LG
Life's Good

MULTI V™

SPLIT ROOFTOP UNIT ENGINEERING MANUAL

Capacity

3 RT

4 RT

5 RT

6 RT

36,000 to 72,000 Btu/h

PROPRIETARY DATA NOTICE

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This document is for design purposes only.

A summary list of safety precautions is on page 3.

For more technical materials such as submittals, catalogs, installation, owner's, and service manuals, visit www.lghvac.com.

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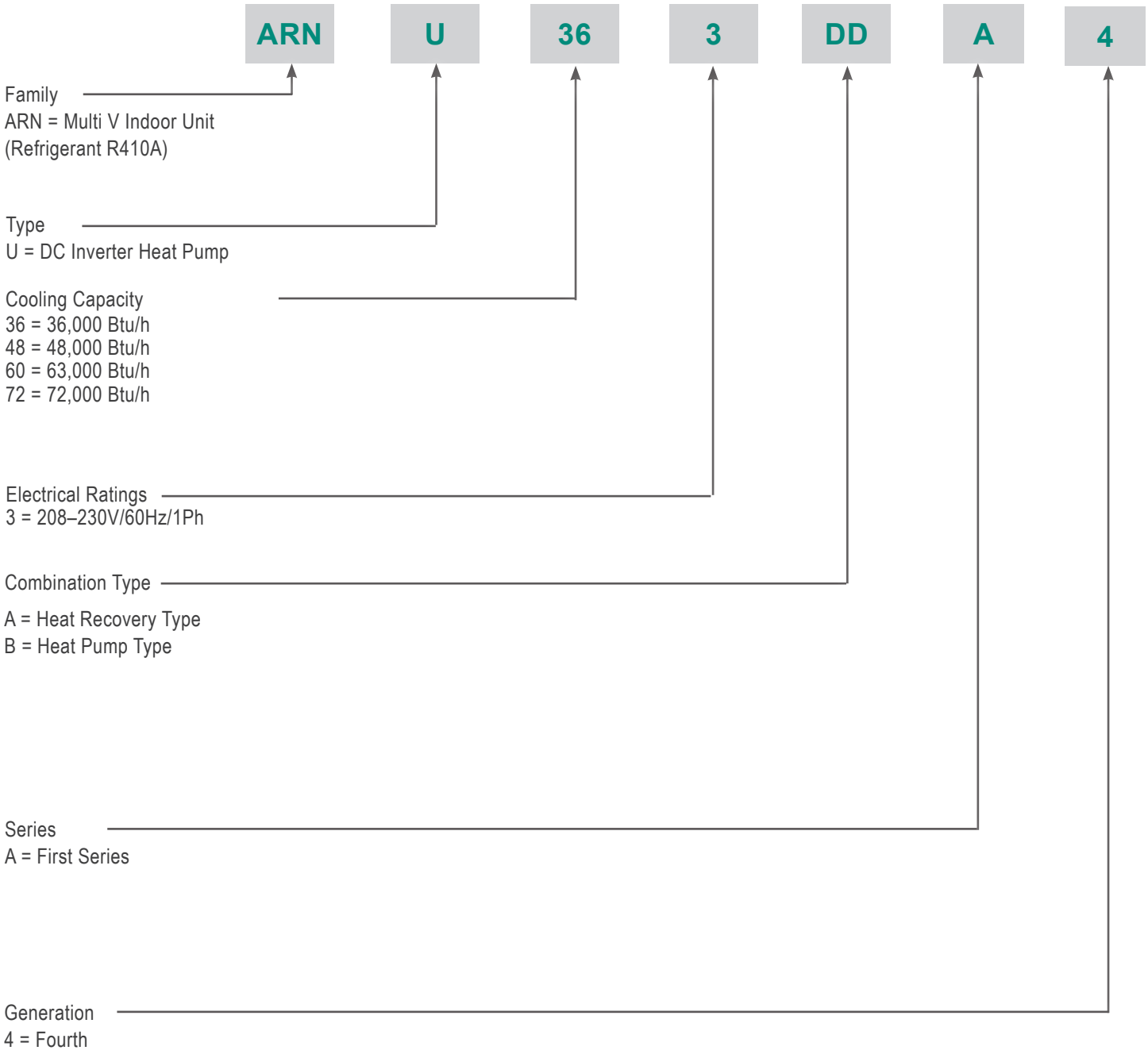
TABLE OF SYMBOLS

⚠ DANGER	*This symbol indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.*
⚠ WARNING	*This symbol indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.*
⚠ CAUTION	*This symbol indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.*
Note	*This symbol indicates situations that may result in equipment or property damage accidents only.*
⃠	*This symbol indicates an action must not be completed.*

UNIT NOMENCLATURE



LG Air Conditioner Technical Solution (LATS) Software

A properly designed and installed refrigerant piping system is critical to the optimal performance of LG air-conditioning systems. To assist engineers, LG offers, free of charge, LG Air Conditioner Technical Solution (LATS) software—a total design solution for LG air conditioning systems.

Note:

To reduce the risk of designing an improper applied system or one that will not operate correctly, LG requires that LATS software be used on all projects.

Formats

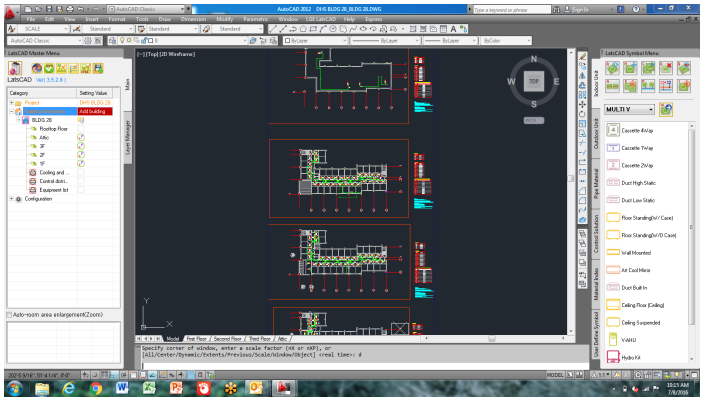
LATS is available to LG customers in three user interfaces: LATS HVAC, LATS CAD2, and LATS REVIT. All three LATS formats are available through www.myLGHVAC.com, or contact an LG Sales Representative.

LATS HVAC is a Windows®-based application that aids engineers in designing LG Variable Refrigerant Flow (VRF), Multi F / Multi F MAX, Single-Zone, and Energy Recovery Ventilator (ERV) systems.

**Windows® is a registered mark of Microsoft® Corporation.*

LATS CAD2 combines the LG LATS program with AutoCAD® software**. It permits engineers to layout and validate LG Multi V Variable Refrigerant Flow (VRF), Multi F / Multi F MAX, Single-Zone, and Energy Recovery Ventilator (ERV) systems directly into CAD drawings.

Figure 1:Example of LATS CAD2.



LATS Revit integrates the LG LATS program with Revit® software**. It permits engineers to layout and validate Multi V VRF systems directly into Revit drawings.

***AutoCAD® and Revit® are both registered marks of Autodesk, Inc.*

Features

All LG product design criteria have been loaded into the program, making LATS simple to use: double click or drag and drop the component choices. Build systems in Tree Mode where the refrigerant system can be viewed. Switch to a Schematic diagram to see the electrical and communications wiring.

LATS software permits the user to input region data, indoor and outdoor design temperatures, modify humidity default values, zoning, specify type and size of outdoor units and indoor units, and input air flow and external static pressure (ESP) for ducted indoor units.

The program can also:

- Import building loads from a separate Excel file.
- Present options for outdoor unit auto selection.
- Automatically calculate component capacity based on design conditions for the chosen region.
- Verify if the height differences between the various system components are within system limits.
- Provide the correct size of each refrigerant piping segment and LG Y-Branches and Headers.
- Adjust overall piping system length when elbows are added.
- Check for component piping limitations and flag if any parameters are broken.
- Factor operation and capacity for defrost operation.
- Calculate refrigerant charge, noting any additional trim charge.
- Suggest accessories for indoor units and outdoor units.
- Run system simulation.

Note:

Features depend on which LATS program is being used, and the type of system being designed.

LG AIR CONDITIONER TECHNICAL SOLUTION (LATS)

MULTI V™

LATS Generates a Complete Project Report

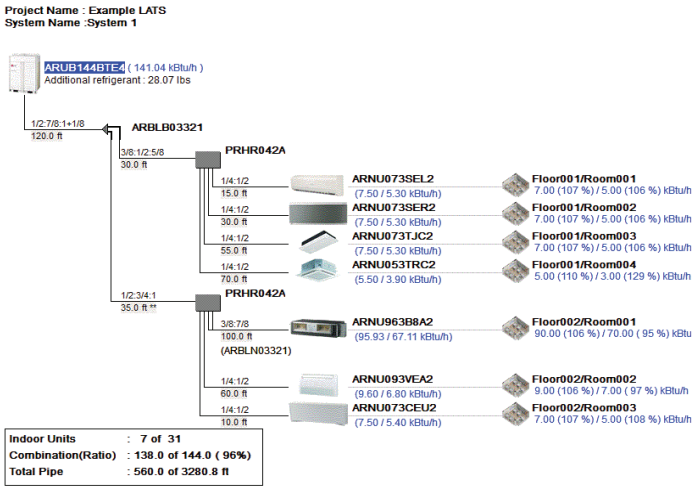
LATS software also generates a report containing project design parameters, cooling and heating design data, system component performance, and capacity data. The report includes system combination ratio and refrigerant charge calculations; and provides detailed bill of material, including outdoor units, indoor units, control devices, accessories, refrigerant pipe sizes segregated by building, by system, by pipe size, and by pipe segments. LATS can generate an Excel GERP report that can imported into the LG SOPS pricing and ordering system.

Proper Design to Install Procedure

LG encourages a two report design-to-install-procedure. After the design engineer determines building / zone loads and other details, the engineer opens the LATS program and inputs the project's information. When the design is complete, the "Auto Piping" and "System Check" functions must be used to verify piping sizes, limitations, and if any design errors are present. If errors are found, engineers must adjust the design, and run Auto Piping and System Check again. When the design passes the checks, then the engineer prints out a project "Shop Drawing" (LATS Tree Diagram) and provides it to the installing contractor. The contractor must follow the LATS Tree Diagram when building the piping system, but oftentimes the design changes on the building site:

- Architect has changed location and/or purpose of room(s).
- Outdoor unit cannot be placed where originally intended.
- Structural elements prevent routing the piping as planned.
- Air conditioning system conflicts with other building systems (plumbing, gas lines, etc.).

Figure 2:Example of a LATS Tree Diagram.



The contractor must mark any deviation from the design on the Shop Drawing, including as-built straight lines and elbows. This "Mark Up" drawing must be returned to the design engineer or Rep, who must input contractor changes into the LATS file. (Copy the original LATS software file, save and rename as a separate file, and modify all piping lengths by double-clicking on each length and editing information.) Like the shop drawing, the Auto Piping and System Check must also be run on this new "As Built" drawing. The design engineer or Rep must then provide the final As Built file to the contractor. The Mark Up version must be compared to the As Built version for:

- Differences in pipe diameter(s). If incorrect diameters have been installed, the piping must be changed out. If pipe diameters have changed, check to see if Y-Branches will also need to be changed.
- Changes to outdoor unit and indoor unit capacities. Capacities changes may impact line length changes.
- Additional refrigerant charge quantity ("Trim Charge"). Trim charge will change if piping lengths and diameters change. The As Built version must reflect installed piping lengths to ensure correct trim charge.

All documents submitted by the contractor, as well as the Shop Drawing and the As Built Drawing files must be provided for commissioning purposes. Model and serial numbers for all system components must also be submitted. If the steps previously detailed are not followed, and all documents are not provided to the commissioning agent, the project runs the risk of not being commissioned and voiding any limited warranty LG offers on the equipment.

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REFRIGERANT CHARGE WORKSHEET

Multi V 5 System R410A Refrigerant Charge Calculator (lbs.)

System Tag or ID:	Job Name: _____
	Project Manager: _____ Date: _____

Line #	Description	Chassis I.D.	Size	Quantity	CF (Ref.)[1]	Total (lbs.)
1	Linear feet of 1/4" liquid line tubing[2]	—	—		0.015	
2	Linear feet of 3/8" liquid line tubing[2]	—	—		0.041	
3	Linear feet of 1/2" liquid line tubing[2]	—	—		0.079	
4	Linear feet of 5/8" liquid line tubing[2]	—	—		0.116	
5	Linear feet of 3/4" liquid line tubing[2]	—	—		0.179	
6	Linear feet of 7/8" liquid line tubing[2]	—	—		0.238	
7	Linear feet of 1" liquid line tubing[2]	—	—		0.323	
8	Standard + Art Cool Mirror	SJ, SK	5k to 15k		0.53	
9	Standard + Art Cool Mirror	SJ, SK	18k to 24k		0.62	
10	Standard	SV	30k to 36k		1.01	
11	Art Cool Gallery	SF	9k to 12k		0.22	
12	1-Way Cassette	TU	7k to 12k		0.44	
13	1-Way Cassette	TT	18k to 24k		0.64	
14	2-Way Cassette	TS	18k to 24k		0.75	
15	4-Way 2' x 2' Cassette	TR	5k to 7k		0.40	
16	4-Way 2' x 2' Cassette	TR	9k to 12k		0.55	
17	4-Way 2' x 2' Cassette	TQ	15k to 18k		0.71	
18	4-Way 3' x 3' Cassette	TN	7k to 24k		0.88	
19	4-Way 3' x 3' Cassette	TM	28k to 36k		1.08	
20	4-Way 3' x 3' Cassette	TM	42k to 48k		1.41	
21	Mid Static Ducted	M1	7k to 24k		0.57	
22	High Static Ducted	M2	7k to 24k		0.77	
23	Mid Static Ducted	M2	28k to 42k		1.15	
24	Mid / High Static Ducted	M3	28k to 54k		1.35	
25	High Static Ducted	B8	36k to 96k		2.20	
26	Low Static Ducted, Low Static Ducted Bottom Return	L1	5k to 9k		0.31	
27	Low Static Ducted, Low Static Ducted Bottom Return	L2	12k to 18k		0.42	
28	Low Static Ducted, Low Static Ducted Bottom Return	L3	21k to 24k		0.55	
29	Vertical / Horizontal Air Handling Unit	NJ	12k to 30k		1.04	
30	Vertical / Horizontal Air Handling Unit	NJ	36k		1.57	
31	Vertical / Horizontal Air Handling Unit	NK	42k to 54k		2.00	
32	Floor Standing	CE (U)	7k to 15k		0.37	
33	Floor Standing	CF (U)	18k to 24k		0.82	
34	Split Rooftop Unit	DD	36k to 72k		3.55	
35	HRU: PRHR022A/023A, 032A/033A, 042A/043A	—	—		1.1	
36	HRU: PRHR063A, 083A	—	—		2.2	
37	**ADDITIONAL Refrigerant Charge Required** (Sum of lines 1 – 36)					
38	Outdoor Unit Factory Refrigerant Charge — 38A	ARUM072*TE5	72k		14.3	
	38B	ARUM096*TE5	96k		23.2	
	38C	ARUM121*TE5	121k		23.2	
	38D	ARUM144*TE5	144k		26.5	
	38E	ARUM168*TE5	168k		26.5	
	38F	ARUM192*TE5	192k		30.9	
	38G	ARUM216*TE5	216k		37.5	
	38H	ARUM241*TE5	241k		37.5	
39	**Total ODU FACTORY Refrigerant Charge** (Sum of factory refrigerant charges for all ODUs in the system, lines 38A -38H)					
40	**TOTAL SYSTEM CHARGE** Sum of Additional Refrigerant Charge Required (line 37) and Total ODU Factory Refrigerant Charge (line 39)					

[1]CF (Ref.) = Correction Factor for Refrigerant Charge. [2]For refrigerant charge purposes, consider only the liquid line; ignore the vapor line(s).

REFRIGERANT CHARGE WORKSHEET

Multi V S System R410A Refrigerant Charge Calculator (lbs.)

System Tag or ID:	Job Name: _____
	Project Manager: _____ Date: _____

Line #	Description	Chassis I.D.	Size	Quantity	CF (Ref.)[1]	Total (lbs.)
1	Linear feet of 1/4" liquid line tubing[2]	—	—		0.015	
2	Linear feet of 3/8" liquid line tubing[2]	—	—		0.041	
3	Linear feet of 1/2" liquid line tubing[2]	—	—		0.079	
4	Linear feet of 5/8" liquid line tubing[2]	—	—		0.116	
5	Linear feet of 3/4" liquid line tubing[2]	—	—		0.179	
6	Linear feet of 7/8" liquid line tubing[2]	—	—		0.238	
7	Linear feet of 1" liquid line tubing[2]	—	—		0.323	
8	Standard + Art Cool Mirror	SJ, SK	5k to 15k		0.53	
9	Standard + Art Cool Mirror	SJ, SK	18k to 24k		0.62	
10	Standard	SV	30k to 36k		1.01	
11	Art Cool Gallery	SF	9k to 12k		0.22	
12	1-Way Cassette	TU	7k to 12k		0.44	
13	1-Way Cassette	TT	18k to 24k		0.64	
14	2-Way Cassette	TS	18k to 24k		0.75	
15	4-Way 2' x 2' Cassette	TR	5k to 7k		0.40	
16	4-Way 2' x 2' Cassette	TR	9k to 12k		0.55	
17	4-Way 2' x 2' Cassette	TQ	15k to 18k		0.71	
18	4-Way 3' x 3' Cassette	TN	7k to 24k		0.88	
19	4-Way 3' x 3' Cassette	TM	28k to 36k		1.08	
20	4-Way 3' x 3' Cassette	TM	42k to 48k		1.41	
21	Mid Static Ducted	M1	7k to 24k		0.57	
22	High Static Ducted	M2	7k to 24k		0.77	
23	Mid Static Ducted	M2	28k to 42k		1.15	
24	Mid / High Static Ducted	M3	28k to 54k		1.35	
25	High Static Ducted	B8	36k to 96k		2.20	
26	Low Static Ducted, Low Static Ducted Bottom Return	L1	5k to 9k		0.31	
27	Low Static Ducted, Low Static Ducted Bottom Return	L2	12k to 18k		0.42	
28	Low Static Ducted, Low Static Ducted Bottom Return	L3	21k to 24k		0.55	
29	Vertical / Horizontal Air Handling Unit	NJ	12k to 30k		1.04	
30	Vertical / Horizontal Air Handling Unit	NJ	36k		1.57	
31	Vertical / Horizontal Air Handling Unit	NK	42k to 54k		2.00	
32	Floor Standing	CE (U)	7k to 15k		0.37	
33	Floor Standing	CF (U)	18k to 24k		0.82	
34	Split Rooftop Unit	DD	36k to 60k		3.55	
35	HRU: PRHR022A/023A, 032A/ 033A, 042A/ 043A	—	—		1.1	
36	HRU: PRHR063A, 083A	—	—		2.2	
37	**ADDITIONAL Refrigerant Charge Required** (Sum of lines 1 – 36)					
38	Total ODU FACTORY Refrigerant Charge (Choose One)	38A	ARUN024GSS4		0	
		38B	ARUN038GSS4		0	
		38C	ARUN048GSS4		0	
		38D	ARUN053GSS4		0	
		38F	ARUN060GSS4		0	
		38G	ARUB060GSS4		0	
39	**TOTAL SYSTEM CHARGE** Sum of Additional Refrigerant Charge Required (line 36) and Total ODU Factory Refrigerant Charge (from lines 38A through 38G)					

[1]CF (Ref.) = Correction Factor for Refrigerant Charge. [2]For refrigerant charge purposes, consider only the liquid line; ignore the vapor line(s).

