OUTDOOR UNIT

LINE-UP

Unit : HP

Type	Features	Appearance	4	5	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48	50	52	54	56	58	60	62	64	66	68	70	72	74	76	78	80	····	96
MULTI V 5	• Dual sensing control • Large capacity ODU (Up to 26HP) • Continuous Heating • Ocean black fin heat exchanger • Energy saving by heat recovery technology • Flexible installation with heat recovery unit and large capacity • For large space, high rise building and individual control building					●	●	●																																			
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MULTI V S	• Saves floor space • Flexible design applications - Slim, light and wide line up (4 ~ 12HP) - Combination of indoor unit (Up to 20 Units) • For Small / Medium building with up to 20 rooms		○	○																																					
			●	○●	○●																																					
						●	●	●																																		
MULTI V S Heat Recovery					●																																					
MULTI V WATER IV Heat Pump / Heat Recovery	• High efficiency system regardless external conditions • Indoor installation product • Quiet unit noise level (No fans) • For Water sourced system, High rise building and Aesthetic building					●	●		●			●																														
													●	●		●	●		●			●																					
	• Cooling and heating at the same time • Minimizing energy cost by water sourced heat recovery system • For individual control building • For Water sourced system, High rise building and Aesthetic building																						●	●		●	●		●													
																																●	●	●		●	●		●			●	
MULTI V WATER S	• Easy to install additional capacity • Compact size • Light weight • For Residential and Commercial building				○																																				
MULTI V M				●																																					

● 380V, 3Ø ○ 220V, 1Ø

OUTDOOR UNIT KEY FEATURES

MULTI V 5

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 world's 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 optimized to manage refrigerant and heat exchange for all cooling, heating and part load operations. Moreover, MULTI V developed wide range of VRF line-up that could satisfy various types and size of building; MULTI V S is the VRF with side discharge, designed for small to mid-sized building and MULTI V WATER is the water-cooled VRF solution with variable water flow controlling technology.

In 2017, the time has arrived for the ultimate VRF system, MULTI V 5. This generation has fully improved its technological potential with ever powerful and reliable yet economical LG's Ultimate Inverter Compressor, Ocean Black Fin with the most effective corrosion resistance performance and biomimetics technology-applied, enlarged fans. At the same time, the Dual Sensing Control offers users the most pleasant environment while minimizing the unnecessary energy loss with system that senses both the temperature and humidity to efficiently manage cooling, heating and part load operations.

With MULTI V 5 that has been solely designed for the ultimate efficiency, performance, flexibility, comfort and control, we are highly confident to bring the ultimate pleasant air experience.

OUTDOOR UNIT KEY FEATURES

MULTI V 5

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 the most pleasant and comfortable cooling environment the users want combined with reduction in energy consumption.

Smart Load Control (SLC)

This comprehensive understanding of environmental conditions allows optimized energy efficiency and maximized indoor comfort level.

ESEER
Up to 21%
(vs. standard mode at 26HP)

Comfort Cooling

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

Improved Indoor Comfort

OUTDOOR UNIT KEY FEATURES

MULTI V 5

ULTIMATE INVERTER COMPRESSOR

As the core technology of the air conditioning system, the Ultimate Inverter Compressor of MULTI V 5 boasts its ultimate efficiency and durability, designed based on the unique technology and innovation of LG HVAC.

