



# **MULTI V<sup>TM</sup>** **WATER IV**

## **ENGINEERING MANUAL** *for Heat Pump and Heat Recovery Water Source Units*

Variable Refrigerant Flow  
Water Source Units

6.0 to 48.0 Tons



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VRF-EM-BQ-002-US\_014D16

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## Variable Refrigerant Flow Technology

In the early 1980s, VRF technology was introduced to the world as an alternative method of cooling and heating commercial structures. VRF systems have become the system of choice for designers internationally because they offer better comfort at lower utility costs

compared to traditional boiler/chiller/Variable Air Volume (VAV) air handler systems. Today, VRF is gaining popularity in the United States.

LG Multi V Water IV water source systems offer the opportunity to minimize ductwork in the same configuration. The system offers zoning without the need for zone damper systems. The LG Multi V Water IV system's advanced controls provide exceptional building dehumidification and temperature control, and can rapidly adapt system operating parameters to an ever-changing building load. The LG Multi V Water IV system is easy to design, install, and maintain. The modular design allows occupants to control their environmental condition, providing individualized control of the set-point temperature and allowing occupants to condition only the occupied zones.

## Quality Commitment

LG is committed to the success of every Multi V project by providing the best industry technical support during project engineering, installation, and commissioning. LG offers a variety of classes designed for engineers, architects, installers, and servicers to ensure that every Multi V installation is completed successfully. Classes are conducted at LG's training centers and in field locations at various times throughout the year and upon special request.



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# INTRODUCTION

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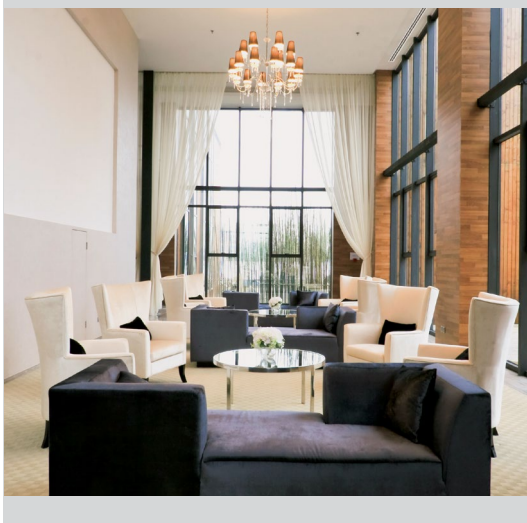
# WHY USE VRF?



Convergence of Technological Innovation with Flexibility and Style

## Benefits of Multi V Water IV Systems

- Maximum individual zone control
- Long refrigerant piping lengths
- High refrigerant piping elevation differences
- Maximum flexibility
- Operating ranges:  
Entering water temperatures  
23 to 113 °F for cooling mode;  
23 to 113 °F for heating mode
- Quiet and comfortable environment
- Reduced ductwork



## Multi V Water IV

Multi V Water IV, a Variable Refrigerant Flow (VRF) system, is among the industry's best air-conditioning units with great advantage on vertical rise and piping lengths. Choosing an LG Multi V Water IV VRF system provides the system designer an edge to engineer a system with individual control and design flexibility with advanced controls. Multi V Water IV is available in two configurations, heat pump and heat recovery.

Multi V Water IV heat pumps are two-pipe systems available in nominal capacities of 6.0 to 48.0 tons. These are best suited for applications with zones that require heating or cooling, such as residential and small office buildings.

Multi V Water IV heat recovery is a three-pipe system that provides simultaneous heating and cooling operation from the same water source unit.

Both Multi V Water IV heat pump and heat recovery systems allow the designer to accommodate up to 64 thermal zones, each controlled from a separate controller. Multi V Water IV water source units are available in 208–230 Volt, 60 Hz, 3 Phase and 460 Volt, 60 Hz, 3 Phase.

## Adaptable and Flexible

Multi V Water IV water source units can be adapted to a wide range of building applications and sizes such as schools, hotels, hospitals, offices, and residences. The lightweight and small footprint allows system components to be placed in the building without expensive cranes, easily fitting into most service elevators and set in place with minimal requirements for structural reinforcements. The modular design of VRF systems means Multi V Water IV can be commissioned in stages so tenants can move in as each floor or even each room is completed.

Multi V Water IV technology allows you to pipe farther, reaching all areas of a

building that would require the installation of a second system when using traditional direct-expansion cooling and heating equipment. Multi V Water IV provides the designer with uncompromised pipe system engineering flexibility—long pipe runs and large elevation differences. Whether your building is a high-rise



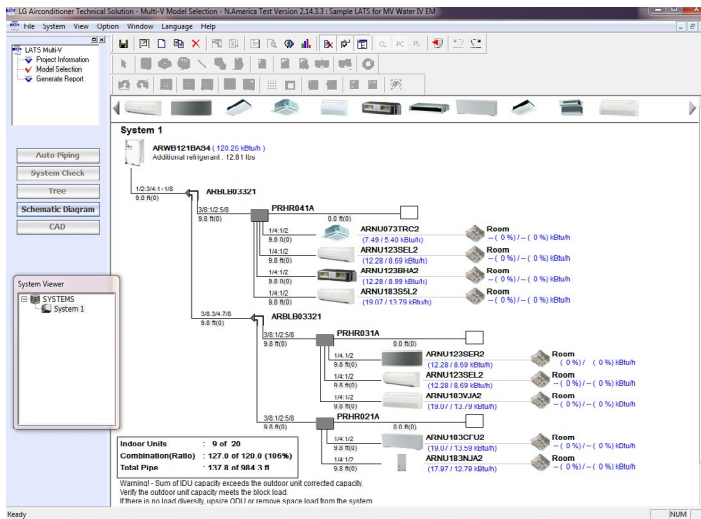
condominium, a hotel, a sprawling school, or an office complex. Multi V Water IV is best suited to reach the farthest corners and elevations.

## Smaller Pipe Chases and Plenums

LG Multi V Water IV water source systems move heat with refrigerant, resulting in smaller space requirements for piping as compared to chilled water or roof top systems. This design helps reduce the overall construction and material cost of the building, and gives back leasable space. Flexible and logical placement of system components, shorter pipe lengths, and fewer joints lower installation costs and minimize potential leaking.

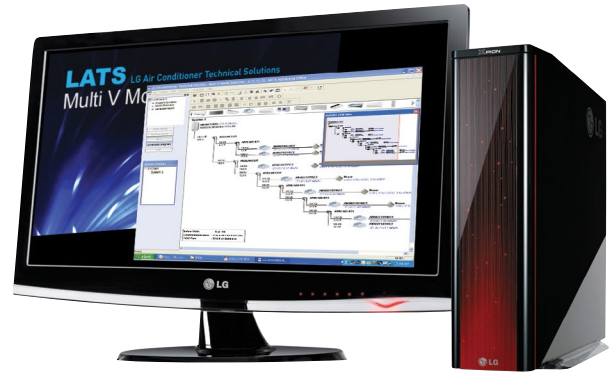
### Intuitive Design

The LG Air Conditioning Technical Solution (LATS) Multi V design and layout software provides an intuitive, quick, and simple method to design a Multi V Water IV refrigerant pipe system. LATS Multi V checks piping lengths and elevations, and it assists with the sizing of indoor and outdoor units by calculating component capacity based on design conditions. LATS Multi V can import AutoCAD™ drawings and lay out the Multi V Water IV system to scale. When the designer finishes the AutoCAD system layout, all of the piping lengths will be calculated, and a drawing file with the Multi V system will be available for export and integration into the building drawing set.



### Energy Modeling

Visit our website ([www.lg-vrf.com](http://www.lg-vrf.com)) or consult your local LG representative for energy modeling guides.



Introduction





# PRODUCT DATA

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## Multi V Water IV

Multi V Water IV water source units (WSU), equipped with an inverter compressor, offer superior load matching and long piping installation. The product optimizes power consumption in high-rise buildings. Add on features make it easy to upgrade the existing capacity at any time. Sophisticated electronic control and unique refrigerant flow gives these systems the capability to perform in extreme/unusual working conditions.

## Low Sound Levels

When Multi V Water IV water source units operate fully loaded, they have one of the quietest sound levels in the industry. Sound is almost undetectable during off-peak operation. To promote a quiet, comfortable environment, LG Multi V water source units operate at sound levels as low as 47 dB(A) in cooling mode and 51 dB(A) in heating mode. LG customers often ask if the water source unit is running after commissioning is complete.

All rotating components are soft-started by the controller using digitally controlled inverters, which reduces undesirable noise caused by compressors cycling on and off.

## Comfort Control at Its Best

Tight temperature control through precise load matching maximizes the time that the indoor units remove moisture. This ensures maximum comfort and delivers the industry's best indoor humidity levels.

## Precision Load Matching

Unlike traditional air conditioning control systems, which use thermostatic controls to maintain room temperatures, LG Multi V Water IV controls continuously vary the indoor unit fan speed and refrigerant flow, indirectly providing lower and more consistent humidity levels in the conditioned space. The longer the indoor coil temperature is below the dew-point of the room with air moving across the coil, the less the space humidity level varies, compared to technologies that cycle fans and compressors on and off multiple times per hour.

The water source unit varies the compressor speed as needed to maintain system operat-

ing pressure. As a result, the Multi V Water IV system delivers precise space temperature control.

## Advanced Compressor Technology

### Oil Management

Oil migration is no longer a concern when choosing Multi V Water IV. An oil management system ensures a safe level of oil in the compressor sump.

1. Smart oil system monitors oil sump levels to know when to inject oil into the compressor, eliminating the need for oil return cycles.
2. HiPOR™ oil return system minimizes oil mixing with refrigerant by separating oil at compressor discharge with an oil separator and injecting oil back to the lower section of the compressor shell. Energy is saved by compressing the refrigerant without the oil mixed at the compression chamber.
3. Oil injection system provides a consistent film of oil to moving parts, even at low speeds, ensuring compressor operation down to 20 Hz.

## Inverter Driven

The scroll compressor is optimized to maximize compressor efficiency, which reduces power consumption and monthly utility bills. This latest inverter technology allows the LG Multi V Water IV to vary the compressor motor shaft speed to deliver an appropriate amount of cooling to all indoor units. Precise refrigerant volume delivery translates into long periods with coil surface temperatures below dew point and minimizes compressor component run time. Occupants remain comfortable while utility costs are reduced.

## Simplified Installation

Cooling and heating systems that use the LG Multi V Water IV simplify and reduce the mechanical and control system design time. The designer no longer has to be concerned with interconnecting chilled and condenser water piping, air-distribution duct systems, matching and selecting chillers, towers, pumps, coils, fans, air handlers, or Variable Air Volume (VAV) boxes.



Figure 1: Single-Frame Multi V Water IV Water Source Unit.

System integration with existing building management systems has never been easier. Because all of the Multi V Water IV system components are engineered and provided by LG, the system components and controls come pre-engineered and do not need custom programming from third-party contractors.

## Operating Range

The Multi V Water IV product line includes capacities from six (6.0) to forty-eight (48.0) tons, and features a connected indoor unit combination ratio of 50% to 130%. Operating ranges include:

### Entering Water Temperatures

- 23–113 °F for cooling mode
- 23–113 °F for heating mode
- 23–113 °F for synchronous mode (heat recovery systems only)

## Compact Size

All Multi V Water IV water source unit frames have the same physical footprint: 29-3/4" wide by 19-3/4" deep. Systems can be designed with one, two, or a maximum of three water source unit frames.

## Other Features

- Inverter Scroll Compressors
- Elevation Advantage
- Smaller Footprint
- Precision Load Matching
- AHRI 1230 Certification



Figure 2: Dual-Frame Multi V Water IV Water Source Unit.