SPLIT ROOFTOP UNIT PRODUCT DATA

MECHANICAL SPECIFICATIONS

Casing

Split Rooftop Unit (RTU) is designed to operate in either vertical flow configuration or horizontal flow configuration. To convert to horizontal configuration, remove screws from the side duct opening covers and remove the covers. Using the same screws, install the covers on vertical duct openings with the insulation side. Finish color is “dawn grey”. Cold surfaces are galvanized steel. The cold surfaces of the case are internally insulated with Polyethylene foamed insulation. The inside surface of the fan assembly door access panel is treated with Polyethylene foamed insulation. All access panels are provided with rubber seals to minimize air leakage. The unit bears the ETL label. Unit breaker, fuses, and / or disconnect are provided by others.

Fan Assembly and Control

The indoor unit has an integral fan assembly consisting of a SECC 3D -curved plug fan wheel. The direct drive fan/motor assembly is mounted as cylindrical pipe structure.

Split Rooftop Unit is equipped with factory programmed ECM (Electronically Commutated Motor) to deliver constant CFM regardless of external static pressure.

The fan motor includes thermal, overcurrent and low RPM protection. The fan impeller is statically and dynamically balanced. Fan speed is controlled using a microprocessor-based direct digital control algorithm that provides a high fan speed in cooling thermal ON and low fan speed in cooling thermal OFF, high fan speed in heating thermal ON and fan off in heating thermal OFF. The fan speeds can be field adjusted between low, medium, and high speeds and DIP switch settings will allow the fan to run constantly during defrost or oil return modes. The setting provides delivery of the high speed air volume against an external static pressure of up to 1.7 in-wg.

Air Filter

The unit comes with a filter rack capable of accepting a field- provided 16” x 20” x 2” 4 filter cartridges. The filter rack is equipped with guides that keep the filter located in the rack. Filter service access is from the right side of the unit without removing the coil or fan area access panels. Filter access door is provided with handle and screws that can be removed.

Microprocessor Controls

The unit is equipped with an integrated microprocessor-based controller capable of performing functions necessary to operate the system without the use of a wall-mounted controller. A temperature thermistor is mounted in the return air stream. All unit operating parameters, excluding the operation schedule, are stored in non-volatile memory resident on the unit microprocessor. Operating schedules are stored in select models of the optional wall-mounted local or central controller. The field-supplied communication cable between the indoor unit(s) and outdoor unit is to be a minimum of 18 AWG, 2 conductor, stranded, and shielded (RS-485). The microprocessor control provides the following functions: auto addressing, self-diagnostics, auto restart following power restoration, and will operate the indoor unit using one of the following five operation modes:

1. Auto Changeover (Heat Recovery only)
2. Heating
3. Cooling
4. Dry
5. Fan Only

For Heat Recovery systems the Auto Changeover setting automatically switches control of the indoor unit between cooling and heating modes based on space temperature conditions.

For Heat Pump systems, heated or cooled air delivery is dependent upon outdoor unit operating mode.

In Heating mode, the microprocessor control does not begin fan operation until coil pipe temperature reaches 76ºF. Significant airflow is generated when pipe temperature reaches 80°F. A field-selectable option maintains fan operation for 30 minutes following cooling cycle operations.

1. Wall-mounted wire controller
2. Factory-mounted return air thermistor or the optional wall mounted wired remote temperature sensor.

The microprocessor controls space temperature using the value provided by the temperature sensor sensing a space temperature that is farthest away from the temperature set-point. A single indoor unit has the capability of being controlled by up to two local wired controllers. The microprocessor control provides a cooling or heating mode test cycle that operates the unit for 18 minutes without regard to the space temperature. If the system is provided with an optional local or central controller, displayed diagnostic codes are specific and provide the service technician with the reason for the code displayed.

Handling Condensate

The drain pan is designed to work with a gravity building drain system. If condensate lifts/pumps are needed, they are to be field-provided. A secondary drain port plug is provided allowing the pan to be drained for service. Condensate float safety switch connections are available on the main control board for connection of a field supplied float safety switch.

Condensate Drain Pan

The condensate drain pan is constructed of metal.

Coil

The Split Rooftop Unit coil is constructed with grooved design copper tubes with louver coil fins, three (3) rows, nineteen (19) fins per inch.

Controls Features

- Auto changeover (Heat Recovery only)
- Auto operation
- Auto restart
- External on / off control
- Dual thermistor control
- External static pressure control
- Group control
- Hot start
- Self diagnostics
- Timer (on / off)
- Weekly schedule
- Fan speed control
- Dual set-point control
- Filter life display
- Multiple auxiliary heater applications
- Wi-Fi compatible
- Auto fan
- Leak detection

**To enable Generation 4 features, outdoor unit DIP Switch No. 3 must be set to ON. Please refer to the Multi V IV, Multi V S Engineering Manual for additional information.*

Figure 3: Split Rooftop Unit.

GENERAL DATA

Table 1: ARNU363~723DDA4 General Data.

Model No.	ARNU363DDA4	ARNU483DDA4	ARNU603DDA4	ARNU723DDA4
Cooling Mode Performance				
Capacity (Btu/h)	36,000	48,000	60,000	72,000
Maximum Power Input[1] (W)	640	700	760	770
L / M / H Power Input at Factory Default (W)	110 / 130 / 150	120 / 150 / 260	130 / 250 / 330	140 / 260 / 350
Heating Mode Performance				
Capacity (Btu/h)	38,000	52,000	71,000	80,000
Maximum Power Input[1] (W)	640	700	760	770
L / M / H Power Input at Factory Default (W)	110 / 130 / 150	120 / 150 / 260	130 / 250 / 330	140 / 260 / 350
Entering Mixed Air				
Cooling Maximum (°F WB)	76	76	76	76
Heating Minimum (°F DB)[2]	50	50	50	50
Unit Data				
Refrigerant Type[3]	R410A	R410A	R410A	R410A
Refrigerant Control	EEV	EEV	EEV	EEV
Sound Power[4] dB(A) (H/M/L)	66 / 63 / 60	67 / 64 / 61	68 / 65 / 62	69 / 66 / 63
Net Unit Weight (lbs.)	472	472	472	472
Shipping Weight (lbs.)	494	494	494	494
Communication Cable[5] (No. x AWG)	2 x 18			
Fan				
Type	3D Plug			
Motor	1	1	1	1
Motor/Drive	ECM (Electronically Commutated Motor) / Direct			
Airflow Rate H/M/L (CFM) Standard Mode	1200 / 1000 / 800	1400 / 1200 / 950	1700 / 1300 / 1000	1800 / 1400 / 1100
External Static Pressure (in. wg) Standard Mode	1.7	1.6	1.5	1.4
External Static Pressure (in. wg)	0.2 - 1.7	0.2 - 1.6	0.2 - 1.5	0.2 - 1.4
Piping				
Liquid Line (in., O.D.)	3/8 Brazed	3/8 Brazed	3/8 Brazed	3/8 Brazed
High Pressure Vapor Line (in, OD)	1/2 Brazed	1/2 Brazed	5/8 Brazed	5/8 Brazed
Low Pressure Vapor Line (in., O.D.)	5/8 Brazed	5/8 Brazed	3/4 Brazed	3/4 Brazed
Condensate Line (in., I.D.)	1, Plain			
Filtration				
Outdoor	2" Merv8 (16" x 20") x 4 each			

EEV: Electronic Expansion Valve

Power wiring is field supplied and must comply with the applicable local and national codes.

This unit comes with a dry nitrogen charge.

Rated capacity is certified under AHRI Standard 1230. Ratings are subject to change without notice. Current certified ratings are available at www.ahridirectory.org.

[1]Max power input is rated at maximum setting value.

[2]Low ambient performance with LGRED° heat technology is included in Multi V 5 Air Source Units produced after February 2019.

[3]Take appropriate actions at the end of HVAC equipment life to recover, recycle, reclaim or destroy R410A refrigerant according to applicable regulations (40 CFR Part 82, Subpart F) under section 608 of CAA.

[4]Sound Pressure levels are tested in an anechoic chamber under ISO Standard 3745.

[5]All communication cable to be minimum 18 AWG, 2-conductor, twisted, stranded, shielded and must comply with applicable local and national codes. Ensure the communication cable is properly grounded at the main outdoor unit only. ⃠ Do not ground the ODU-IDU communication cable at any other point.

Table 2: ARNU363~723DDB4 General Data.

Model No.	ARNU363DDB4	ARNU483DDB4	ARNU603DDB4	ARNU723DDB4
Cooling Mode Performance				
Capacity (Btu/h)	36,000	48,000	60,000	72,000
Maximum Power Input1 (W)	640	700	760	770
L / M / H Power Input at Factory Default (W)	110 / 130 / 150	120 / 150 / 260	130 / 250 / 330	140 / 260 / 350
Heating Mode Performance				
Capacity (Btu/h)	38,000	52,000	71,000	80,000
Maximum Power Input[1] (W)	640	700	760	770
L/M/H Power Input at Factory Default (W)	110 / 130 / 150	120 / 150 / 260	130 / 250 / 330	140 / 260 / 350
Entering Mixed Air				
Cooling Maximum (°F WB)	76	76	76	76
Heating Minimum (°F DB)[2]	50	50	50	50
Unit Data				
Refrigerant Type[3]	R410A	R410A	R410A	R410A
Refrigerant Control	EEV	EEV	EEV	EEV
Sound Power[4] dB(A) (H/M/L)	66 / 63 / 60	67 / 64 / 61	68 / 65 / 62	69 / 66 / 63
Net Unit Weight (lbs.)	461	461	461	461
Shipping Weight (lbs.)	483	483	483	483
Communication Cable[5] (No. x AWG)	2 x 18			
Fan				
Type	3D Plug			
Motor	1	1	1	1
Motor/Drive	ECM (Electronically Commutated Motor) / Direct			
Airflow Rate H/M/L (CFM) Standard Mode	1200 / 1000 / 800	1400 / 1200 / 950	1700 / 1300 / 1000	1800 / 1400 / 1100
External Static Pressure (in. wg) Standard Mode	1.7	1.6	1.5	1.4
External Static Pressure (in. wg)	0.2 - 1.7	0.2 - 1.6	0.2 - 1.5	0.2 - 1.4
Piping				
Liquid Line (in., O.D.)	3/8 Brazed	3/8 Brazed	3/8 Brazed	3/8 Brazed
Vapor Line (in., O.D.)	5/8 Brazed	5/8 Brazed	3/4 Brazed	3/4 Brazed
Condensate Line (in., I.D.)	1, Plain			
Filtration				
Outdoor	2" Merv8 (16" x 20") x 4 each			

EEV: Electronic Expansion Valve

Power wiring is field supplied and must comply with the applicable local and national codes.

This unit comes with a dry nitrogen charge.

Rated capacity is certified under AHRI Standard 1230. Ratings are subject to change without notice. Current certified ratings are available at www.ahridirectory.org.

[1]Max power input is rated at maximum setting value.

[2]Low ambient performance with LGRED° heat technology is included in Multi V 5 Air Source Units produced after February 2019.

[3]Take appropriate actions at the end of HVAC equipment life to recover, recycle, reclaim or destroy R410A refrigerant according to applicable regulations (40 CFR Part 82, Subpart F) under section 608 of CAA.

[4]Sound Pressure levels are tested in an anechoic chamber under ISO Standard 3745.

[5]All communication cable to be minimum 18 AWG, 2-conductor, twisted, stranded, shielded and must comply with applicable local and national codes. Ensure the communication cable is properly grounded at the main outdoor unit only. ⃠ Do not ground the ODU-IDU communication cable at any other point.

ELECTRICAL DATA

Table 3: Split Rooftop Unit Electrical Data.

Capacity (RT)	Voltage Range	MCA	MOP	Rated Amps (A)	Power Supply			Power Input[1] (W)		
					Hz	Volts	Phase	Max. Cooling	Max. Heating	L / M / H at Factory Default
6	208 / 230	8.4	15	6.7	60	208 / 230	1	770	770	140 / 260 / 350
5		8.4		6.7				760	760	130 / 250 / 330
4		8.4		6.7				700	700	120 / 150 / 260
3		8.4		6.7				640	640	110 / 130 / 150

MCA : Minimum Circuit Ampacity.

MOP : Maximum Overcurrent Protection.

Units are suitable for use on an electrical system where voltage supplied to unit terminals is within the listed range limits.

Select wire size based on the larger MCA value.

Instead of fuse, use the circuit breaker.

[1]Max. power input is rated at maximum setting value.

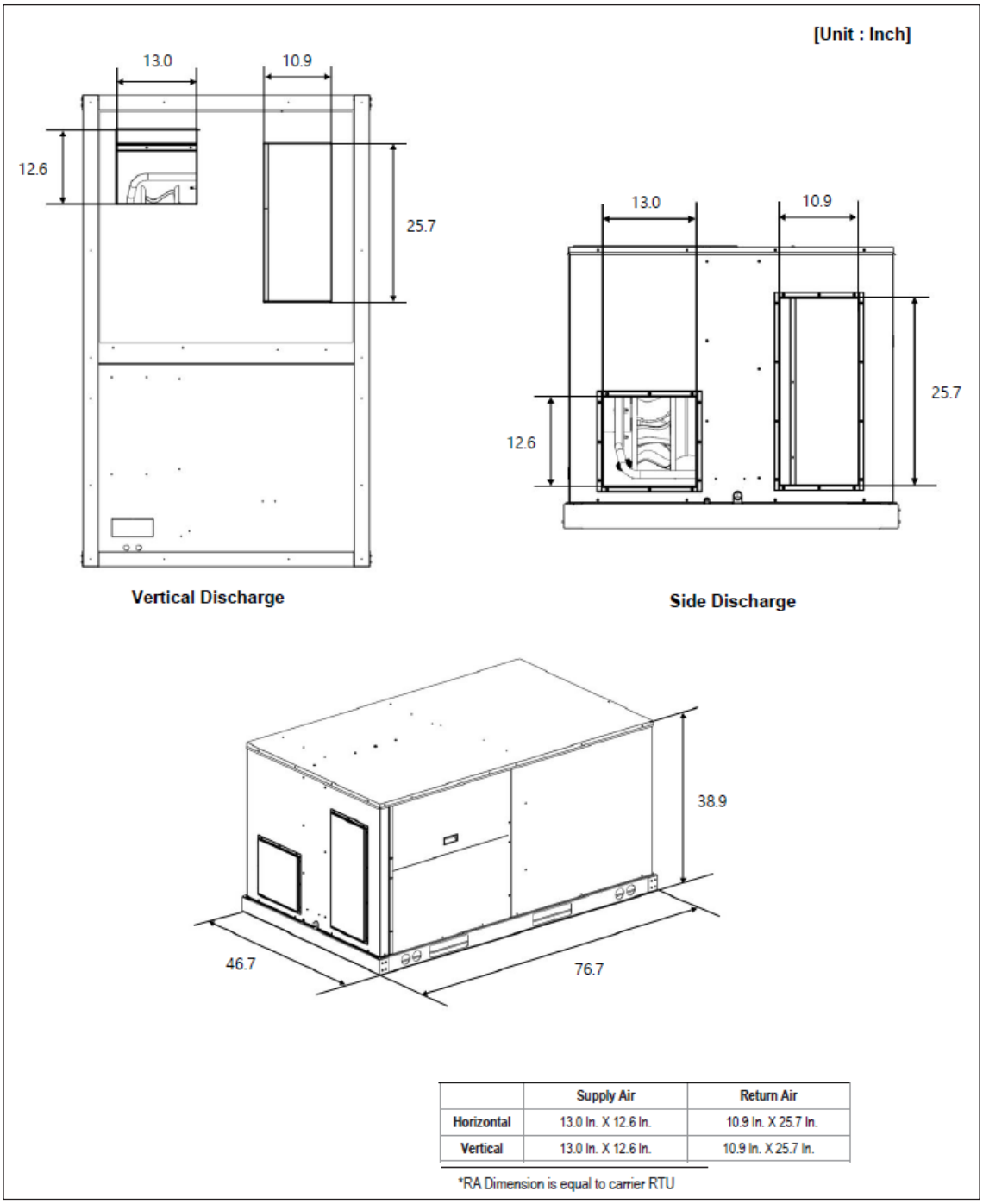
SOUND POWER DATA

Table 4: Split Rooftop Unit Sound Power Data.

				Octave Band, Un-weighted								
Capacity (RT)	RPM	in Aq	PJT.	PWL,A	63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz
3	1520(H)	1.7	7	65.8	73.7	63.9	73.2	58.6	56.4	52.1	44.1	36.0
	1370(M)	1.5	5	64.2	70.3	67.6	66.4	58.9	58.9	57.0	50.9	42.8
	1200(L)	1.2	10	59.3	63.2	61.4	60.3	53.6	54.4	53.1	44.4	38.6
4	1540(H)	1.6	13	66.6	66.6	65.7	72.8	58.8	60.1	59.4	52.7	39.9
	1380(M)	1.4	4	63.7	73.6	62.8	69.9	55.2	58.6	54.0	46.5	41.8
	1200(L)	1.1	9	60.7	67.3	63.1	56.9	54.5	58.6	51.4	43.6	33.4
5	1590(H)	1.5	6	67.5	69.8	65.5	75.0	59.7	60.9	58.3	51.7	44.7
	1430(M)	1.4	11	64.7	75.3	66.9	66.0	57.8	60.4	57.9	50.1	40.3
	1300(L)	1.3	8	61.9	70.2	61.1	64.2	56.1	58.1	53.8	48.4	38.2
6	1600(H)	1.4	14	68.6	66.4	66.2	77.0	58.1	60.7	59.7	50.8	39.0
	1440(M)	1.3	3	65.1	72.0	64.9	73.4	53.9	58.6	54.1	45.3	36.3
	1300(L)	1.2	12	62.6	58.6	60.4	61.3	56.8	58.9	56.1	47.6	39.7

EXTERNAL DIMENSIONS

Figure 4: Split RTU Dimensions.



