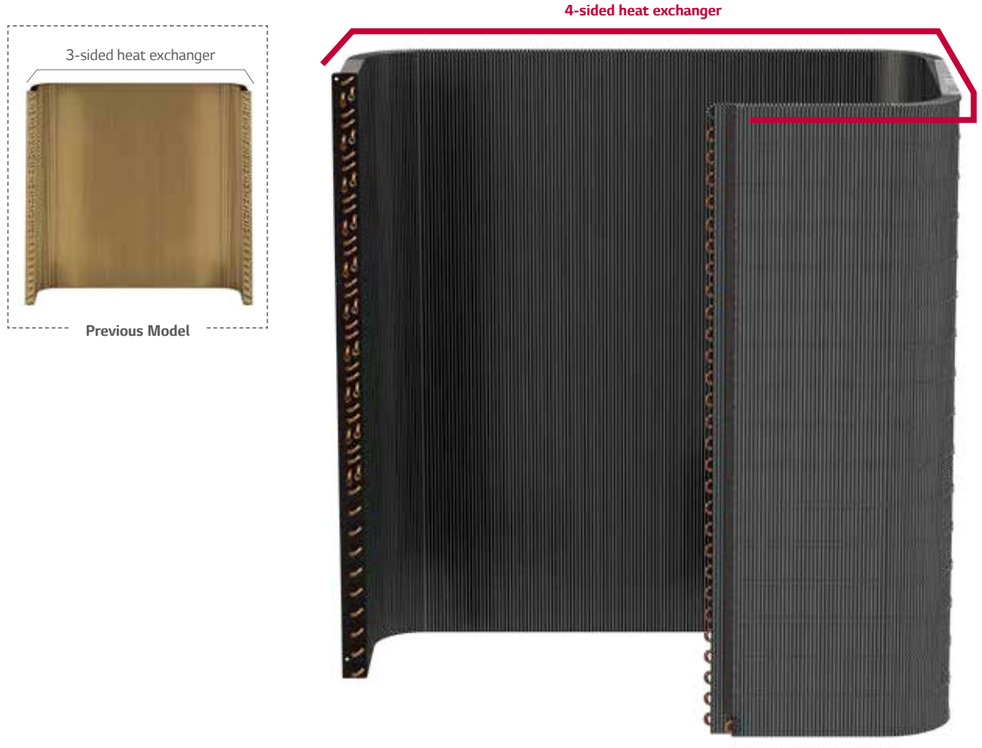
Efficiency performance



LG'S ULTIMATE PERFORMANCE

Heat Exchanger with Ocean Black Fin for Corrosion Resistance

The LG exclusive Ocean Black Fin is applied on the heat exchanger of MULTI V 5 in order to perform even in corrosive environments. The strong protection from various corrosive external environments such as seaside with high salt contamination and industrial cities with severe air pollution caused by fumes from factories keeps MULTI V 5 operating without breakdown. This improvement in durability prolongs the product's lifespan and lowers both the operational and maintenance costs.



Corrosion Resistance Proven by Certified Tests

LG Corrosion Resistance solution passed ISO accelerated corrosion test conducted by an independent test organization and the result has been certified by prestigious global certification organisation, UL (Underwriters Laboratories).

Certified protection

Condition of salt spray test

Temperature	35°C
Mist of 5% sodium chloride solution	

Condition of gas exposure test

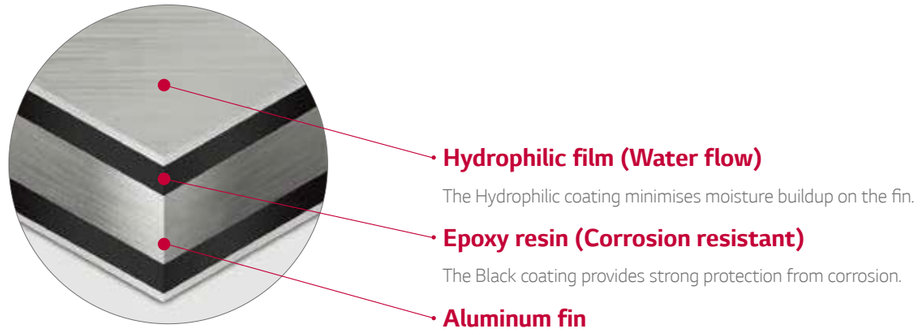
R.H.	NO_2	SO_2
95%	10×10^{-5}	5×10^{-6}

* Test Method B Simulation Validated
(Test condition: Salt contaminated condition + severe industrial/traffic environment(NO_2/SO_2))

* Based on 1,500 UL test hours

Enhanced Coating Layers

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. Moreover, the hydrophilic film keeps water from accumulating on the heat exchanger's fin, minimising moisture buildup and eventually making it even more corrosion resistant.

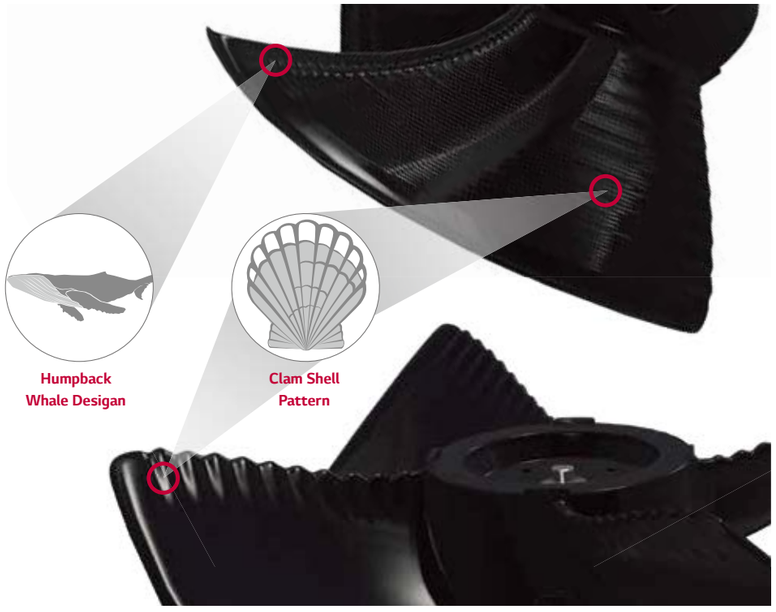


MULTI V 5

LG'S ULTIMATE PERFORMANCE

Larger Capacity ODU with Biomimetics Technology Fan

The moire pattern from external texture of clam shells has been applied on fans to create the range difference which results in reduction of noise level. At the same time, unlike the fans installed in previous products that generate separation of flow due to absence of tubercles, the bumpy back design inspired by the bumps on the humpback whale's flipper is applied as the tubercles on the back side of the fans, increasing airflow by reducing flacking.



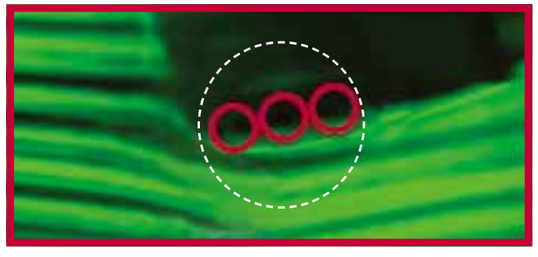
Flow difference comparison caused by tubercles

• Previous model

Without tubercles

• MULTI V 5

With tubercles



For illustrative purposes only.

* Biomimetic refers to human-made processes, substances, devices, or systems that imitate nature.

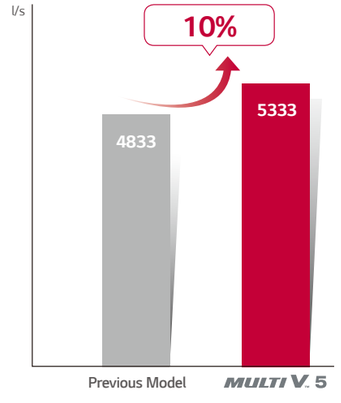
Increased Air Flow Rate with Bigger Shroud

In addition to the biomimetics technology-based fans, extended shroud of MULTI V 5 allows higher static pressure and helps fans to blow higher air volume for efficient operation. With wider air guide, discharged air current is stabilised and noise level is reduced.

Enhanced Performance with Newly Developed Fan

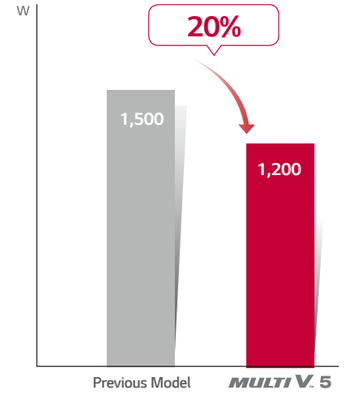
Based on the biomimetics technology, the fans of MULTI V 5 increased air flow rate by 10% in comparison to previous model and reduced its power consumption up to 20%. This eventually results in maximised performance with large capacity.

Air flow rate



* Comparison based on 56kW model

Power consumption



* Comparison based on air volume of 4833l/s

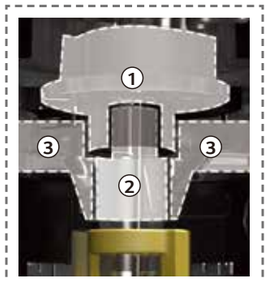
MULTI V 5

LG'S ULTIMATE PERFORMANCE

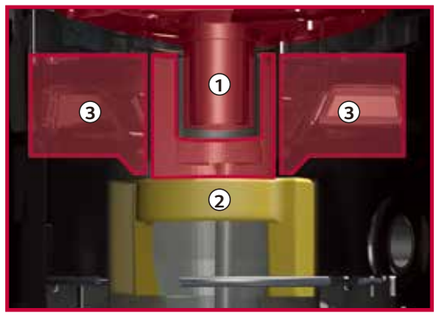
Enhanced Bearing with PEEK Material

Motivated by the lubricative material of PEEK(Polyetheretherketone) bearing used for aero engines, the newly invented scroll system with refined shape increases durability and reliability of compressor. It also helps MULTI V 5 to operate longer without oil supply in comparison to the previous models.

Technology mechanism comparison



Previous Model



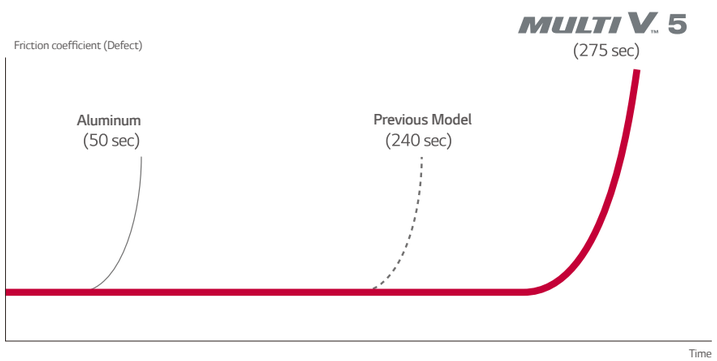
① Material : FR160
①+② Structure : Inner Bearing
③ Supporter

① Material : PEEK (Polyetheretherketone)
①+② Structure : New Outer Bearing
③ Supporter : High speed operation with reduction of bearing load and vibration

Operating time without oil supply
Up to 15%

Noise Level (Max. Sound Pressure)
Down to 3dB

Oilless operation hours comparison

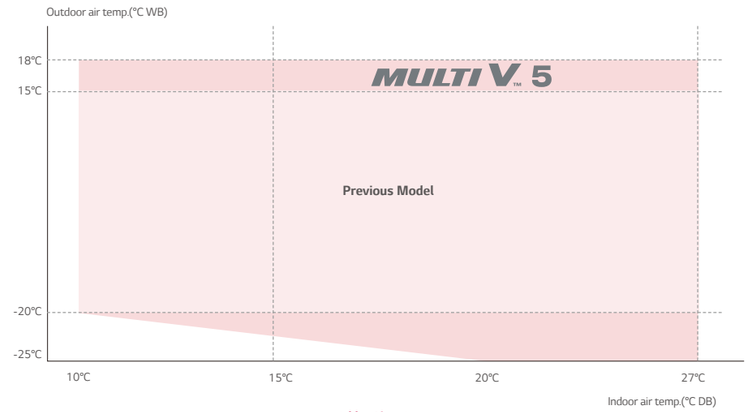


* LG Internal test result
* Test condition : Bearing oil blocking test (Oil blocking at 60 Hz)

Reliable Performance in Tough Environments

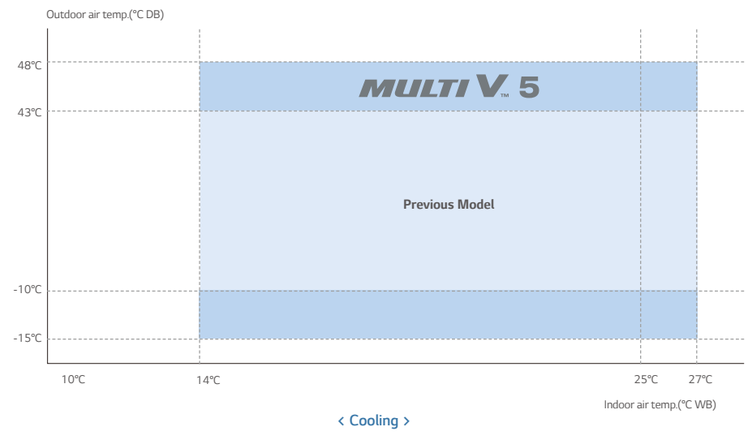
With enhanced inverter compressor and control technology coming from improved supercooling technology, vapor injection and Ocean Black Fin, MULTI V 5 extended range of cooling and heating operations. For heating, it can operate at as low as -25°C to perform properly even at very cold environment. MULTI V 5's cycle technology with enhanced durability enables better cooling performance at high temperature that increases up to 48°C. It is improved to fully function in very tough conditions such as performing cooling operation at -15°C, making the product adequate for uses in specialised venues like technical rooms.

Wider operational range for each performance



‹ Heating ›

* Under the condition of -25°C for outdoor temperature and 20°C for indoor temperature



‹ Cooling ›

MULTI V 5

LG'S ULTIMATE COMFORT

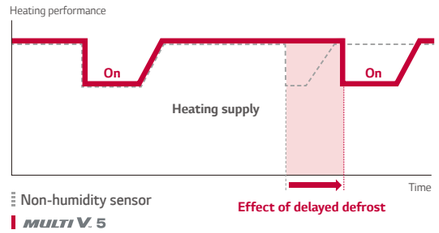
Continuous Heating

With the standard III controller and Dual Sensing Control, partial defrost and smart oil management via oil sensor, continuous heating technology has been improved.

Increase in Heating Operation Time Per Day
Reduction in Power Input

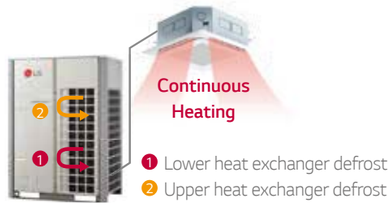
Delayed Defrost via Humidity Sensor of Dual Sensing Control

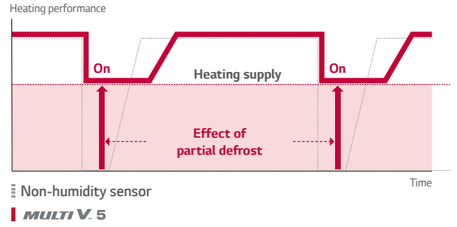
By controlling the evaporation temperature considering the humidity, heating operation time is improved.



Partial Defrost

Unlike the previous model that stopped heating operation for one-time defrost, MULTI V 5 partially defrosts the heat exchanger by dividing it to lower and upper parts in order to provide consistent heating for the indoor environment and improve heating capacity.

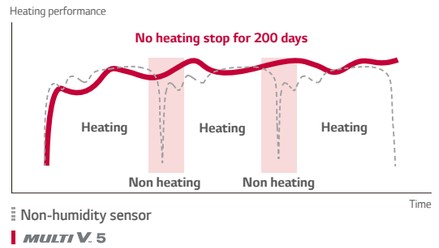




Smart Oil Management

Oil sensor of the Ultimate Inverter (UI) Compressor enables smart oil management to provide enhanced heating operation without periodic oil recovery operation.

Eliminated Unnecessary Oil Return via Oil Sensor

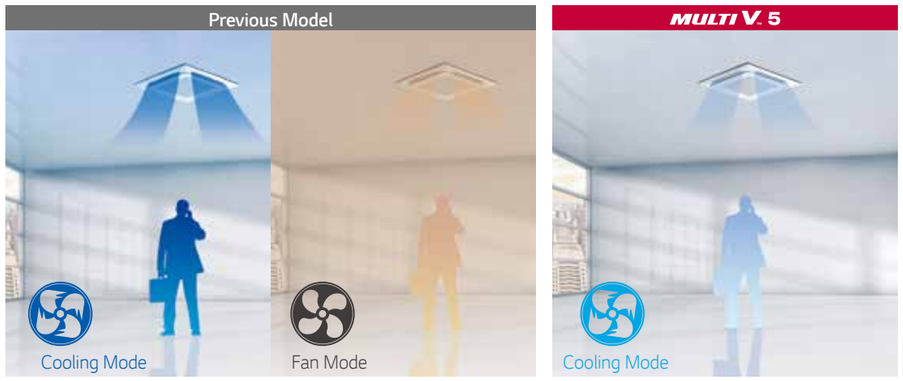


* LG internal test result

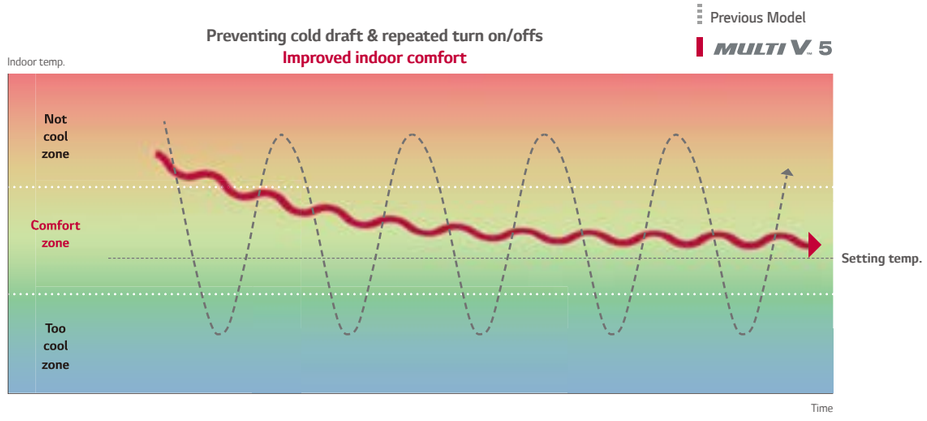
Comfort Cooling

Without stopping in between operations, this function allows MULTI V 5 to maintain operation at mild cooling mode around the set temperature by sensing both temperature and humidity with Dual Sensing Control. By preventing both cold draft and repeated turn on/offs previously required to match the set temperature, users can experience more comfortable indoor environment.

