LG
Life's Good

MULTI V™

DUCTED INDOOR UNIT ENGINEERING MANUAL

High Static Ducted
7,500 to 95,900 Btu/h

Mid Static Ducted
7,500 to 48,000 Btu/h

Low Static Ducted
7,500 to 24,000 Btu/h

Vertical Air Handling Unit
12,000 to 54,000 Btu/h

PROPRIETARY DATA NOTICE

This document, as well as all reports, illustrations, data, information, and other materials are the property of LG Electronics U.S.A., Inc., and are disclosed by LG Electronics U.S.A., Inc. only in confidence.
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.

TABLE OF CONTENTS

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.*
Note:	*This symbol indicates information related to the current procedure.*
⃠	*This symbol indicates an action that should not be performed.*

UNIT NOMENCLATURE

Family
ARN = Multi V Indoor Unit
(Refrigerant R410A)

Type
U = DC Inverter Heat Pump

Indoor Unit Capacity

05 = 5,000 Btu/h	18 = 18,000 Btu/h	42 = 42,000 Btu/h
07 = 7,000 Btu/h	24 = 24,000 Btu/h	48 = 48,000 Btu/h
09 = 9,000 Btu/h	28 = 28,000 Btu/h	54 = 54,000 Btu/h
12 = 12,000 Btu/h	30 = 30,000 Btu/h	76 = 76,000 Btu/h
15 = 15,000 Btu/h	36 = 36,000 Btu/h	96 = 96,000 Btu/h

Electrical Ratings
3 = 208–230V/60Hz/1Ph

Model

B8 = Ducted (high static)	M3 = Ducted (mid / high static)	TU = 1-Way Ceiling Cassette
CE = Floor Standing (small frame)	NJ = Vertical Air Handling Unit	TS = 2-Way Ceiling Cassette
CF = Floor Standing (large frame)	NK = Vertical Air Handling Unit	TM = 4-Way Ceiling Cassette
L1 = Ducted (low static)	SF = Wall Mounted / Art Cool™ Gallery	TN = 4-Way Ceiling Cassette
L2 = Ducted (low static)	SJ = Wall Mounted / Art Cool Mirror	TQ = 4-Way Ceiling Cassette
L3 = Ducted (low static)	SK = Wall Mounted / Art Cool Mirror	TR = 4-Way Ceiling Cassette
MA = Convertible Ducted (mid static)	SV = Wall Mounted / Standard	
M2 = Ducted (mid / high static)	TT = 1-Way Ceiling Cassette	

Feature
A, C, L, R = Standard
G = Low Static
U = Uncased

Generation
2 = Second
4 = Fourth
A = Second, Revision A

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 two user interfaces: LATS HVAC and LATS REVIT. 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 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)

LATS Generates a Complete Project Report

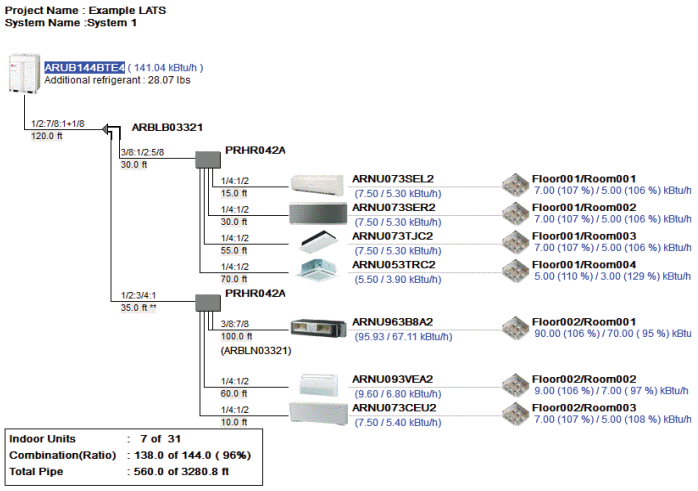
LATS software also generates a report containing project design parameters, cooling and heating design data, system component performance, and capacity data. The report includes system combination ratio and refrigerant charge calculations; and provides detailed bill of material, including outdoor units, 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 1: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.

MULTI V™

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			MA	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 Air Handling Unit			NJ	12k to 30k		1.04	
30	Vertical Air Handling Unit			NJ	36k		1.57	
31	Vertical 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	HRU: PRHR022A/023A, 032A/033A, 042A/043A			—	—		1.1	
35	HRU: PRHR063A, 083A			—	—		2.2	
36	**ADDITIONAL Refrigerant Charge Required** (Sum of lines 1 – 35)							
37	Multi V 5 Outdoor Unit Factory Refrigerant Charge	37A	ARUM072*TE5		72k		14.3	
		37B	ARUM096*TE5		96k		23.2	
		37C	ARUM121*TE5		121k		23.2	
		37D	ARUM144*TE5		144k		26.5	
		37E	ARUM168*TE5		168k		26.5	
		37F	ARUM192*TE5		192k		30.9	
		37G	ARUM216*TE5		216k		37.5	
		37H	ARUM241*TE5		241k		37.5	
38	**Total ODU FACTORY Refrigerant Charge** (Sum of factory refrigerant charges for all ODUs in the system, lines 37A -37H)							
39	**TOTAL SYSTEM CHARGE** Sum of Additional Refrigerant Charge Required (line 36) and Total ODU Factory Refrigerant Charge (line 38)							

[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™

Multi V Water 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	MA	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 Air Handling Unit	NJ	12k to 30k		1.04	
30	Vertical Air Handling Unit	NJ	36k		1.57	
31	Vertical 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	HRU: PRHR022A/023A, 032A/033A, 042A/043A	—	—		1.1	
35	HRU: PRHR063A, 083A	—	—		2.2	
36	**ADDITIONAL Refrigerant Charge Required** (Sum of lines 1 – 35)					
37	Water-Source Unit Factory Refrigerant Charge	ARW*072BAS5, ARW*096BAS5, ARW*121BAS5, ARW*144BAS5			7.7	
		ARW*072DAS5, ARW*096DAS5, ARW*121DAS5			7.7	
		ARW*144DAS5, ARW*192DAS5			9.9	
38	**Total WSU FACTORY Refrigerant Charge** (Sum of factory refrigerant charges for all WSUs in the system)					
39	**TOTAL SYSTEM CHARGE** Sum of Additional Refrigerant Charge Required (line 36) and Total WSU Factory Refrigerant Charge (line 38)					

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

LG

MULTI V™

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			MA	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 Air Handling Unit			NJ	12k to 30k		1.04	
30	Vertical Air Handling Unit			NJ	36k		1.57	
31	Vertical 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	HRU: PRHR022A/023A, 032A/ 033A, 042A/ 043A			—	—		1.1	
35	HRU: PRHR063A, 083A			—	—		2.2	
36	**ADDITIONAL Refrigerant Charge Required** (Sum of lines 1 – 35)							
37	Multi V S Unit Factory Refrigerant Charge	37A	ARUN024GSS4				4.0	
		37B	ARUN038GSS4				6.6	
		37C	ARUN048GSS4				6.6	
		37D	ARUN053GSS4				6.6	
		37E	ARUN060GSS4				7.7	
		37F	ARUB060GSS4				7.7	
	Multi V S with LGRED Unit Factory Refrigerant Charge	37G	ARUM036GSS5				7.7	
		37H	ARUM048GSS5				7.7	
38	**TOTAL SYSTEM CHARGE** Sum of Additional Refrigerant Charge Required (line 36) and Total ODU Factory Refrigerant Charge (from lines 37A through 37H)							

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

CEILING-CONCEALED HIGH STATIC DUCTED

Casing

The case is designed to mount concealed above a finished ceiling. Fan supply air is front horizontal with a dedicated rear horizontal return. The unit is manufactured with coated metal. Cold surfaces are covered with a coated polystyrene insulating material. The cold surface areas of the case are covered externally with sheet insulation made of Ethylene Propylene Diene Monomer (M-Class) (EPDM) conforming to ASTM Standard D-1418. The case is provided with hanger brackets designed to support the unit weight on four corners. Hanger brackets have pre-punched holes designed to accept field supplied, all-thread rod hangers.

Fan Assembly and Control

The unit has Sirocco fans made of high strength ABS GP-2200 polymeric resin. Fans are directly driven and mounted on a common shaft. The fan motor is a Brushless Digitally Controlled (BLDC) design with permanently lubricated and sealed ball bearings. The fan motor includes thermal, overcurrent and low RPM protection. The fan / motor assembly is mounted on vibration attenuating rubber grommets. The fan impeller is statically and dynamically balanced. The 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. Each setting can be field adjusted from the factory setting (RPM / ESP) to compensate for additional resistance to airflow caused by field connected ductwork or other airflow restricting devices.

Air Filter

Return air is filtered with a removable, washable filter with anti fungal treatment. MERV 13 filter modules with plenums available.

Microprocessor Controls

The unit is provided with an integrated microprocessor-based controller. The controller is capable of performing functions necessary to operate the system without the use of a wall-mounted controller. A temperature thermistor is factory-mounted in the return air stream. All unit operation parameters, excluding the unit operating 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 must be a minimum of 18 AWG, 2-conductor, stranded, and shielded cable (RS-485), terminated via screw terminals on the control boards. The microprocessor control provides the following functions: auto addressing, self-diagnostics, auto restart following power restoration, test run, and will operate the indoor unit using one of five operating 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 will activate the indoor unit when indoor room temperature falls below setpoint temperature and signals the outdoor unit to begin heating cycle. The indoor unit fan operation is delayed until coil pipe temperature reaches 76ºF. Significant airflow is generated when pipe temperature reaches 80°F. In lieu of factory return air thermistor, screw terminals on the microprocessor circuit board accommodate various models of wall-mounted local controllers and/or a wall-mounted remote temperature sensor. The unit microprocessor is capable of accepting space temperature readings concurrently or individually from either:

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

A single indoor unit has the capability of being controlled by up to two local wired controllers. 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. 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 wall-mounted local or central controller, displayed diagnostic codes are specific, alpha numeric, and provide the service technician with a reason for the code displayed.

Condensate Lift / Pump

The indoor unit is provided with a factory installed and wired condensate lift / pump capable of providing a maximum 27.5 inch lift from the bottom exterior surface of the unit casing. The unit drain pan is provided with a secondary drain port/plug allowing the pan to be drained for service. The lift pump comes with a safety switch that will shut off indoor unit if condensate rises too high in the drain pan.

Condensate Drain Pan

The condensate drain pan is constructed of high impact polystyrene resin (HIPS).

Coil

The indoor unit coil is constructed with grooved design copper tubes with slit coil fins, 2 to 3 rows, 18 - 19 fins per inch.

Controls Features

- Auto changeover (Heat Recovery only)
- Auto operation
- Auto restart
- External on/off control
- Dual thermistor control
- Dual set-point control
- Filter life display
- Multiple auxiliary heater applications
- Group control
- External static pressure control
- Hot start
- Self diagnostics
- Timer (on / off)
- Weekly schedule
- Fan speed control
- Ventilation (outside air)
- 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 Water IV, Multi V S Engineering Manual for additional information.*

HIGH STATIC DUCTED

General Data

Table 1: Ducted High Static Indoor Unit General Data.

Model No.	ARNU073M2A4	ARNU093M2A4	ARNU123M2A4	ARNU153M2A4	ARNU183M2A4
Cooling Mode Performance					
Capacity (Btu/h)	7,500	9,600	12,300	15,400	19,100
Max Power Input[1] (W)	430	430	430	430	430
L/M/H Power Input at Factory Default (W)	21 / 29 / 38	21 / 29 / 38	25 / 34 / 43	25 / 34 / 43	34 / 43 / 67
Heating Mode Performance					
Capacity (Btu/h)	8,500	10,900	13,600	17,100	21,500
Max Power Input[1] (W)	430	430	430	430	430
L/M/H Power Input at Factory Default (W)	21 / 29 / 38	21 / 29 / 38	25 / 34 / 43	25 / 34 / 43	34 / 43 / 67
Entering Mixed Air					
Cooling Max. (°F WB)	76	76	76	76	76
Heating Min. (°F DB)[2]	59	59	59	59	59
Unit Data					
Refrigerant Type[3]	R410A	R410A	R410A	R410A	R410A
Refrigerant Control	EEV	EEV	EEV	EEV	EEV
Sound Power[4] dB(A) (H-M-L, @0.24" ESP)	42-41-41	42-41-41	42-41-41	42-42-41	44-42-42
Sound Pressure[5] dB(A) (H/M/L, @0.24" ESP)	38 / 37 / 36	38 / 38 / 36	38 / 38 / 36	38 / 38 / 36	39 / 38 / 37
Net Unit Weight (lbs.)	82.9	82.9	82.9	82.9	82.9
Shipping Weight (lbs.)	95.5	95.5	95.5	95.5	95.5
Communication Cable[6] (No. x AWG)	2 x 18	2 x 18	2 x 18	2 x 18	2 x 18
Fan					
Type	Sirocco	Sirocco	Sirocco	Sirocco	Sirocco
Motor	1	1	1	1	1
Housing	2	2	2	2	2
Motor/Drive	Brushless Digitally Controlled / Direct				
Airflow Rate H / M / L (CFM) High Mode (Factory Set)	468 / 381 / 294	468 / 381 / 294	512 / 425 / 337	512 / 425 / 337	673 / 512 / 425
External Static Pressure (in. wg) High Mode (Factory Set)	0.24	0.24	0.24	0.24	0.24
Piping					
Liquid Line (in., O.D.)	1/4 Flare	1/4 Flare	1/4 Flare	1/4 Flare	1/4 Flare
Vapor Line (in., O.D.)	1/2 Flare	1/2 Flare	1/2 Flare	1/2 Flare	1/2 Flare
Condensate Line (in., I.D.)	1	1	1	1	1

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.

All capacities are net with a combination ratio between 95-105%.

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 Power level is measured using rated conditions, and tested in a reverberation room per AHRI 260.

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

[6]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: Ducted High Static Indoor Unit General Data.

Model No.	ARNU243M2A4	ARNU283M3A4
Cooling Mode Performance		
Capacity (Btu/h)	24,200	28,000
Max Power Input[1] (W)	430	650
L/M/H Power Input at Factory Default (W)	34 / 43 / 67	60 / 83 / 109
Heating Mode Performance		
Capacity (Btu/h)	27,300	31,500
Max Power Input[1] (W)	450	650
L/M/H Power Input at Factory Default (W)	34 / 43 / 67	60 / 83 / 109
Entering Mixed Air		
Cooling Max. (°F WB)	76	76
Heating Min. (°F DB)[2]	59	59
Unit Data		
Refrigerant Type[3]	R410A	R410A
Refrigerant Control	EEV	EEV
Sound Power[4] dB(A) (H-M-L, @0.24" ESP)	44-42-42	51-50-50
Sound Pressure[5] dB(A) (H/M/L, @0.24" ESP)	39 / 38 / 37	40 / 39 / 37
Net Unit Weight (lbs.)	82.9	96.1
Shipping Weight (lbs.)	95.5	105.4
Communication Cable[6] (No. x AWG)	2 x 18	2 x 18
Fan		
Type	Sirocco	Sirocco
Motor	1	1
Housing	2	2
Motor/Drive	Brushless Digitally Controlled / Direct	
Airflow Rate H/M/L (CFM) High Mode (Factory Set)	673 / 512 / 425	1,250 / 1,017 / 837
External Static Pressure (in. wg) High Mode (Factory Set)	0.24	0.23
Piping		
Liquid Line (in., O.D.)	3/8 Flare	3/8 Flare
Vapor Line (in., O.D.)	5/8 Flare	5/8 Flare
Condensate Line (in., I.D.)	1	1

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.

All capacities are net with a combination ratio between 95-105%.

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 Power level is measured using rated conditions, and tested in a reverberation room per AHRI 260.

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

[6]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.

HIGH STATIC DUCTED

General Data

Table 3: Ducted High Static Indoor Unit General Data.

Model No.	ARNU363B8A4	ARNU423B8A4	ARNU483B8A4
Cooling Mode Performance			
Capacity (Btu/h)	36,200	42,000	48,100
Max. Power Input[1] (W)	800	800	800
L/M/H Power Input at Factory Default (W)	403 / 420 / 478	465 / 497 / 528	482 / 500 / 538
Heating Mode Performance			
Capacity (Btu/h)	40,600	43,800	51,200
Max. Power Input[1] (W)	800	800	800
L/M/H Power Input at Factory Default (W)	403 / 420 / 478	465 / 497 / 528	482 / 500 / 538
Entering Mixed Air			
Cooling Max. (°F WB)	76	76	76
Heating Min. (°F DB)[2]	59	59	59
Unit Data			
Refrigerant Type[3]	R410A	R410A	R410A
Refrigerant Control	EEV	EEV	EEV
Sound Power[4] dB(A) (H / M / L) (ESP)	54 / 53 / 52	55 / 54 / 53	55 / 54 / 53
Sound Pressure[5] dB(A) (H /M / L)	46 / 45 / 42	47 / 46 / 43	47 / 46 / 44
Net Unit Weight (lbs.)	192	192	192
Shipping Weight (lbs.)	222	222	222
Communication Cable[6] (No. x AWG)	2 x 18	2 x 18	2 x 18
Fan			
Type	Sirocco	Sirocco	Sirocco
Motor	2	2	2
Housing	2	2	2
Motor/Drive	Brushless Digitally Controlled / Direct		
Airflow Rate H / M / L (CFM) High Mode (Factory Set)	1,730 / 1,317 / 1,066	1,914 / 1,458 / 1,123	2,019 / 1,518 / 1,200
External Static Pressure (in. wg) High Mode (Factory Set)	0.70	0.70	0.70
Piping			
Liquid Line (in., O.D.)	3/8 Brazed	3/8 Brazed	3/8 Brazed
Vapor Line (in., O.D.)	3/4 Brazed	3/4 Brazed	3/4 Brazed
Condensate Line (in., I.D.)	1	1	1

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.

All capacities are net with a combination ratio between 95-105%.

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 Power level is measured using rated conditions, and tested in a reverberation room per AHRI 260.

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

[6]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.

HIGH STATIC DUCTED

General Data

Table 4: Ducted High Static Indoor Unit General Data.

Model No.	ARNU543B8A4	ARNU763B8A4	ARNU963B8A4
Cooling Mode Performance			
Capacity (Btu/h)	54,000	76,400	95,900
Max. Power Input[1] (W)	800	800	800
L/M/H Power Input at Factory Default (W)	505 / 505 / 765	505 / 505 / 765	750 / 750 / 800
Heating Mode Performance			
Capacity (Btu/h)	61,400	86,000	107,500
Max. Power Input[1] (W)	800	800	800
L/M/H Power Input at Factory Default (W)	505 / 505 / 765	505 / 505 / 765	750 / 750 / 800
Entering Mixed Air			
Cooling Max. (°F WB)	76	76	76
Heating Min. (°F DB)[2]	59	59	59
Unit Data			
Refrigerant Type[3]	R410A	R410A	R410A
Refrigerant Control	EEV	EEV	EEV
Sound Power[4] dB(A) (H / M / L) (ESP)	57 / 57 / 57	57 / 57 / 57	58 / 57 / 57
Sound Pressure[5] dB(A) (H / M / L)	50 / 48 / 48	50 / 48 / 48	52 / 50 / 50
Net Unit Weight (lbs.)	192	192	192
Shipping Weight (lbs.)	222	222	222
Communication Cable[6] (No. x AWG)	2 x 18	2 x 18	2 x 18
Fan			
Type	Sirocco	Sirocco	Sirocco
Motor	2	2	2
Housing	2	2	2
Motor/Drive	Brushless Digitally Controlled / Direct		
Airflow Rate H / M / L (CFM) High Mode (Factory Set)	2,260 / 1,766 / 1,766	2,260 / 1,766 / 1,766	2,542 / 2,260 / 2,260
External Static Pressure (in. wg) High Mode (Factory Set)	0.87	0.87	0.87
Piping			
Liquid Line (in., O.D.)	3/8 Brazed	3/8 Brazed	3/8 Brazed
Vapor Line (in., O.D.)	3/4 Brazed	3/4 Brazed	7/8 Brazed
Condensate Line (in., I.D.)	1	1	1

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.

All capacities are net with a combination ratio between 95-105%.

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 Power level is measured using rated conditions, and tested in a reverberation room per AHRI 260.

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

[6]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.

HIGH STATIC DUCTED

Electrical Data

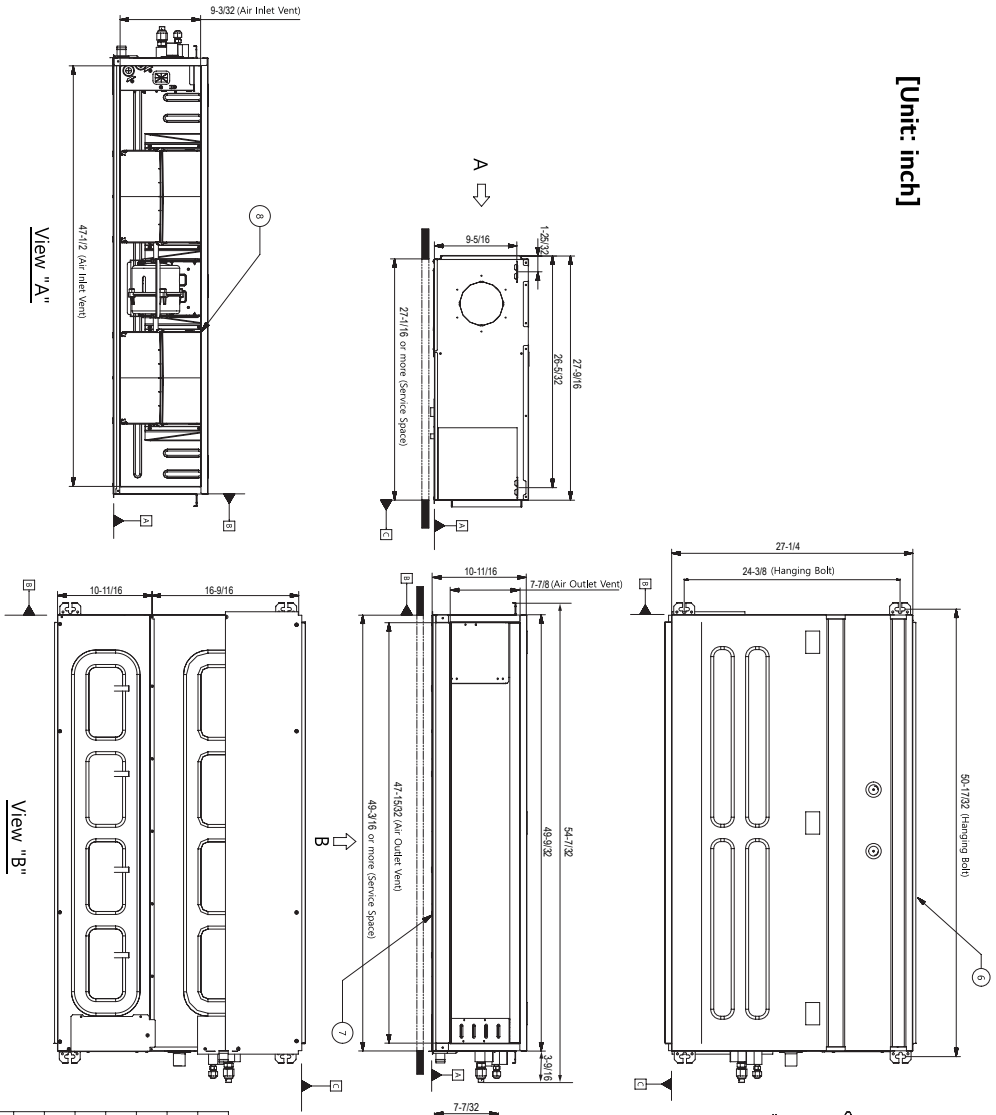
Table 5: Ducted High Static Indoor Unit Electrical Data.

Model	Voltage Range	MCA	MOP	Rated Amps (A)	Power Supply			Power Input (W)		
					Hz	Volts	Phase	Max. Cooling	Max. Heating	L / M / H at Factory Default
M2 Units										
ARNU073M2A4	208-230	2.9	15	2.3	60	208-230	1	430	430	21 / 29 / 38
ARNU093M2A4		2.9		2.3				430	430	21 / 29 / 38
ARNU123M2A4		2.9		2.3				430	430	25 / 34 / 43
ARNU153M2A4		2.9		2.3				430	430	25 / 34 / 43
ARNU183M2A4		2.9		2.3				430	430	34 / 43 / 67
ARNU243M2A4		2.9		2.3				430	430	34 / 43 / 67
M3 Units										
ARNU283M3A4	208-230	3.1	15	2.5	60	208-230	1	650	650	60 / 83 / 109
B8 Units										
ARNU363B8A4	208-230	6.5	15	5.2	60	208-230	1	800	800	403 / 420 / 478
ARNU423B8A4		6.5		5.2				800	800	465 / 497 / 528
ARNU483B8A4		6.5		5.2				800	800	482 / 500 / 538
ARNU543B8A4		6.5		5.2				800	800	505 / 505 / 765
ARNU763B8A4		6.5		5.2				800	800	505 / 505 / 765
ARNU963B8A4		6.5		5.2				800	800	750 / 750 / 800

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.
Max. power input is rated at maximum setting value.

Figure 2: ARNU073~243M2A4 Dimensions.



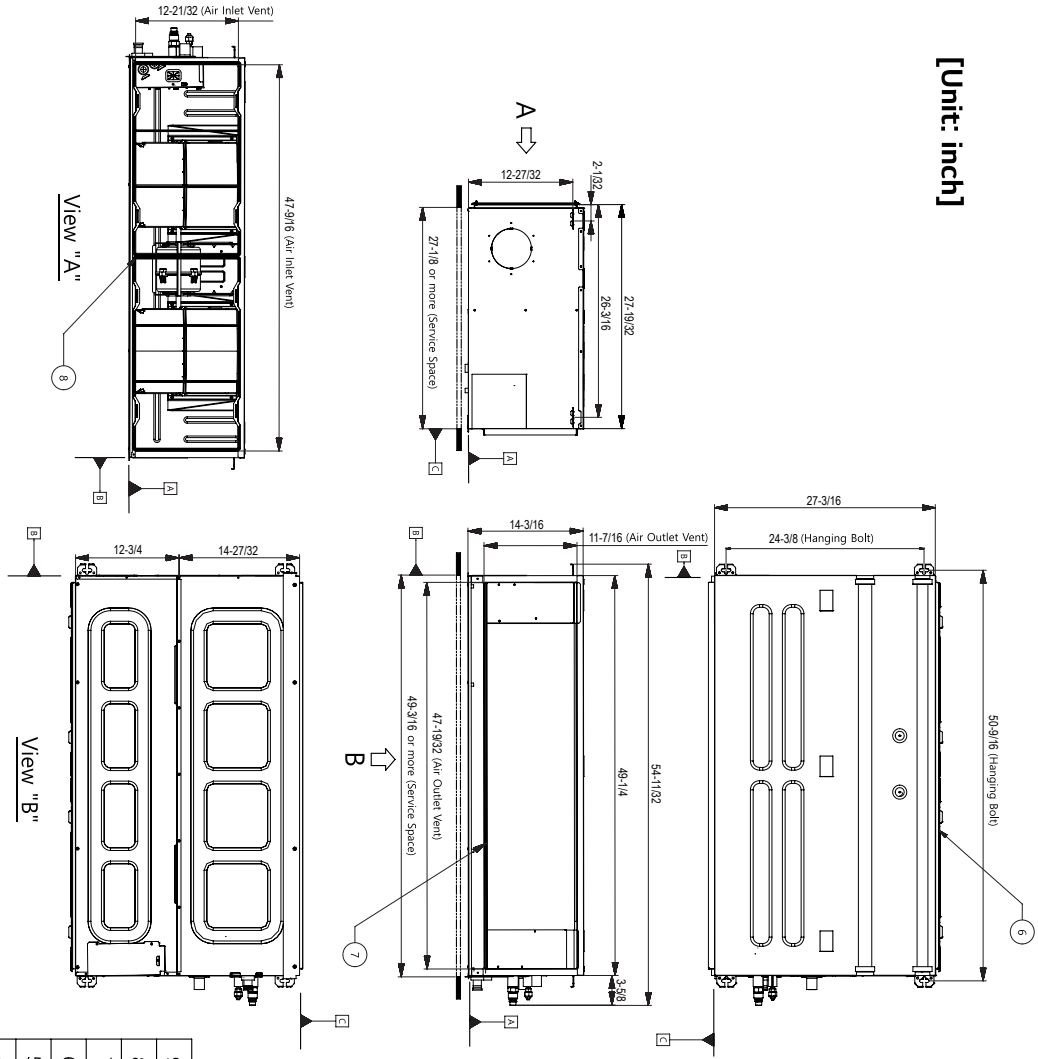
No.	Part Name	Description
1	Gas pipe connection	-
2	Liquid pipe connection	-
3	Drain pipe connection	-
4	Remote and Communication Cable Hole	-
5	Power Cable Hole	-
6	Air Inlet	-
7	Air Outlet	-
8	Air Filters	Supplied with product
9	Control Cover	-

HIGH STATIC DUCTED

External Dimensions

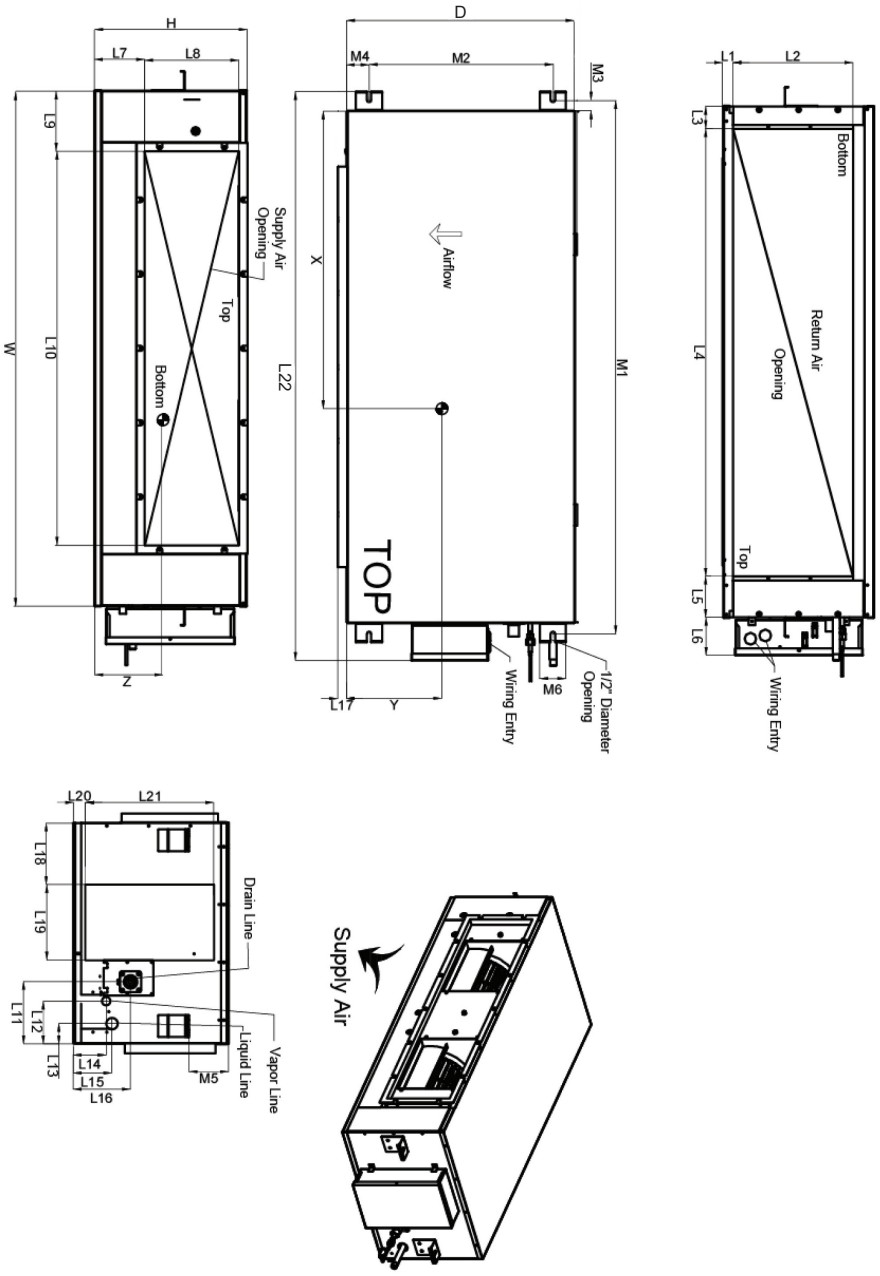
ARNU283M3A4 Unit

Figure 3: ARNU283M3A4 Dimensions.



No.	Part Name	Description
1	Gas pipe connection	-
2	Liquid pipe connection	-
3	Drain pipe connection	-
4	Remote and Communication Cable Hole	-
5	Power Cable Hole	-
6	Air Inlet	-
7	Air Outlet	-
8	Air Filters	Supplied with product
9	Control Cover	-

Figure 4: ARNU363~963B8A4 Dimensions.



W	61 1/2"
D	27 3/32"
H	18 1/8"
L1	2 3/8"
L2	15 7/16"
L3	2"
L4	55"
L5	4 9/16"
L6	4 1/2"
L7	6"
L8	12 1/2"
L9	6 3/4"
L10	44 1/4"
L11	7 5/8"
L12	5 1/4"
L13	2 1/2"
L14	4 3/4"
L15	5 1/2"
L16	6 7/8"
L17	1 3/16"
L18	7 13/16"
L19	9 3/16"
L20	1 5/16"
L21	15 3/8"
L22	68 1/4"
M1	63 13/16"
M2	22"
M3	1 3/16"
M4	2 1/2"
M5	4 1/8"
M6	3 3/16"

Center of Gravity

X	31 1/16"
Y	18 1/8"
Z	8 3/4"

Note - All dimensions have a tolerance of ± 0.25 in.

⊕ = Center of gravity

HIGH STATIC DUCTED

Electrical Wiring Diagram

ARNU073~243M2A4 Units

Figure 5: ARNU073~243M2A4 Wiring Diagram.

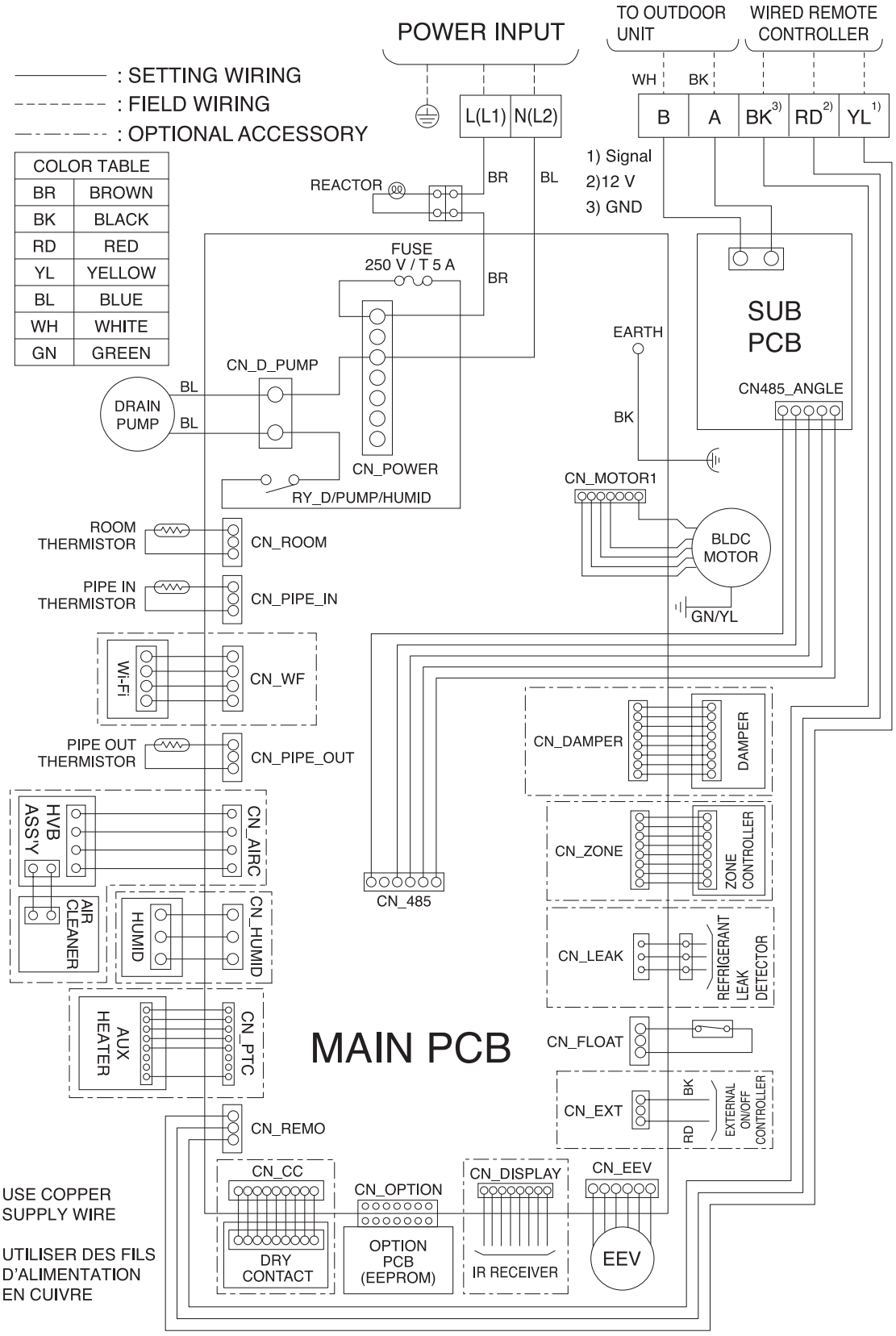


Table 6: ARNU073~243M2A4 Unit Wiring Diagram Legend.

Terminal	Purpose	Function
CN-POWER	AC Power supply	AC Power line
CN-MOTOR1	Fan motor output	Motor output of BLDC
CN-VM	Sub PCB to Main PCB power supply	Power supply connection
CN-DAMPER	N / A	N / A
CN-ZONE	Zone controller	Zone controller connection
CN-EXT	External on / off controller	External on / off Controller connection
CN-EEV	EEV Output	EEV control output
CN-OPTION	Optional PCB EPROM	Option PCB connection
CN-DISPLAY	Display	Display of indoor status
CN-PTC	Auxiliary heater	Connection for Auxiliary Heater
CN-CC	Dry contact	Dry Contact connection
CN-HUMID	N / A	N / A
CN-LEAK	Leak detector	Leak detector connection
CN-FLOAT	Float switch input	Float switch sensing
CN-PIPE/OUT	Discharge pipe sensor	Pipe out thermistor
CN-WF	Wi-Fi	Wi-Fi module connection
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	AC output for drain pump
CN-485	Communication	Connection between indoor and outdoor units

Table 7: ARNU073~243M2A4 Unit 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 ducted indoor 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 ducted indoor units, DIP Switches 1, 2, 6 through 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, Multi V S Engineering Manual for additional information.**

HIGH STATIC DUCTED

Electrical Wiring Diagram
ARNU283M3A4 Unit

Figure 6: ARNU283M3A4 Wiring Diagram.

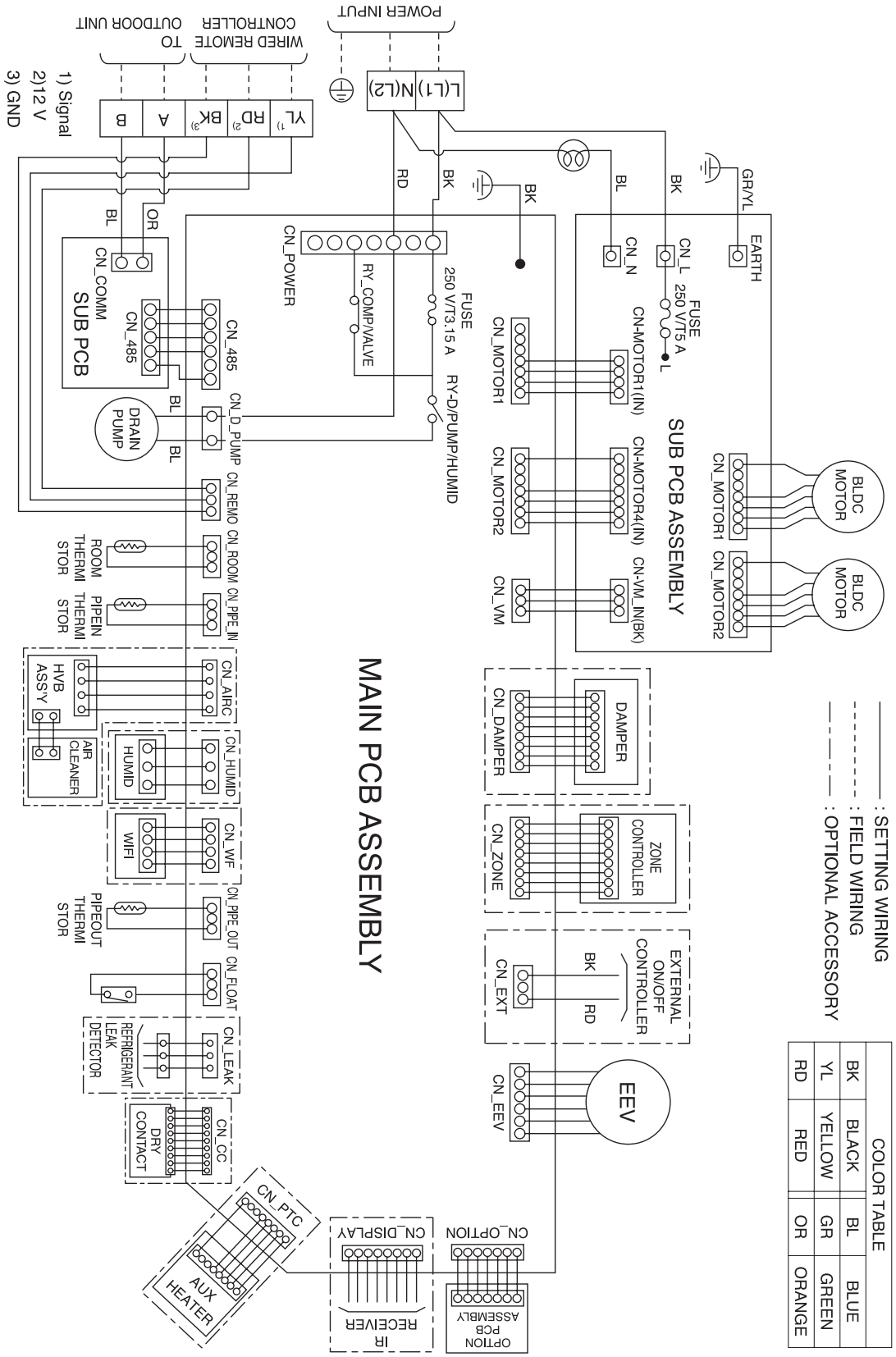


Table 8: ARNU283M3A4 Unit Wiring Diagram Legend.

Terminal	Purpose	Function
CN-POWER	AC Power supply	AC Power line
CN-MOTOR1	Fan motor output	Motor output of BLDC
CN-MOTOR2	Fan motor output	Motor output of BLDC
CN-VM	Sub PCB to Main PCB power supply	Power supply connection
CN-DAMPER	N / A	N / A
CN-ZONE	Zone controller	Zone controller connection
CN-EXT	External on / off controller	External on / off Controller connection
CN-EEV	EEV Output	EEV control output
CN-OPTION	Optional PCB EPROM	Option PCB connection
CN-DISPLAY	Display	Display of indoor status
CN-PTC	Auxiliary heater	Connection for Auxiliary Heater
CN-CC	Dry contact	Dry Contact connection
CN-LEAK	Leak detector	Leak detector connection
CN-FLOAT	Float switch input	Float switch sensing
CN-PIPE/OUT	Discharge pipe sensor	Pipe out thermistor
CN-WF	Wi-Fi	Wi-Fi module connection
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	AC output for drain pump
CN-485	Communication	Connection between indoor and outdoor units

Table 9: ARNU283M3A4 Unit 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 ducted indoor 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 ducted indoor units, DIP Switches 1, 2, 6 through 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, Multi V S Engineering Manual for additional information.**

HIGH STATIC DUCTED

Electrical Wiring Diagram

B8 Units

Figure 7: ARNU363~963B8A4 Wiring Diagram.

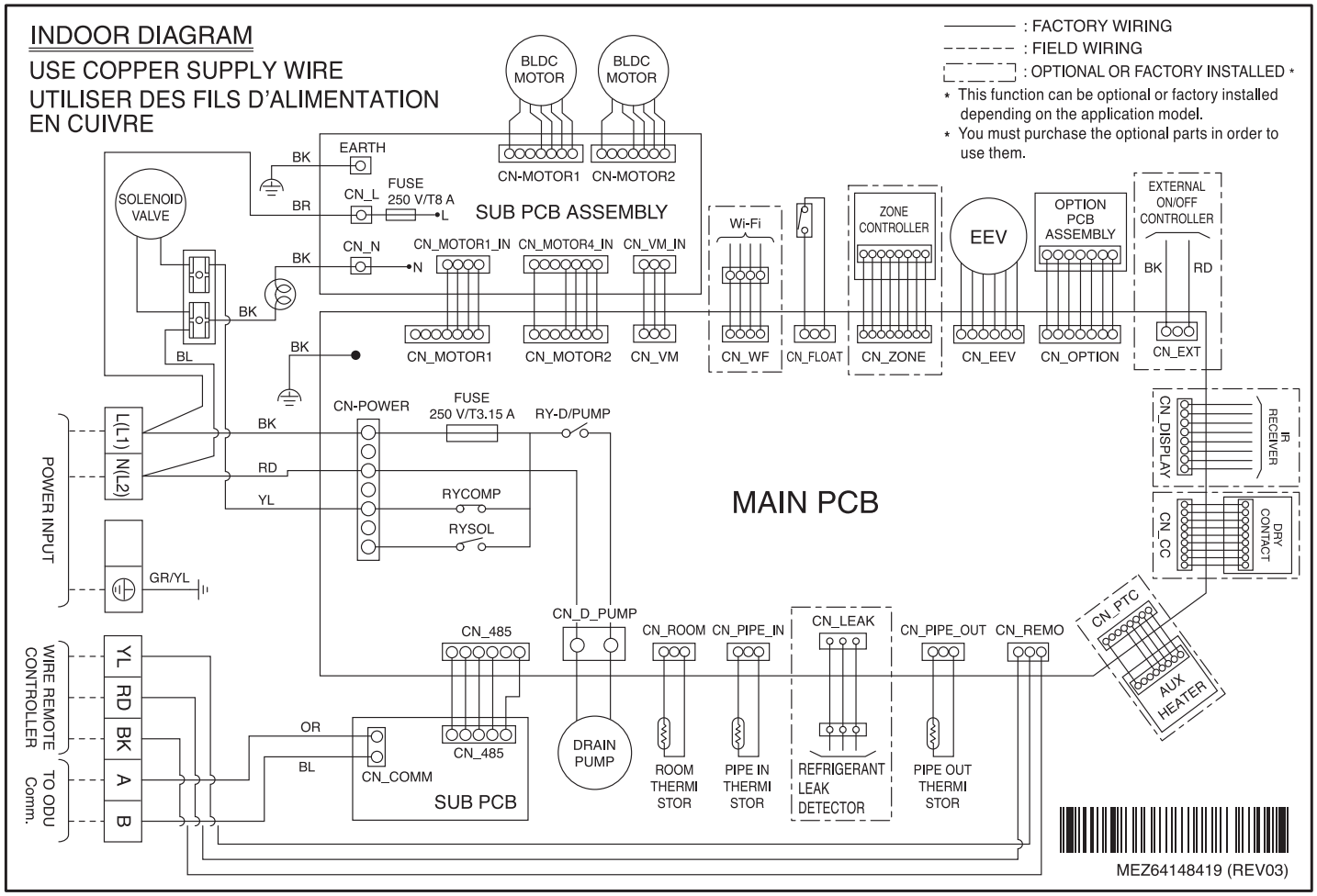


Table 10: B8 Unit Wiring Diagram Legend.

Terminal	Purpose	Function
CN-POWER	AC Power supply	AC Power line
CN-MOTOR1	Fan motor output	Motor output of BLDC
CN-MOTOR2	Fan motor output	Motor output of BLDC
CN-VM	Sub PCB to Main PCB power supply	Power supply connection
CN-DAMPER	N / A	N / A
CN-ZONE	Zone controller	Zone controller connection
CN-EXT	External on / off controller	External on / off Controller connection
CN-EEV	EEV Output	EEV control output
CN-OPTION	Optional PCB EPROM	Option PCB connection
CN-DISPLAY	Display	Display of indoor status
CN-PTC	Auxiliary heater	Connection for Auxiliary Heater
CN-CC	Dry contact	Dry Contact connection
CN-LEAK	Leak detector	Leak detector connection
CN-FLOAT	Float switch input	Float switch sensing
CN-PIPE/OUT	Discharge pipe sensor	Pipe out thermistor
CN-WF	Wi-Fi	Wi-Fi module connection
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	AC output for drain pump
CN-485	Communication	Connection between indoor and outdoor units

Table 11: B8 Unit 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 ducted indoor 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 ducted indoor units, DIP Switches 1, 2, 6 through 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, Multi V S Engineering Manual for additional information.**

Figure 8: M2, M3 Unit Refrigerant Flow Diagram.

