LG
Life's Good

MULTI V™ S

WITH

LGRED°

OUTDOOR UNIT ENGINEERING MANUAL

Variable Refrigerant Flow
208-230V, 60 Hz, 1-Phase Outdoor Units
3.0 and 4.0 Tons

PROPRIETARY DATA NOTICE

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A summary list of safety precautions is on page 3.

To access additional technical documentation such as submittals, indoor unit engineering manuals, installation, service, product data performance, general best practice, and building ventilation manuals, as well as white papers, catalogs, LATS software programs, and more, log in to www.lghvac.com.

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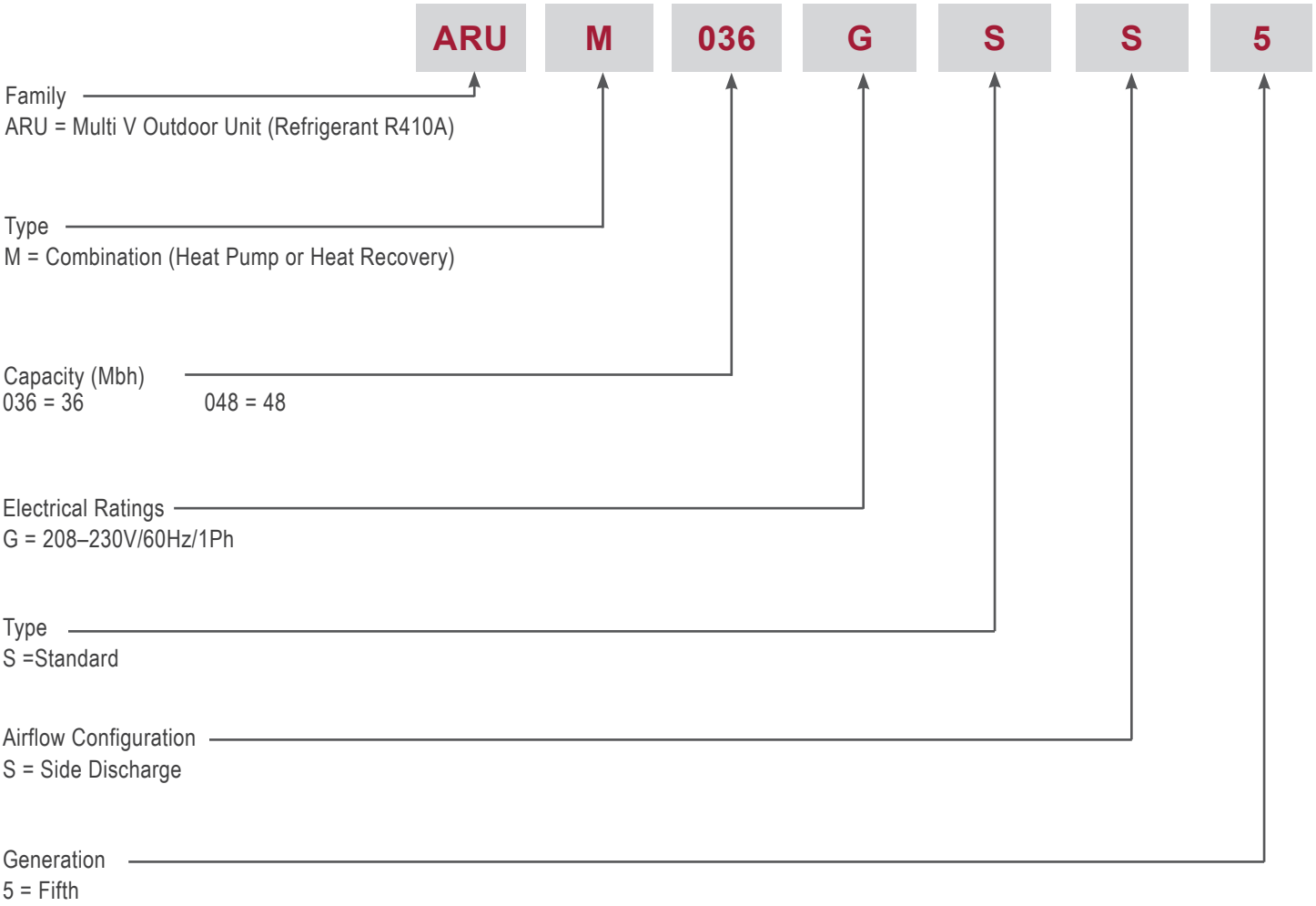
TABLE OF SYMBOLS

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

UNIT NOMENCLATURE

Outdoor Units

Outdoor Units (ODU)



Note:

For HRU (heat recovery unit) box information, refer to the applicable Engineering Manual on www.lghvac.com.

LG AIR CONDITIONER TECHNICAL SOLUTION (LATS)

LG Air Conditioner Technical Solution (LATS) Software

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

Note:

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

Formats

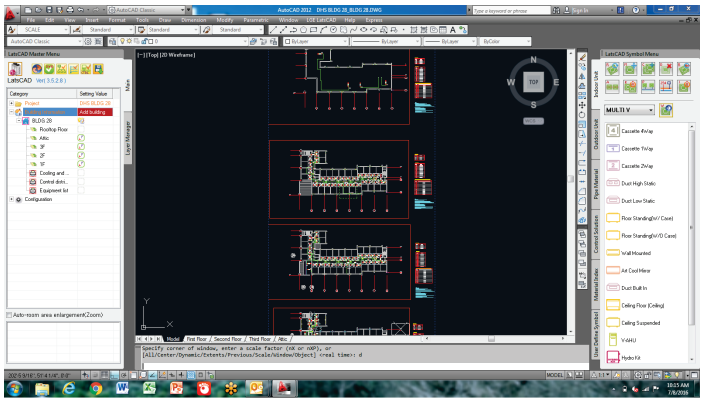
LATS is available to LG customers in three user interfaces: LATS HVAC, LATS CAD2, and LATS Revit. All three LATS formats are available through www.myLGHVAC.com, or contact an LG Sales Representative.

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

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

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

Figure 1: Example of LATS CAD2.



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

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

Features

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

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

The program can also:

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

Note:

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

LG AIR CONDITIONER TECHNICAL SOLUTION (LATS)

MULTI V S WITH LGRED°

LATS Generates a Complete Project Report

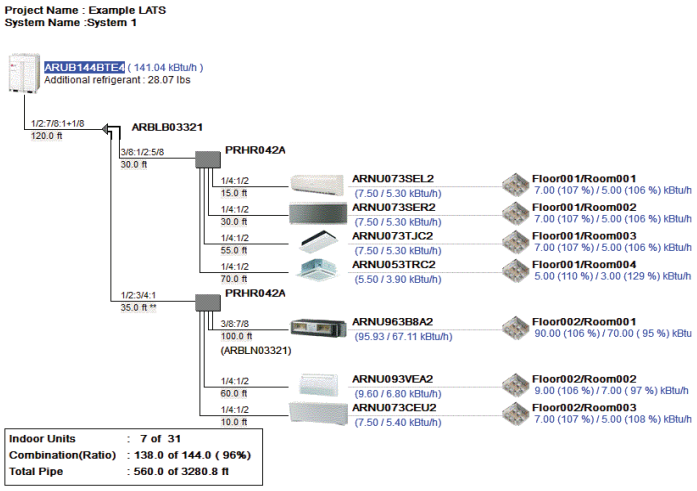
LATS software also generates a report containing project design parameters, cooling and heating design data, system component performance, and capacity data. The report includes system combination ratio and refrigerant charge calculations; and provides detailed bill of material, including outdoor units,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

Proper Design to Install Procedure

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

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

Figure 2: Example of a LATS Tree Diagram.



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

- Differences in pipe diameter(s). If incorrect diameters have been installed, the piping must be changed out. If pipe diameters have changed, check to see if Y-Branches will also need to be changed.
- Changes to outdoor unit and indoor unit capacities. Capacities changes could 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.

Note:

Any field changes, such as re-routing, shortening or lengthening a pipe segment, adding or eliminating elbows and/or fittings, re-sizing, adding, or eliminating indoor units, changing the mounting height, or moving the location of a device or fitting during installation must be done with caution and ALWAYS VERIFIED in LATS SOFTWARE BEFORE supplies are purchased or installed. Doing so will lead to a more profitable installation, reduce the potential for rework, and will reduce the potential for multiple visits to the job site to complete the system commissioning.

MULTI V S WITH LGRED

REFRIGERANT CHARGE WORKSHEET

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

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

Line #	Description	Chassis I.D.	Size	Quantity	CF (Ref.)[1]	Total (lbs.)
1	Linear feet of 1/4" liquid line tubing[2]	—	—		0.015	
2	Linear feet of 3/8" liquid line tubing[2]	—	—		0.041	
3	Linear feet of 1/2" liquid line tubing[2]	—	—		0.079	
4	Linear feet of 5/8" liquid line tubing[2]	—	—		0.116	
5	Linear feet of 3/4" liquid line tubing[2]	—	—		0.179	
6	Linear feet of 7/8" liquid line tubing[2]	—	—		0.238	
7	Linear feet of 1" liquid line tubing[2]	—	—		0.323	
8	Standard + Art Cool Mirror	SJ, SK	5k to 15k		0.53	
9	Standard + Art Cool Mirror	SJ, SK	18k to 24k		0.62	
10	Standard	SV	30k to 36k		1.01	
11	Art Cool Gallery	SF	9k to 12k		0.22	
12	1-Way Cassette	TU	7k to 12k		0.44	
13	1-Way Cassette	TT	18k to 24k		0.64	
14	2-Way Cassette	TS	18k to 24k		0.75	
15	4-Way 2' x 2' Cassette	TR	5k to 7k		0.40	
16	4-Way 2' x 2' Cassette	TR	9k to 12k		0.55	
17	4-Way 2' x 2' Cassette	TQ	15k to 18k		0.71	
18	4-Way 3' x 3' Cassette	TN	7k to 24k		0.88	
19	4-Way 3' x 3' Cassette	TM	28k to 36k		1.08	
20	4-Way 3' x 3' Cassette	TM	42k to 48k		1.41	
21	Mid Static Ducted	M1	7k to 24k		0.57	
22	High Static Ducted	M2	7k to 24k		0.77	
23	Mid Static Ducted	M2	28k to 42k		1.15	
24	Mid / High Static Ducted	M3	28k to 54k		1.35	
25	High Static Ducted	B8	36k to 96k		2.20	
26	Low Static Ducted, Low Static Ducted Bottom Return	L1	5k to 9k		0.31	
27	Low Static Ducted, Low Static Ducted Bottom Return	L2	12k to 18k		0.42	
28	Low Static Ducted, Low Static Ducted Bottom Return	L3	21k to 24k		0.55	
29	Vertical / Horizontal Air Handling Unit	NJ	12k to 30k		1.04	
30	Vertical / Horizontal Air Handling Unit	NJ	36k		1.57	
31	Vertical / Horizontal Air Handling Unit	NK	42k to 54k		2.00	
32	Floor Standing	CE (U)	7k to 15k		0.37	
33	Floor Standing	CF (U)	18k to 24k		0.82	
34	HRU: PRHR023A, 033A, 043A	—	—		1.1	
35	HRU: PRHR063A, 083A	—	—		2.2	
37	**ADDITIONAL Refrigerant Charge Required** (Sum of lines 1 – 35)					
Multi V S with LGRED Unit Factory Refrigerant Charge	ARUM036GSS5	36,000			7.7 lb.	
	ARUM048GSS5	48,000			7.7 lb.	
38	**Factory Refrigerant Charge** (Factory refrigerant charge for the ODU in the system					
39	**TOTAL SYSTEM CHARGE** Sum of Add'l Refrigerant Charge Required (line 37) and 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).

PRODUCT DATA

Multi V S with LGRED° Outdoor Units

General

LG Multi V S with LGRED Variable Refrigerant Flow (VRF) outdoor unit is a unified frame and can be configured to operate both as a Heat Pump system or a Heat Recovery System. The outdoor unit is connected to the indoor units with a single refrigerant piping system using factory designed and supplied Y-branches, Headers, and/or Heat Recovery Units, and have integrated controls.

The system is capable of being designed for minimum piping and maximum design flexibility. Each Heat Recovery Unit piping port is independently capable of operating in either heating or cooling mode regardless of the mode of other piping ports on the same heat recovery unit or in the system. The Heat Recovery Unit is capable of changing mode of individual indoor units or zones (cooling to heating or heating to cooling).

LG components are manufactured in a facility registered to ISO 9001 and ISO 14001, which is a set of standards applying to environmental protection set by the International Organization for Standardization (ISO). The units are Electrical Testing Laboratories (ETL) listed and bear the ETL label. All internal wiring is in accordance with the National Electrical Code (NEC).

Temperature Ranges

Heat Pump Configuration

In Heat Pump configuration, the system can operate in heating only mode (i.e., all indoor units in heating mode) from -13°F to 61°F outdoor ambient wet bulb. Heat Pump systems can operate in cooling mode from 23°F to 122°F outdoor ambient dry bulb. Optional low ambient cooling kit extends the cooling only operating range (i.e., all indoor units in cooling mode) down to -9.9°F. See the Multi V S with LGRED Installation Manual for DIP switch settings to change from Heat Pump operation to Heat Recovery operation, or from Heat Recovery operation to Heat Pump operation.

Heat Recovery Configuration

In Heat Recovery configuration, the system can operate in heating only mode (i.e., all indoor units in heating mode) from --13°F to 61°F outdoor ambient wet bulb. Heat Recovery systems can operate in cooling only mode from 23°F to 122°F outdoor ambient dry bulb. Optional low ambient cooling kit extends cooling only operation range (i.e., all indoor units in cooling mode) down to -9.9°F. Heat Recovery Synchronous cooling based operation range is 14°F to 81°F outdoor ambient dry bulb; Synchronous heating based operation range is 14°F to 61°F wet bulb. See the Multi V S with LGRED Installation Manual for DIP switch settings for Heat Recovery and Heat Pump operation.

Casing / Frame

Outdoor units are constructed with galvanized enamel paint. Each frame has a removable inspection panel to allow access to service tool connection, DIP switches, auto addressing, and error code display without removing the entire front panel. The entire front panel of the outdoor unit is removable for maintenance. Outdoor unit frames are completely factory assembled, piped and wired.

Refrigerant System

The refrigeration system consists of a single refrigeration circuit and uses R410A refrigerant. The outdoor unit is provided with factory installed components, including a refrigerant strainer, check valves, oil separator, accumulator, four-way reversing valve, electronic controlled expansion valve (EEV), high and low side charging ports, high pressure safety switch, service valves, and interconnecting piping. Also included is an integral subcooler assembly consisting of a double spiral tubetype subcooling heat exchanger and EEV providing refrigerant subcooling modulation up to 23ºF.

Compressors

All 1-phase outdoor unit frames are equipped with one hermetic digitally controlled inverter driven scroll compressor to modulated capacity (variable from 12 to 165Hz, modulate in 1.0 Hz increments).

Outdoor Unit Coil

The outdoor unit coils are of a nonferrous construction with louvered aluminum fins on copper tubing, and are protected by a metal guard. Coil fins have a factory applied corrosion resistant Black Fin™ and hydrophilic coating.

Fans and Motors

Outdoor unit frames include one direct drive, variable speed propeller type fan. All fan motors have inherent protection, permanently lubricated bearings, and are variable speed with a maximum speed up to 750 rpm. Raised guards are provided to limit contact with moving parts. Outdoor units have horizontal discharge airflow.

Electrical

Outdoor units are available in 208-230V 60Hz, 1-phase power supply. The units include over/under-voltage protection.

Controls

Outdoor units are factory wired with necessary electrical control components, integral microprocessors, printed circuit boards, thermistors, sensors, terminal blocks, and power lugs. The control circuit between the indoor units, heat recovery unit(s) (heat recovery systems only) and the outdoor unit is an RS-485 daisy chain communication bus. The cable is two conductor, twisted, stranded and shielded, 18 AWG. Microprocessor-based algorithms provide component protection, soft-start capability, refrigeration system pressure, temperature, defrost, and ambient control.

For HRU (heat recovery unit) box information, refer to the applicable Engineering Manual on www.lghvac.com.

GENERAL DATA

Outdoor Unit Specifications

Table 1: 208-230V, 60Hz, 1-Phase Outdoor Unit Specifications.

Unit Model No.		ARUM036GSS5 3.0 Ton	ARUM048GSS5 4.0 Ton
Cooling Performance			
Nominal Cooling Capacity (Btu/h)[1]		36,000	48,000
Rated Cooling Capacity (Btu/h)[2]		36,000	48,000
Heating Performance			
Nominal Heating Capacity (Btu/h)[1]		42,000	54,000
Rated Heating Capacity (Btu/h)[2]		42,000	54,000
Operating Range			
Cooling (°F DB)[3]		23 to 122	23 to 122
Heating (°F WB)		-13 to +61	-13 to +61
Synchronous — Cooling Based (°F DB)		14 to 81	14 to 81
Synchronous — Heating Based (°F WB)		14 to 61	14 to 61
Compressor			
Inverter Type / Quantity		Hermetically Sealed Scroll / 1	
Oil / Type		PVE / FVC68D	PVE / FVC68D
Fan (Side Discharge)			
Type		Axial Flow	Axial Flow
Motor Output (kW) x Qty.		0.124 x 2	0.124 x 2
Motor / Drive		Brushless Digitally Controlled / Direct	Brushless Digitally Controlled / Direct
Operating Range (RPM)	Cooling	0 to 750	0 to 750
	Heating	0 to 700	0 to 700
External Static Pressure (in. WG)		0.08	0.08
Maximum Air Volume (CFM)		4,238	4,238
Unit Data			
Refrigerant Type		R410A	R410A
Refrigerant Control / Location		EEV / Indoor Unit	EEV / Indoor Unit
Factory Charge lbs. of R410A		7.7	7.7
Max. Number Indoor Units / System[4]		6	8
Sound Pressure Levels dB(A)[5] (Cooling / Heating)		50 / 53	52 / 54
Net Unit Weight (lbs.)		263	263
Shipping Weight (lbs.)		294	294
Communication Cables[6,7]		2 x 18	2 x 18
Heat Exchanger			
Material and Fin Coating		Copper Tube / Aluminum Fin and Black Coated Fin™ Hydrophilic	
Rows / Fins per inch		3 / 14	3 / 14
Piping / Connections for Heat Recovery Operation[8]			
Liquid Line Piping / Connection (in., OD)		3/8 Braze	3/8 Braze
Low Pressure Vapor Line Piping / Connection (in., OD)		3/4 Braze	3/4 Braze
High Pressure Vapor Line Piping / Connection (in., OD)		5/8 Braze	5/8 Braze
Piping / Connections for Heat Pump Operation[8]			
Liquid Line Piping / Connection (in., OD)		3/8 Braze	3/8 Braze
Vapor Line Piping / Connection (in., OD)		5/8 Braze	5/8 Braze

[1]Nominal capacity applied with non-ducted indoor units, and is rated 0 ft. above sea level with 25 ft. of refrigerant line per indoor unit and a 0 ft. level difference between outdoor and indoor units. All capacities are net with a Combination Ratio between 95–105%.

Nominal cooling capacity rating obtained with air entering the indoor unit at 80ºF dry bulb (DB) and 67ºF wet bulb (WB) and outdoor ambient conditions of 95ºF dry bulb (DB) and 75ºF wet bulb (WB).

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

[2]Rated capacity is certified under AHRI Standard 210/240. See www.ahrinet.org for information.

[3]Cooling range with the Low Ambient Baffle Kit (sold separately) is -9.9°F to +122°F. .

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

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

[6]Communication cable between ODU and IDUs/Heat Recovery Units must be a minimum of 18 AWG, 2-conductor, twisted, stranded, shielded. Ensure the communication cable shield is properly grounded to the ODU chassis only. ⃠ Do not ground the ODU to IDUs/Heat Recovery Units communication cable at any other point. Wiring must comply with all applicable local and national codes.

[7]Power wiring is field provided, solid or stranded, and must comply with all local and national codes. See next page for detailed electrical data.

[8]LG requires that LATS software be used on all projects to ensure correct line sizing. Designer must verify the shop drawing design against the as built design using LATS. Contractor must also use LG manufactured Y-Branch and Header Kits only.

ELECTRICAL DATA

Table 2: 208-230V, 60Hz, 1-Phase Outdoor Unit Electrical Data.

Nominal Tons	Unit Model No.	Compressor Motor		Outdoor Unit Fan Motor		MCA	MOCP
		Quantity	Motor Amps RLA (Ea.)	Fan Qty.	Amps FLA x Qty.		
3.0	ARUM036GSS5	1	19.0	2	0.5 x 2	23.5	40
4.0	ARUM048GSS5	1	19.4	2	0.5 x 2	24.0	40

Voltage tolerance is ±10%.

Maximum allowable voltage unbalance is 2%.

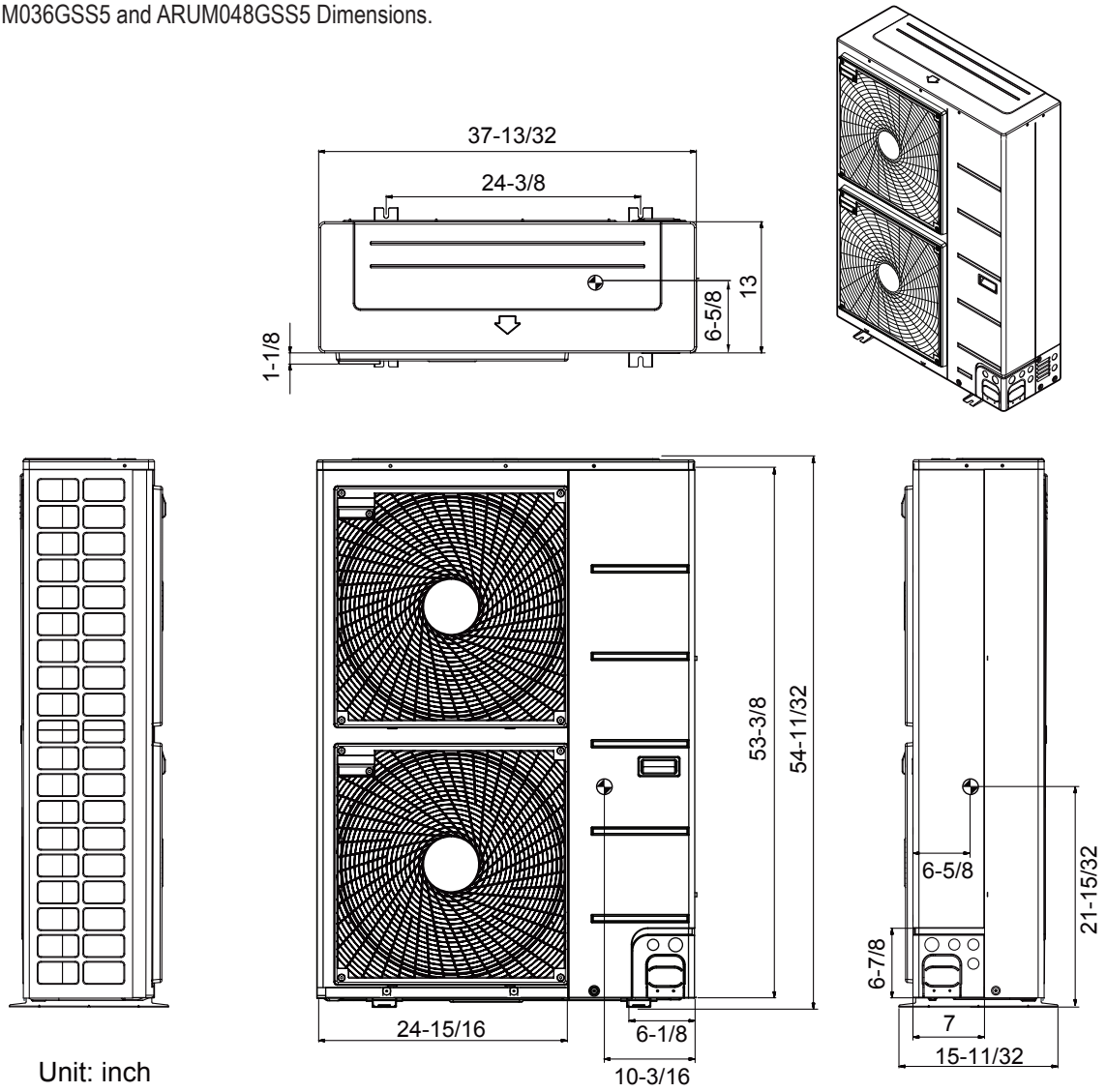
MCA = Minimum Circuit Ampacity.

Maximum Overcurrent Protection (MOCP) is calculated as follows: (Largest motor FLA x 2.25) + (Sum of other motor FLA) rounded down to the nearest standard fuse size. RFA = Recommended Fuse Amps.

*SCCR rating: 5kA RMS Symmetrical.

DIMENSIONS

Figure 3: ARUM036GSS5 and ARUM048GSS5 Dimensions.



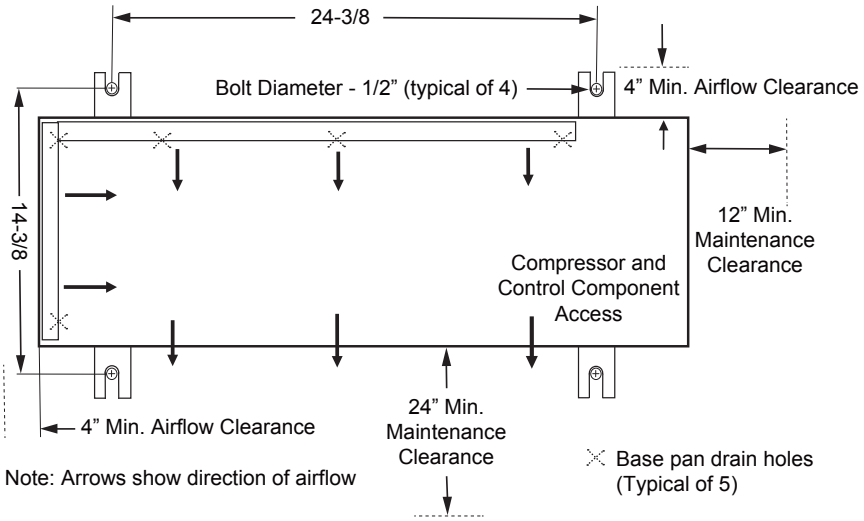
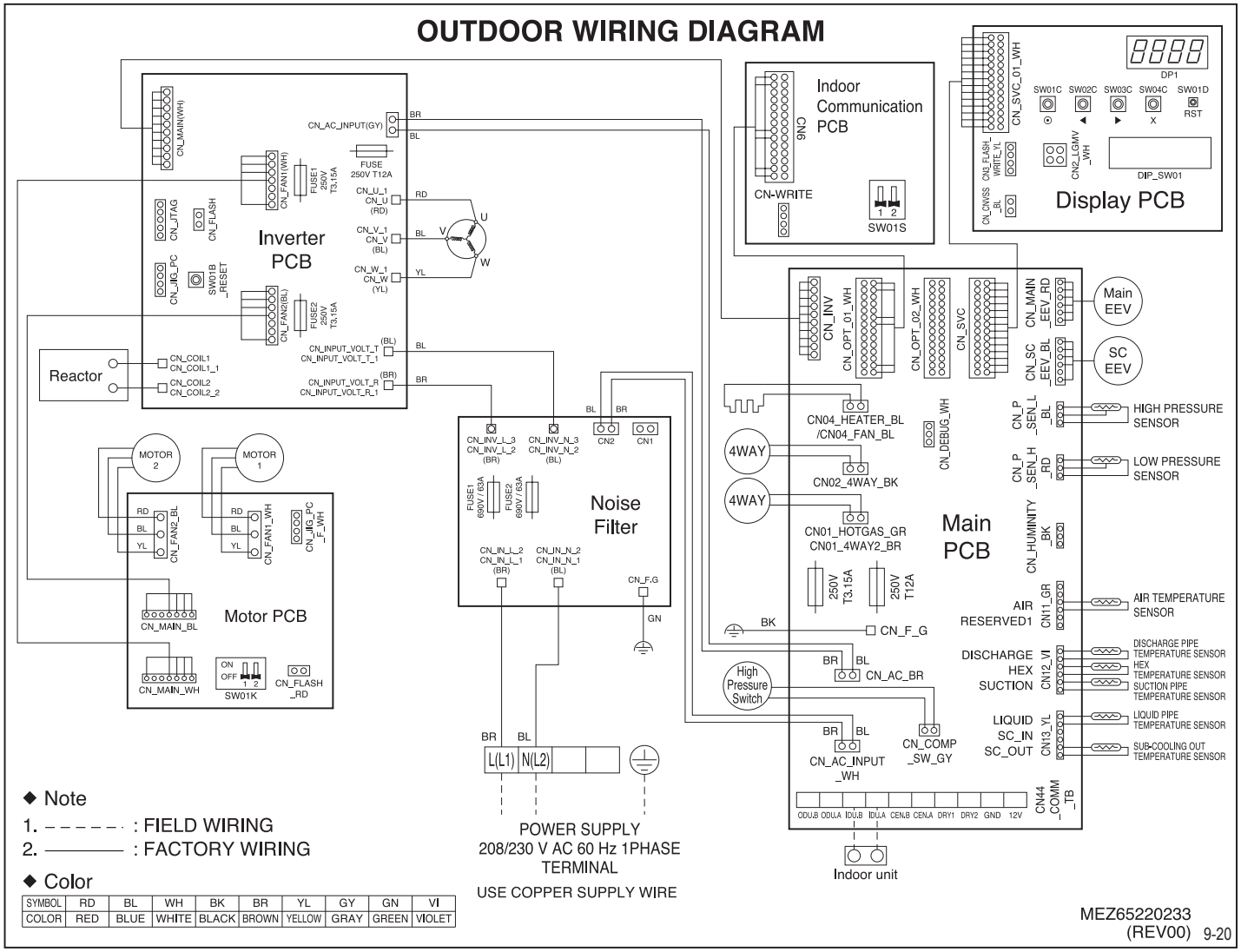


Figure 4: Multi V S with LGRED ARUM036GSS5 and ARUM048GSS5 Wiring Diagram.



Product Data

WIRING DIAGRAM

Table 3: Multi V S with LGRED ARUM036-048GSS5 Wiring Legend.

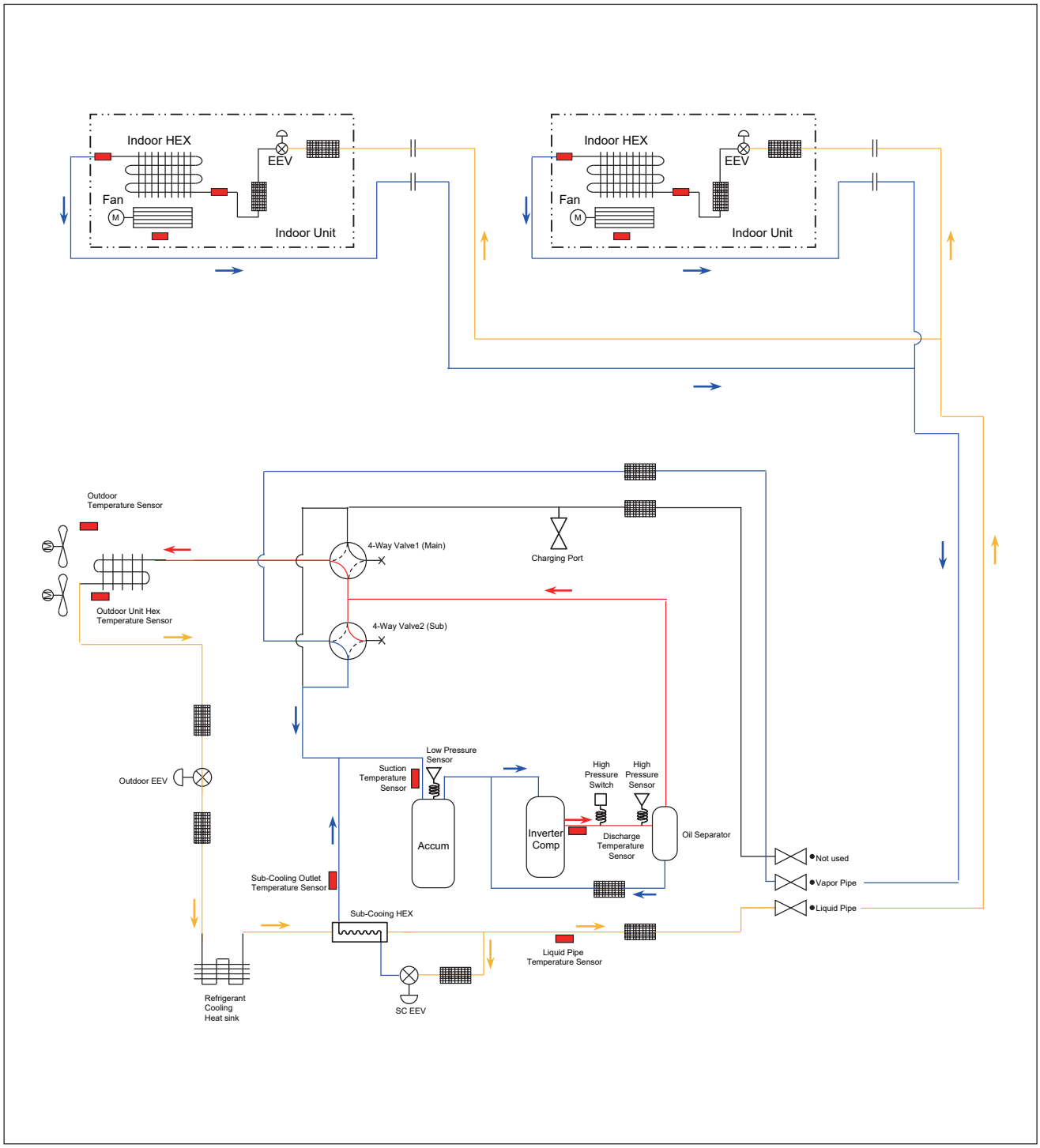
Terminal	Description
Main PCB	
CN_INV	Inverter Communication Connector
CN_OPT_01_WH	Optional PCB Communication Connector
CN_SVC	Display Board Communication Connector
CN_MAIN_EEV_RD	Electronic Expansion Valve
CN_SC_EEV_BL	Electronic Expansion Valve (Subcooling)
CN_P_SEN_L_BL	Low Pressure Sensor
CN_P_SEN_H_RD	High Pressure Sensor
CN_HUMIDITY_BK	Humidity Sensor
CN11_GR	Air Temperature Sensor
CN12_VI	Discharge Pipe / Heat Exchanger / Suction Pipe Temperature Sensors
CN13_YL	Liquid Pipe Temperature Sensor / Sub-cooling Out Temperature Sensor
CN44_COMM_TB	Communication Terminal Block
CN_COMP_SW_GY	HIgh Pressure Switch
CN_AC_INPUT_WH	AC Power Input
CN_AC_BR	AC Power Output
CN_F_G	Earth
CN01_4WAY2_BR	Four-Way Reversing Valve 2
CN02_4WAY2_BK	Four-Way Reversing Valve 1
CN04_HEATER_BL	Heater Connector
Display PCB	
CN_SVC_01_WH	Main Board Communication Connector
DP1	Seven (7) Segment Display
DIP-SW01	DIP Switch Setting
CN2_LGMV_WH	LGMV Monitoring Connector
CN_CNVSS_BL	Short Key Port
CN3_FLASH_WRITE_YL	Communication Debugging Port
SW01C	Confirm Button
SW02C	Backward Button
SW03C	Forward Button
SW04C	Cancel Button
SW01D	Reset Button
Indoor Communication PCB	
CN6	Main PCB Communication Connector
CN-WRITE	Communication Debugging Port
SW01S	DIP Switch Setting
Inverter PCB	
CN_MAIN(WH)	Main PCB Communication Connector
CN_AC_INPUT(GY)	AC Power Input
CN_INPUT_VOLT_T / CN_INPUT_VOLT_T_1	Power Input (T)
CN_INPUT_VOLT_R / CN_INPUT_VOLT_R_1	Power Input (R)
CN_FAN2(BL)	Communication and Power Input of Fan Motor 2
CN_FAN1(WH)	Communication and Power Input of Fan Motor 1
Noise Filter	
CN_INV_L_3, CN_INV_L_2 (BR)	Power Output (L)
CN_INV_N_3, CN_INV_N_2 (BL)	Power Output (N)
CN2	AC Power Input
CN_F.G	Earth
CN_IN_N_2, CN_IN_N_1 (BL)	Power Input (N)
CN_IN_L_2, CN_IN_L_1 (BR)	Power Input (L)
Motor PCB	
CN_FAN2_BL	Communication and Power Input of Fan Motor 2 (Motor PCB - Motor 1)
CN_FAN1_WH	Communication and Power Input of Fan Motor 1 (Motor PCB - Motor 2)
CN_MAIN_WH	Communication and Power Input of Fan Motor 1 (Motor PCB - Inverter PCB)
CN_MAIN_BL	Communication and Power Input of Fan Motor 2 (Motor PCB - Inverter PCB)

REFRIGERANT FLOW DIAGRAMS

ARUM036GSS5 and ARUM048GSS5

Heat Pump Operation — Cooling Mode

Heat Pump – Cooling Mode



Remarks							
	Pressure Sensor		Temperature Sensor		Check Valve		Solenoid Valve
	Pressure Switch		SVC Valve		EEV		Strainer

