



**AHU
SOLUTION**

LG AHU Solution

LG AHU solution can satisfy customer's needs by providing energy savings and high product reliability with various high technology products and optimized solutions.



Energy Savings

- High efficiency inverter system
- Smart refrigerent control

Optimized Application

- Various cooling capacities and air volume
- Return, Supply air control
- Various components combination

Model Selection Tool

- Web base program
- Quick respond to customer's requirement

Visualized Controller

- Smart wired remote controller
- Central and BMS control

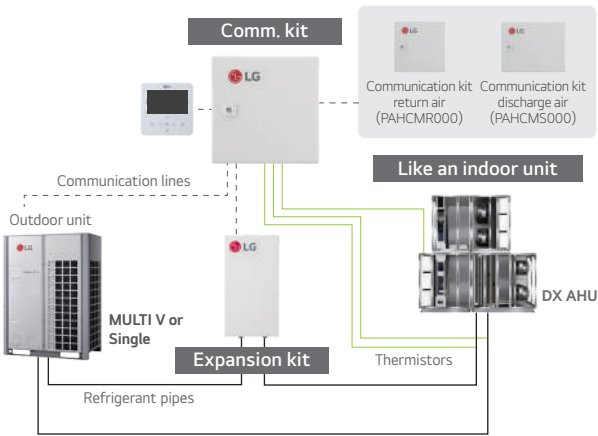
※ The LG controllers can only monitor operations such as on/off, operation mode, and temperature.

High Reliability

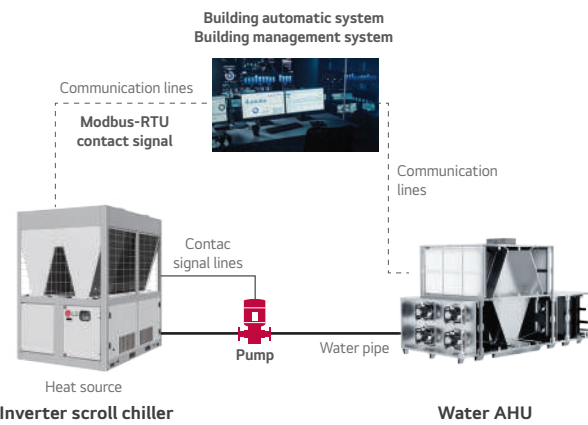
- High efficiency inverter compressor
- Corrosion resistant black fin
- System check using mobile

Application scene

DX AHU Type

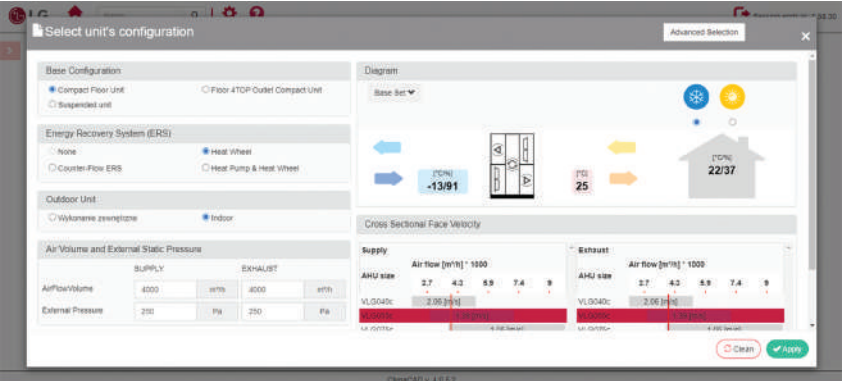


Water AHU Type



LG selection tool

LG AHU is highly customizable to meet the exact needs of the site at which it is installed. Various types of components can be designed using model selection program so we can quickly respond customer's conditions including technical reports and design files.



※ LG selection tool link : www.lgahuselection.com



Components

EC Motor



- Available Energy classes: IE4.
- Rated voltage: EC motors of nominal capacity exceeding 0,75 kW - 3 x 400 V AC.
- Rated voltage: EC motors of nominal capacity equal or less 0,75 kW - 1 x 230 V AC.
- Motor winding insulation class: F.
- Protection degree: IP54.
- Maximum working ambient temperature: 55°C.