Cooling operation comparison



* Indoor unit set up available with Standard III Remote Controller



OUTDOOR UNIT KEY FEATURES

MULTI V 5

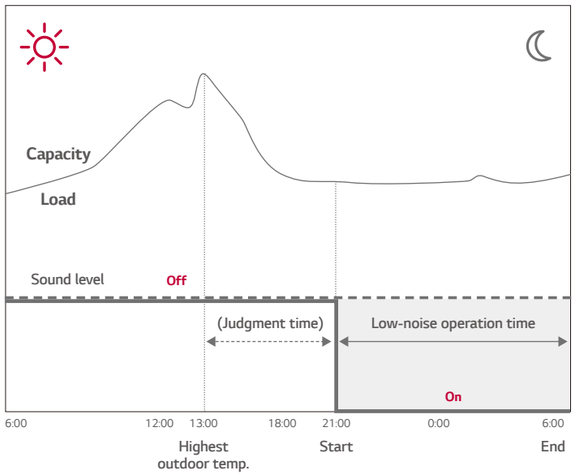
LG'S ULTIMATE COMFORT

Low-Noise Operation

Unlike the previous model which enables Low-Noise Operation only during night after judgment time, the Low-Noise Operation of MULTI V 5 can function regardless of the time at the noise sensitive areas.

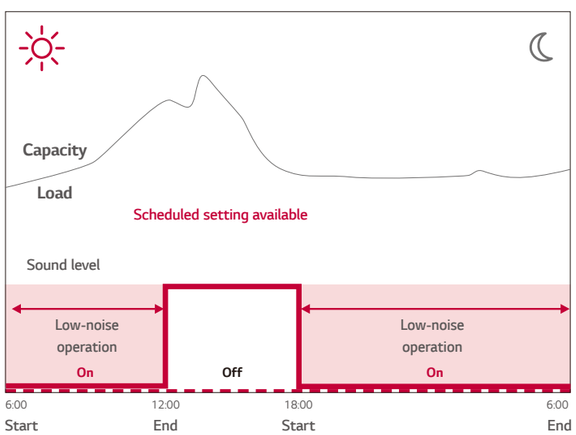
Operation hours comparison

Previous Model



Outdoor setting only

MULTI V 5



Indoor setting available

* Indoor unit set up available with Standard III Remote Controller

LG'S ULTIMATE FLEXIBILITY

MULTI V 5 Outdoor Unit Line Up

22.4kW 28 56 84 112 140 168

22.4 ~ **33.6**

Providing up to **33.6kW for Small Size Outdoor Unit**

↑15.5*

39.2 ~ **72.8**

Providing up to **72.8kW for Single Unit**

↑22.4*

61.6 ~ **134.4**

↑33.6*

140 ~ **168**

* Capacity increase compared to previous model

OUTDOOR UNIT KEY FEATURES

MULTI V 5

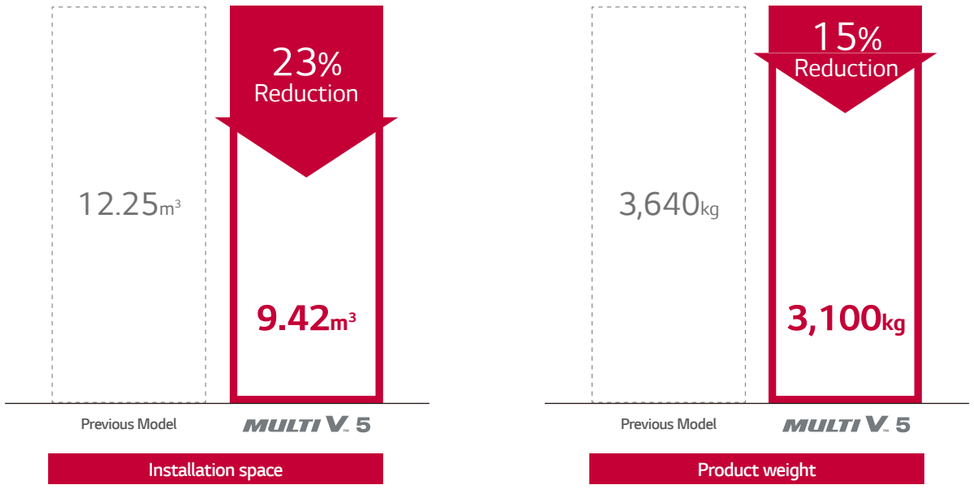
LG'S ULTIMATE FLEXIBILITY

Flexible Installation Space with Large Capacity Outdoor Units

Large capacity outdoor units of MULTI V 5 minimises installation space that spares valuable floor space and significantly decreases total installed weights. This allows users the flexible design potential and better use of the saved space.

Comparison on installation space

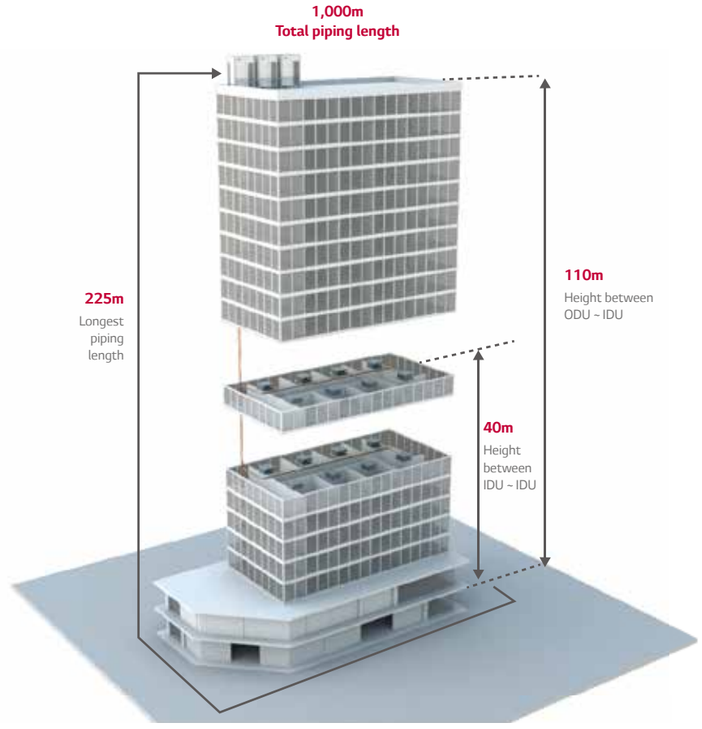
Installation space area and product weight comparison



Comparison basis: 2 Rows of outdoor units 728kW (72.8kW X 10sets) installation case

Piping length

Due to improved supercooling circuit and refrigerant controlling technologies, MULTI V 5 allows users to install top class piping lengths, which results in more flexible installation design.



Piping capabilities

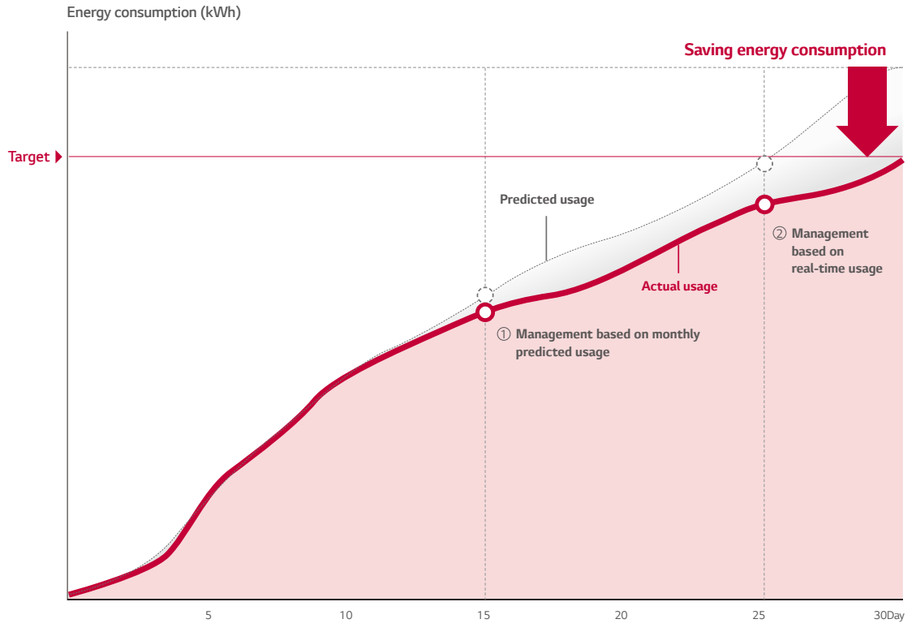
Total Piping Length	1,000m
Actual longest piping length (Equivalent)	200m (225m)
Longest piping length after 1st branch (conditional application)	40m (90m)
Height between ODU ~ IDU	110m
Height between IDU ~ IDU	40m
Height between ODU ~ ODU	5m

MULTI V 5

LG'S ULTIMATE CONTROL

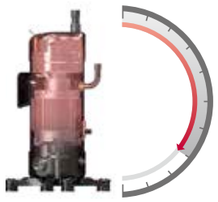
Energy Management

Energy Management allows MULTI V 5 to analyse previous data in order to forecast energy usage beforehand and prevent from exceeding the monthly energy consumption plan by systematically controlling the cooling volume. With energy consulting program that provides automatic operation options for 7 levels of energy management such as compressor capacity management and indoor unit operation level control, users can monitor energy usage anytime and efficiently manage their energy bills.

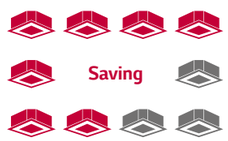


Management setting example
① When predicted usage is 120% ② When the real-time usage is 90%
* Energy Management allows maximum 7 steps (Input format is percent for predicted and real-time usage)
* Central control kit such as ACP IV or AC Smart IV and PDI are required for energy management function

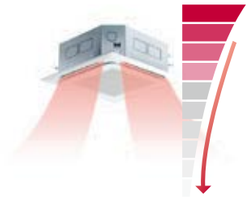
Control methods



Compressor capacity management



Operation rate control of indoor unit



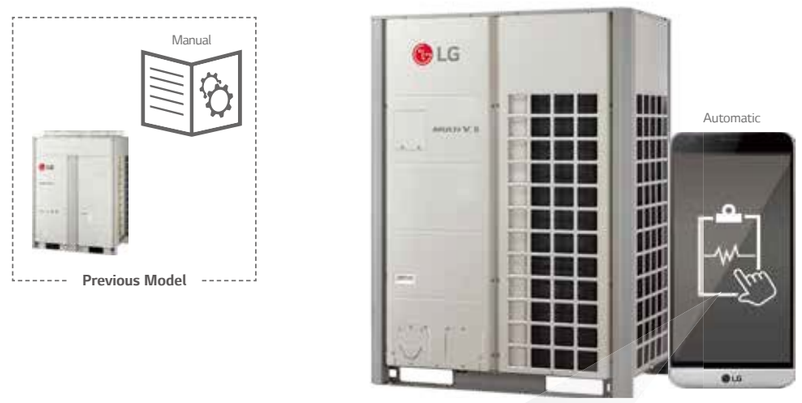
Indoor unit operation management

LG'S ULTIMATE CONTROL

Simple Test Run via LGMV

In order to increase performance, a proper product test run is necessary. For previous product, a professional engineer who is well-aware of more than 40 different functional settings and 200+ error codes had to check main parts in order to make sure that the test run had succeeded. With the LGMV smartphone app, a fast and accurate auto test run can be executed and the professional installer running the test can receive test results via email, which shortens installation time and increases overall efficiency in installation processes.

Test run comparison



LGMV smartphone application setting pages

Wi-Fi MV Module

* This feature is provided only to qualified professional installers
**LGMV Application is available for Android and iOS (iphone/ipad)

OUTDOOR UNIT KEY FEATURES

MULTI V 5

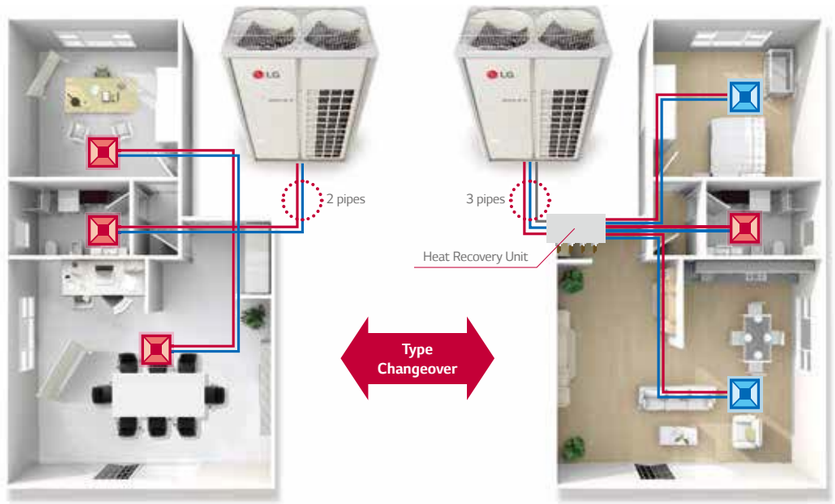
HEAT RECOVERY

Applicable for Various Building Types with Heat Pump & Heat Recovery Systems

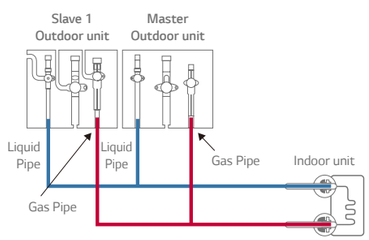
LG MULTI V 5 satisfies users' various needs with just one platform. The Heat Pump System works for the sites where either cooling or heating operation is needed, while the Heat Recovery System fits perfectly to the sites wherein both the cooling and heating operations are simultaneously needed or locations installed with Hot Water Solution to provide hot water and heating via radiator. By providing suitable solutions that cater to any building types and their requirements, MULTI V 5 offers LG's best HVAC system.

Simple Piping System Changes

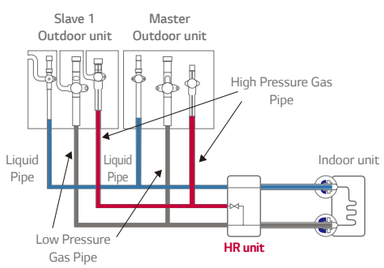
MULTI V 5 allows the building previously installed with Heat Pump System to switch to the Heat Recovery System for changing purpose of the building or remodeling reasons via simple piping construction.



Heat Pump System



Heat Recovery System

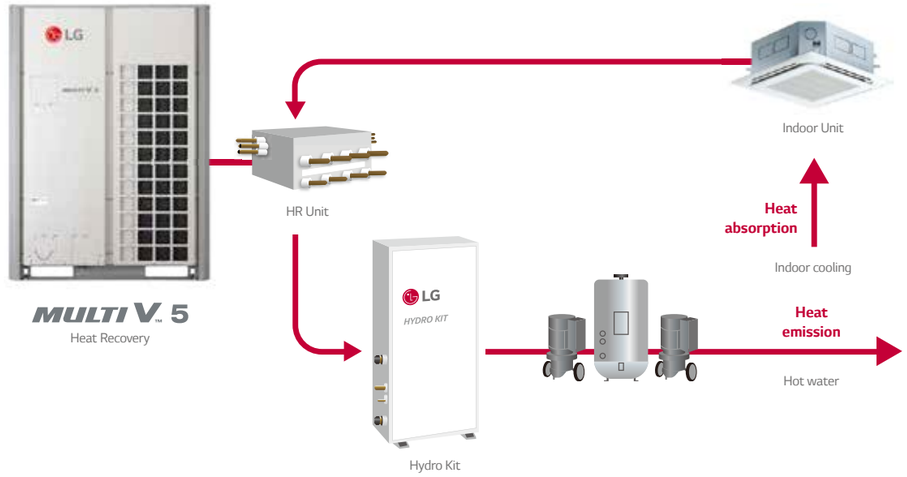


HEAT RECOVERY

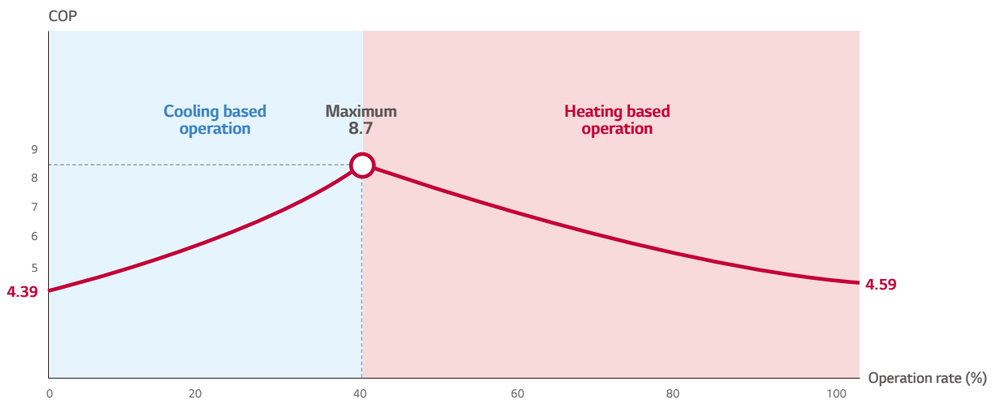
Energy Saving with Simultaneous Operation

MULTI V 5 Heat Recovery system with HR Unit can perform both cooling and heating operations simultaneously. For continuous operation, it minimises in order to switch mode while it increases efficiency with simultaneous operation. Moreover, it allows the COP to reach up to 8.5 under circumstances of 40% cooling and 60% heating operations, which results in significantly decreased energy consumption.

Technology mechanism



COP with simultaneous operation



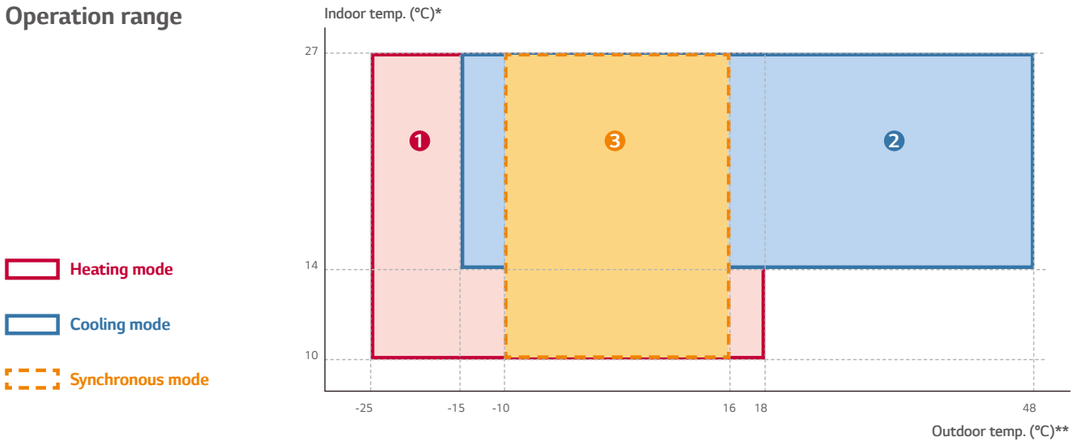
* Outdoor temperature : 7°C DB / 6°C WB
* Indoor temperature : 20°CDB / 15°C WB
* ARMU200LTE5

MULTI V 5

Wide Operation Range

Both the low and high temperature operation ranges are expanded through condenser with various control. For heating mode, the outdoor temperature can go from as low as -25°C to 24°C, and from -15°C to as high as 48°C for cooling mode. As for the synchronous mode, it can run from -10°C to 16°C.