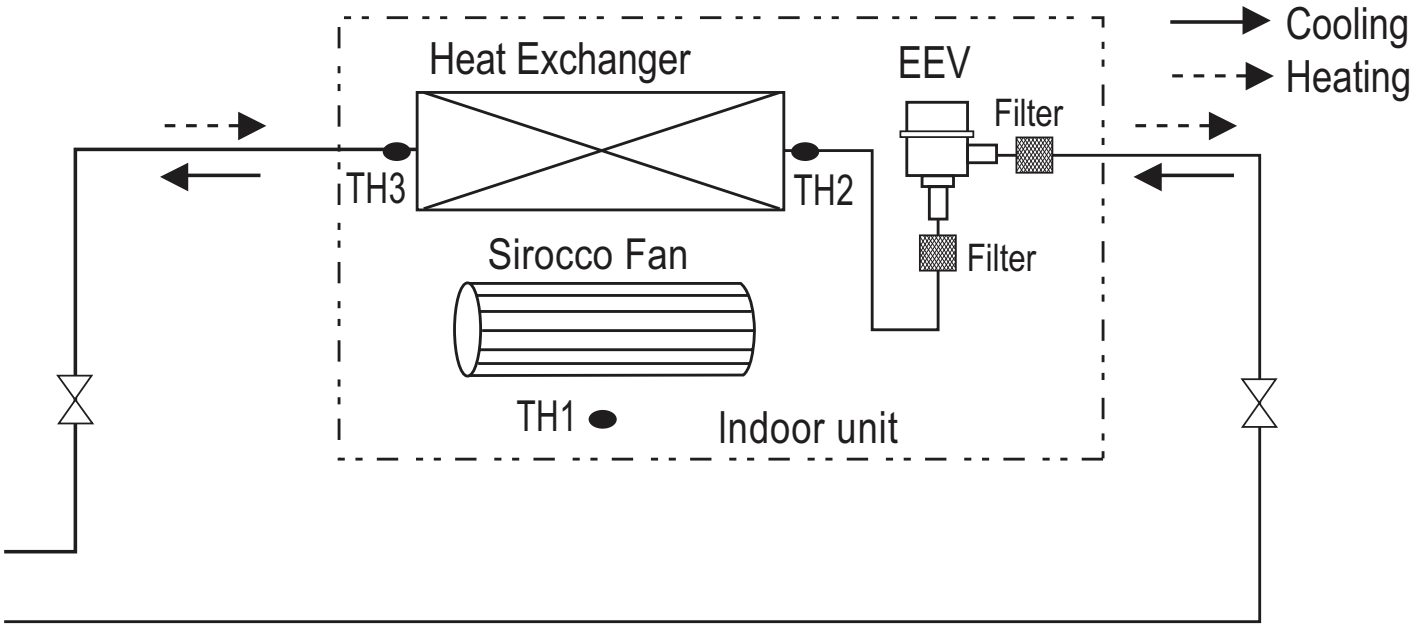


Table 12: M2, M3 Unit Refrigerant Pipe Connection Port Diameters.

Model	Liquid (inch)	Vapor (inch)
M2 Units		
ARNU073M2A4	1/4 Flare	1/2 Flare
ARNU093M2A4	1/4 Flare	1/2 Flare
ARNU123M2A4	1/4 Flare	1/2 Flare
ARNU153M2A4	1/4 Flare	1/2 Flare
ARNU183M2A4	1/4 Flare	1/2 Flare
ARNU243M2A4	3/8 Flare	5/8 Flare
M3 Units		
ARNU283M3A4	3/8 Flare	5/8 Flare

Table 13: M2, M3 Frame Thermistors.

Thermistor	Description
TH1	Return air thermistor
TH2	Pipe in thermistor
TH3	Pipe out thermistor

LG

Figure 9: B8 Unit Refrigerant Flow Diagram.

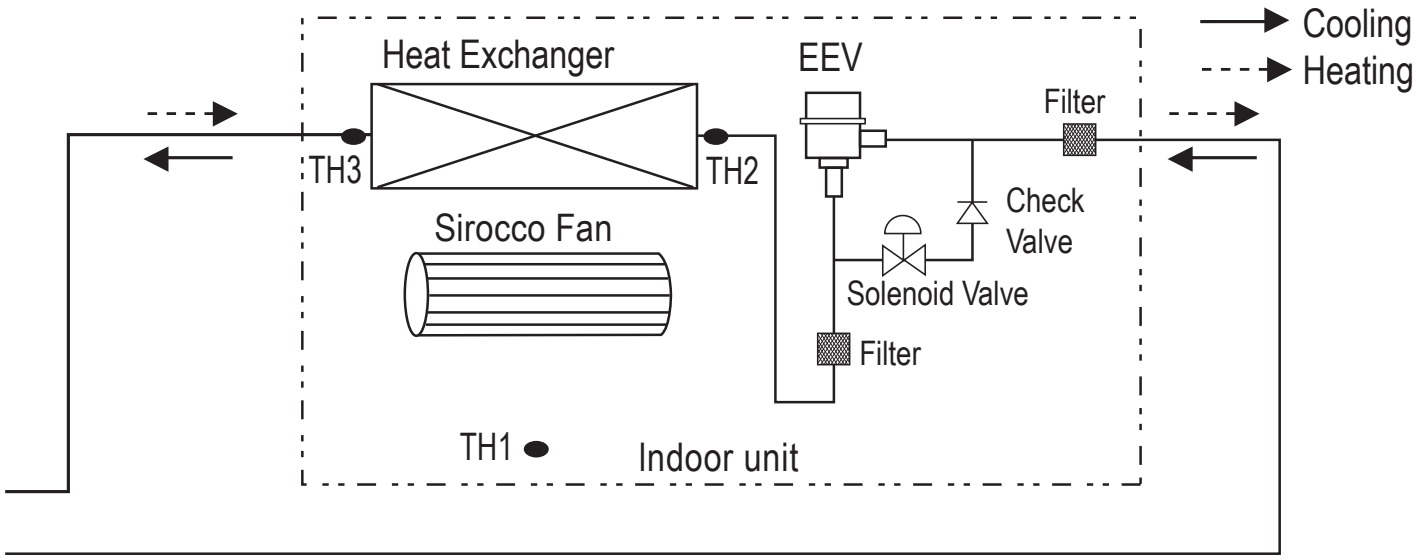


Table 14: B8 Unit Refrigerant Pipe Connection Port Diameters.

Model	Liquid (inch)	Vapor (inch)
ARNU363B8A4	3/8 Brazed	3/4 Brazed
ARNU423B8A4		
ARNU483B8A4		
ARNU543B8A4		
ARNU763B8A4		
ARNU963B8A4		7/8 Brazed

Table 15: B8 Unit Thermistors.

Thermistor	Description
TH1	Return air thermistor
TH2	Pipe in thermistor
TH3	Pipe out thermistor

ARNU073~243M2A4 Unit External Static Pressure and Air Flow Table

Table 16: ARNU073~243M2A4 External Static Pressure and Air Flow Table.

Set Value	Static Pressure (in wg)							
	0.16	0.24	0.31	0.39	0.47	0.55	0.63	0.71
	Air Flow Rate [CFM]							
65								
70								
75	530							
80	672	267						
85	879	486	173					
90	974	720	276					
95	1073	861	554	182				
100	1168	1013	734	325	135			
105	1267	1119	851	618	238			
110	1363	1225	1077	784	406	195		
115	1416	1334	1193	985	713	321		
120		1380	1310	1108	868	632	263	
125			1358	1236	1063	748	389	235
130				1310	1130	974	551	353
135					1298	1113	857	572
140					1431	1267	1052	792
145						1407	1233	980
150							1391	1207
155								1309

- *All static pressure air flow rates are listed in CFM.*
- *The tables above show the correlation between air flow rates and external static pressure.*
- *The tables above show the available external static pressure range.*

Note:

If the external static pressure of the installed indoor unit is less than the lowest value (as mentioned in the table), the indoor unit components can fail.

ARNU283M3A4 Unit External Static Pressure and Air Flow Table

Table 17: ARNU283M3A4 Unit External Static Pressure and Air Flow Table.

Set Value	Static Pressure (in wg)								
	0.16	0.24	0.31	0.39	0.47	0.55	0.63	0.71	0.79
	Air Flow Rate [CFM]								
70	891								
75	1074	756							
80	1235	959	654						
85	1404	1250	869						
90	1562	1416	1111	800					
95	1741	1581	1300	1017	754				
100	1872	1744	1574	1251	978				
105	2020	1910	1737	1518	1234	935			
110		2076	1903	1691	1497	1193	858	522	
115			2069	1867	1687	1500	1108	717	646
120				2040	1874	1701	1384	1066	868
125					1913	1744	1520	1296	1168
130					1927	1860	1714	1567	1398
135								1772	1596

- *All static pressure air flow rates are listed in CFM.*
- *The tables above show the correlation between air flow rates and external static pressure.*
- *The tables above show the available external static pressure range.*

Note:
If the external static pressure of the installed indoor unit is less than the lowest value (as mentioned in the table), the indoor unit components can fail.

B8 Unit External Static Pressure and Air Flow Table

Table 18: B8 Unit External Static Pressure and Air Flow Table.

Set Value	External Static Pressure (in.wg)								
	0.23	0.35	0.47	0.59	0.71	0.79	0.86	0.90	0.98
	Air Flow Rate [CFM]								
70	2377	1859							
75	2619	2231	1574						
80	2922	2549	2015	1326					
85	3159	2850	2406	1833	1123				
90	3691	3402	3009	2515	1914	1456			
95	3648	3621	3283	2860	2345	1953	1578		
100		3450	3275	3046	2680	2362	2034	1825	1363
105				3245	2961	2708	2443	2274	1896

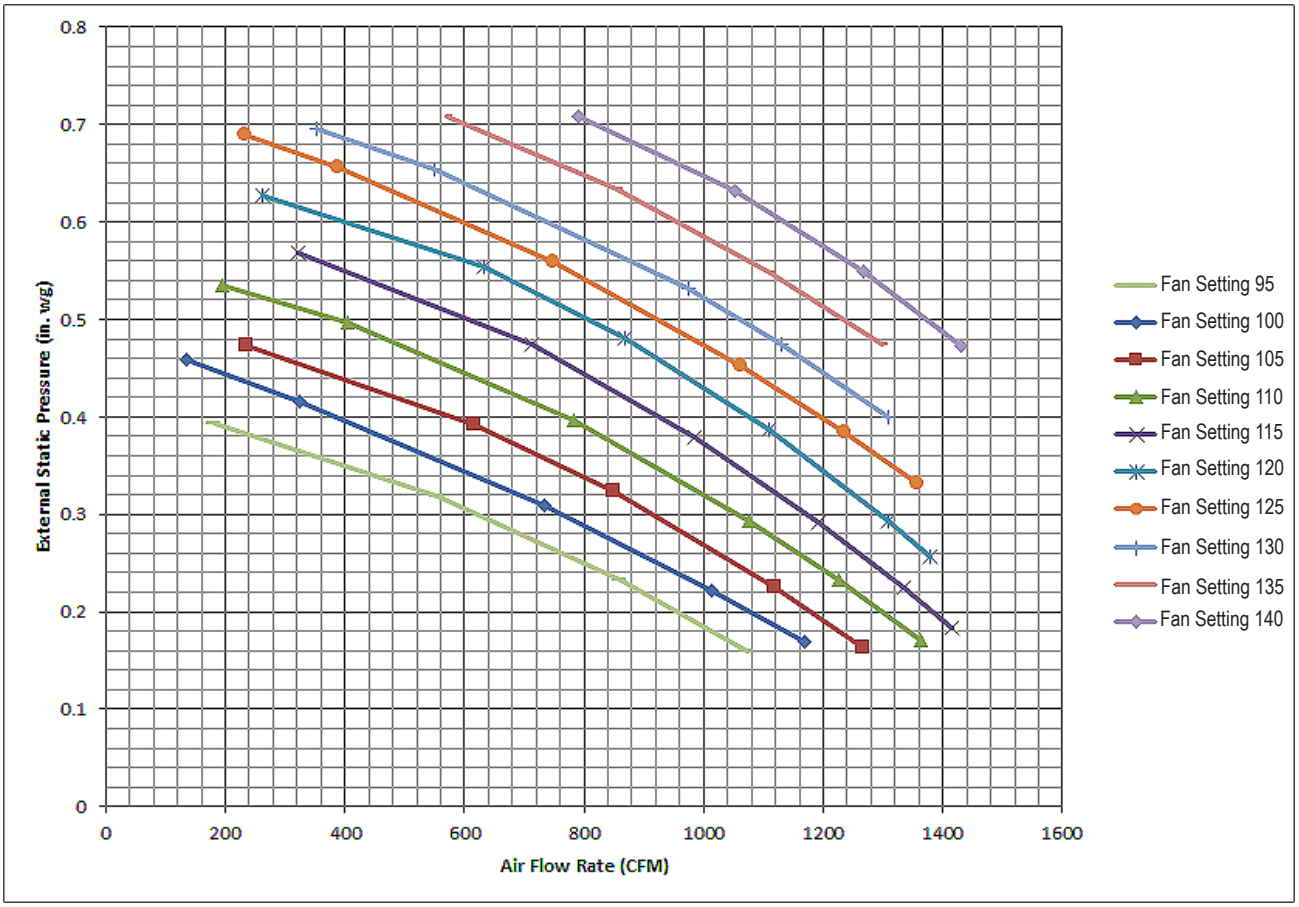
- *All static pressure air flow rates are listed in CFM.*
- *The tables above show the correlation between air flow rates and external static pressure.*
- *The tables above show the available external static pressure range.*

Note:

If the external static pressure of the installed indoor unit is less than the lowest value (as mentioned in the table), the indoor unit components can fail.

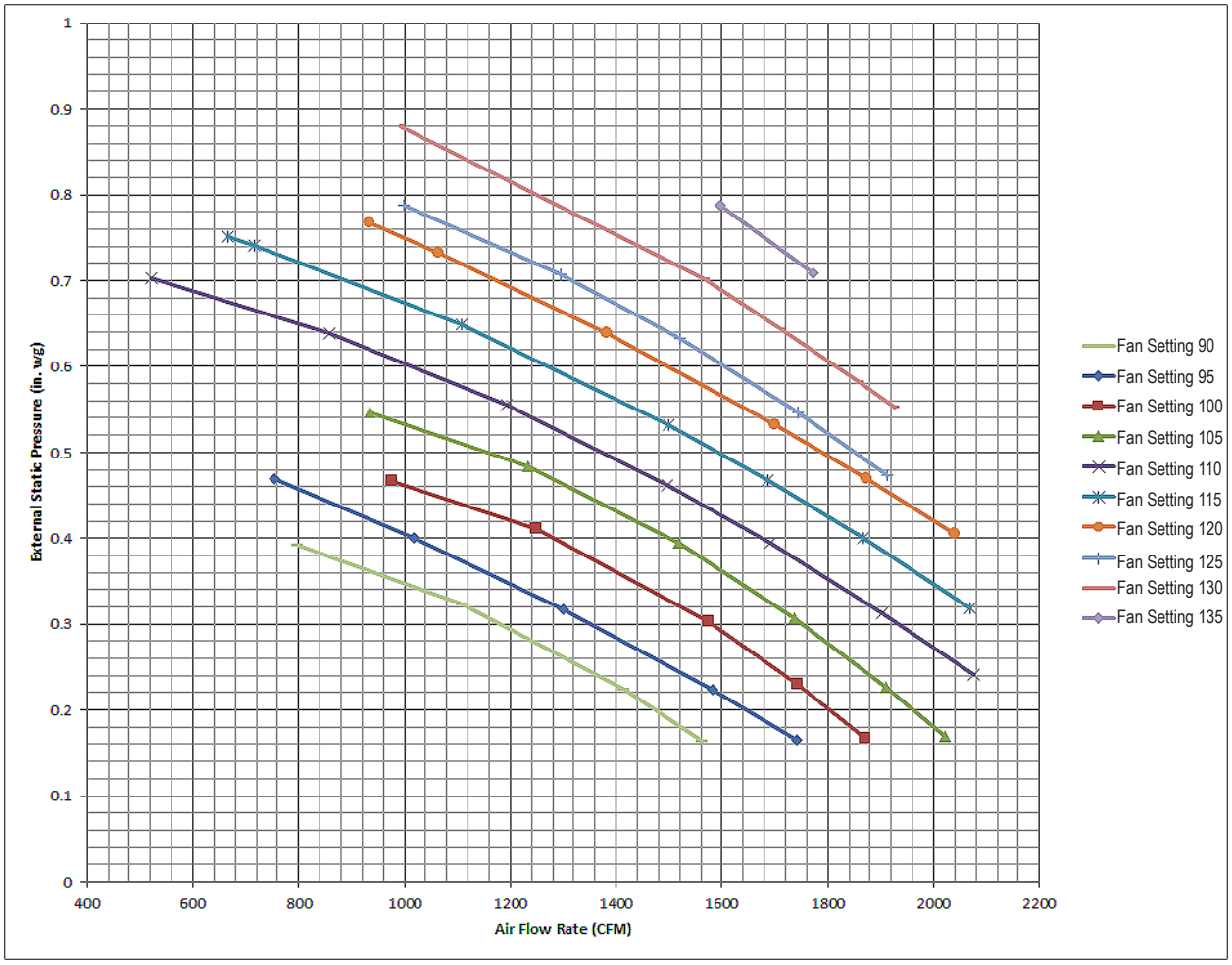
ARNU073~243M2A4 Unit External Static Pressure and Air Flow Chart

Figure 10: ARNU073~243M2A4 External Static Pressure and Air Flow Chart.



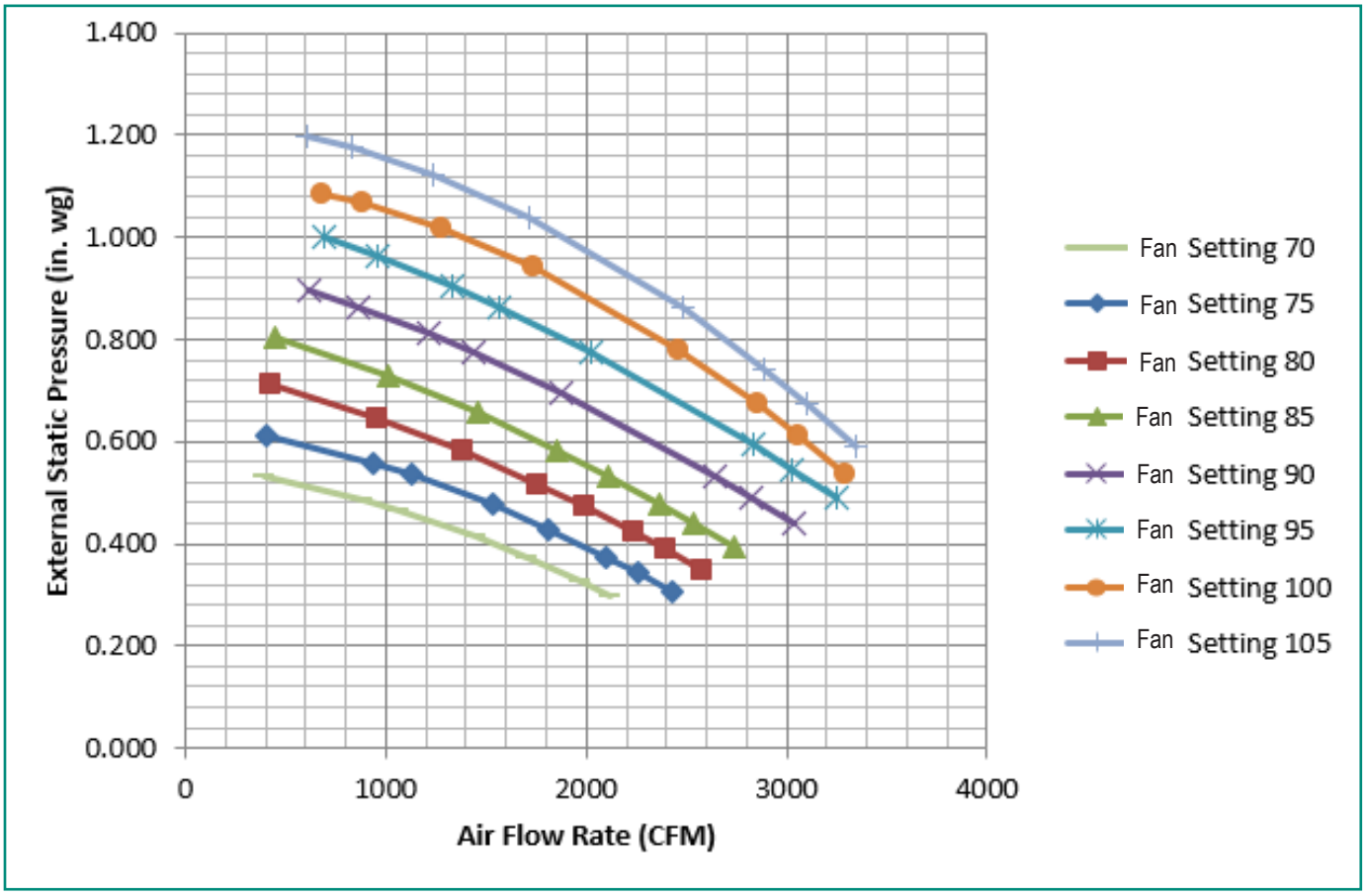
ARNU283M3A4 Unit External Static Pressure and Air Flow Chart

Figure 11: ARNU283M3A4 Unit External Static Pressure and Air Flow Chart.



B8 Units External Static Pressure and Air Flow Chart

Figure 12: B8 Unit External Static Pressure and Air Flow Chart.



External Static Pressure Ranges for ARNU073~243M2A4 units

Table 19: M2 Unit External Static Pressure Ranges.

Model	Capacity (MBh)	Mode		Setting Value	Standard ESP (in wg)	CFM	Min. ESP (in wg)	Max. ESP (in wg)
ARNU073M2A4	7.0	High (Factory Set)	High	83	0.24	468	0.16	0.71
			Mid	81		381		
			Low	79		294		
ARNU093M2A4	9.0	High (Factory Set)	High	83	0.24	468	0.16	0.71
			Mid	81		381		
			Low	79		294		
ARNU123M2A4	12.0	High (Factory Set)	High	84	0.24	512	0.16	0.71
			Mid	82		425		
			Low	80		337		
ARNU153M2A4	15.0	High (Factory Set)	High	84	0.24	512	0.16	0.71
			Mid	82		425		
			Low	80		337		
ARNU183M2A4	18.0	High (Factory Set)	High	89	0.24	673	0.16	0.71
			Mid	84		512		
			Low	82		425		
ARNU243M2A4	24.0	High (Factory Set	High	89	0.24	673	0.16	0.71
			Mid	84		512		
			Low	82		425		

External Static Pressure Ranges for ARNU283M3A4 unit

Table 20: M3 Unit External Static Pressure Ranges.

Model	Capacity (MBh)	Mode		Setting Value	Standard ESP (in wg)	CFM	Min. ESP (in wg)	Max. ESP (in wg)
ARNU283M3A4	28.0	High (Factory Set)	High	86	0.23	1250	0.16	0.79
			Mid	82		1017		
			Low	78		837		

Tables above show the available E.S.P. range.

LG

External Static Pressure Ranges for B8 units

Table 21: B8 Unit External Static Pressure Ranges.

Model	Capacity (MBh)	Mode		Flow Rate (CFM)	0.23	0.35	0.47	0.59	0.71	0.79	0.86	0.90	0.98
ARNU363B8A4	36.2	High (Factory Set)	Hi	1730	55	68	77	82	92	93	97	99	103
			Mid	1317	43	61	73	81	88	89	92	96	100
			Low	1066	36	58	72	81	84	87	90	94	98
ARNU423B8A4	42	High (Factory Set)	Hi	1914	59	71	79	84	93	95	99	101	*105
			Mid	1458	47	64	74	81	89	90	94	97	101
			Low	1123	38	58	72	81	85	87	91	94	98
ARNU483B8A4	48.1	High (Factory Set)	Hi	2019	62	72	80	85	94	96	100	102	*105
			Mid	1518	49	64	75	81	90	91	94	97	101
			Low	1200	40	60	73	81	86	88	91	95	99
ARNU543B8A4	54.0	High (Factory Set)	Hi	2260	67	76	82	87	94	99	102	105	*105
			Mid	1766	56	68	77	83	89	93	98	99	104
			Low	1766	56	68	77	83	89	93	98	99	104
ARNU763B8A4	76.4	High (Factory Set)	Hi	2260	67	76	82	87	94	99	102	105	*105
			Mid	1766	56	68	77	83	89	93	98	99	104
			Low	1766	56	68	77	83	89	93	98	99	104
ARNU963B8A4	95.9	High (Factory Set)	Hi	2542	73	80	86	91	98	103	*105	*105	*105
			Mid	2260	67	76	82	87	94	99	102	105	*105
			Low	2260	67	76	82	87	94	99	102	105	*105

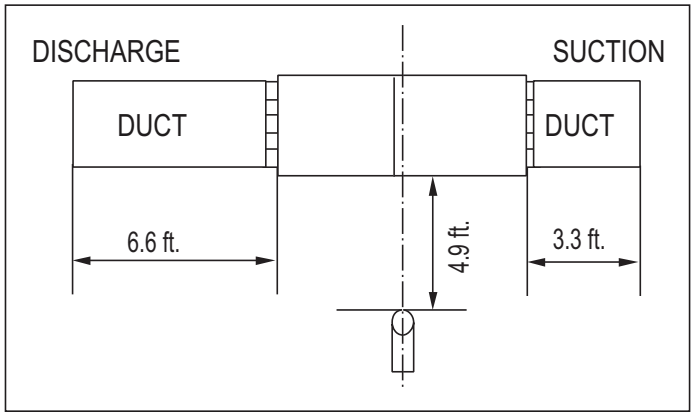
The table above show the available E.S.P. range.
** Air flow will decrease according to table.*

HIGH STATIC DUCTED

Acoustic Data

Sound Pressure Levels

Figure 13: Sound Pressure Measurement Location.



- Measurements are taken 4.9 ft away from the front of the unit.
- Sound pressure levels are measured in dB(A) with a tolerance of ±3.
- Sound pressure levels are tested in an anechoic chamber under ISO Standard 3745.

Operating Conditions:

- Power source: 220V/60 Hz
- Sound level will vary depending on a range of factors including the construction (acoustic absorption coefficient) of a particular room in which the unit was installed.

Sound Pressure for ARNU073~243M2A4 Units

Table 22: M2 Indoor Unit Sound Pressure Levels.

Model	Sound Pressure Levels [dB(A), H-M-L]			
	External Static Pressure [in wg]			
	0.16	0.20	0.24	0.71
ARNU073M2A4	32-31-29	33-33-32	38-37-36	42-42-41
ARNU093M2A4	32-31-29	33-33-32	38-38-36	42-42-41
ARNU123M2A4	32-32-29	34-33-32	38-38-36	43-42-41
ARNU153M2A4	32-32-29	34-33-32	38-38-36	43-42-41
ARNU183M2A4	33-32-32	34-34-33	39-38-37	44-43-42
ARNU243M2A4	33-32-32	34-34-33	39-38-37	44-43-42

Sound Pressure for ARNU283M3A4 Unit

Table 23: M3 Indoor Unit Sound Pressure Levels.

Model	Sound Pressure Levels [dB(A), H-M-L]			
	External Static Pressure [in wg]			
	0.16	0.20	0.24	0.79
ARNU283M3A4	38-37-33	39-37-35	40-39-37	46-46-44

Sound Pressure for B8 Units

Table 24: B8 Indoor Unit Sound Pressure Levels.

Model	Sound Pressure Levels [dB(A), H-M-L]	
	External Static Pressure [in wg]	
	0.70	0.86
ARNU363B8A4	46-45-42	
ARNU423B8A4	47-46-43	
ARNU483B8A4	47-46-44	
ARNU543B8A4		50-48-48
ARNU763B8A4		50-48-48
ARNU963B8A4		52-50-50

Sound Power for ARNU073~243M2A4 Units

Table 25: Ducted High Static Indoor Unit Sound Power Levels.

Model	Sound Power Levels [dB(A), H-M-L] External Static Pressure [in wg]			
	0.16	0.20	0.24	0.71
ARNU073M2A4	50-49-48	46-46-46	42-41-41	55-55-54
ARNU093M2A4	50-49-48	46-46-46	42-41-41	55-55-54
ARNU123M2A4	50-49-48	46-46-46	42-42-41	57-55-53
ARNU153M2A4	50-49-48	46-46-46	42-42-41	57-55-53
ARNU183M2A4	49-48-47	46-46-46	44-42-42	59-57-53
ARNU243M2A4	49-48-47	46-46-46	44-42-42	59-57-53

- Data is valid under diffuse field conditions.
- Data is valid under nominal operating conditions.
- Sound power level is measured using rated conditions, and tested in a reverberation room per AHRI 260 standards.
- Sound level will vary depending on a range of factors such as construction (acoustic absorption coefficient) of particular area in which the equipment is installed.
- Reference acoustic intensity: 0dB = 10E-6μW/m^2

Sound Power for ARNU283M3A4 Unit

Table 26: Ducted High Static Indoor Unit Sound Power Levels.

Model	Sound Power Levels [dB(A), H-M-L] External Static Pressure [in wg]			
	0.16	0.20	0.24	0.79
ARNU283M3A4	50-49-47	53-52-51	51-50-50	57-57-57

Sound Power for B8 Units

Table 27: Ducted High Static Indoor Unit Sound Power Levels.

Model	Sound Power Levels [dB(A), H-M-L] External Static Pressure [in wg]	
	0.70	0.86
ARNU363B8A4	54-53-52	
ARNU423B8A4	55-54-53	
ARNU483B8A4	55-54-53	
ARNU543B8A4		57-57-57
ARNU763B8A4		57-57-57
ARNU963B8A4		58-57-57

HIGH STATIC DUCTED

MULTI V

Acoustic Data

Sound Power Data for ARNU073~243M2A4 Units

Sound Power @0.16 ESP

Model	Rating	Fan speed	E.S.P	RPM	CFM	Sound power level, Lw (dB one reference picowatt)							
						63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz
ARNU073M2A4	RETURN OPENING	H	0.16	760	559	60	54	57	48	41	37	30	19
		M		720	430	60	52	57	47	38	34	27	16
		L		680	284	59	50	56	46	36	32	25	12
	CASING RADIATED	H		760	559	60	49	56	40	33	26	16	18
		M		720	430	59	47	57	39	31	24	13	17
		L		680	284	58	45	58	37	29	22	10	17
	DUCTED DISCHARGE	H		760	559	62	57	60	51	50	44	39	33
		M		720	430	60	55	60	50	48	42	37	30
		L		680	284	58	53	60	48	46	40	35	27
ARNU093M2A4	RETURN OPENING	H	0.16	760	559	60	54	57	48	41	37	30	19
		M		720	430	60	52	57	47	38	34	27	16
		L		680	284	59	50	56	46	36	32	25	12
	CASING RADIATED	H		760	559	60	49	56	40	33	26	16	18
		M		720	430	59	47	57	39	31	24	13	17
		L		680	284	58	45	58	37	29	22	10	17
	DUCTED DISCHARGE	H		760	559	62	57	60	51	50	44	39	33
		M		720	430	60	55	60	50	48	42	37	30
		L		680	284	58	53	60	48	46	40	35	27
ARNU123M2A4	RETURN OPENING	H	0.16	770	587	60	54	57	49	41	37	31	20
		M		730	463	60	52	57	47	39	35	28	16
		L		690	323	59	51	57	46	37	33	25	13
	CASING RADIATED	H		770	587	60	49	55	40	33	27	16	18
		M		730	463	59	47	57	39	31	25	13	17
		L		690	323	58	46	58	38	29	23	11	17
	DUCTED DISCHARGE	H		770	587	62	57	61	52	50	44	40	34
		M		730	463	61	55	60	50	48	42	38	31
		L		690	323	59	53	60	49	47	40	36	28
ARNU153M2A4	RETURN OPENING	H	0.16	770	587	60	54	57	49	41	37	31	20
		M		730	463	60	52	57	47	39	35	28	16
		L		690	323	59	51	57	46	37	33	25	13
	CASING RADIATED	H		770	587	60	49	55	40	33	27	16	18
		M		730	463	59	47	57	39	31	25	13	17
		L		690	323	58	46	58	38	29	23	11	17
	DUCTED DISCHARGE	H		770	587	62	57	61	52	50	44	40	34
		M		730	463	61	55	60	50	48	42	38	31
		L		690	323	59	53	60	49	47	40	36	28

LG

Sound Power @0.16 ESP, continued

Model	Rating	Fan speed	E.S.P	RPM	CFM	Sound power level, Lw (dB one reference picowatt)							
						63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz
ARNU183M2A4	RETURN OPENING	H	0.16	810	713	61	56	58	50	43	39	33	24
		M		770	587	60	54	57	49	41	37	31	20
		L		730	463	60	52	57	47	39	35	28	16
	CASING RADIATED	H		810	713	61	51	54	41	35	29	19	19
		M		770	587	60	49	55	40	33	27	16	18
		L		730	463	59	47	57	39	31	25	13	17
	DUCTED DISCHARGE	H		810	713	64	59	61	53	52	46	42	37
		M		770	587	62	57	61	52	50	44	40	34
		L		730	463	61	55	60	50	48	42	38	31
ARNU243M2A4	RETURN OPENING	H	0.16	810	713	61	56	58	50	43	39	33	24
		M		770	587	60	54	57	49	41	37	31	20
		L		730	463	60	52	57	47	39	35	28	16
	CASING RADIATED	H		810	713	61	51	54	41	35	29	19	19
		M		770	587	60	49	55	40	33	27	16	18
		L		730	463	59	47	57	39	31	25	13	17
	DUCTED DISCHARGE	H		810	713	64	59	61	53	52	46	42	37
		M		770	587	62	57	61	52	50	44	40	34
		L		730	463	61	55	60	50	48	42	38	31

HIGH STATIC DUCTED

MULTI V

Acoustic Data

Sound Power Data for ARNU073~243M2A4 Units

Sound Power @0.20 ESP

Model	Rating	Fan speed	E.S.P	RPM	CFM	Sound power level, Lw (dB one reference picowatt)							
						63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz
ARNU073M2A4	RETURN OPENING	H	0.20	810	477	60	58	61	49	42	38	31	21
		M		790	399	60	57	61	48	41	37	30	20
		L		770	327	59	57	61	48	40	36	29	18
	CASING RADIATED	H		810	477	60	54	51	42	35	28	18	18
		M		790	399	59	54	51	42	34	27	17	18
		L		770	327	59	54	52	41	33	26	16	18
	CASING RADIATED	H		810	477	70	60	58	53	51	46	41	38
		M		790	399	70	59	57	52	51	45	40	36
		L		770	327	70	59	57	52	50	44	39	35
ARNU093M2A4	RETURN OPENING	H	0.20	810	477	60	58	61	49	42	38	31	21
		M		790	399	60	57	61	48	41	37	30	20
		L		770	327	59	57	61	48	40	36	29	18
	CASING RADIATED	H		810	477	60	54	51	42	35	28	18	18
		M		790	399	59	54	51	42	34	27	17	18
		L		770	327	59	54	52	41	33	26	16	18
	DUCTED DISCHARGE	H		810	477	70	60	58	53	51	46	41	38
		M		790	399	70	59	57	52	51	45	40	36
		L		770	327	70	59	57	52	50	44	39	35
ARNU123M2A4	RETURN OPENING	H	0.20	820	520	60	58	60	49	42	39	32	22
		M		800	435	60	57	61	49	41	38	31	20
		L		780	363	59	57	61	48	40	37	29	19
	CASING RADIATED	H		820	520	60	54	51	42	35	28	18	19
		M		800	435	60	54	51	42	34	28	17	18
		L		780	363	59	54	51	41	33	27	16	18
	DUCTED DISCHARGE	H		820	520	70	60	58	53	52	46	42	38
		M		800	435	70	60	58	53	51	45	41	37
		L		780	363	70	59	57	52	50	44	40	36
ARNU153M2A4	RETURN OPENING	H	0.20	820	520	60	58	60	49	42	39	32	22
		M		800	435	60	57	61	49	41	38	31	20
		L		780	363	59	57	61	48	40	37	29	19
	CASING RADIATED	H		820	520	60	54	51	42	35	28	18	19
		M		800	435	60	54	51	42	34	28	17	18
		L		780	363	59	54	51	41	33	27	16	18
	DUCTED DISCHARGE	H		820	520	70	60	58	53	52	46	42	38
		M		800	435	70	60	58	53	51	45	41	37
		L		780	363	70	59	57	52	50	44	40	36

LG

Sound Power @0.20 ESP, continued

Model	Rating	Fan speed	E.S.P	RPM	CFM	Sound power level, Lw (dB one reference picowatt)							
						63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz
ARNU183M2A4	RETURN OPENING	H	0.20	840	640	61	58	60	50	43	40	33	24
		M		820	520	60	58	60	49	42	39	32	22
		L		800	435	60	57	61	49	41	38	31	20
	CASING RADIATED	H		840	640	60	54	50	42	36	29	20	19
		M		820	520	60	54	51	42	35	28	18	19
		L		800	435	60	54	51	42	34	28	17	18
	DUCTED DISCHARGE	H		840	640	70	61	59	54	53	47	43	39
		M		820	520	70	60	58	53	52	46	42	38
		L		800	435	70	60	58	53	51	45	41	37
ARNU243M2A4	RETURN OPENING	H	0.20	840	640	61	58	60	50	43	40	33	24
		M		820	520	60	58	60	49	42	39	32	22
		L		800	435	60	57	61	49	41	38	31	20
	CASING RADIATED	H		840	640	60	54	50	42	36	29	20	19
		M		820	520	60	54	51	42	35	28	18	19
		L		800	435	60	54	51	42	34	28	17	18
	DUCTED DISCHARGE	H		840	640	70	61	59	54	53	47	43	39
		M		820	520	70	60	58	53	52	46	42	38
		L		800	435	70	60	58	53	51	45	41	37

HIGH STATIC DUCTED

MULTI V

Acoustic Data

Sound Power Data for ARNU073~243M2A4 Units

Sound Power @0.24 ESP

Model	Rating	Fan speed	E.S.P	RPM	CFM	Sound power level, Lw (dB one reference picowatt)							
						63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz
ARNU073M2A4	RETURN OPENING	H	0.24	830	468	60	56	54	48	42	37	30	20
		M		810	381	59	55	53	48	42	36	29	19
		L		790	294	59	55	53	47	41	35	28	17
	CASING RADIATED	H		830	468	57	51	44	39	36	28	17	12
		M		810	381	57	50	44	38	35	27	16	11
		L		790	294	56	49	43	37	34	26	15	10
	DUCTED DISCHARGE	H		830	468	67	63	60	57	58	50	48	47
		M		810	381	66	63	60	57	57	50	48	47
		L		790	294	66	62	60	56	57	49	47	46
ARNU093M2A4	RETURN OPENING	H	0.24	830	468	60	56	54	48	42	37	30	20
		M		810	381	59	55	53	48	42	36	29	19
		L		790	294	59	55	53	47	41	35	28	17
	CASING RADIATED	H		830	468	57	51	44	39	36	28	17	12
		M		810	381	57	50	44	38	35	27	16	11
		L		790	294	56	49	43	37	34	26	15	10
	DUCTED DISCHARGE	H		830	468	67	63	60	57	58	50	48	47
		M		810	381	66	63	60	57	57	50	48	47
		L		790	294	66	62	60	56	57	49	47	46
ARNU123M2A4	RETURN OPENING	H	0.24	840	512	60	56	54	49	43	38	31	21
		M		820	425	60	56	54	48	42	37	30	20
		L		800	337	59	55	53	47	41	36	29	18
	CASING RADIATED	H		840	512	58	51	45	39	36	28	18	13
		M		820	425	57	50	44	38	35	28	17	12
		L		800	337	56	49	43	38	34	27	16	11
	DUCTED DISCHARGE	H		840	512	67	63	61	57	58	50	48	47
		M		820	425	66	63	60	57	57	50	48	47
		L		800	337	66	62	60	56	57	50	47	46
ARNU153M2A4	RETURN OPENING	H	0.24	840	512	60	56	54	49	43	38	31	21
		M		820	425	60	56	54	48	42	37	30	20
		L		800	337	59	55	53	47	41	36	29	18
	CASING RADIATED	H		840	512	58	51	45	39	36	28	18	13
		M		820	425	57	50	44	38	35	28	17	12
		L		800	337	56	49	43	38	34	27	16	11
	DUCTED DISCHARGE	H		840	512	67	63	61	57	58	50	48	47
		M		820	425	66	63	60	57	57	50	48	47
		L		800	337	66	62	60	56	57	50	47	46

LG

Sound Power @0.24 ESP, continued

Model	Rating	Fan speed	E.S.P	RPM	CFM	Sound power level, Lw (dB one reference picowatt)							
						63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz
ARNU183M2A4	RETURN OPENING	H	0.24	890	673	61	58	56	50	45	40	34	25
		M		840	512	60	56	54	49	43	38	31	21
		L		820	425	60	56	54	48	42	37	30	20
	CASING RADIATED	H		890	673	59	53	46	41	38	31	21	16
		M		840	512	58	51	45	39	36	28	18	13
		L		820	425	57	50	44	38	35	28	17	12
	DUCTED DISCHARGE	H		890	673	67	62	59	56	55	49	46	43
		M		840	512	67	63	61	57	58	50	48	47
		L		820	425	66	63	60	57	57	50	48	47
ARNU243M2A4	RETURN OPENING	H	0.24	890	673	61	58	56	50	45	40	34	25
		M		840	512	60	56	54	49	43	38	31	21
		L		820	425	60	56	54	48	42	37	30	20
	CASING RADIATED	H		890	673	59	53	46	41	38	31	21	16
		M		840	512	58	51	45	39	36	28	18	13
		L		820	425	57	50	44	38	35	28	17	12
	DUCTED DISCHARGE	H		890	673	67	62	59	56	55	49	46	43
		M		840	512	67	63	61	57	58	50	48	47
		L		820	425	66	63	60	57	57	50	48	47

HIGH STATIC DUCTED

Acoustic Data

Sound Power Data for ARNU073~243M2A4 Units

Sound Power @0.71 ESP

Model	Rating	Fan speed	E.S.P	RPM	CFM	Sound power level, Lw (dB one reference picowatt)							
						63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz
ARNU073M2A4	RETURN OPENING	H	0.71	1320	440	71	70	65	58	55	51	47	41
		M		1280	306	68	67	63	56	52	48	44	37
		L		1240	211	69	68	63	56	52	47	43	36
	CASING RADIATED	H		1320	440	72	63	54	49	50	43	36	29
		M		1280	306	73	63	53	48	47	41	34	28
		L		1240	211	75	65	55	49	46	41	34	27
	DUCTED DISCHARGE	H		1320	440	74	69	66	62	63	58	55	53
		M		1280	306	72	67	64	60	61	56	53	50
		L		1240	211	72	66	63	59	60	54	51	48
ARNU093M2A4	RETURN OPENING	H	0.71	1320	440	71	70	65	58	55	51	47	41
		M		1280	306	68	67	63	56	52	48	44	37
		L		1240	211	69	68	63	56	52	47	43	36
	CASING RADIATED	H		1320	440	72	63	54	49	50	43	36	29
		M		1280	306	73	63	53	48	47	41	34	28
		L		1240	211	75	65	55	49	46	41	34	27
	DUCTED DISCHARGE	H		1320	440	74	69	66	62	63	58	55	53
		M		1280	306	72	67	64	60	61	56	53	50
		L		1240	211	72	66	63	59	60	54	51	48
ARNU123M2A4	RETURN OPENING	H	0.71	1340	528	72	71	66	59	57	52	48	42
		M		1300	353	68	67	62	55	52	48	44	38
		L		1260	258	69	68	63	56	52	48	44	37
	CASING RADIATED	H		1340	528	74	65	55	50	53	45	38	31
		M		1300	353	71	62	53	48	48	41	34	28
		L		1260	258	75	65	54	49	47	41	34	27
	DUCTED DISCHARGE	H		1340	528	75	69	66	63	64	58	56	54
		M		1300	353	73	67	65	61	62	56	53	51
		L		1260	258	72	67	64	60	61	55	52	49
ARNU153M2A4	RETURN OPENING	H	0.71	1340	528	72	71	66	59	57	52	48	42
		M		1300	353	68	67	62	55	52	48	44	38
		L		1260	258	69	68	63	56	52	48	44	37
	CASING RADIATED	H		1340	528	74	65	55	50	53	45	38	31
		M		1300	353	71	62	53	48	48	41	34	28
		L		1260	258	75	65	54	49	47	41	34	27
	DUCTED DISCHARGE	H		1340	528	75	69	66	63	64	58	56	54
		M		1300	353	73	67	65	61	62	56	53	51
		L		1260	258	72	67	64	60	61	55	52	49

Sound Power @0.71 ESP, continued

Model	Rating	Fan speed	E.S.P	RPM	CFM	Sound power level, Lw (dB one reference picowatt)							
						63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz
ARNU183M2A4	RETURN OPENING	H	0.71	1360	616	73	72	67	60	58	53	50	44
		M		1340	528	72	71	66	59	57	52	48	42
		L		1300	353	68	67	62	55	52	48	44	38
	CASING RADIATED	H		1360	616	75	67	56	52	56	47	39	33
		M		1340	528	74	65	55	50	53	45	38	31
		L		1300	353	71	62	53	48	48	41	34	28
	DUCTED DISCHARGE	H		1360	616	75	70	67	63	64	59	56	55
		M		1340	528	75	69	66	63	64	58	56	54
		L		1300	353	73	67	65	61	62	56	53	51
ARNU243M2A4	RETURN OPENING	H	0.71	1360	616	73	72	67	60	58	53	50	44
		M		1340	528	72	71	66	59	57	52	48	42
		L		1300	353	68	67	62	55	52	48	44	38
	CASING RADIATED	H		1360	616	75	67	56	52	56	47	39	33
		M		1340	528	74	65	55	50	53	45	38	31
		L		1300	353	71	62	53	48	48	41	34	28
	DUCTED DISCHARGE	H		1360	616	75	70	67	63	64	59	56	55
		M		1340	528	75	69	66	63	64	58	56	54
		L		1300	353	73	67	65	61	62	56	53	51

HIGH STATIC DUCTED

MULTI V

Acoustic Data

Sound Power Data for ARNU283M3A4 Unit

Model	Rating	Fan speed	E.S.P	RPM	CFM	Sound power level, Lw (dB one reference picowatt)							
						63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz
ARNU283M3A4	RETURN OPENING	H	0.16	790	1203	67	59	58	59	56	52	46	36
		M		740	1037	66	57	57	58	54	50	43	33
		L		680	817	65	55	54	56	51	48	41	29
	CASING RADIATED	H		790	1203	62	55	51	51	42	34	29	26
		M		740	1037	61	51	49	50	41	30	26	24
		L		680	817	60	46	47	49	39	27	23	22
	DUCTED DISCHARGE	H		790	1203	78	67	60	60	58	53	51	43
		M		740	1037	78	64	59	59	56	51	49	40
		L		680	817	77	60	57	57	54	48	46	36

Model	Rating	Fan speed	E.S.P	RPM	CFM	Sound power level, Lw (dB one reference picowatt)							
						63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz
ARNU283M3A4	RETURN OPENING	H	0.20	830	1235	67	60	58	59	56	53	46	36
		M		790	1060	66	58	56	57	54	51	43	33
		L		750	915	66	55	55	56	53	49	41	30
	CASING RADIATED	H		830	1235	66	65	53	51	44	35	29	22
		M		790	1060	65	63	52	51	43	32	27	18
		L		750	915	64	61	52	50	43	30	25	14
	DUCTED DISCHARGE	H		830	1235	78	70	61	61	60	54	52	45
		M		790	1060	77	69	60	60	58	52	50	42
		L		750	915	76	67	59	58	56	50	48	39

Model	Rating	Fan speed	E.S.P	RPM	CFM	Sound power level, Lw (dB one reference picowatt)							
						63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz
ARNU283M3A4	RETURN OPENING	H	0.24	850	1250	66	61	59	59	56	53	46	36
		M		810	1017	66	60	58	58	54	51	44	34
		L		770	837	66	59	57	57	53	50	42	31
	CASING RADIATED	H		850	1250	64	59	51	50	43	36	29	25
		M		810	1017	66	57	52	49	41	34	27	22
		L		770	837	69	55	53	49	39	31	24	20
	DUCTED DISCHARGE	H		850	1250	79	69	62	62	60	55	53	46
		M		810	1017	80	68	61	61	59	53	51	43
		L		770	837	81	67	59	59	57	51	49	41

Model	Rating	Fan speed	E.S.P	RPM	CFM	Sound power level, Lw (dB one reference picowatt)							
						63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz
ARNU283M3A4	RETURN OPENING	H	0.79	1240	1108	81	74	69	64	63	59	54	46
		M		1200	868	81	74	69	64	63	59	54	46
		L		1180	779	81	75	69	64	63	59	54	46
	CASING RADIATED	H		1240	1108	67	66	53	55	52	47	44	37
		M		1200	868	65	66	51	55	52	47	44	37
		L		1180	779	64	66	51	54	52	47	44	37
	DUCTED DISCHARGE	H		1240	1108	84	78	70	68	70	64	62	56
		M		1200	868	84	79	70	68	70	64	62	55
		L		1180	779	83	79	70	68	70	64	62	55

LG

HIGH STATIC DUCTED

Acoustic Data

Sound Power Data for B8 Units

MODEL	RATING	Fan speed	E.S.P	RPM	CFM	SOUND POWER LEVEL, (dB one reference picowatt)							
						63 Hz	125 Hz	250 Hz	500 Hz	1K Hz	2K Hz	4K Hz	8K Hz
ARNU363B8A4	RETURN OPENING	Hi	0.7	920	1730	51.8	55.9	51.6	47.2	47.2	40.1	35.3	24.8
		Mid		880	1317	51.5	55.4	50.0	46.4	45.6	38.3	32.6	23.9
		Low		840	1066	51.2	54.7	48.7	45.4	44.1	36.5	29.9	22.9
	CASING RADIATED	Hi		920	1730	39.5	44.1	46.9	48.9	49.2	44.7	36.0	26.4
		Mid		880	1317	38.7	43.5	46.1	47.6	48.1	44.4	34.6	21.0
		Low		840	1066	37.8	42.8	44.4	46.3	46.9	44.2	33.1	16.6
	DUCTED DISCHARGE	Hi		920	1730	78.6	71.2	59.4	61.0	61.8	59.8	54.4	45.6
		Mid		880	1317	76.3	66.2	55.2	59.8	60.3	58.6	52.8	44.7
		Low		840	1066	73.8	60.6	50.6	58.7	58.8	57.3	51.2	43.0
ARNU423B8A4	RETURN OPENING	Hi	0.7	930	1914	51.9	56.2	51.6	47.7	47.5	40.5	35.9	25.0
		Mid		890	1458	51.6	55.6	50.3	46.7	46.0	38.7	33.2	24.1
		Low		850	1123	51.3	54.9	49.0	45.7	44.5	37.0	30.5	23.2
	CASING RADIATED	Hi		930	1914	39.7	44.3	48.2	49.2	49.5	44.7	36.3	26.5
		Mid		890	1458	38.9	43.6	46.5	47.9	48.3	44.5	34.9	22.1
		Low		850	1123	38.0	43.0	44.8	46.6	47.2	44.3	33.5	17.7
	DUCTED DISCHARGE	Hi		930	1914	79.5	73.3	61.1	61.2	62.2	60.1	54.8	46.9
		Mid		890	1458	76.9	67.7	56.4	60.1	60.7	58.9	53.2	45.2
		Low		850	1123	74.4	62.0	51.7	59.0	59.2	57.6	51.6	43.4
ARNU483B8A4	RETURN OPENING	Hi	0.7	940	2019	52.1	56.6	51.6	47.8	47.4	40.3	35.6	25.2
		Mid		900	1518	51.7	55.7	50.6	47.0	46.4	39.2	33.9	24.3
		Low		860	1200	51.3	55.1	49.3	45.9	44.9	37.4	31.2	23.4
	CASING RADIATED	Hi		940	2019	39.9	44.3	49.3	49.5	49.8	44.8	37.5	27.8
		Mid		900	1518	39.1	43.8	47.0	48.2	48.6	44.6	35.3	23.2
		Low		860	1200	38.3	43.1	45.2	46.9	47.5	44.3	33.8	18.8
	DUCTED DISCHARGE	Hi		940	2019	80.1	75.5	62.2	61.5	62.5	61.0	56.0	48.2
		Mid		900	1518	77.6	69.1	57.6	60.4	61.1	59.2	53.6	45.6
		Low		860	1200	75.0	63.4	52.9	59.3	59.6	57.9	52.0	43.9
ARNU543B8A4	RETURN OPENING	Hi	0.87	1020	2260	54.0	58.6	53.3	48.9	48.9	41.8	37.2	27.6
		Mid		980	1766	54.0	58.3	51.5	48.6	48.4	40.8	35.2	27.2
		Low		980	1766	54.0	58.3	51.5	48.6	48.4	40.8	35.2	27.2
	CASING RADIATED	Hi		1020	2260	41.3	45.9	49.4	51.3	52.1	49.2	39.8	35.4
		Mid		980	1766	41.3	45.9	49.3	50.0	51.2	48.4	39.2	31.7
		Low		980	1766	41.3	45.9	49.3	50.0	51.2	48.4	39.2	31.7
	DUCTED DISCHARGE	Hi		1020	2260	79.4	72.3	60.7	62.7	63.7	62.0	56.9	49.7
		Mid		980	1766	78.2	68.6	56.8	62.3	63.2	61.6	56.0	48.8
		Low		980	1766	78.2	68.6	56.8	62.3	63.2	61.6	56.0	48.8

HIGH STATIC DUCTED

Acoustic Data

Sound Power Data for B8 Units

MODEL	RATING	Fan speed	E.S.P	RPM	CFM	SOUND POWER LEVEL, (dB one reference picowatt)							
						63 Hz	125 Hz	250 Hz	500 Hz	1K Hz	2K Hz	4K Hz	8K Hz
ARNU763B8A4	RETURN OPENING	Hi	0.87	1020	2260	54.0	58.6	53.3	48.9	48.9	41.8	37.2	27.6
		Mid		980	1766	54.0	58.3	51.5	48.6	48.4	40.8	35.2	27.2
		Low		980	1766	54.0	58.3	51.5	48.6	48.4	40.8	35.2	27.2
	CASING RADIATED	Hi		1020	2260	41.3	45.9	49.4	51.3	52.1	49.2	39.8	35.4
		Mid		980	1766	41.3	45.9	49.3	50.0	51.2	48.4	39.2	31.7
		Low		980	1766	41.3	45.9	49.3	50.0	51.2	48.4	39.2	31.7
	DUCTED DISCHARGE	Hi		1020	2260	79.4	72.3	60.7	62.7	63.7	62.0	56.9	49.7
		Mid		980	1766	78.2	68.6	56.8	62.3	63.2	61.6	56.0	48.8
		Low		980	1766	78.2	68.6	56.8	62.3	63.2	61.6	56.0	48.8
ARNU963B8A4	RETURN OPENING	Hi	0.87	1050	2542	55.5	59.7	54.3	50.3	50.8	43.6	39.5	30.3
		Mid		1020	2260	54.0	58.6	53.3	48.9	48.9	41.8	37.2	27.6
		Low		1020	2260	54.0	58.6	53.3	48.9	48.9	41.8	37.2	27.6
	CASING RADIATED	Hi		1050	2542	42.8	46.6	51.3	52.4	53.2	49.7	42.7	38.2
		Mid		1020	2260	41.3	45.9	49.4	51.3	52.1	49.2	39.8	35.4
		Low		1020	2260	41.3	45.9	49.4	51.3	52.1	49.2	39.8	35.4
	DUCTED DISCHARGE	Hi		1050	2542	82.4	75.9	65.3	64.1	65.7	63.8	58.6	51.7
		Mid		1020	2260	79.4	72.3	60.7	62.7	63.7	62.0	56.9	49.7
		Low		1020	2260	79.4	72.3	60.7	62.7	63.7	62.0	56.9	49.7

Cooling Capacity for High Static M2 Units

Table 28: Ducted High Static Cooling Capacity Table.