Product Data

REFRIGERANT FLOW DIAGRAMS

ARUM036GSS5 and ARUM048GSS5
Heat Pump Operation — Heating Mode

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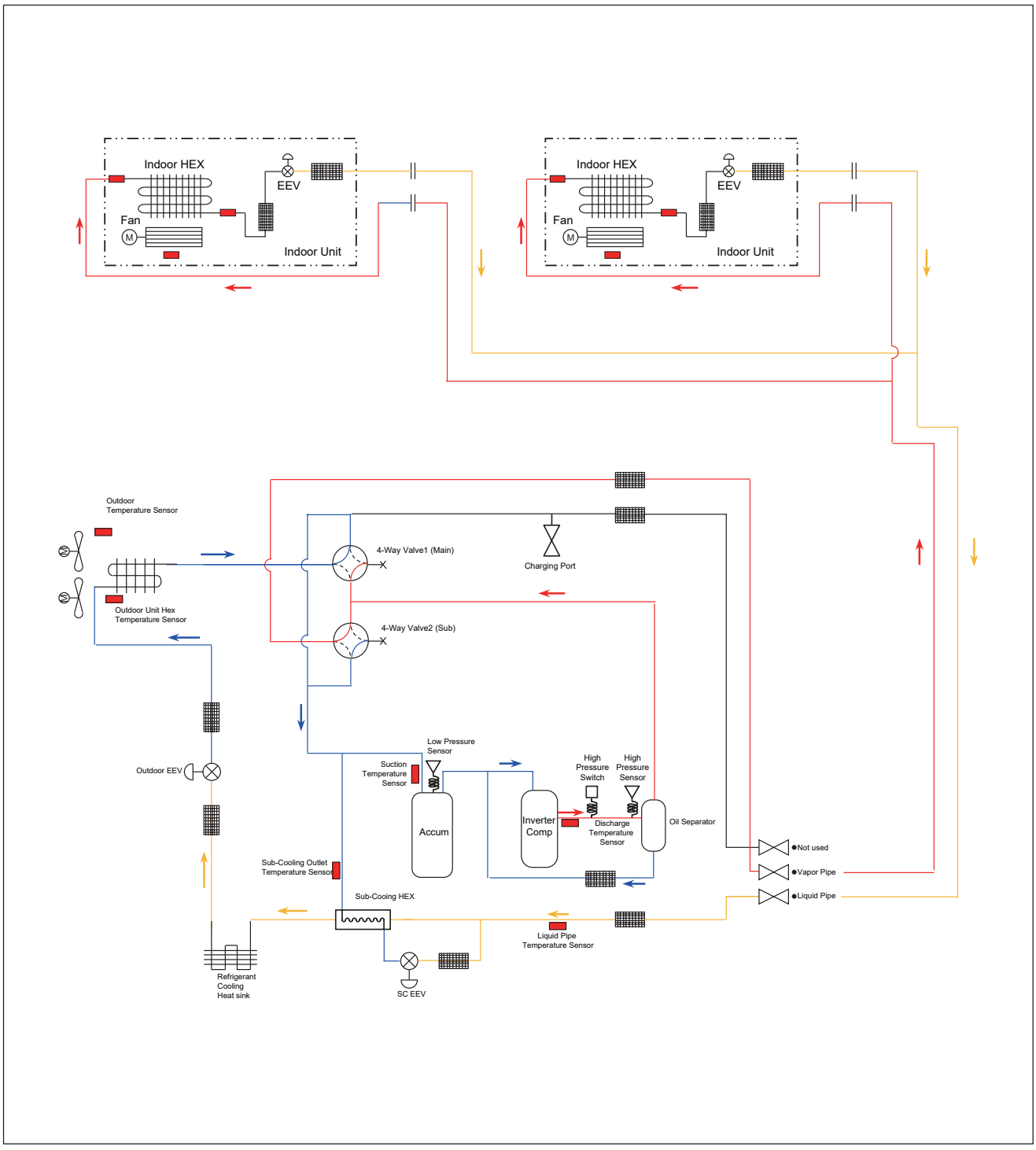
Heat Pump – Heating Mode



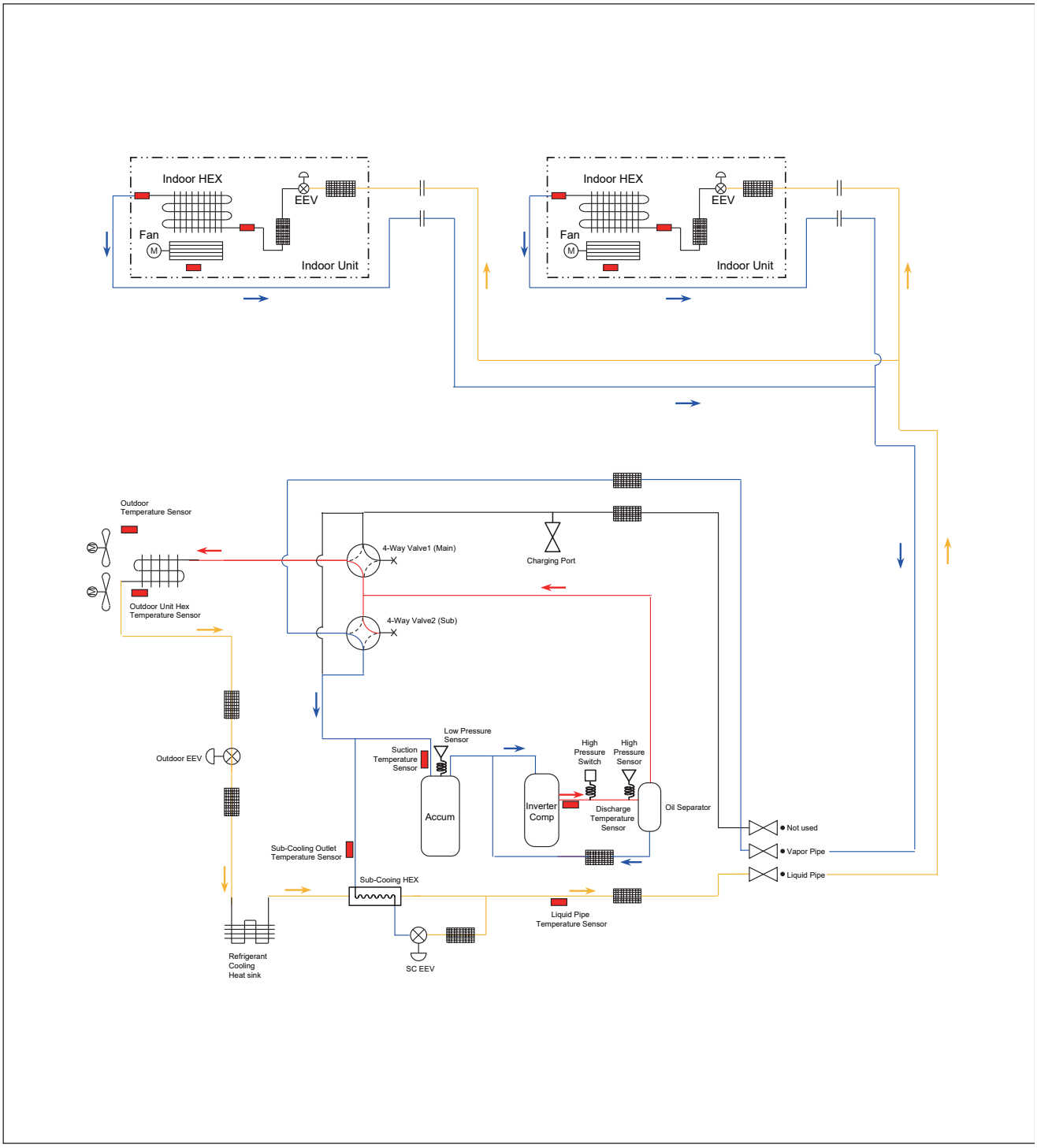
Remarks							
	Pressure Sensor		Temperature Sensor		Check Valve		Solenoid Valve
	Pressure Switch		SVC Valve		EEV		Strainer

LG

REFRIGERANT FLOW DIAGRAMS

ARUM036GSS5 and ARUM048GSS5
Heat Pump Operation — Oil Return and Defrost

Heat Pump – Oil Return and Defrost Operation



Remarks							
	Pressure Sensor	Temperature Sensor	Check Valve	Solenoid Valve
	Pressure Switch	SVC Valve	EEV	Strainer

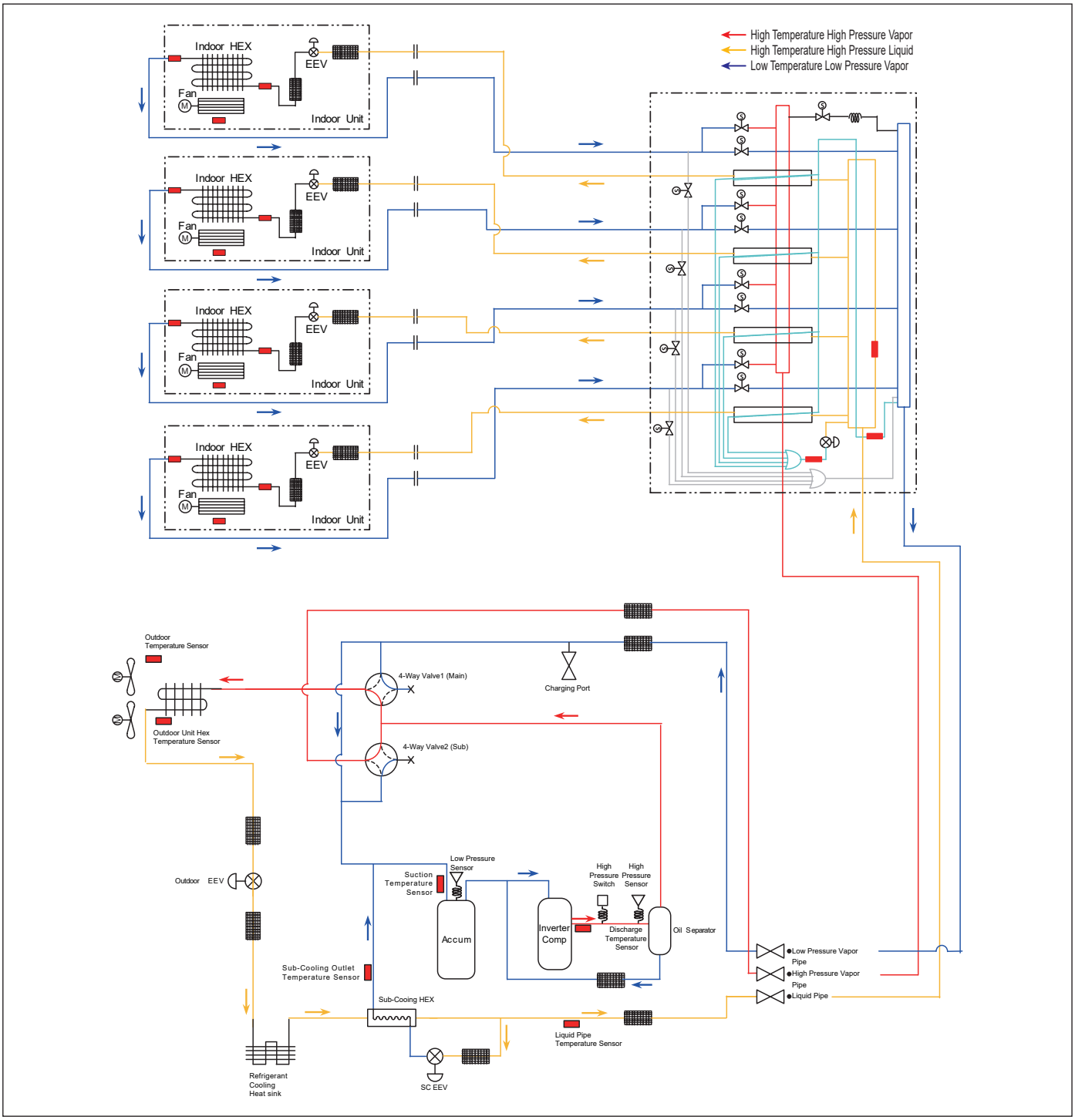
Product Data

REFRIGERANT FLOW DIAGRAMS

ARUM036GSS5 and ARUM048GSS5
Heat Recovery Operation — Cooling Mode

MULTI V S WITH LGRED°

Heat Recovery – Cooling Mode

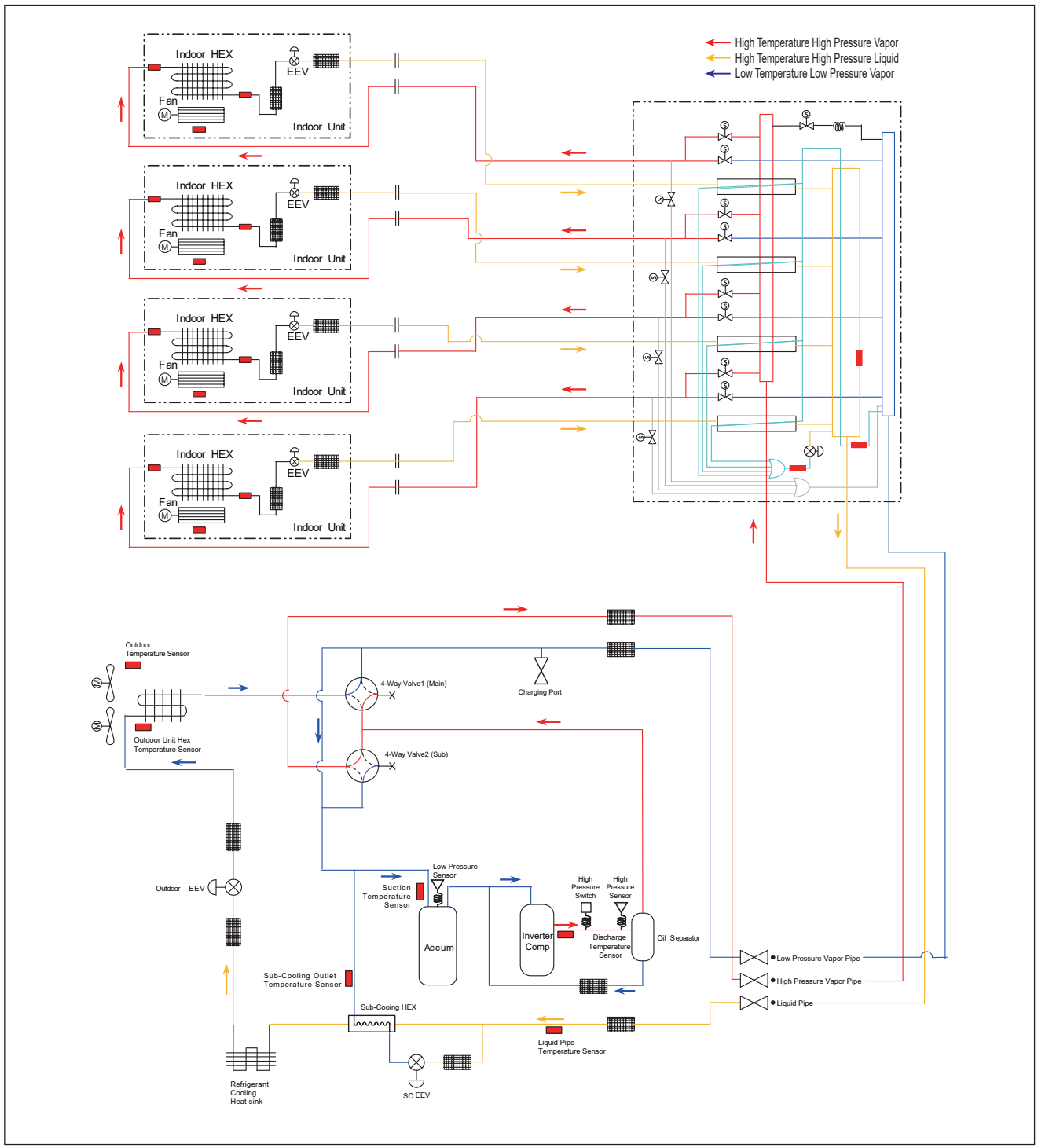


Remarks							
	Pressure Sensor		Temperature Sensor		Check Valve		Solenoid Valve
	Pressure Switch		SVC Valve		EEV		Strainer

REFRIGERANT FLOW DIAGRAMS

ARUM036GSS5 and ARUM048GSS5
Heat Recovery Operation — Heating Mode

Heat Recovery – Heating Mode



Remarks							
	Pressure Sensor		Temperature Sensor		Check Valve		Solenoid Valve
	Pressure Switch		SVC Valve		EEV		Strainer

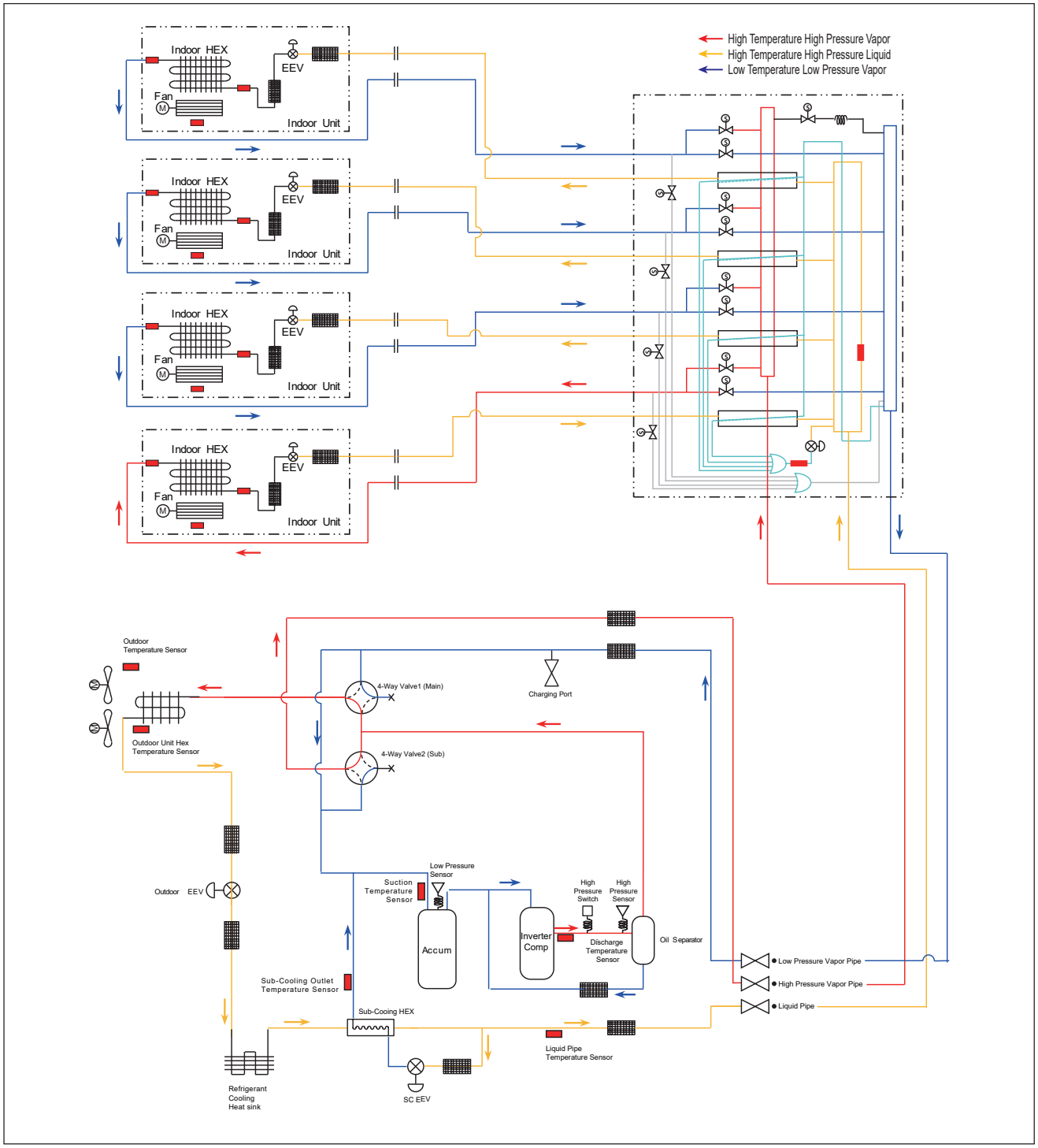
REFRIGERANT FLOW DIAGRAMS

ARUM036GSS5 and ARUM048GSS5

Heat Recovery Operation — Cooling-Based Simultaneous Mode

MULTI V S WITH LGRED°

Heat Recovery – Cooling-Based Simultaneous Operation



Remarks							
	Pressure Sensor		Temperature Sensor		Check Valve		Solenoid Valve
	Pressure Switch		SVC Valve		EEV		Strainer

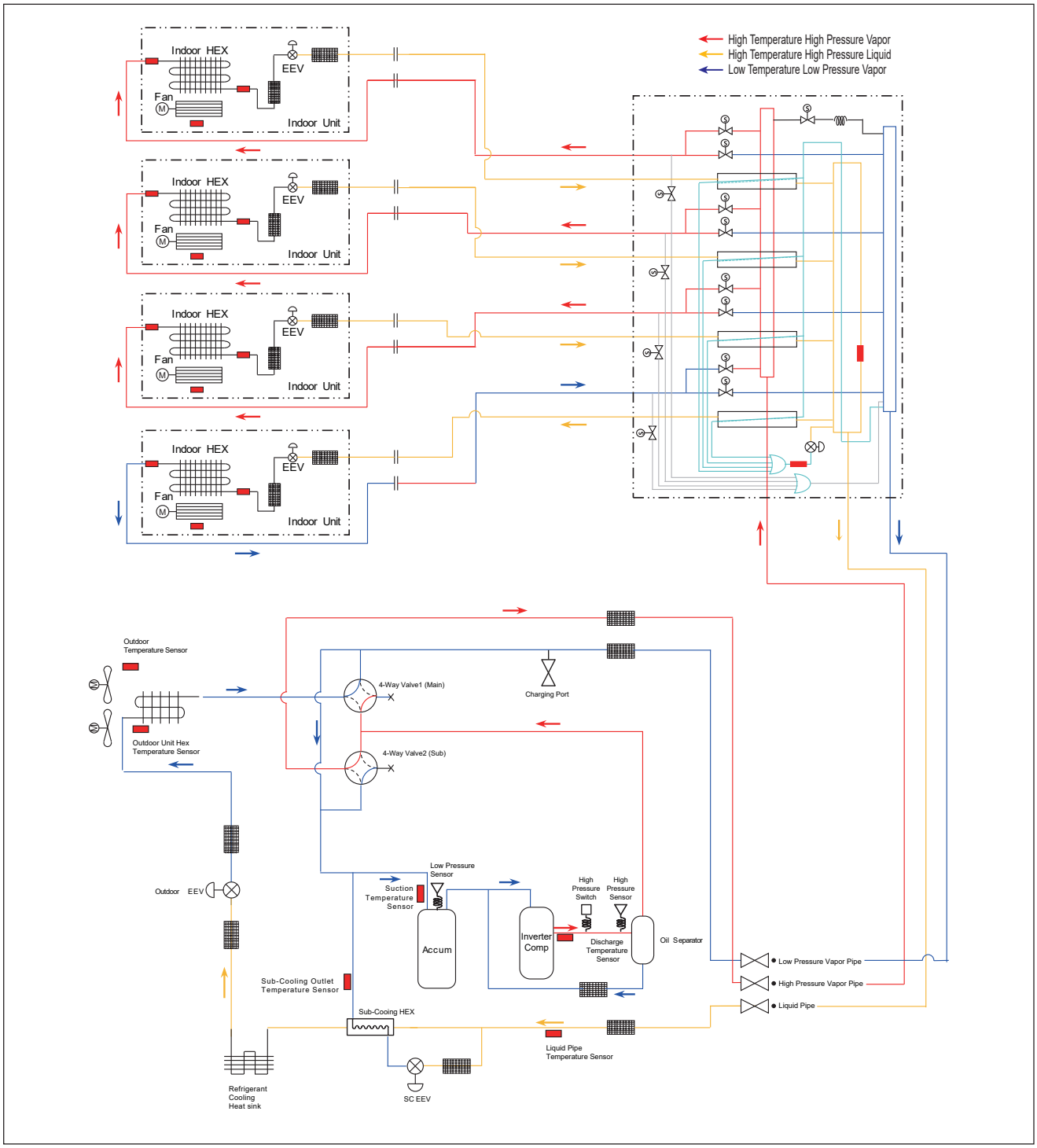
LG

REFRIGERANT FLOW DIAGRAMS

ARUM036GSS5 and ARUM048GSS5

Heat Recovery Operation —Heating-Based Simultaneous Mode

Heat Recovery – Heating-Based Simultaneous Operation



Remarks							
	Pressure Sensor		Temperature Sensor		Check Valve		Solenoid Valve
	Pressure Switch		SVC Valve		EEV		Strainer

Product Data

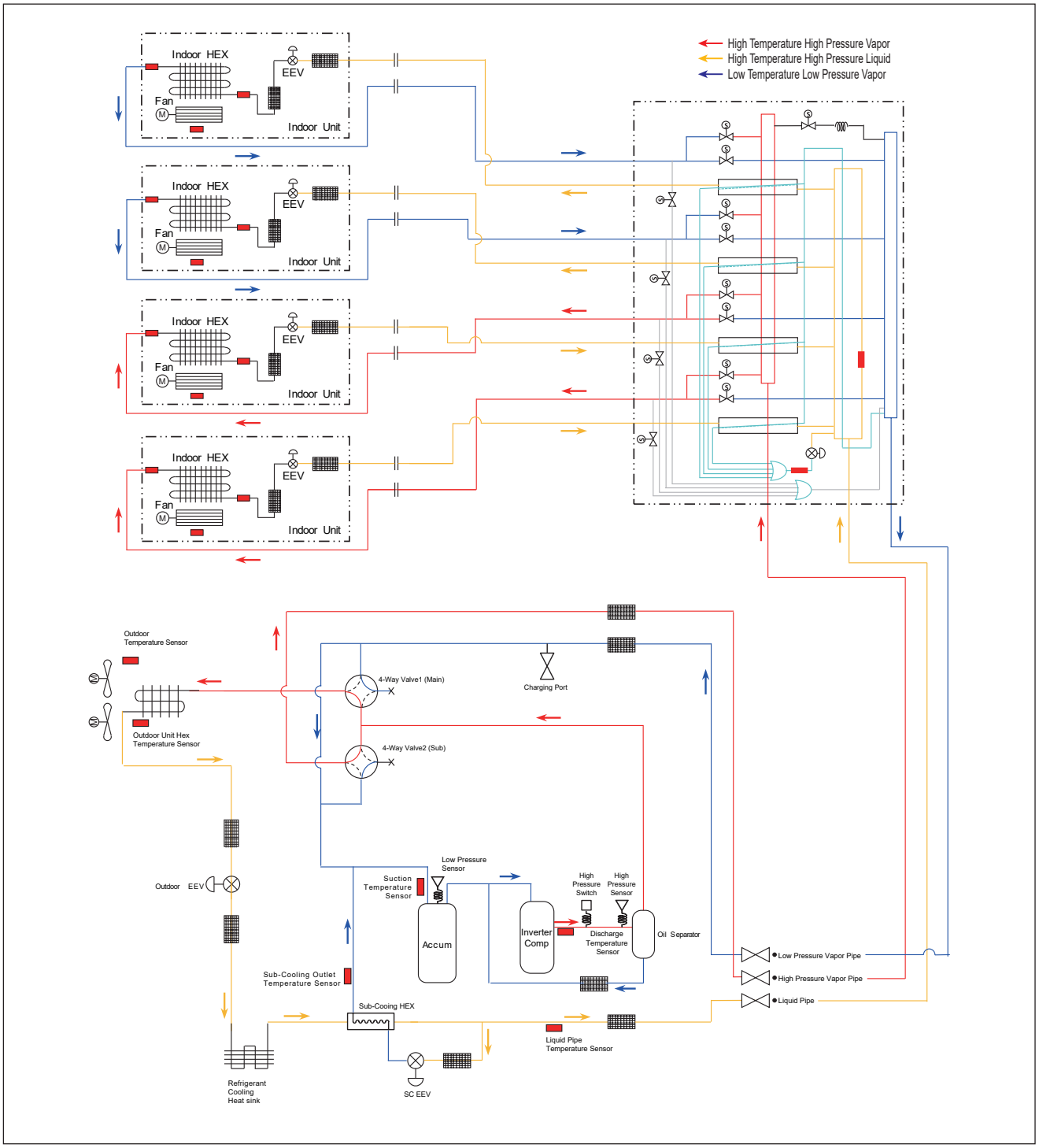
REFRIGERANT FLOW DIAGRAMS

MULTI V S WITH LGRED°

ARUM036GSS5 and ARUM048GSS5

Heat Recovery Operation —Balanced Simultaneous Mode

Heat Recovery – Balanced Simultaneous Operation



Remarks							
	Pressure Sensor		Temperature Sensor		Check Valve		Solenoid Valve
	Pressure Switch		SVC Valve		EEV		Strainer

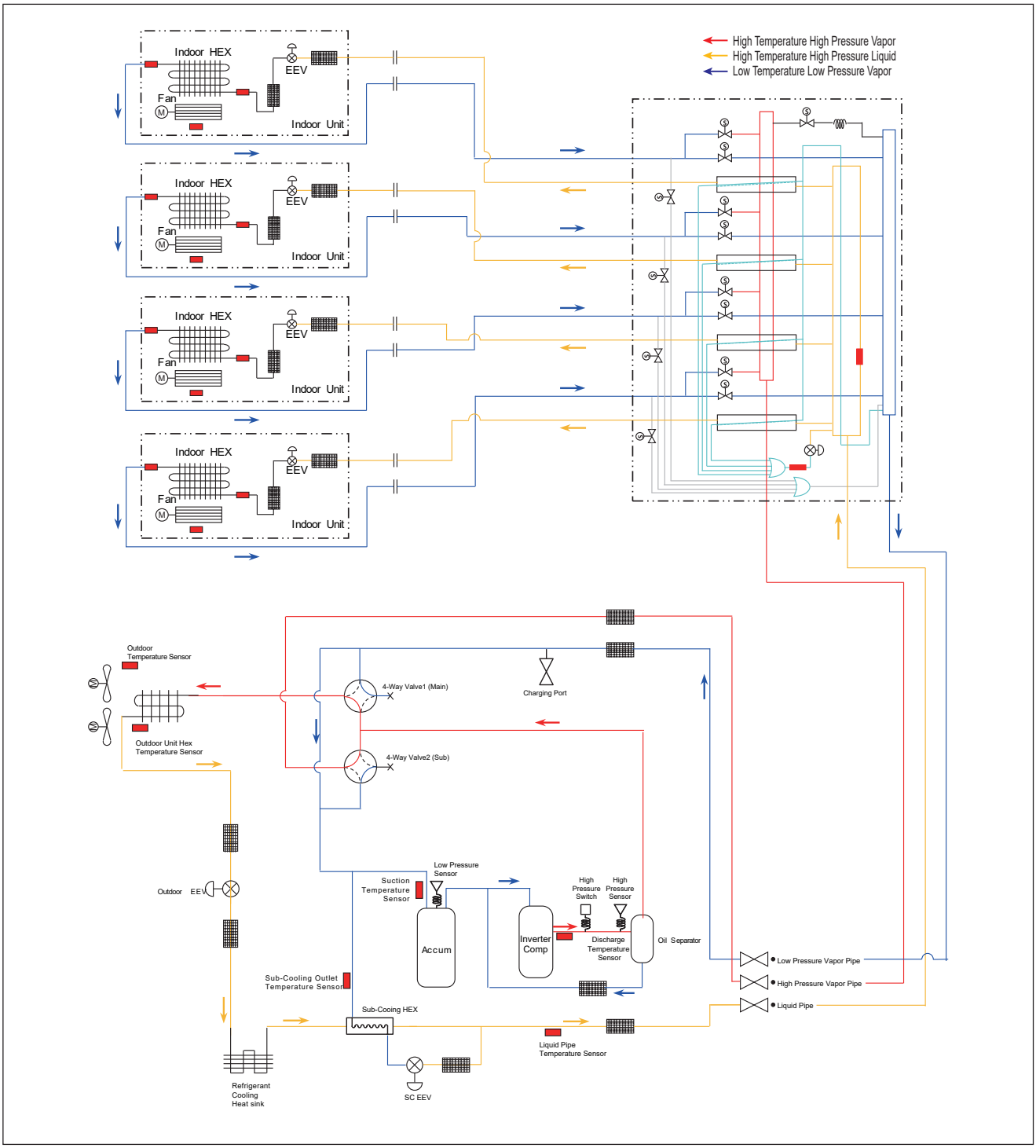
LG

REFRIGERANT FLOW DIAGRAMS

ARUM036GSS5 and ARUM048GSS5

Heat Recovery Operation — Oil Return and Defrost

Heat Recovery – Oil Return and Defrost Operation



Remarks							
	Pressure Sensor		Temperature Sensor		Check Valve		Solenoid Valve
	Pressure Switch		SVC Valve		EEV		Strainer

Product Data

Sound Pressure Levels

- Measurement taken 4.9' above finished floor, and at a distance of 3.3' from face of fan discharge.
- Measurements taken with no attenuation and units operating at full load normal operating condition.
- 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.
- Sound levels are measured in dB(A)±3.
- Tested in anechoic chamber per ISO Standard 3745.
- Off-Peak Operation: Logic takes advantage of lower outdoor ambient temperatures and limits the outdoor unit fan speed during nighttime operation to lower the unit sound level.

Figure 5: ARUM036GSS5 and ARUM048GSS5 Acoustic Measurement Location.

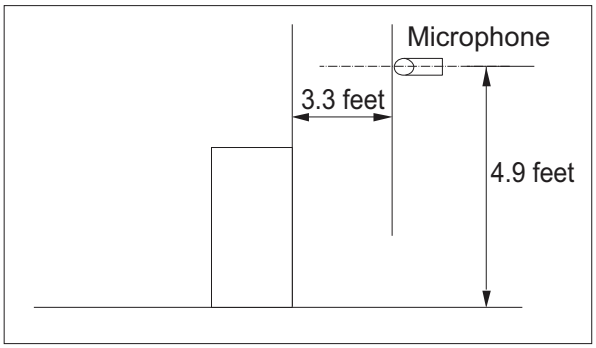


Table 4: ARUM036GSS5 and ARUM048GSS5 Sound Pressure Levels.

Model No.	Cooling Operation	Heating Operation
ARUM036GSS5	50	52
ARUM048GSS5	53	54

Figure 6: ARUM036GSS5 Cooling and Heating Sound Pressure Levels.

ARUM036GSS5

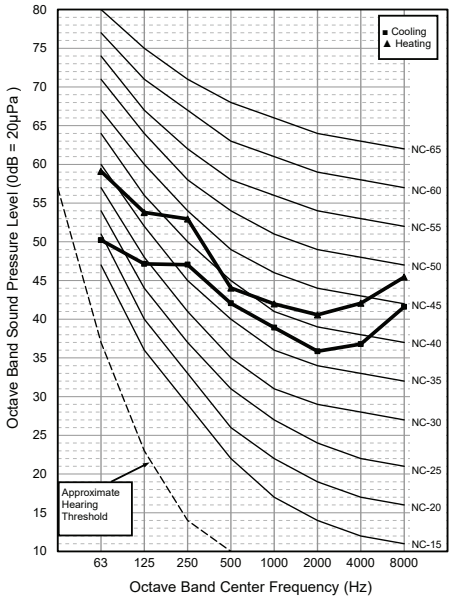
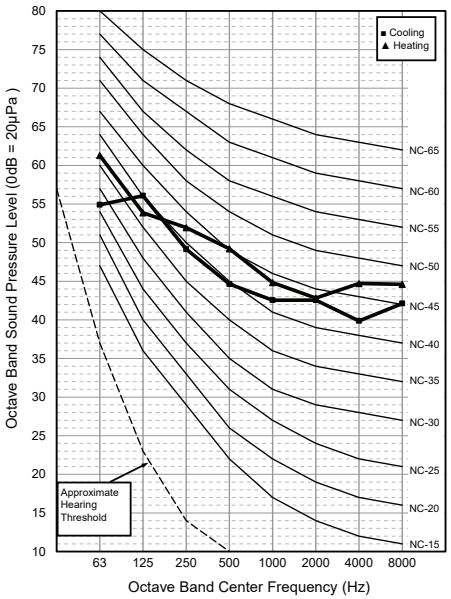


Figure 7: ARUM048GSS5 Cooling and Heating Sound Pressure Levels.

ARUM048GSS5



Sound Power Levels

- 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

Table 5: ARUM036GSS5 and ARUM048GSS5 Sound Power Levels.

Model No.	dB(A)
ARUM036GSS5	66
ARUM048GSS5	67

Figure 8: ARUM036GSS5 Sound Power Levels.