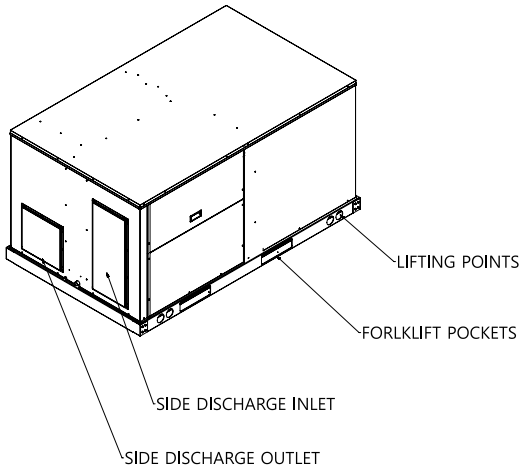
	Supply Air	Return Air
Horizontal	13.0 In. X 12.6 In.	10.9 In. X 25.7 In.
Vertical	13.0 In. X 12.6 In.	10.9 In. X 25.7 In.

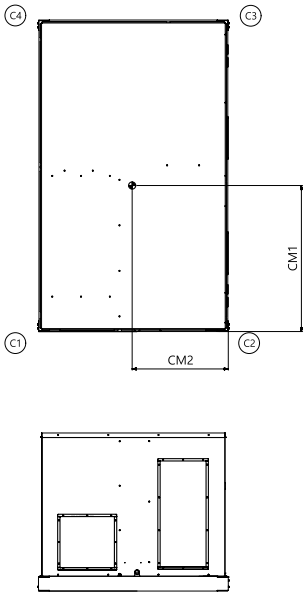
*RA Dimension is equal to carrier RTU

CORNER WEIGHT

Figure 5: Split RTU Corner Weight.

SPLIT RTU INFORMATION



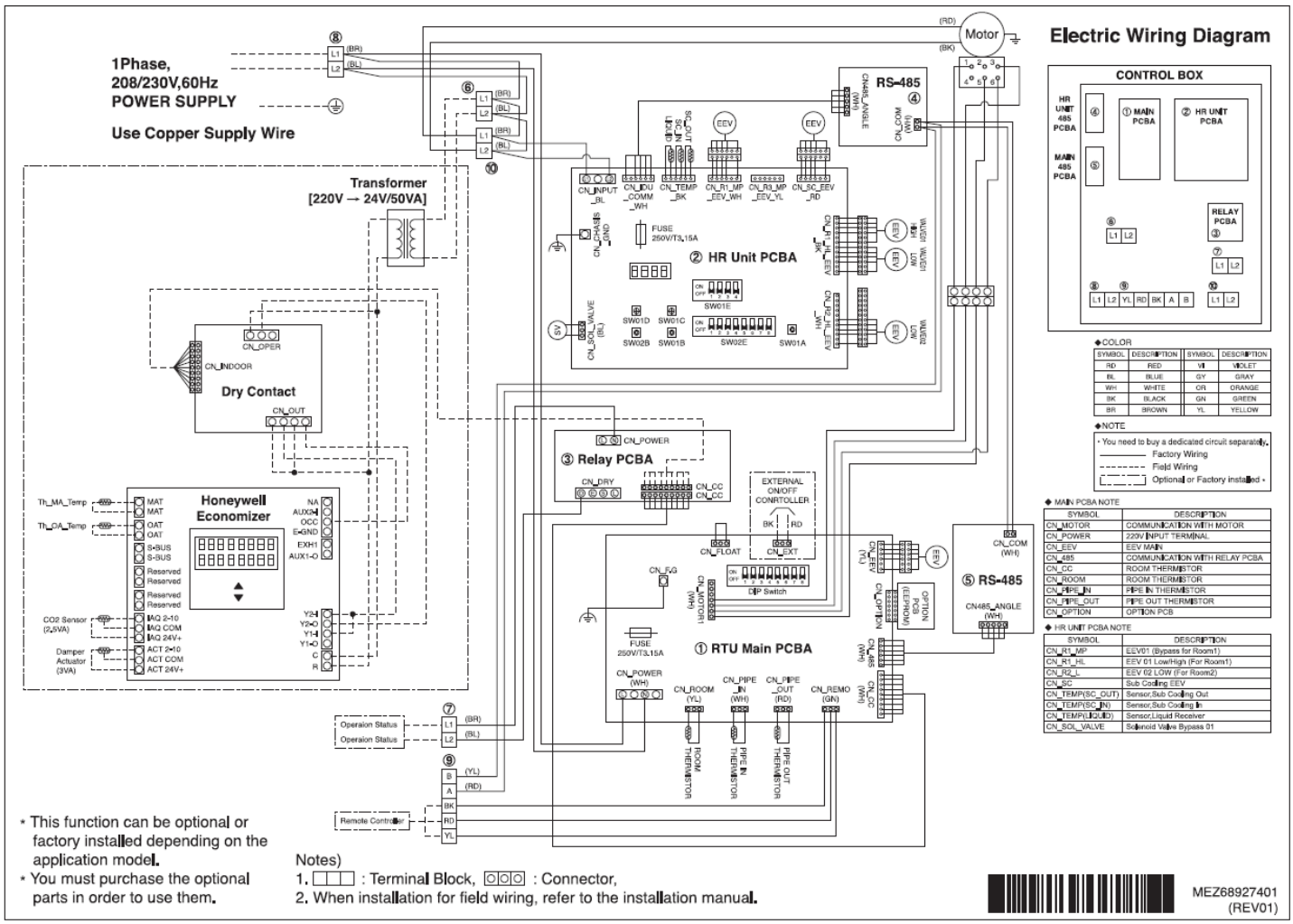


RTU INFORMATION						
APPROXIMATE WEIGHT(LBS)	CENTER OF MASS(Inch)		CORNER WEIGHT(LBS)			
	CM1	CM2	C1	C2	C3	C4
472	35	26	122	128	114	108

ELECTRICAL WIRING DIAGRAM

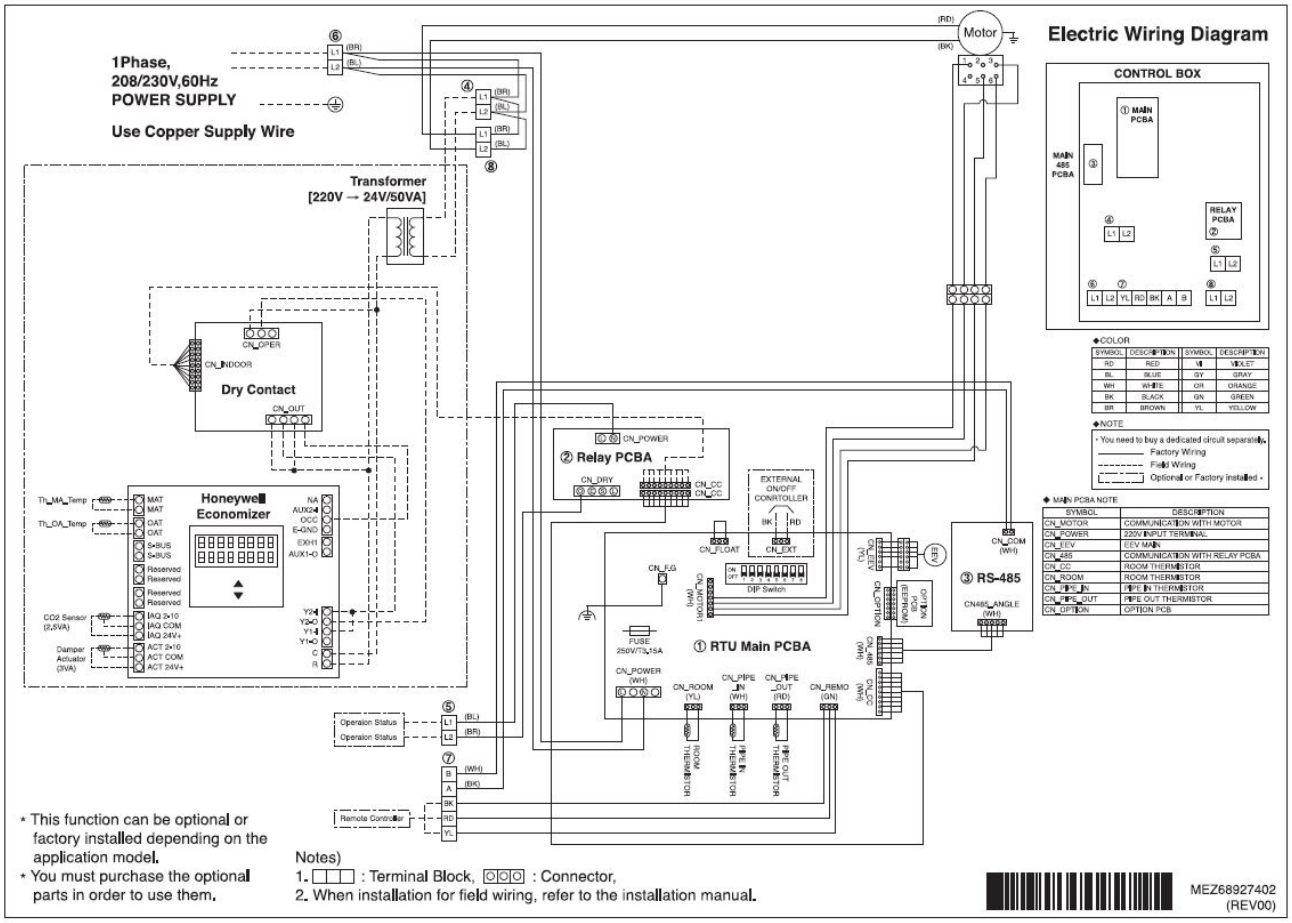
ARNU363~723DDA4 Wiring Diagram (when using Dry Contact PDRYCB400)

Figure 6: ARNU363~723DDA4 Wiring Diagram (Dry Contact PDRYCB400).



ARNU363~723DDB4 Wiring Diagram (when using Dry Contact PDRYCB400)

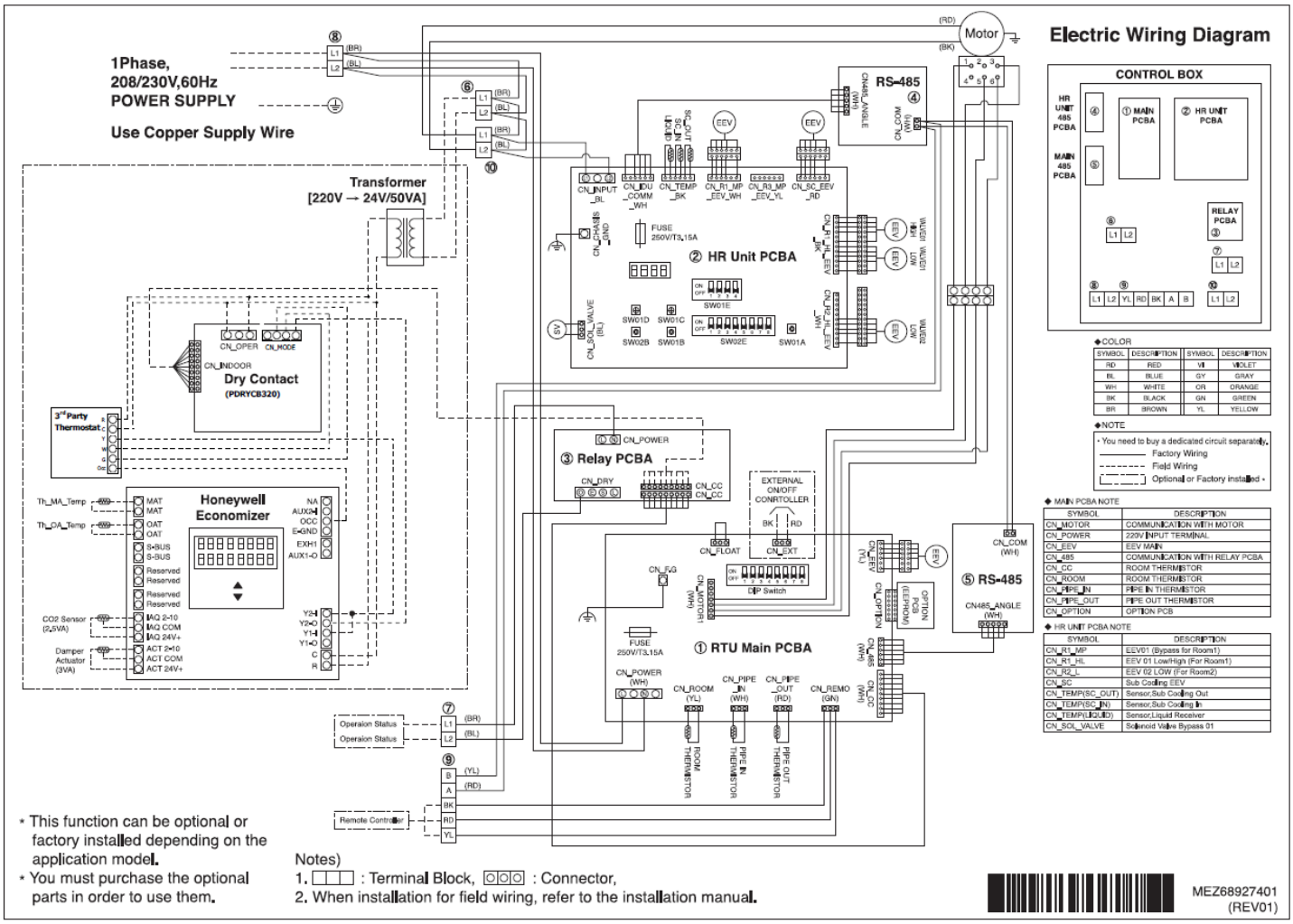
Figure 7: ARNU363~723DDB4 Wiring Diagram (Dry Contact PDRYCB400).



ELECTRICAL WIRING DIAGRAM

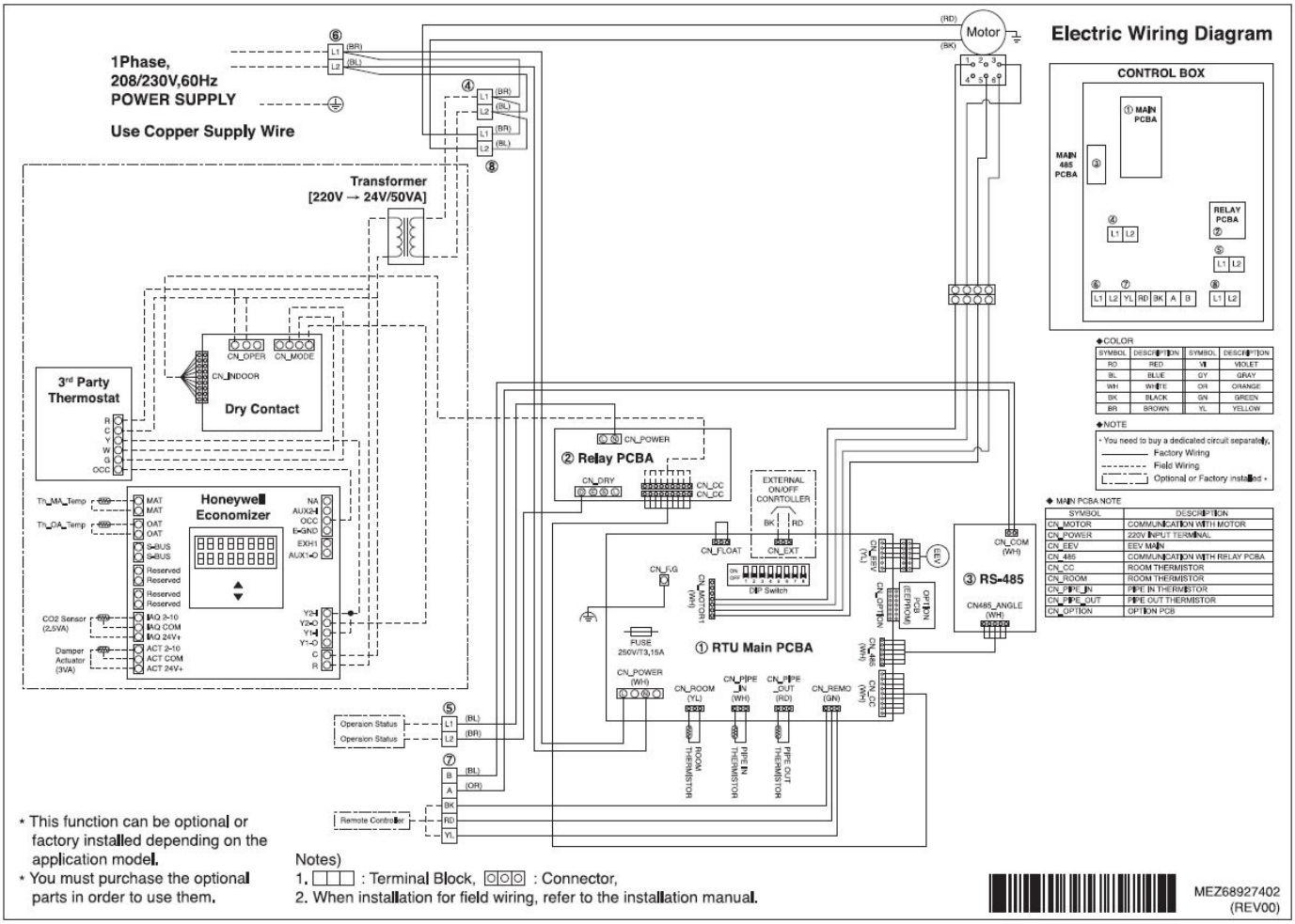
ARNU363~723DDA4 Wiring Diagram (when using Dry Contact PDRYCB320)

Figure 8: ARNU363~723DDA4 Wiring Diagram (Dry Contact PDRYCB320).



ARNU363~723DDB4 Wiring Diagram (when using Dry Contact PDRYCB320)

Figure 9: ARNU363~723DDB4 Wiring Diagram (Dry Contact PDRYCB320).