Model No. / Capacity Index	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
ARNU073M2A4 / 7.5	95	4.9	4.6	6	5.3	6.8	5.6	7.5	6.0	8	6.2	8.2	5.9	8.3	5.6
ARNU093M2A4 / 9.6	95	6.3	5.8	7.7	6.7	8.6	7.1	9.6	7.6	10.3	7.9	10.5	7.5	10.6	7.1
ARNU123M2A4 / 12.3	95	8.1	7.3	9.8	8.5	11.1	9.0	12.3	9.6	13.2	10.0	13.4	9.5	13.6	8.9
ARNU153M2A4 / 15.4	95	10.1	9.3	12.3	10.7	13.9	11.4	15.4	12.2	16.5	12.6	16.8	12.0	17.1	11.3
ARNU183M2A4 / 19.1	95	12.6	11.4	15.3	13.1	17.2	14.0	19.1	14.9	20.5	15.5	20.9	14.7	21.2	13.9
ARNU243M2A4 / 24.2	95	15.9	14.4	19.4	16.1	21.8	17.7	24.2	17.7	25.9	19.2	26.4	18.7	26.8	17.6

Cooling Capacity for High Static M3 Unit

Table 29: Ducted High Static Cooling Capacity Table.

Model No. / Capacity Index	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
ARNU283M3A4 / 28.0	95	18.4	17.1	22.4	19.8	25.2	21.0	28.0	22.4	30	23.3	30.6	22.1	31	20.9

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.

Cooling Capacity Table

Cooling Capacity for High Static B8 Units

Table 30: Ducted High Static Cooling Capacity Table.

Model No. / Capacity Index	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
ARNU363B8A4 / 36.2	95	23.8	20.0	29.0	23.0	32.6	24.5	36.2	26.1	38.8	27.1	39.5	25.8	40.1	24.4
ARNU423B8A4 / 42.0	95	27.7	23.2	33.6	26.7	37.8	28.4	42.0	30.3	45.0	31.5	45.9	30.0	46.6	28.3
ARNU483B8A4 / 48.1	95	31.7	26.5	38.5	30.6	43.3	32.6	48.1	34.7	51.5	36.1	52.5	34.3	53.3	32.4
ARNU543B8A4 / 54.0	95	35.6	28.9	43.2	33.4	48.6	35.5	54.0	37.8	57.8	39.3	58.9	37.4	59.8	35.2
ARNU763B8A4 / 76.4	95	50.3	40.9	61.1	47.2	68.8	50.2	76.4	53.5	81.8	55.6	83.4	52.9	84.7	49.9
ARNU963B8A4 / 95.9	95	63.1	51.3	76.7	59.2	86.3	63.0	95.9	67.1	102.7	69.8	104.7	66.4	106.3	62.6

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.

Heating Capacity for High Static M2 Units

Table 31: Ducted High Static Unit Heating Capacity Table.

Model No. / Capacity Index	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
			MBh	MBh	MBh	MBh	MBh	MBh	MBh	MBh
ARNU073M2A4 / 7.5	47	43	9.5	9.4	9.4	8.9	8.5	8.3	7.8	7.4
ARNU093M2A4 / 9.6	47	43	12.2	12.1	12.0	11.5	10.9	10.6	10.0	9.5
ARNU123M2A4 / 12.3	47	43	15.2	15.1	15.0	14.3	13.6	13.2	12.5	11.9
ARNU153M2A4 / 15.4	47	43	19.2	19.0	18.8	18.0	17.1	16.6	15.7	15.0
ARNU183M2A4 / 19.1	47	43	24.1	23.9	23.7	22.6	21.5	20.9	19.8	18.8
ARNU243M2A4 / 24.2	47	43	30.6	30.3	30.0	28.7	27.3	26.5	25.1	23.9

Heating Capacity for High Static M3 Unit

Table 32: Ducted High Static Unit Heating Capacity Table.

Model No. / Capacity Index	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
			MBh	MBh	MBh	MBh	MBh	MBh	MBh	MBh
ARNU283M3A4 / 28.0	47	43	35.3	35.0	34.7	33.1	31.5	30.6	29.0	27.6

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.

Heating Capacity Tables

Heating Capacity for High Static B8 Units

Table 33: Ducted High Static Unit Heating Capacity Table.

Model No. / Capacity Index	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
			MBh	MBh	MBh	MBh	MBh	MBh	MBh	MBh
ARNU363B8A4 / 36.2	47	43	45.5	45.1	44.7	42.6	40.6	39.4	37.4	35.5
ARNU423B8A4 / 42.0	47	43	49.1	48.6	48.2	46.0	43.8	42.5	40.3	38.3
ARNU483B8A4 / 48.1	47	43	57.3	56.8	56.3	53.8	51.2	49.7	47.1	44.8
ARNU543B8A4 / 54.0	47	43	74.7	71.1	67.7	64.5	61.4	59.6	56.1	53.7
ARNU763B8A4 / 76.4	47	43	96.3	95.5	94.6	90.3	86.0	83.4	79.1	75.3
ARNU963B8A4 / 95.9	47	43	120.4	119.3	118.3	112.9	107.5	104.3	98.9	94.1

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.

LG

Table 34: Optional Accessories for Ducted High Static Indoor Units.

Accessory	Model Number
High Efficiency Filter Box	ZFBXM201A (For 7~24MBh M2 Ducted High Static Indoor Units) ZFBXM301A (For 28MBh M3 Ducted High Static Indoor Units) ZFBXB801A (For 36~96MBh B8 Ducted High Static Indoor Units)

All accessories are sold separately.

CEILING-CONCEALED MID STATIC DUCTED

Casing

The case is designed to mount concealed above a finished ceiling. Fan supply air is front horizontal with a dedicated rear horizontal return. The unit is manufactured with coated metal. Cold surfaces are covered with a coated polystyrene insulating material. The cold surface areas of the case are covered externally with sheet insulation made of Ethylene Propylene Diene Monomer (M-Class) (EPDM) conforming to ASTM Standard D-1418. The case is provided with hanger brackets designed to support the unit weight on four corners. Hanger brackets have pre-punched holes designed to accept field supplied, all-thread rod hangers.

MA convertible ducted units have a front horizontal supply air discharge outlet, and one rear horizontal return air outlet which is field convertible for a rear bottom return.

Fan Assembly and Control

The unit has Sirocco fans made of high strength ABS GP-2200 polymeric resin. Fans are directly driven and mounted on a common shaft. The fan motor is a Brushless Digitally Controlled (BLDC) design with permanently lubricated and sealed ball bearings. The fan motor includes thermal, overcurrent and low RPM protection. The fan / motor assembly is mounted on vibration attenuating rubber grommets. The fan impeller is statically and dynamically balanced. The 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. Each setting can be field adjusted from the factory setting (RPM / ESP) to compensate for additional resistance to airflow caused by field connected ductwork or other airflow restricting devices.

Air Filter

Return air is filtered with a removable, washable filter with anti fungal treatment. MERV 13 filter modules with plenums available.

Microprocessor Controls

The unit is provided with an integrated microprocessor-based controller. The controller is capable of performing functions necessary to operate the system without the use of a wall-mounted controller. A temperature thermistor is factory-mounted in the return air stream. All unit operation parameters, excluding the unit operating 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 cable (RS-485), terminated via screw terminals on the control boards. The microprocessor control provides the following functions: auto addressing, self-diagnostics, auto restart following power restoration, test run, and will operate the indoor unit using one of five operating modes:

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

Figure 14: Convertible Mid Static Ducted Indoor Unit (MA).

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 will activate the indoor unit when indoor room temperature falls below setpoint temperature and signals the outdoor unit to begin heating cycle. The indoor unit fan operation is delayed until coil pipe temperature reaches 76ºF. Significant airflow is generated when pipe temperature reaches 80°F. In lieu of factory return air thermistor, screw terminals on the microprocessor circuit board accommodate various models of wall-mounted local controllers and/or a wall-mounted remote temperature sensor. The unit microprocessor is capable of accepting space temperature readings concurrently or individually from either:

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

A single indoor unit has the capability of being controlled by up to two local wired controllers. 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. 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 wall-mounted local or central controller, displayed diagnostic codes are specific, alpha numeric, and provide the service technician with a reason for the code displayed.

Condensate Lift / Pump

The indoor unit is provided with a factory installed and wired condensate lift / pump capable of providing a maximum 27.5 inch lift from the bottom exterior surface of the unit casing. The unit drain pan is provided with a secondary drain port/plug allowing the pan to be drained for service. The lift pump comes with a safety switch that will shut off indoor unit if condensate rises too high in the drain pan.

Condensate Drain Pan

The condensate drain pan is constructed of high impact polystyrene resin (HIPS).

Coil

The indoor unit coil is constructed with grooved design copper tubes with slit coil fins, 2 to 3 rows, 18 fins per inch.

MID STATIC DUCTED

Mechanical Specifications

Controls Features

- Auto changeover (Heat Recovery only)
- Auto operation
- Auto restart
- External on/off control
- Dual thermistor control
- Dual set-point control
- Filter life display
- Multiple auxiliary heater applications
- Group control
- External static pressure control
- Hot start
- Self diagnostics
- Timer (on / off)
- Weekly schedule
- Fan speed control
- Ventilation (outside air)
- 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 Water IV, Multi V S Engineering Manual for additional information.*

CONVERTIBLE MID STATIC DUCTED

General Data

Table 35: Convertible Mid Static Ducted (MA Frame) Indoor Unit General Data.

Model No.	ARNU073MAA4	ARNU093MAA4	ARNU123MAA4	ARNU153MAA4	ARNU183MAA4	ARNU243MAA4
Cooling Mode Performance						
Capacity (Btu/h)	7,500	9,600	12,300	15,400	19,100	24,200
Max. Power Input[1] (W)	220	220	220	220	220	220
H/M/L Power Input at Factory Default (W)	47 / 36 / 30	48 / 39 / 32	56 / 46 / 38	81 / 64 / 56	102 / 76 / 66	110 / 89 / 70
Heating Mode Performance						
Capacity (Btu/h)	8,500	10,900	13,600	17,100	21,500	27,300
Max. Power Input[1] (W)	220	220	220	220	220	220
H/M/L Power Input at Factory Default (W)	47 / 36 / 30	48 / 39 / 32	56 / 46 / 38	81 / 64 / 56	102 / 76 / 66	110 / 89 / 70
Entering Mixed Air						
Cooling Max. (°F WB)	76	76	76	76	76	76
Heating Min. (°F DB)[2]	59	59	59	59	59	59
Unit Data						
Refrigerant Type[3]	R410A	R410A	R410A	R410A	R410A	R410A
Refrigerant Control	EEV	EEV	EEV	EEV	EEV	EEV
Sound Power[4] dB(A) Max.	44	44	47	51	54	57
Sound Pressure[5] dB(A) (H/M/L, @0.24" ESP)	28 / 27 / 25	28 / 27 / 26	31 / 29 / 28	33 / 31 / 29	36 / 32 / 29	38 / 33 / 30
Net Unit Weight (lbs.)	62.6	62.6	62.6	62.6	62.6	65.5
Shipping Weight (lbs.)	72.1	72.1	72.1	72.1	72.1	75.0
Communication Cable[6] (No. x AWG)	2 x 18	2 x 18	2 x 18	2 x 18	2 x 18	2 x 18
Fan						
Type	Sirocco	Sirocco	Sirocco	Sirocco	Sirocco	Sirocco
Motor	1	1	1	1	1	1
Housing	1	1	1	1	1	1
Motor/Drive	Brushless Digitally Controlled / Direct					
Airflow Rate H/M/L (CFM) High Mode (Factory Set)	283 / 247 / 212	353 / 318 / 283	494 / 424 / 353	530 / 424 / 388	635 / 530 / 424	706 / 547 / 459
External Static Pressure (in. wg) High Mode (Factory Set)	0.24	0.24	0.24	0.24	0.24	0.24
Piping						
Liquid Line (in., O.D.)	1/4 Flare	1/4 Flare	1/4 Flare	1/4 Flare	1/4 Flare	3/8 Flare
Vapor Line (in., O.D.)	1/2 Flare	1/2 Flare	1/2 Flare	1/2 Flare	1/2 Flare	5/8 Flare
Condensate Line (in., I.D.)	1	1	1	1	1	1

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.

All capacities are net with a combination ratio between 95-105%.

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 Power level is measured using rated conditions, and tested in a reverberation room per AHRI 260.

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

[6]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.

MID STATIC DUCTED

General Data

Table 36: Ducted Mid Static (M2 Frame) Indoor Unit General Data, continued.

Model No.	ARNU363M2A4	ARNU423M2A4
Cooling Mode Performance		
Capacity (Btu/h)	36,200	42,000
Max Power Input[1] (W)	430	430
L/M/H Power Input at Factory Default (W)	88 / 123 / 184	136 / 193 / 231
Heating Mode Performance		
Capacity (Btu/h)	40,600	47,000
Max Power Input[1] (W)	450	450
L/M/H Power Input at Factory Default (W)	88 / 123 / 184	136 / 193 / 231
Entering Mixed Air		
Cooling Max. (°F WB)	76	76
Heating Min. (°F DB)[2]	59	59
Unit Data		
Refrigerant Type[3]	R410A	R410A
Refrigerant Control	EEV	EEV
Sound Power[4] dB(A) (H/M/L, @0.24" ESP)	51-48-46	55-52-49
Sound Pressure[5] dB(A) (H/M/L, @0.24" ESP)	42-40-38	44-43-40
Net Unit Weight (lbs.)	86.2	86.2
Shipping Weight (lbs.)	99.2	99.2
Communication Cable[6] (No. x AWG)	2 x 18	2 x 18
Fan		
Type	Sirocco	Sirocco
Motor	1	1
Housing	2	2
Motor/Drive	Brushless Digitally Controlled / Direct	
Airflow Rate H / M / L (CFM) High Mode (Factory Set)	1,031 / 845 / 676	1,260 / 1,076 / 888
External Static Pressure (in. wg) High Mode (Factory Set)	0.24	0.24
Piping		
Liquid Line (in., O.D.)	3/8 Flare	3/8 Flare
Vapor Line (in., O.D.)	5/8 Flare	5/8 Flare
Condensate Line (in., I.D.)	1	1

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.

All capacities are net with a combination ratio between 95-105%.

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 Power level is measured using rated conditions, and tested in a reverberation room per AHRI 260.

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

[6]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 37: Ducted Mid Static (M3 Frames) Indoor Unit General Data.

Model No.	ARNU483M3A4
Cooling Mode Performance	
Capacity (Btu/h)	48,100
Max Power Input[1] (W)	650
L/M/H Power Input at Factory Default (W)	75 / 107 / 172
Heating Mode Performance	
Capacity (Btu/h)	54,200
Power Input[1] (W)	650
L/M/H Power Input at Factory Default (W)	75 / 107 / 172
Entering Mixed Air	
Cooling Max. (°F WB)	76
Heating Min. (°F DB)[2]	59
Unit Data	
Refrigerant Type[3]	R410A
Refrigerant Control	EEV
Sound Power[4] dB(A) (H/M/L, @0.24" ESP)	55-51-50
Sound Pressure[5] dB(A) (H/M/L, @0.24" ESP)	42-39-37
Net Unit Weight (lbs.)	96.1
Shipping Weight (lbs.)	105.4
Communication Cable[6] (No. x AWG)	2 x 18
Fan	
Type	Sirocco
Motor	1
Housing	2
Motor/Drive	Brushless Digitally Controlled / Direct
Airflow Rate H/M/L (CFM) High Mode (Factory Set)	1,482 / 1,191 / 918
External Static Pressure (in. wg) High Mode (Factory Set)	0.23
Piping	
Liquid Line (in., O.D.)	3/8 Flare
Vapor Line (in., O.D.)	5/8 Flare
Condensate Line (in., I.D.)	1

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.

All capacities are net with a combination ratio between 95-105%.

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 Power level is measured using rated conditions, and tested in a reverberation room per AHRI 260.

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

[6]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.

MID STATIC DUCTED

Electrical Data

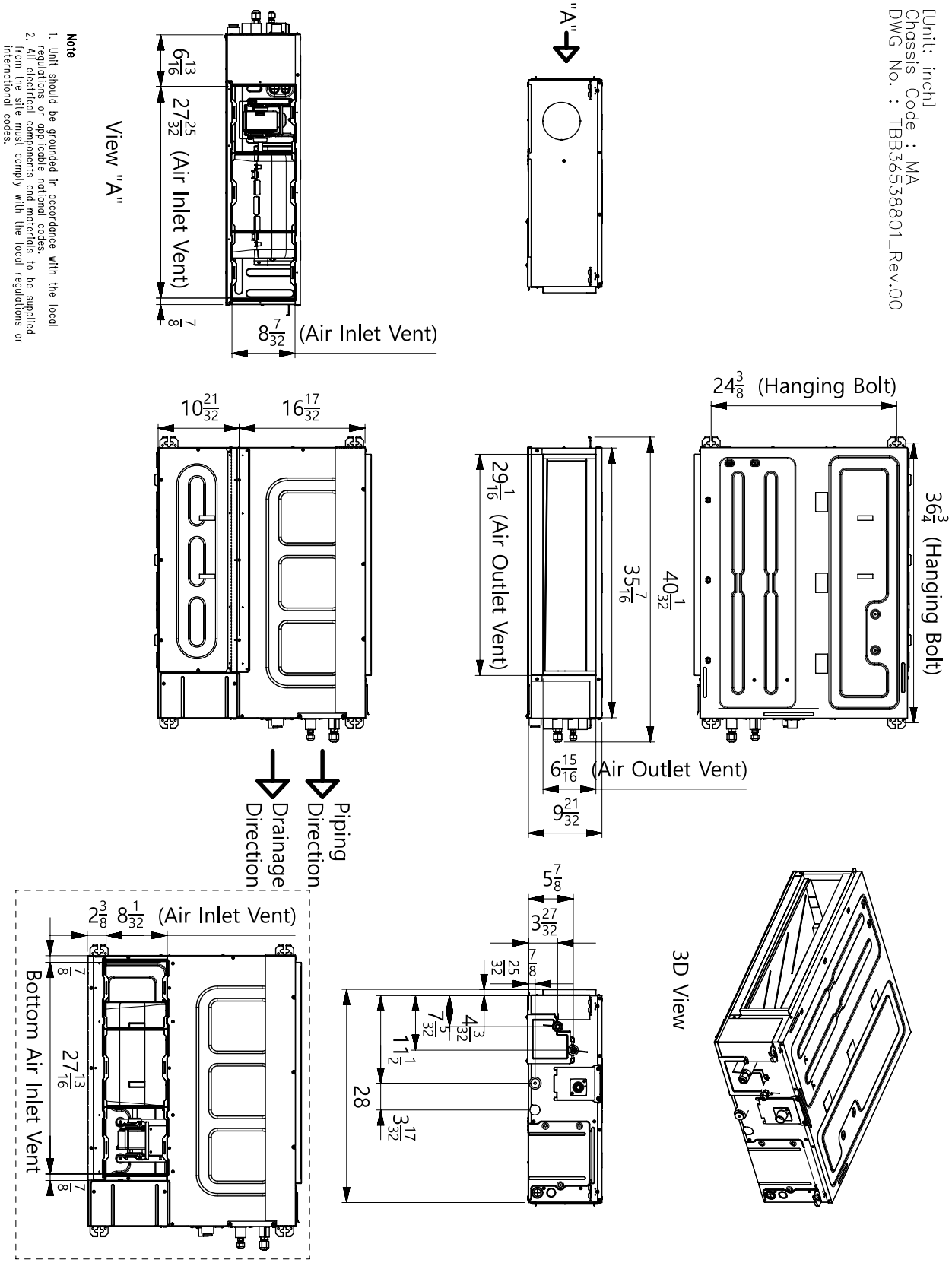
Table 38: Ducted Mid Static Indoor Unit Electrical Data.

Model	Voltage Range	MCA	MOP	Rated Amps (A)	Power Supply			Power Input (W)		
					Hz	Volts	Phase	Max. Cooling	Max. Heating	L / M / H at Factory Default
MA Units										
ARNU073MAA4	208-230	2.2	15	1.7	60	208-230	1	220	220	30 / 36 / 47
ARNU093MAA4		2.2		1.7				220	220	32 / 39 / 48
ARNU123MAA4		2.2		1.7				220	220	38 / 46 / 56
ARNU153MAA4		2.2		1.7				220	220	56 / 64 / 81
ARNU183MAA4		2.2		1.7				220	220	66 / 76 / 102
ARNU243MAA4		2.2		1.7				220	220	70 / 89 / 110
M2 Units										
ARNU363M2A4	208-230	2.9	15	2.3	60	208-230	1	430	430	88 / 123 / 184
ARNU423M2A4		2.9		2.3				430	430	136 / 193 / 231
M3 Units										
ARNU483M3A4	208-230	3.1	15	2.5	60	208-230	1	650	650	75 / 107 / 172

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.
Max. power input is rated at maximum setting value.

Figure 15: ARNU073~243MAA4 Dimensions.

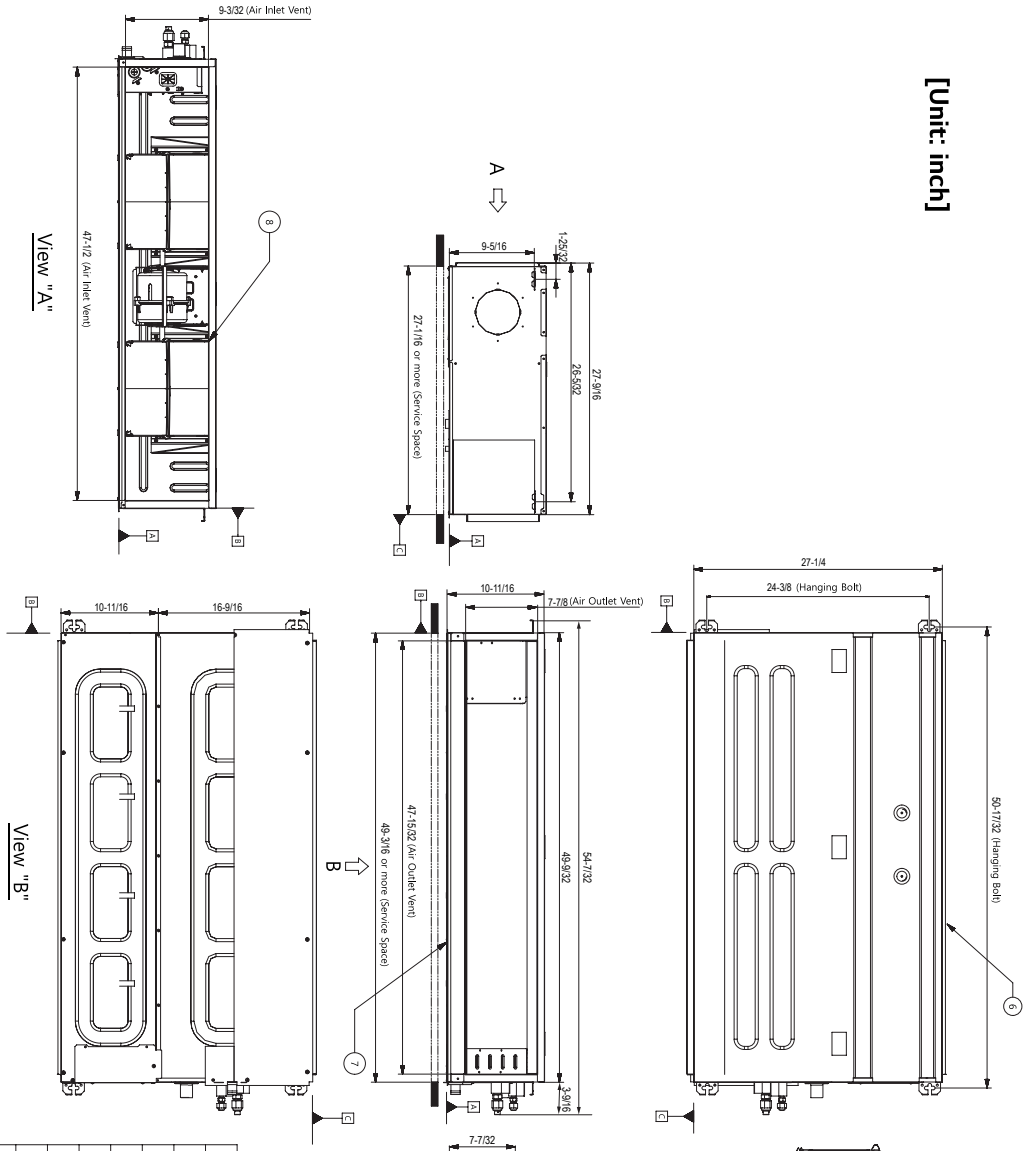


MID STATIC DUCTED

External Dimensions

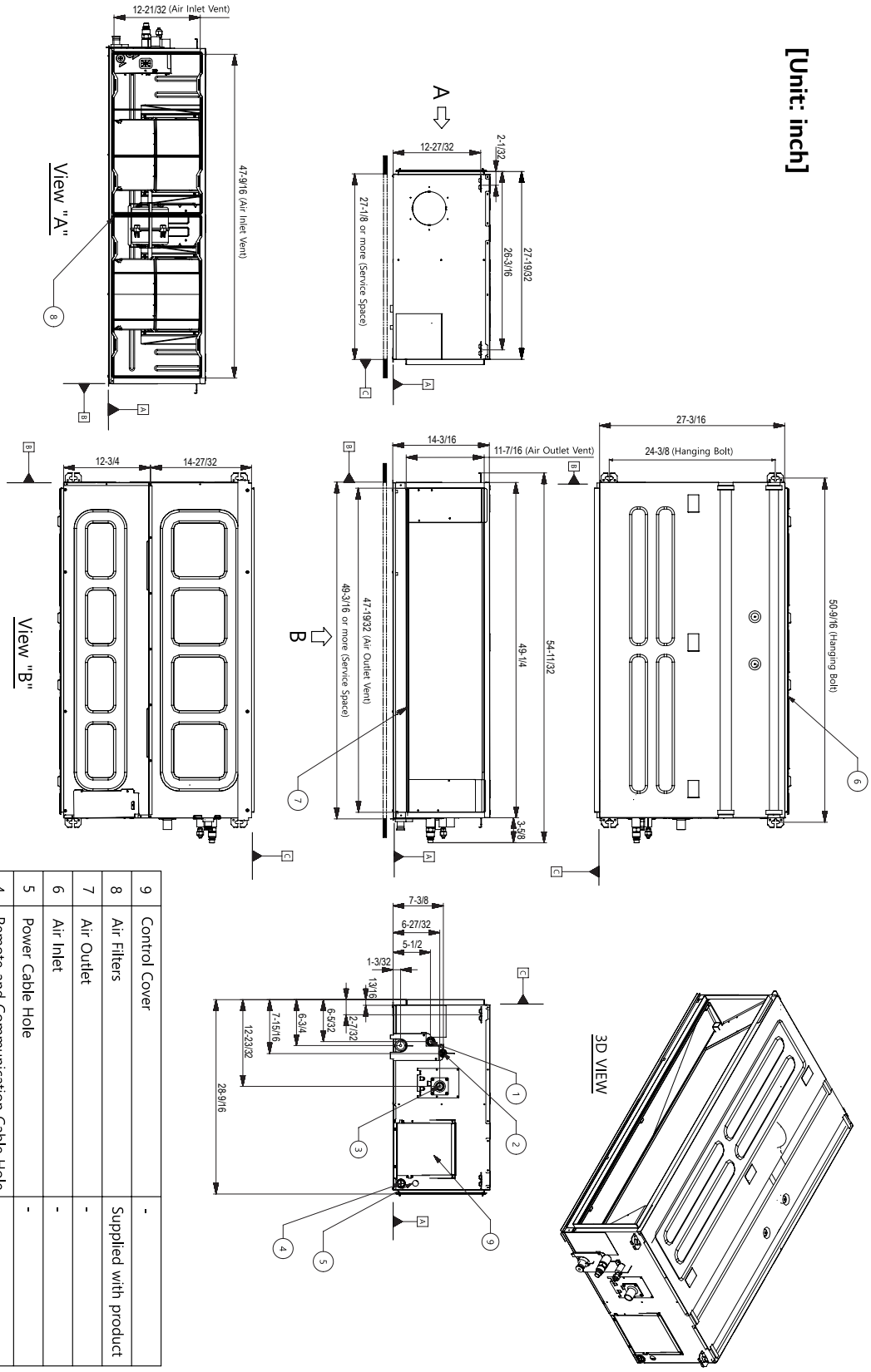
ARNU363~423M2A4 Units

Figure 16: ARNU363~423M2A4 Dimensions.



No.	Part Name	Description
1	Gas pipe connection	-
2	Liquid pipe connection	-
3	Drain pipe connection	-
4	Remote and Communication Cable Hole	-
5	Power Cable Hole	-
6	Air Inlet	-
7	Air Outlet	-
8	Air Filters	Supplied with product
9	Control Cover	-

Figure 17: ARNU483M3A4 Dimensions.



No.	Part Name	Description
1	Gas pipe connection	-
2	Liquid pipe connection	-
3	Drain pipe connection	-
4	Remote and Communication Cable Hole	-
5	Power Cable Hole	-
6	Air Inlet	-
7	Air Outlet	-
8	Air Filters	Supplied with product
9	Control Cover	-

CONVERTIBLE MID STATIC DUCTED

Electrical Wiring Diagram

MA Units

Figure 18: ARNU073~243MAA4 Wiring Diagram.

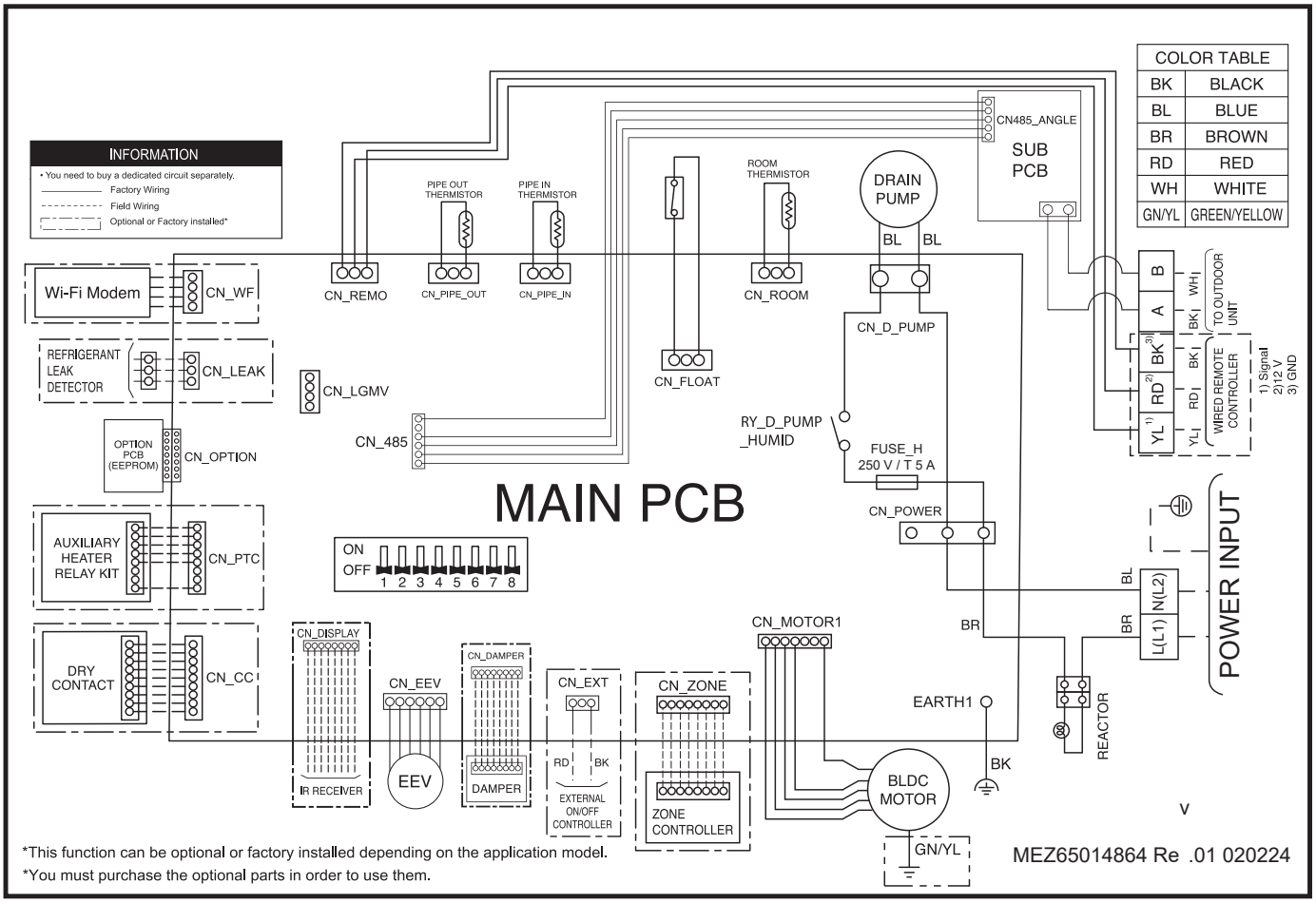


Table 39: MA Unit Wiring Diagram Legend.

Terminal	Purpose	Function
CN-POWER	AC Power supply	AC Power line
CN-MOTOR1	Fan motor output	Motor output of BLDC
CN-VM	Sub PCB to Main PCB power supply	Power supply connection
CN-DAMPER	N / A	N / A
CN-ZONE	Zone controller	Zone controller connection
CN-EXT	External on / off controller	External on / off Controller connection
CN-EEV	EEV Output	EEV control output
CN-OPTION	Optional PCB EPROM	Option PCB connection
CN-DISPLAY	Display	Display of indoor status
CN-PTC	Auxiliary heater	Connection for Auxiliary Heater
CN-CC	Dry contact	Dry Contact connection
CN-HUMID	N / A	N / A
CN-LEAK	Leak detector	Leak detector connection
CN-FLOAT	Float switch input	Float switch sensing
CN-PIPE-OUT	Discharge pipe sensor	Pipe out thermistor
CN-WF	Wi-Fi	Wi-Fi module connection
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	AC output for drain pump
CN-485	Communication	Connection between indoor and outdoor units
CN-LGMV	LGMV	LGMVConnection

Table 40: MA Unit 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 ducted indoor 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 ducted indoor units, DIP Switches 1, 2, 6 through 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, Multi V S Engineering Manual for additional information.**

MID STATIC DUCTED

Electrical Wiring Diagram

ARNU363~423M2A4 Units

Figure 19: ARNU363~423M2A4 Wiring Diagram.

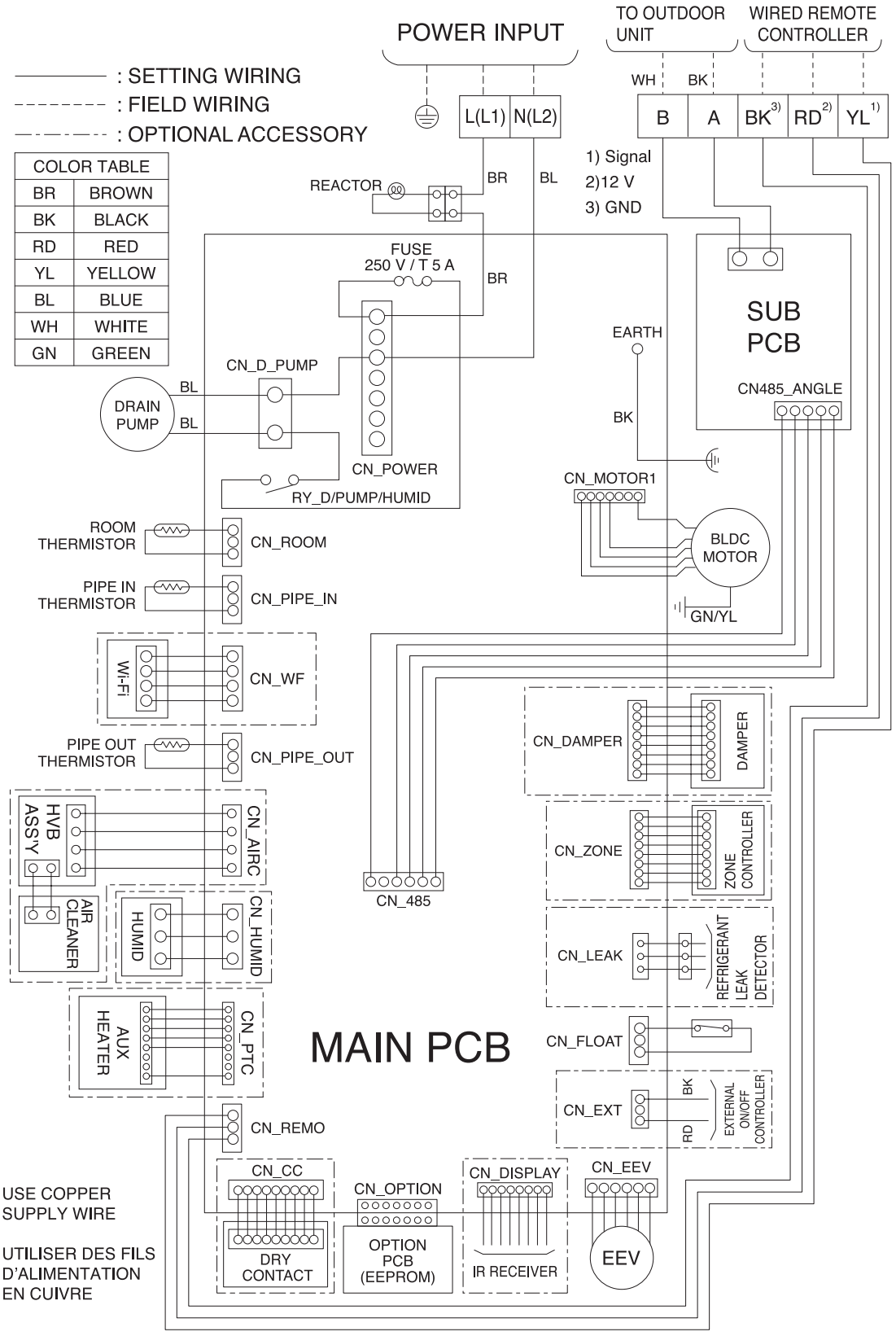


Table 41: ARNU363~423M2A4 Unit Wiring Diagram Legend.

Terminal	Purpose	Function
CN-POWER	AC Power supply	AC Power line
CN-MOTOR1	Fan motor output	Motor output of BLDC
CN-VM	Sub PCB to Main PCB power supply	Power supply connection
CN-DAMPER	N / A	N / A
CN-ZONE	Zone controller	Zone controller connection
CN-EXT	External on / off controller	External on / off Controller connection
CN-EEV	EEV Output	EEV control output
CN-OPTION	Optional PCB EPROM	Option PCB connection
CN-DISPLAY	Display	Display of indoor status
CN-PTC	Auxiliary heater	Connection for Auxiliary Heater
CN-CC	Dry contact	Dry Contact connection
CN-HUMID	N / A	N / A
CN-LEAK	Leak detector	Leak detector connection
CN-FLOAT	Float switch input	Float switch sensing
CN-PIPE/OUT	Discharge pipe sensor	Pipe out thermistor
CN-WF	Wi-Fi	Wi-Fi module connection
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	AC output for drain pump
CN-485	Communication	Connection between indoor and outdoor units

Table 42: ARNU363~423M2A4 Unit 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 ducted indoor 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 ducted indoor units, DIP Switches 1, 2, 6 through 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, Multi V S Engineering Manual for additional information.**

MID STATIC DUCTED

Electrical Wiring Diagram

ARNU483M3A4 Unit

Figure 20: ARNU483M3A4 Wiring Diagram.

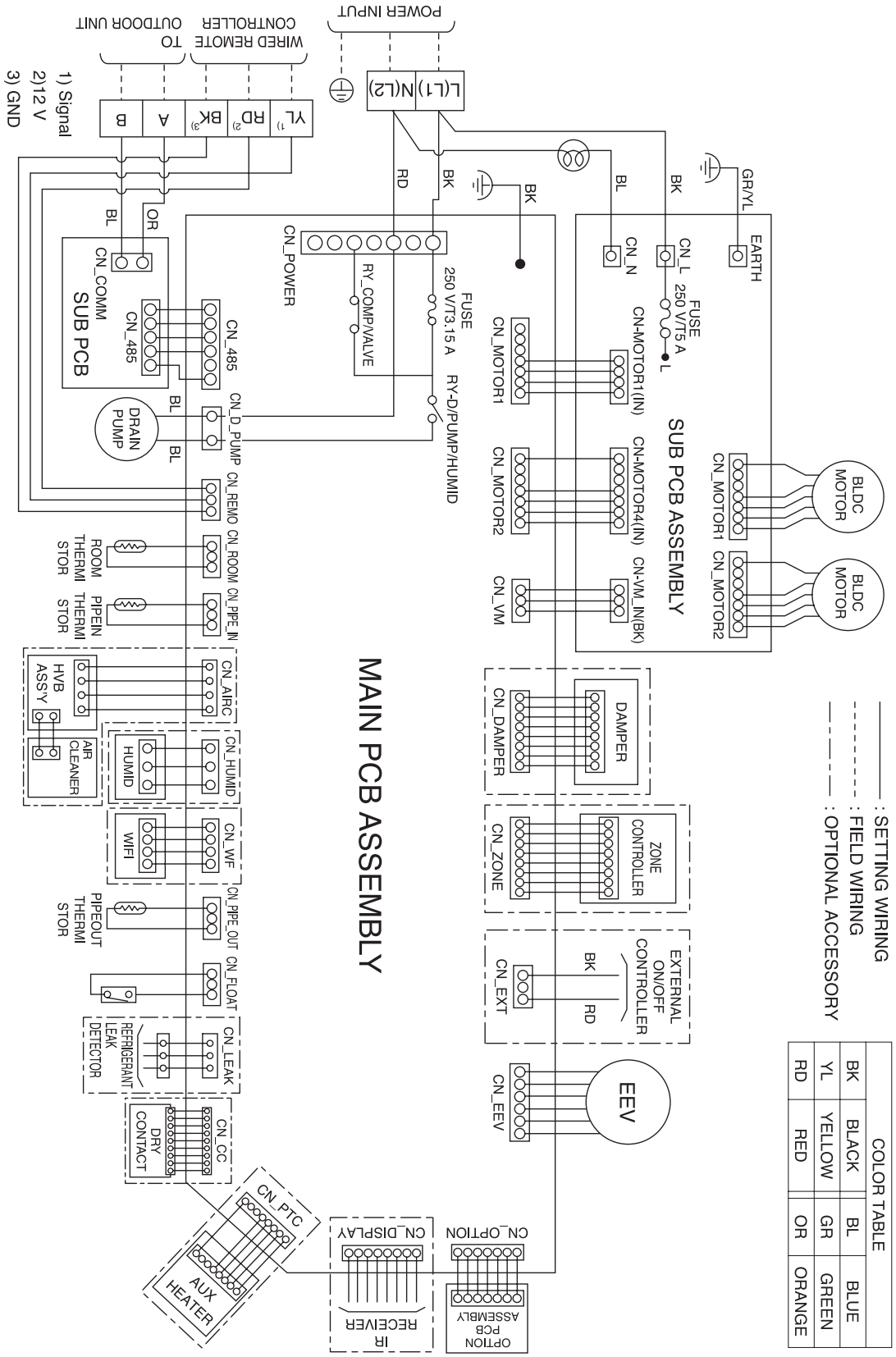


Table 43: ARNU483M3A4 Unit Wiring Diagram Legend.