ARUM036GSS5

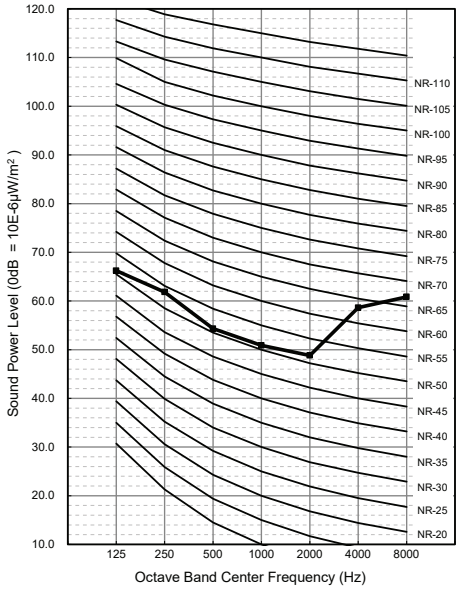
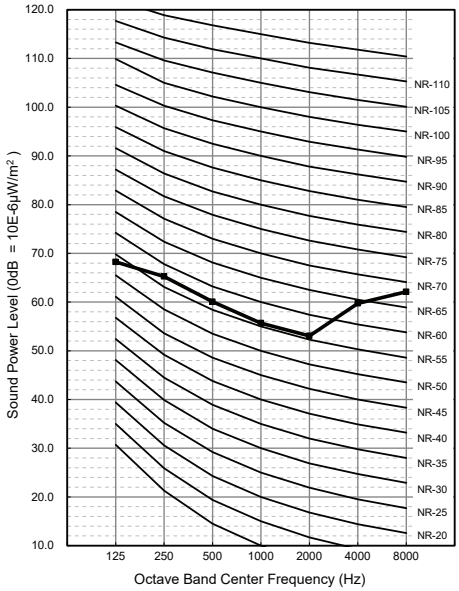


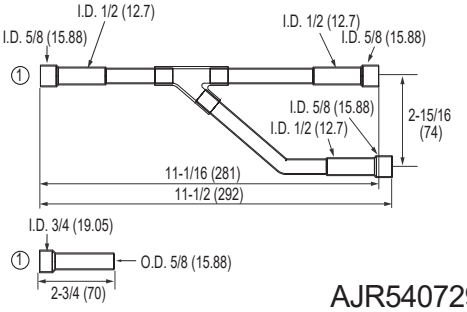
Figure 9: ARUM048GSS5 Sound Power Levels

ARUM048GSS5



Indoor Unit Y-Branches for Heat Pump Operation

(Unit: Inch [mm])

<table>
<tr><th>Models</th><th colspan="2">Pipe</th></tr>
<tr><td rowspan="2">ARBLN01621</td><td>Vapor Pipe</td><td>Liquid Pipe</td></tr>
<tr><td> 

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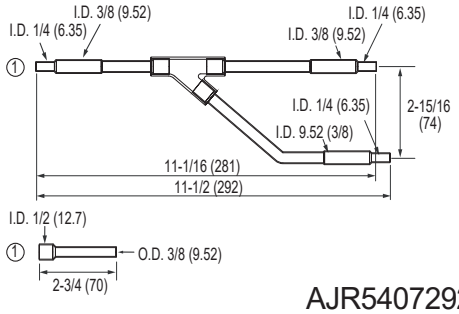
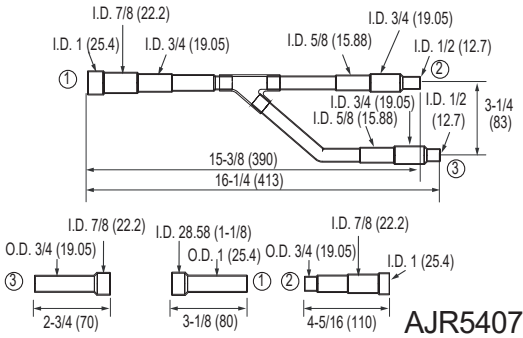


AJR54072927</td></tr>
<tr><td rowspan="2">ARBLN03321</td><td>Vapor Pipe</td><td>Liquid Pipe</td></tr>
<tr><td> 

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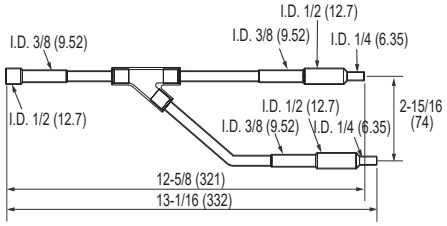

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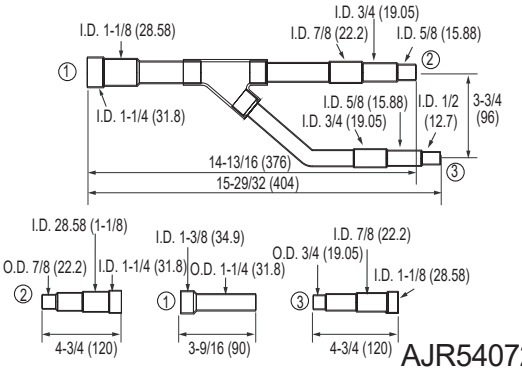
<tr><td rowspan="2">ARBLN07121</td><td>Vapor Pipe</td><td>Liquid Pipe</td></tr>
<tr><td> 

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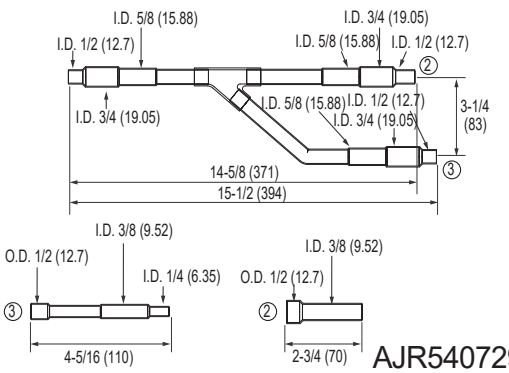

AJR54072931</td></tr>
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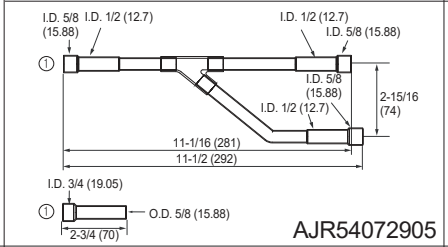
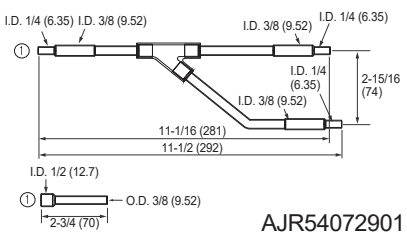
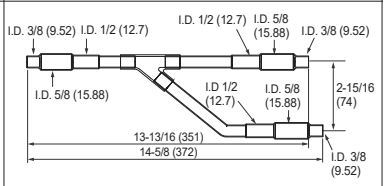
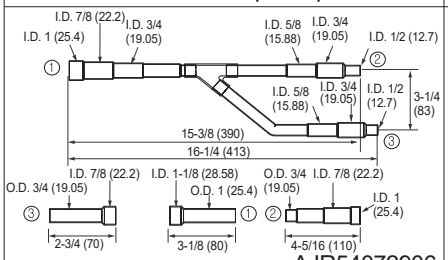
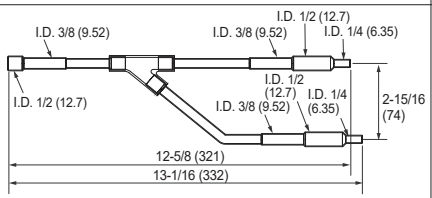
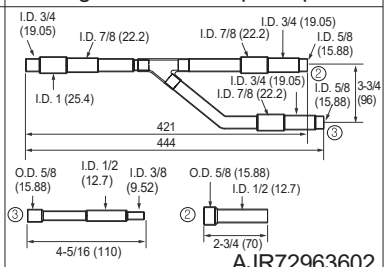
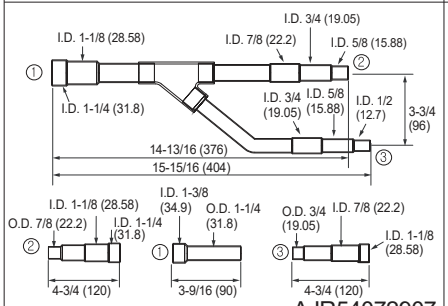
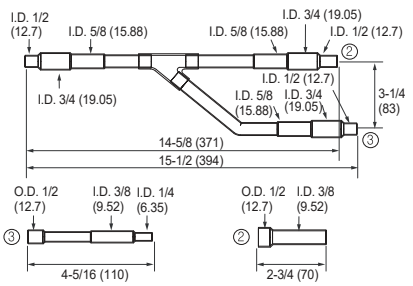
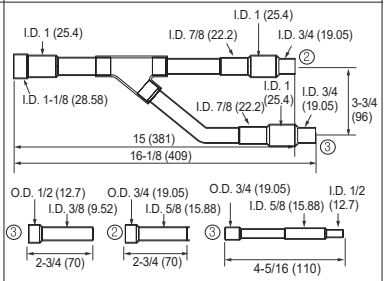
Indoor Unit Y-Branches for Heat Recovery Operation

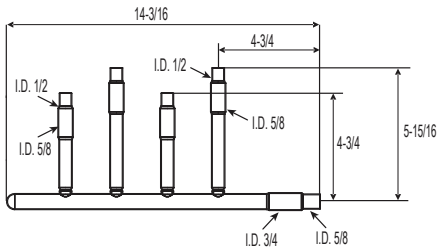
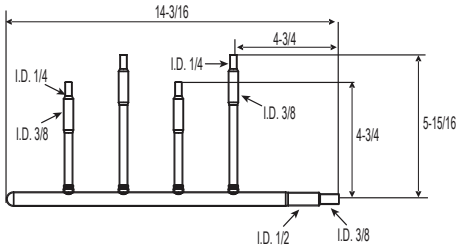
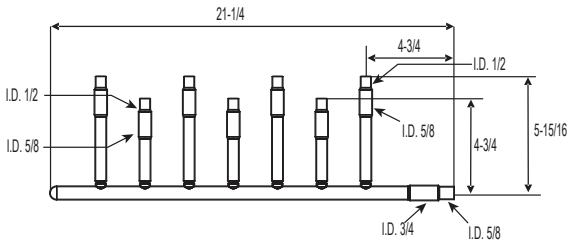
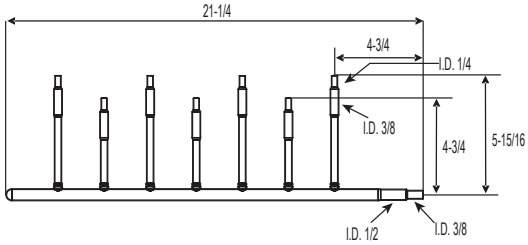
Unit: Inch (mm)

ARBLB01621		Liquid Pipe	High-Pressure Vapor Pipe
	 AJR54072905	 AJR54072901	 AJR72963601
ARBLB03321	Low-Pressure Vapor Pipe	Liquid Pipe	High-Pressure Vapor Pipe
	 AJR54072906	 AJR54072902	 AJR72963602
ARBLB07121	Low-Pressure Vapor Pipe	Liquid Pipe	High-Pressure Vapor Pipe
	 AJR54072907	 AJR54072903	 AJR72963603

Product Data

Headers for Heat Pump and Heat Recovery Operation

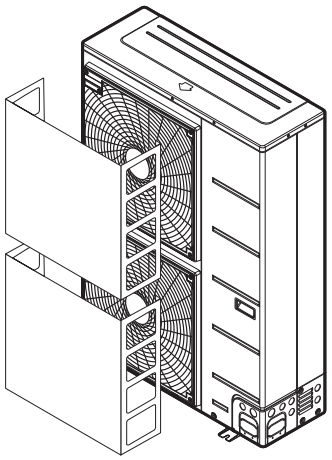
Unit: Inch

Models	Vapor pipe	Liquid pipe
4 branch ARBL054		
7 branch ARBL057		

Low Ambient Wind Baffle Kit

(ZLABGP04A)

Optional low ambient baffle kits allow for Multi V S LGRED outdoor units operation down to -9.9°F in cooling mode. When used with heat recovery operation, low ambient cooling to -9.9°F is possible only when all indoor units are operating in cooling mode. The low ambient wind baffle kit does not impact synchronous operating range.



Includes:

- 20 Gauge Paint Grip Wind Baffle in Soft Dove Grey
- Four (4) Zinc-Plated Pan-Head Phillips Screws, #8 x 1/2"

Use two (2) ZLABGP04A kits with the 3-ton ARUM036GSS5 and 4-ton ARUM048GSS5.

Contact an LG Sales Representative for more information.

LG Monitoring View (LGMV) Diagnostic Software and Cable

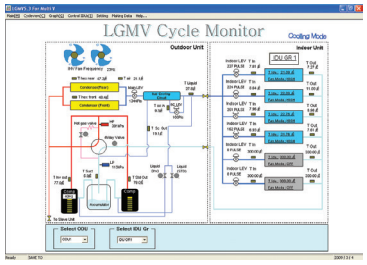
LGMV software allows the service technician or commissioning agent to connect a computer USB port to the outdoor unit main printed circuit board (PCB) using an accessory cable without the need for a separate interface device. The main screen for LGMV allows user to view the following real time data on one screen:

- Actual inverter compressor speed
- Target inverter compressor speed
- Actual outdoor fan speed
- Target outdoor unit fan speed
- Actual superheat
- Target superheat
- Actual subcooler circuit superheat
- Target subcooler circuit superheat
- Main EEV position
- Subcooling EEV position
- Inverter compressor current transducer value
- Outdoor air temperature
- Actual high pressure/saturation temperature
- Actual low pressure/saturation temperature
- Suction temperature
- Inverter compressor discharge temperature
- Constant speed compressor discharge temperature
- Front outdoor coil pipe temperature
- Back outdoor coil pipe temperature
- Liquid line pipe temperature
- Subcooler inlet temperature
- Subcooler outlet temperature
- Average indoor unit (IDU) pipe temperature
- Inverter compressor operation indicator light
- Four-way reversing valve operation indicator light
- Pressure graph showing actual low pressure and actual high pressure levels
- Error code display
- Operating mode indicator
- Target high pressure
- Target low pressure
- PCB (printed circuit board) version
- Software version
- Installer name
- Model no. of outdoor units
- Site name
- Total number of connected indoor units
- Communication indicator lights
- Indoor unit capacity
- Indoor unit operating mode
- Indoor unit fan speed
- Indoor unit EEV position
- Indoor unit room temperature
- Indoor unit inlet pipe temperature
- Indoor unit outlet pipe temperature
- Indoor unit error code

Additional screens can be accessed by tabs on the main screen:

1. Cycleview: Graphic of internal components including:
   - Compressors showing actual speeds
   - EEVs
   - Indoor Units
   - Liquid injection valves
   - Temperature and pressure sensors
   - Four-way reversing valve
   - Outdoor fans showing status and speeds

Figure 10: MV Cycleview.



2. Graph: Full screen graph of actual high and low pressures and high and low pressure limits. A sliding bar enables user to go back in time and view data.
3. Control IDU: Enables user to turn on all IDU's default setpoints of 86°F in heat mode or 64°F in cool mode.
4. Setting: Converts metric values to imperial values.
5. Making Data: Recording of real time data to a separate file created to be stored on the user's computer.
6. Loading Data: Recorded data from a saved ".CSV" file can be loaded to create an LGMV session.
7. Electrical Data: The lower half of main screen is changed to show the following:
   - Inverter compressor
     - Amps
     - Volts
     - Power Hz
     - Inverter control board fan Hz
   - Constant compressor
     - Current transducer value
     - Phase

In lieu of connecting to the outdoor unit, user has the option to connect to the indoor unit with the use of a USB to RS-485 connector kit. When connected through the indoor unit, user will not be able to record data.

This software can be used to both commission new systems and troubleshoot existing systems. LGMV data can be recorded to a ".CSV" file and emailed to an LG representative to assist with diagnostic evaluations.

LGMV is available in different formats, including Mobile LGMV, which is an app for use on wireless devices. Contact your LG Sales Representative for information about the different formats, and recommended system requirements for any version of LGMV.

PERFORMANCE DATA

COOLING CAPACITY DATA

MULTI V S WITH LGRED°

ARUM036GSS5

36,000 Btu/h 208-230V Outdoor Units

Combination (%)	Outdoor air temp. (°F DB)	Indoor Air Temp. °F DB/°F WB													
		68/57		73/61		79/64		80/67		85/70		88/73		91/76	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		MBh	kW	MBh	kW	MBh	kW	MBh	kW	MBh	kW	MBh	kW	MBh	kW
130%	-9.9	32.7	0.74	38.9	0.90	45.2	1.07	46.9	1.16	47.5	1.25	49.2	1.43	50.4	1.48
	-5	32.7	0.78	38.9	0.95	45.2	1.13	46.9	1.22	47.5	1.32	49.2	1.51	50.4	1.56
	0	32.7	0.82	38.9	0.99	45.2	1.18	46.9	1.27	47.5	1.37	49.2	1.57	50.4	1.62
	5	32.7	0.85	38.9	1.03	45.2	1.22	46.9	1.32	47.5	1.42	49.2	1.63	50.4	1.68
	10	32.7	0.87	38.9	1.06	45.2	1.25	46.9	1.35	47.5	1.46	49.2	1.67	50.4	1.73
	14	32.7	0.90	38.9	1.09	45.2	1.30	46.9	1.40	47.5	1.51	49.2	1.73	50.4	1.79
	20	32.7	0.92	38.9	1.11	45.2	1.32	46.9	1.42	47.5	1.53	49.2	1.76	50.4	1.82
	25	32.7	0.93	38.9	1.13	45.2	1.33	46.9	1.44	47.5	1.55	49.2	1.78	50.4	1.84
	30	32.7	0.94	38.9	1.14	45.2	1.35	46.9	1.46	47.5	1.57	49.2	1.80	50.4	1.86
	35	32.7	0.95	38.9	1.16	45.2	1.37	46.9	1.48	47.5	1.59	49.2	1.82	50.4	1.88
	40	32.7	0.97	38.9	1.17	45.2	1.38	46.9	1.49	47.5	1.61	49.2	1.84	50.4	1.91
	45	32.7	0.98	38.9	1.18	45.2	1.40	46.9	1.51	47.5	1.62	49.2	1.86	50.4	1.92
	50	32.7	0.99	38.9	1.19	45.2	1.41	46.9	1.52	47.5	1.64	49.2	1.88	50.4	1.94
	55	32.7	1.00	38.9	1.21	45.2	1.44	46.2	1.56	46.9	1.67	48.5	1.91	49.7	1.96
	60	32.7	1.03	38.9	1.26	44.5	1.50	45.2	1.62	45.7	1.74	47.3	1.97	48.5	1.98
	65	32.7	1.06	38.9	1.29	43.9	1.52	44.5	1.65	45.0	1.77	46.7	2.04	47.8	2.05
	70	32.7	1.02	38.9	1.24	43.0	1.52	43.5	1.67	44.2	1.84	45.8	2.04	47.0	2.06
	75	32.7	1.04	38.9	1.32	42.4	1.63	42.9	1.79	43.5	1.97	45.1	2.13	46.3	2.15
	80	32.7	1.18	38.9	1.50	41.2	1.86	41.7	2.05	42.4	2.26	44.0	2.32	45.1	2.34
	85	32.7	1.26	38.9	1.60	40.5	1.99	41.2	2.19	41.7	2.39	43.3	2.41	44.5	2.43
	90	32.7	1.43	38.2	1.82	39.4	2.26	39.9	2.50	40.5	2.58	42.1	2.60	43.3	2.63
	95	33.1	1.51	38.0	1.94	39.1	2.41	39.8	2.66	40.3	2.67	41.9	2.70	43.1	2.72
	100	33.1	1.64	37.3	2.09	38.5	2.61	39.1	2.80	39.6	2.82	41.4	2.84	42.6	2.87
	105	33.1	1.85	36.3	2.37	37.4	2.95	38.0	3.01	38.6	3.03	39.9	3.06	40.5	3.09
	110	33.1	2.08	34.8	2.67	36.2	3.21	36.3	3.23	36.9	3.24	37.7	3.27	37.8	3.30
	115	32.9	2.40	33.5	3.07	33.5	3.39	33.5	3.39	33.5	3.39	34.0	3.39	34.2	3.40
	118	28.6	2.03	29.1	2.60	29.2	2.85	29.2	2.87	29.2	2.87	29.6	2.88	29.5	2.88
	122	22.9	1.54	23.4	1.98	23.3	2.17	23.3	2.17	23.4	2.18	23.8	2.18	23.7	2.19
120%	-9.9	29.8	0.70	35.6	0.85	41.3	1.01	44.3	1.08	46.2	1.17	48.3	1.34	49.4	1.39
	-5	29.8	0.74	35.6	0.90	41.3	1.06	44.3	1.14	46.2	1.23	48.3	1.42	49.4	1.46
	0	29.8	0.77	35.6	0.93	41.3	1.10	44.3	1.19	46.2	1.28	48.3	1.47	49.4	1.52
	5	29.8	0.80	35.6	0.97	41.3	1.14	44.3	1.23	46.2	1.33	48.3	1.53	49.4	1.58
	10	29.8	0.82	35.6	0.99	41.3	1.18	44.3	1.27	46.2	1.37	48.3	1.57	49.4	1.62
	14	29.8	0.85	35.6	1.03	41.3	1.22	44.3	1.32	46.2	1.42	48.3	1.63	49.4	1.68
	20	29.8	0.86	35.6	1.05	41.3	1.24	44.3	1.34	46.2	1.44	48.3	1.65	49.4	1.71
	25	29.8	0.87	35.6	1.06	41.3	1.25	44.3	1.35	46.2	1.46	48.3	1.67	49.4	1.73
	30	29.8	0.89	35.6	1.07	41.3	1.27	44.3	1.37	46.2	1.47	48.3	1.69	49.4	1.75
	35	29.8	0.90	35.6	1.08	41.3	1.28	44.3	1.39	46.2	1.49	48.3	1.71	49.4	1.77
	40	29.8	0.91	35.6	1.10	41.3	1.30	44.3	1.40	46.2	1.51	48.3	1.73	49.4	1.79
	45	29.8	0.92	35.6	1.11	41.3	1.31	44.3	1.42	46.2	1.53	48.3	1.75	49.4	1.81
	50	29.8	0.93	35.6	1.12	41.3	1.33	44.3	1.44	46.2	1.54	48.3	1.77	49.4	1.83
	55	29.8	0.94	35.6	1.14	41.3	1.35	44.3	1.47	45.8	1.57	47.7	1.80	48.9	1.84
	60	29.8	0.97	35.6	1.18	41.3	1.41	43.9	1.52	44.4	1.64	46.5	1.86	47.5	1.89
	65	29.8	0.99	35.6	1.21	41.3	1.44	43.3	1.55	43.9	1.67	45.8	1.92	47.0	1.93
	70	29.8	0.98	35.6	1.19	41.3	1.46	42.5	1.61	43.0	1.76	45.0	1.96	46.0	1.98
	75	29.8	1.00	35.6	1.26	41.3	1.56	41.8	1.72	42.5	1.89	44.3	2.05	45.5	2.06
	80	29.8	1.14	35.6	1.44	40.2	1.79	40.7	1.97	41.1	2.17	43.1	2.23	44.2	2.24
	85	29.8	1.21	35.6	1.54	39.5	1.91	40.0	2.10	40.7	2.30	42.5	2.32	43.6	2.34
	90	29.8	1.37	35.6	1.75	38.3	2.17	38.8	2.40	39.3	2.48	41.3	2.50	42.3	2.52
	95	30.1	1.45	35.9	1.86	38.1	2.31	38.6	2.56	39.3	2.57	41.1	2.59	42.2	2.62
	100	30.1	1.57	35.9	2.01	37.4	2.51	38.1	2.69	38.6	2.71	40.5	2.73	41.6	2.76
	105	30.1	1.77	35.4	2.28	36.4	2.83	37.0	2.89	37.5	2.91	39.4	2.93	40.0	2.96
	110	30.1	1.99	34.5	2.56	35.6	3.08	35.7	3.10	36.2	3.11	37.3	3.14	37.5	3.17
	115	29.3	2.31	33.2	2.95	33.2	3.25	33.2	3.25	33.2	3.25	34.0	3.26	34.2	3.26
	118	26.1	2.03	28.9	2.50	28.9	2.73	28.9	2.76	28.9	2.76	29.6	2.76	29.5	2.77
	122	20.9	1.54	23.1	1.90	23.0	2.08	23.1	2.09	23.1	2.09	23.8	2.10	23.7	2.10

TC = Total Capacity (MBh). PI = Power Input (kW) (includes compressor and outdoor fan).

Cooling range with the Low Ambient Baffle Kit (sold separately) is -9.9°F to +122°F.
The System Combination Ratio must be between 50–130%.

Nominal capacity as rated: 0 ft. above sea level with 25 ft. of refrigerant piping.
0 ft. level difference between outdoor and indoor units.
Nominal cooling capacity rating obtained with air entering the indoor unit at 80ºF dry bulb (DB) and 67ºF wet bulb (WB), and outdoor ambient conditions of 95ºF dry bulb (DB) and 75ºF wet bulb (WB).

COOLING CAPACITY DATA

ARUM036GSS5

36,000 Btu/h 208-230V Outdoor Units

Combination (%)	Outdoor air temp. (°F DB)	Indoor Air Temp. °F DB/°F WB													
		68/57		73/61		79/64		80/67		85/70		88/73		91/76	
		TC MBh	PI kW	TC MBh	PI kW	TC MBh	PI kW	TC MBh	PI kW	TC MBh	PI kW	TC MBh	PI kW	TC MBh	PI kW
110%	-9.9	27.6	0.65	32.9	0.78	38.3	0.92	40.9	1.00	43.6	1.07	48.0	1.22	49.0	1.27
	-5	27.6	0.68	32.9	0.82	38.3	0.97	40.9	1.06	43.6	1.13	48.0	1.29	49.0	1.34
	0	27.6	0.71	32.9	0.85	38.3	1.01	40.9	1.10	43.6	1.18	48.0	1.34	49.0	1.39
	5	27.6	0.73	32.9	0.89	38.3	1.05	40.9	1.14	43.6	1.22	48.0	1.39	49.0	1.44
	10	27.6	0.76	32.9	0.91	38.3	1.08	40.9	1.17	43.6	1.25	48.0	1.43	49.0	1.48
	14	27.6	0.78	32.9	0.94	38.3	1.12	40.9	1.21	43.6	1.30	48.0	1.48	49.0	1.54
	20	27.6	0.79	32.9	0.96	38.3	1.14	40.9	1.23	43.6	1.32	48.0	1.51	49.0	1.56
	25	27.6	0.80	32.9	0.97	38.3	1.15	40.9	1.24	43.6	1.34	48.0	1.53	49.0	1.58
	30	27.6	0.81	32.9	0.98	38.3	1.16	40.9	1.26	43.6	1.35	48.0	1.55	49.0	1.60
	35	27.6	0.83	32.9	1.00	38.3	1.18	40.9	1.28	43.6	1.37	48.0	1.57	49.0	1.63
	40	27.6	0.84	32.9	1.01	38.3	1.20	40.9	1.29	43.6	1.39	48.0	1.59	49.0	1.65
	45	27.6	0.85	32.9	1.03	38.3	1.22	40.9	1.32	43.6	1.41	48.0	1.62	49.0	1.68
	50	27.6	0.86	32.9	1.05	38.3	1.24	40.9	1.34	43.6	1.44	48.0	1.65	49.0	1.70
	55	27.6	0.88	32.9	1.06	38.3	1.26	40.9	1.37	43.6	1.47	47.3	1.68	48.3	1.72
	60	27.6	0.91	32.9	1.10	38.3	1.31	40.9	1.42	43.6	1.52	46.1	1.73	47.2	1.74
	65	27.6	0.93	32.9	1.13	38.3	1.34	40.9	1.45	43.6	1.55	45.5	1.79	46.5	1.80
	70	27.6	0.94	32.9	1.14	38.3	1.40	40.9	1.54	42.7	1.69	44.6	1.88	45.6	1.90
	75	27.6	0.96	32.9	1.21	38.3	1.50	40.9	1.65	42.1	1.81	43.9	1.97	45.0	1.98
	80	27.3	1.09	32.6	1.38	37.9	1.71	40.0	1.89	40.5	2.08	42.3	2.13	43.3	2.15
	85	27.3	1.16	32.6	1.47	37.9	1.83	39.3	2.02	39.8	2.20	41.6	2.22	42.7	2.24
	90	27.3	1.31	32.6	1.68	37.7	2.08	38.2	2.30	38.7	2.38	40.5	2.40	41.5	2.42
	95	27.3	1.39	32.6	1.78	37.0	2.22	37.5	2.45	38.0	2.46	39.8	2.48	40.8	2.51
	100	27.3	1.51	32.6	1.93	36.5	2.40	37.0	2.58	37.5	2.59	39.3	2.62	40.3	2.64
	105	27.3	1.70	32.6	2.18	35.4	2.71	35.9	2.78	36.4	2.79	38.1	2.81	39.1	2.84
	110	27.3	1.91	32.6	2.46	34.3	2.96	34.4	2.97	34.9	2.98	36.0	3.01	36.1	3.04
	115	27.3	2.21	32.6	2.83	32.9	3.12	32.9	3.12	33.0	3.12	33.7	3.12	33.8	3.13
	118	26.4	2.01	28.3	2.40	28.6	2.62	28.6	2.65	28.7	2.65	29.3	2.65	29.2	2.66
	122	21.1	1.53	22.7	1.82	22.8	2.00	22.9	2.00	23.0	2.00	23.5	2.01	23.5	2.02
100%	-9.9	24.3	0.57	28.9	0.69	33.6	0.81	36.0	0.88	39.6	0.96	44.4	1.10	46.8	1.15
	-5	24.3	0.60	28.9	0.72	33.6	0.86	36.0	0.93	39.6	1.01	44.4	1.17	46.8	1.21
	0	24.3	0.62	28.9	0.75	33.6	0.89	36.0	0.97	39.6	1.05	44.4	1.21	46.8	1.26
	5	24.3	0.65	28.9	0.78	33.6	0.92	36.0	1.01	39.6	1.09	44.4	1.26	46.8	1.31
	10	24.3	0.66	28.9	0.80	33.6	0.95	36.0	1.04	39.6	1.12	44.4	1.29	46.8	1.35
	14	24.3	0.69	28.9	0.83	33.6	0.98	36.0	1.07	39.6	1.16	44.4	1.34	46.8	1.40
	20	24.3	0.71	28.9	0.86	33.6	1.02	36.0	1.10	39.6	1.20	44.4	1.38	46.8	1.43
	25	24.3	0.73	28.9	0.88	33.6	1.04	36.0	1.13	39.6	1.23	44.4	1.41	46.8	1.47
	30	24.3	0.75	28.9	0.90	33.6	1.07	36.0	1.15	39.6	1.26	44.4	1.44	46.8	1.50
	35	24.3	0.76	28.9	0.92	33.6	1.08	36.0	1.17	39.6	1.28	44.4	1.47	46.8	1.53
	40	24.3	0.77	28.9	0.93	33.6	1.10	36.0	1.19	39.6	1.30	44.4	1.49	46.8	1.55
	45	24.3	0.79	28.9	0.95	33.6	1.12	36.0	1.22	39.6	1.33	44.4	1.52	46.8	1.58
	50	24.3	0.80	28.9	0.97	33.6	1.15	36.0	1.24	39.6	1.35	44.4	1.55	46.8	1.61
	55	24.3	0.82	28.9	0.99	33.6	1.17	36.0	1.27	39.6	1.38	44.4	1.58	46.4	1.64
	60	24.3	0.84	28.9	1.02	33.6	1.22	36.0	1.32	39.6	1.44	44.2	1.63	45.0	1.67
	65	24.3	0.86	28.9	1.05	33.6	1.24	36.0	1.34	39.6	1.46	43.5	1.68	44.5	1.72
	70	24.3	0.89	28.9	1.08	33.6	1.33	36.0	1.46	39.6	1.62	42.7	1.80	43.5	1.84
	75	24.3	0.91	28.9	1.15	33.6	1.42	36.0	1.56	39.6	1.74	42.0	1.89	43.0	1.91
	80	24.3	1.03	28.9	1.31	33.6	1.62	36.0	1.79	39.6	2.00	40.9	2.05	41.7	2.08
	85	24.3	1.10	28.9	1.40	33.6	1.73	36.0	1.91	39.4	2.12	40.2	2.14	41.2	2.17
	90	24.3	1.25	28.9	1.59	33.6	1.97	36.0	2.18	38.1	2.29	39.1	2.30	39.9	2.34
	95	24.3	1.32	28.9	1.69	33.6	2.10	**36.0**	**2.32**	37.6	2.37	38.4	2.39	39.4	2.42
	100	24.3	1.43	28.9	1.82	33.6	2.27	35.4	2.44	36.9	2.49	37.9	2.51	38.8	2.55
	105	24.3	1.60	28.9	2.05	33.4	2.56	34.4	2.61	35.8	2.67	36.8	2.69	37.7	2.73
	110	24.3	1.79	28.9	2.31	33.0	2.77	33.8	2.79	34.5	2.84	35.0	2.87	35.6	2.91
	115	24.3	2.06	28.9	2.63	31.4	2.90	32.4	2.90	33.2	2.95	33.5	2.95	33.7	2.97
	118	24.3	2.08	25.4	2.47	27.4	2.44	28.2	2.46	28.9	2.50	29.2	2.51	29.1	2.52
	122	20.8	1.88	20.4	1.88	21.8	1.86	22.5	1.86	23.2	1.89	23.4	1.90	23.4	1.92

TC = Total Capacity (MBh). PI = Power Input (kW) (includes compressor and outdoor fan).

Cooling range with the Low Ambient Baffle Kit (sold separately) is -9.9°F to +122°F.
The System Combination Ratio must be between 50–130%.

Nominal capacity as rated: 0 ft. above sea level with 25 ft. of refrigerant piping.
0 ft. level difference between outdoor and indoor units.
Nominal cooling capacity rating obtained with air entering the indoor unit at 80ºF dry bulb (DB) and 67ºF wet bulb (WB), and outdoor ambient conditions of 95ºF dry bulb (DB) and 75ºF wet bulb (WB).

COOLING CAPACITY DATA

MULTI V S WITH LGRED°

ARUM036GSS5

36,000 Btu/h 208-230V Outdoor Units

Combination (%)	Outdoor air temp. (°F DB)	Indoor Air Temp. °F DB/°F WB													
		68/57		73/61		79/64		80/67		85/70		88/73		91/76	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		MBh	kW	MBh	kW	MBh	kW	MBh	kW	MBh	kW	MBh	kW	MBh	kW
90%	-9.9	21.9	0.51	26.0	0.61	30.4	0.72	32.5	0.77	34.6	0.82	38.7	0.95	42.9	1.04
	-5	21.9	0.53	26.0	0.64	30.4	0.76	32.5	0.81	34.6	0.87	38.7	1.00	42.9	1.10
	0	21.9	0.56	26.0	0.67	30.4	0.79	32.5	0.85	34.6	0.90	38.7	1.04	42.9	1.14
	5	21.9	0.58	26.0	0.69	30.4	0.82	32.5	0.88	34.6	0.94	38.7	1.08	42.9	1.19
	10	21.9	0.59	26.0	0.71	30.4	0.84	32.5	0.90	34.6	0.96	38.7	1.11	42.9	1.22
	14	21.9	0.61	26.0	0.74	30.4	0.87	32.5	0.94	34.6	1.00	38.7	1.15	42.9	1.26
	20	21.9	0.64	26.0	0.76	30.4	0.90	32.5	0.97	34.6	1.04	38.7	1.19	42.9	1.31
	25	21.9	0.66	26.0	0.79	30.4	0.93	32.5	1.00	34.6	1.08	38.7	1.23	42.9	1.35
	30	21.9	0.67	26.0	0.81	30.4	0.96	32.5	1.03	34.6	1.11	38.7	1.26	42.9	1.39
	35	21.9	0.69	26.0	0.84	30.4	0.98	32.5	1.06	34.6	1.14	38.7	1.30	42.9	1.44
	40	21.9	0.71	26.0	0.86	30.4	1.01	32.5	1.09	34.6	1.18	38.7	1.34	42.9	1.48
	45	21.9	0.73	26.0	0.88	30.4	1.04	32.5	1.12	34.6	1.21	38.7	1.37	42.9	1.51
	50	21.9	0.75	26.0	0.90	30.4	1.06	32.5	1.14	34.6	1.23	38.7	1.40	42.9	1.55
	55	21.9	0.76	26.0	0.91	30.4	1.08	32.5	1.17	34.6	1.26	38.7	1.43	42.9	1.56
	60	21.9	0.78	26.0	0.95	30.4	1.12	32.5	1.21	34.6	1.31	38.7	1.48	42.6	1.58
	65	21.9	0.80	26.0	0.97	30.4	1.14	32.5	1.24	34.6	1.33	38.7	1.51	42.3	1.66
	70	21.9	0.82	26.0	1.00	30.4	1.19	32.5	1.31	34.6	1.43	38.7	1.68	41.5	1.78
	75	21.9	0.84	26.0	1.04	30.4	1.27	32.5	1.40	34.6	1.53	38.7	1.76	40.8	1.86
	80	21.9	0.94	26.0	1.18	30.4	1.45	32.5	1.60	34.6	1.75	38.7	1.94	39.7	2.02
	85	21.9	1.00	26.0	1.26	30.4	1.55	32.5	1.70	34.6	1.87	38.3	2.04	39.1	2.10
	90	21.9	1.13	26.0	1.43	30.4	1.76	32.5	1.94	34.6	2.13	37.1	2.24	37.9	2.27
	95	21.9	1.20	26.0	1.51	30.4	1.87	32.5	2.07	34.6	2.27	36.5	2.32	37.3	2.35
	100	21.9	1.24	26.0	1.58	30.4	1.95	32.5	2.15	34.6	2.32	36.0	2.42	36.6	2.45
	105	21.9	1.44	26.0	1.83	30.4	2.21	32.5	2.35	34.2	2.49	34.9	2.60	35.4	2.63
	110	21.9	1.65	26.0	2.11	30.4	2.42	32.5	2.54	32.8	2.70	33.2	2.79	33.5	2.82
	115	21.9	1.79	26.0	2.29	28.4	2.55	30.8	2.66	31.2	2.78	31.5	2.84	31.6	2.88
	118	21.9	1.90	25.4	2.47	24.8	2.14	26.8	2.26	27.2	2.36	27.4	2.41	27.3	2.44
	122	20.8	1.88	20.4	1.88	19.7	1.63	21.4	1.71	21.8	1.79	22.0	1.83	22.0	1.86
80%	-9.9	19.4	0.44	23.1	0.53	27.0	0.61	28.8	0.67	30.7	0.72	34.4	0.82	38.1	0.91
	-5	19.4	0.46	23.1	0.56	27.0	0.65	28.8	0.70	30.7	0.76	34.4	0.87	38.1	0.96
	0	19.4	0.48	23.1	0.58	27.0	0.67	28.8	0.73	30.7	0.79	34.4	0.90	38.1	1.00
	5	19.4	0.50	23.1	0.60	27.0	0.70	28.8	0.76	30.7	0.82	34.4	0.93	38.1	1.04
	10	19.4	0.51	23.1	0.62	27.0	0.72	28.8	0.78	30.7	0.84	34.4	0.96	38.1	1.07
	14	19.4	0.53	23.1	0.64	27.0	0.74	28.8	0.81	30.7	0.87	34.4	1.00	38.1	1.11
	20	19.4	0.55	23.1	0.66	27.0	0.77	28.8	0.84	30.7	0.90	34.4	1.03	38.1	1.15
	25	19.4	0.57	23.1	0.68	27.0	0.80	28.8	0.86	30.7	0.93	34.4	1.06	38.1	1.19
	30	19.4	0.59	23.1	0.70	27.0	0.82	28.8	0.89	30.7	0.95	34.4	1.09	38.1	1.22
	35	19.4	0.60	23.1	0.72	27.0	0.85	28.8	0.91	30.7	0.98	34.4	1.12	38.1	1.26
	40	19.4	0.62	23.1	0.74	27.0	0.87	28.8	0.94	30.7	1.00	34.4	1.15	38.1	1.29
	45	19.4	0.63	23.1	0.75	27.0	0.88	28.8	0.95	30.7	1.02	34.4	1.17	38.1	1.31
	50	19.4	0.64	23.1	0.76	27.0	0.89	28.8	0.96	30.7	1.03	34.4	1.18	38.1	1.33
	55	19.4	0.65	23.1	0.77	27.0	0.91	28.8	0.98	30.7	1.05	34.4	1.21	38.1	1.35
	60	19.4	0.67	23.1	0.80	27.0	0.94	28.8	1.02	30.7	1.09	34.4	1.25	38.1	1.40
	65	19.4	0.68	23.1	0.82	27.0	0.96	28.8	1.04	30.7	1.12	34.4	1.27	38.1	1.44
	70	19.4	0.70	23.1	0.84	27.0	0.99	28.8	1.07	30.7	1.16	34.4	1.37	38.1	1.59
	75	19.4	0.71	23.1	0.85	27.0	1.04	28.8	1.14	30.7	1.24	34.4	1.46	38.1	1.67
	80	19.4	0.78	23.1	0.97	27.0	1.18	28.8	1.29	30.7	1.41	34.4	1.68	38.1	1.87
	85	19.4	0.83	23.1	1.03	27.0	1.26	28.8	1.38	30.7	1.51	34.4	1.79	38.1	1.92
	90	19.4	0.93	23.1	1.17	27.0	1.43	28.8	1.57	30.7	1.72	34.4	1.96	37.5	2.03
	95	19.4	0.99	23.1	1.24	27.0	1.52	28.8	1.66	30.7	1.83	34.4	2.03	36.7	2.09
	100	19.4	1.07	23.1	1.34	27.0	1.64	28.8	1.78	30.7	1.90	34.4	2.12	35.8	2.16
	105	19.4	1.22	23.1	1.53	27.0	1.83	28.8	1.91	30.7	2.04	34.0	2.20	34.8	2.26
	110	19.4	1.38	23.1	1.74	27.0	1.94	28.8	2.04	30.7	2.20	32.8	2.28	32.9	2.38
	115	19.4	1.48	23.1	1.86	27.0	2.00	28.8	2.15	28.8	2.25	28.9	2.33	28.9	2.47
	118	19.4	1.57	23.1	1.98	24.8	2.14	25.3	2.04	25.0	1.91	25.2	1.98	25.0	2.10
	122	19.4	1.70	20.4	1.87	19.7	1.63	20.2	1.54	20.1	1.44	20.2	1.50	20.1	1.59

TC = Total Capacity (MBh). PI = Power Input (kW) (includes compressor and outdoor fan).