Product Data

ELECTRICAL WIRING DIAGRAM LEGEND

Table 5: ARNU363~723DDA4 Wiring Diagram Legend.

Terminal	Purpose	Function
CN-POWER	AC Power supply	AC Power line
CN-MOTOR3	Fan motor output	Motor output of BLDC
CN-VM	Sub PC power supply	N/A
CN_OUT	Heater	N/A
CN-DAMPER	N/A	N/A
CN-ZONE	Zone controller	N/A
CN-EXT	External ON / OFF controller	N/A
CN-EEV	EEV Output	EEV control output
CN-OPTION	Optional PCB EPROM	Option PCB connection
CN-DISPLAY	Display	N/A
CN-PTC	Auxiliary heater	N/A
CN-CC	Dry contact	Dry Contact connection
CN-LEAK	Refrigerant leak detector	N/A
CN-FLOAT	Float switch input	N/A
CN-PIPE-OUT	Discharge pipe sensor	Pipe out thermistor
CN-WF	Wi-Fi	N/A
CN-HUMID	N/A	N/A
CN-AIRC	N/A	N/A
CN-PIPE-IN	Suction pipe sensor	Pipe in thermistor
CN-ROOM	Room sensor	Room air thermistor
CN-REMO	Wired remote controller	Wired remote control connection
CN-D-PUMP	Drain pump output	N/A
CN-485	Communication	Connection between indoor and outdoor units

Table 6: ARNU363~723DDA4 DIP Switch Settings.

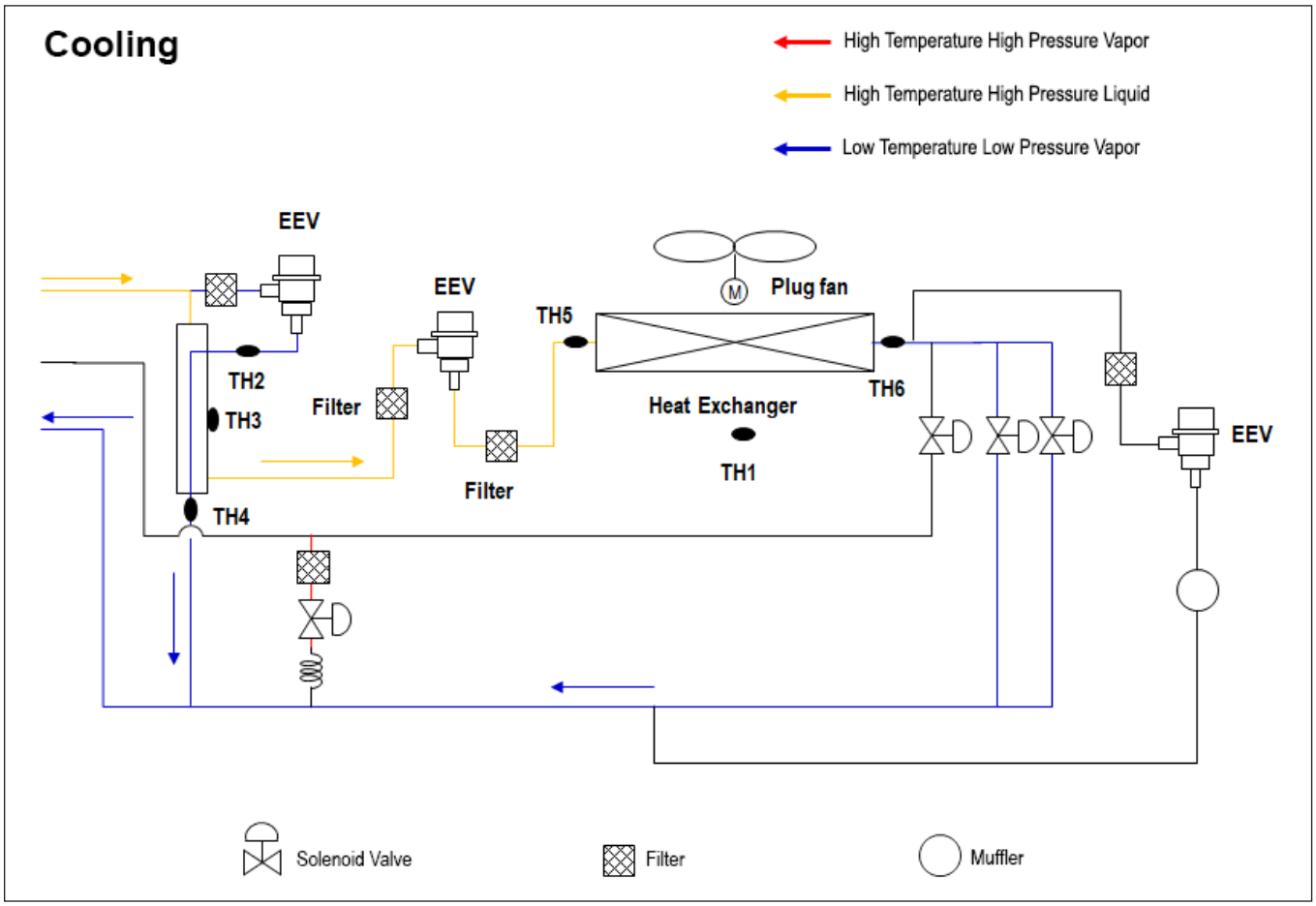
DIP Switch Setting		Off	On	Remarks
SW3	GROUP CONTROL	Main	Sub	Group control setting using 7-Day Programmable Controller; selects Main / Sub on each indoor unit
SW4	DRY CONTACT MODE	Variable	Auto	Sets operation mode for optional Dry Contact accessory 1. Variable: Auto or Manual Mode can be set through 7-Day Programmable Controller or Wireless Remote Controller (factory default setting is Auto if there is no setting) 2. Auto: For Dry Contact, it is always Auto mode
SW5	CONTINUOUS FAN	Off	On	Selects continuous fan for Split Rooftop Units. 1. On: Indoor unit fan will always operate at a set fan speed, except when the system is off, or the outdoor unit is in defrost mode (when the outdoor unit is in defrost mode, the fan will operate at super low fan speed) 2. Off: Indoor unit fan speed can be changed by on / off

***For Gen 4 Multi V vertical air handler indoor units, DIP switches 1, 2, 7 and 8 must be set to OFF. These DIP switches are used for other models.**
****To enable Generation 4 features, outdoor unit DIP Switch No. 3 must be set to ON. Please refer to the Multi V IV, Multi V Water IV Engineering Manual for additional information.**

REFRIGERANT FLOW DIAGRAM

Cooling (Heat Recovery Model)

Figure 10: ARNU363~723DDA4 Refrigerant Flow Diagram.



REFRIGERANT FLOW DIAGRAM

Heating (Heat Recovery Model)

Figure 11: ARNU363~723DDA4 Refrigerant Flow Diagram.

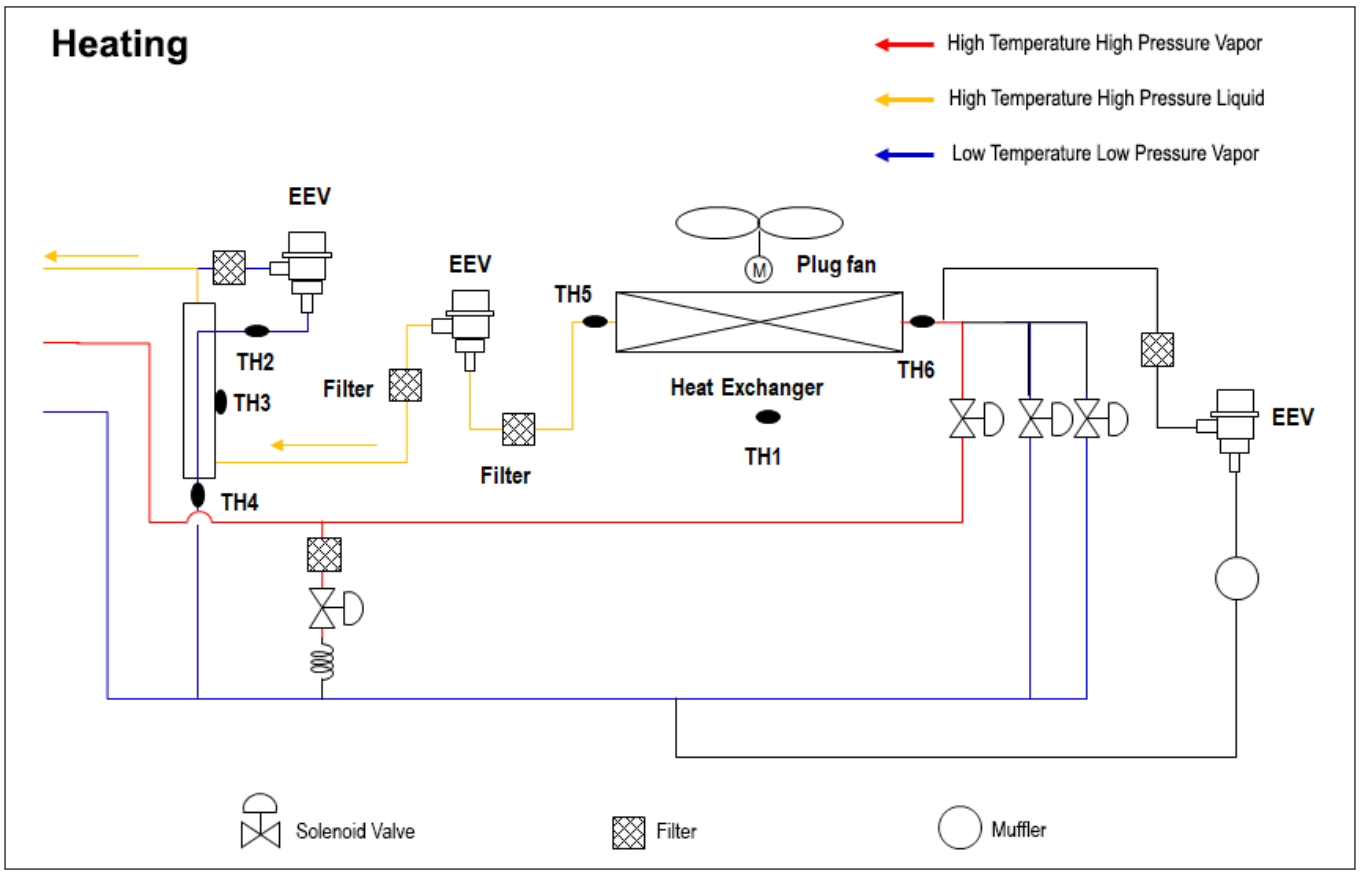


Table 7: ARNU363~723DDA4 Refrigerant Pipe Connection Port Diameters.

Model	Liquid (inch)	High Pressure Vapor (inch)	Low Pressure Vapor (inch)
ARNU723DDA4	3/8 Brazed	5/8 Brazed	3/4 Brazed
ARNU603DDA4			
ARNU483DDA4		1/2 Brazed	5/8 Brazed
ARNU363DDA4			

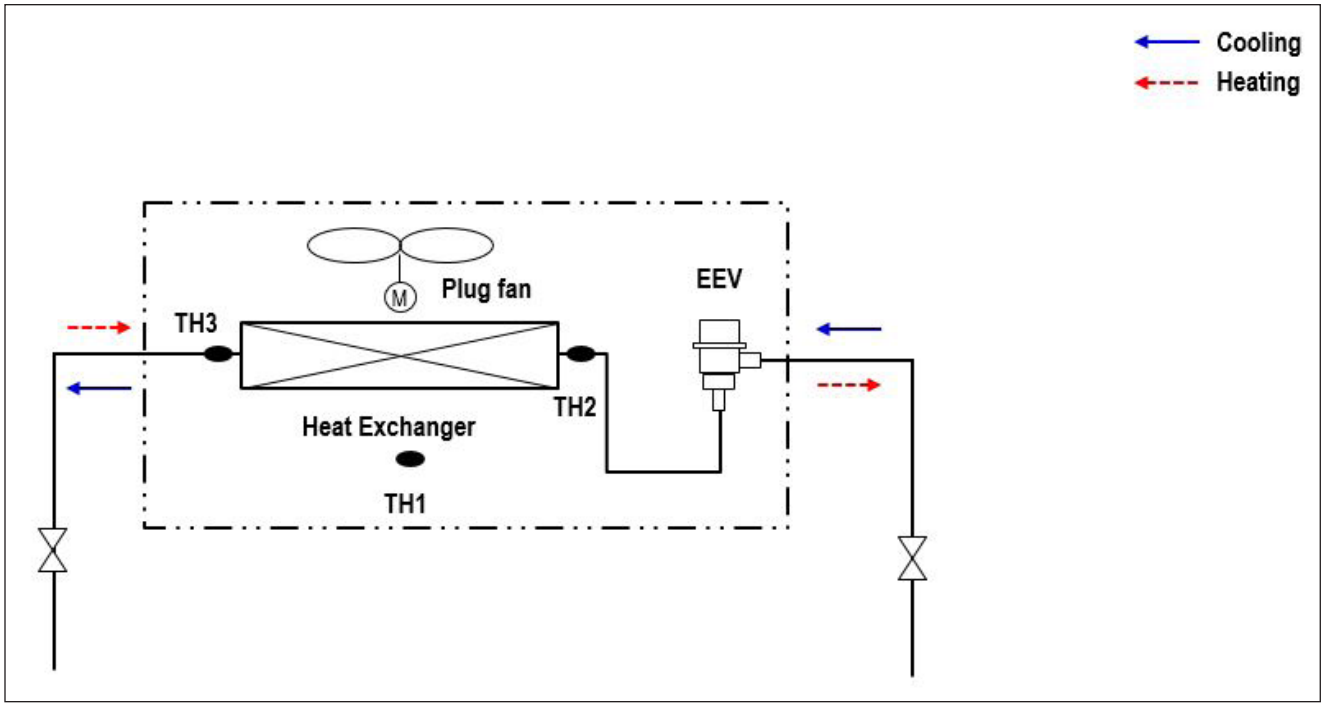
Table 8: ARNU363~723DDA4 Thermistors.

Thermistor	Description
TH1	Return air thermistor
TH2	HR Pipe out thermistor
TH3	HR Pipe in thermistor
TH4	HR liquid
TH5	Pipe in thermistor
TH6	Pipe out thermistor

REFRIGERANT FLOW DIAGRAM

Heat Pump Model

Figure 12: ARNU363~723DDB4 Refrigerant Flow Diagram.



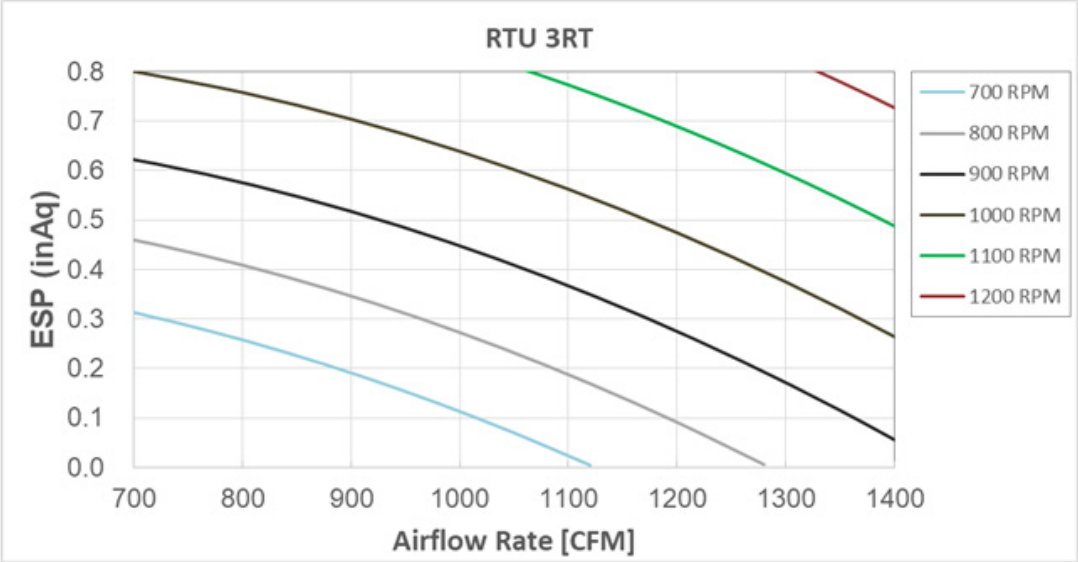
EXTERNAL STATIC PRESSURE

RTU 3 RT External Static Pressure (ESP)

RTU 3 RT ESP Chart: When ESP is less than 0.8 in wg

- Tune each low/ mid/ high RPM on Installation Fan setting (No. 3)
- Change the value from 00 to 01 on Installation Fan setting (No. 32)

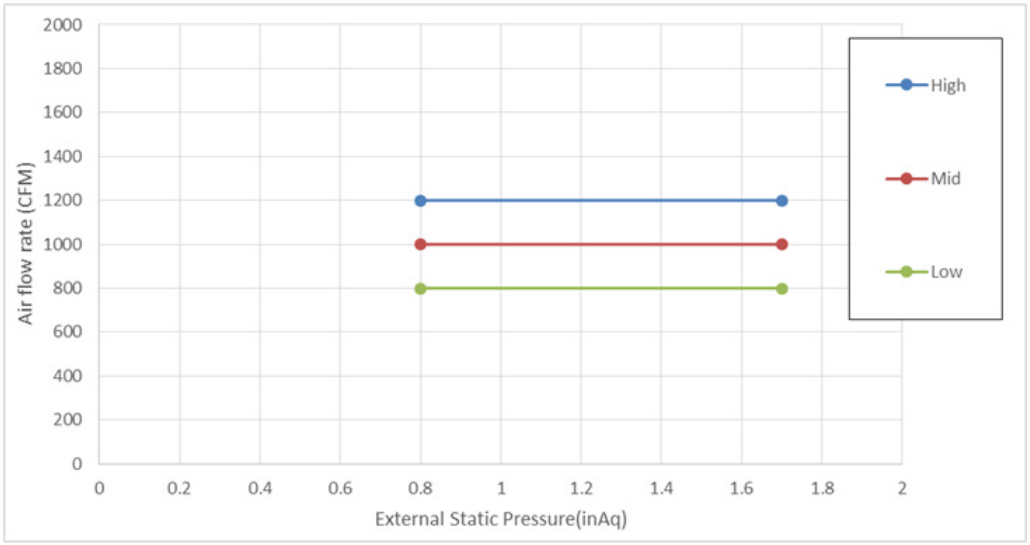
Figure 13: RTU 3 RT ESP Chart when ESP is less than 0.8 in wg