Operation range



Outdoor Temperature

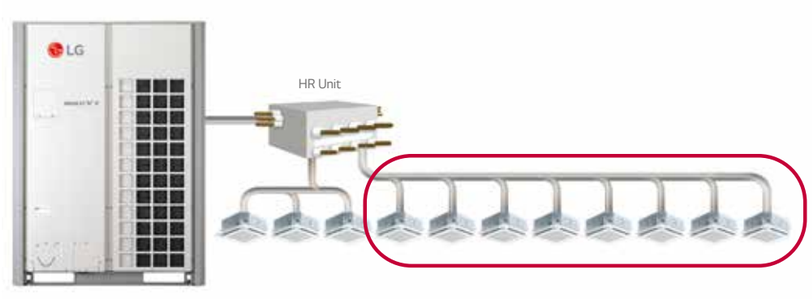
1 Heating mode : - 25°C WB ~ 18°C WB 2 Cooling mode : - 15°C DB ~ 48°C 3 Synchronous mode : -10°C WB ~ 16°C WB

* Heating (°C DB), Cooling (°C WB), Synchronous (°C DB) ** Heating (°C WB), Cooling (°C DB), Synchronous (°C WB)

Flexible Connection of Heat Recovery Unit

LG MULTI V 5 Heat Recovery Unit allows flexible connection both in series and in a row. With the zone control function, up to 8 indoor units can be connected to a branch while the maximum of 32 indoor units can be connected to a HR unit, saving the installation cost by flexible connection.

Zoning control

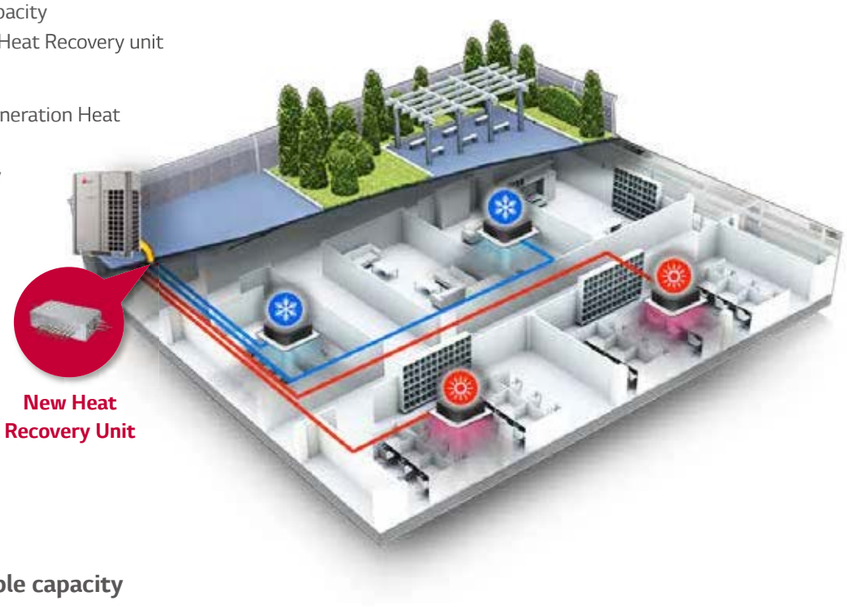


NEW HEAT RECOVERY UNIT

Summary of New Heat Recovery unit Features

Expansion of connectable capacity
Compatible with existing LG Heat Recovery unit
Easy Serial Connection

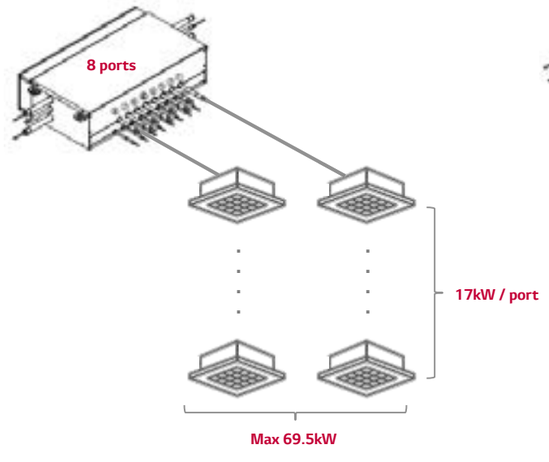
Compared to the previous generation Heat Recovery Unit:
Improved Service Workability
Reduce Servicing Space
Reduced Noise
Reduce Standby Power



Expansion of connectable capacity

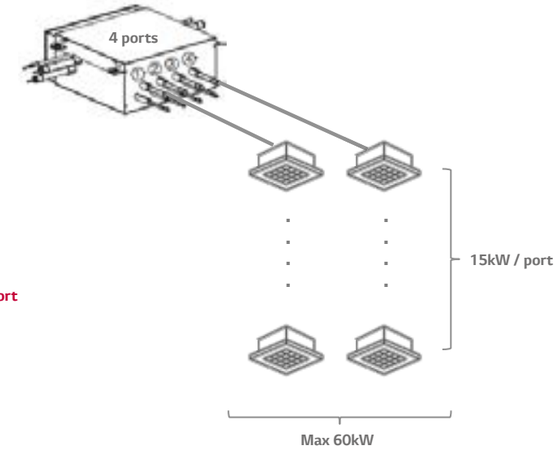
- Connectable capacity per port increased by 25%. (15kW → 17kW)
- Total connectable capacity increased by 20%. (60kW → 69.5kW)

New



※ Maximum number of connectable indoor units : 64 IDUs/HR unit(in case of 8 ports model)

Previous Series



※ Maximum number of connectable indoor units : 32 IDUs/HR unit (in case of 4 ports model)

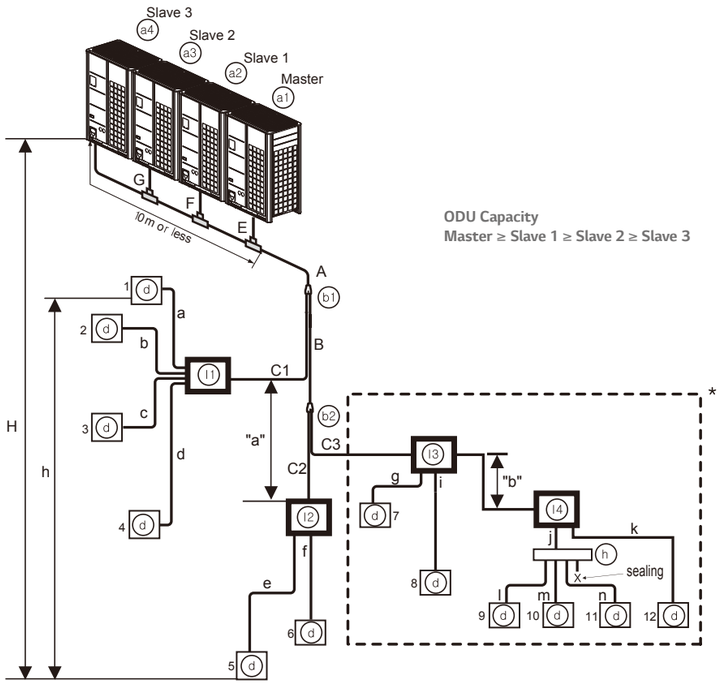
REFRIGERANT PIPING SYSTEM

Pipe connection method between indoor and outdoor units

Heat Recovery System: 4 Oudoor Units

Example: 12 Indoor Units connected

ⓐ Outdoor Unit
ⓑ Y branch
ⓓ Indoor Units
E Connection branch pipe between Outdoor units: ARCNB41
F Connection branch pipe between Outdoor units: ARCNB31
G Connection branch pipe between Outdoor units: ARCNB21
ⓗ Header
Ⓘ HR Unit



ODU Capacity
Master ≥ Slave 1 ≥ Slave 2 ≥ Slave 3

- Case 1 ("a") : Maximum height is 30m(98.4ft) if you install with Y branch.
- Case 2 ("b") : Maximum height is 5m(16.4ft) in serial connection of HR units.

WARNING

- Branch pipe can not be used after header
- It is recommended that difference in length of the pipes connected to the indoor units (a~f) is minimised. The large difference in pipe lengths, the more different performance between indoor units.
- * : Serial connection of HR units : Capacity sum of indoor units ≤ 69.5kW. If the large capacity indoor units (Over 14kW; using overØ15.88/Ø9.52) are installed, it should be used the Valve Group setting.
- Refer to the HR unit PCB part for the valve group control setting.
- Piping length from outdoor branch to outdoor unit ≤ 10m(32.8ft), equivalent length : max 13m(42.7ft). (for 2 units combination or more)

REFRIGERANT PIPING SYSTEM

Total pipe length = A+B+C1+C2+C3+a+b+c+d+e+f+g+i+j+k+l+m+n ≤ 1,000

Max. pipe length	**Total pipe length (A+B+C1+C2+C3+a+b+c+d+e+f+g+i+j+k+l+m+n)**		**1,000m [3,281ft]**
	L	Longest pipe length (A+B+C3+k) : between Outdoor Unit and Indoor Unit	150m [492ft] (200m [656ft]**)
		Longest pipe Equivalent length* : between Outdoor Unit and Indoor Unit	175m [574ft] (225m [738ft]**)
	l	Longest pipe length after 1st branch	40m [131ft] (90m [295ft]**)
Max. difference in height	H	Between Outdoor Unit and Indoor Unit	110m [361ft]
	h	Between Indoor Unit and Indoor Unit	40m [131ft]
	h1	Between Outdoor Unit and Outdoor Unit	5m [16.4ft]
	h2	Between Indoor Unit and HR Unit	15m [49.2ft]
	a	Between HR Unit and HR Unit	30m [98.4ft]
	b	Between HR Unit and HR Unit within same branch	5m [16.4ft]

Note

- * : Equivalent piping length for Y Branch and other pipes can be calculated with following table.

mm (inch)	Ø6.35 (1/4)	Ø69.52 (3/8)	Ø12.7 (1/2)	Ø15.88 (5/8)	Ø19.05 (3/4)	Ø22.2 (7/8)	Ø25.4 (1)	Ø28.58 (1-1/8)	Ø31.8 (1-1/4)	Ø34.9 (1-3/8)	Ø28.1 (1-1/2)	Ø41.3 (1-5/8)	Ø44.5 (1-3/4)	Ø53.98 (2-1/8)
Elbow (m)	0.16	0.18	0.2	0.25	0.35	0.4	0.45	0.5	0.55	0.6	0.65	0.7	0.75	0.85
Y Branch (m)	0.5													
Header (m)	1													
HR Unit (m)	2.5													

- ** : Conditional application.

OUTDOOR UNIT KEY FEATURES

MULTI V 5

CONTROLLERS

MULTI V 5 offers a diverse range of effective control solutions that satisfy specific needs of each building and its user scene. These controlling systems are equipped with user friendly interface, flexible interlocking environment, energy management and smart individual controller to help optimise controlling conditions and smart building management.

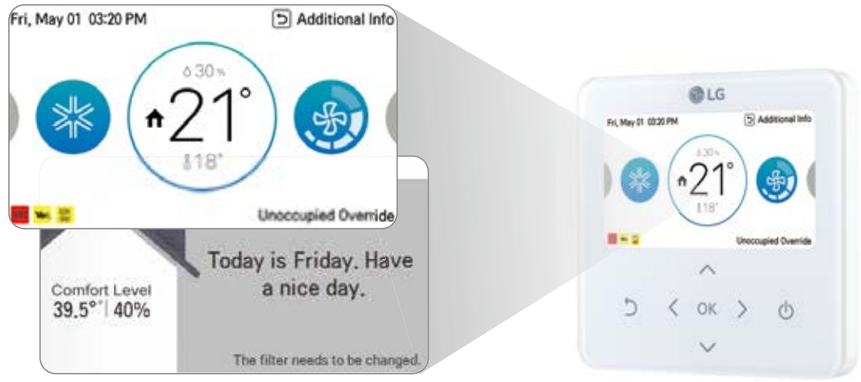
LG's Control Solution

MULTI V 5 offers a diverse range of effective control solutions that satisfy specific needs of each building and its user scene.

Smart Individual Controller (with Standard III Remote Controller)

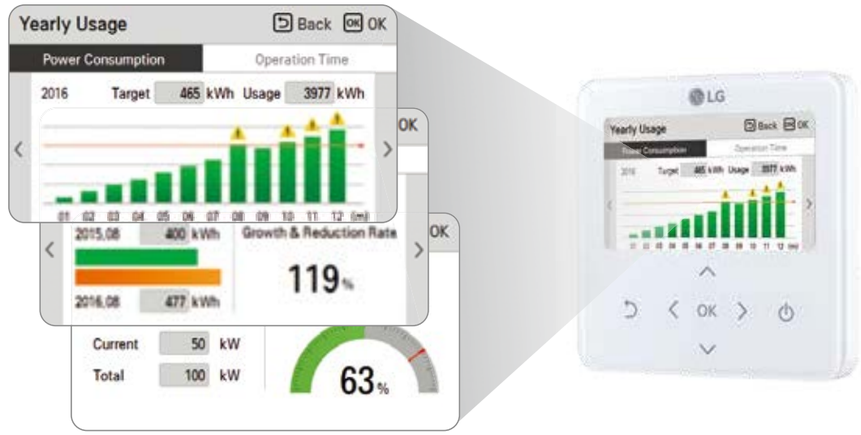
The new Standard III Remote Controller for MULTI V 5 offers a 4.3-inch large LCD screen with a premium design. This luxurious design well-matches many contemporary interior designs due to its large coloured LCD screen, curved edge display and simple button layout. With diverse information offered such as temperature, humidity and filter information, users can check on currently consumed power in real-time and electricity consumption data(weekly/monthly/annually) to predict and plan power consumption usage. Moreover, the simple and geometrical designed user interface makes it easier to comprehend. With the circular visual theme, the information is labelled in different-sized circles based on their priorities.

Intuitive Interface



Luxurious Design

Energy Management



* Central control kit such as ACP IV or AC Smart IV and PDI are required for energy management function

OUTDOOR UNIT KEY FEATURES

MULTI V 5

CONTROLLERS

Energy Management

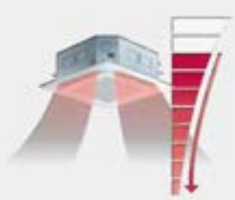
The energy navigation function allows MULTI V 5 to preset monthly energy usage and consume only what has been previously planned by analysing and comparing previous consumption and planned energy usage for the month, to help prevent overuse of the HVAC system operational costs.

System Architecture

Energy Saving Logic

Compressor Capacity Control

IDU Operation Ratio Control



IDU Operation Level

User Friendly Interface - Flexible Design

As an advanced central controller, AC Manager 5 offers flexible interface for each user by assessing the device screen and automatically customising the layout to provide a functional and user friendly interface.

Monitoring room

PC

Checking each room

Tablet

Working outside

Mobile

Schedule function

Energy Management

Operation Trending Report

Automatic E-mail Sending

OUTDOOR UNIT KEY FEATURES

CONSULTANTS & HVAC DESIGNERS

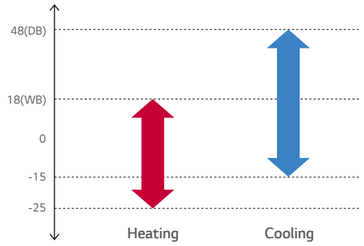
From accurate 3D-based building modeling to strong system capability regardless of the building size and climate conditions, MULTI V 5 offers a highly efficient and flexible installation environment for consultants and HVAC designers.

01 Improved designing effectiveness and accuracy via LATS Revit, the BIM application

LG provides 3D-based BIM simulation tool, LATS Revit, in order to offer product selection, positioning and piping from installation, interference check to correction phases based on systematic consideration of the load. This enables an easy and accurate system modeling support.

02 Applicable to various climate conditions and purposes based on wide operational range for both heating and cooling operations

Even in extreme climate situations experienced in Australia, MULTI V 5 can perform stable heating and cooling operations. Due to LG's improved inner parts and cycle technology, it can perform heating operation at extremely cold temperature as low as -25C. For cooling performance, MULTI V 5 can operate from -15°C to 48°C. With wide operational range, it can perform heating operation in cold environment, making the product adequate for uses in specialised venues like server rooms.



03 Flexible construction design available due to long piping technology

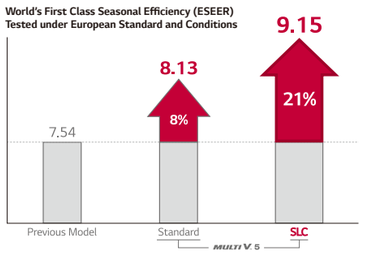
MULTI V 5 provides an effective solution for various types of building with diverse size and purposes. The longest piping length offered by MULTI V 5 is 225m and height difference between outdoor unit and indoor unit stretches up to 110m.

Total Piping Length	1,000m
Actual longest piping length	225m
Longest piping length after 1st branch (conditional application)	40m (90m)
Height between ODU ~ IDU	110m
Height between IDU ~ IDU	40m
Height between ODU ~ ODU	5m

04 The most economical solution with the top class energy efficiency as tested under European Standard

Improved reliability based on LG's Ultimate Inverter Compressor and other core parts, as well as LG's most developed controlling technology due to optimal cycle operation and Dual Sensing Control that recognises both the temperature and humidity achieved the world's best class seasonal efficiency (ESEER) of 9.15 under the European Standard. As a result, this enables the most economical system capability for MULTI V 5 in comparison to any other existing HVAC systems.*

***Tested per European standard. Australian test results may vary due to different conditions and standard requirements.**



*** Comparison based on 10HP in cooling mode**

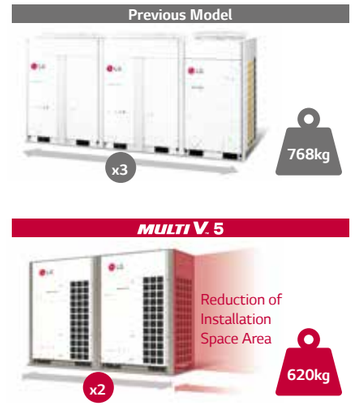
OUTDOOR UNIT KEY FEATURES

INSTALLERS

Due to increased capacity provided by single outdoor units, installation is simpler with a reduced number of outdoor units to combine. Moreover, solutions connected to and operated by smart devices significantly shorten physical hours required for test run, diagnosis and monitoring of multiple services while making these controlling more accurate.