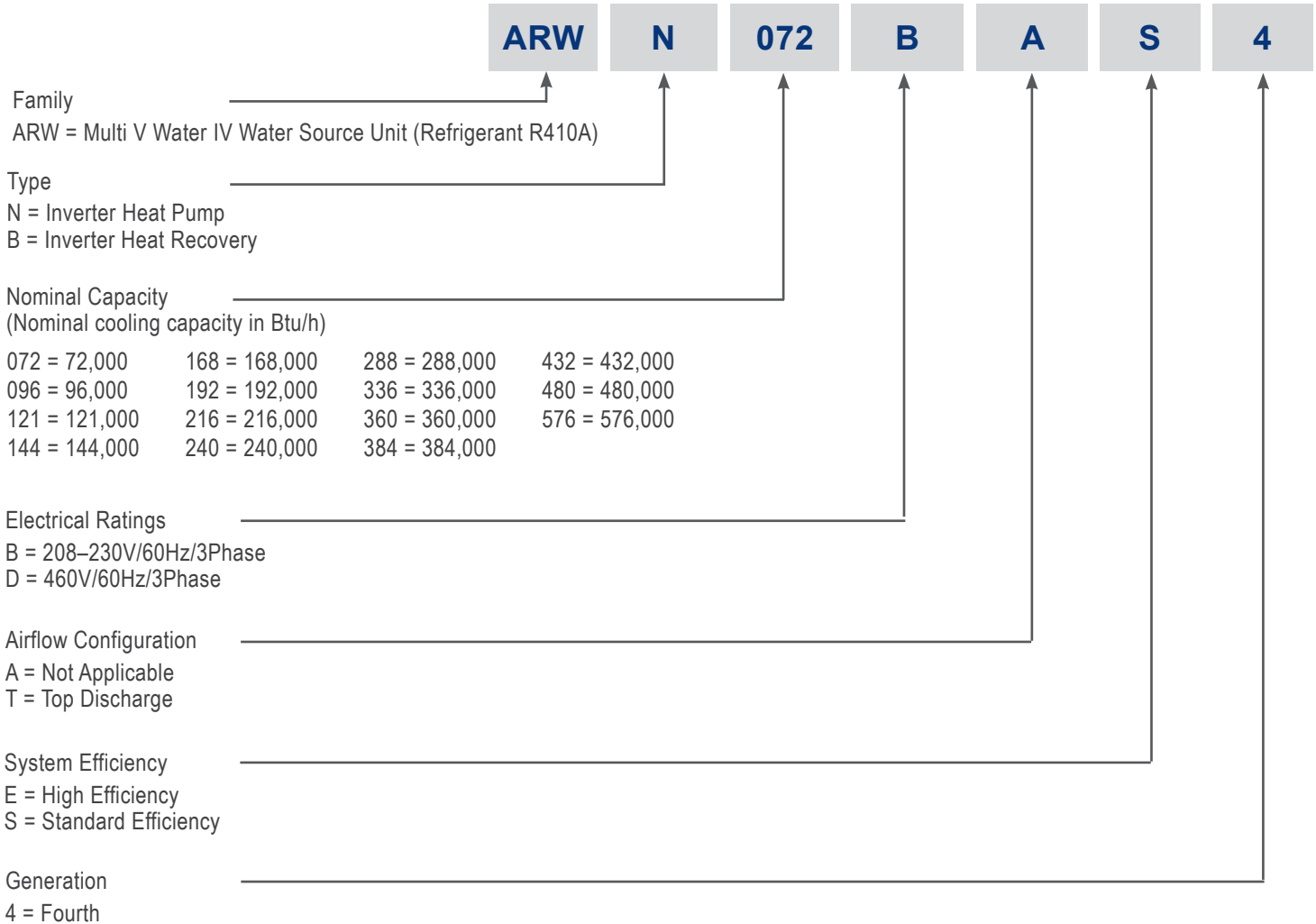
Figure 3: Triple-Frame Multi V Water IV Water Source Unit.

# UNIT NOMENCLATURE



## Water Source and Heat Recovery Units

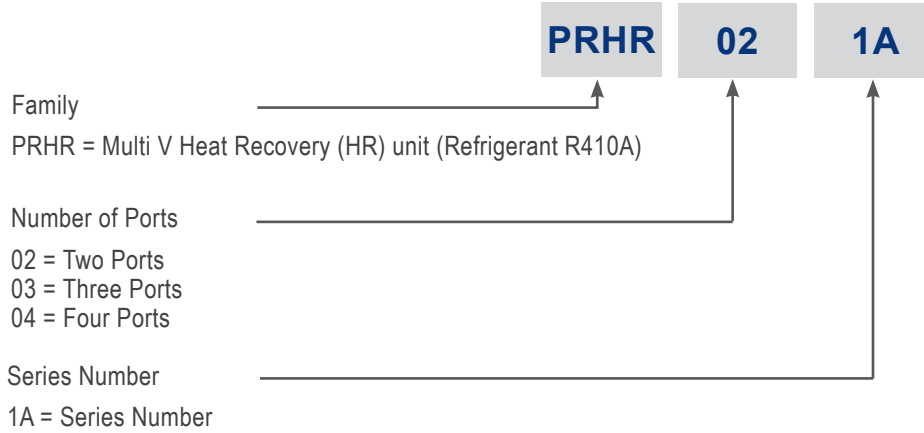
### Water Source Units



MULTI V Water IV Water Source Unit Engineering Manual



## Heat Recovery Units (HRU)



# GENERAL DATA



## ARWN Series Heat Pump Water Source Unit Specifications

Table 1: Single-Frame 208-230V Heat Pump Units.

Combination Unit Model Number	6.0 Ton ARWN072BAS4	8.0 Ton ARWN096BAS4	10.0 Ton ARWN121BAS4	12.0 ARWN144BAS4
Individual Component Model Numbers	-	-	-	-
<b>Cooling Performance</b>				
Nominal Cooling Capacity (Btu/h) <sup>1</sup>	72,000	96,000	120,000	144,000
<b>Heating Performance</b>				
Nominal Heating Capacity (Btu/h) <sup>1</sup>	81,000	108,000	135,000	162,000
<b>Operating Range (Entering Water Temperature)</b>				
Cooling (°F) <sup>2</sup>	23 – 113	23 – 113	23 – 113	23 – 113
Heating (°F)	23 – 113	23 – 113	23 – 113	23 – 113
<b>Compressor</b>				
Inverter Quantity	HSS DC Scroll x 1	HSS DC Scroll x 1	HSS DC Scroll x 1	HSS DC Scroll x 1
Oil/Type	PVE/FVC68D	PVE/FVC68D	PVE/FVC68D	PVE/FVC68D
<b>Unit Data</b>				
Refrigerant Type	R410A	R410A	R410A	R410A
R410A Refrigerant Factory Charge (lbs)	12.8	12.8	12.8	12.8
Refrigerant Control/Location	EEV/Indoor Unit	EEV/Indoor Unit	EEV/Indoor Unit	EEV/Indoor Unit
Max. Number Indoor Units/System	13	16	20	23
Sound Pressure dB(A) <sup>3</sup> Cooling/Heating	47/51	50/53	56/56	58/57
Net Unit Weight (lbs.)	280	280	280	280
Shipping Weight (lbs.)	302	302	302	302
Communication Cables	2 x 18 AWG	2 x 18 AWG	2 x 18 AWG	2 x 18 AWG
Heat Rejected to Equipment Room (Btu/h)	2,152	2,322	2,493	2,664
<b>Heat Exchanger (Stainless Steel Plate)</b>				
Maximum Pressure Resistance (psi)	640	640	640	640
Flow at Rated Condition (GPM)	20.3	25.4	30.4	35.5
Range of Flow (GPM)	8.1 – 30.5	10.2 – 38.1	12.2 – 45.6	14.2 – 53.3
Total Heat of Rejection (Btu/h)	94,400	126,700	157,400	190,100
Total Heat of Absorption (Btu/h)	73,200	96,800	122,000	145,200
Pressure Drop (ft-wg)	3.7	5.3	7.4	9.5
Δt <sup>4</sup> (°F)	9.3	10.0	10.4	10.7
<b>Piping<sup>5</sup></b>				
Liquid Line Connection (in., OD)	3/8 Braze	3/8 Braze	1/2 Braze	1/2 Braze
Vapor Line Connection (in., OD)	7/8 Braze	7/8 Braze	1-1/8 Braze	1-1/8 Braze
Water Inlet/Outlet Connection (in)	1-1/2 + 1-1/2 Fem	1-1/2 + 1-1/2 Fem	1-1/2 + 1-1/2 Fem	1-1/2 + 1-1/2 Fem
Condensate Drain (in)	3/4 Female	3/4 Female	3/4 Female	3/4 Female

<sup>1</sup>Nominal capacity is outside of AHRI Standard 1230 and based on the following conditions:

- Cooling – Indoor 80°F DB / 66°F WB  
Water Temperature Entering: 86°F
- Heating – Indoor 68°F DB  
Water Temperature Entering: 68°F

<sup>2</sup>When entering water temperature is lower than 59°F, variable water flow control kit PWFCKN000 is required.

<sup>3</sup>Sound pressure levels are tested in an anechoic chamber under ISO 3745 standard.

<sup>4</sup>Value is calculated as follows: Δt = Total Heat of Rejection/(Nominal Flow Rate x 500).

<sup>5</sup>Refer to the Refrigerant Piping section of this manual for correct line sizing. Contractor must use LG manufactured Y-Branch and Header Kits only. Designer must verify refrigerant piping design configuration using LG's computerized refrigerant piping software (LATS Multi V) to validate the pipe design.



# GENERAL DATA

## ARWN Series Heat Pump Water Source Unit Specifications

Table 2: Dual-Frame 208-230V Heat Pump Units.

Combination Unit Model Number	14.0 Ton ARWN168BAS4	16.0 Ton ARWN192BAS4	18.0 Ton ARWN216BAS4	24.0 Ton ARWN288BAS4
Individual Component Model Numbers	ARWN072BAS4 x 1 + ARWN096BAS4 x 1	ARWN072BAS4 x 1 + ARWN121BAS4 x 1	ARWN072BAS4 x 1 + ARWN144BAS4 x 1	ARWN144BAS4 x 2
<i>Cooling Performance</i>				
Nominal Cooling Capacity (Btu/h) <sup>1</sup>	168,000	192,000	216,000	288,000
<i>Heating Performance</i>				
Nominal Heating Capacity (Btu/h) <sup>1</sup>	189,000	216,000	243,000	324,000
<i>Operating Range (Entering Water Temperature)</i>				
Cooling (°F) <sup>2</sup>	23 – 113	23 – 113	23 – 113	23 – 113
Heating (°F)	23 – 113	23 – 113	23 – 113	23 – 113
<i>Compressor</i>				
Inverter Quantity	HSS DC Scroll x 2	HSS DC Scroll x 2	HSS DC Scroll x 2	HSS DC Scroll x 2
Oil/Type	PVE/FVC68D	PVE/FVC68D	PVE/FVC68D	PVE/FVC68D
<i>Unit Data</i>				
Refrigerant Type	R410A	R410A	R410A	R410A
R410A Refrigerant Factory Charge (lbs)	12.8 + 12.8	12.8 + 12.8	12.8 + 12.8	12.8 + 12.8
Refrigerant Control/Location	EEV/Indoor Unit	EEV/Indoor Unit	EEV/Indoor Unit	EEV/Indoor Unit
Max. Number Indoor Units/System	29	32	35	45
Sound Pressure dB(A) <sup>3</sup> Cooling/Heating	55/56	54/60	57/57	59/58
Net Unit Weight (lbs.)	280 + 280	280 + 280	280 + 280	280 + 280
Shipping Weight (lbs.)	302 + 302	302 + 302	302 + 302	302 + 302
Communication Cables	2 x 18 AWG	2 x 18 AWG	2 x 18 AWG	2 x 18 AWG
Heat Rejected to Equipment Room (Btu/h)	4,304	4,645	4,816	5,328
<i>Heat Exchanger (Stainless Steel Plate)</i>				
Maximum Pressure Resistance (psi)	640	640	640	640
Flow at Rated Condition (GPM)	25.4 + 20.3	30.4 + 20.3	35.5 + 20.3	35.5 + 35.5
Range of Flow (GPM)	18.3 – 68.6	20.3 – 76.1	22.3 – 83.7	28.4 – 106.5
Total Heat of Rejection (Btu/h)	94,400 + 126,700	94,400 + 157,400	94,400 + 190,100	190,100 + 190,100
Total Heat of Absorption (Btu/h)	73,200 + 96,800	73,200 + 122,000	73,200 + 145,200	145,200 + 145,200
Pressure Drop (ft-wg)	3.7 + 5.3	3.7 + 7.4	3.7 + 9.5	9.5 + 9.5
Δt <sup>4</sup> (°F)	9.7	9.9	10.2	10.7
<i>Piping<sup>5</sup></i>				
Liquid Line Connection (in., OD)	3/8 + 3/8 Braze	3/8 + 1/2 Braze	3/8 + 1/2 Braze	1/2 + 1/2 Braze
Vapor Line Connection (in., OD)	7/8 + 7/8 Braze	7/8 + 1-1/8 Braze	7/8 + 1-1/8 Braze	1-1/8 + 1-1/8 Braze
Water Inlet/Outlet Connection (in)	(1-1/2 + 1-1/2 Fem) x2	(1-1/2 + 1-1/2 Fem) x2	(1-1/2 + 1-1/2 Fem) x2	(1-1/2 + 1-1/2 Fem) x2
Condensate Drain (in)	3/4 Female	3/4 Female	3/4 Female	3/4 Female