RTU 3 RT ESP Chart: When ESP is more than 0.8 in wg

- Factory Default: No need to change fan setting

Figure 14: RTU 3 RT ESP Chart when ESP is more than 0.8 in wg

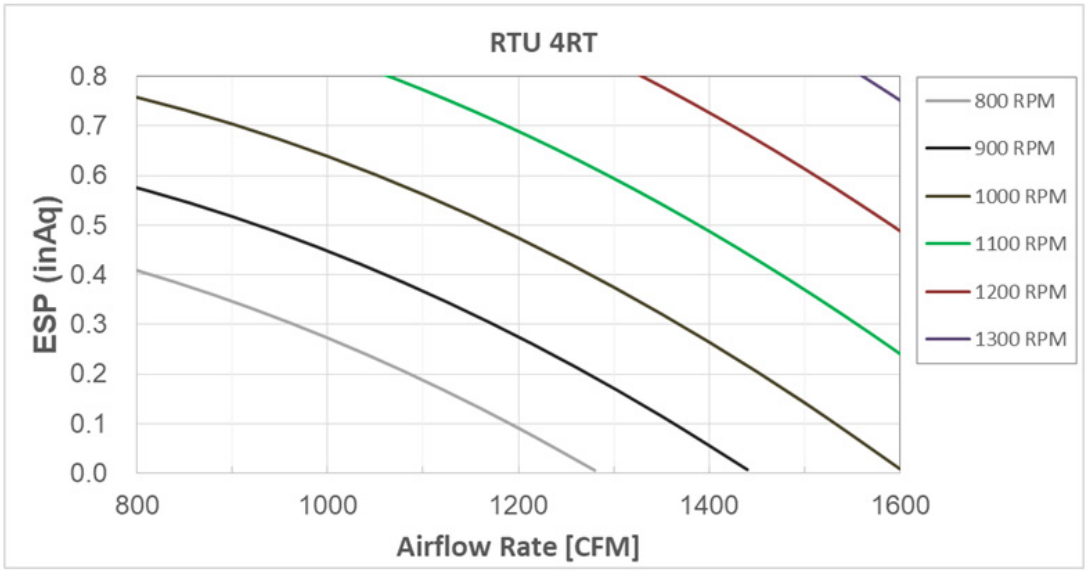


RTU 4 RT External Static Pressure (ESP)

RTU 4 RT ESP Chart: When ESP is less than 0.8 in wg

- Tune each low/ mid/ high RPM on Installation Fan setting (No. 3)
- Change the value from 00 to 01 on Installation Fan setting (No. 32)

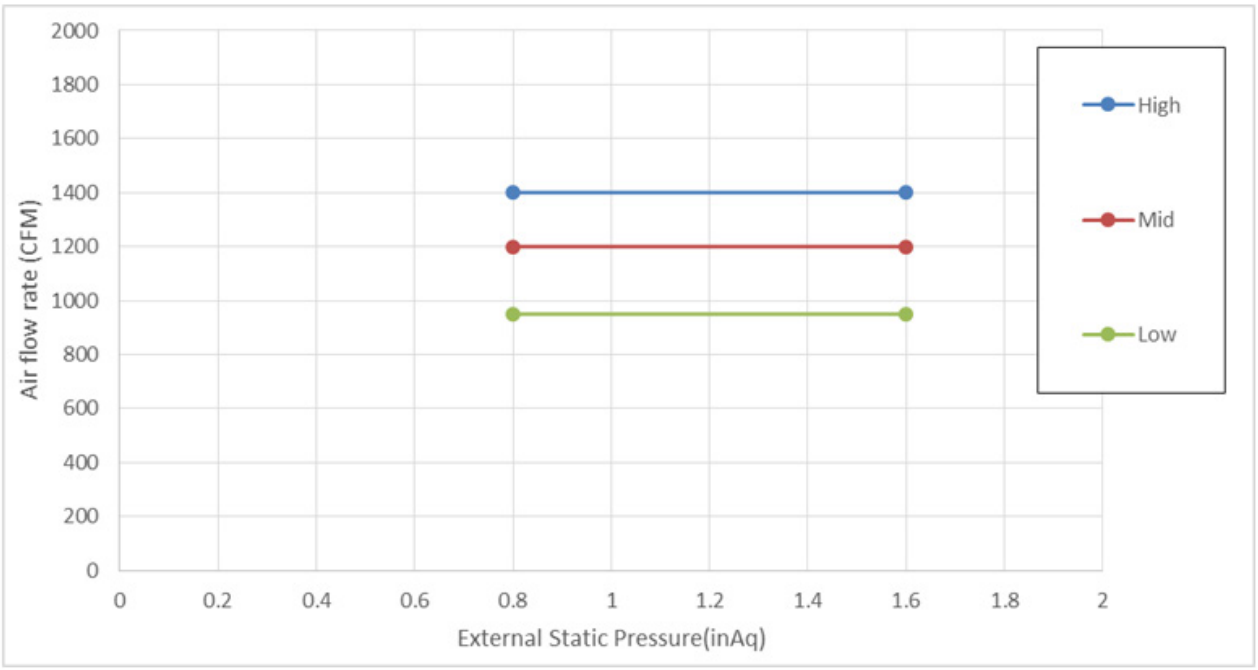
Figure 15: RTU 4 RT ESP Chart (ESP less than 0.8 in wg)



RTU 4 RT ESP Chart: When ESP is more than 0.8 in wg

- Factory Default: No need to change fan setting

Figure 16: RTU 4 RT ESP Chart when ESP is more than 0.8 in wg



Product Data

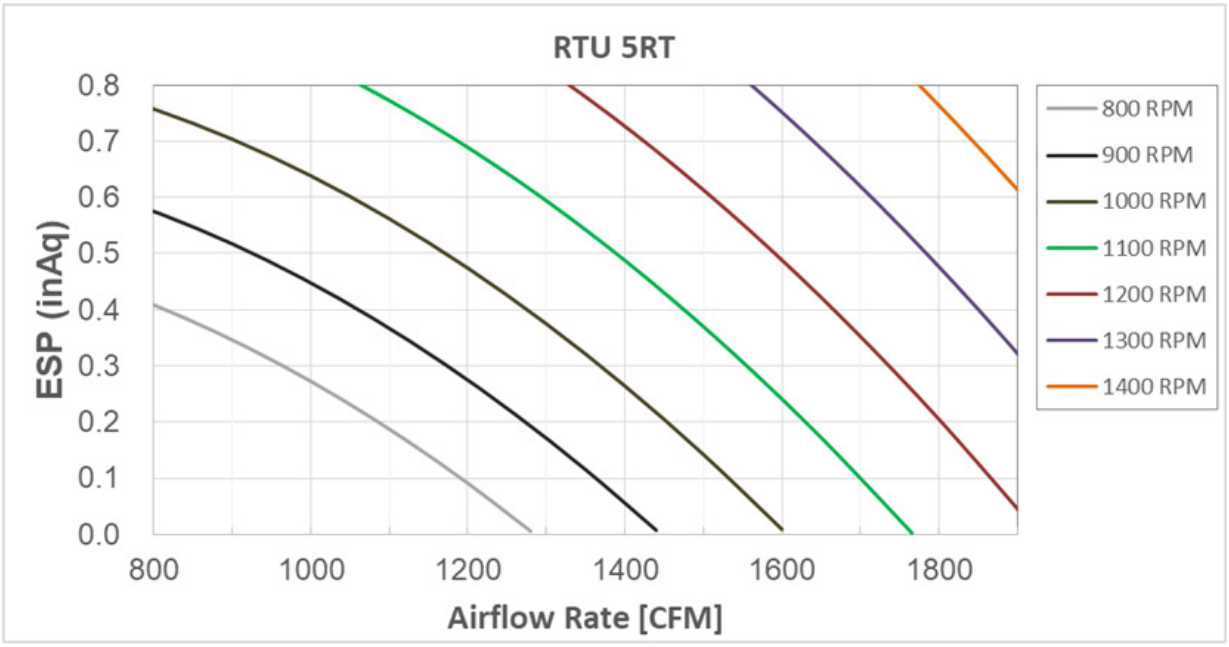
EXTERNAL STATIC PRESSURE

RTU 5 RT External Static Pressure (ESP)

RTU 5 RT ESP Chart: When ESP is less than 0.8 in wg

- Tune each low/ mid/ high RPM on Installation Fan setting (No. 3)
- Change the value from 00 to 01 on Installation Fan setting (No. 32)

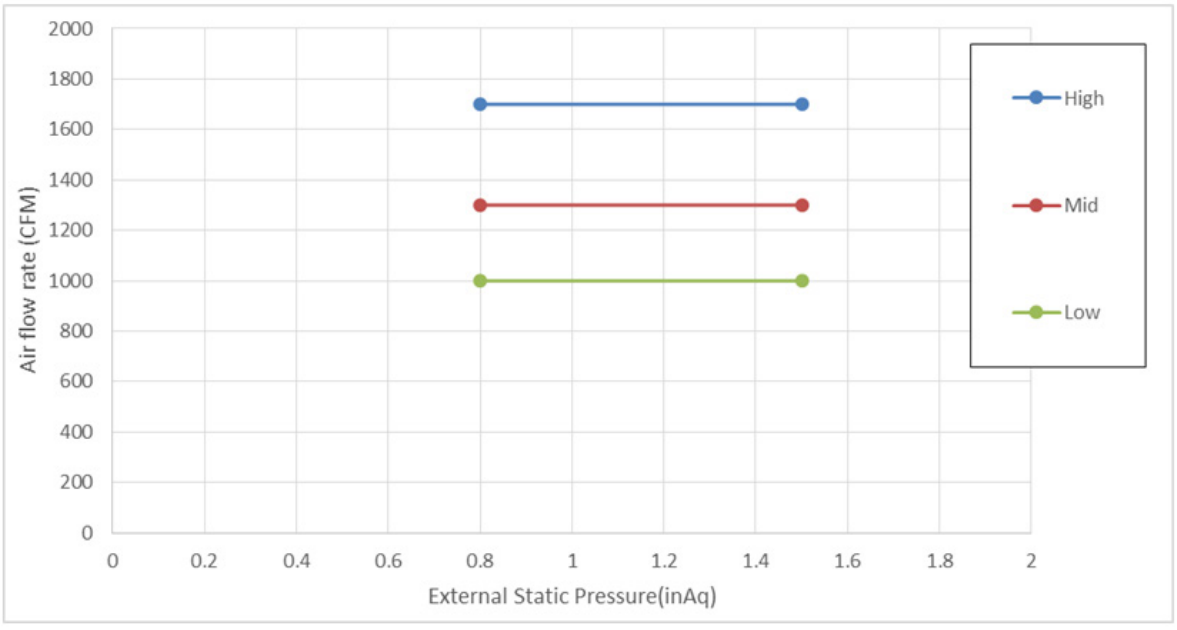
Figure 17: RTU 5 RT ESP Chart (ESP less than 0.8 in wg)



RTU 5 RT ESP Chart: When ESP is more than 0.8 in wg

- Factory Default: No need to change fan setting

Figure 18: RTU 5 RT ESP Chart when ESP is more than 0.8 in wg

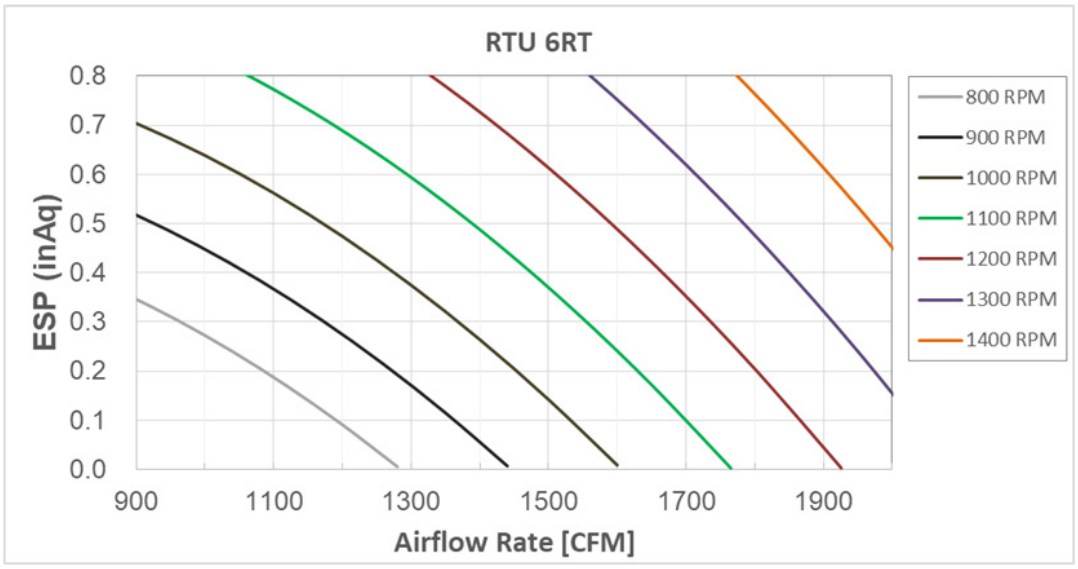


RTU 6 RT External Static Pressure (ESP)

RTU 6 RT ESP Chart: When ESP is less than 0.8 in wg

- Tune each low/ mid/ high RPM on Installation Fan setting (No. 3)
- Change the value from 00 to 01 on Installation Fan setting (No. 32)

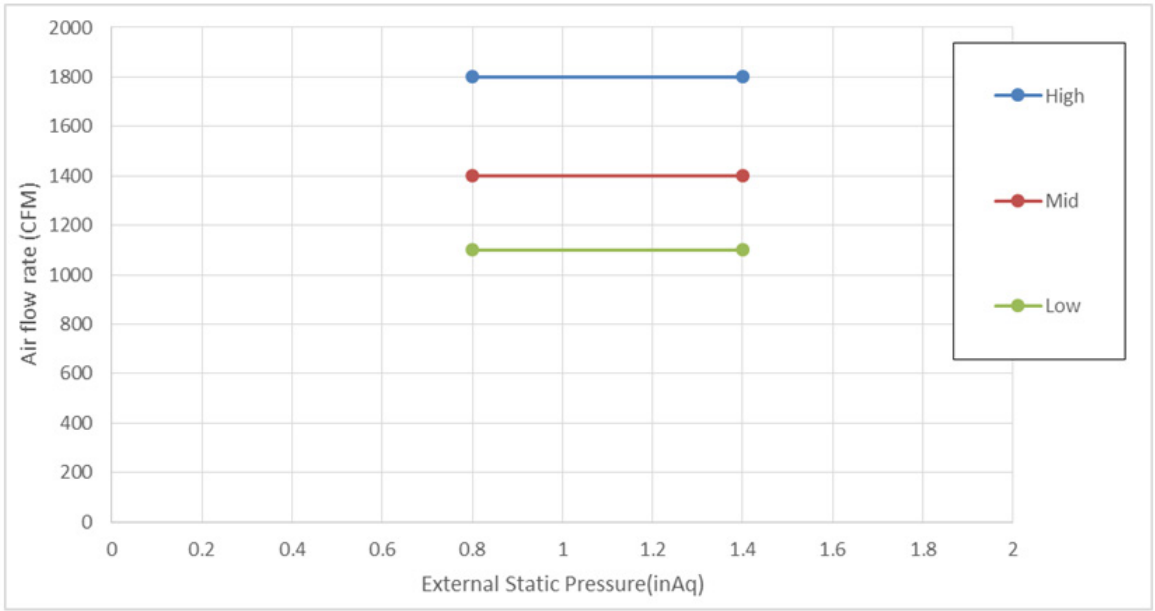
Figure 19: RTU 6RT ESP Chart (ESP less than 0.8 in wg)



RTU 6 RT ESP Chart: When ESP is more than 0.8 in wg

- Factory Default: No need to change fan setting

Figure 20: RTU 6 RT ESP Chart when ESP is more than 0.8 in wg



Product Data

SPLIT ROOFTOP UNIT

Cooling Capacity Tables

RTU 3 RT

Table 9: RTU 3 RT Cooling Capacity Table.

Capacity (RT)	Outdoor Air Temp. (°F DB)	Indoor Air Temperature (°F DB / WB)													
		68 / 57		73 / 61		79 / 64		80 / 67		85 / 70		88 / 73		91 / 76	
		TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
3	-9.9	23.7	20.4	28.8	23.5	32.4	25.0	36.0	26.6	40.4	28.6	42.9	28.3	46.5	28.3
	-5	23.7	20.4	28.8	23.5	32.4	25.0	36.0	26.6	40.4	28.6	42.9	28.3	46.5	28.3
	0	23.7	20.4	28.8	23.5	32.4	25.0	36.0	26.6	40.4	28.6	42.9	28.3	46.5	28.3
	5	23.7	20.4	28.8	23.5	32.4	25.0	36.0	26.6	40.4	28.6	42.9	28.3	46.5	28.3
	10	23.7	20.4	28.8	23.5	32.4	25.0	36.0	26.6	40.4	28.6	42.9	28.3	46.5	28.3
	14	23.7	20.4	28.8	23.5	32.4	25.0	36.0	26.6	40.4	28.6	42.9	28.3	46.5	28.3
	20	23.7	20.4	28.8	23.5	32.4	25.0	36.0	26.6	40.4	28.6	42.9	28.3	46.5	28.3
	23	23.7	20.4	28.8	23.5	32.4	25.0	36.0	26.6	40.4	28.6	42.9	28.3	46.5	28.3
	25	23.7	20.4	28.8	23.5	32.4	25.0	36.0	26.6	40.4	28.6	42.9	28.3	46.5	28.3
	30	23.7	20.4	28.8	23.5	32.4	25.0	36.0	26.6	40.4	28.6	42.9	28.3	46.5	28.3
	35	23.7	20.4	28.8	23.5	32.4	25.0	36.0	26.6	40.4	28.6	42.9	28.3	46.5	28.3
	40	23.7	20.4	28.8	23.5	32.4	25.0	36.0	26.6	40.4	28.6	42.9	28.3	46.5	28.3
	45	23.7	20.4	28.8	23.5	32.4	25.0	36.0	26.6	40.4	28.6	42.9	28.3	46.5	28.3
	50	23.7	20.4	28.8	23.5	32.4	25.0	36.0	26.6	40.4	28.6	42.9	28.3	46.5	28.3
	55	23.7	20.4	28.8	23.5	32.4	25.0	36.0	26.6	40.4	28.6	42.9	28.3	46.5	28.3
	60	23.7	20.4	28.8	23.5	32.4	25.0	36.0	26.6	40.4	28.6	42.9	28.3	46.1	28.1
	65	23.7	20.4	28.8	23.5	32.4	25.0	36.0	26.6	40.4	28.6	42.9	28.3	45.3	27.7
	70	23.7	20.4	28.8	23.5	32.4	25.0	36.0	26.6	40.4	28.6	42.9	28.3	44.7	27.2
	75	23.7	20.4	28.8	23.5	32.4	25.0	36.0	26.6	40.4	28.6	42.9	28.3	43.5	26.6
	80	23.7	20.4	28.8	23.5	32.4	25.0	36.0	26.6	40.4	28.6	41.7	28.1	42.5	26.5
	85	23.7	20.4	28.8	23.5	32.4	25.0	36.0	26.6	39.9	28.3	40.4	26.9	41.1	25.4
	90	23.7	20.4	28.8	23.5	32.4	25.0	36.0	26.6	39.3	27.8	39.6	26.5	40.4	25.1
	95	23.7	20.4	28.8	23.5	32.4	25.0	**36.0**	**26.6**	38.6	27.7	39.3	26.3	39.9	24.8
	100	23.7	20.4	28.8	23.5	32.4	25.0	36.0	26.6	37.8	27.2	38.6	26.0	39.3	24.7
	105	23.7	20.4	27.3	22.3	30.9	23.9	34.5	25.4	35.9	25.4	37.1	25.1	38.1	24.1
	110	23.1	19.8	26.0	21.1	28.8	22.3	32.4	23.9	33.9	23.9	35.3	23.9	36.8	23.3
	115	22.5	19.2	24.7	20.0	27.1	21.0	30.5	22.8	31.9	22.8	33.5	22.8	35.3	22.4
	118	22.0	18.6	23.4	19.0	25.7	19.7	29.2	21.6	30.4	21.6	32.0	21.6	33.9	21.5
	122	21.4	18.0	22.2	18.1	24.3	18.5	27.6	20.5	28.8	20.5	30.2	20.5	32.5	20.5

TC: Total Capacity (MBh); SHC: Sensible Heat Capacity (MBh).