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

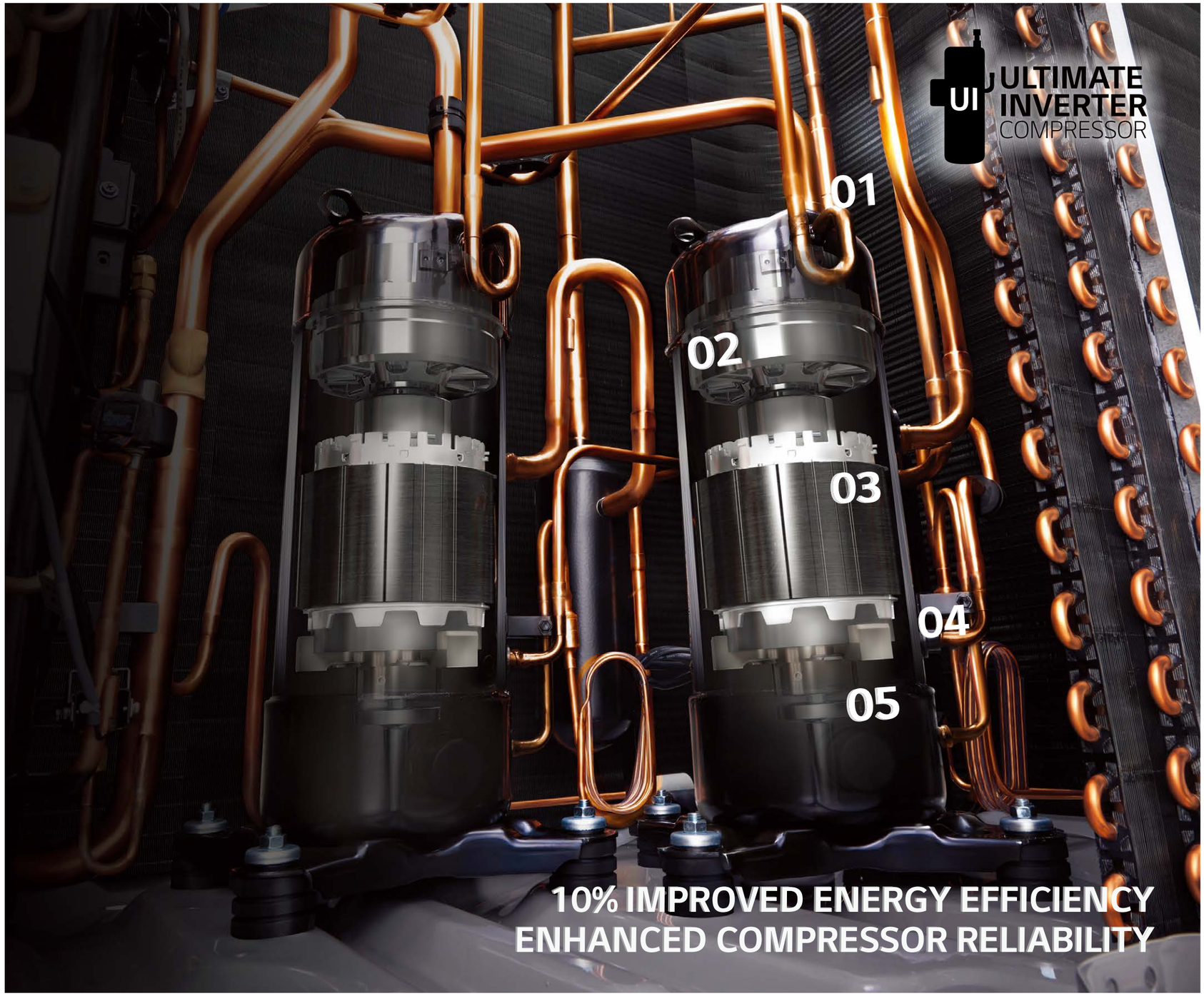
01. Vapor Injection
Maximize heating capacity via two-stage compression

02. Enhanced Bearing with PEEK Material
Newly invented system motivated by PEEK (Polyetheretherketone) bearing used for aero engine to increase operation range and durability