Terminal	Purpose	Function
CN-POWER	AC Power supply	AC Power line
CN-MOTOR1	Fan motor output	Motor output of BLDC
CN-MOTOR2	Fan motor output	Motor output of BLDC
CN-VM	Sub PCB to Main PCB power supply	Power supply connection
CN-DAMPER	N / A	N / A
CN-ZONE	Zone controller	Zone controller connection
CN-EXT	External on / off controller	External on / off Controller connection
CN-EEV	EEV Output	EEV control output
CN-OPTION	Optional PCB EPROM	Option PCB connection
CN-DISPLAY	Display	Display of indoor status
CN-PTC	Auxiliary heater	Connection for Auxiliary Heater
CN-CC	Dry contact	Dry Contact connection
CN-LEAK	Leak detector	Leak detector connection
CN-FLOAT	Float switch input	Float switch sensing
CN-PIPE/OUT	Discharge pipe sensor	Pipe out thermistor
CN-WF	Wi-Fi	Wi-Fi module connection
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	AC output for drain pump
CN-485	Communication	Connection between indoor and outdoor units

Table 44: M3 Unit 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 ducted indoor 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 ducted indoor units, DIP Switches 1, 2, 6 through 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, Multi V S Engineering Manual for additional information.**

Refrigerant Flow Diagram for ARNU073~243MAA4, ARNU363~423M2A4, ARNU483M3A4 Units

Figure 21: MA, M2, M3 Unit Refrigerant Flow Diagram.

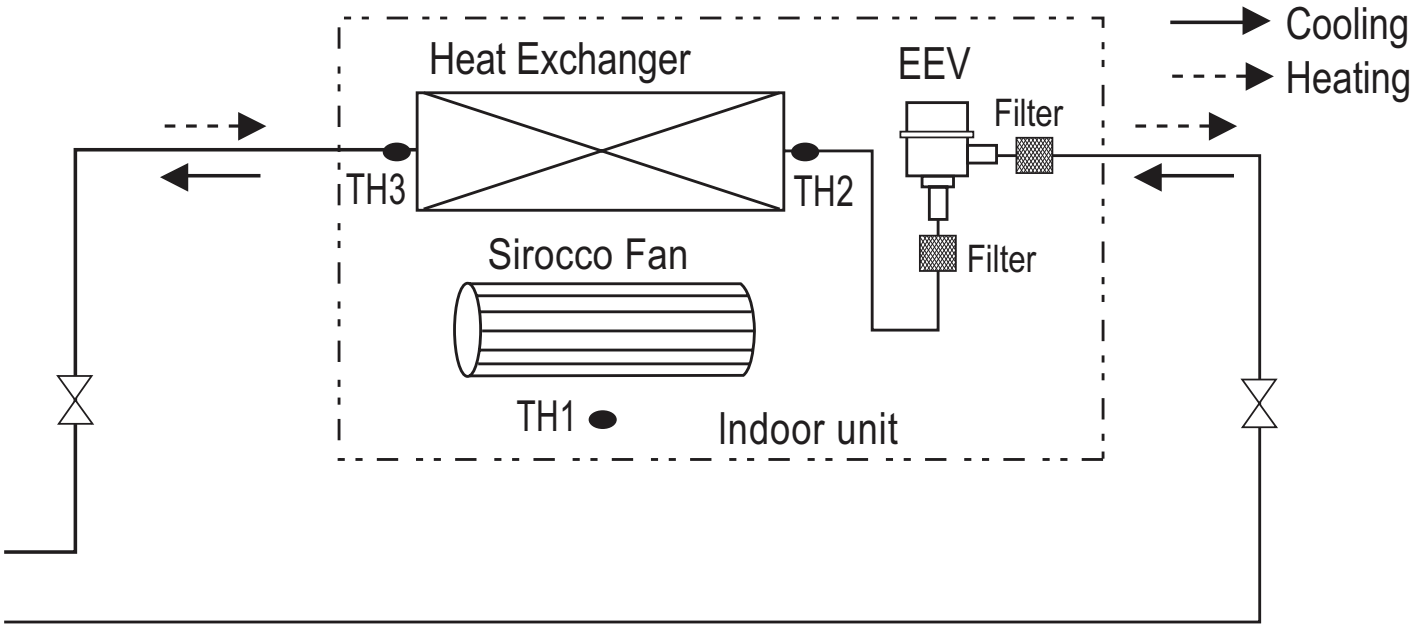


Table 45: MA, M2, M3 Unit Refrigerant Pipe Connection Port Diameters.

Model	Liquid (inch)	Vapor (inch)
MA Units		
ARNU073MAA4	1/4 Flare	1/2 Flare
ARNU093MAA4		
ARNU123MAA4		
ARNU153MAA4		
ARNU183MAA4		
ARNU243MAA4	3/8 Flare	5/8 Flare
M2 Units		
ARNU363M2A4	3/8 Flare	5/8 Flare
ARNU423M2A4	3/8 Flare	5/8 Flare
M3 Units		
ARNU483M3A4	3/8 Flare	5/8 Flare

Table 46: MA, M2, M3 Frame Thermistors.

Thermistor	Description
TH1	Return air thermistor
TH2	Pipe in thermistor
TH3	Pipe out thermistor

MA Units External Static Pressure and Air Flow Tables

ARNU073~153MAA4 External Static Pressure and Air Flow Table.

Table 47: ARNU073~153MAA4 External Static Pressure and Air Flow Table.

Set Value	Static Pressure (in wg)							
	0.10	0.16	0.20	0.24	0.28	0.31	0.35	0.39
	Air Flow Rate [CFM]							
65	218.2	-	-	-	-	-	-	-
70	291.6	-	-	-	-	-	-	-
75	343.5	207.2	-	-	-	-	-	-
80	395.4	267.6	-	-	-	-	-	-
85	441.1	336.1	-	-	-	-	-	-
90	486.8	404.5	353.4	233.3	-	-	-	-
95	534.3	457.0	388.1	306.2	216.4	-	-	-
100	581.7	509.4	438.1	379.1	323.3	218.2	-	-
105	622.9	559.3	498.1	447.3	402.8	312.2	180.7	-
110	664.0	609.3	561.6	515.4	473.7	406.3	324.8	169.1
115	706.9	655.7	615.5	568.2	527.4	474.1	408.8	289.1
120	749.8	702.1	660.8	620.9	582.8	541.9	488.2	409.1
125	788.6	743.6	701.4	666.8	637.2	595.7	551.0	485.9
130	827.4	785.1	749.8	712.7	690.5	649.5	601.9	562.7
135	866.3	824.6	788.4	760.9	735.7	697.5	663.3	616.3
140	905.1	864.1	840.8	809.1	785.1	745.5	722.2	670.0
145	-	907.2	880.4	852.8	835.6	790.7	767.8	721.2
150	-	950.3	925.9	896.6	884.6	835.9	814.7	772.4
155	-	-	-	943.9	931.6	885.9	864.9	823.0
160	-	-	-	991.2	971.8	935.8	917.8	873.7
165	-	-	-	-	-	-	-	922.4

• The table above shows the available external static pressure range and the correlation between air flow rates and external static pressure.
• All static pressure air flow rates are listed in CFM.

Note:
If the external static pressure of the installed indoor unit is less than the lowest value (as mentioned in the table), the indoor unit components can fail.

CONVERTIBLE MID STATIC DUCTED

External Static Pressure and Air Flow Tables

MA Units External Static Pressure and Air Flow Tables

ARNU183MAA4 External Static Pressure and Air Flow Table.

Table 48: ARNU183MAA4 External Static Pressure and Air Flow Table.

Set Value	Static Pressure (in wg)											
	0.10	0.16	0.20	0.24	0.28	0.31	0.35	0.39	0.43	0.47	0.51	0.59
	Air Flow Rate [CFM]											
65	218.2	-	-	-	-	-	-	-	-	-	-	-
70	291.6	-	-	-	-	-	-	-	-	-	-	-
75	343.5	207.2	-	-	-	-	-	-	-	-	-	-
80	395.4	267.6	-	-	-	-	-	-	-	-	-	-
85	441.1	336.1	-	-	-	-	-	-	-	-	-	-
90	486.8	404.5	353.4	233.3	-	-	-	-	-	-	-	-
95	534.3	457.0	388.1	306.2	216.4	-	-	-	-	-	-	-
100	581.7	509.4	438.1	379.1	323.3	218.2	-	-	-	-	-	-
105	622.9	559.3	498.1	447.3	402.8	312.2	180.7	-	-	-	-	-
110	664.0	609.3	561.6	515.4	473.7	406.3	324.8	169.1	-	-	-	-
115	706.9	655.7	615.5	568.2	527.4	474.1	408.8	289.1	209.7	-	-	-
120	749.8	702.1	660.8	620.9	582.8	541.9	488.2	409.1	345.9	186.4	-	-
125	788.6	743.6	701.4	666.8	637.2	595.7	551.0	485.9	428.9	309.2	191.0	-
130	827.4	785.1	749.8	712.7	690.5	649.5	601.9	562.7	524.9	432.1	365.7	-
135	866.3	824.6	788.4	760.9	735.7	697.5	663.3	616.3	587.7	517.5	445.0	263.7
140	905.1	864.1	840.8	809.1	785.1	745.5	722.2	670.0	642.8	602.9	524.2	379.8
145	-	907.2	880.4	852.8	835.6	790.7	767.8	721.2	702.5	659.9	594.1	468.1
150	-	950.3	925.9	896.6	884.6	835.9	814.7	772.4	755.4	716.9	664.0	556.3
155	-	-	-	943.9	931.6	885.9	864.9	823.0	807.3	765.5	714.1	622.9
160	-	-	-	991.2	971.8	935.8	917.8	873.7	862.7	814.0	764.2	689.4
165	-	-	-	-	-	-	-	922.4	907.2	865.6	819.3	741.3

• The table above shows the available external static pressure range and the correlation between air flow rates and external static pressure.
• All static pressure air flow rates are listed in CFM.

Note:
If the external static pressure of the installed indoor unit is less than the lowest value (as mentioned in the table), the indoor unit components can fail.

MA Units External Static Pressure and Air Flow Tables

ARNU243MAA4 External Static Pressure and Air Flow Table.

Table 49: ARNU243MAA4 External Static Pressure and Air Flow Table.

Set Value	Static Pressure (in wg)											
	0.10	0.16	0.20	0.24	0.28	0.31	0.35	0.39	0.43	0.47	0.51	0.59
	Air Flow Rate [CFM]											
70	252.0	-	-	-	-	-	-	-	-	-	-	-
75	301.1	182.9	-	-	-	-	-	-	-	-	-	-
80	350.2	247.1	-	-	-	-	-	-	-	-	-	-
85	393.8	308.3	-	-	-	-	-	-	-	-	-	-
90	437.4	369.6	255.2	163.4	-	-	-	-	-	-	-	-
95	482.2	413.9	317.9	251.2	162.9	-	-	-	-	-	-	-
100	527.0	458.2	383.4	338.9	257.7	164.5	-	-	-	-	-	-
105	568.5	505.3	456.8	402.8	348.8	257.7	-	-	-	-	-	-
110	610.0	552.4	515.4	466.7	415.5	350.9	300.1	-	-	-	-	-
115	648.5	597.1	559.7	522.6	472.5	416.0	363.1	284.9	-	-	-	-
120	686.9	641.8	610.0	578.6	533.4	481.1	439.8	363.6	282.8	164.9	-	-
125	730.0	682.7	651.3	624.1	586.3	530.2	497.7	423.6	367.1	275.2	210.4	-
130	773.1	723.7	690.8	669.6	630.1	579.3	542.2	483.5	438.7	385.5	353.7	-
135	806.1	765.7	745.5	718.4	688.7	631.2	598.3	550.5	515.9	457.8	418.1	-
140	839.1	807.7	798.5	767.1	740.6	683.1	653.4	617.4	584.2	530.2	482.6	370.7
145	877.6	842.4	835.7	806.8	778.2	731.1	699.3	672.5	640.3	588.3	548.4	447.8
150	-	877.2	873.3	846.5	821.8	779.1	745.5	727.5	691.5	646.3	614.2	524.9
155	-	-	933.7	903.3	882.1	821.8	787.5	773.4	743.8	703.2	672.6	594.5
160	-	-	-	-	-	-	-	819.3	786.1	760.0	731.1	664.0
165	-	-	-	-	-	-	-	-	-	809.4	783.7	719.1

- *The table above shows the available external static pressure range and the correlation between air flow rates and external static pressure.*
- *All static pressure air flow rates are listed in CFM.*

Note:

If the external static pressure of the installed indoor unit is less than the lowest value (as mentioned in the table), the indoor unit components can fail.

ARNU363~423M2A4 Units External Static Pressure and Air Flow Table

Table 51: ARNU363~423M2A4 External Static Pressure and Air Flow Table.

Set Value	Static Pressure (in wg)							
	0.16	0.24	0.31	0.39	0.47	0.55	0.63	0.71
	Air Flow Rate[CFM]							
90	812							
95	914	676						
100	1010	823						
105	1110	931	691					
110	1208	1056	854					
115	1292	1153	1016	765				
120	1383	1260	1121	926	692			
125	1473	1358	1227	1087	857			
130	1554	1456	1332	1203	1023	787		
135		1545	1437	1318	1150	971	723	
140			1534	1426	1313	1151	909	701
145				1533	1468	1320	1084	868
150					1532	1493	1249	1036
155						1543	1324	1155

ARNU483M3A4 Unit External Static Pressure and Air Flow Table

Table 50: ARNU483M3A4 External Static Pressure and Air Flow Table.

Set Value	Static Pressure (in wg)								
	0.16	0.24	0.31	0.39	0.47	0.55	0.63	0.71	0.79
	Air Flow Rate [CFM]								
70	891								
75	1074	756							
80	1235	959	654						
85	1404	1250	869						
90	1562	1416	1111	800					
95	1741	1581	1300	1017	754				
100	1872	1744	1574	1251	978				
105	2020	1910	1737	1518	1234	935			
110		2076	1903	1691	1497	1193	858	522	
115			2069	1867	1687	1500	1108	717	646
120				2040	1874	1701	1384	1066	868
125					1913	1744	1520	1296	1168
130					1927	1860	1714	1567	1398
135								1772	1596

• The tables above show the available external static pressure range and the correlation between air flow rates and external static pressure.

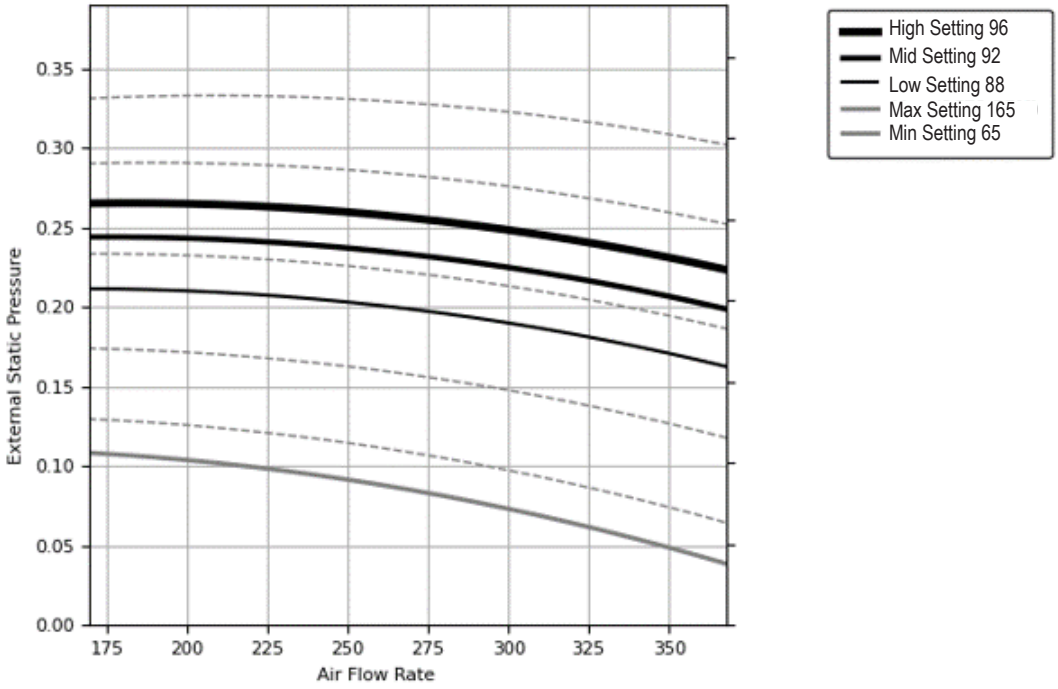
• All static pressure air flow rates are listed in CFM.

Note:

If the external static pressure of the installed indoor unit is less than the lowest value (as mentioned in the table), the indoor unit components can fail.

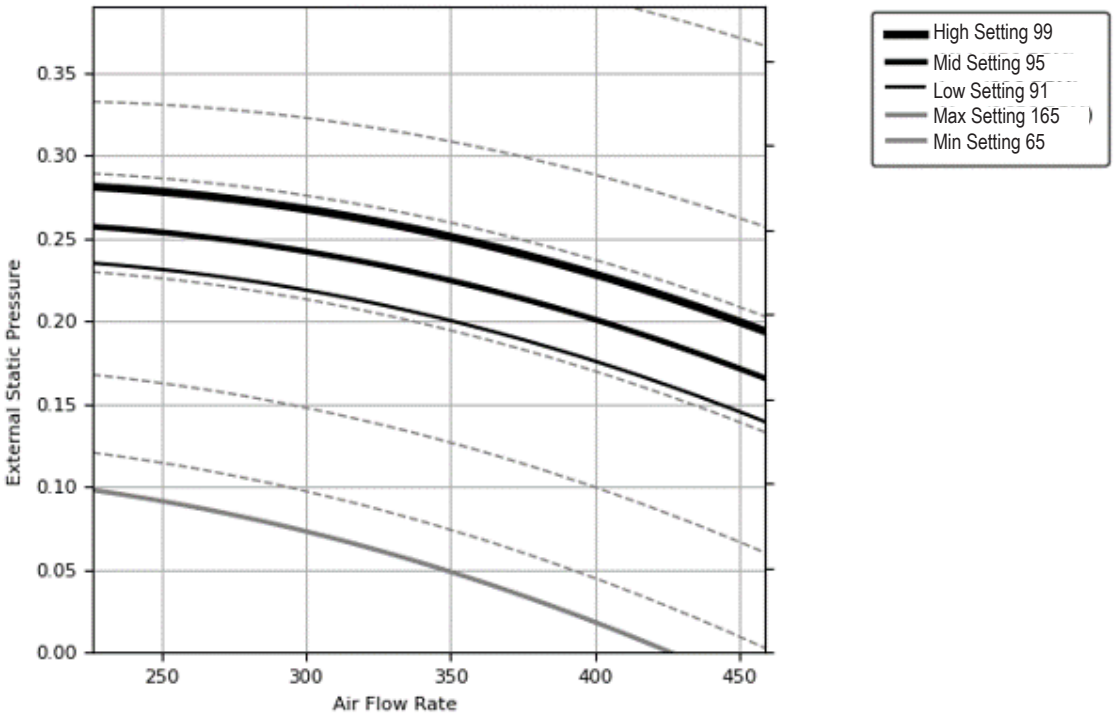
ARNU073MAA4 External Static Pressure and Air Flow Chart

Figure 22: ARNU073MAA4 External Static Pressure and Air Flow Chart.



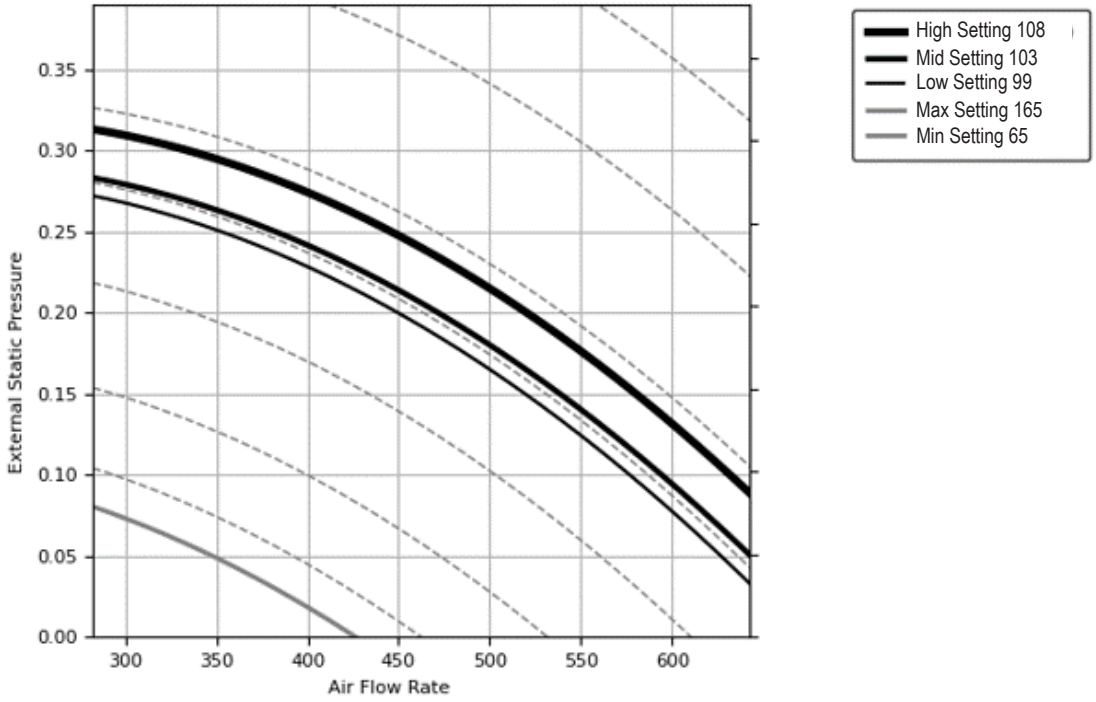
ARNU093MAA4 External Static Pressure and Air Flow Chart

Figure 23: ARNU093MAA4 External Static Pressure and Air Flow Chart.



ARNU123MAA4 External Static Pressure and Air Flow Chart

Figure 24: ARNU123MAA4 External Static Pressure and Air Flow Chart.

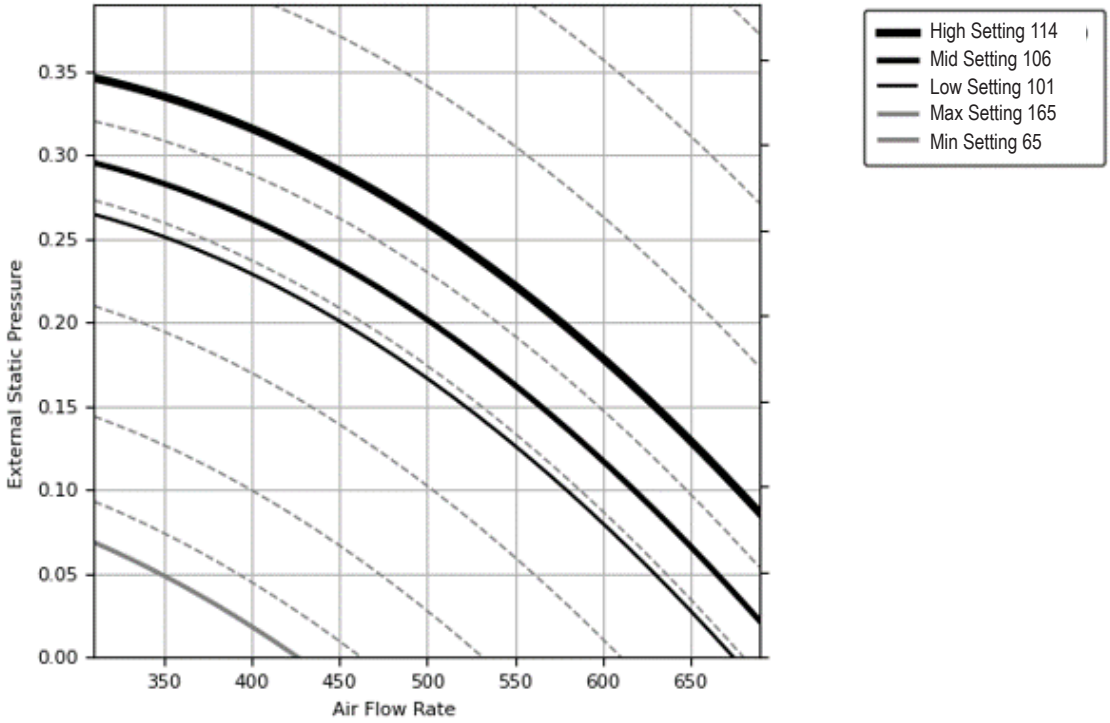


CONVERTIBLE MID STATIC DUCTED

External Static Pressure and Air Flow Charts

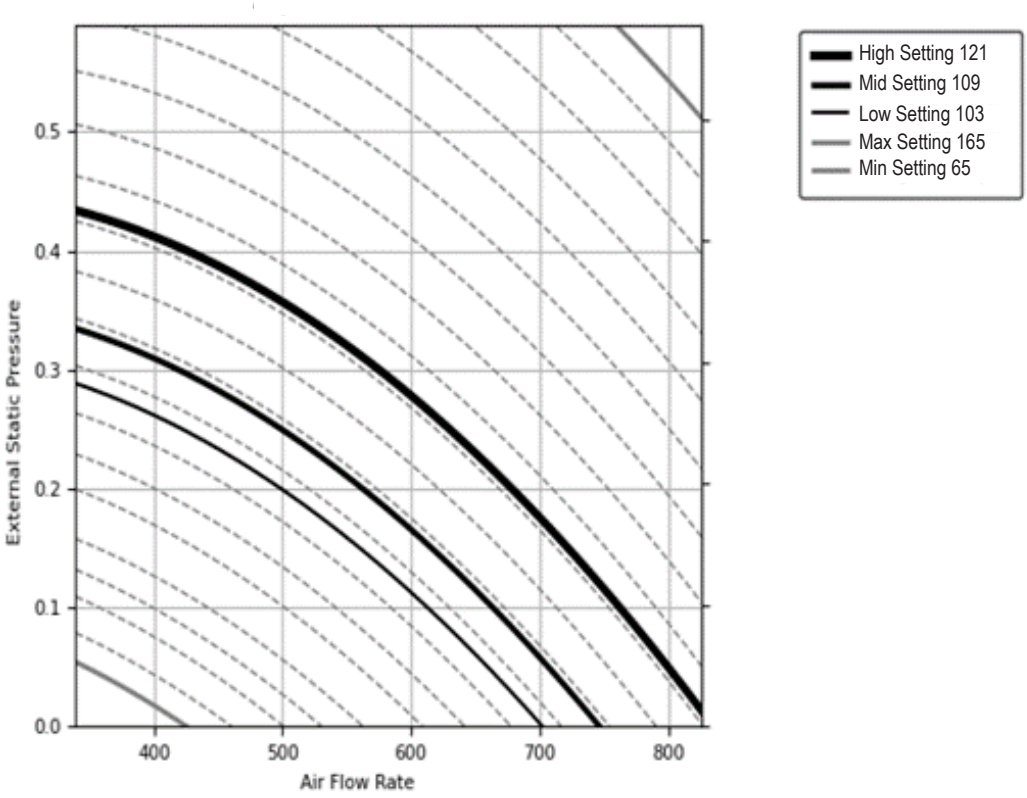
ARNU153MAA4 External Static Pressure and Air Flow Chart

Figure 25: ARNU153MAA4 External Static Pressure and Air Flow Chart.



ARNU183MAA4 External Static Pressure and Air Flow Chart

Figure 26: ARNU183MAA4 External Static Pressure and Air Flow Chart.

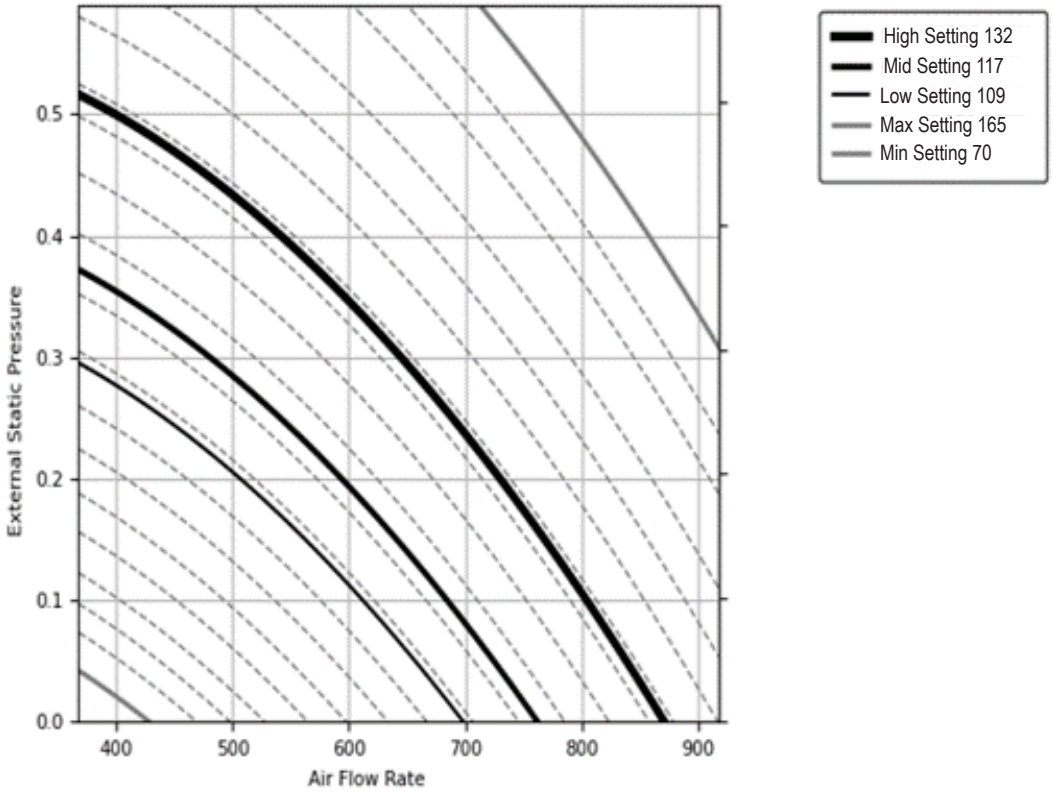


CONVERTIBLE MID STATIC DUCTED

External Static Pressure and Air Flow Charts

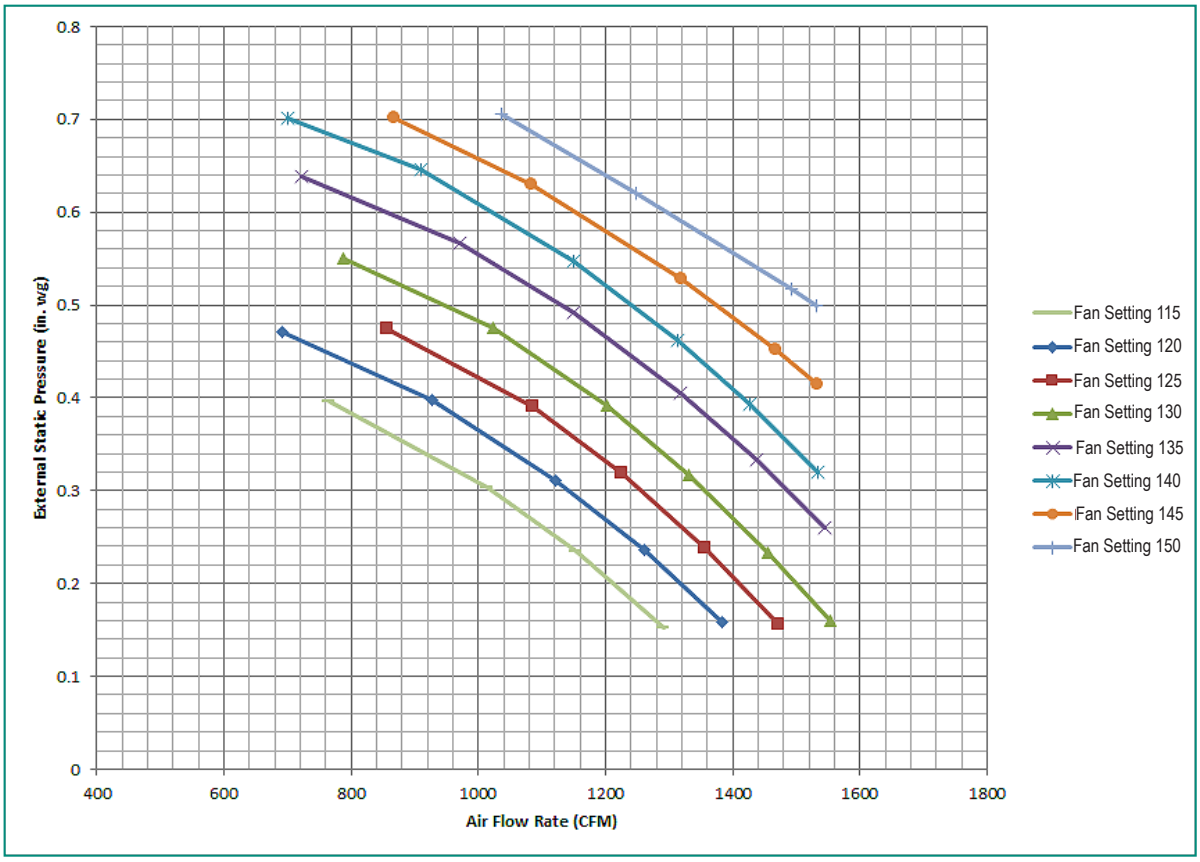
ARNU243MAA4 External Static Pressure and Air Flow Chart

Figure 27: ARNU243MAA4 External Static Pressure and Air Flow Chart.



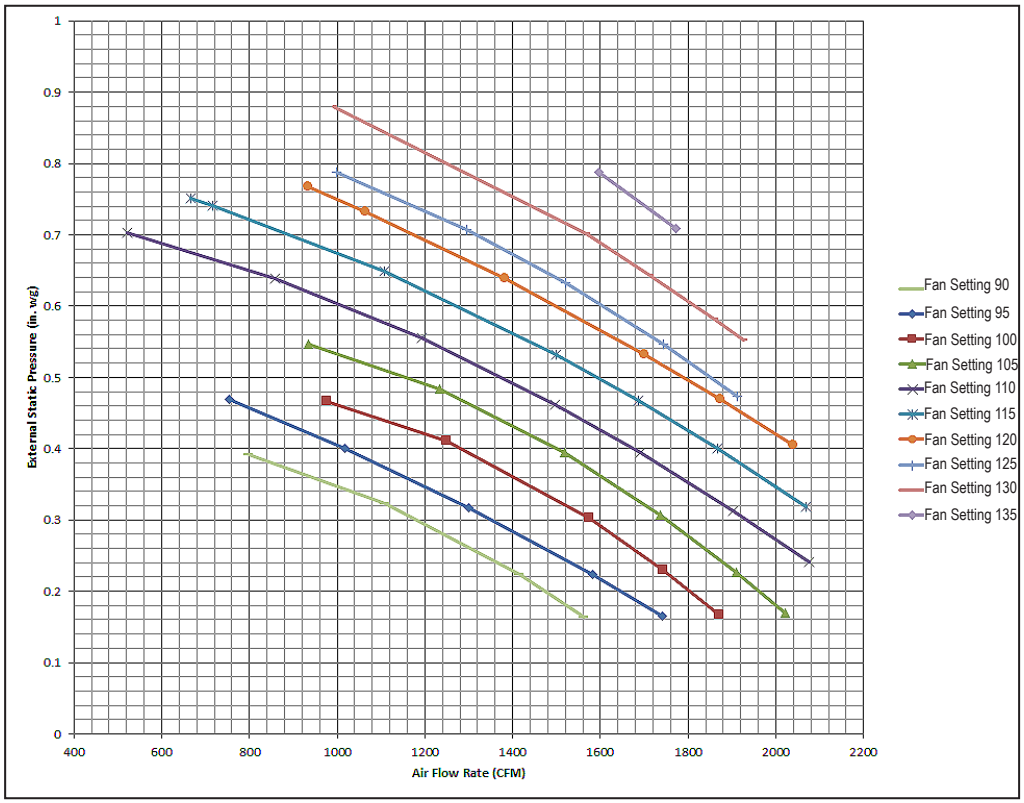
ARNU363~423M2A4 External Static Pressure and Air Flow chart

Figure 28: ARNU363~423M2A4 External Static Pressure and Air Flow Chart.



ARNU483M3A4 Unit External Static Pressure and Air Flow Chart

Figure 29: ARNU483M3A4 External Static Pressure and Air Flow Chart.



External Static Pressure Ranges for MA units

Table 52: MA Unit External Static Pressure Ranges.

Model	Capacity (kBtu/h)	Mode		Setting Value	Standard ESP (in wg)	CFM	Lower Limit of ESP (in wg)	Upper Limit of ESP (in wg)
ARNU073MAA4	7.5	High (factory set)	High	96	0.24	283	0.1	0.39
			Mid	92		247		
			Low	88		212		
ARNU093MAA4	9.6	High (factory set)	High	99	0.24	353	0.1	0.39
			Mid	95		318		
			Low	91		283		
ARNU123MAA4	12.3	High (factory set)	High	108	0.24	494	0.1	0.39
			Mid	103		424		
			Low	99		353		
ARNU153MAA4	15.4	High (factory set)	High	114	0.24	530	0.1	0.39
			Mid	106		424		
			Low	101		388		
ARNU183MAA4	19.1	High (factory set)	High	121	0.24	635	0.1	0.59
			Mid	109		530		
			Low	103		424		
ARNU243MAA4	24.2	High (factory set)	High	132	0.24	706	0.1	0.59
			Mid	117		547		
			Low	109		459		

Table above shows the available E.S.P. range.

External Static Pressure Ranges for ARNU363~423M2A4 units

Table 53: ARNU363~423M2A4 Unit External Static Pressure Ranges.

Model	Capacity (MBh)	Mode		Setting Value	Standard ESP (in wg)	CFM	Min. ESP (in wg)	Max. ESP (in wg)
ARNU363M2A4	36.0	High (Factory Set)	High	109	0.24	1031	0.16	0.71
			Mid	101		845		
			Low	95		676		
ARNU423M2A4	42.0	High (Factory Set)	High	120	0.24	1260	0.16	0.71
			Mid	111		1076		
			Low	103		888		

External Static Pressure Ranges for ARNU483M3A4 unit

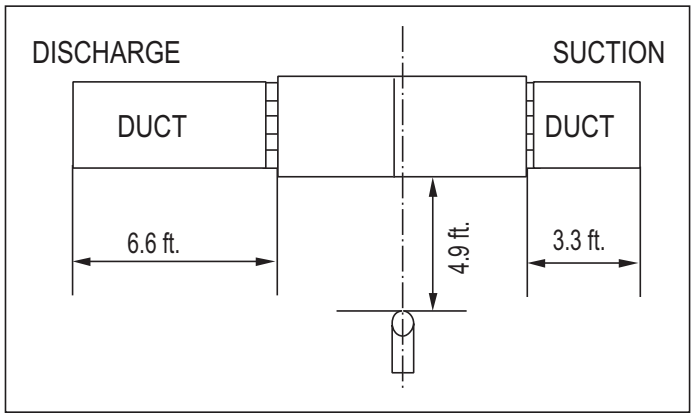
Table 54: ARNU483M3A4 Unit External Static Pressure Ranges.

Model	Capacity (MBh)	Mode		Setting Value	Standard ESP (in wg)	CFM	Min. ESP (in wg)	Max. ESP (in wg)
ARNU483M3A4	48.0	High (Factory Set)	High	92	0.23	1482	0.16	0.79
			Mid	84		1191		
			Low	79		918		

Tables above show the available E.S.P. range.

Sound Pressure Measurement

Figure 30: Sound Pressure Measurement Location.



- Measurements are taken 4.9 ft away from the front of the unit.
- Sound pressure levels are measured in dB(A) with a tolerance of ±3.
- Sound pressure levels are tested in an anechoic chamber under ISO Standard 3745.

Operating Conditions:

- Power source: 220V/60 Hz
- Sound level will vary depending on a range of factors including the construction (acoustic absorption coefficient) of a particular room in which the unit was installed.

Sound Pressure Levels for ARNU073~243MAA4 Units

Table 55: MA Indoor Unit Sound Pressure Levels.

Model	Sound Pressure Levels (dB[A]) (Cooling and Heating)		
	High Fan Speed	Medium Fan Speed	Low Fan Speed
ARNU073MAA4	28	27	25
ARNU093MAA4	28	27	26
ARNU123MAA4	31	29	28
ARNU153MAA4	33	31	29
ARNU183MAA4	36	32	29
ARNU243MAA4	38	33	30

Sound Pressure Levels for ARNU363~423M2A4 Units

Table 56: M2 Indoor Unit Sound Pressure Levels.

Model	Sound Pressure Levels [dB(A), H-M-L] External Static Pressure [in wg]			
	0.16	0.2	0.24	0.71
ARNU363M2A4	41-40-41	42-40-38	42-40-38	48-48-48
ARNU423M2A4	46-44-41	45-43-41	44-43-40	49-48-48

Sound Pressure Levels for ARNU483M3A4 Unit

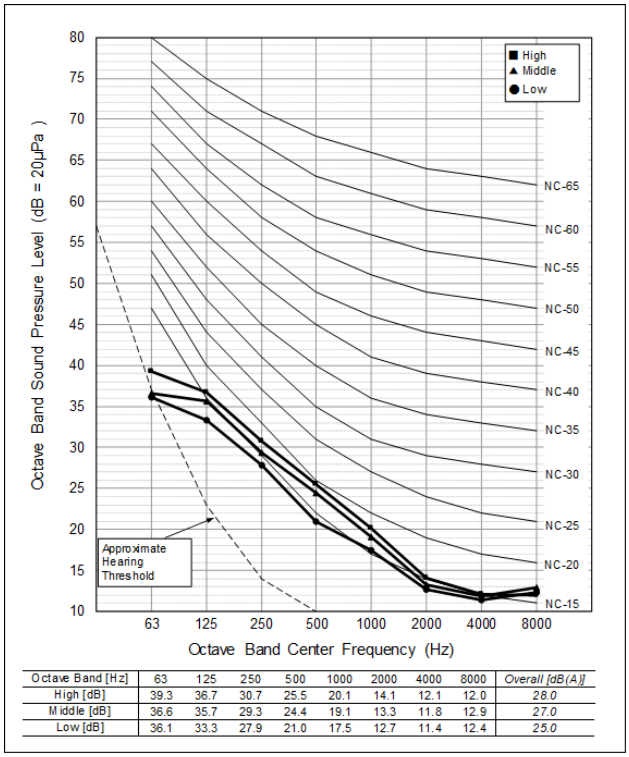
Table 57: M3 Indoor Unit Sound Pressure Levels.

Model	Sound Pressure Levels [dB(A), H-M-L] External Static Pressure [in wg]			
	0.16	0.20	0.24	0.79
ARNU483M3A4	40-38-37	41-39-36	42-39-37	47-45-46

Figure 31: Sound Pressure Level Diagrams.

ARNU073MAA4

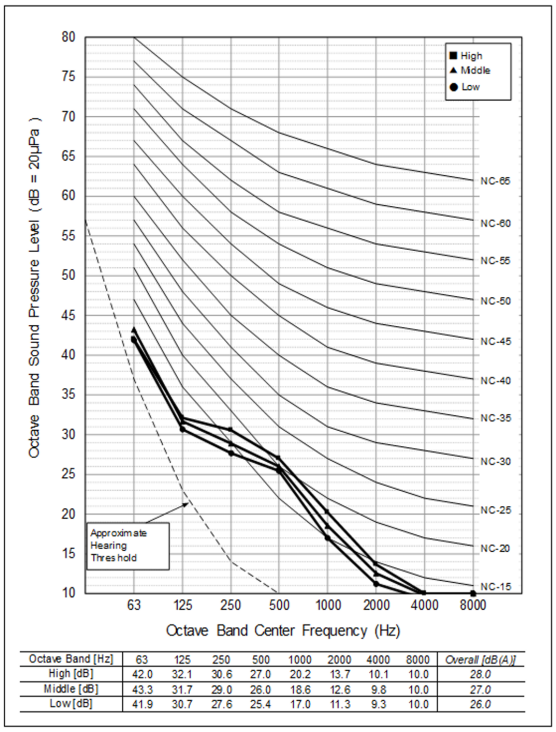
7K



Octave Band [Hz]	63	125	250	500	1000	2000	4000	8000	*Overall [dB(A)]*
High [dB]	39.3	36.7	30.7	25.5	20.1	14.1	12.1	12.0	*28.0*
Middle [dB]	36.6	35.7	29.3	24.4	19.1	13.3	11.8	12.9	*27.0*
Low [dB]	36.1	33.3	27.9	21.0	17.5	12.7	11.4	12.4	*25.0*

ARNU093MAA4

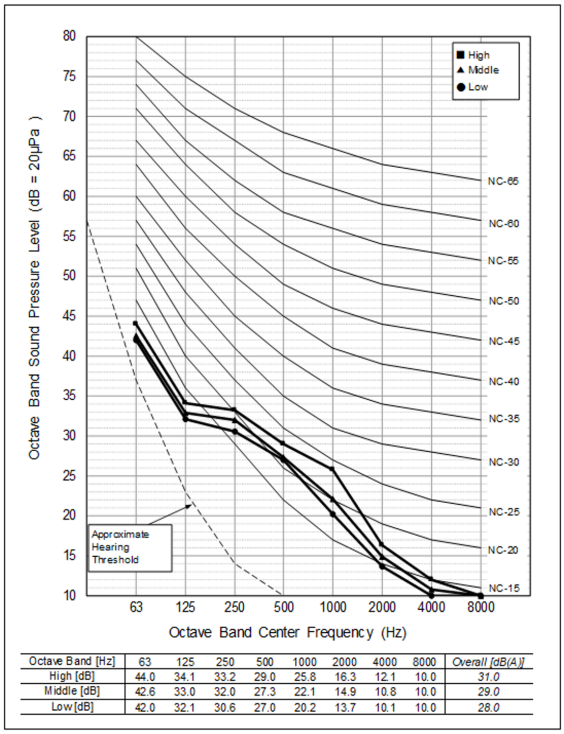
9K



Octave Band [Hz]	63	125	250	500	1000	2000	4000	8000	*Overall [dB(A)]*
High [dB]	42.0	32.1	30.6	27.0	20.2	13.7	10.1	10.0	*28.0*
Middle [dB]	43.3	31.7	29.0	26.0	18.6	12.6	9.8	10.0	*27.0*
Low [dB]	41.9	30.7	27.6	25.4	17.0	11.3	9.3	10.0	*26.0*

ARNU123MAA4

12K



Octave Band [Hz]	63	125	250	500	1000	2000	4000	8000	*Overall [dB(A)]*
High [dB]	44.0	34.1	33.2	29.0	25.8	16.3	12.1	10.0	*31.0*
Middle [dB]	42.6	33.0	32.0	27.3	22.1	14.9	10.8	10.0	*29.0*
Low [dB]	42.0	32.1	30.6	27.0	20.2	13.7	10.1	10.0	*28.0*

CONVERTIBLE MID STATIC DUCTED

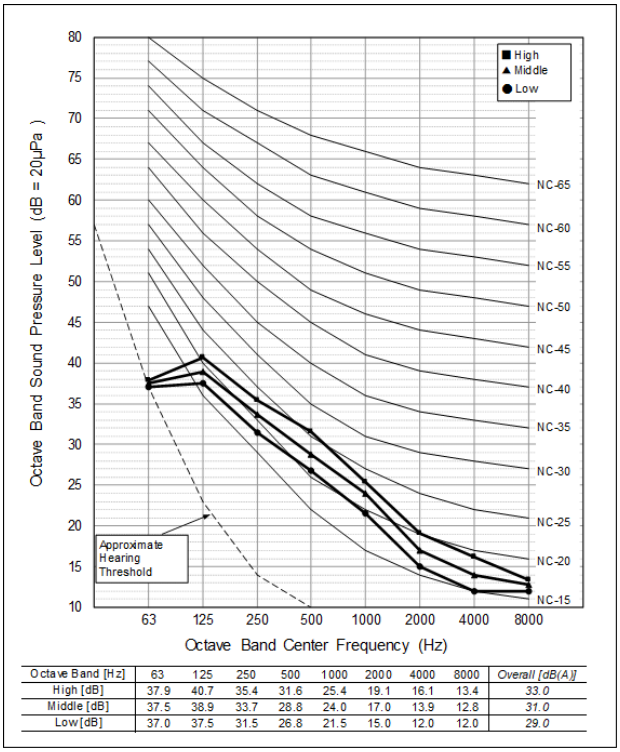
Acoustic Data

Sound Pressure Diagrams

Figure 32: Sound Pressure Level Diagrams.