Cooling range with the Low Ambient Baffle Kit (sold separately) installed on the outdoor unit(s) is -9.9°F to +122°F, and is achieved only when all indoor units are operating in cooling mode. Does not impact heat recovery system synchronous operating range.

The System Combination Ratio must be between 50–130%.

Rated capacity is certified under AHRI Standard 1230. Ratings are subject to change without notice.

Current certified ratings are available at www.ahridirectory.org.

For outdoor unit performance data, see the respective outdoor unit performance data manuals on https://lghvac.com/commercial.

Note:

Low ambient performance with LGRED° heat technology is included in Multi V 5 Air Source Units produced after February 2019.

RTU 4 RT

Table 10: RTU 4 RT Cooling Capacity Table.

Capacity (RT)	Outdoor Air Temp. (°F DB)	Indoor Air Temperature (°F DB / WB)													
		68 / 57		73 / 61		79 / 64		80 / 67		85 / 70		88 / 73		91 / 76	
		TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
4	-9.9	31.6	25.7	38.4	29.6	43.2	31.5	48.0	33.6	53.8	36.1	57.2	35.7	62.0	35.7
	-5	31.6	25.7	38.4	29.6	43.2	31.5	48.0	33.6	53.8	36.1	57.2	35.7	62.0	35.7
	0	31.6	25.7	38.4	29.6	43.2	31.5	48.0	33.6	53.8	36.1	57.2	35.7	62.0	35.7
	5	31.6	25.7	38.4	29.6	43.2	31.5	48.0	33.6	53.8	36.1	57.2	35.7	62.0	35.7
	10	31.6	25.7	38.4	29.6	43.2	31.5	48.0	33.6	53.8	36.1	57.2	35.7	62.0	35.7
	14	31.6	25.7	38.4	29.6	43.2	31.5	48.0	33.6	53.8	36.1	57.2	35.7	62.0	35.7
	20	31.6	25.7	38.4	29.6	43.2	31.5	48.0	33.6	53.8	36.1	57.2	35.7	62.0	35.7
	23	31.6	25.7	38.4	29.6	43.2	31.5	48.0	33.6	53.8	36.1	57.2	35.7	62.0	35.7
	25	31.6	25.7	38.4	29.6	43.2	31.5	48.0	33.6	53.8	36.1	57.2	35.7	62.0	35.7
	30	31.6	25.7	38.4	29.6	43.2	31.5	48.0	33.6	53.8	36.1	57.2	35.7	62.0	35.7
	35	31.6	25.7	38.4	29.6	43.2	31.5	48.0	33.6	53.8	36.1	57.2	35.7	62.0	35.7
	40	31.6	25.7	38.4	29.6	43.2	31.5	48.0	33.6	53.8	36.1	57.2	35.7	62.0	35.7
	45	31.6	25.7	38.4	29.6	43.2	31.5	48.0	33.6	53.8	36.1	57.2	35.7	62.0	35.7
	50	31.6	25.7	38.4	29.6	43.2	31.5	48.0	33.6	53.8	36.1	57.2	35.7	62.0	35.7
	55	31.6	25.7	38.4	29.6	43.2	31.5	48.0	33.6	53.8	36.1	57.2	35.7	62.0	35.7
	60	31.6	25.7	38.4	29.6	43.2	31.5	48.0	33.6	53.8	36.1	57.2	35.7	61.4	35.5
	65	31.6	25.7	38.4	29.6	43.2	31.5	48.0	33.6	53.8	36.1	57.2	35.7	60.4	34.9
	70	31.6	25.7	38.4	29.6	43.2	31.5	48.0	33.6	53.8	36.1	57.2	35.7	59.6	34.4
	75	31.6	25.7	38.4	29.6	43.2	31.5	48.0	33.6	53.8	36.1	57.2	35.7	58.0	33.6
	80	31.6	25.7	38.4	29.6	43.2	31.5	48.0	33.6	53.8	36.1	55.6	35.5	56.6	33.4
	85	31.6	25.7	38.4	29.6	43.2	31.5	48.0	33.6	53.2	35.7	53.8	34.0	54.8	32.1
	90	31.6	25.7	38.4	29.6	43.2	31.5	48.0	33.6	52.4	35.1	52.8	33.4	53.8	31.7
	95	31.6	25.7	38.4	29.6	43.2	31.5	**48.0**	**33.6**	51.4	34.9	52.4	33.2	53.2	31.3
	100	31.6	25.7	38.4	29.6	43.2	31.5	48.0	33.6	50.4	34.4	51.4	32.8	52.4	31.1
	105	31.6	25.7	36.4	28.1	41.2	30.2	46.0	32.1	47.9	32.1	49.4	31.7	50.8	30.4
	110	30.8	24.9	34.6	26.6	38.4	28.1	43.2	30.2	45.2	30.2	47.0	30.2	49.0	29.4
	115	30.0	24.2	32.9	25.3	36.1	26.4	40.6	28.7	42.5	28.7	44.6	28.7	47.0	28.3
	118	29.3	23.5	31.2	24.0	34.3	24.9	39.0	27.2	40.6	27.2	42.6	27.2	45.2	27.1
	122	28.5	22.7	29.7	22.8	32.4	23.4	36.9	25.9	38.4	25.9	40.3	25.9	43.3	25.9

TC: Total Capacity (MBh); SHC: Sensible Heat Capacity (MBh).

Cooling range with the Low Ambient Baffle Kit (sold separately) installed on the outdoor unit(s) is -9.9°F to +122°F, and is achieved only when all indoor units are operating in cooling mode. Does not impact heat recovery system synchronous operating range.

The System Combination Ratio must be between 50–130%.

Rated capacity is certified under AHRI Standard 1230. Ratings are subject to change without notice.

Current certified ratings are available at www.ahridirectory.org.

For outdoor unit performance data, see the respective outdoor unit performance data manuals on https://lghvac.com/commercial.

Note:

Low ambient performance with LGRED° heat technology is included in Multi V 5 Air Source Units produced after February 2019.

Product Data

SPLIT ROOFTOP UNIT

Cooling Capacity Tables

RTU 5 RT

Table 11: RTU 5 RT Cooling Capacity Table.

Capacity (RT)	Outdoor Air Temp. (°F DB)	Indoor Air Temperature (°F DB / WB)													
		68 / 57		73 / 61		79 / 64		80 / 67		85 / 70		88 / 73		91 / 76	
		TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
5	-9.9	39.5	31.6	48.0	36.5	54.0	38.8	60.0	41.4	67.3	44.4	71.5	44.0	77.5	44.0
	-5	39.5	31.6	48.0	36.5	54.0	38.8	60.0	41.4	67.3	44.4	71.5	44.0	77.5	44.0
	0	39.5	31.6	48.0	36.5	54.0	38.8	60.0	41.4	67.3	44.4	71.5	44.0	77.5	44.0
	5	39.5	31.6	48.0	36.5	54.0	38.8	60.0	41.4	67.3	44.4	71.5	44.0	77.5	44.0
	10	39.5	31.6	48.0	36.5	54.0	38.8	60.0	41.4	67.3	44.4	71.5	44.0	77.5	44.0
	14	39.5	31.6	48.0	36.5	54.0	38.8	60.0	41.4	67.3	44.4	71.5	44.0	77.5	44.0
	20	39.5	31.6	48.0	36.5	54.0	38.8	60.0	41.4	67.3	44.4	71.5	44.0	77.5	44.0
	23	39.5	31.6	48.0	36.5	54.0	38.8	60.0	41.4	67.3	44.4	71.5	44.0	77.5	44.0
	25	39.5	31.6	48.0	36.5	54.0	38.8	60.0	41.4	67.3	44.4	71.5	44.0	77.5	44.0
	30	39.5	31.6	48.0	36.5	54.0	38.8	60.0	41.4	67.3	44.4	71.5	44.0	77.5	44.0
	35	39.5	31.6	48.0	36.5	54.0	38.8	60.0	41.4	67.3	44.4	71.5	44.0	77.5	44.0
	40	39.5	31.6	48.0	36.5	54.0	38.8	60.0	41.4	67.3	44.4	71.5	44.0	77.5	44.0
	45	39.5	31.6	48.0	36.5	54.0	38.8	60.0	41.4	67.3	44.4	71.5	44.0	77.5	44.0
	50	39.5	31.6	48.0	36.5	54.0	38.8	60.0	41.4	67.3	44.4	71.5	44.0	77.5	44.0
	55	39.5	31.6	48.0	36.5	54.0	38.8	60.0	41.4	67.3	44.4	71.5	44.0	77.5	44.0
	60	39.5	31.6	48.0	36.5	54.0	38.8	60.0	41.4	67.3	44.4	71.5	44.0	76.8	43.7
	65	39.5	31.6	48.0	36.5	54.0	38.8	60.0	41.4	67.3	44.4	71.5	44.0	75.5	43.0
	70	39.5	31.6	48.0	36.5	54.0	38.8	60.0	41.4	67.3	44.4	71.5	44.0	74.5	42.3
	75	39.5	31.6	48.0	36.5	54.0	38.8	60.0	41.4	67.3	44.4	71.5	44.0	72.5	41.4
	80	39.5	31.6	48.0	36.5	54.0	38.8	60.0	41.4	67.3	44.4	69.5	43.7	70.8	41.2
	85	39.5	31.6	48.0	36.5	54.0	38.8	60.0	41.4	66.5	44.0	67.3	41.9	68.5	39.5
	90	39.5	31.6	48.0	36.5	54.0	38.8	60.0	41.4	65.5	43.3	66.0	41.2	67.3	39.1
	95	39.5	31.6	48.0	36.5	54.0	38.8	**60.0**	**41.4**	64.3	43.0	65.5	40.9	66.5	38.6
	100	39.5	31.6	48.0	36.5	54.0	38.8	60.0	41.4	63.0	42.3	64.3	40.5	65.5	38.4
	105	39.5	31.6	45.5	34.7	51.5	37.2	57.5	39.5	59.8	39.5	61.8	39.1	63.5	37.4
	110	38.5	30.7	43.3	32.8	48.0	34.7	54.0	37.2	56.5	37.2	58.8	37.2	61.3	36.3
	115	37.6	29.8	41.1	31.1	45.1	32.6	50.8	35.4	53.1	35.4	55.8	35.4	58.8	34.8
	118	36.6	28.9	39.0	29.6	42.8	30.6	48.7	33.6	50.7	33.6	53.3	33.6	56.5	33.4
	122	35.6	28.0	37.1	28.1	40.5	28.8	46.1	31.9	48.0	31.9	50.4	31.9	54.2	31.9

TC: Total Capacity (MBh); SHC: Sensible Heat Capacity (MBh).

Cooling range with the Low Ambient Baffle Kit (sold separately) installed on the outdoor unit(s) is -9.9°F to +122°F, and is achieved only when all indoor units are operating in cooling mode. Does not impact heat recovery system synchronous operating range.

The System Combination Ratio must be between 50–130%.

Rated capacity is certified under AHRI Standard 1230. Ratings are subject to change without notice.
Current certified ratings are available at www.ahridirectory.org.

For outdoor unit performance data, see the respective outdoor unit performance data manuals on https://lghvac.com/commercial.

Note:

Low ambient performance with LGRED° heat technology is included in Multi V 5 Air Source Units produced after February 2019.

RTU 6 RT

Table 12: RTU 6 RT Cooling Capacity Table.

Capacity (RT)	Outdoor Air Temp. (°F DB)	Indoor Air Temperature (°F DB / WB)													
		68 / 57		73 / 61		79 / 64		80 / 67		85 / 70		88 / 73		91 / 76	
		TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
6	-9.9	47.4	36.3	57.6	41.9	64.8	44.6	72.0	47.5	80.7	51.0	85.8	50.5	93.0	50.5
	-5	47.4	36.3	57.6	41.9	64.8	44.6	72.0	47.5	80.7	51.0	85.8	50.5	93.0	50.5
	0	47.4	36.3	57.6	41.9	64.8	44.6	72.0	47.5	80.7	51.0	85.8	50.5	93.0	50.5
	5	47.4	36.3	57.6	41.9	64.8	44.6	72.0	47.5	80.7	51.0	85.8	50.5	93.0	50.5
	10	47.4	36.3	57.6	41.9	64.8	44.6	72.0	47.5	80.7	51.0	85.8	50.5	93.0	50.5
	14	47.4	36.3	57.6	41.9	64.8	44.6	72.0	47.5	80.7	51.0	85.8	50.5	93.0	50.5
	20	47.4	36.3	57.6	41.9	64.8	44.6	72.0	47.5	80.7	51.0	85.8	50.5	93.0	50.5
	23	47.4	36.3	57.6	41.9	64.8	44.6	72.0	47.5	80.7	51.0	85.8	50.5	93.0	50.5
	25	47.4	36.3	57.6	41.9	64.8	44.6	72.0	47.5	80.7	51.0	85.8	50.5	93.0	50.5
	30	47.4	36.3	57.6	41.9	64.8	44.6	72.0	47.5	80.7	51.0	85.8	50.5	93.0	50.5
	35	47.4	36.3	57.6	41.9	64.8	44.6	72.0	47.5	80.7	51.0	85.8	50.5	93.0	50.5
	40	47.4	36.3	57.6	41.9	64.8	44.6	72.0	47.5	80.7	51.0	85.8	50.5	93.0	50.5
	45	47.4	36.3	57.6	41.9	64.8	44.6	72.0	47.5	80.7	51.0	85.8	50.5	93.0	50.5
	50	47.4	36.3	57.6	41.9	64.8	44.6	72.0	47.5	80.7	51.0	85.8	50.5	93.0	50.5
	55	47.4	36.3	57.6	41.9	64.8	44.6	72.0	47.5	80.7	51.0	85.8	50.5	93.0	50.5
	60	47.4	36.3	57.6	41.9	64.8	44.6	72.0	47.5	80.7	51.0	85.8	50.5	92.1	50.2
	65	47.4	36.3	57.6	41.9	64.8	44.6	72.0	47.5	80.7	51.0	85.8	50.5	90.6	49.4
	70	47.4	36.3	57.6	41.9	64.8	44.6	72.0	47.5	80.7	51.0	85.8	50.5	89.4	48.6
	75	47.4	36.3	57.6	41.9	64.8	44.6	72.0	47.5	80.7	51.0	85.8	50.5	87.0	47.5
	80	47.4	36.3	57.6	41.9	64.8	44.6	72.0	47.5	80.7	51.0	83.4	50.2	84.9	47.3
	85	47.4	36.3	57.6	41.9	64.8	44.6	72.0	47.5	79.8	50.5	80.7	48.1	82.2	45.4
	90	47.4	36.3	57.6	41.9	64.8	44.6	72.0	47.5	78.6	49.7	79.2	47.3	80.7	44.9
	95	47.4	36.3	57.6	41.9	64.8	44.6	**72.0**	**47.5**	77.1	49.4	78.6	47.0	79.8	44.3
	100	47.4	36.3	57.6	41.9	64.8	44.6	72.0	47.5	75.6	48.6	77.1	46.5	78.6	44.0
	105	47.4	36.3	54.6	39.8	61.8	42.7	69.0	45.4	71.8	45.4	74.1	44.9	76.2	43.0
	110	46.2	35.2	51.9	37.6	57.6	39.8	64.8	42.7	67.8	42.7	70.5	42.7	73.5	41.6
	115	45.1	34.2	49.3	35.7	54.1	37.4	60.9	40.6	63.7	40.6	67.0	40.6	70.6	40.0
	118	43.9	33.2	46.8	33.9	51.4	35.2	58.5	38.5	60.8	38.5	63.9	38.5	67.8	38.3
	122	42.8	32.1	44.5	32.2	48.6	33.1	55.3	36.6	57.6	36.6	60.5	36.6	65.0	36.6

TC: Total Capacity (MBh); SHC: Sensible Heat Capacity (MBh).

Cooling range with the Low Ambient Baffle Kit (sold separately) installed on the outdoor unit(s) is -9.9°F to +122°F, and is achieved only when all indoor units are operating in cooling mode. Does not impact heat recovery system synchronous operating range.

The System Combination Ratio must be between 50–130%.

Rated capacity is certified under AHRI Standard 1230. Ratings are subject to change without notice.
Current certified ratings are available at www.ahridirectory.org.

For outdoor unit performance data, see the respective outdoor unit performance data manuals on https://lghvac.com/commercial.

Note:

Low ambient performance with LGRED° heat technology is included in Multi V 5 Air Source Units produced after February 2019.