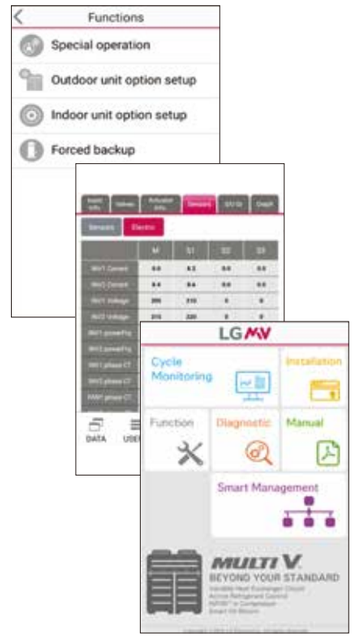
01 Increased installation convenience due to large capacity units reducing number of outdoor units required for combination

By providing up to 72.8kW for single unit line up, MULTI V 5 decreases the total number of required outdoor units in order to ultimately simplify installation process, when compared to previous models. For example, previous system required a combination of a 56kW outdoor unit, a 50.4kW outdoor unit and a 28kW outdoor unit to run a total of 134.4kW For MULTI V 5, however, only 2 outdoor units with each providing 67.2kW can cover the same amount. This significantly reduces installation hours, especially those that used to take long time such as using crane to properly place outdoor units on the rooftop.



02 Simple and easy installation and service with Mobile LGMV

With LGMV, the smarter SVC application, hours and resources spent for installation are significantly reduced and more accurate installation and service can be offered.



Auto test run

Mobile application allows automatic address setting and test run report releasing.

Refrigerant diagnose solution

By regularly checking the amount of refrigerant, it automatically reloads if current amount is not enough.

Easier setting for installers

Unlike before when set up had to be done via DIP Switch of Outdoor unit, installers can simply manage setting via mobile app for MULTI V 5. Indeed, settings for SLC steps, Dual Sensing Control and outdoor unit fan's maximum RPM control can be easily managed via LGMV.

Smart management

By checking test run history, black box review and other previous records, site information can be managed efficiently.

***LGMV application is available for Android and iOS (iphone/ipad)**

OUTDOOR UNIT KEY FEATURES

BUILDING OWNERS

With increased reliability of core parts such as compressor and heat exchanger, as well as high operational efficiency, building owners can significantly reduce operational costs. At the same time, large capacity outdoor units minimise installation space which eventually allow better use of the floor space. Moreover, MULTI V 5 assists in preventing overuse of the operational costs by planning and consuming the projected monthly energy usage.

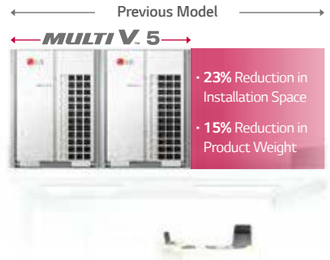
01 Corrosion resistance via Ocean Black Fin

Protection certified by UL (Underwriters Laboratories), LG exclusive Ocean Black Fin is applied on the heat exchanger of MULTI V 5 in order to perform even in corrosive environments. The protection from various corrosive external environments such as seaside with high salt contamination and industrial cities with severe air pollution caused by fumes from factories keeps MULTI V 5 operating with high reliability.

Ocean Black Fin

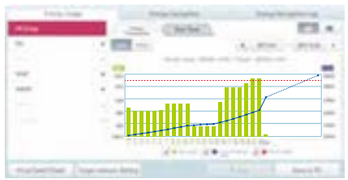
02 Minimised installation footprint via large capacity outdoor units for flexible usage of the saved floor space

MULTI V 5 provides up to 72.8kW for single unit line up. Considering that a total of 218kW is being installed, the total installation space is saved up to 23% while the overall product weight decreases up to 15% in comparison to previous model. This eventually resulted in the maximised use of the saved floor space. Moreover, reduced product weight of MULTI V 5 makes installation easier with less limitation on product weight installed on the building's rooftop.



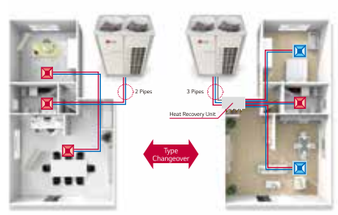
03 Operational costs management by presetting energy consumption

The energy management function allows MULTI V 5 to preset monthly energy usage and consume what has been previously planned. By analysing and comparing previous consumption and planned energy usage for the month, overuse of the HVAC system operational costs can be prevented.



04 Easy building remodeling with Integral system that offers both the Heat Pump & Heat Recovery

MULTI V 5 offers HVAC solution with integrated system that offers both the Heat Pump and the Heat Recovery Systems.
Even if the site has been previously installed with Heat Pump System, user can easily replace it with Heat Recovery System or Hot Water Solution when necessary, through simple piping construction which eventually allows more rooms for future remodeling plans.



Heat Pump System | Heat Recovery System

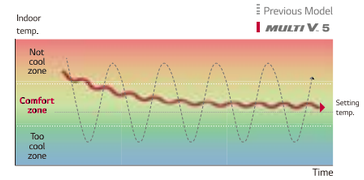
OUTDOOR UNIT KEY FEATURES

END USERS

LG's inverter technology and capability to actively respond to the building's internal and external environment allow users to quickly arrive at and maintain the desired ambient condition. Moreover, users can control the indoor environment remotely via a compatible smartphone from wherever and whenever. Lastly, new Standard III Remote Controller with simple user interface and premium design provides users the optimal controlling experience.

01 More comfortable cooling environment via Dual Sensing

With the performance of LG's Ultimate Inverter Compressor MULTI V 5 can quickly approach a user's desired temperature. At the same time, the dual sensing technology controls and maintains indoor temperature pleasantly based on its recognition of both the temperature and humidity in order to help users achieve their optimal comfort.



*Not to scale. For illustrative purposes only.

02 Continuous heating operation

Due to technologies of MULTI V 5 such as delayed defrost via Dual Sensing Control, partial defrost and smart oil management, users can enjoy a pleasant and comfortable indoor environment with no stopping of heating operations in between.

CONTINUOUS HEATING

03 Help achieve an optimal controlling environment with new Standard III Remote Controller

MULTI V 5's new wired remote controller offers simple and easy controlling experience via simplified user interface and 4.3-inch large colored LCD screen. Moreover, it provides diverse information such as indoor temperature, humidity, cleanliness and real-time check on energy consumption.

OUTDOOR UNIT SPECIFICATION

MULTI V 5

ARUM080LTE5/ ARUM100LTE5 / ARUM120LTE5 / ARUM140LTE5 / ARUM160LTE5

Class			8	10	12	14	16
Model Name	Combination Unit		ARUM080LTE5	ARUM100LTE5	ARUM120LTE5	ARUM140LTE5	ARUM160LTE5
	Independent Unit		ARUM080LTE5	ARUM100LTE5	ARUM120LTE5	ARUM140LTE5	ARUM160LTE5
Capacity	Cooling (Total)	kW	22.4	28.0	33.6	39.2	44.8
		Btu/h	76,400	95,500	114,600	133,800	152,900
	Cooling (Net/Rated)	kW	21.6	27.3	32.5	38.3	44.3
		Btu/h	73,700	93,200	110,900	130,700	151,200
	Heating (Total)	kW	25.2	31.5	37.8	44.1	50.4
		Btu/h	86,000	107,500	129,000	150,500	172,000
	Heating (Net/Rated)	kW	22.0	27.6	33.3	38.0	43.3
		Btu/h	75,100	94,200	113,600	129,700	147,700
Input	Cooling (Total)	kW	4.49	5.80	7.58	8.68	10.89
	Heating (Total)	kW	4.78	5.92	8.26	9.72	12.39
EER	Total		4.99	4.83	4.43	4.52	4.11
	Net		4.19	4.01	3.90	3.80	3.33
COP	Total		5.27	5.32	4.58	4.54	4.07
	Net		4.49	4.55	4.16	4.00	3.44
Power Factor	Net	-	0.93	0.93	0.93	0.93	0.93
Heat Exchanger			Wide Louver Plus	Wide Louver Plus	Wide Louver Plus	Wide Louver Plus	Wide Louver Plus
Exterior	Colour		Warm Gray / Dawn Gray	Warm Gray / Dawn Gray	Warm Gray / Dawn Gray	Warm Gray / Dawn Gray	Warm Gray / Dawn Gray
	RAL Code		NL503K / NA507K	NL503K / NA507K	NL503K / NA507K	NL503K / NA507K	NL503K / NA507K
Compressor	Type		Hermetically Sealed Scroll	Hermetically Sealed Scroll	Hermetically Sealed Scroll	Hermetically Sealed Scroll	Hermetically Sealed Scroll
	Piston Displacement	cm^3 / rev	43.8	62.1	62.1	62.1	62.1
	Number of Revolution	rev / min	3,600	3,600	3,600	3,600	3,600
	Motor Output x Number	W x No.	4,200 x 1	5,300 x 1	5,300 x 1	5,300 x 1	5,300 x 1
	Starting Method		Direct On Line	Direct On Line	Direct On Line	Direct On Line	Direct On Line
	Oil Type		FVC68D(PVE)	FVC68D(PVE)	FVC68D(PVE)	FVC68D(PVE)	FVC68D(PVE)
Fan	Type		Propeller Fan	Propeller Fan	Propeller Fan	Propeller Fan	Propeller Fan
	Motor Output x Number	W x No.	1,200 x 1	1,200 x 1	1,200 x 1	900 x 2	900 x 2
	Air Flow Rate (High)	m^3 / min	240 x 1	240 x 1	240 x 1	320 x 1	320 x 1
		ft^3 / min	8,476 x 1	8,476 x 1	8,476 x 1	11,301 x 1	11,301 x 1
	External Static Pressure (Max, Pa)		80	80	80	80	80
	Drive		DC Inverter	DC Inverter	DC Inverter	DC Inverter	DC Inverter
	Discharge	Side / Top	Top	Top	Top	Top	Top
Pipe Connections *1	Liquid Pipe	mm (inch)	9.52 (3/8)	9.52 (3/8)	12.7 (1/2)	12.7 (1/2)	12.7 (1/2)
	Low pressure gas pipe	mm (inch)	19.05 (3/4)	22.2 (7/8)	28.58 (1-1/8)	28.58 (1-1/8)	28.58 (1-1/8)
	High pressure gas pipe	mm (inch)	15.88 (5/8)	19.05 (3/4)	19.05 (3/4)	22.2 (7/8)	22.2 (7/8)
Pipe Connections *2	Liquid Pipe	mm (inch)	9.52 (3/8)	9.52 (3/8)	12.7 (1/2)	12.7 (1/2)	12.7 (1/2)
	Gas pipe	mm (inch)	19.05 (3/4)	22.2 (7/8)	28.58 (1-1/8)	28.58 (1-1/8)	28.58 (1-1/8)
Dimensions (W x H x D)		mm	(930 x 1,690 x 760) x 1	(930 x 1,690 x 760) x 1	(930 x 1,690 x 760) x 1	(1,240 x 1,690 x 760) x 1	(1,240 x 1,690 x 760) x 1
Net Weight		kg	198 x 1	215 x 1	215 x 1	237 x 1	237 x 1
		lbs	437 x 1	474 x 1	474 x 1	522 x 1	522 x 1
Sound Pressure Level	Cooling	dB(A)	58.0	58.0	59.0	60.0	60.5
	Heating	dB(A)	59.0	59.0	60.0	610	61.5
Sound Power Level	Cooling	dB(A)	84.0	85.0	86.0	89.0	90.0
	Heating	dB(A)	87.0	88.0	89.0	93.0	94.0
Protection Devices	High pressure protection	-	High pressure sensor / High pressure switch	High pressure sensor / High pressure switch	High pressure sensor / High pressure switch	High pressure sensor / High pressure switch	High pressure sensor / High pressure switch
	Compressor / Fan	-	Over-heat protection / Fan driver overload protector	Over-heat protection / Fan driver overload protector	Over-heat protection / Fan driver overload protector	Over-heat protection / Fan driver overload protector	Over-heat protection / Fan driver overload protector
	Inverter	-	Over-heat protection / Over-current protection	Over-heat protection / Over-current protection	Over-heat protection / Over-current protection	Over-heat protection / Over-current protection	Over-heat protection / Over-current protection
Communication Cable		No.xmm^2 (VCTF-SB)	2C x 1.0 ~ 1.5	2C x 1.0 ~ 1.5	2C x 1.0 ~ 1.5	2C x 1.0 ~ 1.5	2C x 1.0 ~ 1.5
Refrigerant	Refrigerant Name		R410A	R410A	R410A	R410A	R410A
	Precharged Amount in factory	kg	7.5	9.5	9.5	13.5	13.5
	TCO_2eq		15.7	19.8	19.8	28.2	28.2
	Control		Electronic Expansion Valve	Electronic Expansion Valve	Electronic Expansion Valve	Electronic Expansion Valve	Electronic Expansion Valve
Power Supply		Ø , V, Hz	380~415, 3, 50	380~415, 3, 50	380~415, 3, 50	380~415, 3, 50	380~415, 3, 50
			380, 3, 60	380, 3, 60	380, 3, 60	380, 3, 60	380, 3, 60
Number of maxmum connectable indoor units[5])			13 (20)	16 (25)	20 (30)	23 (35)	26 (40)

ARUM180LTE5 / ARUM200LTE5 / ARUM220LTE5 / ARUM221LTE5 / ARUM240LTE5

Class			18	20	22	24	26
Model Name	Combination Unit		ARUM180LTE5	ARUM200LTE5	ARUM220LTE5	ARUM240LTE5	ARUM260LTE5
	Independent Unit		ARUM180LTE5	ARUM200LTE5	ARUM220LTE5	ARUM240LTE5	ARUM260LTE5
Capacity	Cooling (Total)	kW	50.4	56.0	61.6	67.2	72.8
		Btu/h	172,000	191,100	210,200	229,300	248,400
	Cooling (Net/Rated)	kW	49.0	54.8	60.0	66.0	70.5
		Btu/h	167,200	187,000	204,700	225,200	240,600
	Heating (Total)	kW	56.7	63.0	69.3	74.3	74.3
		Btu/h	193,500	215,000	236,500	253,400	253,400
	Heating (Net/Rated)	kW	49.5	55.5	59.5	65.3	65.8
		Btu/h	168,900	189,400	203,000	222,800	224,500
Input	Cooling (Total)	kW	10.91	12.77	15.70	17.40	20.20
	Heating (Total)	kW	11.94	14.69	16.76	18.80	19.15
EER	Total		4.62	4.39	3.92	3.86	3.60
	Net		3.80	3.66	3.34	3.34	3.11
COP	Total		4.75	4.29	4.13	3.95	3.88
	Net		4.27	3.97	3.84	4.32	4.45
Power Factor	Net	-	0.93	0.93	0.93	0.93	0.93
Heat Exchanger			Wide Louver Plus	Wide Louver Plus	Wide Louver Plus	Wide Louver Plus	Wide Louver Plus
Exterior	Colour		Warm Gray / Dawn Gray	Warm Gray / Dawn Gray	Warm Gray / Dawn Gray	Warm Gray / Dawn Gray	Warm Gray / Dawn Gray
	RAL Code		NL503K / NA507K	NL503K / NA507K	NL503K / NA507K	NL503K / NA507K	NL503K / NA507K
Compressor	Type		Hermetically Sealed Scroll	Hermetically Sealed Scroll	Hermetically Sealed Scroll	Hermetically Sealed Scroll	Hermetically Sealed Scroll
	Piston Displacement	cm^3 / rev	62.1 x 1 + 43.8 x 1	62.1 x 1 + 43.8 x 1	62.1 x 1 + 43.8 x 1	62.1 x 2	62.1 x 2
	Number of Revolution	rev / min	3,600 x 2	3,600 x 2	3,600 x 2	3,600 x 2	3,600 x 2
	Motor Output x Number	W x No.	5,300 x 1 + 4,200 x 1	5,300 x 1 + 4,200 x 1	5,300 x 1 + 4,200 x 1	5,300 x 2	5,300 x 2
	Starting Method		Direct On Line	Direct On Line	Direct On Line	Direct On Line	Direct On Line
	Oil Type		FVC68D(PVE)	FVC68D(PVE)	FVC68D(PVE)	FVC68D(PVE)	FVC68D(PVE)
Fan	Type		Propeller Fan	Propeller Fan	Propeller Fan	Propeller Fan	Propeller Fan
	Motor Output x Number	W x No.	900 x 2	900 x 2	900 x 2	900 x 2	900 x 2
	Air Flow Rate (High)	m^3 / min	320 x 1	320 x 1	320 x 1	320 x 1	320 x 1
		ft^3 / min	11,301 x 1	11,301 x 1	11,301 x 1	11,301 x 1	11,301 x 1
	External Static Pressure (Max, Pa)		80	80	80	80	80
	Drive		DC Inverter	DC Inverter	DC Inverter	DC Inverter	DC Inverter
	Discharge	Side / Top	Top	Top	Top	Top	Top
Pipe Connections *1	Liquid Pipe	mm (inch)	15.88 (5/8)	15.88 (5/8)	15.88 (5/8)	15.88 (5/8)	19.05 (3/4)
	Low pressure gas pipe	mm (inch)	28.58 (1-1/8)	28.58 (1-1/8)	28.58 (1-1/8)	34.9 (1-3/8)	34.9 (1-3/8)
	High pressure gas pipe	mm (inch)	22.2 (7/8)	22.2 (7/8)	28.58 (1-1/8)	28.58 (1-1/8)	28.58 (1-1/8)
Pipe Connections *2	Liquid Pipe	mm (inch)	15.88 (5/8)	15.88 (5/8)	15.88 (5/8)	15.88 (5/8)	19.05 (3/4)
	Gas pipe	mm (inch)	28.58 (1-1/8)	28.58 (1-1/8)	28.58 (1-1/8)	34.9 (1-3/8)	34.9 (1-3/8)
Dimensions (W x H x D)		mm	(1,240 x 1,690 x 760) x 1	(1,240 x 1,690 x 760) x 1	(1,240 x 1,690 x 760) x 1	(1,240 x 1,690 x 760) x 1	(1,240 x 1,690 x 760) x 1
Net Weight		kg	300 x 1	300 x 1	300 x 1	310 x 1	310 x 1
		lbs	661 x 1	661 x 1	661 x 1	683 x 1	683 x 1
Sound Pressure Level	Cooling	dB(A)	61.0	62.0	64.5	65.0	65.0
	Heating	dB(A)	62.0	64.5	65.5	67.0	67.0
Sound Power Level	Cooling	dB(A)	92.0	93.0	93.0	95.0	95.0
	Heating	dB(A)	95.0	96.0	97.0	99.0	99.0
Protection Devices	High pressure protection	-	High pressure sensor / High pressure switch	High pressure sensor / High pressure switch	High pressure sensor / High pressure switch	High pressure sensor / High pressure switch	High pressure sensor / High pressure switch
	Compressor / Fan	-	Over-heat protection / Fan driver overload protector	Over-heat protection / Fan driver overload protector	Over-heat protection / Fan driver overload protector	Over-heat protection / Fan driver overload protector	Over-heat protection / Fan driver overload protector
	Inverter	-	Over-heat protection / Over-current protection	Over-heat protection / Over-current protection	Over-heat protection / Over-current protection	Over-heat protection / Over-current protection	Over-heat protection / Over-current protection
Communication Cable		No.xmm^2 (VCTF-SB)	2C x 1.0 ~ 1.5	2C x 1.0 ~ 1.5	2C x 1.0 ~ 1.5	2C x 1.0 ~ 1.5	2C x 1.0 ~ 1.5
Refrigerant	Refrigerant Name		R410A	R410A	R410A	R410A	R410A
	Precharged Amount in factory	kg	16.0	16.0	16.0	17.0	17.0
	TCO_2eq		33.4	33.4	33.4	35.5	35.5
	Control		Electronic Expansion Valve	Electronic Expansion Valve	Electronic Expansion Valve	Electronic Expansion Valve	Electronic Expansion Valve
Power Supply		Ø , V, Hz	380~415, 3, 50	380~415, 3, 50	380~415, 3, 50	380~415, 3, 50	380~415, 3, 50
			380, 3, 60	380, 3, 60	380, 3, 60	380, 3, 60	380, 3, 60
Number of maxmum connectable indoor units[5])			29 (45)	32 (50)	35 (56)	39 (61)	42 (64)