Cooling range with the Low Ambient Baffle Kit (sold separately) is -9.9°F to +122°F.

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

Nominal capacity as rated: 0 ft. above sea level with 25 ft. of refrigerant piping. 0 ft. level difference between outdoor and indoor units.

Nominal cooling capacity rating obtained with air entering the indoor unit at 80ºF dry bulb (DB) and 67ºF wet bulb (WB), and outdoor ambient conditions of 95ºF dry bulb (DB) and 75ºF wet bulb (WB).

COOLING CAPACITY DATA

ARUM036GSS5

36,000 Btu/h 208-230V Outdoor Units

Combination (%)	Outdoor air temp. (°F DB)	Indoor Air Temp. °F DB/°F WB													
		68/57		73/61		79/64		80/67		85/70		88/73		91/76	
		TC MBh	PI kW	TC MBh	PI kW	TC MBh	PI kW	TC MBh	PI kW	TC MBh	PI kW	TC MBh	PI kW	TC MBh	PI kW
70%	-9.9	17.0	0.39	20.3	0.46	23.6	0.54	25.2	0.58	26.8	0.62	30.1	0.71	33.4	0.79
	-5	17.0	0.41	20.3	0.49	23.6	0.57	25.2	0.61	26.8	0.65	30.1	0.75	33.4	0.84
	0	17.0	0.43	20.3	0.51	23.6	0.59	25.2	0.64	26.8	0.68	30.1	0.78	33.4	0.87
	5	17.0	0.44	20.3	0.52	23.6	0.62	25.2	0.66	26.8	0.70	30.1	0.81	33.4	0.90
	10	17.0	0.45	20.3	0.54	23.6	0.63	25.2	0.68	26.8	0.72	30.1	0.83	33.4	0.93
	14	17.0	0.47	20.3	0.56	23.6	0.66	25.2	0.70	26.8	0.75	30.1	0.86	33.4	0.96
	20	17.0	0.49	20.3	0.58	23.6	0.68	25.2	0.73	26.8	0.78	30.1	0.89	33.4	0.99
	25	17.0	0.50	20.3	0.59	23.6	0.69	25.2	0.75	26.8	0.80	30.1	0.91	33.4	1.02
	30	17.0	0.51	20.3	0.61	23.6	0.71	25.2	0.76	26.8	0.82	30.1	0.93	33.4	1.05
	35	17.0	0.53	20.3	0.62	23.6	0.73	25.2	0.79	26.8	0.84	30.1	0.95	33.4	1.08
	40	17.0	0.54	20.3	0.64	23.6	0.75	25.2	0.81	26.8	0.86	30.1	0.98	33.4	1.10
	45	17.0	0.55	20.3	0.65	23.6	0.76	25.2	0.82	26.8	0.88	30.1	1.00	33.4	1.12
	50	17.0	0.56	20.3	0.66	23.6	0.77	25.2	0.83	26.8	0.89	30.1	1.01	33.4	1.14
	55	17.0	0.57	20.3	0.67	23.6	0.79	25.2	0.85	26.8	0.91	30.1	1.03	33.4	1.16
	60	17.0	0.58	20.3	0.70	23.6	0.82	25.2	0.88	26.8	0.94	30.1	1.07	33.4	1.21
	65	17.0	0.59	20.3	0.71	23.6	0.83	25.2	0.89	26.8	0.96	30.1	1.09	33.4	1.23
	70	17.0	0.61	20.3	0.73	23.6	0.85	25.2	0.92	26.8	0.99	30.1	1.13	33.4	1.30
	75	17.0	0.62	20.3	0.74	23.6	0.87	25.2	0.95	26.8	1.03	30.1	1.21	33.4	1.38
	80	17.0	0.67	20.3	0.82	23.6	0.99	25.2	1.08	26.8	1.17	30.1	1.33	33.4	1.53
	85	17.0	0.71	20.3	0.87	23.6	1.06	25.2	1.15	26.8	1.26	30.1	1.42	33.4	1.60
	90	17.0	0.80	20.3	0.98	23.6	1.19	25.2	1.30	26.8	1.43	30.1	1.58	33.4	1.73
	95	17.0	0.84	20.3	1.05	23.6	1.27	25.2	1.39	26.8	1.51	30.1	1.67	33.4	1.78
	100	17.0	0.91	20.3	1.13	23.6	1.37	25.2	1.50	26.8	1.56	30.1	1.74	33.4	1.83
	105	17.0	1.03	20.3	1.29	23.6	1.51	25.2	1.60	26.8	1.69	30.1	1.84	33.4	1.94
	110	17.0	1.16	20.3	1.46	23.6	1.60	25.2	1.70	26.8	1.84	30.1	1.91	32.5	2.09
	115	17.0	1.25	20.3	1.56	23.6	1.66	25.2	1.79	26.8	1.89	30.1	1.97	30.6	2.22
	118	17.0	1.33	20.3	1.65	23.6	1.76	25.2	1.90	24.4	1.89	25.2	1.67	25.0	1.89
	122	17.0	1.43	20.3	1.79	21.1	1.68	20.2	1.56	19.6	1.43	20.2	1.27	20.1	1.43
60%	-9.9	14.6	0.34	17.4	0.39	20.3	0.46	21.5	0.49	23.0	0.53	25.9	0.60	28.6	0.67
	-5	14.6	0.35	17.4	0.41	20.3	0.48	21.5	0.52	23.0	0.56	25.9	0.63	28.6	0.70
	0	14.6	0.37	17.4	0.43	20.3	0.50	21.5	0.54	23.0	0.58	25.9	0.65	28.6	0.73
	5	14.6	0.38	17.4	0.44	20.3	0.52	21.5	0.56	23.0	0.60	25.9	0.68	28.6	0.76
	10	14.6	0.39	17.4	0.46	20.3	0.54	21.5	0.57	23.0	0.62	25.9	0.70	28.6	0.78
	14	14.6	0.41	17.4	0.47	20.3	0.55	21.5	0.59	23.0	0.64	25.9	0.72	28.6	0.81
	20	14.6	0.42	17.4	0.49	20.3	0.57	21.5	0.61	23.0	0.66	25.9	0.75	28.6	0.84
	25	14.6	0.43	17.4	0.50	20.3	0.59	21.5	0.63	23.0	0.68	25.9	0.77	28.6	0.86
	30	14.6	0.44	17.4	0.52	20.3	0.60	21.5	0.65	23.0	0.69	25.9	0.79	28.6	0.88
	35	14.6	0.45	17.4	0.53	20.3	0.62	21.5	0.66	23.0	0.71	25.9	0.81	28.6	0.91
	40	14.6	0.46	17.4	0.55	20.3	0.63	21.5	0.68	23.0	0.73	25.9	0.83	28.6	0.93
	45	14.6	0.47	17.4	0.55	20.3	0.64	21.5	0.69	23.0	0.74	25.9	0.83	28.6	0.94
	50	14.6	0.47	17.4	0.55	20.3	0.65	21.5	0.69	23.0	0.74	25.9	0.84	28.6	0.95
	55	14.6	0.48	17.4	0.56	20.3	0.66	21.5	0.71	23.0	0.75	25.9	0.86	28.6	0.96
	60	14.6	0.49	17.4	0.58	20.3	0.68	21.5	0.73	23.0	0.78	25.9	0.89	28.6	1.00
	65	14.6	0.50	17.4	0.59	20.3	0.69	21.5	0.75	23.0	0.80	25.9	0.91	28.6	1.02
	70	14.6	0.51	17.4	0.61	20.3	0.71	21.5	0.76	23.0	0.82	25.9	0.93	28.6	1.06
	75	14.6	0.52	17.4	0.62	20.3	0.73	21.5	0.78	23.0	0.85	25.9	0.99	28.6	1.13
	80	14.6	0.55	17.4	0.68	20.3	0.81	21.5	0.89	23.0	0.96	25.9	1.11	28.6	1.27
	85	14.6	0.59	17.4	0.72	20.3	0.86	21.5	0.95	23.0	1.03	25.9	1.16	28.6	1.31
	90	14.6	0.66	17.4	0.81	20.3	0.98	21.5	1.07	23.0	1.16	25.9	1.30	28.6	1.43
	95	14.6	0.70	17.4	0.86	20.3	1.04	21.5	1.14	23.0	1.22	25.9	1.36	28.6	1.51
	100	14.6	0.75	17.4	0.93	20.3	1.12	21.5	1.23	23.0	1.28	25.9	1.44	28.6	1.57
	105	14.6	0.85	17.4	1.05	20.3	1.24	21.5	1.31	23.0	1.39	25.9	1.53	28.6	1.72
	110	14.6	0.96	17.4	1.20	20.3	1.33	21.5	1.39	23.0	1.50	25.9	1.64	28.6	1.87
	115	14.6	1.03	17.4	1.28	20.3	1.39	21.5	1.47	23.0	1.56	25.9	1.73	28.6	2.00
	118	14.6	1.09	17.4	1.35	20.3	1.47	21.5	1.56	23.0	1.66	25.2	1.67	25.0	1.89
	122	14.6	1.17	17.4	1.47	20.3	1.59	20.1	1.58	19.5	1.47	20.2	1.27	20.1	1.43

TC = Total Capacity (MBh). PI = Power Input (kW) (includes compressor and outdoor fan).

Cooling range with the Low Ambient Baffle Kit (sold separately) is -9.9°F to +122°F.

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

Nominal capacity as rated: 0 ft. above sea level with 25 ft. of refrigerant piping. 0 ft. level difference between outdoor and indoor units.

Nominal cooling capacity rating obtained with air entering the indoor unit at 80ºF dry bulb (DB) and 67ºF wet bulb (WB), and outdoor ambient conditions of 95ºF dry bulb (DB) and 75ºF wet bulb (WB).

COOLING CAPACITY DATA

ARUM036GSS5

36,000 Btu/h 208-230V Outdoor Units

MULTI V S WITH LGRED°

Combination (%)	Outdoor air temp. (°F DB)	Indoor Air Temp. °F DB/°F WB													
		68/57		73/61		79/64		80/67		85/70		88/73		91/76	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		MBh	kW	MBh	kW	MBh	kW	MBh	kW	MBh	kW	MBh	kW	MBh	kW
50%	-9.9	12.2	0.29	14.5	0.34	16.9	0.38	18.0	0.41	19.1	0.44	21.5	0.49	23.8	0.54
	-5	12.2	0.30	14.5	0.36	16.9	0.40	18.0	0.43	19.1	0.47	21.5	0.52	23.8	0.57
	0	12.2	0.32	14.5	0.37	16.9	0.42	18.0	0.45	19.1	0.48	21.5	0.54	23.8	0.60
	5	12.2	0.33	14.5	0.39	16.9	0.43	18.0	0.47	19.1	0.50	21.5	0.56	23.8	0.62
	10	12.2	0.34	14.5	0.40	16.9	0.44	18.0	0.48	19.1	0.52	21.5	0.57	23.8	0.63
	14	12.2	0.35	14.5	0.41	16.9	0.46	18.0	0.50	19.1	0.53	21.5	0.59	23.8	0.66
	20	12.2	0.36	14.5	0.42	16.9	0.48	18.0	0.51	19.1	0.55	21.5	0.62	23.8	0.68
	25	12.2	0.37	14.5	0.44	16.9	0.50	18.0	0.53	19.1	0.57	21.5	0.63	23.8	0.70
	30	12.2	0.38	14.5	0.45	16.9	0.51	18.0	0.54	19.1	0.58	21.5	0.65	23.8	0.72
	35	12.2	0.39	14.5	0.46	16.9	0.52	18.0	0.56	19.1	0.60	21.5	0.67	23.8	0.74
	40	12.2	0.41	14.5	0.47	16.9	0.54	18.0	0.57	19.1	0.61	21.5	0.69	23.8	0.76
	45	12.2	0.41	14.5	0.48	16.9	0.55	18.0	0.58	19.1	0.62	21.5	0.69	23.8	0.77
	50	12.2	0.42	14.5	0.48	16.9	0.55	18.0	0.59	19.1	0.63	21.5	0.70	23.8	0.78
	55	12.2	0.43	14.5	0.49	16.9	0.56	18.0	0.60	19.1	0.64	21.5	0.72	23.8	0.80
	60	12.2	0.43	14.5	0.51	16.9	0.58	18.0	0.62	19.1	0.66	21.5	0.74	23.8	0.83
	65	12.2	0.44	14.5	0.51	16.9	0.59	18.0	0.63	19.1	0.67	21.5	0.75	23.8	0.84
	70	12.2	0.45	14.5	0.52	16.9	0.60	18.0	0.65	19.1	0.69	21.5	0.78	23.8	0.87
	75	12.2	0.46	14.5	0.53	16.9	0.62	18.0	0.66	19.1	0.70	21.5	0.79	23.8	0.89
	80	12.2	0.47	14.5	0.56	16.9	0.66	18.0	0.71	19.1	0.77	21.5	0.88	23.8	1.01
	85	12.2	0.50	14.5	0.59	16.9	0.70	18.0	0.76	19.1	0.82	21.5	0.94	23.8	1.07
	90	12.2	0.56	14.5	0.66	16.9	0.79	18.0	0.85	19.1	0.92	21.5	1.06	23.8	1.21
	95	12.2	0.59	14.5	0.70	16.9	0.83	18.0	0.90	19.1	0.98	21.5	1.13	23.8	1.29
	100	12.2	0.62	14.5	0.74	16.9	0.88	18.0	0.96	19.1	1.03	21.5	1.20	23.8	1.37
	105	12.2	0.68	14.5	0.82	16.9	0.98	18.0	1.06	19.1	1.14	21.5	1.33	23.8	1.52
	110	12.2	0.75	14.5	0.91	16.9	1.08	18.0	1.17	19.1	1.27	21.5	1.48	23.8	1.70
	115	12.2	0.80	14.5	0.98	16.9	1.16	18.0	1.26	19.1	1.37	21.5	1.60	23.8	1.84
	118	12.2	0.87	14.5	1.06	16.9	1.26	18.0	1.37	19.1	1.49	21.5	1.67	23.8	1.89
	122	12.2	0.96	14.5	1.17	16.9	1.40	18.0	1.53	19.1	1.47	20.2	1.27	20.1	1.43

TC = Total Capacity (MBh). PI = Power Input (kW) (includes compressor and outdoor fan).

Cooling range with the Low Ambient Baffle Kit (sold separately) is -9.9°F to +122°F.

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

Nominal capacity as rated: 0 ft. above sea level with 25 ft. of refrigerant piping. 0 ft. level difference between outdoor and indoor units.

Nominal cooling capacity rating obtained with air entering the indoor unit at 80ºF dry bulb (DB) and 67ºF wet bulb (WB), and outdoor ambient conditions of 95ºF dry bulb (DB) and 75ºF wet bulb (WB).

COOLING CAPACITY DATA

ARUM048GSS5

48,000 Btu/h 208-230V Outdoor Units

Combination (%)	Outdoor air temp. (°F DB)	Indoor Air Temp. °F DB/°F WB													
		68/57		73/61		79/64		80/67		85/70		88/73		91/76	
		TC MBh	PI kW	TC MBh	PI kW	TC MBh	PI kW	TC MBh	PI kW	TC MBh	PI kW	TC MBh	PI kW	TC MBh	PI kW
130%	-9.9	43.6	1.14	51.8	1.38	60.3	1.64	62.5	1.77	63.4	1.91	65.6	2.19	67.1	2.26
	-5	43.6	1.20	51.8	1.46	60.3	1.73	62.5	1.87	63.4	2.01	65.6	2.31	67.1	2.39
	0	43.6	1.25	51.8	1.52	60.3	1.80	62.5	1.94	63.4	2.10	65.6	2.40	67.1	2.48
	5	43.6	1.30	51.8	1.57	60.3	1.87	62.5	2.01	63.4	2.17	65.6	2.49	67.1	2.57
	10	43.6	1.33	51.8	1.62	60.3	1.92	62.5	2.07	63.4	2.23	65.6	2.56	67.1	2.65
	14	43.6	1.38	51.8	1.68	60.3	1.99	62.5	2.15	63.4	2.32	65.6	2.65	67.1	2.74
	20	43.6	1.40	51.8	1.70	60.3	2.02	62.5	2.18	63.4	2.35	65.6	2.69	67.1	2.78
	25	43.6	1.42	51.8	1.73	60.3	2.04	62.5	2.21	63.4	2.37	65.6	2.72	67.1	2.82
	30	43.6	1.44	51.8	1.75	60.3	2.07	62.5	2.23	63.4	2.40	65.6	2.75	67.1	2.85
	35	43.6	1.46	51.8	1.77	60.3	2.09	62.5	2.26	63.4	2.43	65.6	2.79	67.1	2.88
	40	43.6	1.48	51.8	1.79	60.3	2.12	62.5	2.29	63.4	2.46	65.6	2.82	67.1	2.92
	45	43.6	1.49	51.8	1.81	60.3	2.14	62.5	2.31	63.4	2.48	65.6	2.85	67.1	2.95
	50	43.6	1.51	51.8	1.83	60.3	2.16	62.5	2.33	63.4	2.51	65.6	2.88	67.1	2.98
	55	43.6	1.53	51.8	1.86	60.3	2.20	61.6	2.38	62.5	2.56	64.7	2.93	66.2	3.00
	60	43.6	1.58	51.8	1.93	59.4	2.29	60.2	2.48	60.9	2.66	63.1	3.02	64.7	3.03
	65	43.6	1.62	51.8	1.97	58.5	2.33	59.4	2.53	60.0	2.71	62.2	3.12	63.8	3.14
	70	43.6	1.56	51.8	1.89	57.4	2.33	58.1	2.56	58.9	2.81	61.1	3.12	62.7	3.15
	75	43.6	1.60	51.8	2.02	56.5	2.49	57.2	2.75	58.1	3.01	60.2	3.27	61.8	3.29
	80	43.6	1.81	51.8	2.30	54.9	2.85	55.6	3.14	56.5	3.45	58.6	3.55	60.2	3.58
	85	43.6	1.93	51.8	2.45	54.1	3.04	54.9	3.35	55.6	3.66	57.7	3.70	59.3	3.73
	90	43.6	2.19	51.0	2.79	52.5	3.45	53.2	3.82	54.1	3.95	56.2	3.98	57.7	4.02
	95	44.1	2.32	50.6	2.96	52.2	3.69	53.1	4.08	53.7	4.09	55.9	4.13	57.4	4.17
	100	44.1	2.51	49.7	3.21	51.3	4.00	52.2	4.29	52.8	4.31	55.2	4.35	56.8	4.39
	105	44.1	2.83	48.4	3.63	49.9	4.51	50.7	4.61	51.5	4.64	53.3	4.68	54.0	4.73
	110	44.1	3.18	46.4	4.09	48.3	4.92	48.5	4.94	49.2	4.96	50.2	5.01	50.4	5.06
	115	43.9	3.68	44.7	4.70	44.7	5.19	44.7	5.19	44.7	5.19	45.3	5.19	45.5	5.20
	118	38.2	3.11	38.9	3.98	38.9	4.36	38.9	4.40	38.9	4.40	39.5	4.41	39.3	4.42
	122	30.5	2.36	31.2	3.03	31.0	3.32	31.1	3.33	31.2	3.33	31.7	3.34	31.6	3.36
120%	-9.9	39.7	1.07	47.4	1.30	55.1	1.54	59.0	1.66	61.7	1.79	64.5	2.05	65.8	2.12
	-5	39.7	1.13	47.4	1.37	55.1	1.63	59.0	1.75	61.7	1.89	64.5	2.17	65.8	2.24
	0	39.7	1.18	47.4	1.43	55.1	1.69	59.0	1.82	61.7	1.97	64.5	2.25	65.8	2.33
	5	39.7	1.22	47.4	1.48	55.1	1.75	59.0	1.89	61.7	2.04	64.5	2.34	65.8	2.41
	10	39.7	1.26	47.4	1.52	55.1	1.80	59.0	1.94	61.7	2.10	64.5	2.40	65.8	2.48
	14	39.7	1.30	47.4	1.58	55.1	1.87	59.0	2.01	61.7	2.17	64.5	2.49	65.8	2.57
	20	39.7	1.32	47.4	1.60	55.1	1.89	59.0	2.05	61.7	2.20	64.5	2.53	65.8	2.61
	25	39.7	1.34	47.4	1.62	55.1	1.92	59.0	2.07	61.7	2.23	64.5	2.55	65.8	2.64
	30	39.7	1.36	47.4	1.64	55.1	1.94	59.0	2.10	61.7	2.25	64.5	2.58	65.8	2.67
	35	39.7	1.37	47.4	1.66	55.1	1.96	59.0	2.12	61.7	2.28	64.5	2.62	65.8	2.71
	40	39.7	1.39	47.4	1.68	55.1	1.99	59.0	2.15	61.7	2.31	64.5	2.65	65.8	2.74
	45	39.7	1.41	47.4	1.70	55.1	2.01	59.0	2.18	61.7	2.34	64.5	2.68	65.8	2.77
	50	39.7	1.42	47.4	1.72	55.1	2.03	59.0	2.20	61.7	2.36	64.5	2.71	65.8	2.80
	55	39.7	1.44	47.4	1.75	55.1	2.07	59.0	2.25	61.0	2.41	63.6	2.76	65.1	2.82
	60	39.7	1.49	47.4	1.81	55.1	2.16	58.6	2.33	59.3	2.50	62.0	2.84	63.3	2.89
	65	39.7	1.52	47.4	1.85	55.1	2.20	57.7	2.38	58.6	2.55	61.1	2.94	62.7	2.96
	70	39.7	1.49	47.4	1.82	55.1	2.23	56.6	2.46	57.3	2.70	60.0	3.00	61.3	3.03
	75	39.7	1.53	47.4	1.93	55.1	2.39	55.7	2.64	56.6	2.89	59.1	3.14	60.7	3.16
	80	39.7	1.74	47.4	2.20	53.5	2.73	54.2	3.02	54.9	3.32	57.5	3.41	58.9	3.44
	85	39.7	1.85	47.4	2.35	52.7	2.92	53.3	3.22	54.2	3.52	56.6	3.55	58.2	3.58
	90	39.7	2.10	47.4	2.67	51.1	3.32	51.8	3.67	52.4	3.79	55.1	3.82	56.4	3.86
	95	40.1	2.23	47.9	2.85	50.8	3.54	51.4	3.91	52.3	3.93	54.7	3.97	56.3	4.00
	100	40.1	2.41	47.9	3.08	49.9	3.84	50.8	4.12	51.4	4.14	54.1	4.18	55.4	4.22
	105	40.1	2.71	47.1	3.48	48.6	4.33	49.4	4.43	50.0	4.45	52.5	4.49	53.4	4.53
	110	40.1	3.05	45.9	3.93	47.4	4.72	47.6	4.75	48.3	4.76	49.8	4.81	50.0	4.85
	115	39.0	3.53	44.3	4.51	44.3	4.98	44.3	4.98	44.3	4.98	45.3	4.99	45.5	5.00
	118	34.8	3.11	38.5	3.82	38.5	4.19	38.5	4.22	38.5	4.22	39.5	4.23	39.3	4.24
	122	27.8	2.36	30.9	2.91	30.7	3.19	30.8	3.19	30.9	3.20	31.7	3.21	31.6	3.22

TC = Total Capacity (MBh). PI = Power Input (kW) (includes compressor and outdoor fan).

Cooling range with the Low Ambient Baffle Kit (sold separately) is -9.9°F to +122°F.
The System Combination Ratio must be between 50–130%.

Nominal capacity as rated: 0 ft. above sea level with 25 ft. of refrigerant piping.
0 ft. level difference between outdoor and indoor units.

Nominal cooling capacity rating obtained with air entering the indoor unit at 80ºF dry bulb (DB) and 67ºF wet bulb (WB), and outdoor ambient conditions of 95ºF dry bulb (DB) and 75ºF wet bulb (WB).

COOLING CAPACITY DATA

MULTI V S WITH LGRED°

ARUM048GSS5

48,000 Btu/h 208-230V Outdoor Units

Combination (%)	Outdoor air temp. (°F DB)	Indoor Air Temp. °F DB/°F WB													
		68/57		73/61		79/64		80/67		85/70		88/73		91/76	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		MBh	kW	MBh	kW	MBh	kW	MBh	kW	MBh	kW	MBh	kW	MBh	kW
110%	-9.9	36.8	0.99	43.9	1.19	51.0	1.41	54.6	1.53	58.1	1.64	64.0	1.87	65.4	1.94
	-5	36.8	1.04	43.9	1.26	51.0	1.49	54.6	1.62	58.1	1.73	64.0	1.98	65.4	2.05
	0	36.8	1.08	43.9	1.31	51.0	1.55	54.6	1.68	58.1	1.80	64.0	2.05	65.4	2.13
	5	36.8	1.12	43.9	1.36	51.0	1.61	54.6	1.74	58.1	1.87	64.0	2.13	65.4	2.21
	10	36.8	1.16	43.9	1.39	51.0	1.65	54.6	1.79	58.1	1.92	64.0	2.19	65.4	2.27
	14	36.8	1.20	43.9	1.45	51.0	1.71	54.6	1.86	58.1	1.99	64.0	2.27	65.4	2.36
	20	36.8	1.22	43.9	1.47	51.0	1.74	54.6	1.88	58.1	2.02	64.0	2.31	65.4	2.39
	25	36.8	1.23	43.9	1.49	51.0	1.76	54.6	1.90	58.1	2.05	64.0	2.34	65.4	2.42
	30	36.8	1.25	43.9	1.51	51.0	1.78	54.6	1.93	58.1	2.07	64.0	2.37	65.4	2.45
	35	36.8	1.26	43.9	1.53	51.0	1.81	54.6	1.95	58.1	2.10	64.0	2.41	65.4	2.49
	40	36.8	1.28	43.9	1.55	51.0	1.83	54.6	1.98	58.1	2.13	64.0	2.44	65.4	2.52
	45	36.8	1.30	43.9	1.57	51.0	1.86	54.6	2.01	58.1	2.17	64.0	2.48	65.4	2.57
	50	36.8	1.32	43.9	1.60	51.0	1.89	54.6	2.05	58.1	2.20	64.0	2.52	65.4	2.61
	55	36.8	1.35	43.9	1.63	51.0	1.93	54.6	2.09	58.1	2.24	63.1	2.57	64.5	2.63
	60	36.8	1.39	43.9	1.69	51.0	2.01	54.6	2.17	58.1	2.33	61.5	2.65	62.9	2.67
	65	36.8	1.42	43.9	1.73	51.0	2.05	54.6	2.22	58.1	2.38	60.6	2.73	62.0	2.76
	70	36.8	1.43	43.9	1.74	51.0	2.14	54.6	2.36	57.0	2.59	59.5	2.87	60.8	2.90
	75	36.8	1.47	43.9	1.86	51.0	2.29	54.6	2.53	56.1	2.77	58.6	3.01	59.9	3.03
	80	36.4	1.67	43.5	2.11	50.5	2.62	53.3	2.89	54.0	3.18	56.4	3.27	57.8	3.29
	85	36.4	1.78	43.5	2.26	50.5	2.80	52.5	3.09	53.1	3.37	55.5	3.40	56.9	3.43
	90	36.4	2.01	43.5	2.56	50.3	3.18	50.9	3.52	51.6	3.64	54.0	3.67	55.3	3.70
	95	36.4	2.13	43.5	2.73	49.4	3.40	50.0	3.75	50.7	3.77	53.1	3.80	54.4	3.84
	100	36.4	2.31	43.5	2.95	48.7	3.68	49.4	3.95	50.0	3.97	52.4	4.01	53.7	4.04
	105	36.4	2.60	43.5	3.34	47.2	4.15	47.9	4.25	48.5	4.27	50.8	4.31	52.1	4.35
	110	36.4	2.92	43.5	3.76	45.7	4.53	45.9	4.55	46.6	4.57	48.0	4.61	48.2	4.65
	115	36.4	3.38	43.5	4.33	43.8	4.77	43.8	4.77	44.0	4.77	44.9	4.78	45.1	4.79
	118	35.2	3.08	37.8	3.67	38.1	4.01	38.1	4.05	38.3	4.05	39.1	4.06	38.9	4.06
	122	28.1	2.34	30.3	2.79	30.4	3.06	30.5	3.06	30.7	3.07	31.4	3.08	31.3	3.09
100%	-9.9	32.4	0.87	38.6	1.05	44.8	1.24	48.0	1.35	52.8	1.47	59.2	1.69	62.5	1.76
	-5	32.4	0.92	38.6	1.11	44.8	1.31	48.0	1.43	52.8	1.55	59.2	1.78	62.5	1.86
	0	32.4	0.95	38.6	1.15	44.8	1.36	48.0	1.49	52.8	1.61	59.2	1.86	62.5	1.93
	5	32.4	0.99	38.6	1.19	44.8	1.41	48.0	1.54	52.8	1.67	59.2	1.92	62.5	2.00
	10	32.4	1.02	38.6	1.23	44.8	1.45	48.0	1.59	52.8	1.72	59.2	1.98	62.5	2.06
	14	32.4	1.05	38.6	1.27	44.8	1.51	48.0	1.64	52.8	1.78	59.2	2.05	62.5	2.14
	20	32.4	1.09	38.6	1.31	44.8	1.56	48.0	1.69	52.8	1.83	59.2	2.11	62.5	2.20
	25	32.4	1.11	38.6	1.35	44.8	1.59	48.0	1.73	52.8	1.88	59.2	2.16	62.5	2.25
	30	32.4	1.14	38.6	1.38	44.8	1.63	48.0	1.77	52.8	1.93	59.2	2.21	62.5	2.30
	35	32.4	1.16	38.6	1.40	44.8	1.66	48.0	1.80	52.8	1.96	59.2	2.25	62.5	2.34
	40	32.4	1.18	38.6	1.43	44.8	1.69	48.0	1.82	52.8	1.99	59.2	2.28	62.5	2.37
	45	32.4	1.21	38.6	1.46	44.8	1.72	48.0	1.86	52.8	2.03	59.2	2.33	62.5	2.42
	50	32.4	1.23	38.6	1.49	44.8	1.76	48.0	1.90	52.8	2.07	59.2	2.38	62.5	2.47
	55	32.4	1.25	38.6	1.51	44.8	1.79	48.0	1.94	52.8	2.11	59.2	2.42	61.8	2.51
	60	32.4	1.29	38.6	1.57	44.8	1.87	48.0	2.02	52.8	2.20	58.9	2.49	60.0	2.55
	65	32.4	1.32	38.6	1.60	44.8	1.90	48.0	2.06	52.8	2.24	58.0	2.58	59.4	2.63
	70	32.4	1.36	38.6	1.65	44.8	2.03	48.0	2.23	52.8	2.49	56.9	2.76	58.0	2.81
	75	32.4	1.39	38.6	1.76	44.8	2.17	48.0	2.40	52.8	2.67	56.1	2.89	57.4	2.93
	80	32.4	1.58	38.6	2.00	44.8	2.48	48.0	2.74	52.8	3.06	54.5	3.14	55.6	3.18
	85	32.4	1.68	38.6	2.14	44.8	2.65	48.0	2.92	52.5	3.24	53.6	3.27	55.0	3.32
	90	32.4	1.91	38.6	2.43	44.8	3.01	48.0	3.33	50.8	3.50	52.1	3.53	53.2	3.58
	95	32.4	2.02	38.6	2.59	44.8	3.22	**48.0**	**3.55**	50.1	3.62	51.2	3.66	52.5	3.71
	100	32.4	2.18	38.6	2.79	44.8	3.48	47.1	3.73	49.2	3.81	50.5	3.85	51.7	3.90
	105	32.4	2.45	38.6	3.14	44.5	3.91	45.8	4.00	47.8	4.08	49.0	4.12	50.2	4.17
	110	32.4	2.74	38.6	3.53	44.0	4.25	45.0	4.27	45.9	4.35	46.7	4.39	47.5	4.45
	115	32.4	3.15	38.6	4.03	41.9	4.45	43.2	4.45	44.3	4.51	44.7	4.52	44.9	4.55
	118	32.4	3.18	33.8	3.78	36.5	3.74	37.6	3.77	38.6	3.83	38.9	3.83	38.8	3.86
	122	27.7	2.88	27.1	2.87	29.1	2.85	30.1	2.85	30.9	2.90	31.2	2.91	31.2	2.93

TC = Total Capacity (MBh). PI = Power Input (kW) (includes compressor and outdoor fan).

Cooling range with the Low Ambient Baffle Kit (sold separately) is -9.9°F to +122°F.
The System Combination Ratio must be between 50–130%.

Nominal capacity as rated: 0 ft. above sea level with 25 ft. of refrigerant piping.
0 ft. level difference between outdoor and indoor units.

Nominal cooling capacity rating obtained with air entering the indoor unit at 80ºF dry bulb (DB) and 67ºF wet bulb (WB), and outdoor ambient conditions of 95ºF dry bulb (DB) and 75ºF wet bulb (WB).

COOLING CAPACITY DATA

ARUM048GSS5

48,000 Btu/h 208-230V Outdoor Units

Combination (%)	Outdoor air temp. (°F DB)	Indoor Air Temp. °F DB/°F WB													
		68/57		73/61		79/64		80/67		85/70		88/73		91/76	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		MBh	kW	MBh	kW	MBh	kW	MBh	kW	MBh	kW	MBh	kW	MBh	kW
90%	-9.9	29.1	0.78	34.7	0.93	40.5	1.10	43.3	1.18	46.1	1.26	51.6	1.45	57.2	1.59
	-5	29.1	0.82	34.7	0.98	40.5	1.16	43.3	1.25	46.1	1.33	51.6	1.53	57.2	1.68
	0	29.1	0.85	34.7	1.02	40.5	1.20	43.3	1.30	46.1	1.38	51.6	1.59	57.2	1.75
	5	29.1	0.88	34.7	1.06	40.5	1.25	43.3	1.34	46.1	1.43	51.6	1.65	57.2	1.81
	10	29.1	0.91	34.7	1.09	40.5	1.28	43.3	1.38	46.1	1.48	51.6	1.70	57.2	1.87
	14	29.1	0.94	34.7	1.13	40.5	1.33	43.3	1.43	46.1	1.53	51.6	1.76	57.2	1.93
	20	29.1	0.97	34.7	1.17	40.5	1.38	43.3	1.49	46.1	1.59	51.6	1.82	57.2	2.01
	25	29.1	1.00	34.7	1.21	40.5	1.42	43.3	1.53	46.1	1.65	51.6	1.88	57.2	2.07
	30	29.1	1.03	34.7	1.24	40.5	1.46	43.3	1.58	46.1	1.70	51.6	1.93	57.2	2.13
	35	29.1	1.06	34.7	1.28	40.5	1.51	43.3	1.63	46.1	1.75	51.6	1.99	57.2	2.20
	40	29.1	1.09	34.7	1.32	40.5	1.55	43.3	1.67	46.1	1.80	51.6	2.05	57.2	2.26
	45	29.1	1.12	34.7	1.35	40.5	1.59	43.3	1.71	46.1	1.85	51.6	2.09	57.2	2.31
	50	29.1	1.14	34.7	1.38	40.5	1.62	43.3	1.75	46.1	1.89	51.6	2.14	57.2	2.37
	55	29.1	1.16	34.7	1.40	40.5	1.65	43.3	1.79	46.1	1.92	51.6	2.18	57.2	2.39
	60	29.1	1.20	34.7	1.46	40.5	1.72	43.3	1.86	46.1	2.00	51.6	2.27	56.7	2.41
	65	29.1	1.22	34.7	1.48	40.5	1.75	43.3	1.89	46.1	2.03	51.6	2.31	56.4	2.54
	70	29.1	1.26	34.7	1.53	40.5	1.82	43.3	2.00	46.1	2.18	51.6	2.58	55.3	2.72
	75	29.1	1.28	34.7	1.60	40.5	1.94	43.3	2.14	46.1	2.35	51.6	2.69	54.4	2.84
	80	29.1	1.43	34.7	1.81	40.5	2.22	43.3	2.44	46.1	2.68	51.6	2.97	52.9	3.09
	85	29.1	1.53	34.7	1.93	40.5	2.37	43.3	2.61	46.1	2.86	51.0	3.13	52.1	3.22
	90	29.1	1.72	34.7	2.18	40.5	2.69	43.3	2.97	46.1	3.26	49.5	3.43	50.6	3.48
	95	29.1	1.84	34.7	2.32	40.5	2.87	43.3	3.16	46.1	3.48	48.6	3.56	49.7	3.60
	100	29.1	1.90	34.7	2.42	40.5	2.99	43.3	3.29	46.1	3.55	48.0	3.71	48.9	3.75
	105	29.1	2.20	34.7	2.80	40.5	3.38	43.3	3.60	45.6	3.81	46.5	3.98	47.1	4.03
	110	29.1	2.52	34.7	3.23	40.5	3.71	43.3	3.89	43.7	4.13	44.3	4.27	44.6	4.32
	115	29.1	2.73	34.7	3.50	37.9	3.90	41.0	4.07	41.6	4.26	42.0	4.35	42.2	4.41
	118	29.1	2.90	33.8	3.78	33.0	3.28	35.7	3.45	36.2	3.62	36.6	3.69	36.4	3.74
	122	27.7	2.88	27.1	2.87	26.3	2.50	28.6	2.61	29.0	2.74	29.4	2.80	29.3	2.84
80%	-9.9	25.9	0.67	30.9	0.81	36.0	0.94	38.4	1.02	40.9	1.10	45.9	1.26	50.8	1.40
	-5	25.9	0.71	30.9	0.85	36.0	0.99	38.4	1.08	40.9	1.16	45.9	1.33	50.8	1.48
	0	25.9	0.74	30.9	0.89	36.0	1.03	38.4	1.12	40.9	1.21	45.9	1.38	50.8	1.54
	5	25.9	0.76	30.9	0.92	36.0	1.07	38.4	1.16	40.9	1.25	45.9	1.43	50.8	1.59
	10	25.9	0.79	30.9	0.95	36.0	1.10	38.4	1.19	40.9	1.29	45.9	1.47	50.8	1.64
	14	25.9	0.81	30.9	0.98	36.0	1.14	38.4	1.24	40.9	1.33	45.9	1.52	50.8	1.70
	20	25.9	0.85	30.9	1.02	36.0	1.19	38.4	1.28	40.9	1.38	45.9	1.58	50.8	1.76
	25	25.9	0.87	30.9	1.05	36.0	1.22	38.4	1.32	40.9	1.42	45.9	1.63	50.8	1.82
	30	25.9	0.90	30.9	1.07	36.0	1.26	38.4	1.36	40.9	1.46	45.9	1.67	50.8	1.87
	35	25.9	0.92	30.9	1.11	36.0	1.30	38.4	1.40	40.9	1.50	45.9	1.72	50.8	1.92
	40	25.9	0.95	30.9	1.13	36.0	1.33	38.4	1.44	40.9	1.54	45.9	1.76	50.8	1.98
	45	25.9	0.96	30.9	1.15	36.0	1.35	38.4	1.46	40.9	1.56	45.9	1.79	50.8	2.00
	50	25.9	0.97	30.9	1.17	36.0	1.37	38.4	1.48	40.9	1.58	45.9	1.81	50.8	2.03
	55	25.9	0.99	30.9	1.19	36.0	1.39	38.4	1.50	40.9	1.61	45.9	1.85	50.8	2.06
	60	25.9	1.02	30.9	1.22	36.0	1.44	38.4	1.56	40.9	1.67	45.9	1.91	50.8	2.15
	65	25.9	1.04	30.9	1.25	36.0	1.47	38.4	1.59	40.9	1.71	45.9	1.95	50.8	2.20
	70	25.9	1.07	30.9	1.28	36.0	1.52	38.4	1.63	40.9	1.78	45.9	2.10	50.8	2.43
	75	25.9	1.09	30.9	1.31	36.0	1.59	38.4	1.74	40.9	1.90	45.9	2.23	50.8	2.56
	80	25.9	1.19	30.9	1.49	36.0	1.81	38.4	1.98	40.9	2.16	45.9	2.57	50.8	2.86
	85	25.9	1.27	30.9	1.58	36.0	1.93	38.4	2.11	40.9	2.32	45.9	2.74	50.8	2.94
	90	25.9	1.43	30.9	1.79	36.0	2.18	38.4	2.40	40.9	2.63	45.9	3.01	50.0	3.11
	95	25.9	1.52	30.9	1.90	36.0	2.33	38.4	2.55	40.9	2.80	45.9	3.11	48.9	3.20
	100	25.9	1.63	30.9	2.04	36.0	2.51	38.4	2.73	40.9	2.91	45.9	3.24	47.8	3.30
	105	25.9	1.86	30.9	2.34	36.0	2.80	38.4	2.93	40.9	3.12	45.3	3.37	46.4	3.46
	110	25.9	2.11	30.9	2.67	36.0	2.97	38.4	3.13	40.9	3.36	43.7	3.49	43.9	3.64
	115	25.9	2.26	30.9	2.85	36.0	3.07	38.4	3.29	38.4	3.44	38.6	3.57	38.6	3.79
	118	25.9	2.40	30.9	3.03	33.0	3.28	33.7	3.12	33.4	2.92	33.6	3.03	33.3	3.21
	122	25.9	2.60	27.2	2.86	26.3	2.50	26.9	2.36	26.8	2.21	27.0	2.30	26.8	2.44

TC = Total Capacity (MBh). PI = Power Input (kW) (includes compressor and outdoor fan).