Rotary Heat Wheel



- Up to 86% energy recovery, depending on airflow rate and its velocity in the heat wheel window.
- Rotor made of aluminum with shaft suspended on bearings, installed in steel housing.
- Rotor filling – two layers of alternately winded aluminium foil – one flat, the other - corrugated – making small ducts for the air.
- The rotor drive system enables smooth control of revolutions, maximizing recovery efficiency and allowing for adjustable performance.



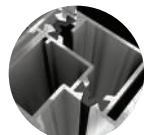
- Max permissible ambient temperature around heating elements: 65°C.
- The heater is available in a version built in the air handling unit and in a duct heater version (without thermal insulation).

Highlight of LG AHU Solution

Modular Type



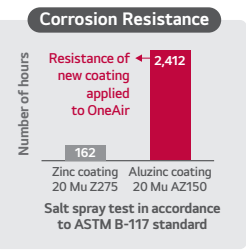
- Improved longitudinal rigidity of the structure



- Aluminum structural post with additional sealing blade and thermal break



- Steel skin coated with Aluzinc AZ 150



Corrosion Resistance

Resistance of new coating applied to OneAir

Coating	Resistance (hours)
Zinc coating 20 Mu Z275	162
Aluzinc coating 20 Mu AZ150	2,412

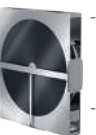
Salt spray test in accordance to ASTM B-117 standard



- Fan: Low and medium pressure ventilation systems with fan static pressure not exceeding 2,000 Pascals.
- EC Motor: Available energy class of IE4.
- AC Motor: Available energy classes of IE2 and IE3.



- Block of copper pipes integrated with another block of aluminum fins, creating expanded heat exchange surface.



- Rotor made of aluminum with shaft suspended on bearings, installed in steel housing.
- Up to 86% energy recovery



- ISO Coarse 75% (G4)



- ISO ePM₁₀ 50% (M5) / ePM_{2.5} 65% (F7) / ePM₁ 70% (F9*)
- * F9 is available as secondary filter



Compact Type (Ceiling Suspended)



- Panels filled with mineral wool, enclosed with steel sheet on both sides
- Casing parameters according to EN 1886: T2, TB3, L1, D1, F9



- Air filters with extended high efficiency filtration surface
- ISO ePM₁₀ 50% (M5) / ePM_{2.5} 65% (F7) / ePM₁ 70% (F9*)
- * F9 is available as secondary filter



- Multifunctional controls, integrated with the unit
- Fully pre-configured and ready to run



- Efficient, silent and low vibration fan with electronically commutated motor in a IE4 class.

up to **93%** drive efficiency



- Stepless adjustment of heat recovery capacity
- Passive cooling function.
- Recuperator frost protection.



- Highly efficient counter flow hex recovery with by-pass
- Recovery efficiency reaching 90%



Compact Type (Floor mounted)



- Panels filled with mineral wool, enclosed with steel sheet on both sides
- Casing parameters according to EN 1886: T2, TB3, L1, D1, F9



- Highly efficient counter flow hex recovery with by-pass
- Recovery efficiency reaching 90%



- Up to 86% of energy recovery



- Air filters with extended high efficiency filtration surface
- ISO ePM₁₀ 50%(M5) / ePM_{2.5} 65% (F7) / ePM₁ 70% (F9*)
- * F9 is available as secondary filter



- Efficient, silent and low vibration fan with electronically commutated motor in a IE4 class.

up to **93%** drive efficiency



Modular type



Key Features

- Airflow**
from 800 m³/h
to 70,850 m³/h
- Up to **92%**
of energy recovery efficiency
- 14 sizes**



LG participates in the ECP programme for EUROVENT AHU program. Check ongoing validity of certification : www.eurovent-certification.com

- Durable and tight structure
- Reliable components
- Highly efficient rotary and hex counter flow heat exchanger
- User safety