Product Data

<sup>1</sup>Nominal capacity is outside of AHRI Standard 1230 and based on the following conditions:

- Cooling – Indoor 80°F DB / 66°F WB  
Water Temperature Entering: 86°F
- Heating – Indoor 68°F DB  
Water Temperature Entering: 68°F

<sup>2</sup>When entering water temperature is lower than 59°F, variable water flow control kit PWFCKN000 is required.

<sup>3</sup>Sound pressure levels are tested in an anechoic chamber under ISO 3745 standard.

<sup>4</sup>Value is calculated as follows: Δt = Total Heat of Rejection/(Nominal Flow Rate x 500).

<sup>5</sup>Refer to the Refrigerant Piping section of this manual for correct line sizing. Contractor must use LG manufactured Y-Branch and Header Kits only. Designer must verify refrigerant piping design configuration using LG's computerized refrigerant piping software (LATS Multi V) to validate the pipe design.



# GENERAL DATA



## ARWN Series Heat Pump Water Source Unit Specifications

Table 3: Triple-Frame 208-230V Heat Pump Units.

Combination Unit Model Number	30.0 Ton ARWN360BAS4	36.0 Ton ARWN432BAS4
Individual Component Model Numbers	ARWN072BAS4 x 1 + ARWN144BAS4 x 2	ARWN144BAS4 x 3
<i>Cooling Performance</i>		
Nominal Cooling Capacity (Btu/h) <sup>1</sup>	360,000	432,000
<i>Heating Performance</i>		
Nominal Heating Capacity (Btu/h) <sup>1</sup>	405,000	486,000
<i>Operating Range (Entering Water Temperature)</i>		
Cooling (°F) <sup>2</sup>	23 – 113	23 – 113
Heating (°F)	23 – 113	23 – 113
<i>Compressor</i>		
Inverter Quantity	HSS DC Scroll x 3	HSS DC Scroll x 3
Oil/Type	PVE/FVC68D	PVE/FVC68D
<i>Unit Data</i>		
Refrigerant Type	R410A	R410A
R410A Refrigerant Factory Charge (lbs)	12.8 + 12.8 + 12.8	12.8 + 12.8 + 12.8
Refrigerant Control/Location	EEV/Indoor Unit	EEV/Indoor Unit
Max. Number Indoor Units/System	58	64
Sound Pressure dB(A) <sup>3</sup> Cooling/Heating	56/57	58/62
Net Unit Weight (lbs.)	280 + 280 + 280	280 + 280 + 280
Shipping Weight (lbs.)	302 + 302 + 302	302 + 302 + 302
Communication Cables	2 x 18 AWG	2 x 18 AWG
Heat Rejected to Equipment Room (Btu/h)	7,480	7,992
<i>Heat Exchanger (Stainless Steel Plate)</i>		
Maximum Pressure Resistance (psi)	640	640
Flow at Rated Condition (GPM)	20.3 + 35.5 + 35.5	35.5 + 35.5 + 35.5
Range of Flow (GPM)	36.5 – 137	42.6 – 159.8
Total Heat of Rejection (Btu/h)	94,400 + 190,100 + 190,100	190,100 + 190,100 + 190,100
Total Heat of Absorption (Btu/h)	73,200 + 145,200 + 145,200	145,200 + 145,200 + 145,200
Pressure Drop (ft-wg)	3.7 + 9.5 + 9.5	9.5 + 9.5 + 9.5
Δt <sup>4</sup> (°F)	10.4	10.7
<i>Piping<sup>5</sup></i>		
Liquid Line Connection (in., OD)	3/8 + 1/2+1/2 Braze	1/2+1/2+1/2 Braze
Vapor Line Connection (in., OD)	7/8 + 1-1/8 +1-1/8 Braze	1-1/8 +1-1/8 + 1-1/8 Braze
Water Inlet/Outlet Connection Size (in)	(1-1/2 + 1-1/2 Female) x3	(1-1/2 + 1-1/2 Female) x3
Condensate Drain (in)	3/4 Female	3/4 Female

<sup>1</sup>Nominal capacity is outside of AHRI Standard 1230 and based on the following conditions:

- Cooling – Indoor 80°F DB / 66°F WB  
Water Temperature Entering: 86°F
- Heating – Indoor 68°F DB  
Water Temperature Entering: 68°F

<sup>2</sup>When entering water temperature is lower than 59°F, variable water flow control kit PWFCKN000 is required.

<sup>3</sup>Sound pressure levels are tested in an anechoic chamber under ISO 3745 standard.

<sup>4</sup>Value is calculated as follows: Δt = Total Heat of Rejection/(Nominal Flow Rate x 500).

<sup>5</sup>Refer to the Refrigerant Piping section of this manual for correct line sizing. Contractor must use LG manufactured Y-Branch and Header Kits only. Designer must verify refrigerant piping design configuration using LG's computerized refrigerant piping software (LATS Multi V) to validate the pipe design.



## ARWN Series Heat Pump Water Source Unit Specifications

Table 4: Single-Frame 460V Heat Pump Units.

Combination Unit Model Number	6.0 Ton ARWN072DAS4	8.0 Ton ARWN096DAS4	10.0 Ton ARWN121DAS4	12.0 Ton ARWN144DAS4	14.0 Ton ARWN168DAS4	16.0 Ton ARWN192DAS4
Individual Component Model Numbers	–	–	–	–	–	–
<b>Cooling Performance</b>						
Nominal Cooling Capacity (Btu/h) <sup>1</sup>	72,000	96,000	120,000	144,000	168,000	192,000
<b>Heating Performance</b>						
Nominal Heating Capacity (Btu/h) <sup>1</sup>	81,000	108,000	135,000	162,000	189,000	216,000
<b>Operating Range (Entering Water Temperature)</b>						
Cooling (°F) <sup>2</sup>	23 – 113	23 – 113	23 – 113	23 – 113	23 – 113	23 – 113
Heating (°F)	23 – 113	23 – 113	23 – 113	23 – 113	23 – 113	23 – 113
<b>Compressor</b>						
Inverter Quantity	HSS DC Scroll x 1	HSS DC Scroll x 1	HSS DC Scroll x 1	HSS DC Scroll x 1	HSS DC Scroll x 1	HSS DC Scroll x 1
Oil/Type	PVE/FVC68D	PVE/FVC68D	PVE/FVC68D	PVE/FVC68D	PVE/FVC68D	PVE/FVC68D
<b>Unit Data</b>						
Refrigerant Type	R410A	R410A	R410A	R410A	R410A	R410A
R410A Refrigerant Factory Charge (lbs)	12.8	12.8	12.8	6.6	6.6	6.6
Refrigerant Control/Location	EEV/Indoor Unit	EEV/Indoor Unit	EEV/Indoor Unit	EEV/Indoor Unit	EEV/Indoor Unit	EEV/Indoor Unit
Max. Number Indoor Units/System	13	16	20	23	29	32
Sound Pressure dB(A) Cooling/Heating	47/51	50/53	56/56	58/57	53/57	54/60
Net Unit Weight (lbs.)	280	280	280	309	309	309
Shipping Weight (lbs.)	302	302	302	331	331	331
Communication Cables	2 x 18 AWG	2 x 18 AWG	2 x 18 AWG	2 x 18 AWG	2 x 18 AWG	2 x 18 AWG
Heat Rejected to Equipment Room (Btu/h)	2,152	2,322	2,493	2,357	2,459	2,561
<b>Heat Exchanger (Stainless Steel Plate)</b>						
Maximum Pressure Resistance (psi)	640	640	640	640	640	640
Flow at Rated Condition (GPM)	20.3	25.4	30.4	35.5	45.7	50.7
Range of Flow (GPM)	8.1 – 30.5	10.2 – 38.1	12.2 – 45.6	14.2 – 53.3	18.3 – 68.6	20.3 – 76.1
Total Heat of Rejection (Btu/h)	94,100	125,900	157,900	190,100	221,100	253,500
Total Heat of Absorption (Btu/h)	74,200	98,600	122,700	146,800	170,100	193,600
Pressure Drop (ft-wg)	3.7	5.3	7.4	5.3	8.0	9.7
Δt <sup>4</sup> (°F)	9.3	9.9	10.3	10.7	9.7	10.0
<b>Piping<sup>5</sup></b>						
Liquid Line Connection (in., OD)	3/8 Braze	3/8 Braze	1/2 Braze	1/2 Braze	1/2 Braze	1/2 Braze
Vapor Line Connection (in., OD)	7/8 Braze	7/8 Braze	1-1/8 Braze	1-1/8 Braze	1-1/8 Braze	1-1/8 Braze
Water Inlet/Outlet Connection (in)	1-1/2 + 1-1/2 Fem	1-1/2 + 1-1/2 Fem	1-1/2 + 1-1/2 Fem	1-1/2 + 1-1/2 Fem	1-1/2 + 1-1/2 Fem	1-1/2 + 1-1/2 Fem
Condensate Drain (in)	3/4 Female	3/4 Female	3/4 Female	3/4 Female	3/4 Female	3/4 Female

<sup>1</sup>Nominal capacity is outside of AHRI Standard 1230 and based on the following conditions:

- Cooling – Indoor 80°F DB / 66°F WB  
Water Temperature Entering: 86°F
- Heating – Indoor 68°F DB  
Water Temperature Entering: 68°F

<sup>2</sup>When entering water temperature is lower than 59°F, variable water flow control kit PWFCCKN000 is required.

<sup>3</sup>Sound pressure levels are tested in an anechoic chamber under ISO 3745 standard.

<sup>4</sup>Value is calculated as follows: Δt = Total Heat of Rejection/(Nominal Flow Rate x 500).

<sup>5</sup>Refer to the Refrigerant Piping section of this manual for correct line sizing. Contractor must use LG manufactured Y-Branch and Header Kits only. Designer must verify refrigerant piping design configuration using LG's computerized refrigerant piping software (LATS Multi V) to validate the pipe design.