Cooling range with the Low Ambient Baffle Kit (sold separately) is -9.9°F to +122°F.
The System Combination Ratio must be between 50–130%.

Nominal capacity as rated: 0 ft. above sea level with 25 ft. of refrigerant piping.
0 ft. level difference between outdoor and indoor units.

Nominal cooling capacity rating obtained with air entering the indoor unit at 80ºF dry bulb (DB) and 67ºF wet bulb (WB), and outdoor ambient conditions of 95ºF dry bulb (DB) and 75ºF wet bulb (WB).

COOLING CAPACITY DATA

MULTI V S WITH LGRED°

ARUM048GSS5

48,000 Btu/h 208-230V Outdoor Units

Combination (%)	Outdoor air temp. (°F DB)	Indoor Air Temp. °F DB/°F WB													
		68/57		73/61		79/64		80/67		85/70		88/73		91/76	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		MBh	kW	MBh	kW	MBh	kW	MBh	kW	MBh	kW	MBh	kW	MBh	kW
70%	-9.9	22.7	0.59	27.0	0.70	31.5	0.83	33.6	0.89	35.8	0.95	40.1	1.08	44.6	1.21
	-5	22.7	0.63	27.0	0.74	31.5	0.88	33.6	0.94	35.8	1.00	40.1	1.14	44.6	1.28
	0	22.7	0.65	27.0	0.77	31.5	0.91	33.6	0.97	35.8	1.04	40.1	1.19	44.6	1.33
	5	22.7	0.67	27.0	0.80	31.5	0.94	33.6	1.01	35.8	1.08	40.1	1.23	44.6	1.38
	10	22.7	0.69	27.0	0.82	31.5	0.97	33.6	1.04	35.8	1.11	40.1	1.27	44.6	1.42
	14	22.7	0.72	27.0	0.85	31.5	1.01	33.6	1.08	35.8	1.15	40.1	1.31	44.6	1.47
	20	22.7	0.74	27.0	0.88	31.5	1.04	33.6	1.11	35.8	1.19	40.1	1.36	44.6	1.52
	25	22.7	0.76	27.0	0.91	31.5	1.06	33.6	1.14	35.8	1.22	40.1	1.39	44.6	1.56
	30	22.7	0.79	27.0	0.93	31.5	1.09	33.6	1.17	35.8	1.25	40.1	1.43	44.6	1.60
	35	22.7	0.81	27.0	0.96	31.5	1.12	33.6	1.20	35.8	1.29	40.1	1.46	44.6	1.65
	40	22.7	0.83	27.0	0.98	31.5	1.15	33.6	1.23	35.8	1.32	40.1	1.50	44.6	1.69
	45	22.7	0.84	27.0	1.00	31.5	1.17	33.6	1.26	35.8	1.34	40.1	1.53	44.6	1.71
	50	22.7	0.85	27.0	1.01	31.5	1.19	33.6	1.27	35.8	1.36	40.1	1.55	44.6	1.74
	55	22.7	0.87	27.0	1.03	31.5	1.21	33.6	1.29	35.8	1.39	40.1	1.58	44.6	1.78
	60	22.7	0.89	27.0	1.07	31.5	1.25	33.6	1.34	35.8	1.44	40.1	1.64	44.6	1.85
	65	22.7	0.91	27.0	1.09	31.5	1.27	33.6	1.37	35.8	1.47	40.1	1.67	44.6	1.88
	70	22.7	0.93	27.0	1.12	31.5	1.31	33.6	1.41	35.8	1.51	40.1	1.73	44.6	2.00
	75	22.7	0.95	27.0	1.14	31.5	1.33	33.6	1.46	35.8	1.58	40.1	1.85	44.6	2.11
	80	22.7	1.02	27.0	1.25	31.5	1.52	33.6	1.65	35.8	1.79	40.1	2.04	44.6	2.34
	85	22.7	1.09	27.0	1.33	31.5	1.62	33.6	1.76	35.8	1.93	40.1	2.18	44.6	2.44
	90	22.7	1.22	27.0	1.51	31.5	1.83	33.6	2.00	35.8	2.18	40.1	2.43	44.6	2.65
	95	22.7	1.29	27.0	1.60	31.5	1.95	33.6	2.13	35.8	2.32	40.1	2.55	44.6	2.73
	100	22.7	1.39	27.0	1.73	31.5	2.10	33.6	2.30	35.8	2.39	40.1	2.67	44.6	2.81
	105	22.7	1.58	27.0	1.97	31.5	2.31	33.6	2.45	35.8	2.59	40.1	2.81	44.6	2.97
	110	22.7	1.78	27.0	2.23	31.5	2.45	33.6	2.60	35.8	2.81	40.1	2.93	43.3	3.20
	115	22.7	1.91	27.0	2.38	31.5	2.53	33.6	2.75	35.8	2.89	40.1	3.02	40.8	3.40
	118	22.7	2.03	27.0	2.53	31.5	2.69	33.6	2.91	32.6	2.89	33.6	2.56	33.3	2.89
	122	22.7	2.19	27.0	2.74	28.1	2.57	26.9	2.39	26.1	2.19	27.0	1.94	26.8	2.19
60%	-9.9	19.5	0.51	23.1	0.60	27.0	0.70	28.7	0.75	30.6	0.81	34.5	0.91	38.1	1.02
	-5	19.5	0.54	23.1	0.63	27.0	0.74	28.7	0.79	30.6	0.85	34.5	0.96	38.1	1.08
	0	19.5	0.56	23.1	0.65	27.0	0.77	28.7	0.82	30.6	0.88	34.5	1.00	38.1	1.12
	5	19.5	0.58	23.1	0.68	27.0	0.80	28.7	0.85	30.6	0.92	34.5	1.04	38.1	1.16
	10	19.5	0.60	23.1	0.70	27.0	0.82	28.7	0.88	30.6	0.94	34.5	1.07	38.1	1.19
	14	19.5	0.62	23.1	0.72	27.0	0.85	28.7	0.91	30.6	0.98	34.5	1.11	38.1	1.24
	20	19.5	0.64	23.1	0.75	27.0	0.88	28.7	0.94	30.6	1.01	34.5	1.14	38.1	1.28
	25	19.5	0.66	23.1	0.77	27.0	0.90	28.7	0.97	30.6	1.03	34.5	1.17	38.1	1.32
	30	19.5	0.67	23.1	0.79	27.0	0.92	28.7	0.99	30.6	1.06	34.5	1.20	38.1	1.35
	35	19.5	0.69	23.1	0.81	27.0	0.95	28.7	1.02	30.6	1.09	34.5	1.23	38.1	1.39
	40	19.5	0.71	23.1	0.84	27.0	0.97	28.7	1.04	30.6	1.12	34.5	1.27	38.1	1.42
	45	19.5	0.71	23.1	0.84	27.0	0.98	28.7	1.05	30.6	1.13	34.5	1.28	38.1	1.43
	50	19.5	0.72	23.1	0.85	27.0	0.99	28.7	1.06	30.6	1.14	34.5	1.29	38.1	1.45
	55	19.5	0.73	23.1	0.86	27.0	1.01	28.7	1.08	30.6	1.16	34.5	1.31	38.1	1.47
	60	19.5	0.76	23.1	0.89	27.0	1.04	28.7	1.12	30.6	1.20	34.5	1.36	38.1	1.53
	65	19.5	0.77	23.1	0.91	27.0	1.06	28.7	1.14	30.6	1.22	34.5	1.39	38.1	1.56
	70	19.5	0.79	23.1	0.93	27.0	1.09	28.7	1.17	30.6	1.25	34.5	1.43	38.1	1.62
	75	19.5	0.80	23.1	0.95	27.0	1.11	28.7	1.20	30.6	1.29	34.5	1.51	38.1	1.73
	80	19.5	0.85	23.1	1.04	27.0	1.24	28.7	1.36	30.6	1.47	34.5	1.69	38.1	1.95
	85	19.5	0.90	23.1	1.10	27.0	1.32	28.7	1.45	30.6	1.58	34.5	1.78	38.1	2.01
	90	19.5	1.01	23.1	1.24	27.0	1.50	28.7	1.63	30.6	1.77	34.5	1.99	38.1	2.19
	95	19.5	1.07	23.1	1.32	27.0	1.59	28.7	1.74	30.6	1.87	34.5	2.08	38.1	2.31
	100	19.5	1.15	23.1	1.42	27.0	1.71	28.7	1.88	30.6	1.96	34.5	2.21	38.1	2.41
	105	19.5	1.31	23.1	1.61	27.0	1.89	28.7	2.00	30.6	2.13	34.5	2.35	38.1	2.63
	110	19.5	1.47	23.1	1.83	27.0	2.04	28.7	2.12	30.6	2.30	34.5	2.51	38.1	2.87
	115	19.5	1.58	23.1	1.96	27.0	2.12	28.7	2.25	30.6	2.38	34.5	2.65	38.1	3.06
	118	19.5	1.67	23.1	2.07	27.0	2.25	28.7	2.39	30.6	2.54	33.6	2.56	33.3	2.89
	122	19.5	1.80	23.1	2.24	27.0	2.44	26.8	2.42	26.0	2.24	27.0	1.94	26.8	2.19

TC = Total Capacity (MBh). PI = Power Input (kW) (includes compressor and outdoor fan).

Cooling range with the Low Ambient Baffle Kit (sold separately) is -9.9°F to +122°F.

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

Nominal capacity as rated: 0 ft. above sea level with 25 ft. of refrigerant piping. 0 ft. level difference between outdoor and indoor units.

Nominal cooling capacity rating obtained with air entering the indoor unit at 80ºF dry bulb (DB) and 67ºF wet bulb (WB), and outdoor ambient conditions of 95ºF dry bulb (DB) and 75ºF wet bulb (WB).

COOLING CAPACITY DATA

ARUM048GSS5

48,000 Btu/h 208-230V Outdoor Units

Combination (%)	Outdoor air temp. (°F DB)	Indoor Air Temp. °F DB/°F WB													
		68/57		73/61		79/64		80/67		85/70		88/73		91/76	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		MBh	kW	MBh	kW	MBh	kW	MBh	kW	MBh	kW	MBh	kW	MBh	kW
50%	-9.9	16.2	0.44	19.3	0.52	22.5	0.58	24.0	0.63	25.5	0.67	28.7	0.75	31.7	0.83
	-5	16.2	0.47	19.3	0.55	22.5	0.61	24.0	0.66	25.5	0.71	28.7	0.79	31.7	0.88
	0	16.2	0.48	19.3	0.57	22.5	0.64	24.0	0.69	25.5	0.74	28.7	0.82	31.7	0.91
	5	16.2	0.50	19.3	0.59	22.5	0.66	24.0	0.71	25.5	0.77	28.7	0.85	31.7	0.94
	10	16.2	0.52	19.3	0.61	22.5	0.68	24.0	0.73	25.5	0.79	28.7	0.88	31.7	0.97
	14	16.2	0.54	19.3	0.63	22.5	0.71	24.0	0.76	25.5	0.82	28.7	0.91	31.7	1.01
	20	16.2	0.56	19.3	0.65	22.5	0.73	24.0	0.79	25.5	0.85	28.7	0.94	31.7	1.05
	25	16.2	0.57	19.3	0.67	22.5	0.76	24.0	0.81	25.5	0.87	28.7	0.97	31.7	1.08
	30	16.2	0.59	19.3	0.68	22.5	0.78	24.0	0.83	25.5	0.89	28.7	1.00	31.7	1.11
	35	16.2	0.60	19.3	0.70	22.5	0.80	24.0	0.86	25.5	0.91	28.7	1.02	31.7	1.14
	40	16.2	0.62	19.3	0.72	22.5	0.82	24.0	0.88	25.5	0.94	28.7	1.05	31.7	1.17
	45	16.2	0.63	19.3	0.73	22.5	0.84	24.0	0.89	25.5	0.95	28.7	1.06	31.7	1.18
	50	16.2	0.64	19.3	0.74	22.5	0.85	24.0	0.90	25.5	0.96	28.7	1.08	31.7	1.20
	55	16.2	0.65	19.3	0.75	22.5	0.86	24.0	0.92	25.5	0.98	28.7	1.10	31.7	1.22
	60	16.2	0.67	19.3	0.77	22.5	0.89	24.0	0.95	25.5	1.01	28.7	1.13	31.7	1.27
	65	16.2	0.67	19.3	0.79	22.5	0.90	24.0	0.96	25.5	1.02	28.7	1.15	31.7	1.29
	70	16.2	0.69	19.3	0.80	22.5	0.92	24.0	0.99	25.5	1.05	28.7	1.19	31.7	1.33
	75	16.2	0.70	19.3	0.81	22.5	0.94	24.0	1.00	25.5	1.07	28.7	1.21	31.7	1.36
	80	16.2	0.72	19.3	0.86	22.5	1.01	24.0	1.09	25.5	1.17	28.7	1.35	31.7	1.54
	85	16.2	0.77	19.3	0.91	22.5	1.07	24.0	1.16	25.5	1.25	28.7	1.44	31.7	1.64
	90	16.2	0.86	19.3	1.02	22.5	1.21	24.0	1.30	25.5	1.40	28.7	1.62	31.7	1.86
	95	16.2	0.90	19.3	1.08	22.5	1.28	24.0	1.38	25.5	1.49	28.7	1.72	31.7	1.97
	100	16.2	0.95	19.3	1.14	22.5	1.35	24.0	1.47	25.5	1.58	28.7	1.83	31.7	2.10
	105	16.2	1.04	19.3	1.26	22.5	1.49	24.0	1.62	25.5	1.75	28.7	2.03	31.7	2.33
	110	16.2	1.15	19.3	1.39	22.5	1.66	24.0	1.80	25.5	1.95	28.7	2.27	31.7	2.61
	115	16.2	1.23	19.3	1.49	22.5	1.78	24.0	1.93	25.5	2.10	28.7	2.44	31.7	2.81
	118	16.2	1.33	19.3	1.62	22.5	1.93	24.0	2.10	25.5	2.28	28.7	2.56	31.7	2.89
	122	16.2	1.46	19.3	1.79	22.5	2.14	24.0	2.34	25.5	2.24	27.0	1.94	26.8	2.19

TC = Total Capacity (MBh). PI = Power Input (kW) (includes compressor and outdoor fan).

Cooling range with the Low Ambient Baffle Kit (sold separately) is -9.9°F to +122°F.
The System Combination Ratio must be between 50–130%.

Nominal capacity as rated: 0 ft. above sea level with 25 ft. of refrigerant piping.
0 ft. level difference between outdoor and indoor units.

Nominal cooling capacity rating obtained with air entering the indoor unit at 80ºF dry bulb (DB) and 67ºF wet bulb (WB), and outdoor ambient conditions of 95ºF dry bulb (DB) and 75ºF wet bulb (WB).

HEATING CAPACITY DATA

ARUM036GSS5

36,000 Btu/h 208-230V Outdoor Units

MULTI V S WITH LGRED°

Combination (%)	Outdoor air temp.		Indoor Air Temp. °F DB/°F WB															
			59		61		64		67		70		73		76		80	
	°F DB	°F WB	TC MBh	PI kW	TC MBh	PI kW	TC MBh	PI kW	TC MBh	PI kW	TC MBh	PI kW	TC MBh	PI kW	TC MBh	PI kW	TC MBh	PI kW
130	-12.6	-13.0	29.0	1.87	29.0	2.05	29.0	2.32	28.9	2.55	28.8	2.77	28.8	3.00	28.8	3.11	28.8	3.26
	-7.0	-7.6	31.6	2.14	31.6	2.32	31.6	2.59	31.5	2.81	31.4	3.04	31.4	3.27	31.4	3.38	31.4	3.53
	-4.0	-4.4	33.2	2.30	33.2	2.48	33.2	2.75	33.1	2.98	33.0	3.20	33.0	3.43	33.0	3.55	33.0	3.70
	0.0	-0.4	35.1	2.50	35.1	2.68	35.1	2.95	35.0	3.18	34.9	3.40	34.9	3.63	34.9	3.75	34.9	3.90
	5.0	4.5	37.5	2.75	37.5	2.93	37.5	3.20	37.4	3.43	37.3	3.65	37.3	3.88	37.3	3.99	37.3	4.14
	10.0	9.0	39.9	3.00	39.9	3.18	39.9	3.45	39.8	3.68	39.6	3.90	39.6	4.13	39.6	4.24	39.6	4.39
	15.0	14.0	42.2	3.25	42.2	3.43	42.2	3.70	42.1	3.92	42.0	4.14	42.0	4.38	42.0	4.49	42.0	4.64
	20.0	19.0	44.7	3.50	44.7	3.68	44.7	3.95	44.5	4.17	44.4	4.40	44.4	4.48	44.4	4.38	44.4	4.26
	25.0	23.0	47.1	3.75	47.1	3.93	47.1	4.20	46.9	4.33	46.8	4.46	46.8	4.27	46.8	4.17	46.8	4.05
	30.0	28.0	49.5	4.00	49.5	4.18	49.5	4.45	49.3	4.34	49.2	4.24	48.9	4.06	48.3	3.96	47.5	3.84
	35.0	32.0	51.9	4.47	51.9	4.43	51.9	4.37	51.7	4.19	51.6	4.01	50.5	3.84	48.4	3.75	45.6	3.63
	40.0	36.0	54.3	4.49	54.3	4.33	54.3	4.08	54.1	3.93	53.9	3.79	51.2	3.63	48.2	3.54	44.1	3.43
	45.0	41.0	56.1	3.99	56.1	3.91	56.1	3.78	55.3	3.67	54.5	3.57	51.2	3.42	48.2	3.33	44.1	3.22
	47.0	43.0	56.1	3.89	56.1	3.81	56.1	3.68	55.3	3.58	54.5	3.47	51.2	3.33	48.2	3.25	44.1	3.13
	50.0	46.0	56.1	3.74	56.1	3.67	56.1	3.55	55.3	3.45	54.5	3.34	51.2	3.21	48.2	3.13	44.1	3.02
	55.0	51.0	56.1	3.51	56.1	3.44	56.1	3.33	55.3	3.23	54.5	3.14	51.2	3.01	48.2	2.93	44.1	2.83
	60.0	56.0	56.1	3.27	56.1	3.20	56.1	3.10	55.3	3.01	54.5	2.92	51.2	2.80	48.2	2.73	44.1	2.63
120	-12.6	-13.0	28.8	2.14	28.8	2.32	28.8	2.59	28.7	2.68	28.6	2.77	28.6	3.12	28.6	3.19	28.6	3.29
	-7.0	-7.6	31.4	2.41	31.4	2.59	31.4	2.86	31.3	2.95	31.2	3.04	31.2	3.39	31.2	3.46	31.2	3.56
	-4.0	-4.4	32.9	2.57	32.9	2.75	32.9	3.02	32.8	3.11	32.7	3.20	32.7	3.55	32.7	3.63	32.7	3.73
	0.0	-0.4	34.8	2.77	34.8	2.95	34.8	3.22	34.7	3.31	34.6	3.40	34.6	3.75	34.6	3.83	34.6	3.92
	5.0	4.5	37.2	3.02	37.2	3.20	37.2	3.47	37.1	3.56	37.0	3.65	37.0	4.00	37.0	4.07	37.0	4.17
	10.0	9.0	39.6	3.27	39.6	3.45	39.6	3.72	39.5	3.81	39.4	3.90	39.4	4.25	39.4	4.32	39.4	4.42
	15.0	14.0	41.9	3.52	41.9	3.70	41.9	3.96	41.8	4.05	41.7	4.14	41.7	4.49	41.7	4.57	41.7	4.67
	20.0	19.0	44.4	3.77	44.4	3.95	44.4	4.22	44.2	4.37	44.1	4.52	44.1	4.39	44.1	4.33	44.1	4.25
	25.0	23.0	46.7	4.02	46.7	4.20	46.7	4.47	46.6	4.39	46.5	4.31	46.2	4.19	45.6	4.13	44.9	4.06
	30.0	28.0	49.1	4.50	49.1	4.45	49.1	4.37	49.0	4.23	48.8	4.09	47.6	3.99	45.4	3.94	42.4	3.86
	35.0	32.0	51.5	4.51	51.5	4.35	51.5	4.11	51.0	3.99	50.5	3.88	48.2	3.79	45.2	3.74	41.3	3.67
	40.0	36.0	53.9	4.13	53.9	4.01	53.9	3.85	52.5	3.76	51.1	3.66	48.2	3.59	45.2	3.54	41.3	3.47
	45.0	41.0	56.0	3.75	55.6	3.69	55.0	3.59	53.1	3.52	51.1	3.45	48.2	3.39	45.2	3.34	41.3	3.27
	47.0	43.0	56.0	3.65	55.6	3.59	55.0	3.49	53.1	3.42	51.1	3.36	48.2	3.30	45.2	3.25	41.3	3.19
	50.0	46.0	56.0	3.52	55.6	3.46	55.0	3.36	53.1	3.30	51.1	3.23	48.2	3.18	45.2	3.13	41.3	3.07
	55.0	51.0	56.0	3.30	55.6	3.24	55.0	3.16	53.1	3.10	51.1	3.04	48.2	2.99	45.2	2.94	41.3	2.88
	60.0	56.0	56.0	3.07	55.6	3.02	55.0	2.94	53.1	2.88	51.1	2.82	48.2	2.78	45.2	2.73	41.3	2.68
110	-12.6	-13.0	28.7	2.47	28.7	2.59	28.7	2.77	28.6	2.93	28.5	3.08	28.5	3.25	28.5	3.43	28.5	3.66
	-7.0	-7.6	31.2	2.74	31.2	2.86	31.2	3.04	31.1	3.20	31.0	3.35	31.0	3.52	31.0	3.70	31.0	3.93
	-4.0	-4.4	32.8	2.90	32.8	3.02	32.8	3.20	32.7	3.36	32.6	3.52	32.6	3.69	32.6	3.86	32.6	4.09
	0.0	-0.4	34.7	3.10	34.7	3.22	34.7	3.40	34.5	3.56	34.4	3.72	34.4	3.89	34.4	4.06	34.4	4.29
	5.0	4.5	37.0	3.35	37.0	3.47	37.0	3.65	36.9	3.81	36.8	3.96	36.8	4.14	36.8	4.31	36.8	4.54
	10.0	9.0	39.4	3.60	39.4	3.72	39.4	3.90	39.3	4.06	39.1	4.21	39.1	4.38	39.1	4.56	39.1	4.79
	15.0	14.0	41.7	3.85	41.7	3.96	41.7	4.14	41.6	4.30	41.4	4.46	41.4	4.48	41.4	4.34	41.4	4.15
	20.0	19.0	44.1	4.10	44.1	4.22	44.1	4.40	44.0	4.40	43.8	4.40	42.8	4.26	40.9	4.13	38.4	3.96
	25.0	23.0	46.5	4.49	46.5	4.47	46.5	4.44	46.1	4.31	45.6	4.18	43.2	4.05	40.8	3.93	37.5	3.77
	30.0	28.0	48.9	4.45	48.9	4.34	48.9	4.17	47.4	4.06	45.9	3.95	43.2	3.84	40.8	3.73	37.5	3.58
	35.0	32.0	51.9	4.11	51.2	4.02	50.2	3.90	48.1	3.81	45.9	3.73	43.2	3.62	40.8	3.52	37.5	3.38
	40.0	36.0	54.9	3.77	53.2	3.71	50.6	3.62	48.2	3.56	45.9	3.50	43.2	3.41	40.8	3.32	37.5	3.19
	45.0	41.0	55.4	3.44	53.5	3.41	50.6	3.36	48.2	3.32	45.9	3.28	43.2	3.20	40.8	3.11	37.5	3.00
	47.0	43.0	55.4	3.35	53.5	3.32	50.6	3.27	48.2	3.23	45.9	3.19	43.2	3.11	40.8	3.03	37.5	2.92
	50.0	46.0	55.4	3.23	53.5	3.19	50.6	3.15	48.2	3.11	45.9	3.07	43.2	3.00	40.8	2.92	37.5	2.82
	55.0	51.0	55.4	3.03	53.5	3.00	50.6	2.95	48.2	2.92	45.9	2.88	43.2	2.81	40.8	2.74	37.5	2.64
	60.0	56.0	55.4	2.82	53.5	2.79	50.6	2.75	48.2	2.71	45.9	2.68	43.2	2.62	40.8	2.55	37.5	2.46

TC = Total Capacity (MBh). PI = Power Input (kW) (includes compressor and outdoor fan).

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

Nominal capacity as rated: 0 ft. above sea level with 25 ft. of refrigerant piping.
0 ft. level difference between outdoor and indoor units.

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

HEATING CAPACITY DATA

ARUM036GSS5

36,000 Btu/h 208-230V Outdoor Units

Combination (%)	Outdoor air temp.		Indoor Air Temp. °F DB/°F WB															
			59		61		64		67		70		73		76		80	
	°F DB	°F WB	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
			MBh	kW	MBh	kW	MBh	kW	MBh	kW	MBh	kW	MBh	kW	MBh	kW	MBh	kW
100	-12.6	-13.0	28.5	2.65	28.5	2.77	28.5	2.95	28.5	3.08	28.4	3.20	28.4	3.45	28.4	3.59	28.4	3.78
	-7.0	-7.6	31.1	2.92	31.1	3.04	31.1	3.22	31.0	3.34	30.9	3.47	30.9	3.72	30.9	3.86	30.9	4.05
	-4.0	-4.4	32.6	3.08	32.6	3.20	32.6	3.38	32.5	3.51	32.4	3.63	32.4	3.88	32.4	4.02	32.4	4.21
	0.0	-0.4	34.5	3.28	34.4	3.40	34.3	3.58	34.2	3.71	34.2	3.83	34.2	4.08	34.2	4.22	34.2	4.41
	5.0	4.5	36.8	3.53	36.8	3.65	36.8	3.83	36.7	3.96	36.6	4.08	36.6	4.33	36.6	4.47	36.6	4.66
	10.0	9.0	39.3	3.78	39.2	3.90	39.0	4.08	39.0	4.21	39.0	4.33	38.5	4.48	37.6	4.40	36.3	4.30
	15.0	14.0	41.5	4.02	41.5	4.14	41.5	4.32	41.4	4.34	41.3	4.36	39.5	4.29	37.2	4.15	34.1	3.98
	20.0	19.0	44.8	4.33	44.7	4.40	44.4	4.50	43.2	4.31	42.0	4.13	39.5	4.04	37.2	3.91	34.1	3.75
	25.0	23.0	47.7	4.62	47.0	4.43	46.0	4.15	44.0	4.03	42.0	3.91	39.5	3.80	37.2	3.68	34.1	3.52
	30.0	28.0	50.0	4.31	48.4	4.15	46.2	3.91	44.1	3.80	42.0	3.68	39.5	3.55	37.2	3.44	34.1	3.30
	35.0	32.0	50.8	3.99	48.9	3.86	46.2	3.67	44.1	3.56	42.0	3.45	39.5	3.31	37.2	3.21	34.1	3.07
	40.0	36.0	50.8	3.68	48.9	3.58	46.2	3.43	44.1	3.33	42.0	3.23	39.5	3.07	37.2	2.97	34.1	2.84
	45.0	41.0	50.8	3.37	48.9	3.30	46.2	3.20	44.1	3.10	42.0	3.00	39.5	2.83	37.2	2.74	34.1	2.62
	47.0	43.0	50.8	3.28	48.9	3.21	46.2	3.11	44.1	3.02	**42.0**	**2.92**	39.5	2.76	37.2	2.67	34.1	2.55
	50.0	46.0	50.8	3.16	48.9	3.09	46.2	3.00	44.1	2.91	42.0	2.82	39.5	2.65	37.2	2.57	34.1	2.45
	55.0	51.0	50.8	2.96	48.9	2.90	46.2	2.81	44.1	2.73	42.0	2.64	39.5	2.49	37.2	2.41	34.1	2.30
	60.0	56.0	50.8	2.76	48.9	2.70	46.2	2.61	44.1	2.54	42.0	2.46	39.5	2.32	37.2	2.24	34.1	2.14
90	-12.6	-13.0	28.4	2.62	28.4	2.71	28.4	2.85	28.3	3.00	28.3	3.14	28.3	3.42	28.3	3.64	28.3	3.94
	-7.0	-7.6	31.0	2.89	31.0	2.98	31.0	3.12	30.9	3.27	30.8	3.41	30.8	3.69	30.8	3.91	30.8	4.21
	-4.0	-4.4	32.5	3.05	32.5	3.14	32.5	3.28	32.4	3.43	32.3	3.58	32.3	3.85	32.3	4.08	32.3	4.38
	0.0	-0.4	34.5	3.25	34.4	3.34	34.3	3.48	34.2	3.63	34.2	3.78	34.1	4.05	33.9	4.28	33.6	4.58
	5.0	4.5	36.8	3.50	36.8	3.59	36.8	3.73	36.6	3.88	36.5	4.03	35.6	4.19	34.2	4.18	32.3	4.17
	10.0	9.0	39.3	3.75	39.2	3.84	39.0	3.98	38.6	4.13	38.3	4.27	36.2	4.11	34.0	3.93	31.1	3.68
	15.0	14.0	41.5	4.00	41.5	4.09	41.5	4.22	40.0	4.17	38.5	4.12	36.2	3.90	34.0	3.72	31.1	3.49
	20.0	19.0	45.9	4.37	44.4	4.28	42.2	4.15	40.3	4.02	38.5	3.89	36.2	3.68	34.0	3.51	31.1	3.29
	25.0	23.0	46.6	4.11	44.8	4.03	42.2	3.90	40.3	3.78	38.5	3.66	36.2	3.46	34.0	3.30	31.1	3.09
	30.0	28.0	46.6	3.85	44.8	3.77	42.2	3.66	40.3	3.54	38.5	3.43	36.2	3.25	34.0	3.10	31.1	2.90
	35.0	32.0	46.6	3.59	44.8	3.52	42.2	3.41	40.3	3.31	38.5	3.20	36.2	3.03	34.0	2.89	31.1	2.70
	40.0	36.0	46.6	3.33	44.8	3.26	42.2	3.16	40.3	3.07	38.5	2.97	36.2	2.82	34.0	2.68	31.1	2.50
	45.0	41.0	46.6	3.08	44.8	3.01	42.2	2.92	40.3	2.83	38.5	2.75	36.2	2.61	34.0	2.48	31.1	2.31
	47.0	43.0	46.6	2.99	44.8	2.93	42.2	2.84	40.3	2.76	38.5	2.67	36.2	2.54	34.0	2.41	31.1	2.25
	50.0	46.0	46.6	2.88	44.8	2.83	42.2	2.74	40.3	2.66	38.5	2.57	36.2	2.44	34.0	2.32	31.1	2.17
	55.0	51.0	46.6	2.71	44.8	2.65	42.2	2.57	40.3	2.49	38.5	2.42	36.2	2.29	34.0	2.18	31.1	2.03
	60.0	56.0	46.6	2.52	44.8	2.47	42.2	2.39	40.3	2.32	38.5	2.25	36.2	2.13	34.0	2.03	31.1	1.89
80	-12.6	-13.0	28.3	2.28	28.3	2.36	28.3	2.48	28.2	2.65	28.1	2.83	28.1	3.20	28.1	3.43	28.1	3.73
	-7.0	-7.6	30.8	2.55	30.8	2.63	30.8	2.75	30.7	2.92	30.6	3.10	30.6	3.45	30.6	3.65	30.6	3.90
	-4.0	-4.4	32.4	2.71	32.4	2.79	32.4	2.91	32.3	3.08	32.2	3.26	31.7	3.61	30.6	3.78	29.2	4.01
	0.0	-0.4	34.3	2.91	34.3	2.99	34.3	3.11	34.0	3.28	33.8	3.46	32.3	3.74	30.4	3.76	27.9	3.80
	5.0	4.5	36.7	3.16	36.7	3.24	36.7	3.36	35.6	3.53	34.4	3.71	32.3	3.66	30.4	3.55	27.8	3.40
	10.0	9.0	40.3	3.41	39.3	3.49	37.8	3.61	36.1	3.66	34.4	3.72	32.3	3.48	30.4	3.37	27.8	3.23
	15.0	14.0	41.7	3.69	40.1	3.73	37.8	3.80	36.1	3.66	34.4	3.52	32.3	3.30	30.4	3.19	27.8	3.05
	20.0	19.0	41.7	3.74	40.1	3.68	37.8	3.58	36.1	3.45	34.4	3.32	32.3	3.11	30.4	3.01	27.8	2.88
	25.0	23.0	41.7	3.52	40.1	3.45	37.8	3.36	36.1	3.24	34.4	3.12	32.3	2.93	30.4	2.83	27.8	2.70
	30.0	28.0	41.7	3.29	40.1	3.23	37.8	3.14	36.1	3.03	34.4	2.92	32.3	2.75	30.4	2.65	27.8	2.53
	35.0	32.0	41.7	3.07	40.1	3.01	37.8	2.92	36.1	2.82	34.4	2.72	32.3	2.57	30.4	2.47	27.8	2.35
	40.0	36.0	41.7	2.84	40.1	2.79	37.8	2.71	36.1	2.61	34.4	2.52	32.3	2.38	30.4	2.29	27.8	2.18
	45.0	41.0	41.7	2.62	40.1	2.57	37.8	2.49	36.1	2.41	34.4	2.32	32.3	2.20	30.4	2.12	27.8	2.01
	47.0	43.0	41.7	2.55	40.1	2.50	37.8	2.43	36.1	2.34	34.4	2.26	32.3	2.14	30.4	2.06	27.8	1.95
	50.0	46.0	41.7	2.45	40.1	2.41	37.8	2.34	36.1	2.26	34.4	2.17	32.3	2.07	30.4	1.99	27.8	1.88
	55.0	51.0	41.7	2.30	40.1	2.26	37.8	2.19	36.1	2.12	34.4	2.04	32.3	1.94	30.4	1.86	27.8	1.77
	60.0	56.0	41.7	2.14	40.1	2.10	37.8	2.04	36.1	1.97	34.4	1.90	32.3	1.80	30.4	1.73	27.8	1.64

TC = Total Capacity (MBh). PI = Power Input (kW) (includes compressor and outdoor fan).

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

Nominal capacity as rated: 0 ft. above sea level with 25 ft. of refrigerant piping.
0 ft. level difference between outdoor and indoor units.