ARNU153MAA4

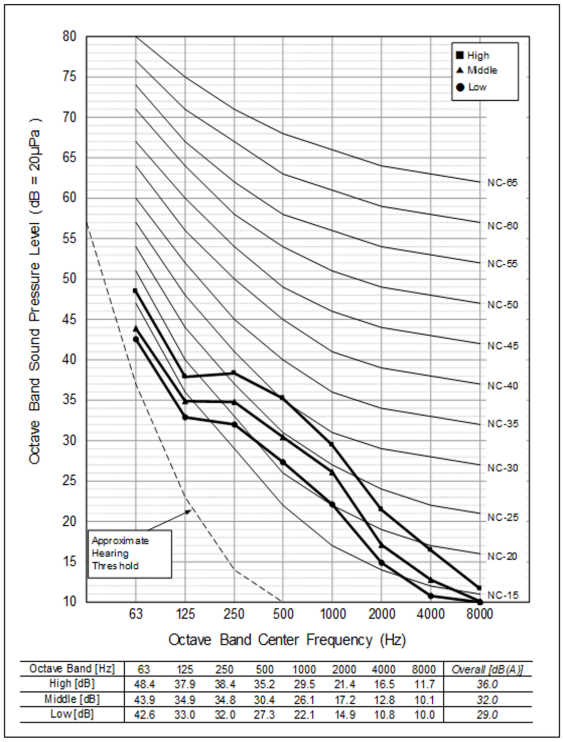
15K



Octave Band [Hz]	63	125	250	500	1000	2000	4000	8000	*Overall [dB(A)]*
High [dB]	37.9	40.7	35.4	31.6	25.4	19.1	16.1	13.4	*33.0*
Middle [dB]	37.5	38.9	33.7	28.8	24.0	17.0	13.9	12.8	*31.0*
Low [dB]	37.0	37.5	31.5	26.8	21.5	15.0	12.0	12.0	*29.0*

ARNU183MAA4

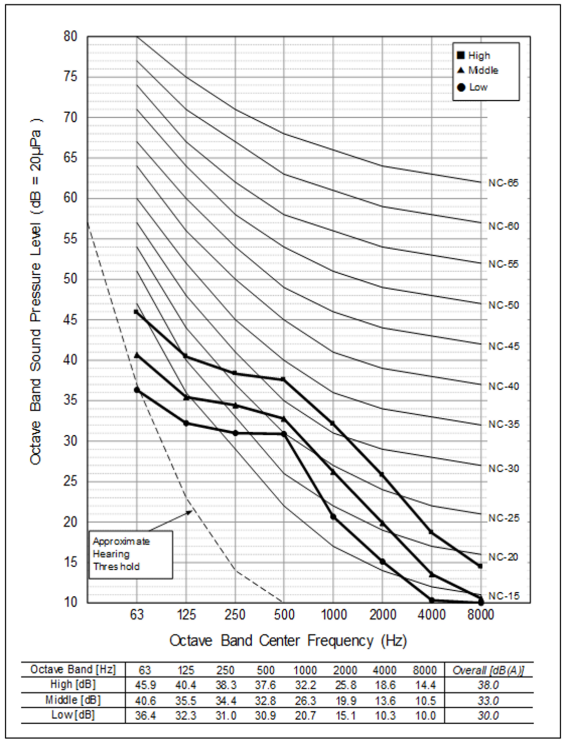
18K



Octave Band [Hz]	63	125	250	500	1000	2000	4000	8000	*Overall [dB(A)]*
High [dB]	48.4	37.9	38.4	35.2	29.5	21.4	16.5	11.7	*36.0*
Middle [dB]	43.9	34.9	34.8	30.4	26.1	17.2	12.8	10.1	*32.0*
Low [dB]	42.6	33.0	32.0	27.3	22.1	14.9	10.8	10.0	*29.0*

ARNU243MAA4

24K



Octave Band [Hz]	63	125	250	500	1000	2000	4000	8000	*Overall [dB(A)]*
High [dB]	45.9	40.4	38.3	37.6	32.2	25.8	18.6	14.4	*38.0*
Middle [dB]	40.6	35.5	34.4	32.8	26.3	19.9	13.6	10.5	*33.0*
Low [dB]	36.4	32.3	31.0	30.9	20.7	15.1	10.3	10.0	*30.0*

Sound Power Levels for ARNU073~243MAA4 Units

Table 60: MA Indoor Unit Sound Power Levels.

Model	Sound Power Levels dB(A)
	High Fan Speed
ARNU073MAA4	44
ARNU093MAA4	44
ARNU123MAA4	47
ARNU153MAA4	51
ARNU183MAA4	54
ARNU243MAA4	57

Sound Power Levels for ARNU363~423M2A4 Units

Table 58: M2 Indoor Unit Sound Power Levels.

Model	Sound Power Levels [dB(A), H-M-L] (CASING RADIATED)			
	External Static Pressure [in wg]			
	0.16	0.20	0.24	0.71
ARNU363M2A4	50-48-47	56-48-46	51-48-46	64-64-63
ARNU423M2A4	56-53-50	57-53-49	55-52-49	65-64-64

Sound Power Levels for ARNU483M3A4 Unit

Table 59: M3 Indoor Unit Sound Power Levels.

Model	Sound Power Levels [dB(A), H-M-L] (CASING RADIATED)			
	External Static Pressure [in wg]			
	0.16	0.20	0.24	0.79
ARNU483M3A4	51-50-49	55-53-51	55-51-50	57-57-57

- Data is valid under diffuse field conditions.
- Data is valid under nominal operating conditions.
- Sound power level is measured using rated conditions, and tested in a reverberation room per AHRI 260 standards.
- Sound level will vary depending on a range of factors such as construction (acoustic absorption coefficient) of particular area in which the equipment is installed.
- Reference acoustic intensity: 0dB = 10E-6μW/m^2

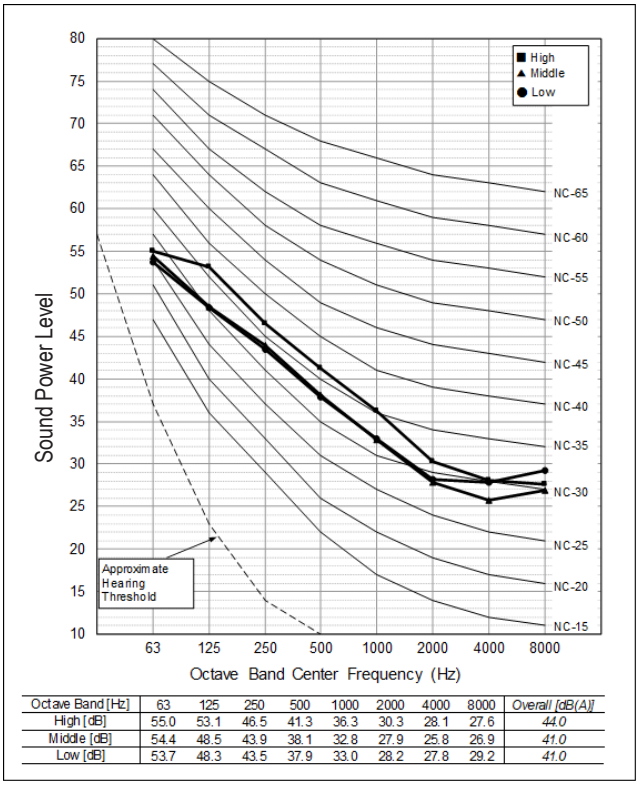
CONVERTIBLE MID STATIC DUCTED

Acoustic Data

Sound Power Diagrams

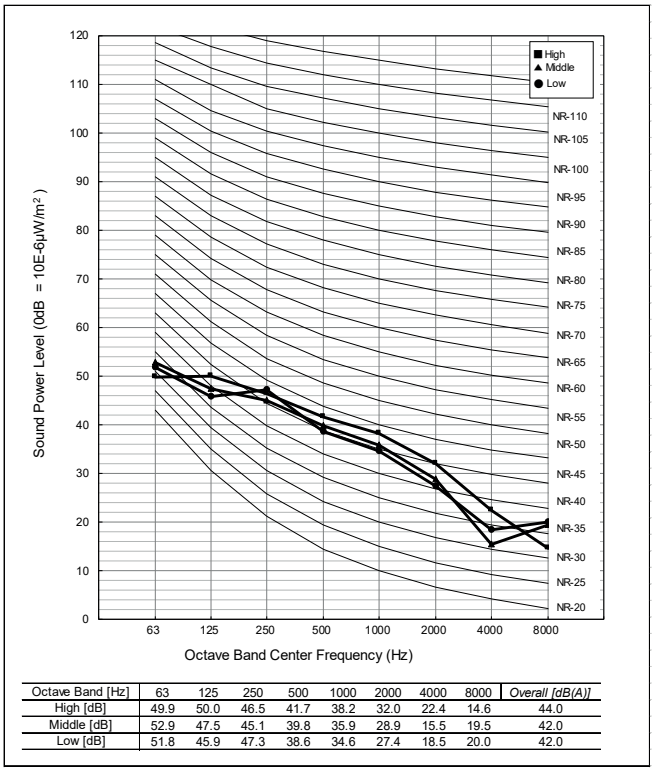
Figure 33: Sound Power Level Diagrams.

ARNU073MAA4



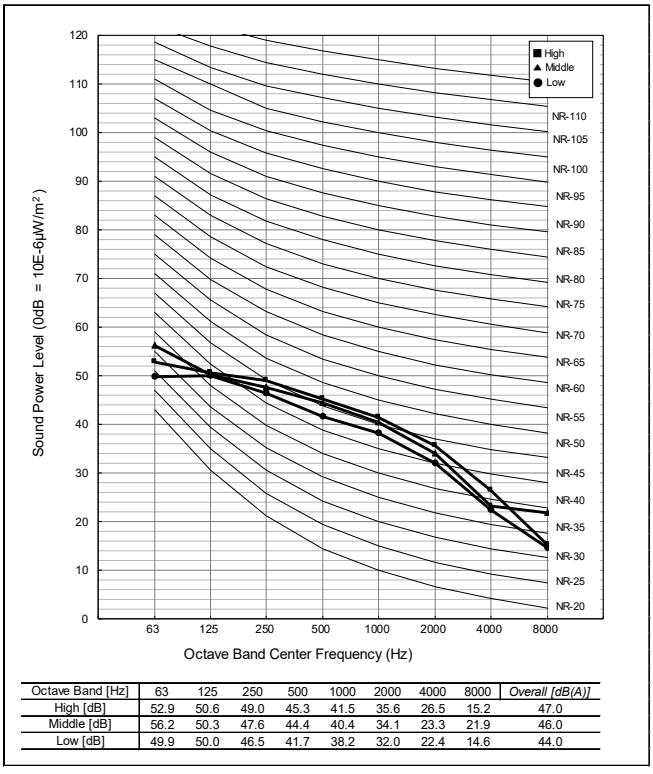
Octave Band [Hz]	63	125	250	500	1000	2000	4000	8000	*Overall [dB(A)]*
High [dB]	55.0	53.1	46.5	41.3	36.3	30.3	28.1	27.6	*44.0*
Middle [dB]	54.4	48.5	43.9	38.1	32.8	27.9	25.8	26.9	*41.0*
Low [dB]	53.7	48.3	43.5	37.9	33.0	28.2	27.8	29.2	*41.0*

ARNU093MAA4



Octave Band [Hz]	63	125	250	500	1000	2000	4000	8000	*Overall [dB(A)]*
High [dB]	49.9	50.0	46.5	41.7	38.2	32.0	22.4	14.6	44.0
Middle [dB]	52.9	47.5	45.1	39.8	35.9	28.9	15.5	19.5	42.0
Low [dB]	51.8	45.9	47.3	38.6	34.6	27.4	18.5	20.0	42.0

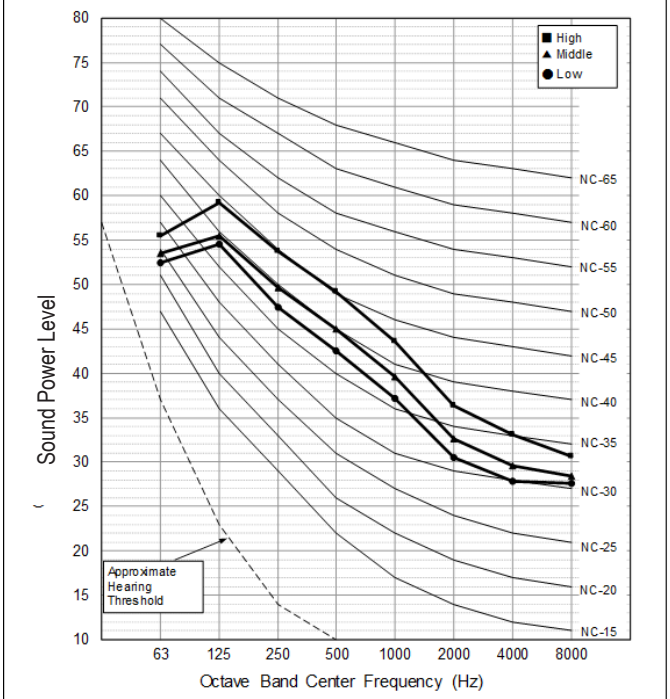
ARNU123MAA4



Octave Band [Hz]	63	125	250	500	1000	2000	4000	8000	*Overall [dB(A)]*
High [dB]	52.9	50.6	49.0	45.3	41.5	35.6	26.5	15.2	47.0
Middle [dB]	56.2	50.3	47.6	44.4	40.4	34.1	23.3	21.9	46.0
Low [dB]	49.9	50.0	46.5	41.7	38.2	32.0	22.4	14.6	44.0

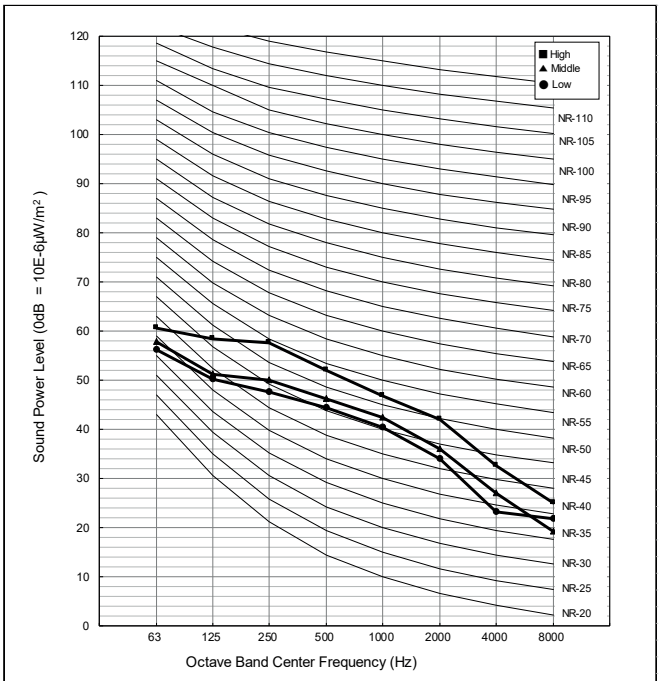
Figure 34: Sound Power Level Diagrams.

ARNU153MAA4



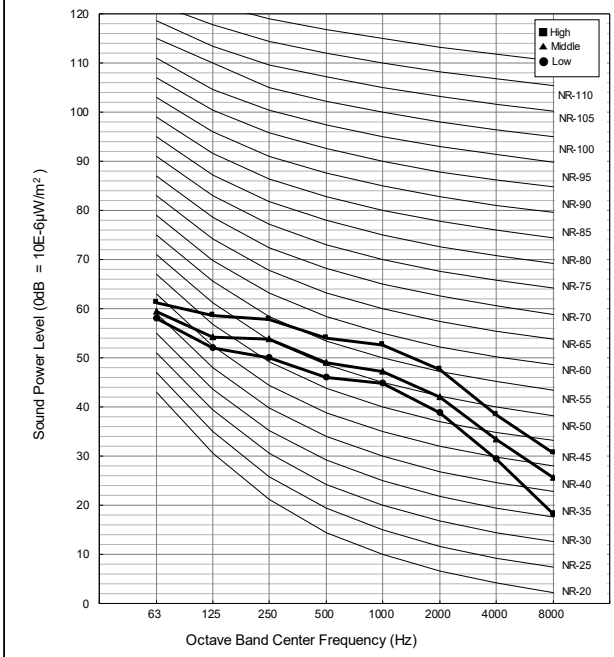
Octave Band [Hz]	63	125	250	500	1000	2000	4000	8000	*Overall [dB(A)]*
High [dB]	55.5	59.2	53.7	49.2	43.5	36.4	33.1	30.7	*51.0*
Middle [dB]	53.5	55.5	49.6	45.0	39.7	32.7	29.6	28.5	*47.0*
Low [dB]	52.5	54.5	47.5	42.5	37.2	30.6	27.9	27.6	*45.0*

ARNU183MAA4



Octave Band [Hz]	63	125	250	500	1000	2000	4000	8000	*Overall [dB(A)]*
High [dB]	60.5	58.5	57.7	52.0	46.8	42.0	32.6	25.1	54.0
Middle [dB]	57.8	51.3	50.1	46.3	42.4	36.1	27.0	19.2	48.0
Low [dB]	56.2	50.3	47.6	44.4	40.4	34.1	23.3	21.9	46.0

ARNU243MAA4



Octave Band [Hz]	63	125	250	500	1000	2000	4000	8000	*Overall [dB(A)]*
High [dB]	61.2	58.7	57.9	54.0	52.6	47.7	38.4	30.7	57.0
Middle [dB]	59.5	54.2	53.8	49.0	47.3	42.0	33.4	25.6	52.0
Low [dB]	58.0	52.0	50.1	46.0	44.8	38.8	29.5	18.3	49.0

MID STATIC DUCTED

MULTI V

Acoustic Data

Sound Power Data for ARNU363~423M2A4 Units

Sound Power @0.16 ESP

Model	Rating	Fan speed	E.S.P	RPM	CFM	Sound power level, Lw (dB one reference picowatt)							
						63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz
ARNU363M2A4	RETURN OPENING	H	0.16	1010	1030	65	64	62	56	53	49	46	40
		M		930	873	63	61	59	54	50	46	41	35
		L		880	770	62	59	59	52	47	43	38	30
	CASING RADIATED	H		1010	1030	66	59	51	47	45	39	32	26
		M		930	873	63	55	50	44	42	35	27	21
		L		880	770	62	53	52	43	39	33	24	20
	DUCTED DISCHARGE	H		1010	1030	72	67	64	60	60	54	52	51
		M		930	873	70	64	62	57	57	51	48	46
		L		880	770	68	62	61	56	55	49	46	42
ARNU423M2A4	RETURN OPENING	H	0.16	1170	1328	68	70	67	61	59	56	53	50
		M		1080	1169	66	66	64	58	56	52	49	44
		L		1000	1010	64	63	61	56	53	49	45	39
	CASING RADIATED	H		1170	1328	71	65	57	51	51	45	39	38
		M		1080	1169	68	61	54	49	47	41	35	31
		L		1000	1010	65	58	51	46	45	38	31	25
	DUCTED DISCHARGE	H		1170	1328	77	71	69	65	65	60	58	59
		M		1080	1169	74	69	66	62	62	57	55	54
		L		1000	1010	72	67	64	60	59	54	51	50

Sound Power @0.20 ESP

Model	Rating	Fan speed	E.S.P	RPM	CFM	Sound power level, Lw (dB one reference picowatt)							
						63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz
ARNU363M2A4	RETURN OPENING	H	0.20	1050	1021	68	68	66	60	58	55	52	49
		M		970	844	63	61	59	54	50	46	41	34
		L		910	695	62	59	59	52	47	43	38	29
	CASING RADIATED	H		1050	1021	72	65	56	50	51	45	41	35
		M		970	844	63	55	49	44	42	35	27	21
		L		910	695	61	54	49	43	39	33	24	19
	DUCTED DISCHARGE	H		1050	1021	82	72	68	65	66	60	58	59
		M		970	844	70	65	62	58	58	52	49	47
		L		910	695	69	63	60	56	55	50	46	43
ARNU423M2A4	RETURN OPENING	H	0.20	1170	1262	69	69	66	60	59	56	53	51
		M		1080	1087	66	65	63	58	55	51	48	43
		L		1000	917	64	62	60	55	51	47	43	37
	CASING RADIATED	H		1170	1262	73	66	56	50	52	46	42	36
		M		1080	1087	69	61	53	48	47	41	35	29
		L		1000	917	63	56	50	45	43	37	29	22
	DUCTED DISCHARGE	H		1170	1262	83	72	69	65	66	61	60	61
		M		1080	1087	77	69	66	62	62	57	55	55
		L		1000	917	73	66	63	59	59	53	50	49

LG

Sound Power @0.24 ESP

Model	Rating	Fan speed	E.S.P	RPM	CFM	Sound power level, Lw (dB one reference picowatt)							
						63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz
ARNU363M2A4	RETURN OPENING	H	0.24	1090	1031	63	65	62	57	54	51	47	42
		M		1010	845	63	62	60	54	50	46	42	35
		L		950	676	63	60	58	52	47	43	38	29
	CASING RADIATED	H		1090	1031	66	59	52	48	46	40	33	28
		M		1010	845	64	57	49	44	43	36	28	21
		L		950	676	61	55	48	42	40	33	24	19
	DUCTED DISCHARGE	H		1090	1031	74	68	65	61	61	56	54	52
		M		1010	845	72	66	63	59	59	53	50	48
		L		950	676	68	63	60	57	56	50	47	45
ARNU423M2A4	RETURN OPENING	H	0.24	1200	1260	71	68	66	60	58	55	52	48
		M		1110	1076	66	65	63	58	55	51	48	43
		L		1030	888	65	62	61	55	51	47	42	35
	CASING RADIATED	H		1200	1260	70	64	56	50	50	44	38	35
		M		1110	1076	67	59	52	48	47	40	34	29
		L		1030	888	64	58	50	45	43	37	28	24
	DUCTED DISCHARGE	H		1200	1260	76	72	69	65	65	60	58	58
		M		1110	1076	74	69	66	62	62	57	54	53
		L		1030	888	71	66	63	59	59	53	51	49

Sound Power @0.71 ESP

Model	Rating	Fan speed	E.S.P	RPM	CFM	Sound power level, Lw (dB one reference picowatt)							
						63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz
ARNU363M2A4	RETURN OPENING	H	0.71	1500	1036	72	71	67	61	61	56	53	49
		M		1480	969	72	71	67	61	61	56	53	49
		L		1440	835	73	72	68	61	60	56	52	47
	CASING RADIATED	H		1500	1036	69	64	55	52	63	50	43	38
		M		1480	969	71	65	56	53	63	51	43	37
		L		1440	835	73	66	57	53	61	50	42	36
	DUCTED DISCHARGE	H		1500	1036	77	72	69	67	68	63	61	62
		M		1480	969	77	72	69	67	68	62	60	61
		L		1440	835	76	71	68	65	67	61	59	59
ARNU423M2A4	RETURN OPENING	H	0.71	1520	1084	74	73	69	63	63	59	56	51
		M		1500	1036	72	71	67	61	61	56	53	49
		L		1480	969	72	71	67	61	61	56	53	49
	CASING RADIATED	H		1520	1084	69	64	55	52	64	51	43	38
		M		1500	1036	69	64	55	52	63	50	43	38
		L		1480	969	71	65	56	53	63	51	43	37
	DUCTED DISCHARGE	H		1520	1084	79	74	71	69	70	64	63	64
		M		1500	1036	77	72	69	67	68	63	61	62
		L		1480	969	77	72	69	67	68	62	60	61

MID STATIC DUCTED

MULTI V

Acoustic Data

Sound Power Data for ARNU483M3A4 Unit

Sound Power @0.16 ESP

Model	Rating	Fan speed	E.S.P	RPM	CFM	Sound power level, Lw (dB one reference picowatt)							
						63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz
ARNU483M3A4	RETURN OPENING	H	0.16	830	1336	67	60	60	60	57	53	47	39
		M		780	1171	66	59	58	59	55	52	45	36
		L		740	1037	66	57	57	58	54	50	43	33
	CASING RADIATED	H		830	1336	62	58	52	52	44	36	31	27
		M		780	1171	62	54	50	51	42	33	28	26
		L		740	1037	61	51	49	50	41	30	26	24
	DUCTED DISCHARGE	H		830	1336	78	69	62	62	60	54	53	46
		M		780	1171	78	66	60	60	58	52	51	43
		L		740	1037	78	64	59	59	56	51	49	40

Sound Power @0.20 ESP

Model	Rating	Fan speed	E.S.P	RPM	CFM	Sound power level, Lw (dB one reference picowatt)							
						63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz
ARNU483M3A4	RETURN OPENING	H	0.20	890	1457	68	64	61	62	59	55	50	41
		M		820	1189	67	60	58	59	56	52	45	35
		L		760	952	66	56	55	56	53	49	41	30
	CASING RADIATED	H		890	1457	68	67	53	52	44	38	33	27
		M		820	1189	66	64	53	51	44	34	29	21
		L		760	952	65	62	52	50	43	30	25	15
	DUCTED DISCHARGE	H		890	1457	79	72	63	63	62	57	55	49
		M		820	1189	77	70	61	61	59	53	51	44
		L		760	952	76	67	59	59	57	51	48	40

LG

Acoustic Data

Sound Power Data for ARNU483M3A4 Unit

Sound Power @0.24 ESP

Model	Rating	Fan speed	E.S.P	RPM	CFM	Sound power level, Lw (dB one reference picowatt)							
						63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz
ARNU483M3A4	RETURN OPENING	H	0.24	920	1482	67	66	61	61	59	56	50	42
		M		840	1191	66	61	59	59	56	52	45	36
		L		790	918	66	60	57	58	54	50	43	32
	CASING RADIATED	H		920	1482	63	66	54	52	47	41	36	30
		M		840	1191	65	58	52	50	42	35	29	24
		L		790	918	68	56	52	49	40	33	25	21
	DUCTED DISCHARGE	H		920	1482	78	74	64	64	63	57	56	50
		M		840	1191	79	69	62	61	60	54	52	45
		L		790	918	80	67	60	60	58	52	50	42

Sound Power @0.79 ESP

Model	Rating	Fan speed	E.S.P	RPM	CFM	Sound power level, Lw (dB one reference picowatt)							
						63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz
ARNU483M3A4	RETURN OPENING	H	0.79	1280	1306	81	74	69	64	63	59	54	47
		M		1260	1214	81	74	69	64	63	59	54	46
		L		1200	868	81	74	69	64	63	59	54	46
	CASING RADIATED	H		1280	1306	67	66	53	55	52	47	43	37
		M		1260	1214	68	66	53	55	52	47	44	37
		L		1200	868	65	66	51	55	52	47	44	37
	DUCTED DISCHARGE	H		1280	1306	84	78	70	68	70	65	62	56
		M		1260	1214	84	78	70	68	70	65	62	56
		L		1200	868	84	79	70	68	70	64	62	55

MID STATIC DUCTED

MULTI V

Cooling Capacity Table

Cooling Capacity for Convertible Mid Static Ducted MA Units

Table 63: Ducted Mid Static (MA Frame) Cooling Capacity.

Model No. / Capacity Index	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
ARNU073MAA4 / 7.5	95	4.9	4.4	6	5.1	6.8	5.4	7.5	5.8	8	6.0	8.2	5.7	8.3	5.4
ARNU093MAA4 / 9.5	95	6.3	5.8	7.7	6.7	8.6	7.1	9.6	7.6	10.3	7.9	10.5	7.5	10.6	7.1
ARNU123MAA4 / 12.3	95	8.1	7.3	9.8	8.5	11.1	9.0	12.3	9.6	13.2	10.0	13.4	9.5	13.6	8.9
ARNU153MAA4 / 15.4	95	10.1	9.2	12.3	10.6	13.9	11.3	15.4	12.0	16.5	12.5	16.8	11.9	17.1	11.2
ARNU183MAA4 / 19.1	95	12.6	10.7	15.3	12.3	17.2	13.1	19.1	13.9	20.5	14.5	20.9	13.8	21.2	13.0
ARNU243MAA4 / 24.3	95	15.9	13.5	19.4	15.6	21.8	16.6	24.2	17.7	25.9	18.4	26.4	17.5	26.8	16.5

Cooling Capacity for Mid Static M2 Units

Table 61: Ducted Mid Static (M2 Frame) Cooling Capacity.

Model No. / Capacity Index	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
ARNU363M2A4 / 36.2	95	23.8	20.5	29	23.6	32.6	25.1	36.2	26.8	38.8	27.8	39.5	26.5	40.1	25.0
ARNU423M2A4 / 42.0	95	27.7	23.7	33.6	27.4	37.8	29.2	42.0	31.1	45	32.3	45.9	30.7	46.6	29.0

Cooling Capacity for Mid Static M3 Units

Table 62: Ducted Mid Static (M3 Frame) Cooling Capacity.

Model No. / Capacity Index	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
ARNU483M3A4 / 48.1	95	31.7	27.6	38.5	31.9	43.3	33.9	48.1	36.1	51.5	37.5	52.5	35.7	53.3	33.7

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.

LG

Heating Capacity for Convertible Mid Static Ducted MA Units

Table 66: Ducted Mid Static (MA Frame) Heating Capacity.

Model No. / Capacity Index	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
			MBh	MBh	MBh	MBh	MBh	MBh	MBh	MBh
ARNU073MAA4 / 7.5	47	43	9.5	9.4	9.4	8.9	8.5	8.3	7.8	7.4
ARNU093MAA4 / 9.5	47	43	12.2	12.1	12.0	11.5	10.9	10.6	10.0	9.5
ARNU123MAA4 / 12.3	47	43	15.2	15.1	15.0	14.3	13.6	13.2	12.5	11.9
ARNU153MAA4 / 15.4	47	43	19.2	19.0	18.8	18.0	17.1	16.6	15.7	15.0
ARNU183MAA4 / 19.1	47	43	24.1	23.9	23.7	22.6	21.5	20.9	19.8	18.8
ARNU243MAA4 / 24.3	47	43	30.6	30.3	30.0	28.7	27.3	26.5	25.1	23.9

Heating Capacity for Mid Static M2 Units

Table 64: Ducted Mid Static (M2 Frame) Heating Capacity.

Model No. / Capacity Index	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
			MBh	MBh	MBh	MBh	MBh	MBh	MBh	MBh
ARNU363M2A4 / 36.2	47	43	45.5	45.1	44.7	42.6	40.6	39.4	37.4	35.5
ARNU423M2A4/ 42.0	47	43	52.6	52.2	51.7	49.4	47.0	45.6	43.2	41.1

Heating Capacity for Mid Static M3 Units

Table 65: Ducted Mid Static (M3 Frame) Heating Capacity.

Model No. / Capacity Index	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
			MBh	MBh	MBh	MBh	MBh	MBh	MBh	MBh
ARNU483M3A4 / 48.1	47	43	60.7	60.2	59.6	56.9	54.2	52.6	49.9	47.4

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.

MID STATIC DUCTED

Optional Accessories

Table 67: Optional Accessories for Ducted Mid Static Indoor Units.

Accessory	Model Number
High Efficiency Filter Box	ZFBXM101A (For 7~24MBh MA Convertible Mid Static Ducted Indoor Units) ZFBXM201A (For 24~42MBh M2 Mid Static Ducted Indoor Units) ZFBXM301A (For 48~54MBh M3 Static Ducted Indoor Units)

All accessories are sold separately.

CEILING-CONCEALED LOW STATIC DUCTED

LOW STATIC DUCTED

Mechanical Specifications

Casing
The case is a low profile design with a maximum height of eight inches designed to mount concealed above the finished ceiling. Fan supply air is front horizontal with a rear horizontal field convertible to a bottom return. The unit is manufactured with coated metal. Cold surfaces are covered with a polystyrene insulating material. The case is provided with hanger brackets designed to support the unit weight on four corners. Hanger brackets have pre-punched holes designed to accept field supplied all-thread rod hangers.

Fan Assembly and Control
The unit has Sirocco fans made of high strength ABS HT-700 polymeric resin. Fans are directly driven and mounted on a common shaft. The fan motor is a Brushless Digitally-Controlled (BLDC) design with permanently lubricated and sealed ball bearings. The fan motor includes thermal, overcurrent and low RPM protection. The fan/motor assembly is mounted on vibration attenuating rubber grommets. The fan impeller is statically and dynamically balanced. The 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. Each setting can be field adjusted from the factory setting (RPM / ESP) to compensate for resistance to airflow caused by field connected ductwork or other airflow restricting devices.

Air Filter
Return air is filtered with a removable, washable filter with anti-fungal treatment.

Microprocessor Controls
The unit is provided with an integrated microprocessor-based controller. The controller is capable of performing functions necessary to operate the system without the use of a wall-mounted controller. A temperature thermistor is factory-mounted in the return air stream. All unit operation parameters, excluding the unit operating 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 cable (RS-485), terminated via screw terminals on the control boards. The microprocessor control provides the following functions: auto addressing, self-diagnostics, auto restart following power restoration, test run, and will operate the indoor unit using one of five operating 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 will activate the indoor unit when indoor room temperature falls below set-point temperature and signals the outdoor unit to begin heating cycle. The indoor unit fan operation is delayed until coil pipe temperature reaches 76ºF. Significant airflow is generated when pipe temperature reaches 80°F. In lieu of factory return air thermistor, screw terminals on the microprocessor circuit board accommodate various models of wall-mounted local controllers and/or a wall-mounted remote temperature sensor. The unit microprocessor is capable of accepting space temperature readings concurrently or individually from either:

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

A single indoor unit has the capability of being controlled by up to two local wired controllers. 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. 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 wall-mounted or central controller, displayed diagnostic codes are specific, alpha numeric, and provide the service technician with a reason for the code displayed.

Condensate Lift / Pump
The indoor unit is provided with a factory installed and wired condensate lift / pump capable of providing a maximum 27.5 inch lift from the bottom exterior surface of the unit casing. The lift pump comes with a safety switch that will shut off indoor unit if condensate rises too high in the drain pan.

Condensate Drain Pan
The condensate drain pan is constructed of high impact polystyrene resin (HIPS).

Coil
The indoor unit coil is constructed with grooved design copper tubes with slit coil fins, 2 to 3 rows, 18 to 21 fins per inch.

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

**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, Multi V S Engineering Manual for additional information.*

Table 68: Ducted Low Static (L1, L2, L3 Frames) Indoor Unit General Data.

Model No.	ARNU073L1G4	ARNU093L1G4	ARNU123L2G4	ARNU153L2G4	ARNU183L2G4	ARNU243L3G4
Cooling Mode Performance						
Capacity (Btu/h)	7,500	9,600	12,300	15,400	19,100	24,000
Max Power Input[1] (W)	40	40	85	85	85	115
L/M/H Power Input at Factory Default (W)	24 / 28 / 31	24 / 29 / 39	29 / 34 / 41	34 / 41 / 56	41 / 56 / 71	48 / 63 / 103
Heating Mode Performance						
Capacity (Btu/h)	8,500	10,900	13,600	17,100	21,500	27,300
Max Power Input[1] (W)	40	40	85	85	85	115
L/M/H Power Input at Factory Default (W)	24 / 28 / 31	24 / 29 / 39	29 / 34 / 41	34 / 41 / 56	41 / 56 / 71	48 / 63 / 103
Entering Mixed Air						
Cooling Max. (°F WB)[2]	76	76	76	76	76	76
Heating Min. (°F DB)[2]	59	59	59	59	59	59
Unit Data						
Refrigerant Type[3]	R410A	R410A	R410A	R410A	R410A	R410A
Refrigerant Control	EEV	EEV	EEV	EEV	EEV	EEV
Sound Power[4] dB(A)	48	49	52	53	54	58
Sound Pressure[5] dB(A) (H/M/L)	27 / 26 / 23	30 / 26 / 23	31 / 29 / 26	34 / 31 / 29	36 / 34 / 31	39 / 35 / 32
Net Unit Weight (lbs.)	38.6	38.6	50.7	50.7	50.7	59.5
Shipping Weight (lbs.)	47.4	47.4	60.6	60.6	60.6	68.3
Communication Cable[6] (No. x AWG)	2 x 18	2 x 18	2 x 18	2 x 18	2 x 18	2 x 18
Fan						
Type	Sirocco	Sirocco	Sirocco	Sirocco	Sirocco	Sirocco
Motor	1	1	2	2	2	2
Housing	2	2	3	3	3	4
Motor/Drive	Brushless Digitally Controlled / Direct					
Airflow Rate H/M/L (CFM) High Mode (Factory Set)	270 / 230 / 200	320 / 250 / 200	360 / 310 / 250	450 / 360 / 310	530 / 450 / 360	710 / 570 / 430
External Static Pressure (in. wg) High Mode (Factory Set)	0.1	0.1	0.1	0.1	0.1	0.1
Piping						
Liquid Line (in., O.D.)	1/4 Flare	1/4 Flare	1/4 Flare	1/4 Flare	1/4 Flare	3/8 Flare
Vapor Line (in., O.D.)	1/2 Flare	1/2 Flare	1/2 Flare	1/2 Flare	1/2 Flare	5/8 Flare
Condensate Line (in., I.D.)	1	1	1	1	1	1

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.

All capacities are net with a combination ratio between 95-105%.

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 Power level is measured using rated conditions, and tested in a reverberation room per ISO 3741 standards.

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

[6]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.

LOW STATIC DUCTED

Electrical Data

Table 69: Ducted Low Static (L1, L2, L3 Frames) Indoor Unit Electrical Data.

Model	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
L1 Units										
ARNU073L1G4	208-230	0.5	15	0.4	60	208-230	1	40	40	24 / 28 / 31
ARNU093L1G4		0.5		0.4				40	40	24 / 29 / 39
L2 Units										
ARNU123L2G4	208-230	1.0	15	0.76	60	208-230	1	85	85	29 / 34 / 41
ARNU153L2G4		1.0		0.76				85	85	34 / 41 / 56
ARNU183L2G4		1.0		0.76				85	85	41 / 56 / 71
L3 Units										
ARNU243L3G4	208-230	1.2	15	0.97	60	208-230	1	115	115	48 / 63 / 103

MCA : Minimum Circuit Ampacity.

MOP : Maximum Overcurrent Protection.

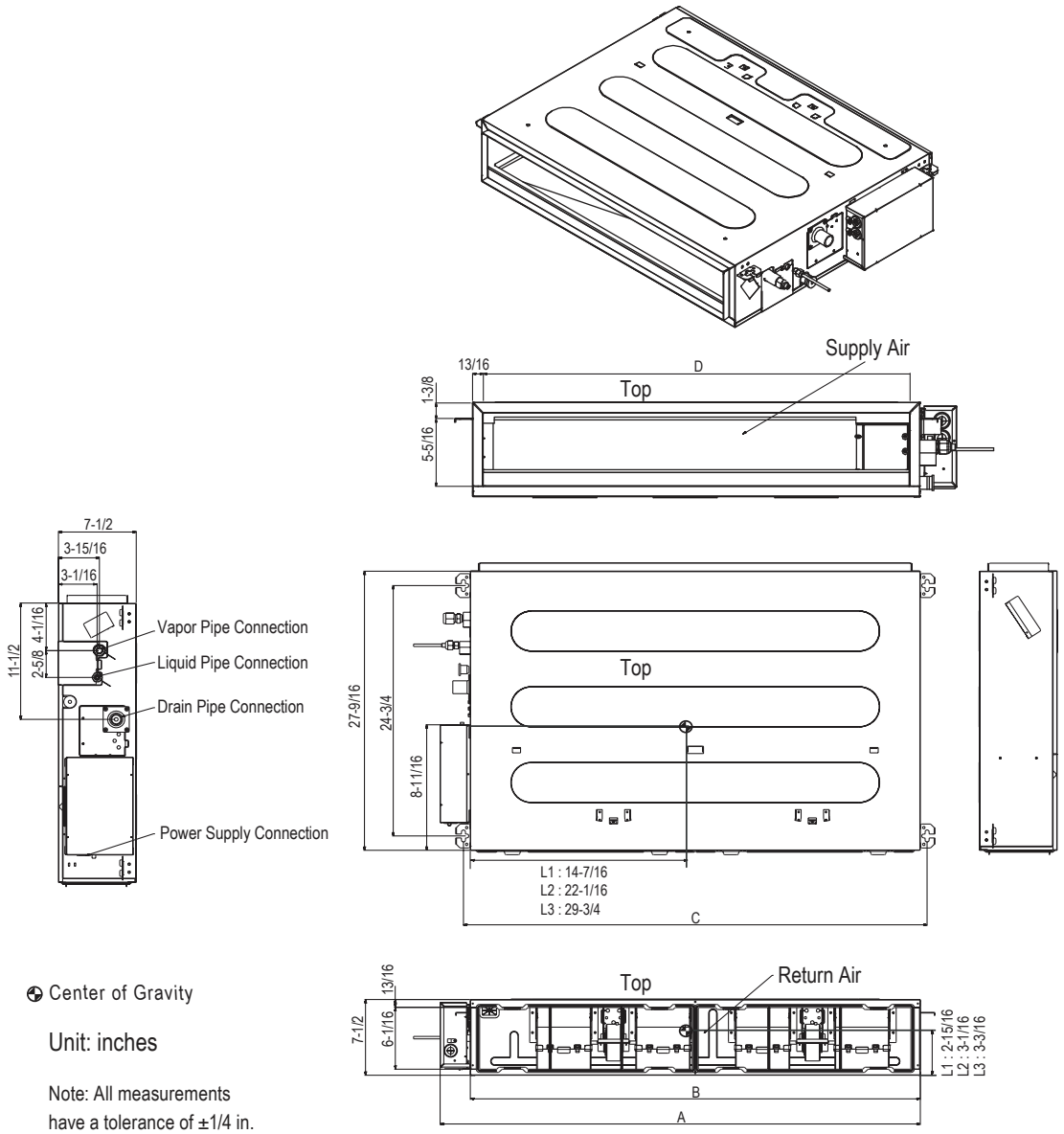
Units are suitable for use on an electrical system where voltage supplied to unit terminals is within the listed range limits.

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.

Figure 35: ARNU073-093L1G4, ARNU123~183L2G4, ARNU243L3G4 Dimensions.



	A	B	C	D	Supply Duct Connection					Return Duct Connection				
					Type	Height	Width	Flange Width	Flange Depth	Opening Location	Height	Width	Flange Width	Flange Depth
ARNU073L1G4 ARNU093L1G4	30-1/2	27-9/16	28-7/8	26	Flange	5-7/8	26	13/16	5/8	Rear	6-1/8	26	3/4	No Flange
										Bottom	6-1/16	26	3/4	No Flange
ARNU123L2G4 ARNU153L2G4 ARNU183L2G4	38-3/8	35-7/16	36-3/4	33-7/8	Flange	5-7/8	33-13/16	13/16	5/8	Rear	6-1/8	33-11/16	3/4	No Flange
										Bottom	6-1/16	33-11/16	3/4	No Flange
ARNU243L3G4	46-1/4	43-5/16	44-5/8	41-3/4	Flange	5-7/8	41-3/4	13/16	5/8	Rear	6-1/8	41-11/16	3/4	No Flange
										Bottom	6-1/16	41-11/16	3/4	No Flange

LOW STATIC DUCTED

Electrical Wiring Diagram

L1 Units

Figure 36: ARNU073L1G4, ARNU093L1G4 Wiring Diagram.

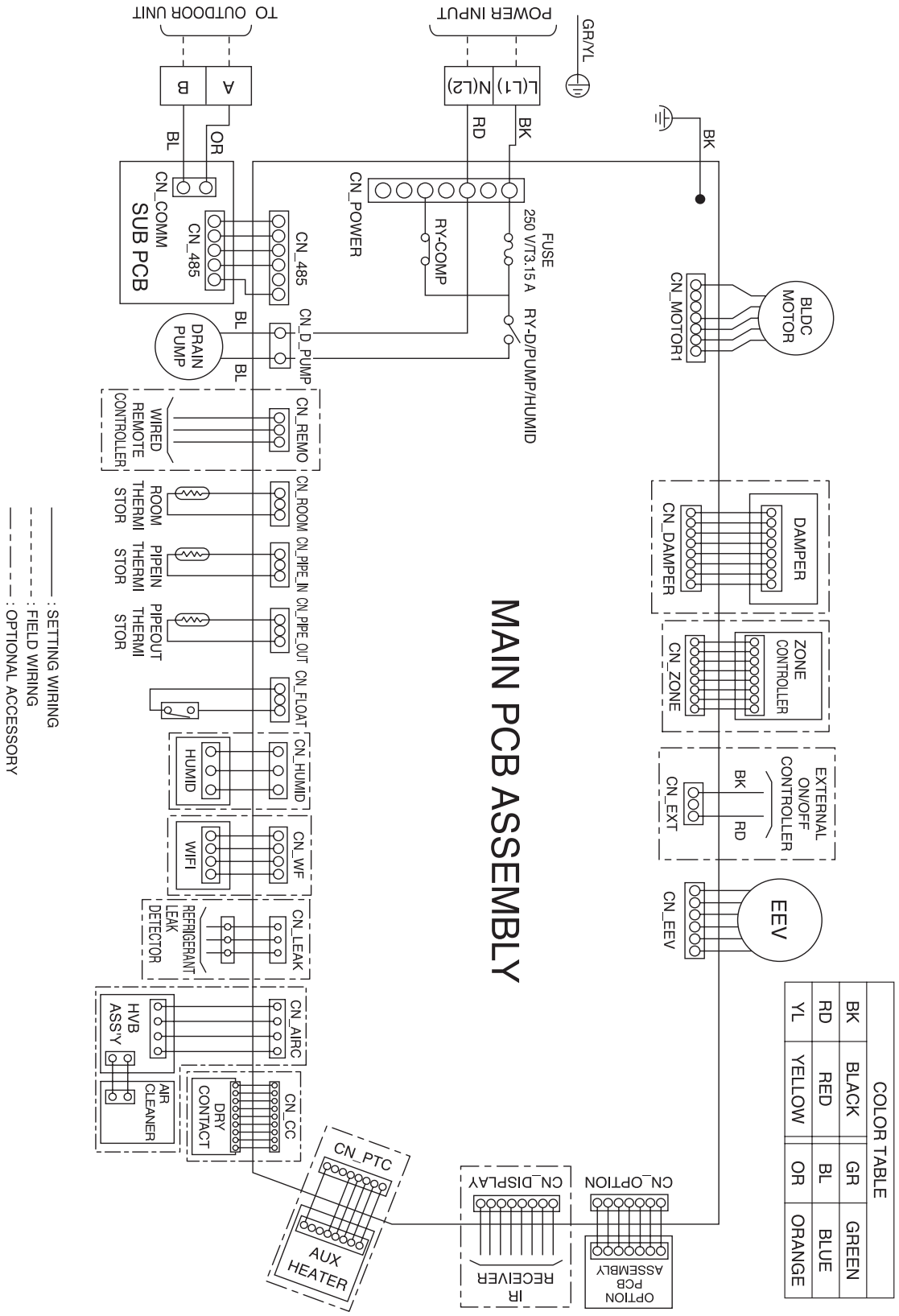


Table 70: L1 Unit Wiring Diagram Legend.

Terminal	Purpose	Function
CN-POWER	AC Power supply	AC Power line
CN-MOTOR1	Fan motor output	Motor output of BLDC
CN-DAMPER	N / A	N / A
CN-ZONE	Zone controller	Zone controller connection
CN-EXT	External on / off controller	External on / off Controller connection
CN-EEV	EEV Output	EEV control output
CN-OPTION	Optional PCB EPROM	Option PCB connection
CN-DISPLAY	Display	Display of indoor status
CN-PTC	Auxiliary heater	Connection for Auxiliary Heater
CN-CC	Dry contact	Dry Contact connection
CN-AIRC	N / A	N / A
CN-LEAK	Leak detector	Leak detector connection
CN-WF	Wi-Fi	Wi-Fi module connection
CN-HUMID	N / A	N / A
CN-FLOAT	Float switch input	Float switch sensing
CN-PIPE/OUT	Discharge pipe sensor	Pipe out thermistor
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	AC output for drain pump
CN-485	Communication	Connection between indoor and outdoor units

Table 71: L1 Unit 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 ducted indoor 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 ducted indoor units, DIP switches 1, 2, 6 through 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.**

LOW STATIC DUCTED

Electrical Wiring Diagram
L2, L3 Units

Figure 37: ARNU123L2G4, ARNU153L2G4, ARNU183L2G4, ARNU243L3G4 Wiring Diagram.

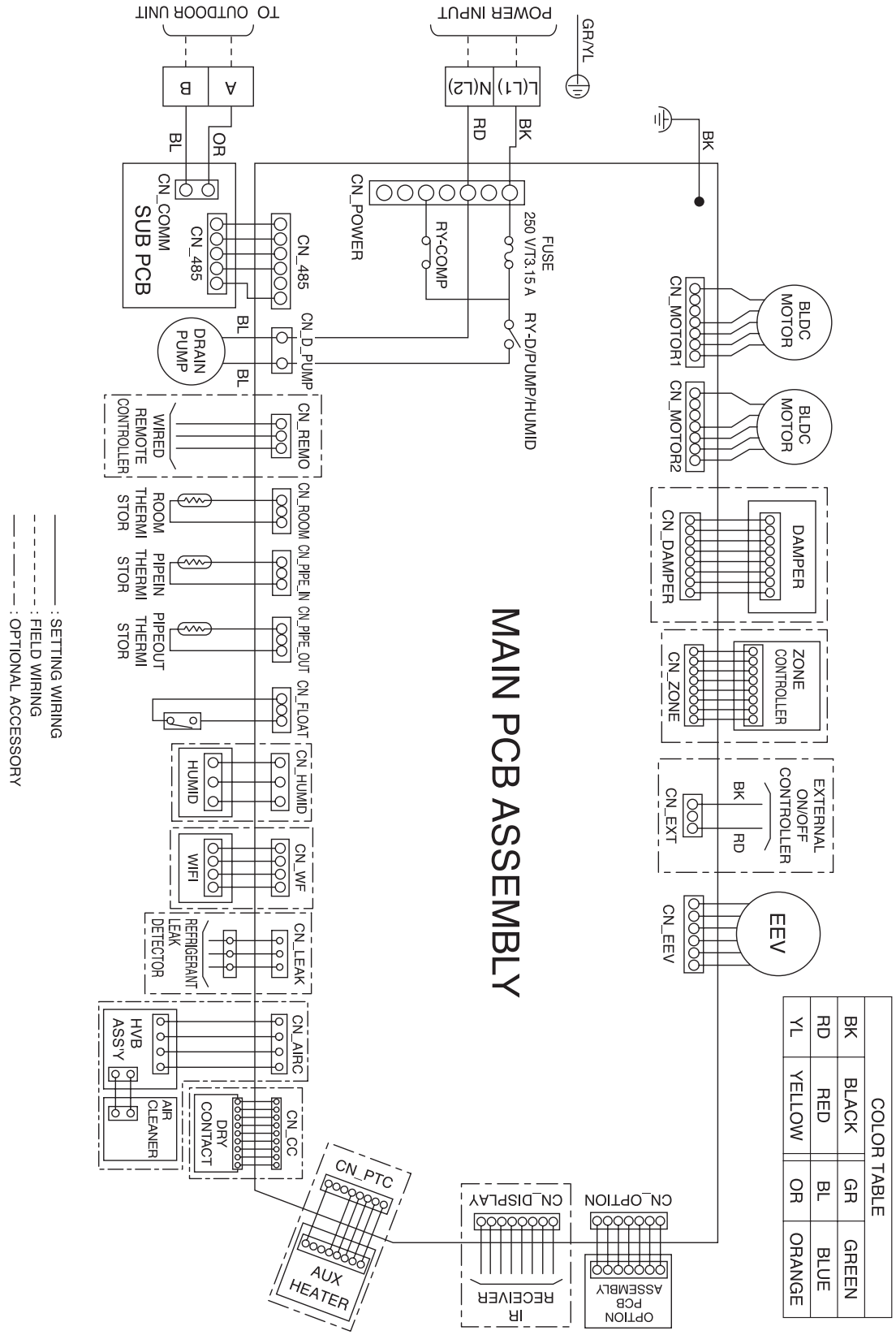


Table 72: L2, L3 Unit Wiring Diagram Legend.