Recommended Air Flow Rate (rotary heat wheel)															
(Unit: m/h)	3,000	6,000	9,000	12,000	15,000	18,000	21,000	24,000	27,000	30,000	33,000		45,000	60,000	72,000
E-AVG021M	806	2,415													
E-AVG030M	1,180	3,450													
E-AVG040M	1,958	4,600													
E-AVG055M	2,878	6,325													
E-AVG075M	3,805	8,625													
E-AVG100M	4,863	11,500													
E-AVG120M	5,815	13,800													
E-AVG150M	7,167	16,350													
E-AVG180M	8,640	19,620													
E-AVG230M	10,398	25,070													
E-AVG300M	13,491	32,700													
E-AVG400M	18,704	43,600													
E-AVG500M	21,817	59,950													
E-AVG650M	28,725	70,850													

※ For more information, please refer to LG selection tool and / or contact LG B2B sales department (LG selection tool link : www.lgahuselection.com)

Compact type (Floor mounted)



Key Features

- Up to **90%**
of energy recovery efficiency
- Energy saving
and silent fans with
ec motors
- Plug & play
product
- Highly efficient
rotary and hex counter
flow heat exchanger



LG participates in the ECP programme for EUROVENT AHU program. Check ongoing validity of certification : www.eurovent-certification.com

Base unit overall data

Unit Size	Nominal Airflow (m³/h)	Airflow Range (m³/h)	Height (mm)	Width (mm)	Duct Connection Heigh (mm)	Duct Connection Width (mm)
E-AVG021C	2,100	840 - 2,310	991	967	345	860
E-AVG030C	3,000	900 - 3,300	1,255	967	480	860
E-AVG040C	4,000	1,200 - 4,400	1,255	1,174	480	1,065
E-AVG055C	5,500	1,650 - 6,050	1,525	1,345	615	1,235
E-AVG075C	7,500	2,250 - 8,250	1,765	1,486	735	1,380
E-AVG100C	10,000	3,000 - 11,000	1,965	1,666	835	1,560
E-AVG120C	12,000	3,600 - 13,200	2,039	1,897	870	1,790
E-AVG150C	15,000	4,500 - 16,500	2,241	2,091	970	1,985

Base unit lengths

Unit Size (mm)						
E-AVG021C	1,240	1,080	1,080	2,230	2,230	2,500
E-AVG030C	1,240	1,080	1,080	2,230	2,230	2,500
E-AVG040C	1,240	1,080	1,080	2,230	2,230	2,500
E-AVG055C	1,240	1,080	1,080	2,290	2,290	2,560
E-AVG075C	1,240	1,080	1,080	2,530	2,530	2,800
E-AVG100C	1,300	1,300	1,080	2,570	2,570	2,800
E-AVG120C	1,300	1,300	1,080	2,670	2,670	2,900
E-AVG150C	1,300	1,300	1,080	2,730	2,730	2,940

Compact type (Ceiling suspended)



Key Features



Up to **90%**
of energy recovery efficiency



Energy saving
and silent fans with
ec motors



Plug & play
product



Integrated
multifunctional
controls



Mineral wool
insulation



Highly efficient
hex counter
flow heat recovery



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for EUROVENT AHU program.
Check ongoing validity of certification
: www.eurovent-certification.com

Base unit overall data

Unit Size	Nominal Airflow (m³/h)	Airflow Range (m³/h)	Height (mm)	Width (mm)	Duct Connection Heigth (mm)	Duct Connection Width (mm)
E-AVG010S	1,000	300 - 1,100	400	1,150	318	515
E-AVG015S	1,500	450 - 1,650	400	1,550	318	715
E-AVG020S	2,000	600 - 2,200	490	1,610	408	743
E-AVG030S	3,000	900 - 3,300	490	2,160	408	1,018