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

HEATING CAPACITY DATA

MULTI V S WITH LGRED°

ARUM036GSS5

36,000 Btu/h 208-230V Outdoor Units

Combination (%)	Outdoor air temp.		Indoor Air Temp. °F DB/°F WB															
			59		61		64		67		70		73		76		80	
	°F DB	°F WB	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
			MBh	kW	MBh	kW	MBh	kW	MBh	kW	MBh	kW	MBh	kW	MBh	kW	MBh	kW
70	-12.6	-13.0	28.3	2.18	28.3	2.30	28.3	2.48	28.2	2.67	28.1	2.86	27.5	3.24	26.1	3.47	24.2	3.77
	-7.0	-7.6	30.4	2.45	30.4	2.57	30.4	2.75	29.8	2.96	29.2	3.17	27.6	3.47	26.0	3.61	23.9	3.79
	-4.0	-4.4	31.7	2.61	31.7	2.73	31.7	2.91	30.4	3.13	29.2	3.35	27.6	3.61	26.0	3.70	23.9	3.81
	0.0	-0.4	34.0	2.81	33.2	2.93	32.1	3.11	30.7	3.34	29.2	3.58	27.6	3.59	26.0	3.53	23.9	3.45
	5.0	4.5	35.3	3.06	34.0	3.18	32.1	3.36	30.7	3.46	29.2	3.56	27.6	3.40	26.0	3.33	23.9	3.25
	10.0	9.0	35.3	3.31	34.0	3.43	32.1	3.61	30.7	3.49	29.2	3.37	27.6	3.21	26.0	3.14	23.9	3.05
	15.0	14.0	35.3	3.73	34.0	3.62	32.1	3.46	30.7	3.32	29.2	3.17	27.6	3.02	26.0	2.95	23.9	2.85
	20.0	19.0	35.3	3.48	34.0	3.38	32.1	3.24	30.7	3.10	29.2	2.97	27.6	2.83	26.0	2.75	23.9	2.65
	25.0	23.0	35.3	3.24	34.0	3.15	32.1	3.02	30.7	2.89	29.2	2.77	27.6	2.63	26.0	2.55	23.9	2.45
	30.0	28.0	35.3	3.00	34.0	2.92	32.1	2.80	30.7	2.69	29.2	2.57	27.6	2.44	26.0	2.36	23.9	2.25
	35.0	32.0	35.3	2.77	34.0	2.69	32.1	2.58	30.7	2.48	29.2	2.37	27.6	2.25	26.0	2.16	23.9	2.05
	40.0	36.0	35.3	2.53	34.0	2.46	32.1	2.36	30.7	2.27	29.2	2.17	27.6	2.06	26.0	1.97	23.9	1.85
	45.0	41.0	35.3	2.30	34.0	2.24	32.1	2.15	30.7	2.06	29.2	1.98	27.6	1.88	26.0	1.78	23.9	1.65
	47.0	43.0	35.3	2.23	34.0	2.18	32.1	2.09	30.7	2.01	29.2	1.93	27.6	1.83	26.0	1.73	23.9	1.61
	50.0	46.0	35.3	2.15	34.0	2.10	32.1	2.01	30.7	1.93	29.2	1.86	27.6	1.76	26.0	1.67	23.9	1.55
	55.0	51.0	35.3	2.02	34.0	1.97	32.1	1.89	30.7	1.82	29.2	1.74	27.6	1.65	26.0	1.57	23.9	1.45
	60.0	56.0	35.3	1.88	34.0	1.83	32.1	1.76	30.7	1.69	29.2	1.62	27.6	1.54	26.0	1.46	23.9	1.35
60	-12.6	-13.0	26.1	2.21	26.1	2.33	26.1	2.50	25.6	2.72	25.0	2.94	23.6	3.33	22.3	3.57	20.6	3.88
	-7.0	-7.6	28.2	2.48	27.9	2.60	27.6	2.77	26.3	3.00	25.0	3.22	23.6	3.38	22.3	3.53	20.6	3.73
	-4.0	-4.4	30.0	2.64	29.1	2.76	27.6	2.93	26.3	3.16	25.0	3.39	23.6	3.44	22.3	3.35	20.6	3.23
	0.0	-0.4	30.2	2.84	29.2	2.96	27.6	3.13	26.3	3.28	25.0	3.42	23.6	3.30	22.3	3.19	20.6	3.04
	5.0	4.5	30.2	3.09	29.2	3.21	27.6	3.38	26.3	3.30	25.0	3.23	23.6	3.11	22.3	3.00	20.6	2.85
	10.0	9.0	30.2	3.51	29.2	3.46	27.6	3.38	26.3	3.21	25.0	3.04	23.6	2.92	22.3	2.81	20.6	2.67
	15.0	14.0	30.2	3.41	29.2	3.31	27.6	3.16	26.3	3.01	25.0	2.85	23.6	2.73	22.3	2.63	20.6	2.48
	20.0	19.0	30.2	3.18	29.2	3.08	27.6	2.94	26.3	2.80	25.0	2.66	23.6	2.54	22.3	2.43	20.6	2.29
	25.0	23.0	30.2	2.96	29.2	2.86	27.6	2.72	26.3	2.59	25.0	2.46	23.6	2.35	22.3	2.24	20.6	2.11
	30.0	28.0	30.2	2.73	29.2	2.64	27.6	2.51	26.3	2.39	25.0	2.27	23.6	2.16	22.3	2.05	20.6	1.92
	35.0	32.0	30.2	2.51	29.2	2.42	27.6	2.29	26.3	2.18	25.0	2.08	23.6	1.96	22.3	1.86	20.6	1.73
	40.0	36.0	30.2	2.28	29.2	2.20	27.6	2.07	26.3	1.98	25.0	1.89	23.6	1.77	22.3	1.68	20.6	1.54
	45.0	41.0	30.2	2.07	29.2	1.98	27.6	1.86	26.3	1.78	25.0	1.70	23.6	1.59	22.3	1.49	20.6	1.37
	47.0	43.0	30.2	2.01	29.2	1.93	27.6	1.81	26.3	1.73	25.0	1.66	23.6	1.55	22.3	1.45	20.6	1.33
	50.0	46.0	30.2	1.94	29.2	1.86	27.6	1.74	26.3	1.67	25.0	1.60	23.6	1.49	22.3	1.40	20.6	1.28
	55.0	51.0	30.2	1.82	29.2	1.75	27.6	1.63	26.3	1.57	25.0	1.50	23.6	1.40	22.3	1.31	20.6	1.20
	60.0	56.0	30.2	1.69	29.2	1.62	27.6	1.52	26.3	1.46	25.0	1.39	23.6	1.30	22.3	1.22	20.6	1.12
50	-12.6	-13.0	25.3	2.00	24.4	2.18	23.0	2.45	21.9	2.68	20.9	2.91	19.7	3.06	18.5	3.21	17.0	3.41
	-7.0	-7.6	25.3	2.27	24.4	2.45	23.0	2.72	21.9	2.86	20.9	2.99	19.7	3.10	18.5	2.95	17.0	2.75
	-4.0	-4.4	25.3	2.43	24.4	2.61	23.0	2.88	21.9	3.02	20.9	3.16	19.7	2.99	18.5	2.84	17.0	2.65
	0.0	-0.4	25.3	2.63	24.4	2.81	23.0	3.08	21.9	3.06	20.9	3.04	19.7	2.85	18.5	2.71	17.0	2.52
	5.0	4.5	25.3	3.06	24.4	3.06	23.0	3.05	21.9	2.95	20.9	2.85	19.7	2.68	18.5	2.54	17.0	2.37
	10.0	9.0	25.3	3.20	24.4	3.06	23.0	2.86	21.9	2.76	20.9	2.67	19.7	2.50	18.5	2.38	17.0	2.21
	15.0	14.0	25.3	2.98	24.4	2.86	23.0	2.67	21.9	2.58	20.9	2.48	19.7	2.33	18.5	2.21	17.0	2.06
	20.0	19.0	25.3	2.76	24.4	2.64	23.0	2.47	21.9	2.38	20.9	2.29	19.7	2.16	18.5	2.05	17.0	1.90
	25.0	23.0	25.3	2.54	24.4	2.43	23.0	2.27	21.9	2.19	20.9	2.11	19.7	1.98	18.5	1.88	17.0	1.74
	30.0	28.0	25.3	2.32	24.4	2.22	23.0	2.08	21.9	2.00	20.9	1.92	19.7	1.81	18.5	1.71	17.0	1.58
	35.0	32.0	25.3	2.10	24.4	2.01	23.0	1.88	21.9	1.81	20.9	1.74	19.7	1.63	18.5	1.55	17.0	1.43
	40.0	36.0	25.3	1.88	24.4	1.80	23.0	1.69	21.9	1.62	20.9	1.55	19.7	1.46	18.5	1.38	17.0	1.27
	45.0	41.0	25.3	1.67	24.4	1.60	23.0	1.50	21.9	1.43	20.9	1.37	19.7	1.29	18.5	1.22	17.0	1.12
	47.0	43.0	25.3	1.62	24.4	1.56	23.0	1.46	21.9	1.40	20.9	1.33	19.7	1.26	18.5	1.19	17.0	1.09
	50.0	46.0	25.3	1.56	24.4	1.50	23.0	1.40	21.9	1.34	20.9	1.29	19.7	1.21	18.5	1.14	17.0	1.05
	55.0	51.0	25.3	1.47	24.4	1.41	23.0	1.32	21.9	1.26	20.9	1.21	19.7	1.14	18.5	1.07	17.0	0.99
	60.0	56.0	25.3	1.36	24.4	1.31	23.0	1.23	21.9	1.17	20.9	1.12	19.7	1.06	18.5	1.00	17.0	0.92

TC = Total Capacity (MBh). PI = Power Input (kW) (includes compressor and outdoor fan).

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

Nominal capacity as rated: 0 ft. above sea level with 25 ft. of refrigerant piping.
0 ft. level difference between outdoor and indoor units.

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

HEATING CAPACITY DATA

ARUM048GSS5

48,000 Btu/h 208-230V Outdoor Units

Combination (%)	Outdoor air temp.		Indoor Air Temp. °F DB/°F WB															
			59		61		64		67		70		73		76		80	
	°F DB	°F WB	TC MBh	PI kW	TC MBh	PI kW	TC MBh	PI kW	TC MBh	PI kW	TC MBh	PI kW	TC MBh	PI kW	TC MBh	PI kW	TC MBh	PI kW
130	-12.6	-13.0	37.3	2.41	37.3	2.64	37.3	2.98	37.2	3.27	37.1	3.56	37.1	3.86	37.1	4.00	37.1	4.20
	-7.0	-7.6	40.7	2.75	40.7	2.98	40.7	3.33	40.5	3.62	40.4	3.91	40.4	4.21	40.4	4.35	40.4	4.54
	-4.0	-4.4	42.7	2.96	42.7	3.19	42.7	3.54	42.5	3.83	42.4	4.12	42.4	4.41	42.4	4.56	42.4	4.75
	0.0	-0.4	45.1	3.22	45.1	3.45	45.1	3.79	45.0	4.08	44.8	4.37	44.8	4.67	44.8	4.81	44.8	5.01
	5.0	4.5	48.2	3.54	48.2	3.77	48.2	4.12	48.0	4.40	47.9	4.69	47.9	4.99	47.9	5.14	47.9	5.33
	10.0	9.0	51.3	3.86	51.3	4.09	51.3	4.44	51.1	4.72	51.0	5.01	51.0	5.31	51.0	5.46	51.0	5.65
	15.0	14.0	54.3	4.17	54.3	4.40	54.3	4.75	54.1	5.04	54.0	5.33	54.0	5.63	54.0	5.77	54.0	5.96
	20.0	19.0	57.4	4.50	57.4	4.73	57.4	5.08	57.3	5.37	57.1	5.66	57.1	5.76	57.1	5.64	57.1	5.47
	25.0	23.0	60.5	4.82	60.5	5.05	60.5	5.40	60.3	5.57	60.2	5.73	60.2	5.49	60.2	5.37	60.2	5.21
	30.0	28.0	63.6	5.14	63.6	5.37	63.6	5.72	63.4	5.58	63.2	5.45	62.9	5.21	62.1	5.10	61.1	4.94
	35.0	32.0	66.7	5.74	66.7	5.69	66.7	5.62	66.5	5.39	66.3	5.16	65.0	4.94	62.3	4.83	58.6	4.67
	40.0	36.0	69.8	5.77	69.8	5.56	69.8	5.24	69.6	5.06	69.3	4.87	65.8	4.67	61.9	4.56	56.7	4.41
	45.0	41.0	72.1	5.13	72.1	5.03	72.1	4.86	71.1	4.72	70.1	4.58	65.8	4.40	61.9	4.29	56.7	4.14
	47.0	43.0	72.1	5.00	72.1	4.89	72.1	4.73	71.1	4.60	70.1	4.46	65.8	4.28	61.9	4.17	56.7	4.03
	50.0	46.0	72.1	4.81	72.1	4.71	72.1	4.56	71.1	4.43	70.1	4.30	65.8	4.12	61.9	4.02	56.7	3.88
	55.0	51.0	72.1	4.52	72.1	4.42	72.1	4.28	71.1	4.16	70.1	4.03	65.8	3.87	61.9	3.77	56.7	3.64
	60.0	56.0	72.1	4.20	72.1	4.11	72.1	3.98	71.1	3.87	70.1	3.75	65.8	3.60	61.9	3.51	56.7	3.39
120	-12.6	-13.0	37.1	2.75	37.1	2.98	37.1	3.33	36.9	3.45	36.8	3.56	36.8	4.01	36.8	4.11	36.8	4.23
	-7.0	-7.6	40.4	3.10	40.4	3.33	40.4	3.68	40.2	3.79	40.1	3.91	40.1	4.36	40.1	4.45	40.1	4.58
	-4.0	-4.4	42.3	3.31	42.3	3.54	42.3	3.88	42.2	4.00	42.1	4.12	42.1	4.56	42.1	4.66	42.1	4.79
	0.0	-0.4	44.8	3.56	44.8	3.79	44.8	4.14	44.7	4.26	44.5	4.37	44.5	4.82	44.5	4.92	44.5	5.05
	5.0	4.5	47.9	3.88	47.9	4.12	47.9	4.46	47.7	4.58	47.6	4.69	47.6	5.14	47.6	5.24	47.6	5.37
	10.0	9.0	50.9	4.21	50.9	4.44	50.9	4.78	50.8	4.90	50.6	5.01	50.6	5.46	50.6	5.56	50.6	5.69
	15.0	14.0	53.9	4.52	53.9	4.75	53.9	5.10	53.8	5.21	53.6	5.33	53.6	5.78	53.6	5.87	53.6	6.00
	20.0	19.0	57.0	4.85	57.0	5.08	57.0	5.42	56.9	5.62	56.7	5.81	56.7	5.64	56.7	5.57	56.7	5.47
	25.0	23.0	60.1	5.17	60.1	5.40	60.1	5.75	59.9	5.64	59.7	5.54	59.4	5.39	58.7	5.31	57.7	5.22
	30.0	28.0	63.2	5.79	63.2	5.72	63.2	5.62	63.0	5.44	62.8	5.26	61.2	5.13	58.4	5.06	54.6	4.97
	35.0	32.0	66.2	5.80	66.2	5.59	66.2	5.28	65.6	5.13	64.9	4.99	61.9	4.88	58.1	4.81	53.1	4.71
	40.0	36.0	69.3	5.30	69.3	5.16	69.3	4.95	67.5	4.83	65.7	4.71	61.9	4.62	58.1	4.55	53.1	4.46
	45.0	41.0	72.0	4.83	71.5	4.74	70.8	4.61	68.2	4.52	65.7	4.43	61.9	4.36	58.1	4.30	53.1	4.21
	47.0	43.0	72.0	4.70	71.5	4.61	70.8	4.49	68.2	4.40	65.7	4.32	61.9	4.25	58.1	4.18	53.1	4.10
	50.0	46.0	72.0	4.52	71.5	4.44	70.8	4.32	68.2	4.24	65.7	4.16	61.9	4.09	58.1	4.03	53.1	3.95
	55.0	51.0	72.0	4.25	71.5	4.17	70.8	4.06	68.2	3.98	65.7	3.90	61.9	3.84	58.1	3.78	53.1	3.70
	60.0	56.0	72.0	3.95	71.5	3.88	70.8	3.77	68.2	3.70	65.7	3.63	61.9	3.57	58.1	3.52	53.1	3.44
110	-12.6	-13.0	36.9	3.18	36.9	3.33	36.9	3.56	36.7	3.76	36.6	3.97	36.6	4.18	36.6	4.41	36.6	4.70
	-7.0	-7.6	40.1	3.52	40.1	3.68	40.1	3.91	40.0	4.11	39.9	4.31	39.9	4.53	39.9	4.75	39.9	5.05
	-4.0	-4.4	42.1	3.73	42.1	3.88	42.1	4.12	42.0	4.32	41.9	4.52	41.9	4.74	41.9	4.96	41.9	5.25
	0.0	-0.4	44.6	3.99	44.6	4.14	44.6	4.37	44.4	4.57	44.3	4.78	44.3	5.00	44.3	5.22	44.3	5.51
	5.0	4.5	47.6	4.31	47.6	4.46	47.6	4.69	47.4	4.90	47.3	5.10	47.3	5.32	47.3	5.54	47.3	5.83
	10.0	9.0	50.6	4.63	50.6	4.78	50.6	5.01	50.5	5.22	50.3	5.42	50.3	5.64	50.3	5.86	50.3	6.15
	15.0	14.0	53.6	4.94	53.6	5.10	53.6	5.33	53.5	5.53	53.3	5.73	53.3	5.76	53.2	5.58	53.2	5.34
	20.0	19.0	56.7	5.27	56.7	5.42	56.7	5.66	56.6	5.66	56.4	5.66	55.0	5.48	52.6	5.31	49.3	5.09
	25.0	23.0	59.8	5.77	59.8	5.75	59.8	5.71	59.2	5.54	58.6	5.37	55.5	5.21	52.4	5.05	48.2	4.84
	30.0	28.0	62.8	5.72	62.8	5.58	62.8	5.36	60.9	5.22	59.0	5.08	55.5	4.93	52.4	4.79	48.2	4.60
	35.0	32.0	66.7	5.28	65.9	5.17	64.6	5.01	61.8	4.90	59.0	4.79	55.5	4.66	52.4	4.53	48.2	4.35
	40.0	36.0	70.6	4.85	68.4	4.77	65.0	4.66	62.0	4.58	59.0	4.50	55.5	4.38	52.4	4.27	48.2	4.11
	45.0	41.0	71.3	4.42	68.8	4.38	65.0	4.31	62.0	4.26	59.0	4.21	55.5	4.11	52.4	4.00	48.2	3.86
	47.0	43.0	71.3	4.31	68.8	4.26	65.0	4.20	62.0	4.15	59.0	4.10	55.5	4.00	52.4	3.90	48.2	3.76
	50.0	46.0	71.3	4.15	68.8	4.11	65.0	4.05	62.0	4.00	59.0	3.95	55.5	3.85	52.4	3.75	48.2	3.62
	55.0	51.0	71.3	3.89	68.8	3.85	65.0	3.80	62.0	3.75	59.0	3.71	55.5	3.62	52.4	3.52	48.2	3.40
	60.0	56.0	71.3	3.62	68.8	3.58	65.0	3.53	62.0	3.49	59.0	3.45	55.5	3.36	52.4	3.28	48.2	3.16

TC = Total Capacity (MBh). PI = Power Input (kW) (includes compressor and outdoor fan).

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

Nominal capacity as rated: 0 ft. above sea level with 25 ft. of refrigerant piping.
0 ft. level difference between outdoor and indoor units.

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

HEATING CAPACITY DATA

ARUM048GSS5

48,000 Btu/h 208-230V Outdoor Units

MULTI V S WITH LGRED°

Combination (%)	Outdoor air temp.		Indoor Air Temp. °F DB/°F WB															
			59		61		64		67		70		73		76		80	
	°F DB	°F WB	TC MBh	PI kW	TC MBh	PI kW	TC MBh	PI kW	TC MBh	PI kW	TC MBh	PI kW	TC MBh	PI kW	TC MBh	PI kW	TC MBh	PI kW
100	-12.6	-13.0	36.7	3.41	36.7	3.56	36.7	3.79	36.6	3.95	36.5	4.12	36.5	4.43	36.5	4.61	36.5	4.86
	-7.0	-7.6	40.0	3.75	40.0	3.91	40.0	4.14	39.9	4.30	39.7	4.46	39.7	4.78	39.7	4.96	39.7	5.20
	-4.0	-4.4	41.9	3.96	41.9	4.12	41.9	4.35	41.8	4.51	41.7	4.67	41.7	4.99	41.7	5.17	41.7	5.41
	0.0	-0.4	44.3	4.22	44.2	4.37	44.1	4.60	44.0	4.76	44.0	4.93	44.0	5.24	44.0	5.43	44.0	5.67
	5.0	4.5	47.3	4.54	47.3	4.69	47.3	4.92	47.1	5.09	47.0	5.25	47.0	5.56	47.0	5.75	47.0	5.99
	10.0	9.0	50.5	4.86	50.4	5.01	50.2	5.24	50.1	5.41	50.1	5.57	49.5	5.75	48.3	5.66	46.6	5.53
	15.0	14.0	53.3	5.17	53.3	5.33	53.3	5.56	53.2	5.58	53.1	5.61	50.8	5.51	47.9	5.34	43.9	5.12
	20.0	19.0	57.6	5.57	57.4	5.66	57.1	5.78	55.6	5.55	54.0	5.31	50.8	5.19	47.9	5.03	43.9	4.82
	25.0	23.0	61.3	5.94	60.5	5.70	59.1	5.34	56.6	5.18	54.0	5.02	50.8	4.88	47.9	4.73	43.9	4.53
	30.0	28.0	64.2	5.54	62.3	5.33	59.4	5.03	56.7	4.88	54.0	4.73	50.8	4.57	47.9	4.43	43.9	4.24
	35.0	32.0	65.3	5.13	62.9	4.97	59.4	4.72	56.7	4.58	54.0	4.44	50.8	4.26	47.9	4.12	43.9	3.94
	40.0	36.0	65.3	4.73	62.9	4.60	59.4	4.41	56.7	4.28	54.0	4.15	50.8	3.95	47.9	3.82	43.9	3.65
	45.0	41.0	65.3	4.33	62.9	4.24	59.4	4.11	56.7	3.98	54.0	3.86	50.8	3.64	47.9	3.52	43.9	3.36
	47.0	43.0	65.3	4.21	62.9	4.13	59.4	4.00	56.7	3.88	**54.0**	**3.75**	50.8	3.54	47.9	3.43	43.9	3.28
	50.0	46.0	65.3	4.06	62.9	3.98	59.4	3.85	56.7	3.74	54.0	3.62	50.8	3.41	47.9	3.30	43.9	3.15
	55.0	51.0	65.3	3.81	62.9	3.73	59.4	3.61	56.7	3.51	54.0	3.40	50.8	3.20	47.9	3.10	43.9	2.96
	60.0	56.0	65.3	3.54	62.9	3.47	59.4	3.36	56.7	3.26	54.0	3.16	50.8	2.98	47.9	2.88	43.9	2.75
90	-12.6	-13.0	36.6	3.37	36.6	3.49	36.6	3.66	36.4	3.85	36.3	4.04	36.3	4.40	36.3	4.69	36.3	5.07
	-7.0	-7.6	39.8	3.72	39.8	3.83	39.8	4.01	39.7	4.20	39.6	4.39	39.6	4.74	39.6	5.03	39.6	5.42
	-4.0	-4.4	41.8	3.93	41.8	4.04	41.8	4.22	41.6	4.41	41.5	4.60	41.5	4.95	41.5	5.24	41.5	5.63
	0.0	-0.4	44.3	4.18	44.2	4.30	44.1	4.47	44.0	4.66	43.9	4.85	43.8	5.21	43.5	5.50	43.2	5.88
	5.0	4.5	47.3	4.50	47.3	4.62	47.3	4.79	47.1	4.98	46.9	5.17	45.8	5.39	44.0	5.38	41.5	5.36
	10.0	9.0	50.5	4.83	50.4	4.94	50.2	5.11	49.7	5.30	49.2	5.50	46.5	5.28	43.7	5.05	39.9	4.73
	15.0	14.0	53.3	5.14	53.3	5.26	53.3	5.43	51.4	5.36	49.5	5.30	46.5	5.01	43.7	4.79	39.9	4.48
	20.0	19.0	59.0	5.62	57.1	5.50	54.2	5.34	51.8	5.17	49.5	5.00	46.5	4.73	43.7	4.51	39.9	4.23
	25.0	23.0	59.9	5.28	57.6	5.18	54.2	5.02	51.8	4.86	49.5	4.70	46.5	4.45	43.7	4.25	39.9	3.97
	30.0	28.0	59.9	4.95	57.6	4.85	54.2	4.70	51.8	4.56	49.5	4.41	46.5	4.18	43.7	3.98	39.9	3.72
	35.0	32.0	59.9	4.62	57.6	4.52	54.2	4.38	51.8	4.25	49.5	4.12	46.5	3.90	43.7	3.72	39.9	3.47
	40.0	36.0	59.9	4.28	57.6	4.20	54.2	4.07	51.8	3.94	49.5	3.82	46.5	3.62	43.7	3.45	39.9	3.22
	45.0	41.0	59.9	3.96	57.6	3.88	54.2	3.76	51.8	3.64	49.5	3.53	46.5	3.35	43.7	3.19	39.9	2.97
	47.0	43.0	59.9	3.85	57.6	3.77	54.2	3.66	51.8	3.55	49.5	3.44	46.5	3.26	43.7	3.10	39.9	2.89
	50.0	46.0	59.9	3.71	57.6	3.63	54.2	3.52	51.8	3.42	49.5	3.31	46.5	3.14	43.7	2.99	39.9	2.78
	55.0	51.0	59.9	3.48	57.6	3.41	54.2	3.31	51.8	3.21	49.5	3.11	46.5	2.95	43.7	2.80	39.9	2.61
	60.0	56.0	59.9	3.24	57.6	3.17	54.2	3.07	51.8	2.98	49.5	2.89	46.5	2.74	43.7	2.61	39.9	2.43
80	-12.6	-13.0	36.4	2.93	36.4	3.03	36.4	3.18	36.3	3.41	36.2	3.63	36.2	4.12	36.2	4.40	36.2	4.79
	-7.0	-7.6	39.7	3.28	39.7	3.38	39.7	3.53	39.5	3.76	39.4	3.98	39.4	4.44	39.4	4.69	39.4	5.01
	-4.0	-4.4	41.6	3.49	41.6	3.59	41.6	3.74	41.5	3.96	41.3	4.19	40.7	4.64	39.3	4.86	37.5	5.15
	0.0	-0.4	44.1	3.74	44.1	3.84	44.1	3.99	43.8	4.22	43.4	4.45	41.5	4.81	39.1	4.84	35.8	4.88
	5.0	4.5	47.2	4.07	47.2	4.17	47.2	4.32	45.8	4.54	44.3	4.77	41.5	4.70	39.1	4.56	35.8	4.37
	10.0	9.0	51.8	4.39	50.6	4.49	48.6	4.64	46.5	4.71	44.3	4.78	41.5	4.47	39.1	4.33	35.8	4.15
	15.0	14.0	53.6	4.74	51.6	4.80	48.6	4.89	46.5	4.71	44.3	4.53	41.5	4.24	39.1	4.11	35.8	3.93
	20.0	19.0	53.6	4.81	51.6	4.73	48.6	4.60	46.5	4.43	44.3	4.26	41.5	4.00	39.1	3.87	35.8	3.70
	25.0	23.0	53.6	4.52	51.6	4.44	48.6	4.32	46.5	4.16	44.3	4.01	41.5	3.77	39.1	3.64	35.8	3.47
	30.0	28.0	53.6	4.23	51.6	4.15	48.6	4.04	46.5	3.89	44.3	3.75	41.5	3.53	39.1	3.41	35.8	3.25
	35.0	32.0	53.6	3.94	51.6	3.87	48.6	3.76	46.5	3.63	44.3	3.49	41.5	3.30	39.1	3.18	35.8	3.02
	40.0	36.0	53.6	3.65	51.6	3.58	48.6	3.48	46.5	3.36	44.3	3.23	41.5	3.06	39.1	2.95	35.8	2.80
	45.0	41.0	53.6	3.36	51.6	3.30	48.6	3.21	46.5	3.09	44.3	2.98	41.5	2.83	39.1	2.72	35.8	2.58
	47.0	43.0	53.6	3.28	51.6	3.21	48.6	3.12	46.5	3.01	44.3	2.90	41.5	2.76	39.1	2.65	35.8	2.51
	50.0	46.0	53.6	3.15	51.6	3.09	48.6	3.00	46.5	2.90	44.3	2.79	41.5	2.66	39.1	2.55	35.8	2.42
	55.0	51.0	53.6	2.96	51.6	2.90	48.6	2.82	46.5	2.72	44.3	2.62	41.5	2.49	39.1	2.40	35.8	2.27
	60.0	56.0	53.6	2.75	51.6	2.70	48.6	2.62	46.5	2.53	44.3	2.44	41.5	2.32	39.1	2.23	35.8	2.11

TC = Total Capacity (MBh). PI = Power Input (kW) (includes compressor and outdoor fan).

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

Nominal capacity as rated: 0 ft. above sea level with 25 ft. of refrigerant piping.
0 ft. level difference between outdoor and indoor units.

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

HEATING CAPACITY DATA

ARUM048GSS5

48,000 Btu/h 208-230V Outdoor Units

Combination (%)	Outdoor air temp.		Indoor Air Temp. °F DB/°F WB															
			59		61		64		67		70		73		76		80	
	°F DB	°F WB	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
			MBh	kW	MBh	kW	MBh	kW	MBh	kW	MBh	kW	MBh	kW	MBh	kW	MBh	kW
70	-12.6	-13.0	36.4	2.80	36.4	2.95	36.4	3.19	36.3	3.43	36.2	3.68	35.3	4.17	33.5	4.46	31.1	4.85
	-7.0	-7.6	39.1	3.15	39.1	3.30	39.1	3.53	38.3	3.80	37.5	4.07	35.5	4.47	33.4	4.64	30.7	4.88
	-4.0	-4.4	40.7	3.35	40.7	3.51	40.7	3.74	39.1	4.02	37.5	4.31	35.5	4.65	33.4	4.75	30.7	4.89
	0.0	-0.4	43.7	3.61	42.7	3.77	41.3	4.00	39.4	4.30	37.5	4.60	35.5	4.61	33.4	4.54	30.7	4.43
	5.0	4.5	45.4	3.93	43.7	4.09	41.3	4.32	39.4	4.45	37.5	4.58	35.5	4.37	33.4	4.29	30.7	4.18
	10.0	9.0	45.4	4.25	43.8	4.41	41.3	4.64	39.4	4.48	37.5	4.33	35.5	4.12	33.4	4.04	30.7	3.92
	15.0	14.0	45.4	4.79	43.8	4.65	41.3	4.45	39.4	4.26	37.5	4.08	35.5	3.88	33.4	3.79	30.7	3.67
	20.0	19.0	45.4	4.48	43.8	4.35	41.3	4.16	39.4	3.99	37.5	3.82	35.5	3.63	33.4	3.53	30.7	3.40
	25.0	23.0	45.4	4.17	43.8	4.05	41.3	3.88	39.4	3.72	37.5	3.56	35.5	3.39	33.4	3.28	30.7	3.15
	30.0	28.0	45.4	3.86	43.8	3.76	41.3	3.60	39.4	3.45	37.5	3.31	35.5	3.14	33.4	3.03	30.7	2.89
	35.0	32.0	45.4	3.56	43.8	3.46	41.3	3.32	39.4	3.18	37.5	3.05	35.5	2.90	33.4	2.78	30.7	2.63
	40.0	36.0	45.4	3.25	43.8	3.16	41.3	3.03	39.4	2.91	37.5	2.79	35.5	2.65	33.4	2.53	30.7	2.37
	45.0	41.0	45.4	2.95	43.8	2.87	41.3	2.76	39.4	2.65	37.5	2.55	35.5	2.41	33.4	2.29	30.7	2.12
	47.0	43.0	45.4	2.87	43.8	2.80	41.3	2.69	39.4	2.58	37.5	2.48	35.5	2.35	33.4	2.23	30.7	2.07
	50.0	46.0	45.4	2.77	43.8	2.69	41.3	2.59	39.4	2.49	37.5	2.39	35.5	2.26	33.4	2.15	30.7	1.99
	55.0	51.0	45.4	2.60	43.8	2.53	41.3	2.43	39.4	2.33	37.5	2.24	35.5	2.12	33.4	2.01	30.7	1.87
	60.0	56.0	45.4	2.42	43.8	2.35	41.3	2.26	39.4	2.17	37.5	2.08	35.5	1.97	33.4	1.87	30.7	1.74
60	-12.6	-13.0	33.5	2.84	33.5	2.99	33.5	3.21	32.9	3.50	32.2	3.79	30.3	4.29	28.7	4.59	26.4	4.99
	-7.0	-7.6	36.2	3.19	35.9	3.34	35.5	3.56	33.9	3.85	32.2	4.15	30.3	4.35	28.7	4.54	26.4	4.80
	-4.0	-4.4	38.6	3.40	37.4	3.54	35.5	3.76	33.9	4.06	32.2	4.35	30.3	4.42	28.7	4.30	26.4	4.15
	0.0	-0.4	38.9	3.66	37.5	3.80	35.5	4.02	33.9	4.21	32.2	4.40	30.3	4.24	28.7	4.10	26.4	3.91
	5.0	4.5	38.9	3.98	37.5	4.12	35.5	4.34	33.9	4.25	32.2	4.15	30.3	4.00	28.7	3.86	26.4	3.67
	10.0	9.0	38.9	4.51	37.5	4.44	35.5	4.34	33.9	4.13	32.2	3.91	30.3	3.75	28.7	3.61	26.4	3.43
	15.0	14.0	38.9	4.38	37.5	4.26	35.5	4.07	33.9	3.87	32.2	3.67	30.3	3.51	28.7	3.38	26.4	3.19
	20.0	19.0	38.9	4.09	37.5	3.97	35.5	3.78	33.9	3.60	32.2	3.41	30.3	3.26	28.7	3.13	26.4	2.95
	25.0	23.0	38.9	3.80	37.5	3.68	35.5	3.50	33.9	3.33	32.2	3.17	30.3	3.02	28.7	2.88	26.4	2.71
	30.0	28.0	38.9	3.51	37.5	3.40	35.5	3.22	33.9	3.07	32.2	2.92	30.3	2.77	28.7	2.64	26.4	2.47
	35.0	32.0	38.9	3.22	37.5	3.11	35.5	2.94	33.9	2.81	32.2	2.67	30.3	2.52	28.7	2.40	26.4	2.23
	40.0	36.0	38.9	2.94	37.5	2.83	35.5	2.66	33.9	2.54	32.2	2.43	30.3	2.28	28.7	2.15	26.4	1.99
	45.0	41.0	38.9	2.66	37.5	2.55	35.5	2.39	33.9	2.29	32.2	2.19	30.3	2.04	28.7	1.92	26.4	1.76
	47.0	43.0	38.9	2.59	37.5	2.48	35.5	2.32	33.9	2.23	32.2	2.13	30.3	1.99	28.7	1.87	26.4	1.71
	50.0	46.0	38.9	2.49	37.5	2.39	35.5	2.24	33.9	2.15	32.2	2.05	30.3	1.91	28.7	1.80	26.4	1.65
	55.0	51.0	38.9	2.34	37.5	2.24	35.5	2.10	33.9	2.01	32.2	1.93	30.3	1.80	28.7	1.69	26.4	1.54
	60.0	56.0	38.9	2.17	37.5	2.09	35.5	1.95	33.9	1.87	32.2	1.79	30.3	1.67	28.7	1.57	26.4	1.44
50	-12.6	-13.0	32.5	2.57	31.3	2.80	29.5	3.15	28.2	3.44	26.9	3.73	25.3	3.94	23.8	4.13	21.8	4.39
	-7.0	-7.6	32.5	2.91	31.3	3.15	29.5	3.49	28.2	3.67	26.9	3.85	25.3	3.99	23.8	3.80	21.8	3.54
	-4.0	-4.4	32.5	3.12	31.3	3.35	29.5	3.70	28.2	3.88	26.9	4.06	25.3	3.85	23.8	3.66	21.8	3.40
	0.0	-0.4	32.5	3.38	31.3	3.61	29.5	3.96	28.2	3.93	26.9	3.91	25.3	3.67	23.8	3.49	21.8	3.24
	5.0	4.5	32.5	3.93	31.3	3.93	29.5	3.93	28.2	3.80	26.9	3.67	25.3	3.44	23.8	3.27	21.8	3.04
	10.0	9.0	32.5	4.11	31.3	3.94	29.5	3.68	28.2	3.55	26.9	3.43	25.3	3.22	23.8	3.06	21.8	2.84
	15.0	14.0	32.5	3.83	31.3	3.67	29.5	3.43	28.2	3.31	26.9	3.19	25.3	3.00	23.8	2.85	21.8	2.64
	20.0	19.0	32.5	3.55	31.3	3.40	29.5	3.17	28.2	3.06	26.9	2.95	25.3	2.77	23.8	2.63	21.8	2.44
	25.0	23.0	32.5	3.26	31.3	3.13	29.5	2.92	28.2	2.82	26.9	2.71	25.3	2.55	23.8	2.42	21.8	2.24
	30.0	28.0	32.5	2.98	31.3	2.86	29.5	2.67	28.2	2.57	26.9	2.47	25.3	2.32	23.8	2.20	21.8	2.04
	35.0	32.0	32.5	2.70	31.3	2.59	29.5	2.42	28.2	2.32	26.9	2.23	25.3	2.10	23.8	1.99	21.8	1.83
	40.0	36.0	32.5	2.42	31.3	2.32	29.5	2.17	28.2	2.08	26.9	1.99	25.3	1.88	23.8	1.77	21.8	1.63
	45.0	41.0	32.5	2.14	31.3	2.06	29.5	1.93	28.2	1.84	26.9	1.76	25.3	1.66	23.8	1.57	21.8	1.44
	47.0	43.0	32.5	2.09	31.3	2.00	29.5	1.87	28.2	1.80	26.9	1.72	25.3	1.62	23.8	1.53	21.8	1.40
	50.0	46.0	32.5	2.01	31.3	1.93	29.5	1.81	28.2	1.73	26.9	1.65	25.3	1.56	23.8	1.47	21.8	1.35
	55.0	51.0	32.5	1.89	31.3	1.81	29.5	1.69	28.2	1.62	26.9	1.55	25.3	1.46	23.8	1.38	21.8	1.27
	60.0	56.0	32.5	1.75	31.3	1.68	29.5	1.58	28.2	1.51	26.9	1.44	25.3	1.36	23.8	1.28	21.8	1.18

TC = Total Capacity (MBh). PI = Power Input (kW) (includes compressor and outdoor fan).

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

Nominal capacity as rated: 0 ft. above sea level with 25 ft. of refrigerant piping.
0 ft. level difference between outdoor and indoor units.