OUTDOOR UNIT SPECIFICATION

MULTI V 5

ARUM221LTE5 / ARUM241LTE5 / ARUM261LTE5 / ARUM280LTE5 / ARUM300LTE5

Class			22'	24'	26'	28	30
Model Name	Combination Unit		ARUM221LTE5	ARUM241LTE5	ARUM261LTE5	ARUM280LTE5	ARUM300LTE5
	Independent Unit		ARUM120LTE5	ARUM120LTE5	ARUM140LTE5	ARUM160LTE5	ARUM180LTE5
			ARUM100LTE5	ARUM120LTE5	ARUM120LTE5	ARUM120LTE5	ARUM120LTE5
Capacity	Cooling (Total)	kW	61.6	67.2	72.8	78.4	84.0
		Btu/h	210,200	229,300	248,400	267,500	286,600
	Cooling (Net/Rated)	kW	59.8	65.0	70.8	76.8	81.5
		Btu/h	204,100	221,800	241,600	262,100	278,100
	Heating (Total)	kW	69.3	75.6	81.9	88.2	94.5
		Btu/h	236,500	257,900	279,400	300,900	322,400
	Heating (Net/Rated)	kW	60.9	66.6	71.3	76.6	82.8
		Btu/h	207,800	227,300	243,300	261,400	282,600
Input	Cooling (Total)	kW	13.38	15.16	16.26	18.47	18.49
	Heating (Total)	kW	14.18	16.52	17.98	20.65	20.20
EER	Total		4.60	4.43	4.48	4.24	4.54
	Net		3.95	3.90	3.85	3.55	3.84
COP	Total		4.89	4.58	4.56	4.27	4.68
	Net		4.33	4.16	4.07	3.72	4.22
Power Factor	Net	-	0.93	0.93	0.93	0.93	0.93
Heat Exchanger			Wide Louver Plus	Wide Louver Plus	Wide Louver Plus	Wide Louver Plus	Wide Louver Plus
Exterior	Colour		Warm Gray / Dawn Gray	Warm Gray / Dawn Gray	Warm Gray / Dawn Gray	Warm Gray / Dawn Gray	Warm Gray / Dawn Gray
	RAL Code		NL503K / NA507K	NL503K / NA507K	NL503K / NA507K	NL503K / NA507K	NL503K / NA507K
Compressor	Type		Hermetically Sealed Scroll	Hermetically Sealed Scroll	Hermetically Sealed Scroll	Hermetically Sealed Scroll	Hermetically Sealed Scroll
	Piston Displacement	cm^3 / rev	62.1 x 2	62.1 x 2	62.1 x 2	62.1 x 2	(62.1 x 2) + (43.8 x 1)
	Number of Revolution	rev / min	3,600 x 2	3,600 x 2	3,600 x 2	3,600 x 2	3,600 x 3
	Motor Output x Number	W x No.	5,300 x 2	5,300 x 2	5,300 x 2	5,300 x 2	(5,300 x 2) + (4,200 x 1)
	Starting Method		Direct On Line	Direct On Line	Direct On Line	Direct On Line	Direct On Line
	Oil Type		FVC68D(PVE)	FVC68D(PVE)	FVC68D(PVE)	FVC68D(PVE)	FVC68D(PVE)
Fan	Type		Propeller Fan	Propeller Fan	Propeller Fan	Propeller Fan	Propeller Fan
	Motor Output x Number	W x No.	(1,200 x 1) + (1,200 x 1)	(1,200 x 1) + (1,200 x 1)	(900 x 1) + (1,200 x 1)	(900 x 1) + (1,200 x 1)	(900 x 1) + (1,200 x 1)
	Air Flow Rate (High)	m^3 / min	(240 x 1) + (240 x 1)	(240 x 1) + (240 x 1)	(320 x 1) + (240 x 1)	(320 x 1) + (240 x 1)	(320 x 1) + (240 x 1)
		ft^3 / min	(8,476 x 1) + (8,476 x 1)	(8,476 x 1) + (8,476 x 1)	(11,301 x 1) + (8,476 x 1)	(11,301 x 1) + (8,476 x 1)	(11,301 x 1) + (8,476 x 1)
	External Static Pressure (Max, Pa)		80	80	80	80	80
	Drive		DC Inverter	DC Inverter	DC Inverter	DC Inverter	DC Inverter
	Discharge	Side / Top	Top	Top	Top	Top	Top
Pipe Connections ø1	Liquid Pipe	mm (inch)	15.88 (5/8)	15.88 (5/8)	19.05 (3/4)	19.05 (3/4)	19.05 (3/4)
	Low pressure gas pipe	mm (inch)	28.58 (1-1/8)	34.9 (1-3/8)	34.9 (1-3/8)	34.9 (1-3/8)	34.9 (1-3/8)
	High pressure gas pipe	mm (inch)	28.58 (1-1/8)	28.58 (1-1/8)	28.58 (1-1/8)	28.58 (1-1/8)	28.58 (1-1/8)
Pipe Connections ø2	Liquid Pipe	mm (inch)	15.88 (5/8)	15.88 (5/8)	19.05 (3/4)	19.05 (3/4)	19.05 (3/4)
	Gas pipe	mm (inch)	28.58 (1-1/8)	34.9 (1-3/8)	34.9 (1-3/8)	34.9 (1-3/8)	34.9 (1-3/8)
Dimensions (W x H x D)		mm	(930 x 1,690 x 760) x 1 + (930 x 1,690 x 760) x 1	(930 x 1,690 x 760) x 1 + (930 x 1,690 x 760) x 1	(1,240 x 1,690 x 760) x 1 + (930 x 1,690 x 760) x 1	(1,240 x 1,690 x 760) x 1 + (930 x 1,690 x 760) x 1	(1,240 x 1,690 x 760) x 1 + (930 x 1,690 x 760) x 1
Net Weight		kg	(215 x 1) + (215 x 1)	(215 x 1) + (215 x 1)	(237 x 1) + (215 x 1)	(237 x 1) + (215 x 1)	(300 x 1) + (215 x 1)
		lbs	(474 x 1) + (474 x 1)	(474 x 1) + (474 x 1)	(522 x 1) + (474 x 1)	(522 x 1) + (474 x 1)	(661 x 1) + (474 x 1)
Sound Pressure Level	Cooling	dB(A)	61.5	62.0	62.5	62.8	63.1
	Heating	dB(A)	62.5	63.0	63.5	63.8	64.1
Sound Power Level	Cooling	dB(A)	88.5	89.0	90.8	91.5	93.0
	Heating	dB(A)	91.5	92.0	94.5	95.2	96.0
Protection Devices	High pressure protection	-	High pressure sensor / High pressure switch	High pressure sensor / High pressure switch	High pressure sensor / High pressure switch	High pressure sensor / High pressure switch	High pressure sensor / High pressure switch
	Compressor / Fan	-	Over-heat protection / Fan driver overload protector	Over-heat protection / Fan driver overload protector	Over-heat protection / Fan driver overload protector	Over-heat protection / Fan driver overload protector	Over-heat protection / Fan driver overload protector
	Inverter	-	Over-heat protection / Over-current protection	Over-heat protection / Over-current protection	Over-heat protection / Over-current protection	Over-heat protection / Over-current protection	Over-heat protection / Over-current protection
Communication Cable		No.×mm^2 (VCTF-SB)	2C x 1.0 ~ 1.5	2C x 1.0 ~ 1.5	2C x 1.0 ~ 1.5	2C x 1.0 ~ 1.5	2C x 1.0 ~ 1.5
Refrigerant	Refrigerant Name		R410A	R410A	R410A	R410A	R410A
	Precharged Amount in factory	kg	19.0	19.0	23.0	23.0	25.5
	TCO_2eq		39.7	39.7	48.0	48.0	53.2
	Control		Electronic Expansion Valve	Electronic Expansion Valve	Electronic Expansion Valve	Electronic Expansion Valve	Electronic Expansion Valve
Power Supply		Ø, V, Hz	380~415, 3, 50	380~415, 3, 50	380~415, 3, 50	380~415, 3, 50	380~415, 3, 50
			380, 3, 60	380, 3, 60	380, 3, 60	380, 3, 60	380, 3, 60
Number of maxmum connectable indoor units[5])			35 (44)	39 (48)	42 (52)	45 (56)	49 (60)

ARUM320LTE5 / ARUM340LTE5 / ARUM360LTE5 / ARUM380LTE5 / ARUM400LTE5

Class			32	34	36	38	40
Model Name	Combination Unit		ARUM320LTE5	ARUM340LTE5	ARUM360LTE5	ARUM380LTE5	ARUM400LTE5
	Independent Unit		ARUM200LTE5	ARUM220LTE5	ARUM240LTE5	ARUM240LTE5	ARUM240LTE5
			ARUM120LTE5	ARUM120LTE5	ARUM120LTE5	ARUM140LTE5	ARUM160LTE5
Capacity	Cooling (Total)	kW	89.6	95.2	100.8	106.4	112.0
		Btu/h	305,700	324,800	343,900	363,000	382,100
	Cooling (Net/Rated)	kW	87.3	92.5	98.5	104.3	110.3
		Btu/h	297,900	315,700	336,100	355,900	376,400
	Heating (Total)	kW	100.8	107.1	112.1	118.4	124.7
		Btu/h	343,900	365,400	382,300	403,800	425,300
	Heating (Net/Rated)	kW	88.8	92.8	98.6	103.3	108.6
		Btu/h	303,000	316,700	336,500	352,500	370,600
Input	Cooling (Total)	kW	20.35	23.28	24.98	26.08	28.29
	Heating (Total)	kW	22.95	25.02	27.06	28.52	31.19
EER	Total		4.40	4.09	4.04	4.08	3.96
	Net		3.75	3.52	3.51	3.50	3.33
COP	Total		4.39	4.28	4.14	4.15	4.00
	Net		4.04	3.95	4.26	4.20	3.92
Power Factor	Net	-	0.93	0.93	0.93	0.93	0.93
Heat Exchanger			Wide Louver Plus	Wide Louver Plus	Wide Louver Plus	Wide Louver Plus	Wide Louver Plus
Exterior	Colour		Warm Gray / Dawn Gray	Warm Gray / Dawn Gray	Warm Gray / Dawn Gray	Warm Gray / Dawn Gray	Warm Gray / Dawn Gray
	RAL Code		NL503K / NA507K	NL503K / NA507K	NL503K / NA507K	NL503K / NA507K	NL503K / NA507K
Compressor	Type		Hermetically Sealed Scroll	Hermetically Sealed Scroll	Hermetically Sealed Scroll	Hermetically Sealed Scroll	Hermetically Sealed Scroll
	Piston Displacement	cm^3 / rev	(62.1 x 2) + (43.8 x 1)	(62.1 x 2) + (43.8 x 1)	62.1 x 3	62.1 x 3	62.1 x 3
	Number of Revolution	rev / min	3,600 x 3	3,600 x 3	3,600 x 3	3,600 x 3	3,600 x 3
	Motor Output x Number	W x No.	(5,300 x 2) + (4,200 x 1)	(5,300 x 2) + (4,200 x 1)	5,300 x 3	5,300 x 3	5,300 x 3
	Starting Method		Direct On Line	Direct On Line	Direct On Line	Direct On Line	Direct On Line
	Oil Type		FVC68D(PVE)	FVC68D(PVE)	FVC68D(PVE)	FVC68D(PVE)	FVC68D(PVE)
Fan	Type		Propeller Fan	Propeller Fan	Propeller Fan	Propeller Fan	Propeller Fan
	Motor Output x Number	W x No.	(900 x 1) + (1,200 x 1)	(900 x 1) + (1,200 x 1)	(900 x 1) + (1,200 x 1)	900 x 4	900 x 4
	Air Flow Rate (High)	m^3 / min	(320 x 1) + (240 x 1)	(320 x 1) + (240 x 1)	(320 x 1) + (240 x 1)	320 x 2	320 x 2
		ft^3 / min	(11,301 x 1) + (8,476 x 1)	(11,301 x 1) + (8,476 x 1)	(11,301 x 1) + (8,476 x 1)	11,301 x 2	11,301 x 2
	External Static Pressure (Max, Pa)		80	80	80	80	80
	Drive		DC Inverter	DC Inverter	DC Inverter	DC Inverter	DC Inverter
	Discharge	Side / Top	Top	Top	Top	Top	Top
Pipe Connections ø1	Liquid Pipe	mm (inch)	19.05 (3/4)	19.05 (3/4)	19.05 (3/4)	19.05 (3/4)	19.05 (3/4)
	Low pressure gas pipe	mm (inch)	34.9 (1-3/8)	34.9 (1-3/8)	41.3 (1-5/8)	41.3 (1-5/8)	41.3 (1-5/8)
	High pressure gas pipe	mm (inch)	28.58 (1-1/8)	28.58 (1-1/8)	28.58 (1-1/8)	28.58 (1-1/8)	28.58 (1-1/8)
Pipe Connections ø2	Liquid Pipe	mm (inch)	19.05 (3/4)	19.05 (3/4)	19.05 (3/4)	19.05 (3/4)	19.05 (3/4)
	Gas pipe	mm (inch)	34.9 (1-3/8)	34.9 (1-3/8)	41.3 (1-5/8)	41.3 (1-5/8)	41.3 (1-5/8)
Dimensions (W x H x D)		mm	(1,240 x 1,690 x 760) x 1 + (930 x 1,690 x 760) x 1	(1,240 x 1,690 x 760) x 1 + (930 x 1,690 x 760) x 1	(1,240 x 1,690 x 760) x 1 + (930 x 1,690 x 760) x 1	(1,240 x 1,690 x 760) x 2	(1,240 x 1,690 x 760) x 2
Net Weight		kg	(300 x 1) + (215 x 1)	(300 x 1) + (215 x 1)	(310 x 1) + (215 x 1)	(310 x 1) + (215 x 1)	(310 x 1) + (215 x 1)
		lbs	(661 x 1) + (474 x 1)	(661 x 1) + (474 x 1)	(683 x 1) + (474 x 1)	(683 x 1) + (474 x 1)	(683 x 1) + (474 x 1)
Sound Pressure Level	Cooling	dB(A)	63.8	65.6	66.0	66.2	66.3
	Heating	dB(A)	65.8	66.6	67.8	68.0	68.1
Sound Power Level	Cooling	dB(A)	93.8	93.8	95.5	96.0	96.2
	Heating	dB(A)	96.8	97.6	99.4	100.0	100.2
Protection Devices	High pressure protection	-	High pressure sensor / High pressure switch	High pressure sensor / High pressure switch	High pressure sensor / High pressure switch	High pressure sensor / High pressure switch	High pressure sensor / High pressure switch
	Compressor / Fan	-	Over-heat protection / Fan driver overload protector	Over-heat protection / Fan driver overload protector	Over-heat protection / Fan driver overload protector	Over-heat protection / Fan driver overload protector	Over-heat protection / Fan driver overload protector
	Inverter	-	Over-heat protection / Over-current protection	Over-heat protection / Over-current protection	Over-heat protection / Over-current protection	Over-heat protection / Over-current protection	Over-heat protection / Over-current protection
Communication Cable		No.×mm^2 (VCTF-SB)	2C x 1.0 ~ 1.5	2C x 1.0 ~ 1.5	2C x 1.0 ~ 1.5	2C x 1.0 ~ 1.5	2C x 1.0 ~ 1.5
Refrigerant	Refrigerant Name		R410A	R410A	R410A	R410A	R410A
	Precharged Amount in factory	kg	25.5	25.5	26.5	30.5	30.5
	TCO_2eq		53.2	53.2	55.3	63.7	63.7
	Control		Electronic Expansion Valve	Electronic Expansion Valve	Electronic Expansion Valve	Electronic Expansion Valve	Electronic Expansion Valve
Power Supply		Ø, V, Hz	380~415, 3, 50	380~415, 3, 50	380~415, 3, 50	380~415, 3, 50	380~415, 3, 50
			380, 3, 60	380, 3, 60	380, 3, 60	380, 3, 60	380, 3, 60
Number of maxmum connectable indoor units[5])			52 (64)	55 (64)	58 (64)	61 (64)	64