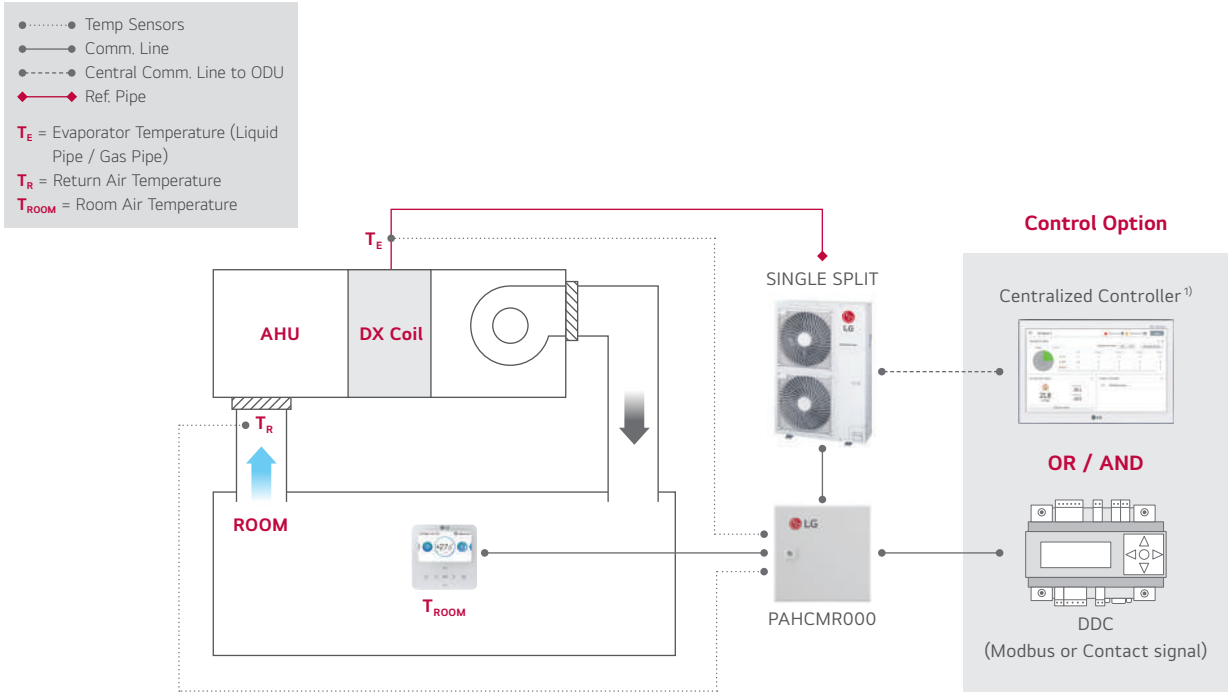
Section length

Unit Size (mm)	
E-AVG010S	1,500
E-AVG015S	1,500
E-AVG020S	1,828
E-AVG030S	1,828

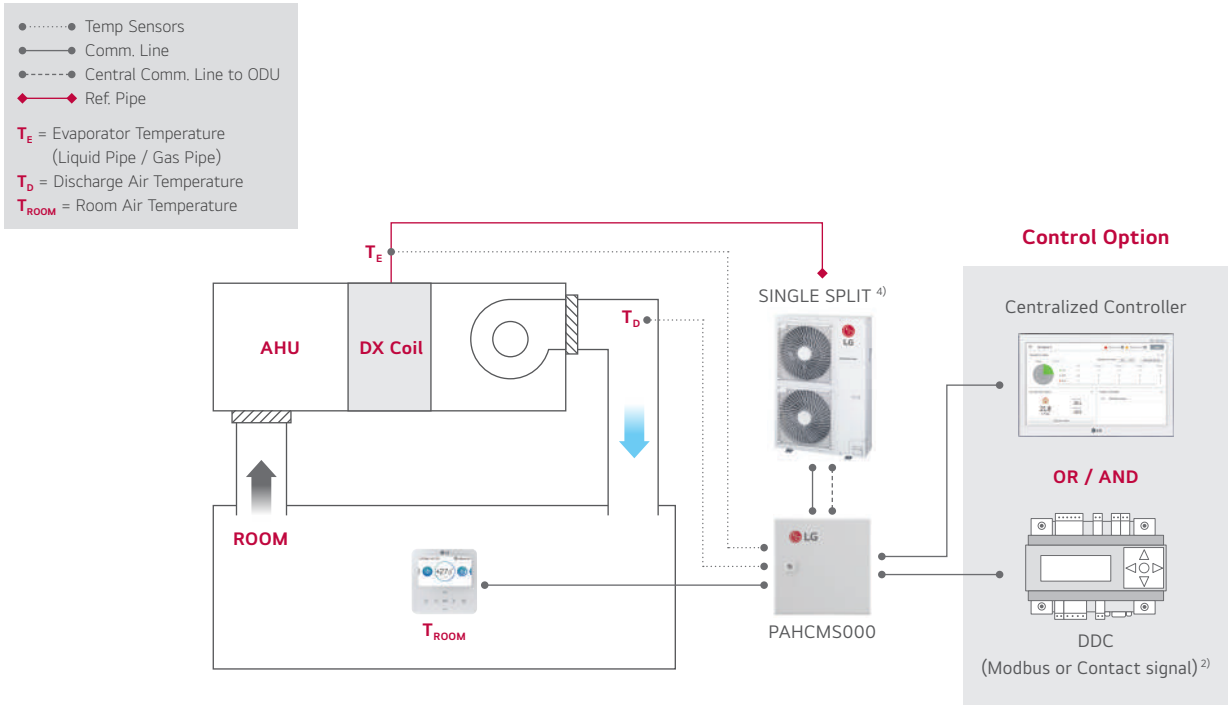
Air Handling Applications

Economically feasible solution for paired application with air handling units.

Return / Room Air Temperature Control



Discharge Air Temperature Control



1) PI485 (PMNFP14A1) is required for using centralized controller.
2) In case of applying DDC with contact signal, discharge air temperature should be measured and controlled by DDC.
3) For more detail, please refer to the PDB of AHU Communication Kit.
4) PI485 (PMNFP14A1) is required for using PAHCMS000.

Communication Kit



PAHCMR000 / PAHCMS000

Specification

Model	Combination		Description	Dimensions (mm)		
	Outdoor Unit	Centralized Controller		W	H	D
PAHCMR000	Single Split	•	Return / Room air temperature control by DDC or LG individual / centralized controller	300	300	155
PAHCMS000	Single Split	•	Discharge air temperature control by DDC or LG individual / centralized controller	380	300	155

Function List for Communication Kit

Function List*		PAHCMR000	PAHCMS000	Note
Control	Comm. Kit Operation	On / Off	On / Off	
	Operation Mode ¹⁾	Cooling / Heating	Cooling / Heating	
	Return (room) Air Temperature	16~30°C	-	
	Discharge Air Temperature ²⁾	-	16~30°C	Available in case of using DDC with Modbus or LG Control system