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

MAXIMUM HEATING CAPACITY DATA

ARUM036GSS5 and ARUM048GSS5

36,000 Btu/h and 48,000 Btu/h 208-230V Outdoor Units

MULTI V S WITH LGRED°

Table 6: ARUM036GSS5 Maximum Heating Capacity.

Combination (%)	Outdoor air temp.		Indoor Air Temp. °F DB/°F WB															
			59		61		64		67		70		73		76		80	
	°F DB	°F WB	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
			MBh	kW	MBh	kW	MBh	kW	MBh	kW	MBh	kW	MBh	kW	MBh	kW	MBh	kW
100	-12.6	-13.0	40.9	6.16	40.9	6.36	40.8	6.57	40.8	6.78	40.5	6.90	40.5	7.21	40.5	7.54	40.5	7.84
	-7.0	-7.6	43.2	6.21	43.2	6.38	43.2	6.56	43.2	6.72	42.9	6.83	42.9	7.09	42.9	7.31	42.9	7.45
	-4.0	-4.4	44.5	6.23	44.5	6.39	44.5	6.55	44.5	6.69	44.2	6.79	44.2	7.03	44.2	7.19	44.2	7.25
	0.0	-0.4	45.9	6.26	45.9	6.41	45.9	6.54	45.9	6.65	45.9	6.74	45.9	6.94	45.9	7.03	45.9	6.97
	5.0	4.5	48.3	6.30	48.3	6.42	48.3	6.53	48.3	6.60	48.0	6.68	47.7	6.84	47.7	6.83	46.2	6.62
	10.0	9.0	50.3	6.34	50.3	6.44	50.3	6.52	50.1	6.54	50.1	6.62	50.1	6.73	49.6	6.62	46.2	6.22
	15.0	14.0	52.4	6.38	52.4	6.46	52.4	6.50	52.4	6.49	52.2	6.56	51.3	6.62	49.6	6.18	46.2	5.82
	20.0	19.0	54.2	6.42	54.2	6.47	54.2	6.49	53.9	6.06	53.0	6.11	51.3	6.14	49.6	5.74	46.2	5.41
	25.0	23.0	58.2	6.46	58.2	6.49	58.2	6.01	56.4	5.63	53.0	5.66	51.3	5.65	49.6	5.30	46.2	5.01
	30.0	28.0	63.4	5.93	63.4	5.92	59.8	5.52	56.4	5.20	53.0	5.21	51.3	5.17	49.6	4.86	46.2	4.61
	35.0	32.0	64.5	5.40	63.4	5.36	59.8	5.03	56.4	4.77	53.0	4.76	51.3	4.68	49.6	4.42	46.2	4.21
	40.0	36.0	64.5	4.87	63.4	4.79	59.8	4.55	56.4	4.35	53.0	4.31	51.3	4.20	49.6	3.98	46.2	3.80
	45.0	41.0	64.5	4.33	63.4	4.22	59.8	4.06	56.4	3.92	53.0	3.86	51.3	3.71	49.6	3.54	46.2	3.40
	47.0	43.0	64.5	4.12	63.4	3.99	59.8	3.87	56.4	3.75	**53.0**	**3.68**	51.3	3.52	49.6	3.37	46.2	3.24
	50.0	46.0	64.5	3.86	63.4	3.74	59.8	3.62	56.4	3.51	53.0	3.45	51.3	3.30	49.6	3.16	46.2	3.04
	55.0	51.0	64.5	3.43	63.4	3.32	59.8	3.22	56.4	3.12	53.0	3.06	51.3	2.93	49.6	2.80	46.2	2.70
	60.0	56.0	64.5	2.98	63.4	2.88	59.8	2.79	56.4	2.71	53.0	2.66	51.3	2.54	49.6	2.43	46.2	2.34

Table 7: ARUM048GSS5 Maximum Heating Capacity.

Combination (%)	Outdoor air temp.		Indoor Air Temp. °F DB/°F WB															
			59		61		64		67		70		73		76		80	
	°F DB	°F WB	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
			MBh	kW	MBh	kW	MBh	kW	MBh	kW	MBh	kW	MBh	kW	MBh	kW	MBh	kW
100	-12.6	-13.0	44.0	6.33	43.9	6.54	43.8	6.75	43.8	6.97	43.6	7.09	43.6	7.41	43.6	7.75	43.6	8.06
	-7.0	-7.6	47.2	6.45	47.2	6.63	47.2	6.82	47.2	7.01	46.9	7.12	46.9	7.39	46.9	7.64	46.9	7.81
	-4.0	-4.4	49.0	6.51	49.0	6.68	49.0	6.86	49.0	7.03	48.7	7.13	48.7	7.38	48.7	7.58	48.7	7.68
	0.0	-0.4	51.0	6.60	51.0	6.74	51.0	6.91	51.0	7.05	51.0	7.15	51.0	7.36	51.0	7.50	51.0	7.51
	5.0	4.5	54.3	6.70	54.3	6.83	54.3	6.97	54.3	7.09	54.0	7.18	53.7	7.34	53.7	7.40	53.2	7.30
	10.0	9.0	57.2	6.80	57.2	6.91	57.2	7.03	56.9	7.12	56.9	7.20	56.9	7.32	56.9	7.30	53.2	6.90
	15.0	14.0	60.1	6.91	60.1	6.99	60.1	7.09	60.1	7.15	59.8	7.23	59.0	7.30	57.1	6.87	53.2	6.50
	20.0	19.0	62.3	7.01	62.3	7.07	62.3	7.15	62.1	6.75	61.0	6.80	59.0	6.83	57.1	6.44	53.2	6.11
	25.0	23.0	66.9	7.12	66.9	7.15	66.9	6.70	64.9	6.35	61.0	6.37	59.0	6.36	57.1	6.01	53.2	5.71
	30.0	28.0	72.9	6.64	72.9	6.64	68.8	6.25	64.9	5.95	61.0	5.95	59.0	5.89	57.1	5.58	53.2	5.31
	35.0	32.0	74.2	6.17	72.9	6.12	68.8	5.81	64.9	5.54	61.0	5.52	59.0	5.43	57.1	5.15	53.2	4.91
	40.0	36.0	74.2	5.70	72.9	5.60	68.8	5.36	64.9	5.14	61.0	5.10	59.0	4.96	57.1	4.72	53.2	4.52
	45.0	41.0	74.2	5.23	72.9	5.09	68.8	4.91	64.9	4.74	61.0	4.67	59.0	4.49	57.1	4.29	53.2	4.12
	47.0	43.0	74.2	5.04	72.9	4.88	68.8	4.73	64.9	4.58	**61.0**	**4.50**	59.0	4.31	57.1	4.12	53.2	3.96
	50.0	46.0	74.2	4.80	72.9	4.65	68.8	4.50	64.9	4.36	61.0	4.28	59.0	4.10	57.1	3.92	53.2	3.77
	55.0	51.0	74.2	4.39	72.9	4.26	68.8	4.12	64.9	3.99	61.0	3.92	59.0	3.75	57.1	3.59	53.2	3.45
	60.0	56.0	74.2	3.97	72.9	3.85	68.8	3.73	64.9	3.61	61.0	3.55	59.0	3.39	57.1	3.25	53.2	3.12

TC = Total Capacity (MBh). PI = Power Input (kW) (includes compressor and outdoor fan).

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

Capacity as rated: 0 ft. above sea level with 25 ft. of refrigerant piping.
0 ft. level difference between outdoor and indoor units.

Maximum capacity based on full-load (maximum) compressor operation rather than part-load operation as published in nominal capacity tables.

CORRECTION FACTORS

Defrost Correction Factor on page 50
Elevation Correction Factors on page 50

CORRECTION FACTORS

Note:
The correction factors shown below are calculated in the LATS Multi V software program.

Defrost Correction Factor for Heating Operation

Capacity tables do not take into consideration capacity reduction when frost has accumulated on the condenser coil, nor during defrost operation. Integrated heating capacity values can be obtained as follows:

Formula: A = B x C

Where: A = Integrated heating capacity
B = Heating capacity value given in table of capacity characteristics
C = Integrated correction factor for frost accumulation

Table 8: Outdoor Unit Frost Accumulation Factor (Heating)[1].

Entering DB (°F)	19.4	23.0	26.6	32.0	37.4	41.0	44.6
Derate factor	0.98	0.95	0.93	0.86	0.93	0.96	1.0

[1]At 85% outdoor air relative humidity.

Note:
There will be temporary reduction in capacity when snow piles up on the outside surface of the outdoor unit heat exchanger. The level of capacity reduction depends on a number of factors, for example, outdoor temperature (°F DB), relative humidity (RH), and the amount of frost present.

Elevation Correction Factors

For each outdoor unit, calculate the equivalent length of the liquid line from the outdoor unit to the farthest indoor unit. Also, determine the elevation difference of farthest indoor unit above or below the outdoor unit. Find corresponding cooling capacity correction factor in the table below. Multiply the cooling correction factor by standard cooling capacity. The resultant is the NET cooling capacity.

Note:
The correction factors shown below are calculated in the LATS Multi V software program.

Table 9: Cooling Correction Factors.

Elevation Differences (ft.)	Equivalent Length (ELF)[1]											
	25	33	66	98	131	164	197	230	263	295	328	≥361
HU—Indoor units above Outdoor Unit (ft.)												
0	1.00	0.99	0.97	0.95	0.93	0.91	0.88	0.87	0.85	0.83	0.83	0.82
25	1.00	0.99	0.97	0.95	0.93	0.91	0.88	0.87	0.85	0.83	0.83	0.82
33	-	0.99	0.97	0.95	0.93	0.91	0.88	0.86	0.85	0.83	0.82	0.82
66	-	-	0.96	095	0.93	0.90	0.88	0.86	0.85	0.83	0.82	0.82
98	-	-	-	0.94	0.92	0.90	0.88	0.86	0.84	0.83	0.82	0.82
131	-	-	-	-	0.92	0.90	0.88	0.86	0.84	0.83	0.82	0.82
164	-	-	-	-	-	0.90	0.88	0.86	0.84	0.83	0.82	0.82
HL—Outdoor Unit Above Indoor Units (ft.)												
0	1.00	0.99	0.97	0.95	0.93	0.91	0.90	0.87	0.88	0.84	0.86	0.84
25	1.00	0.99	0.97	0.95	0.93	0.91	0.90	0.87	0.88	0.84	0.86	0.84
33	-	0.99	0.98	0.95	0.93	0.91	0.90	0.88	0.88	0.84	0.86	0.84
66	-	-	0.98	0.95	0.93	0.91	0.90	0.88	0.88	0.84	0.86	0.84
98	-	-	-	0.96	0.93	0.91	0.90	0.88	0.89	0.84	0.86	0.84
131	-	-	-	-	0.93	0.91	0.90	0.88	0.89	0.84	0.86	0.84

* ELF = Equivalent Pipe Length—Sum of the actual pipe length plus allocations for pressure drop through elbows, valves, and other fittings in equivalent length.

ELECTRICAL CONNECTIONS

Note:

Refer to the Product Data section for dimensional drawings, wiring, and refrigerant piping diagrams for the exact locations of the piping and electrical connection locations.

Figure 11: Multi V S with LGRED for Heat Pump Operation (Power Wiring / Communications Cable Connections) (ARUM048GSS5 Example).

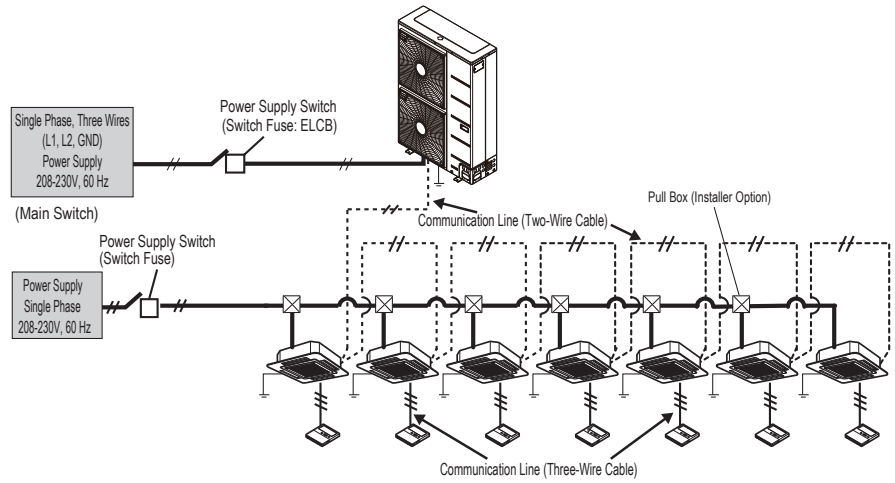
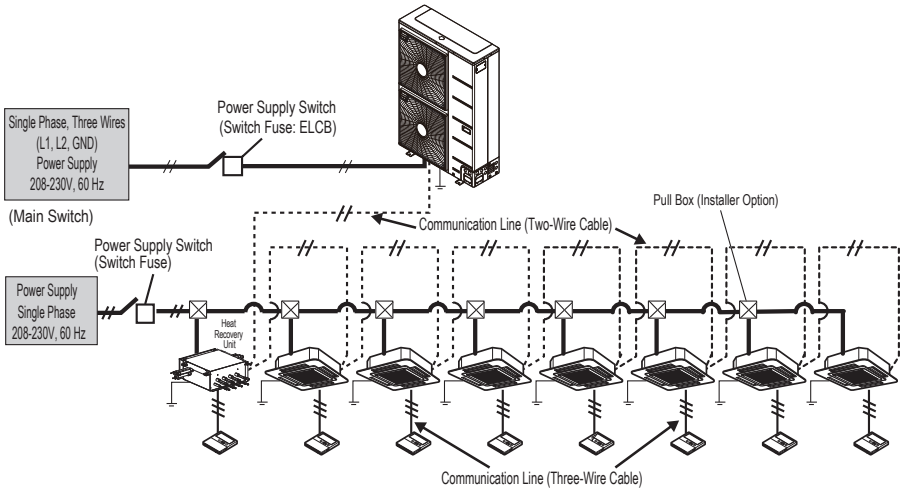


Figure 12: Multi V S with LGRED for Heat Recovery Operation (Power Wiring / Communications Cable Connections) (ARUM048GSS5 Example).



⚠DANGER

Refer to electrical data table for full load ampere ratings. Properly size all circuit breakers / fuses, wiring and field provided components per local codes. There is risk of fire, electric shock, explosion, physical injury or death.

- For power wiring, use solid or stranded that must comply with all local and national electrical codes.
- Connect the communications cable between indoor units using a daisy chain configuration only. “Star” or “home run” control wiring connections involving soldering or wire caps are not permitted.
- Communication cable between ODU to IDUs/Heat Recovery Units must be a minimum of 18 AWG, 2-conductor, twisted, stranded, shielded. Ensure the communication cable shield is properly grounded to the ODU chassis only. ⃠ Do not ground the ODU to IDUs/Heat Recovery Units communication cable at any other point. Wiring must comply with all applicable local and national codes.
- Provide separate conduits for control wiring and power wiring.
- Power and communications cables must not be routed in the same conduit and must be routed in a manner that keeps them a minimum of two (2) inches apart.
- Connect outdoor unit terminal IDU-A to the odd numbered indoor unit terminal. Terminal “A” on the indoor units can be tagged 3(A) or 5(A).
- Connect outdoor unit terminal IDU-B to indoor unit terminal “B”. Terminal “B” on the indoor units can be tagged 3(B) or 5(B).
- Maximum allowed length of indoor unit communication cable is 984 feet.

⚠ WARNING

- *Ground wiring is required to prevent accidental electrical shock during current leakage. ⃠ Do not connect the ground line to the pipes.*
- *Install a main shutoff switch that interrupts all power sources simultaneously.*
- *If the system operates in reversed phase, it will break the compressors and other components.*
- *If there is a possibility of reversed phase, phase loss, momentary blackout, or the power goes on and off while the system is operating, install a field-supplied phase loss protection circuit. Operating the system in reverse phase will break the compressor and other unit components.*
- *The GND terminal at the main PCB is a negative terminal for dry contact, not a ground.*

Note:

- *Ground wiring is required to prevent communication problems from electrical noise and motor current leakage.*
- *Make sure that the terminal numbers match (A to A, B to B).*
- *Communication cable between ODU to IDUs/Heat Recovery Units must be 18 AWG, 2-conductor, twisted, stranded, shielded. Ensure the communication cable shield is properly grounded to the ODU chassis only. ⃠ Do not ground the ODU to IDUs/ Heat Recovery Units communication cable at any other point. Wiring must comply with all applicable local and national codes.*
- *Maintain polarity throughout the communication network.*

Figure 13: Communications Wiring Terminals (Appearance will Vary)..

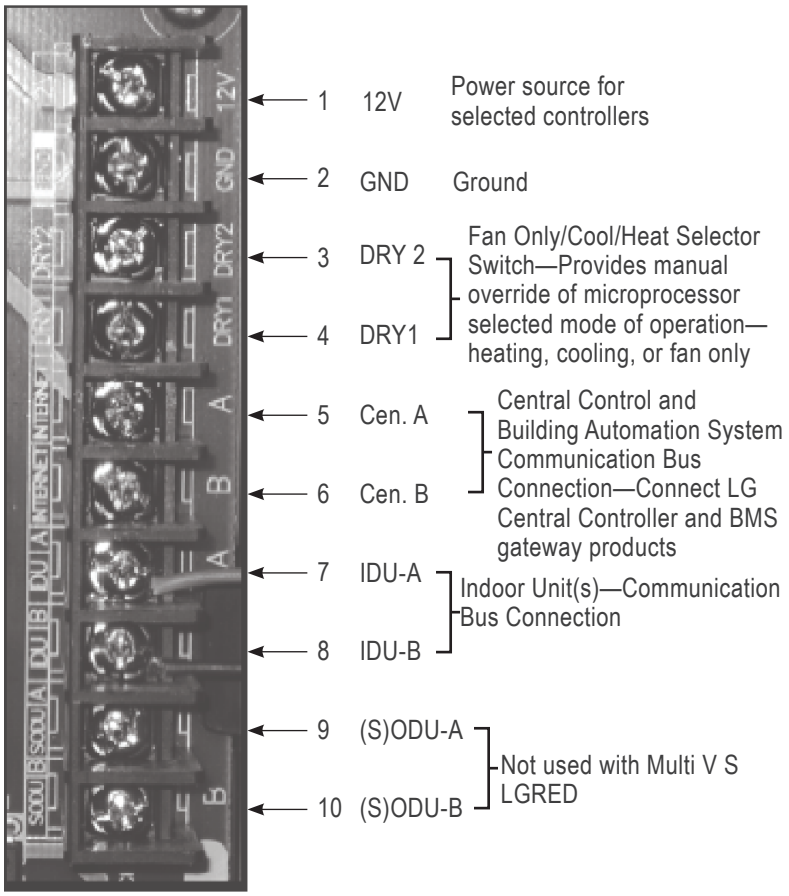


Figure 14: Multi V S with LGRED ARUM036GSS5 / ARUM048GSS5 Electrical Component Location.

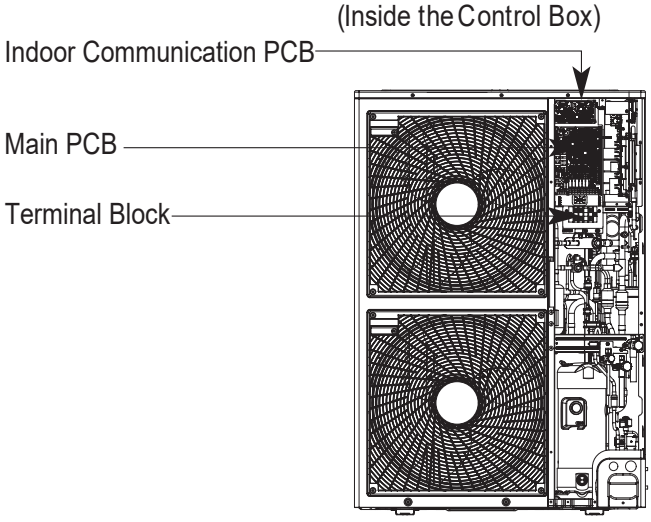


Figure 15: Multi V S with LGRED ARUM036GSS5 / ARUM048GSS5 for Heat Pump Operation (Daisy-Chain Power Wiring / Communications Cable Example).

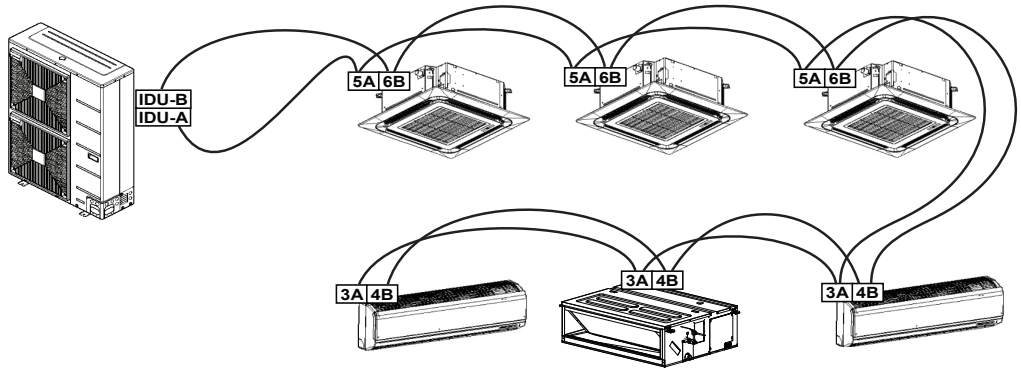
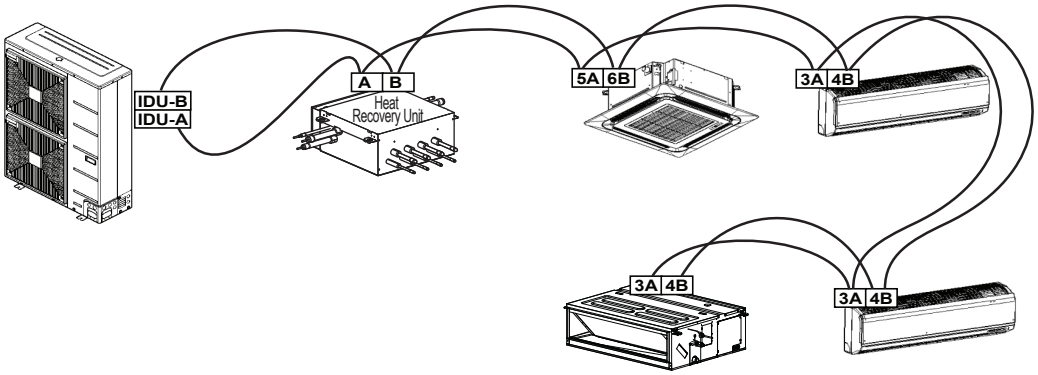


Figure 16: Multi V S with LGRED ARUM036GSS5 / ARUM048GSS5 for Heat Recovery Operation (Daisy-Chain Power Wiring / Communications Cable Example).



⚠ WARNING

- *Ground wiring is required to prevent accidental electrical shock during current leakage. ⃠ Do not connect the ground line to the pipes. There is risk of fire, electric shock, explosion, physical injury or death.*
- *Install a main shutoff switch that interrupts all power sources simultaneously. There is risk of fire, electric shock, explosion, physical injury or death.*
- *Communication cable between ODU to IDUs/Heat Recovery Units must be 18 AWG, 2-conductor, twisted, stranded, shielded. Ensure the communication cable shield is properly grounded to the ODU chassis only. ⃠ Do not ground the ODU to IDUs/Heat Recovery Units communication cable at any other point. Wiring must comply with all applicable local and national codes. Inadequate connections will generate heat, cause a fire, and physical injury or death.*
- *The GND terminal at the main PCB is a negative terminal for dry contact, not a ground. Inadequate connections will generate heat, cause a fire, and physical injury or death.*

Note:

- *Ground wiring is required to prevent communication problems from electrical noise and motor current leakage.*
- *Make sure that the terminal numbers of master outdoor unit and slave outdoor unit(s) match (A to A, B to B). The system will malfunction if not properly wired.*
- *Maintain polarity throughout the communication network. The system will malfunction if not properly wired.*
- *If the system operates in reversed phase, it will break the compressors and other components.*
- *If there is a possibility of reversed phase, phase loss, momentary blackout, or the power goes on and off while the system is operating, install a field-supplied phase loss protection circuit. Operating the system in reverse phase will break the compressor and other unit components.*

LGRED°, HRU COMPATIBILITY, AND GEN 4 DIP SWITCH SETTINGS

LGRED° Technology

LGRED technology is included in Multi V S with LGRED outdoor units available January 2021. The feature allows heat pump or heat recovery systems to operate in heating only mode (i.e., all indoor units in heating mode) down to -13°F outdoor ambient wet bulb. For more information, contact your local LG sales representative.

Multi V S with LGRED outdoor units are factory set to heat recovery operation—all switches on DIP Switch bank are set to OFF. **Multi V S with LGRED outdoor units MUST be manually set to a heat pump system.** To change the factory set heat recovery system to a heat pump system:

- Turn switch No. 4 on the DIP Switch SW01 to ON. Factory setting display will show "HR" (heat recovery).
- Push the ► (SW03C) button to change "HR" (heat recovery) to "HP" (heat pump), then press the confirm (SW01C) button.
- Turn switch No. 4 on the DIP Switch to OFF, and push the reset (SW01D) button to restart the system. If No. 4 on the DIP Switch is turned ON again, "HR" (heat recovery) or "HP" (heat pump) can be verified by reading the display later.

Figure 17: Heat Recovery System DIP Switch Setting on Multi V S with LGRED Outdoor Units (Factory Set).

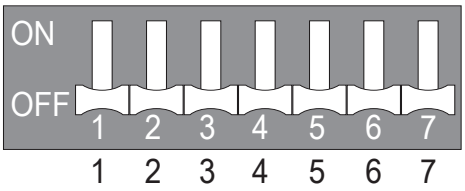
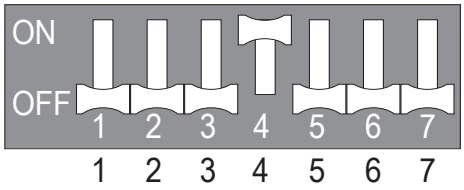


Figure 18: Heat Pump System DIP Switch Setting on Multi V S with LGRED Outdoor Units (Manually Set).



PRHR*3 Heat Recovery Units

The PRHR*3A series of heat recovery units were released in June 2018, and are not automatically backwards compatible with all LG manufactured VRF air / water source units. The 3A heat recovery units will be compatible with many LG manufactured air source / water source units if the its "Starting Production Date," the "Production Starting Serial No.," and / or the "Upgrade Software Service" dates fall after the dates shown below (see table).

LG VRF systems can operate with both old 2A heat recovery units and new 3A heat recovery units if the outdoor unit software has been upgraded. If a system includes a mix of both old and new heat recovery units, system design must follow 2A heat recovery unit series piping rules. For more information, contact your local LG sales representative.

Table 10: PRHR*3 Heat Recovery Unit to Air / Water Source Unit Compatibility.

System	Model	Starting Production Date	Production Starting Serial No.	Upgrade Software Service
Multi V 5 with LGRED*	ARUM****TE5	February 1, 2019	1902xxx	N/A
Multi V 5	ARUM****TE5	February 1, 2018	1802xxx	September 28, 2018
Multi V S with LGRED	ARUM****GSS5	Available January 2021	Available January 2021	N/A
Multi V S	ARUB060GSS4	October 1, 2018	1810xxx	September 28, 2018
Multi V Water IV	ARWB****AS4	October 1, 2018	1810xxx	September 28, 2018
Multi V IV	ARUB****TE4	N/A	N/A	October 31, 2018
Multi V II and III	ARUB****TE2, TE3	N/A	N/A	N/A
Multi V Water II	ARWB****A2	N/A	N/A	N/A

*Low ambient performance with LGRED° heat technology is included in Multi V 5 air source units produced after February 2019.

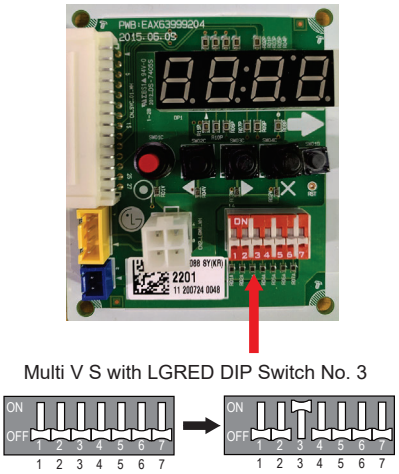
Generation 4 Indoor Units

LG's indoor units are designated Generation 4 (Gen 4). For Gen 4 indoor units to operate with Gen 4 indoor unit features, the air conditioning system must meet the following requirements:

- All indoor units, heat recovery units, and air / water source units must be Gen 4 or higher.
- All air / water source units must have Gen 4 or higher software factory or field installed.
- Air / water source units DIP switch 3 must be set to ON (factory default setting is OFF).
- All controllers must support Gen 4 indoor unit features.

The figure at right shows the outdoor unit DIP switch. All air and water source units, indoor units, heat recovery units, and controllers in a system must be Gen 4 compatible or the system will not operate with Gen 4 indoor unit features.

Figure 19: Location and Setting of Multi V S with LGRED Outdoor Unit DIP Switch 3.



PIPING LIMITATIONS AND PLACEMENT CONSIDERATIONS

PIPING LIMITATIONS

For Systems Designed for Heat Pump Operation

The following pages present Multi V S with LGRED piping limitations and are for illustrative purposes only. Designers MUST use LATS when designing LG VRF systems.

Figure 20: Typical Multi V S with LGRED Heat Pump System Building Layout Listing the Piping Limitations — When the Outdoor Unit is Above the Indoor Units.

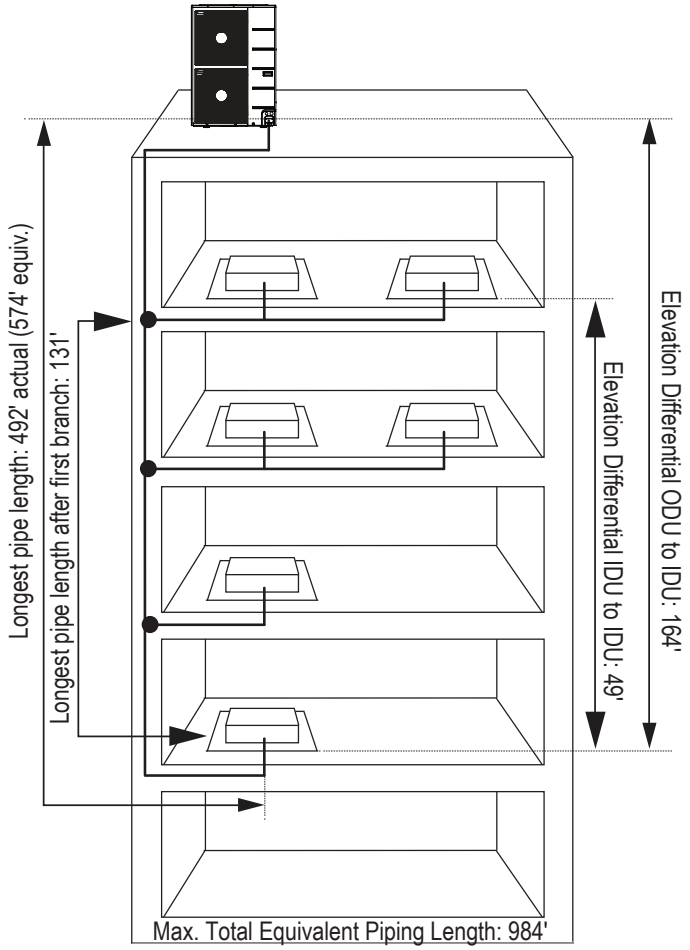


Figure 21: Typical Multi V S with LGRED Heat Pump System Building Layout Listing the Piping Limitations — When the Outdoor Unit is Below the Indoor Units.

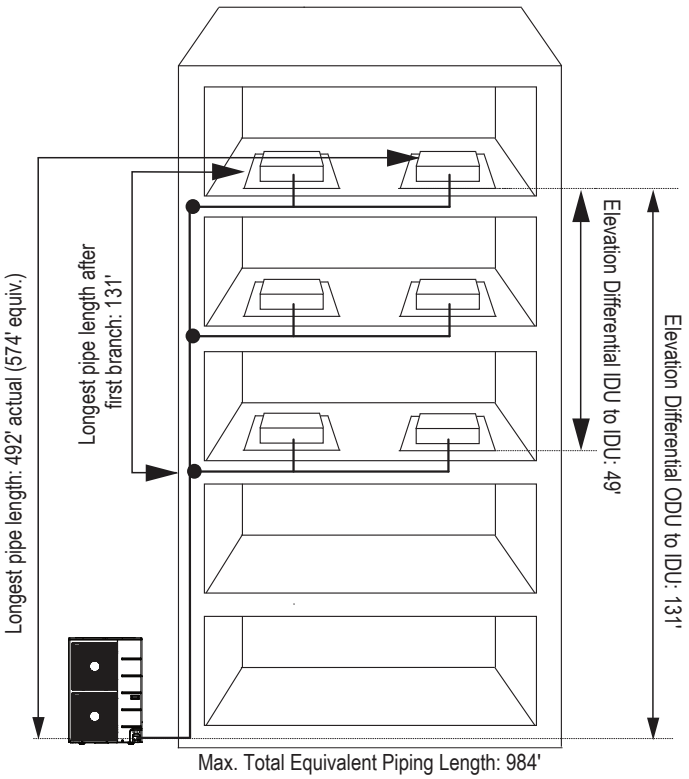


Table 11: Piping Limitations for Multi V S with LGRED Heat Pump Operation (See next page).

Length	Total pipe length	Longest actual pipe length	Equivalent pipe length1
	A + ΣB + ΣC ≤984 feet	≤492 feet	≤574 feet
ℓ	Longest pipe length after first branch		
	≤131 feet		
Elevation1	Elevation differential (Outdoor unit ↔ Indoor unit)		
	When the Outdoor unit is Positioned Higher than the Indoor Units	When the Outdoor unit is Positioned Lower than the Indoor Units	
	≤164 feet	≤131 feet	
Elevation2	Elevation differential (Indoor unit ↔ Indoor unit)		
	≤49 feet		
Distance between fittings and indoor units	≥20 inches		
Distance between fittings and Y-Branches / Headers	≥20 inches		
Distance between two Y-Branches / Headers	≥20 inches		

[1]Assume equivalent pipe length of Y-branch is 1.6 feet, and equivalent pipe length of header is 3.3 feet.

PIPING LIMITATIONS

For Systems Designed for Heat Pump Operation

MULTI V S WITH LGRED°

The following pages present Multi V S with LGRED piping limitations and are for illustrative purposes only. Designers MUST use LATS when designing LG VRF systems.

Example of Pipe Sizing When Installing a Heat Pump System

Example: Seven (7) indoor units connected

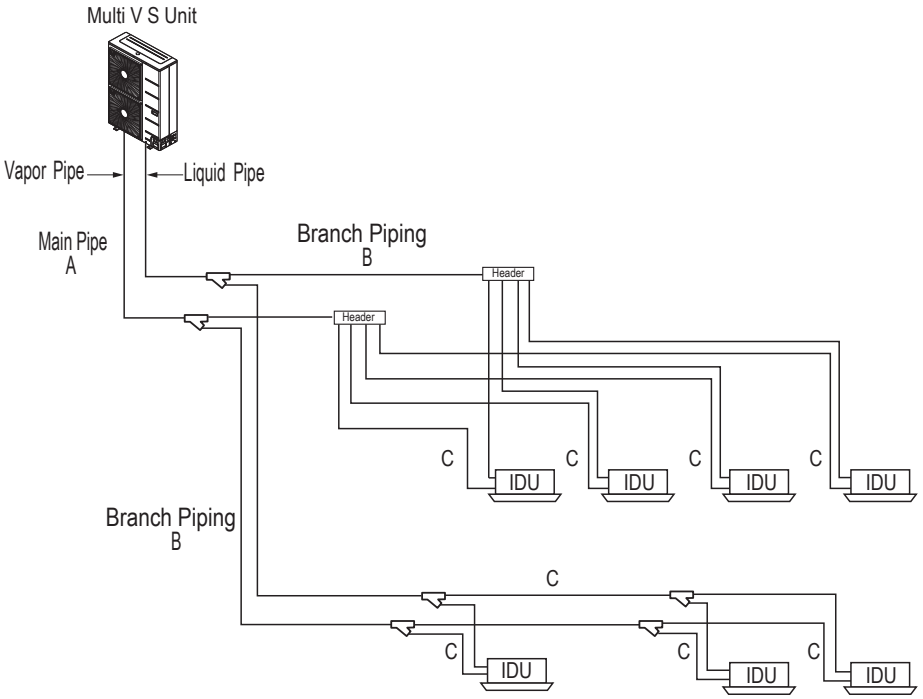
Multi V S w LGRED Outdoor Unit.

IDU: Indoor Units.

A: Main Pipe from Multi V S Outdoor Unit to Y-branches.

B: Branch Piping.

C: Branch Piping to Indoor Unit (IDU).



Note:

- *Always reference the LATS Multi V software report.*
- *Connection piping from branch to branch cannot exceed the main pipe diameter (A) used by the outdoor unit.*
- *Install the Headers so that the pipe distances between the between the connected indoor units are minimized. Large differences in pipe distances can cause indoor unit performances to fluctuate.*
- *Indoor units must be installed at a lower position than the Header.*
- ⃠ *Y-branches cannot be used after Headers.*

Table 12: Main Pipe (A) Diameters from Multi V S with LGRED Heat Pump Operation to First Y-branch.

ODU Capacity (ton)	Pipe diameter when pipe length is ≤295 Feet Equivalent		Pipe diameter when pipe length is ≥295 Feet Equivalent	
	Liquid pipe (inches OD)	Vapor pipe (inches OD)	Liquid pipe (inches OD)	Vapor pipe (inches OD)
3.0	3/8Ø	5/8Ø	1/2Ø	3/4Ø
4.0	3/8Ø	5/8Ø	1/2Ø	3/4Ø

Table 13: Branch Pipe (B) Diameters from Y-branch to Y-branch / Header..

Downstream Total Capacity of IDUs (Btu/h)[1]	Liquid pipe (inches OD)	Vapor pipe (inches OD)
≤19,100	1/4Ø	1/2Ø
≤54,600	3/8Ø	5/8Ø

Table 14: Indoor Unit Connecting Pipe from Branch (C).