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## ARWN Series Heat Pump Water Source Unit Specifications

Table 5: Dual-Frame 460V Heat Pump Units.

Combination Unit Model Number	20.0 Ton ARWN240DAS4	24.0 Ton ARWN288DAS4	28.0 Ton ARWN336DAS4	32.0 Ton ARWN384DAS4
Individual Component Model Numbers	ARWN096DAS4 + ARWN144DAS4	ARWN121DAS4 + ARWN168DAS4	ARWN168DAS4 x 2	ARWN192DAS4 x 2
<i>Cooling Performance</i>				
Nominal Cooling Capacity (Btu/h) <sup>1</sup>	240,000	288,000	336,000	384,000
<i>Heating Performance</i>				
Nominal Heating Capacity (Btu/h) <sup>1</sup>	270,000	324,000	378,000	432,000
<i>Operating Range (Entering Water Temperature)</i>				
Cooling (°F) <sup>2</sup>	23 – 113	23 – 113	23 – 113	23 – 113
Heating (°F)	23 – 113	23 – 113	23 – 113	23 – 113
<i>Compressor</i>				
Inverter Quantity	HSS DC Scroll x 2	HSS DC Scroll x 2	HSS DC Scroll x 2	HSS DC Scroll x 2
Oil/Type	PVE/FVC68D	PVE/FVC68D	PVE/FVC68D	PVE/FVC68D
<i>Unit Data</i>				
Refrigerant Type	R410A	R410A	R410A	R410A
R410A Refrigerant Factory Charge (lbs)	12.8 + 6.6	12.8 + 6.6	6.6 + 6.6	6.6 + 6.6
Refrigerant Control/Location	EEV/Indoor Unit	EEV/Indoor Unit	EEV/Indoor Unit	EEV/Indoor Unit
Max. Number Indoor Units/System	39	45	55	61
Sound Pressure dB(A) <sup>3</sup> Cooling/Heating	57/57	59/58	59/61	56/61
Net Unit Weight (lbs.)	280 + 309	280 + 309	309 + 309	309 + 309
Shipping Weight (lbs.)	302 + 331	302 + 331	331 + 331	331 + 331
Communication Cables	2 x 18 AWG	2 x 18 AWG	2 x 18 AWG	2 x 18 AWG
Heat Rejected to Equipment Room (Btu/h)	4,679	4,952	4,918	5,122
<i>Heat Exchanger (Stainless Steel Plate)</i>				
Maximum Pressure Resistance (psi)	640	640	640	640
Flow at Rated Condition (GPM)	25.4 + 35.5	30.4 + 45.7	45.7 + 45.7	50.7 + 50.7
Range of Flow (GPM)	24.4 – 91.4	30.4 – 114.2	36.6 – 171.4	40.6 – 152.1
Total Heat of Rejection (Btu/h)	125,900 + 190,100	157,900 + 221,100	221,100 x 2	253,500 x 2
Total Heat of Absorption (Btu/h)	98,600 + 146,800	122,700 + 170,100	170,100 x 2	193,600 x 2
Pressure Drop (ft-wg)	5.3 + 5.3	7.4 + 8.0	8.0 + 8.0	9.7 + 9.7
Δt <sup>4</sup> (°F)	10.4	10.0	9.7	10.0
<i>Piping<sup>5</sup></i>				
Liquid Line Connection (in., OD)	3/8 + 1/2 Braze	1/2 + 1/2 Braze	1/2 + 1/2 Braze	1/2 + 1/2 Braze
Vapor Line Connection (in., OD)	7/8 + 1-1/8 Braze	7/8 + 1-1/8 Braze	1-1/8 + 1-1/8 Braze	1-1/8 + 1-1/8 Braze
Water Inlet/Outlet Connection Size (in)	(1-1/2 + 1-1/2 Fem) x2	(1-1/2 + 1-1/2 Fem) x2	(1-1/2 + 1-1/2 Fem) x2	(1-1/2 + 1-1/2 Fem) x2
Condensate Drain (in)	3/4 Female	3/4 Female	3/4 Female	3/4 Female

<sup>1</sup>Nominal capacity is outside of AHRI Standard 1230 and based on the following conditions:

- Cooling – Indoor 80°F DB / 66°F WB  
Water Temperature Entering: 86°F
- Heating – Indoor 68°F DB  
Water Temperature Entering: 68°F

<sup>2</sup>When entering water temperature is lower than 59°F, variable water flow control kit PWFCKN000 is required.

<sup>3</sup>Sound pressure levels are tested in an anechoic chamber under ISO 3745 standard.

<sup>4</sup>Value is calculated as follows: Δt = Total Heat of Rejection/(Nominal Flow Rate x 500).

<sup>5</sup>Refer to the Refrigerant Piping section of this manual for correct line sizing. Contractor must use LG manufactured Y-Branch and Header Kits only. Designer must verify refrigerant piping design configuration using LG's computerized refrigerant piping software (LATS Multi V) to validate the pipe design.

## ARWN Series Heat Pump Water Source Unit Specifications

Table 6: Triple-Frame 460V Heat Pump Units

Combination Unit Model Number	40.0 Ton ARWN480DAS4	48.0 Ton ARWN576DAS4
Individual Component Model Numbers	ARWN144DAS4 x 2 + ARWN192DAS4 x 1	ARWN192DAS4 x 3
<b>Cooling Performance</b>		
Nominal Cooling Capacity (Btu/h) <sup>1</sup>	480,000	576,000
<b>Heating Performance</b>		
Nominal Heating Capacity (Btu/h) <sup>1</sup>	540,000	648,000
<b>Operating Range (Entering Water Temperature)</b>		
Cooling (°F) <sup>2</sup>	23 – 113	23 – 113
Heating (°F)	23 – 113	23 – 113
<b>Compressor</b>		
Inverter Quantity	HSS DC Scroll x 3	HSS DC Scroll x 3
Oil/Type	PVE/FVC68D	PVE/FVC68D
<b>Unit Data</b>		
Refrigerant Type	R410A	R410A
R410A Refrigerant Factory Charge (lbs)	6.6 + 6.6 + 6.6	6.6 + 6.6 + 6.6
Refrigerant Control/Location	EEV/Indoor Unit	EEV/Indoor Unit
Max. Number Indoor Units/System	64	64
Sound Pressure dB(A) <sup>3</sup> Cooling/Heating	60/62	60/62
Net Unit Weight (lbs.)	309 x 3	309 x 3
Shipping Weight (lbs.)	331 x 3	331 x 3
Communication Cables	2 x 18 AWG	2 x 18 AWG
Heat Rejected to Equipment Room (Btu/h)	7,275	7863
<b>Heat Exchanger (Stainless Steel Plate)</b>		
Maximum Pressure Resistance (psi)	640	640
Flow at Rated Condition (GPM)	35.5 + 35.5 + 50.7	50.7 + 50.7 + 50.7
Range of Flow (GPM)	48.7 – 182.6	60.8 – 228.2
Total Heat of Rejection (Btu/h)	190,100 + 190,100 + 253,500	253,500 + 253,500 + 253,500
Total Heat of Absorption (Btu/h)	146,800 + 146,800 + 193,600	193,600 + 193,600 + 193,600
Pressure Drop (ft-wg)	5.3 + 5.3 + 9.7	9.7 + 9.7 + 9.7
Δt <sup>4</sup> (°F)	10.4	10.0
<b>Piping<sup>5</sup></b>		
Liquid Line Connection (in., OD)	1/2 + 1/2 + 1/2 Braze	1/2 + 1/2 + 1/2 Braze
Vapor Line Connection (in., OD)	1-1/8 + 1-1/8 + 1-1/8 Braze	1-1/8 + 1-1/8 + 1-1/8 Braze
Water Inlet/Outlet Connection Size (in)	(1-1/2 + 1-1/2 Fem) x3	(1-1/2 + 1-1/2 Fem) x3
Condensate Drain (in)	3/4 Female	3/4 Female

<sup>1</sup>Nominal capacity is outside of AHRI Standard 1230 and based on the following conditions:

- Cooling – Indoor 80°F DB / 66°F WB  
Water Temperature Entering: 86°F
- Heating – Indoor 68°F DB  
Water Temperature Entering: 68°F

<sup>2</sup>When entering water temperature is lower than 59°F, variable water flow control kit PWFCKN000 is required.

<sup>3</sup>Sound pressure levels are tested in an anechoic chamber under ISO 3745 standard.

<sup>4</sup>Value is calculated as follows: Δt = Total Heat of Rejection/(Nominal Flow Rate x 500).

<sup>5</sup>Refer to the Refrigerant Piping section of this manual for correct line sizing. Contractor must use LG manufactured Y-Branch and Header Kits only. Designer must verify refrigerant piping design configuration using LG's computerized refrigerant piping software (LATS Multi V) to validate the pipe design.

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## ARWB Series Heat Recovery Water Source Unit Specifications

Table 7: Single-Frame 208-230V Heat Recovery Units.

Combination Unit Model Number	6.0 Ton ARWB072BAS4	8.0 Ton ARWB096BAS4	10.0 Ton ARWB121BAS4	12.0 ARWB144BAS4
Individual Component Model Numbers	-	-	-	-
<b>Cooling Performance</b>				
Nominal Cooling Capacity (Btu/h) <sup>1</sup>	72,000	96,000	120,000	144,000
<b>Heating Performance</b>				
Nominal Heating Capacity (Btu/h) <sup>1</sup>	81,000	108,000	135,000	162,000
<b>Operating Range (Entering Water Temperature)</b>				
Cooling (°F) <sup>2</sup>	23 – 113	23 – 113	23 – 113	23 – 113
Heating (°F)	23 – 113	23 – 113	23 – 113	23 – 113
Synchronous Operation (°F)	23 – 113	23 – 113	23 – 113	23 – 113
<b>Compressor</b>				
Inverter Quantity	HSS DC Scroll x1	HSS DC Scroll x1	HSS DC Scroll x1	HSS DC Scroll x1
Oil/Type	PVE/FVC68D	PVE/FVC68D	PVE/FVC68D	PVE/FVC68D
<b>Unit Data</b>				
Refrigerant Type	R410A	R410A	R410A	R410A
R410A Refrigerant Factory Charge (lbs)	12.8	12.8	12.8	12.8
Refrigerant Control/Location	EEV/Indoor Unit	EEV/Indoor Unit	EEV/Indoor Unit	EEV/Indoor Unit
Max. Number Indoor Units/System	13	16	20	23
Sound Pressure dB(A) <sup>3</sup> Cooling/Heating	47/51	50/53	56/56	58/57
Net Unit Weight (lbs.)	280	280	280	280
Shipping Weight (lbs.)	302	302	302	302
Communication Cables	2 x 18 AWG	2 x 18 AWG	2 x 18 AWG	2 x 18 AWG
Heat Rejected to Equipment Room (Btu/h)	2,152	2,322	2,493	2,664
<b>Heat Exchanger (Stainless Steel Plate)</b>				
Maximum Pressure Resistance (psi)	640	640	640	640
Flow at Rated Condition (GPM)	20.3	25.4	30.4	35.5
Range of Flow (GPM)	8.1 – 30.5	10.2 – 38.1	12.2 – 45.6	14.2 – 53.3
Total Heat of Rejection (Btu/h)	94,400	126,700	157,400	190,100
Total Heat of Absorption (Btu/h)	73,200	96,800	122,000	145,200
Pressure Drop (ft-wg)	3.7	5.3	7.4	9.5
Δt <sup>4</sup> (°F)	9.3	9.9	10.3	10.7
<b>Piping<sup>5</sup></b>				
Liquid Line Connection (in., OD)	3/8 Braze	3/8 Braze	1/2 Braze	1/2 Braze
Low Press Vapor Line Conn (in., OD)	7/8 Braze	7/8 Braze	1-1/8 Braze	1-1/8 Braze
High Press Vapor Line Conn (in., OD)	3/4 Braze	3/4 Braze	3/4 Braze	3/4 Braze
Water Inlet/Outlet Connection (in)	1-1/2 + 1-1/2 Fem	1-1/2 + 1-1/2 Fem	1-1/2 + 1-1/2 Fem	1-1/2 + 1-1/2 Fem
Condensate Drain (in)	3/4 Female	3/4 Female	3/4 Female	3/4 Female

<sup>1</sup>Nominal capacity is outside of AHRI Standard 1230 and based on the following conditions:

- Cooling – Indoor 80°F DB / 66°F WB  
Water Temperature Entering: 86°F
- Heating – Indoor 68°F DB  
Water Temperature Entering: 68°F

<sup>2</sup>When entering water temperature is lower than 59°F, variable water flow control kit PWFCKN000 is required.