Terminal	Purpose	Function
CN-POWER	AC Power supply	AC Power line
CN-MOTOR1	Fan motor output	Motor output of BLDC
CN-MOTOR2	Fan motor output	Motor output of BLDC
CN-DAMPER	N / A	N / A
CN-ZONE	Zone controller	Zone controller connection
CN-EXT	External on / off controller	External on / off Controller connection
CN-EEV	EEV Output	EEV control output
CN-OPTION	Optional PCB EPROM	Option PCB connection
CN-DISPLAY	Display	Display of indoor status
CN-PTC	Auxiliary heater	Connection for Auxiliary Heater
CN-CC	Dry contact	Dry Contact connection
CN-AIRC	N / A	N / A
CN-LEAK	Leak detector	Leak detector connection
CN-WF	Wi-Fi	Wi-Fi module connection
CN-HUMID	N / A	N / A
CN-FLOAT	Float switch input	Float switch sensing
CN-PIPE/OUT	Discharge pipe sensor	Pipe out thermistor
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	AC output for drain pump
CN-485	Communication	Connection between indoor and outdoor units

Table 73: L2, L3 Unit 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 ducted indoor 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 ducted indoor units, DIP switches 1, 2, 6 through 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
L1, L2, L3 Units

Figure 38: L1, L2, L3 Unit Refrigerant Flow Diagram.

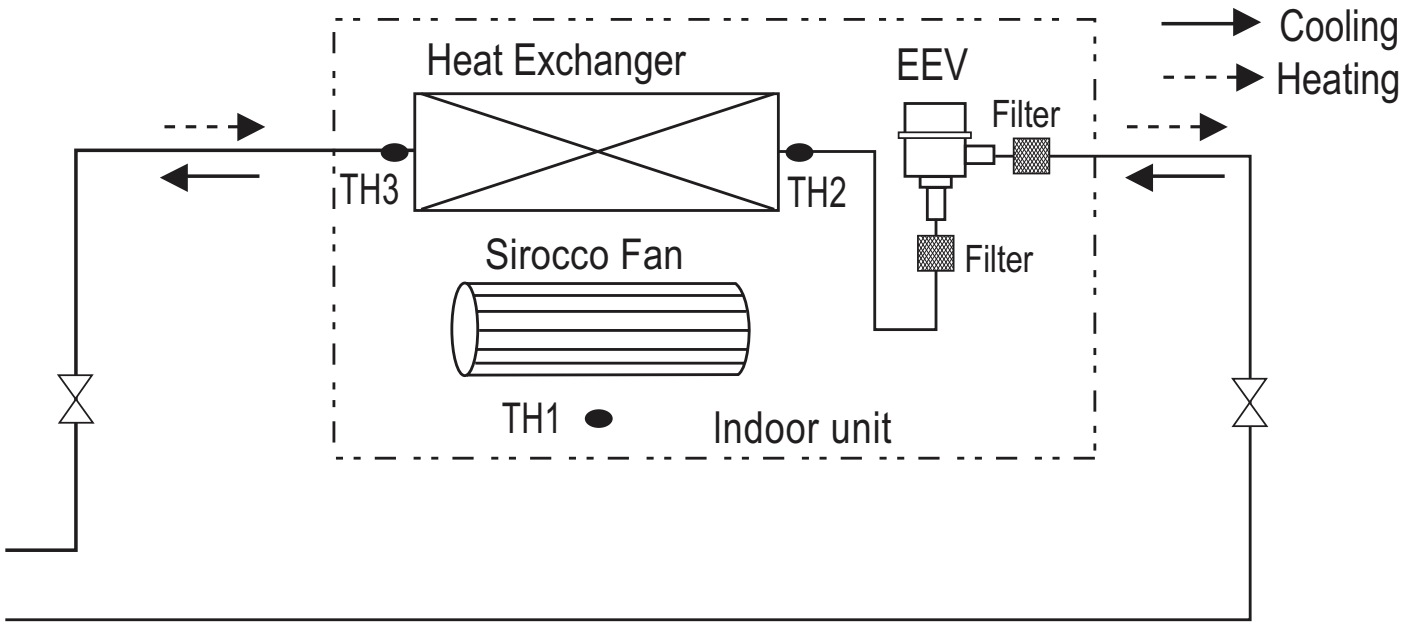


Table 74: L1, L2, L3 Unit Refrigerant Pipe Connection Port Diameters.

Model	Liquid (inch)	Vapor (inch)
L1 Units		
ARNU073L1G4	1/4 Flare	1/2 Flare
ARNU093L1G4		
L2 Units		
ARNU123L2G4	1/4 Flare	1/2 Flare
ARNU153L2G4		
ARNU183L2G4		
L3 Units		
ARNU243L3G4	3/8 Flare	5/8 Flare

Table 75: L1, L2, L3 Unit Thermistors.

Thermistor	Description
TH1	Return air thermistor
TH2	Pipe in thermistor
TH3	Pipe out thermistor

LOW STATIC DUCTED

External Static Pressure and Air Flow Tables
L1, L2, L3 Units

Table 76: L1 Unit External Static Pressure and Air Flow Table.

Set Value	Static Pressure (in. wg)					
	0	0.04	0.08	0.11	0.15	0.19
65	178	-	-	-	-	-
70	198	171	-	-	-	-
75	219	192	161	-	-	-
80	240	214	183	-	-	-
85	262	236	205	170	-	-
90	284	258	227	192	-	-
95	308	281	251	215	176	-
100	331	305	274	239	199	-
105	356	329	299	263	224	180
110	-	354	324	288	249	205
115	-	-	349	314	274	230
120	-	-	-	340	300	256
125	-	-	-	367	327	283
130	-	-	-	-	354	310

Table 77: L2 Unit External Static Pressure and Air Flow Table.

Set Value	Static Pressure (in. wg)					
	0	0.04	0.08	0.11	0.15	0.19
75	230	-	-	-	-	-
80	259	237	-	-	-	-
85	290	267	236	-	-	-
90	320	298	267	229	-	-
95	352	329	299	260	-	-
100	384	361	331	292	246	-
105	417	394	363	325	279	224
110	450	427	396	358	312	258
115	484	461	430	392	346	292
120	518	495	465	427	380	326
125	553	530	500	461	415	361
130	589	566	536	497	451	397
135	-	-	572	534	487	433

Table 78: L3 Unit External Static Pressure and Air Flow Table.

Set Value	Static Pressure (in. wg)					
	0	0.04	0.08	0.11	0.15	0.19
85	360	-	-	-	-	-
90	430	392	378	-	-	-
95	488	436	431	-	-	-
100	536	484	473	378	-	-
105	576	524	507	419	-	-
110	612	560	538	454	388	-
115	646	594	568	488	422	-
120	681	629	598	523	456	371
125	719	667	632	561	494	409
130	763	711	672	606	539	453
135	-	765	719	659	592	507
139	-	-	745	673	613	540

1. All static pressure air flow rates are listed in CFM.

2. The tables above show the correlation between air flow rates and external static pressure.

3. The tables above show the available external static pressure range.

Note:

If the external static pressure of the installed indoor unit is less than the lowest value (as mentioned in the table), the indoor unit components can fail.

LOW STATIC DUCTED

External Static Pressure and Air Flow Charts
L1, L2, L3 Units

Figure 39: L1 Unit External Static Pressure and Air Flow Chart.

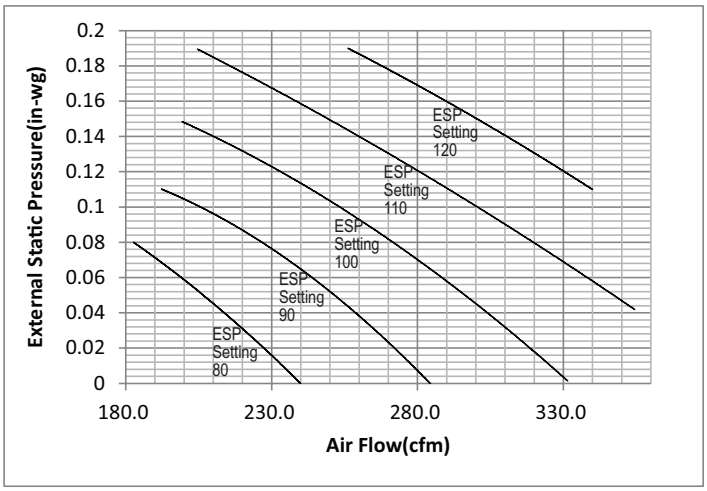


Figure 40: L2 Unit External Static Pressure and Air Flow Chart.

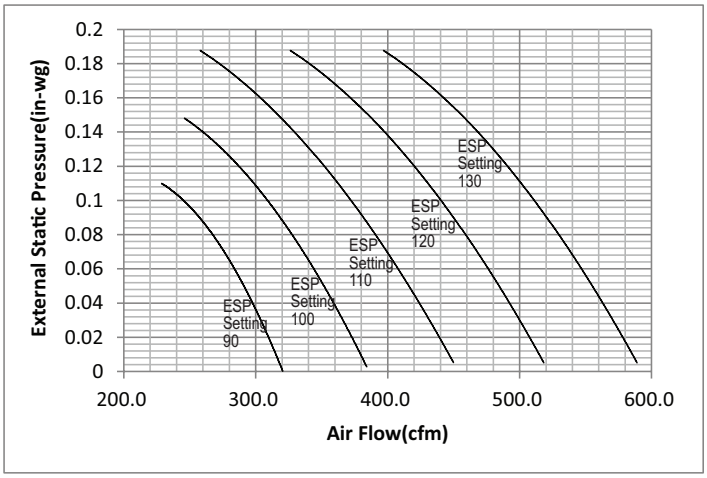
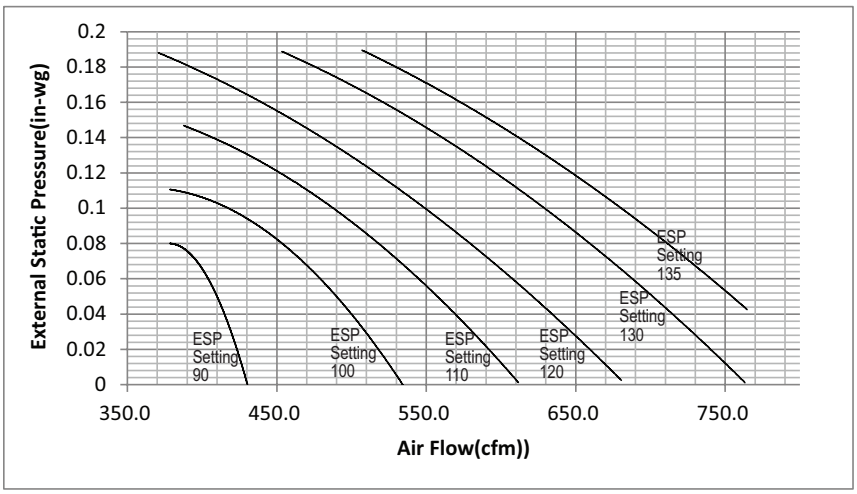


Figure 41: L3 Unit External Static Pressure and Air Flow Chart.



External Static Pressure Ranges for L1 units

Table 79: L1 Unit External Static Pressure Ranges.

Model	Capacity (MBh)	Mode		Setting Value	Standard ESP (in. wg)	CFM	Min. ESP (in. wg)	Max. ESP (in. wg)
ARNU073L1G4	7.5	High (Factory Set)	High	100	0	265	-	0.2
			Mid	93		230		
			Low	86		194		
ARNU093L1G4	9.6	High (Factory Set)	High	113	0	318	-	0.2
			Mid	97		247		
			Low	86		194		

External Static Pressure Ranges for L2 units

Table 81: L2 Unit External Static Pressure Ranges.

Model	Capacity (MBh)	Mode		Setting Value	Standard ESP (in. wg)	CFM	Min. ESP (in. wg)	Max. ESP (in. wg)
ARNU123L2G4	12.3	High (Factory Set)	High	105	0	353	-	0.2
			Mid	96		300		
			Low	89		247		
ARNU153L2G4	15.4	High (Factory Set)	High	119	0	442	-	0.2
			Mid	105		353		
			Low	96		300		
ARNU183L2G4	19.1	High (Factory Set)	High	131	0	530	-	0.2
			Mid	119		442		
			Low	105		353		

External Static Pressure Ranges for L3 unit

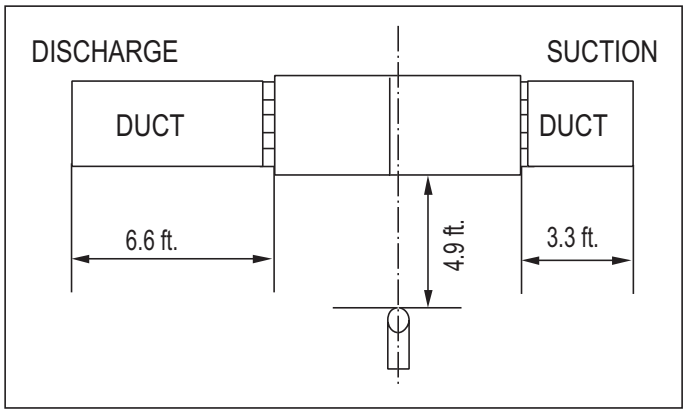
Table 80: L3 Unit External Static Pressure Ranges.

Model	Capacity (MBh)	Mode		Setting Value	Standard ESP (in. wg)	CFM	Min. ESP (in. wg)	Max. ESP (in. wg)
ARNU243L3G4	24.0	High (Factory Set)	High	139	0	707	-	0.2
			Mid	118		565		
			Low	105		424		

The tables above show the available E.S.P. range.

Sound Pressure Levels

Figure 42: Sound Pressure Measurement Location.



- Measurements are taken 4.9 ft away from the front of the unit.
- Sound pressure levels are measured in dB(A) with a tolerance of ±3.
- Sound pressure levels are tested in an anechoic chamber under ISO Standard 3745.

Operating Conditions:

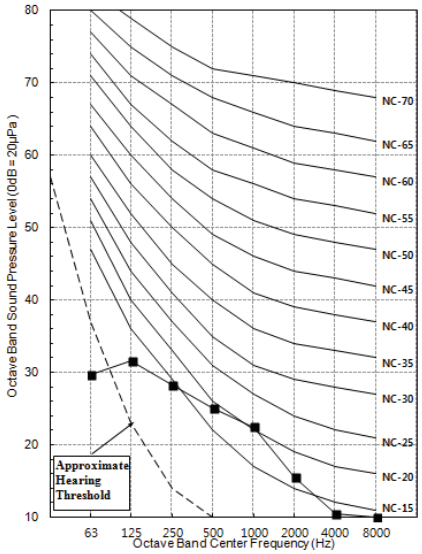
- Power source: 220V/60 Hz
- Sound level will vary depending on a range of factors including the construction (acoustic absorption coefficient) of a particular room in which the unit was installed.

Table 82: Ducted Low Static Sound Pressure Levels.

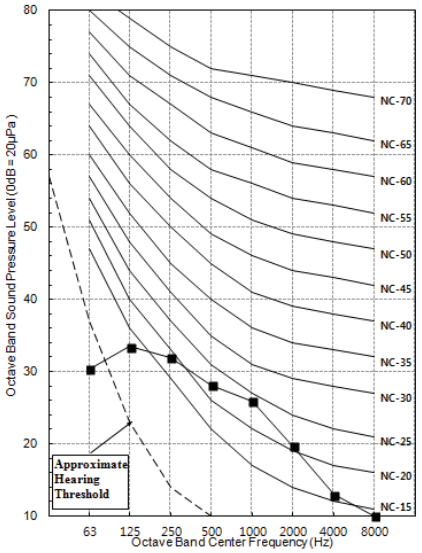
Model	Sound Pressure Levels dB(A)		
	High Fan Speed	Medium Fan Speed	Low Fan Speed
L1 Units			
ARNU073L1G4	27	26	23
ARNU093L1G4	30	26	23
L2 Units			
ARNU123L2G4	31	29	26
ARNU153L2G4	34	31	29
ARNU183L2G4	36	34	31
L3 Units			
ARNU243L3G4	39	35	32

Figure 43: ARNU073L1G4, ARNU093L1G4, and ARNU123L2G4 Sound Pressure Level Diagrams.

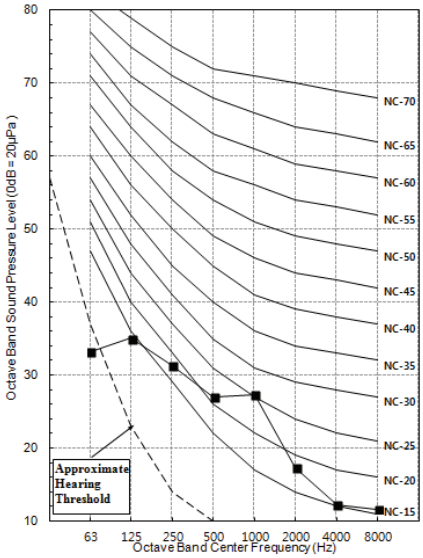
ARNU073L1G4



ARNU093L1G4



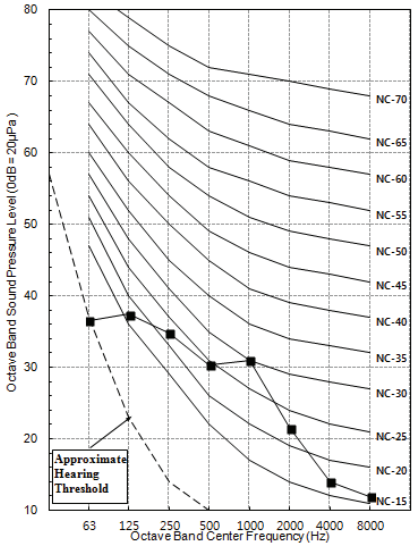
ARNU123L2G4



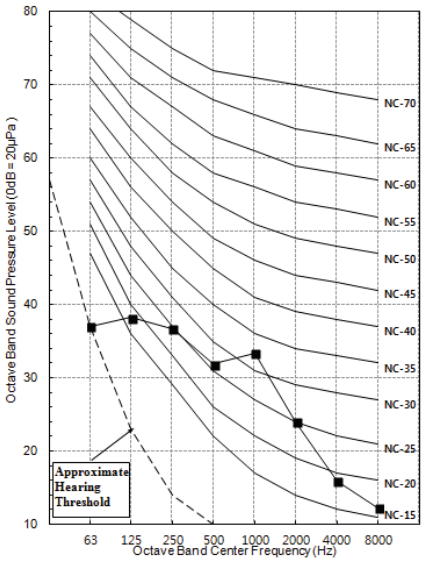
Sound Pressure Levels

Figure 44: ARNU153L2G4, ARNU183L2G4, and ARNU243L3G4 Sound Pressure Level Diagrams.

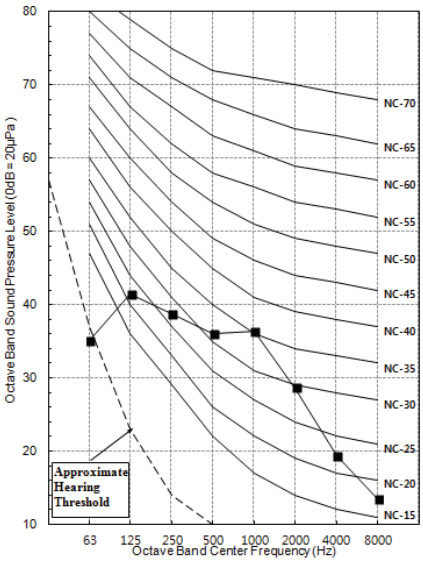
ARNU153L2G4



ARNU183L2G4



ARNU243L3G4



LOW STATIC DUCTED

Acoustic Data

Sound Power Levels

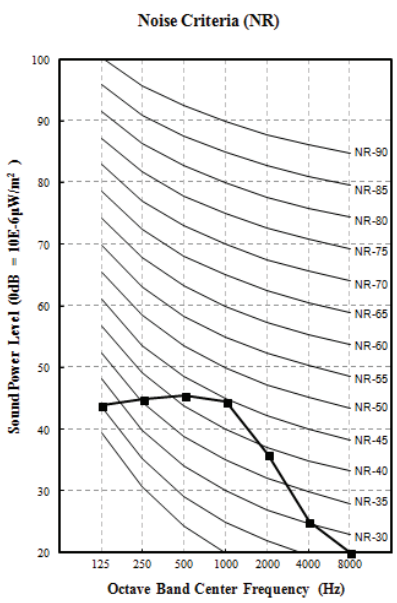
Table 83: Ducted Low Static Sound Power Levels.

Model	Sound Power Levels dB(A)
L1 Units	
ARNU073L1G4	48
ARNU093L1G4	49
L2 Units	
ARNU123L2G4	52
ARNU153L2G4	53
ARNU183L2G4	54
L3 Units	
ARNU243L3G4	58

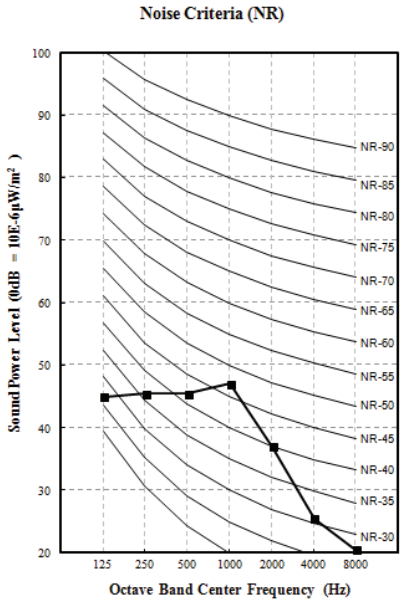
- Data is valid under diffuse field conditions.
- Data is valid under nominal operating conditions.
- Sound power level is measured using rated conditions, and tested in a reverberation room per ISO 3741 standards.
- Sound level will vary depending on a range of factors such as construction (acoustic absorption coefficient) of particular area in which the equipment is installed.
- Reference acoustic intensity: 0dB = 10E-6μW/m^2

Figure 45: ARNU073L1G4, ARNU093L1G4, and ARNU123L2G4 Sound Power Level Diagrams.

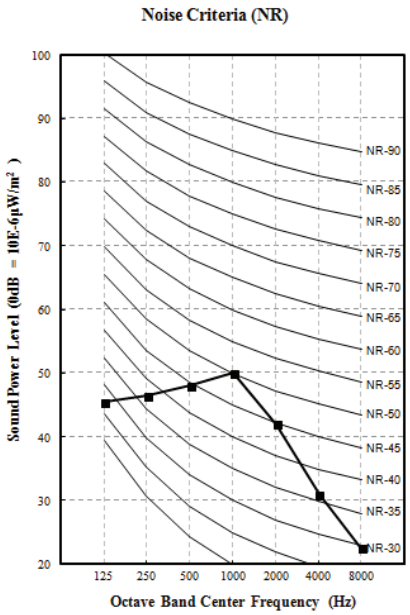
ARNU073L1G4



ARNU093L1G4



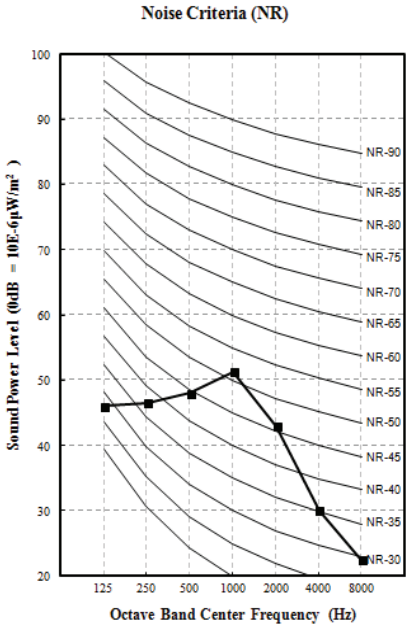
ARNU123L2G4



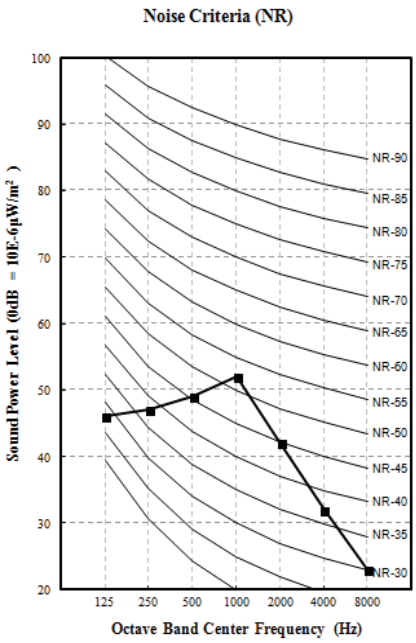
Sound Power Levels

Figure 46: ARNU153L2G4, ARNU183L2G4, and ARNU243L3G4 Sound Power Level Diagrams.

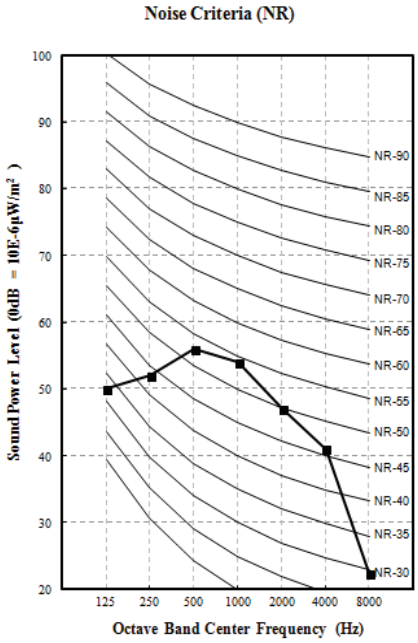
ARNU153L2G4



ARNU183L2G4



ARNU243L3G4



LOW STATIC DUCTED

Cooling Capacity Table

Table 84: Ducted Low Static Cooling Capacity Table.

Model No. / Capacity Index	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
ARNU073L1G4 / 7.5	95	4.9	4.4	6	5.1	6.8	5.4	7.5	5.8	8	6.0	8.2	5.7	8.3	5.4
ARNU093L1G4 / 9.6	95	6.3	5.5	7.7	6.4	8.6	6.8	9.6	7.2	10.3	7.5	10.5	7.1	10.6	6.7
ARNU123L2G4 / 12.3	95	8.1	6.8	9.8	7.9	11.1	8.4	12.3	8.9	13.2	9.3	13.4	8.8	13.6	8.3
ARNU153L2G4 / 15.4	95	10.1	8.6	12.3	10.0	13.9	10.6	15.4	11.3	16.5	11.7	16.8	11.2	17.1	10.5
ARNU183L2G4 / 19.1	95	12.6	10.7	15.3	12.3	17.2	13.1	19.1	14.0	20.5	14.6	20.9	13.8	21.2	13.1
ARNU243L3G4 / 24.2	95	15.8	14	19.2	16.2	21.6	17.2	24.0	18.3	25.7	19.0	26.2	18.1	26.6	17.1

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.

Table 85: Ducted Low Static Unit Heating Capacity Table.

Model No. / Capacity Index	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
			MBh	MBh	MBh	MBh	MBh	MBh	MBh	MBh
ARNU073L1G4 / 7.5	47	43	9.5	9.4	9.4	8.9	8.5	8.3	7.8	7.4
ARNU093L1G4 / 9.6	47	43	12.2	12.1	12.0	11.5	10.9	10.6	10.0	9.5
ARNU123L2G4 / 12.3	47	43	15.2	15.1	15.0	14.3	13.6	13.2	12.5	11.9
ARNU153L2G4 / 15.4	47	43	19.2	19.0	18.8	18.0	17.1	16.6	15.7	15.0
ARNU183L2G4 / 19.1	47	43	24.1	23.9	23.7	22.6	21.5	20.9	19.8	18.8
ARNU243L3G4 / 24.2	47	43	30.6	30.3	30.0	28.7	27.3	26.5	25.1	23.9

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.

VERTICAL AIR HANDLING UNIT

VERTICAL AIR HANDLING UNIT

Mechanical Specifications

Casing

The unit is designed to operate in the vertical up flow configuration or horizontal left end supply air. Return air opening is on the bottom in the vertical position or right end in the horizontal position. Return air plenum sub-base is to be field-provided. The supply air connection is male flange. The unit case is made of 22-gauge coated metal and the external surfaces are finished with a high gloss baked enamel finish. Finish color is “morning fog” (medium beige). Cold surfaces are galvanized steel. The cold surfaces of the case are internally insulated with ½ inch foil faced, polystyrene fiber insulation. The inside surface of the fan assembly door access panel is treated with ½ inch polystyrene fiber insulation, encapsulated on both sides, and sealed along the edges with a reinforced foil-faced covering to prevent deterioration caused by panel removal. All access panels are provided with gasket seals to minimize air leakage. The unit case is designed to accept an internal, optional, LG electric strip heater. 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 galvanized steel housing and a forward-curved fan wheel. The direct drive fan/motor assembly is mounted on rubber grommets isolating the rotating assembly from the fan housing. The fan motor is a Brushless Digitally-Controlled design (BLDC), having permanently lubricated and sealed ball bearings. The fan motor includes thermal, overcurrent and low RPM protection. The fan/motor assembly is mounted on vibration attenuating rubber grommets. The fan impeller is statically and dynamically balanced. Fan speed is controlled using a microprocessor-based direct digital control algorithm that provides a minimum of 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. Each setting can be field adjusted from the factory setting (RPM/ESP). The setting provides delivery of the high speed air volume against an external static pressure of up to 1.0 in-wg.

Air Filter

The unit comes with a filter rack capable of accepting a field-provided 16” x 20” x 1” (NJ chassis) or 24” x 20” x 1” (NK chassis) filter cartridge. The filter rack is equipped with guides that keep the filter centered in the rack. Filter service access is from the front of the unit without removing the coil or fan area access panels. Filter access door is provided with thumb screws that can be removed.

Optional Auxiliary Electric Heat Module(s)

LG optional electric heat modules are designed for field installation in the reheat position. The electric heat module is provided with heating elements, contractors, relays, high temperature safety switch, and interconnecting control wiring harness with a quick connect plug for easy connection to the Vertical Air Handling Unit control board. Auxiliary heat modules are available in nominal capacities of 3, 5, 8, 10, 15, and 20kW at 230/60/1. Heating elements are powered from a field provided separate power source.

5 and 10 kW modules are powered from a single power wire. The 15 and 20 kW modules are powered from two power wires. Heating module breakers, fuses, and / or disconnects are to be field provided.

Electric Heat Module Controls

The electric heat module is capable of operating at full capacity during system defrost and oil return operations. When the Vertical Air Handling Unit is operating in the Cooling, Dry, or Fan Only modes, the electric heater operation is locked out and unavailable. When the unit is operating in the Heating mode, the heater is field selectable to operate when the room temperature is 2°F lower than set-point or manually if provided with a start/stop signal from a third-party outside source.

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.

VERTICAL AIR HANDLING UNIT

Mechanical Specifications

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 HIPS (high impact polystyrene resin).

Coil

The indoor unit coil is constructed with grooved design copper tubes with slit coil fins, 2 to 3 rows, 18 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 Water IV, Multi V S Engineering Manual for additional information.*

VERTICAL AIR HANDLING UNIT

General Data
NJ Frames

Table 86: Vertical Air Handling Unit (NJ Frame) General Data.

Model No.	ARNU123NJA4	ARNU183NJA4	ARNU243NJA4	ARNU303NJA4	ARNU363NJA4
Cooling Mode Performance					
Capacity (Btu/h)	12,000	18,000	24,000	30,000	36,000
Max Power Input[1] (W)	228	228	228	228	228
L/M/H Power Input at Factory Default (W)	47 / 64 / 80	64 / 80 / 90	64 / 96 / 120	94 / 133 / 180	133 / 180 / 230
Heating Mode Performance					
Capacity (Btu/h)	13,500	20,000	27,000	34,000	40,000
Max Power Input[1] (W)	228	228	228	228	228
L/M/H Power Input at Factory Default (W)	47 / 64 / 80	64 / 80 / 90	64 / 96 / 120	94 / 133 / 180	133 / 180 / 230
Entering Mixed Air					
Cooling Max. (°F WB)	76	76	76	76	76
Heating Min. (°F DB)[2]	59	59	59	59	59
Unit Data					
Refrigerant Type[3]	R410A				
Refrigerant Control	EEV				
Sound Power[4] dB(A) H/M/L, @0.50 ESP (in wg)	54 / 53 / 52	56 / 55 / 54	57 / 56 / 53	62 / 60 / 56	67 / 62 / 60
Sound Pressure[5] dB(A) H/M/L, @0.50 ESP (in wg)	42 / 41 / 39	42 / 42 / 41	43 / 42 / 41	44 / 43 / 42	45 / 44 / 43
Net Unit Weight (lbs.)	115	115	115	115	120
Shipping Weight (lbs.)	122	122	122	122	127
Communication Cable[6] (No. x AWG)	2 x 18	2 x 18	2 x 18	2 x 18	2 x 18
Fan					
Type	Sirocco	Sirocco	Sirocco	Sirocco	Sirocco
Motor	1	1	1	1	1
Housing	1	1	1	1	1
Motor/Drive	Brushless Digitally Controlled / Direct				
Airflow Rate H / M / L (CFM) High Mode (Factory Set)	530 / 480 / 380	580 / 530 / 480	710 / 640 / 480	880 / 800 / 630	990 / 880 / 800
External Static Pressure (in. wg) High Mode (Factory Set)	0.5	0.5	0.5	0.5	0.5
Piping					
Liquid Line (in., O.D.)	1/4 Flare	1/4 Flare	3/8 Flare	3/8 Flare	3/8 Flare
Vapor Line (in., O.D.)	1/2 Flare	1/2 Flare	5/8 Flare	5/8 Flare	5/8 Flare
Condensate Line (in., I.D.)	1 (3/4" FPT)	1 (3/4" FPT)	1 (3/4" FPT)	1 (3/4" FPT)	1 (3/4" FPT)

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 Power level is measured using rated conditions, and tested in a reverberation room per AHRI 260.

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

[6]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.

VERTICAL AIR HANDLING UNIT

General Data

NK Frames

Table 87: Vertical Air Handling Unit (NK Frame) General Data.

Model No.	ARNU423NKA4	ARNU483NKA4	ARNU543NKA4
Cooling Mode Performance			
Capacity (Btu/h)	42,000	48,000	54,000
Max Power Input[1] (W)	366	366	366
L/M/H Power Input at Factory Default (W)	186 / 215 / 260	186 / 264 / 330	264 / 312 / 370
Heating Mode Performance			
Capacity (Btu/h)	46,000	54,000	60,000
Max Power Input[1] (W)	366	366	366
L/M/H Power Input at Factory Default (W)	186 / 215 / 260	186 / 264 / 330	264 / 312 / 370
Entering Mixed Air			
Cooling Max. (°F WB)	76	76	76
Heating Min. (°F DB)[2]	59	59	59
Unit Data			
Refrigerant Type[3]	R410A		
Refrigerant Control	EEV		
Sound Power[4] dB(A) H/M/L, @0.50 ESP (in wg)	59 / 57 / 56	63 / 59 / 56	65 / 63 / 59
Sound Pressure[4] dB(A) H/M/L, @0.50 ESP (in wg)	46 / 44 / 41	49 / 47 / 41	50 / 49 / 47
Net Unit Weight (lbs.)	165	165	165
Shipping Weight (lbs.)	181	181	181
Communication Cable[5] (No. x AWG)	2 x 18	2 x 18	2 x 18
Fan			
Type	Sirocco	Sirocco	Sirocco
Motor	1	1	1
Housing	1	1	1
Motor/Drive	Brushless Digitally Controlled / Direct		
Airflow Rate H / M / L (CFM) High Mode (Factory Set)	1,250 / 1,100 / 1,000	1,400 / 1,260 / 1,000	1,475 / 1,400 / 1,260
External Static Pressure (in. wg) High Mode (Factory Set)	0.5	0.5	0.5
Piping			
Liquid Line (in., O.D.)	3/8 Flare	3/8 Flare	3/8 Flare
Vapor Line (in., O.D.)	5/8 Flare	5/8 Flare	5/8 Flare
Condensate Line (in., I.D.)	1 (3/4" FPT)	1 (3/4" FPT)	1 (3/4" FPT)

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 Power level is measured using rated conditions, and tested in a reverberation room per AHRI 260.

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

[6]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.

VERTICAL AIR HANDLING UNIT

Electrical Data

Table 88: Vertical Air Handling Unit (NJ, NK Frames) Unit Electrical Data.

Model	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
NJ Frames										
ARNU123NJA4	208-230	3.5	15	2.8	60	208-230	1	228	228	47 / 64 / 80
ARNU183NJA4		3.5		2.8				228	228	64 / 80 / 90
ARNU243NJA4		3.5		2.8				228	228	64 / 96 / 120
ARNU303NJA4		3.5		2.8				228	228	94 / 133 / 180
ARNU363NJA4		3.5		2.8				228	228	133 / 180 / 230
NK Frames										
ARNU423NKA4	208-230	4.25	15	3.4	60	208-230	1	366	366	186 / 215 / 260
ARNU483NKA4		4.25		3.4				366	366	186 / 264 / 330
ARNU543NKA4		4.25		3.4				366	366	264 / 312 / 370

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.

VERTICAL AIR HANDLING UNIT

External Dimensions

NJ Frame

Figure 47: ARNU123~363NJA4 Dimensions.

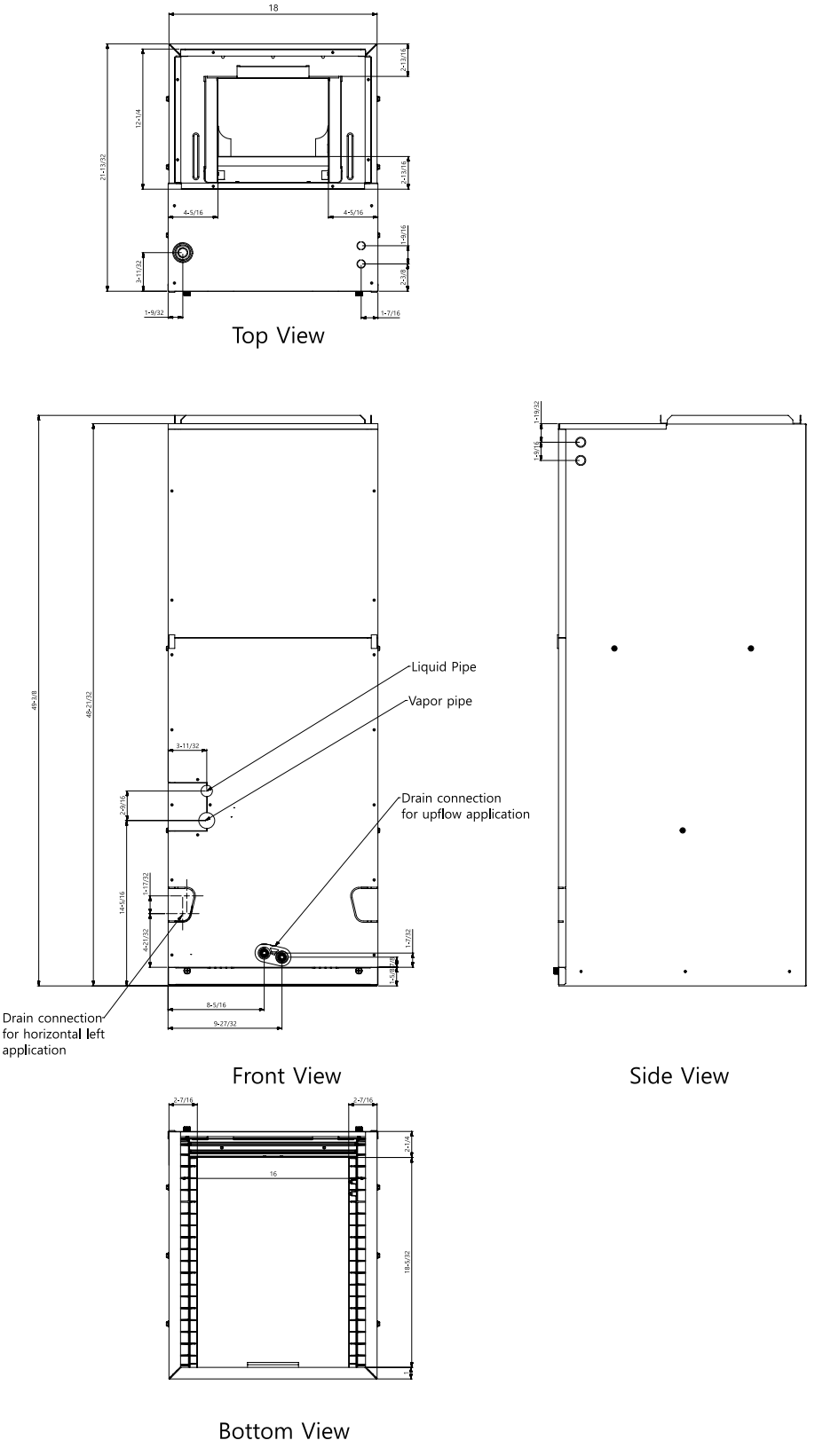
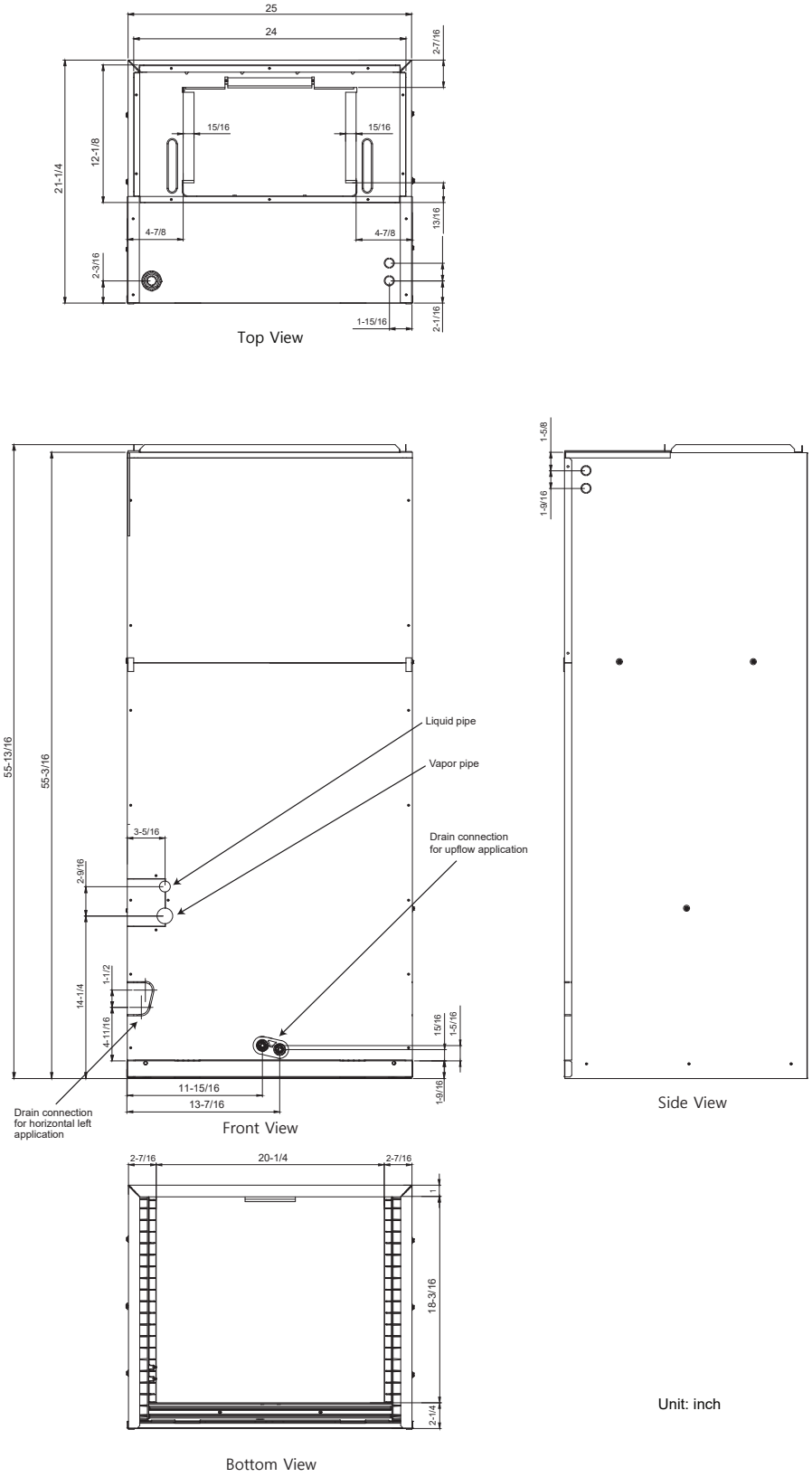


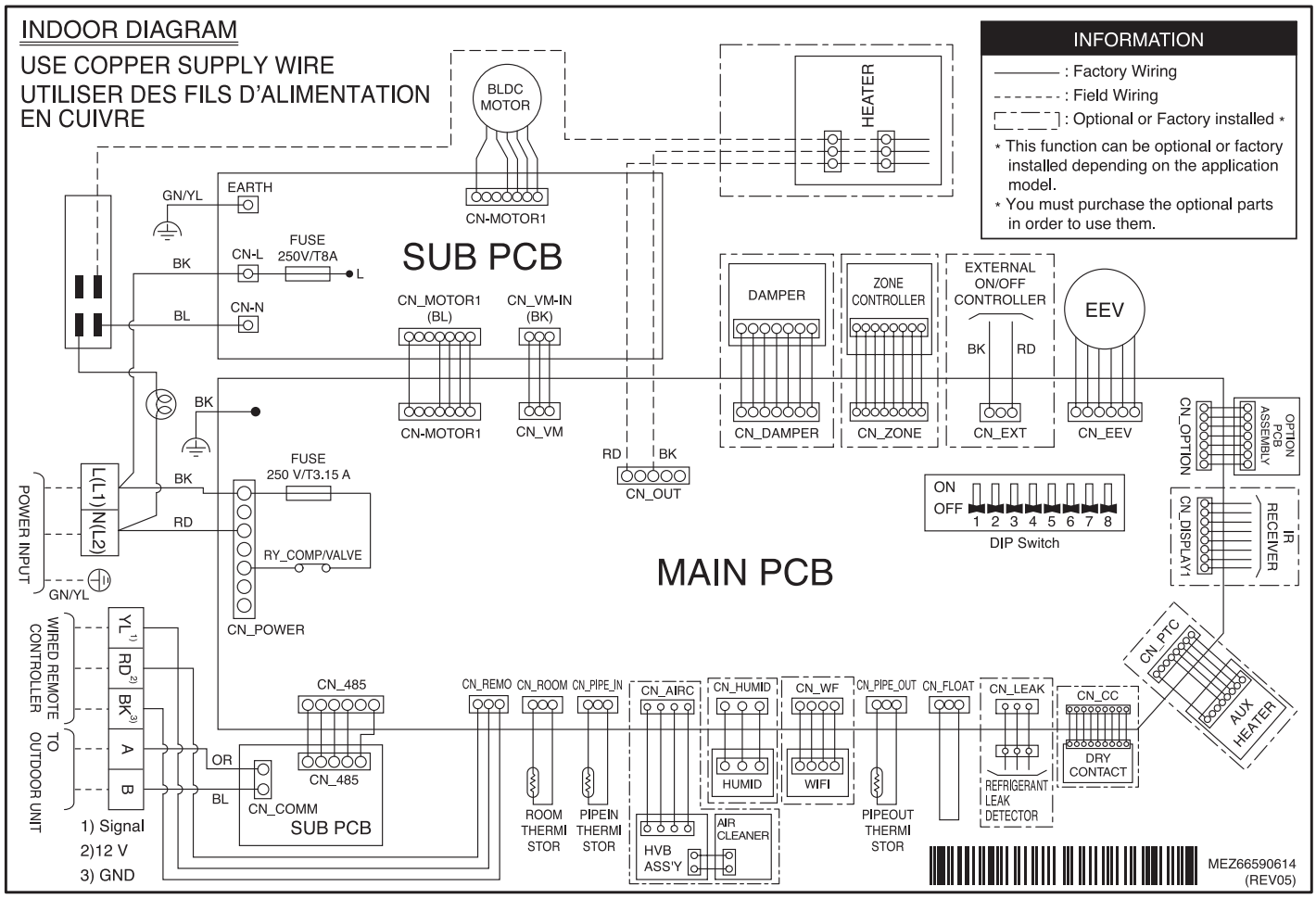
Figure 48: ARNU423~543NKA4 Dimensions.



VERTICAL AIR HANDLING UNIT

Electrical Wiring Diagram
NJ Frame

Figure 49: ARNU123~363NJA4 Wiring Diagram.



VERTICAL AIR HANDLING UNIT

Electrical Wiring Diagram

NJ Frame

Table 89: NJ Frame Wiring Diagram Legend.

Terminal	Purpose	Function
CN-POWER	AC Power supply	AC Power line
CN-MOTOR1	Fan motor output	Motor output of BLDC
CN-VM	Sub PC power supply	Power supply connection
CN_OUT	Heater	Connection for heater
CN-DAMPER	N / A	N / A
CN-ZONE	Zone controller	Zone controller connection
CN-EXT	External ON / OFF controller	External ON / OFF controller connection
CN-EEV	EEV Output	EEV control output
CN-OPTION	Optional PCB EPROM	Option PCB connection
CN-DISPLAY	Display	Display of indoor status
CN-PTC	Auxiliary heater	Auxiliary heater connection
CN-CC	Dry contact	Dry Contact connection
CN-LEAK	Refrigerant leak detector	Refrigerant leak detector connection
CN-FLOAT	Float switch input	Float switch sensing
CN-PIPE-OUT	Discharge pipe sensor	Pipe out thermistor
CN-WF	Wi-Fi	Wi-Fi module connection
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	AC output for drain pump
CN-485	Communication	Connection between indoor and outdoor units

Table 90: NJ Frame 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 ducted indoor 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
SW6	HEATER INTERLOCK	Off	On	Selects heater interlock function for vertical air handling units 1. On: Automatic (heater will automatically operate during heating mode) 2. Off: Manual (heater needs to be manually turned on during heating mode)

***For Gen 4 Multi V Vertical Air Handling 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.**

VERTICAL AIR HANDLING UNIT

Electrical Wiring Diagram

NK Frame

Figure 50: ARNU423~543NKA4 Wiring Diagram.