Indoor Unit Capacity[1]	Liquid pipe (inches OD)	Vapor pipe (inches OD)
≤19,100	1/4Ø	1/2Ø
≤54,600	3/8Ø	5/8Ø

[1]9,600-24,200 Btu/h 4-way 3 feet x 3 feet Cassette and 15,400-24,200 Btu/h High Static Ducted indoor units have Ø3/8 (liquid) and Ø5/8 (vapor).

Conditional Applications

Conditional application are computed in LATS. See below for an explanation of when pipes are upsized.

The diameters of main liquid and vapor pipes (A) must be increased (must be sized up) if equivalent length between the outdoor unit and the farthest indoor unit is ≥295 feet.

Note:

There is no conditional application for elevation differential, and no need to size up the pipe diameter. If elevation differential between the outdoor unit and the farthest indoor unit is ≥164 ft, it is beyond product specifications, and the system will malfunction.

The following pages present Multi V S with LGRED piping limitations and are for illustrative purposes only. Designers MUST use LATS when designing LG VRF systems.

Figure 22: Typical Multi V S with LGRED Heat Recovery System Building Layout Listing the Piping Limitations — When the Outdoor Unit is Above the Indoor Units.

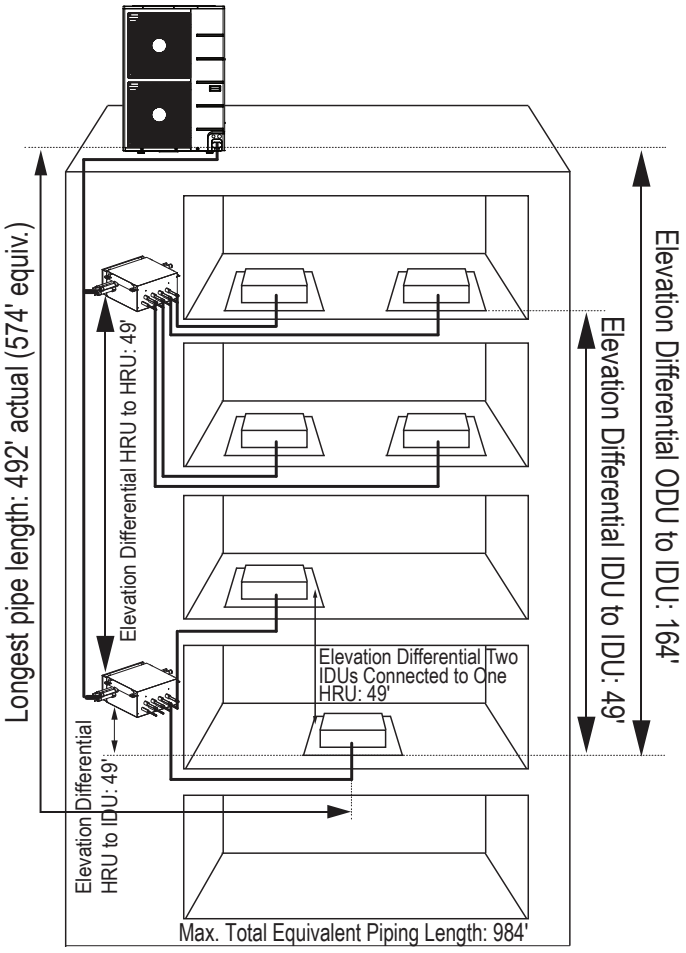


Figure 23: Typical Multi V S with LGRED Heat Recovery System Building Layout Listing the Piping Limitations — When the Outdoor Unit is Below the Indoor Units.

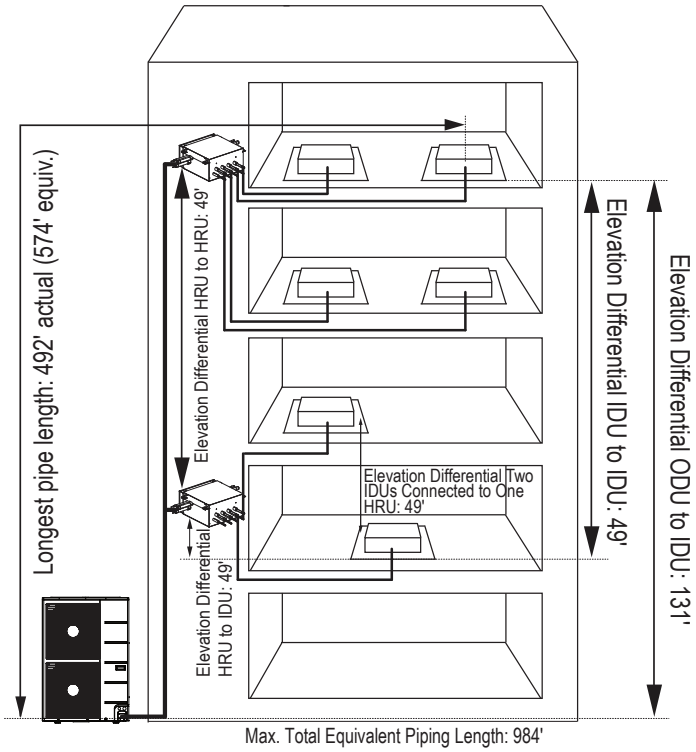


Table 15: Piping Limitations for Multi V S with LGRED Heat Recovery Operation (See next page).

Length	Total pipe length	Longest actual pipe length	Equivalent pipe length
	A + ΣB + ΣC ≤984 feet	≤492 feet	≤574 feet
ℓ	Longest pipe length after first branch		
	≤131 feet		
Elevation1	Elevation differential (Outdoor Unit ↔ Indoor Unit)		
	When the Outdoor unit is Positioned Higher than the Indoor Units	When the Outdoor unit is Positioned Lower than the Indoor Units	
	≤164 feet	≤131 feet	
Elevation2	Elevation differential (Indoor Unit ↔ Indoor Unit)		
	height ≤49 feet		
Elevation3	Elevation differential (Indoor Unit ↔ HRU (Heat Recovery Unit) Box)		
	49 feet		
Elevation4	Elevation differential (Indoor Unit ↔ Indoor Unit [connected to same HRU (Heat Recovery Unit) Box])		
	49 feet		
Distance between fittings and Indoor Unit		≥20 inches	
Distance between fittings and Y-branches / Headers		≥20 inches	
Distance between two Y-branches / Headers		≥20 inches	
Height differential between two HRU Box if installed with a Y-branch		≤49 feet	
Height differential between two series-piped HRU Box		≤16 feet	

PIPING LIMITATIONS

For Systems Designed for Heat Recovery Operation

MULTI V S WITH LGRED°

The following pages present Multi V S with LGRED piping limitations and are for illustrative purposes only. Designers MUST use LATS when designing LG VRF systems.

Example of Pipe Sizing When Installing a Heat Recovery System

Example: Multi V S with LGRED Heat recovery system with four (4) heat recovery units, one (1) header, and eight (8) indoor units connected

ODU: Outdoor Units.

HRU Box: Heat Recovery Unit Boxes.

IDU: Indoor units.

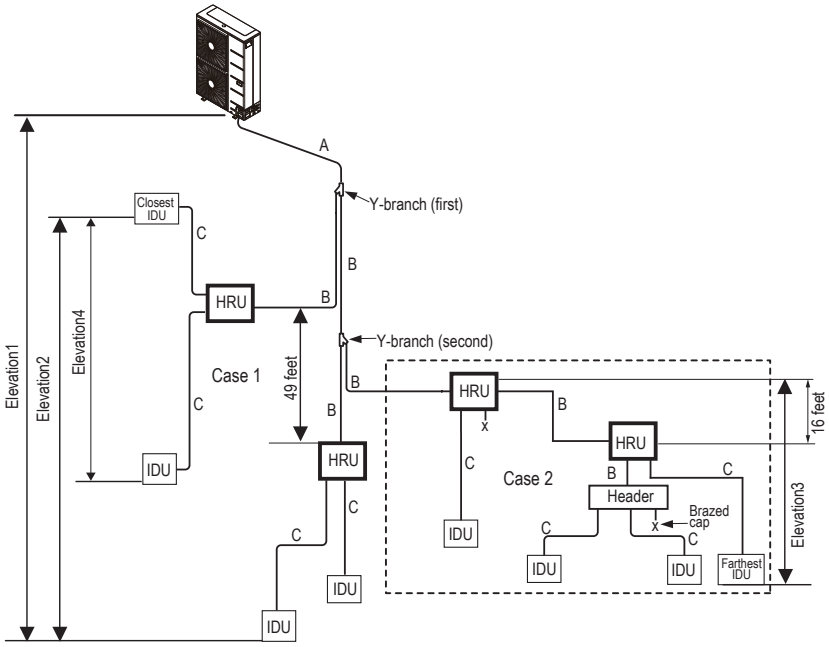
A: Main Pipe from Outdoor Unit to First Y-branch.

B: Heat Recovery Unit to Heat Recovery Unit Box, Y-branch to Heat Recovery Unit Box, Heat Recovery Unit Box to Header, or Y-branch to Y-branch.

C: Heat Recovery Unit Box / Header to Indoor Unit.

Note:

- *Always reference the LATS Multi V software report.*
- *Connection piping from branch to branch cannot exceed the main pipe diameter (A) used by the outdoor unit.*
- *Install the header branches or heat recovery unit boxes so that the pipe distances between the connected indoor units are minimized. Large differences in pipe distances can cause indoor unit performances to fluctuate.*
- ⃠ *Y-branches and other header branches cannot be installed downstream of the initial header branch.*



Case 1: Maximum height is 49 feet if installed with a Y-branch.
Case 2: Maximum height is 16 feet in heat recovery control unit series connection.

Table 16: Main Pipe (A) Diameters from Multi V S with LGRED Heat Recovery Operation to First Y-branch.

Pipe Diameter when pipe length is ≤295 feet			Pipe diameter when pipe length is ≥295 feet		
Liquid Pipe (inches OD)	Low Pressure Vapor Pipe (inches OD)	High Pressure Vapor Pipe (inches OD)	Liquid Pipe (inches OD)	Low Pressure Vapor Pipe (inches OD)	High Pressure Vapor Pipe (inches OD)
3/8Ø	3/4Ø	5/8Ø	1/2Ø	7/8Ø	3/4Ø

Table 17: Refrigerant Pipe (B) Diameters between Y-branches and Y-branches / Heat Recovery Unit / Headers.

Downstream IDU total capacity (Btu/h)	Liquid pipe (inches OD)	Vapor pipe (inches OD)
≤19,100	1/4Ø	1/2Ø
≤54,600	3/8Ø	5/8Ø

Table 18: Indoor Unit Connecting Pipe from Branch (C).

Indoor Unit Capacity[1]	Liquid pipe (inches OD)	Vapor pipe (inches OD)
≤19,100	1/4Ø	1/2Ø
≤54,600	3/8Ø	5/8Ø

[1]9,600-24,200 Btu/h 4-way 3 feet x 3 feet Cassette and 15,400-24,200 Btu/h High Static Ducted indoor units have Ø3/8 (liquid) and Ø5/8 (vapor).

Conditional Applications

Conditional application are computed in LATS. See below for an explanation of when pipes are upsized.

The diameters of main liquid, high-pressure vapor, and low-pressure vapor pipes (A) must be increased (must be sized up) if equivalent length between the outdoor unit and the farthest indoor unit is ≥295 feet..

Note:

There is no conditional application for elevation differential, and no need to size up the pipe diameter. If elevation differential between the outdoor unit and the farthest indoor unit is ≥164 ft, it is beyond product specifications, and the system will malfunction.

Selecting the Best Location for the Outdoor Unit(s)

⚠ DANGER

- ⃠ *Do not install the unit in an area where combustible gas will generate, flow, stagnate, or leak. These conditions can cause a fire, resulting in bodily injury or death.*
- ⃠ *Do not install the unit in a location where acidic solution and spray (sulfur) are often used as it can cause bodily injury or death.*
- ⃠ *Do not use the unit in environments where oil, steam, or sulfuric gas are present as it can cause bodily injury or death.*

⚠ CAUTION

When deciding on a location to place the outdoor unit, be sure to choose an area where run-off from defrost will not accumulate and freeze on sidewalks or driveways which will create unsafe conditions. Properly install and insulate any drain hoses to prevent the hose from freezing, cracking, leaking, and causing unsafe conditions from frozen condensate.

⚠ WARNING

Install a fence to prevent vermin from crawling into the unit or unauthorized individuals from accessing it. Vermin and unauthorized individuals will cause a fire, electric shock, physical injury or death. Follow the placement guidelines set forth in "Clearance Requirements".

Note:

Install a fence to prevent vermin from crawling into the unit or unauthorized individuals from accessing it. Vermin and unauthorized individuals will damage the unit. Follow the placement guidelines set forth in "Clearance Requirements".

Select a location for installing the outdoor unit that will meet the following conditions:

- Where there is enough strength to bear the weight of the outdoor unit.
- A location that allows for optimum air flow and is easily accessible for inspection, maintenance, and service.
- Where piping between the outdoor unit and indoor unit(s) are within allowable limits.
- Include space for drainage to ensure condensate flows properly out of the unit when it is in heating mode. ⃠ Avoid placing the outdoor unit in a low-lying area where water could accumulate.
- If the outdoor unit is installed in a highly humid environment (near an ocean, lake, etc.), ensure that the site is well-ventilated and has a lot of natural light (Example: Install on a rooftop).

⃠ Do Not's

- *Where it will be subjected to direct thermal radiation from other heat sources, or an area that would expose the outdoor unit to heat or steam like discharge from boiler stacks, chimneys, steam relief ports, other air conditioning units, kitchen vents, plumbing vents, and other sources of extreme temperatures.*
- *Where high-frequency electrical noise / electromagnetic waves will not affect operation.*
- *Where operating sound from the unit will disturb inhabitants of surrounding buildings.*
- *Where the unit will be exposed to direct, strong winds.*
- *Where the discharge of one outdoor unit will blow into the inlet side of an adjacent unit (when installing multiple outdoor units).*

Planning for Snow and Ice

To ensure the outdoor unit operates properly, certain measures are required in locations where there is a possibility of heavy snowfall or severe windchill or cold:

1. Prepare for severe winter wind chills and heavy snowfall, even in areas of the country where these are unusual phenomena.
2. Position the outdoor unit so that its airflow fans are not buried by direct, heavy snowfall. If snow piles up and blocks the airflow, the system will malfunction.
3. Remove any snow that has accumulated four (4) inches or more on the top of the outdoor unit.
4. In climates that can experience significant snow buildup, mount the outdoor unit on a raised, field-provided platform or stand. The raised support platform must be high enough to allow the unit to remain above possible snow drifts, and must be higher than the maximum anticipated snowfall for the location.
5. Design the mounting base to prevent snow accumulation on the platform in front or back of the unit frame.
6. Provide a field fabricated snow protection hood to keep snow and ice and/or drifting snow from accumulating on the coil surfaces.
7. Install a hail guard kit and air guide accessories (sold separately) to prevent snow or rain from accumulating on the fan inlet / outlet guards.
8. Consider tie-down requirements in case of high winds or where required by local codes.

⚠ CAUTION

When deciding on a location to place the outdoor unit, be sure to choose an area where run-off from defrost will not accumulate and freeze on sidewalks or driveways, which will create unsafe conditions. Properly install and insulate any drain hoses to prevent the hose from freezing, cracking, leaking, and causing unsafe conditions from frozen condensate.

PLACEMENT CONSIDERATIONS

Selecting the Best Location for the Outdoor Unit(s)

Planning for Snow and Ice, continued.

Note:

Choose an area where run-off from defrost mode will not accumulate and freeze on sidewalks or driveways. Properly install and insulate any drain hoses to prevent the hose from freezing, cracking, leaking, and damaging the outdoor unit.

Note:

The system will take longer to provide heat, or heating performance will be reduced in winter if the outdoor unit is installed:

1. *In a narrow, shady location.*
2. *Near a location that has a lot of ground moisture.*
3. *In a highly humid environment.*
4. *In an area in which condensate does not drain properly.*

Wind Protection

If the outdoor unit is placed on a roof, position it with the compressor end (no coil surface) in the direction of the prevailing wind as shown in the figure at right. In cooler climates, it can be beneficial to position the unit in direct sunlight to assist with defrost operations.

If the outdoor unit is not placed on a roof, place it on the leeward side of the building or in a location where the unit will not be exposed to constant wind.

If placement exposes the unit to constant wind activity, construct a wind break in front of the unit. Follow the placement guidelines set forth in “Clearance Requirements”.

Figure 24: Prevailing Wind Direction.

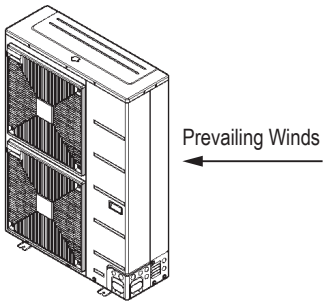
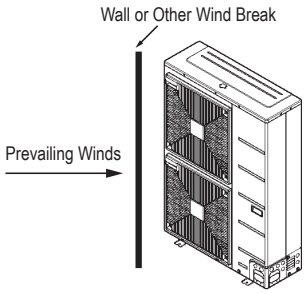


Figure 25: Leeward Side of the Building.

Figure 26: Wind Break.



Tie-Downs and Wind Restraints

The strength of Multi V frames is adequate to be used with field-provided wind restraint tie-downs. The overall tie-down configuration must be approved by a local professional engineer. Always refer to local code when designing a wind restraint system.

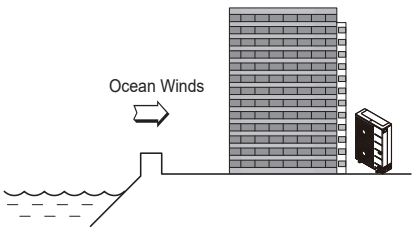
Mounting Platform

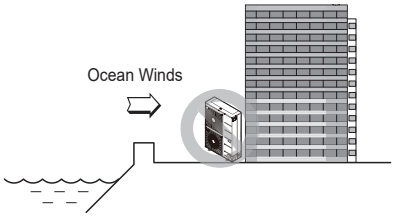
The underlying structure or foundation must be designed to support the weight of the unit. ⃠ Avoid placing the unit in a low lying area where water will accumulate.

Oceanside Installation Precautions

Note:

Ocean winds will cause corrosion, particularly on the condenser and evaporator fins, which, in turn could cause product malfunction or inefficient performance.



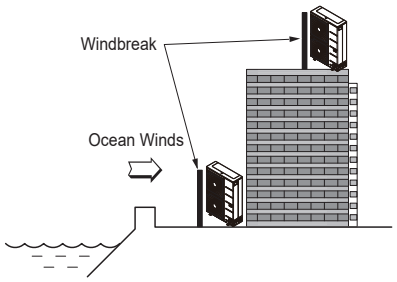


- ⃠ Avoid installing the outdoor unit where it would be directly exposed to ocean winds.
- Install the outdoor unit on the side of the building opposite from direct ocean winds.
- Select a location with good drainage.
- Periodically clean dust or salt particles off of the heat exchanger with water.

If the outdoor unit must be placed in a location where it would be subjected to direct ocean winds, install a concrete windbreaker strong enough to block any winds. Windbreaker height and width must be more than 150% of the outdoor unit, and be installed at least 27-1/2 inches away from the outdoor unit to allow for airflow.

Note:

Additional anti-corrosion treatment will need to be applied to the outdoor unit at oceanside locations.



LG

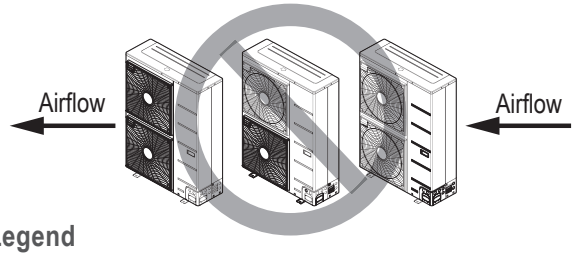
Minimum Clearance Requirements for Multi V S with LGRED ARUM036GSS5 / ARUM048GSS5 Outdoor Units

Proper clearance for the outdoor unit coil is critical for proper unit operation. When installing the outdoor unit, consider service, inlet and outlet and minimum allowable space requirements. The figures below and on the next page illustrate clearance requirements for various installation scenarios. Use the hot isle / cold isle approach when placing multiple units in close proximity to each other. Outdoor unit fans draw air from the back of the unit and discharges out the front. Place units back to back and face to face.

Note:

- ⃠ Do not place the unit where animals and/or plants will be in the path of the warm air, or where the warm air and / or noise will disturb neighbors.
- Installation clearances must comply with local building codes.
- All figures not to scale.
- ⃠ Never place multiple units facing back to front or front to back as shown immediately below, left or high and low system pressure problems will occur.

Figure 27: Improper Outdoor Unit Placement.

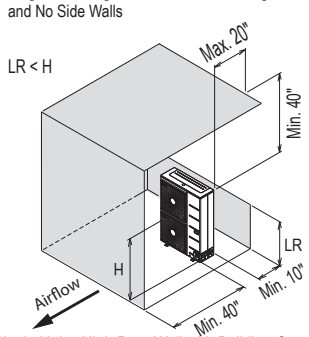


Legend

LR = Rear wall height LF = Front wall height H = Unit height

Figure 28: Proper Outdoor Unit Placement and Clearances.

Single Unit—High Front Wall with Building Overhang and No Side Walls



Single Unit—High Rear Wall and Low Front Wall with No Side Walls

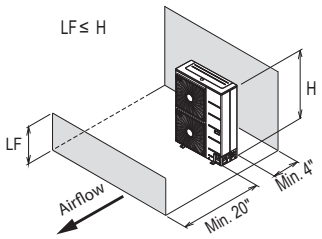
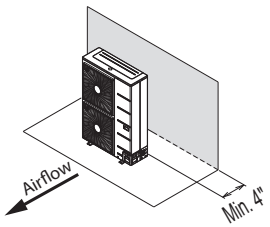
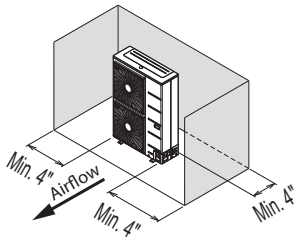


Figure 29: Proper Outdoor Unit Placement and Clearances, continued.

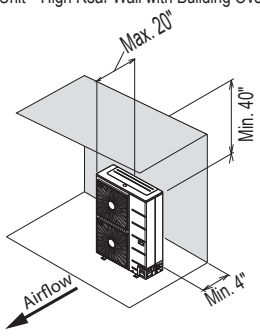
Single Unit—High Rear Wall



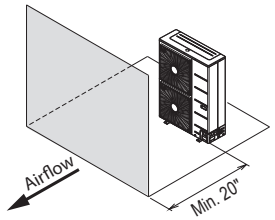
Single Unit—High Rear Wall with High Side Walls



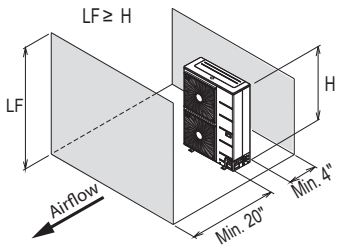
Single Unit—High Rear Wall with Building Overhang



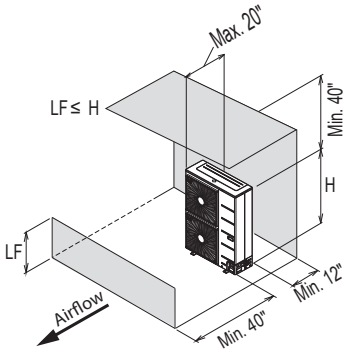
Single Unit—High Front Wall with No Side Walls



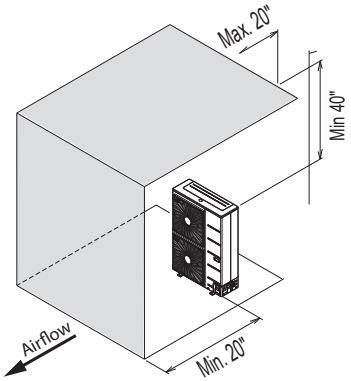
Single Unit—High Rear and Front Walls with No Side Walls



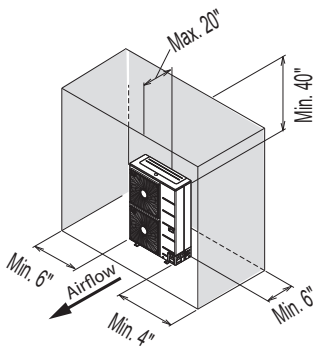
Single Unit—High Rear Wall and Low Front Wall with Building Overhang and No Side Walls



Single Unit—High Front and Rear Walls with Building Overhang and No Side Walls



Single Unit—High Rear and Side Walls with Building Overhang



PLACEMENT CONSIDERATIONS

Outdoor Unit Clearance Requirements

Note:

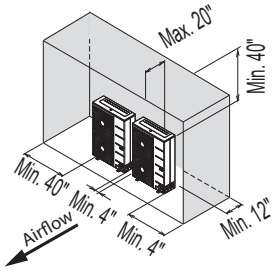
- *Installation clearances must comply with local building codes.*
- *All figures not to scale.*

Legend

LR = Rear wall height
LF = Front wall height
H = Unit height

Figure 30: Proper Outdoor Unit Placement and Clearances, continued.

Side by Side—High Rear and Side Walls with Building Overhang



Side by Side—High Rear and Front Walls with Building Overhang

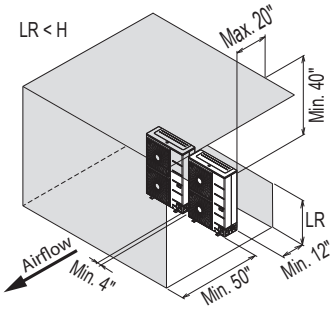
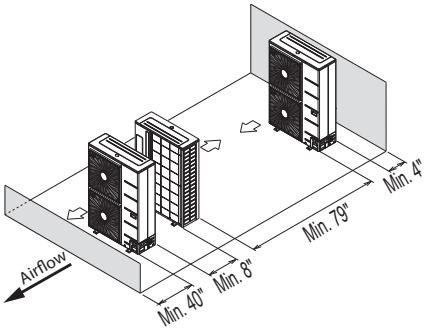
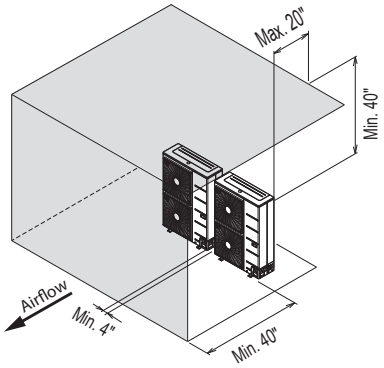


Figure 31: Proper Outdoor Unit Placement and Clearances, continued.

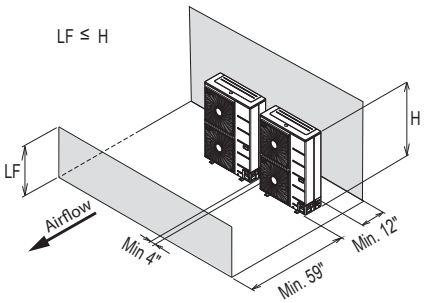
Single Row Units—High Rear Wall and Low Front Wall with No Side Walls or Overhang



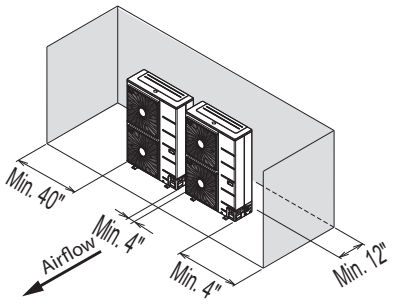
Side by Side —High Front Wall with Building Overhang and No Side or Rear Walls



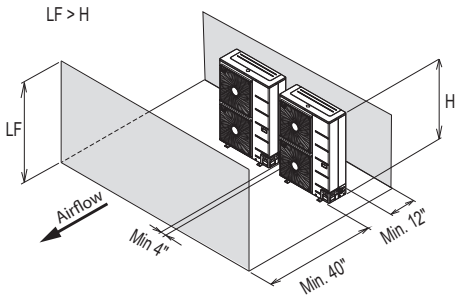
Side by Side—High Rear Wall and Low Front Wall with No Side Walls



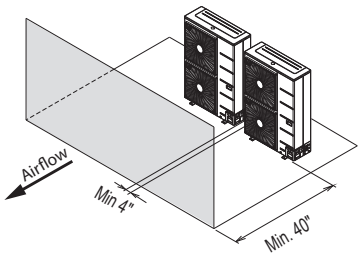
Side by Side—High Rear and Side Walls



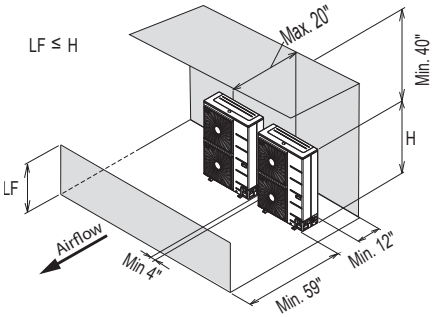
Side by Side—High Front and Rear Walls with No Side Walls



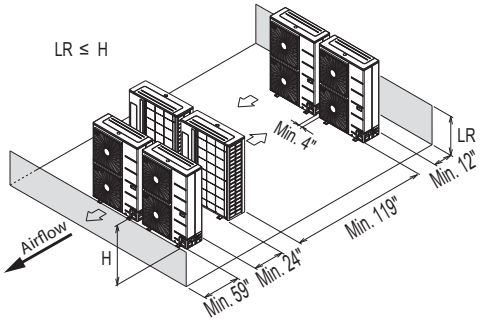
Side by Side—High Front Wall with No Side Walls



Side by Side—High Rear Wall and Low Front Wall with Building Overhang and No Side Walls



Double Row Units—Low Rear and Front Walls with No Side Walls or Overhang



Installing Outdoor Units Indoors

LG Multi V outdoor units are engineered to be mounted outdoors and include technology designed to minimize the negative effects of winter weather's freezing rain, sleet, and snow. Some building projects, however, necessitate placing the HVAC outdoor units indoors:

- Lack of ground space.
- Lack of an appropriate outdoor location that meets system design requirements.
- When mounting on the roof is not an option due to a lack of roof space.
- Roof warranty will be voided if mechanical equipment is placed on the membrane.
- On retrofit projects, a former chiller / boiler / air handler equipment room, mechanical area, or penthouse already exists.
- Where a project has vertical, self-contained VAV air handlers on each floor (in lieu of a centralized mechanical room).
- To curtail the potential need for redundant zone heating devices such as wall-fin radiators or duct heaters.
- In extremely cold environments where there is a significant amount of run-time at temperatures well below freezing outside the outdoor unit ambient air temperature range published in this engineering manual.

Benefits of Installing Outdoor Units Indoors

- Shelters the outdoor unit from direct exposure to prevailing winds that decrease the heating capability of the outdoor unit.
- Protects equipment from freezing precipitation and / or potential ice build-up that could hinder unit operation.
- Maintains coil heat transfer efficiency by reducing the number of and shortening the cycle time for defrost operation.
- Easier maintenance and servicing during inclement weather.
- When mounted in a fully enclosed space, limiting the ambient air temperature will allow the Multi V system designer to eliminate oversizing the outdoor unit to compensate for loss of capacity at low ambient temperatures.
- Can also curtail the need to provide inefficient redundant zone heating devices such as wall-fin radiators and second-stage ancillary heating devices.

Design Considerations Include:

- Enclosure types and elements such as louvers, rain hoods, dampers and controls, heating methods and sizing of heating devices
- Heating strategies
- Duct design
- Condensate handling

General Guidelines

- Follow ASHRAE 62.1 design guidelines.
- Depending on the project / application, a roof over the outdoor units in combination with a wind break could be all that is necessary.
- Consider the potential for snow accumulation near louvers / roof openings. Outside air intakes and discharge ducts/louvers must be engineered to clear anticipated snow accumulation levels by at least one (1) foot.
- In situations where operation is anticipated at temperatures of -13°F and lower, ancillary heat must be provided to heat the outdoor unit coils to assure continuous compressor operation and heating.

It will be necessary to use an air guide accessory to prevent discharge air from short-cycling back to the coil inlet.

- Another option is to field manufacture ductwork and mount on top of the unit to encompass the outdoor unit fan discharge and connect to the exterior discharge grille on the building.
- ⃠ Avoid using a single duct on multi-fan units to prevent short cycling. Provide a dedicated duct for each outdoor unit fan discharge.
- Consider the direction of prevailing winds and opening placement. If possible, locate inlet openings upwind of discharge openings and other exhaust outlets.
- When inlet and outlet openings are placed on the same wall, minimum distance between the two openings must be approximately three (3) feet (minimum distance varies significantly with variations in outlet opening face velocity).
- If roof-mounted ventilation openings are used, strategically locate the inlet ventilation opening(s) upwind of the outlet opening(s).
- Discharge and supply ductwork must be designed to avoid weather related long periods of water entrainment and the potential for microbial growth.

PLACEMENT CONSIDERATIONS

Installing Outdoor Units Indoors

Provide a means to drain the condensate generated during heating mode and defrost cycle in addition to rainwater that infiltrates the inlet louver enclosed area.

- Install a field-provided drain pan under the outdoor units and provide a path to a nearby floor drain.
- If the ambient air temperature is expected to drop below 32°F in the enclosure, heat the bottom surface of the pan, drain line, and floor drain so that the condensate does not freeze before reaching the drain.

Allow for ventilation intake and exhaust air based on maximum outdoor unit fan capacity.

- Select the size, type and orientation of architectural louvers with adequate "net free area" face velocity to ensure the total external static pressure from the outdoor unit fan does not exceed design limitations (see specification data tables).
- No obstructions must be placed in front of the louver that could hamper the free flow (throw) of air.
- Roof top openings and / or discharge and supply louvers must be equipped with screens to prevent bird and insect infiltration.

As always, the best solution for each project balances acceptable heating performance (considering local weather conditions), capital costs, life cycle energy consumption, and limitations set forth by local building codes. For more detailed information on how to design indoor spaces for LG Multi V outdoor units, see the white paper "Air-Source VRF Mechanical Room Design Considerations for Outdoor Unit Placement in Enclosures" on www.lghvac.com.

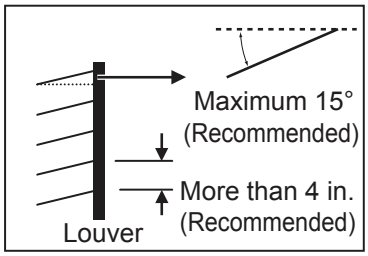
Note:

For detailed placement considerations and installation requirements for indoor units and heat recovery units, refer to the specific Engineering and / or Installation Manuals.

Louver Recommendations for Outdoor Unit Enclosure

1. Outdoor Unit Enclosure: Manual Door Open Type.
2. Louver Angle: No More Than 15° Horizontally.
3. Space Between Louvers: More than 4 inches (Recommend).
4. Louver Shape: Wing or Plane Type.

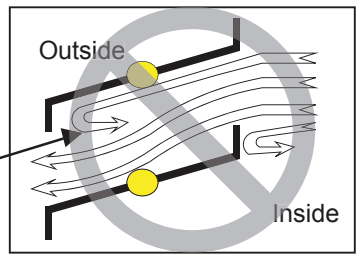
Figure 32: Louver Recommendations.



Note:

- *Open Rate and Inlet must be taken into consideration when designing the louvered outdoor unit enclosure.*
- ⃠ *Do not use "S" type louvers.*

Figure 33: Using "S" Type Louvers.



Air flow passing through the louver blade backwards can generate noise.

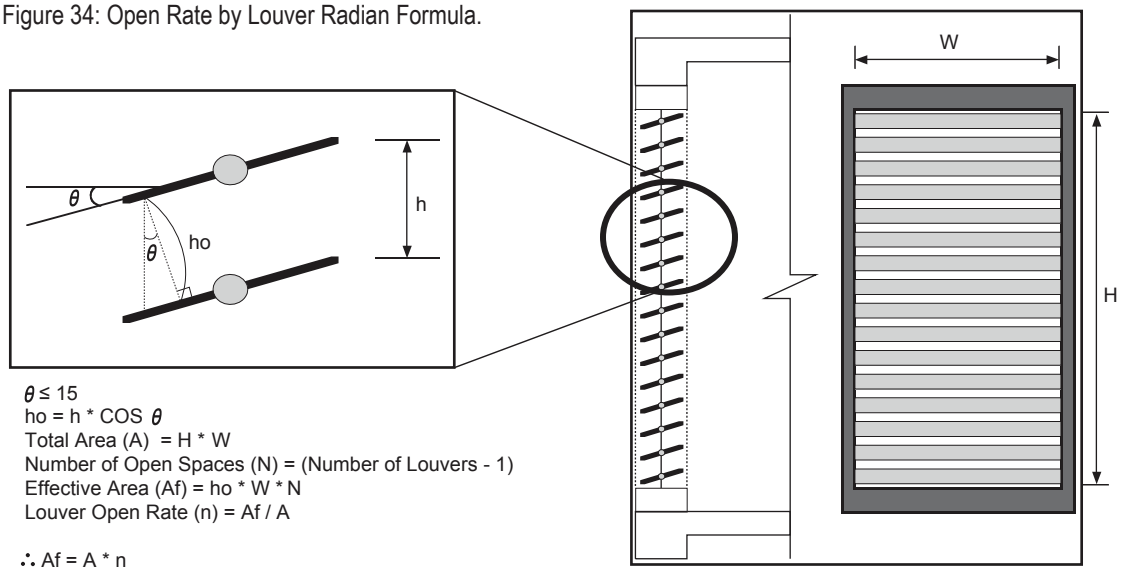
Note:

If the Louver Open Rate is Too Small

1. *Noise can occur because of the increased air velocity passing through thee louver blade.*
2. *Noise can occur from louver blade vibrations.*
3. *A drop in outdoor unit fan performance (excess static pressure can cause a drop in outdoor unit performance and heat exchanger efficiency).*
4. *If the louver open rate is too small or there is insufficient air flow exchange, the air conditioner might stop operating.*

Open Rate by Louver Radian

Figure 34: Open Rate by Louver Radian Formula.



$\theta \leq 15$
ho = h * COS θ
Total Area (A) = H * W
Number of Open Spaces (N) = (Number of Louvers - 1)
Effective Area (Af) = ho * W * N
Louver Open Rate (n) = Af / A

$\therefore$ Af = A * n

Effective Cross Section Area

To access additional technical documentation such as submittals, indoor unit engineering manuals, installation, service, product data performance, general best practice, and building ventilation manuals, as well as white papers, catalogs, LATS software programs, and more, log in to www.lghvac.com.

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Supersedes: EM_MultiV_S_LGRED_OutdoorUnits_12_20