OUTDOOR UNIT SPECIFICATION

MULTI V 5

ARUM420LTE5 / ARUM440LTE5 / ARUM460LTE5 / ARUM480LTE5

Class			42	44	46	48
Model Name	Combination Unit		ARUM420LTE5	ARUM440LTE5	ARUM460LTE5	ARUM480LTE5
	Independent Unit		ARUM240LTE5	ARUM240LTE5	ARUM240LTE5	ARUM240LTE5
			ARUM180LTE5	ARUM200LTE5	ARUM220LTE5	ARUM240LTE5
Capacity	Cooling (Total)	kW	117.6	123.2	128.8	134.4
		Btu/h	401,300	420,400	439,500	458,600
	Cooling (Net/Rated)	kW	115.0	120.8	126.0	132.0
		Btu/h	392,400	412,200	430,000	450,400
	Heating (Total)	kW	131.0	137.3	143.6	148.5
		Btu/h	446,800	168,300	489,800	506,700
	Heating (Net/Rated)	kW	114.8	120.8	124.8	130.6
		Btu/h	391,700	412,200	425,900	445,700
Input	Cooling (Total)	kW	28.31	30.17	33.10	34.80
	Heating (Total)	kW	30.74	33.49	35.56	37.60
EER	Total		4.15	4.08	3.89	3.86
	Net		3.52	3.48	3.34	3.34
COP	Total		4.26	4.10	4.04	3.95
	Net		4.30	4.15	4.07	4.32
Power Factor	Net	-	0.93	0.93	0.93	0.93
Heat Exchanger			Wide Louver Plus	Wide Louver Plus	Wide Louver Plus	Wide Louver Plus
Exterior	Colour		Warm Gray / Dawn Gray	Warm Gray / Dawn Gray	Warm Gray / Dawn Gray	Warm Gray / Dawn Gray
	RAL Code		NL503K / NA507K	NL503K / NA507K	NL503K / NA507K	NL503K / NA507K
Compressor	Type		Hermetically Sealed Scroll	Hermetically Sealed Scroll	Hermetically Sealed Scroll	Hermetically Sealed Scroll
	Piston Displacement	cm^3 / rev	(62.1 x 3) + (43.8 x 1)	(62.1 x 3) + (43.8 x 1)	(62.1 x 3) + (43.8 x 1)	62.4 x 4
	Number of Revolution	rev / min	3,600 x 4	3,600 x 4	3,600 x 4	3,600 x 4
	Motor Output x Number	W x No.	(5,300 x 3) + (4,200 x 1)	(5,300 x 3) + (4,200 x 1)	(5,300 x 3) + (4,200 x 1)	5,300 x 4
	Starting Method		Direct On Line	Direct On Line	Direct On Line	Direct On Line
	Oil Type		FVC68D(PVE)	FVC68D(PVE)	FVC68D(PVE)	FVC68D(PVE)
Fan	Type		Propeller Fan	Propeller Fan	Propeller Fan	Propeller Fan
	Motor Output x Number	W x No.	900 x 4	900 x 4	900 x 4	900 x 4
	Air Flow Rate (High)	m^3 / min	320 x 2	320 x 2	320 x 2	320 x 2
		ft^3 / min	11,301 x 2	11,301 x 2	11,301 x 2	11,301 x 2
	External Static Pressure (Max, Pa)		80	80	80	80
	Drive		DC Inverter	DC Inverter	DC Inverter	DC Inverter
	Discharge	Side / Top	Top	Top	Top	Top
Pipe Connections ※1	Liquid Pipe	mm (inch)	19.05 (3/4)	19.05 (3/4)	19.05 (3/4)	19.05 (3/4)
	Low pressure gas pipe	mm (inch)	41.3 91-5/8)	41.3 91-5/8)	41.3 91-5/8)	41.3 91-5/8)
	High pressure gas pipe	mm (inch)	34.9 (1-3/8)	34.9 (1-3/8)	34.9 (1-3/8)	34.9 (1-3/8)
Pipe Connections ※2	Liquid Pipe	mm (inch)	19.05 (3/4)	19.05 (3/4)	19.05 (3/4)	19.05 (3/4)
	Gas pipe	mm (inch)	41.3 91-5/8)	41.3 91-5/8)	41.3 91-5/8)	41.3 91-5/8)
Dimensions (W x H x D)		mm	(1,240 x 1,690 x 760) x 2	(1,240 x 1,690 x 760) x 2	(1,240 x 1,690 x 760) x 2	(1,240 x 1,690 x 760) x 2
Net Weight		kg	(310 x 1) + (300 x 1)	(310 x 1) + (300 x 1)	(310 x 1) + (300 x 1)	310 x 2
		lbs	(683 x 1) + (661 x 1)	(683 x 1) + (661 x 1)	(683 x 1) + (661 x 1)	683 x 2
Sound Pressure Level	Cooling	dB(A)	66.5	66.8	67.8	68.0
	Heating	dB(A)	68.2	68.9	69.3	70.0
Sound Power Level	Cooling	dB(A)	96.8	97.1	97.1	98.0
	Heating	dB(A)	100.5	100.8	101.1	102.0
Protection Devices	High pressure protection	-	High pressure sensor / High pressure switch	High pressure sensor / High pressure switch	High pressure sensor / High pressure switch	High pressure sensor / High pressure switch
	Compressor / Fan	-	Over-heat protection / Fan driver overload protector	Over-heat protection / Fan driver overload protector	Over-heat protection / Fan driver overload protector	Over-heat protection / Fan driver overload protector
	Inverter	-	Over-heat protection / Over-current protection	Over-heat protection / Over-current protection	Over-heat protection / Over-current protection	Over-heat protection / Over-current protection
Communication Cable		No.×mm^2 (VCTF-SB)	2C x 1.0 ~ 1.5	2C x 1.0 ~ 1.5	2C x 1.0 ~ 1.5	2C x 1.0 ~ 1.5
Refrigerant	Refrigerant Name		R410A	R410A	R410A	R410A
	Precharged Amount in factory	kg	33.0	33.0	33.0	34.0
	TCO_2eq		68.9	68.9	68.9	71.0
	Control		Electronic Expansion Valve	Electronic Expansion Valve	Electronic Expansion Valve	Electronic Expansion Valve
Power Supply		Ø, V, Hz	380~415, 3, 50	380~415, 3, 50	380~415, 3, 50	380~415, 3, 50
			380, 3, 60	380, 3, 60	380, 3, 60	380, 3, 60
Number of maxmum connectable indoor units[5])			64	64	64	64

ARUM500LTE5 / ARUM520LTE5 / ARUM540LTE5 / ARUM560LTE5

Class			50	52	54	56
Model Name	Combination Unit		ARUM500LTE5	ARUM520LTE5	ARUM540LTE5	ARUM560LTE5
	Independent Unit		ARUM240LTE5	ARUM240LTE5	ARUM240LTE5	ARUM240LTE5
			ARUM140LTE5	ARUM160LTE5	ARUM180LTE5	ARUM200LTE5
			ARUM120LTE5	ARUM120LTE5	ARUM120LTE5	ARUM120LTE5
Capacity	Cooling (Total)	kW	140.0	145.6	151.2	156.8
		Btu/h	477,700	496,800	515,900	353,000
	Cooling (Net/Rated)	kW	136.8	142.8	147.5	153.3
		Btu/h	466,800	487,300	503,300	523,100
	Heating (Total)	kW	156.2	162.5	168.8	175.1
		Btu/h	532,800	554,300	575,800	597,300
	Heating (Net/Rated)	kW	136.6	141.9	148.1	154.1
		Btu/h	466,100	484,200	505,400	525,800
Input	Cooling (Total)	kW	33.66	35.87	35.89	37.75
	Heating (Total)	kW	36.78	39.45	39.00	41.75
EER	Total		4.16	4.06	4.21	4.15
	Net		3.58	3.45	3.60	3.56
COP	Total		4.25	4.12	4.33	4.19
	Net		4.19	3.97	4.27	4.15
Power Factor	Net	-	0.93	0.93	0.93	0.93
Heat Exchanger			Wide Louver Plus	Wide Louver Plus	Wide Louver Plus	Wide Louver Plus
Exterior	Colour		Warm Gray / Dawn Gray	Warm Gray / Dawn Gray	Warm Gray / Dawn Gray	Warm Gray / Dawn Gray
	RAL Code		NL503K / NA507K	NL503K / NA507K	NL503K / NA507K	NL503K / NA507K
Compressor	Type		Hermetically Sealed Scroll	Hermetically Sealed Scroll	Hermetically Sealed Scroll	Hermetically Sealed Scroll
	Piston Displacement	cm^3 / rev	62.1 x 4	62.1 x 4	(62.1 x 4) + (43.8 x 1)	(62.1 x 4) + (43.8 x 1)
	Number of Revolution	rev / min	3,600 x 4	3,600 x 4	3,600 x 5	3,600 x 5
	Motor Output x Number	W x No.	5,300 x 4	5,300 x 4	(5,300 x 4) + (4,200 x 1)	(5,300 x 4) + (4,200 x 1)
	Starting Method		Direct On Line	Direct On Line	Direct On Line	Direct On Line
	Oil Type		FVC68D(PVE)	FVC68D(PVE)	FVC68D(PVE)	FVC68D(PVE)
Fan	Type		Propeller Fan	Propeller Fan	Propeller Fan	Propeller Fan
	Motor Output x Number	W x No.	(900 x 4) + (1,200 x 1)	(900 x 4) + (1,200 x 1)	(900 x 4) + (1,200 x 1)	(900 x 4) + (1,200 x 1)
	Air Flow Rate (High)	m^3 / min	(320 x 2) + (240 x 1)	(320 x 2) + (240 x 1)	(320 x 2) + (240 x 1)	(320 x 2) + (240 x 1)
		ft^3 / min	(11,301 x 2) + (8,476 x 1)	(11,301 x 2) + (8,476 x 1)	(11,301 x 2) + (8,476 x 1)	(11,301 x 2) + (8,476 x 1)
	External Static Pressure (Max, Pa)		80	80	80	80
	Drive		DC Inverter	DC Inverter	DC Inverter	DC Inverter
	Discharge	Side / Top	Top	Top	Top	Top
Pipe Connections ※1	Liquid Pipe	mm (inch)	19.05 (3/4)	19.05 (3/4)	19.05 (3/4)	19.05 (3/4)
	Low pressure gas pipe	mm (inch)	41.3 91-5/8)	41.3 91-5/8)	41.3 91-5/8)	41.3 91-5/8)
	High pressure gas pipe	mm (inch)	34.9 (1-3/8)	34.9 (1-3/8)	34.9 (1-3/8)	34.9 (1-3/8)
Pipe Connections ※2	Liquid Pipe	mm (inch)	19.05 (3/4)	19.05 (3/4)	19.05 (3/4)	19.05 (3/4)
	Gas pipe	mm (inch)	41.3 91-5/8)	41.3 91-5/8)	41.3 91-5/8)	41.3 91-5/8)
Dimensions (W x H x D)		mm	(1,240 x 1,690 x 760) x 2 + (930 x 1,690 x 760) x 1	(1,240 x 1,690 x 760) x 2 + (930 x 1,690 x 760) x 1	(1,240 x 1,690 x 760) x 2 + (930 x 1,690 x 760) x 1	(1,240 x 1,690 x 760) x 2 + (930 x 1,690 x 760) x 1
Net Weight		kg	(310 x 1) + (237 x 1) + (215 x 1)	(310 x 1) + (237 x 1) + (215 x 1)	(310 x 1) + (300 x 1) + (215 x 1)	(310 x 1) + (300 x 1) + (215 x 1)
		lbs	(683 x 1) + (522 x 1) + (474 x 1)	(683 x 1) + (522 x 1) + (474 x 1)	(683 x 1) + (661 x 1) + (474 x 1)	(683 x 1) + (661 x 1) + (474 x 1)
Sound Pressure Level	Cooling	dB(A)	67.0	67.1	67.2	67.4
	Heating	dB(A)	68.6	68.7	68.8	69.5
Sound Power Level	Cooling	dB(A)	96.4	96.6	97.1	97.4
	Heating	dB(A)	100.3	100.5	100.8	101.0
Protection Devices	High pressure protection	-	High pressure sensor / High pressure switch	High pressure sensor / High pressure switch	High pressure sensor / High pressure switch	High pressure sensor / High pressure switch
	Compressor / Fan	-	Over-heat protection / Fan driver overload protector	Over-heat protection / Fan driver overload protector	Over-heat protection / Fan driver overload protector	Over-heat protection / Fan driver overload protector
	Inverter	-	Over-heat protection / Over-current protection	Over-heat protection / Over-current protection	Over-heat protection / Over-current protection	Over-heat protection / Over-current protection
Communication Cable		No.×mm^2 (VCTF-SB)	2C x 1.0 ~ 1.5	2C x 1.0 ~ 1.5	2C x 1.0 ~ 1.5	2C x 1.0 ~ 1.5
Refrigerant	Refrigerant Name		R410A	R410A	R410A	R410A
	Precharged Amount in factory	kg	40.0	40.0	42.5	42.5
	TCO_2eq		83.5	83.5	88.7	88.7
	Control		Electronic Expansion Valve	Electronic Expansion Valve	Electronic Expansion Valve	Electronic Expansion Valve
Power Supply		Ø, V, Hz	380~415, 3, 50	380~415, 3, 50	380~415, 3, 50	380~415, 3, 50
			380, 3, 60	380, 3, 60	380, 3, 60	380, 3, 60
Number of maxmum connectable indoor units[5])			64	64	64	64

OUTDOOR UNIT SPECIFICATION

MULTI V 5

ARUM580LTE5 / ARUM600LTE5 / ARUM620LTE5 / ARUM640LTE5

Class			58	60	62	64
Model Name	Combination Unit		ARUM580LTE5	ARUM600LTE5	ARUM620LTE5	ARUM640LTE5
	Independent Unit		ARUM240LTE5	ARUM240LTE5	ARUM240LTE5	ARUM240LTE5
			ARUM220LTE5	ARUM240LTE5	ARUM240LTE5	ARUM240LTE5
			ARUM120LTE5	ARUM120LTE5	ARUM140LTE5	ARUM160LTE5
Capacity	Cooling (Total)	kW	162.4	168.0	173.6	179.2
		Btu/h	554,100	573,200	592,300	611,400
	Cooling (Net/Rated)	kW	158.5	164.5	170.3	176.3
		Btu/h	540,900	561,300	581,100	601,600
	Heating (Total)	kW	181.4	186.3	192.6	198.9
		Btu/h	618,800	635,700	657,200	678,700
	Heating (Net/Rated)	kW	158.1	163.9	168.6	173.9
		Btu/h	539,500	559,300	575,300	593,400
Input	Cooling (Total)	kW	40.68	42.38	43.48	45.69
	Heating (Total)	kW	43.82	45.86	47.32	49.99
EER	Total		3.99	3.96	3.99	3.92
	Net		3.44	3.44	3.43	3.34
COP	Total		4.14	4.06	4.07	3.98
	Net		4.09	4.29	4.24	4.06
Power Factor	Net	-	0.93	0.93	0.93	0.93
Heat Exchanger			Wide Louver Plus	Wide Louver Plus	Wide Louver Plus	Wide Louver Plus
Exterior	Colour		Warm Gray / Dawn Gray	Warm Gray / Dawn Gray	Warm Gray / Dawn Gray	Warm Gray / Dawn Gray
	RAL Code		NL503K / NA507K	NL503K / NA507K	NL503K / NA507K	NL503K / NA507K
Compressor	Type		Hermetically Sealed Scroll	Hermetically Sealed Scroll	Hermetically Sealed Scroll	Hermetically Sealed Scroll
	Piston Displacement	cm^3 / rev	(62.1 x 4) + (43.8 x 1)	62.1 x 5	62.1 x 5	62.1 x 5
	Number of Revolution	rev / min	3,600 x 5	3,600 x 5	3,600 x 5	3,600 x 5
	Motor Output x Number	W x No.	(5,300 x 4) + (4,200 x 1)	5,300 x 5	5,300 x 5	5,300 x 5
	Starting Method		Direct On Line	Direct On Line	Direct On Line	Direct On Line
Fan	Type		Propeller Fan	Propeller Fan	Propeller Fan	Propeller Fan
	Motor Output x Number	W x No.	(900 x 4) + (1,200 x 1)	(900 x 4) + (1,200 x 1)	900 x 6	900 x 6
	Air Flow Rate (High)	m^3 / min	(320 x 2) + (240 x 1)	(320 x 2) + (240 x 1)	320 x 3	320 x 3
		ft^3 / min	(11,301 x 2) + (8,476 x 1)	(11,301 x 2) + (8,476 x 1)	11,301 x 3	11,301 x 3
	External Static Pressure (Max, Pa)		80	80	80	80
	Drive		DC Inverter	DC Inverter	DC Inverter	DC Inverter
	Discharge	Side / Top	Top	Top	Top	Top
Pipe Connections #1	Liquid Pipe	mm (inch)	19.05 (3/4)	19.05 (3/4)	22.2 (7/8)	22.2 (7/8)
	Low pressure gas pipe	mm (inch)	41.3 (1-5/8)	41.3 (1-5/8)	44.5 (1-3/4)	44.5 (1-3/4)
	High pressure gas pipe	mm (inch)	34.9 (1-3/8)	34.9 (1-3/8)	41.3 (1-5/8)	41.3 (1-5/8)
Pipe Connections #2	Liquid Pipe	mm (inch)	19.05 (3/4)	19.05 (3/4)	22.2 (7/8)	22.2 (7/8)
	Gas pipe	mm (inch)	41.3 (1-5/8)	41.3 (1-5/8)	44.5 (1-3/4)	44.5 (1-3/4)
Dimensions (W x H x D)		mm	(1,240 x 1,690 x 760) x 2 + (930 x 1,690 x 760) x 1	(1,240 x 1,690 x 760) x 2 + (930 x 1,690 x 760) x 1	(1,240 x 1,690 x 760) x 3	(1,240 x 1,690 x 760) x 3
Net Weight		kg	(310 x 1) + (237 x 1) + (215 x 1)	(310 x 2) + (215 x 1)	(310 x 2) + (237 x 1)	(310 x 2) + (237 x 1)
		lbs	(683 x 1) + (522 x 1) + (474 x 1)	(683 x 2) + (474 x 1)	(683 x 2) + (522 x 1)	(683 x 2) + (522 x 1)
Sound Pressure Level	Cooling	dB(A)	68.3	68.5	68.6	68.7
	Heating	dB(A)	69.8	70.4	70.5	70.6
Sound Power Level	Cooling	dB(A)	97.4	98.3	98.5	98.6
	Heating	dB(A)	101.4	102.2	102.5	102.6
Protection Devices	High pressure protection	-	High pressure sensor / High pressure switch	High pressure sensor / High pressure switch	High pressure sensor / High pressure switch	High pressure sensor / High pressure switch
	Compressor / Fan	-	Over-heat protection / Fan driver overload protector	Over-heat protection / Fan driver overload protector	Over-heat protection / Fan driver overload protector	Over-heat protection / Fan driver overload protector
	Inverter	-	Over-heat protection / Over-current protection	Over-heat protection / Over-current protection	Over-heat protection / Over-current protection	Over-heat protection / Over-current protection
Communication Cable		$No.\times mm^2$ (VCTF-SB)	2C x 1.0 ~ 1.5	2C x 1.0 ~ 1.5	2C x 1.0 ~ 1.5	2C x 1.0 ~ 1.5
Refrigerant	Refrigerant Name		R410A	R410A	R410A	R410A
	Precharged Amount in factory	kg	42.5	43.5	47.5	47.5
	TCO_2eq		88.7	90.8	99.2	99.2
	Control		Electronic Expansion Valve	Electronic Expansion Valve	Electronic Expansion Valve	Electronic Expansion Valve
Power Supply		Ø , V, Hz	380~415, 3, 50	380~415, 3, 50	380~415, 3, 50	380~415, 3, 50
			380, 3, 60	380, 3, 60	380, 3, 60	380, 3, 60
Number of maxmum connectable indoor units[5])			64	64	64	64