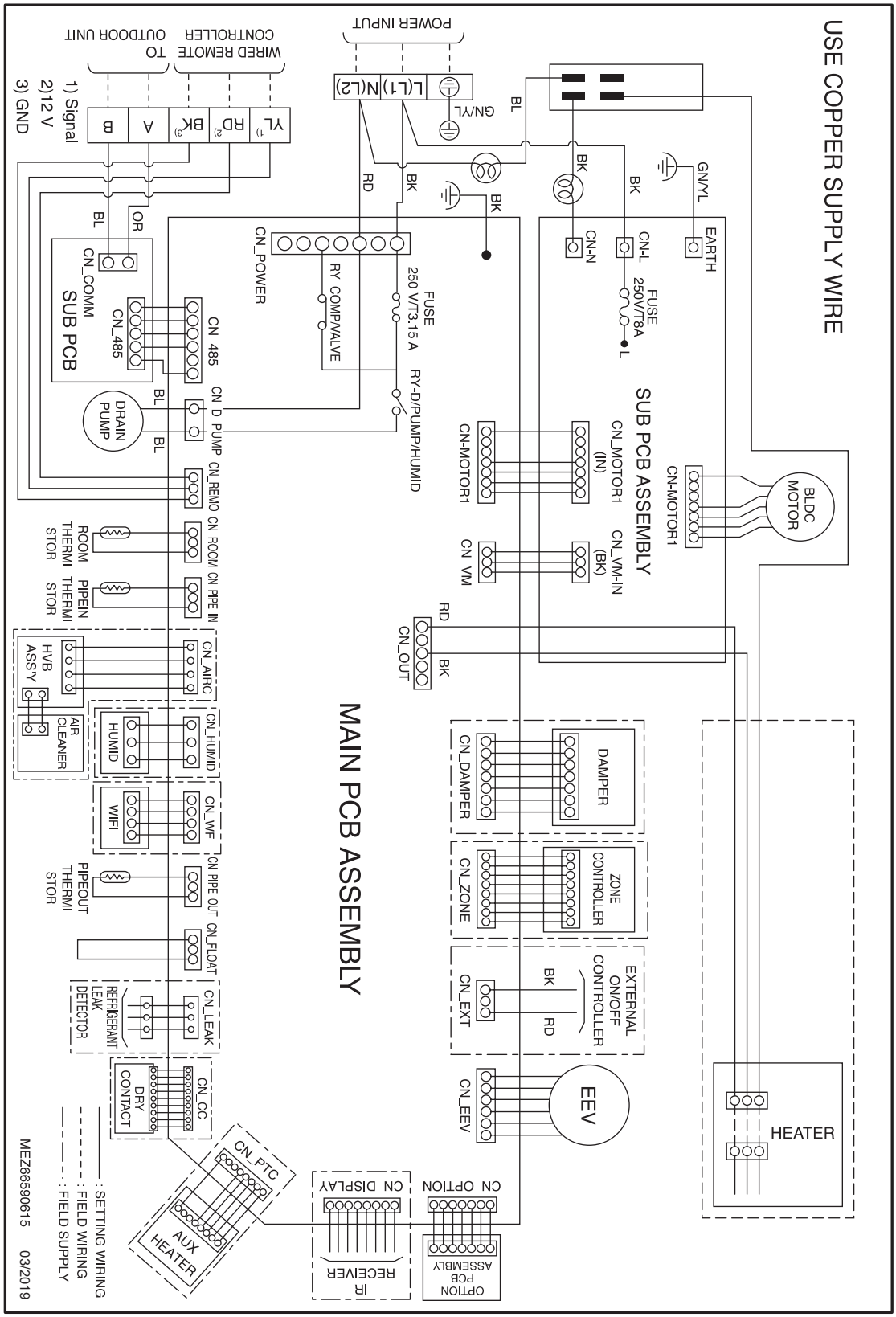


Table 91: NK Frame Wiring Diagram Legend.

Terminal	Purpose	Function
CN-POWER	AC Power supply	AC Power line
CN-MOTOR1	Fan motor output	Motor output of BLDC
CN-VM	Sub PC power supply	Power supply connection
CN_OUT	Heater	Connection for heater
CN-DAMPER	N / A	N / A
CN-ZONE	Zone controller	Zone controller connection
CN-EXT	External ON / OFF controller	External ON / OFF controller connection
CN-EEV	EEV Output	EEV control output
CN-OPTION	Optional PCB EPROM	Option PCB connection
CN-DISPLAY	Display	Display of indoor status
CN-PTC	Auxiliary heater	Auxiliary heater connection
CN-CC	Dry contact	Dry Contact connection
CN-LEAK	Refrigerant leak detector	Refrigerant leak detector connection
CN-FLOAT	Float switch input	Float switch sensing
CN-PIPE-OUT	Discharge pipe sensor	Pipe out thermistor
CN-WF	Wi-Fi	Wi-Fi module connection
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	AC output for drain pump
CN-485	Communication	Connection between indoor and outdoor units

Table 92: NK Frame 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 ducted indoor 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
SW6	HEATER INTERLOCK	Off	On	Selects heater interlock function for vertical air handling units 1. On: Automatic (heater will automatically operate during heating mode) 2. Off: Manual (heater needs to be manually turned on during heating mode)

***For Gen 4 Multi V Vertical Air Handling 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.**

VERTICAL AIR HANDLING UNIT

Refrigerant Flow Diagram

NJ, NK Frames

Figure 51: NJ, NK Frame Refrigerant Flow Diagram.

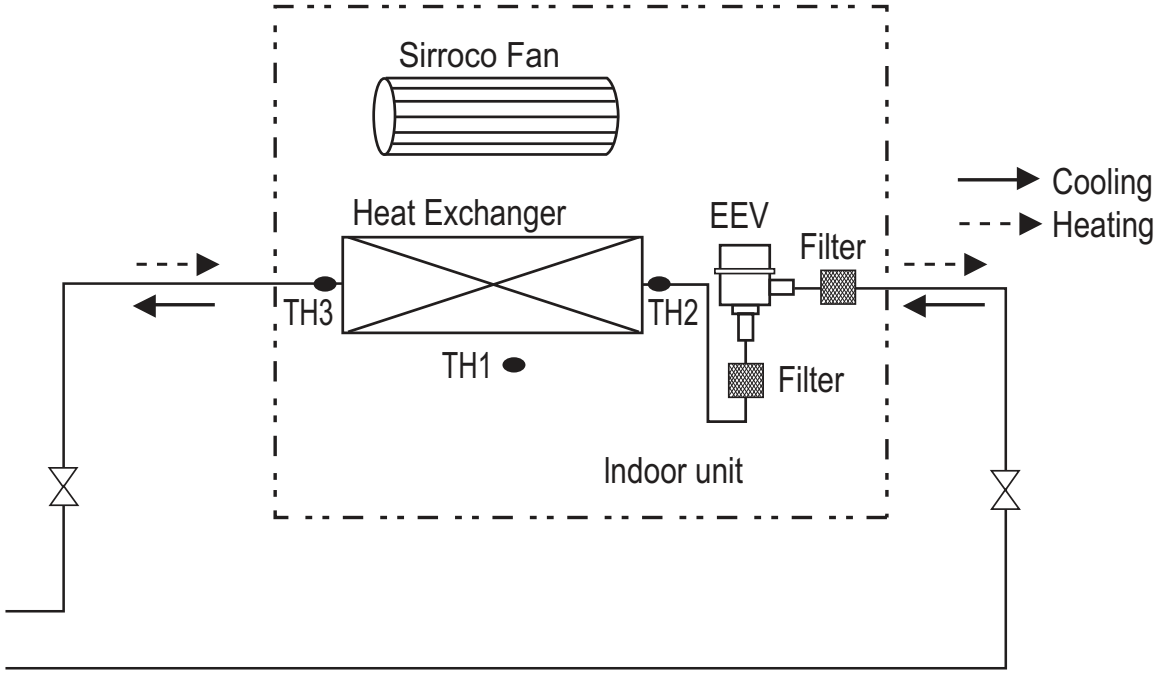


Table 93: NJ, NK Frame Refrigerant Pipe Connection Port Diameters.

Model	Liquid (inch)	Vapor (inch)
NJ Frames		
ARNU123NJA4	1/4 Brazed	1/2 Brazed
ARNU183NJA4		
ARNU243NJA4	3/8 Brazed	5/8 Brazed
ARNU303NJA4		
ARNU363NJA4		
NK Frames		
ARNU423NKA4	3/8 Brazed	5/8 Brazed
ARNU483NKA4		
ARNU543NKA4		

Table 94: NJ, NK Frame Thermistors.

Thermistor	Description
TH1	Return air thermistor
TH2	Pipe in thermistor
TH3	Pipe out thermistor

NJ Unit External Static Pressure and Air Flow Table

Table 95: NJ Unit External Static Pressure and Air Flow Table.

Set Value	External Static Pressure (in.wg)							
	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8
	Air Flow Rate [CFM]							
50	652							
60	799	651						
70	929	879	685					
80	1118	1070	951	760	497			
90	1214	1182	1102	975	800	577		
100				1029	990	892	713	447

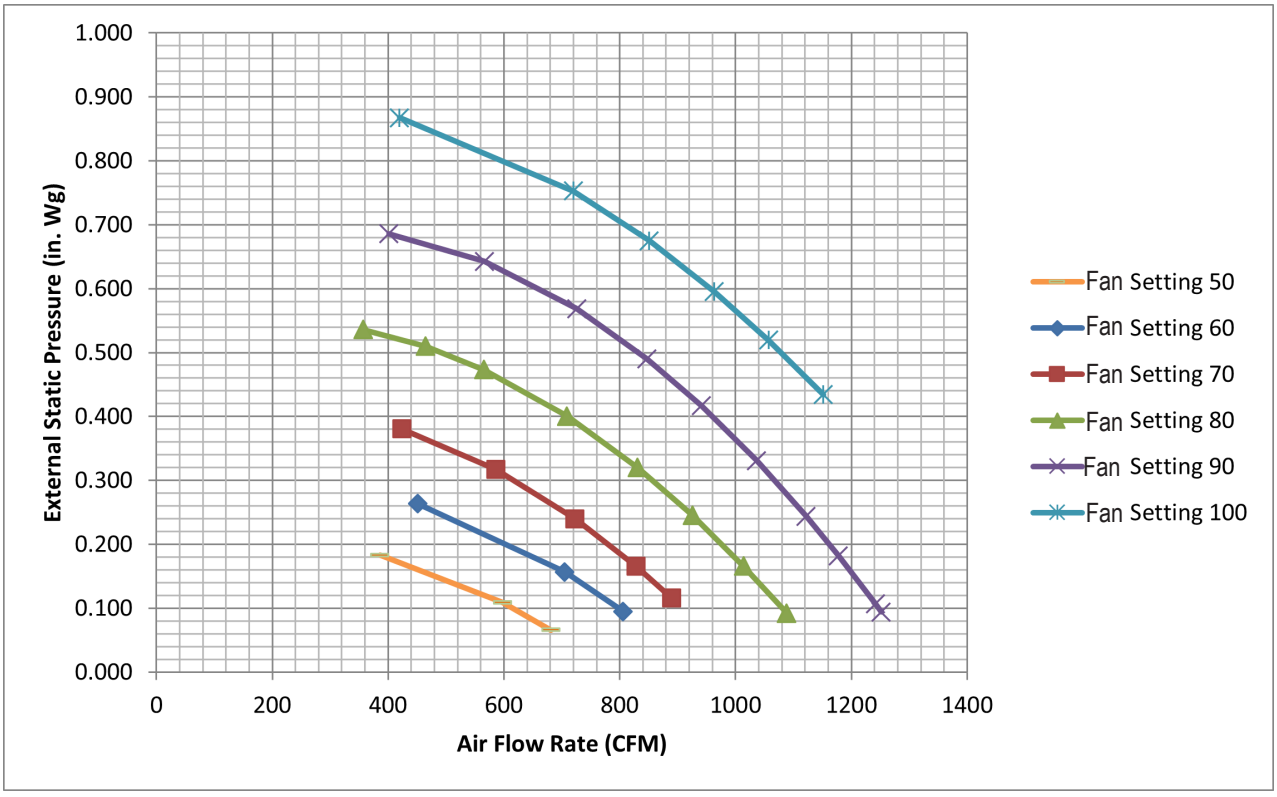
- All static pressure air flow rates are listed in CFM.
- The tables above show the correlation between air flow rates and external static pressure.
- The tables above show the available external static pressure range.

Note:

If the external static pressure of the installed indoor unit is less than the lowest value (as mentioned in the table), the indoor unit components can fail.

NJ Unit External Static Pressure Graph

Figure 52: NJ Frame External Static Pressure and Air Flow Chart.



External Static Pressure Ranges for NJ Frames

Table 96: NJ Frame External Static Pressure and Air Flow Table.

Model No./ Capacity (MBh)	Mode		Flow Rate (CFM)	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8
ARNU123NJA4 / 12	High (Factory Set)	Hi	530	**53	57	69	70	82	89	*92	*92
		Mid	480	**53	57	69	69	79	88	*92	*92
		Low	380	**53	56	70	67	77	86	*92	*92
ARNU183NJA4 / 18	High (Factory Set)	Hi	580	**53	58	69	71	84	90	*95	*95
		Mid	530	**53	57	69	70	82	89	*92	*92
		Low	480	**53	57	69	69	79	88	*92	*92
ARNU243NJA4 / 24	High (Factory Set)	Hi	710	54	62	71	77	87	94	*98	*98
		Mid	640	**53	60	69	74	85	92	*96	*96
		Low	480	**53	57	69	69	79	88	*92	*92
ARNU303NJA4 / 30	High (Factory Set)	Hi	880	65	69	76	86	92	100	*103	*103
		Mid	800	60	66	73	81	90	97	*101	*101
		Low	640	**53	60	69	74	85	92	*96	*96
ARNU363NJA4 / 36	High (Factory Set)	Hi	990	73	76	82	94	100	*103	*103	*103
		Mid	880	65	69	76	86	92	100	*103	*103
		Low	800	60	66	73	81	90	97	*101	*101

* Air flow will decrease according to table "P-Q graph"

Note:
If the ESP is set incorrectly, the unit may malfunction.

NK Unit External Static Pressure and Air Flow Table

Table 97: NK Unit External Static Pressure and Air Flow Table.

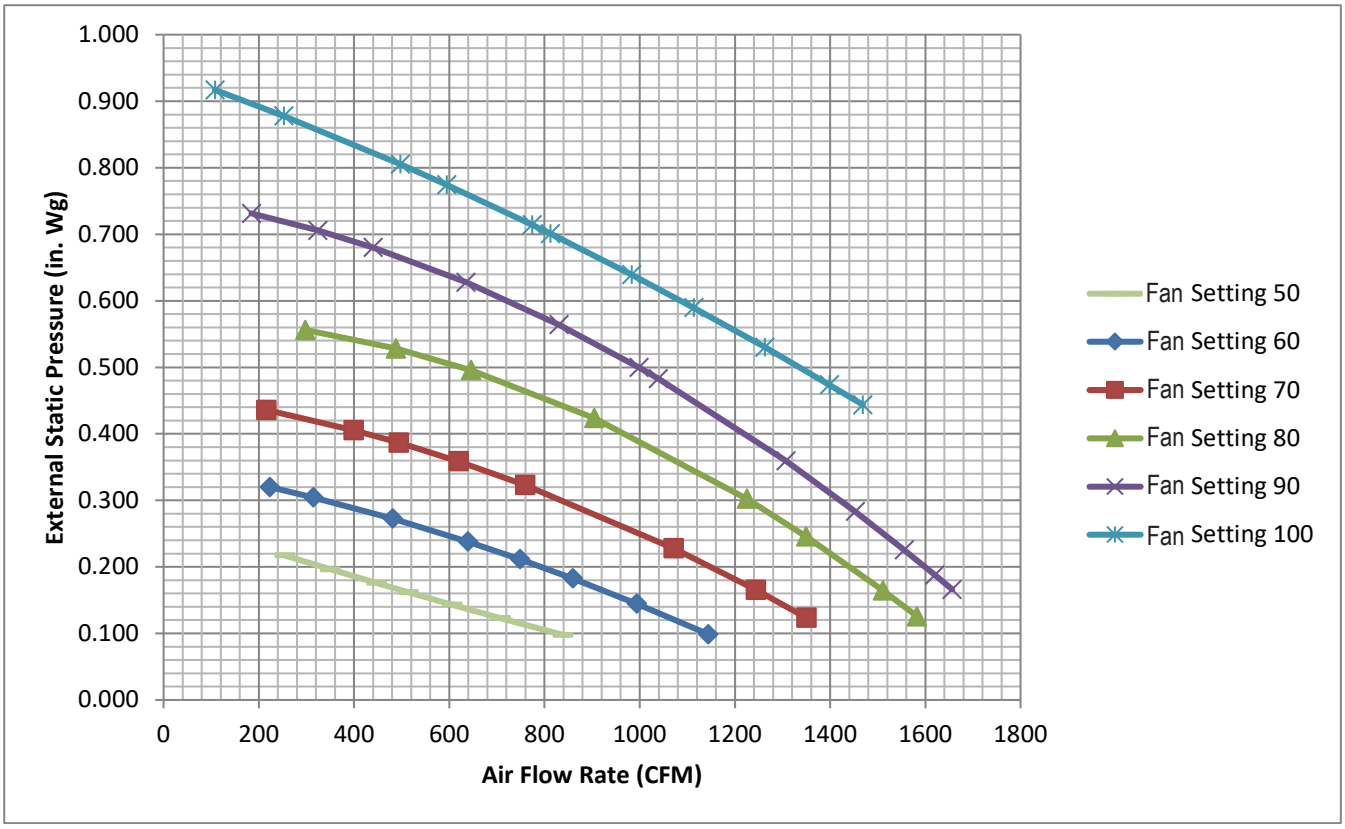
Set Value	External Static Pressure (in.wg)							
	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8
	Air Flow Rate [CFM]							
50	825							
60	1134	796						
70	1378	1167	848					
80	1597	1463	1251	960	590			
90	1697	1599	1450	1250	1000	698	148	
100				1550	1335	1091	816	512

- All static pressure air flow rates are listed in CFM.
- The tables above show the correlation between air flow rates and external static pressure.
- The tables above show the available external static pressure range.

Note:
If the external static pressure of the installed indoor unit is less than the lowest value (as mentioned in the table), the indoor unit components can fail.

NK Unit External Static Pressure Graph

Figure 53: NK Frame External Static Pressure and Air Flow Chart.



External Static Pressure Ranges for NK Frames

Table 98: NK Frame External Static Pressure and Air Flow Table.

Model No / Capacity (MBh)	Mode		Flow Rate (CFM)	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8
ARNU423NKA4 / 42	High (Factory Set)	Hi	1260	64	72	80	90	90	105	114	*115
		Mid	1100	58	67	75	85	87	100	108	*115
		Low	1000	55	64	72	81	84	97	105	*115
ARNU483NKA4 / 48	High (Factory Set)	Hi	1400	71	79	87	95	96	111	*115	*115
		Mid	1260	64	72	80	90	90	106	114	*115
		Low	1000	55	64	72	81	84	97	105	*115
ARNU543NKA4 / 54	High (Factory Set)	Hi	1475	75	82	92	98	98	114	*115	*115
		Mid	1400	71	79	87	95	96	111	*115	*115
		Low	1260	64	72	80	90	90	106	114	*115

* Air flow will decrease according to table "P-Q graph"

Note:
If the ESP is set incorrectly, the unit may malfunction.

VERTICAL AIR HANDLING UNIT

Heater Capacity Airflow / Static Pressure Drop Factors

Table 99: Minimum Airflow by Heater Capacity.

Capacity (MBh [tons])	Heater Capacity (kW)					
	3	5	8	10	15	20
12 (1.0)	380	380	380	Not available	Not available	Not available
18 (1.5)	480	480	480	480	Not available	Not available
24 (2.0)	480	480	480	480	Not available	Not available
30 (2.5)	630	630	630	630	Not available	Not available
36 (3.0)	800	800	800	800	800	800
42 (3.5)	1,000	1,000	1,000	1,000	1,000	1,000
48 (4.0)	1,000	1,000	1,000	1,000	1,000	1,000
54 (4.5)	1,260	1,260	1,260	1,260	1,260	1,260

Airflow rates in the table above are listed in CFM.

Flow rate (CFM) is decreased by 3% per 0.1 in wg from 0.8 in wg to 1.0 in wg.

⚠WARNING

Do not operate with less than the minimum airflow. If an airflow is used below the minimum, there is a risk of fire, which may lead to physical injury or death.

Note:

Do not operate with less than the minimum airflow. If an airflow is used below the minimum, there is a risk of damage to the product.

Table 100: Electric Heater Static Pressure Drop Factors.

Heater Capacity (kW)	Static Pressure Drop (in. wg)
0	0
3	-0.01
5	-0.01
8	-0.02
10	-0.02
15	-0.04
20	-0.06

in wg = inch water gauge

If the electric heater has been installed, then the ESP value has to be set.

For every increase in static pressure by 0.01 in wg, the ESP value must be increased by 1.

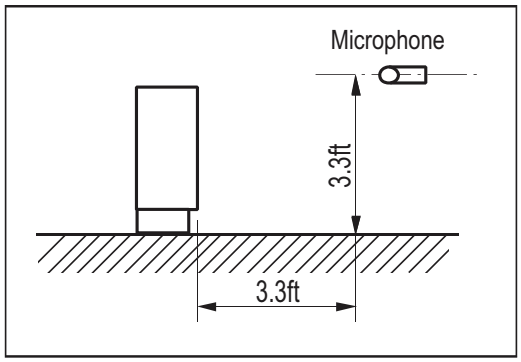
If the ESP setting value is inappropriate, the provided safety device will turn the heater off according to the airflow.

Note:

If a Third-Party Dry Contact and an LG internal heater or an LG Auxiliary Heat Kit is installed, supplemental heat capability cannot be controlled by the Third-PartyThermostat.

Sound Pressure Levels and Diagrams

Figure 54: Sound Pressure Measurement Location.



- Measurements are taken 3.3 ft away from the front of the unit.
- Sound pressure levels are measured in dB(A) with a tolerance of ±3.
- Sound pressure levels are tested in an anechoic chamber under ISO Standard 3745.

Operating Conditions:

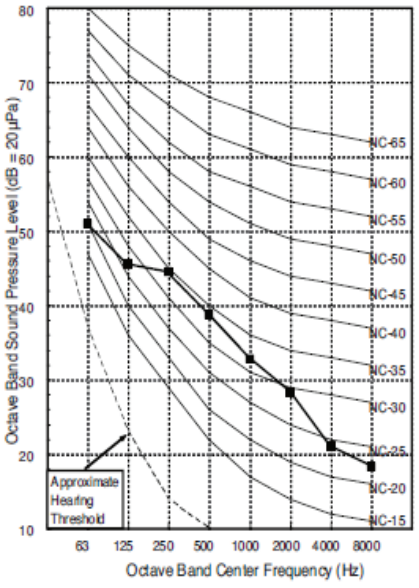
- Power source: 220V/60 Hz
- Sound level will vary depending on a range of factors including the construction (acoustic absorption coefficient) of a particular room in which the unit was installed.

Table 101: Vertical Air Handling Unit Sound Pressure Levels.

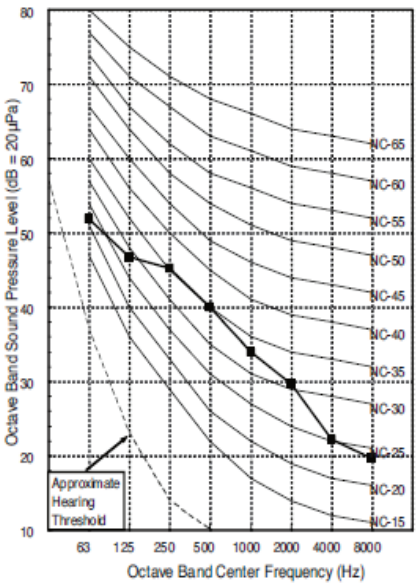
Model	Sound Pressure Levels dB(A) (H-M-L)
	External Static Pressure [in wg]
	0.50
ARNU123NJA4	42-41-39
ARNU183NJA4	42-42-41
ARNU243NJA4	43-42-41
ARNU303NJA4	44-43-42
ARNU363NJA4	45-44-43
ARNU423NKA4	46-44-41
ARNU483NKA4	49-47-41
ARNU543NKA4	50-49-47

Figure 55: ARNU123NJA4, ARNU183NJA4, and ARNU243NJA4 Sound Pressure Level Diagrams.

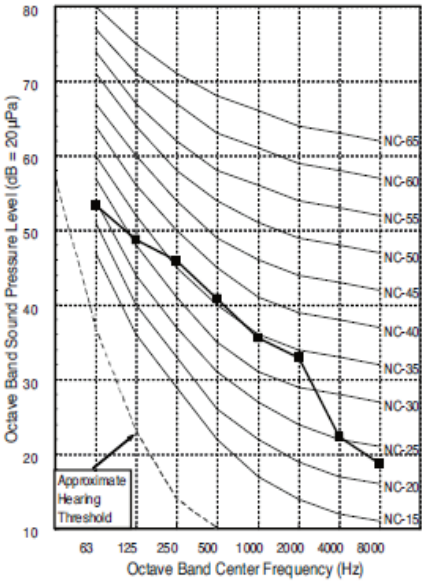
ARNU123NJA4



ARNU183NJA4



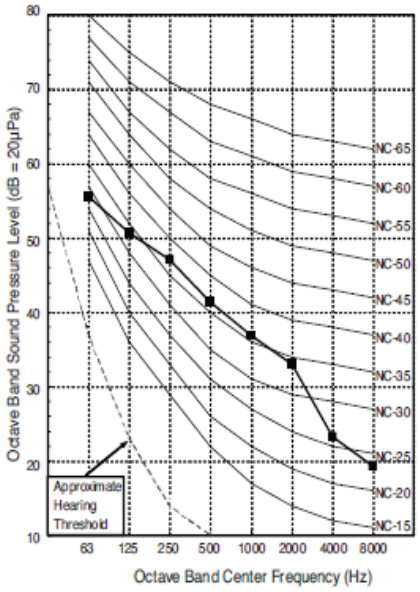
ARNU243NJA4



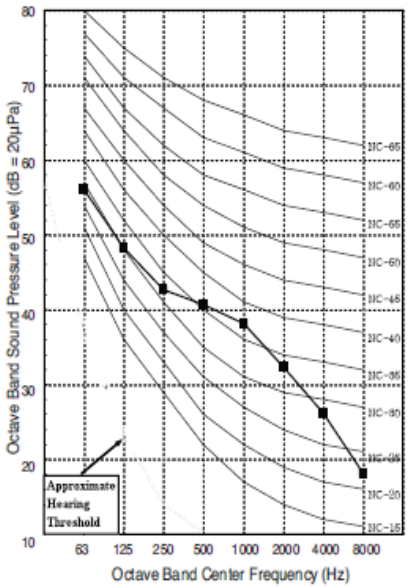
Sound Pressure Diagrams

Figure 56: ARNU303NJA4, ARNU363NJA4, and ARNU423NKA4 Sound Pressure Level Diagrams.

ARNU303NJA4



ARNU363NJA4



ARNU423NKA4

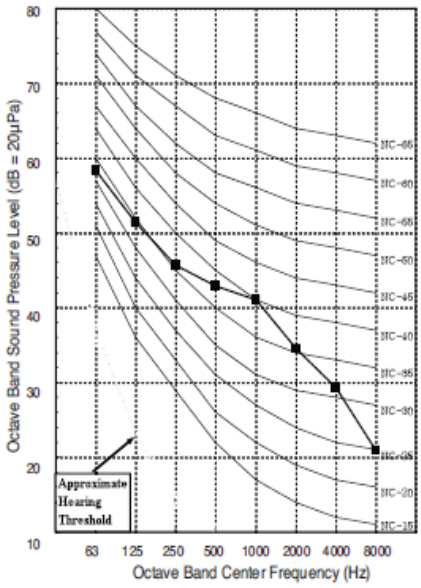
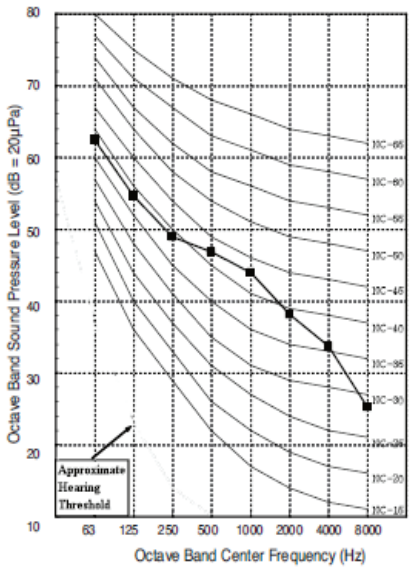
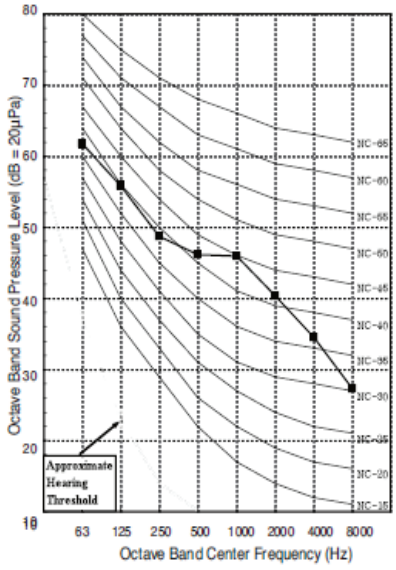


Figure 57: ARNU483NKA4 and ARNU543NKA4 Sound Pressure Level Diagrams.

ARNU483NKA4



ARNU543NKA4



VERTICAL AIR HANDLING UNIT

Acoustic Data

Sound Power Levels

Table 102: Vertical Air Handling Unit Sound Power Levels.

Model	Sound Power Levels dB(A) (H-M-L) (CASING RADIATED)
	External Static Pressure [in wg]
	0.50
ARNU123NJA4	54-53-52
ARNU183NJA4	56-55-54
ARNU243NJA4	57-56-53
ARNU303NJA4	62-60-56
ARNU363NJA4	67-62-60
ARNU423NKA4	59-57-56
ARNU483NKA4	63-59-56
ARNU543NKA4	65-63-59

- Data is valid under diffuse field conditions.
- Data is valid under nominal operating conditions.
- Sound power level is measured using rated conditions, and tested in a reverberation room per AHRI 260 standards.
- Sound level will vary depending on a range of factors such as construction (acoustic absorption coefficient) of particular area in which the equipment is installed.
- Reference acoustic intensity: 0dB = 10E-6μW/m^2

Sound Power for NJ Units

MODEL	RATING	FAN SPEED	E.S.P	RPM	CFM	SOUND POWER LEVEL, (dB one reference picowatt)							
						63 Hz	125 Hz	250 Hz	500 Hz	1K Hz	2K Hz	4K Hz	8K Hz
ARNU123NJA4	RETURN OPENING	Hi	0.5	820	530	40.8	43.6	44.7	38.5	32.6	27.7	28.8	22.2
		Mid		790	480	40.7	42.1	42.2	37.1	32.0	25.2	26.2	20.6
		Low		770	380	40.5	41.0	40.7	34.5	29.5	22.0	24.8	19.4
	CASING RADIATED	Hi		820	530	38.9	40.6	48.7	49.8	48.3	38.7	39.9	37.0
		Mid		790	480	38.2	37.4	46.4	47.9	47.6	36.6	37.4	34.7
		Low		770	380	37.4	35.5	44.4	46.8	46.7	35.8	36.1	34.0
	DUCTED DISCHARGE	Hi		820	530	51.1	42.3	47.7	52.5	57.4	54.3	46.5	37.6
		Mid		790	480	47.3	39.1	45.3	50.6	55.8	53.0	44.8	36.1
		Low		770	380	46.4	37.8	43.8	49.7	55.1	52.2	43.7	34.9
ARNU183NJA4	RETURN OPENING	Hi	0.5	840	580	40.9	44.6	46.3	39.4	33.0	29.4	30.5	23.3
		Mid		820	530	40.8	43.6	44.7	38.5	32.6	27.7	28.8	22.2
		Low		790	480	40.7	42.1	42.2	37.1	32.0	25.2	26.2	20.6
	CASING RADIATED	Hi		840	580	39.4	42.8	50.2	51.0	48.8	40.1	41.6	38.6
		Mid		820	530	38.9	40.6	48.7	49.8	48.3	38.7	39.9	37.0
		Low		790	480	38.2	37.4	46.4	47.9	47.6	36.6	37.4	34.7
	DUCTED DISCHARGE	Hi		840	580	53.6	44.4	49.4	53.8	58.4	55.1	47.6	38.6
		Mid		820	530	51.1	42.3	47.7	52.5	57.4	54.3	46.5	37.6
		Low		790	480	47.3	39.1	45.3	50.6	55.8	53.0	44.8	36.1
ARNU243NJA4	RETURN OPENING	Hi	0.5	870	710	41.3	46.7	50.1	41.3	33.9	32.5	32.6	25.7
		Mid		850	640	40.9	45.1	47.1	39.8	33.2	30.3	31.4	23.8
		Low		790	480	40.7	42.1	42.2	37.1	32.0	25.2	26.2	20.6
	CASING RADIATED	Hi		870	710	40.2	44.7	51.7	52.7	50.7	41.9	43.2	40.9
		Mid		850	640	39.7	43.8	50.9	51.6	49.1	40.7	42.4	39.3
		Low		790	480	38.2	37.4	46.4	47.9	47.6	36.6	37.4	34.7
	DUCTED DISCHARGE	Hi		870	710	56.7	47.5	53.5	55.6	60.0	55.7	49.1	39.8
		Mid		850	640	54.9	45.5	50.2	54.4	58.9	55.6	48.2	39.1
		Low		790	480	47.3	39.1	45.3	50.6	55.8	53.0	44.8	36.1

VERTICAL AIR HANDLING UNIT

MULTI V

Acoustic Data

Sound Power Data for NJ Units

Sound Power for NJ Units

MODEL	RATING	FAN SPEED	E.S.P	RPM	CFM	SOUND POWER LEVEL, (dB one reference picowatt)							
						63 Hz	125 Hz	250 Hz	500 Hz	1K Hz	2K Hz	4K Hz	8K Hz
ARNU303NJA4	RETURN OPENING	Hi	0.5	920	880	42.3	49.9	54.4	52.5	35.7	36.7	36.0	29.9
		Mid		900	800	42.1	48.7	52.5	50.1	34.8	34.8	34.5	28.5
		Low		850	630	40.9	45.1	47.1	39.8	33.2	30.3	31.4	23.8
	CASING RADIATED	Hi		920	880	41.5	48.4	56.3	58.1	52.6	46.7	47.5	44.6
		Mid		900	800	40.9	46.7	54.7	56.6	51.8	45.2	46.0	43.2
		Low		850	630	39.7	43.8	50.9	51.6	49.1	40.7	42.4	39.3
	DUCTED DISCHARGE	Hi		920	880	60.7	49.3	59.3	61.2	61.2	57.9	52.7	44.0
		Mid		900	800	58.8	47.8	57.2	59.6	60.4	57.1	51.5	42.7
		Low		850	630	54.9	45.5	50.2	54.4	58.9	55.6	48.2	39.1
ARNU363NJA4	RETURN OPENING	Hi	0.5	1000	990	43.3	54.7	61.7	62.0	38.9	44.6	41.9	35.5
		Mid		920	880	42.3	49.9	54.4	52.5	35.7	36.7	36.0	29.9
		Low		900	800	42.1	48.7	52.5	50.1	34.8	34.8	34.5	28.5
	CASING RADIATED	Hi		1000	990	43.6	55.3	62.6	64.1	55.7	52.4	53.6	50.3
		Mid		920	880	41.5	48.4	56.3	58.1	52.6	46.7	47.5	44.6
		Low		900	800	40.9	46.7	54.7	56.6	51.8	45.2	46.0	43.2
	DUCTED DISCHARGE	Hi		1000	990	68.3	55.4	67.6	67.3	64.5	60.9	57.4	48.8
		Mid		920	880	60.7	49.3	59.3	61.2	61.2	57.9	52.7	44.0
		Low		900	800	58.8	47.8	57.2	59.6	60.4	57.1	51.5	42.7

LG

Sound Power for NK Units

MODEL	RATING	FAN SPEED	E.S.P	RPM	CFM	SOUND POWER LEVEL, (dB one reference picowatt)							
						63 Hz	125 Hz	250 Hz	500 Hz	1K Hz	2K Hz	4K Hz	8K Hz
ARNU423NKA4	RETURN OPENING	Hi	0.5	900	1250	52.4	51.2	44.5	36.8	35.0	31.4	32.2	25.0
		Mid		870	1100	51.4	50.1	43.4	33.2	33.4	27.6	27.5	23.7
		Low		840	1000	50.5	48.9	42.3	29.5	31.8	23.7	22.8	22.4
	CASING RADIATED	Hi		900	1250	40.8	47.2	46.0	54.4	54.9	49.5	44.2	35.6
		Mid		870	1100	35.5	45.4	44.8	53.4	52.5	47.6	41.4	31.6
		Low		840	1000	30.2	43.6	43.5	52.3	50.1	45.6	38.6	27.6
	DUCTED DISCHARGE	Hi		900	1250	61.9	50.9	53.5	55.9	57.8	54.5	48.7	39.4
		Mid		870	1100	61.1	50.3	52.5	54.8	56.2	53.0	46.0	36.7
		Low		840	1000	60.3	49.7	51.6	53.6	54.7	51.6	43.4	34.1
ARNU483NKA4	RETURN OPENING	Hi	0.5	960	1400	54.2	53.5	46.8	44.1	38.2	39.2	41.5	27.5
		Mid		900	1260	52.4	51.2	44.5	36.8	35.0	31.4	32.2	25.0
		Low		840	1000	50.5	48.9	42.3	29.5	31.8	23.7	22.8	22.4
	CASING RADIATED	Hi		960	1400	51.3	50.7	48.5	56.6	59.6	53.3	49.8	43.6
		Mid		900	1260	40.8	47.2	46.0	54.4	54.9	49.5	44.2	35.6
		Low		840	1000	30.2	43.6	43.5	52.3	50.1	45.6	38.6	27.6
	DUCTED DISCHARGE	Hi		960	1400	63.4	52.1	55.3	58.3	60.9	57.5	54.0	44.7
		Mid		900	1260	61.9	50.9	53.5	55.9	57.8	54.5	48.7	39.4
		Low		840	1000	60.3	49.7	51.6	53.6	54.7	51.6	43.4	34.1
ARNU543NKA4	RETURN OPENING	Hi	0.5	980	1475	54.9	54.3	47.6	46.6	39.2	41.8	44.7	28.3
		Mid		960	1400	54.2	53.5	46.8	44.1	38.2	39.2	41.5	27.5
		Low		900	1260	52.4	51.2	44.5	36.8	35.0	31.4	32.2	25.0
	CASING RADIATED	Hi		980	1475	54.8	51.9	49.4	57.3	61.2	54.6	51.7	46.2
		Mid		960	1400	51.3	50.7	48.5	56.6	59.6	53.3	49.8	43.6
		Low		900	1260	40.8	47.2	46.0	54.4	54.9	49.5	44.2	35.6
	DUCTED DISCHARGE	Hi		980	1475	63.9	52.5	55.9	59.1	61.9	58.4	55.8	46.5
		Mid		960	1400	63.4	52.1	55.3	58.3	60.9	57.5	54.0	44.7
		Low		900	1260	61.9	50.9	53.5	55.9	57.8	54.5	48.7	39.4

VERTICAL AIR HANDLING UNIT

Cooling Capacity Table

Table 103: Vertical Air Handling Unit Cooling Capacity Table.

Model No. / Capacity Index	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
ARNU123NJA4 / 12.0	95	7.9	7.8	9.6	9.0	10.8	9.6	12.0	10.2	12.9	10.6	13.1	10.1	13.3	9.5
ARNU183NJA4 / 18.0	95	11.9	9.8	14.4	11.3	16.2	12.0	18.0	12.8	19.3	13.3	19.7	12.7	20	11.9
ARNU243NJA4 / 24.0	95	15.8	13.6	19.2	15.7	21.6	16.7	24.0	17.8	25.7	18.5	26.2	17.6	26.6	16.6
ARNU303NJA4 / 30.0	95	19.8	16.5	24	19.1	27	20.3	30.0	21.6	32.1	22.4	32.8	21.4	33.3	20.1
ARNU363NJA4 / 36.0	95	23.7	19.8	28.8	22.8	32.4	24.3	36.0	25.9	38.6	26.9	39.3	25.6	39.9	24.1
ARNU423NKA4 / 42.0	95	27.7	23.1	33.6	26.6	37.8	28.3	42.0	30.2	45	31.4	45.9	29.9	46.6	28.2
ARNU483NKA4 / 48.0	95	31.6	25.3	38.4	29.2	43.2	31.1	48.0	33.1	51.4	34.4	52.4	32.7	53.2	30.9
ARNU543NKA4 / 54.0	95	35.6	28.5	43.2	32.9	48.6	35.0	54.0	37.3	57.8	38.8	59	36.9	59.9	34.8

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.

VERTICAL AIR HANDLING UNIT

Heating Capacity Tables

Table 104: Vertical Air Handling Unit Heating Capacity Table.

Model No. / Capacity Index	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
			MBh	MBh	MBh	MBh	MBh	MBh	MBh	MBh
ARNU123NJA4 / 12.0	47	43	15.1	15.0	14.9	14.2	13.5	13.1	12.4	11.8
ARNU183NJA4 / 18.0	47	43	22.4	22.2	22.0	21.0	20.0	19.4	18.4	17.5
ARNU243NJA4 / 24.0	47	43	30.2	30.0	29.7	28.4	27.0	26.2	24.8	23.6
ARNU303NJA4 / 30.0	47	43	38.1	37.7	37.4	35.7	34.0	33.0	31.3	29.8
ARNU363NJA4 / 36.0	47	43	44.8	44.4	44.0	42.0	40.0	38.8	36.8	35.0
ARNU423NKA4 / 42.0	47	43	51.5	51.1	50.6	48.3	46.0	44.6	42.3	40.3
ARNU483NKA4 / 48.0	47	43	60.5	59.9	59.4	56.7	54.0	52.4	49.7	47.3
ARNU543NKA4 / 54.0	47	43	67.2	66.6	66.0	63.0	60.0	58.2	55.2	52.5

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.

VERTICAL AIR HANDLING UNIT

Optional Accessories

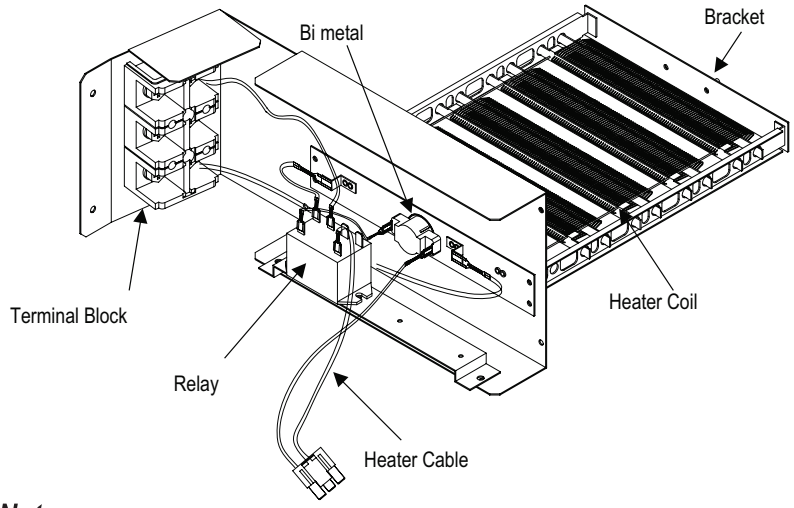
Table 105: Optional Accessories for Vertical Air Handling Unit.

Accessory	Model Number
3kW Electric Heater	ANEH033B1
5kW Electric Heater	ANEH053B1
8kW Electric Heater	ANEH083B2
10kW Electric Heater	ANEH103B2
15kW Electric Heater	ANEH153B2
20kW Electric Heater	ANEH203B2

All accessories are sold separately.

Figure 58: Electric Heater.

Example: 5kW Capacity Heater



Note:

If a Third-Party Dry Contact and an LG internal heater or an LG Auxiliary Heat Kit is installed, supplemental heat capability cannot be controlled by the Third-PartyThermostat.

Table 106: Electric Heater Capacities.

Indoor Unit Model No. / Capacity (MBh)	Model Number / Heater Capacity					
	ANEH033B1 (3kW)	ANEH053B1 (5kW)	ANEH083B2 (8kW)	ANEH103B2 (10kW)	ANEH153B2 (15kW)	ANEH203B2 (20kW)
ARNU123NJA4 (12)	X	X	X	Not available	Not available	Not available
ARNU183NJA4 (18)	X	X	X	X	Not available	Not available
ARNU243NJA4 (24)	X	X	X	X	Not available	Not available
ARNU303NJA4 (30)	X	X	X	X	Not available	Not available
ARNU363NJA4 (36)	X	X	X	X	X	X
ARNU423NKA4 (42)	X	X	X	X	X	X
ARNU483NKA4 (48)	X	X	X	X	X	X
ARNU543NKA4 (54)	X	X	X	X	X	X

Note:

- *Image shown above may vary depending on model capacity.*
- *For additional information, refer to the Electric Heater Manual.*

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

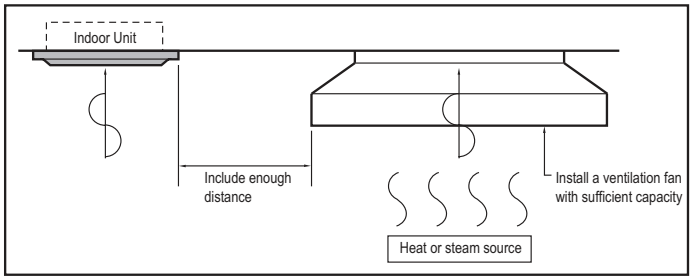
- *Avoid installing the unit near high-frequency generators.*
- *Do not install the unit near a doorway.*
- *Do not install the unit near a heat or steam source, or where considerable amounts of oil, iron powder, or flour are used. (These materials may generate condensate, cause a reduction in heat exchanger 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 59: 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.*

Figure 60: Clearance Requirements for B8 High Static Ducted Units.

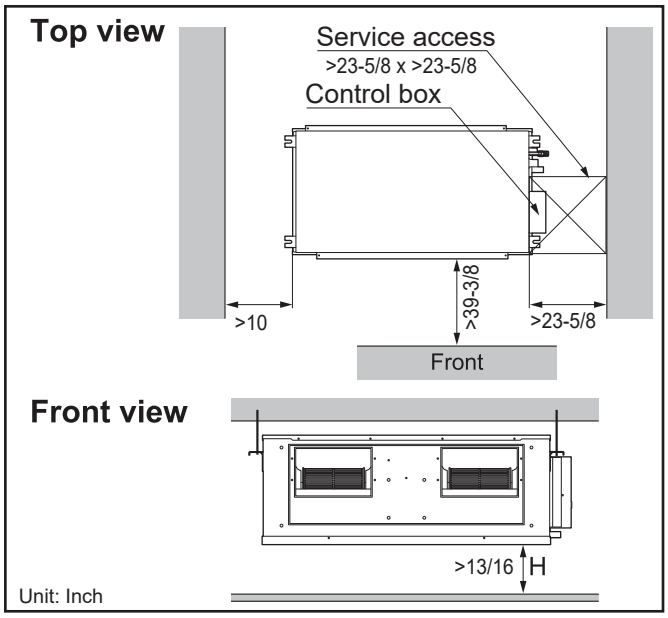
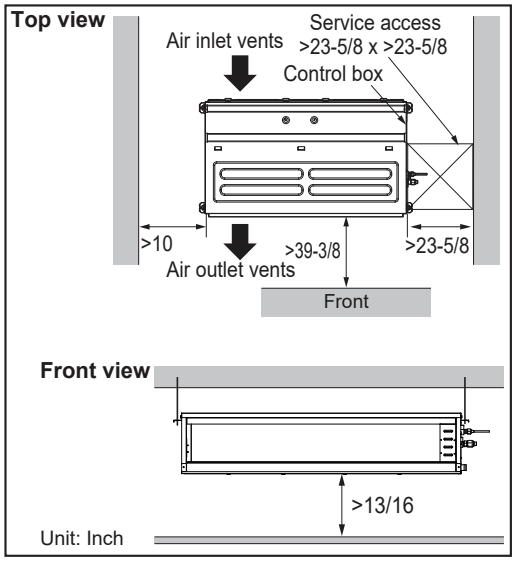


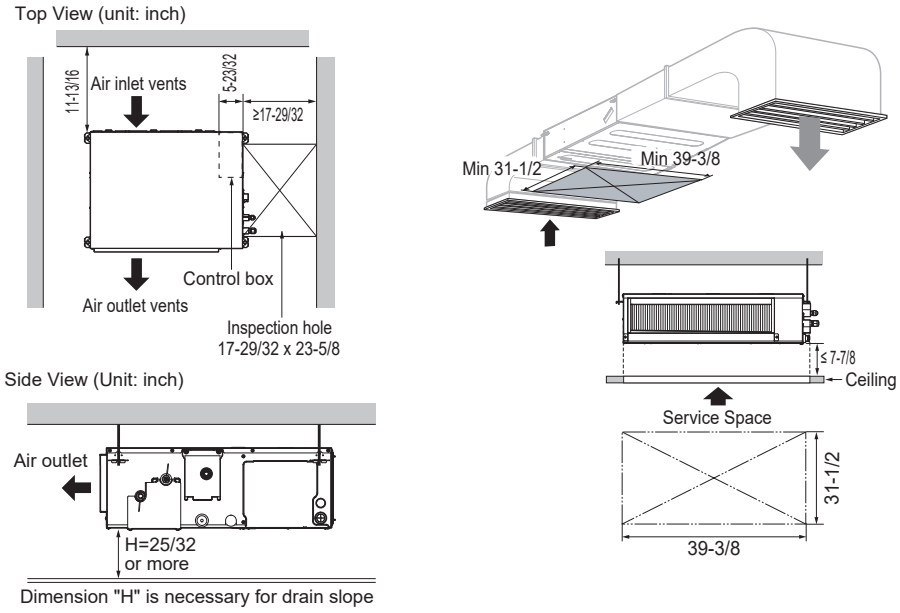
Figure 61: Clearance Requirements for M2 and M3 Mid and High Static Ducted Units.