03. Wide Operation Range from 10 to 165Hz
Improved part load efficiency at all operation ranges

04. HiPOR™ (High Pressure Oil Return)
Resolve compressor efficiency loss caused by oil return

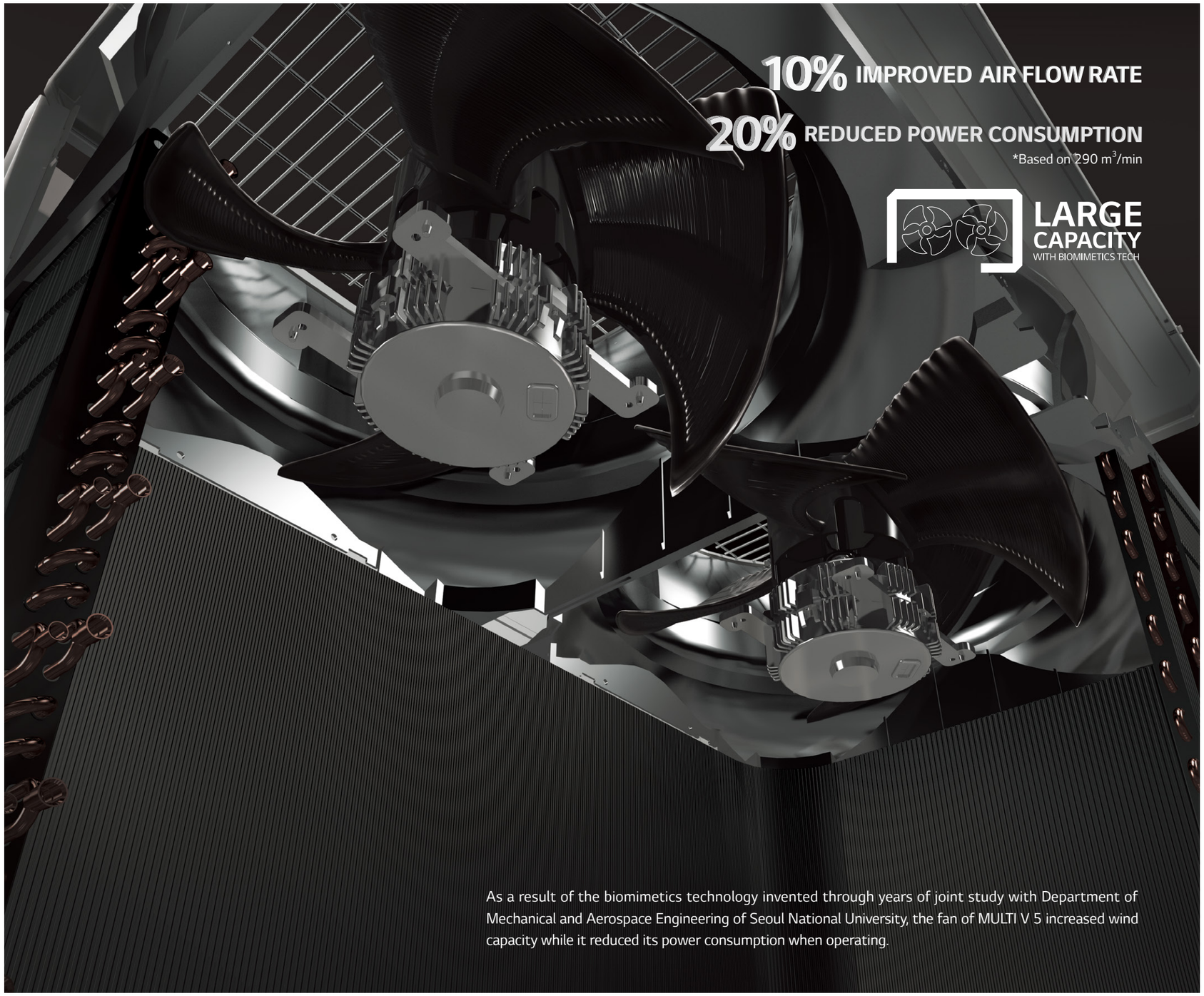
05. Smart Oil Management
Oil level detection in real time



OUTDOOR UNIT KEY FEATURES

MULTI V 5

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 wind capacity while it reduced its power consumption when operating.

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 26HP.

Humpback Whale Design

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

Clam Shell Pattern

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

Increased Air Flow Rate

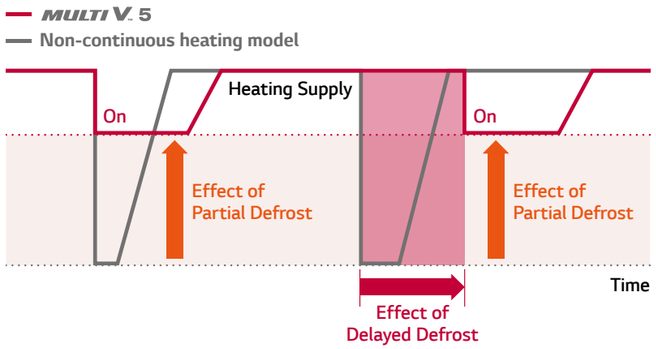
With extended shroud, discharged air current is stabilized and power consumption is reduced.

OUTDOOR UNIT KEY FEATURES

MULTI V 5

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 minimize 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

OUTDOOR UNIT KEY FEATURES

MULTI V 5

OCEAN BLACK FIN
HEAT EXCHANGER

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 minimize unnecessary operational consumption to provide consistent heating.

CERTIFICATE OF VALIDATION

Certificate Number / Report Reference:	4786755320-1 / 4786755320-16-1
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(BS)-E-0143

This certificate and the client 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 selected by the client or the adequacy of test data generated by third parties. Please see test report for full details including test standards.