	Fan Speed ³⁾	Low / Middle / High	Low / Middle / High	It may not be possible depending on the particular condition
	Forced Thermal On / Off	On / Off	-	Available in case of using DDC with contact signal
	Capacity Control	-	•	Available in case of using DDC with Modbus or contact signal
Monitor	Comm. Kit Operation	On / Off	On / Off	
	Operation Mode ¹⁾	Cooling / Heating	Cooling / Heating	Available in case of using DDC with Modbus or LG Control system
	Fan Speed	Low / Middle / High	Low / Middle / High	
	Error Alarm	•	•	
	Compressor On / Off	On / Off	On / Off	Available in case of using DDC with Modbus or LG individual controller PAHCMR000 doesn't provide this in case of using DDC with contact signal

1) Available operation mode can be varied depending on the setting of AHU Communication Kit.
2) This range may differ depending on the type of controller.
3) To control and monitor the fan speed, DO ports for the fan speed status have to be connected with the fan unit.
* Some of functions may not be possible depending on the setting of AHU Communication Kit. For more details of condition, please refer to the product data book.

Combination Table

		R32				R410A	
Model Name		UUA1 UL0	UUB1 U20	UUC1 U40	UUD1 U30 UUD3 U30	UU70W U34	UU85W U74
Capacity Index Range	kBtu/h	9 ~18	18 ~ 30	24 ~ 36	36 ~ 60	70	85
	kW	2.5 ~ 5.0	5.0 ~ 8.0	6.8 ~ 10.0	10.0 ~ 14.6	20.0	25.0
PAHCMR000		X	O	O	O	O	O
PAHCMS000		X	O	O	O	O	O