LG

Convertible Mid Static Ducted Clearance Requirements

Figure 62: Convertible Mid Static Ducted MA Unit Access Panel Required Dimensions.



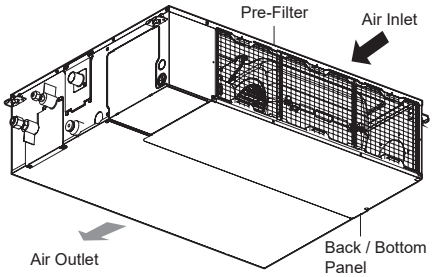
Note:
Appearances and installation structure may differ depending on model.
If the distance between the dropped ceiling and the actual ceiling is <7-7/8 inch, the inspection access area should greater than the size of indoor unit.

Changing Air Inlet from Back to Bottom of Indoor Unit

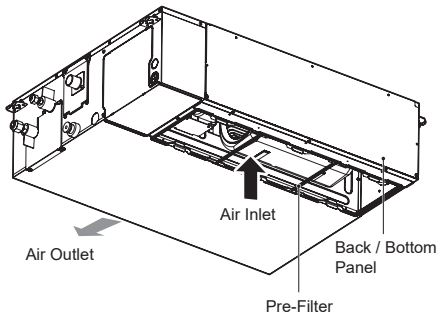
The mid-static ducted indoor unit is factory configured with the air inlet at the back. The unit can be field reconfigured with the inlet from back to bottom in applications where the indoor unit is installed in a recessed ceiling, the return grille is under the indoor unit for a bottom return, and the discharge is horizontal into the room.

Figure 63: MA Unit Bottom Air Inlet Conversion.

Factory Configured Back Inlet Position



Field Configured Bottom Inlet Position



Convertible Mid Static Ducted Vertical Installation and Best Layout Practices

The Mid Static Duct IDU has the option to be installed vertically on a floor or along a wall. The vertical up flow configuration installation requires optional installation kit ABDAMA0 (sold separately) to change the condensate drain pan position suitable for vertical installation.

Figure 64: Mid Static Duct IDU Vertical Installation Position.

Case1.
Floor Installation

Case2.
Wall Installation

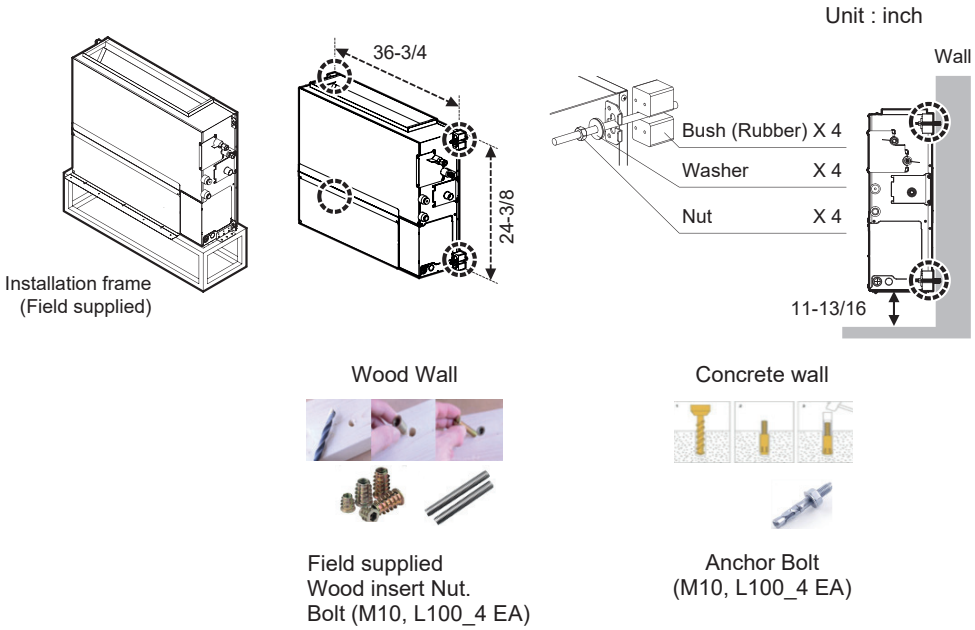


Figure 65: Mid Static Duct IDU Vertical Installation Drain.

Connect the drain piping to drain hole of vertical drain pan.
Block the drain hole of drain pump to prevent air leakage.

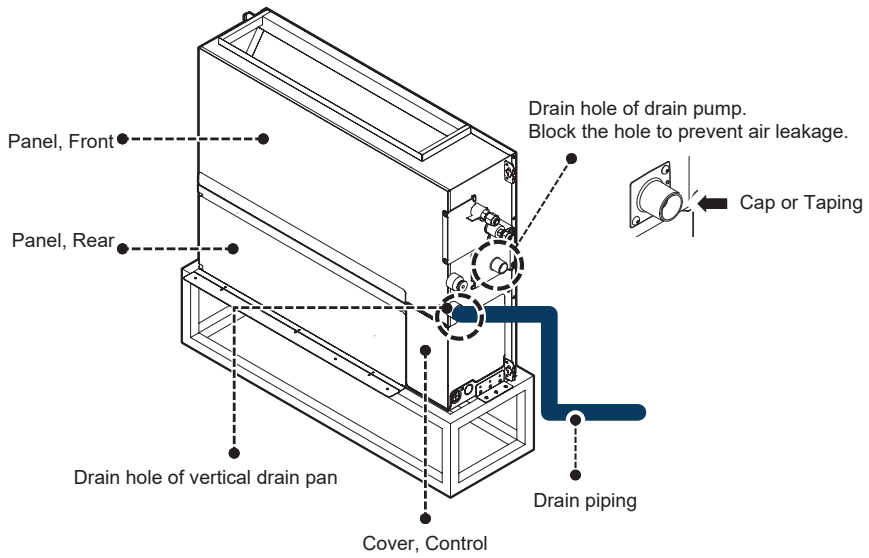


Figure 66: Clearance Requirements for L1, L2, and L3 Low Static Ducted Units.

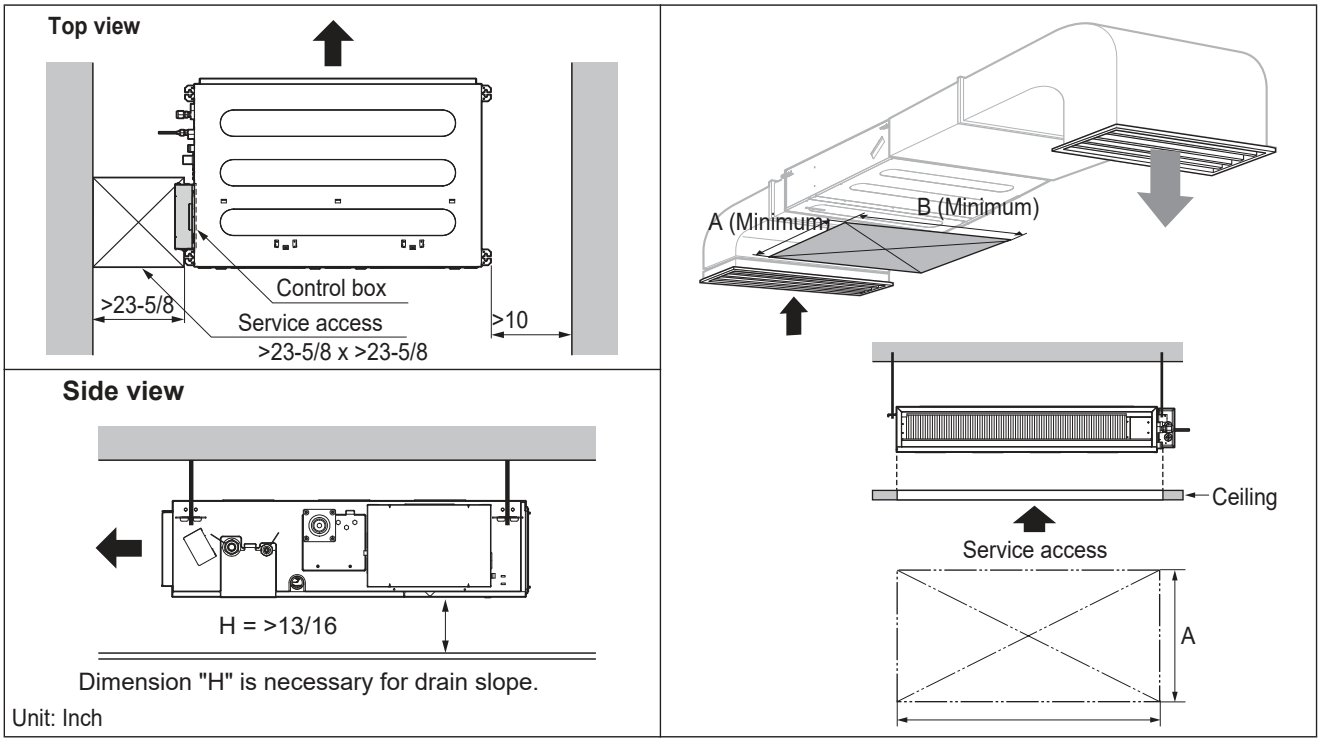
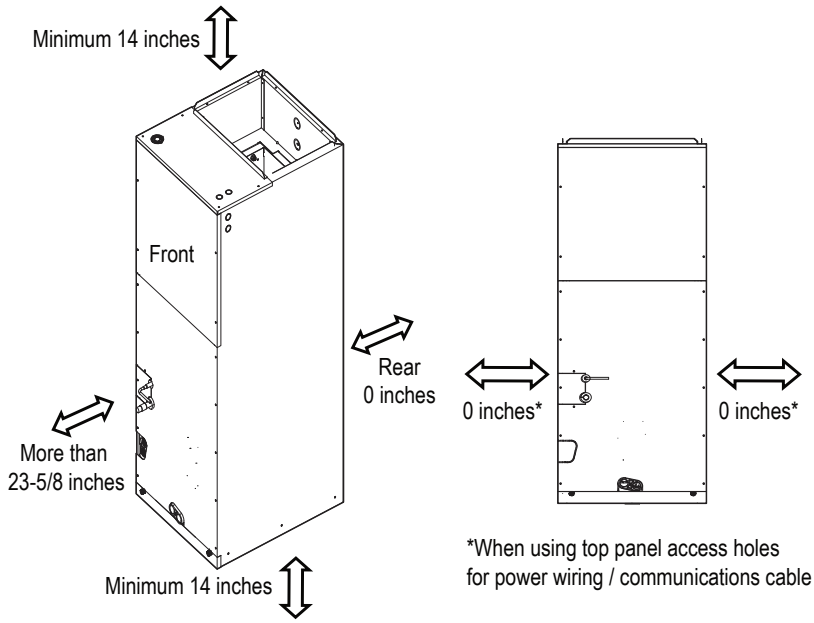


Table 107: Service Dimensions For L1, L2, and L3 Low Static Ducted Units.

Frame	Dimensions (inches)	
	A	B
L1	31-1/2	31-1/2
L2	31-1/2	39-3/8
L3	31-1/2	47-1/4

Figure 67: Clearances Requirements for Vertical Air Handling Units.



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 store-room). 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.

General Mounting - High, Mid, and Low Static Ducted Units

- The ceiling must be strong and solid enough to protect the indoor unit from vibration.
- Refer to dimensions table below for each indoor unit type.
- Apply a joint-canvas between the unit and duct to absorb unnecessary vibration.
- Apply a filter accessory at the air return opening.
- Install the unit with a slope towards the drainage point to ensure condensate drains easily.

Figure 68: High Static Ducted B8 Frame Bolt Locations.

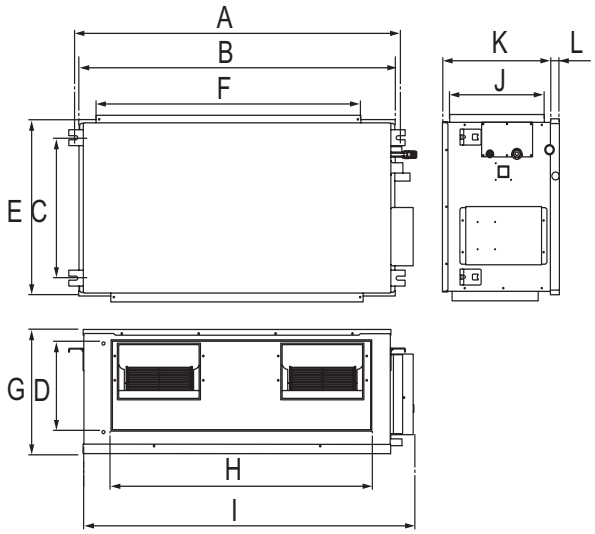


Table 108: High Static Ducted B8 Frame Suspension Bolt Positions.

Frame	Dimensions (inches)											
	A	B	C	D	E	F	G	H	I	J	K	L
B8	63-7/8	61-5/8	22-13/16	11-1/2	27-3/8	55-1/8	18-1/8	44-3/16	66-1/8	15-3/8	17-1/2	9/16

Figure 69: Mid and High Static Ducted M2, M3 Frame Bolt Locations.

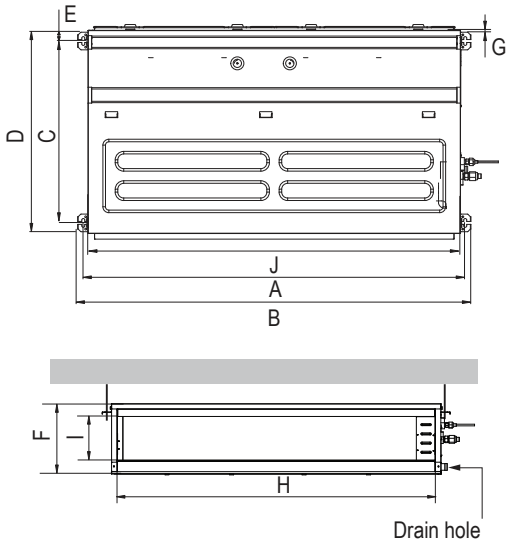


Table 109: Mid and High Static Ducted M2, M3 Frame Suspension Bolt Positions.

Frame	Dimensions (inches)									
	A	B	C	D	E	F	G	H	I	J
MA	36-3/4	38-1/4	24-3/8	28-11/32	1-3/4	10-19/32	19/32	33-23/32	6-21/32	35-1/2
M2	50-17/32	52-1/32	24-3/8	27-9/16	1-3/16	10-5/8	19/32	47-9/16	7-15/16	49-7/32
M3	50-17/32	52-1/32	24-3/8	27-9/16	1-3/16	14-3/16	19/32	47-9/16	11-15/32	49-7/32

Table 110: Low Static Ducted L1, L2, L3 Suspension Bolt Positions.

Frame	Dimension (inches)									
	A	B	C	D	E	F	G	H	I	J
L1	28-7/8	30-3/8	24-3/4	27-9/16	1-7/16	7-1/2	13/16	26	6-1/8	27-9/16
L2	36-3/4	38-1/4	24-3/4	27-9/16	1-7/16	7-1/2	13/16	33-7/8	6-1/8	35-7/16
L3	44-5/8	46-1/8	24-3/4	27-9/16	1-7/16	7-1/2	13/16	41-3/4	6-1/8	43-5/16

General Mounting Procedure

1. Select and mark the areas where the hanging bolts must be placed.
2. Drill the holes.
3. Install the unit horizontally using a level gauge.

⚠WARNING

⃠ Do not damage power wiring during installation. There is risk of electric shock, which may result in physical injury or death.

Note:

⃠ Do not damage power wiring during installation. There is a risk of equipment malfunction, which may result in property damage.

Figure 70: Low Static Ducted L1, L2, L3 Bolt Locations..

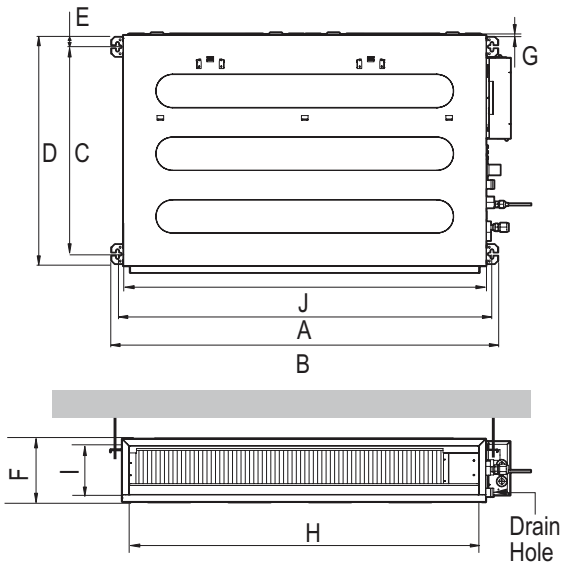


Figure 71: Drilling Holes for the Hanging Bolt

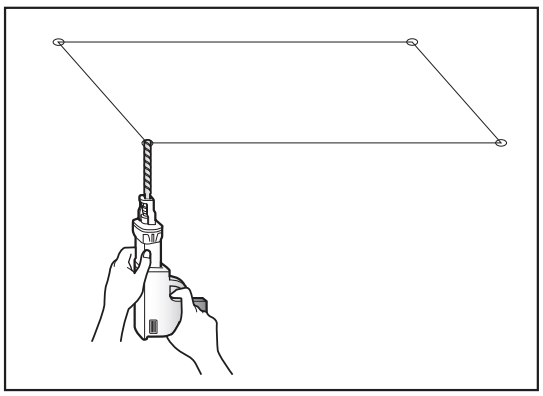
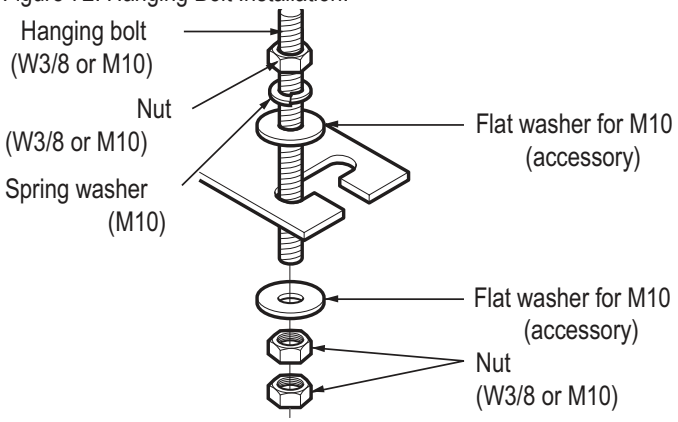


Figure 72: Hanging Bolt Installation.



The following parts are field supplied:

- Hanging bolt - W-3/8" or 1/2"
- Nut - W-3/8" or M10
- Spring washer - M10

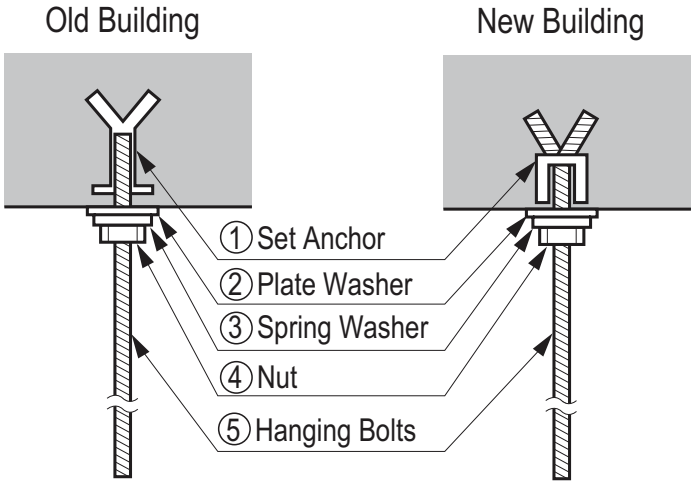
Included with the indoor unit:

- Flat washer - M10

⚠WARNING

The threaded rod hangers (bolts) and hardware must be securely tightened to prevent the unit from falling from its installation location. There is a risk of personal injury from falling equipment.

Figure 73: Old Versus New Building Hanging Bolt Installation.



General Mounting - Vertical Air Handling Units

Vertical Air Handling Units can be installed either in an upflow or a horizontal-left position.

General Guidelines

- Support platforms must be sturdy enough to support the unit plus any accessories including filter boxes. The size of the support must be bigger than the Vertical Air Handling Unit; the unit itself must be placed at the center of the support.
- Vibration isolators (field-supplied) must be installed between the Vertical Air Handling Unit and the support(s).
- Upflow installation has to be applied if a return plenum and a supply duct are present.
- Secure the plenum to support adapters and duct work.
- To prevent air leaks, seal all ducts following local codes.
- Follow all relevant building codes in installations in which an external condensate pan may be necessary. Supports for air handling units must be located in or above the external condensate pan.

Specific Guidelines for Horizontal-Left Installation

- Units must not be installed where the access panels face up or down, nor where filter access is obstructed.
- If the Vertical Air Handling Unit is suspended, use angled steel brackets with threaded rods as support.
- To ensure proper condensate drainage, the unit must be installed so it is within 1/8" level of its length and width.

Figure 74: Upflow Installation.

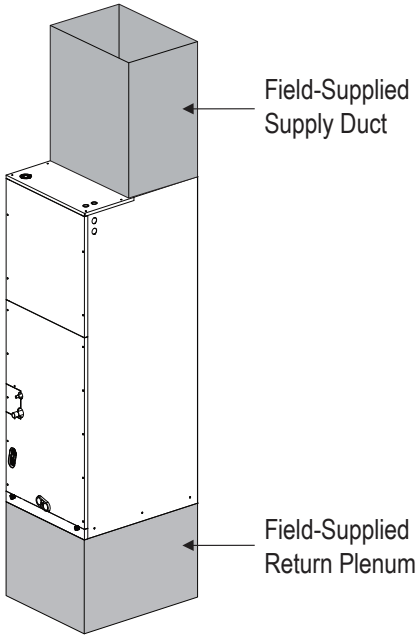


Figure 75: Horizontal-Left Installation.

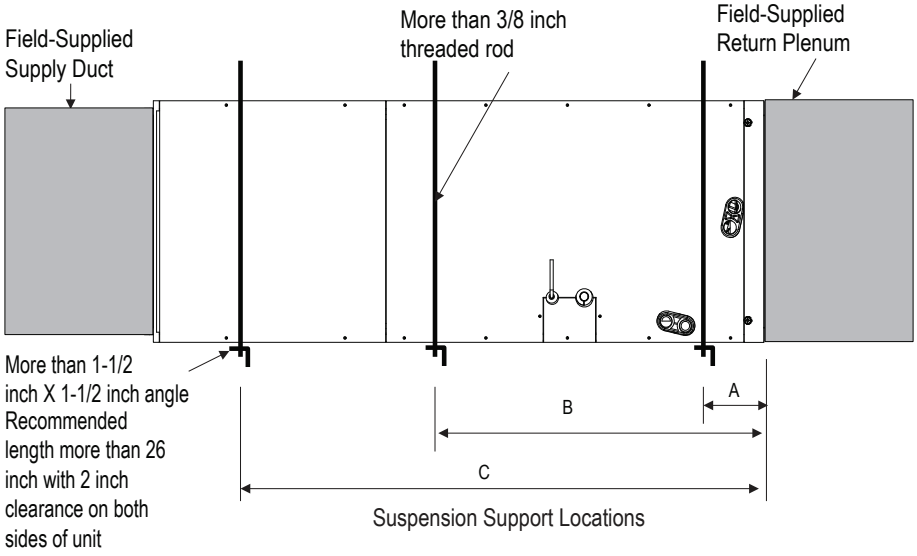


Table 111: Horizontal-Left Installation Dimensions.

Model No.	Capacity (Btu/h)	Dimensions (inches)		
		A	B	C
NJ Frames				
ARNU123NJA4	12,000	4	23	41-3/8
ARNU183NJA4	18,000			
ARNU243NJA4	24,000			
ARNU303NJA4	30,000			
ARNU363NJA4	36,000			
NK Frames				
ARNU423NKA4	42,000	4	29	48
ARNU483NKA4	48,000			
ARNU543NKA4	54,000			

Duct Work For Vertical Air Handling Units

- Use at least ten (10) M4-25L screws when attaching the supply duct to the Vertical Air Handling unit.
- To prevent vibration transmission, install flexible connectors between the supply duct and the Vertical Air Handling Unit. If an electrical heater is included, the flexible connector must be constructed from a heat-resistant material.
- When routed through unconditioned spaces, ducts must be insulated and covered with vapor barriers.
- Internal acoustical insulation lining may be necessary for a metal duct system if it does not have a 90° elbow and ten (10) feet of main duct to the first branch takeoff.
- Fibrous ducts could be used as a substitute if built and installed in accordance with the most recent edition of the Sheet Metal and Air Conditioning Contractors' National Association (SMACNA) Construction Standard.
- Fibrous ducts and acoustical linings must follow National Fire Protection Association (NFPA) Standards 90A or 90B as tested by UL Standard 181 for Class 1 ducts.
- Seal around the ducts to prevent air leaks.

Figure 76: Attaching Ducts to the Vertical Air Handling unit.

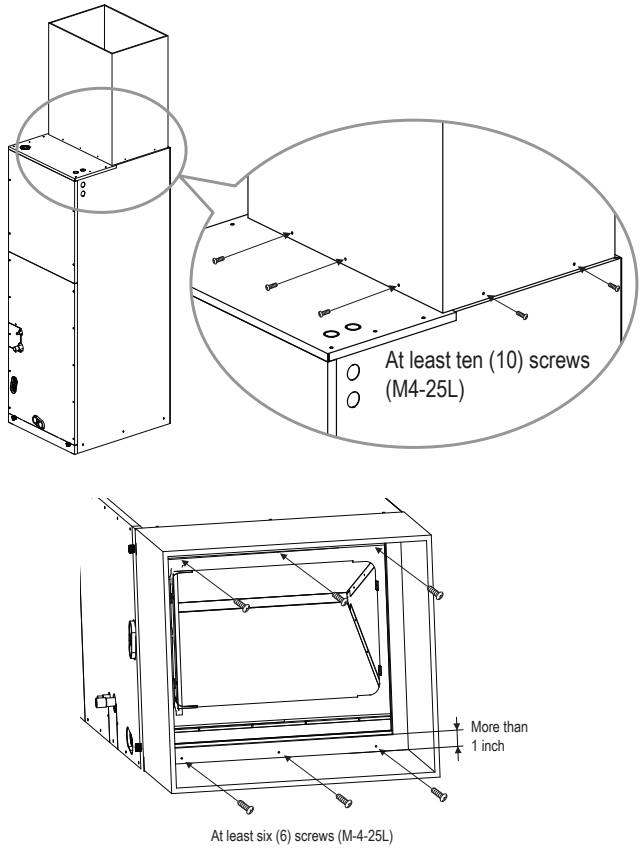
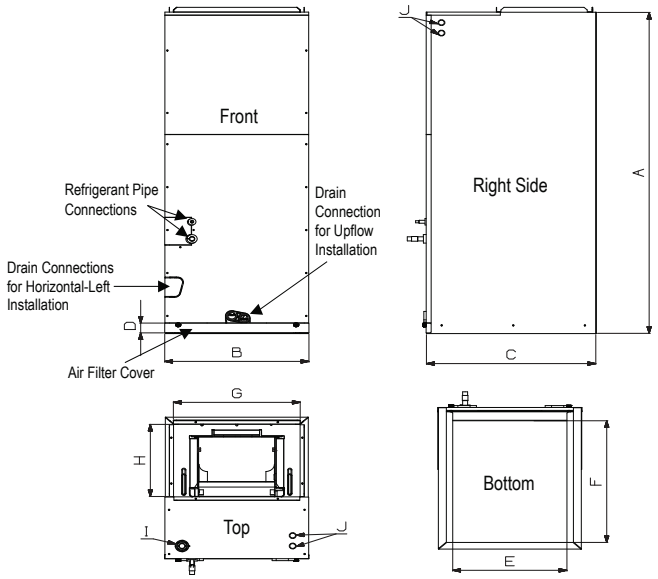


Table 112: Vertical Air Handling Unit Duct Connection Dimensions Table.

Model No.	Dimensions (inches)							
	A	B	C	D	E	F	G	H
	Height	Width	Depth					
NJ Frames								
ARNU123NJA4	48-5/8	18	21-1/4	1-9/16	17-1/2	20	17	12-1/8
ARNU183NJA4								
ARNU243NJA4	48-5/8	18	21-1/4	1-9/16	17-1/2	20	17	12-1/8
ARNU303NJA4								
ARNU363NJA4								
NK Frames								
ARNU423NKA4	48-5/8	25	21-1/4	1-9/16	24-1/2	20	24	12-1/8
ARNU483NKA4								
ARNU543NKA4								

Figure 77: Vertical Air Handling Unit Duct Connection Dimensions Diagram.



General Drain Piping Information

All ducted indoor units generate water during cooling operation, therefore, how to properly handle this condensation must be considered. Depending on the location of the indoor unit, condensation can be drained directly to the outside of the building, or a common indoor unit drainage piping system can be installed.

Ducted Unit Drain Information

High, Mid, and Low Static Ducted indoor units include factory-installed drain pumps. When the bottom surface of the indoor unit is at an elevation below the receiving building drain line connection, install an inverted trap at the top of the condensate pump discharge riser before connection to the building drain pipe.

When the receiving drain line is mounted horizontal, connect the inverted trap to the top half of the pipe. The connection point of the inverted trap to the building drain pipe must always be to the top half of the pipe and must never be over 45° either side of the upper most point of the horizontal building drain line.

If connecting to a vertical drain line or plumbing system vent line, connect the IDU condensate pump discharge line using a Y-45 fitting with the double end of the Y-45 fitting facing up. When connecting to a vertical drain line include an inverted trap at the top of the IDU condensate pump discharge riser before connection to the Y-45 fitting.

Vertical Air Handling Unit Drain Information

Vertical Air Handling units have a gravity drain.

- Avoid blocking filter access panel when connecting the condensate drain lines.
- An additional external condensate line must run from the unit into the pan.
- The entire condensate line must be drained from the external condensate pan.
- Point the drain hose downward for easy drain flow.
- Do not use pipe joint connection or PVC/CPVC for the unit drain line connection. Use Teflon® tape.

Note:

A field-supplied external condensate pan must be installed underneath the entire Vertical Air Handling unit. If not, damage may result due to condensate overflow.

Table 113: Indoor Unit Drainage Specifications.

Indoor Unit	Drain Type	Drain Pipe Dia. (ID, in.)
B8, MA, M2, M3 Frames	27-1/2 in. Lift Drain Pump, Factory Installed	Ø1
L1, L2, L3 Frames		
Vertical Air Handling Unit (NJ, NK Frames)	Gravity	Ø1 (3/4" FPT)

Flexible Drain Hose

Ducted indoor units and Vertical Air Handling units include a factory-provided flexible drain hose (with one or two clamps) to connect the indoor unit to the drain piping / drain piping system.

Figure 78: High, Mid, and Low Static Ducted Indoor Unit Drain Pump to Drain Piping System.

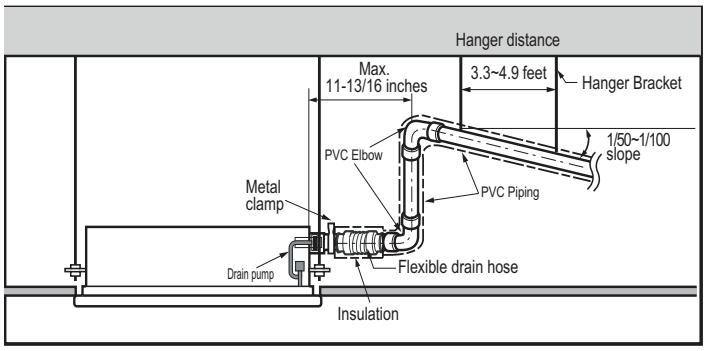


Figure 79: Vertical Air Handling Unit Drain Piping System.

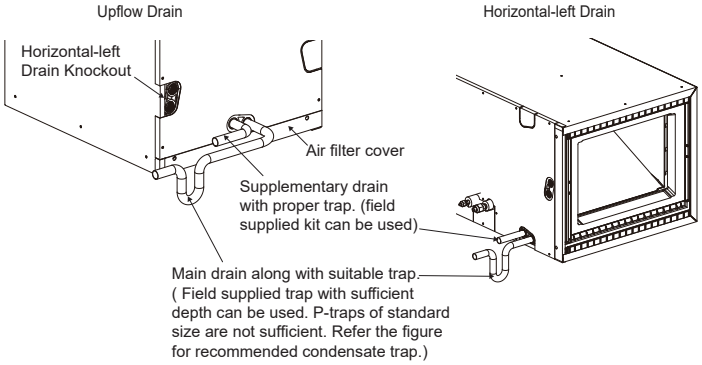


Figure 80: Vertical Air Handling Unit U-Trap Specifications.

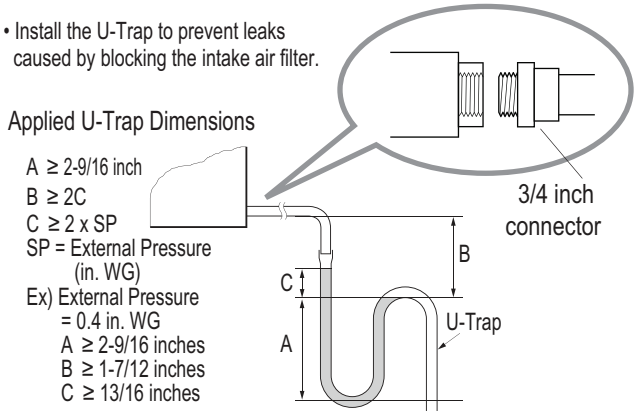


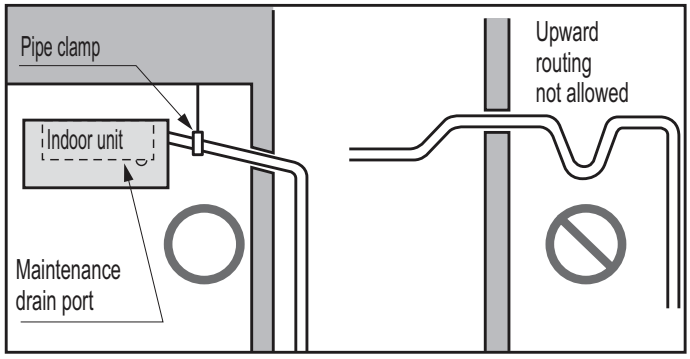
Figure 81: Flexible Drain Hose Connection.

LG

Drain Piping

- Drain piping must have down slope (1/50 to 1/100).
- Any holes through the ceilings, walls, etc., must be large enough to accommodate the drain piping and insulation.
- To prevent reversal flow, do not provide up and down slope.
- For High, Mid, and Low Static Ducted Units, the outside diameter of the drain connection is 1-1/4 to 1-1/8 inches (depending on model).
- For Vertical / Horizontal Air Handling Units, use PVC with a 3/4 inch male pipe thread fitting for the condensate pan.
- For High, Mid, and Low Static Ducted Units, the drain piping material is polyvinyl chloride pipe (1 inch).

Figure 82: Drain Piping Slope.



Drain Leak Test

A leak test must be performed 24 hours after the drainage system has been installed.

Drain Pipe Insulation

Install field supplied polyethylene foam insulation 5/16 inch thick or greater on the flexible drain pipe and position snugly again indoor unit.

Note:

Ensure the indoor unit, refrigerant piping, drain piping, and power wiring / communication cables are properly supported with anchor bolts and clamp hangers positioned at 3.3 to 4.9 foot intervals.

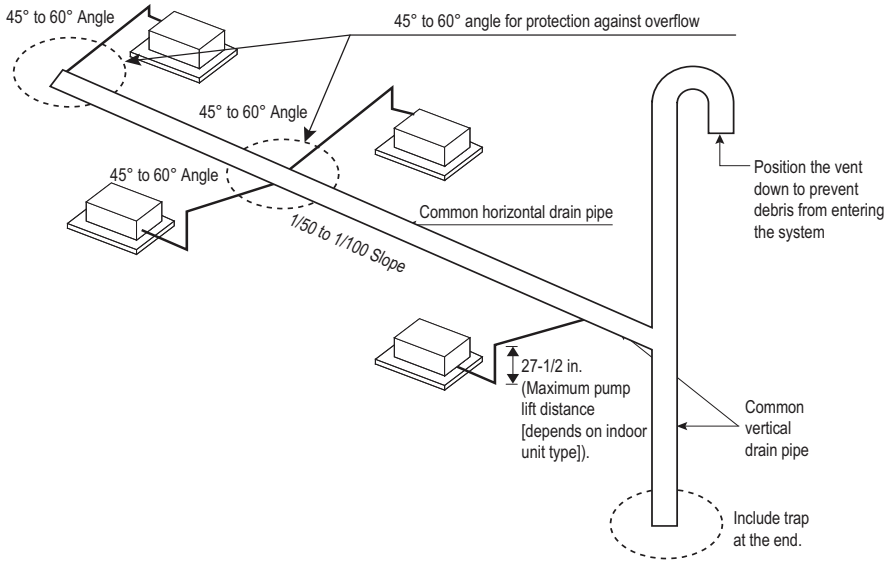
Common Indoor Unit Drainage System

It is usual work practice to connect individual indoor unit drain pipes to one common indoor unit drainage system.

The diameter of the common vertical drain pipe must be as large as necessary. The diameter of the horizontal pipe must be the same or larger than the vertical drain pipe. To avoid property damage in the event of the primary drain becoming clogged, and to optimize drain system performance, it may be prudent to install a secondary drain line.

Design the drain system to plan for winter operation (condensate line may freeze up if condensate does not properly drain away). Drain all generated condensate from the external condensate pan to an appropriate area. Install a trap in the condensate lines as near to the indoor unit coil as possible. To prevent overflow, the outlet of each trap must be positioned below its connection to the condensate pan. All traps must be primed, insulated, and leak tested.

Figure 83: Example of a Common Indoor Unit Drainage System.



Note:

- *It is recommended that a dedicated drain pipe be installed for the air conditioning system. If the indoor unit drainage system is shared with a rainwater drain, waste water, or any other type of building drain system, back flow, leaks, ice may form, or noxious odors may infiltrate the air conditioning system.*
- *Install a trap if the drain access to the outside faces an undesirable location (i.e., sewer), otherwise, noxious odors may infiltrate the air conditioning system.*

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 Connections

1. Insert the power wiring / communications cable from the outdoor unit or heat recovery unit (Heat Recovery systems only) using the designated path in the indoor unit.
2. Connect each wire to its appropriate terminal on the indoor unit control board. Verify that the color and terminal numbers from the outdoor unit or heat recovery unit (Heat Recovery systems only) wiring match the color and terminal numbers on the indoor unit.
3. Secure the power wiring / communications cable.

Figure 84: Location of Power Wiring / Communications Cable Terminals in the B8, MA, L1, L2, L3 High, Mid, and Low Static Ducted Indoor Units (Appearances Vary Depending on Model).

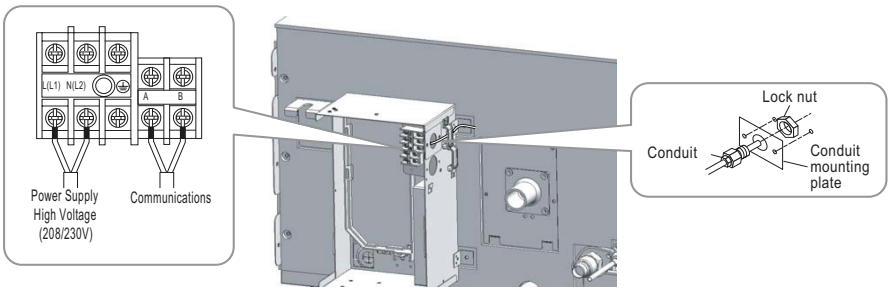


Figure 85: Location of Power Wiring / Communications Cable Terminals in the M2, M3 Mid and High Static Ducted Indoor Units.

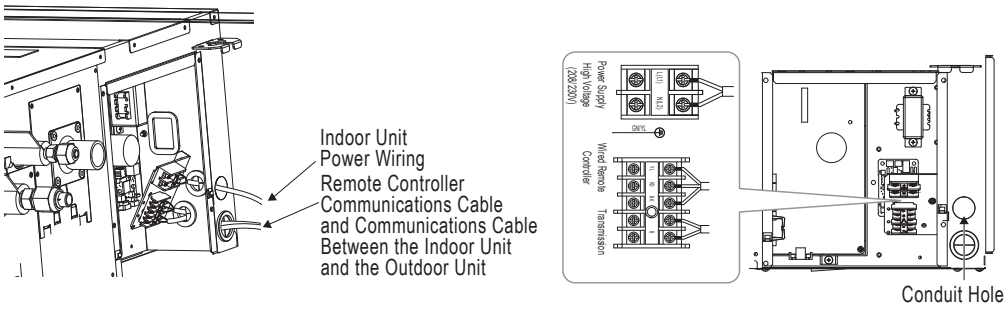


Figure 86: Location of Power Wiring / Communications Cable Terminals in the Vertical Air Handling Unit.

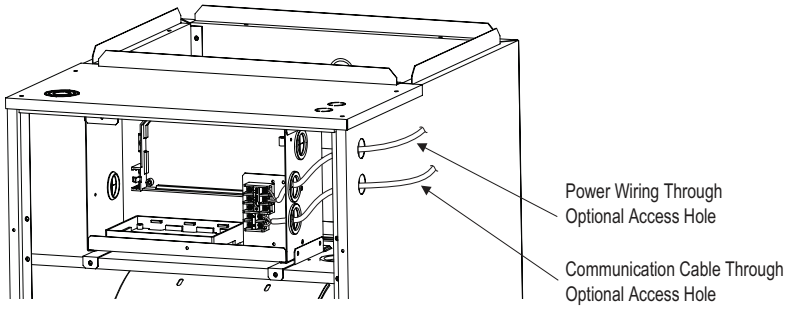


Figure 87: Terminal Block in the B8 High Static Ducted Indoor Units.

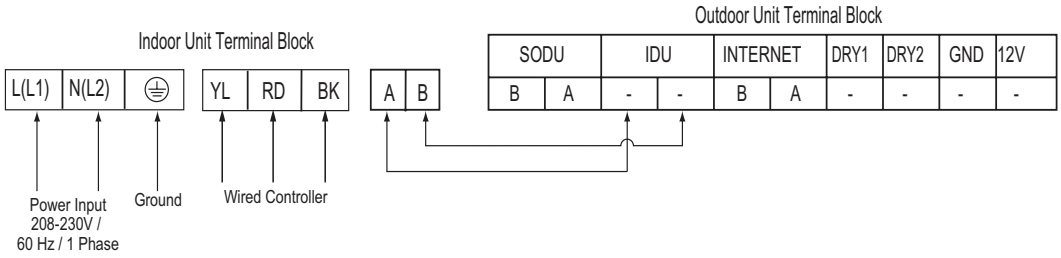


Figure 88: Terminal Block in the MA, M2, M3 Mid and High Static Ducted Indoor Units.

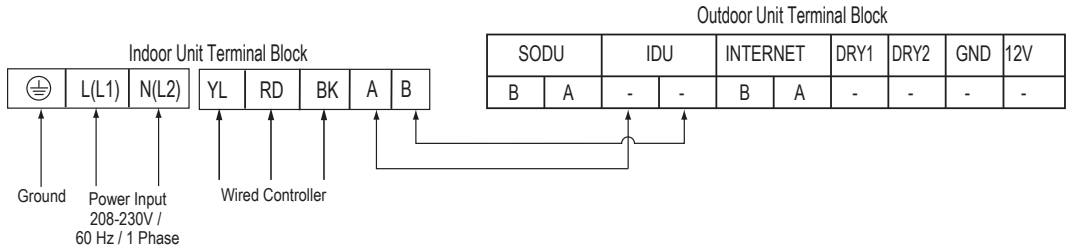


Figure 89: Terminal Block in the L1, L2, L3 Low Static Ducted Indoor Units.

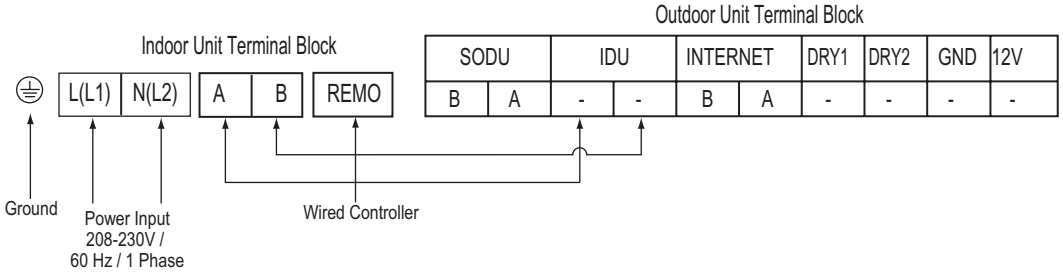
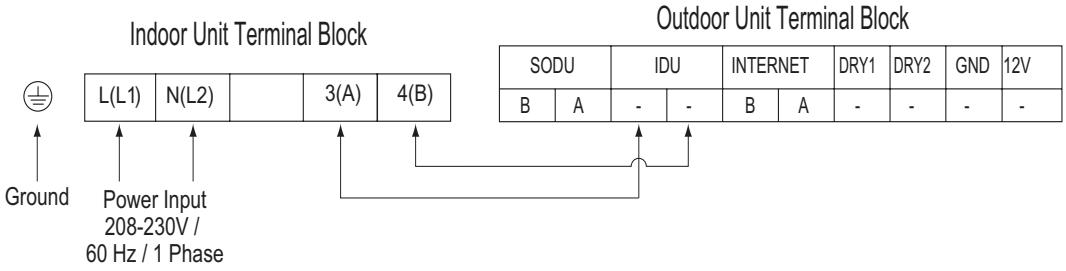


Figure 90: Terminal Block in the Vertical Air Handling Unit



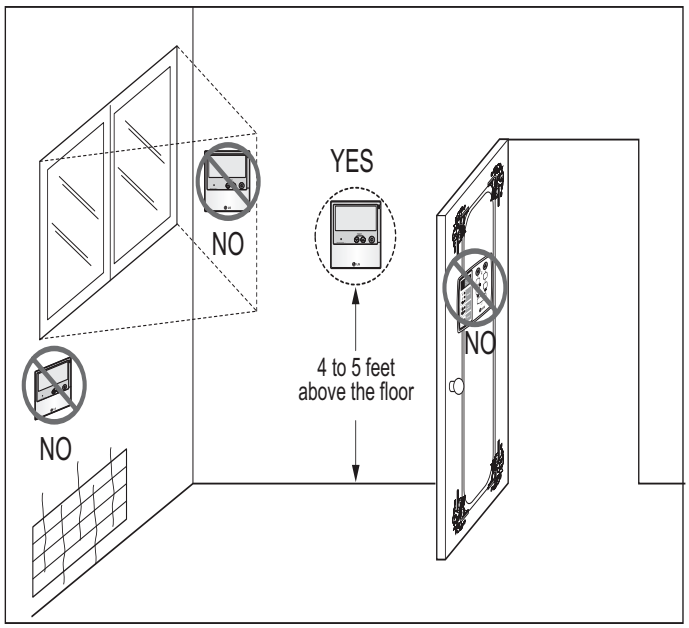
Wired Controller Placement

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 91: Proper Location for the Wired Controller.



ACRONYMS

Table 114: AcronymTable.

ABS	Acrylonitrile Butadiene Styrene	IDU	Indoor Unit
AC	Air Conditioner/Alternate Current	kW	Kilowatts
ACP	Advanced Control Platform	in Aq	inches water
AHU	Air Handling 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		

EM_MultiV_Ducted_IndoorUnits_MA_B8_07_24
Supersedes: EM_MultiV_Ducted_IndoorUnits_MA_B8_05_24
EM_MultiV_Ducted_IndoorUnits_04_24
EM_MultiV_Ducted_IndoorUnits_03_24
EM_MultiV_Ducted_IndoorUnits_11_23
EM_MultiV_Ducted_IndoorUnits_05_21
EM_MultiV_Ducted_IndoorUnits_10_20
EM_MultiV_Ducted_IndoorUnits_05_20
EM_MultiV_Ducted_IndoorUnits_03_20
EM_MultiV_Ducted_IndoorUnits_10_19
EM_MultiV_Ducted_IndoorUnits_05_19
EM_MultiV_Ducted_IndoorUnits_03_19
EM_MultiV_Ducted_IndoorUnits_8_17
EM_MultiV_Ducted_IndoorUnits_11_16
EM_MultiV_Ducted_IndoorUnits_8_16
EM_MultiV_Ducted_IndoorUnits_4_16

Life's Good

LG Electronics, U.S.A., Inc.
Air Conditioning Technologies
4300 North Point Parkway
Alpharetta, Georgia 30022
www.lghvac.com