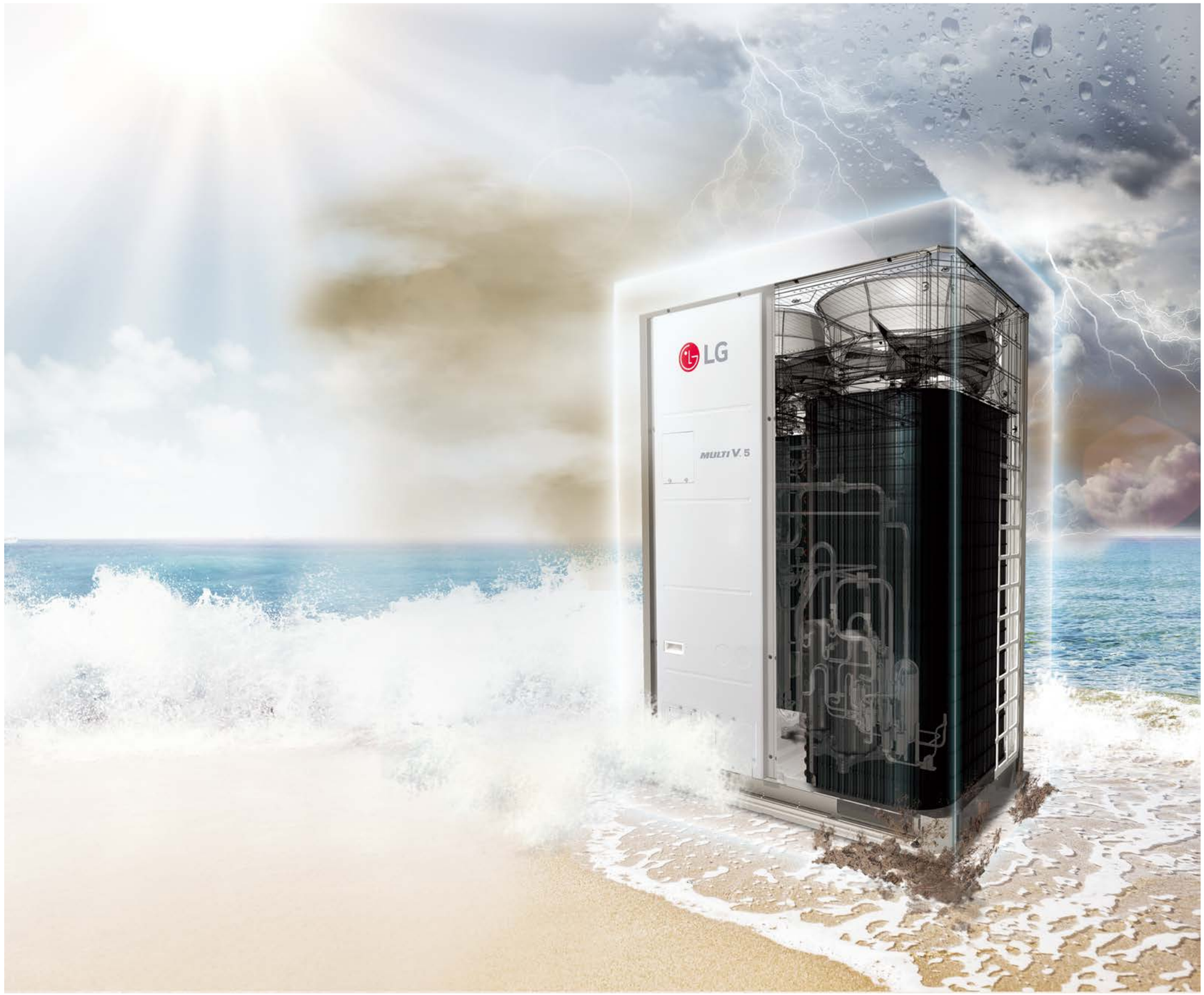
This certificate in no way conveys or implies Listing, Classification or Recognition or other certification by UL and does not authorize the use of UL Listing, Classification or Recognition Marks on or in connection with the product. The validated claim relates solely to product performance and in no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

Chunbae Kim
Engineering Leader
Commercial & Industrial

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

Ocean Black Fin

* 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



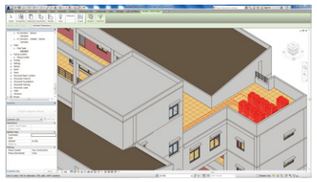
MULTI V 5

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 the most efficient and flexible installation environment for consultants and HVAC designers. Indeed, MULTI V 5 is the most reasonable HVAC system that has achieved the best efficiency through LG's enhanced inner parts, operational cycle and controlling technology.