ARUM660LTE5 / ARUM680LTE5 / ARUM700LTE5 / ARUM720LTE5

Class			66	68	70	72
Model Name	Combination Unit		ARUM660LTE5	ARUM680LTE5	ARUM700LTE5	ARUM720LTE5
	Independent Unit		ARUM240LTE5	ARUM240LTE5	ARUM240LTE5	ARUM240LTE5
			ARUM240LTE5	ARUM240LTE5	ARUM240LTE5	ARUM240LTE5
			ARUM180LTE5	ARUM200LTE5	ARUM220LTE5	ARUM240LTE5
Capacity	Cooling (Total)	kW	184.8	190.4	196.0	201.6
		Btu/h	630,500	649,600	668,800	687,900
	Cooling (Net/Rated)	kW	181.0	186.8	192.0	198.0
		Btu/h	617,600	637,400	655,200	675,600
	Heating (Total)	kW	205.2	211.5	217.8	222.8
		Btu/h	700,200	721,700	743,200	760,100
	Heating (Net/Rated)	kW	180.1	186.1	190.1	195.9
		Btu/h	614,600	635,000	648,700	668,500
Input	Cooling (Total)	kW	45.71	47.57	50.50	52.20
	Heating (Total)	kW	49.54	52.29	54.36	26.40
EER	Total		4.04	4.00	3.88	3.86
	Net		3.45	3.43	3.34	3.34
COP	Total		4.14	4.05	4.01	3.95
	Net		4.30	4.21	4.16	4.32
Power Factor	Net	-	0.93	0.93	0.93	0.93
Heat Exchanger			Wide Louver Plus	Wide Louver Plus	Wide Louver Plus	Wide Louver Plus
Exterior	Colour		Warm Gray / Dawn Gray	Warm Gray / Dawn Gray	Warm Gray / Dawn Gray	Warm Gray / Dawn Gray
	RAL Code		NL503K / NA507K	NL503K / NA507K	NL503K / NA507K	NL503K / NA507K
Compressor	Type		Hermetically Sealed Scroll	Hermetically Sealed Scroll	Hermetically Sealed Scroll	Hermetically Sealed Scroll
	Piston Displacement	cm^3 / rev	(62.1 x 5) + (43.8 x 1)	(62.1 x 5) + (43.8 x 1)	(62.1 x 5) + (43.8 x 1)	62.1 x 6
	Number of Revolution	rev / min	3,600 x 6	3,600 x 6	3,600 x 6	3,600 x 6
	Motor Output x Number	W x No.	(5,300 x 5) + (4,200 x 1)	(5,300 x 5) + (4,200 x 1)	(5,300 x 5) + (4,200 x 1)	5,300 x 6
	Starting Method		Direct On Line	Direct On Line	Direct On Line	Direct On Line
Fan	Type		Propeller Fan	Propeller Fan	Propeller Fan	Propeller Fan
	Motor Output x Number	W x No.	900 x 6	900 x 6	900 x 6	900 x 6
	Air Flow Rate (High)	m^3 / min	320 x 3	320 x 3	320 x 3	320 x 3
		ft^3 / min	11,301 x 3	11,301 x 3	11,301 x 3	11,301 x 3
	External Static Pressure (Max, Pa)		80	80	80	80
	Drive		DC Inverter	DC Inverter	DC Inverter	DC Inverter
	Discharge	Side / Top	Top	Top	Top	Top
Pipe Connections #1	Liquid Pipe	mm (inch)	22.2 (7/8)	22.2 (7/8)	22.2 (7/8)	22.2 (7/8)
	Low pressure gas pipe	mm (inch)	53.98 (2-1/8)	53.98 (2-1/8)	53.98 (2-1/8)	53.98 (2-1/8)
	High pressure gas pipe	mm (inch)	44.5 (1-3/4)	44.5 (1-3/4)	44.5 (1-3/4)	44.5 (1-3/4)
Pipe Connections #2	Liquid Pipe	mm (inch)	22.2 (7/8)	22.2 (7/8)	22.2 (7/8)	22.2 (7/8)
	Gas pipe	mm (inch)	53.98 (2-1/8)	53.98 (2-1/8)	53.98 (2-1/8)	53.98 (2-1/8)
Dimensions (W x H x D)		mm	(1,240 x 1,690 x 760) x 3	(1,240 x 1,690 x 760) x 3	(1,240 x 1,690 x 760) x 3	(1,240 x 1,690 x 760) x 3
Net Weight		kg	(310 x 2) + (300 x 1)	(310 x 2) + (300 x 1)	(310 x 2) + (300 x 1)	310 x 3
		lbs	(683 x 2) + (661 x 1)	(683 x 2) + (661 x 1)	(683 x 2) + (661 x 1)	683 x 3
Sound Pressure Level	Cooling	dB(A)	68.8	69.0	69.6	69.8
	Heating	dB(A)	70.6	71.1	71.3	71.8
Sound Power Level	Cooling	dB(A)	99.0	99.2	99.2	99.8
	Heating	dB(A)	102.8	103.0	103.2	103.8
Protection Devices	High pressure protection	-	High pressure sensor / High pressure switch	High pressure sensor / High pressure switch	High pressure sensor / High pressure switch	High pressure sensor / High pressure switch
	Compressor / Fan	-	Over-heat protection / Fan driver overload protector	Over-heat protection / Fan driver overload protector	Over-heat protection / Fan driver overload protector	Over-heat protection / Fan driver overload protector
	Inverter	-	Over-heat protection / Over-current protection	Over-heat protection / Over-current protection	Over-heat protection / Over-current protection	Over-heat protection / Over-current protection
Communication Cable		$No.\times mm^2$ (VCTF-SB)	2C x 1.0 ~ 1.5	2C x 1.0 ~ 1.5	2C x 1.0 ~ 1.5	2C x 1.0 ~ 1.5
Refrigerant	Refrigerant Name		R410A	R410A	R410A	R410A
	Precharged Amount in factory	kg	50.0	50.0	50.0	51.0
	TCO_2eq		104.4	104.4	104.4	106.5
	Control		Electronic Expansion Valve	Electronic Expansion Valve	Electronic Expansion Valve	Electronic Expansion Valve
Power Supply		Ø , V, Hz	380~415, 3, 50	380~415, 3, 50	380~415, 3, 50	380~415, 3, 50
			380, 3, 60	380, 3, 60	380, 3, 60	380, 3, 60
Number of maxmum connectable indoor units[5])			64	64	64	64

OUTDOOR UNIT SPECIFICATION

MULTI V 5

ARUM740LTE5 / ARUM760LTE5 / ARUM780LTE5 / ARUM800LTE5

Class			74	76	78	80
Model Name	Combination Unit		ARUM740LTE5	ARUM760LTE5	ARUM780LTE5	ARUM800LTE5
	Independent Unit		ARUM240LTE5	ARUM240LTE5	ARUM240LTE5	ARUM240LTE5
			ARUM240LTE5	ARUM240LTE5	ARUM240LTE5	ARUM240LTE5
			ARUM140LTE5	ARUM160LTE5	ARUM180LTE5	ARUM200LTE5
			ARUM120LTE5	ARUM120LTE5	ARUM120LTE5	ARUM120LTE5
Capacity	Cooling (Total)	kW	207.2	212.8	218.4	224.0
		Btu/h	707,000	726,100	745,200	764,300
	Cooling (Net/Rated)	kW	202.8	208.8	213.5	219.3
		Btu/h	692,000	712,500	728,500	748,300
	Heating (Total)	kW	230.4	236.7	243.0	249.3
		Btu/h	786,200	807,700	829,200	850,700
	Heating (Net/Rated)	kW	201.9	207.2	213.4	219.4
		Btu/h	688,900	707,000	728,200	748,600
Input	Cooling (Total)	kW	51.06	53.27	53.29	55.15
	Heating (Total)	kW	55.58	58.25	57.80	60.55
EER	Total		4.06	3.99	4.10	4.06
	Net		3.50	3.41	3.52	3.49
COP	Total		4.15	4.06	4.20	4.12
	Net		4.23	4.08	4.28	4.20
Power Factor	Net	-	0.93	0.93	0.93	0.93
Heat Exchanger			Wide Louver Plus	Wide Louver Plus	Wide Louver Plus	Wide Louver Plus
Exterior	Colour		Warm Gray / Dawn Gray	Warm Gray / Dawn Gray	Warm Gray / Dawn Gray	Warm Gray / Dawn Gray
	RAL Code		NL503K / NA507K	NL503K / NA507K	NL503K / NA507K	NL503K / NA507K
Compressor	Type		Hermetically Sealed Scroll	Hermetically Sealed Scroll	Hermetically Sealed Scroll	Hermetically Sealed Scroll
	Piston Displacement	cm^3 / rev	62.1 x 6	62.1 x 6	(62.1 x 6) + (43.8 x 1)	(62.1 x 6) + (43.8 x 1)
	Number of Revolution	rev / min	3,600 x 6	3,600 x 6	3,600 x 6	3,600 x 6
	Motor Output x Number	W x No.	5,300 x 6	5,300 x 6	(5,300 x 6) + (4,200 x 1)	(5,300 x 6) + (4,200 x 1)
	Starting Method		Direct On Line	Direct On Line	Direct On Line	Direct On Line
	Oil Type		FVC68D(PVE)	FVC68D(PVE)	FVC68D(PVE)	FVC68D(PVE)
Fan	Type		Propeller Fan	Propeller Fan	Propeller Fan	Propeller Fan
	Motor Output x Number	W x No.	(900 x 6) + (1,200 X 1)	(900 x 6) + (1,200 X 1)	(900 x 6) + (1,200 X 1)	(900 x 6) + (1,200 X 1)
	Air Flow Rate (High)	m^3 / min	(320 x 3) + (240 x 1)	(320 x 3) + (240 x 1)	(320 x 3) + (240 x 1)	(320 x 3) + (240 x 1)
		ft^3 / min	(11,301 x 3) + (8,476 x 1)	(11,301 x 3) + (8,476 x 1)	(11,301 x 3) + (8,476 x 1)	(11,301 x 3) + (8,476 x 1)
	External Static Pressure (Max, Pa)		80	80	80	80
	Drive		DC Inverter	DC Inverter	DC Inverter	DC Inverter
	Discharge	Side / Top	Top	Top	Top	Top
Pipe Connections *1	Liquid Pipe	mm (inch)	22.2 (7/8)	22.2 (7/8)	22.2 (7/8)	22.2 (7/8)
	Low pressure gas pipe	mm (inch)	53.98 (2-1/8)	53.98 (2-1/8)	53.98 (2-1/8)	53.98 (2-1/8)
	High pressure gas pipe	mm (inch)	44.5 (1-3/4)	44.5 (1-3/4)	44.5 (1-3/4)	44.5 (1-3/4)
Pipe Connections *2	Liquid Pipe	mm (inch)	22.2 (7/8)	22.2 (7/8)	22.2 (7/8)	22.2 (7/8)
	Gas pipe	mm (inch)	53.98 (2-1/8)	53.98 (2-1/8)	53.98 (2-1/8)	53.98 (2-1/8)
Dimensions (W x H x D)		mm	(1,240 x 1,690 x 760) x 3 + (930 x 1,690 x 760) x 1	(1,240 x 1,690 x 760) x 3 + (930 x 1,690 x 760) x 1	(1,240 x 1,690 x 760) x 3 + (930 x 1,690 x 760) x 1	(1,240 x 1,690 x 760) x 3 + (930 x 1,690 x 760) x 1
Net Weight		kg	(310 x 2) + (237 x 1) + (215 x 1)	(310 x 2) + (237 x 1) + (215 x 1)	(310 x 2) + (300 x 1) + (215 x 1)	(310 x 2) + (300 x 1) + (215 x 1)
		lbs	(683 x 2) + (522 x 1) + (474 x 1)	(683 x 2) + (522 x 1) + (474 x 1)	(683 x 2) + (661 x 1) + (474 x 1)	(683 x 2) + (661 x 1) + (474 x 1)
Sound Pressure Level	Cooling	dB(A)	69.1	69.2	69.2	69.4
	Heating	dB(A)	70.9	70.9	71.0	71.4
Sound Power Level	Cooling	dB(A)	98.8	98.9	99.2	99.4
	Heating	dB(A)	102.7	102.8	103.0	103.2
Protection Devices	High pressure protection	-	High pressure sensor / High pressure switch	High pressure sensor / High pressure switch	High pressure sensor / High pressure switch	High pressure sensor / High pressure switch
	Compressor / Fan	-	Over-heat protection / Fan driver overload protector	Over-heat protection / Fan driver overload protector	Over-heat protection / Fan driver overload protector	Over-heat protection / Fan driver overload protector
	Inverter	-	Over-heat protection / Over-current protection	Over-heat protection / Over-current protection	Over-heat protection / Over-current protection	Over-heat protection / Over-current protection
Communication Cable		No.×mm^2 (VCTF-SB)	2C x 1.0 ~ 1.5	2C x 1.0 ~ 1.5	2C x 1.0 ~ 1.5	2C x 1.0 ~ 1.5
Refrigerant	Refrigerant Name		R410A	R410A	R410A	R410A
	Precharged Amount in factory	kg	57.0	57.0	59.5	59.5
	TCO_2eq		119.0	119.0	124.2	124.2
	Control		Electronic Expansion Valve	Electronic Expansion Valve	Electronic Expansion Valve	Electronic Expansion Valve
Power Supply		Ø, V, Hz	380~415, 3, 50	380~415, 3, 50	380~415, 3, 50	380~415, 3, 50
			380, 3, 60	380, 3, 60	380, 3, 60	380, 3, 60
Number of maxmum connectable indoor units[5])			64	64	64	64

ARUM820LTE5 / ARUM840LTE5 / ARUM860LTE5 / ARUM880LTE5

Class			82	84	86	88
Model Name	Combination Unit		ARUM820LTE5	ARUM840LTE5	ARUM860LTE5	ARUM880LTE5
	Independent Unit		ARUM240LTE5	ARUM240LTE5	ARUM240LTE5	ARUM240LTE5
			ARUM240LTE5	ARUM240LTE5	ARUM240LTE5	ARUM240LTE5
			ARUM220LTE5	ARUM240LTE5	ARUM240LTE5	ARUM240LTE5
			ARUM120LTE5	ARUM120LTE5	ARUM140LTE5	ARUM160LTE5
Capacity	Cooling (Total)	kW	229.6	235.2	240.8	246.4
		Btu/h	783,400	802,500	821,600	840,700
	Cooling (Net/Rated)	kW	224.5	230.5	236.3	242.3
		Btu/h	766,000	786,500	806,300	826,800
	Heating (Total)	kW	255.6	260.6	266.9	273.2
		Btu/h	872,100	889,100	910,600	932,000
	Heating (Net/Rated)	kW	223.4	229.2	233.9	239.2
		Btu/h	762,300	782,100	798,100	816,200
Input	Cooling (Total)	kW	58.08	59.78	60.88	63.09
	Heating (Total)	kW	62.62	64.66	66.12	68.79
EER	Total		3.95	3.93	3.96	3.91
	Net		3.41	3.41	3.41	3.34
COP	Total		4.08	4.03	4.04	3.97
	Net		4.16	4.30	4.26	4.13
Power Factor	Net	-	0.93	0.93	0.93	0.93
Heat Exchanger			Wide Louver Plus	Wide Louver Plus	Wide Louver Plus	Wide Louver Plus
Exterior	Colour		Warm Gray / Dawn Gray	Warm Gray / Dawn Gray	Warm Gray / Dawn Gray	Warm Gray / Dawn Gray
	RAL Code		NL503K / NA507K	NL503K / NA507K	NL503K / NA507K	NL503K / NA507K
Compressor	Type		Hermetically Sealed Scroll	Hermetically Sealed Scroll	Hermetically Sealed Scroll	Hermetically Sealed Scroll
	Piston Displacement	cm^3 / rev	(62.1 x 6) + (43.8 x 1)	62.1 x 7	62.1 x 7	62.1 x 7
	Number of Revolution	rev / min	3,600 x 6	3,600 x 7	3,600 x 7	3,600 x 7
	Motor Output x Number	W x No.	(5,300 x 6) + (43.8 x 1)	5,300 x 7	5,300 x 7	5,300 x 7
	Starting Method		Direct On Line	Direct On Line	Direct On Line	Direct On Line
	Oil Type		FVC68D(PVE)	FVC68D(PVE)	FVC68D(PVE)	FVC68D(PVE)
Fan	Type		Propeller Fan	Propeller Fan	Propeller Fan	Propeller Fan
	Motor Output x Number	W x No.	(900 x 6) + (1,200 X 1)	(900 x 6) + (1,200 X 1)	900 x 8	900 x 8
	Air Flow Rate (High)	m^3 / min	(320 x 3) + (240 x 1)	(320 x 3) + (240 x 1)	320 x 4	320 x 4
		ft^3 / min	(11,301 x 3) + (8,476 x 1)	(11,301 x 3) + (8,476 x 1)	11,301 x 4	11,301 x 4
	External Static Pressure (Max, Pa)		80	80	80	80
	Drive		DC Inverter	DC Inverter	DC Inverter	DC Inverter
	Discharge	Side / Top	Top	Top	Top	Top
Pipe Connections *1	Liquid Pipe	mm (inch)	22.2 (7/8)	22.2 (7/8)	22.2 (7/8)	22.2 (7/8)
	Low pressure gas pipe	mm (inch)	53.98 (2-1/8)	53.98 (2-1/8)	53.98 (2-1/8)	53.98 (2-1/8)
	High pressure gas pipe	mm (inch)	44.5 (1-3/4)	44.5 (1-3/4)	44.5 (1-3/4)	44.5 (1-3/4)
Pipe Connections *2	Liquid Pipe	mm (inch)	22.2 (7/8)	22.2 (7/8)	22.2 (7/8)	22.2 (7/8)
	Gas pipe	mm (inch)	53.98 (2-1/8)	53.98 (2-1/8)	53.98 (2-1/8)	53.98 (2-1/8)
Dimensions (W x H x D)		mm	(1,240 x 1,690 x 760) x 3 + (930 x 1,690 x 760) x 1	(1,240 x 1,690 x 760) x 3 + (930 x 1,690 x 760) x 1	(1,240 x 1,690 x 760) x 4	(1,240 x 1,690 x 760) x 4
Net Weight		kg	(310 x 2) + (300 x 1) + (215 x 1)	(310 x 3) + (215 x 1)	(310 x 3) + (237 x 1)	(310 x 3) + (237 x 1)
		lbs	(683 x 2) + (661 x 1) + (474 x 1)	(683 x 3) + (474 x 1)	(683 x 3) + (522 x 1)	(683 x 3) + (522 x 1)
Sound Pressure Level	Cooling	dB(A)	70.0	70.1	70.2	70.3
	Heating	dB(A)	71.6	72.1	72.1	72.2
Sound Power Level	Cooling	dB(A)	99.4	99.9	100.1	100.2
	Heating	dB(A)	103.4	103.9	104.1	104.2
Protection Devices	High pressure protection	-	High pressure sensor / High pressure switch	High pressure sensor / High pressure switch	High pressure sensor / High pressure switch	High pressure sensor / High pressure switch
	Compressor / Fan	-	Over-heat protection / Fan driver overload protector	Over-heat protection / Fan driver overload protector	Over-heat protection / Fan driver overload protector	Over-heat protection / Fan driver overload protector
	Inverter	-	Over-heat protection / Over-current protection	Over-heat protection / Over-current protection	Over-heat protection / Over-current protection	Over-heat protection / Over-current protection
Communication Cable		No.×mm^2 (VCTF-SB)	2C x 1.0 ~ 1.5	2C x 1.0 ~ 1.5	2C x 1.0 ~ 1.5	2C x 1.0 ~ 1.5
Refrigerant	Refrigerant Name		R410A	R410A	R410A	R410A
	Precharged Amount in factory	kg	59.5	60.5	64.5	64.5
	TCO_2eq		124.2	126.3	134.6	134.6
	Control		Electronic Expansion Valve	Electronic Expansion Valve	Electronic Expansion Valve	Electronic Expansion Valve
Power Supply		Ø, V, Hz	380~415, 3, 50	380~415, 3, 50	380~415, 3, 50	380~415, 3, 50
			380, 3, 60	380, 3, 60	380, 3, 60	380, 3, 60
Number of maxmum connectable indoor units[5])			64	64	64	64