SPLIT ROOFTOP UNIT
Heating Capacity Tables

RTU 3 RT

Table 13: RTU 3 RT Heating Capacity Table.

Outdoor air temp.		Indoor Air Temperature (°F DB)							
		59	61	64	67	70	73	76	80
°F DB	°F WB	TC	TC	TC	TC	TC	TC	TC	TC
-21.6	-22.0	19.3	19.3	19.3	19.3	19.0	19.0	19.0	19.0
-17.1	-17.5	21.6	21.6	21.6	21.6	21.3	21.3	21.3	21.3
-12.6	-13	23.9	23.9	23.9	23.9	23.6	23.6	23.6	23.6
-7	-7.6	24.7	24.7	24.7	24.7	24.3	24.3	24.3	24.3
-4	-4.4	25.5	25.5	25.5	25.5	25.1	25.1	25.1	25.1
0	-0.4	26.2	26.2	26.2	26.2	26.2	25.8	25.8	25.8
5	4.5	29.6	29.3	28.9	28.9	28.9	28.9	28.9	28.9
10	9	30.8	30.8	30.8	30.4	30.4	30.4	30.4	30.4
15	14	32.7	32.7	32.7	32.7	32.7	32.7	32.3	31.9
20	19	34.6	34.6	34.6	34.6	33.8	33.8	33.3	32.9
25	23	36.1	36.1	36.1	36.1	36.1	35.3	35.0	33.3
30	28	36.9	36.9	36.9	36.9	36.9	36.1	35.0	33.3
35	32	38.0	38.0	38.0	38.0	37.6	36.9	35.0	33.3
40	36	39.5	39.5	39.5	39.5	38.0	36.9	35.0	33.3
45	41	41.0	41.0	41.0	39.9	38.0	36.9	35.0	33.3
47	43	42.6	42.2	41.8	39.9	**38.0**	36.9	35.0	33.3
50	46	45.6	43.7	41.8	39.9	38.0	36.9	35.0	33.3
55	51	46.6	44.1	41.8	39.9	38.0	36.9	35.0	33.3
60	56	46.6	44.1	41.8	39.9	38.0	36.9	35.0	33.3

TC: Total Capacity (MBh).

The System Combination Ratio must be between 50–130%.

Rated capacity is certified under AHRI Standard 1230. Ratings are subject to change without notice.

Current certified ratings are available at www.ahridirectory.org.

For outdoor unit performance data, see the respective outdoor unit performance data manuals on https://lghvac.com/commercial.

Note:

Low ambient performance with LGRED° heat technology is included in Multi V 5 Air Source Units produced after February 2019.

RTU 4 RT

Table 14: RTU 4 RT Heating Capacity Table.

Outdoor air temp.		Indoor Air Temperature (°F DB)							
		59	61	64	67	70	73	76	80
°F DB	°F WB	TC	TC	TC	TC	TC	TC	TC	TC
-21.6	-22.0	26.4	26.4	26.4	26.4	26.0	26.0	26.0	26.0
-17.1	-17.5	29.6	29.6	29.6	29.6	29.1	29.1	29.1	29.1
-12.6	-13	32.8	32.8	32.8	32.8	32.3	32.3	32.3	32.3
-7	-7.6	33.8	33.8	33.8	33.8	33.3	33.3	33.3	33.3
-4	-4.4	34.8	34.8	34.8	34.8	34.3	34.3	34.3	34.3
0	-0.4	35.9	35.9	35.9	35.9	35.9	35.4	35.4	35.4
5	4.5	40.6	40.0	39.5	39.5	39.5	39.5	39.5	39.5
10	9	42.1	42.1	42.1	41.6	41.6	41.6	41.6	41.6
15	14	44.7	44.7	44.7	44.7	44.7	44.7	44.2	43.7
20	19	47.3	47.3	47.3	47.3	46.3	46.3	45.5	45.0
25	23	49.4	49.4	49.4	49.4	49.4	48.4	47.8	45.5
30	28	50.4	50.4	50.4	50.4	50.4	49.4	47.8	45.5
35	32	52.0	52.0	52.0	52.0	51.5	50.4	47.8	45.5
40	36	54.1	54.1	54.1	54.1	52.0	50.4	47.8	45.5
45	41	56.2	56.2	56.2	54.6	52.0	50.4	47.8	45.5
47	43	58.2	57.7	57.2	54.6	**52.0**	50.4	47.8	45.5
50	46	62.4	59.8	57.2	54.6	52.0	50.4	47.8	45.5
55	51	63.7	60.3	57.2	54.6	52.0	50.4	47.8	45.5
60	56	63.7	60.3	57.2	54.6	52.0	50.4	47.8	45.5

TC: Total Capacity (MBh).

The System Combination Ratio must be between 50–130%.

Rated capacity is certified under AHRI Standard 1230. Ratings are subject to change without notice.

Current certified ratings are available at www.ahridirectory.org.

For outdoor unit performance data, see the respective outdoor unit performance data manuals on https://lghvac.com/commercial.

Note:

Low ambient performance with LGRED° heat technology is included in Multi V 5 Air Source Units produced after February 2019.

Product Data

SPLIT ROOFTOP UNIT
Heating Capacity Tables

RTU 5 RT

Table 15: RTU 5 RT Heating Capacity Table.

Outdoor air temp.		Indoor Air Temperature (°F DB)							
		59	61	64	67	70	73	76	80
°F DB	°F WB	TC	TC	TC	TC	TC	TC	TC	TC
-21.6	-22.0	36.0	36.0	36.0	36.0	35.5	35.5	35.5	35.5
-17.1	-17.5	40.4	40.4	40.4	40.4	39.8	39.8	39.8	39.8
-12.6	-13	44.7	44.7	44.7	44.7	44.1	44.1	44.1	44.1
-7	-7.6	46.2	46.2	46.2	46.2	45.4	45.4	45.4	45.4
-4	-4.4	47.6	47.6	47.6	47.6	46.9	46.9	46.9	46.9
0	-0.4	49.0	49.0	49.0	49.0	49.0	48.3	48.3	48.3
5	4.5	55.4	54.7	54.0	54.0	54.0	54.0	54.0	54.0
10	9	57.5	57.5	57.5	56.8	56.8	56.8	56.8	56.8
15	14	61.1	61.1	61.1	61.1	61.1	61.1	60.4	59.6
20	19	64.6	64.6	64.6	64.6	63.2	63.2	62.1	61.4
25	23	67.5	67.5	67.5	67.5	67.5	66.0	65.3	62.1
30	28	68.9	68.9	68.9	68.9	68.9	67.5	65.3	62.1
35	32	71.0	71.0	71.0	71.0	70.3	68.9	65.3	62.1
40	36	73.8	73.8	73.8	73.8	71.0	68.9	65.3	62.1
45	41	76.7	76.7	76.7	74.6	71.0	68.9	65.3	62.1
47	43	79.5	78.8	78.1	74.6	**71.0**	68.9	65.3	62.1
50	46	85.2	81.7	78.1	74.6	71.0	68.9	65.3	62.1
55	51	87.0	82.4	78.1	74.6	71.0	68.9	65.3	62.1
60	56	87.0	82.4	78.1	74.6	71.0	68.9	65.3	62.1

TC: Total Capacity (MBh).

The System Combination Ratio must be between 50–130%.

Rated capacity is certified under AHRI Standard 1230. Ratings are subject to change without notice.

Current certified ratings are available at www.ahridirectory.org.

For outdoor unit performance data, see the respective outdoor unit performance data manuals on https://lghvac.com/commercial.

Note:

Low ambient performance with LGRED° heat technology is included in Multi V 5 Air Source Units produced after February 2019.

RTU 6 RT

Table 16: RTU 6 RT Heating Capacity Table.

Outdoor air temp.		Indoor Air Temperature (°F DB)							
		59	61	64	67	70	73	76	80
°F DB	°F WB	TC	TC	TC	TC	TC	TC	TC	TC
-21.6	-22.0	40.6	40.6	40.6	40.6	40.0	40.0	40.0	40.0
-17.1	-17.5	45.5	45.5	45.5	45.5	44.8	44.8	44.8	44.8
-12.6	-13	50.4	50.4	50.4	50.4	49.7	49.7	49.7	49.7
-7	-7.6	52.0	52.0	52.0	52.0	51.2	51.2	51.2	51.2
-4	-4.4	53.6	53.6	53.6	53.6	52.8	52.8	52.8	52.8
0	-0.4	55.2	55.2	55.2	55.2	55.2	54.4	54.4	54.4
5	4.5	62.4	61.6	60.8	60.8	60.8	60.8	60.8	60.8
10	9	64.8	64.8	64.8	64.0	64.0	64.0	64.0	64.0
15	14	68.8	68.8	68.8	68.8	68.8	68.8	68.0	67.2
20	19	72.8	72.8	72.8	72.8	71.2	71.2	70.0	69.2
25	23	76.0	76.0	76.0	76.0	76.0	74.4	73.6	70.0
30	28	77.6	77.6	77.6	77.6	77.6	76.0	73.6	70.0
35	32	80.0	80.0	80.0	80.0	79.2	77.6	73.6	70.0
40	36	83.2	83.2	83.2	83.2	80.0	77.6	73.6	70.0
45	41	86.4	86.4	86.4	84.0	80.0	77.6	73.6	70.0
47	43	89.6	88.8	88.0	84.0	**80.0**	77.6	73.6	70.0
50	46	96.0	92.0	88.0	84.0	80.0	77.6	73.6	70.0
55	51	98.0	92.8	88.0	84.0	80.0	77.6	73.6	70.0
60	56	98.0	92.8	88.0	84.0	80.0	77.6	73.6	70.0

TC: Total Capacity (MBh).

The System Combination Ratio must be between 50–130%.

Rated capacity is certified under AHRI Standard 1230. Ratings are subject to change without notice.

Current certified ratings are available at www.ahridirectory.org.

For outdoor unit performance data, see the respective outdoor unit performance data manuals on https://lghvac.com/commercial.

Note:

Low ambient performance with LGRED° heat technology is included in Multi V 5 Air Source Units produced after February 2019.

SPLIT ROOFTOP UNIT APPLICATION GUIDELINES

Selecting the Best Location

Do's

- Place the unit where air circulation will not be blocked.
- Place the unit where drainage can be obtained easily and to minimize the length of the condensate drain piping.
- Place the unit where noise prevention is taken into consideration.
- Place the unit in a location that can support a load four times the indoor unit weight, and where the indoor unit can be level.
- Ensure there is sufficient maintenance space.
- Locate the indoor unit in a location where it can be easily connected to the outdoor unit / heat recovery unit.

Don'ts

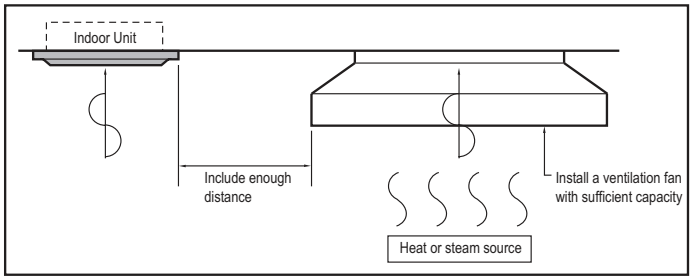
- *Avoid installing the unit near high-frequency generators.*
- *Do not install the unit near a doorway.*
- *Do not install the unit near a heat or steam source, or where considerable amounts of oil, iron powder, or flour are used. (These materials may generate condensate, cause a reduction in heat exchanger efficiency, or the drain pump to malfunction. If this is a potential problem, install a ventilation fan large enough to vent out these materials.)*

The unit may be damaged, may malfunction, and / or will not operate as designed if installed in any of the conditions listed.

⚠ WARNING

The unit must not be installed where sulfuric acid and flammable or corrosive gases are generated, vented into, or stored. There is risk of fire, explosion, and physical injury or death.

Figure 21: Installing Near a Heat or Steam Source.



Note:

- *Indoor units (IDUs) must not be placed in an environment where the IDUs may be exposed to harmful volatile organic compounds (VOCs) or in environments where there is improper air make up or supply or inadequate ventilation. If there are concerns about VOCs in the environment where the IDUs are installed, proper air make up or supply and/ or adequate ventilation must be provided. Additionally, in buildings where IDUs will be exposed to VOCs consider a factory-applied epoxy coating to the fan coils for each IDU.*
- *If the unit is installed near a body of water, the installation parts are at risk of corroding. Appropriate anti-corrosion methods must be taken for the unit and all installation parts.*

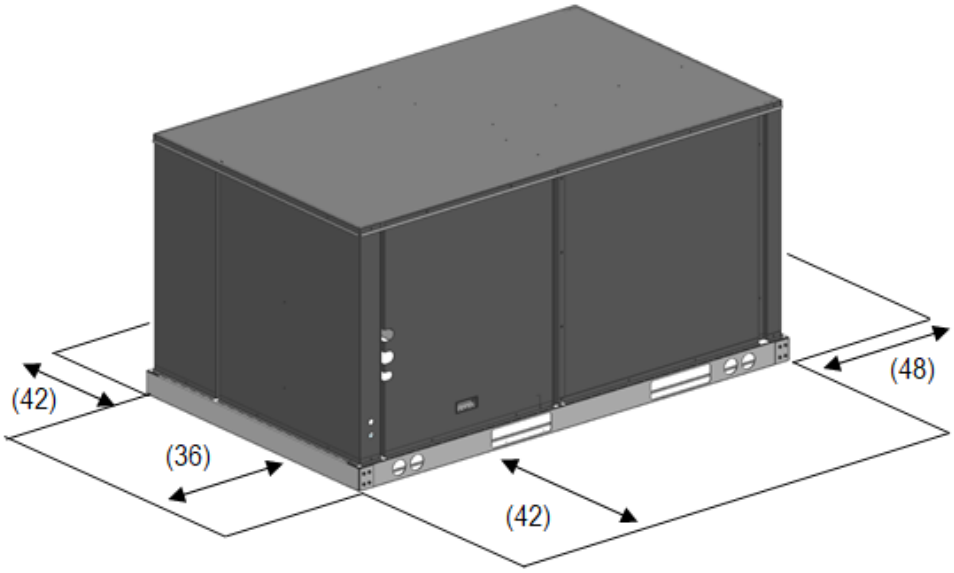
Installing in an Area Exposed to Unconditioned Air

In some installation applications, areas (floors, walls) in some rooms may be exposed to unconditioned air (room may be above or next to an unheated garage or storeroom). To countermeasure:

- Verify that carpet is or will be installed (carpet may increase the temperature by three [3] degrees).
- Add insulation between the floor joists.
- Install radiant heat or another type of heating system to the floor.

Clearance Requirements for Split Rooftop Units

Figure 22: Clearance Requirements for Split Rooftop Unit.



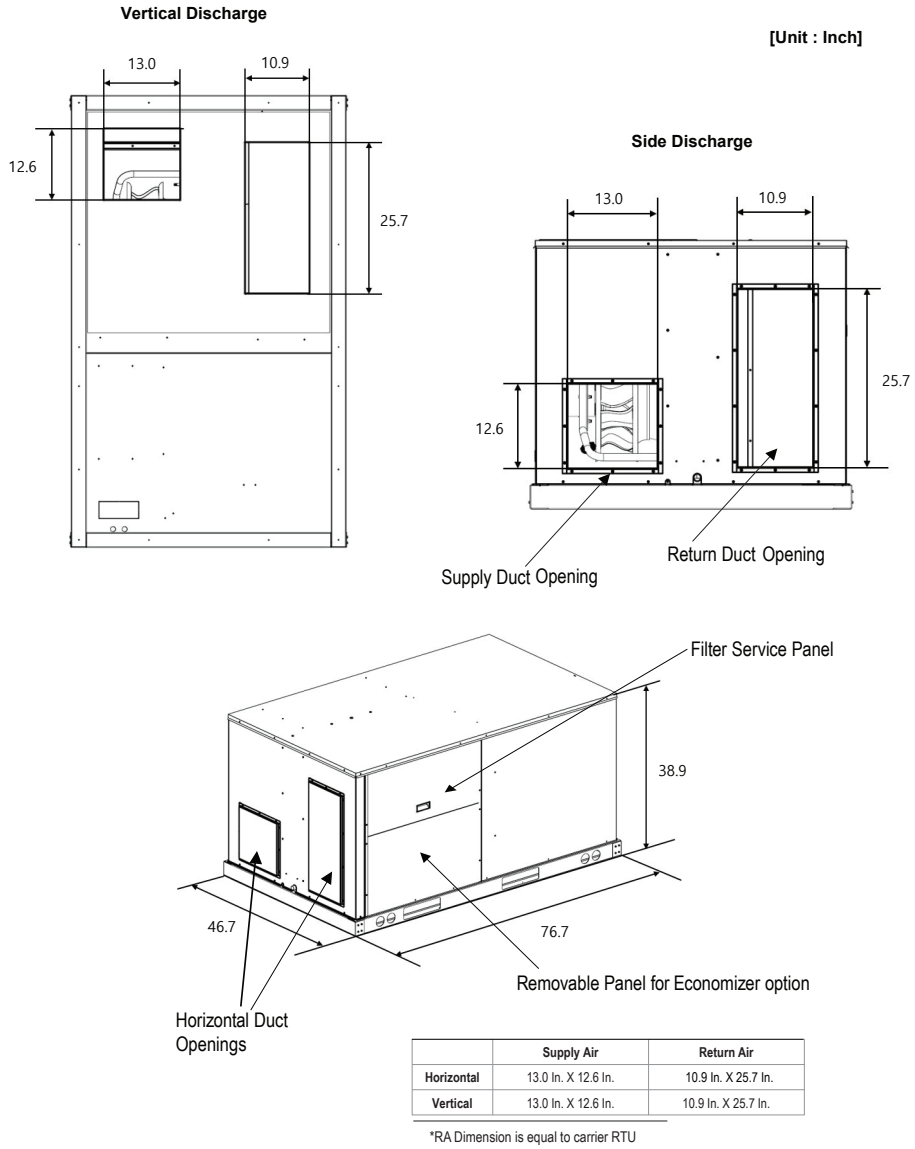
Duct Connections in Split Rooftop Units

The unit is shipped in vertical (bottom) duct configuration. To convert to horizontal ducted configuration, remove screws from the side duct opening covers and remove the covers. Using the same screws, install the covers on the vertical duct openings. Seals around duct openings must be tight.

General Guidelines

- To prevent air leaks, seal all ducts following local codes.
- Installation of all ducts must be done in accordance with SMACNA and AMCA guidelines.
- Duct adapters are provided along with the RTU to support ducts.