<sup>3</sup>Sound pressure levels are tested in an anechoic chamber under ISO 3745 standard.

<sup>4</sup>Value is calculated as follows: Δt = Total Heat of Rejection/(Nominal Flow Rate x 500).

<sup>5</sup>Refer to the Refrigerant Piping section of this manual for correct line sizing. Contractor must use LG manufactured Y-Branch and Header Kits only. Designer must verify refrigerant piping design configuration using LG's computerized refrigerant piping software (LATS Multi V) to validate the pipe design.



## ARWB Series Heat Recovery Water Source Unit Specifications

Table 8: Dual-Frame 208-230V Heat Recovery Units.

Combination Unit Model Number	14.0 Ton ARWB168BAS4	16.0 Ton ARWB192BAS4	18.0 Ton ARWB216BAS4	24.0 Ton ARWB288BAS4
Individual Component Model Numbers	ARWB072BAS4 x 1 + ARWB096BAS4 x 1	ARWB072BAS4 x 1 + ARWB121BAS4 x 1	ARWB072BAS4 x 1 + ARWB144BAS4 x 1	ARWB144BAS4 x 2
<b>Cooling Performance</b>				
Nominal Cooling Capacity (Btu/h) <sup>1</sup>	168,000	192,000	216,000	288,000
<b>Heating Performance</b>				
Nominal Heating Capacity (Btu/h) <sup>1</sup>	189,000	216,000	243,000	324,000
<b>Operating Range (Entering Water Temperature)</b>				
Cooling (°F) <sup>2</sup>	23 – 113	23 – 113	23 – 113	23 – 113
Heating (°F)	23 – 113	23 – 113	23 – 113	23 – 113
Synchronous Operation (°F)	23 – 113	23 – 113	23 – 113	23 – 113
<b>Compressor</b>				
Inverter Quantity	HSS DC Scroll x 2	HSS DC Scroll x 2	HSS DC Scroll x 2	HSS DC Scroll x 2
Oil/Type	PVE/FVC68D	PVE/FVC68D	PVE/FVC68D	PVE/FVC68D
<b>Unit Data</b>				
Refrigerant Type	R410A	R410A	R410A	R410A
R410A Refrigerant Factory Charge (lbs)	12.8 + 12.8	12.8 + 12.8	12.8 + 12.8	12.8 + 12.8
Refrigerant Control/Location	EEV/Indoor Unit	EEV/Indoor Unit	EEV/Indoor Unit	EEV/Indoor Unit
Max. Number Indoor Units/System	29	32	35	45
Sound Press dB(A) <sup>3</sup> Cooling/Heating	55/56	54/60	57/57	59/58
Net Unit Weight (lbs.)	280 + 280	280 + 280	280 + 280	280 + 280
Shipping Weight (lbs.)	302 + 302	302 + 302	302 + 302	302 + 302
Communication Cables	2 x 18 AWG	2 x 18 AWG	2 x 18 AWG	2 x 18 AWG
Heat Rejected to Equipment Room (Btu/h)	4,304	4,645	4,816	5,328
<b>Heat Exchanger (Stainless Steel Plate)</b>				
Maximum Pressure Resistance (psi)	640	640	640	640
Flow at Rated Condition (GPM)	25.4 + 20.3	30.4 + 20.3	35.5 + 20.3	35.5 + 35.5
Range of Flow (GPM)	18.3 – 68.6	20.3 – 76.1	22.3 – 83.7	28.4 – 106.5
Total Heat of Rejection (Btu/h)	94,400 + 126,700	94,400 + 157,400	94,400 + 190,100	190,100 + 190,100
Total Heat of Absorption (Btu/h)	73,200 + 96,800	73,200 + 122,000	73,200 + 145,200	145,200 + 145,200
Pressure Drop (ft-wg)	3.7 + 5.3	3.7 + 7.4	3.7 + 9.5	9.5 + 9.5
Δt <sup>4</sup> (°F)	9.6	9.9	10.2	10.7
<b>Piping<sup>5</sup></b>				
Liquid Line Connection (in., OD)	3/8 + 3/8 Braze	1/2 + 3/8 Braze	1/2 + 3/8 Braze	1/2 + 1/2 Braze
Low Press Vapor Line Conn (in., OD)	7/8 + 7/8 Braze	7/8 + 1-1/8 Braze	7/8 + 1-1/8 Braze	1-1/8 + 1-1/8 Braze
High Press Vapor Line Conn (in., OD)	3/4 + 3/4 Braze	3/4 + 3/4 Braze	3/4 + 3/4 Braze	3/4 + 3/4 Braze
Water Inlet/Outlet Connection (in)	(1-1/2 + 1-1/2 Fem) x2	(1-1/2 + 1-1/2 Fem) x2	(1-1/2 + 1-1/2 Fem) x2	(1-1/2 + 1-1/2 Fem) x2
Condensate Drain (in)	3/4 Female	3/4 Female	3/4 Female	3/4 Female

<sup>1</sup>Nominal capacity is outside of AHRI Standard 1230 and based on the following conditions:

- Cooling – Indoor 80°F DB / 66°F WB  
Water Temperature Entering: 86°F
- Heating – Indoor 68°F DB  
Water Temperature Entering: 68°F

<sup>2</sup>When entering water temperature is lower than 59°F, variable water flow control kit PWFCCKN000 is required.

<sup>3</sup>Sound pressure levels are tested in an anechoic chamber under ISO 3745 standard.

<sup>4</sup>Value is calculated as follows: Δt = Total Heat of Rejection/(Nominal Flow Rate x 500).

<sup>5</sup>Refer to the Refrigerant Piping section of this manual for correct line sizing. Contractor must use LG manufactured Y-Branch and Header Kits only. Designer must verify refrigerant piping design configuration using LG's computerized refrigerant piping software (LATS Multi V) to validate the pipe design.

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## ARWB Series Heat Recovery Water Source Unit Specifications

Table 9: Triple-Frame 208-230V Heat Recovery Units.

Combination Unit Model Number	30.0 Ton ARWB360BAS4	36.0 Ton ARWB432BAS4
Individual Component Model Numbers	ARWB072BAS4 x 1 + ARWB144BAS4 x 2	ARWB144BAS4 x 3
<i>Cooling Performance</i>		
Nominal Cooling Capacity (Btu/h) <sup>1</sup>	360,000	432,000
<i>Heating Performance</i>		
Nominal Heating Capacity (Btu/h) <sup>1</sup>	405,000	486,000
<i>Operating Range (Entering Water Temperature)</i>		
Cooling (°F) <sup>2</sup>	23 – 113	23 – 113
Heating (°F)	23 – 113	23 – 113
Synchronous Operation (°F)	23 – 113	23 – 113
<i>Compressor</i>		
Inverter Quantity	HSS DC Scroll x 3	HSS DC Scroll x 3
Oil/Type	PVE/FVC68D	PVE/FVC68D
<i>Unit Data</i>		
Refrigerant Type	R410A	R410A
R410A Refrigerant Factory Charge (lbs)	12.8 + 12.8 + 12.8	12.8 + 12.8 + 12.8
Refrigerant Control/Location	EEV/Indoor Unit	EEV/Indoor Unit
Max. Number Indoor Units/System <sup>2</sup>	58	64
Sound Pressure dB(A) <sup>3</sup> Cooling/Heating	56/57	58/62
Net Unit Weight (lbs.)	280 + 280 + 280	280 + 280 + 280
Shipping Weight (lbs.)	302 + 302 + 302	302 + 302 + 302
Communication Cables	2 x 18 AWG	2 x 18 AWG
Heat Rejected to Equipment Room (Btu/h)	7,480	7,992
<i>Heat Exchanger (Stainless Steel Plate)</i>		
Maximum Pressure Resistance (psi)	640	640
Flow at Rated Condition (GPM)	35.5 + 35.5 + 20.3	35.5 + 35.5 + 35.5
Range of Flow (GPM)	36.5 – 137.0	42.6 – 159.8
Total Heat of Rejection (Btu/h)	94,400 + 190,100 + 190,100	190,100 + 190,100 + 190,100
Total Heat of Absorption (Btu/h)	73,200 + 145,200 + 145,200	145,200 + 145,200 + 145,200
Pressure Drop (ft-wg)	3.7 + 9.5 + 9.5	9.5 + 9.5 + 9.5
Δt <sup>4</sup> (°F)	10.4	10.7
<i>Piping<sup>5</sup></i>		
Liquid Line Connection (in., OD)	3/8 + 1/2 + 1/2 Braze	1/2 + 1/2 + 1/2 Braze
Low Pressure Vapor Line Conn (in., OD)	7/8 + 1-1/8 + 1-1/8 Braze	1-1/8 + 1-1/8 + 1-1/8 Braze
High Pressure Vapor Line Conn (in., OD)	3/4 + 3/4 + 3/4 Braze	3/4 + 3/4 + 3/4 Braze
Water Inlet/Outlet Connection Size (in)	(1-1/2 + 1-1/2 Fem) x3	(1-1/2 + 1-1/2 Fem) x3
Condensate Drain (in)	3/4 Female	3/4 Female

<sup>1</sup>Nominal capacity is outside of AHRI Standard 1230 and based on the following conditions:

- Cooling – Indoor 80°F DB / 66°F WB  
Water Temperature Entering: 86°F
- Heating – Indoor 68°F DB  
Water Temperature Entering: 68°F

<sup>2</sup>When entering water temperature is lower than 59°F, variable water flow control kit PWFCCKN000 is required.

<sup>3</sup>Sound pressure levels are tested in an anechoic chamber under ISO 3745 standard.

<sup>4</sup>Value is calculated as follows: Δt = Total Heat of Rejection/(Nominal Flow Rate x 500).

<sup>5</sup>Refer to the Refrigerant Piping section of this manual for correct line sizing. Contractor must use LG manufactured Y-Branch and Header Kits only. Designer must verify refrigerant piping design configuration using LG's computerized refrigerant piping software (LATS Multi V) to validate the pipe design.

## ARWB Series Heat Recovery Water Source Unit Specifications

Table 10: Single-Frame 460V Heat Recovery Units.