OUTDOOR UNIT SPECIFICATION

MULTI V 5

ARUM900LTE5 / ARUM920LTE5 / ARUM940LTE5 / ARUM960LTE5

Class			90	92	94	96
Model Name	Combination Unit		ARUM900LTE5	ARUM920LTE5	ARUM940LTE5	ARUM960LTE5
	Independent Unit		ARUM240LTE5	ARUM240LTE5	ARUM240LTE5	ARUM240LTE5
			ARUM240LTE5	ARUM240LTE5	ARUM240LTE5	ARUM240LTE5
			ARUM240LTE5	ARUM240LTE5	ARUM240LTE5	ARUM240LTE5
			ARUM180LTE5	ARUM200LTE5	ARUM220LTE5	ARUM240LTE5
Capacity	Cooling (Total)	kW	252.0	257.6	263.2	268.8
		Btu/h	859,800	878,900	898,000	917,100
	Cooling (Net/Rated)	kW	247.0	252.8	258.0	264.0
		Btu/h	842,800	862,600	880,300	900,800
	Heating (Total)	kW	279.5	285.8	292.1	297.0
		Btu/h	953,500	975,000	996,500	1,013,400
	Heating (Net/Rated)	kW	245.4	251.4	255.4	261.2
		Btu/h	837,400	857,800	871,500	891,300
Input	Cooling (Total)	kW	63.11	64.97	67.90	69.60
	Heating (Total)	kW	68.34	71.09	73.16	75.20
EER	Total		3.99	3.96	3.88	3.86
	Net		3.42	3.40	3.34	3.34
COP	Total		4.09	4.02	3.99	3.95
	Net		4.31	4.24	4.20	4.32
Power Factor	Net	-	0.93	0.93	0.93	0.93
Heat Exchanger			Wide Louver Plus	Wide Louver Plus	Wide Louver Plus	Wide Louver Plus
Exterior	Colour		Warm Gray / Dawn Gray	Warm Gray / Dawn Gray	Warm Gray / Dawn Gray	Warm Gray / Dawn Gray
	RAL Code		NL503K / NA507K	NL503K / NA507K	NL503K / NA507K	NL503K / NA507K
Compressor	Type		Hermetically Sealed Scroll	Hermetically Sealed Scroll	Hermetically Sealed Scroll	Hermetically Sealed Scroll
	Piston Displacement	cm^3 / rev	(62.1 x 7) + (43.8 x 1)	(62.1 x 7) + (43.8 x 1)	(62.1 x 7) + (43.8 x 1)	62.1 x 8
	Number of Revolution	rev / min	3,600 x 8	3,600 x 8	3,600 x 8	3,600 x 8
	Motor Output x Number	W x No.	(5,300 x 7) + (43.8 x 1)	(5,300 x 7) + (43.8 x 1)	(5,300 x 7) + (43.8 x 1)	5,300 x 8
	Starting Method		Direct On Line	Direct On Line	Direct On Line	Direct On Line
	Oil Type		FVC68D(PVE)	FVC68D(PVE)	FVC68D(PVE)	FVC68D(PVE)
Fan	Type		Propeller Fan	Propeller Fan	Propeller Fan	Propeller Fan
	Motor Output x Number	W x No.	900 x 8	900 x 8	900 x 8	900 x 8
	Air Flow Rate (High)	m^3 / min	320 x 4	320 x 4	320 x 4	320 x 4
		ft^3 / min	11,301 x 4	11,301 x 4	11,301 x 4	11,301 x 4
	External Static Pressure (Max, Pa)		80	80	80	80
	Drive		DC Inverter	DC Inverter	DC Inverter	DC Inverter
	Discharge	Side / Top	Top	Top	Top	Top
Pipe Connections #1	Liquid Pipe	mm (inch)	22.2 (7/8)	22.2 (7/8)	22.2 (7/8)	22.2 (7/8)
	Low pressure gas pipe	mm (inch)	53.98 (2-1/8)	53.98 (2-1/8)	53.98 (2-1/8)	53.98 (2-1/8)
	High pressure gas pipe	mm (inch)	44.5 (1-3/4)	44.5 (1-3/4)	44.5 (1-3/4)	44.5 (1-3/4)
Pipe Connections #2	Liquid Pipe	mm (inch)	22.2 (7/8)	22.2 (7/8)	22.2 (7/8)	22.2 (7/8)
	Gas pipe	mm (inch)	53.98 (2-1/8)	53.98 (2-1/8)	53.98 (2-1/8)	53.98 (2-1/8)
Dimensions (W x H x D)		mm	(1,240 x 1,690 x 760) x 4	(1,240 x 1,690 x 760) x 4	(1,240 x 1,690 x 760) x 4	(1,240 x 1,690 x 760) x 4
Net Weight		kg	(310 x 3) + (300 x 1)	(310 x 3) + (300 x 1)	(310 x 3) + (300 x 1)	310 x 4
		lbs	(683 x 3) + (661 x 1)	(683 x 3) + (661 x 1)	(683 x 3) + (661 x 1)	683 x 4
Sound Pressure Level	Cooling	dB(A)	70.3	70.4	70.9	71.0
	Heating	dB(A)	72.2	72.5	72.7	73.0
Sound Power Level	Cooling	dB(A)	100.4	100.6	100.6	101.0
	Heating	dB(A)	104.3	104.4	104.6	105.0
Protection Devices	High pressure protection	-	High pressure sensor / High pressure switch	High pressure sensor / High pressure switch	High pressure sensor / High pressure switch	High pressure sensor / High pressure switch
	Compressor / Fan	-	Over-heat protection / Fan driver overload protector	Over-heat protection / Fan driver overload protector	Over-heat protection / Fan driver overload protector	Over-heat protection / Fan driver overload protector
	Inverter	-	Over-heat protection / Over-current protection	Over-heat protection / Over-current protection	Over-heat protection / Over-current protection	Over-heat protection / Over-current protection
Communication Cable		No.×mm^2 (VCTF-SB)	2C x 1.0 ~ 1.5	2C x 1.0 ~ 1.5	2C x 1.0 ~ 1.5	2C x 1.0 ~ 1.5
Refrigerant	Refrigerant Name		R410A	R410A	R410A	R410A
	Precharged Amount in factory	kg	67.0	67.0	67.0	68.0
	TCO_2eq		139.9	139.9	139.9	142.0
	Control		Electronic Expansion Valve	Electronic Expansion Valve	Electronic Expansion Valve	Electronic Expansion Valve
Power Supply		Ø, V, Hz	380~415, 3, 50	380~415, 3, 50	380~415, 3, 50	380~415, 3, 50
			380, 3, 60	380, 3, 60	380, 3, 60	380, 3, 60
Number of maxmum connectable indoor units[5])			64	64	64	64

Notes

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. Power factor could vary less than ±1% according to the operating conditions.

4. Sound pressure level is measured on the rated condition in the anechoic rooms by ISO 3745 standard. 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.

5. Performances are based on the following conditions :
   - *Cooling : Indoor Ambient Temp. 27°CDB / 19°CWB, Outdoor Ambient Temp. 35°CDB / 24°CWB;
   - *Heating : Indoor Ambient Temp. 20°CDB / 15°CWB, Outdoor Ambient Temp. 7°CDB / 6°CWB;
   - Interconnected Pipe Length is 7.5m and difference of Elevation (Outdoor ~ Indoor Unit) is Zero.

6. Performances are based on the following standards.
   - Net value is accordance with AS/NZS 3823 and Total value is accordance with ISO 15042.
   - To check the energy rating, Refer to web site (https://reg.energyrating.gov.au/comparator).

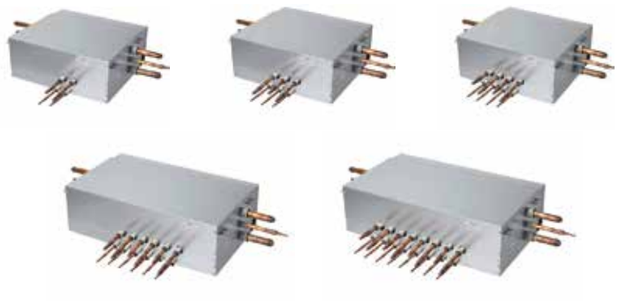
7. ***: The numbers in parentheses means maximum connectable indoor units in accordance with outdoor units combination (160~200%). The recommended ratio is 130%.

8. This product contains Fluorinated greenhouse gases. (R410A, GWP(Global warming potential) = 2087.5)

9. #1 : Heat Recovery system, #2 : Heat Pump system.

NEW HEAT RECOVERY UNIT

PRHR023 (2 Branch Unit)
PRHR033 (3 Branch Unit)
PRHR043 (4 Branch Unit)
PRHR063 (6 Branch Unit)
PRHR083 (8 Branch Unit)



Features

- Max. 64 indoor units can be connected (Max. 8 indoor units per branch)
- It is easy to install due to the automatic search algorithm for piping detection
- Subcooling cycle in HR unit makes the system efficiency maximum

Models Applied

- MULTI V 5 Heat Recovery

Specifications

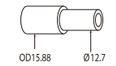
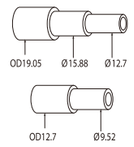
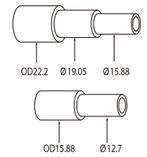
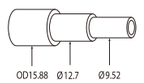
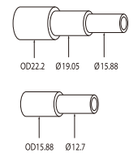
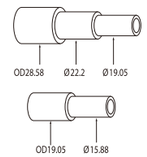
Model name				PRHR023	PRHR033	PRHR043	PRHR063	PRHR083
Number of Branch			EA	2	3	4	6	8
Maximum Connectable Capacity of Indoor Units (Per branch / unit)			kW	17.5/35	17.5/52.5	17.5/69.5	17.5/69.5	17.5/69.5
Maximum Number of Connectable Indoor units per Branch			EA	8	8	8	8	8
Nominal Input	Cooling		kW	0.040	0.040	0.040	0.076	0.076
	Heating		kW	0.038	0.038	0.038	0.072	0.072
Net. Weight			kg	18.5	20.3	22.0	28.3	31.8
Dimensions (W x H x D)			mm	786 x 218 x 657	786 x 218 x 657	786 x 218 x 657	1,113 x 218 x 657	1,113 x 218 x 657
Piping connections	Indoor Unit	Liquid	mm (inch)	9.52 (3/8)	9.52 (3/8)	9.52 (3/8)	9.52 (3/8)	9.52 (3/8)
		Gas	mm (inch)	15.88 (5/8)	15.88 (5/8)	15.88 (5/8)	15.88 (5/8)	15.88 (5/8)
	Outdoor Unit	Liquid	mm (inch)	9.52 (3/8)	12.7 (1/2)	15.88 (5/8)	15.88 (5/8)	15.88 (5/8)
		Low pressure	mm (inch)	22.2 (7/8)	28.58 (11/8)	28.58 (11/8)	28.58 (11/8)	28.58 (11/8)
		High Pressure	mm (inch)	19.05 (3/4)	22.2 (7/8)	22.2 (7/8)	22.2 (7/8)	22.2 (7/8)
Power supply			Ø / V / Hz	1 / 220-240 / 50 1 / 220 / 60	1 / 220-240 / 50 1 / 220 / 60	1 / 220-240 / 50 1 / 220 / 60	1 / 220-240 / 50 1 / 220 / 60	1 / 220-240 / 50 1 / 220 / 60

Parts Included

- HR unit (1EA)
- Washers M10 (8EA)
- Hanging bolts M10 or M8 (4EA)
- Reducers
- Nut M8 or M10 (8EA)

Reducers for Indoor Unit and HR Unit

(Unit : mm)

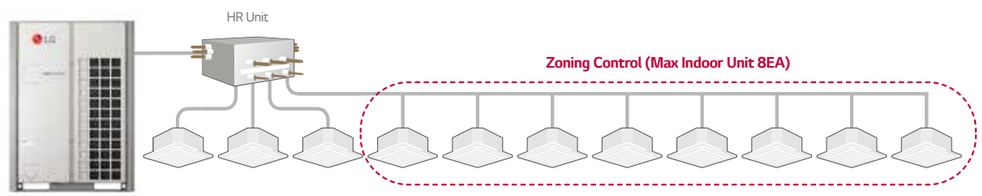
Model Name		Liquid	High pressure	Low pressure
Indoor Unit Reducer				
HR Unit Reducer	PRHR023			
	PRHR033 PRHR043 PRHR063 PRHR083			

Convenient Free Zoning

MULTI V Heat Recovery provides flexible control over individual zones for the user's convenience

- **Individual Control**
  - Excellent individual control over spaces ventilation needed
- **Zone Control**
  - Max. of 8 indoor units can be connected for one branch
  - Max. of 64 indoor units can be connected for one HR unit
  - Same opeational model can be operated by indoor units with zone control function installed
- **Combination of Individual and Zoning Installations**
  - Flexible piping design
- **Save Product and Installation Cost**

[Zoning Control]

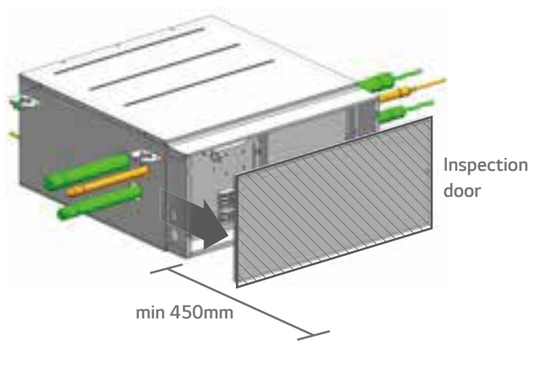


NEW HEAT RECOVERY UNIT

Improving Service Workability

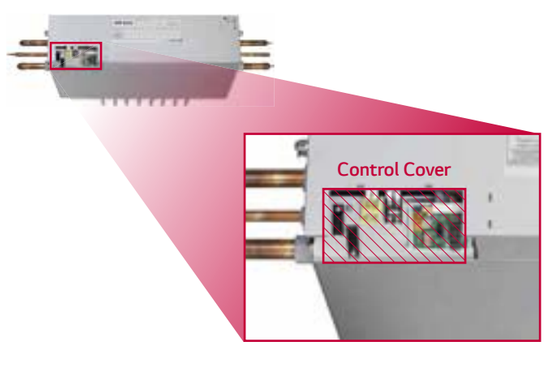
Can inspect valves and PCBs under the product.(looking up at the product)

Conventional



At least 450 mm of space is required to open the control cover and to inspect or repair the product.

New

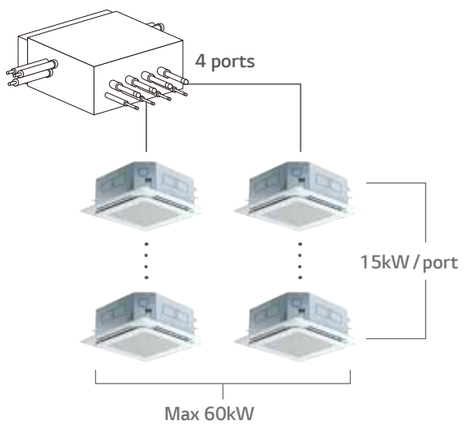


The control cover can be opened (disassembled) in the downward direction. → Error code check and simple check & repair are possible.

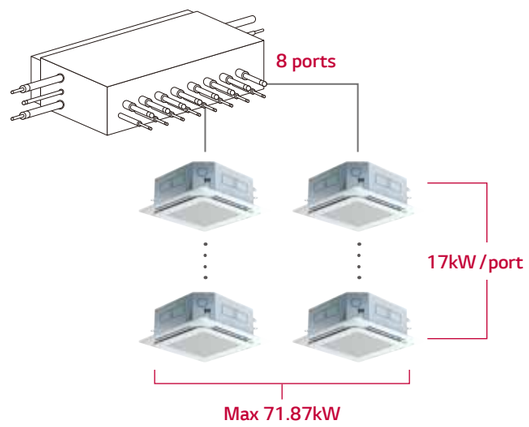
Expansion of connection capacity

- Expansion of connection capacity per port : (old) 15kW ⟶ (new) 17kW
- Expansion of total connectable capacity : (old) 60kW ⟶ (new) 71.87kW

Previous Model

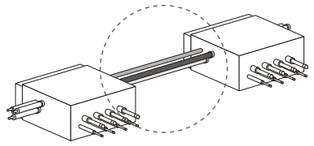
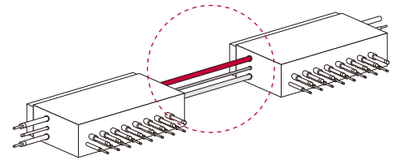
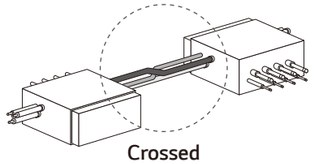
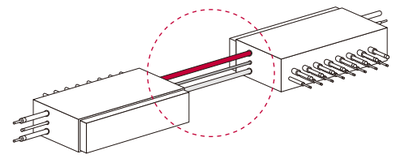


New



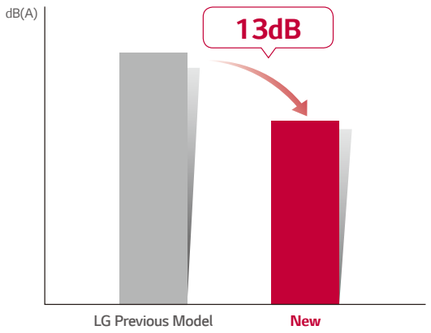
Easy Series Connection

Series connection can be installed without pipes crossing.

	LG Previous Model	New
		
Series connection in the same direction		
Series connection in the reverse direction	 Crossed piping	

Reduce Noise

Cooling ↔ Heating changeover noise improvement



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