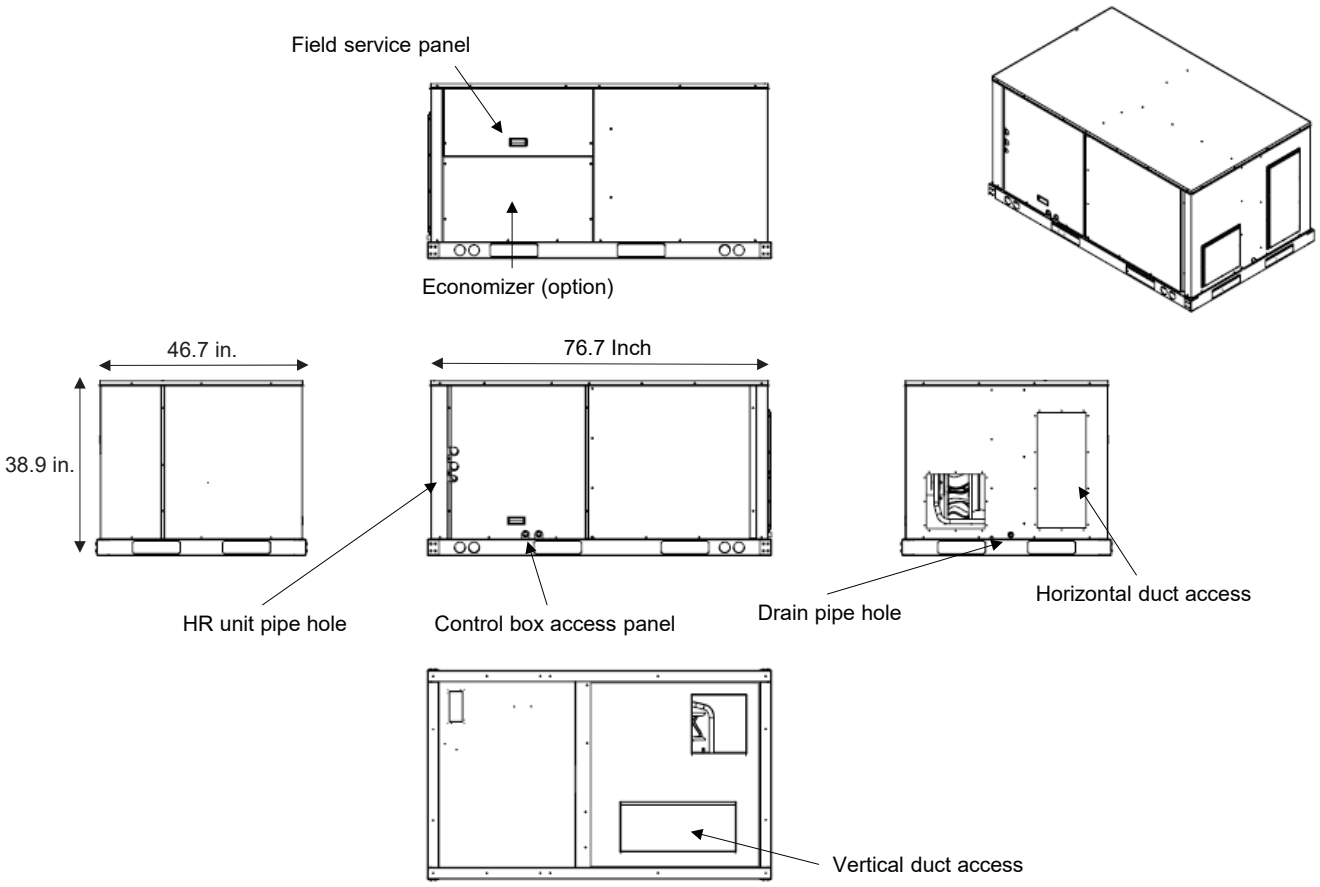
Figure 23: Split Rooftop Units - Horizontal and Vertical positions.



	Supply Air	Return Air
Horizontal	13.0 In. X 12.6 In.	10.9 In. X 25.7 In.
Vertical	13.0 In. X 12.6 In.	10.9 In. X 25.7 In.

*RA Dimension is equal to carrier RTU

Figure 24: Split Rooftop Unit Duct Connections.



CONDENSATE PIPING INFORMATION

Condensate Drain Connection in Split Rooftop Units

Condensate drain trapping and piping must conform to all applicable codes. A U-trap and drain line must be installed. The U-trap cannot exceed 6 inches from the drain connection. The lines need to be the same pipe size or larger than the drain connection. Include a U-trap, and pitch downward toward the drain. An air break should be used with long condensate line runs.

Note:

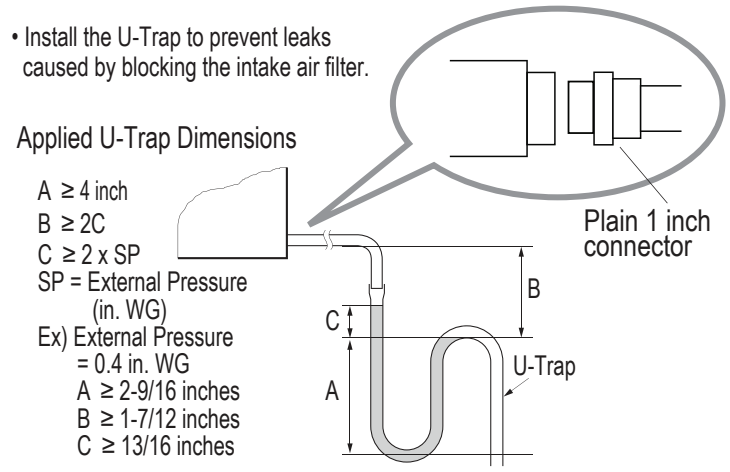
- *Failure to install U-traps can result in an overflow of condensate water. This can lead to product damage or property damage. Draw-through cooling coils will have a negative static pressure in the drain pan area. This can cause an un-trapped drain to back up due to the air being pulled up through the condensate drain piping.*
- *The value of pressure in the drain pipe should be at least equal to the absolute value of the negative static pressure in the drain pan plus one inch.*

The Split Rooftop Unit has one inch condensate drain connection on end of condensate pan. The piping for the condensate drain and external trap can be completed after the unit is in place. See Figure below.

All Split Rooftop Units must have an external trap for condensate drainage. Install a trap at least 4 inches (102mm) deep and protect against freeze-up. If drain line is installed downstream from external trap, pitch line away from the unit at 1 inch per 10 feet (25mm per 3m) of run.

⃠ Do not use a pipe size smaller than the unit connection (1 inch).

Figure 25: U-Trap Specifications.



Condensate Drain Connection Location and Sizes

Figure 26: Split Rooftop Unit Condensate drain location.

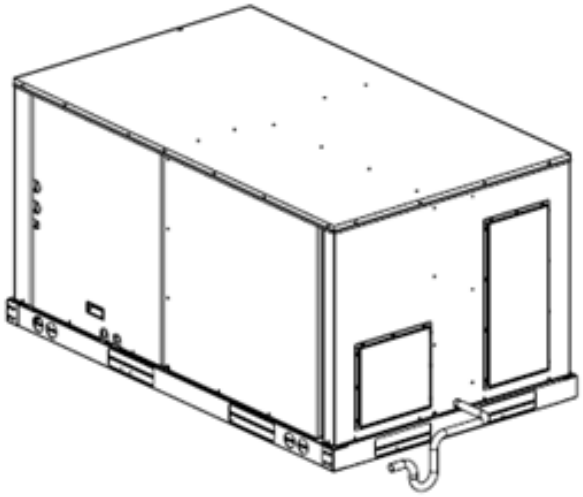


Figure 27: Split Rooftop Unit Condensate drain sizes.

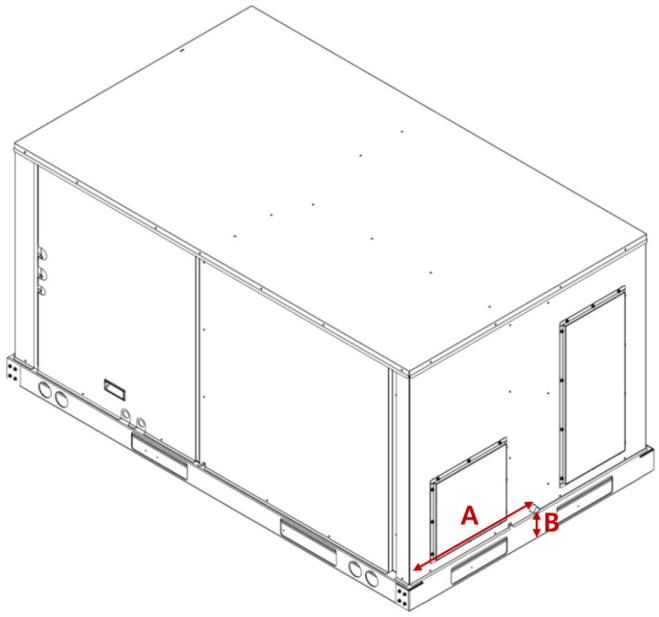


Table 17: RTU Condensate drain location and sizes.

Capacity	Gravity Drain			
	Drain Pipe Dia. (OD, in.)	Connection	A	B
3 RT	1	Plain	24-1/4	4-19/32
4 RT	1	Plain	24-1/4	4-19/32
5 RT	1	Plain	24-1/4	4-19/32
6 RT	1	Plain	24-1/4	4-19/32

General Power Wiring / Communications Cable Guidelines

- Follow manufacturer's circuit diagrams displayed on the inside of the control box cover.
- Have a separate power supply for the indoor units.
- Provide a circuit breaker switch between the power source and the indoor unit.
- Confirm power source specifications.
- Confirm that the electrical capacity is sufficient.
- Starting current must be maintained ±10 percent of the rated current marked on the name plate.
- Confirm wiring / cable thickness specifications:
  - Power wiring is field supplied. Wire size is selected based on the larger MCA value, and must comply with the applicable local and national codes.
  - Communication cable must be a minimum of 18 AWG, two-conductor, twisted, stranded, shielded, and must comply with the applicable local and national codes. Ensure the communication cable is properly grounded at the main outdoor unit only. ⃠ Do not ground the ODU-IDU communications cable at any other point.
- It is recommended that a circuit breaker is installed, especially if conditions could become wet or moist.
- Include a disconnect in the power wiring system. Add an air gap contact separation of at least 1/8 inch in each active (phase) conductor.
- Any openings where the field wiring enters the cabinet must be completely sealed.

⚠ WARNING

- *Terminal screws may loosen during transport. Properly tighten the terminal connections during installation or risk electric shock, physical injury or death.*
- *Loose wiring may cause the wires to burnout or the terminal to overheat and catch fire. There is a risk of electric shock, physical injury or death.*

Note:

- *Terminal screws may loosen during transport. Properly tighten the terminal connections during installation or risk equipment malfunction or property damage.*
- *Loose wiring may cause unit malfunction, the wires to burnout or the terminal to overheat and catch fire. There is a risk of equipment malfunction or property damage.*

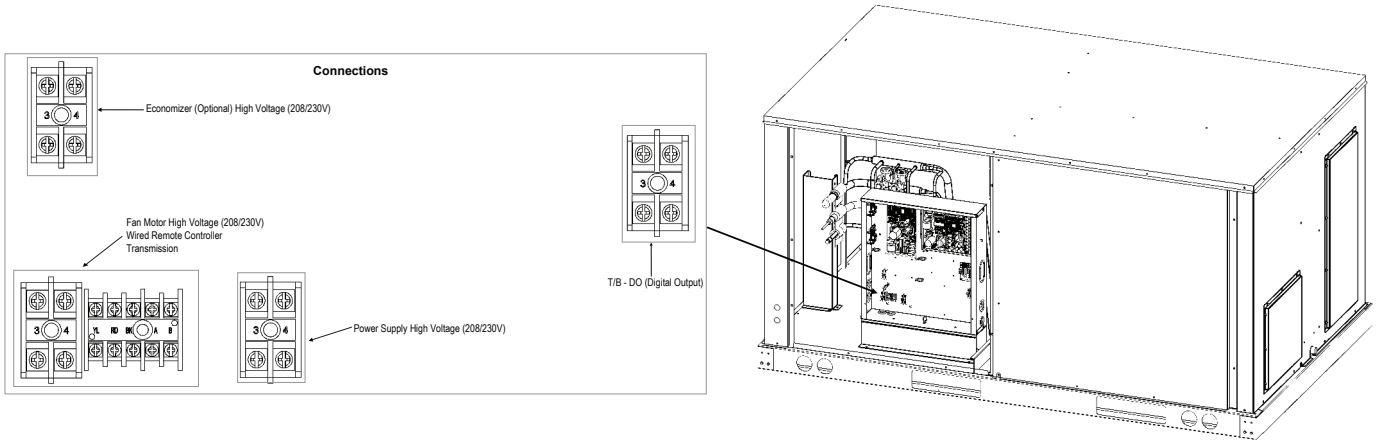
A voltage drop may cause the following problems:

- *Magnetic switch vibration, fuse breaks, or disturbance to the normal function of an overload protection device.*
- *Compressor will not receive the proper starting current.*

POWER WIRING AND COMMUNICATIONS CABLE TERMINALS

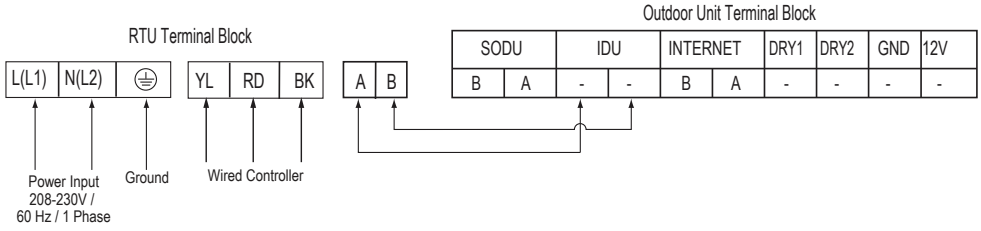
Power Wiring and Communications Cable Location in Split Rooftop Units

Figure 28: Location of Power Wiring / Communications Cable Terminals in the Split Rooftop Units.



Terminal Block in the Split Rooftop Units

Figure 29: Terminal Block in the Split Rooftop Units.



WIRED CONTROLLER PLACEMENT

Wired Controller Placement

Wired controllers include a sensor to detect room temperature. To maintain comfort levels in the conditioned space, the wired controller must be installed in a location away from direct sunlight, high humidity, and where it could be directly exposed to cold air. Controller must be installed four (4) to five (5) feet above the floor where its LED display can be read easily, in an area with good air circulation, and where it can detect an average room temperature.

Do not install the wired controller near or in:

- *Drafts or dead spots behind doors and in corners*
- *Hot or cold air from ducts*
- *Radiant heat from the sun or appliances*
- *Concealed pipes and chimneys*
- *An area where temperatures are uncontrolled, such as an outside wall*

Figure 30: Proper Location for the Wired Controller.

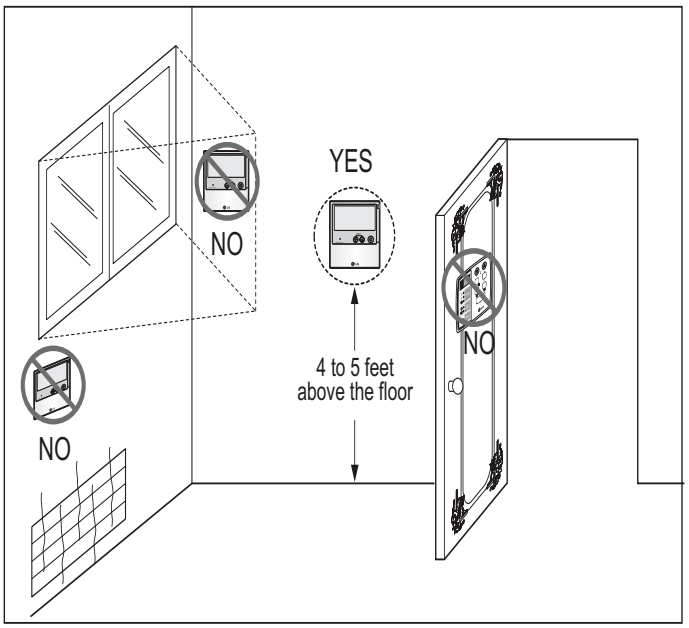


Table 18: Acronym Table.

ABS	Acrylonitrile Butadiene Styrene	IDU	Indoor Unit
AC	Air Conditioner/Alternate Current	kW	Kilowatts
ACP	Advanced Control Platform	in Aq	inches water
AHU	Air Handler Unit	ISO	International Standards Organization
ASHRAE	American Society of Heating, Refrigeration, and Air Conditioning	LATS	LG Air Conditioning Technical Solution software
ASTM	American Society for Testing and Materials	LED	Light Emitting Diode
AWG	American Wire Gauge	LEED	Leadership in Energy and Environmental Design
AWHP	Air-to-Air Water Heat Pump	MBh	Thousands BTUs per hour
BLDC	Brushless Digitally-Controlled	MCA	Minimum Circuit Ampacity
BTL	BACnet® Testing Laboratories	mm	Millimeter
Btu/h	British Thermal Unit per Hour	MOP	Maximum Overcurrent Protection
CAA	Clean Air Act	OD	Outside Diameter
CFM	Cubic Feet per Minute	ODU	Outdoor Unit
CFR	Code of Federal Regulations	PI	Power Input
DB	Dry Bulb	PTAC	Packaged Terminal Air Conditioner
dB(A)	Decibels with “A” frequency weighting	SHC	Sensible Heat Capacity
DPST	Double-Pole Single Throw	SMACNA	Sheet Metal & Air Conditioning Contractors’ National Association
DX	Direct expansion	RPM	Revolutions per Minute
EEV	Electric Expansion valve	TC	Total Capacity
EPDM	Ethylene Propylene Diene M-Class Rubber	USD	United States Dollar
EMF	Electromagnetic Field	UL	Underwriters Laboratories
ESP	External Static Pressure	V	Voltage
ETL	Electric Testing Laboratories	VAV	Variable Air Volume
GND	Ground	VRF	Variable Refrigerant Flow
H/M/L	High/Medium/Low	W	Watts
HVAC	Heating, Ventilating and Air Conditioning	WB	Wet Bulb
Hz	Hertz	wg	Water Gauge
ID	Inside Diameter		

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EM_MultiV_Split_Rooftop_Unit_06_21
EM_MultiV_Split_Rooftop_Unit_04_21