Combination Unit Model Number	6.0 Ton ARWB072DAS4	8.0 Ton ARWB096DAS4	10.0 Ton ARWB121DAS4	12.0 ARWB144DAS4	14.0 Ton ARWB168DAS4	16.0 Ton ARWB192DAS4
Individual Component Model Numbers	–	–	–	–	–	–
<b>Cooling Performance</b>						
Nominal Cooling Capacity (Btu/h) <sup>1</sup>	72,000	96,000	120,000	144,000	168,000	192,000
<b>Heating Performance</b>						
Nominal Heating Capacity (Btu/h) <sup>1</sup>	81,000	108,000	135,000	162,000	189,000	216,000
<b>Operating Range (Entering Water Temperature)</b>						
Cooling (°F) <sup>2</sup>	23 – 113	23 – 113	23 – 113	23 – 113	23 – 113	23 – 113
Heating (°F)	23 – 113	23 – 113	23 – 113	23 – 113	23 – 113	23 – 113
Synchronous Operation (°F)	23 – 113	23 – 113	23 – 113	23 – 113	23 – 113	23 – 113
<b>Compressor</b>						
Inverter Quantity	HSS DC Scroll x 1	HSS DC Scroll x 1	HSS DC Scroll x 1	HSS DC Scroll x 1	HSS DC Scroll x 1	HSS DC Scroll x 1
Oil/Type	PVE/FVC68D	PVE/FVC68D	PVE/FVC68D	PVE/FVC68D	PVE/FVC68D	PVE/FVC68D
<b>Unit Data</b>						
Refrigerant Type	R410A	R410A	R410A	R410A	R410A	R410A
R410A Refrigerant Factory Charge (lbs)	12.8	12.8	12.8	6.6	6.6	6.6
Refrigerant Control/Location	EEV/Indoor Unit	EEV/Indoor Unit	EEV/Indoor Unit	EEV/Indoor Unit	EEV/Indoor Unit	EEV/Indoor Unit
Max. Number Indoor Units/System <sup>2</sup>	13	16	20	23	29	32
Sound Press dB(A) <sup>3</sup> Cooling/Heating	47/51	50/53	56/56	58/57	53/57	54/60
Net Unit Weight (lbs.)	280	280	280	309	309	309
Shipping Weight (lbs.)	302	302	302	331	331	331
Communication Cables	2 x 18 AWG	2 x 18 AWG	2 x 18 AWG	2 x 18 AWG	2 x 18 AWG	2 x 18 AWG
Heat Rejected to Equipment Room (Btu/h)	2,152	2,322	2,493	2,357	2,459	2,561
<b>Heat Exchanger (Stainless Steel Plate)</b>						
Maximum Pressure Resistance (psi)	640	640	640	640	640	640
Flow at Rated Condition (GPM)	20.3	25.4	30.4	35.5	45.7	50.7
Range of Flow (GPM)	8.1 – 30.5	10.2 – 38.1	12.2 – 45.6	14.2 – 53.3	18.3 – 68.6	20.3 – 76.1
Total Heat of Rejection (Btu/h)	94,100	125,900	157,900	190,100	221,100	253,500
Total Heat of Absorption (Btu/h)	74,200	98,600	122,700	146,800	170,100	193,600
Pressure Drop (ft-wg)	3.7	5.3	7.4	5.3	8.0	9.7
Δt <sup>4</sup> (°F)	9.3	9.9	10.3	10.7	9.7	10.0
<b>Piping<sup>5</sup></b>						
Liquid Line Connection (in., OD)	3/8 Braze	3/8 Braze	1/2 Braze	1/2 Braze	1/2 Braze	1/2 Braze
Low Press Vapor Line Conn (in., OD)	7/8 Braze	7/8 Braze	7/8 Braze	1-1/8 Braze	1-1/8 Braze	1-1/8 Braze
High Press Vapor Line Conn (in., OD)	3/4 Braze	3/4 Braze	3/4 Braze	3/4 Braze	3/4 Braze	3/4 Braze
Water Inlet/Outlet Connection (in)	1-1/2 + 1-1/2 Fem	1-1/2 + 1-1/2 Fem	1-1/2 + 1-1/2 Fem	1-1/2 + 1-1/2 Fem	1-1/2 + 1-1/2 Fem	1-1/2 + 1-1/2 Fem
Condensate Drain (in)	3/4 Female	3/4 Female	3/4 Female	3/4 Female	3/4 Female	3/4 Female

<sup>1</sup>Nominal capacity is outside of AHRI Standard 1230 and based on the following conditions:

- Cooling – Indoor 80°F DB / 66°F WB  
Water Temperature Entering: 86°F
- Heating – Indoor 68°F DB  
Water Temperature Entering: 68°F

<sup>2</sup>When entering water temperature is lower than 59°F, variable water flow control kit PWFCCKN000 is required.

<sup>3</sup>Sound pressure levels are tested in an anechoic chamber under ISO 3745 standard.

<sup>4</sup>Value is calculated as follows: Δt = Total Heat of Rejection/(Nominal Flow Rate x 500).

<sup>5</sup>Refer to the Refrigerant Piping section of this manual for correct line sizing. Contractor must use LG manufactured Y-Branch and Header Kits only. Designer must verify refrigerant piping design configuration using LG's computerized refrigerant piping software (LATS Multi V) to validate the pipe design.

# GENERAL DATA



## ARWB Series Heat Recovery Water Source Unit Specifications

Table 11: Dual-Frame 460V Heat Recovery Units.

Combination Unit Model Number	20.0 ARWB240DAS4	24.0 ARWB288DAS4	28.0 Ton ARWB336DAS4	32.0 ARWB384DAS4
Individual Component Model Numbers	ARWB096DAS4 x 1 +ARWB144DAS4 x 1	ARWB121DAS4 x 1 +ARWB168DAS4 x 1	ARWB168DAS4 x 2	ARWB192DAS4 x 2
<i>Cooling Performance</i>				
Nominal Cooling Capacity (Btu/h) <sup>1</sup>	240,000	288,000	336,000	384,000
<i>Heating Performance</i>				
Nominal Heating Capacity (Btu/h) <sup>1</sup>	270,000	324,000	378,000	432,000
<i>Operating Range (Entering Water Temperature)</i>				
Cooling (°F) <sup>2</sup>	23 – 113	23 – 113	23 – 113	23 – 113
Heating (°F)	23 – 113	23 – 113	23 – 113	23 – 113
Synchronous Operation (°F)	23 – 113	23 – 113	23 – 113	23 – 113
<i>Compressor</i>				
Inverter Quantity	HSS DC Scroll x 2	HSS DC Scroll x 2	HSS DC Scroll x 2	HSS DC Scroll x 2
Oil/Type	PVE/FVC68D	PVE/FVC68D	PVE/FVC68D	PVE/FVC68D
<i>Unit Data</i>				
Refrigerant Type	R410A	R410A	R410A	R410A
R410A Refrigerant Factory Charge (lbs)	12.8 + 6.6	12.8 + 6.6	6.6 + 6.6	6.6 + 6.6
Refrigerant Control/Location	EEV/Indoor Unit	EEV/Indoor Unit	EEV/Indoor Unit	EEV/Indoor Unit
Max. Number Indoor Units/System <sup>2</sup>	39	45	55	61
Sound Pressure dB(A) <sup>3</sup> Cooling/Heating	57/57	59/58	59/61	56/61
Net Unit Weight (lbs.)	280 + 309	280 + 309	309 + 309	309 + 309
Shipping Weight (lbs.)	302 + 331	302 + 331	331 + 331	331 + 331
Communication Cables	2 x 18 AWG	2 x 18 AWG	2 x 18 AWG	2 x 18 AWG
Heat Rejected to Equipment Room (Btu/h)	4,679	4952	4918	5122
<i>Heat Exchanger (Stainless Steel Plate)</i>				
Maximum Pressure Resistance (psi)	640	640	640	640
Flow at Rated Condition (GPM)	25.4 + 35.5	30.4 + 45.7	45.7 + 45.7	50.7 + 50.7
Range of Flow (GPM)	24.4 – 91.4	30.4 – 114.2	36.6 – 171.4	40.6 – 152.1
Total Heat of Rejection (Btu/h)	125,900 + 190,100	157,900 + 221,100	221,100 x 2	253,500 x 2
Total Heat of Absorption (Btu/h)	98,600 + 146,800	122,700 + 170,100	170,100 x 2	193,600 x 2
Pressure Drop (ft-wg)	5.3 + 5.3	7.4 + 8.0	8.0 + 8.0	9.7 + 9.7
Δt <sup>4</sup> (°F)	10.4	10.0	9.7	10.0
<i>Piping<sup>5</sup></i>				
Liquid Line Connection (in., OD)	3/8 + 1/2 Braze	1/2 + 1/2 Braze	1/2 + 1/2 Braze	1/2 + 1/2 Braze
Low Pressure Vapor Line Conn (in., OD)	7/8 + 1-1/8 Braze	7/8 + 1-1/8 Braze	1-1/8 + 1-1/8 Braze	1-1/8 + 1-1/8 Braze
High Pressure Vapor Line Conn (in., OD)	3/4 + 3/4 Braze	3/4 + 3/4 Braze	3/4 + 3/4 Braze	3/4 + 3/4 Braze
Water Inlet/Outlet Connection Size (in)	(1-1/2 + 1-1/2 Fem) x2	(1-1/2 + 1-1/2 Fem) x2	(1-1/2 + 1-1/2 Fem) x2	(1-1/2 + 1-1/2 Fem) x2
Condensate Drain (in)	3/4 Female	3/4 Female	3/4 Female	3/4 Female

<sup>1</sup>Nominal capacity is outside of AHRI Standard 1230 and based on the following conditions:

- Cooling – Indoor 80°F DB / 66°F WB  
Water Temperature Entering: 86°F
- Heating – Indoor 68°F DB  
Water Temperature Entering: 68°F

<sup>2</sup>When entering water temperature is lower than 59°F, variable water flow control kit PWFCCKN000 is required.

<sup>3</sup>Sound pressure levels are tested in an anechoic chamber under ISO 3745 standard.

<sup>4</sup>Value is calculated as follows: Δt = Total Heat of Rejection/(Nominal Flow Rate x 500).

<sup>5</sup>Refer to the Refrigerant Piping section of this manual for correct line sizing. Contractor must use LG manufactured Y-Branch and Header Kits only. Designer must verify refrigerant piping design configuration using LG's computerized refrigerant piping software (LATS Multi V) to validate the pipe design.





## ARWB Series Heat Recovery Water Source Unit Specifications

Table 12: Triple-Frame 460V Heat Recovery Units

Combination Unit Model Number	40.0 Ton ARWB480DAS4	48.0 ARWB576DAS4
Individual Component Model Numbers	ARWB144DAS4 x 2 +ARWB192DAS4 x 1	ARWB192DAS4 x 3
<i>Cooling Performance</i>		
Nominal Cooling Capacity (Btu/h) <sup>1</sup>	480,000	576,000
<i>Heating Performance</i>		
Nominal Heating Capacity (Btu/h) <sup>1</sup>	540,000	648,000
<i>Operating Range (Entering Water Temperature)</i>		
Cooling (°F) <sup>2</sup>	23 – 113	23 – 113
Heating (°F)	23 – 113	23 – 113
Synchronous Operation (°F)	23 – 113	23 – 113
<i>Compressor</i>		
Inverter Quantity	HSS DC Scroll x 3	HSS DC Scroll x 3
Oil/Type	PVE/FVC68D	PVE/FVC68D
<i>Unit Data</i>		
Refrigerant Type	R410A	R410A
R410A Refrigerant Factory Charge (lbs)	6.6 + 6.6 + 6.6	6.6 + 6.6 + 6.6
Refrigerant Control/Location	EEV/Indoor Unit	EEV/Indoor Unit
Max. Number Indoor Units/System <sup>2</sup>	64	64
Sound Pressure dB(A) <sup>3</sup> Cooling/Heating	60/62	60/62
Net Unit Weight (lbs.)	309 + 309 + 309	309 + 309 + 309
Shipping Weight (lbs.)	331 + 331 + 331	331 + 331 + 331
Communication Cables	2 x 18 AWG	2 x 18 AWG
Heat Rejected to Equipment Room (Btu/h)	7275	7863
<i>Heat Exchanger (Stainless Steel Plate)</i>		
Maximum Pressure Resistance (psi)	640	640
Flow at Rated Condition (GPM)	35.5 + 35.5 + 50.7	50.7 + 50.7 + 50.7
Range of Flow (GPM)	48.7 – 182.6	60.8 – 228.2
Total Heat of Rejection (Btu/h)	190,100 + 190,100 + 253,500	253,500 + 253,500 + 253,500
Total Heat of Absorption (Btu/h)	146,800 + 146,800 + 193,600	193,600 + 193,600 + 193,600
Pressure Drop (ft-wg)	5.3 + 5.3 + 9.7	9.7 + 9.7 + 9.7
Δt <sup>4</sup> (°F)	10.4	10.0
<i>Piping<sup>5</sup></i>		
Liquid Line Connection (in., OD)	1/2 + 1/2 + 1/2 Braze	1/2 + 1/2 + 1/2 Braze
Low Pressure Vapor Line Conn (in., OD)	1-1/8 + 1-1/8 + 1-1/8 Braze	1-1/8 + 1-1/8 + 1-1/8 Braze
High Pressure Vapor Line Conn (in., OD)	3/4 + 3/4 + 3/4 Braze	3/4 + 3/4 + 3/4 Braze
Water Inlet/Outlet Connection Size (in)	(1-1/2 + 1-1/2 Fem) x3	(1-1/2 + 1-1/2 Fem) x3
Condensate Drain (in)	3/4 Female	3/4 Female

<sup>1</sup>Nominal capacity is outside of AHRI Standard 1230 and based on the following conditions:

- Cooling – Indoor 80°F DB / 66°F WB  
Water Temperature Entering: 86°F
- Heating – Indoor 68°F DB  
Water Temperature Entering: 68°F

<sup>2</sup>When entering water temperature is lower than 59°F, variable water flow control kit PWFCCKN000 is required.