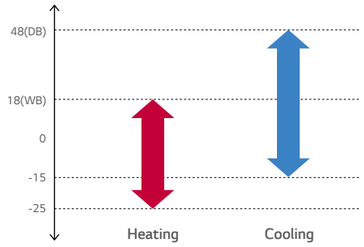
01 Improved designing effectiveness and accuracy via LATS Revit, the BIM application

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 the easiest, yet the most 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 the extreme climate situations, 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 perfectly perform heating operation in cold environment, making the product adequate for uses in specialized venues like server rooms.



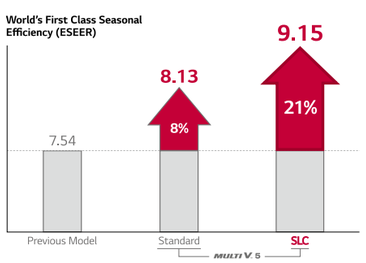
03 Flexible construction design available due to long piping technology

Through the world's best class piping technology MULTI V 5 provides the perfect 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 world's top class energy efficiency

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



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

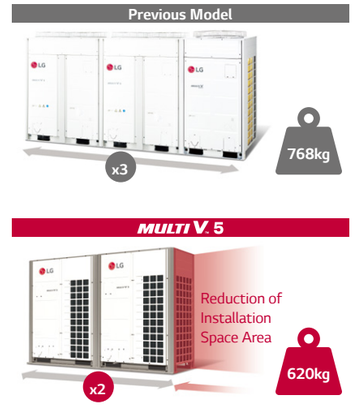
MULTI V 5

INSTALLERS

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

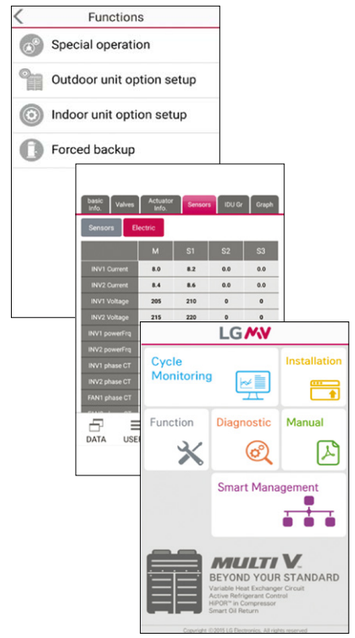
01 Increased installation convenience due to large capacity units reducing number of outdoor units required for combination

By providing up to 26HP 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 20HP outdoor unit, a 18HP outdoor unit and a 10HP outdoor unit to run a total of 48HP. For MULTI V 5, however, only 2 outdoor units with each providing 24HP 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)**

MULTI V 5

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 in comparison to other systems. At the same time, large capacity outdoor units minimize installation space which eventually allow better use of the floor space. Moreover, MULTI V 5 prevents overuse of the operational costs by planning and consuming the projected monthly energy usage.

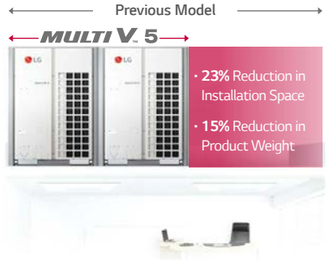
01 Corrosion resistance via Ocean Black Fin

Protection certified by UL (Underwriters Laboratories), LG's 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 without breakdown.

Ocean Black Fin

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

MULTI V 5 provides up to 26HP for single unit line up. Considering that a total of 260HP 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 maximized 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.

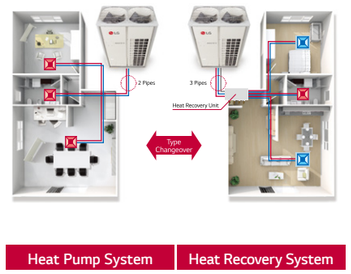


03 Operational costs management by presetting energy consumption

Energy management function allows MULTI V 5 to preset monthly energy usage and consume what has been previously planned. By analyzing 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.



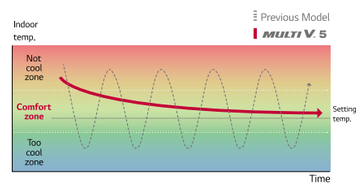
MULTI V 5

END USERS

LG's inverter technology and capability to actively respond to the building's both internal and external environment allow users to quickly arrive at the desired ambient and systematically maintain such condition. Moreover, users can control the indoor environment remotely via 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 at 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 offer the optimal user comfort.



02 Continuous heating operation

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

CONTINUOUS HEATING

03 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.