<sup>3</sup>Sound pressure levels are tested in an anechoic chamber under ISO 3745 standard.

<sup>4</sup>Value is calculated as follows: Δt = Total Heat of Rejection/(Nominal Flow Rate x 500).

<sup>5</sup>Refer to the Refrigerant Piping section of this manual for correct line sizing. Contractor must use LG manufactured Y-Branch and Header Kits only. Designer must verify refrigerant piping design configuration using LG's computerized refrigerant piping software (LATS Multi V) to validate the pipe design.

# GENERAL DATA



## Heat Recovery Unit Specifications and Electrical Data

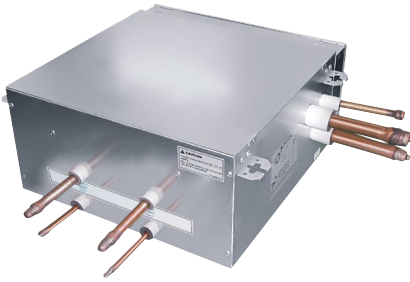


Figure 4: Two-Port Heat Recovery Unit.

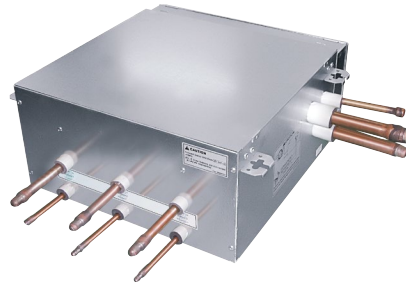


Figure 5: Three-Port Heat Recovery Unit.

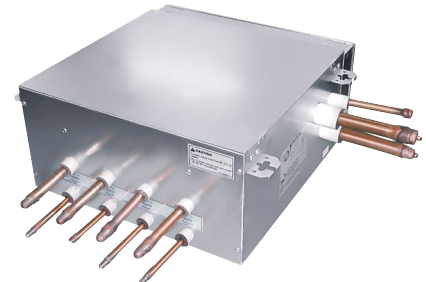


Figure 6: Four-Port Heat Recovery Unit.

**Note:**

Heat recovery units can only be used with LG heat recovery systems.

Table 13: Heat Recovery Unit Specifications.

Model		PRHR021A	PRHR031A	PRHR041A	
Number of Ports		2	3	4	
Max. Connectable No. of Indoor Units		16	24	32	
Max. Connectable No. of Indoor Units on each port		8	8	8	
Max. Port Capacity (each port)	Btu/h	54,000	54,000	54,000	
Max. Unit Capacity (sum of ports)	Btu/h	192,000	192,000	192,000	
Net Weight	lbs.	40	45	49	
Dimensions (W x H x D)	inches	31-1/2 x 8-5/8 x 24-5/16			
Casing		Galvanized steel plate			
Connecting Pipes	To Indoor Units	Liquid Pipe (inches)	3/8		
		Vapor Pipe (inches)	5/8		
	To Water Source Units	Liquid (inches)	3/8	1/2	5/8
		Low-pressure Vapor (inches)	7/8	1-1/8	1-1/8
High-pressure Vapor (inches)	3/4	7/8	7/8		
Insulation Material		Polyethylene			
Current	Minimum Circuit Amps (MCA)	0.1	0.15	0.2	
	Maximum Fuse Amps (MFA)	15			
Power Supply		1Ø, 208-230V, 60Hz			

Table 14: Heat Recovery Unit Electrical Data.

Unit Model No.	V / Hz / Ph	Input (kW)	
		Cooling	Heating
PRHR021A	208-230 / 60 / 1	0.014	0.014
PRHR031A	208-230 / 60 / 1	0.021	0.021
PRHR041A	208-230 / 60 / 1	0.029	0.029



## ARWN Series Heat Pump Water Source Units

Table 15: 208-230V, 60Hz, 3-Phase Heat Pump Systems

Nom. Tons	System Model No.	Compressor (Comp.)				MCA			MOCP		
		Comp. Qty.	Motor RLA (Ea.)			Frame 1	Frame 2	Frame 3	Frame 1	Frame 2	Frame 3
			Frame 1	Frame 2	Frame 3						
6.0	ARWN072BAS4	1	28.0	-	-	35.0	-	-	60	-	-
8.0	ARWN096BAS4	1	28.4	-	-	35.5	-	-	60	-	-
10.0	ARWN121BAS4	1	28.8	-	-	36.0	-	-	60	-	-
12.0	ARWN144BAS4	1	28.8	-	-	36.5	-	-	60	-	-
14.0	ARWN168BAS4	2	28.4	28.0	-	35.5	35.0	-	60	60	-
16.0	ARWN192BAS4	2	28.8	28.0	-	36.0	35.0	-	60	60	-
18.0	ARWN216BAS4	2	28.8	28.0	-	36.0	35.0	-	60	60	-
24.0	ARWN288BAS4	2	28.8	28.8	-	36.0	36.0	-	60	60	-
30.0	ARWN360BAS4	3	28.8	28.8	28.0	36.0	36.0	35.0	60	60	60
36.0	ARWN432BAS4	3	28.8	28.8	28.8	36.0	36.0	36.0	60	60	60

For component model nos. see the specification tables on p. 14-16.  
 Voltage tolerance is ±10%.  
 Maximum allowable voltage unbalance is 2%.

MCA = Minimum Circuit Ampacity.  
 Maximum Overcurrent Protection (MOCP) is calculated as follows: (Largest motor FLA x 2.25) + (Sum of other motor FLA) rounded down to the nearest standard fuse size.

Table 16: 460V, 60Hz, 3-Phase Heat Pump Systems

Nom. Tons	System Model No.	Compressor (Comp.)				MCA			MOCP		
		Comp. Qty.	Motor RLA (Ea.)			Frame 1	Frame 2	Frame 3	Frame 1	Frame 2	Frame 3
			Frame 1	Frame 2	Frame 3						
6.0	ARWN072DAS4	1	19.2	-	-	24.0	-	-	40	-	-
8.0	ARWN096DAS4	1	19.6	-	-	24.5	-	-	40	-	-
10.0	ARWN121DAS4	1	20.0	-	-	25.0	-	-	45	-	-
12.0	ARWN144DAS4	1	25.6	-	-	32.0	-	-	55	-	-
14.0	ARWN168DAS4	1	26.0	-	-	32.5	-	-	55	-	-
16.0	ARWN192DAS4	1	26.4	-	-	33.0	-	-	55	-	-
20.0	ARWN240DAS4	2	25.6	19.6	-	32.0	24.5	-	55	40	-
24.0	ARWN288DAS4	2	26.0	20.0	-	32.5	25.0	-	55	45	-
28.0	ARWN336DAS4	2	26.0	26.0	-	32.5	32.5	-	55	55	-
32.0	ARWN384DAS4	2	26.4	26.4	-	33.0	33.0	-	55	55	-
40.0	ARWN480DAS4	3	26.4	25.6	25.6	33.0	32.0	32.0	55	55	55
48.0	ARWN576DAS4	3	26.4	26.4	26.4	33.0	33.0	33.0	55	55	55

For component model nos. see the specification tables on p. 14-16.  
 Voltage tolerance is ±10%.  
 Maximum allowable voltage unbalance is 2%.

MCA = Minimum Circuit Ampacity.  
 Maximum Overcurrent Protection (MOCP) is calculated as follows: (Largest motor FLA x 2.25) + (Sum of other motor FLA) rounded down to the nearest standard fuse size.

# ELECTRICAL DATA



## ARWB Series Heat Recovery Water Source Units

Table 17: 208-230V, 60Hz, 3-Phase Heat Recovery Systems.

Nom. Tons	System Model No.	Compressor (Comp.)				MCA			MOCP		
		Comp. Qty.	Motor RLA (Ea.)			Frame 1	Frame 2	Frame 3	Frame 1	Frame 2	Frame 3
			Frame 1	Frame 2	Frame 3						
6.0	ARWB072BAS4	1	28.0	-	-	35.0	-	-	60	-	-
8.0	ARWB096BAS4	1	28.4	-	-	35.5	-	-	60	-	-
10.0	ARWB121BAS4	1	28.8	-	-	36.0	-	-	60	-	-
12.0	ARWB144BAS4	1	28.8	-	-	36.0	-	-	60	-	-
14.0	ARWB168BAS4	2	28.4	28.0	-	35.5	35.0	-	60	60	-
16.0	ARWB192BAS4	2	28.8	28.0	-	36.0	35.0	-	60	60	-
18.0	ARWB216BAS4	2	28.8	28.0	-	36.0	36.0	-	60	60	-
24.0	ARWB288BAS4	2	28.8	28.8	-	36.0	36.0	-	60	60	-
30.0	ARWB360BAS4	3	28.8	28.8	28.0	36.0	36.0	35.0	60	60	60
36.0	ARWB432BAS4	3	28.8	28.8	28.8	36.0	36.0	36.0	60	60	60

For component model nos. see the specification tables on p. 14-16.  
Voltage tolerance is ±10%.  
Maximum allowable voltage unbalance is 2%.

MCA = Minimum Circuit Ampacity.  
Maximum Overcurrent Protection (MOCP) is calculated as follows: (Largest motor FLA x 2.25) + (Sum of other motor FLA) rounded down to the nearest standard fuse size.

Table 18: 460V, 60Hz, 3-Phase Heat Recovery Systems.


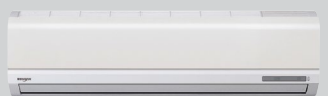




Nom. Tons	System Model No.	Compressor (Comp.)				MCA			MOCP		
		Comp. Qty.	Motor RLA (Ea.)			Frame 1	Frame 2	Frame 3	Frame 1	Frame 2	Frame 3
			Frame 1	Frame 2	Frame 3						
6.0	ARWB072DAS4	1	19.2	-	-	24.0	-	-	40	-	-
8.0	ARWB096DAS4	1	19.6	-	-	24.5	-	-	40	-	-
10.0	ARWB121DAS4	1	20.0	-	-	25.0	-	-	45	-	-
12.0	ARWB144DAS4	1	25.6	-	-	32.0	-	-	55	-	-
14.0	ARWB168DAS4	1	26.0	-	-	32.5	-	-	55	-	-
16.0	ARWB192DAS4	1	26.4	-	-	33.0	-	-	55	-	-
20.0	ARWB240DAS4	2	25.6	19.6	-	32.0	24.5	-	55	40	-
24.0	ARWB288DAS4	2	26.0	20.0	-	32.5	25.0	-	55	45	-
28.0	ARWB336DAS4	2	26.0	26.0	-	32.5	32.5	-	55	55	-
32.0	ARWB384DAS4	2	26.4	26.4	-	33.0	33.0	-	55	55	-
40.0	ARWB480DAS4	3	26.4	25.6	25.6	33.0	32.0	32.0	55	55	55
48.0	ARWB576DAS4	3	26.4	26.4	26.4	33.0	33.0	33.0	55	55	55

For component model nos. see the specification tables on p. 14-16.  
Voltage tolerance is ±10%.  
Maximum allowable voltage unbalance is 2%.

MCA = Minimum Circuit Ampacity.  
Maximum Overcurrent Protection (MOCP) is calculated as follows: (Largest motor FLA x 2.25) + (Sum of other motor FLA) rounded down to the nearest standard fuse size.



Table 19: Summary Data—Wall-Mounted / Ceiling Cassette Indoor Units.

Unit / Type <sup>1</sup>	ARNU**** <sup>2</sup>	Nominal Capacity Btu/h	
		Cooling <sup>3</sup>	Heating <sup>3</sup>
Wall Mounted—ART COOL™ Mirror 	073 SER2	7,500	8,500
	093 SER2	9,600	10,900
	123 SER2	12,300	13,600
	153 SER2	15,400	17,100
	183 S8R2	19,100	21,500
	243 S8R2	24,200	27,300
Wall Mounted—Standard Finish 	073 SEL2	7,500	8,500
	093 SEL2	9,600	10,900
	123 SEL2	12,300	13,600
	153 SEL2	15,400	17,100
	183 S5L2	19,100	21,500
	243 S5L2	24,200	27,300
Ceiling Cassette—1 Way 	073 TJC2	7,500	8,500
	093 TJC2	9,600	10,900
	123 TJC2	12,300	13,600
Ceiling Cassette—2 Way 	183 TLC2	19,100	21,500
	243 TLC2	24,200	27,300
Ceiling Cassette—4 Way (2' x 2') 	053 TRC2	5,500	6,100
	073 TRC2	7,500	8,500
	093 TRC2	9,600	10,900
	123 TRC2	12,300	13,600
	153 TQC2	15,400	17,100
	183 TQC2	19,100	21,500
Ceiling Cassette—4 Way (3' x 3') 	093 TPAA	9,600	10,900
	123 TPAA	12,300	13,600
	153 TPAA	15,400	17,100
	183 TNAA	19,100	21,500
	243 TNAA	24,200	27,300
	243 TPC2	24,200	27,300
	283 TPC2	28,000	31,500
	363 TNC2	36,200	40,600
	423 TMC2	42,000	43,800
	483 TMC2	48,100	51,200

<sup>1</sup>All indoor units require 208–230V/60Hz/1Ph and an AWG18-2 communication cable. Reference LG's Multi V Indoor Unit Engineering Manual for complete detailed engineering data and selection procedures.

<sup>2</sup>Model number shows nominal capacity and frame size designator.





<sup>3</sup>Nominal cooling capacity rating obtained with air entering the indoor unit at 80°F dry bulb (DB) and 67°F wet bulb (WB) and outdoor ambient conditions of 95°F dry bulb (DB) and 75°F wet bulb (WB).

Nominal heating capacity rating obtained with air entering the indoor unit at 70°F dry bulb (DB) and 59°F wet bulb (WB) and outdoor ambient conditions of 47°F dry bulb (DB) and 43°F wet bulb (WB).

# INDOOR UNITS



Table 20: Summary Data—Recessed Mounted Indoor Units.

Unit / Type <sup>1</sup>	ARNU*** <sup>2</sup>	Nominal Capacity Btu/h	
		Cooling <sup>3</sup>	Heating <sup>3</sup>
 Ducted High Static	073 BHA2	7,500	8,500
	093 BHA2	9,600	10,900
	123 BHA2	12,300	13,600
	153 BHA2	15,400	17,100
	183 BHA2	19,100	21,500
	243 BHA2	24,200	27,300
	153 BGA2	15,400	17,100
	183 BGA2	19,100	21,500
	243 BGA2	24,200	27,300
	283 BGA2	28,000	31,500
	363 BGA2	36,200	40,600
	423 BGA2	42,000	43,800
	483 BRA2	48,100	51,200
	543 BRA2	54,000	61,400
	763 B8A2	76,400	86,000
	963 B8A2	95,900	107,500
 Ducted Low Static-Convertible	073 B1G2	7,500	8,500
	093 B1G2	9,600	10,900
	123 B1G2	12,300	13,600
	153 B1G2	15,400	17,100
	183 B2G2	19,100	21,500
	243 B2G2	24,200	27,300
 Ducted Low Static-Bottom Return	073 B3G2	7,500	8,500
	093 B3G2	9,600	10,900
	123 B3G2	12,300	13,600
	153 B3G2	15,400	17,100
	183 B4G2	19,100	21,500
	243 B4G2	24,200	27,300
 Vertical / Horizontal Air Handling Unit	123 NJ2	12,000	13,500
	183 NJA2	18,000	20,000
	243 NJA2	24,000	27,000
	303 NJA2	30,000	34,000
	363 NJA2	36,000	40,000
	423 NKA2	42,000	46,000
	483 NKA2	48,000	54,000
	543 NKA2	54,000	60,000

<sup>1</sup>All indoor units require 208–230V/60Hz/1Ph and an AWG18-2 communication cable. Reference LG's Multi V Indoor Unit Engineering Manual for complete detailed engineering data and selection procedures.





<sup>2</sup>Model number shows nominal capacity and frame size designator.

<sup>3</sup> Nominal cooling capacity rating obtained with air entering the indoor unit at 80°F dry bulb (DB) and 67°F wet bulb (WB) and outdoor ambient conditions of 95°F dry bulb (DB) and 75°F wet bulb (WB).

Nominal heating capacity rating obtained with air entering the indoor unit at 70°F dry bulb (DB) and 59°F wet bulb (WB) and outdoor ambient conditions of 47°F dry bulb (DB) and 43°F wet bulb (WB).



Table 21: Summary Data—Surface Mounted / Floor Standing Indoor Units.

Unit / Type <sup>1</sup>	ARNU**** <sup>2</sup>	Nominal Capacity Btu/h	
		Cooling <sup>3</sup>	Heating <sup>3</sup>
Ceiling Suspended 	183VJA2	19,100	21,500
	243VJA2	24,200	27,300
Convertible Surface Mounted 	093VEA2	9,600	10,900
	123VEA2	12,300	13,600
Floor Standing—with Case 	073 CEA2	7,500	8,500
	093 CEA2	9,600	10,900
	123 CEA2	12,300	13,600
	153 CEA2	15,400	17,100
	183 CFA2	19,100	21,500
	243 CFA2	24,200	27,300
Floor Standing—without case 	073 CEU2	7,500	8,500
	093 CEU2	9,600	10,900
	123 CEU2	12,300	13,600
	153 CEU2	15,400	17,100
	183 CFU2	19,100	21,500
	243 CFU2	24,200	27,300

<sup>1</sup>All indoor units require 208–230V/60Hz/1Ph and an AWG18-2 communication cable. Reference LG's Multi V Indoor Unit Engineering Manual for complete detailed engineering data and selection procedures.

<sup>2</sup>Model # shows nominal capacity and frame size designator.

<sup>3</sup>Nominal cooling capacity rating obtained with air entering the indoor unit at 80°F dry bulb (DB) and 67°F wet bulb (WB) and outdoor ambient conditions of 95°F dry bulb (DB) and 75°F wet bulb (WB).  
Nominal heating capacity rating obtained with air entering the indoor unit at 70°F dry bulb (DB) and 59°F wet bulb (WB) and outdoor ambient conditions of 47°F dry bulb (DB) and 43°F wet bulb (WB).

Table 22: Indoor Units—Controls and Options.

Indoor Unit Type	Wall Mounted—Standard Finish	Wall Mounted—ART COOL™ Mirror	1-Way Cassette	2-Way Cassette	4-Way Cassette	Ducted High Static	Ducted Low Static-Convertible	Ducted Low Static—Bottom Return	Vert.-Horiz. AHU (NJ)	Vert.-Horiz. AHU (NK)	Ceiling Suspended	Convertible Surface Mount	Floor Mount—Cased	Floor Mount—Uncased	
Nominal Chassis Size (MBH)	7–24	7–24	7–12	18–24	5–18	24–48	7–96	7–24	7–24	1–3	3.5–4.5	18–24	9–12	7–24	7–24
Airflow															
Air supply outlets	1	1	1	2	4	4	1	1	1	1	1	1	1	1	1
Airflow direction (left/right)	manual / auto	auto										manual	manual		
Auto airflow direction (up/down)	√	√	√	√	√	√					√	√			
Fan speed (Heating mode) (qty.)	(3)	(3)	(4)	(4)	(4)	(4)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)
Fan speed (Cooling mode) (qty.)	(4)	(4)	(5)	(5)	(5)	(5)	(3)	(3)	(3)	(3)	(3)	(4)	(4)	(3)	(3)
Fan speed (Fan mode) (qty.)	(3)	(3)	(4)	(4)	(4)	(4)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)
Chaos swing (random louver swing)	√	√													
Chaos wind (random fan speed)	√	√	√	√	√	√					√	√			
Jet-cool (power cooling)	√	√	√	√	√	√					√	√			
Operation															
E.S.P. control			√	√	√	√	√	√	√	√	√	√	√	√	√
High ceiling			√	√	√	√					√	√	√	√	√
Auto-restart after power restore	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
Hot Start	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
Diagnostics	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
Soft Dry (dehumidification)	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
Auto changeover (HR)	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
Auto clean (coil dry)	√	√													
Child lock	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
Forced operation	√	√	√	√	√	√					√	√			
Group control – Requires the use of one Group control Cable Kit (PZCWRCG3) for every additional indoor unit	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
Sleep mode	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
Timer (on/off)	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
Weekly schedule	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
Two thermistor control	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
Test operation mode	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
Filter															
Plasma <sup>2</sup>	√	√	√	√ <sup>5</sup>	√ <sup>5</sup>	√ <sup>5</sup>						√	√	√	√
Washable anti-fungal <sup>1</sup>	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
Controllers															
7-day programmable controller	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
Simple controller w/mode	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
Simple controller w/o mode	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
Wireless hand held controller	o	o	o	o	o	o	o <sup>3</sup>	o <sup>3</sup>	o <sup>3</sup>	o <sup>3</sup>	o	o	o <sup>3</sup>	o <sup>3</sup>	o <sup>3</sup>
Others															
Condensate lift			√	√	√	√	√	√	√	√					
Ventilation air			√	√	√ <sup>4</sup>	√ <sup>4</sup>	√	√	√	√					
Casing	√	√	√	√	√	√					√	√	√		
Standard grille			√	√	√	√									
Auto elevation grille					√ <sup>5</sup>										
Color Panels (qty.)		(3)													
Suction grille									o						
Suction canvas									o						
Aux. Heat Kit									√	√					

<sup>1</sup>Primary washable filters.

<sup>2</sup>Secondary plasma filters

<sup>3</sup>Requires LG Programmable Controller

<sup>4</sup>Requires ventilation kit PTVK430 (For TR, TQ frames) or PTVK410+PTVK420 (For TP, TN, TM frames)(Temperature, humidity, and volume limitations apply).

<sup>5</sup>Requires standard grille.

<sup>6</sup>Heat pump systems only.

√ = Standard feature

o = Unit option